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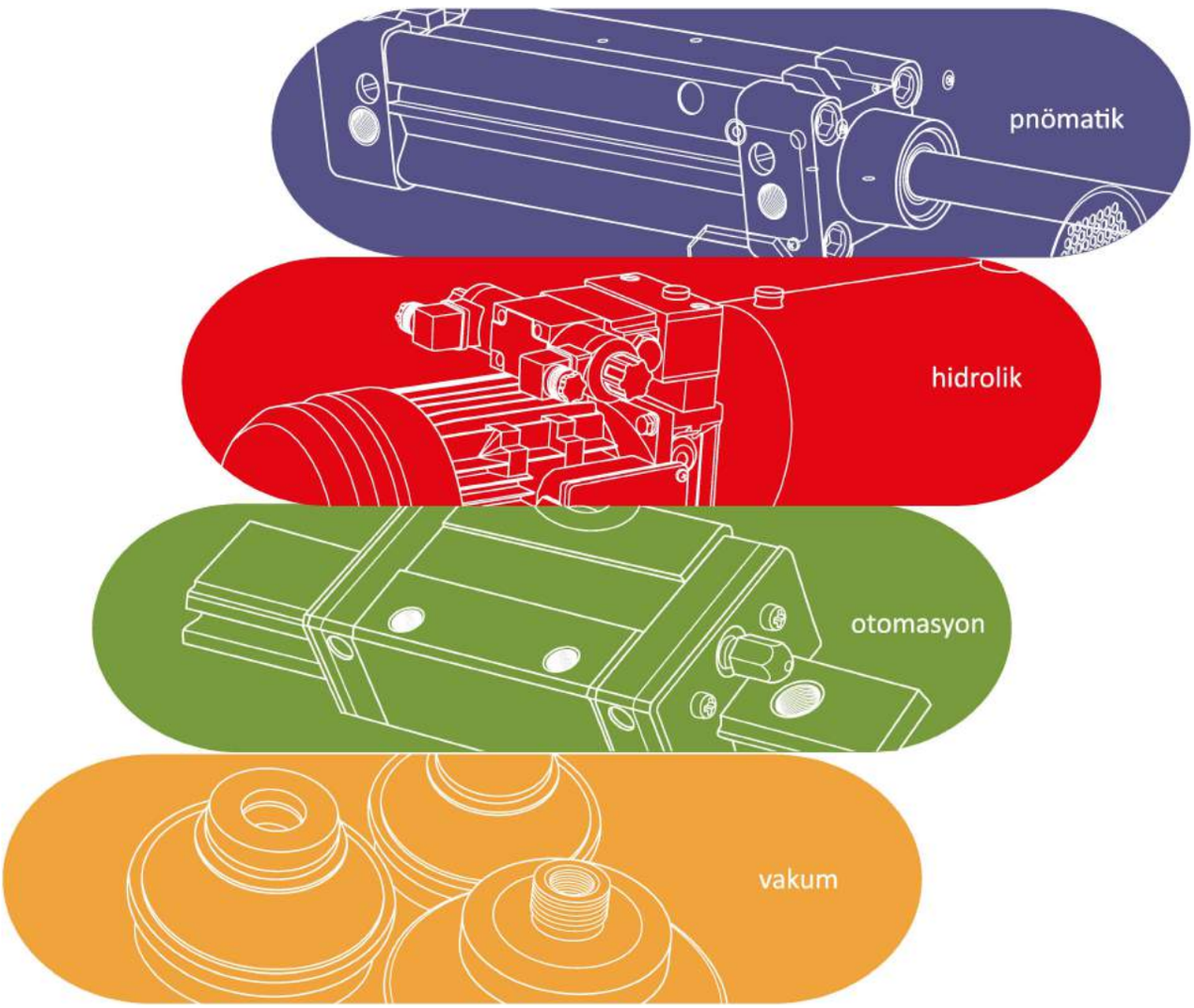

HİDROLİK KATALOĞU / 2014 - 09

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08 / 15

Firmamız ***hidtek Sanayi ve Ticaret*** olarak, 1987 yılında faaliyete başlamıştır.

O dönemde sadece Bursa ve çevresinde satış yaparken her geçen yıl ürün ve satış faaliyetlerini arttırmıştır.

1992 yılında ***hidtek Ltd. Şti.*** adı altında birleşen firmamız, teknik malzeme satışı ile ithalat, imalat ve ihracat yapmaya devam etmektedir.

Aynı zamanda pazarlama ve satış faaliyetlerini de günden güne tüm yurtiçi ve yurtdışına yaygınlaşmaktadır.

Satışını yaptığımız malzemelerin genel kullanım alanları şunlardır;

- Otomotiv Sanayi
- İş Makinaları
- Hidrolik Pres İmalatı
- Ambalaj Makinaları
- PVC İşleme Makinaları
- Kaldırma Makinaları (asansör, lift)
- Gıda Sanayi
- Muhtelif Makina İmalatı

Firmamız katalogda yayınlanan resim, ölçü ve diğer değerleri değiştirme hakkına sahiptir.

Our company hidtek industry and trade established in 1987.

At the time, only in and arround bursa while sales of product and sales activities increased with each passing year.

In 1992, hid-tek Ltd.Şti. combined under the name of our company, with the sale of technical equipment imports, continues to manufacture and export.

At the same time, in the day to day marketing and sales activities extends all domestic and abroad.

General uses of the materials we sell are as follows:

- *Automotive industry*
- *Heavy equipment*
- *Manufacture of hydraulic press*
- *Packaging machines*
- *Pvc processing machines*
- *Lifting equipment (elevator, lift)*
- *Food industry*
- *Various Machinery Manufacturing*

Our company reserves the right to modify photos, measurement, and the other values which published in catalog.

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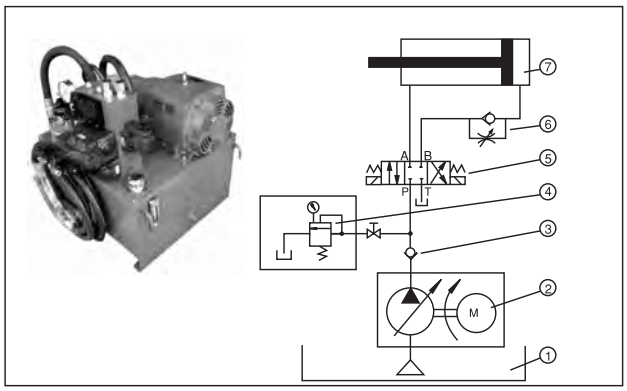
HİDROLİK TEKNİK BİLGİ / HYDRAULIC TECHNICAL DATA

Hidrolik sistem basit devreleri / Basic circuits of a hydraulic system



①	Tank / Tank	filtre, yağ girişi, geri dönüş filtresi, yağ göstergesi, sıcaklık göstergesi, soğutucu strainer, oil inlet, return filter, oil indicator, thermo indicator, cooler
②	Pompa ve motor Pump and motor	pompa(motora bağlı), değişken pompa, kaplin motor fixed pump, variable pump, coupling
③	Akış valfi Flow valves	tek yönlü çekvalf, pilot çekvalf one way check valve, pilot check valve
④	Basınç valfi Pressure valves	emniyet valfi, boşaltma valfi, sıralama valfi, düşürücü valf, basınç anahtarı relief valve, unloading valve, sequence valve, reducing valve, pressure switch
⑤	Yön valfi Direction valves	bobinli valfler, kumandalı valfler solenoid valves, manuel valves
⑥	Akış valfi Flow valve	sabit debi valfi, değişken debi valfi, servo valf, oransal valf fix flow valve, variable flow valve, servo valve, proportion valve
⑦	Silindir Cylinders	düşük, orta, yüksek ve çok yüksek basınç low, medium, high, super high pressure
⑧	Araçlar Accessories	akü, basınç anahtarı, monometre, diğer araçlar accumulator, pressure switch, pressure guage, cocks

Hidrolik silindir özellikleri / Features of hydraulic cylinders

KULLANILAN BASINÇ / PRESSURE USED			
Metrik Metric (kgf/cm^2)	IS sistemi (PSi) Imperial system (psi)	ISO sistem (Mpa) ISO system (Mpa)	Sınıflanmış Classified
35 Kgf / cm^2	500	3.5	——
70 Kgf / cm^2	1000	7	düşük basınç low pressure
140 Kgf / cm^2	2000	14	normal basınç medium pressure
210 Kgf / cm^2	3000	21	yüksek basınç high pressure

1. JIS - B8367' göre hidrolik silindirler aşağıdaki gibi sınıflandırılır.

   NOT:
   (1) Hidrolik silindirlerde 210 kgf / cm^2 üzeri ve 700 kgf / cm^2 ye kadar olan basınç değerleri çok yüksek basınç olarak tanımlanır.
   (2) 1000 lbs / in^2 (1000 PSI) = 70 kgf / cm^2
   (3) ISO 7MPa = 70 kgf / cm^2

2. Bazı özel durumlar dışında aşağıdakilerde göze alınır;
   (a) Eğer hidrolik silindirin hızı 500 mm / saniye veya üzeri ise yastıklama kullanılır; eğer 750 mm / saniye'nin üzerinde ise ayrıca hız düşürücü valf kullanılır.
   (b)
3. Silindirin sürtünmesini azaltmak ve ömrünü uzatmak için parçaların seçimi ve makina hassasiyeti özenle ayarlanmalıdır.
4. Silindir boruları sürtünme katsayısı 0.8 s ile 3.2 s arasında olan STKM13C çeliği kullanılır. Bu boruların iç çap toleransı H8 ve H9' dur.

   Piston et kalınlığını ölçmek için kullanılan formül $t = \frac{P \times D}{200 \times S}$
   t= et kalınlığı
   P= max. çalışma basıncı (kgf/cm^2)
   D= boru iç çapı(mm)
   S= güvenlik katsayısı α / 5 Örnek: STKM 13 C çelik boru $t = \frac{PxD}{200x52/5} = \frac{PxD}{2080}$
   α= min çekme kuvveti (kgf / mm^2)
5. Piston mili S45C çeliğinden imal edilmiş olup üzeri sert krom kaplıdır. Ayrıca f7 - 8 toleransına yetiştirebilmek için üzeri parlatılır. Yüzey pürüzlülüğü Rmax= 3.2 s'tir ve sertliği HV700'dür. Bu durumda en zayıf noktası 35 kgf/mm^2 olur. normalleme yapılmalıdır.
   (a) S45C çeliği ile en zayıf nokta 50 kgf/mm^2 ' ye ve çekme kuvveti de 58 kgf/mm^2 ye çıkar.
   (b) SCM440 çeliği ile en zayıf nokta 85 kgf/mm^2 ' ye ve çekme kuvveti de 100 kgf/mm^2 ye çıkar.
6. Keçe ve diğer aksesuarlar hidrolik silindirin ihtiyacına göre sipariş edilir.

1. Based on JIS - B8367 spec. hydraulic cylinders canbe classified as:

NOTES:
(1). Pressure used above 210 kgf/ cm^2 and up to 700 kgf/cm^2 for a hydraulic cylinder is classified as " super high pressure cylinder"
(2). 1000 lbs/in ^{2} (1000 psi) = 70 kgf/cm^2
(3). ISO 7 Mpa = 70 kgf/ cm^2

2. Except basic selections of bore size, stroke, imput, pressure and mounting style, the followings should be also considered:
(a) With loading, a hydraulic cylinder should have the cushion feature added when the speed is 500 mm/secondabove. If a speed more than 750 mm/s is applied, a speed reducing valve needs to be used together.
(b) Proper seals or packings should be choosen based on types of operating oil applied on the equipment to protect the life of cylinders
3. Selections of part materials and precisions of machining have been carefully managed which make cylinders have low friction and long life.
4. Tubes of cylinders are made with STKM 13 C stell materials which have surface friction between 0.8s and 3.2 s. Tolerances of inner bores are between H8 and H9

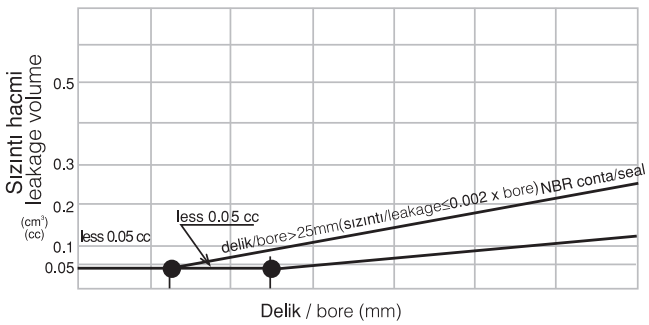
Formula to calculate the duration pressure of a cylinder tube is $t = \frac{P \times D}{200 \times S}$
t = tube thickness (mm)
P = max. working pressure (kgf / cm^2)
D = tube inner bore (mm)
S = α/ 5 safety coefficient
α = min. value of tensile strength (kgf / mm^2)

e.g : a STKM13C Seamless tube, $t = \frac{P \times D}{200 \times 52/5} = \frac{P \times D}{2080}$

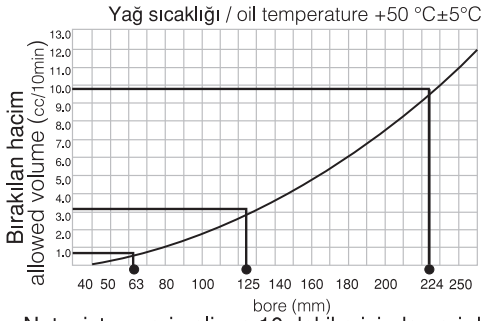
5. Piston rod is made with S45C Carbon Steel. Outher dimension of a rod is ground , Cr hard plating, and polished to reach the f7-f8 tolerance. The surface roughness can be less than Rmax=3.2 s and hardness is above HV700. The yielding point at this moment can be above 35kgf / mm^2 .
Should a normalization treatment be done.
(a) with S45C, carbon Steel, the yield point can reach 50 kgf/mm^2 and tensile strength can be 58 kgf/mm^2
(b) with SCM440 steel, the yield point can reach 85 kgf/mm^2 , and tensile strength can be 100 kgf/mm^2
6. Packing and seals are mostly imported to meet the requirements (such as pressure duration) of hydraulic cylinders.

Hidrolik silindirin donanımı / Installation of a hydraulic cylinder

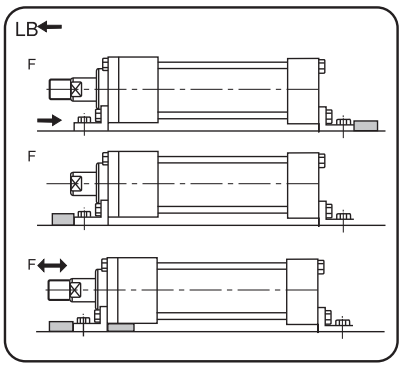
■ İzin verilen dışa sızıntı
Allowed volume of external leakage

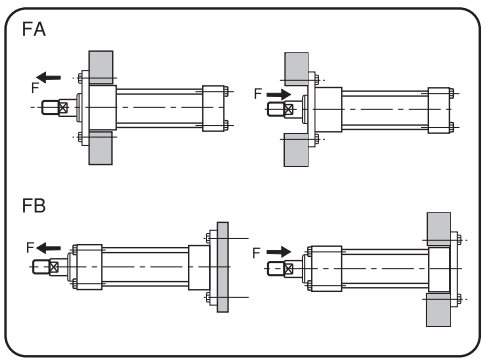


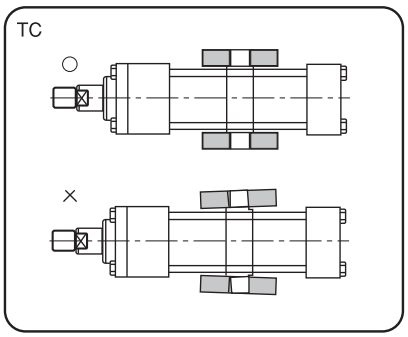
■ İzin verilen iç sızıntı hacmi
Allowed volume of internal leakage



Not: piston geri gelir ve 10 dakika içinde geri döner
Note: piston is moved back and forward in 10 minutes

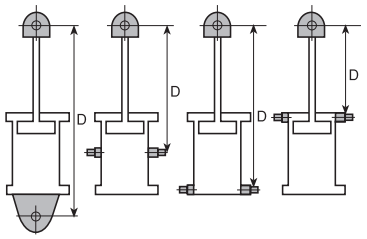






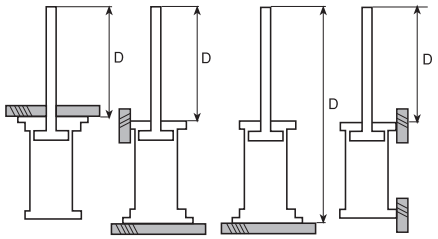
Mil kursu uzunluğu için veri / Reference data for the lenght of a rod stroke

● bağlantı tipi / installation type



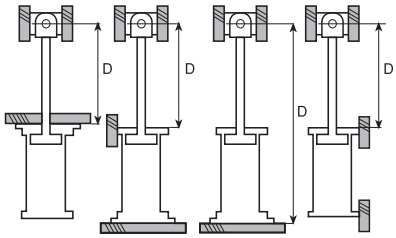
■ İki ucu bağlı / Fixed on both ends

■ İki uç arasındaki mesafe / Lenght between both end points D=L



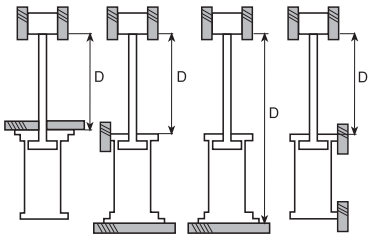
■ Gövde mil ucuna serbestçe bağlanır / Body is fixed with rod end being free

■ Sabit gövde ve mil ucu arası mesafe / length between fixed body and rod end



■ Gövde mil ucu yatağı ve pim bağlantı ile sabitlenmiş / Body is fixed with rod a guided rod and pin connector

■ Sabit gövde ve mil ucu arası uzaklık / Length between fixed boby and rod end



■ Gövde mil ucu yatağı ile sabitlenmiş / Body is fixed with a guided rod end

■ Sabit Gövde ve mil ucu arası uzaklık / Length between fixed body and rod end

D=L değerleri / D=L value

birim / unit: cm

load(kg) \ bore(mm)	18	22.4	28	35.5	45	56	63	67	71	80	85	90	100	112	125	140
100	163	253	395													
150	133	207	323	519	834											
200	116	179	280	449	722	1118										
250	103	160	250	402	646	1000	1266	1432								
300	94	146	228	367	590	913	1156	1307	1468	1864	2104					
350	87	135	211	340	546	845	1070	1210	1359	1725	1948	2184				
400	82	127	198	318	511	791	1001	1132	1271	1614	1822	2043	2522	3163		
450	77	119	186	300	481	746	944	1067	1199	1522	1718	1926	2377	2982	3715	4660
500	73	113	177	284	457	707	895	1013	1137	1444	1630	1827	2255	2829	3524	4421
600	67	103	161	260	417	646	817	924	1038	1318	1488	1688	2059	2583	3217	4036
700	62	96	149	240	386	598	757	856	961	1220	1377	1544	1906	2391	2978	3736
800	58	90	140	225	361	559	708	801	899	1141	1288	1444	1783	2237	2786	3495
900	55	84	132	212	340	527	667	755	847	1076	1215	1362	1681	2109	2627	3295
1,000	52	80	125	201	323	500	633	716	804	1021	1152	1292	1595	2001	2492	3126
1,500	42	65	102	164	264	408	517	585	656	833	941	1055	1302	1633	2035	2552
2,000	37	57	88	142	228	354	448	506	569	722	815	913	1128	1415	1762	2210
2,500	33	51	79	127	204	316	400	453	509	646	729	817	1009	1265	1576	1977
3,000	30	46	72	116	187	289	366	413	464	589	665	746	921	1155	1439	1805
3,500	28	43	67	107	173	267	338	383	430	546	616	691	853	1069	1332	1671
4,000	26	40	63	101	162	250	317	358	402	510	576	646	797	1000	1246	1563
4,500	24	38	59	95	152	236	298	338	379	481	543	609	752	943	1175	1474
5,000	23	36	56	90	144	224	283	320	360	457	515	578	713	895	1114	1398
6,000	21	33	51	82	132	204	258	292	328	417	471	527	651	817	1017	1276
7,000	20	30	47	76	122	189	239	271	304	386	436	488	603	756	942	1182
8,000	18	28	44	71	114	177	224	253	284	361	407	457	564	707	881	1105
9,000	17	27	42	67	108	167	211	239	268	340	384	431	532	667	831	1042
10,000	16	25	40	64	102	158	200	226	254	323	364	409	504	633	788	989
15,000	13	21	32	52	83	129	163	185	208	264	298	334	412	517	643	807
20,000		18	28	45	72	112	142	160	180	228	258	259	357	447	557	699
25,000		16	25	40	65	100	127	143	161	204	231	258	319	400	498	625
30,000		15	23	37	59	91	116	131	147	186	210	236	291	365	455	571
35,000			21	34	55	85	107	121	136	173	195	218	270	338	421	528
40,000			20	32	51	79	100	113	127	161	182	204	252	316	394	494
45,000			19	30	48	75	94	107	120	152	172	193	238	298	372	466
50,000				28	46	71	90	101	114	144	163	183	226	283	352	442
60,000				26	42	65	82	93	104	132	149	167	206	258	322	404
70,000				24	39	60	76	86	96	122	138	154	191	239	298	374
80,000					36	56	71	80	90	114	129	144	178	224	279	350
90,000					34	53	67	76	85	108	122	136	168	211	263	330
100,000					32	50	63	72	80	102	115	129	160	200	249	313

Boru iç çapı dizaynı için tolerans tablosu / Tolerance table for inner bore design

boru iç çapı dizaynı için tolerans tablosu / tolerance table for inner bore design — birim / unit= 0.001 mm

aralık / range (mm)	B	C		D			E			F			G		H					
	B10	C9	C10	D8	D9	D10	E7	E8	E9	F6	F7	F8	G6	G7	H5	H6	H7	H8	H9	H10
<3	+180 +140	+ 80	+100 +60	+34	+45 +20	+60	+24	+28 +14	+39	+12	+16 +6	+20	+8	+12 +2	+4	+6	+10	+15 +0	+25	+40
> = 3&<6	+188 +140	+100	+118 +70	+48	+60 +30	+78	+32	+38 +20	+50	+18	+22 +10	+28	+12	+16 +4	+5	+8	+12	+18 +0	+30	+48
> = 6&<10	+208 +150	+116	+138 +80	+62	+76 +40	+98	+40	+47 +25	+61	+22	+28 +13	+35	+14	+20 +5	+5	+9	+15	+22 +0	+36	+58
> = 10&<14	+220 +150	+138	+165 +95	+77	+93 +50	+120	+50	+59 +32	+75	+27	+34 +16	+43	+17	+24 +6	+8	+11	+18	+27 +0	+43	+70
> = 14&<18																				
> = 18&<24	+244 +160	+162	+194 +110	+98	+117 +65	+149	+61	+73 +40	+92	+33	+41 +20	+53	+20	+28 +7	+9	+13	+21	+33 +0	+52	+84
> = 24&<30																				
> = 30&<40	+270 +170	+182	+220 +120	+119	+142 +80	+180	+75	+89 +50	+112	+41	+50 +25	+64	+25	+34 +9	+11	+16	+25	+39 +0	+62	+100
> = 40&<50	+280 +180	+192	+230 +130																	
> = 50<65	+310 +190	+214	+260 +140	+146	+174 +100	+220	+90	+106 +60	+134	+49	+60 +30	+76	+29	+40 +10	+13	+19	+30	+46 +0	+74	+120
> = 65&<80	+320 +200	+224	+270 +150																	
> = 80&<100	+360 +220	+257	+310 +170	+174	+207 +120	+260	+107	+126 +72	+156	+58	+71 +36	+90	+34	+47 +12	+15	+22	+35	+54 +0	+87	+140
> =100&<120	+380 +240	+267	+320 +180																	
> = 120&<140	+420 +260	+300	+360 +200	+208	+245 +145	+305	+125	+148 +85	+185	+68	+83 +43	+106	+39	+54 +14	+18	+25	+40	+63 +0	+100	+160
> = 140&<160	+440 +280	+310	+370 +210																	
> = 160&<180	+470 +310	+330	+390 +230																	
> = 180&<200	+525 +340	+335	+425 +240	+242	+285 +170	+355	+146	+172 +100	+215	+79	+96 +50	+122	+44	+61 +15	+20	+29	+46	+72 +0	+115	+185
> = 200&<225	+565 +380	+375	+445 +260																	
> = 225&<250	+605 +420	+395	+465 +280																	
> = 250&<280	+690 +480	+430	+510 +300	+271	+320 +190	+400	+162	+191 +110	+240	+88	+108 +56	+137	+49	+69 +17	+23	+32	+52	+81 +0	+130	+210
> = 280&<315	+750 +540	+460	+540 +330																	
> = 315&<355	+830 +600	+500	+590 +360	+299	+350 +210	+440	+182	+214 +125	+265	+98	+119 +62	+151	+54	+75 +18	+25	+36	+57	+89 +0	+140	+230
> = 355&<400	+910 +680	+540	+630 +400																	
> = 400&<450	+1010 +760	+595	+690 +440	+327	+385 +230	+480	+198	+232 +135	+290	+106	+131 +68	+165	+60	+83 +20	+27	+40	+93	+97 +0	+155	+250
> = 450&<500	+1090 +840	+630	+730 +480																	

■ not: bir boru için iç çap toleransı $H_7 \sim H_8$'dir. / note: tolerance of an inner bore dimension for a tube is $H_7 \sim H_8$

Birim dönüşüm tabloları / Conversion table

		uluslararası sistem international system (ISO)	metrik sistem metric system	İngiliz sistemi imperial system	diğer other
basınç pressure	birim unit	MPa	kgf / cm²	bar	PSI
	dönüşüm conversion	1	10.2	10	150
		0.098	1	0.98	14.22
		10.2	1.02	1	14.5
		0.0069	0.07	0.069	1
yükleme ağırlığı load weight	birim unit	N	kgf	ℓb	–
	dönüşüm conversion	1	0.102	0.224	–
		9.8	1	2.2	–
		4.46	0.455	1	–
tork torque	birim unit	N.m	kgf - m	–	–
	dönüşüm conversion birim unit	1	0.102	–	–
		9.8	1	–	–
hareket motion	birim unit	kg - m²	kgf - m - sec²	–	–
	dönüşüm conversion	1	0.102	–	–
		9.8	1	–	–
vakum basıncı vacum pressure	birim unit	— kpa	— mmHg	–	–
	dönüşüm conversion	1	7.52	–	–
		0.133	1	–	–
güç pover	birim unit	kw	kgf - m / sec	ft - ℓb / sec	HP
	dönüşüm conversion	1	102	736	1.34
		0.0098	1	7.23	0.013
		0.00135	0.138	1	0.0018
		0.745	76	550	1
uzunluk length		1m = 10 dm = 100 cm = 1000mm 1in = 0.0254 m = 0.254 dm = 2.54 cm = 25.4 mm			
alan area		$1m^2 = 100\ dm^2 = 10^4\ cm^2 = 10^6\ mm^2$ $1in^2 = 0.000645\ m^2 = 0.0645\ dm^2 = 6.45\ cm^2 = 645\ mm^2$			
hacim volume		$1m^3 = 1000\ dm^3 = 106cm^3$ $1k\ell\ (1m^3) = 103\ \ell\ (1dm^3) = 10^6\ CC(cm^3)$ ℓ: liter			

Boru dış çapı dizaynı için tolerans tablosu / Tolerans table for outer bore design

Boru dış çapı dizaynı için tolerans tablosu / Tolerance table for outer bore design

birim / unit= 0.001 mm

cins/range (mm)	b	c	d		e			f			g			h					
	b9	c9	d8	d9	e7	e8	e9	f6	f7	f8	g4	g5	g6	h4	h5	h6	h7	h8	h9
<3	-140 -165	-60 -85	-20 -34	-45	-14 -24	-28	-29	-6 -12	-16	-20	-2 -5	-6	-8	0 -3	-4	-6	-10	-14	-25
> = 3&<6	-140 -170	-70 -100	-30 -48	-60	-20 -32	-38	-50	-10 -18	-22	-28	-4 -8	-9	-12	0 -4	-5	-8	-12	-18	-30
> = 6&<10	-150 -186	-80 -116	-40 -62	-76	-25 -40	-47	-61	-13 -22	-28	-35	-5 -9	-11	-14	0 -4	-6	-9	-15	-22	-36
> = 10&<14 > = 14&<18	-150 -193	-95 -138	-50 -77	-93	-32 -50	-59	-75	-16 -27	-34	-45	-6 -11	-14	-17	0 -5	-8	-11	-18	-27	-43
> = 18&<24 > = 24&<30	-160 -212	-110 -162	-65 -98	-117	-40 -61	-73	-93	-20 -33	-41	-53	-7 -13	-16	-20	0 -6	-9	-13	-21	-33	-52
> = 30&<40	-170 -232	-120 -182	-80 -119	-142	-50 -75	-89	-112	-25 -41	-50	-164	-9 -16	-20	-25	0 -7	-11	-16	-25	-39	-62
> = 40&<50	-180 -242	-130 -192																	
> = 50<65	-190 -264	-140 -214	-100 -146	-174	-60 -90	-106	-134	-30 -49	-60	-76	-10 -18	-23	-29	0 -8	-13	-19	-30	-46	-74
> = 65&<80	-200 -274	-150 -224																	
> = 80&<100	-220 -307	-170 -257	-120 -174	-207	-72 -107	-126	-159	-36 -58	-71	-90	-12 -22	-27	-34	0 -10	-15	-22	-35	-54	-87
> =100&<120	-240 -327	-180 -267																	
> = 120&<140	-260 -360	-200 -300	-145 -208	-245	-85 -125	-148	-185	-43 -68	-83	-106	-14 -26	-32	-39	0 -12	-18	-25	-40	-63	-100
> = 140&<160	-280 -380	-210 -310																	
> = 160&<180	-310 -410	-230 -330																	
> = 180&<200	-340 -455	-240 -355	-170 -242	-285	-100 -146	-172	-215	-50 -79	-96	-122	-15 -29	-35	-44	0 -14	-20	-29	-46	-72	-115
> = 200&<225	-380 -495	-260 -375																	
> = 225&<250	-440 -535	-280 -395																	
> = 250&<280	-480 -610	-300 -430	-190 -271	-320	-110 -162	-191	-240	-56 -88	-106	-137	-17 -33	-40	-49	0 -16	-23	-32	-52	-81	-130
> = 280&<315	-540 -670	-330 -460																	
> = 315&<355	-600 -740	-360 -500	-110 -299	-350	-125 -182	-214	-265	-62 -98	-119	-151	-18 -36	-43	-54	0 -18	-25	-40	-57	-89	-140
> = 355&<400	-680 -820	-400 -540																	
> = 400&<450	-760 -915	-440 -595	-230 -327	-385	-135 -198	-214	-265	-68 -108	-131	-165	-20 -40	-47	-60	0 -20	-27	-40	-63	-97	-155
> = 450&<500	-840 -995	-480 - 635																	

■ not: mil dış çapı için tolerans $f_7 \sim f_8$'dir. / note: tolerance of an outer bore dimension for a rod is $f_7 \sim f_8$

Boru iç çapı dizaynı için tolerans tablosu / Tolerans table for inner bore design

boru iç çapı dizaynı için tolerans tablosu / tolerance table for inner bore design

birim / unit= 0.001 mm

cins/range (mm)	Js			K			M			N		P		R	S	T	U	X
	Js5	Js6	Js7	K5	K6	K7	M5	M6	M7	N6	N7	P6	P7	R7	S7	T7	U7	X7
<3	±2	±3	±5	0 -4	0 -6	0 -8	-2 -6	-2 -8	-2 -12	-4 -10	-4 -14	-6 -12	-6 -16	-10 -20	-14 -24	—	-18 -28	-20 -30
> = 3&<6	±2.5	±4	±6	0 -5	+2 -6	+3 -9	-3 -8	-1 -9	0 -12	-5 -13	-4 -16	-9 -17	-8 -20	-11 -23	-15 -27	—	-19 -31	-24 -36
> = 6&<10	±3	±4.5	±7.5	+1 -5	+2 -7	+5 -10	-4 -10	-3 -12	0 -15	-7 -16	-4 -19	-12 -21	-9 -24	-13 -28	-17 -32	—	-22 -37	-28 -43
> = 10&<14 > = 14&<18	±4	±5.5	±9	+2 -6	+2 -9	+6 -12	-4 -12	-4 -15	0 -18	-9 -20	-5 -23	-15 -26	-11 -29	-16 -34	-21 -39	—	-26 -44	-33 -51 -38 -56
> = 18&<24	±4.5	±6.5	±10.5	+1 -8	+2 -11	+6 -15	-5 -14	-4 -17	0 -21	-11 -24	-7 -28	-18 -31	-14 -35	-20 -41	-27 -48	—	-33 -54	-46 -67
> = 24&<30																-33 -54	-40 -61	-56 -77
> = 30&<40	±5.5	±8	±12.5	+2 -9	+3 -13	+7 -18	-5 -16	-4 -20	0 -25	-12 -28	-8 -33	-21 -37	-17 -42	-25 -50	-34 -59	-39 -64	-51 -76	—
> = 40&<50																-45 -70	-61 -86	
> = 50<65	±6.5	±9.5	±15	+3 -10	+4 -15	+9 -21	-6 -19	-5 -24	0 -30	-14 -33	-9 -39	-26 -45	-21 -51	-30 -60	-42 -72	-55 -85	-76 -106	—
> = 65&<80														-32 -62	-48 -78	-64 -94	-91 -121	
> = 80&<100	±7.5	±11	±17.5	+2 -13	+4 -18	+10 -25	-8 -23	-6 -28	0 -35	-16 -38	-10 -45	-30 -52	-24 -59	-38 -73	-58 -93	-78 -113	-111 -146	—
> =100&<120														-41 -76	-66 -101	-91 -126	-131 -166	
> = 120&<140	±9	±12.5	±20	+3 -15	+4 -21	+12 -28	-9 -27	-8 -33	0 -40	-20 -45	-12 -52	-36 -61	-28 -68	-48 -88	-77 -117	-107 -147	—	—
> = 140&<160														-50 -90	-85 -125	-119 -159		
> = 160&<180														-53 -93	-93 -133	-131 -171		
> = 180&<200	±10	±14.5	±123	+2 -18	+5 -24	+13 -33	-11 -31	-8 -37	0 -46	-22 -51	-14 -60	-41 -70	-33 -79	-60 -106	-105 -151	—	—	—
> = 200&<225														-63 -109	-113 -159			
> = 225&<250														-67 -113	-123 -169			
> = 250&<280	±11.5	±16	±26	+3 -20	+5 -27	+16 -36	-13 -36	-9 -41	0 -52	-25 -57	-14 -66	-47 -79	-36 -88	-74 -126	—	—	—	—
> = 280&<315														-78 -130				
> = 315&<355	±12.5	±18	±28.5	+3 -22	+7 -29	+17 -40	-14 -39	-10 -46	0 -57	-26 -62	-16 -73	-51 -81	-41 -98	-87 -144	—	—	—	—
> = 355&<400														-93 -150				
> = 400&<450	±13.5	±20	±31.5	+3 -25	+8 -32	+18 -45	-16 -43	-10 -50	0 -63	-27 -67	-17 -80	-55 -95	-45 -108	-103 -166	—	—	—	—
> = 450&<500														-109 -172				

Boru iç çapı dizaynı için tolerans tablosu / Tolerans table for inner bore design

Boru iç çapı dizaynı için tolerans tablosu / Tolerance table for outer bore design

birim / unit= 0.001 mm

cins/range (mm)	js				k			m			n	p	r	s	t	u	x
	js4	js5	js6	js7	k4	k5	k6	m4	m5	m6	n6	p6	r6	s6	t6	u6	x6
<3	±1.5	±2	±3	±5	+3	+4	+6	+5	+6	+8	+40	+12	+60	+20	—	+24	+26
						0			+2		+4	+6	+10	+14		+18	+20
> = 3&<6	±2	±2.5	±4	±6	+5	+6	+9	+8	+9	+12	+16	+20	+23	+27	—	+31	+36
						+1			+4		+8	+12	+15	+19		+23	+28
> = 6&<10	±2	±3	±4.5	±7.5	+6	+7	+10	+10	+12	+15	+19	+24	+28	+32	—	+37	+43
						+1			+6		+10	+15	+19	+23		+28	+34
> = 10&<14	±2.5	±4	±5.5	±9	+6	+9	+12	+12	+15	+18	+23	+29	+34	+39	—	+44	+51
						+1			+7		+12	+18	+23	+28		+33	+40
> = 14&<18																	+56
																	+45
> = 18&<24	±3	±4.5	±6.5	±10.5	+8	+11	+15	+14	+17	+21	+28	+35	+41	+48	—	+54	+67
						+2			+8		+15	+22	+28	+35		+41	+54
> = 24&<30															+54	+61	+77
															+41	+48	+64
> = 30&<40	±3.5	±5.5	±8	±12.5	+9	+13	+18	+16	+20	+25	+33	+42	+50	+59	+64	+76	—
						+2			+9		+17	+26	+34	+43	+48	+60	
> = 40&<50															+70	+86	
															+54	+70	
> = 50<65	±4	±6.5	±9.5	±15.5	+10	+15	+21	+19	+24	+30	+39	+51	+60	+72	+85	+106	—
						+2			+11		+20	+32	+41	+53	+66	+87	
> = 65&<80													+62	+78	+94	+121	
													+43	+59	+75	+102	
> = 80&<100	±5	±7.5	±11	±17.5	+13	+18	+25	+23	+28	+35	+45	+59	+73	+93	+113	+146	—
						+3			+13		+23	+37	+51	+71	+91	+124	
> =100&<120													+76	+101	+126	+166	
													+54	+79	+104	+144	
> = 120&<140	±6	±9	±12.5	±20	+15	+21	+28	+27	+33	+40	+52	+68	+88	+117	+147	—	—
						+3			+15		+27	+43	+63	+92	+122		
> = 140&<160													+90	+125	+159		
													+65	+100	+134		
> = 160&<180													+93	+133	+171		
													+68	+108	+146		
> = 180&<200	±7	±10	±14.5	±23	+18	+24	+33	+31	+37	+46	+60	+79	+106	+151	—	—	—
						+4			+17		+31	+50	+77	+122			
> = 200&<225													+109	+159			
													+80	+130			
> = 225&<250													+113	+169			
													+84	+140			
> = 250&<280	±8	±11.5	±16	±26	+20	+27	+36	+36	+43	+52	+66	+88	+126	—	—	—	—
						+4			+20		+34	+56	+94				
> = 280&<315													+130				
													+98				
> = 315&<355	±9	±12.5	±18	±28.5	+22	+29	+40	+39	+46	+57	+73	+98	+144	—	—	—	—
						+4			+4		+37	+62	+108				
> = 355&<400													+150				
													+114				
> = 400&<450	±10	±13.5	±20	±31.5	+25	+32	+45	+43	+50	+63	+80	+108	+160	—	—	—	—
						+5			+23		+40	+68	+126				
> = 450&<500													+172				
													+132				

Sembollerin geometrik toleransları / Symbols of geometric tolerances

sembol symbol	isim name	tolerans tipi tolerance type	sembol symbol	isim name	tolerans tipi tolerance type
—	düzlük straigtness	şekil shape	⊥	dikeylik verticality	tolerans tolerance
○	yuvarlaklık circularity		//	paralellik parallelism	
⌭	silindirlik cylindricity		↗	sapma deflection	sapma toleransı deflection tolerance
◎	ortak merkezlilik co-centrality	konum position	⌰	toplam sapma total deflection	

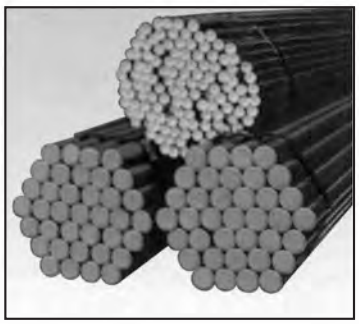
Yüzey pürüzlülüğü sembolleri / Symbols of surface roughness

sembol symbol	isim name	pürüzlülük / roughness			durum condition	örnek example	yeni sembol new symbol
		ra	rmax	rz			
~	işlenmemiş yüzey raw mat. surface	işlem gerektirmez machining is not needed			pürüzlü yüzey rough surface	döküm forging	20
▽	pürüzlü yüzey rough surface	8~25a	32~100S	32~100Z	kesim yüzeyi belli cutting surface is clear	işlenmiş milling lathing	25 8.0
▽▽	iyi yüzey fine surface	2~6.3a	8~25S	8~25Z	kesim yüzeyi pek belli degil cutting surface isn't clear	işlenmiş milling lathing	6.3 2.0
▽▽▽	daha iyi yüzey refined surface	0.25~1.6a	0.8~6.3S	0.8~6.3Z	kesim yüzeyi görünmüyor cutting surface isn't seen	işlenmiş milling lathing	1.6 0.25
▽▽▽▽	ayna yüzey mirror surface	0.01~0.2a	0.2~0.8S	0.2~0.8Z	yüzey ayna gibi surface is like mirror	honlanmış grinding honing polishhing	0.2 0.01

Delik dişi özellikleri / Spec. of hole threads

sembol sembol / isim name	konik diş rc taper thread rc(also named pt)				paralel diş parallel thread g(also named pf)			
	deliğin dışı outer bore(mm)	üst up(mm)	derinlik depth(mm)	alt bottom(mm)	deliğin dışı outer bore(mm)	üst up(mm)	derinlik depth(mm)	alt bottom(mm)
1/8 - 28T	9.73	8.2	10	6	9.73	8.7	13	6
1/4 - 19T	13.16	10.9	13	8	13.16	11.7	15	8
3/8 - 19T	16.66	14.4	17	10	16.66	15.2	15	10
1/2 - 14T	20.96	18	20	14	20.96	19	19	14
3/4 - 14T	26.44	23	25	18	26.44	24.5	20	18
1 - 11T	33.25	29	31	23	33.25	30.7	24	23
1 1/4 - 11T	41.95	38	40	30	41.91	39.3	25	30
1 1/2 - 11T	47.8	44	46	36	47.8	45.2	25	36
2 - 11T	59.61	55	57	46	59.61	57	30	46

HİDROLİK DEVRE BORULARI / HYDRAULIC LINING TUBES



TEKNİK ÖZELLİKLER

- Dikişsiz soğuk çekme DIN 2391/C normunda.
- Normalize edilmiş yağlanmış ve plastik tıpayla uçları kapanmış.
- St 37.4 ve soğuk iken bükmeye uygun
- 6 metrelik üretim boylarında.

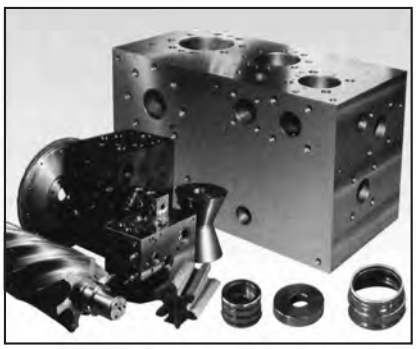
TECNICAL SPECIFICATIONS

- Seamless, cold drawn, DIN 2391 / C
- Normalised, oiled, plain ended and protected by plastic caps.
- Steel grade in St 37.4, suitable to cold bending.
- Commercial lengt : 6 mt

DEĞİŞİK ÇAP VE ÖLÇÜLER İÇİN LÜTFEN FİRMAMIZLA İRTİBATA GEÇİNİZ.
Please contact us for further diameter and sizes

HİDROLİK DEVRE BORULARI HYDRAULIC LINING TUBES			
DIŞ ÇAP (mm) OUTER DIAMETER	İÇ ÇAP (mm) INTERNAL DIAMETER	ÇALIŞMA BASINCI(bar) WORKING PRESS	AĞIRLIK (KG/mt) WEIGHT
6	4	509	0.12
8	6	367	0.17
10	7	450	0.31
12	9	367	0.39
15	12	287	0.5
16	12	367	0.69
18	15	236	0.62
20	16	288	0.89
22	18	259	0.98
25	19	351	1.63
25	20	287	1.39
28	24	200	1.28
30	24	287	2.00
35	29	200	2.00
38	30	303	3.35
42	34	272	3.75

SÜREKLİ DÖKÜM MALZEMELER / CONTINUE CAST IRON BARS



TEKNİK ÖZELLİKLER

- GG gri döküm malzemenin sürekli döküm metoduyla imal edilmesi ve merdanelerin arasından geçirilmesi suretiyle, sıkıştırılmış üniform yapıda ve normal döküm yoluyla elde edilen malzemeden daha iyi özelliklere sahip bir malzemedir.

MALZEME STANDARTLARI

- GG 25 - GGG 40 - GGG 50

KULLANIM ALANLARI

- Dişli yapımında
- Hidrolik silindir parçası yapımı ve blok yapımında
- Muhtelif makina parçası yapımında

SÜREKLİ DÖKÜMÜN İSPATLANMIŞ AVANTAJLARI

- Gaz ve sıvılara karşı kesin sızdırmazdır.
- Döküm boşlukları yoktur.
- Yüzeyinde tufal tabakası, kum, curuf yoktur.
- Galveniz ve emaye kaplanabilir.
- Aşınmaya, çatlamaya, pasa ve asitlere dayanıklıdır.
- Hava ve yeğ basıncına dayanıklıdır.
- Model yapımı gerektirmez.
- DIN 1691, UNI 5007 ve ISO 185'e uygundur.

TECNICAL SPECIFICATIONS

Produced in uniform structure by continuous casting and roling oof GG grey cast iron material.

Has many advantages comparing with usual casting.

MATERIAL STANDARTS

- GG 25 - GGG 40 - GGG 50

USING AREAS

- Gear manufacturing
- Hydraulic cylinder caps and valve block manufacturing
- Machinery parts manufacturing

APPROVED ADVANTAGES OF CONTINUOUS IRON

- Leafproof gases and liquids
- No defects of casting
- No foundry sand, chips on surface
- Resistance of abrasion, corrosion and acid environment
- Proof of air and oil pressure
- No moulding costs
- Suitable to norms DIN 1691, UNI 5007 and ISO 185

DİKDÖRTGEN / RECTANGULAR BAR			
ÖLÇÜ(mm) DIMENSIONS	Ağırlık (kg/mt) WEIGHT	ÖLÇÜ(mm) DIMENSIONS	Ağırlık (kg/mt) WEIGHT
30 x 50	11	95 x 120	85
50 x 70	26	110 x 140	115
60 x 90	41	130 x 180	170
60 x 120	54	150 x 300	346
70 x 110	59	220 x 280	460
80 x 100	60		
90 x 120	81		
90 x 130	88		
100 x 120	90		
130 x 160	156		
135 x 165	167		

KARE / SQUARE BAR	
ÖLÇÜ(mm) DIMENSIONS	Ağırlık (kg/mt) WEIGHT
25	5
40	12
50	19
60	27
65	32
70	37
80	48
100	75
105	83
110	91
120	108
130	127
140	147
150	168
170	217
180	242
200	299
230	395
300	672

YUVARLAK ROUND BAR	
ÇAP(mm) DIAMETER	AĞIRLIK (kg/mt) WEIGHT
50	15.51
60	22.00
63	24.44
70	30.10
75	36.00
80	39.40
85	45.00
90	46.76
95	55.04
100	57.76
105	68.00
110	69.81
115	81.00
120	88.00
125	90.21
135	112.30
140	120.00
150	129.00
160	157.10
165	167.70
180	186.90
190	208.30
200	230.80
210	254.50
220	279.30
250	360.60
270	420.60
300	519.30
360	747.80

DEĞİŞİK ÇAP VE ÖLÇÜLER İÇİN LÜTFEN FİRMAMIZLA İRTİBATA GEÇİNİZ.
Please contact us for further diameter and sizes

HİDROLİK SİLİNDİR BORULARI / HYDRAULIC CYLINDER TUBES

TEKNİK ÖZELLİKLER

- İç çap Ø 25 mm'den Ø 250 mm'ye kadar hazır.
- Dikişsiz soğuk ve sıcak çekme DIN 2391 - 2448
- İç yüzeyleri honlanmış, parlatılmış ve yağlanmış
- St 52 ve St 52.2 BK + S Kalıtesinde
- İç çap toleransı ISO H8
- İç yüzey pürüzlülüğü, Ra: 0.4 Mikron
- Düzgünlük, 1 / 1000 mm.
- Kopma Direnci: Rm. 650 N/mm^2
- 5-8 metre üretim boylarında

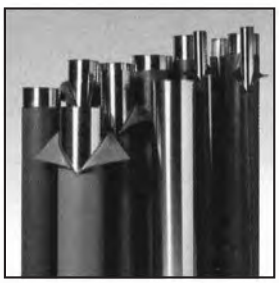
TECHNICAL SPECIFICATIONS

- From internal Ø 25 mm to Ø 250 mm ready to delivery from stock
- Seamless, hot rolled and cold drawn DIN 2391 - DIN 2448
- Internally honed, burnished, oiled
- Steel grade ST 52 and St 52.2 BK+S
- Internal diameter tolerance ISO H8
- Internel surface roughness, Ra: 0.4 micron
- Straightness : 1/ 1000 mm
- Breaking stress: Rm. min: 650 N/mm^2
- Commercial lenght: random 5-8 mt

DEĞİŞİK ÇAP VE ÖLÇÜLER İÇİN LÜTFEN FİRMAMIZLA İRTİBATA GEÇİNİZ.
Please contact us for further diameter and sizes

HİDROLİK SİLİNDİR BORULARI HYDRAULIC CYLINDER TUBES			
İÇ ÇAP (mm) INTERNAL DIAMETER	DIŞ ÇAP (mm) OUTER DIAMETER	ÇALIŞMA BASINCI(bar) WORKING PRESS	AĞIRLIK (KG/mt) WEIGHT
25	35	426	3.70
32	40	405	3.54
40	50	388	5.55
50	60	319	6.78
50	65	454	10.60
55	75	533	16.00
60	70	270	8.01
63	75	305	10.20
65	85	464	18.50
80	90	208	10.50
70	85	339	14.33
80	95	301	16.18
80	100	390	22.20
90	105	271	18.03
100	115	246	19.88
100	120	319	27.13
110	130	293	29.60
110	135	358	37.80
115	135	216	22.66
120	140	271	32.10
125	145	261	33.30
125	150	319	42.40
140	160	235	36.99
140	165	288	47.01
150	180	319	61.00
160	180	208	41.92
160	190	301	64.70
180	210	270	62.80
200	220	170	51.80
200	230	246	79.53
200	244.5	348	120.40
220	245	190	71.75
220	273	360	161.00
240	298.5	365	194.13
250	323.9	425	261.35

KROM KAPLI MİLLER
CHROME COATED STEEL BARS



TEKNİK ÖZELLİKLER

SERT KROM KAPLI MİLLER

- Çelik Kalitesi Ç1040 - 1050
- Sert krom kaplama kalınlığı noktada 30 mikron ± 5 mikron
- Sert krom kaplama tabakası sertliği Min. 850 Vickers Max. 1150 Vickers'dir.
- Yüzeypürüzlülüğü Ra: 0.1 - 0.25 mikron
- Merkeze göre yassılık toleransı f 7/2'dir.
- 5 - 7 metrelik üretim boylarında
- Üzerleri koruma maksatlı plastik ile kaplıdır
- Çap toleransı: ISO f 7

İNDÜKSİYONLU SERT KROM KAPLI MİLLER

- İndiksüyonla sertleştirilmiş tabaka sertliği 60 -63 HRC' dir.
- Çap tolerinsları sert krom kaplı millerdeki gibidir.
- İndüksiyonla sertleştirilmiş tabakanın derinliği 1- 3 mm' dir.
- Çelik kalitesi Ç41140

TECHNICAL SPECIFICATIONS

CHROME COATED BARS

- Material: SAE 1040 - 1050
- Diameter tolerance : ISO f7
- Chrome layer thicness: 30 micron ±5
- Chrome layer hardness: Min: 850 - Max: 1150 Vickers
- Surface roughness: 0.1 -0.25 micron
- Flatness reffering center: f 7/2
- Commercial lenght: random 5- 7 mt
- Plastic coated for protection aganist mechanical impacts.

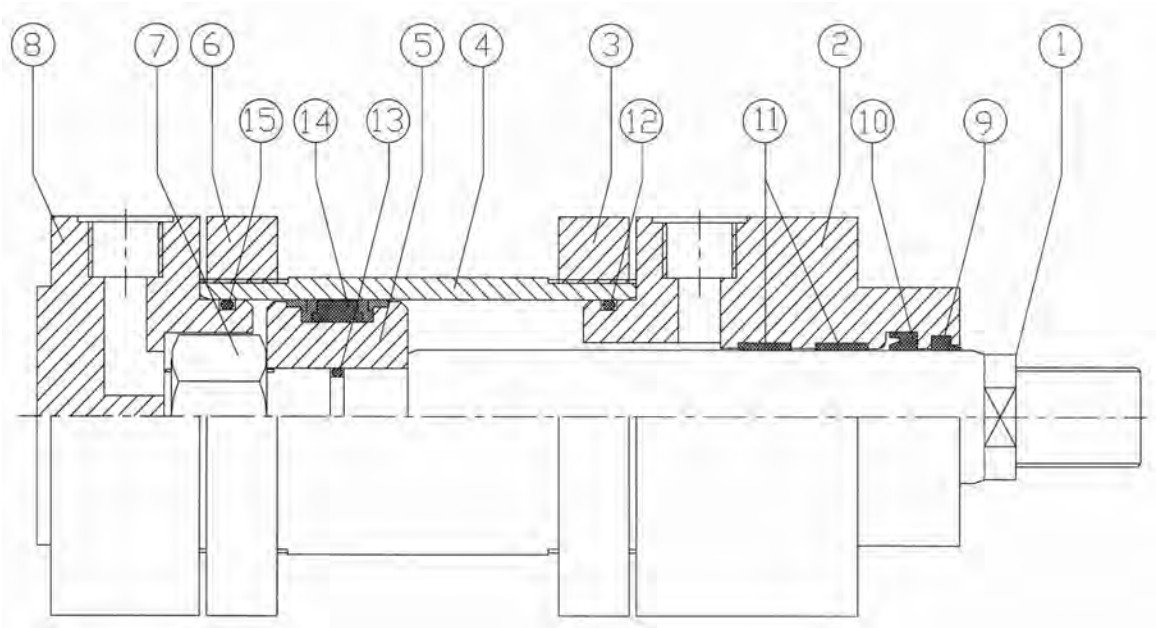
INDUCTION HARDENED AND CHROME COATED BARS

- Material0 C 55
- Diameter tolerance : ISO f7
- Hardened layer depht: 1 - 3 mm
- Hardness of induction hardened layer: 60- 63 HRC
- Commerical lenght: 5 - 6 mt random
- Plastic coated for protection aganist mechanical impacts.

DEĞİŞİK ÇAP VE ÖLÇÜLER İÇİN LÜTFEN FİRMAMIZLA İRTİBATA GEÇİNİZ.
Please contact us for further diameter and sizes

KROM KAPLI MİLLER CHROME COATED STEEL BARS			
ÇAP (mm) DIAMETER	AĞIRLIK (kg/mt) WEIGHT	ÇAP (mm) DIAMETER	AĞIRLIK (kg/mt) WEIGHT
8	0.43	40	9.87
10	0.62	45	12.49
12	0.89	50	15.41
14	1.21	55	18.65
16	1.58	556	18.99
18	1.99	60	22.20
20	2.47	65	26.05
22	2.98	70	30.21
25	3.85	75	34.68
28	4.83	80	39.46
30	5.55	90	49.94
32	6.31	100	61.65
35	7.55		
36	7.99		

HİDROLİK SİLİNDİRLER / HYDRAULIC CYLINDERS



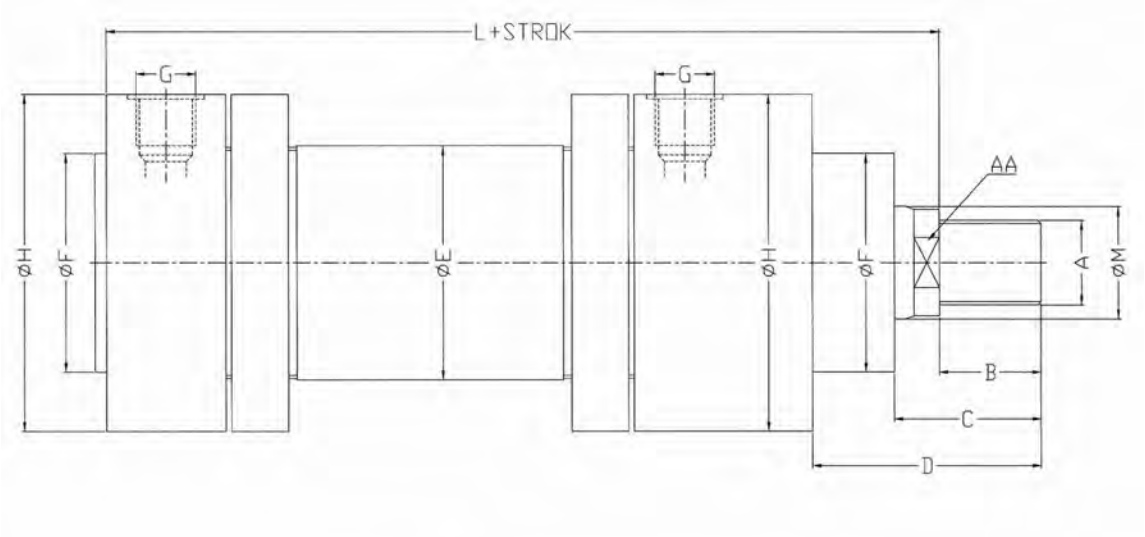
	Parça (components)	Malzeme (material)
1	Kromlu mil (chrome plated rod)	Ck 45 f7
2	Ön kafa (front and cap)	C 1050
3	Ön boru flanşı (front flange)	C 1050
4	Honlanmış boru (Cylinder body)	ST 52 H8
5	Piston (piston)	C 1050
6	Arka boru flanşı (rear flange)	C 1050
7	Somun (self-locking)	C 1050
8	Arka kapak (rear and cap)	C 1050
9	Toz keçesi (wiper)	NBR
10	Boğaz keçesi (rod seal)	PU
11	Boğaz yataklanması (rod guides)	POM
12	O-ring (o -ring seal)	NBR
13	O-ring (o -ring seal)	NBR
14	Piston keçesi (piston seal)	NBR - POM
15	O-ring (o -ring seal)	NBR

				160 bar	
PİSTON	ROD	A1(cm ^2)	A2(cm ^2)	F1 (kg)	F2 (kg)
Ø32	18	8.04	5.50	1286	880
	22		4.24		678
Ø40	22	12.57	8.77	2011	1403
	28		6.41		1026
Ø50	28	19.63	13.48	3141	2157
	36		9.46		1514
Ø63	36	31.17	20.99	4987	3358
	45		15.27		2443
Ø80	45	50.27	34.36	8043	5498
	56		25.64		4102
Ø100	56	78.54	53.91	12566	8626
	70		40.06		6410
Ø125	70	122.72	84.23	19635	13477
	80		72.45		11592
Ø140	80	153.94	103.67	24630	16587
	90		90.32		14451
Ø160	90	201.06	137.44	32170	21990
	100		122.52		19603
Ø180	100	254.47	175.93	40715	28149
	110		159.44		25510
Ø200	110	314.16	219.13	50266	35061
	120		201.06		32170

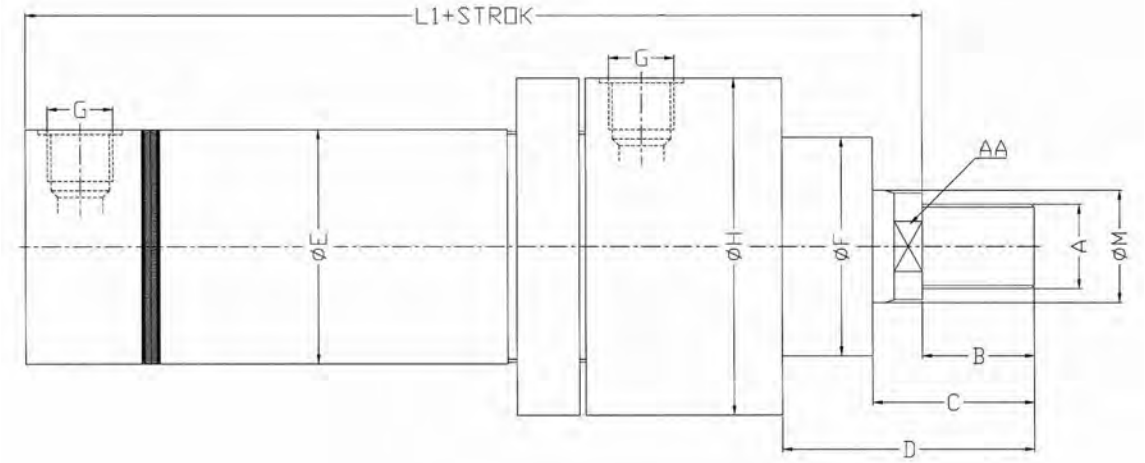
STANDART HİDROLİK SİLİNDİRLER / STANDARD HYDRAULIC CYLINDERS
ISO 6020/1 CETOP R58 H

Pçal= 160 Bar

HC01-1/....



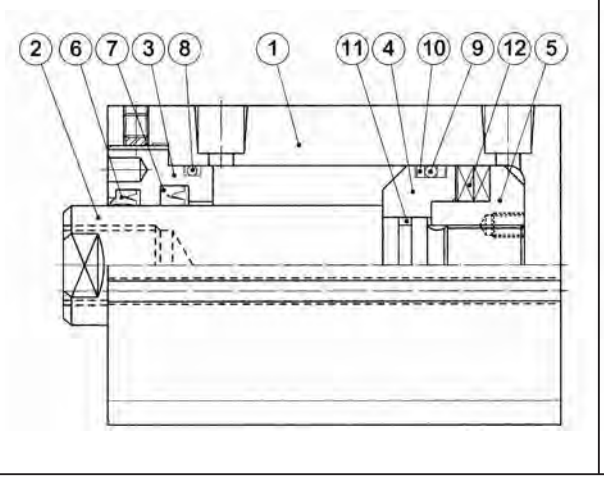
HC02-1/....



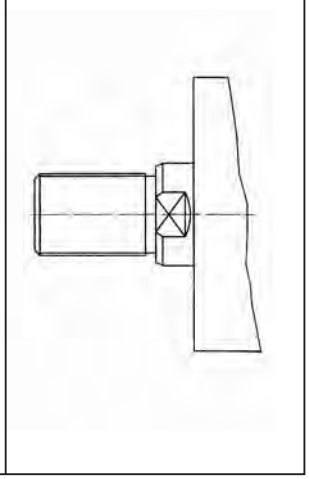
PİSTON	Ø32	Ø40	Ø50	Ø63	Ø80	Ø100	Ø125	Ø140	Ø160	Ø180	Ø200
M	18/ 22	22 / 28	28 / 36	36 / 45	45 / 56	56 / 70	70 / 80	80 / 90	90/ 100	100/ 110	110/ 120
A	M14x1.5	M16x1.5	M20x1.5	M27x2.0	M33x2.0	M42x2.0	M48x2.0	M56x2.0	M64x3.0	M72x3.0	M80x3.0
	M16x1.5	M20x1.5	M27x2.0	M33x2.0	M42x2.0	M48x2.0	M56x2.0	M64x3.0	M72x3.0	M80x3.0	M85x3.0
AA	14 / 17	17 / 22	22 / 30	30 / 36	36 / 45	45 / 60	60 / 88	68 / 75	75 / 85	85 / 95	95 / 105
B	18 / 22	22 / 28	28 / 36	36 /45	45 / 56	56 / 63	63 / 75	75 / 85	85 / 90	90 / 95	95 / 100
C	31	35	42	52	63	76	86	100	110	120	125
D	50	54	66	81	99	113	123	140	151	165	170
E	40	50	60	75	95	115	150	165	190	210	245
F	40	50	60	70	85	106	132	145	160	185	200
G	R1/4”	R3 / 8”	R1 / 2”	R1 /2 “	R1 / 2”	R3/4”	R3/4”	R3/4”	R1”	R1”	R1”
H	68	78	98	108	135	158	186	210	240	255	305
L	170	190	205	224	250	300	328	360	370	425	450
L1	165	194	212	237	259	300	313	320	350	400	410

MANYETİK KOMPAKT HİDROLİK SİLİNDİRLER
INDUCTIVE COMPACT CYLINDERS

IN: I.D. thread



EX: O.D. thread



YAPISI VE PARÇA ÖZELLİKLERİ / STRUCTURES AND PART NAMES

No İtem	Parça adı / Part name	Adet q'ty	No İtem	Parça adı / Part name	Adet q'ty
①	Boru / Tube	1	⑦	Boğaz keçesi / Rod packing	1
②	Piston mili / Piston rod	1	⑧	Mil yataklaması o-ring / Rod cover o ring	1
③	Mil yataklaması / Rod cover	1	⑨	Piston o-ring / Piston o-ring	1
④	Boru / Tube	1	⑩	Sızdırmazlık elemanı / back-up ring	2
⑤	Piston / Piston	1	⑪	Cushion o-ring / Yastıklama o-ring	1
⑥	Keçe / Dust seal	1	⑫	Magnet / Mıknatıs	2

KEÇE ÖZELLİKLERİ / SEAL SPEC.

No.-İtem	⑥	⑦	⑧	⑨	⑩	⑪
İsim Name / adet - q'ty	Keçe Dust seal (PU)	Mil keçesi Rod packing (PU)	Mil yataklaması rod cover o-ring (IA)	Piston -ringi Piston o-ring (IB)	Sızdırmazlık elemanı Piston back-up o-ring (PTFE)	Yastıklama o-ring Cushion o-ring (IA)
Boru Bore	1	1	1	1	2	1
32	DH20	UHS20	G25	P26	P26	P12
40	DH25	UHS25	G35	P34	P34	P16
50	DH30	UHS30	G45	P44	P44	P20
63	DH35	UHS35	G55	P53	P53	G25
80	DH40	UHS40	G75	P70	P70	G30
100	DH56	UHS56	G95	P90	P90	G40

SİPARİŞ FORMU / ORDER FORM

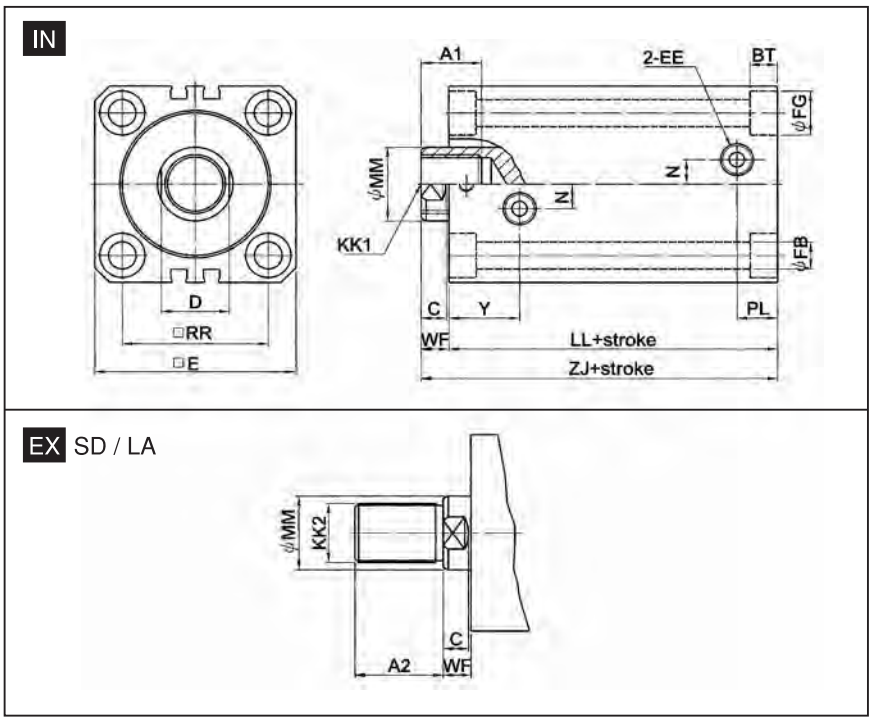
MG-CXHC A — J — IN — SD — 50 X 30 — 25mm – T X n – 1 – 02 – A

❶ ❷ ❸ ❹ ❺ ❻ ❼ ❽ ❾ ❿ ⓫

MG-CXHC: Manyetik Kompakt Hidrolik Silindirler Inductive Compact Cylinders		
❶	Tip / Type	(1) A: Çift etkili / Double acting (2) B: Çift milli / Double rods (3) D: Double rods and with stroke alignment
❷	Opsiyon Options	J: Isı / aşınmaya dayanıklı (gerekmiyorsa “boşluk” kullanılır) J: With heat / errosion proof (note: “space” if not be used)
❸	Mil dişi Rod thread	(1) IN: I.D. iç dişli / thread (2) EX: O.D. dış dişli / thread
❹	Kurulum Installations	(1) SD: temel / basic (2) La: ayak tipi / foot type
❺	Boru(mm) Bore(mm)	(1) SD: 32, 40, 50, 63, 80, 100 (2) La: 40, 50, 63, 80, 100
❻	Strok(mm) Stroke(mm)	Standart strrok tablosu yok No “standard stroke” table
❼	Stroke alligment	Only forward alignment and aligned lenght ≤ stroke lenght
❽	Sensör ve adet Sensor and q’ty	(1)T: 2 kablolu, 2 metre / 2 wires, 2 meters P: PNP3 kablolu, 2 metre / wires, 2 meters N: NPN3 kablolu, 2 metre / wires, 2 meters (2)n: q’ty
❾	Sızdırmazlık elemanı Packing	(1)1: (PU) (standart kullanım / standard usage) (2)2: (NBR) (3)3: (FPM)
❿	Debi regulatörü Flow requlator	(1)02: 1/4” (12 l/min) (2)03: 3/8” (20 l/min) (3)04: (FPM) (30 l/min)
⓫	Çekvalf Check valve	(1)A: 3/8” (50 l/min) (2)B: 3/4” (125 l/min) (3)C: 1 1/2” (320 l/min)

MG-CXHC-A-SD: ÇİFT ETKİLİ STANDART TİP / DOUBLE ACTING, BASIC

DIŞ ÖLÇÜLER / EXTERNAL DIMENSIONS

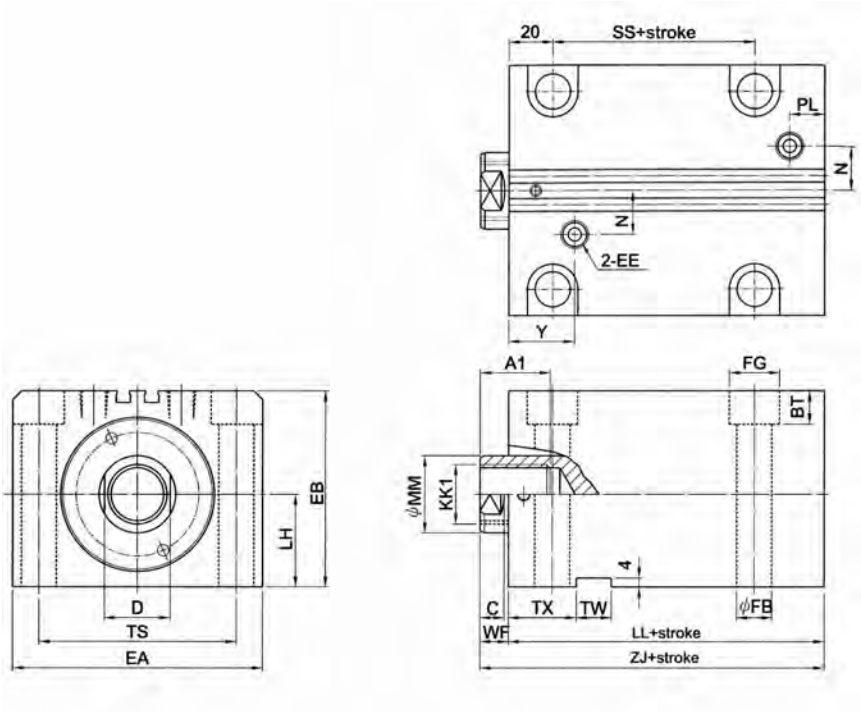


Sembol / Symbol / Boru / Bore	I.D.thread		O.D.thread		BT	C	D	E	EE	FB	FG	LL	LL1	MM	N	PL	RR	WF	Y	ZJ	ZJ1
	A1	KK1	A2	KK2																	
32	15	M12 x 1.75	25	M16 x 1.5	6.5	9	17	62	Rc1/4	7	11	73	84	20	10	17	47	10	27	83	94
40	20	M16 x 2.0	30	M20 x 1.5	8.6	9	21	70	Rc1/4	9	14	70	81	25	10	16	52	10	27	80	91
50	24	M20 x 2.5	35	M24 x 1.5	10.8	9	27	80	Rc1/4	11	17.5	75	87	30	10	16	58	11	28	86	98
63	33	M27 x 3.0	45	M30 x 1.5	13	11	32	94	Rc1/4	14	20	84	94	35	10	18	69	13	30	97	107
80	33	M30 x 3.5	55	M36 x 1.5	15.2	14	37	114	Rc3/8	16	23	95	106	40	15	22	86	17	35	112	123
100	40	M36 x 4.0	70	M48 x 1.5	17.5	14	50	134	Rc3/8	18	26	100	114	56	15	25	102	17	39	117	131

MG-CXHC-A-LA : ÇİFT ETKİLİ / DOUBLE ACTING

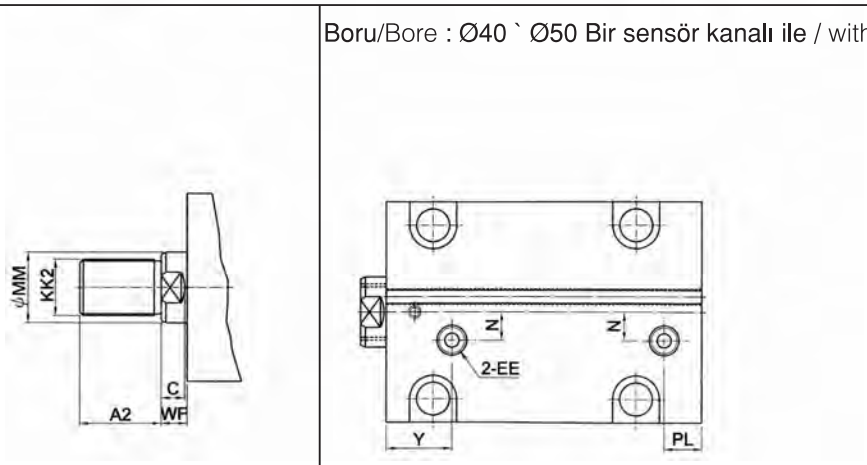
DIŞ ÖLÇÜLER / EXTERNAL DIMENSIONS

IN Boru / Bore : Ø63 ` Ø80 ` Ø100 İki sensör kanalı ile / With two sensor grooves



EX

Boru/Bore : Ø40 ` Ø50 Bir sensör kanalı ile / with one sensor groves



symbol / boru	ID. thread A1	KK1	A2	KK2	BT	C	D	EA	EB	EE	FB	FG	LH	LL	MM	N	PL	SS	TS	TW	TX	WF	Y	ZJ
40	20	M16 x 2.0	30	M20 x 1.5	10.8	9	21	80	64	Rc 1/4	11	18	29	70	25	10	16	23	62	12	28	10	27	80
50	24	M20 x 2.5	35	M24 x 1.5	13	9	27	94	74	Rc 1/4	14	20	34	75	30	10	16	27	74	14	29	11	28	86
63	33	M27 x 3.0	45	M30 x 1.5	15.2	11	32	114	89	Rc 1/4	16	23	42	84	35	20	18	32	90	16	31	13	30	97
80	33	M30 x 3.5	55	M36 x 1.5	15.2	14	37	134	109	Rc 3/8	16	23	52	95	40	25	22	41	110	16	34	17	35	112
100	40	M36 x 4.0	70	M48 x 1.5	17	14	50	160	129	Rc 3/8	18	26	62	100	56	25	25	44	134	16	34	17	39	117

OS6 DESTEK SİLİNDİRİ / OS6 SUPPORT CYLINDERS

ÖZELLİKLER / FEATURES

- Bu ürün iş parçasını işlerken sabitlemeye yarar. / OS6 product is used to support objects while maching.
- 2 çeşit çalışabilir 1.Çıkma 2.Bastırma - Two different supporting methods0 1. popup 2. push down
- Bastırma silindiri yayla kapanır - Push down support cylinders let the rod extend to the top and then by using spring to push down the rod back to the needed supporting position.
- Çıkma silindiri basınçla kapanır - Pop up support cylinders let the rod.

ÖZELLİKLER / SPECIFICATIONS

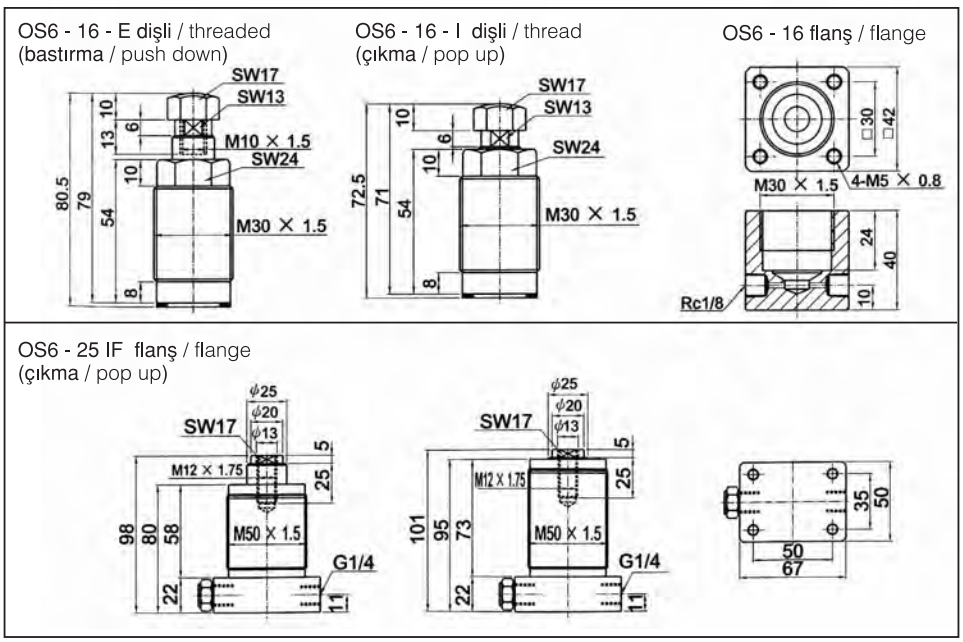
Tip / Type	OS6-16-E	OS6-16-I	OS6-25
Boru / Bore (mm)	16	16	25
Strok / Stroke (mm)	8	8	12
Working pressure Çalışma basıncı (kgf / cm^2)	100-300 bar		
Güç / Force (300 kgf / cm^2)	390 kg	390 kg	1200 kg
Tutma kuvveti Holding force	min. 0.8 kg max. 1.3 kg	min. 1 kg max. 2.3 kg	min. 3 kg max. 5 kg

SİPARİŞ FORMU / ORDER FORM

OS6 — 16 — E — F
❶ ❷ ❸

OS6 destek silindir / OS6 : support cylinders		
❶	boru / bore (mm)	16 ` 20
❷	destek çeşidi support	(1)E: Çıkma tip(sadece Ø 16) / pop up (bore 16 only) (2)I : Bastırma tip / push up (bore 16 ` 25)
❸	montaj mounting	(1) space : Dişli gövde(Ø16) / thread (bore 16 only) (2) F: Flanşlı / flange (bore 16 ` 25)

DIŞ ÖLÇÜLER / EXTERNAL DIMENSIONS



N2	P	Q	S	T
RC 1/8	54	68	M50 x 1.5	11
RC 1/8	66	84	M60 x 1.5	11

DÖNER HİDROLİK KLEMP SİLİNDİRLER / SWIVEL & CLAMP HYDRAULIC CYLINDER
OS1 KARE GÖVDELİ TİP KLEMP SİLİNDİRLER / OS1 SQUARE CLAMP CYLINDERS

ÖZELLİKLER / FEATURES

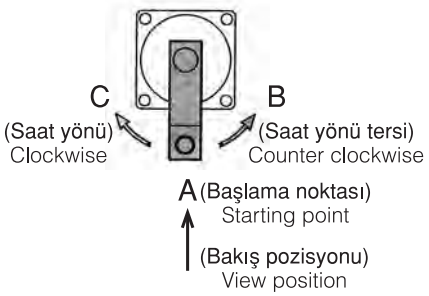
- **Gövde ölçüleri kompakt hidrolik silindirin aynısıdır.** / Dimensions of the body for OS1 square clamp cylinders are the same as JUFAN's compact hydraulic cylinders.
- **OS ürün grubundaki en kuvvetli klemplerdir.** / OS1 square clamp cylinders is the most powerful clamp device in OS product family.

TEORİK GÜÇ / THEORETIAL FORCE

Boru Bore (mm)	Boru Bore (mm)	Baskı alanı Pressed piston area (cm^2)	Sıkma gücü (kgf) Clamp force (kgf)	
			70 kgf/cm^2 bar	140 kgf/cm^2 bar
32	20	4.9	343	686
40	20	9.4	658	1316
50	25	14.7	1029	2058
63	25	26.2	1834	3668

ÖZELLİKLER / SPECIFICATIONS

Boru / Bore (mm)	32	40	50	63
Çalışma / Motion	Çift etkili / Double acting			
Dönüş açısı / Swivel angle	90° , 180°			
Dönüş yönü / Swivel direction	Sola ve sağa Left (L) or right (R)			
Dönüş stroku / Swivel stroke	16		20	
Sıkma mesafesi / Clamp stroke	9		10	
Akışkan (mm)	Mineral yağ			
Çalışma basıncı / Work. Press.	70 ` 140 bar			
Test basıncı (kgf/cm^2) / Test	210 bar			



L: Left ture with counter clockwise direction:
A: Başlama noktası / Starting point
B: Sıkma noktası / Clamping point

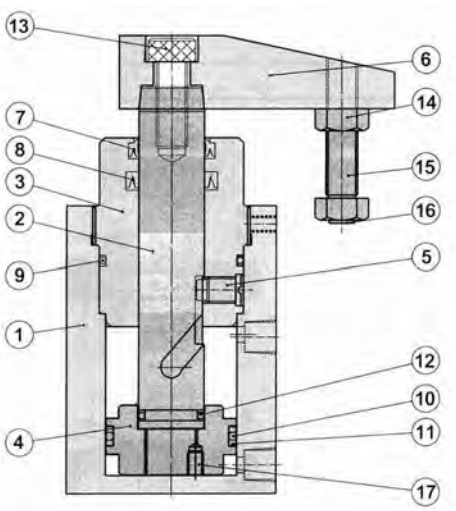
R: Right turn with clock wise direction:
A: Başlama noktası / Starting point
B: Sıkma noktası / Clamping point

OS1 KARE KLEMP SİLİNDİRLER / OS1 SQUARE CLAMP CYLINDERS

STANDART STROK / STANDARD STROKES

açı / angle \ boru		32	40	50	63
90°	L	●	●	●	●
	R	●	●	●	●
180°		Standart yok No standard			

YAPILAR VE PARÇA İSİMLERİ
STRUCTURES AND PART NAMES



item	parça adı / part name	adet q'ty
1	boru / tube	1
2	mil / rod	1
3	mil yatak laması / rod cover	1
4	piston / piston	1
5	yataklama civatası / guide pin	1
6	klemp kolu / clamp arm	1
7	toz keçesi / rod dust seal	1
8	boğaz keçesi / rod packing	1
9	sızdırmazlık o-ring / cover o-ring	1
10	piston o-ring/ piston o-ring	1
11	sızdırmazlık elemanı/piston back-up ring	1
12	piston o-ring / piston o-ring	1
13	montaj civatası / hex. bolt	1
14	sabitleme somunu / hex. nut	1
15	klemp civatası / clamp bolt	1
16	malzeme tutacağı / clamp holder	1
17	sabitleme civatası / set screw	1

KEÇE ÖZELLİKLERİ / SEAL SPEC.

İsim / Name \ Boru / Bore	Toz keçesi Rod dust seal (7)		Mil keçesi Rod packing (8)		Kapak o-ringi Cover o-ring (9)		Piston o-ringi Piston o-ring (10)		Piston keçesi Piston back - up ring (11)		Mil o-ringi Piston o-ring (12)	
	type	adet q'ty	type	adet q'ty	type	adet q'ty	type	adet q'ty	type	adet q'ty	type	adet q'ty
32	DH20	1	UHS20	1	G40	1	P26	1	P26	2	P16	1
40	DH20	1	UHS20	1	G45	1	P34	1	P34	2	P16	1
50	DH25	1	UHS25	1	G50	1	P44	1	P44	2	P21	1
63	DH25	1	UHS25	1	G55	1	P53	1	P53	2	P21	1

OS1 KARE KLEMP SİLİNDİRLER / OS1 SQUARE CLAMP CYLINDERS

SİPARİŞ FORMU / ORDER FORM

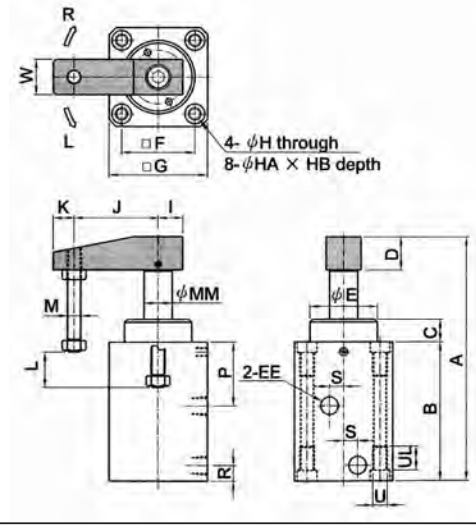
OS1 — SR — SD — 32 X 90

❶ ❷ ❸ ❸

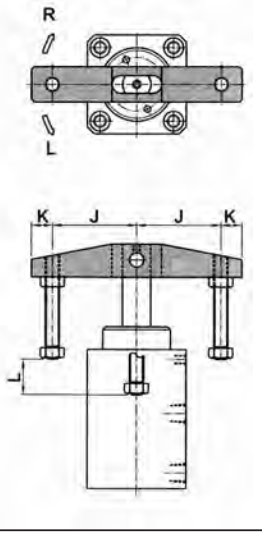
OS1 : Kare döner silindir / Square swivel and clamp cylinders			
❶	Tip / Type	(1) E: Çıkma tip / Pop up (bore 16 only) (2) I : Bastırma tip / Push up (bore 16 ` 25)	(3) DR: Cift etkili sağa dönüş / Double sides right swivel (4) DL : Çift etkili sola dönüş / Double sides left swivel
❷	Montaj / Mounting	(1) SD: Temel tip / Basic (2) FB: Flanş / Head flange	
❸	Boru Bore (mm)	32 ` 40 ` 50 ` 63	
❹	Dönüş açısı Swiwiel angle	90° - 180°	

DIŞ ÖLÇÜLER / EXTERNAL DIMENSIONS

● OS1 90° Tek kol
OS1 SD basic 90° single arm



● OS1 90° Çift kol
OS1 SD basic 90° double arms



not / bore / boru	A	B	C	D	E	EE	F	G	H	HA	HB	I	J	K	L	M	P	MM	R	S	U	UL	W
Ø 32	172	97	16	24	Ø45	RC1/4”	47	62	6.8	11	6.5	15	55	15	25	M10 x 1.5	45	20	11	10	M8 x 1.25	16	25
Ø 40	173	98	16	24	Ø48	RC1/4”	52	70	8.6	14	8.6	15	60	15	25	M10 x 1.5	45	20	11	10	M10 x 1.5	20	25
Ø 50	205	110	26	28	Ø55	RC1/4”	58	80	8.6	14	8.6	20	65	20	30	M12 x 1.75	50	25	11	10	M10 x 1.5	20	28
Ø 63	213	118	26	28	Ø65	RC1/4”	69	94	14	20	13	20	70	20	30	M12 x 1.75	50	25	11	10	M16 x 2.0	30	28

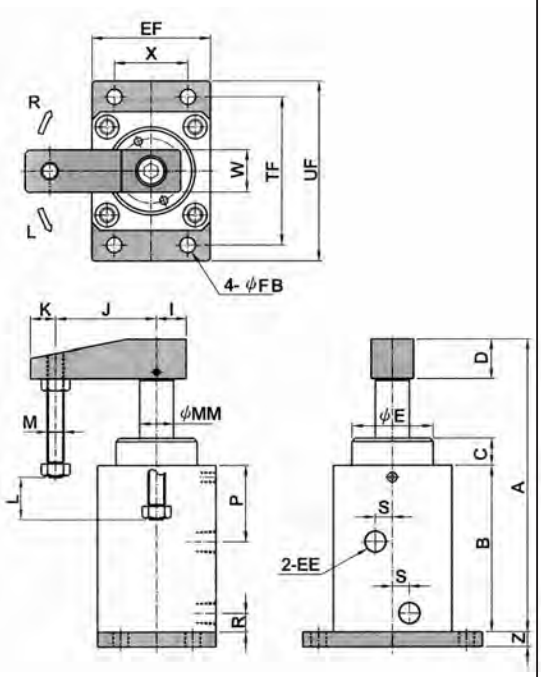
Not: Ø 40 ve Ø 50 için boydan boya montaj deliği istenirse H değeri Ø 8.6’ dan Ø 9 mm’ ye çıkar. Sipariş verirken bu hususa dikkat etmelisiniz.

Note: If a through hole is needed for either Ø 40 or Ø 50, H dimensions should be changed from Ø 8.6 mm to Ø 9.0 mm for this special need. Place notice sales department for it.

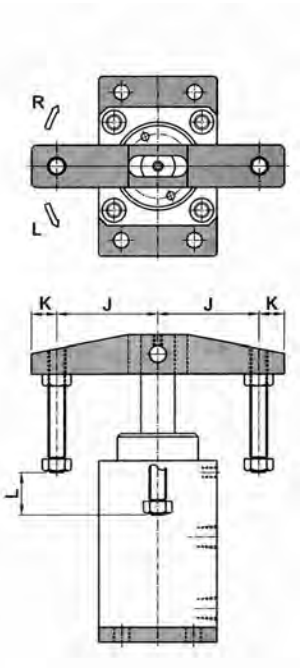
OS1 KARE KLEMP SİLİNDİRLER / OS1 SQUARE CLAMP CYLINDERS

DIŞ ÖLÇÜLER / EXTERNAL DIMENSIONS

● OS1 FB flanş 90° Tek kol
OS1 FB head flange 90° single arm



● OS1 FB Flanş 90° Çift kol
OS1 FB head flange 90° duble arm



not / bore / boru	A	B	C	D	E	EE	F	G	I	J	K	L	M	P	R	S	MM	W	X	TF	EF	UF	Z	FB
Ø 32	172	97	16	24	Ø45	RC1/4”	47	62	15	55	15	25	M10 x 1.5	45	11	10	20	25	40	88	63	109	11	11
Ø 40	173	98	16	24	Ø48	RC1/4”	52	70	15	60	15	25	M10 x 1.5	45	11	10	20	25	46	95	69	118	11	11
Ø 50	205	110	26	28	Ø55	RC1/4”	58	80	20	65	20	30	M12 x 1.75	50	11	10	25	28	58	115	85	145	14	14
Ø 63	213	118	26	28	Ø65	RC1/4”	69	94	20	70	20	30	M12 x 1.75	50	11	10	25	28	65	132	102	165	15	18

OS2 STANDART DÖNER KLEMP SİLİNDİRLER
OS2 STANDARD SWIVEL & CLAMP CYLINDERS

ÖZELLİKLER / FEATURES

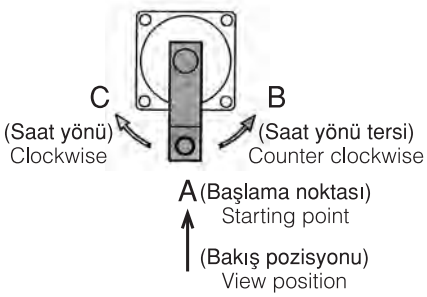
- Alanda tasarruf için OS2 , OS1'e göre daha kısa imal edilmiş. / To save space, OS2 is designed to be much shorter than OS1 product.
- OS2 ürünü üzerindeki flanşı sayesinde civata ile monte edilebilir. / Using the attached flange with bolts to fix OS2 product.
- Farklı dizaynlar için 3 çeşit giriş portu seçilebilir / Three kind input ports can be choosen for different design need.

TEORİK GÜÇ / THEORETIAL FORCE

Boru çapı Bore (mm)	Mil çapı Rod (mm)	Baskı yüzeyi Pressed area (cm^2)	Teorik sıkma kuvveti Theoretial clamp force(kgf)	
			25 kgf/cm^2 bar	70 kgf/cm^2 bar
25	18	2.4	60	168
32	20	4.9	123	343
40	20	9.4	235	658
50	20	16.5	413	1155
63	25	26.2	658	1834

ÖZELLİKLER / SPECIFICATIONS

Boru / Bore (mm)	25	32	40	50	63
Etki / Acting	Çift etkili / Double acting				
Dönüş açısı / Swiwel angle	90° , 180°				
Dönüş yönü / Swiwel direction	Sola veya sağa Left (L) or right (R)				
Dönüş stroku / Swiwel stroke(mm)	12(21)		14(21)		
Sıkma mesafesi /Clamp stroke(mm)	14(5)		15(8)		
Akışkan	Mineral yağ / Oil mineral				
Max.çalışma basıncı Max. working Press.(kgf/cm^2)	70 bar				
Test basıncı Test pressure (kgf/cm^2)	105 bar				



L: Left ture with counter clockwise direction:
A: Başlama noktası / Starting point
B: Sıkma noktası / Clamping point

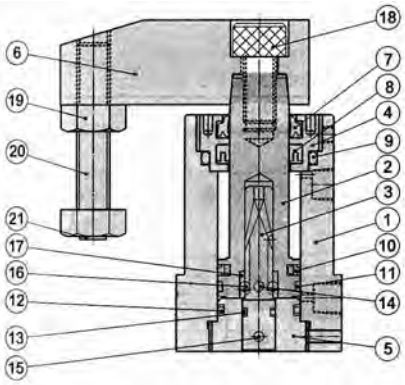
R: Right turn with clock wise direction:
A: Başlama noktası / Starting point
B: Sıkma noktası / Clamping point

OS2 STANDART DÖNER KLEMP SİLİNDİRLER
OS2 STANDARD SWIVEL & CLAMP CYLINDERS

STANDART STROK / STANDARD STROKES

açı / angle \ boru / bore		25	32	40	50	63
90°	L					
	R					
180°		Standart yok No standard				

YAPILAR VE PARÇA İSİMLERİ
STRUCTURES AND PART NAMES



item	parça adı part name	adet q'ty	item	parça adı part name	adet q'ty
1	boru / tube	1	12	sızdırmazlık o-ringi head cover-ring	1
2	mil +piston rod + piston	1	13	guide rod-ring klavuzluk rod-ring	1
3	klavuz milli guide rod	1	14	sabitleme pimi keeper pin	1
4	mil yataklaması rod cover	1	15	yataklama civatası guide pin	1
5	piston yataklaması nead cover	1	16	çelik bilya steel ball	2
6	klemp kolu clemp arm	1	17	sabitleme halkası keeper ring	1
7	toz keçesi dust seal	1	18	montaj civatası hex. bolt	1
8	mil keçesi rod packing	1	19	sabitleme somunu hex. nut	1
9	sızdırmazlık o-ringi cover o-ring	1	20	klemp civatası clamp bolt	1
10	piston keçesi piston packing	1	21	malzeme tutucu clamp holder	1
11	yataklama piston wearing	1			

KEÇE ÖZELLİKLERİ / SEAL SPEC.

İsim / Name \ Boru / Bore	Toz keçesi Dust seal 7		Mil keçesi Rod packing 8		Kapak o-ringi Cover o-ring 9		Piston keçesi Piston packing 10		Yataklama Piston wearing 11		Sızdırmazlık elemanı Head cover o-ring 12		Klavuz mil o-ringi Guide rod o - ring 13	
	type	adet q'ty	type	adet q'ty	type	adet q'ty	type	adet q'ty	type	adet q'ty	type	adet q'ty	type	adet q'ty
25	DH18	1	UHS18	1	G30	1	754-4339610	1	RYTW4 X 2t	1	P21	1	P9	1
32	DH20	1	UHS20	1	G35	1	754-4339810	1	RYTW4 X 2t	1	G25	1	P14	1
40	DH20	1	UHS20	1	G35	1	754-4339210	1	RYTW4 X 2t	1	G35	1	P14	1
50	DH20	1	UHS20	1	G45	1	754-4327110	1	RYTW4 X 2t	1	G45	1	P14	1
63	DH25	1	UHS25	1	G55	1	754-4326910	1	RYTW4 X 2t	1	G55	1	P14	1

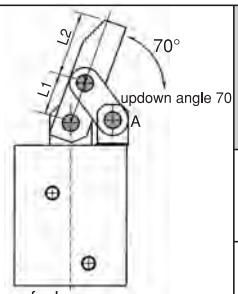
HİDROLİK KLEMP SİLİNDİR / SWIVEL & CLAMP HYDRAULIC CYLINDER

OS4 Tipi Klemp Silindirler / OS4 Lever Clamp Cylinders

ÖZELLİKLER / FEATURES

- **Piston ileri çıktığında kaldıraç prensibiyle iş parçası tutulur.**
  Based on the lever theory, OS4 product is designed to clamp objects while the piston is pushid up.
- **Klemp kolu desteği herhangi bir boşluk yapmayacak şekilde dizayn edilmiştir.**
  The supporter of the clamp arm is well designed to prevent any shaking of the supporter.

TEKNİK GÜÇ / THEORETIAL FORCE



$F = \frac{f \times L_1}{L_2}$

F: baskı kuvveti-clamp force (kgf)
f: piston kuvveti-output (kgf)
L_1: distance between pilot point and push point
L_2: distance between pilot point and clamp point

boru bore (mm)	rod (mm)	Baskı alanı pressed area (cm^2)	Sıkma gücü			
			70 kgf/cm^2 Basınç		140 kgf/cm^2 Basınç	
			output (kgf)	clamp (kgf)	output (kgf)	clamp (kgf)
32	20	8.0	560	370	1120	740
40	22.4	12.6	880	540	1764	1090
50	28	19.6	1373	870	2744	1750

SİPARİŞ FORMU / ORDER FORM

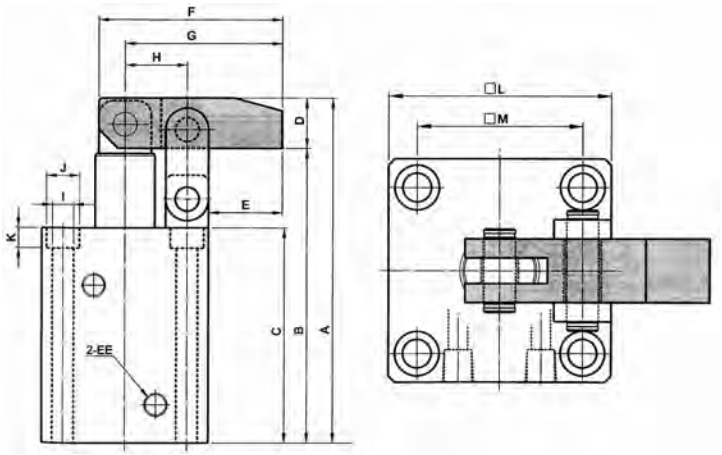
OS4 — 32 — M
❶ ❷

OS4 tipi klemp silindir / OS4 : lever clamp cylinders		
❶	boru / bor (mm)	32 ` 40 ` 50
❷	giriş yuvası input port	(1) space: standard position (body side) (2) m: bottom side

ÖZELLİKLER / SPECIFICATIONS

boru / bore (mm)	32	40	50
etki / acting	çift etkili double acting		
dönüş yönü swiel direction	yukarı aşağı up & down		
sıkma mesafesi clamp stroke (mm)	25	30	35
akışkan / fluid	mineral yağ oil mineral		
max. çalışma basıncı max. working press. (kgf / cm^2)	70 , 140 bar		

DIŞ ÖLÇÜLER / EXTERNAL DIMENSIONS



not / boru	A	B	C	D	E	F	G	H	I	J	K	L	M	EE
Ø 32	131	112	85	□19	24	65	55	22	7	11	6.5	62	47	1/4RC
Ø 40	144.2	122	90	□22.5	30	77	66	26	9	14	9	70	52	1/4RC
Ø 50	162.4	137	100	□25.4	36	90	77	30	9	14	9	80	58	1/4RC

SOLENOİD KONTROLLÜ YÖN VALFLERİ
SOLENOID OPERATED DIRECTIONAL VALVES

Islak Tip Selonoid / Wet Type (Oil Immersed) Solenoid

- Max yüksek basınçı 35MPa(5000psi) & max yüksek akış kapasitesi 160 ℓ/min(42gpm)
- Yağa daldırılmış armatür stabil, yüksek basınçta ve yüksek frekansta bile sessiz uzun valf ömrü sağlar.
- Valfin bağlanması elektrik kutusu veya isim plakası ile alakasızdır.
- Tanka tahliye yuvası maximum 21MPa (her çekirdek için buna bakın)
- Şoksuz tip bobinler voltaj dalgalanmalarını azaltır ve ayrıca sessiz bir işlem sunar.
- İkiz tank hattı basınç diyagramını ve ayrıca sistem maliyetini azaltır.

- Max. High pressure of 35 MPa (5,000 psi) & Max. high flow capacityof 160 ℓ / min (42 gpm)
- Oil immersed armature provides stable, quiet operation - even under high pressure & high cycye freqency, allowing for longer valve life
- Valve mounting accomplished without disturbing valve nameplate or electrical box.
- High tank port back pressure upto 21 MPa/3040 psi (check each spool type for max. allowable)
- Shockless type coils are available - reducing voltage spikes, providing even quiter operation and extending relay contact life.
- Twin tank line design greatly reduces both pressure drop and system operating cost.

Bobin Bağlantı Kutuları / Joint Box / plug-in

- Standart olarak büyük elektrik kutusu sağlanır, içinde sinyal ışığı olan ve ayrıca yere kadar bağlantı şeridi içeren.
- Basit yapısı kolay bağlantı sağlar.
- Bobinler kolaylıkla sökülüp takılır; herhangi bir yağ sızıntısı veya kablo zararı olmadan.

- Large electrical box supplied standard, with indicator lights and terminal strip including earth ground terminal.
- Simple design allows easy assembly and dismantling.
- Coils can be easily replaced without distudbing wiring and without risk of oil leakage.

Kablolu Bobinler / Lead Wire Coils

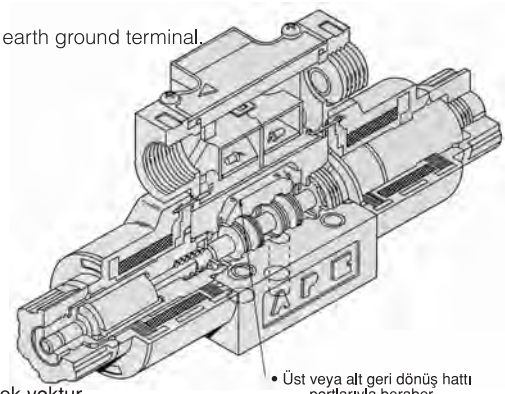
- Bu tarz ürünler özellikle mobil endüstride yaygındır.
- Tek plakalı DC bobinler tekli plaka bağlantısı için mümkündür.

- Lead wire coils available popular with the mobile industry.
- Single spade DC coil also avaliable for one wire “spade” connection.

DIN Bobinler / DIN Coils

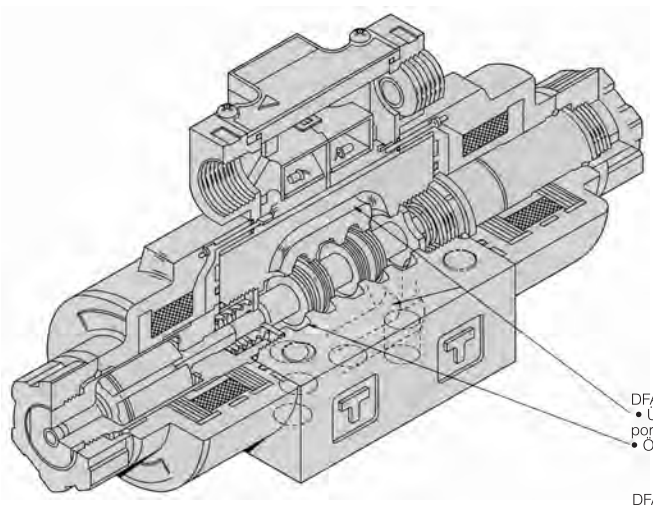
- DIN 43 650 ve ISO 4400 standartlarına uyan 3 pimli olarak imal edilir.
- AC bobinler 50/60 Hz frekansa göre üretilir frekans değişikliğinde tekrar sökülmesine gerek yoktur.
- DC bobinler polar hassasiyetine sahip değildir.

- Manifactured to accept standard 3 pin DIN 43 650 and ISO 4400 connectors.
- AC coils are rated for both 50/60 Hz Service-rewring not required if switching frequencies.
- DC coils are not polarity sensitive.



• Üst veya alt geri dönüş hattı portlarıyla beraber (T portuna)

DFA/B/C - 02 Series
With both upper & lower return line ports (to T port)



DFA/B/C - 03 Series
• Üst veya alt geri dönüş hattı portlarıyla beraber(T portuna)
• Özel 5 kanal ve 6 dişli

DFA/B/C - 03 Series
• With both upper & lower return line ports (to T port)
• With special 5 channels and 6 teeth

DIN Soket / DIN Connector

Standart 3 broşlu DIN 43 650 ve ISO 4400 bobinlere uyar.

Conforms to standard 3 pin DIN 43 650 and Iso 4400 standard connectors. Clear lighted connectors are supplied standard for AC coils - optional lighted connectors available for DC coils.

AC Solenoid / AC Solenoid

50-60 hz arası ortak servis verirler frekans değişikliğinde sökmeye gerek yoktur.

50 - 60 Hz common service selenoids do not require re-wiring when the applied frequency is changed.

Elektrik Şoksuz / Electric Shockless

AC bobinler özel olarak RAC tipinde sunulabilirler bunlar da AC-DC doğrultma mümkündür bu elektrik çarpmasını azaltır, daha sessiz bir çalışma sunar ayrıca ömrü uzatır.Doğrultulmuş bobinlerde ısınma daha azdır. Doğrultma dışarıda bir kutuda veya DIN soketin içinde sağlanır.

AC coils can be provided with optional RAC type to include rectified coils that convert AC to DC - This reduces voltage spikes, provides even quieter operateon and extend relay contact life. Coils heat generation is much less in holding applications when using rectified coils. The rectifier is supplied in the electricel box or provided in the DIN connector.

Hidrolik Şoksuz / Hydraulic Shockless

Valfler S tipi spool yavaşlatıcı seçenekle desteklenir. Yağ, büyük boru çekirdeğin içinde armatürün yaklaşık 4 kata daha fazla (sıcaklığa bağlı) rahat hareket edebilmesini sağlayacak kadar, verilir. Not: AC valfler her zaman DC ye doğrultucu içerirler. Şoksuz valfler yağ tankı dolana kadar şoksuzluk işlemi görmezler ve ancak birkaç devirden sonra aktif olurlar .

Valves can be provided with option S to Slow the shifting of the spool. Oil is metered as the armuture moves in the large core tube causing increased shifting times, up to 4 times normal (depending on temperature). Note: AC valves are always supply rectified to DC valve . Shockless valves will not operate as shockless until tank line has become filled with oil - this will occur automatically after a first few cycles.

Diğer Bildiri / Other Notice

Her spool tipi için izin verilen maximum basınç (basınç dalgalanmaları dahil) değerleri tankın yuva kontrolleri için düşürülmüştür. Eğer bobin valfe bağlı değilse elektrik vermeyin. Valfleri 1 veya 2 yönlü çalıştırırken limitli veya kullanılmayan yuvalar bağlanmalı. Katalogdaki voltaj değerlerini aşmayınız.

Pressure ratings are reduced for the tank port - check each of spool types for maximum allowable pressure (including pressure spikes).
Do not Supply electric power to the AC solenoid unless the coil is mounted to the valve. Electrical power should be maintained on detended valves when in operation - the detend only maintains the valve start - up condition. When plumbing valves for 1 way or 2 way operation - flow should be limited and unused ports should be plugged (do not plug the tank port on models 2B8, 2B8L, 2D8). Do not exceed voltage specifications shown in the catalog.

Çeşitlilik / Variety

Sizin isteğinize göre çok çeşitli , mesela diş ölçüsü •1/4” & 3/8” bobini AC veya DC farklı bağlama şekilli veya farklı çekirdekli ve ayrıca şoklu veya şoksuz solenoid valfler mevcuttur.

There are various kinds of selenoid directional valves for your selection, which with different sizes of 1/4 & 3/8” , different AC or DC selenoid, different wiring of joint box type or DIN (hirschmann) type, different spool types, with or without shockless type etc.

Önerilen Akışkan Tipleri / Fluid Types Recommended

1. Petrol bazlı mineral yağ. (ISO VG 32 & 46’ ya uymalı)
2. Fosfat-ester bazlı hidrolik yağ.
3. Su-glikol grubu hidrolik yağ.

1. Petroleum based mineral oil (conform to ISO VG 32 & 46)
2. Phosphate - esters based hydraulic oil.
3. Water - glycol group hydraulic oil.

Akışkan Isı Aralığı / Fluid Temperature Range

+5°C den +60°C ye kadar önerilir.
From +5°C to +60 °C (41 °F -140 °F) recommended

Akışkan Vizkozite Aralığı / Fluid Viscosity Range

15-310cSt önerilen (80-1400 SSU)
15 - 310 cSt (80-1400 SSU) recommend

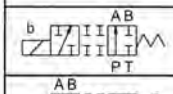
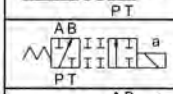
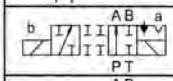
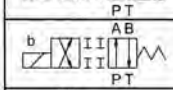
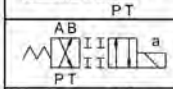
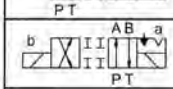
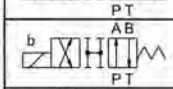
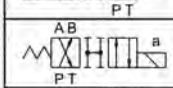
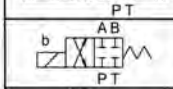
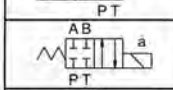
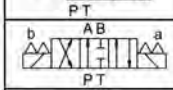
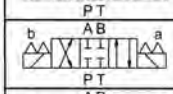
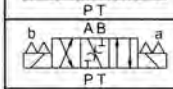
Kirlilik Kontrolü / Contamination Control

Akışkan kirlilliği NAS 1628-12 sınıfının üstünde dlmalıdır. Ve en az 25 mikron filtreleme gerekmektedir. Yapılmazsa valflerin ömrü azalır ve kolayca zarar görebilir.

Fluid contamination should be kept at / above NAS 1628 - 12 class and adopt filtration of 25 µm or even better filtration, otherwise, valves are easily to be damaged or shorten life.

SELENOİD KONTROLLÜ YÖN VALFİ
SOLENOID OPERATED DIRECTIONAL VALVES

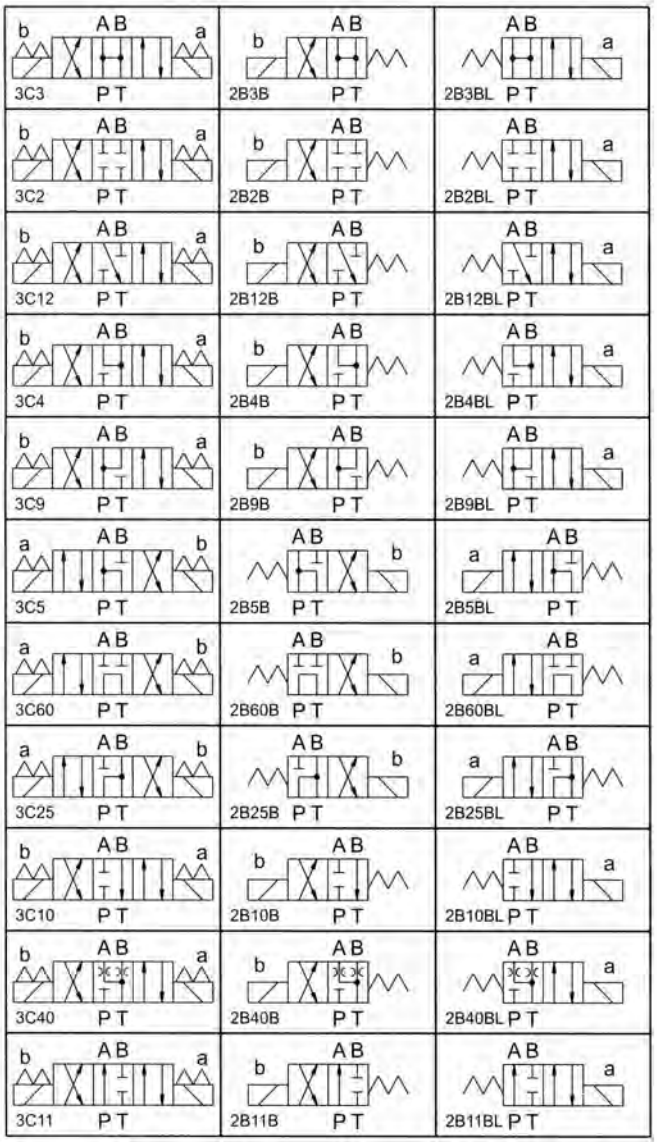
ÖZELLİKLER / SPECIFICATIONS

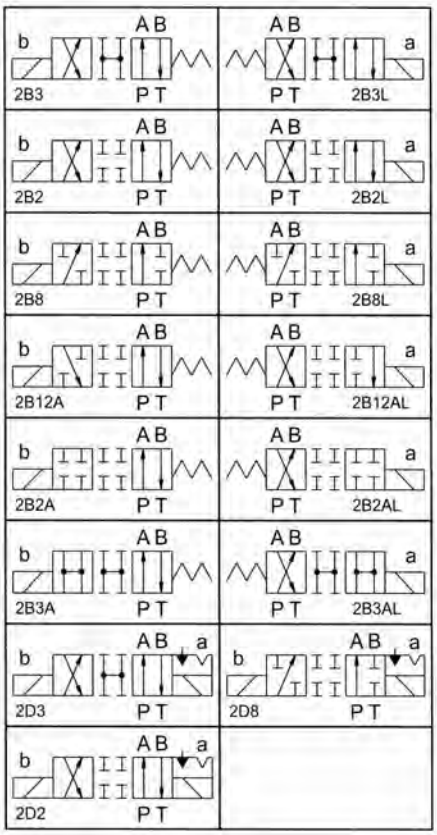
Model		DFA / B / C - 02 - 35 (C) Serileri / Series				DFA / B / C - 03 - 35 (H) Serileri / Series					
		Standart tip Standard type		Şoksuz tip Shockless type		Standart tip / Standard type				Şoksuz tip Shockless type	
						AC		DC & RAC			
Sembol Symbol	Valf Çekirdek tipi Valve spool type	Maksimum Çalışma Basıncı Max. Operating Pressure Mpa (Psi)	Maksimum Debi Max. Flow ℓ/min (gpm)	Maksimum Çalışma Basıncı Max. Operating Pressure Mpa (Psi)	Maksimum Debi Max. Flow ℓ/min (gpm)	Maksimum Çalışma Basıncı Max. Operating Pressure Mpa (Psi)	Maksimum Debi Max. Flow ℓ/min (gpm)	Maksimum Çalışma Basıncı Max. Operating Pressure Mpa (Psi)	Maksimum Debi Max. Flow ℓ/min (gpm)	Maksimum Çalışma Basıncı Max. Operating Pressure Mpa (Psi)	Maksimum Debi Max. Flow ℓ/min (gpm)
	2B8	35 (5070)	30 (7.9)	25 (3620)	30 (7.9)	35 (5070)	40 (10.6)	35 (5070)	85 (22.5)	25 (3620)	85 (22.5)
	2B8L										
	2D8						85 (22.5)				
	2B2		80 (21.1)		50 (13.5)		130 (34.3)		160 (42.3)		130 (34.3)
	2B2L										
	2D2		100 (26.4)								
	2B3		65 (17.1)								
	2B3L										
	2D3										
	2B2B		100 (26.4)								
	2B2BL										
	3C11										
	3C2										
	3C9										
	3C41										
	3C40										
	3C12		AC: 65 (17.1) DC: 80 (21.1)								
	3C4										
	3C3		50 (13.2)								
	3C60	25 (3620) 35 Özel (Specified)			40 (10.6)	25 (3620) 35 Özel (Specified)	70 (18.5)	25 (3620) 35 Özel (Specified)	100 (26.4)		85 (22.5)
	3C5										

		DFA/B/C - 02			DFA/B/C - 03		
		AC solenoid bobin	Doğrultucu içinde Built-in rectifier	DC solenoid bobin	AC solenoid bobin	Doğrultucu içinde Built-in rectifier	DC solenoid bobin
		AC ※	RAC ※	DC ※	AC ※	RAC ※	DC ※
Max.çalışma basıncı Max. operating pressure	P, A, B port / ports	35 MPa (5070 psi) (Note 1)					
Max.izin verilen geri basınç	Max. permissible back pressure T port	35:21 MPa (3040 psi) 35C:16 MPa (2320 psi)			16 MPa (2320 psi)		
Değişim frekansı Changeover frequency (times/min)	Standart tip / Standard type	300	120	300	300	120	240
	Şoksuz tip / Shockless type	—		120	—		120
Standard	Sinyal ışığı / Indicator light	L (Not 2)			L		
	Şoksuz / Shockless	—	S		—	S	
Gövde / Mass kg (lbs)	Çift Bobin / Double solenoids	1.8(4.0)	2.0(4.4)		4.2 (9.2)	5.0 (11)-35	5.6 (12.3)-35H
	Tek Bobin / Single solenoid	1.4(3.1)	1.5(3.3)		3.6 (7.9)	3.9 (8.6)-35	4.2 (9.2)-35H
Önerilen çalışma şartları Recommended operating conditions	Çalışma Sıcaklığı / Operating temperature range	-20 ~ 70 °C(-4 ~ 158 °F)			5 ~ 60 °C (41 ~ 140 °F)		
	Çalışma vizkozitesi aralığı / Operating viscosity	15 ~ 300 mm²/s (80 ~ 1400 SUS)					
	Vizkozite tanımı / Viscosity index	90 veya üstü / 90 or above					
	Filtrasyon / Filtration	25 veya altı / 25 um or less					

Note 1) Max çalışma basıncı valf tipine göre değişir / Max. operating pressure differs depending on the valve type.
2) "L" standart değil / DFA: "L" is not standard.

SEMBOLLER / SYMBOLS





Solenoid Tanımlama / Solenoid specifications

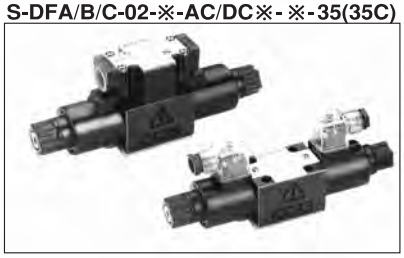
Bobin sınıflandırma Solenoid classification			AC Solonoid - AC Bobin									
Güç Kaynağı - Power source			C1 / C3			C120		C2 / C4			C5 / C6	
Voltaj - Voltage(V)			AC110		AC120	AC120		AC220		AC240	AC240	
Frekans - Frequency(Hz)			50	60	60	50	60	50	60	60	50	60
Ölçü Size 02	Solenoid bobin tipi Solenoid coil type	DFA-02-35	2AH-C1/C3			2AH-C120		2AH-C2/C4			2AH-C5/C6	
		DFB-02-35	2BH-C1/C3			2BH-C120		2BH-C2/C4			2BH-C5/C6	
	Başlangıç akımı(A) / Starting current		2.2	2.0	2.2	2.0	1.8	1.1	1.0	1.1	1.0	0.9
	Sürekli akım(A) / Holding current		0.54	0.41	0.47	0.45	0.35	0.25	0.19	0.23	0.23	0.18
	Sürekli güç(W) / Holding electric power		25	22	28	25	22	25	22	28	25	22
	Voltaj aralığı/ Permissible voltage range(V)		80 ~ 120			90 ~ 130		180 ~ 240			200 ~ 260	
	İzolasyon / Insulation resistance (MΩ)		100 veya üstü(500V) / 100 or above (500V)									
Ölçü Size 03	Solenoid bobin tipi Solenoid coil type	DFA-03-35	3AH-C1/C3			3AH-C120		3AH-C2/C4			2AH-C5/C6	
		DFB-03-35	3BH-C1/C3			3BH-C120		3BH-C2/C4			2BH-C5/C6	
	Başlangıç akımı(A) / Starting current		5.5	4.6	5.0	5.0	4.2	2.7	2.3	2.5	2.5	2.1
	Sürekli akım(A) / Holding current		1.1	0.86	1.0	0.9	0.71	0.52	0.42	0.48	0.4	0.33
	Sürekli güç(W) / Holding electric power		36	34	42	36	34	36	34	32	36	34
	Voltaj aralığı/ Permissible voltage range(V)		80 ~ 120			90 ~ 130		180 ~ 240			200 ~ 260	
	İzolasyon / Insulation resistance (MΩ)		100 veya üstü(500V) / 100 or above (500V)									

Bobin sınıflandırma Solenoid classification			DC Solonoid - DC Bobin					
			Doğrultucu içinde / Built-in rectifer					
Güç Kaynağı - Power source			R1 / R3		R2 / R4		D1	D2
Voltaj - Voltage(Hz)			AC110	AC120	AC220	AC240	DC12	DC24
Frekans - Frequency(V)			50 / 60		50 / 60		—	—
Ölçü Size 02	Solenoid bobin tipi Solenoid coil type	DFA-02-35	2AF-R1/R3		2AF-R2/R4		2AF-D1	2AF-D2
		DFB-02-35	2BF-R1/R3		2BF-R2/R4		2BF-D1	2BF-D2
	Akım (A) / Current		0.31	0.32	0.15	0.16	2.5	1.25
	Sürekli güç - Holding electric power(W)		30	32	30	32	30	30
	Permissible voltage range(V)-Voltaj aralığı		80 ~ 130		180 ~ 250		10.8 ~ 13.2	21.6 ~ 26.4
	İzolasyon / Insulation resistance (MΩ)		100 veya üstü(500V) / 100 or above (500V)					
Ölçü Size 03	Solenoid bobin tipi Solenoid coil type	DFA-03-35	3EA-R1/R3		3EA-R2/R4		3EA-D1	3EA-D2
		DFB-03-35	3EB-R1/R3		3EB-R2/R4		3EB-D1	3EB-D2
	Akım (A) / Current		0.46	0.49	0.22	0.24	3.0	1.5
	Sürekli güç(W) / Holding electric power		31	34	30	33	31	36
	Voltaj aralığı/ Permissible voltage range(V)		80 ~ 130		180 ~ 250		10.8 ~ 13.2	21.6 ~ 26.4
	İzolasyon / Insulation resistance (MΩ)		100 veya üstü(500V) / 100 or above (500V)					

Bobin sınıflandırma Solenoid classification			AC Solonoid - AC Bobin									
Güç Kaynağı - Power source			C1 / C3			C120		C2 / C4			C5 / C6	
Voltaj - Voltage(V)			AC110		AC120	AC120		AC220		AC240	AC240	
Frekans - Frequency(Hz)			50	60	60	50	60	50	60	60	50	60
Ölçü Size 03	Solenoid bobin tipi Solenoid coil type	DFA-03-35H	3EA-C1/C3			3EA-C120		3EA-C2/C4			3EA-C5/C6	
		DFB-03-35H	3EB-C1/C3			3EB-C120		3EB-C2/C4			3EB-C5/C6	
	Başlangıç akımı(A) / Starting current		5.3	4.5	5	5	4.2	2.6	2.2	2.4	2.5	2.1
	Sürekli akım - Holding current(A)		1.1	0.9	1.0	1.1	0.87	0.56	0.45	0.53	0.47	0.38
	Sürekli güç - Holding electric power(W)		36	34	42	36	34	36	34	32	36	34
	Permissible voltage range(V)/ Voltaj aralığı		80 ~ 120			90 ~ 130		180 ~ 240			200 ~ 260	
	İzolasyon / Insulation resistance (MΩ)		100 veya üstü(500V) / 100 or above (500V)									

Bobin sınıflandırma Solenoid classification			DC Solonoid - DC Bobin					
			Doğrultucu içinde / Built-in rectifer					
Güç Kaynağı - Power source			R1 / R3		R2 / R4		D1	D2
Voltaj - Voltage(V)			AC110	AC120	AC220	AC240	DC12	DC24
Frekans - Frequency(Hz)			50 / 60		50 / 60		—	—
Ölçü Size 03	Solenoid bobin tipi Solenoid coil type	DFA-03-35H	3AF-R1/R3		3AF-R2/R4		3AF-D1	3AF-D2
		DFB-03-35H	3BF-R1/R3		3BF-R2/R4		3BF-D1	3BF-D2
	Akımı(A) / Current		0.42	0.46	0.21	0.23	3.2	1.6
	Sürekli güç - Holding electric power(W)		31	34	30	33	30	30
	Permissible voltage range(V)/ Voltaj aralığı		80 ~ 130		180 ~ 250		10.8 ~ 13.2	21.6 ~ 26.4
	İzolasyon / Insulation resistance (MΩ)		100 veya üstü(500V) / 100 or above (500V)					

S-DFA/B/C-02-※-AC/DC※-※-35(35C)

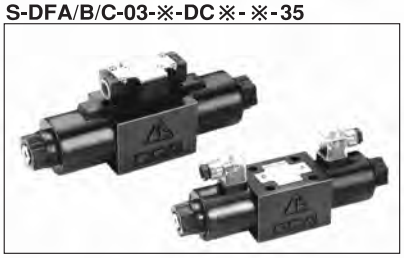


DFA/B/C-03-※-AC※-※-35

DFA/B/C-03-※-AC※-※-35H

S-DFA/B/C-02-※-DC※-※-35

S-DFA/B/C-03-※-DC※-※-35



S-DFA/B/C-03-※-DC※-※-35H

SİPARİŞ KODU / ORDERING CODE

DF - A - 02 - 3C2 - A110 - L - 35C - 00

İmal Yılı / Manufacturing year
02: 2002
03: 2003

Yüsek basınç ve yüksek akışa göre dizayn numarası
35: İzin verilen geri basınç(210 bar)
35H: Özellikle Özelleştirilmiş
35C: İzin verilen geri basınç(160 bar) (sadece O2 ölçüsünde)

-Designing number for high pressure & high flow type:
-Permissible back pressure 210bar
-Specially specified
-Permissible back pressure 160bar (only for size 02)

L: **Sinyal ışıklı** / With indicating light
No code: **Sinyal ışıksız** / Without indicating

Bobin voltaji / Coil voltage
AC: A110(50/60Hz) & A120(60Hz)=C1/C3
A120(50/60Hz)=C120
A220(50/60) & A240(60Hz)=C2/C4
A240(50/60Hz)=C5/C6
DC: D12(D1), D24(D2), D36(D3) & D48(D4)
İstenilen diğer voltajlar / other DC voltage as requested
RAC: R110(50/60Hz) & R120(50/60Hz)=R1/R3
R220(60/60Hz) & R240(50/60Hz)=R2/R4
(DC, AC değişimi, doğrultucu içinde)
(W/Built-in rectifier, change AC into DC)

Çekirdek tipi (Spul sembol diyagramına bakın)
Spool type (see spool symbol chart)

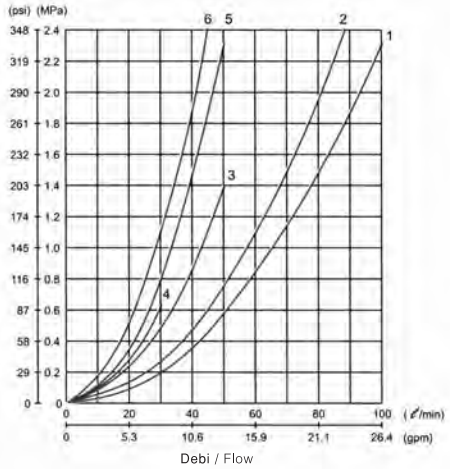
Normal ölçü / Nominal size:
02: 1/4”
03: 3/8”

Electrical conduit connection:
A: **Elektriğe bağlantı tipi/DIN tipi** - Hirschmann/DIN type
B: Joint box type - Soket tipi
C: Lead wire type - Kablo tipi

DF: **Islak tip solenoid kumandalı yön valfleri**
Wet type solenoid operated directional valves

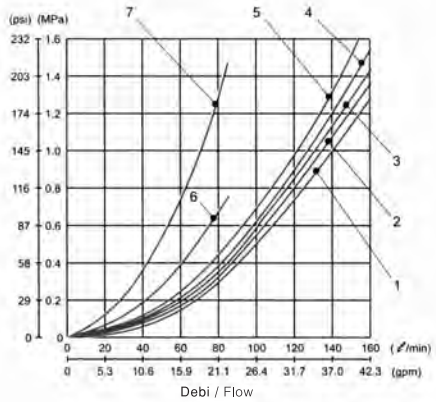
PERFORMANS EĞRİSİ - PERFORMANCE CURVE

Basınç diagramı karakteristiği
Pressure drop characteristics



Model	Valf çekirdek tipi Valve spool type	P→A	P→B	A→T	B→T	P→T
DFA-02 DFB-02 DFC-02 SERİLERİ SERIES	2B8, 2B8L, 2D8	4	4	–	–	–
	2B2, 2B2L	2	2	2	2	–
	2D2	2	2	2	2	–
	2B3, 2B3L, 2D3	1	1	1	1	–
	3C3	1	1	1	1	1
	2B2B, 2B2BL, 3C2, 3C40	2	2	2	2	–
	3C12, 3C41	2	2	1	2	–
	3C11	1	2	2	2	–
	3C4	2	2	1	1	–
	3C60	6	6	5	5	3
	3C5	1	6	2	5	3
	3C9	1	1	2	2	–

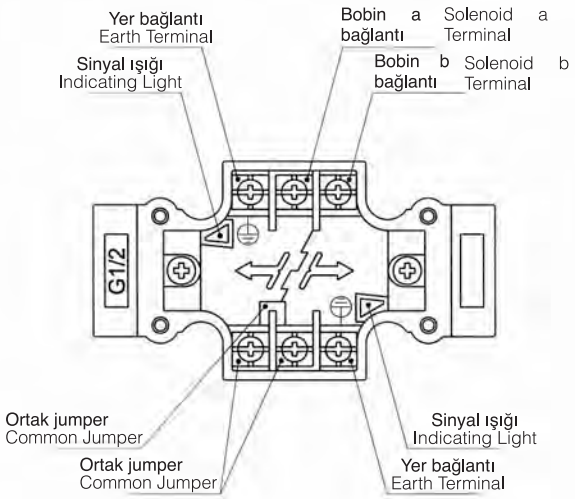
Hidrolik akışkan vizkozitesi 32 mm²/s (150 SUS)
Viscosity of hydraulic fluid 32 mm²/s (150 SUS)

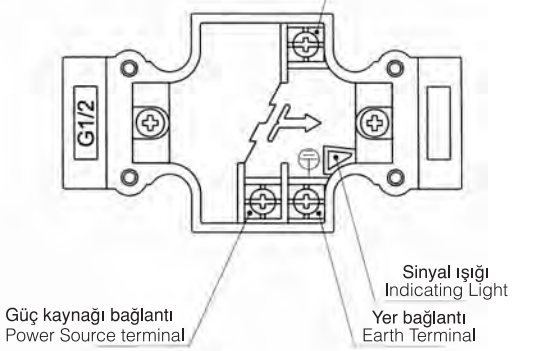


Model		P→A	P→B	A→T	B→T	P→T
DFA-03 DFB-03 DFC-03 SERİLERİ SERIES	2B8, 2B8L, 2D8	5	5	–	–	–
	2B2B	–	3	3	–	–
	2B2BL	3	–	–	3	–
	2B2, 2B2L, 2D2	3	3	4	4	–
	2B3, 2B3L	1	1	4	4	–
	2D3	2	2	1	1	–
	3C12	3	3	1	3	–
	3C11	1	3	3	3	–
	3C3	1	1	1	1	1
	3C2, 3C41, 3C40	3	3	3	3	–
	3C4	3	3	1	1	–
	3C60	7	7	7	7	6
	3C5	1	7	1	7	6
	3C9	1	1	3	3	–

Hidrolik akışkan vizkozitesi 32 mm²/s (150 SUS)
Viscosity of hydraulic fluid 32 mm²/s (150 SUS)

KABLOLAMA - WIRING

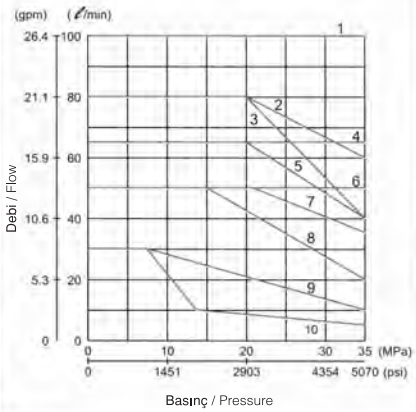




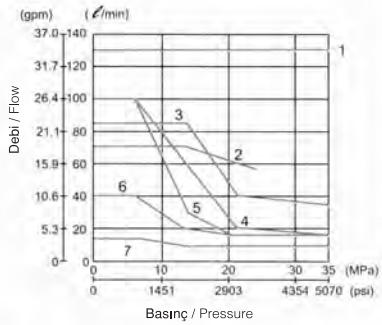
Not:
1. Yere bağlamak gerektiğinde her bir yer bağlantı kullanınabilir.
   Either one of two earth terminals can be used when ground wiring is necessary.
2. Ortak Jumper gereksizse çıkartılabilir.
   Common Jumper can be dismantled when unnecessary.
3. DC bobin kullanıldığında kutup etkilemez.
   When using direct current solenoid, No polarity concerned.

Basınç-Akış karakteristiği / Pressure-Flow characteristics

Ölçü - Size	Standart tip - Standard type		
	DFA-02-※-※-※-35		
Akış Yolu - Flow way / Çekirdek tipi - Spoll type	b A B a P T	b A B a P T	b A B a P T
2B8, 2B8L	–	10	10
2D8	–	9	9
2B2, 2B2L	2	10	10
2D2	1	9	9
2B3, 2B3L	4	4	4
2D3	4	4	4
2B2B	1	–	10
2B2BL	1	10	–
3C12, 3C4	(Not-Note) 3(5)	10	10
3C41, 3C11, 3C2, 3C40, 3C9	1	10	10
3C3	6	6	6
3C60, 3C5	(Not-Note) 7(8)	10	10



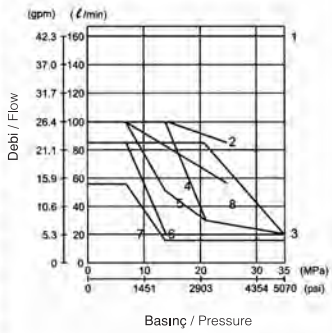
Ölçü - Size	Standart tip - Standard type		
	DFA-03-※-AC※-※-35		
Akış Yolu - Flow way / Çekirdek tipi - Spoll type	b A B a P T	b A B a P T	b A B a P T
2B8	–	6	5
2B8L	–	5	6
2D8	–	3	3
2B2	1	5	5
2B2L	1	5	5
2B3	1	1	3
2B3L	1	3	1
2D2, 2D3	1	3	3
2B2B	1	–	4
2B2BL	1	4	–
3C12, 3C41, 3C2, 3C4, 3C40	1	4	4
3C11	1	7	4
3C3	1	1	1
3C9	1	7	7
3C60, 3C5	2	2	2



(Not): Doğrultucu kullanılması durumunda basınç akış karakteristiği (5), (8) olur.
In the case of rectifier built -in type solenoid valve, pressure flow characteristics becomes (5), (8).

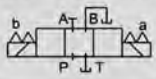
Basınç-Akış karakteristiği - Pressure-Flow characteristics

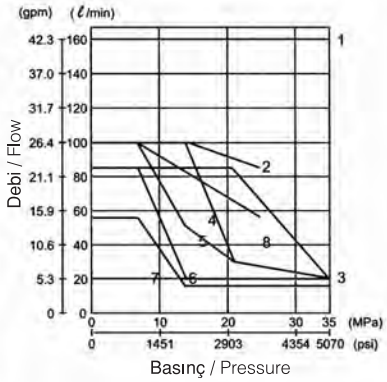
Ölçü / Size	Standart tip - Standard type		
	DFA/B/C-03-※-DC※/RAC※-※-35/35H		
Akış Yolu - Flow way / Çekirdek tipi - Spoll type	b A B a P T	b A B a P T	b A B a P T
2B8	–	5	6
2B8L	–	6	5
2D8	–	3	3
2B2	1	4	6
2B2L	1	6	4
2B3	1	3	3
2B3L	1	3	3
2D2, 2D3	1	3	3
2B2B	1	–	5
2B2BL	1	5	–
3C12, 3C41, 3C2, 3C4, 3C40	1	5	5
3C11	1	7	5
3C3	1	1	1
3C9	1	7	7
3C60, 3C5	Note) 2(8)	2(8)	2(8)



SELENOİD KONTROLLÜ YÖN VALFLERİ
SOLENOID OPERATED DIRECTIONAL VALVES

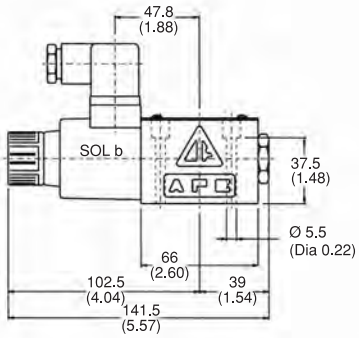
BASINÇ-AKIŞ ARALIKLARI / PRESSURE - FLOW CHARACTERISTICS

Ölçü / Size	Standart tip / Standard type		
	DFA/B/C-03-※-DC※/RAC※-※-35/35H		
Akış yolu / Flow way — Çekirdek tipi / Spool type			
2B8	–	5	6
2B8L	–	6	5
2D8	–	3	3
2B2	1	4	6
2B2L	1	6	4
2B3	1	3	3
2B3L	1	3	3
2D2, 2D3	1	3	3
2B2B	1	–	5
2B2BL	1	5	–
3C12, 3C41, 3C2, 3C4, 3C40	1	5	5
3C11	1	7	5
3C3	1	1	1
3C9	1	7	7
3C60, 3C5	(Not-Note) 2(8)	2(8)	2(8)

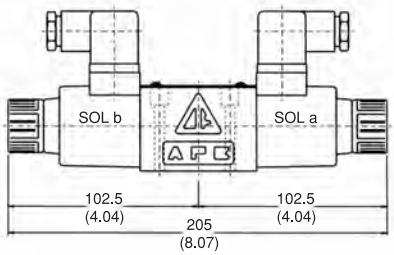


✻ DIN tipi / DIN type
DFA-02- ※ - ※ - 35 (35C)

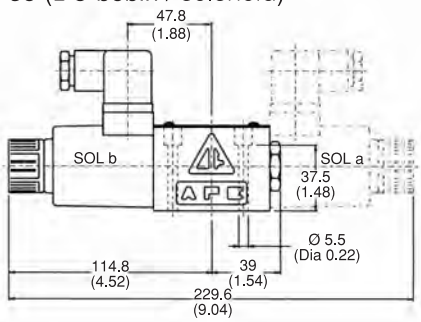
35 (AC bobin / AC solenoid)
35C (AC/DC bobin / solenoid)

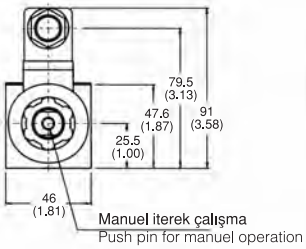


35 (AC bobin / AC solenoid)
35C (AC/DC bobin / solenoid)

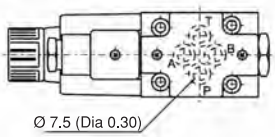


35 (DC bobin / solenoid)



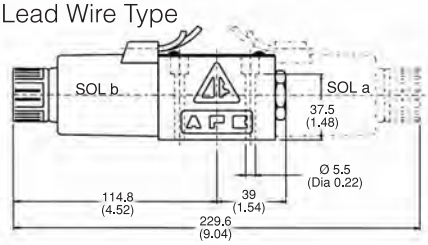


35 (AC bobin / AC solenoid)
35C (AC/DC bobin / solenoid)



✻ KENDİNDEN KABOLU TİP
LEAD WIRE TYPE
DFC-02- ※ - ※ - 35

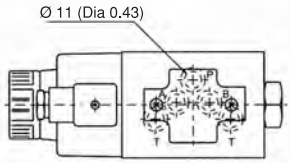
Kendinden Kabolu Tip
Lead Wire Type



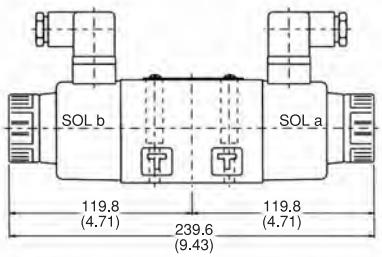
SELENOİD KONTROLLÜ YÖN VALFLERİ
SOLENOID OPERATED DIRECIONAL VALVES

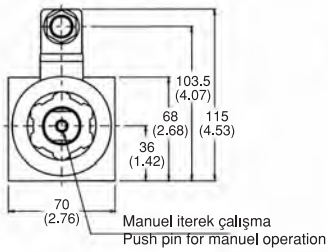
✻ DIN tipi / DIN type
DFA-03- ※ - ※ - 35

AC solenoid / bobin

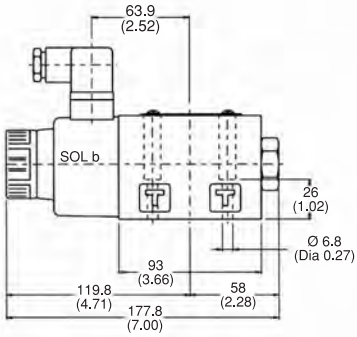


AC solenoid / bobin

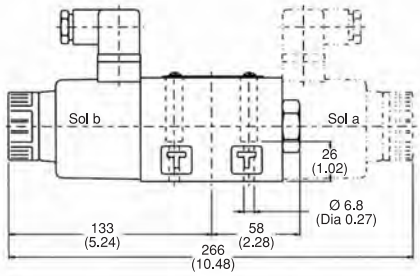




AC solenoid / bobin

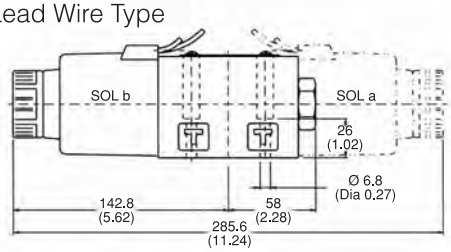


DC solenoid / bobin



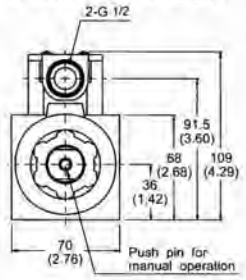
✻KENDİNDEN KABOLU TİP
LEAD WIRE TYPE
DFC-03- ※ - ※ - 35H

Kendinden Kabolu Tip
Lead Wire Type



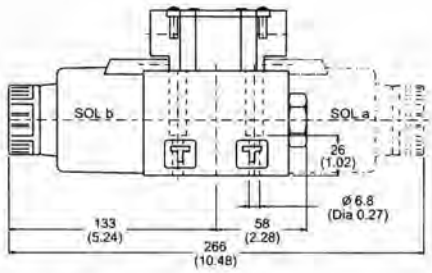
KUTU BAĞLANTI TİPİ / JOINT BOX TYPE

DFB-03-※-※-35H

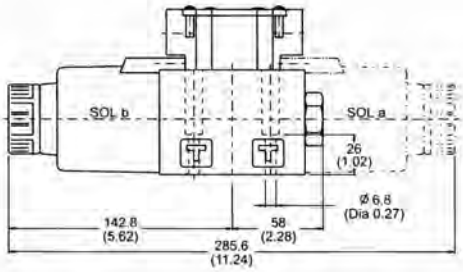


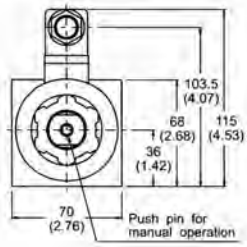
Manual iterek çalıştırma

AC bobin / AC solenoid



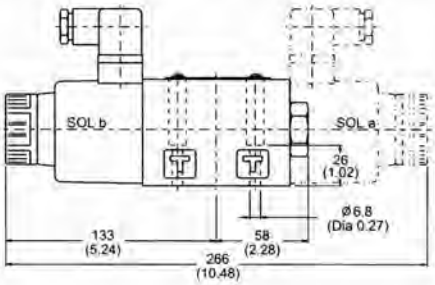
DC bobin / DC solenoid



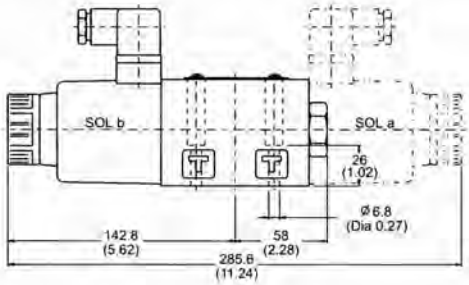


Manual iterek çalıştırma

AC bobin / AC solenoid



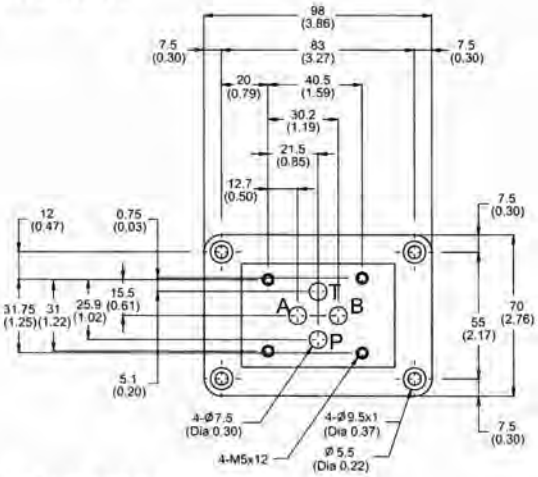
DC bobin / DC solenoid

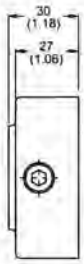


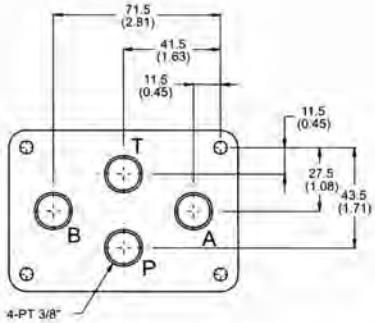
PLEYTLER / SUBPLATE

For DFA/B-02-35 Serileri / Series

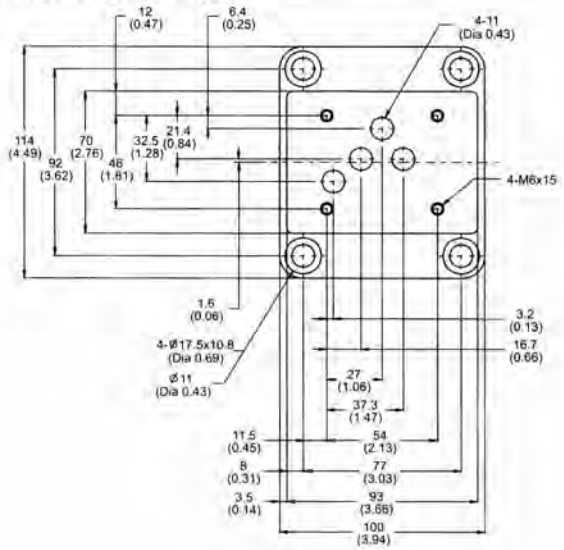
mm(inch)

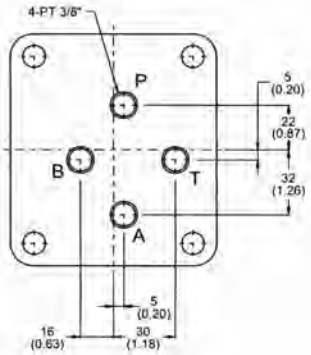






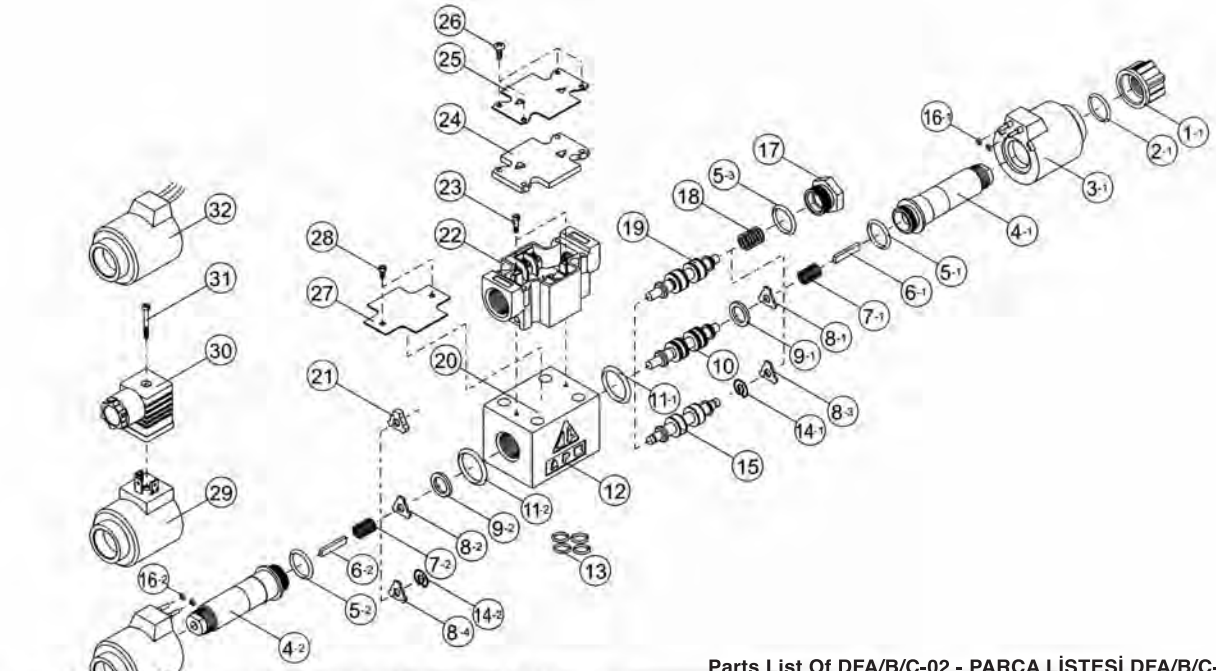
For DFA/B-03-35(H) Serileri / Series





GÖRÜŞ / REMARK:
Ekstra T portu kullanmak basınç sızıntılarını düşürür.
Extra T port available to reduce pressure drops.

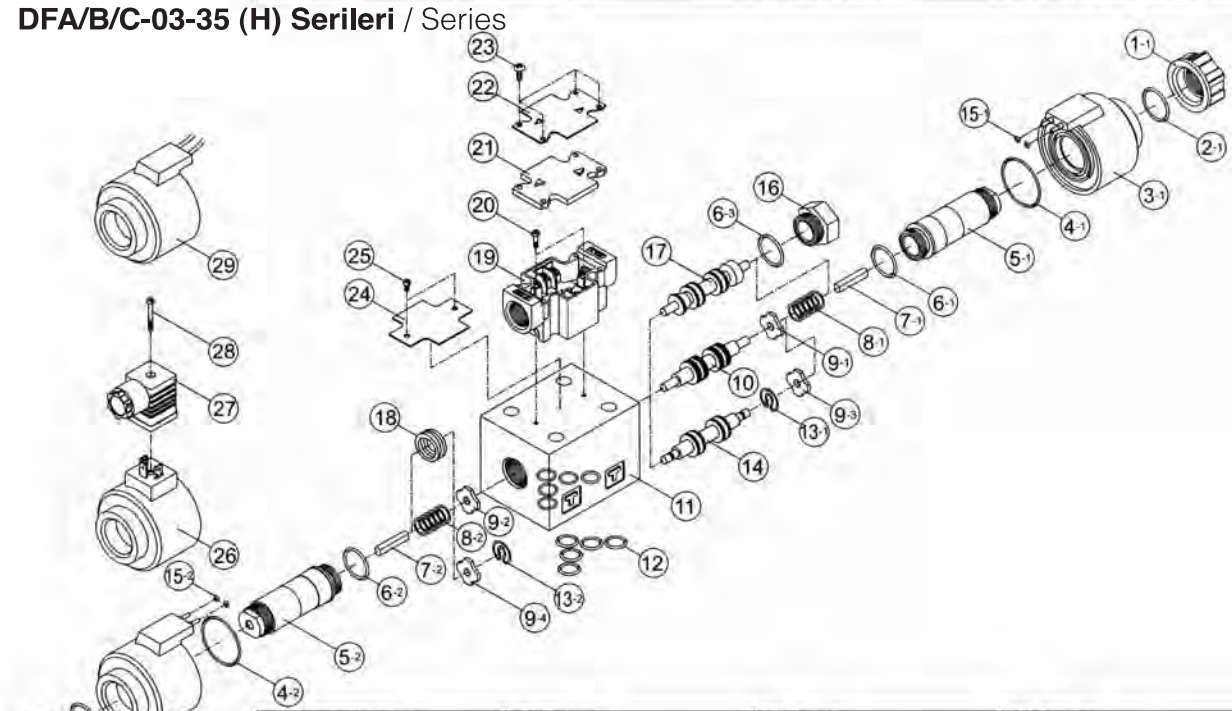
DFA/B/C-02-35 Serileri / Series



Parts List Of DFA/B/C-02 - PARÇA LİSTESİ DFA/B/C-02

1) Solenoid Guide - Yatak	9) Steel-Ring - Çelik halka	17) Hexagon Plug-6 gen tapa	25) Nameplate-İsim plakası
2) O-Ring - O-Ring	10) Spool - Çekirdek	18) Spring-Yay	26) Screw - Vida
3) Coil (For Joint Box Type) Soketli tip için bobin	11) O-Ring - O-Ring	19) Spool - Çekirdek	27) Nameplate-İsim plakası
4) Armature(Tube) - Armatür	12) Body - Gövde	20) Body - Gövde	28) Screw - Vida
5) O-Ring - O-Ring	13) O-Ring - O-Ring	21) Retainer - Tutucu	29) Coil (For DIN Type)-Bobin
6) Push Pin - Basma pimi	14) Concave Pin-İç bükey pim	22) Joint Box- Bağlantı kutusu	30) Connector - Soket
7) Spring - Yay	15) Spool - Çekirdek	23) Screw - Vida	31) Screw - Vida
8) Retainer - Tutucu	16) O-Ring - O-Ring	24) Acrylic Cover -Akrilik örtü	32) Coil (For Lead Wire Type) Kablolu Tip Bobin

DFA/B/C-03-35 (H) Serileri / Series



1) Solenoid Guide-Yatak	9) Retainer-Tutucu	17) Spool-Yay	25) Screw-Vida
2) O-Ring - O-Ring	10) Spool-Yay	18) Retainer -Tutucu	26) Coil (For DIN Type)-Bobin
3) Coil (For Joint Box Type) Soketli tip için bobin	11) Body-Gövde	19) Joint Box-Bağlantı kutusu	27) Connector-Soket
4) O-Ring - O-Ring	12) O-Ring - O-Ring	20) Joint Box Screw-B.K.civata	28) Screw-Vida
5) Armature(Tube)-Armatür	13) Concave Pin-İç bükey pim	21) Acrylic Cover -Akrilik örtü	29) Coil (For Lead Wire Type)
6) O-Ring - O-Ring	14) Spool-Yay	22) Nameplate -İsim plakası	(Kablolu tip bobin)
7) Push Pin-Basma pimi	15) O-Ring - O-Ring	23) Screw-Vida	
8) Spring-Yay	16) Hexagon Plug-6 gen tapa	24) Nameplate-İsim plakası	

FWH / FH ELEKTRO - HİDROLİK YÖN KONTROL VALFİ
FWH / FH ELEKTRO - HYDRAULIC DIRECTIONAL CONTROL VALVE
HİDROLİK KUMANDALI YÖN KONTROL VALFİ
HYDRAULIC OPERATED DIRECTIONAL CONTROL VALVE

FWH, kumanda pilotu olarak selenoid kullanan, kayar valf tipi yön kontrol valfidir. Akışı açıp kapama ve yönünü değiştirmek için kullanılır. FH, hidrolik kumandalı valf ise açıp kapama ve yön değiştirme için akışkan basıncını kullanır. Prensip ve yapısı FWH hidrolik valf yapısını tanımlar.

Model FWH is a slide valve type of directional control valve which uses a solenoid as its control pilot. It is used to open and shut off fluid flows and to control the flow direction. The FH hydraulic operated directional control valve uses pressured fluid to force direction change so as to achieve flow on-off and direction change. Its principle and structure are basically identical to FWH electro-hydraulic valve.

TEKNİK AÇIKLAMA / TECHNICAL SPECIFICATION

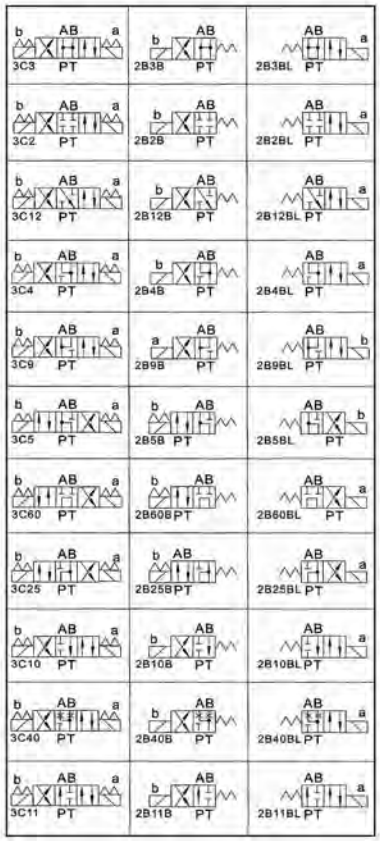
Model			03	04	06		10
Max. basınç Allowed max. pressure (MPa)	Delik / Port A,B,C		31.5				
	Delik T Port T	Harici emniyet Extl relief	25				
		İçten emniyet Intl relief	16 For DC; 10 For AC				
	Delik/Port Y	Harici emniyet Extl relief	16 For DC; 10 For AC				
Min. kumanda basıncı Min. cntrl pressure (MPa)	3-P,Yağ mrkz./Spring cent.		1.0	1.2	10.5	1.25	1.3
	3-P,Basınç mrkz.	Press cent.	-	1.2	-		1.8
	2-P,Spring offset		1.0	1.2	1.1	1.4	1.3
	2-P,Ptessure offset		0.7	1.2	0.8		1.8
Max. Kontrol Basıncı/Max. cntrl.press.			25	25	21		21
Debi l/min - Flow l/min			80	160	250		400
Ağırlık (Kg) Weight (Kg)	2 konumlu / 2 position		6.4	8.3	11.5		17.6
	3 konumlu / 3 position		6.8	8.6	11.9		19
	Pilot kısıtlı kumanda Pilot restriction controller DLA - 03		0.8	0.8	0.8		0.8
	Düşürücü Valf	Reducing Valve	0.5	0.5	0.5		0.5
	FH valfi - FH valve		4	8	17		17.6
Elektriksel parametre Electrical paramater	Tip - Type			DC	AC		
	Voltaj - Voltage			12, 24	110, 220/50Hz		
	Güç harcaması(W) - Power Cunsump.			35	-		
	Max. Güç(W) - Attraction power(W)			-	65		

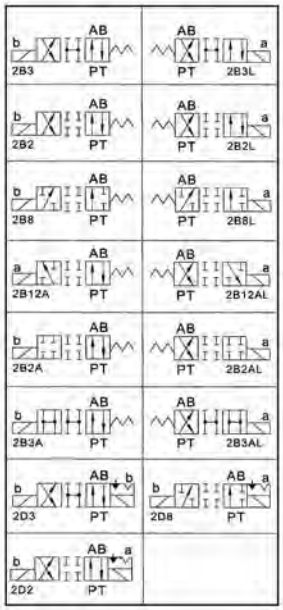
MODEL TANIMLAMA / MODEL DESCRIPTION

FWH / FH – * – * – * / * * – * *

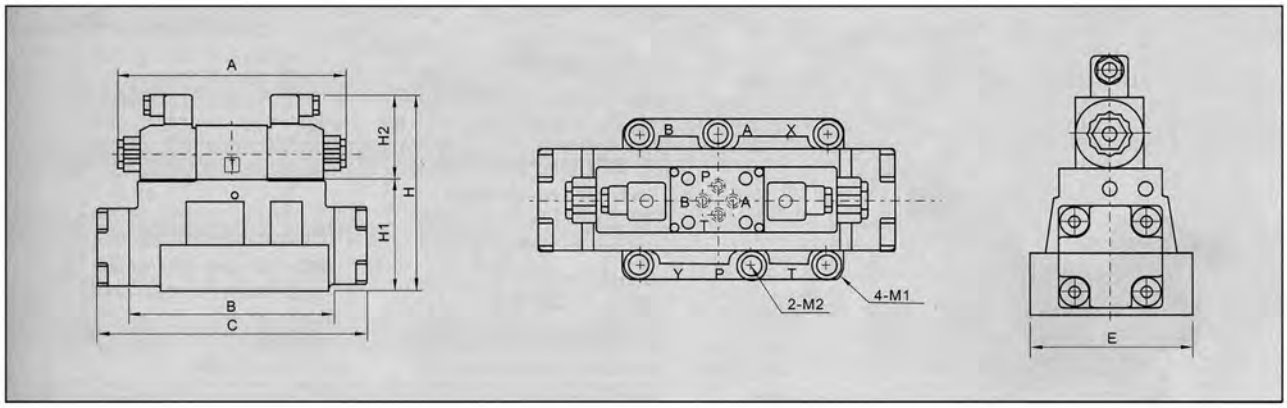
- Remarks
- Dizayn seri no / Design serial number
  50, 60 , 70
- Plug:
  Z4= Kare soket / Square connector
  Z5= Işıklı Kare soket / Square connector with light
  Z6 = Terminal / Junction box type
- Güç / Power:
  D12= 12 VDC
  D24= 24 VDC
  B110= Rectified 110 V
  B220= Rectified 220 V
- Kumanda yağı / Control oil:
  Default= İçten kontrol dıştan tahliye / Intrl cntrl intl disch
  X= Dıştan kontrol içten tahliye / Extl cntrl intl disch;
  Y= İçten kontrol dıştan tahliye / Intrl cntrl extl disch;
  XY= Dıştan kontrol dıştan tahliye / Extrl cntrl extl disch;
- Fonksiyon sembolü / Function symbol
  (çizime bakınız / see drawing)
- Tanımlama / Specification:
  03= DN10
  04= DN16
  06= DN25
  10= DN32
- Tip / Type: FWH= Elektro-hidrolik yön kontrol valfi
  Electro - hydraulic directional control valve
  FH= Hidrolik kumandalı yön kontrol valfi
  Hydraulic operated directional control valve

FONKSİYON SEMBOLLERİ / FUNCTION SYMBOL



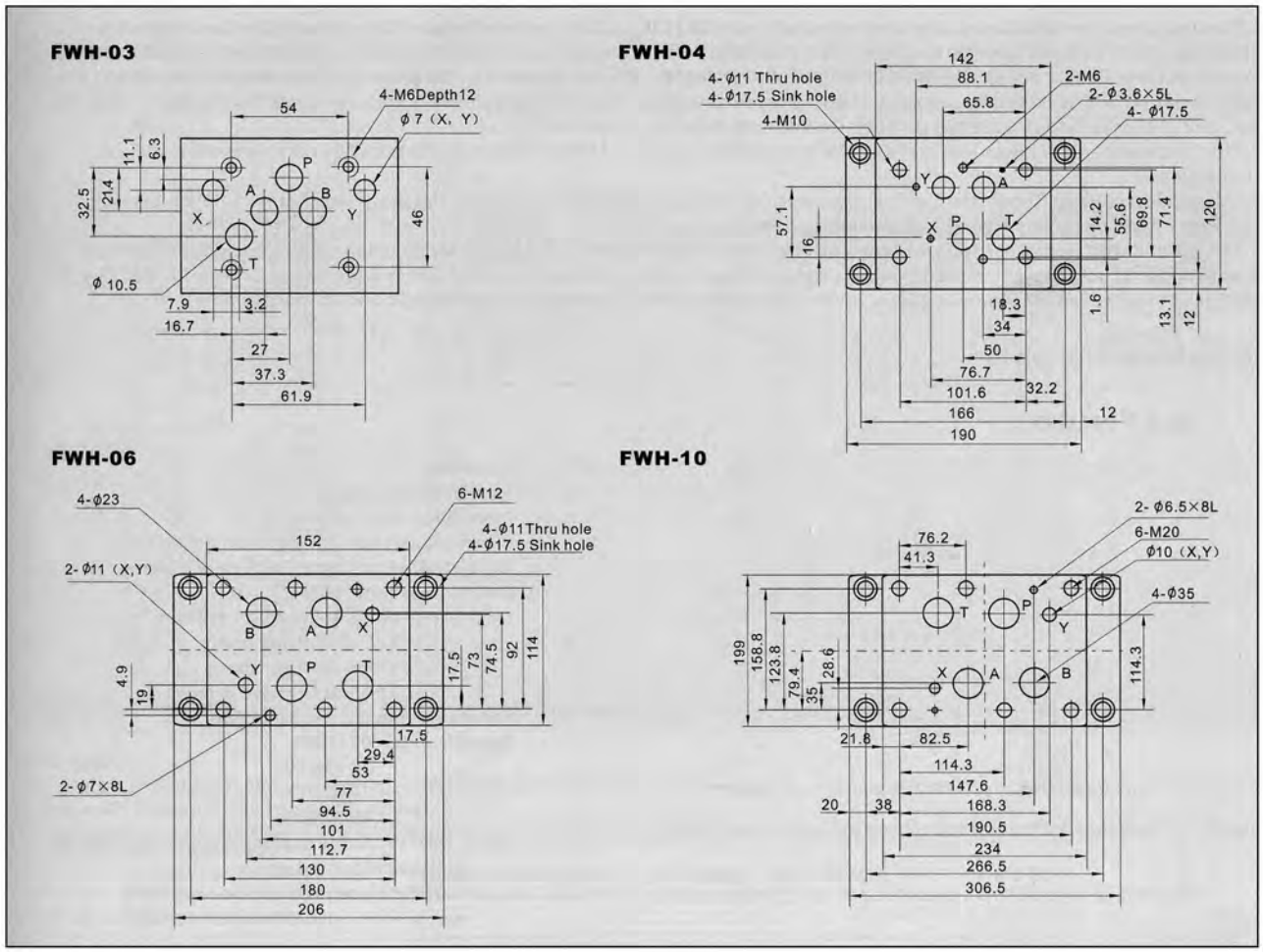


MONTAJ ÖLÇÜLERİ / MOUNTING DIMENSIONS



	A	B	C	E	H1	H2	H	M1	M2
FWH-03	210	105	157	70	86	80	166	M6×45	—
FWH-04	210	138	214	88	100	80	180	M10×60	M6×55
FWH-06	210	191	295	117	126	80	206	M12×60	M12×60
FWH-10	210	234	384	198	176	80	256	M20×75	M20×75

PLEYT ÖLÇÜLERİ / PLATE SIZE



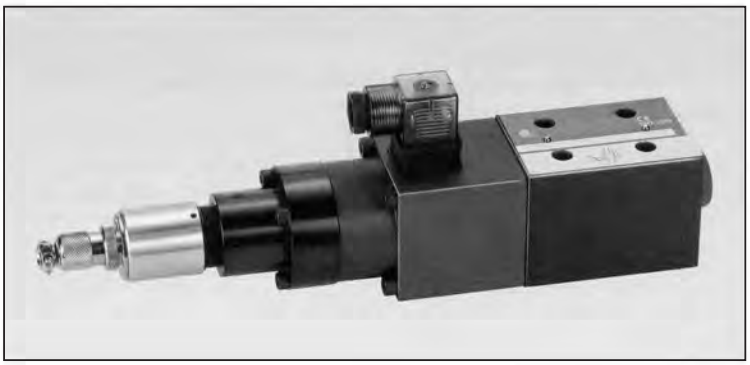
EKSTRA HIZLI CEVAP VEREN ELEKTRO - HİDROLİK ORANSAL BASINÇ KONTROL VALF TİPLERİ

EXTRA QUİCK RESPONSE TYPE PROPORTIONAL ELECTRO - HYDRAULIC PRESSURE RELIEF VALVES

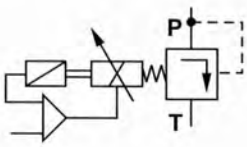
(KONUM KONTROLLÜ / WITH POSITION CONTROL**)**

PPG - 02

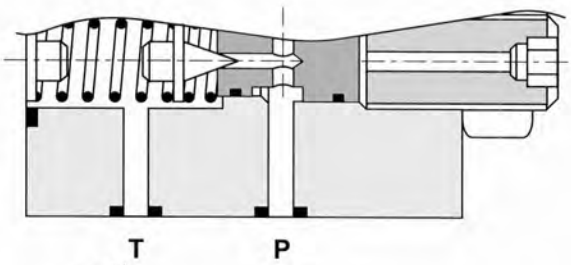
PPG - 02



SEMBOL / SYMBOL



KESİT GÖRÜNÜMÜ / TYPICAL SECTION



T Deliği / T Port (p max.≤ 2 bar)
Tanka tahliye için ayrıca boru gerekli
Seperate pipe required, back to the tank

Model Kodları Model Codes	Basınç Aralığı Pressure Range Pnom.: bar	Akış / Flow Qnom.: ℓ/min	Solenoid devre / Max güç tüketimi Solenoid current / Max power consumption A / VA max.	Net Ağırlık Net Weight Kg
PPG -02 - 30	1.5 ~ 30	1	3.72 / 62	4.45
PPG -02 - 80	30 ~ 80			
PPG -02 - 180	4.0 ~ 180			
PPG -02 - 250	5.0 ~ 250			
PPG -02 - 315	6.0 ~ 315			

Özel Kartı / Specific Amplifier: PPE - 103
Bağlantı Civatası / Mounting Bolts: 4 -M5 x 50 (Tork / Torque : 6 ~ 8 Nm)

GENEL TANIMLAMA / GENERAL DESCRIPTION

Yapı Tipi / Construction Type	Popet Valf / Poppet valve
Hareket Tipi / Actuation Type	Pozisyon kontrollü oransal selenoid / Proportional solenoid with position control
Bağlantı Tipi / Connection Type	Alt plaka bağlantı delikleri ayarı ISO 03 (ISO 4401 -03) Subplate, mounting hole configuration ISO 03 (ISO 4401 - 03)
Bağlama Pozisyonu / Mounting Type	Yatay pozisyon tavsiye edilir / Horizantal position prefered
Dış Ortam Sıcaklık Aralığı Ambient Temperature Range	-20 ~ +50 °C

HİDROLİK TANIMLAMA / HYDRAULİC DESCRIPTION

Akışkan yağ / Driving fluid		Her bir DIN 51 524...535 için hidrolik yağ diğerleri için üreticiye bağlı Hydraulic Oil as per DIN 51...535, refer to supplier for others				
Viskozite Viskosity	Önerilen / recommended	20 ~ 100 mm^2 / s				
	Max.	10 ~ 800 mm^2 / s				
Hidrolik Yağ Sıcaklığı Hydraulic Oil Temperature		-20 ~ +80 °C				
Filtrasyon / Filtration İşlem güvenilirliği ve servis süresi aynı hatta In line with operational reliability and service life		Her bir NAS 1638' in mümkün olan akışkan yağı Permissible contamination class of driving fluids as per NAS 1638			Temin Edilip kullanılan filtre Achived using filter βx=75	
		8			x=10	
		9			20	
		10			25	
Normal Basınç Nominal Pressure	at Q = 1ℓ/min	30 bar	80 bar	180 bar	250 bar	315 bar
Minimum Basınç Minimum Pressure		1.5 bar	3.0 bar	4.0 bar	5.0 bar	6.0 bar
Maks. Çalışma Basıncı Max. Working Pressure		Port P: 315 bar Port T: ≤ 2 bar				

ELEKTRİKLE İLGİLİ TANIMLAMA / ELECTRICAL DESCRIPTION

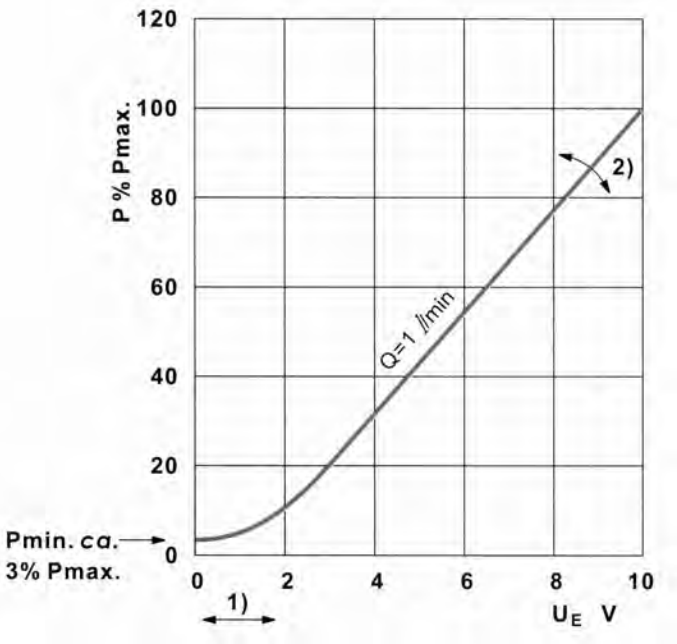
Devir süresi etkisi Cyclic Duration Factor	100%
Koruma Derecesi Degree of Protection	IP 65 as per DIN 40 050 and IEC 14 434/5
Solenoid Bağlantı Şekli Solenoid Connector	DIN43 650 / ISO 4400 Soket / Connector DIN 43 650 / ISO 4400
Pozisyon Değiştirici Bağlantı Şekli Position Transducer Connector	Özel Bağlayıcı / Special Connector
Solenoid Genel Bağlantı Solenoid Current	3.72 A max.
Bobin İç Direnci R 20 Coil Resitance R 20	2.5 Ω
Maks. güç emilimi (% 100) Max. power consumption at 100% Yükleme ve çalışma sıcaklığı Load and operational temperature	62 VA max.

STATİK-DİNAMİK TANIMLAMA / STATIC-DYNAMIC DESCRIPTION

Hassasiyet / Hysteresis		≦ 0.3%
Geri Çevirim Aralığı Range of Invertion		≦ 0.2%
Cevap Zamanı Responce Time	Sinyal Değişimi 100 % Signal Change	≈ 43 ms
	Sinyal Değişimi 100 % Signal Change	≈ 23 ms

PEFORMANS EĞRİLERİ / PERFORMANCE CURVES

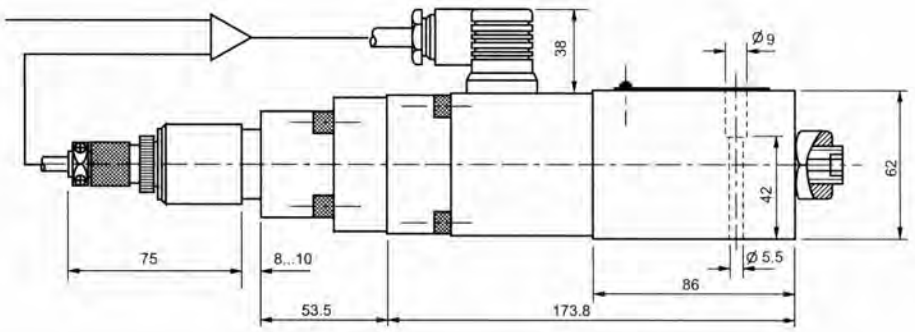
V= 35 mm^2

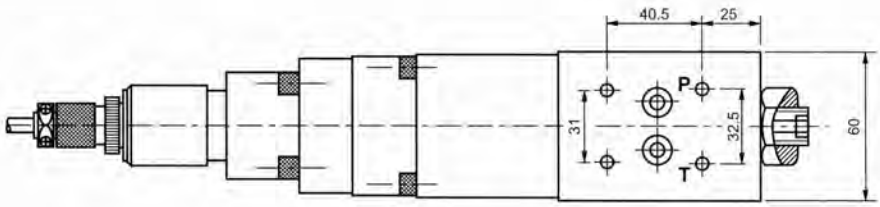


1- Sıfırlama Ayarı / Zero adjustment
2- İlerleme Ayarı / Gain Adjustment

ÖLÇÜLER / DIMENSIONS

PPG - 02



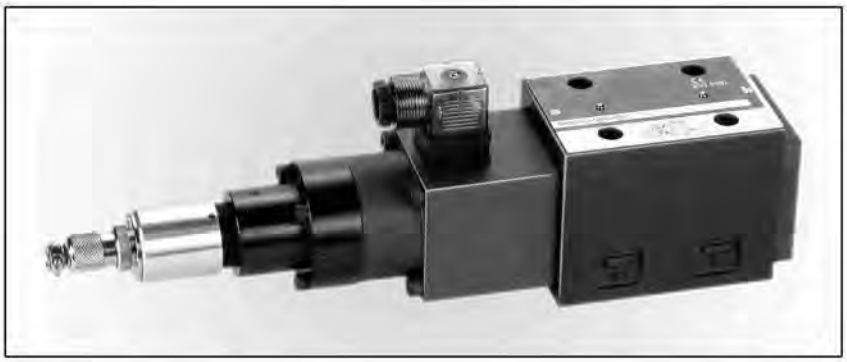


★ Pleyt montaj ölçüsü için lütfen 5. sayfa sonrasına bakınız.
For subplates, please refer to 5. page after.

EXTRA HIZLI CEVAP VEREN TİP ELEKTRO - HİDROLİK AKIŞ KONTROL VALFLERİ (KONUM KONTROLLÜ)

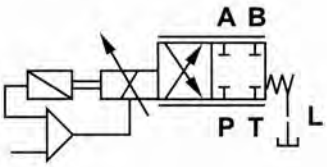
EXTRA QUICK RESPONSE TYPE PROPORTIONAL
ELECTRO - HYDRAULIC FLOW CONTROL VALVES
(WITH POSITION CONTROL)

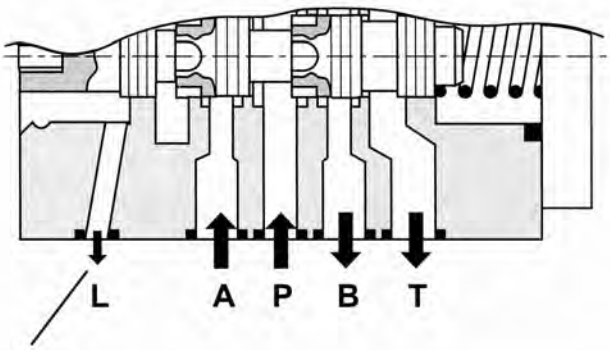
QPG -03



KESİT GÖRÜNÜMÜ / TYPICAL SECTION

SEMBOL / SYMBOL





İlave tahliye hattı(Pmax. ≤ 2 bar) / Additional drain port (Pmax. ≤ 2 bar)
Tanka tahliye için ayrıca hat gereklidir. / Seperate pipe required, to back to the tank

Model Kodları Model Codes	Debi / Flow ΔP= 5 bar Qnom.: bar	Max. çalışma basıncı Max. working pressure Pmax.: bar	Selenoid devre max. güç tüketimi Solenoid current max.power consumption A / VA max.	Net ağırlık Net weight Kg
QPG-03-16	16	P.A.B: 315 T:250 L:≦2	3.72/62	6.15
QPG-03-32	32			
QPG-03-63	63			

Özel kartı / Specific amplifier: QPE - 106
Bağlantı civatası / Mounting bolts: 4 - M6 x 35 Tork / Torque: 13 ~ 16 Nm

GENEL TANIMLAMA / GENERAL DESCRIPTION

İç Yapı Tipi / Construction Type	Çekirdek Valf Tipi / Spool Type Valve
Hareket Tipi / Actuation Type	Pozisyon kontrollü oransal solenoid / Proportional solenoid with position control
Bağlantı Tipi / Connection Type	Alt plaka bağlantı delikleri ayarı ISO 05 Subplate, mounting hole configuration ISO 05 (ISO 4401 - 05 + L drain part)
Bağlama Pozisyonu / Mounting Type	Yatay pozisyon tavsiye edilir / Horizantal position prefered
Dış Ortam Sıcaklık Aralığı Ambient Temperature Range	-20 ~ +50 °C

HİDROLİK TANIMLAMA / HYDRAULIC DESCRIPTION

Akışkan yağ / Driving fluid		Her bir DIN 51 524...535 için hidrolik yağ diğerleri için üreticiye bağlı Hydraulic Oil as per DIN 51...535, refer to supplier for others		
Viskozite Viskosity	Önerilen / recommended	20 ~ 100 mm^2 / s		
	max.	10 ~ 800 mm^2 / s		
Hidrolik Yağ Sıcaklığı Hydraulic Oil Temperature		-20 ~ +80 °C		
Filtrasyon / Filtration İşlem güvenilirliği ve servis süresi aynı hatta In line with operational reliability and service life		Her bir NAS 1638' in mümkün olan akışkan yağı Permissible contamination class of driving fluids as per NAS 1638		Temin Edilip kullanılan filtre Achived using filter βx=75
		8		x=10
		9		20
		10		25
Normal Akış Nominal Pressure (at ΔP = 5 bar)		16 ℓ / min	32 ℓ / min	63 ℓ / min (per channel)
Maks. Çalışma Basıncı Max. Working Pressure		Port P.A.B. : 315 bar Port T: : 250 bar Port L: : ≤ 2 bar		

ELEKTRİKLE İLGİLİ TANIMLAMA / ELECTRICAL DESCRIPTION

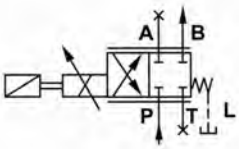
Devir süresi etkisi Cyclic Duration Factor	100%
Koruma Derecesi Degree of Protection	IP 65 as per DIN 40 050 and IEC 14 434/5
Solenoid Bağlantı Şekli Solenoid Connector	DIN43 650 / ISO 4400 Soket / Connector DIN 43 650 / ISO 4400
Pozisyon Değiştirici Bağlantı Şekli Position Transducer Connector	Özel Bağlayıcı / Special Connector
Solenoid Genel Bağlantı Solenoid Current	3.72 A max.
Bobin İç Direnci R 20 Coil Resitance R 20	2.5 Ω
Maks. güç emilimi (% 100) Max. power consumption at 100% Yükleme ve çalışma sıcaklığı load and operational temperature	62 VA max.

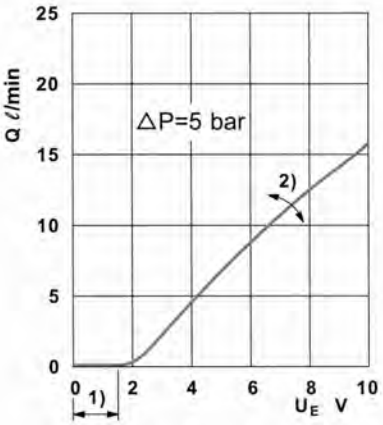
STATİK-DİNAMİK TANIMLAMA / STATIC-DYNAMIC DESCRIPTION

Hassasiyet / Hysteresis		≦ 0.3%
Geri Çevirim Aralığı Range of Invertion		≦ 0.2%
Cevap Zamanı Responce Time	Sinyal Değişimi 100 % Signal Change	≈ 23 ms
	Sinyal Değişimi 10 % Signal Change	≈ 13 ms

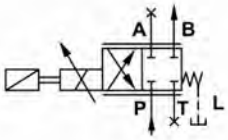
PEFORMANS EĞRİLERİ / PERFORMANCE CURVES

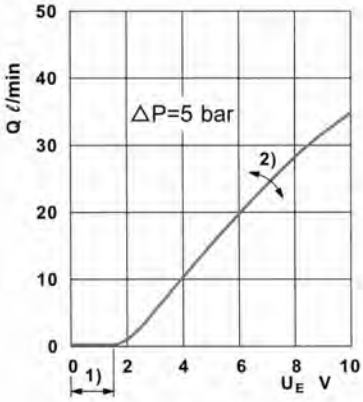
V= 35 mm2 /s



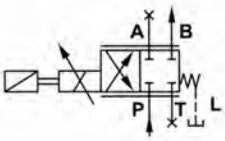


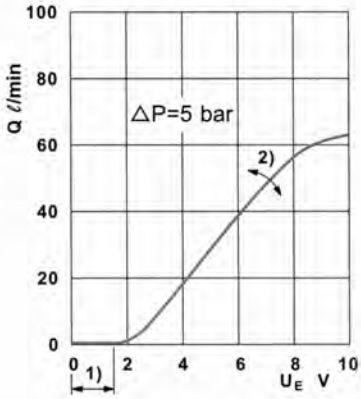
Pmax.=315 bar
Qnom=16 ℓ/min





Pmax.=315 bar
Qnom=32 ℓ/min



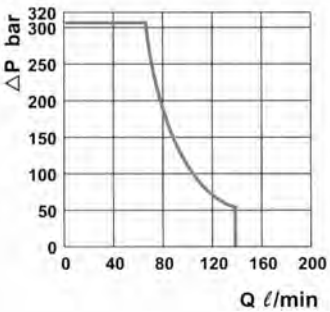


1- Sıfır Ayarı / Zero Adjustment
2- İleri Ayarı / Gain Adjustment

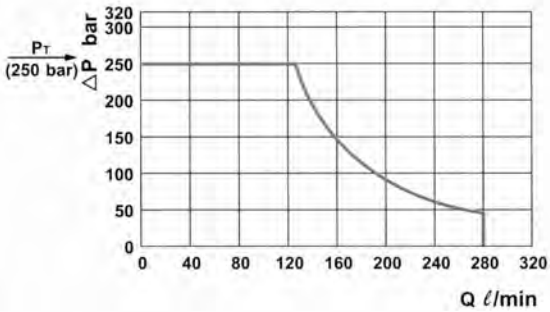
Pmax.=315 bar
Qnom=63 ℓ/min

PEFORMANS LİMİTLERİ / OPERATING LIMITS

Tek Akış / Single Flow



İkili Akış / Double Flow



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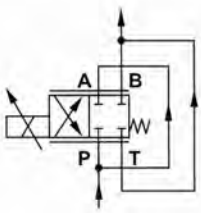


İkili Akış Oranı
Pmax. = 250 bar

NOMİNAL AKIŞ / NOMINAL FLOW

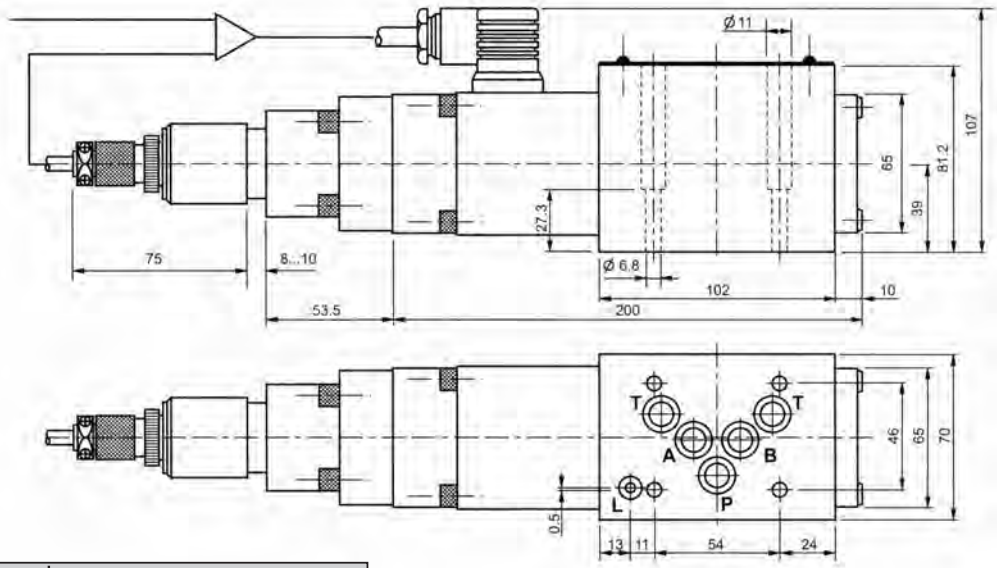
Her zaman boğum noktasındaki 5 barlık değişimin üzerindedir. Diğer basınç değişimlerinin olduğu yerde formülden hesaplanır.
Always based on a pressure differential of ΔP = 5 bar at the throttle point. Where other pressure differentials are involved, flow is calculated in accordance with the following formula.

$$Qx = Qnom. \cdot \sqrt{\frac{\Delta Px}{5}}$$

Eğer çalışma sınırları aşılırsa çekirdek bununla birlikte çalışma sınırları buraya yazılması gerekir. Dengesiz hareketlere başlar. İyi bir sınır sağlamak için basınç kontrolü kullanılmalı.
However, the "operating limits" must be noted here. When the operating limits are exceeded, the flow forces cause uncontrollable spool movement. To obtain effective limitation of ΔP, pressure compensators should be used.

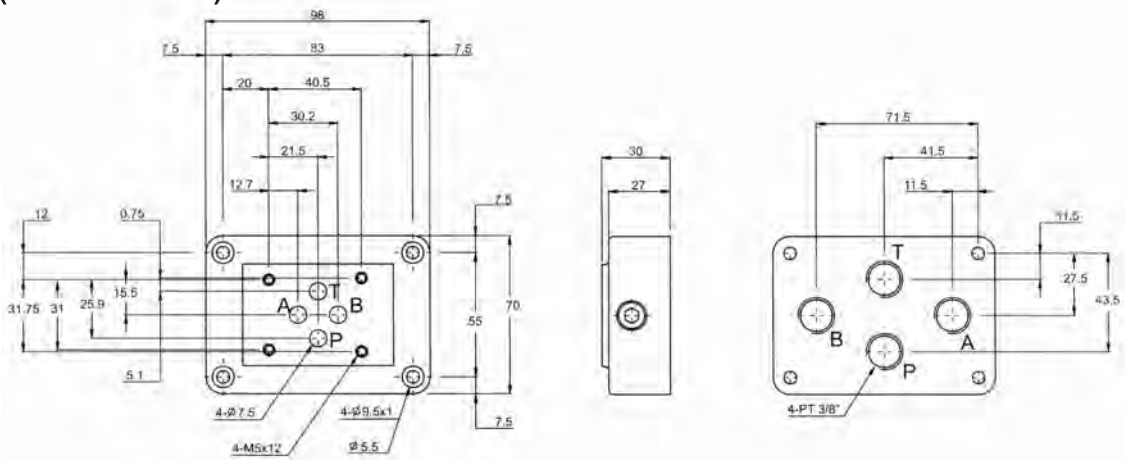
VALF ÖLÇÜLERİ / VALF DIMENSIONS

QPG - 03

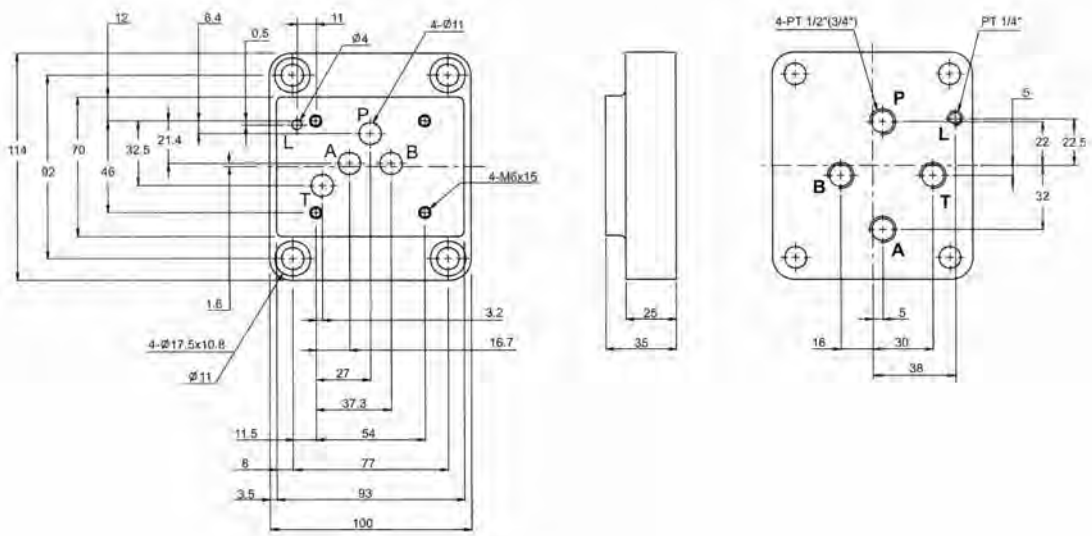


ALT BAĞLANTI ÖLÇÜLERİ / SUBPLATE DIMENSIONS

PPG - 02 (ISO - 4401 - 03)



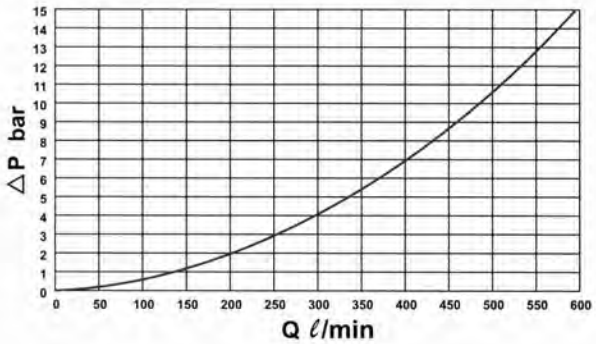
QPG - 03 (ISO -4401 - 05 + L)



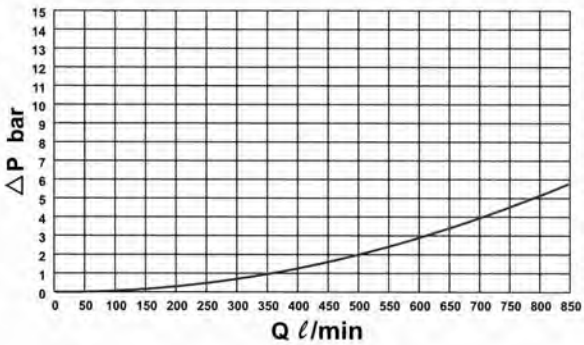
LOJİC BASINÇ KONTROL VALFLERİ / PRESSURE CONTROL LOGIC VALVES (ISO - 7368)
LGP16 / LGP25

BASINÇ DEĞER EĞRİSİ / PRESSURE DROP CURVE

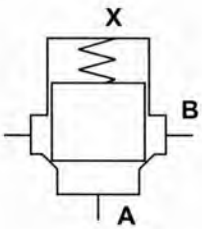
LGP16



LGP25



SEMBOL / SYMBOL

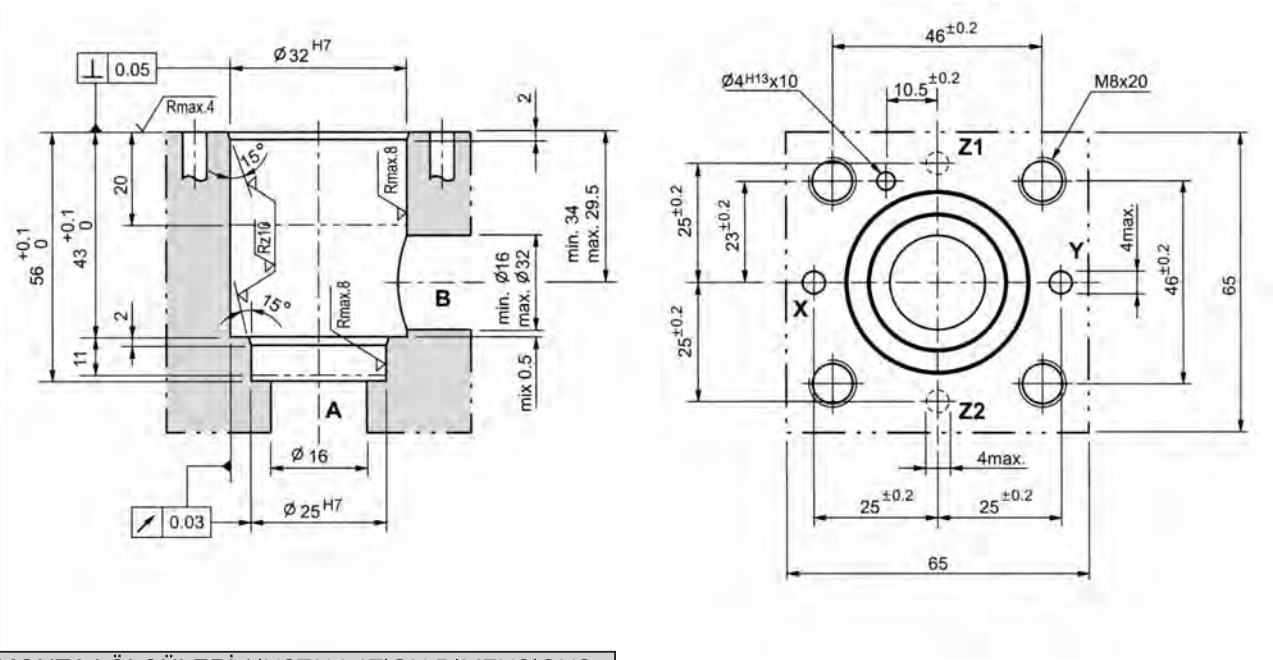


$$\frac{PX}{PA} = \frac{1}{1}$$

Model Kodu / Model Codes	Yay Basıncı Spring Pressure Bar	Akış Oranı Flow Rate Δ P= 2 Bar Q: ℓ / min	Çalışma Basıncı Working Pressure Bar	Net Ağırlık Net Weight Kg
LGP16-A-01-00	1.0	200	315	0.2
LGP25-A-01-00	1.0	500	315	0.5

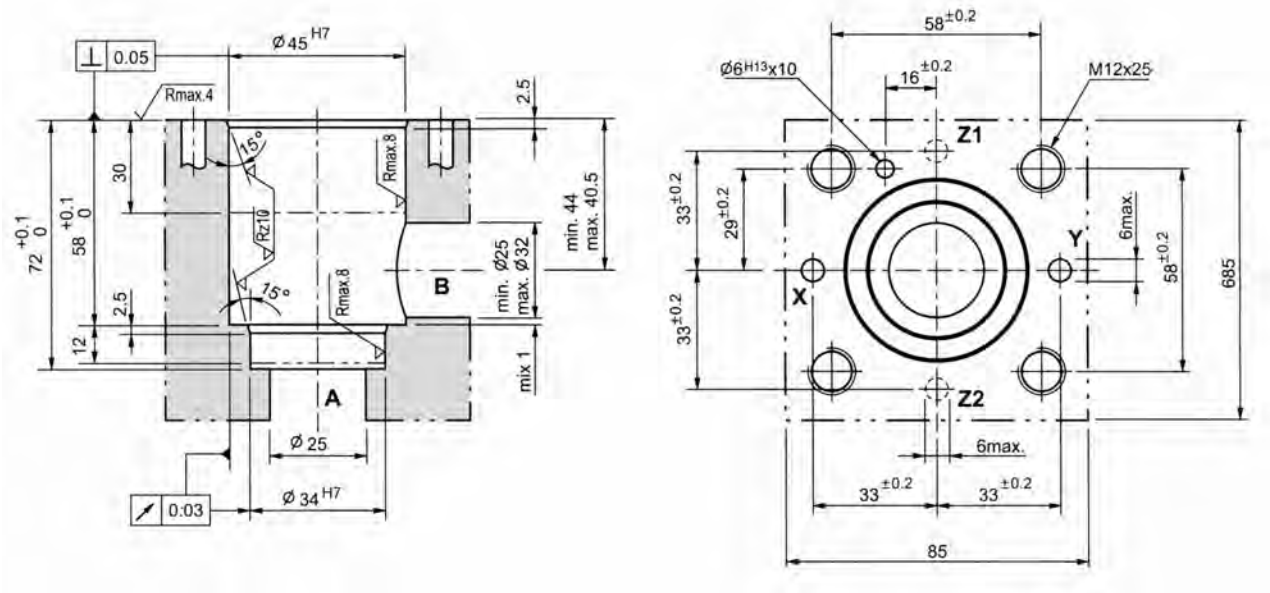
MONTAJ ÖLÇÜLERİ / INSTALLATION DIMENSIONS

LGP16



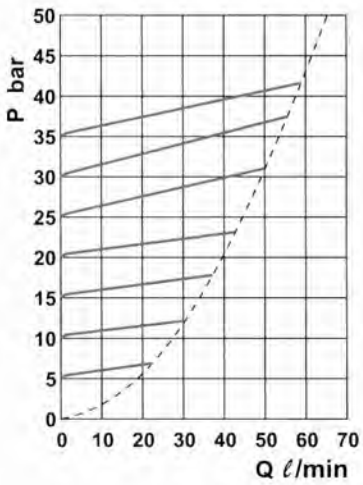
MONTAJ ÖLÇÜLERİ / INSTALLATION DIMENSIONS

LGP25

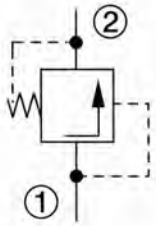


KARTİÇ TİPİ ÇEKVALF / CARTRIDGE TYPE CHECK VALVES
CPR - 30

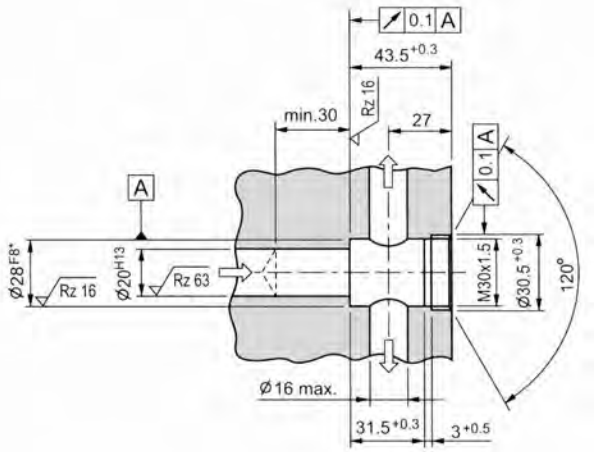
PEFORMANS EĞRİLERİ / PERFORMANCE CURVES



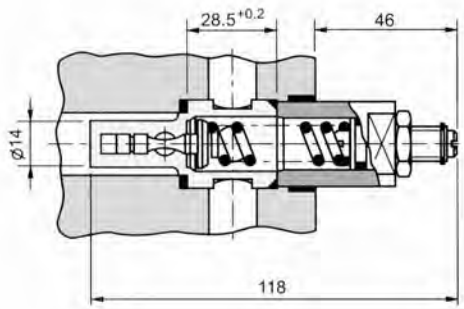
SEMBOL / SYMBOL



MONTAJ ÖLÇÜLERİ / INSTALLATION DIMENSIONS



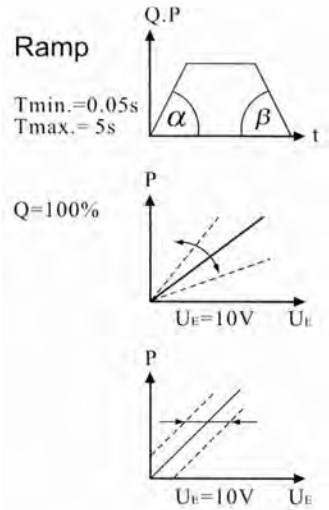
KESİT GÖRÜNÜMÜ / TYPICAL SECTION

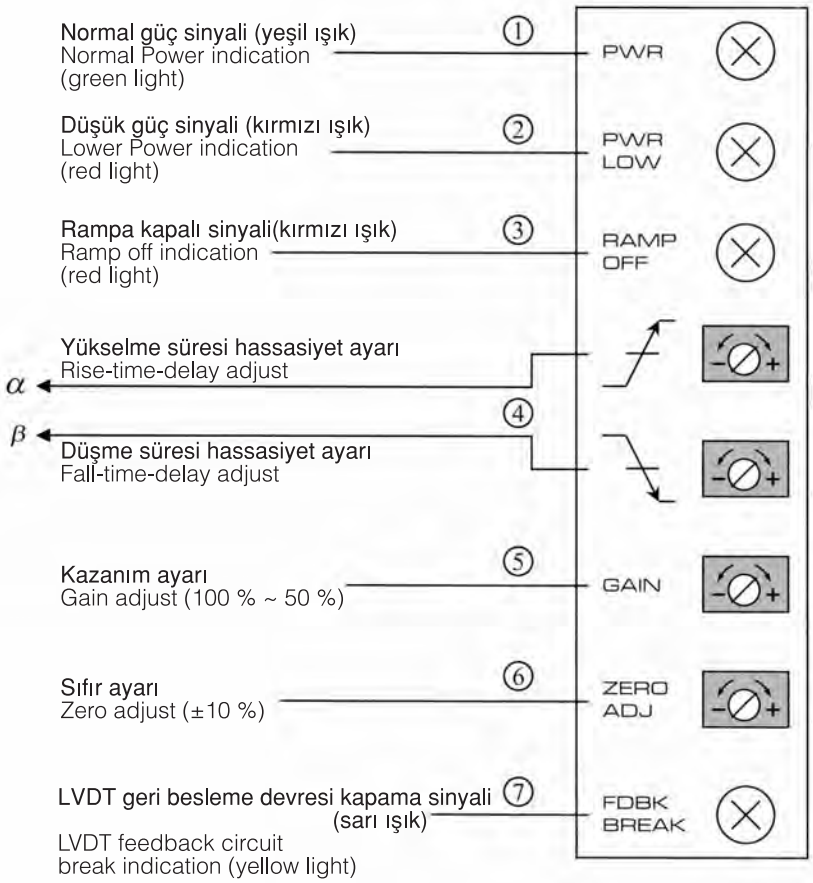


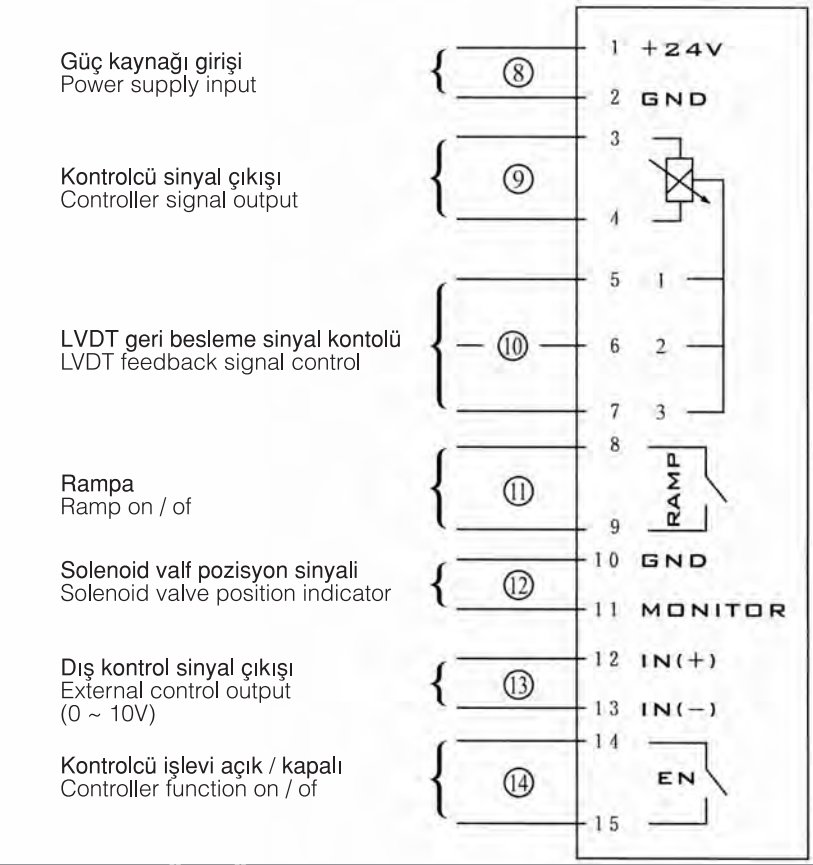
Model Kodu / Model Codes	Basınç Aralığı Pressure Range P: Bar	Maks. Çalışma Basıncı Max. Working Pressure Pmax.: Bar	Debi Flow ℓ / min (ΔP= 5 bar)	Net Ağırlık Net Weight Kg
CPR30 - 35 - 0	5 ~ 35	350	18	0.3

AMPLİFİKATÖRLER / AMPLIFIERS

BAĞLANTI DİYAGRAMI / CONNECTION DIAGRAM







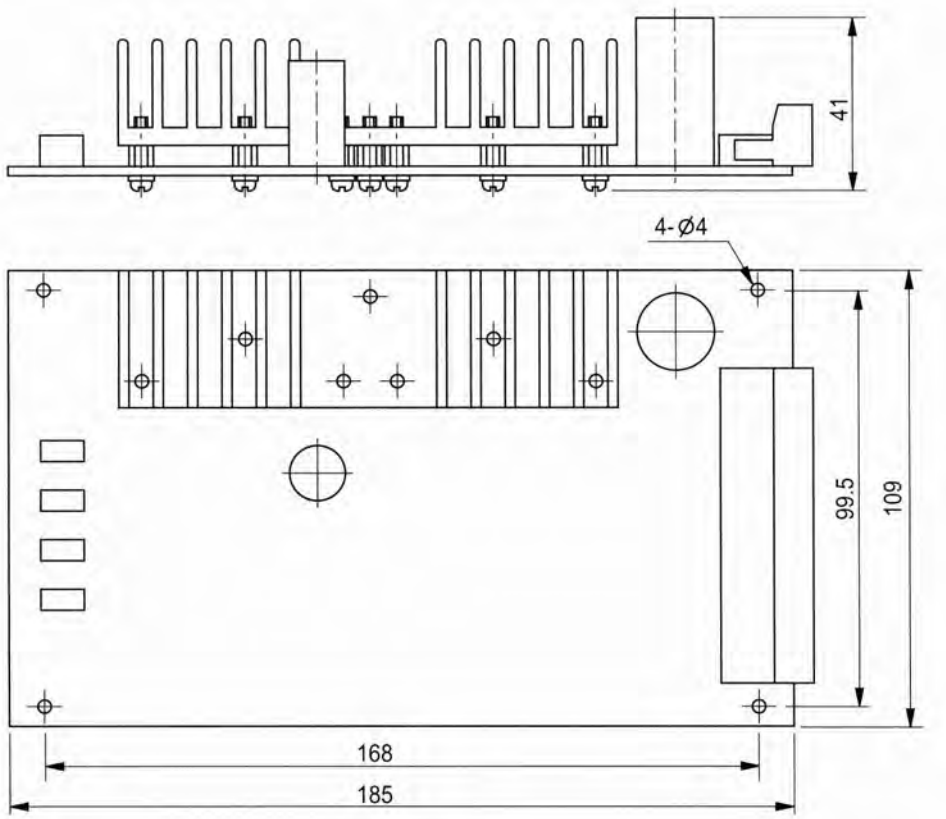
ÇALIŞMA TARİFİ / OPERATING INSTRUCTION

1- Normal Güç Sinyali (Yeşil ışık)
Kartın çalışması için DC gücün (24 volt) bağlanması ve 14 - 15 pinlerin kontağı gerekir.
Yeşil ışık yandığında kart normal olarak çalışır.
Normal Power İndication (Green Light)
Connecting to DC power (24 V) And jumping pins 14&15 to enable the Controller
Controler can function normally when the green indication light turns on.
2- Düşük Güç Sinyali (Kırmızı ışık)
Giriş besleme 21 VDC'den düşükse kırmızı ışık yanar ve kart fonksiyon göstermez.
Low Power indication (Red light)
The red indication light will turn on when input power is lower than 21 VDC and the Contoller can't function normally.
3- Rampa Kapalı Sinyali (Kırmızı ışık)
8-9 nolu pinler kontak halinde değilse fonksiyoneldir.
Saat yönünde döndürmek gecikmeyi arttırır(5 sn. max), ters yönde döndürmek gecikmeyi azaltır (0.05 sn.min).
Normal olarak ayar minimumdur.
Ramp off İndication (Red light)
It is functional only when pins 8&9 are not jumped.
Turninig clockwise to increase delay time (5 seconds maxsimum); counter clockwise to decrease delay - time (0.05 second minimum). Adjuster is at minimum for default and normal setting.
4- Kazanım ayarı
Ayarı "+" yönde döndürmek sinyal kazanımını artırır(% 100), "-" yönde ayarlamak azaltır (% 50 min).
Gain adjust (100 % ~ 50 %)
Turninig adjust "+" to increase signal gain (100 % max.), or turning "-" to decrease signal gain (50 % min.)
5- Sıfır ayarı (±10 %)
Giriş sinyali sıfır noktası ile gerçekte valfin O noktası arasındaki sapmayı ayarlar.
Zero adjust (±10 %)
Adjust the deviation between the input signal zero and the actual valve zero position.

6- LVDT geri besleme devresi kapama sinyali
Sarı ışık yandığında LVDT geri besleme devresi kesilir. Kabloların doğru takılıp takılmadığını kontrol ediniz.
LVDT feedback circuit break indication (yellow light)
The LVDT feedback circuit break while yellow light is on. Check the connections to be sure the connecting lines are wired properly.
7- Güç kaynağı girişi
Kart güç giriş terminalleri.
Power supply input
Controller power supply input terminals.
9- Kontrolcü sinyal çıkışı
Solenoid valf kumanda sinyal çıkışı.
Controller signal output
Signal output to provide power to the solenoid valve.
10- LVDT geri besleme sinyal kontolü
Selenoid valfi hassas kontrol etmek için geri besleme sinyal kontrolü.
LVDT feedback signal control
Connecting feedback signal to control the solenoid valve precisely.
11- Rampa açık / kapalı
8. ve 9. pinler rampa fonksiyonu kullanmak için açılır. (İptal etmek için kontak yapılır.)
Ramp on / off
Pins 8&9 can be jumped (opened) to disable (enable) the ramp function
12- Solenoid valf pozisyon sinyali
Bu iki terminal arası voltaj ölçülerek mevcut valf konumu bulunabilir.
Solenoid valve position indicator
The actual valve position can be detected by measuring the voltage across these two terminals.
13- Dış kontrol sinyal çıkışı
Harici knotrol sinyali (0~100V) bu iki terminal kullanılarak uygulanabilir.
External control output (0 ~ 10V)
The external control signal (0~10V) can be entered through these two terminals.
14- Kontrolcü işlevi açık / kapalı
"14 ve 15" nolu pinler kontak yapılarak kartın çalışması sağlanır.
Controller function on / off
Pins 14&15 can be jumped (opened) to enable (disable) the Controller.

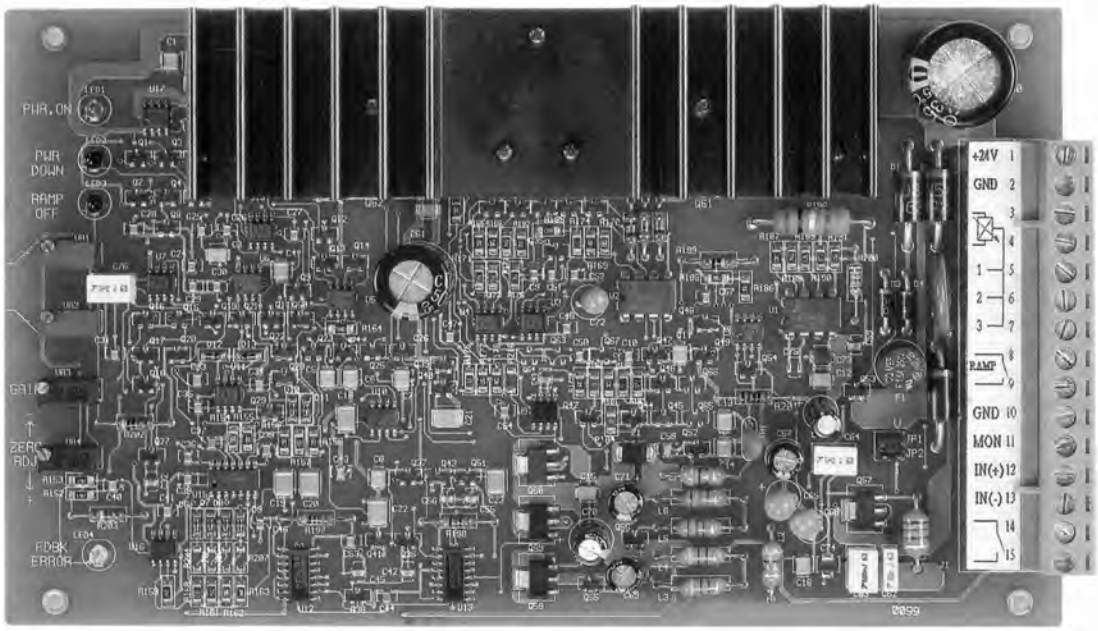
ÖLÇÜLER / DIMENSIONS

BİRİM / UNIT : MM

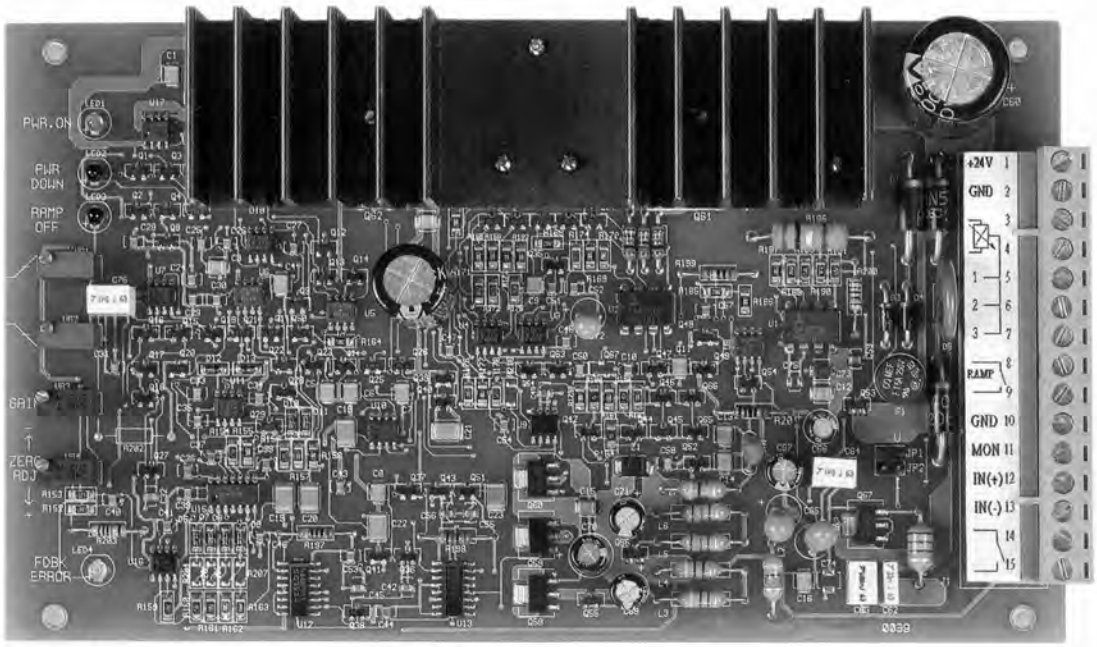


AMPLİFİKATÖRLERE DIŞARIDAN BAKIŞ / AMPLIFIER EXTERNAL LOOK

PPE - 103



QPE - 106

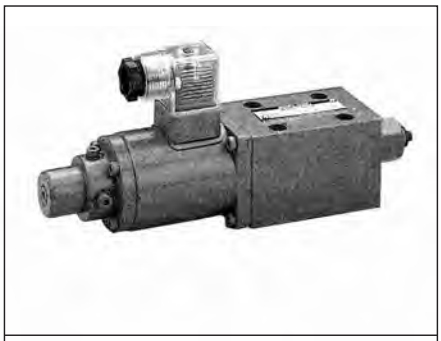


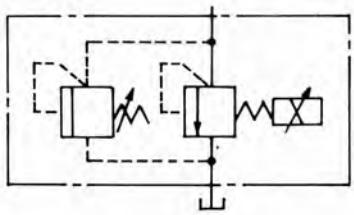
ELEKTRO HİDROLİK ORANSAL VALFLER
ELECTRO - HYDRAULIC PROPORTIONAL VALVES

TANIMLAMA / DESCRIPTION

Bu valf küçük bir DC solenoid tarafından çalıştırılır ve oransal direkt hareket emniyet valfi olarak görev yapar. Düşük akışlı hidrolik sistem gibi ya da elektro - hidrolik oransal control valfin pilot valfi olarak görev yapar ve giriş akımına göre basıncın oranlanmasını kontrol eder.

This valve consists of a small DC solenoid and a directacting relief valve. It serves as a low flow rate hydraulic system or a pilot valve for electro - hydraulic proportional control valve and controls the pressure in proportion to the input current. Note that this valve is used in conjunction with the applicable power amplifier.



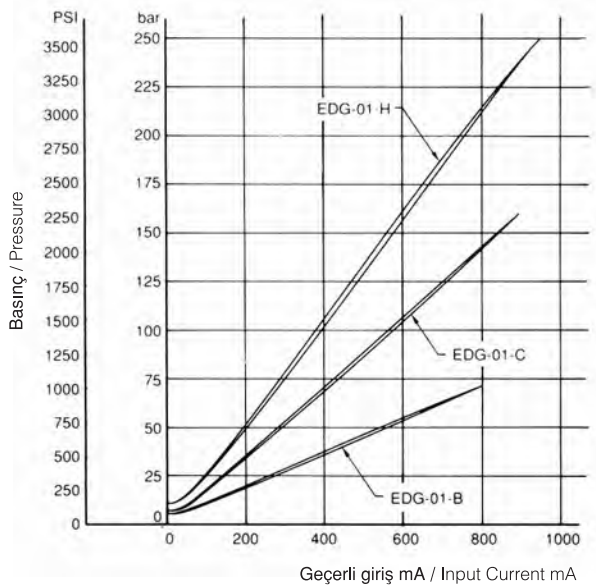


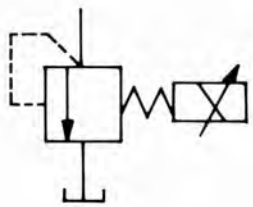
Emniyet Valfi
With Safety Valve

ORANLAR / RATINGS

Açıklama / Description — Model No / Model Number	EDG - 01
Maks. Çalışma Basıncı / Max. Operating Pres.	250 (3600)
Maks. Akış / Max. Flow l / min (U.S. GPM)	2 (.53)
Min. Akış / Min. Flow l / min (U.S. GPM)	0.3 (.08)
Basınç Ayar Aralığı / Pres. Adj. Range bar(PSI)	Refer to Model No. Designation
Oranlanmış Akım / Rated current mA	EDG -01 *-B: 800 EDG -01 *-C: 900 EDG -01 *-H:950
Bobin Direnci / Coil Resistance Ω	10
Hassasiyet / Hysteresis	Less Than 3%
Süreklilik / Repeatability	1%
Kütle / Mass kg (lbs.)	2 (4.4)

Kontrol Basıncı vs. Giriş Akımı
Control Pressure vs. Input current





Emniyet Valfi Olmadan
Without Safety Valve

SİPARİŞ KODU / ORDERING CODE

ED | G | 01 | V | H | 1 | PN | T13 | 10

10 — Dizayn No. / Desing No.

T13 — T Hattı Deliği
T15: Basınç Ayar Aralığı B. / Pres. Adj. Range B.
T13: Basınç Ayar Aralığı C. / Pres. Adj. Range C.
T11: Basınç Ayar Aralığı H. / Pres. Adj. Range H.

PN — P - Hattı Deliği / P Line Orifice
PN: Deliksiz Standart / Without Orifice.

1 — Emniyet Valfi / Safety Valve
Kodsuz / None: Emniyet Valfsiz / Without Safety Valve.
1: Emniyet Valfli / With Safety Valve

H — Basınç Ayar Aralığı / Pres. Adj. Range (Bar)
B: 5 - 70
C: 10 -160
H: 12 - 250

V — Kontrol Çeşiti / Applicable Control
Kodsuz / None: Genel kullanım / General Use.
V: Dışarıdan Port Kontrollü Emniyet Valfi
Vent Control of Relief Valve.
(Omit If Not Required)

01 — Valf Boyutu / Valf - Size
01

G — Bağlantı Şekli / Type of Mounting
G: Alt - Plaka Bağlantı / Sub - Plate Mounting

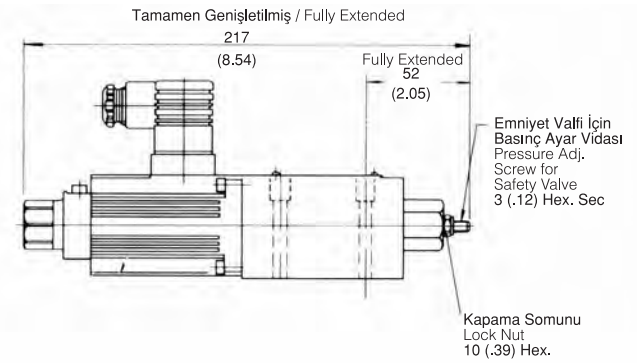
ED — Seri No / Series No.
ED: Elektro - Hidrolik Oransal Emniyet Valfi / Electro Hydraulic Proportional Relief Valve.

ÖLÇÜLER / DIMENSIONS

EDG - 01∗ - ∗ - P∗ T∗-10

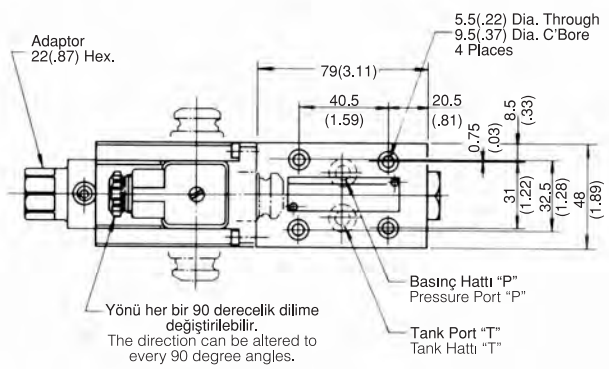
BİRİM / UNIT : MM (INCHES)

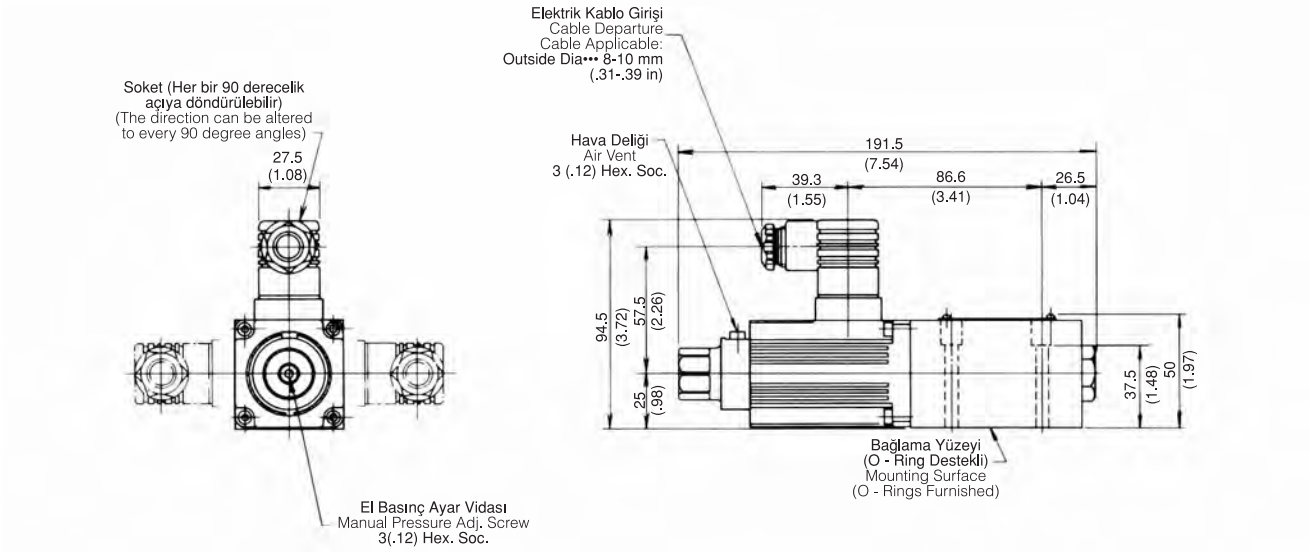
Emniyet Valfli / With Safety Valve



For other dimensions, refer to the without safety valve.

Emniyet Valfsiz / Without Safety Valve





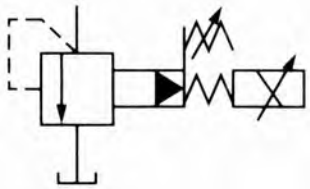
Not: Valf bağlama ölçüleri için ortak sayfaya bakınız.
Note: For valve mounting surface dimensions, see the dimensional drawings of sub - plates in common use.

ELEKTRO HİDROLİK ORANSAL PİLOT VALFLER
ELECTRO - HYDRAULIC PROPORTIONAL PILOT VALVES

TANIMLAMA / DESCRIPTION

Bu valf yüksek performanslı 1/ 8 elektro hidrolik oransal pilotlu emniyet valfi ve özel üretim düşük sesli emniyet valfi ile birlikte üretilir.
Bu valf giriş akımının oranına göre basıncı ayarlar. Bu valf, uygun güç ayarlayıcı ile kullanılır.

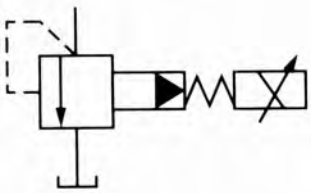
This valve is derivered by combining a small, high - performance 1/8 electro - hydraulic proportional pilot relief valve with a specially developed low - noise relief valve.
With this valve, it is possible to regulate the system pressure in proportion td the input current. Note that this valve is used in conjunction with the applicable power amplifier.



Emniyet Valfli
With Safety Valve

ORANLAR / RATINGS

Model No / Model Numbers / Tanım / Description	EBG - 03	EBG - 06	EBG - 10
Maks. Çalışma Basıncı / Max. Operating Pres. bar(PSI)	250 (3600)	250 (3600)	250 (3600)
Maks. Debi / Max. Flow l / min (U.S.GPM)	100 (26.4)	200 (52.8)	400 (106)
Min. Debi / Min Flow l / min (U.S.GPM)	3(.79)	3(.79)	3(.79)
Basınç Ayar Aralığı / Pres. Adjustment Range bar(PSI)	Model Numarasını Belirterek Gönderin / Refer to Model Number Designation		
Oranlı Akım /Rated Current (mA)	C: 770 H: 820	C: 750 H: 800	C: 730 H: 780
Bobin İç Direnci / Coil Resitance Ω	10	10	10
Hassasiyet / Hysteresis	% 2 den daha az Less than 2%	% 2 den daha az Less than 2%	% 2 den daha az Less than 2%
Süreklilik / Repeatability	1%	1%	1%
Kütle / Mass kg (lbs)	5.6 (12.3)	6.3 (13.9)	10 (22)



Emniyet Valfsiz
Without Safety Valve

SİPARİŞ KODU / ORDERING CODE

EB G - 03 - C - T - 10

- **10** — Dizayn Numarası / Design No.
- **T** — Emniyet Valfi / Safety Valve
  Kod Yoksa / None: Emniyet Valfli / With Safety Valve
  T: Emniyet Valfsiz / Without Safety Valve
- **C** — Basınç Ayar Oranı / Pres. Adj. Range (Bar)
  C: 160
  H: 250
- **03** — Valf Ölçüleri / Valve Size: 03., 06., 10
- **G** — Bağlantı Tipi / Type of Mounting
  G: Alt - Plaka Bağlantı / Sub - Plate Mounting
- **EB** — Seri No. / Series No.
  EB: Elektro - Hidrolik Emniyet Valfi / Electro - Hydraulic Proportional Relief Valves

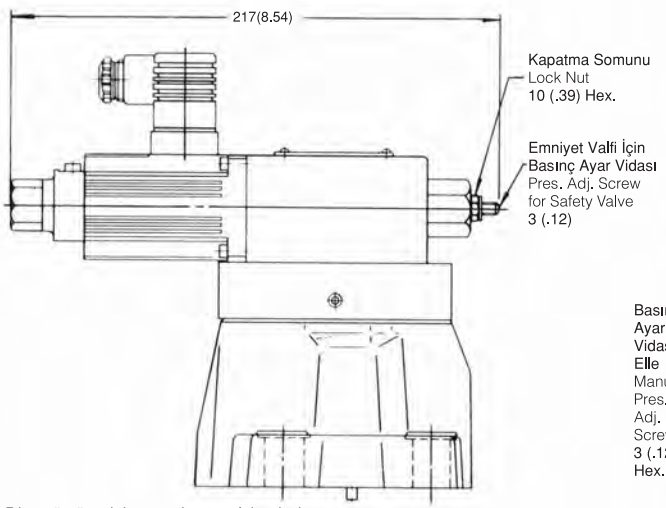
ÖLÇÜLER / DIMENSIONS

EBG - 03/06 - * -10

BİRİM / UNIT : MM (INCHES)

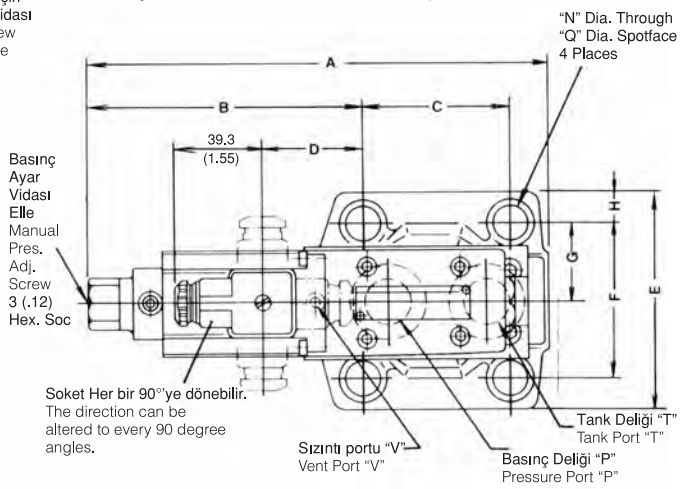
Emniyet Valfli / With Safety Valve

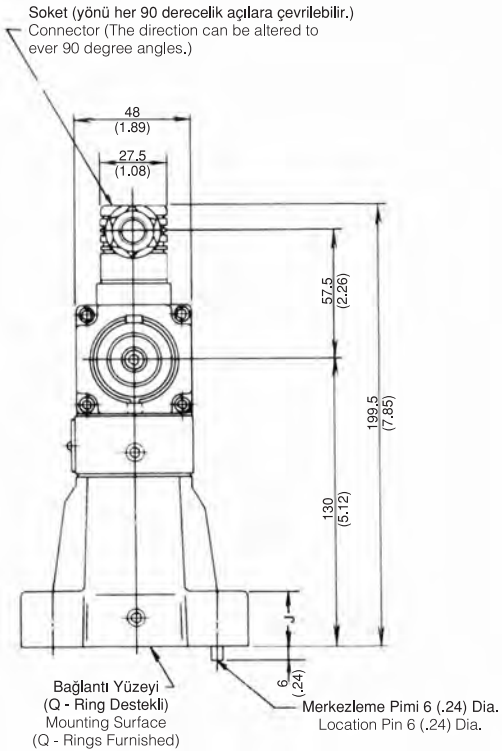
Tam Genişlik / Fully Extended

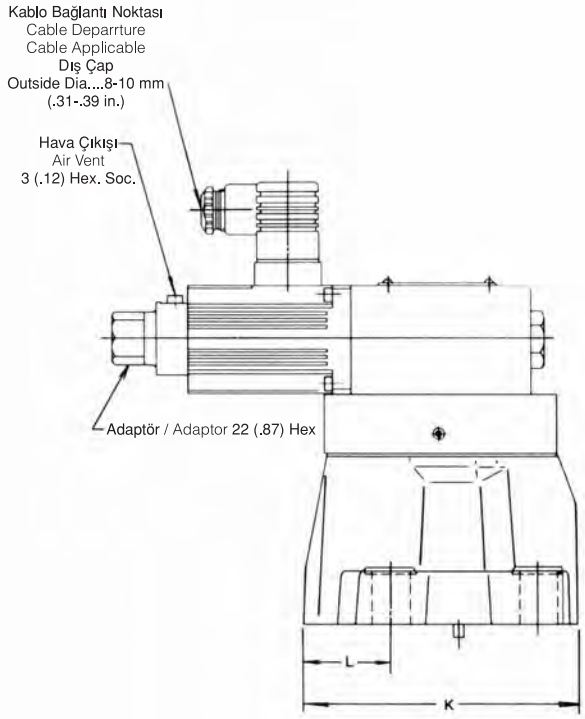


Diger ölçüler için, emniyet valfsize bakın.
For other dimensions, refer to the without safety valve.

Emniyet Valfsiz / Without Safety Valve







Model No.	A	B	C	D	E	F	G	H	J	K	L	N	Q
EBG - 03	198.5 (7.81)	118.6 (4.67)	53.8 (2.12)	40.2 (1.58)	76 (2.99)	53.8 (2.12)	26.9 (1.06)	11.1 (.44)	21.5 (.85)	106 (4.17)	26.1 (1.03)	13.5 (.53)	21 (.83)
EBG - 06	206.5 (8.13)	120.5 (4.74)	66.7 (2.63)	42.1 (1.66)	98 (3.86)	70 (2.76)	35 (1.38)	14 (.55)	26 (1.02)	122 (4.80)	36 (1.42)	17.5 (.69)	26 (1.02)

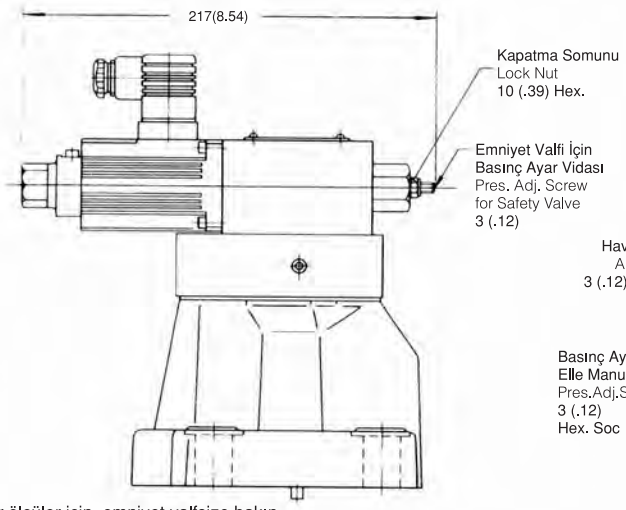
ÖLÇÜLER / DIMENSIONS

EBG -10- * -10

BİRİM / UNIT : MM (INCHES)

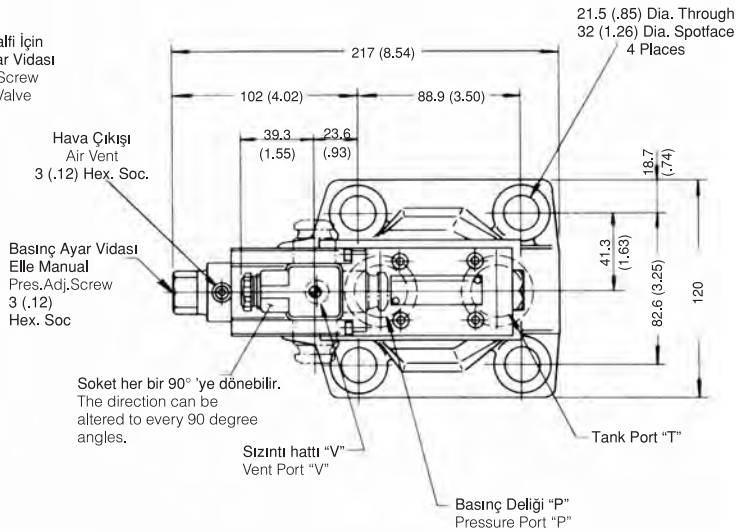
Emniyet Valfli / With Safety Valve

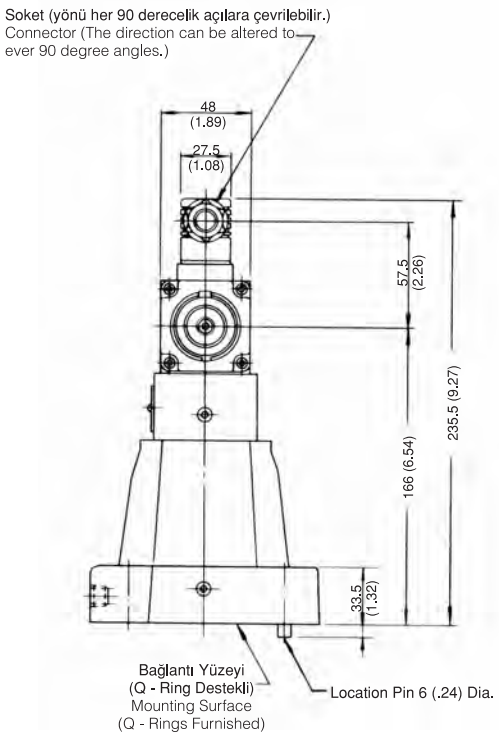
Tam Genişlik / Fully Extended

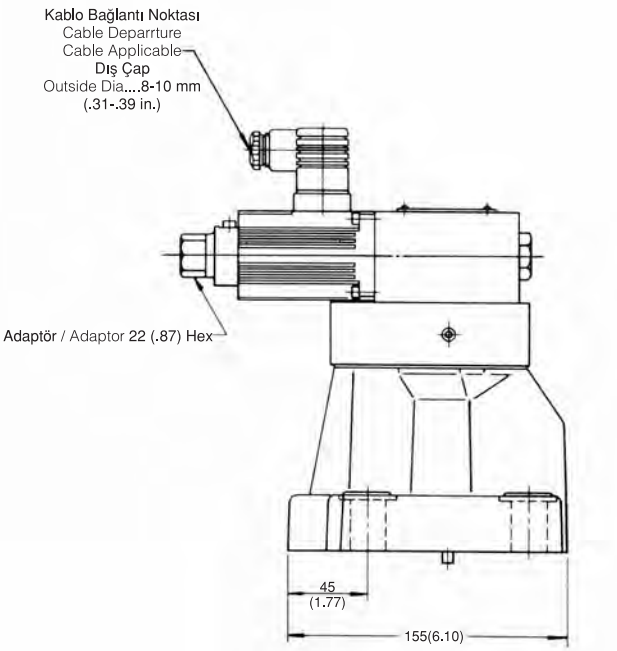


Diger ölçüler için, emniyet valfsize bakın.
For other dimensions, refer to the without safety valve.

Emniyet Valfsiz / Without Safety Valve







Not: Valfin diger ölçüleri için ortak sayfaya bakınız.
Note: For dimensions of the valve mounting surface, see the dimensional drawings of sub - plate used together.

40 Ω - 10 Ω SERİLERİ / SERIES

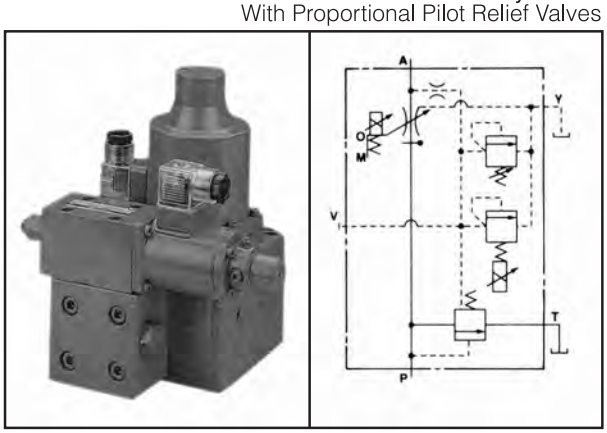
ELEKTRO HİDROLİK ORANSAL EMNİYET VALFLERİ VE AKIŞ KONTROL VALFLERİ

PROPORTIONAL ELECTRO-HYDRAULIC RELIEF AND FLOW CONTROL VALVES

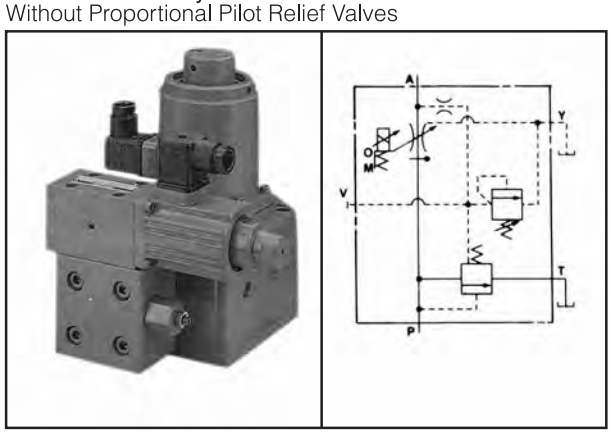
Bu basınç kontrol ve emniyet valfi enerji tasarrufu yapar ve gerekli miktarda enerjiyi kullanır.
Bu valfin pompa basıncını yükleme basıncına hitaben kontrol etmesinden ve aynı zamanda diferansiyel basıncı minmize etmesinden beri, az enerji sarfiyatı ve akış kontrolü sağlar.
Isı kontrol sisteminden bu yana bu sistem akış ısısına uyum sağlar.

This relief and flow control valve is an enegy - saving valve that supplies the minimum pressure and flow necessary for actuator drive.
Since this valve controls the pump pressure by flowing the load pressure while keeping the differential pressure minimized, it serves as a low power - consumption energy - saving, metre -in, controlled flow control valve.
Furter, since a temperature compensation function is incorporated, this valve provides consistent flow control without respect to the fluid temperature.

Oransal Pilot Emniyet Valfli
With Proportional Pilot Relief Valves



Oransal Pilot Emniyet Valfsiz
Without Proportional Pilot Relief Valves



Oranlar / Ratings

Tanımlama / Description		Model No. EFBG-03-125	EFBG-06-250	EFBG-10-500
Maks. Çalışma Basıncı Max. Operating Pressure	bar (PSI)	250 (3600)	250 (3600)	250 (3600)
Maks. Debi Max. Flow	ℓ / min (U.S.GPM)	125 (33)	250 (66)	500 (133)
Metred Flow Adjustment Range	Basınç Ayar Aralığı ℓ / min (U.S.GPM)	1-125 (.26-33)	2.5-250 (.66-66)	5-500 (1.32-132)
Akış Kontrolleri Flow Controls	Akım / Rated Current mA	680	580	700
	Bobin Direnci / Coil Resisitance Ω	43.5	43.5	43.5
	Basınç Farkı / Differintial Press. bar (PSI)	6 (85)	7 (100)	9 (130)
	Histerez / Hysteresis	Less than 7 %	Less than 7 %	Less than 7 %
	Süreklilik / Repeatability	1%	1%	1%
Basınç Kontrolleri Pressure Controls	Basınç Ayar Aralığı *2 Press. Adj. Range bar (PSI)	C: 14 -140 (200-2000) H: 14-210 (200-3000)	C: 15 -140 (215-2000) H: 15-210 (215-3000)	C: 16 -140 (230-2000) H: 16-210 (230-3000)
	Akım / Rated Current mA	C: 710 H: 770	C: 690 H: 730	C: 690 H: 690
	Bobin Direnci / Coil Resisitance Ω	10	10	10
	Histerez / Hysteresis	Less than 3 %	Less than 3 %	Less than 3 %
	Süreklilik / Repeatability	1%	1%	1%
Kütle / Mass	Kg (lbs)	16 kg	30 kg	60 kg

*1 Basınç kontrol oranları, oransal emniyet valfine uygun yapılmıştır.
*2 Oransal emniyetsiz valflerin basınç ayar aralığı minimum basınca göre ayarlanır. 250 bar
*1 The rating for pressure controls is applied to models with proportional pilot relief valve. (Ex. EFBG - 03 -125-C-✻-15)
*2 Pressure adjustment range of the valves without preportional pilot relief valves is from a minimum adjustable pressure to 250 bar (360 PSI).

SİPARİŞ KODU / ORDERING CODE

EFB G — 03 — 125 — C — 10

Dizayn No. / Design No.

Oransal Emniyet Valfli Basınç Ayar Aralığı
With Proportional Pilot Relief Valve
Pres. adj. Ranges.
C: 14 - 140 Bar
H: 14 - 210 Bar
Kod Yoksa / None: Without Proportional Pilot Relief Valve

Maks. Debi / Max. Metering Flow
125: 125 ℓ / min
250: 250 ℓ / min
500: 500 ℓ / min

Valf Boyutu / Valve Size: 03., 06. 10

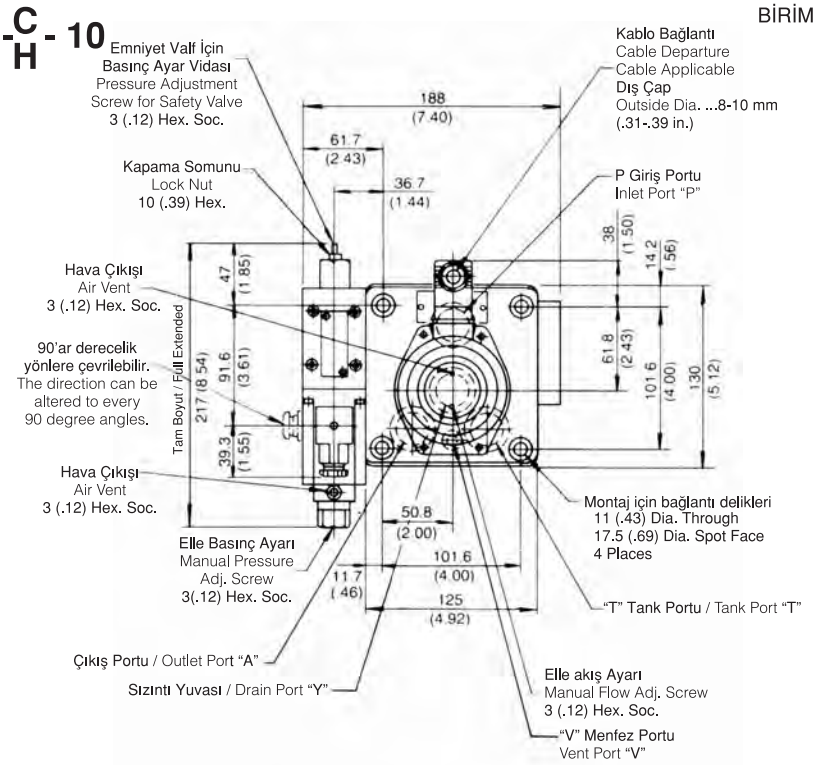
Bağlama Tipi / Type of Mounting
G: Alt Plaka Bağlantı / Sub - Plate Mounting

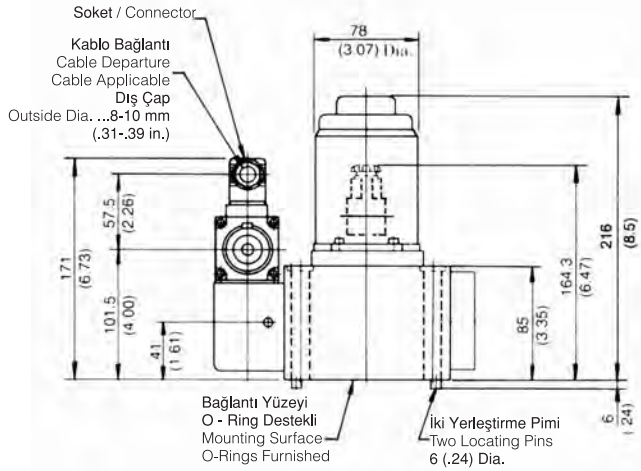
Seri No. / Series No.
Elektro - Hidrolik Oransal Emniyet ve Basınç Kontrol Valfi
EFB: Electro - Hydraulic Proportional Relief and Flow Control Valve

ÖLÇÜLER / DIMENSIONS

BİRİM / UNIT : MM (INCHES)

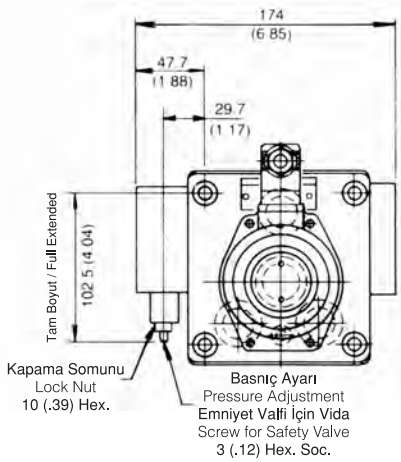
EFBG - 03 - 125 - $\frac{C}{H}$ - 10





Mass ..... 16 kg
(35.3 lbs)

EFBG - 03 - 125 - 10



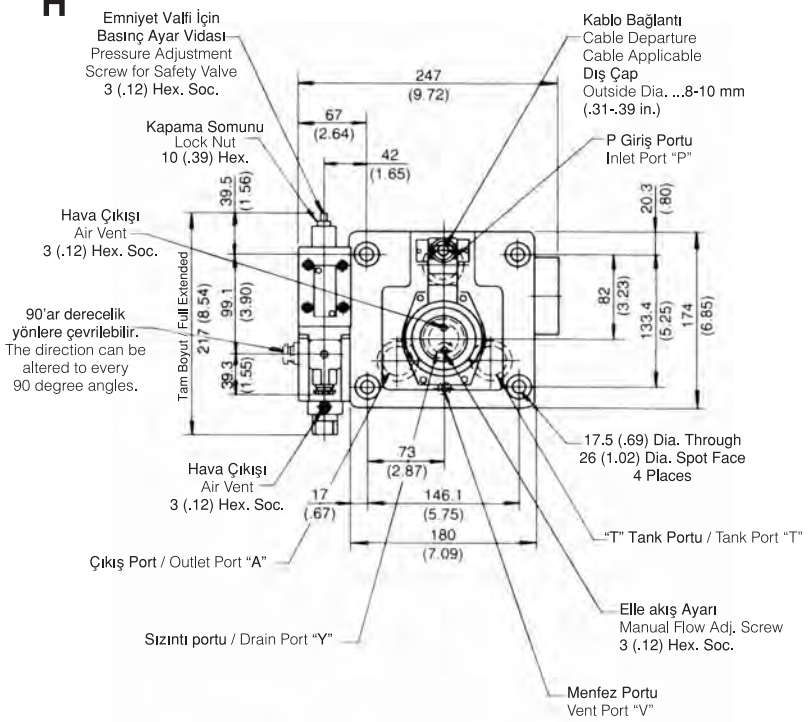
Mass ..... 14 kg (30.9 lbs)

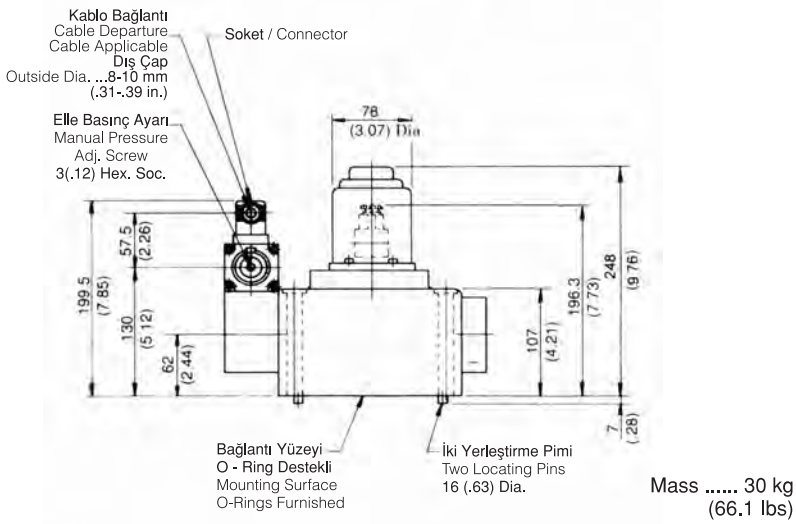
Diğer ölçüleri için ilgili sayfalara bakınız. / For other dimensions, please refer to the models above.

ÖLÇÜLER / DIMENSIONS

EFBG - 06 - 250 - C/H - 10

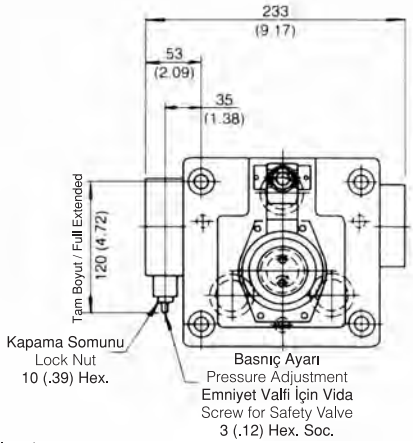
BİRİM / UNIT : MM (INCHES)





Mass ..... 30 kg
(66.1 lbs)

EFBG - 06 - 250 - 10



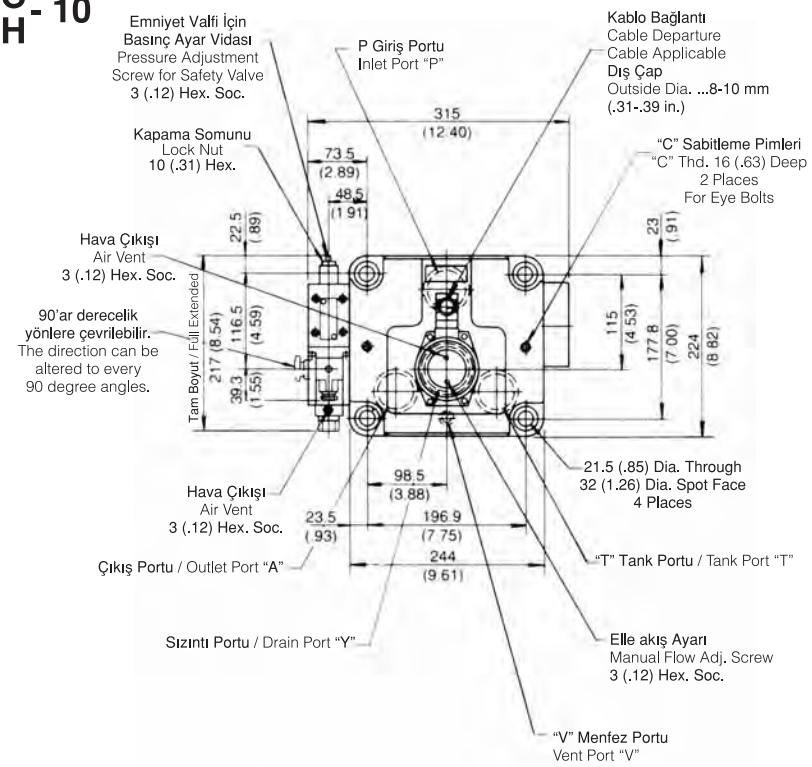
Mass ..... 28 kg (61.7 lbs)

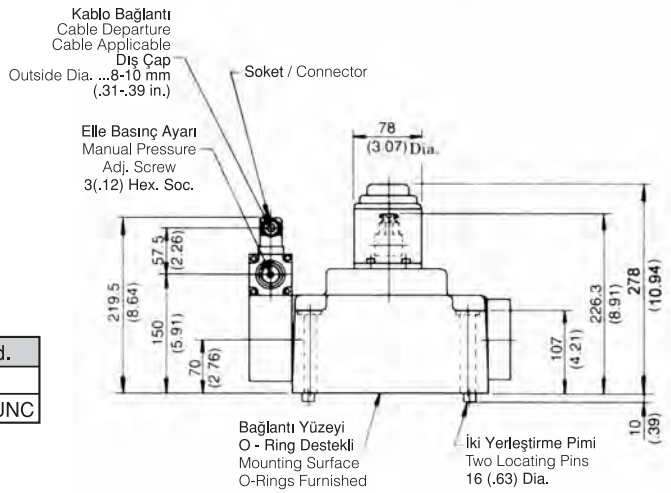
Diğer ölçüleri için ilgili sayfalara bakınız.
For other dimensions, please refer to the models above.

ÖLÇÜLER / DIMENSIONS

BİRİM / UNIT : MM (INCHES)

EFBG - 10 - 500 -$^{C}_{H}$- 10

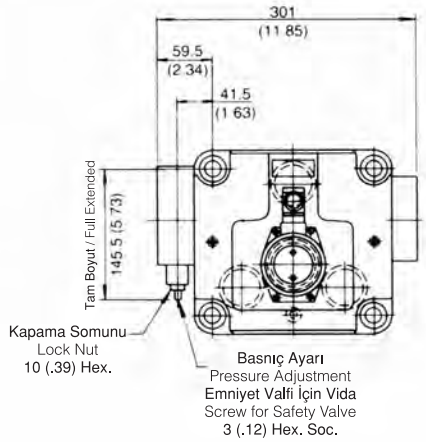




Model Numbers	"C" Thd.
EFBG - 10 -500 -*-15	M8
EFBG - 10 -500 -*-16	5/16-18 UNC

Mass ..... 60 kg
(132.2 lbs)

EFBG - 10 - 500 - 10



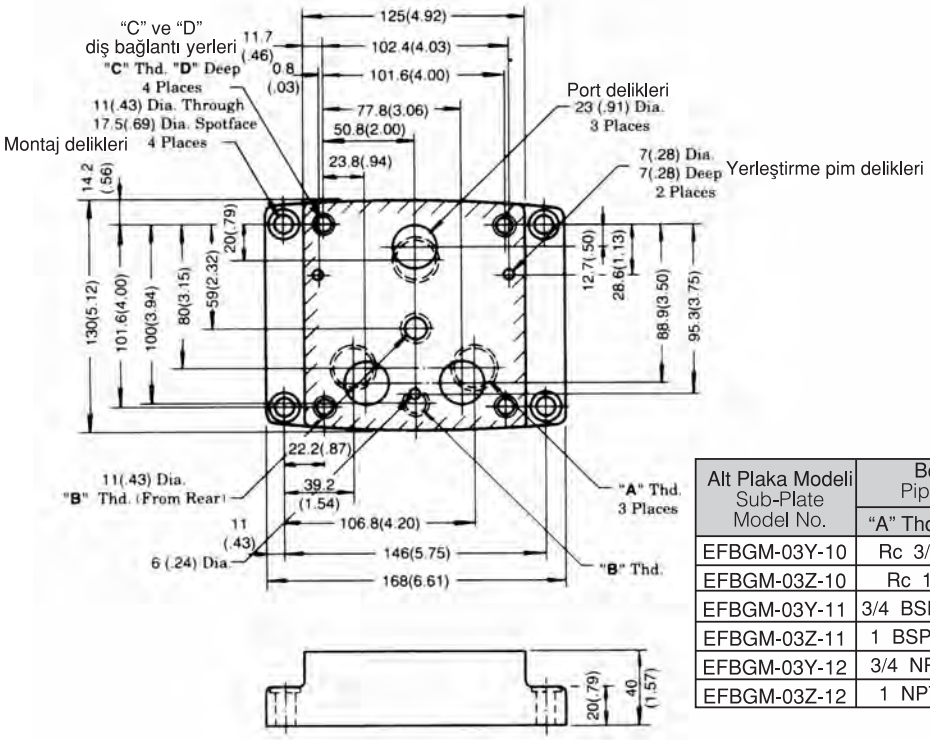
Mass ..... 58 kg (127.8 lbs)

Diğer ölçüleri için ilgili sayfalara bakınız.
For other dimensions, please refer to the models above.

ÖLÇÜLER / DIMENSIONS

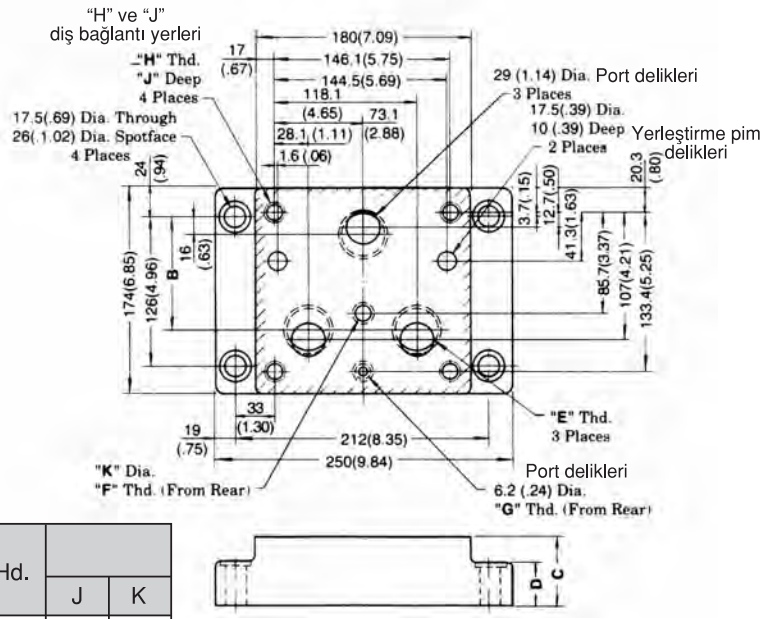
EFBGM-03Y/03Z-10

BİRİM / UNIT : MM (INCHES)



Alt Plaka Modeli Sub-Plate Model No.	Boyutlar Piping Size		"C" Thd.	D
	"A" Thd.	"B" Thd.		
EFBGM-03Y-10	Rc 3/4	Rc 1/4	M 10	18(.71)
EFBGM-03Z-10	Rc 1			
EFBGM-03Y-11	3/4 BSP.F	14 BSP.F		
EFBGM-03Z-11	1 BSP.F			
EFBGM-03Y-12	3/4 NPT	1/4 NPT	3/8-16 UNC	21(.83)
EFBGM-03Z-12	1 NPT			

EFBGM-06X/06Y-10



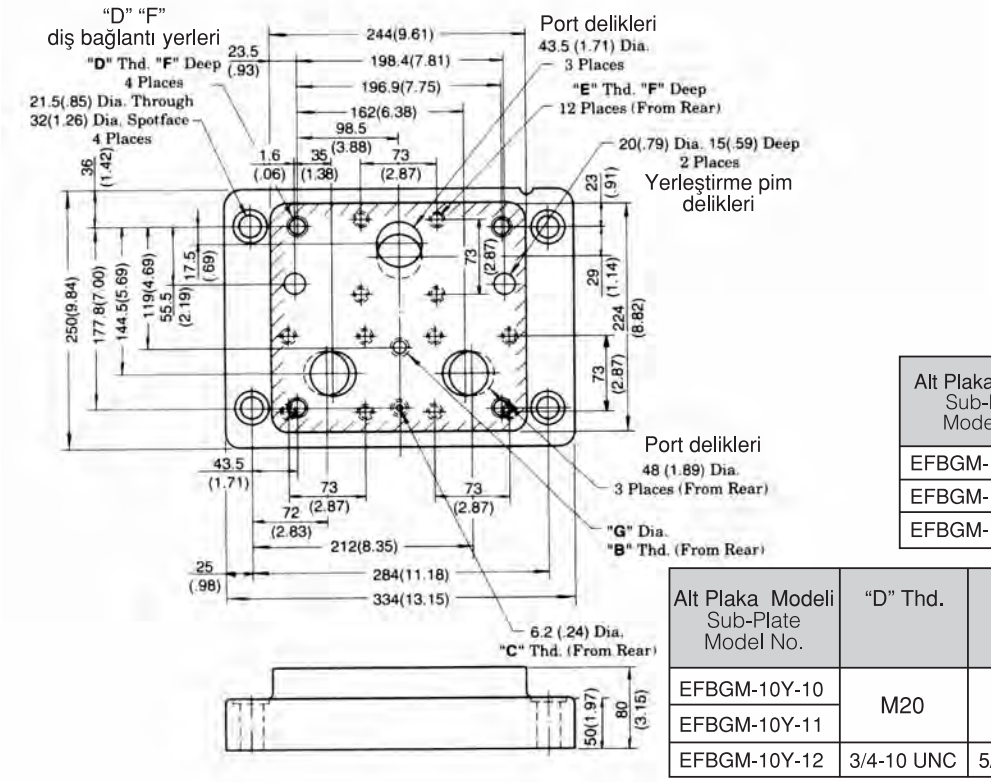
Alt Plaka Model Sub-plate Model No.	Ölçüler / Dimensions mm (IN.)		
	B	C	D
EFBGM-06X	107 (4.21)	45 (1.77)	35 (1.38)
EFBGM-06Y	95 (3.74)	60 (2.36)	40 (1.57)

Alt Plaka Modeli Sub-Plate Model No.	Boyutlar Piping Size			"H" THd.		
	"E" Thd.	"F" THd.	"G" THd.		J	K
EFBGM-06X-10	Rc 1	Rc 3/8	Rc 1/4	M16	30 (1.18)	14 (.55)
EFBGM-06Y-10	Rc 1-1/4					
EFBGM-06X-11	1 BSP.F	3/8 BSP.F	1/4 BSP.F	M16	30 (1.18)	15.2 (.60)
EFBGM-06Y-11	1-1/4 BSP.F					
EFBGM-06X-12	1 NPT	3/8 NPT	1/4 NPT	5/8-11 UNC	35 (1.18)	14 (.55)
EFBGM-06Y-12	1-1/4 NPT					

ÖLÇÜLER / DIMENSIONS

EFBGM-03Y/03Z-10

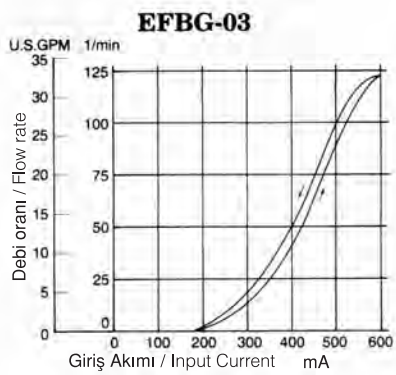
BİRİM / UNIT : MM (INCHES)

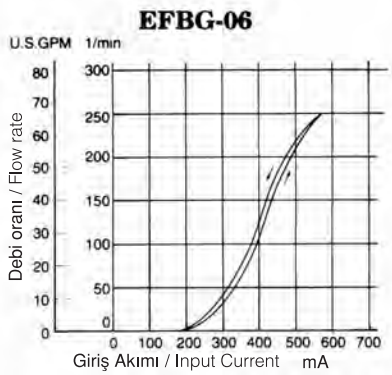


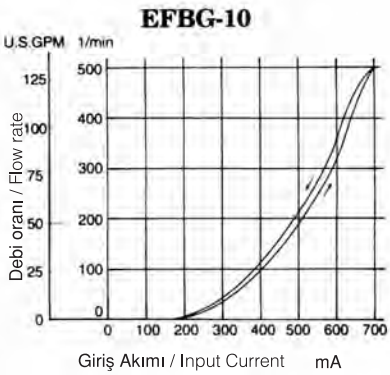
Alt Plaka Modeli Sub-Plate Model No.	Boyutlar Piping Size	
	"B" Thd.	"C" Thd.
EFBGM-10Y-10	Rc 3/8	Rc 1/4
EFBGM-10Y-11	3/8 BSP.F	1/4 BSP.F
EFBGM-10Y-12	3/8 NPT	1/4 NPT

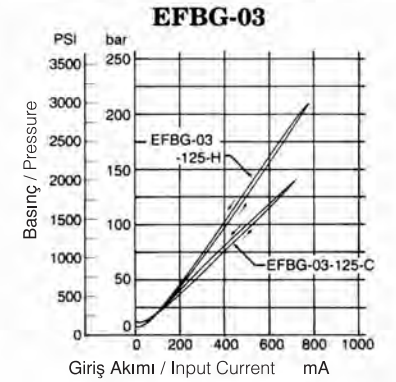
Alt Plaka Modeli Sub-Plate Model No.	"D" Thd.	"E" Thd.	mm (IN.)	
			F	G
EFBGM-10Y-10	M20	M16	32 (1.26)	11 (.43)
EFBGM-10Y-11				15.2(.60)
EFBGM-10Y-12	3/4-10 UNC	5/8-11 UNC	34 (1.34)	14 (.55)

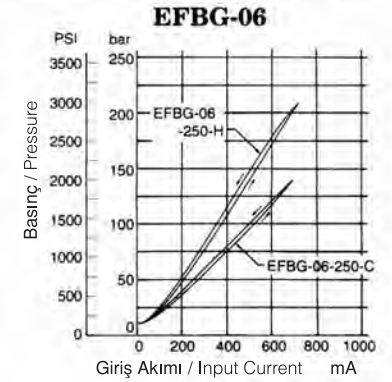
GİRİŞ AKIMI-DEBİ / INPUT VS FLOW

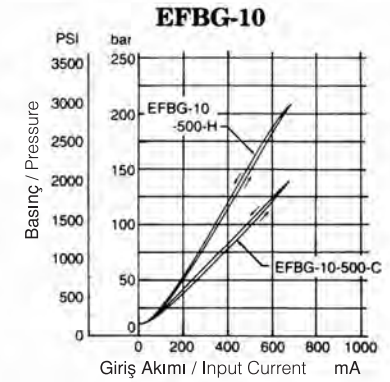










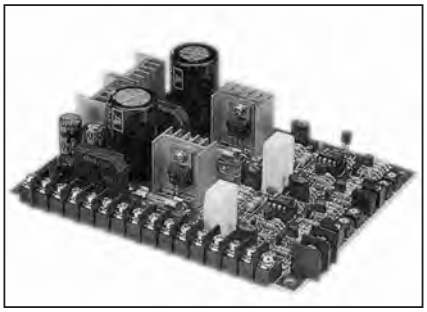


GÜÇ AMPLİFİKATÖRLERİ / POWER AMPLIFIERS

40 Ω-10 Ω EMNİYET VE AKIŞ KONTROL VALFLERİ İÇİN
FOR 40 Ω-10 Ω SERIES RELIEF AND FLOW CONTROL VALVES

Bu elektronik kart oransal valflerin debi ve basıncını kontrol etmek için dizayn edilmiştir. Hangi valfler için oldukları aşağıda belirtilmiştir.

These power amplifiers are specially designed to combine and incorporate the functions of pressure control (10 Ω solenoid) and flow control (40 Ω solenoid) into one and can be used for the proportional electro hydraulic relief and flow control valves which model numbers are as shown below.



SİPARİŞ KODU / ORDERING CODE

AME	-D2	-H1	-100	10
Seri No. Series No.	İşlem Türü Type of function	Bağlama tipi Type of mounting	Güç kaynağı Power supply	Dizayn no. Design no.
AME	D2 DC Giriş tipi D2 DC Input type	H1: Duvara bağlama tipi Wall tapestry type	100: 100 VAC 200: 200 / 220 VAC	10

UYGUN OLDUĞU VALFLER
APPLICABLE TO VALVE

Valf adı Name of valve	Model No. Model Number
40 Ω - 100 Ω Serisi Emniyet ve Debi Kontrol Valfi Relief and Flow Control Valve	03-125 EFBG-06-250-C/H-10 10-500

ORANLAR/ RATINGS

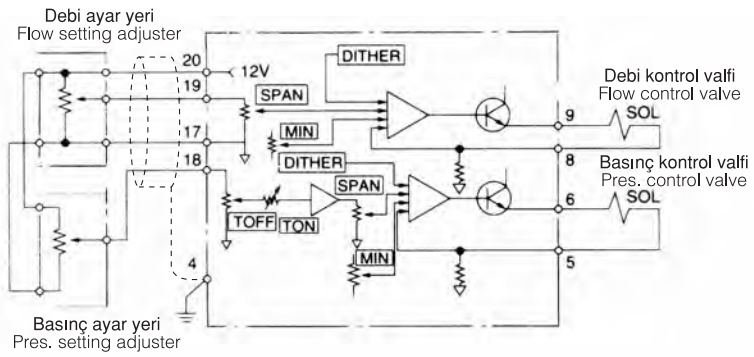
Model No. / Tanımlama / Description	AME - D2 - H1 - * - 10	
	Debi Kontrol / Flow Control	Basınç Kontrol / Pressure Control
İşlem tipi / Type of function	DC giriş tipi / DC Input Type	DC giriş tipi / DC Input Type
Max. çıkış akımı / Max. output current	0.8A (40Ω Solenoid)	1A (10Ω Solenoid)
Max. giriş voltajı / Max. input voltage	+10 VDC	+10 VDC
Giriş empedansı / Input impedance	10 kΩ	10 kΩ
Max. kazanç / Max. gain	0.8A / 5V	1A / 5V
Kararsızlık / Dither	Fix	Fix
Sıcaklık / Temperature drift (max.)	0.2 mA / +°C	0.2 mA / +°C
Güç kaynağı / Power supply	100 VAC, 200 / 220 VAC ± 10% (50/60 Hz)	
Güç girişi / Power input (max.)	130 VA	
Dış sıcaklık / Ambient temperature	0 -50 °C (32 - 122 °C)	
Dış ayar direnci / External set. Resistance	1 kΩ	1 kΩ
Kütle / Mass	5.6 kg (12.3 lbs)	

ÖLÇÜLER / DIMENSIONS

BİRİM / UNIT : MM (INCHES)

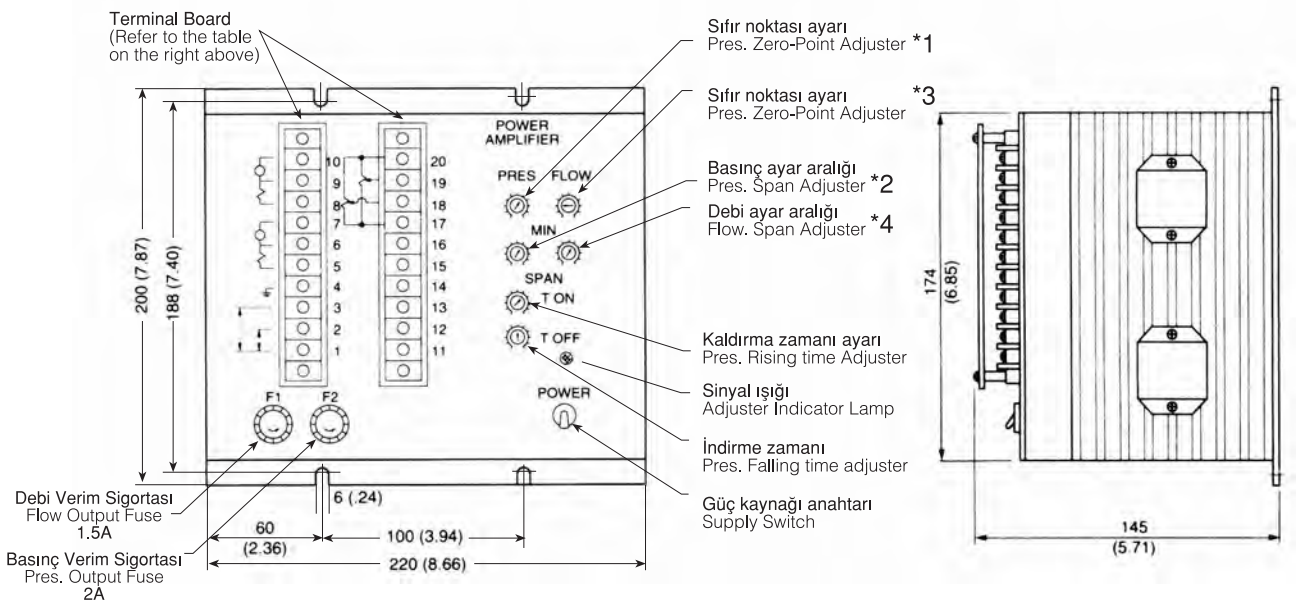
AME- D2/H1 - * - 10

ÖRNEK ÇİZİM / EXAMPLE DIAGRAM



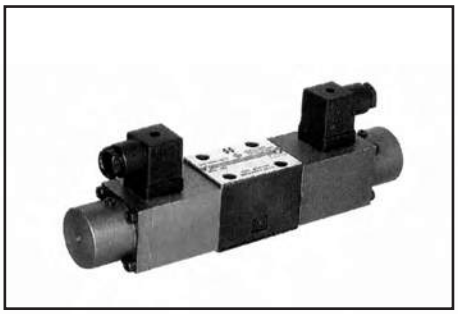
TERMİNAL TABLOSU / TERMINAL BOARD

Terminal No.	Adı / Name	
1 2 3	Güç kaynağı / Power supply 100 VAC, 200 VAC: 1, 2 220 VAC: 1, 3	
4	Yer / Earth	G
5 6	Basınç kontrol çıkış Output to pressure control valve solenoid	PR. SOL
7	Ampermetre / Ammeter	
8 9	Debi ayar çıkışı Output to flow control valve solenoid	FL.SOL
10	Ampermetre / Ammeter	
11	Common	COM
12	–	
13	–	
14	–12V OUT	–12V
15	Common	COM
16	+12V OUT	+12V
17	Common	COM
18	Basınç için giriş sinyali Input signal for pres.	PR. IN
19	Debi için giriş sinyali Input signal for flow	FL. IN
20	+12 V OUT	+ 12V



*1 Minimum basınç ayarı / Min. Pressure Setting
*2 Değişken basınç aralık ayarı / Variable Pressure Setting
*3 Minimum debi ayarı / Minimum Flow Setting
*4 Değişken debi aralık ayarı / Variable Flow range Setting

BFW ORANSAL VALF SERİLERİ
BFW PROPORTIONAL DIRECTIONAL VALVE



Bu ürün direkt aksiyon tipi solenoid kontrollü oransal valftir. Bu valfle akış oranı ve yönü kontrol edilir.

This product is a direct - action valve which uses the proportional solenoid to control the flow rate and directions in the hydraulic system.

TEKNİK BİLGİ / TECHNICAL SPECIFICATION

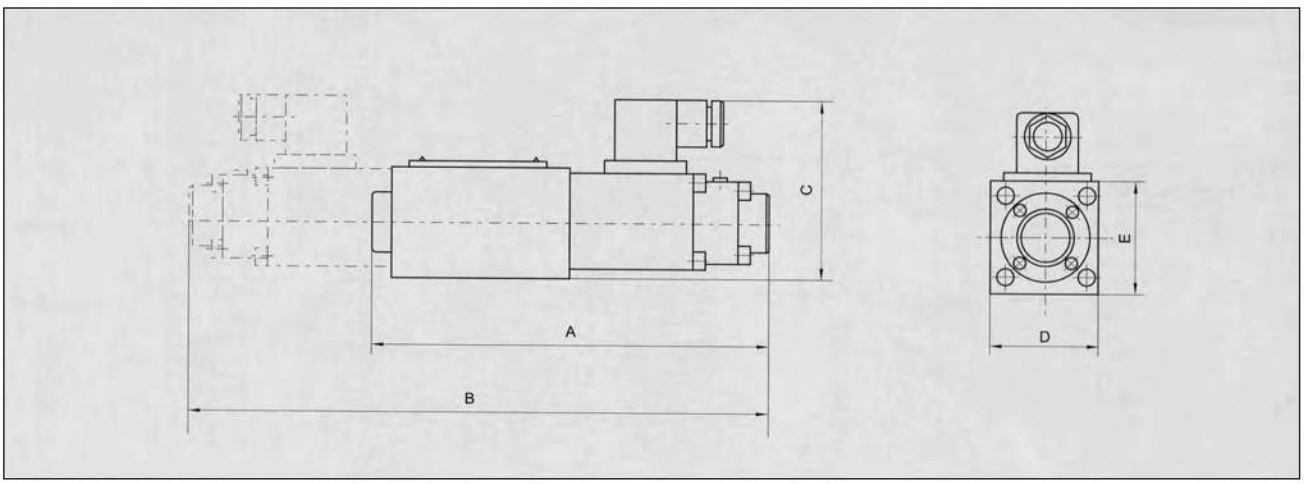
Model		02	03
P Yuvasındaki Max. Basınç (Mpa) Max. Pressure at Port "P" (MPa)		31.5	
T Yuvasındaki Max. Basınç (Mpa) Max. Pressure at Port "T" (MPa)		16	
Max. Debi (l /min - Max. Flow (l / min)		45	95
Hassasiyet (%) - Hysteresis		< 5	
Süreklilik (%) - Repeatability (%)		< 2	
Filtrasyon Hassasiyeti (µm) Filtration Accuracy		≤ 20	
Hidrolik Yağ - Hydraulic Fluid		Mineral yağ, fosfat-ester Mineral oil, phosphate - ester	
Viskozite (mm^2/s) - Viskosity (mm^2/s)		2.8~100	
Akışkan Sıcaklığı(°C) - Fluid Temp.		-20~70	
Bobin iç direnci (Ω) Coil Resitance (Ω)		19.5	
Ağırlık (kg) Weight (kg)	2- Konum Position	1.9	2.6
	3- Konum Position	3.8	4.5

MODEL AÇIKLAMASI / MODEL DESCRIPTION

BFW — * — * — 50 *

- Tanım / Remarks
- Dizayn seri numarası / Design serial number
- Valf Konumu / Function code (see BFFW)
- Gövde Tipi / Specification:
  - 02=DN6
  - 03= DN10
- Type: Oransal yön valfi / Proportional directional valve

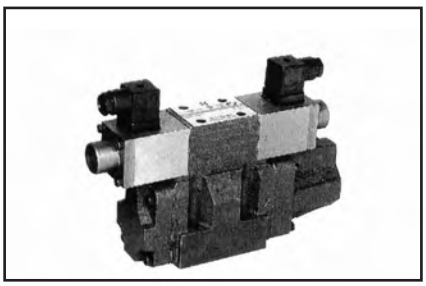
DIŞ ÖLÇÜLER / EXTERNAL DIMENSIONS



Plaka ölçüleri için sayfa 17 bakınız. / Plate size see page 17.

Model	A	B	C	D	E
BFW -02	171	250	78	47	47
BFW -03	205	285	100	70	68

BFWH ELEKTRO - HİDROLİK ORANSAL YÖN VALFİ
BFWH PROPORTIONAL ELEKTRO - HYDRAULIC DIRECTIONAL VALVE



BFWH elektro hidrolik oransal yön valfi pilotlu iki kademelidir. Oransal bir selenoid tarafından kontrol edilir ve debi akış yönünü kontrol için elektrik sinyalini spool hareketine dönüştürür.

BFWH electro - hydraulic proportional directional valve is a 2 - stage valve with a pilot. It is controlled by a proportional solenoid and converts the electrical signal into a disp of spool to control the flow rate and directions in the hydraulic system.

TEKNİK BİLGİ / TECHNICAL SPECIFICATION

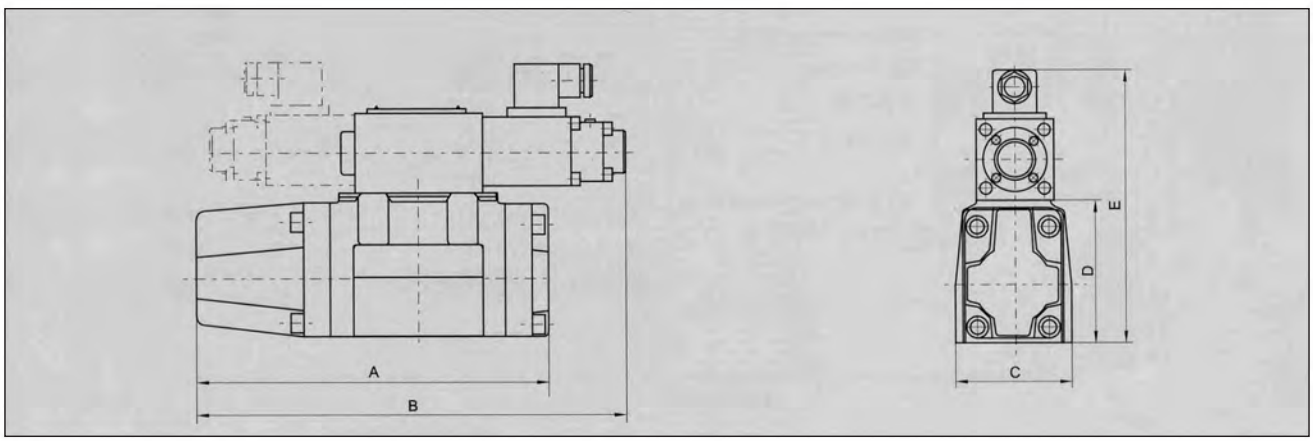
Model		03	04	06
P Yuvasındaki Max. Basınç Max. Pressure at Port "P" (MPa)		31.5		
T Yuvasındaki Max. Basınç Max. Pressure at Port "T" (MPa)	T (for exti disch)	25		
	T (for inti disch)	3		
	Port Y	3		
Max. Akış (l / min)-Max. Flow (l / min)		135	340	680
Hassasiyet (%) - Hysteresis		< 6		
Süreklilik (%) - Repeatability (%)		< 3		
Filtrasyon Hassasiyeti (µm) Filtration Accuracy		≤ 20		
Hidrolik Yağ - Hydraulic Fluid		Mineral yağ, fosfat-ester Mineral oil, phosphate - ester		
Viskozite (mm^2/s) - Viskosity (mm^2/s)		2.80~380		
Akışkan Sıcaklığı(°C) - Fluid Temp.		-20~70		
Bobin iç direnci (Ω) - Coil Resitance		19.5		
Ağırlık (kg) Weight (kg)	2- Konum Position	8.1	12.3	17.5
	3- Konum Position	8.8	13	18.2

MODEL AÇIKLAMASI / MODEL DESCRIPTION

BFWH — 03 — * — * — 50 *

- Düşünceler / Remarks
- Dizayn Seri No / Design Serial Number
- Control Oil: Omit = Intl cntrl intl disch X= Extrl cntrl disch
  Y= Intl cntrl extl disch XY= Extrl extl disch
- Valf Konumu / Function Code: (See BFFW)
- Gövde Tipi / Specification: 03=DN10 04=DN16 06= DN25
- Oransal elektro hidrolik yön valfi
  Proportional elektro - hydraulic directional valve

DIŞ ÖLÇÜLER / EXTERNAL DIMENSIONS



Model	A	B	C	D	E
BFW -03	216	250	70	86	171
BFW -04	250	265	94	95	185
BFW -05	280	290	120	117.5	202.5

BFFW GERİ BESLEME ORANSAL YÖN KONTROL VALFİ
BFFW FEEDBACK PROPORTIONAL DIRECTIONAL VALVE

BFFW modeli elektrik geri beslemeli oransal basınç kontrol edilen direkt etkili oransal yan kontrol valfidir. Debi ve yön kontrol amaçlı kullanılır. Yüksek debi kapasitesi düşük histeriz ve iyi tekrarlanabilirlik. Tümü bu valfi kapalı kontrol devrelerinde ideal hale getirir. Takım tezgahları, hafif endüstri, metal, maden ve havacılık endüstrisinde yer bulur.

This BFFW model is a direct - action proportional directional control valve, which is controlled by a proportional solenoid with electrical feedback. It is used to control the flow rate and direction. The high flow capacity, low hysteresis and good repeatability, all making it ideal for closed control loops , helps itself to find wide applications in the automation devices such as machine tools, light industry, metal, mining and aerospace.

HİDROLİK TEKNİK BİLGİ / TECHNICAL HYDRAULIC SECTION

Model		06	10
Max. basınç Max. press. (MPa)	P, A ,B	31.5	31.5
	T	16	16
Debi / Flow (l / min)		65	130
Manyetik gecikme (%) / Hysteresis (%)		<1	
Tekrarlama / Repeatabilty (%)		<1	
Filtrasyon hassasiyeti (µm)	Filtration accurancy(µm)	≤ 20	
Yanıtlama / Responding sensitive		< 0.5 % (Nominal sinyal/Nominal signal)	
Frekans / Freq resp		10	8
Akışkan / Hidrolik fluid		Mineral yağ, fosfat - ester Mineral Oil, Phosphape - ester	
Vizikozite(mm^2/sn) / Viscosity(mm^2/sn)		2.8 ~ 100	
Akışkan sıcaklığı / Fluid temp.(°C)		-20 ~ 70	
Ağırlık Weight (Kg)	2-Pozisyon / Position	1.9	5.6
	3-Pozisyon / Position	2.6	7.6

ELEKTRİK BİLGİSİ / ELECTRIC SECTION

Elektrik kaynak modeli ve basınç Elctr. source model and press.		DC24V (or12V)	
Max. akım / Max. Current (A)			
Bobin direnci Coil resistance (Ω)	20 °C soğuk değer 20 °C cold state value	5.4	10
	Max. sıcak değer Max. hot state value	8.1	15
Çalışma / Working state		Devamlı / Continual	
Sıcaklık / Coil temp. (°C)		+50	
Ortam sıcaklığı(°C) Environmental temp. (°C)		+70	
İzalasyon (Insulation regirement)		IP65	
Kumanda Amplifier	1 barea time	VT-5001S20 (2-pozisyon 4-yollu) (2-position 4-way)	VT-5002S20 (2-pozisyon 4-yollu) (2-position 4-way)
	2 barea time	VT-5005S20 (3-pozisyon 4-yollu) (3-position 4-way)	VT-5006S20 (3-pozisyon 4-yollu) (3-position 4-way)
Elektriksel ölçüm sistemi Electrical measuring system		Değişken diferansiyel transformatör Variable differential transformer	
Çalışma aralığı (mm) Working disp(mm)		± 4.5	
Doğrusallık (%) / Linearity (%)		1	
Bobin direnci Coil resistance (Ω)	IR20	56	
	IIR20	56	
	IIIR20	112	
İndüktör(mH) / Inductor (mH)		6 ~ 8	
Frekans(KHz) / Frequency (KHz)		2.5	
İzalasyon / Insulation requirment		IP65	

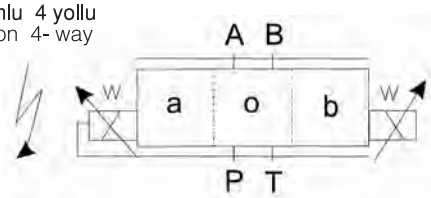
MODEL BİLGİSİ / MODEL INSTRUCTION

BFFW – ∗ – ∗ – ∗ – 50 ∗

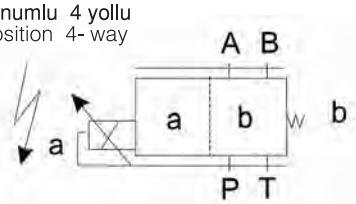
- Düşünceler / Remarks
- Dizayn numarası / Design serial number
- 1 MPa için nominal debi / Nominal flow in 1MPa
  - 10= 10 L / min
  - 21= 21 L / min
  - 32= 32 L / min
  - 27= 42 L / min
  - 42= 42 L / min
- Kayar valf fonksiyonu / Slide valve function
- Özellik / Specification:
  - 02= DN6
  - 03= DN10
- Tip / Type:
  - Geri beslemeli oransal yön kontrol valfi
  - Feedback proportional directional valve

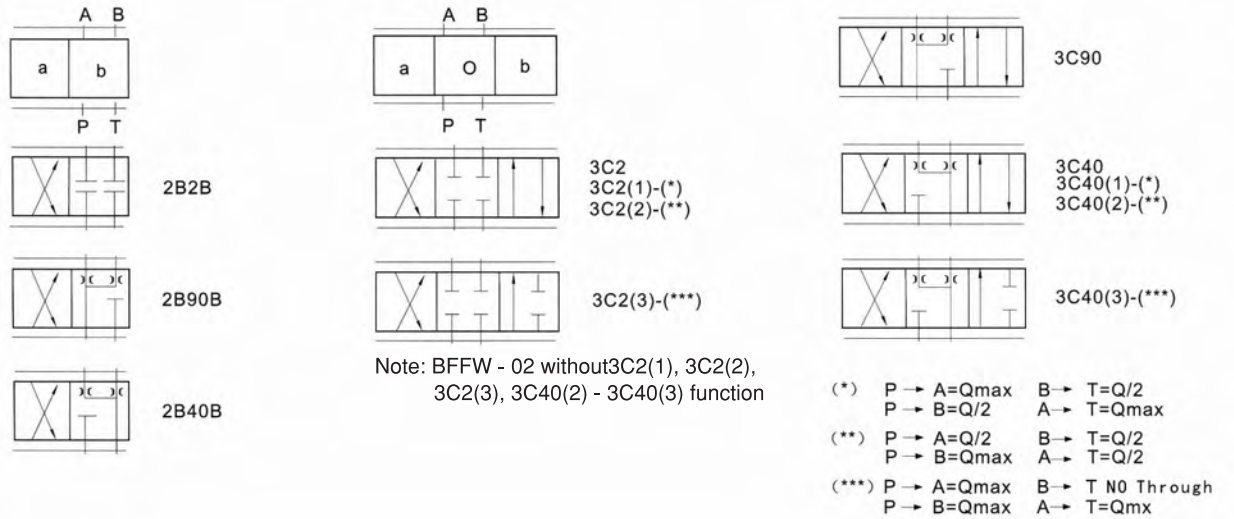
SEMBOLLER / CODE SYMBOL

3 konumlu 4 yollu
3-position 4- way

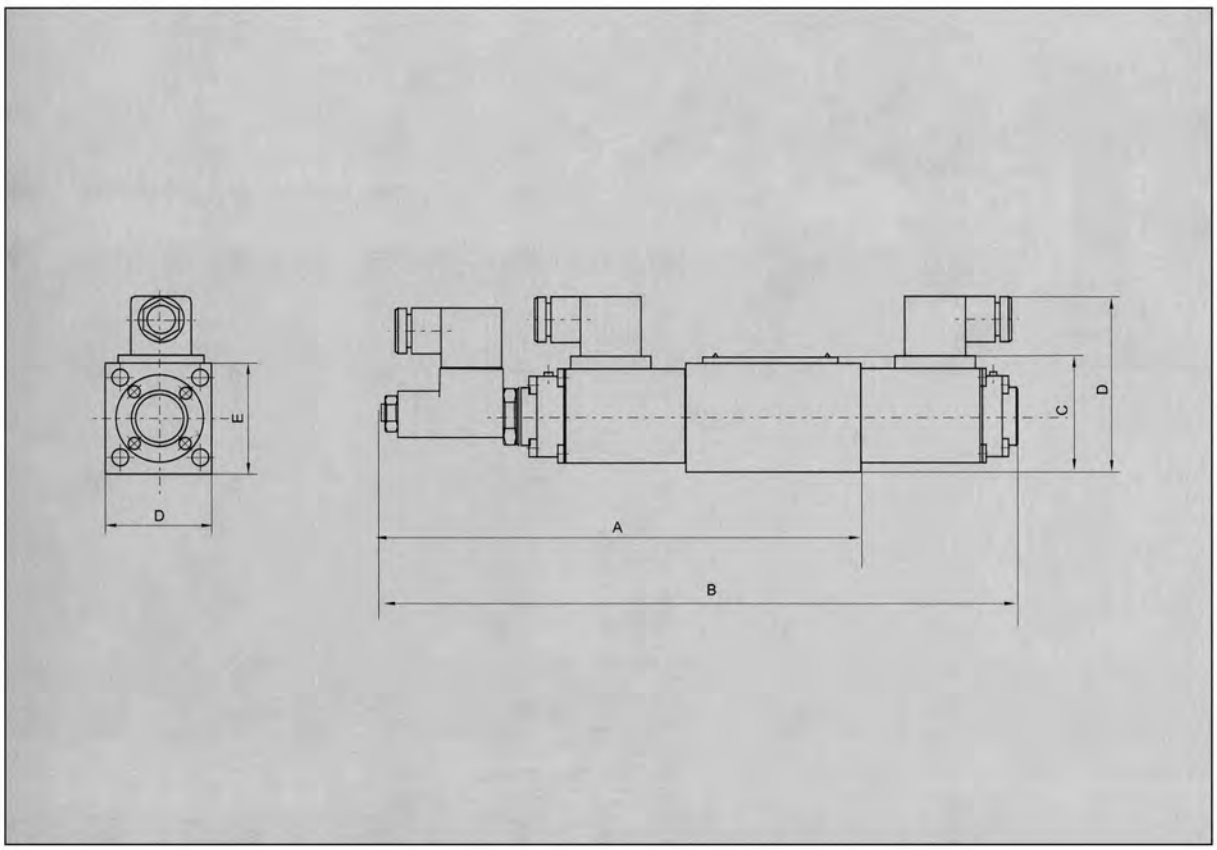


2 konumlu 4 yollu
2-position 4- way





DIŞ ÖLÇÜLER / OUTSIZE SIZE



Model	A	B	C	D	E
BFFW - 02	220	290	58	78	47
BFFW - 03	280	357	82	114	70

YÜKSEK HIZ - YÜKSEK BASINÇ MODÜLER VALFLER
HIGH FLOW - PRESSURE MODULAR VALVES

MALZEME ÖZELLİKLERİ / FEATURES

1. HİDROLİK SİSTEMLERDE DEVRE EBATLARINI EN AZA İNDİRİR.
2. ÖZEL MONTAJ BİLGİSİ GEREKTİRMEDEN, HİDROLİK DEVRE KOLAYCA GENİŞLETİLİP DEĞİŞTİRİLEBİLİR.
3. BORULU BAĞLANTIYA GÖRE SIZDIRMA, GÖRÜNTÜ PROBLEMLERİ ÇOK AZDIR.
4. KONTROLLÜ VE BAKIMI KOLAYDIR.

1. MINIMIZE THE SPACE OF DEVICE AND INSTALLATION OF HYDRAULIC SYSTEM.
2. WITHOUT SPECIAL INSTALLATION SKILLS , CAN EASILY AND QUICKLY ENLARGE OR CHANGE THE HYDRAULIC CIRCUT.
3. AVOID THE LEAKAGE, CHATTERING AND NOISY PROBLEMS ETC, WHICH WERE USED TO BE CAUSED BY THE TRADITIONAL PIPE CONNECTING WAY. ALSO OBTAIN MORE RELİABILITY FOR HYDRAULIC SYSTEM.
4. EASY FOR INSPECTION AND MAINTENANCE.

TAVSİYE EDİLEN AKIŞKANLAR / FLUID TYPES RECOMMENDED

1. MİNERAL YAĞ: ISO VG32 VEYA VG 46' YA DENK
2. FOSFAT - ESTER
3. SU - GLİKOZ

1. MINERAL OIL: EQUAL TO ISO VG32 OR VG46.
2. PHOSPHATE - ESTER.
3. WATER - GLYCOL.

AKIŞKAN ÇALIŞMA SICAKLIĞI ARALIĞI / FLUID TEMPERATURE RANGE

-15 °C ' DEN +70 °C (5-160 °F)

FROM -15 TO +70 °C (5-160 °F)

AKIŞKAN VİSKOZİTE ARALIĞI / FLUID VISKOSITY RANGE

15 - 400 cST (75 - 1800 SSU)

KİRLİLİK KONTROLÜ / CONTAMINATION CONTROL

AKIŞKAN KİRLİLİĞİ NAS 1638 -12 SINIFININ ÜSTÜNDE OLMALIDIR VE EN AZ 25 MİKRON FİLTRELEME GEREKİR. YAPILMAZSA VALFLERİN ÖMRÜ AZALIR VE KOLAYCA ZARAR GÖREBİLİR.

FLUID CONTAMINATION SHOULD BE KEPT AT / ABOVE NAS 1638 - 12 CLASS AND ADOPT FILTRATION OF 25 µm OR EVEN BETTER FILTRATION, OTHERWISE, VALVES ARE EASILY TO BE DAMAGED OR SHORTEN LIFE.

SEÇİM VE UYARI / SELECTION & NOTICE

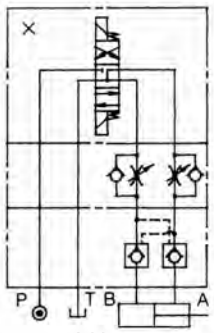
HİDROLİK DEVREDEKİ FONKSİYONA GÖRE, MODÜLER VALFLERİN SEÇİMİ NORMAL VALFLERLE AYNIDIR; FAKAT MODÜLER VALFLERİN BAZI LİMİTLERİNDEN DOLAYI, ÜST ÜSTE KOYMA SIRALAMASINDA AŞAĞIDAKİLERE DİKKAT EDİLEREK SİSTEM OLUŞTURULMALIDIR.

FOR SPECIFIC FUNCTION IN HYDRAULIC CIDCUT, THE SELECTION OF MODULAR VALVES IS THE SAME AS TRADITIONAL VALVES', ONLY HAVE TO CONSIDER ABOUT THE PRESSURE AND FLOW OF EACH DIFFERENT VALVE. BUT UNDER SOME CIRCUM STANCES, THERE ARE SOME LIMITATIONS IN MODULAR SYSTEM, THEREFORE, MUST REFER TO UNDER MENTIONED SEQUENCES FOR STACKING THE MODULAR VALVES IN DESIGNING HYDRAULIC SYSTEM.

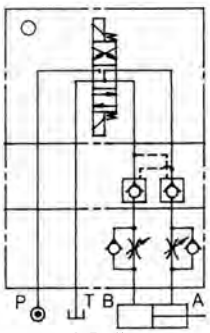
ÜST ÜSTE KOYMA SIRALARI / STACKING SEQUENCES

A. Selenoid yön valfi pilot kumandalı çek valf (A-B Hattı) kısma valfi (B hattı)

A. Selenoid directional valve Pilot operated modular check valve (for A, B lines) Modular reducing valve (for B line)



A Yanlış
(A Wrong)



A Doğru
(A Correct)

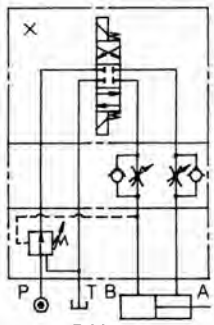
A.
MTC - ※ ※ B ve MPC X X W beraber kullanıldığında doğru sıralama aşağıdaki gibidir.
(MPC tamamen kapanmayacağından)

A.
When MTC - ※ ※ B and MPC -X X W are used together in same circut, the right circut is correct usage, and left is wrong, as the MPC would not be totaly closed.

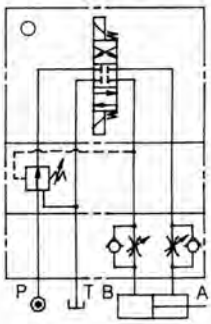
MPR - ※ ※ B MTC - ※ ※ W valfleri beraber kullanıldığı zaman.

B.
Yön valfi, Akış kontrol valfi
Basınç düşürücü valfi(B hattı)

B.
Selenoid directional valve modular flow control valve (for A, B lines, metering out) Modular reducing valve (for B line)



B Yanlış
(B Wrong)



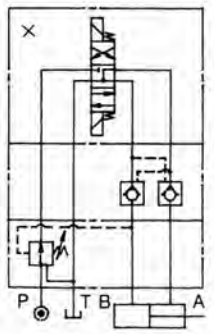
B Doğru
(B Correct)

B.
Soldaki yanlıştır çünkü, yağ B' den T'ye giderken
basınç düşürücü valfin yapması gereken fonksiyon etkilenmektedir. Çekli akış valfi kontrol valfi
basınç oluşturarak , basınç düşürücü valfin basıncı çok
düşürmesine ve silindirin kuvvetsiz veya düzgün ilerlemesine neden olur.

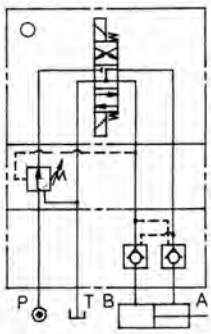
B.
When MPR - ※ ※ B and MTC ※ ※ W are used together same circut, the right circut is correct usage, and left is wrong, as the function of pressure reducing valve will be affected when oil flow from B to T. Because the metering out throttle/check valve will create a pressure which will cause pressure reducing valve to reduce the pressure too low, and the cylinder then can not operate with enough force or move smoothly.

C.
Yön kontrol valfi, modüler akış kontrol valfi A - B hatlı ve modüler pilot kontrollü ikiz kilitleme (A-B) hattı.

C.
Selenoid directional valve Modular flow control valve (for A, B lines, metering out) Modular pilot operated check valve (for A, B lines)



C Yanlış
(C Wrong)



C Doğru
(C Correct)

C.
MTC - ※ ※ W ve MPC - ※ ※ W aynı devrede kullanılırsa; MTC silindire en yakın olmalıdır. Yoksa silindir vuruntu yapabilir.

C.
When MTC - ※ ※ W and MPC - ※ ※ W are used together in same circut, the MTC - should be installed closer to the cylinder ports, otherwise cylinder may have a "knocking" phenomenon happened.

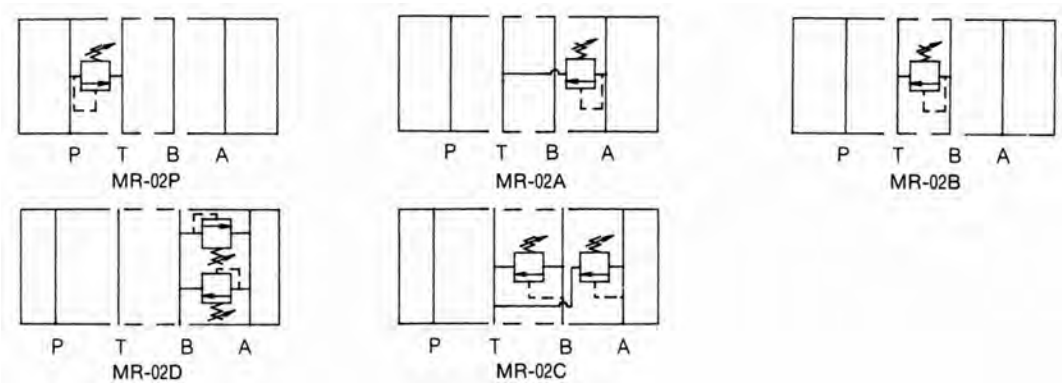
MODÜLER EMNİYET VALFLERİ / MODULAR RELIEF VALVES
MR - 02

TEKNİK BİLGİ / TECNICAL DATA

Maksimum Çalışma Basıncı / Max. Operating Pressure:
250 KGF / CM2 (3600 PSI)

Maksimum Debi / Max. Flow
40 LPM (10.57 GPM)

SEMBOLLER / SYMBOLS



SİPARİŞ KODU / ORDERING CODE

MR -- 02 -- P -- K -- 1 -- 50

Design Numarası / Dizayn Number

Basınç Ayarlama Aralıkları / Pressure Adjusting Range
1: 8 -70 KGF/CM2 (120 - 1000 PSI)
2: 35 -160 KGF/CM2(500 - 2300 PSI)
3: 70 - 250 KGF/CM2 (1000 - 3600 PSI)

Basınç Ayar Kolu / Adjusting Arm Type
K: Topuzlu El kumanda İle / With Hand Knob
Kod Yoksa: Alyenle Kumandalı / No Code:Without Hand Knob

İş Yapacak Delikler / Function Port:
P: P Deliği / P Port
A: A Deliği / A Port
B: B Deliği / B Port
C: A&B Delikleri Tanka Dönüşlü / A&B Ports Vented to Tank
D: A&B Çapraz Ters Emniyetli / A&B Ports Cross Over Relief

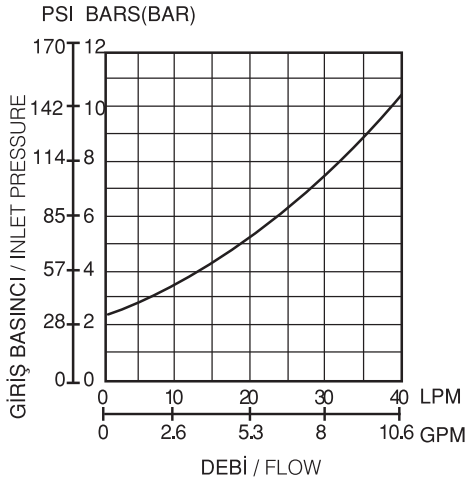
Delik Ölçüsü / Port Size:
02: 1/4”

MR - 02 SERİLERİ / MR -02 SERIES

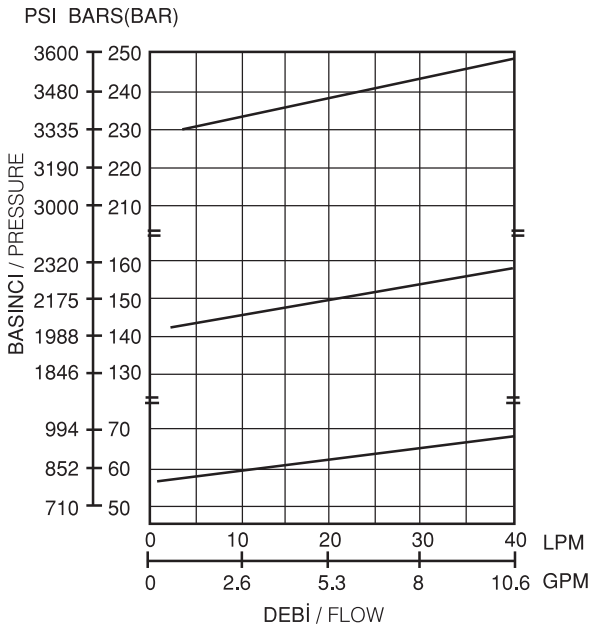
ÇALIŞMA EĞRİLERİ / PERFORMANCE CURVES

YAĞ ÇALIŞMA ÖLÇÜSÜ V= 35CST ve T= 50 °C
MEASURED AT V= 35 CST AND T= 50 °C

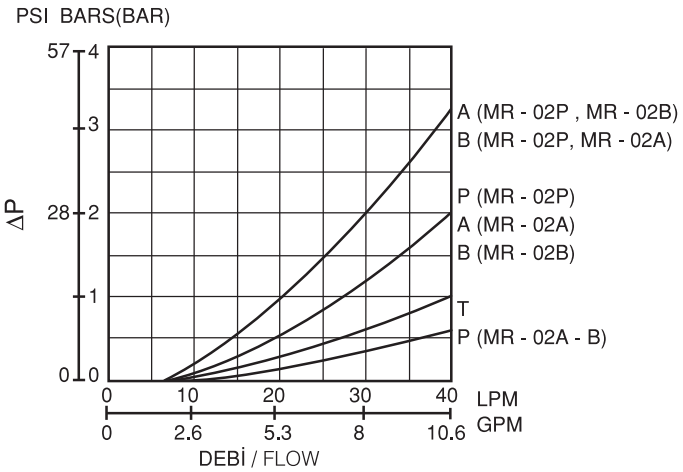
MİNUMUM AYARLAMA BASINCI
MIN. ADJUSTMENT PRESSURE



BELLİ DEBİLERDE ÇALIŞMA BASINCI
OPERATING PRESSURE AT FLOW RATED



BASINÇ DÜŞÜMÜ EĞRİSİ
PRESSURE DROP CURVE



GÖRÜŞLER / REMARKS

* TANK HATTININ GERİ BASINCINI MİNİMİZE EDİN, TAVSİYE EDİLEN; 2 BAR'DAN AŞAĞI OLMASIDIR.
* EMNİYET VALFİ OLARAK KULLANIMDA, MAX. ÇALIŞMA BASINCI, BEKLENEN ÇALİŞMA BASINCINDAN 10-15 BAR YUKARIYA AYARLANMALIDIR.
* AKIŞI AYARLARKEN, DEBİYİ AZALTMAK İÇİN SAAT YÖNÜNDE, ARTTIRMAK İÇİN SAATİN TERSİ YÖNÜNDE ÇEVİRİN.

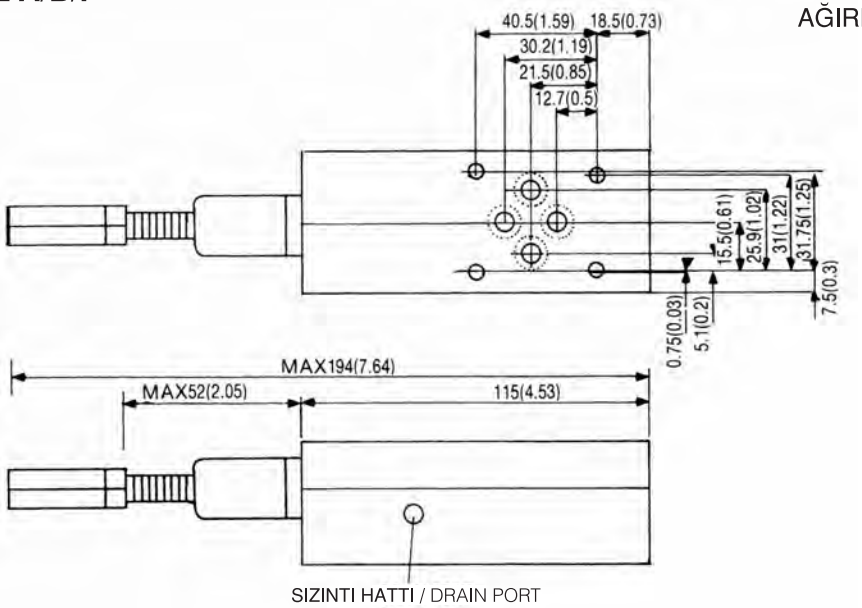
* MINIMIZE THE BACK PRESSURE OF TANK PORT WHEN USE IT, AND RECOMMEND BACK PRESSURE BELOW 2 KGF / CM2
* TO BE A SAFETY VALVE, MAX. OPERATING PRESSURE SHOULD BE SET BY 10 - 15 KGF / CM2 MORE THAN EXPECTED OPERATING PRESSURE.
* WHEN ADJUST THE FLOW, USE CLOCKWISE TURN TO DECREASE THE FLOW AND USE COUNTER CLOCKWISE TURN TO INCREASE THE FLOW.

MR - 02 SERİLERİ / MR -02 SERIES

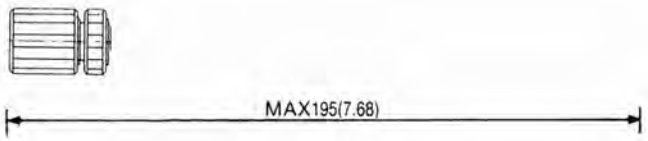
ÖLÇÜLER / DIMENSIONS

MR - 02 A/B/P

BİRİM / UNIT: MM (INCH)
AĞIRLIK / WEIGHT : 1.6 KGS

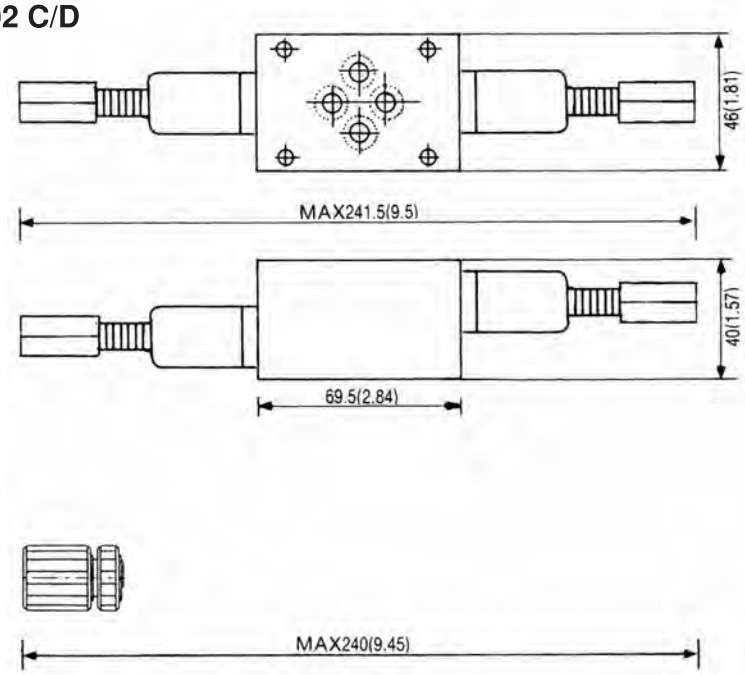


TOPUZLA / WITH KNOB



AĞIRLIK / WEIGHT : 1.1 KGS

MR - 02 C/D



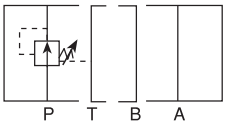
MODÜLER BASINÇ DÜŞÜRÜCÜ VALFLER
MODULAR PRESSURE REDUCING VALVES
MPR - 02

TEKNİK ÖZELLİKLER / TECHNICAL DATA

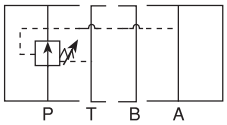
MAKSİMUM ÇALIŞMA BASINCI / MAX. OPERATING PRESSURE
250 KGF/CM2 (3600 PSI)

MAKSİMUM AKIŞ / MAX. FLOW
40 LPM (10.6 GPM)

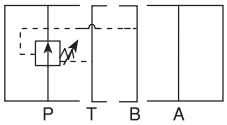
SEMBOLLER / SYMBOLS



MR - 02P



MR - 02A



MR - 02B

DÜŞÜNCELER / REMARKS

* İYİ SONUÇ ELDE ETMEK İÇİN, İLK KISIM ANA DEVRENİN FARK BASINCININ 10 BAR ÜSTÜNDE OLMASINA DİKKAT EDİNİZ
* AYAR ARALIĞINDA GÖSTERİLEN MİN. AYAR BASINCI LİMİTİNE DİKKAT EDİNİZ.
* DEBİYİ AYARLARKEN, DEBİYİ AZALTMAK İÇİN SAAT YÖNÜNDE, ARTTIRMAK İÇİN TERS YÖNDE ÇEVİRİNİZ.

* TO GET GOOD PRESSURE REDUCING FUNCTION, MAKE SURE DIFFERENTIAL PRESSURE OF FIRST SIDE MAIN CIRCUIT PRESSURE MUST BE ABOVE 10 BARS.
* BE AWARE OF THE MIN. ADJUSTING PRESSURE LIMITED IN ADJUSTING RANGE.
* WHEN ADJUST THE FLOW, USE CLOCKWISE TURN TO DECREASE THE FLOW AND USE COUNTER CLOCKWISE TURN TO INCREASE THE FLOW.

SİPARİŞ KODU / ORDERING CODE

MPR -- 02 -- P -- K -- 1 -- 50

DİZAYN NUMARASI / DESIGN NUMBER

BASINÇ AYAR ARALIKLARI / PRESSURE ADJUSTING RANGE
1: 3-35 KGF/CM2 (45-500 PSI)
2: 8-70 KGF/CM2 (45-500 PSI)
3: 35-160 KGF/CM2 (500-2300)

BASINÇ AYARLAYICI KOL TİPİ / ADJUSTING ARM TYPE
K: TOPUZLU EL KUMANDA İLE / WİTH HAND KNOB
KOD YOKSA: ALYENLE KUMANDALI / NO CODE: WİTHOUT HAND KNOB

İŞ YAPACAK DELİKLER / FUNCTION PORT:
P: P DELİĞİ / P PORT
A: A A DELİĞİ / A PORT
B: B DELİĞİ / B PORT

DELİK ÖLÇÜSÜ / PORT SIZE:
02: 1/4”

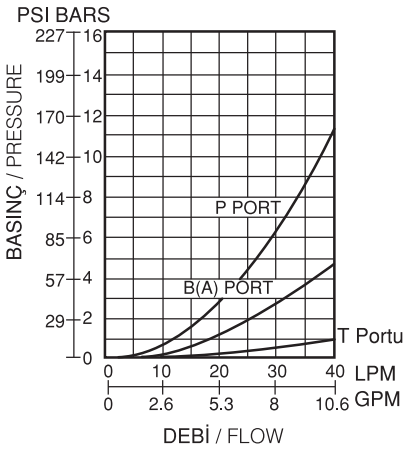
MPR - 02

ÇALIŞMA EĞRİLERİ / PERFORMANCE CURVES

YAĞ ÇALIŞMA ÖLÇÜSÜ (MEASURED AT V) V=35 CST AND T=50°

BASINÇ DÜŞÜMÜ DEBİ
PRESSURE DROP FLOW

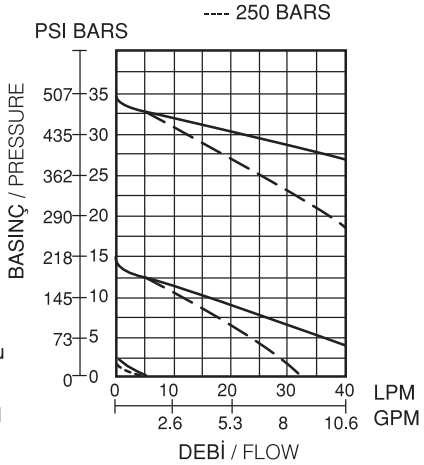
MPR - 02P(A,B)



BASINÇ - AKIŞ İLİŞKİSİ
PRESSURE RELATED TO FLOW

MPR - 02P - 03

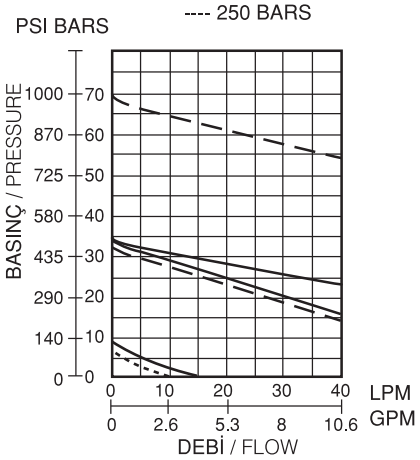
FIRST PRESSURE — 70 BARS
---- 250 BARS



BASINÇ - AKIŞ İLİŞKİSİ
PRESSURE RELATED TO FLOW

MPR - 02P - 01

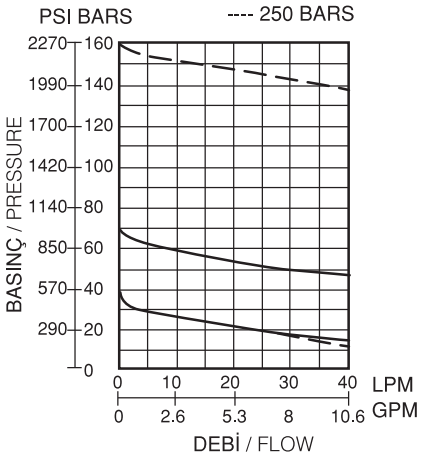
FIRST PRESSURE — 70 BARS
---- 250 BARS



BASINÇ - AKIŞ İLİŞKİSİ
PRESSURE RELATED TO FLOW

MPR - 02P - 2

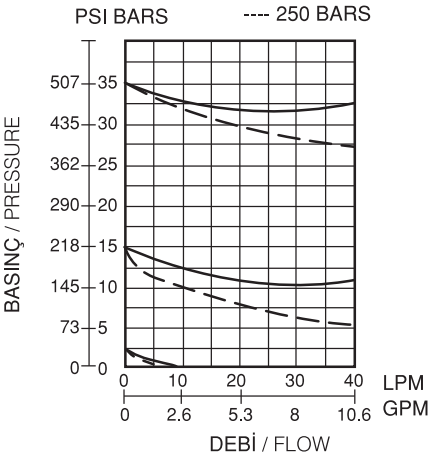
FIRST PRESSURE — 160 BARS
---- 250 BARS



BASINÇ - AKIŞ İLİŞKİSİ
PRESSURE RELATED TO FLOW

MPR - 02A(B) - 3

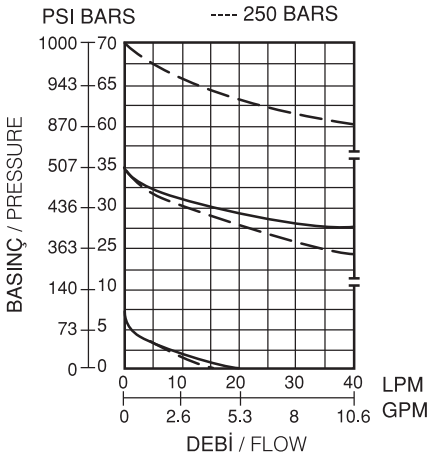
FIRST PRESSURE — 70 BARS
---- 250 BARS



BASINÇ - AKIŞ İLİŞKİSİ
PRESSURE RELATED TO FLOW

MPR - 02A(B) - 1

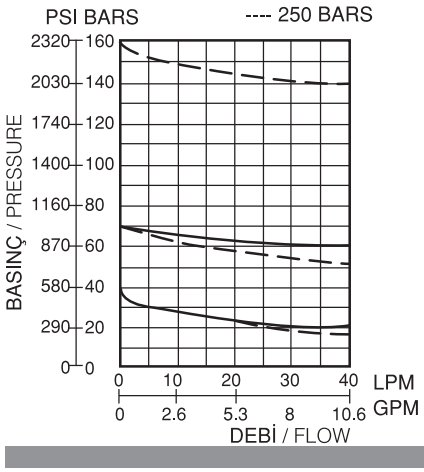
FIRST PRESSURE — 70 BARS
---- 250 BARS



BASINÇ - AKIŞ İLİŞKİSİ
PRESSURE RELATED TO FLOW

MPR - 02A(B) - 2

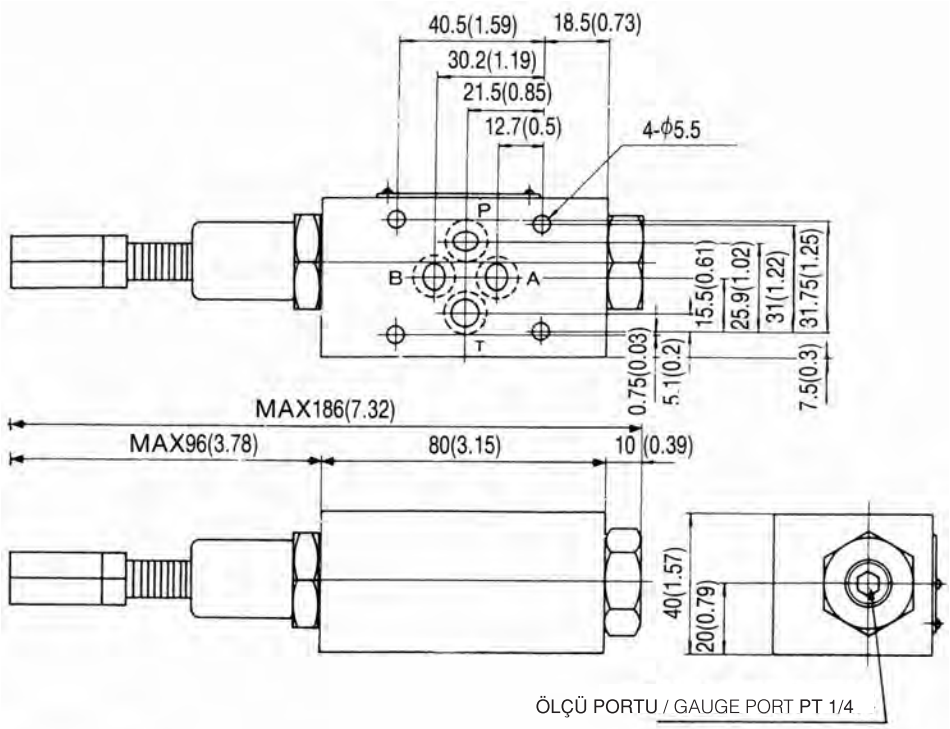
FIRST PRESSURE — 160 BARS
---- 250 BARS



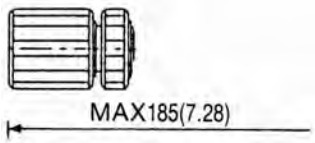
MPR - 02

ÖLÇÜLER / DIMENSIONS

BİRİM / UNIT: MM (INCH)
AĞIRLIK / WEIGHT: 1.3 KGS



TOPUZ İLE / WITH KNOB



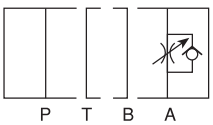
MODÜLER ÇEKLİ HIZ AYAR VALFLERİ
MODULAR THROTTLE AND CHECK VALVES
MTC - 02

TEKNİK ÖZELLİKLER / TECNICAL DATA

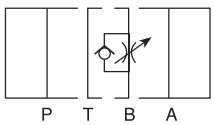
MAKSİMUM ÇALIŞMA BASINCI
MAX. OPERATING PRESSURE:
250 KGF/CM2 (3600 PSI)

MAKSİMUM DEBİ / MAX. FLOW:
40 LPM (10.6 GPM)

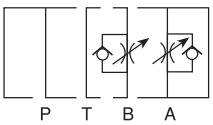
SEMBOLLER / SYMBOLS



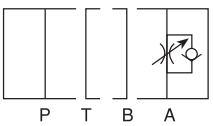
MTC - 02A



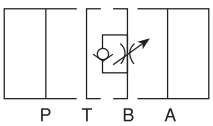
MTC - 02B



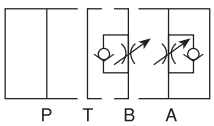
MTC - 02W



MTC - 02A-I



MTC - 02B-I



MTC - 02W-I

DÜŞÜNCELER / REMARKS

* ÇEKVALF AÇMA BASINCI 0.8 BAD'DIR.
* DEBİYE AYARLARKEN, DEBİYİ AZALTMAK İÇİN SAAT YÖNÜNDE, ARTTIRMAK İÇİN SAAT YÖNÜNÜN TERSİNİ ÇEVİRİNİZ
* AKIŞKAN TAMAMEN KESİLEMEZ, KÜÇÜK BİR MİKTAR GEÇECEKTİR.

* CRAKING PRESSURE OF CHECK VALVE IS 0.8 BARS.
* WHEN ADJUST FLOW, USE CLOCKWISE TURN TO DECREASE THE FLOW AND USE COUNTER CLOCKWISE TURN TO INCREASE THE FLOW.
* FLOW CANNOT BE ABSOLUTELY OBSTRUCTED, SOME SMALL VOLUME WILL PASS THROUGH.

SİPARİŞ KODU / ORDERING CODE

MTC -- 02 -- W -- K -- I -- 50

DİZAYN NUMARASI / DESIGN NUMBER

I: SAYAÇ VAR / METER IN
KOD YOKSA: SAYAÇ YOK / NO CODE: METER OUT

BASINÇ AYARLAYICI KOL TİPİ / ADJUSTING ARM TYPE:
K: TOPUZ İLE / WITH HAND KNOB
KOD YOKSA: TOPUZSUZ / NO CODE: WITHOUT HAND KNOB

İŞ YAPACAK DELİKLER / FUNCTION PORT
A: A DELİĞİ / A PORT
B: B DELİĞİ / B PORT
W: A ve B DELİKLERİ / A&B PORTS

DELİK NUMARASI / PORT SIZE:
02: 1/4"

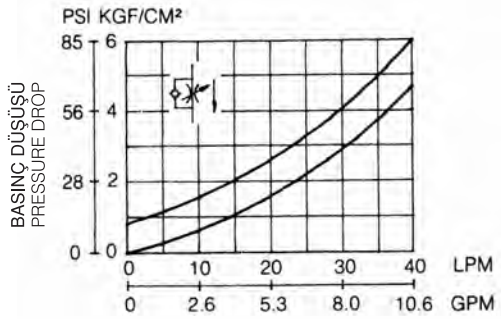
MODÜLER ÇEKLİ HIZ AYAR VALFLERİ
THROTTLE AND CHECK VALVES

MTC - 02 SERİLERİ / MTC - 02 SERIES

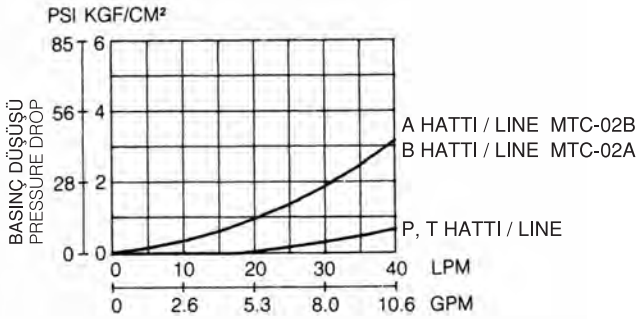
ÇALIŞMA EĞRİLERİ / PERFORMANCE CURVES

YAĞ ÇALIŞMA ÖLÇÜSÜ / MEASURED AT V= 35 CST AND T= 50°C

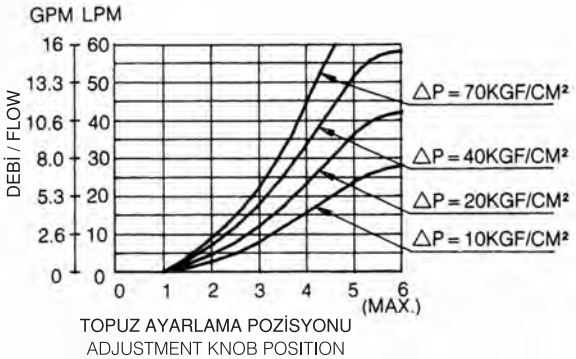
SERBEST AKIŞ İÇİN BASINÇ DÜŞÜŞÜ
PRESSURE DROP FOR FREE FLOW



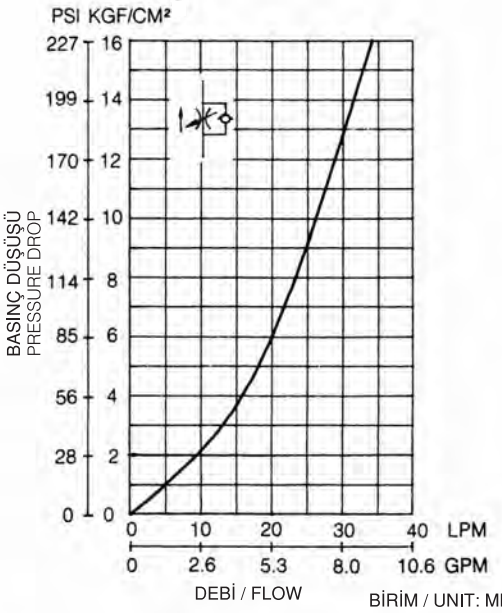
BASINÇ DÜŞÜŞÜ
PRESSURE DROP



DEBİ SAYACI VB. DURUM ÇİZELGESİ
METERED FLOW VS. DIAL POSITION



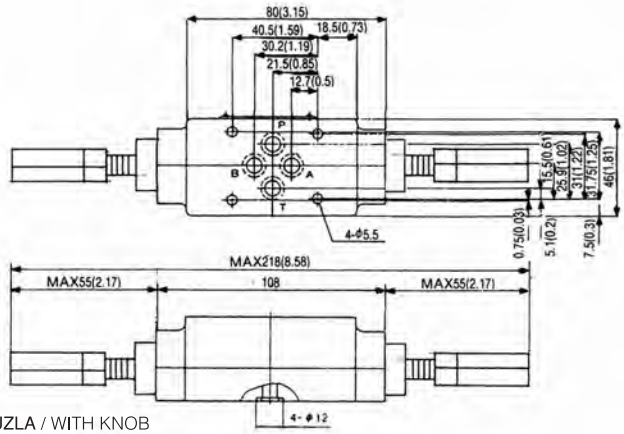
KISMA VALFİ TAM OLARAK AÇIKKEN
BASINÇ DÜŞÜŞÜ
PRESSURE DROP AT
THROTTLE FULLY OPENED



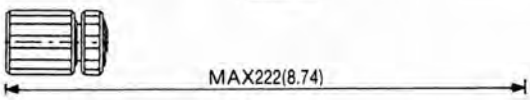
BİRİM / UNIT: MM(INCH)

ÖLÇÜLER / DIMENSIONS

MTC - 02W



TOPUZLA / WITH KNOB



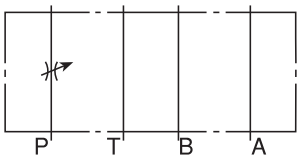
MODÜLER KISMA VALFLERİ
MODULAR THROTTLE VALVES
MT - 02

TEKNİK ÖZELLİKLER / TECNICAL DATA

MAKSİMUM ÇALIŞMA BASINCI
MAX. OPERATING PRESSURE:
250 KGF/CM2 (3600 PSI)

MAKSİMUM DEBİ / MAX. FLOW:
40 LPM (10.6 GPM)

SEMBOLLER / SYMBOLS



DÜŞÜNCELER / REMARKS

* AKIŞ AYARLANIRKEN, AKIŞI AZALTMAK İÇİN SAAT YÖNÜNDE, ARTTIRMAK İÇİN SAAT YÖNÜNÜN TERSİNE ÇEVİRİNİZ.
* WHEN ADJUST FLOW, USE CLOCKWISE TURN TO DECREASE THE FLOW AND USE COUNTER CLOCKWISE TURN TO INCREASE THE FLOW.

SİPARİŞ KODU / ORDERING CODE

MT -- 02 -- P -- 50

DİZAYN NUMARASI / DESIGN NUMBER

İŞ YAPACAK DELİKLER / FUNCTION PORT
P: P DELİĞİ / P PORT
T: T DELİĞİ / T PORT

DELİK ÖLÇÜSÜ / PORT SIZE
02: 1/4”

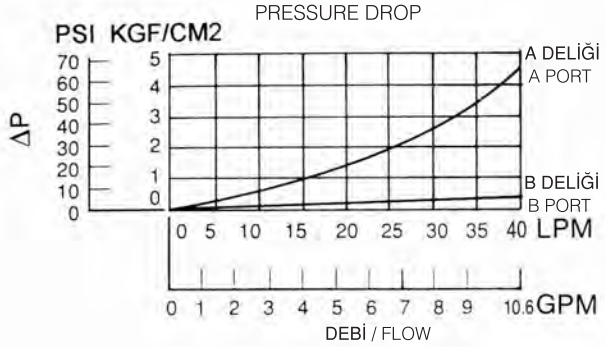
KISMA VALFLERİ
THROTTLE VALVES

MT-02 SERİLERİ / MT-02 SERIES

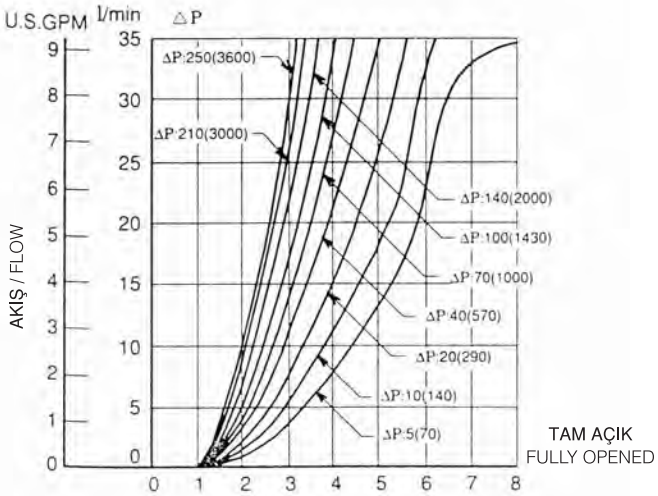
ÇALIŞMA EĞRİLERİ / PERFORMANCE CURVES

MT - 02 P/T

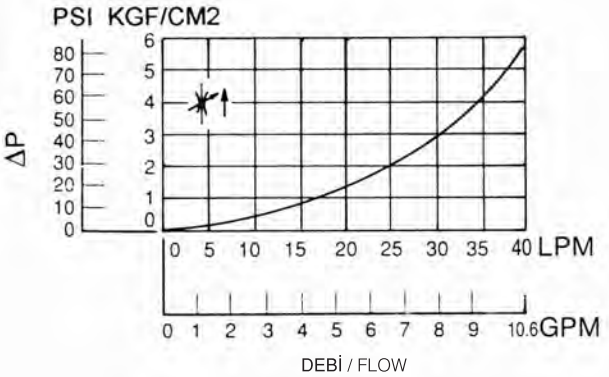
BASINÇ DÜŞÜŞÜ
PRESSURE DROP



YAĞ ÇALIŞMA ÖLÇÜSÜ / MEASURED AT V= 35 CST AND T= 50°C



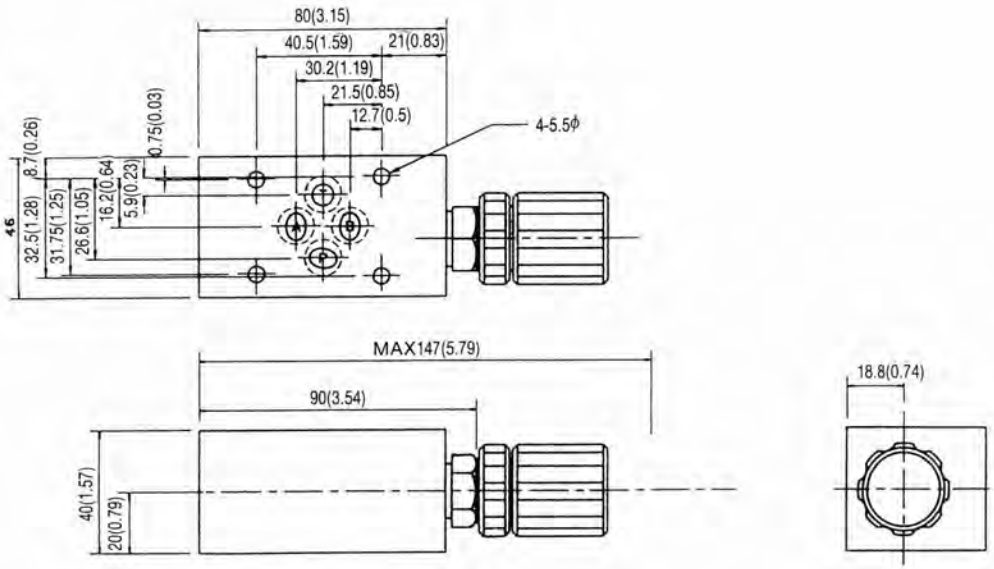
KISMA VALFİ TAM AÇIK DURUMDAYKEN BASINÇ DÜŞÜŞÜ
PRESSURE DROP AT THROTTLE FULLY OPENED



ÖLÇÜLER / DIMENSIONS

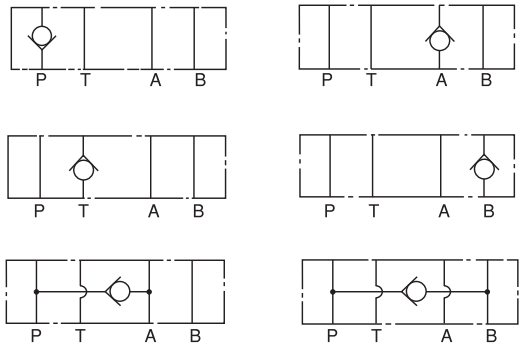
BİRİM / UNIT: MM (INCH)
AĞIRLIK / WEIGHT: 1.1 KGS

MT - 02 P/T



MODÜLER ÇEKVALFLER / MODULAR CHECK VALVES
MC -02

SEMBOLLER / SYMBOLS



TEKNİK BİLGİ / TECHNICAL DATA

MAKSİMUM ÇALIŞMA BASINCI MAX. OPERATING PRESSURE KGF/CM2 (PSI)	MAKSİMUM DEBİ MAXIMUM FLOW LPM (GPM)	AÇMA BASINCI CRACKING PRESSURE KGF/CM2 (PSI)	AĞIRLIK WEIGHT KGS
250 (3600)	40 (10.6)	0.5 (7) & 3.5 (50)	1.15 KGS

SİPARİŞ KODU / ORDERING CODE

MC -- 02 -- P -- 05 -- 50

DİZAYN NUMARASI / DESIGN NUMBER

AÇMA BASINCI / CRACKING PRESSURE:
05: 0.5 KGF/CM2 (7 PSI)
50: 3.5 KGF/CM2 (50 PSI)

İŞ YAPACAK DELİKLER / FUNCTION PORT
P: P DELİĞİ / P PORT
T: T DELİĞİ / T PORT
A: A DELİĞİ / A PORT
B: B DELİĞİ / B PORT
PA: A ->P
PB: B ->P

DELİK ÖLÇÜSÜ / PORT SIZE
02: 1/4”

ÇEK VALFLER
CHECK VALVES

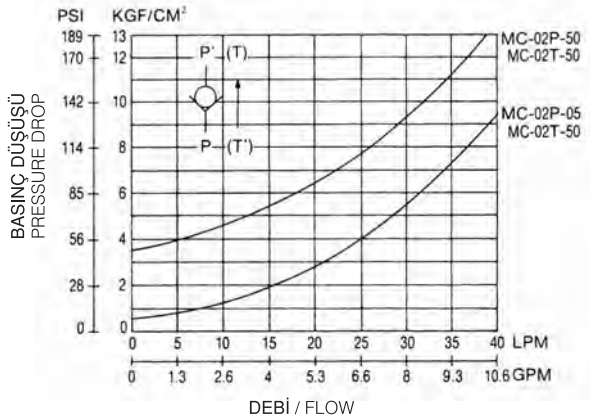
MC -02 SERİLERİ / MC - 02 SERIES

ÇALIŞMA EĞRİLERİ / PERFORMANCE CURVES

YAĞ ÇALIŞMA ÖLÇÜSÜ / MEASURED AT V= 35 CST AND T= 50°C

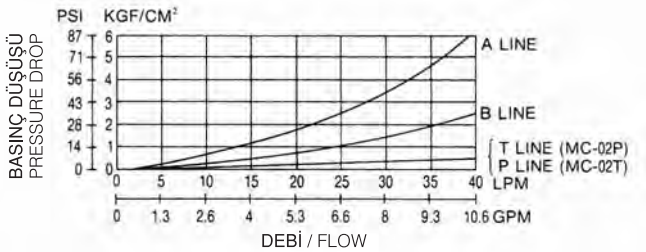
MC - 02 P, T, A & B

SERBEST AKIŞTA BASINÇ DÜŞÜŞÜ
PRESSURE DROP FOR FREE FLOW



MC - 02 PA & PB

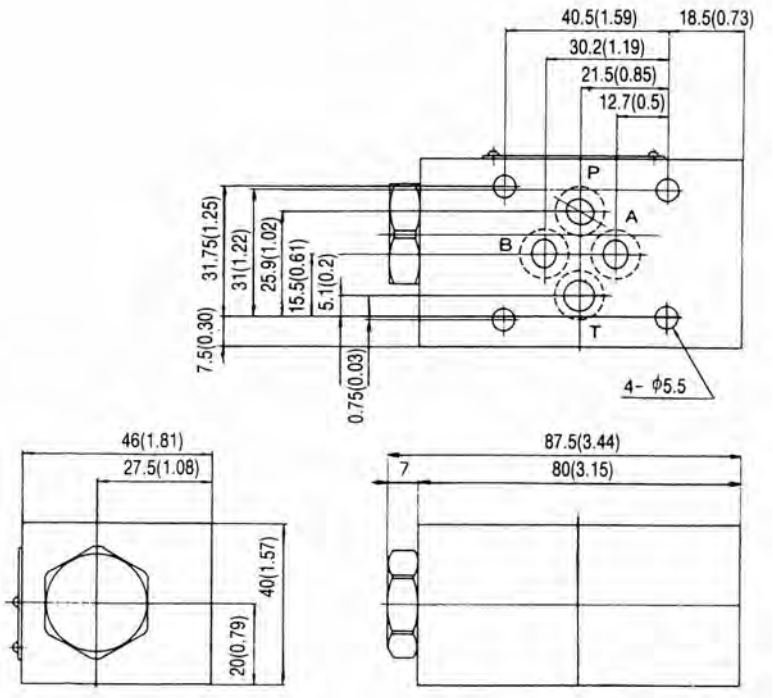
BASINÇ DÜŞÜŞÜ
PRESSURE DROP



ÖLÇÜLER / DIMENSIONS

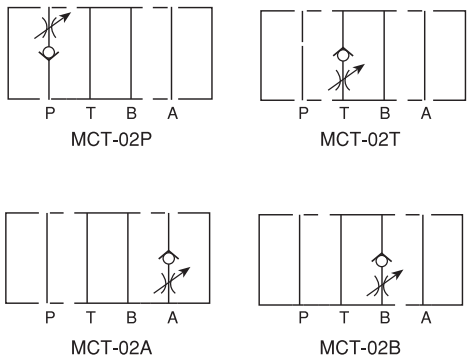
BİRİM / UNIT: MM(INCH)
AĞIRLIK / WEIGHT : 1.15 KGS

MC - 02P



MODÜLER ÇEK VALF VE KISMA VALFLERİ
MODULAR CHECK AND THROTTLE VALVES
MCT - 02

SEMBOLLER / SYMBOLS



TEKNİK BİLGİ / TECHNICAL DATA

MAKSİMUM ÇALIŞMA BASINCI MAX. OPERATING PRESSURE KGF/CM2 (PSI)	MAKSİMUM DEBİ MAXİMUM FLOW LPM (GPM)	AÇMA BASINCI CRACKING PRESSURE KGF/CM2 (PSI)	AĞIRLIK WEIGHT KGS
250 (3600)	40 (10.6)	0.5 (7) & 3.5 (50)	1.15 KGS

DÜŞÜNCELER / REMARKS

* DEBİYİ AYARLARKEN, DEBİYİ AZALTMAK İÇİN SAAT YÖNÜNDE, ARTTIRMAK İÇİN SAAT YÖNÜNÜN TERSİNDE ÇEVİRİNİZ.
* WHEN ADJUST THE FLOW, USE CLOCKWISE TURN TO DECREASE THE FLOW AND USE COUNTER CLOCKWISE TURN TO INCREASE THE FLOW.

SİPARİŞ KODU / ORDERING CODE

MCT -- 02 -- P -- 05 -- 50

DİZAYN NUMARASI / DESIGN NUMBER

AÇMA BASINCI / CRACKING PRESSURE:
05: 0.5 KGF/CM2 (7 PSI)
50: 3.5 KGF/CM2 (50 PSI)

İŞ YAPACAK DELİKLER / FUNCTION PORT
P: P DELİĞİ / P PORT
T: T DELİĞİ / T PORT
A: A DELİĞİ / A PORT
B: B DELİĞİ / B PORT

DELİK ÖLÇÜSÜ / PORT SIZE
02: 1/4”

ÇEK VE HIZ AYAR VALFLERİ
CHECK AND THROTTLE VALVES

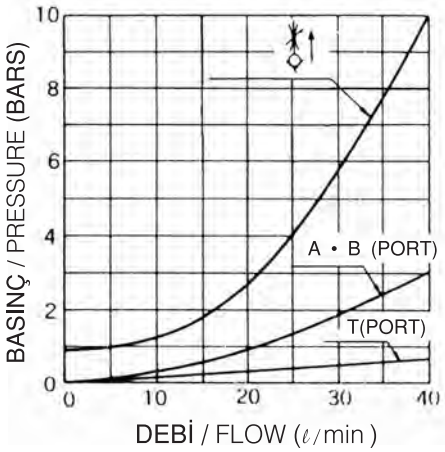
MCT - 02 SERİLERİ / MCT - 02 SERIES

ÇALIŞMA EĞRİLERİ / PERFORMANCE CURVES

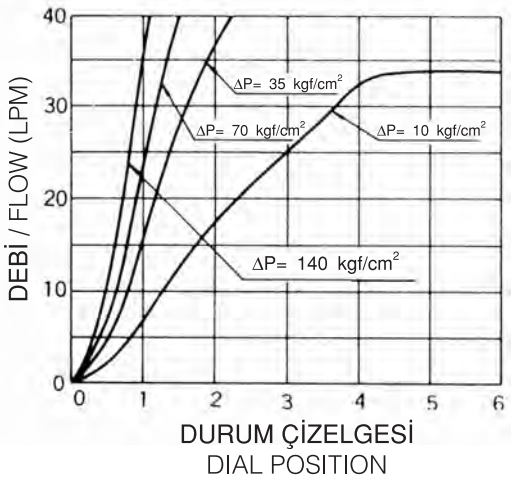
YAĞ ÇALIŞMA ÖLÇÜSÜ V= 35 CST ve T= 50 °C
MEASURED AT V= 35 CST AND T= 50 °C

MCT

HIZ AYAR VALFİ TAM AÇIKKEN BASINÇ DÜŞÜMÜ
PRESSURE DROP AT THROTTLE FULLY OPENED



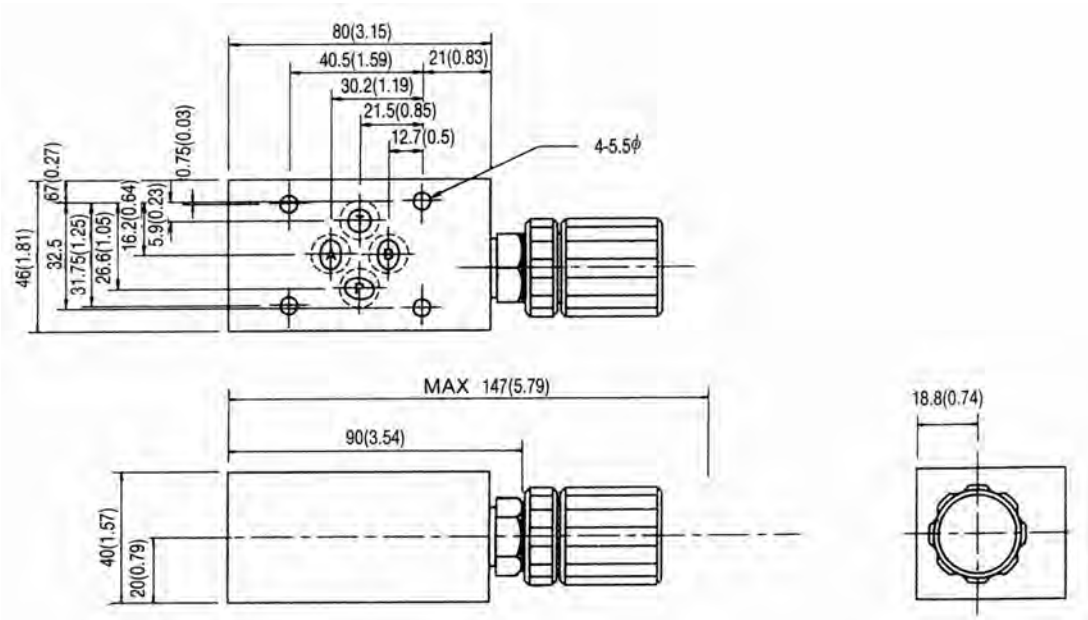
DEBİ SAYACI VS. DURUM ÇİZELGESİ
METRED FLOW V.S. DIAL POSITION



ÖLÇÜLER / DIMENSIONS

MCT-02P

BİRİM / UNIT: MM(INCH)



MODÜLER İKİZ KİLİTLEME VALFLERİ
MODULAR PILOT CHECK VALVES
MPC - 02

TEKNİK ÖZELLİKLER / TECNICAL DATA

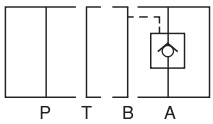
MAKSİMUM ÇALIŞMA BASINCI
MAX. OPERATING PRESSURE:
250 KGF/CM2 (3600 PSI)

MAKSİMUM DEBİ / MAX. FLOW:
40 LPM (10.6 GPM)

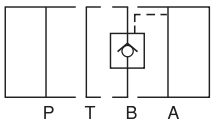
AÇMA BASINCI / CRACKING PERSSURE:
5 KGS (70PSI)

AĞIRLIK / WEIGHT:
1.3 KGS

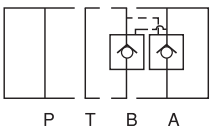
SEMBOLLER / SYMBOLS



MPC-02A



MPC-02B



MPC-02W

SİPARİŞ KODU / ORDERING CODE

MPC -- 02 -- A -- 50

DİZAYN NUMARASI / DESIGN NUMBER

İŞ YAPACAK DELİKLER / FUNCTION PORT
A: A DELİĞİ / A PORT
B: B DELİĞİ / B PORT
W: A ve B DELİKLERİ / A&B PORTS

DELİK ÖLÇÜSÜ / PORT SIZE
02: 1/4”

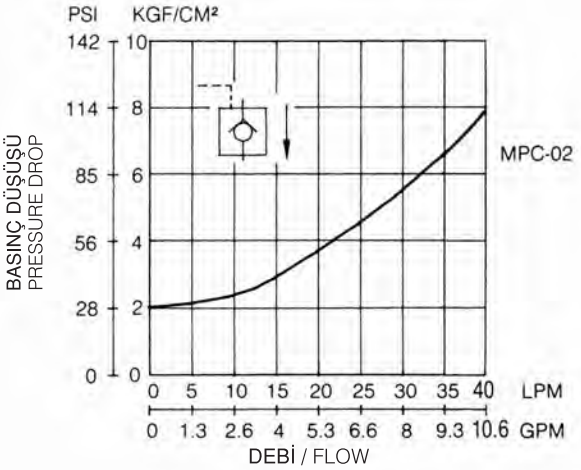
PİLOT KUMANDALI ÇEK VALFLER
PILOT CHECK VALVES

MPC - 02 SERİLERİ / MPC -02 SERIES

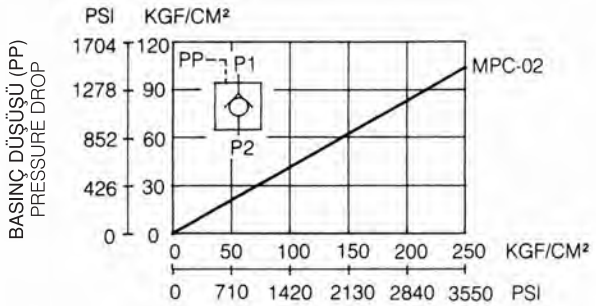
ÇALIŞMA EĞRİLERİ / PERFORMANCE CURVES

YAĞ ÇALIŞMA ÖLÇÜSÜ V= 35 CST VE T= 50°C
MIN. PILOT PRESSURE V= 35 CST VE T= 50°C

SERBEST AKIŞ İÇİN BASINÇ DÜŞÜŞÜ
PRESSURE DROP FOR FREE FLOW

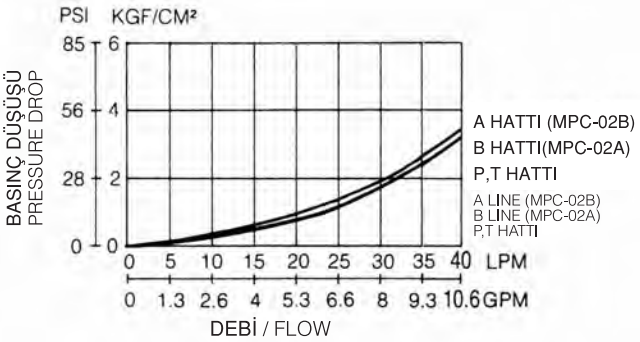


MİNİMUM PİLOT BASINCI
MIN. PILOT PRESSURE

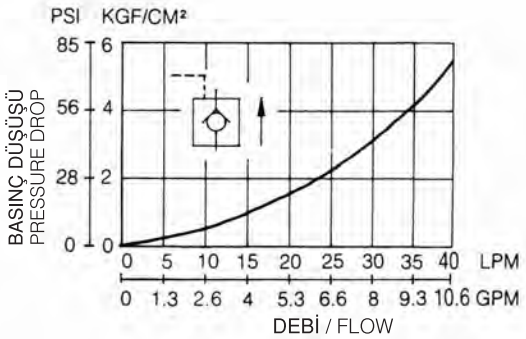


TERS KONTROLLÜ AKIŞ İÇİN
GİRİŞ BASINÇ DÜŞÜMÜ (P2)
INLET PRESSURE DROP (P2)
FOR RESERVED CONTROLLED FLOW

BASINÇ DÜŞÜŞÜ
PRESSURE DROP

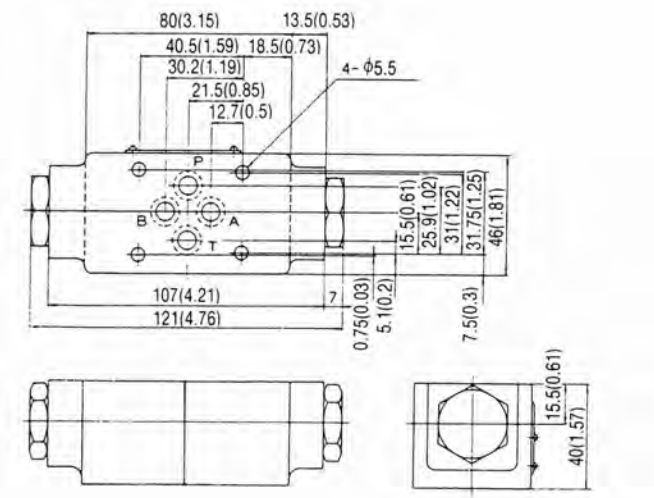


TERS AKIŞ KONTROLÜNDE
BASINÇ DÜŞÜMÜ
PRESSURE DROP FOR RESERVE CONTROLLED FLOW.



ÖLÇÜLER / DIMENSIONS

BİRİM / UNIT: MM(INCH)



MODÜLER BASINÇ SIRALAMA VALFLERİ
MODULAR SEQUENCE VALVES
MS - 02

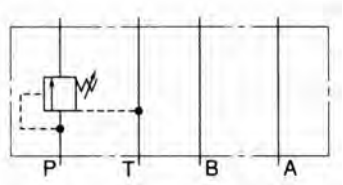
TEKNİK ÖZELLİKLER / TECNICAL DATA

MAKSİMUM ÇALIŞMA BASINCI
MAX. OPERATING PRESSURE:
250 KGF/CM2 (3600 PSI)

MAKSİMUM DEBİ / MAX. FLOW:
40 LPM (10.6 GPM)

AĞIRLIK / WEIGHT:
1.25 KGS

SEMBOLLER / SYMBOLS



SİPARİŞ KODU / ORDERING CODE

MS -- 02 -- P -- K -- 1 -- 50

DİZAYN NUMARASI / DESIGN NUMBER

BASINÇ AYAR ARALIKLARI / PRESSURE ADJUSTING RANGE
1: 8-70 KGF/CM2 (120-1000 PSI)
2: 35-140 KGF/CM2 (500-2000 PSI)
3: 70-210 KGF/CM2 (1000-3000)

BASINÇ AYARLAYICI KOL TİPİ / ADJUSTING ARM TYPE:
K: EL TOPUZLU İLE / WITH HAND KNOB
KOD YOKSA - ALLEN AYARLI / NO CODE- WITHOUT HAND KNOB:

İŞ YAPACAK DELİKLER / FUNCTION PORT
P: P DELİĞİ / P PORT

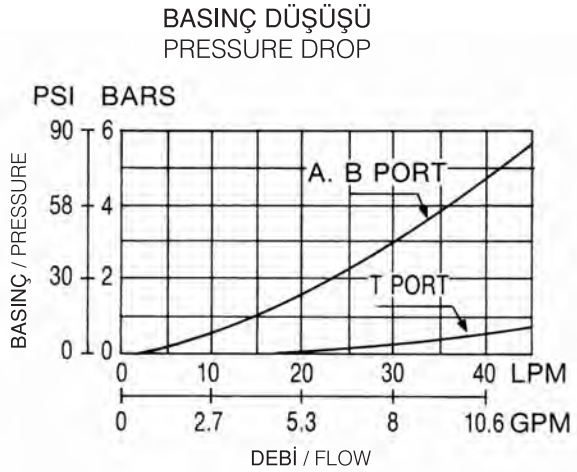
DELİK ÖLÇÜSÜ / PORT SIZE
02: 1/4”

MS - 02 SERİLERİ / MS - 02 SERIES

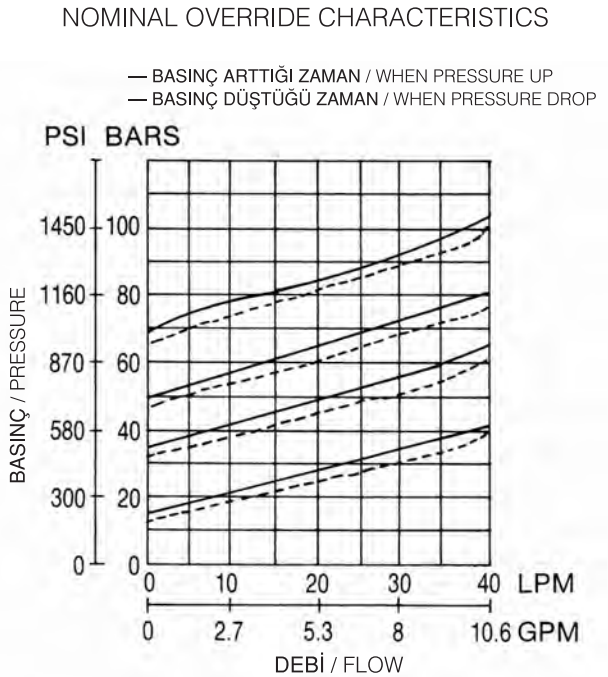
ÇALIŞMA EĞRİLERİ / PERFORMANCE CURVES

YAĞ ÇALIŞMA ÖLÇÜSÜ V= 35 CST VE T= 50°C
MEASURAD AT V= 35 CST VE T= 50°C

MS - 02P



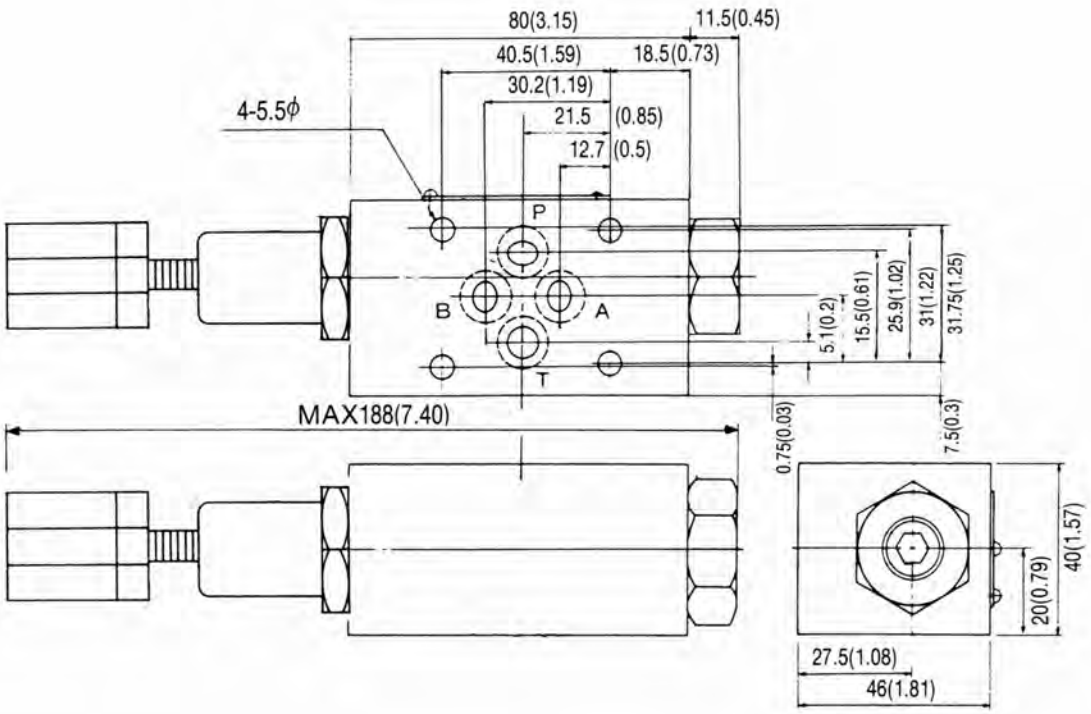
MS - 02P - 1



ÖLÇÜLER / DIMENSIONS

MS - 02P

BİRİM / UNIT: MM(INCH)



MODÜLER YÜK TUTMA VALFİ / MODULAR COUNTER BALANCE VALVES
MSC - 02

TEKNİK ÖZELLİKLER / TECNICAL DATA

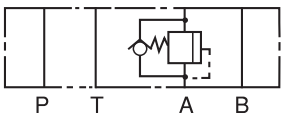
MAKSİMUM ÇALIŞMA BASINCI
MAX. OPERATING PRESSURE:
250 KGF/CM2 (3600 PSI)

MAKSİMUM DEBİ / MAX. FLOW:
40 LPM (10.6 GPM)

AĞIRLIK / WEIGHT:
1.3 KGS

SEMBOLLER / SYMBOLS

MSC - 02A



MSC - 02B

SİPARİŞ KODU / ORDERING CODE

MSC -- 02 -- A -- K -- 1 -- 50

DİZAYN NUMARASI / DESIGN NUMBER

BASINÇ AYAR ARALIKLARI / PRESSURE ADJUSTING RANGE
1: 8-70 KGF/CM2 (120-1000 PSI)
2: 35-140 KGF/CM2 (500-2000 PSI)

BASINÇ AYARLAYICI KOL TİPİ / ADJUSTING ARM TYPE:
K: EL TOPUZLU İLE / WITH HAND KNOB
KOD YOKSA - ALLEN AYARLI / NO CODE - WITHOUT HAND KNOB:

İŞ YAPACAK DELİKLER / FUNCTION PORT
A: A DELİĞİ / A PORT
B: B DELİĞİ / B PORT

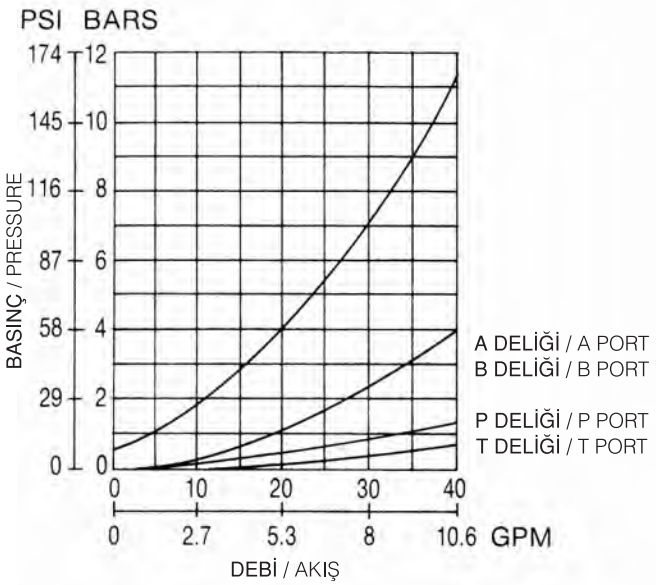
DELİK ÖLÇÜSÜ / PORT SIZE
02: 1/4”

MSC - 02 SERİLERİ / MSC - 02 SERIES

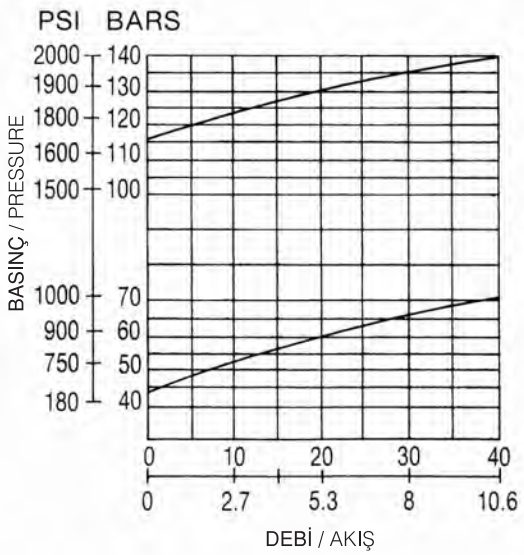
ÇALIŞMA EĞRİLERİ / PERFORMANCE CURVES

YAĞ ÇALIŞMA ÖLÇÜSÜ V= 35 CST VE T= 50°C
MEASURED AT V= 35 CST VE T= 50°C

BASINÇ DÜŞÜŞÜ
PRESSURE DROP

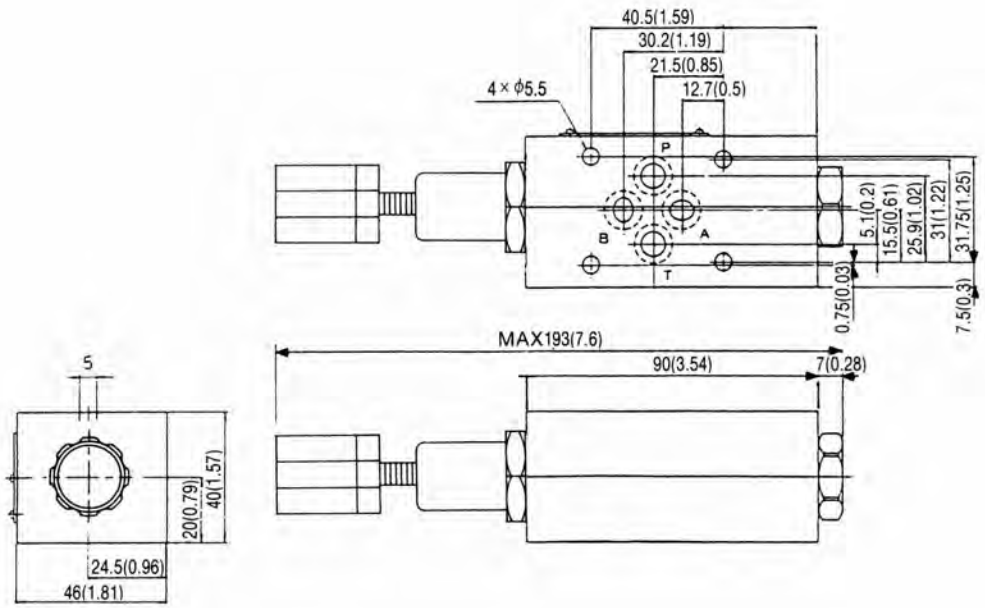


NOMINAL OVERRIDE CHARACTERISTICS



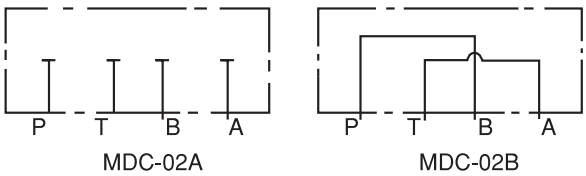
ÖLÇÜLER / DIMENSIONS

BİRİM / UNIT: MM(INCH)
AĞIRLIK / WEIGHT: 1.3 KGS



MODÜLER BLOKLAR / MODULAR BLOCKS
MDC - 02

SEMBOLLER / SYMBOLS



TEKNİK BİLGİ / TECNICAL DATA

MAKSİMUM ÇALIŞMA BASINCI MAX. OPERATING PRESSURE KGF/CM2 (PSI)	MAKSİMUM DEBİ MAX. FLOW LPM/GPM	AĞIRLIK WEIGHT KGS
250 (3600)	40 (10.6)	1.15 KGS

İŞLEVİ / FUNCTION

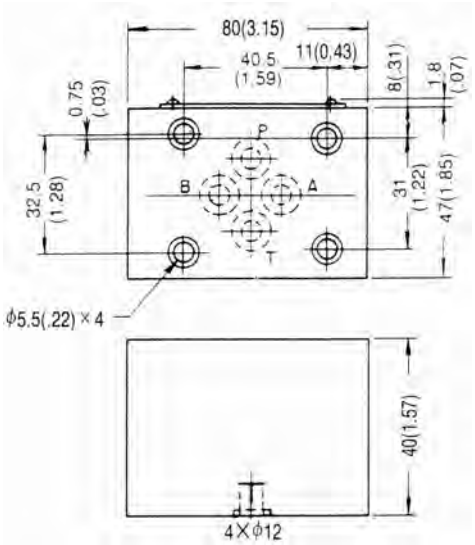
* KÖRLEME PLEYTLERİ, PLEYT MONTAJINA YARDIMCI OLUR VE GEREKSİZ DEVRELERİ KAPATIR.
* BY PASS PLEYTLERİ, SELENOİD YÖN VALFİ GEREKTİRMEYEN TEK YÖNLÜ DEVRELER İÇİN KULLANILIR.
* THE BLOCKING PLATES HELP PLATE - INSTALLATION AND CLOSE USELESS CIRCUIT.
* THE BY - PASS PLATES ARE USED FOR SINGLE DIRECTION CIRCUIT WHICH NEED NO SELENOID CONTROLLED DIRECTIONAL VALVES.

SİPARİŞ KODU / ORDERING CODE

MDC -- 02 -- A -- 50

- 50 → DİZAYN NUMARASI / DESIGN NUMBER
- A → A: KÖRLEME PLEYTLERİ / BLOCKING PLATES
  B: BY - PASS PLEYTLERİ / BY - PASS PLATES
- 02 → DELİK ÖLÇÜSÜ / PORT SIZE
  02. 1/4”

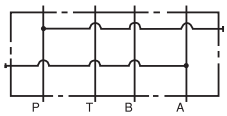
ÖLÇÜLER / DIMENSIONS



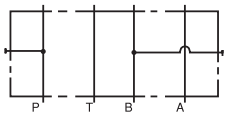
BİRİM / UNITS : MM (INCH)
AĞIRLIK / WEIGHT : 1.15 KGS

MODÜLER BAĞLANTI BLOKLARI/ MODULAR CONNECTING BLOCKS
MGB - 02

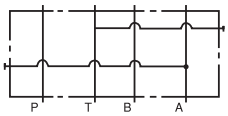
SEMBOLLER / SYMBOLS



MGB-02-PA



MGB-02-PB



MGB-02-AT

TEKNİK BİLGİ / TECNICAL DATA

MAKSİMUM ÇALIŞMA BASINCI MAX. OPERATING PRESSURE KGF/CM2 (PSI)	MAKSİMUM DEBİ MAX. FLOW LPM/GPM	AĞIRLIK WEIGHT KGS
250 (3600)	40 (10.6)	1.1 KGS

İŞLEVİ / FUNCTION

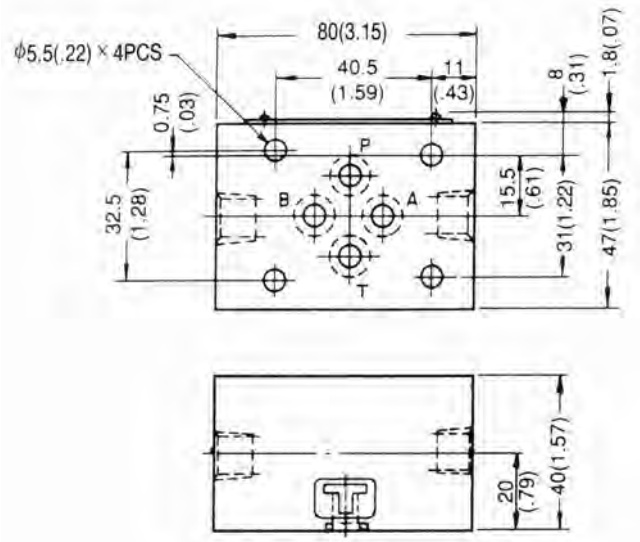
* MODÜLER BAĞLANTI BLOKLARINDA HAT BASINCI MANOMETRE BAĞLANMAK SURETİYLE KONTROL EDİLEBİLİR.
* THE MODULAR CONNECTING BLOCKS ARE USED FOR CHECKING THE PORT PRESSURES, CAN BE CONNECTED WITH PRESSURE GAUGES.

SİPARİŞ KODU / ORDERING CODE

MGB -- 02 -- PA -- 50

- 50 — DİZAYN NUMARASI / DESIGN NUMBER
- PA — İŞ YAPACAK DELİKLER / FONCTION PORT:
  - PA: P,A DELİĞİ / P,A PORT
  - PB: P,B DELİĞİ / P,B PORT
  - AT: A,T DELİĞİ / A,T PORT
- 02 — DELİK ÖLÇÜSÜ / PORT SIZE
  02: 1/4”

ÖLÇÜLER / DIMENSIONS



BİRİM / UNITS : MM (INCH)
AĞIRLIK / WEIGHT : 1.15 KGS

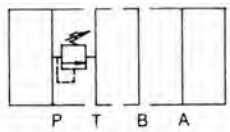
MODÜLER EMNİYET VALFLERİ
MODULAR RELIEF VALVES
MR - 03

TEKNİK ÖZELLİKLER / TECNICAL DATA

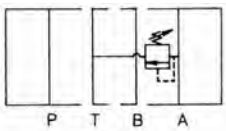
MAKSİMUM ÇALIŞMA BASINCI
MAX. OPERATING PRESSURE:
250 KGF/CM2 (3600 PSI)

MAKSİMUM DEBİ / MAX. FLOW:
70 LPM (18.5 GPM)

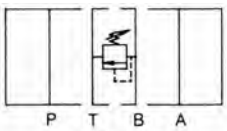
SEMBOLLER / SYMBOLS



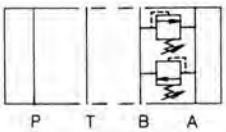
MR-03P



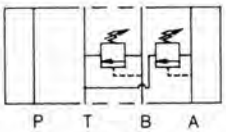
MR-03A



MR-03B



MR-03D



MR-03C

SİPARİŞ KODU / ORDERING CODE

MR -- 03 -- P -- K -- 1 -- 50

DİZAYN NUMARASI / DESIGN NUMBER

BASINÇ AYAR ARALIKLARI / PRESSURE ADJUSTING RANGE
1: 8-70 KGF/CM2 (120-1000 PSI)
2: 35-160 KGF/CM2 (500-2300 PSI)
3: 70-250 KGF/CM2 (1000-3600 PSI)

BASINÇ AYARLAYICI KOL TİPİ / ADJUSTING ARM TYPE:
K: EL TOPUZLU / WITH HAND KNOB
KOD YOKSA - ALLEN AYARLI / NO CODE - WITHOUT HAND KNOB:

İŞ YAPACAK DELİKLER / FUNCTION PORT:
P: P DELİĞİ / P PORT
A: A DELİĞİ / A PORT
B: B DELİĞİ / B PORT
C: A&B DELİKLERİ TANKA AÇIK / A&B PORTS VENTED TO TANK
D: A&B ÇAPRAZ TERS EMNİYETLİ / A&B PORTS CROSS OVER RELİEF

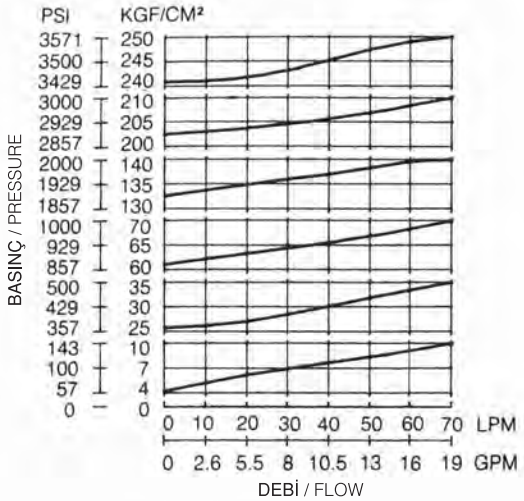
DELİK ÖLÇÜSÜ / PORT SIZE
03: 3/8”

MR - 03 SERİLERİ / MR - 03 SERIES

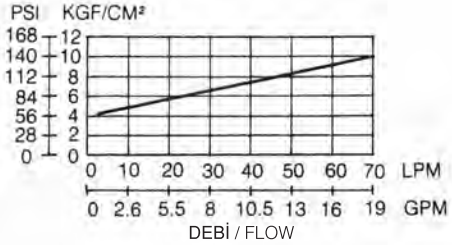
PERFORMANS EĞRİLERİ / PERFORMANCE CURVES

YAĞIN ÇALIŞMA ÖLÇÜSÜ / MEASURED AT V= 35 CST AND T= 50 °C

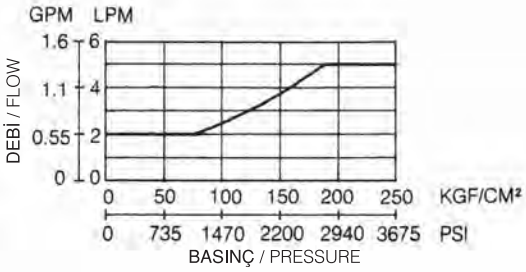
ÖNEMLİ KARAKTERİSTİKLER
NOMINAL OVERRIDE CHARACTERISTICS



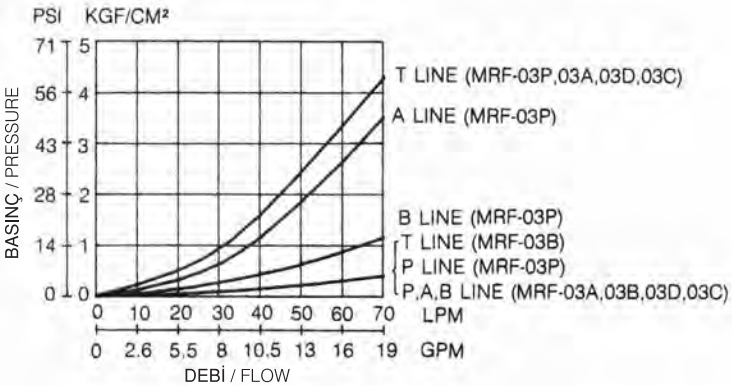
MİNUMUM AYARLANABİLİR BASINÇ
MIN. ADJUSTMENT PRESSURE



MİNUMUM AKIŞ VS. AYARLANABİLİR BASINÇ
MIN. FLOW VS. ADJUSTMENT PRESSURE



BASINÇ DÜŞÜŞÜ
PRESSURE DROP



DÜŞÜNCELER / REMARKS

* TANK HATTININ GERİ BASINCINI MİNİMİZE EDİN, TAVSİYE EDİLEN 2 BAR'DAN AŞAĞI OLMASIDIR.
* EMNİYET VALFİ OLARAK KULLANIMDA, MAKSİMUM ÇALIŞMA BASINCI, BEKLENEN ÇALIŞMA BASINCINDA 10-15 BAR YUKARIYA AYARLANMALIDIR.
* AKIŞI AYARLARKEN, DEBİYİ AZALTMAK İÇİN SAAT YÖNÜNDE, ARTTIRMAK İÇİN SAATİN TERSİ YÖNÜNDE ÇEVİRİN.

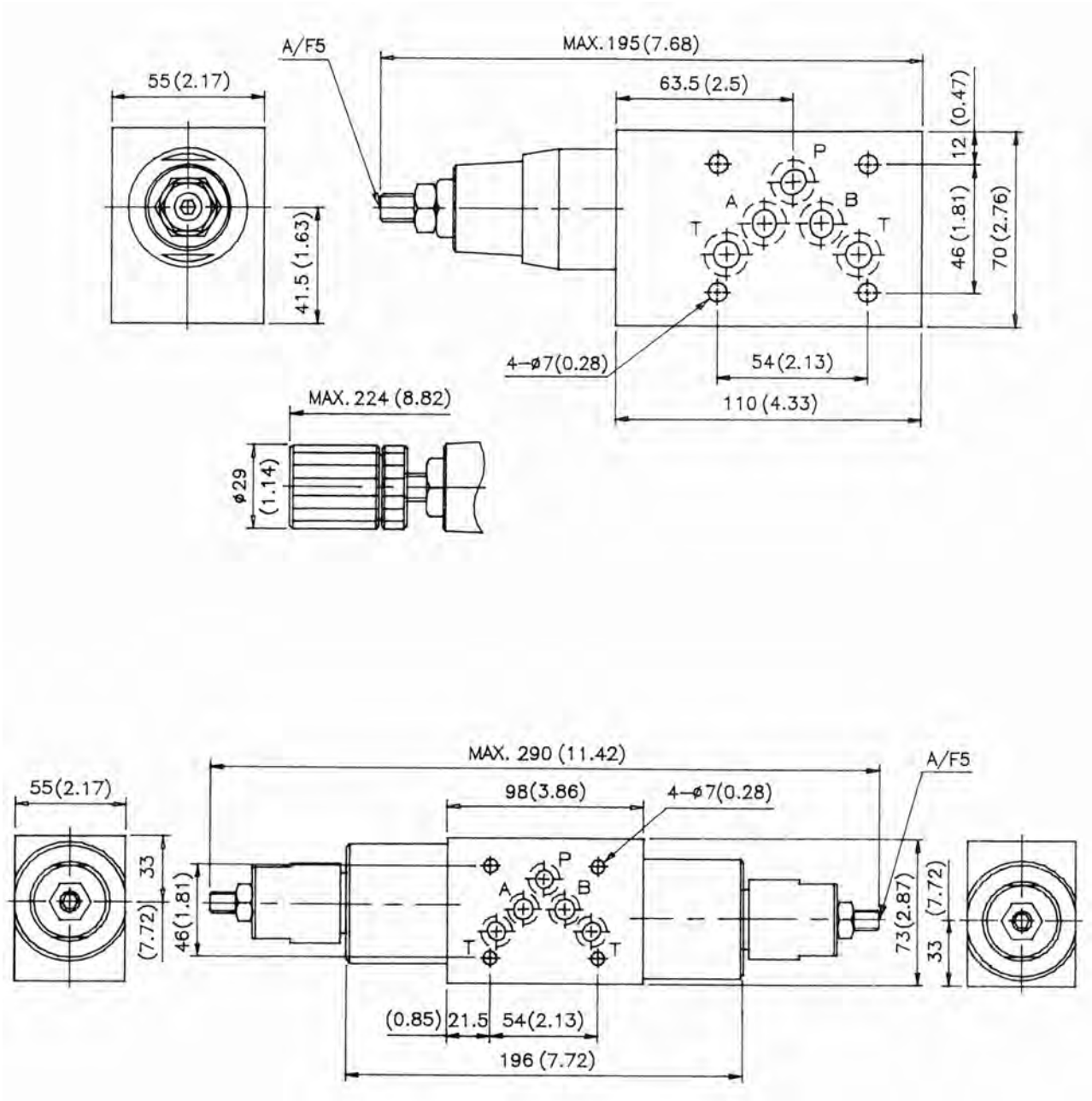
* MINIMIZE THE BACK PRESSURE OF TANK PORT WHEN USE IT, AND RECOMMEND BACK PRESSURE BELOW 2 KGF / CM2.
* TO BE SAFETY VALVE, MAX. OPERATING PRESSURE SHOULD BE SET BY 10-15 KGF/CM2 MORE THAN EXPECTED OPERATING PRESSURE.
* WHEN ADJUST THE FLOW, USE CLOCKWISE TURN TO DECREASE THE FLOW AND USE COUNTER CLOCKWISE TO INCREASE THE FLOW.

MR - 03 SERİLERİ / MR - 03 SERIES

ÖLÇÜLER / **DIMENSIONS**

MR - 03 P/A/B

BİRİM / UNIT: MM (INCH)
AĞIRLIK / WEIGHT: 3.5 KGS



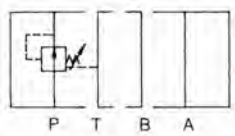
MODÜLER BASINÇ DÜŞÜRÜCÜ VALFLER
MODULAR PRESSURE REDUCING VALVES
MPR - 03

TEKNİK ÖZELLİKLER / TECNICAL DATA

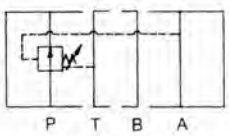
MAKSİMUM ÇALIŞMA BASINCI
MAX. OPERATING PRESSURE:
250 KGF/CM2 (3600 PSI)

MAKSİMUM DEBİ / MAX. FLOW:
70 LPM (10.6 GPM)

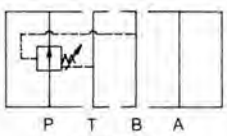
SEMBOLLER / SYMBOLS



MPR-03P



MPR-03A



MPR-03B

DÜŞÜNCELER / REMARKS

* İYİ SONUÇLAR ELDE EDEBİLMEK İÇİN, İLK KISIM ANA DEVRENİN FARK BASINCININ 10 BAR ÜSTÜNDE OLMASINA DİKKAT EDİNİZ.
* AYAR ARALIĞINDA GÖSTERİLEN MİN. AYAR BASINCI LİMİTİNE DİKKAT EDİNİZ.
* DEBİYİ AYARLARKEN, DEBİYİ AZALTMAK İÇİN SAAT YÖNÜNDE, ARTTIRMAK İÇİN TERS YÖNDE ÇEVİRİNİZ.

* TO GET GOOD PRESSURE REDUCING FUNCTION, MAKE SURE DIFFERENTIAL PRESSURE OF FIRST SIDE MAIN CIRCUIT PRESSURE MUST BE ABOVE 10 BARS.
* BE AWARE OF THE MIN. ADJUSTING PRESSURE LIMITED IN ADJUSTING RANGE.
* WHEN ADJUST THE FLOW, USE CLOCKWISE TURN TO DECREASE THE FLOW AND USE COUNTER CLOCKWISE TURN TO INCREASE THE FLOW.

SİPARİŞ KODU / ORDERING CODE

MPR -- 03 -- P -- K -- 1 -- 50

DİZAYN NUMARASI / DESIGN NUMBER

BASINÇ AYAR ARALIKLARI / PRESSURE ADJUSTING RANGE
1: 8-70 KGF/CM2 (120-1000 PSI)
2: 35-160 KGF/CM2 (500-2300 PSI)
3: 70-250 KGF/CM2 (1000-3600 PSI)

BASINÇ AYARLAYICI KOL TİPİ / ADJUSTING ARM TYPE:
K: EL TOPUZLU / WITH HAND KNOB
KOD YOKSA / NO CODE: ALLEN AYARLI / WITHOUT HAND KNOB

İŞ YAPACAK DELİKLER / FUNCTION PORT:
P: P DELİĞİ / P PORT
A: A DELİĞİ / A PORT
B: B DELİĞİ / B PORT

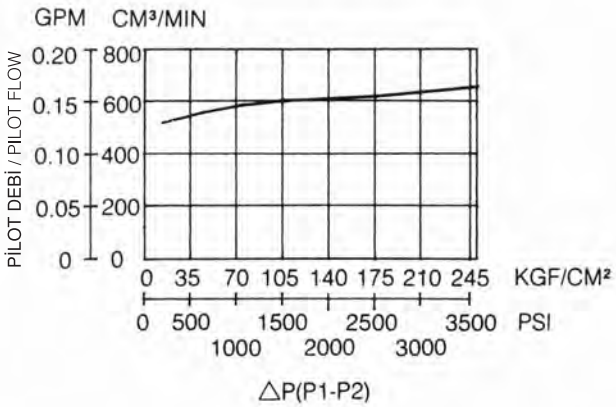
DELİK ÖLÇÜSÜ / PORT SIZE
03: 3/8”

MPR - 03 SERİLERİ / MPR - 03 SERIES

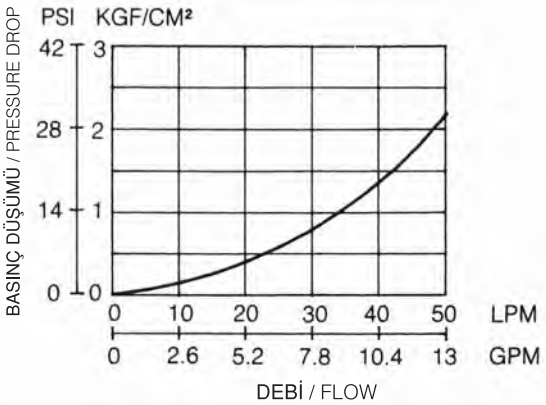
PERFORMANS EĞRİLERİ / PERFORMANCE CURVES

YAĞ ÇALIŞMA ÖLÇÜSÜ / MEASURED AT V= 35 CST AND T= 50 °C

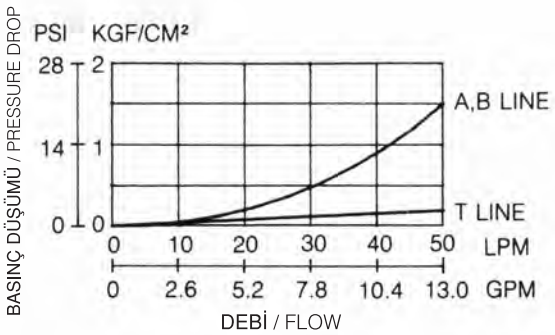
PİLOT AKIŞ GRAFİĞİ / PILOT FLOW CHART



SPUL TAM AÇIKKEN BASINÇ DÜŞÜMÜ (P HATTI)
PRESSURE DROP AT SPOOL FULLY OPENED (P LINE)

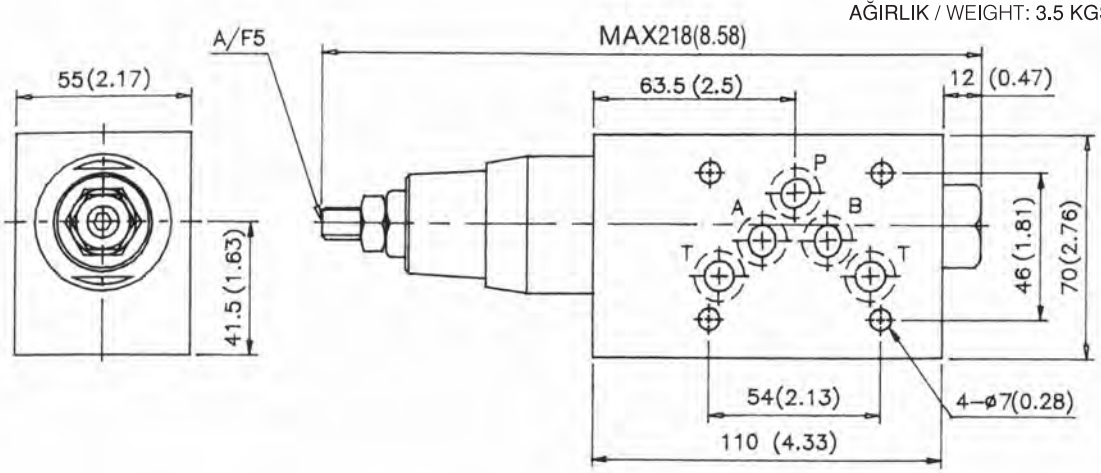


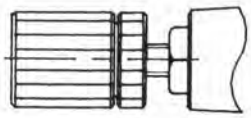
BASINÇ DÜŞÜMÜ
PRESSURE DROP



ÖLÇÜLER / DIMENSIONS

BİRİM / UNIT: MM (INCH)
AĞIRLIK / WEIGHT: 3.5 KGS





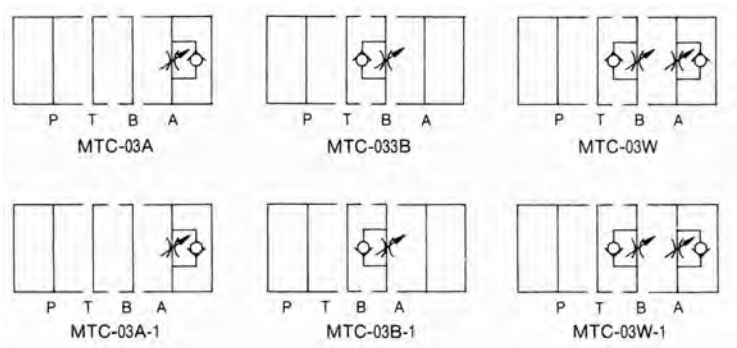
MODÜLER ÇEKLİ HIZ AYAR VALFLERİ
MODULAR THROTTLE AND CHECK VALVES
MTC - 03

TEKNİK ÖZELLİKLER / TECNICAL DATA

MAKSİMUM ÇALIŞMA BASINCI
MAX. OPERATING PRESSURE:
250 KGF/CM2 (3600 PSI)

MAKSİMUM DEBİ / MAX. FLOW:
70 LPM (18.5 GPM)

SEMBOLLER / SYMBOLS



DÜŞÜNCELER / REMARKS

* ÇEKVALF AÇMA BASINCI 0.8 BARDIR.
* DEBİYİ AYARLARKEN, DEBİYİ AZALTMAK İÇİN SAAT YÖNÜNDE, ARTTIRMAK İÇİN TERS YÖNDE ÇEVİRİNİZ.
* AKIŞKAN TAMAMEN KESİLEMEZ, KÜÇÜK BİR MİKTAR GEÇEBİLİR.

* CRACKING PRESSURE OF CHECK VALVE IS 0.8 BARS.
* WHEN ADJUST THE FLOW, USE CLOCKWISE TURN TO DECREASE THE FLOW AND USE COUNTER CLOCKWISE TURN TO INCREASE THE FLOW.
* FLOW CAN NOT BE ABSOLUTELY OBSTRUCTED, SOME SMALL VOLUME WILL PASS THROUGH.

SİPARİŞ KODU / ORDERING CODE

MTC -- 03 -- W -- K -- 1 -- 50

DİZAYN NUMARASI / DESIGN NUMBER

I: SAYAÇ VAR / METER IN
KOD YOKSA / NO CODE: SAYAÇ YOK

BASINÇ AYARLAYICI KOL TİPİ / ADJUSTING ARM TYPE:
K: EL TOPUZLU / WITH HAND KNOB
KOD YOKSA - ALLEN AYARLI / NO CODE - WITHOUT HAND KNOB:

İŞ YAPACAK DELİKLER / FUNCTION PORT:
A: A DELİĞİ / A PORT
B: B DELİĞİ / B PORT
W: A&B DELİKLERİ / A&B PORTS

DELİK ÖLÇÜSÜ / PORT SIZE
03: 3/8”

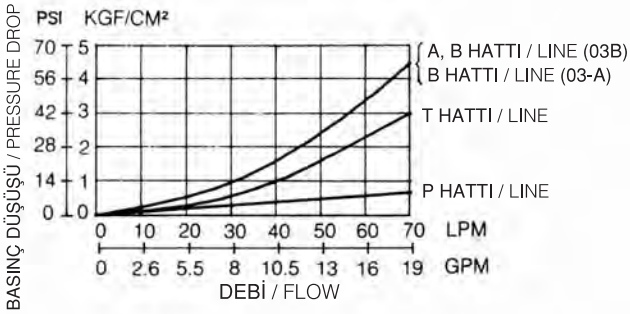
MTC - 03 SERİLERİ / MTC - 03 SERIES

PERFORMANS EĞRİLERİ / PERFORMANCE CURVES

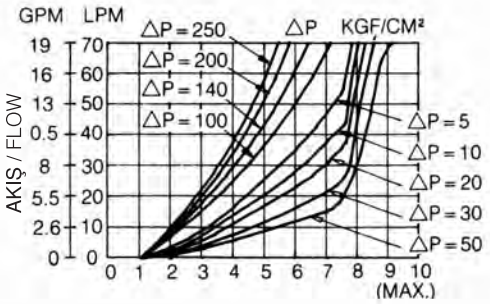
YAĞIN ÇALIŞMA ÖLÇÜSÜ / MEASURED AT V= 35 CST AND T= 50 °C

MTC - 03 A/B/W

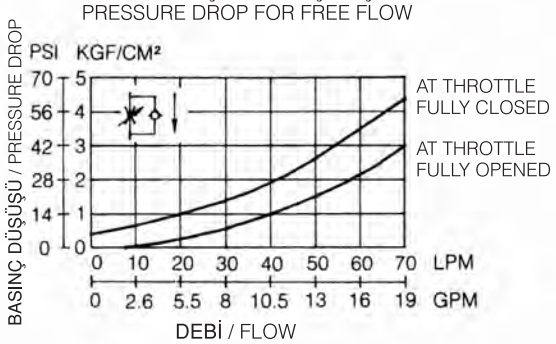
BASINÇ DÜŞÜŞÜ / PRESSURE DROP



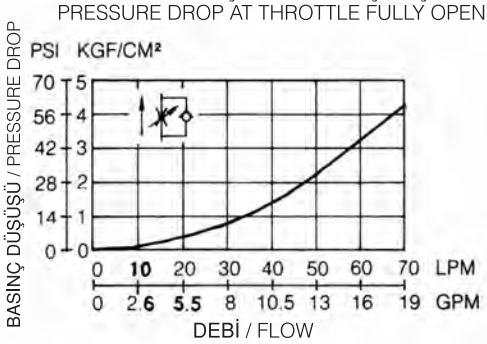
DEBİ SAYACI VS. DURUM ÇİZELGESİ
METERED FLOW VS. DIAL POSITION



SERBEST AKIŞTA BASINÇ DÜŞÜMÜ
PRESSURE DROP FOR FREE FLOW



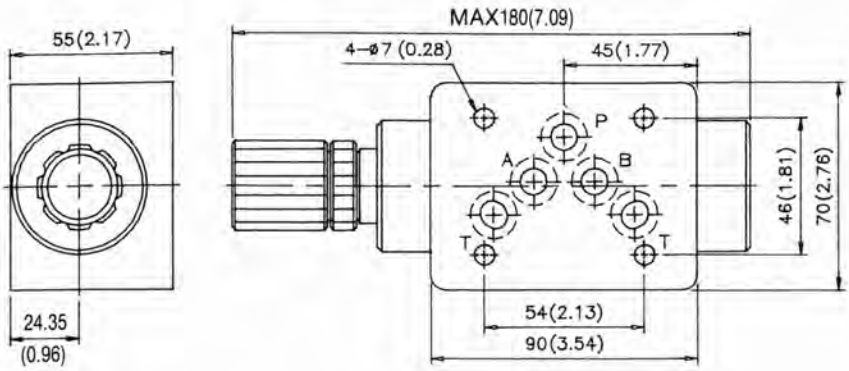
HIZ AYARI TAM AÇIKKEN BASINÇ DÜŞÜMÜ
PRESSURE DROP AT THROTTLE FULLY OPENED



ÖLÇÜLER / DIMENSIONS

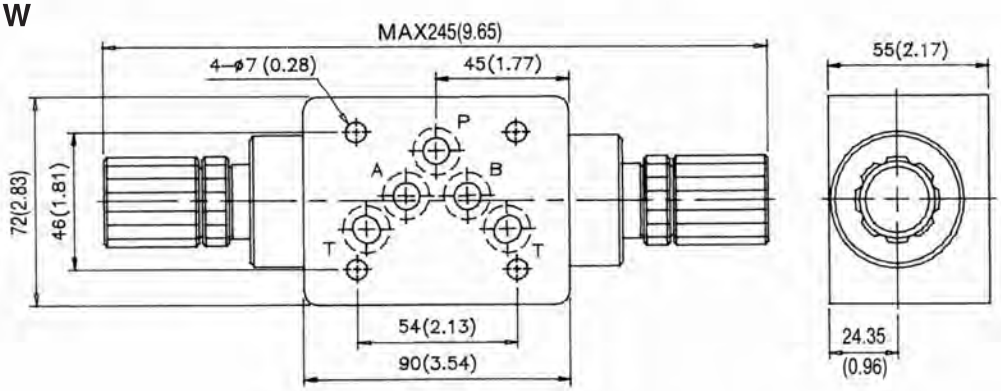
BİRİM / UNIT: MM (INCH)
AĞIRLIK / WEIGHT : 2.8 KGS

MTC -03 A/B



AĞIRLIK / WEIGHT : 2.9 KGS

MTC -03 W



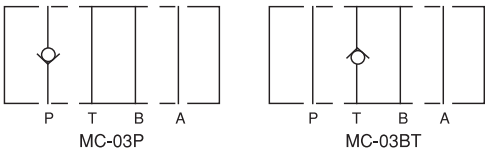
MODÜLER ÇEKVALFLER / MODULAR CHECK VALVES
MC - 03

TEKNİK ÖZELLİKLER / TECNICAL DATA

MAKSİMUM ÇALIŞMA BASINCI
MAX. OPERATING PRESSURE:
250 KGF/CM2 (3600 PSI)

MAKSİMUM DEBİ / MAX. FLOW:
70 LPM (18.5 GPM)

SEMBOLLER / SYMBOLS



SİPARİŞ KODU / ORDERING CODE

MC -- 03 -- P -- 05 -- 50

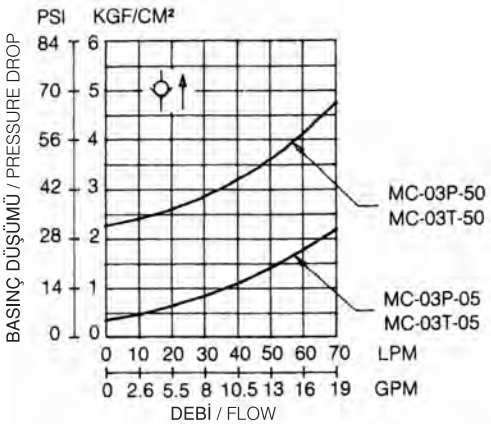
- 50: DİZAYN NUMARASI / DESIGN NUMBER
- 05: AÇMA BASINCI / CRACKING PRESSURE:
  05: 0.5 KGF/CM2 (7 PSI)
  50: 3.5 KGF/CM2 (50 PSI)
- P: İŞ YAPACAK DELİKLER / FUNCTION PORT:
  P: P DELİĞİ / P PORT
  T: T DELİĞİ / T PORT
- 03: DELİK ÖLÇÜSÜ / PORT SIZE
  03: 3/8”

PERFORMANS EĞRİLERİ / PERFORMANCE CURVES

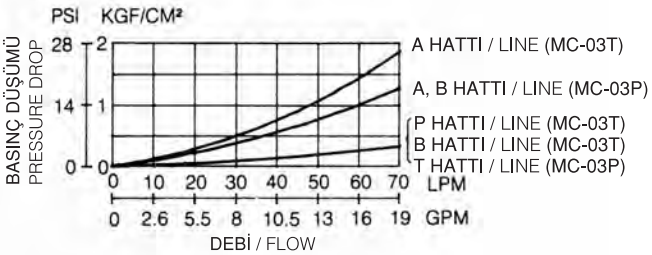
YAĞ ÇALIŞMA ÖLÇÜSÜ / MEASURED AT V= 35 CST AND T= 50 °C

MC - 03 P/T

SERBEST AKIŞ İÇİN BASINÇ DÜŞÜŞÜ
PRESSURE DROP FOR FREE FLOW



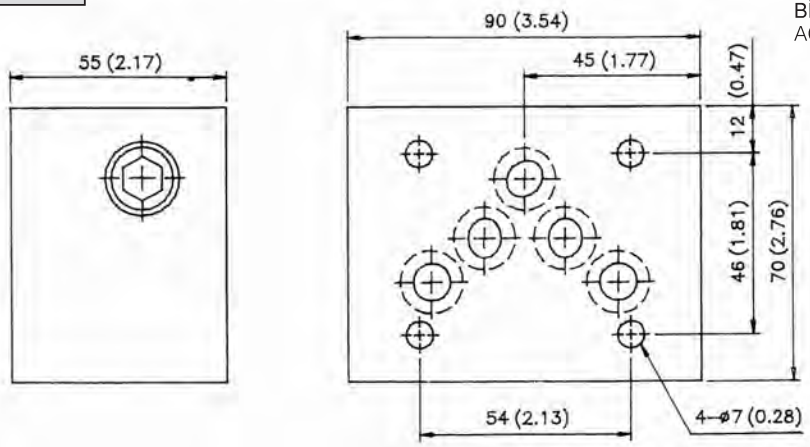
BASINÇ DÜŞÜMÜ
PRESSURE DROP



ÖLÇÜLER / DIMENSIONS

MC - 03 P/T

BİRİM / UNIT: MM (INCH)
AĞIRLIK / WEIGHT : 2.4 KGS



MODÜLER İKİZ KİLİTLEME ÇEKVALFLERİ / MODULAR PILOT CHECK VALVES MPC - 03

TEKNİK ÖZELLİKLER / TECNICAL DATA

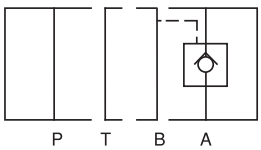
MAKSİMUM ÇALIŞMA BASINCI
MAX. OPERATING PRESSURE:
250 KGF/CM2 (3600 PSI)

MAKSİMUM DEBİ / MAX. FLOW:
70 LPM (18.5 GPM)

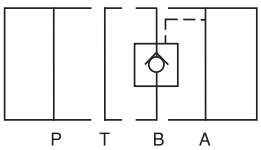
AÇMA BASINCI / CRACKING PRESSURE:
0.5 KGS (PSI) & 3.5 KGS (50 PSI)

AĞIRLIK / WEIGHT:
3.4 KGS

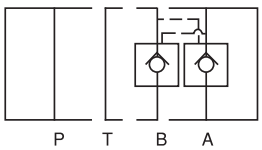
SEMBOLLER / SYMBOLS



MC-03A



MC-03B



MC-03W

SİPARİŞ KODU / ORDERING CODE

MPC -- 03 -- A -- 05 -- 50

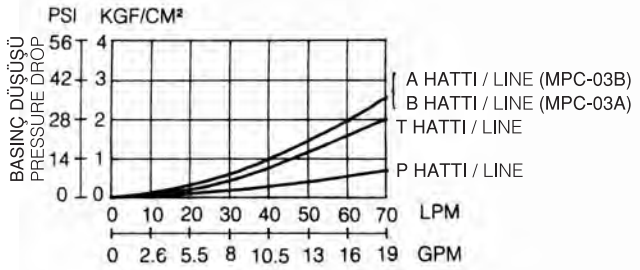
- 50: DİZAYN NUMARASI / DESIGN NUMBER
- 05: AÇMA BASINCI / CRACKING PRESSURE:
  05: 0.5 KGS (7 PSI)
  50: 3.5 KGS (50 PSI)
- A: İŞ YAPACAK DELİKLER / FUNCTION PORT:
  A: A DELİĞİ / A PORT
  B: B DELİĞİ / B PORT
  W: A&B DELİKLERİ / A&B PORTS
- 03: DELİK ÖLÇÜSÜ / PORT SIZE
  03: 3/8”

MPC - 03 SERİLERİ / MPC - 03 SERIES

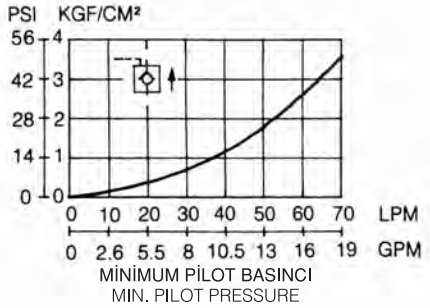
PERFORMANS EĞRİLERİ / PERFORMANCE CURVES

YAĞ ÇALIŞMA ÖLÇÜSÜ / MEASURED AT V= 35 CST AND T= 50 °C

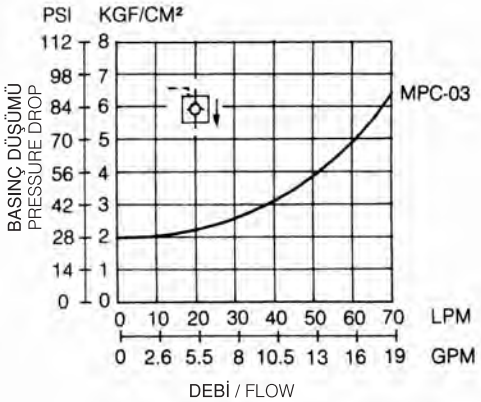
BASINÇ DÜŞÜŞÜ
PRESSURE DROP



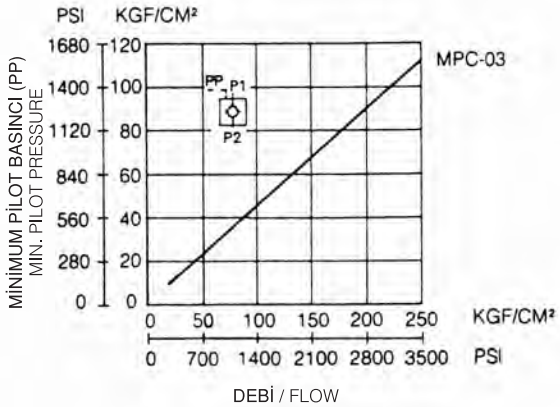
TERS AKIŞ İÇİN BASINÇ DÜŞÜŞÜ
PRESSURE DROP
FOR REVERSED CONTROLLED FLOW



SERBEST AKIŞ İÇİN BASINÇ DÜŞÜŞÜ
PRESSURE DROP FOR FREE FLOW

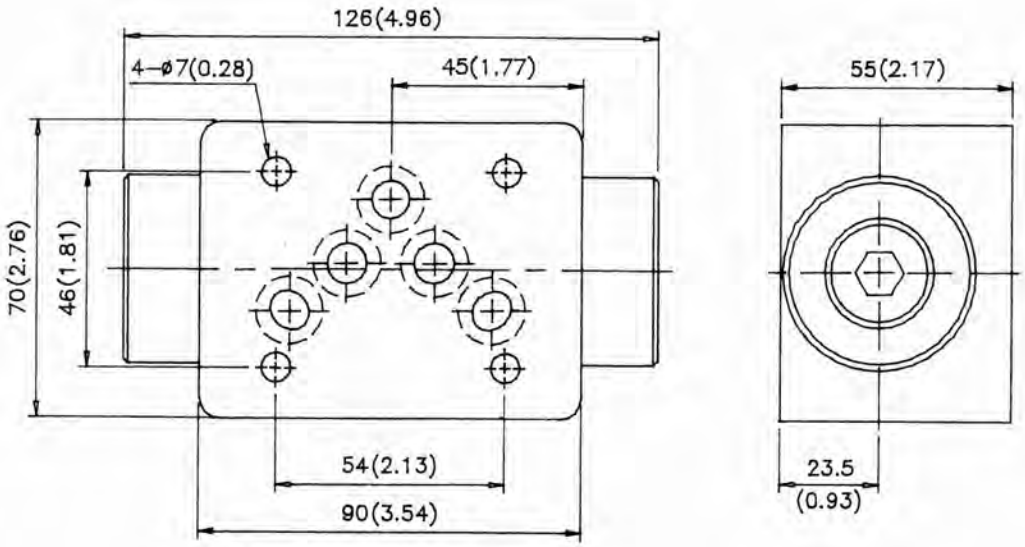


TERS AKIŞ İÇİN GİRİŞ BASINCI
INLET PRESSURE (P2)
FOR REVERSED CONTROLLED FLOW



ÖLÇÜLER / DIMENSIONS

BİRİM / UNIT: MM (INCH)
AĞIRLIK / WEIGHT : 3.4 KGS



MODÜLER KISMA VALFLERİ
MODULAR THROTTLE VALVES
MT - 03

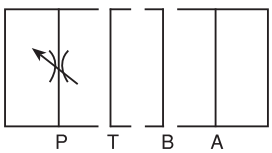
TEKNİK ÖZELLİKLER / TECNICAL DATA

MAKSİMUM ÇALIŞMA BASINCI
MAX. OPERATING PRESSURE:
250 KGF/CM2 (3600 PSI)

MAKSİMUM DEBİ / MAX. FLOW:
70 LPM (18.5 GPM)

SEMBOLLER / SYMBOLS

MT-03T



MT-03P

DÜŞÜNCELER / REMARKS

* DEBİ AYARLANIRKEN, SAAT YÖNÜNDE ÇEVİRİRSENİZ DEBİ AZALIR, SAAT YÖNÜNÜN TERSİNDE ÇEVİRİRSENİZ DEBİ ARTAR.
* AKIŞIN TAM OLARAK ENGELLENMESİ MÜMKÜN DEĞİLDİR. BİR MİKTARDA OLSA AKIŞ OLACAKTIR.
* WHEN ADJUST FLOW, USE CLOCKWISE TURN TO DECREASE THE FLOW AND USE COUNTER CLOCKWISE TURN TO INCREASE THE FLOW.
* FLOW CAN NOT BE ABSOLUTELY OBSTRUCTED, SOME SMALL VOLUME WILL PASS THROUGH.

SİPARİŞ KODU / ORDERING CODE

MT -- 03 -- P -- 50

- 50 — DİZAYN NUMARASI / DESIGN NUMBER
- P — İŞ YAPACAK DELİKLER / FUNCTION PORT:
  P: P DELİĞİ / P PORT
  T: T DELİĞİ / T PORT
- 03 — DELİK ÖLÇÜSÜ / PORT SIZE
  03: 3/8”
- MT — KISMA VALFLERİ / THROTTLE VALVES

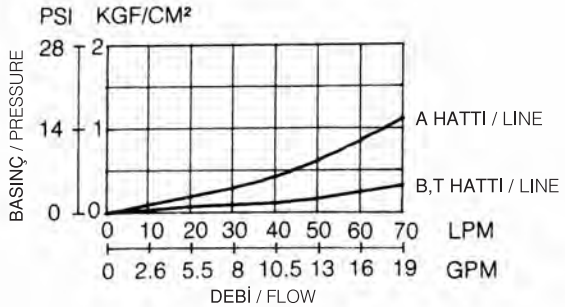
MT -03 SERİLERİ / MT - 03 SERIES

PERFORMANS EĞRİLERİ / PERFORMANCE CURVES

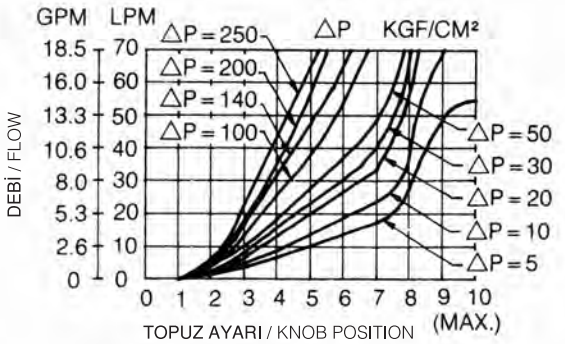
YAĞ ÇALIŞMA ÖLÇÜSÜ / MEASURED AT V= 35 CST AND T= 50 °C

MT -03 P/T

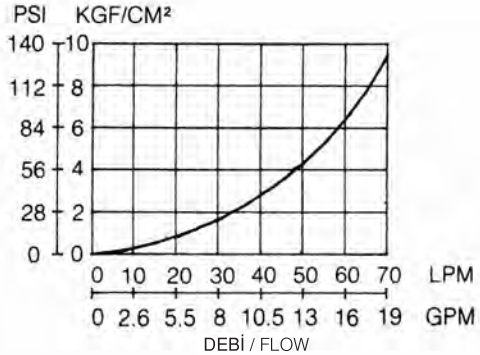
BASINÇ DÜŞÜŞÜ / PRESSURE DROP



DEBİ SAYACI VS. DURUM ÇİZELGESİ
METERED FLOW VS. DIAL POSITION



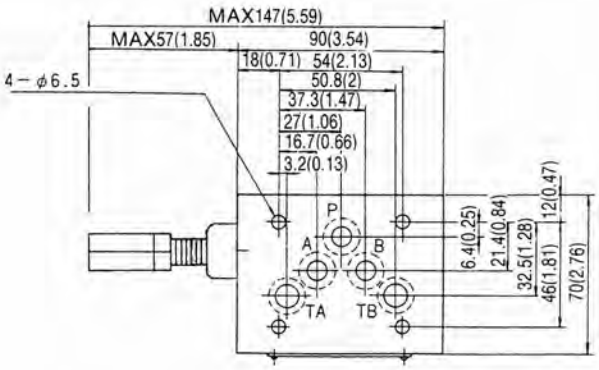
KISMA VALFİ TAM AÇIKKEN BASINÇ DÜŞÜŞÜ
PRESSURE DROP AT THROTTLE FULLY OPENED



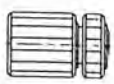
ÖLÇÜLER / DIMENSIONS

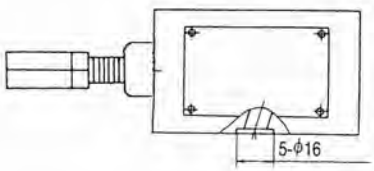
BİRİM / UNIT: MM (INCH)
AĞIRLIK / WEIGHT: 2.5 KGS

MT -03 P/T



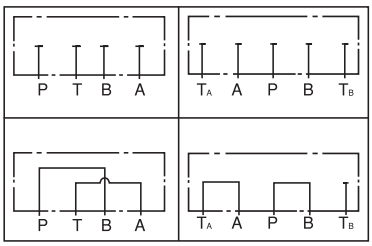
TOPUZLA / WITH KNOB





MODÜLER BLOKLAR / MODULAR BLOCKS
MDC - 03

SEMBOLLER / SYMBOLS



TEKNİK ÖZELLİKLER / TECNICAL DATA

MAKSİMUM ÇALIŞMA BASINCI MAX. OPERATING PRESSURE KGF/CM2 (PSI)	MAKSİMUM DEBİ MAX. FLOW LPM/GPM	AĞIRLIK WEIGHT KGS
250 (3600)	70 (18.5)	2.5 KGS

İŞLEVİ / FUNCTION

* KÖRLEME PLEYTLERİ PLEYT MONTAJINA YARDIMCI OLUR VE GEREKSİZ DEVRELERİ KAPATIR.
* BY - PASS PLEYTLERİ, SELENOİD YÖN VALFİ GEREKTİRMEYEN TEK YÖNLÜ DEVRE İÇİN KULLANILIR.
* THE BLOCKING PLATES HELP PLATE - INSTALLATION AND CLOSE USELESS CIRCUIT.
* THE BY - PASS PLATES ARE USED FOR SINGLE DIRECTION CIRCUIT WHICH NEED NO SOLENOID CONTROLLED DIRECTIONAL VALVES.

SİPARİŞ KODU / ORDERING CODE

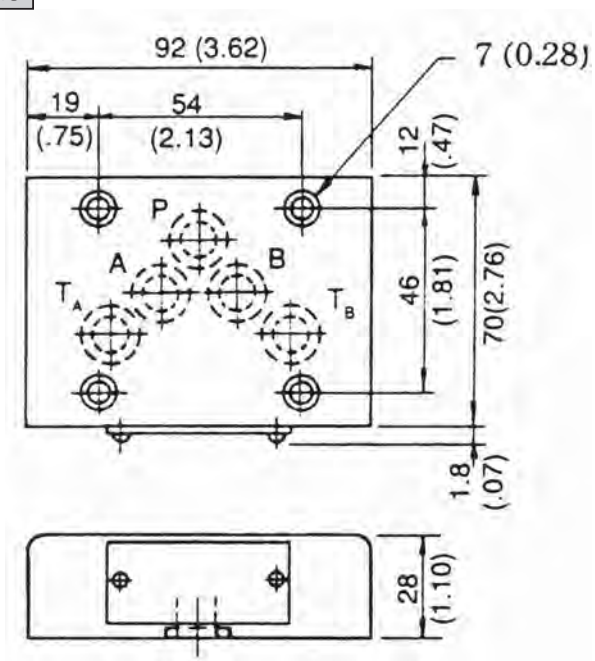
MDC -- 03 -- A -- 50

- 50 — DİZAYN NUMARASI / DESIGN NUMBER
- A — A: KÖRLEME PLEYTLERİ / BLOCKING PLATES; B: BY - PASS PLEYTLERİ / BY - PASS PLATES
- 03 — DELİK ÖLÇÜSÜ / PORT SIZE; 03: 3/8”

ÖLÇÜLER / DIMENSIONS

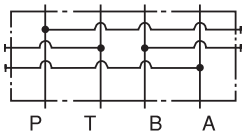
BİRİM / UNIT: MM (INCH)
AĞIRLIK / WEIGHT: 2.5 KGS

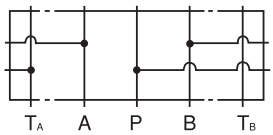
MDC - 03



MODÜLAR BAĞLANTI BLOKLARI / MODULAR GAUGE BLOCKS
MGB - 03

SEMBOLLER / SYMBOLS





TEKNİK ÖZELLİKLER / TECNICAL DATA

MAKSİMUM ÇALIŞMA BASINCI MAX. OPERATING PRESSURE KGF/CM2 (PSI)	MASİMUM DEBİ MAX. FLOW LPM/GPM	AĞIRLIK WEIGHT KGS
250 (3600)	70 (18.6)	2.5 KGS

İŞLEVİ / FUNCTION

* MODÜLER BAĞLANAN BLOKLAR ÜZERİNE MANOMETRE BAĞLANARAK BASINCIN KONTROLÜNDE KULLANILIR.
* THE MODULAR CONNECTING BLOCKS ARE USED FOR CHECKING THE PORT PRESSURES, CAN BE CONNECTED WITH PRESSURE GAUGES.

SİPARİŞ KODU / ORDERING CODE

MGB -- 03 -- A -- 50

DİZAYN NUMARASI / DESIGN NUMBER

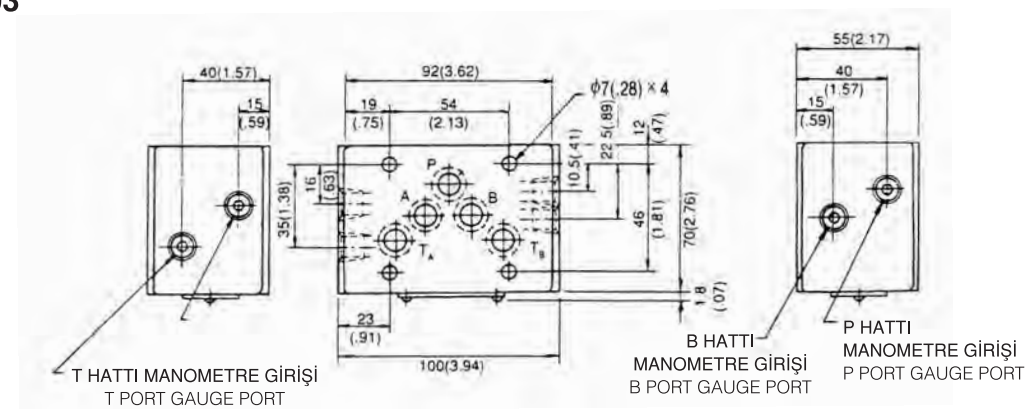
İŞ YAPACAK DELİKLER / FUNCTION PORT:
PA: P, A DELİĞİ / P,A PORT
PB: P,B DELİĞİ / P,B PORT
AT: A,T DELİĞİ / A.T PORT

DELİK ÖLÇÜSÜ / PORT SIZE
03: 3/8”

ÖLÇÜLER / DIMENSIONS

BİRİM / UNIT: MM (INCH)
AĞIRLIK / WEIGHT: 2.5 KGS

MGB - 03



FS EL KONTROLLÜ YÖN VALFLERİ
FS MANUAL OPERATED DIRECTIONAL CONTROL VALVE

Bu el kumandalı bir valftir. İçindeki çekirdek, yuva içinde hareket eder ve yağı istenilen konuma gönderir. Çeşitli versiyonları mevcuttur. 3-2 , 4-2, 4-3, 5-3.
This model is a manual directional control slide valve, by operating the handle, the spool moves in the axial direction to achieve oil loop switcing. It is Platee Connection and has multiple slide valve functions such as 2-position 3- way, 2-position 4-way, and 3-position 4-way.

TEKNİK BİLGİ / TECHNICAL SPECIFICATION

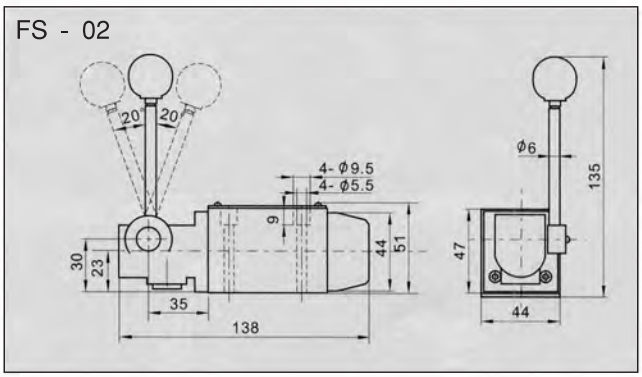
Model		FS-02	FS-03	FS-04
Debi (l / min) Flow (l / min)		35	63	100
Çalışma Basıncı Work Pressure (MPa)	Port P,A,B Cavity	31.5		
	Port T Cavity	16		25
Hidrolik Yağ Hydraulic Fluid		Mineral yağ, fosfat-ester Mineral oil, phosphate - ester		
Akışkan Sıcaklığı(°C) Fluid Temp. (°C)		-20~70		
Viskozite (mm^2/s) Viskosity (mm^2/s)		2.8~100		
Uygun Kuvveti Manipulation Force (N)		20 For no return press. 30 For return press.= 16 MPa	16-23 For with positioner 20-27 For with spring	About 75
Ağırlık (kg) Weight (kg)		1.4	4.0	8
Filtre Değeri (µm) Filtration Accuary		25		

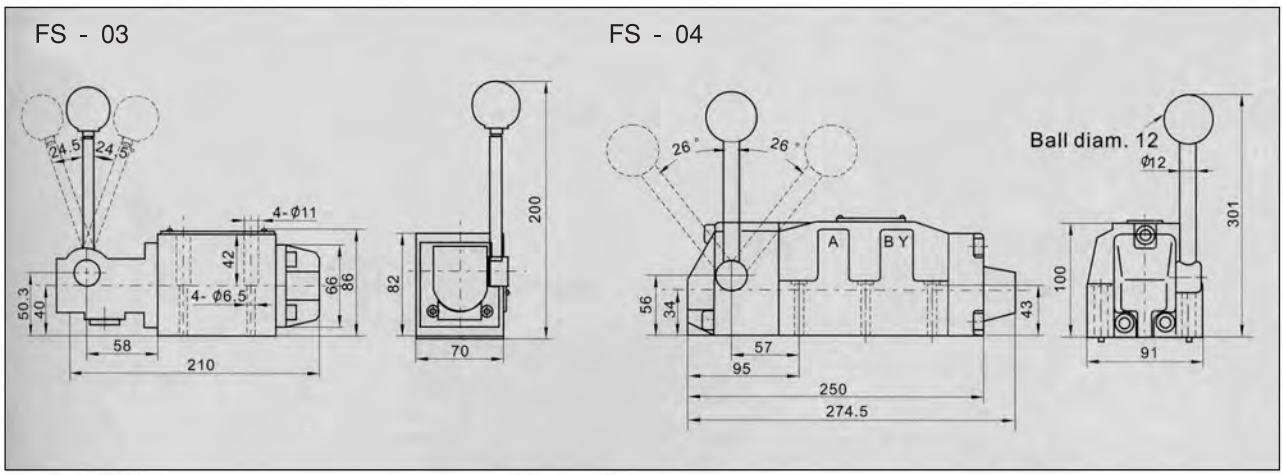
MODEL AÇIKLAMASI / MODEL DESCRIPTION

FS — * — * — * *

- İşaret / Remarks
- Dizayn Seri No / Design Serial Number
  50, 60, 70
- Valf Konumu / Function Symbol
  (Bknz. Sayfa 9 / See Page 9)
- Gövde Tipi / Specification:
  02=DN 6
  03=DN10
  04=DN 16
- Tip / Type:
  El kumandalı yön valfi
  Manual operated directional control valve

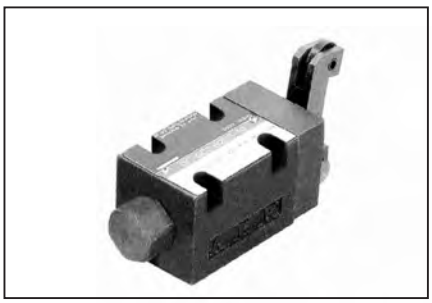
DIŞ ÖLÇÜLER / EXTERNAL DIMENSIONS





Not: Montaj için gerekli ölçüleri sayfa 17' den bakabilirsiniz.
Note: For mounting dimensions, refer to drewing for common plate in page 17.

FJ MEKANİK KONTROLLÜ YÖN VALFLERİ
FJ MECHANICAL - OPERATED DIRECTIONAL CONTROL VALVE



Bu valf mekanik kontrollü olup çekirdeğin hareketini ve akış yönünü mekanik olarak tayin eder. Düşük dirençli alçak sesli ve yüksek performans verir. Ayrıca uzun ömürlüdür. Bu tür valfler hidrolik sistemlerde kullanılır. Örnek olarak; döküm tezgahları taşıma makinaları gibi.
This model is a directional control valve which relies on mechanical movement to change the position of the spool to change flow direction in the fluid loop. Featured by low flow resistance, low noise, high efficiency and long life, it is widely used in hydraulic systems for molding machines, crane and transporting machinery and oil exploration machinery.

TEKNİK BİLGİ / TECHNICAL SPECIFICATION

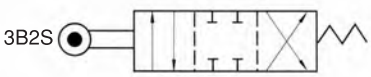
Model	02	03
Debi (l / min) Flow (l / min)	35	63
Hidrolik Yağ Hydraulic Fluid	Mineral yağ, fosfat-ester Mineral oil, phosphate - ester	
Akışkan Sıcaklığı(°C) Fluid Temp. (°C)	-20~70	
Viskozite (mm^2/s) Viskosity (mm^2/s)	2.8~100	
Filtration Accuary Filtre Değeri (µm)	25	
Max. Çalışma Basıncı Max. Work Pressure (MPa)	25	
Max. Geri Basıncı Max. Back Pressure (MPa)	10	
Ağırlık (kg) Weight (kg)	1.1	3.8

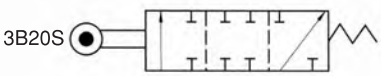
MODEL AÇIKLAMASI / MODEL DESCRIPTION

FJ — * — * — * *

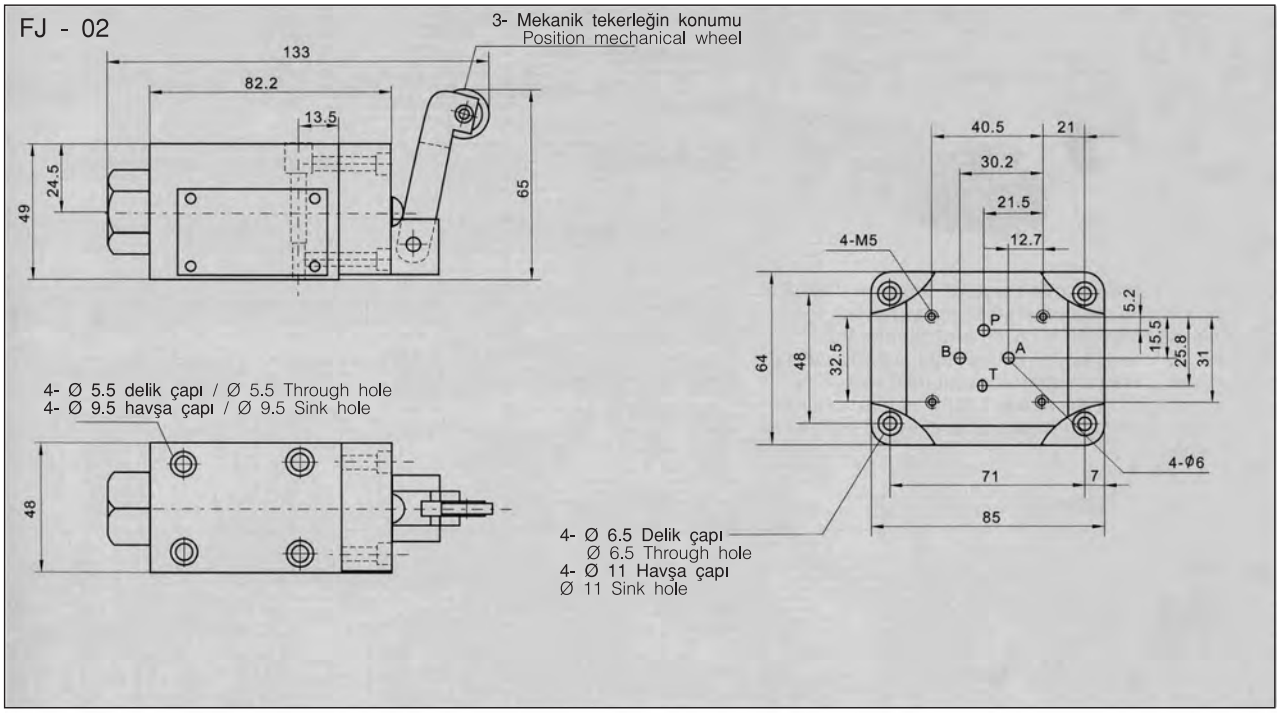
- İşaret / Remarks
- Dizayn Seri No / Design Serial Number
  50, 60, 70
- Valf Konumu / Function Symbol
- Gövde Tipi / Specification:
  02=DN 6
  03=DN10
- Tip / Type:
  Mekanik kontrollü yön valfleri
  Mechanical - operated directional control valve

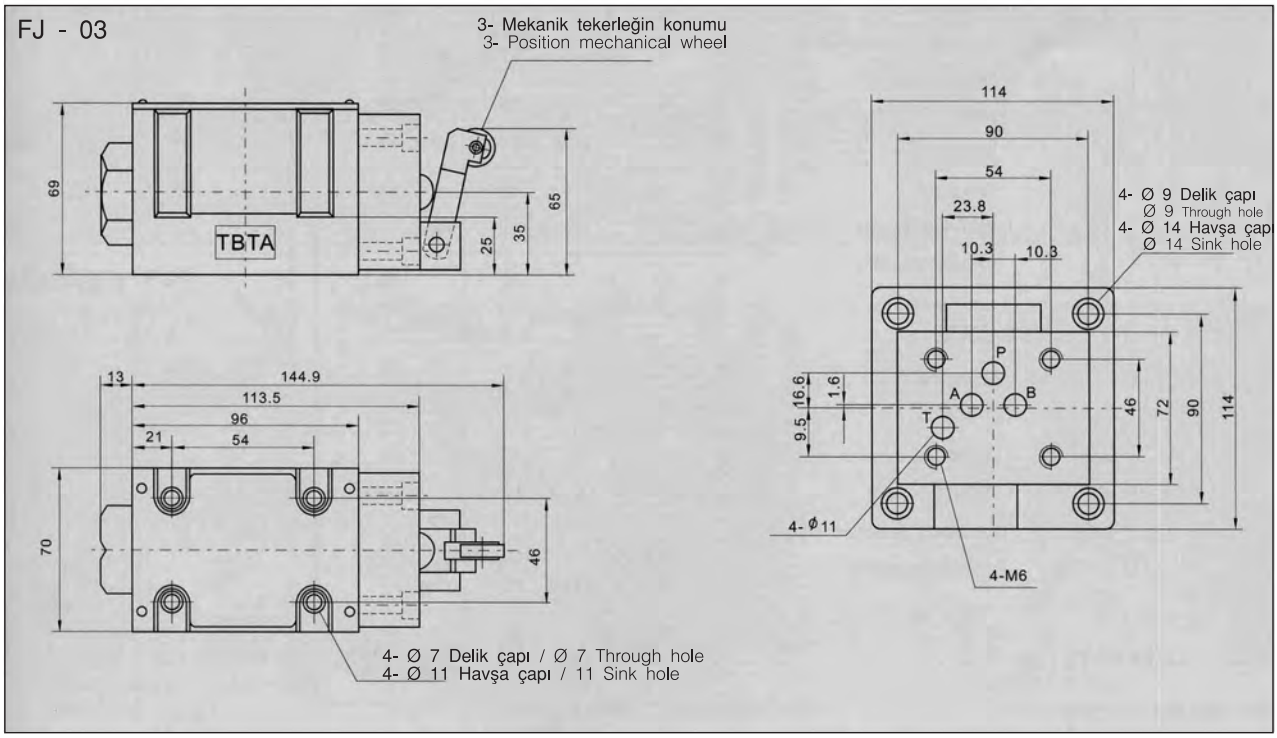
İŞLEV SEMBOLLERİ / FUNCTION SYMBOL





MONTAJ ÖLÇÜLERİ / MOUNTING DIMENSIONS





BASINÇ KONTROL VALF SERİLERİ / PRESSURE CONTROL VALVE SERIES

BASINÇ KONTROL VALFLERİ / PRESSURE CONTROL VALVES

ÇEŞİTLER / VARIETY

SEÇECEĞİNİZ BİRÇOK ÇEŞİT BASINÇ KONTROL VALFİ VARDIR. BUNLARDAN BAZILARI UZAKTAN KONTROLLÜ EMNİYET VALFİ, PİLOTLU EMNİYET VALFİ, GÜRÜLTÜSÜZ EMNİYET VALFİ , GÜRÜLTÜSÜZ TİP PİLOTLU EMNİYET VALFİ, H TİPİ EMNİYET VALFİ, HC TİP BASINÇ KONTROL VALFİ, BASINÇ DÜŞÜRÜCÜ VALFLER, ÇEKVALFLER VE BOŞALTICI EMNİYET VALFİ VS.

THERE ARE VARIOUS KIND OF PRESSURE CONTROL VALVES FOR YOUR SELECTION, WHICH INCLUDE REMOTE CONTROL RELIEF VALVES, DIRECT TYPE RELIEF VALVES, PILOT OPERATED RELIEF VALVES, LOW NOISE TYPE PILOT OPERATED RELIEF VALVES, SOLENOID CONTROLLED RELIEF VALVES, LOW NOISE TYPE SOLENOID CONTROLLED RELIEF VALVES, H TYPE PRESSURE CONTROL VALVES, HC TYPE PRESSURE CONTROL VALVES, PRESSURE REDUCING VALVES, PRESSURE REDUCING AND CHECK VALVES AND UNLOADING RELIEF VALVES ETC.

ÖNERİLEN AKIŞKAN TİPLERİ / FLUID TYPES RECOMMENDED

1. MİNERAL YAĞ İSO VG32 VEYA VG46 İLE EŞDEĞERDEDİR. / MINERAL OIL: EQUAL TO ISO VG32 OR VG 46.
2. FOSFAT - ESTER. / PHOSPHATE - ESTER.
3. SU - GLİKOL. / WATER - GLYCOL.

AKIŞKAN SICAKLIK DERECESİ ARALIĞI / FLUID TEMPERATURE RANGE

-15 °C DEN +70 °C YE / FROM -15 TO +70 °C (5-160 °F).

AKIŞKAN VİSKOZİTE ARALIĞI / FLUID VISCOSITY RANGE

VİSKOZİTE ARALIĞI 15-400 cST (75 - 1800 SSU), EĞER VALFLERİN TANK ÇIKIŞLARI ÇEKVALFLİYSE VİSKOZİTE 15-200 cST (75 - 900 SSU) OLMALIDIR.

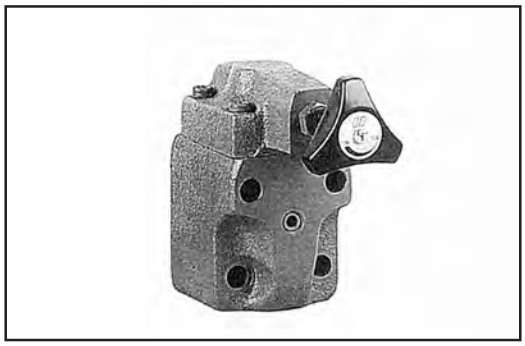
15- 400 cST (75 - 1800 SSU), IF THE VALVES ARE WITH TANK PORT CHECK VALVE DEVICE, THEN VISKOSITY RANGE MUST BE 15 -200 cST (75 - 900 SSU)

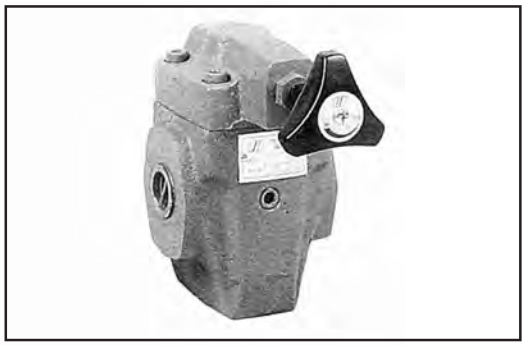
KİRLİLİK KONTROLÜ / CONTAMINATION CONTROL

KİRLİLİK NAS 1638 -11 SINIFI ÜZERİNDE OLMALIDIR. 25 MİKRONMETRE VEYA ÜSTÜ FİLTRELEME YAPINIZ. AKSİ TAKDİRDE VALFLERİNİZ HASAR GÖRÜR VE ÖMRÜ KISALIR.

FLUID CONTAMINATION SHOULD BE KEPT AT / ABOVE NAS 1638 - 11 CLASS AND ADOPT FILTRATION OF 25 µm OR EVEN BETTER FILTRATION, OTHERWISE, VALVES ARE EASILY TO BE DAMAGED OR SHORTEN LIFE.

PİLOT KUMANDALI EMNİYET VALFLERİ / PILOT OPERATED RELIEF VALVES
BG - 03, 04, 06 & 10 BT - 04 & 06 BT - 06 &10 (L TYPE)



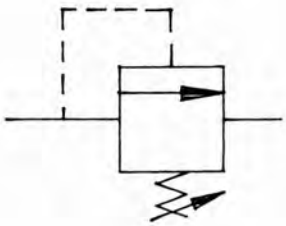


İŞLEVİ / FUNCTION

PİLOT KONTROLLÜ EMNİYET VALFLERİ POMPAYI VE KONTROL VALFLERİNİ KORUR. BASINÇ ÇOK YÜKSEK OLDUĞU ZAMANLARDA HİDROLİK SİSTEM BASINCINI SABİT DEĞERDE KONTROL EDEBİLİR.

THE PILOT OPERATED RELIEF VALVES CAN PROTECT PUMPS AND CONTROL VALVES WHEN PRESSURE IS TOO HIGH AND CAN CONTROL HYDRAULIC SYSTEM PRESSURE AT CERTAIN RANGE.

SEMBOL / SYMBOL



DÜŞÜNCELER / REMARKS

* BASINÇ AYARLANIRKEN, KİLİT SOMUNU GEVŞETİLİR, ÜÇKÖŞE EL TOPUZU YAVAŞÇA SAAT YÖNÜNDE ÇEVRİLİRSE BASINÇ ARTAR, SAAT YÖNÜNÜN TERSİNE ÇEVRİLİRSE BASINÇ AZALIR. EL TOPUZUNUN BİR TUR DÖNÜŞÜ 50 BAR BASINÇ DEĞİŞİMİ MEYDANA GETİRİR. BASINÇ AYARLANDIKTAN SONRA KİLİT SOMUNUNU SIKMAYI UNUTMAYIN.
WHEN ADJUST PRESSURE, RELEASE THE LOCK NUT THEN SLOWLY TURN THE TRIANGLE HAND KNOB. USE CLOCKWISE TURN TO INCREASE THE PRESSURE AND USE COUNTER CLOCKWISE TURN TO DECREASE THE PRESSURE. THE PRESSURE CHANGE OF ONE CIRCLE TURN OF HAND KNOB, IS 50 BARS. AFTER PRESSURE ADJUSTMENT, PLEASE DONT FORGET TO CREW UP THE LOCK NUT AGAIN.

* DÖNÜŞ HATTI DİREKT OLARAK TANKA BAĞLANMALIDIR. BAŞKA VALFLERİN DÖNÜŞ HATTIYLA BİRLEŞTİRİLEMEZ.
THE PIPE OF RETURN OIL TO TANK, CANNOT CONNECT WITH PIPE OF OTHER VALVES' RETURN LINE, SHOULD RETURN TO OIL TANK DIRECTLY.

* KÜÇÜK AKIŞLAR İÇİN KULLANILDIĞINDA BASINÇ AYARI KARARSIZ OLABİLMEKTEDİR. BU YÜZDEN MODEL 03, 04 VE 06 SERİLERİNDE AKIŞ DURUMU 8L/DK, MODEL 10 SERİLERİNDE AKIŞ 15L/DK'NIN ÜZERİNDE OLMALIDIR.
WHEN USED IN SMALL FLOW , PRESSURE ADJUSTING MIGHT BE UNSTABLE. SO WHEN USE MODEL 03, 04 AND 06 SERİES, FLOW CONDITIONS SHOULD MORE THAN 8L/MIN (2.1 GPM) AND WHEN USE MODEL 10 SERIES, FYOW SHOULD ABOVE 15 L/MIN (4.0 GPM)

* DİŞLİ BAĞLANTI İÇİN İKİ BASINÇ HATTI GİRİŞİ VARDIR. BİRİ GİRİŞ DİĞERİ ÇIKIŞ HATTIDIR. BU BASINÇ PORTLARINDAN BİRİ KAPALI OLSA DA VALFLER ÇALIŞIR.
THERE ARE TWO PRESSURE PORTS FOR THREAD CONNECTIONS, WHICH CONNECTED INSIDE THE SYSTEM; ONE FOR INCOMING PORT AND OTHER ONE FOR OUTGOING PORT. THE VALVES CAN ALSO WORK UNDER THE CONDITIONS THAT ONE PRESSURE PORT IS OBSTRUCTED.

SİPARİŞ KODU / ORDERİNG CODE

BG -- 03 -- A -- 50

- 50: DİZAYN NUMARASI / DESIGN NUMBER
- A: BASINÇ AYAR ARALIKLARI / ADJUSTING RANGE:
  A: 7-70 KGF/CM2 (100 -1000 PSI)
  B: 35 -140 KGF/CM2 (500 -2000 PSI)
  C: 70 -250 KGF/CM2 (100 -3600 PSI)
- 03: DELİK ÖLÇÜSÜ / PORT SIZE:
  03:3/8" 04:1/2" 06:3/4" 10: 1-1/4"
- BG: MONTAJ / MOUNTING
  G: FOR SUBPLATE MOUNTING
  T: FOR THREAD CONNECTIONS

BG - 03, 04, 06 & 10 BT - 04 & 06 BT - 06 &10 (L TİPİ / L TYPE)

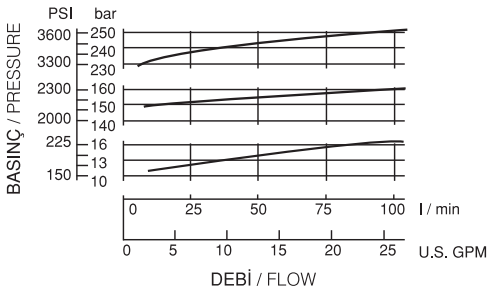
TEKNİK BİLGİ / TECNICAL DATA

MODEL NO	MAKSİMUM BASINÇ MAX. PRESSURE KGF/CM2	BASINÇ AYARLAMA ARALIĞI PRESSURE ADJ. RANGE KGF/CM2 (PSI)	MAX. DEBİ ORANI MAX. FLOW RATE LPM (GPM)	MONTAJ BAĞLANTI CİVATALARI METRİK (INCH) MOUNTING BOLTS METER (INCH)
BT - 04 SERİLERİ BT - 04 SERIES	210 (3000)	A: 7-70 (100 - 1000) B: 35 -140 (500 -2000) C: 70 -250 (1000 -3600)	60 (15.9)	
BG - 03 SERİLERİ BG - 03 SERIES	250 (3600)		100 (52.8)	M12X75L(1/2" -- 3") 2 PCS M12X95L(1/2" --3-3/4") 2PCS
BG - 04 SERİLERİ BG - 04 SERIES	210 (3000)		60 (15.9)	M12X65L(1/2'--2-1/4") 4 PCS
BG - 06 SERİLERİ BG - 06 SERIES	250 (3600)		200 (52.8)	M16X60L(5/8"--2-1/4") 2 PCS M16X80L(5/8"--3-1/4") 2 PCS
BG - 10 SERİLERİ BG - 10 SERIES	250 (3600)		400 (106)	M20X70L(3/4"--2-3/4") 2 PCS M20X90L(3/4"--3-1/2") 2 PCS
BT - 06 SERİLERİ BT - 06 SERIES	250 (3600)		200 (52.8)	
BT - 10 SERİLERİ BT - 10 SERIES	250 (3600)		400 (106)	

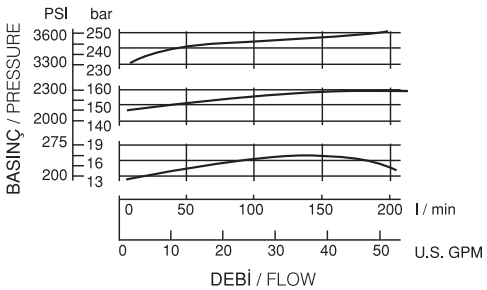
ÇALIŞMA EĞRİLERİ / PERFORMANCE CURVES

YAĞ ÇALIŞMA ÖLÇÜSÜ / MEASURED AT V= 35 CST AND T=50°C

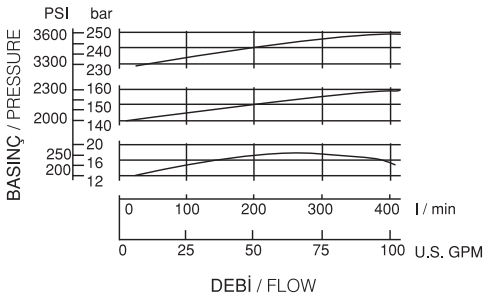
BG - 03



BT - 06, BG - 06



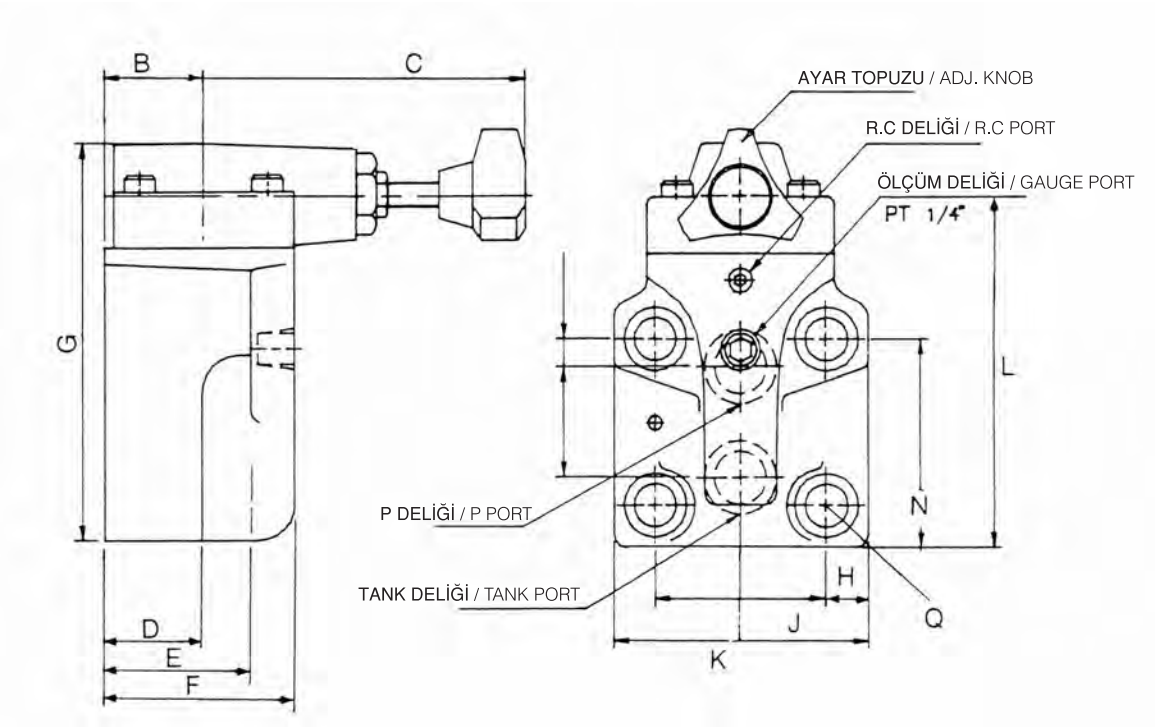
BT - 10, BG - 10



BG - 03, 04, 06 & 10 SERİLERİ / SERIES

BG - 03, 04, 06 & 10

BİRİM / UNIT : MM (INCH)



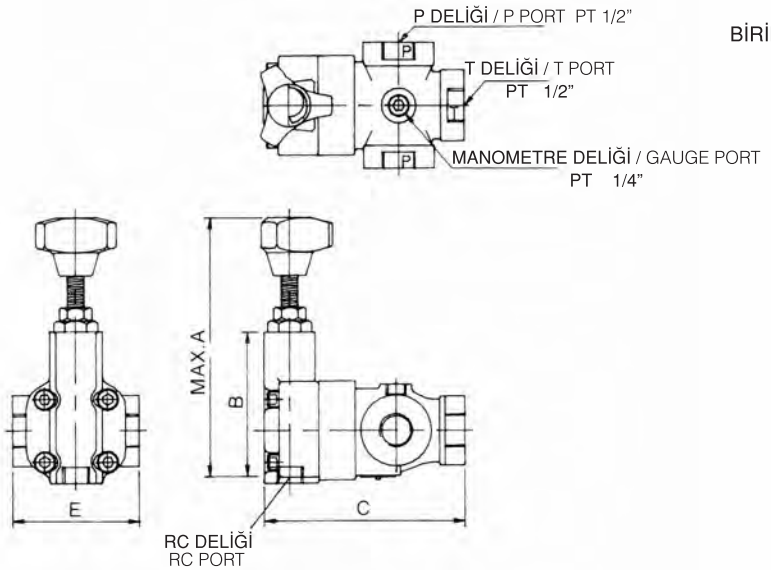
MODEL	B	C	D	E	F	G	H	J	K	L	N	Q		AĞIRLIK WEIGHT
BG - 03	39.5 1.56	129 5.07	58.5 2.30	79 3.11	79 3.11	139 5.47	12.5 0.49	40 1.57	80 3.15	119 4.69	75.5 2.97	13 0.52	MM INCH	5.35 KGS
BG - 04	33 1.30	129 5.08	53 2.09	65 2.56	65 2.56	132 5.20	16 0.63	40 1.57	82 3.23	115 4.53	72.5 2.85	13 0.51	MM INCH	4 KGS
BG - 06	40 1.57	129 5.08	58.5 2.30	74 2.91	79 3.11	168 6.61	15 0.59	51 2.00	102 4.01	147 5.79	87 3.43	18 0.71	MM INCH	6.5 KGS
BG - 10	42.6 1.68	168 6.61	50 1.97	69 2.72	85.5 3.37	196 7.72	22 0.87	61.5 2.42	123 4.84	176 6.93	108 4.25	22 0.87	MM INCH	10.5 KGS

BT - 04 & 06 BT - 06 &10 (L TİPİ / L TYPE) SERİLERİ / SERIES

ÖLÇÜLER / DIMENSIONS

BT - 04 & 06

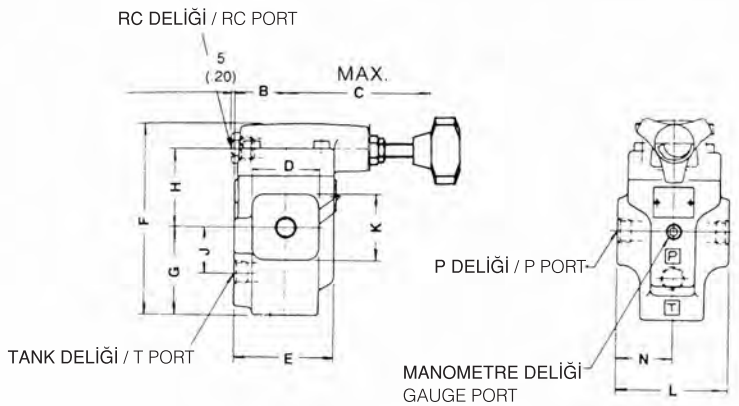
BİRİM / UNIT : MM (INCH)



MODEL	A	B	C	E	P DELİĞİ P PORT	T DELİĞİ T PORT	G DELİĞİ G PORT	AĞIRLIK WEIGHT
BT - 04 SERIES	149 (5.87)	88 (3.46)	125 (4.92)	82 (3.23)	1/2"	1/2"	1/4"	2.5 KGS
BT - 06 SERIES	164 (6.46)	104 (4.09)	142 (5.59)	100 (3.94)	3/4"	3/4"	1/4"	3.9 KGS

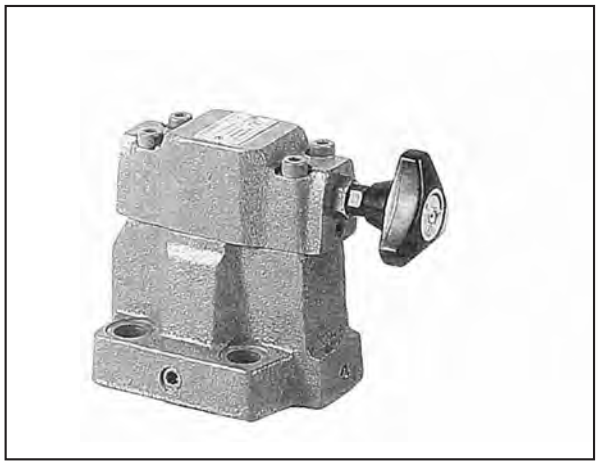
BİRİM / UNIT: MM (INCH)

AĞIRLIK / WEIGHT:
BT -06L 5.5 KGS
BT -10L 9.9 KGS

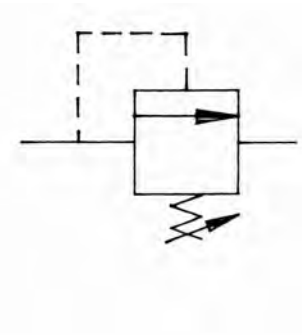


MODEL	A	B	C	D	E	F	G	H	J	K	L	N
BT-06L	80 (3.15)	48 (1.91)	129 (5.08)	58.5 (2.3)	88 (3.46)	153.5 (6.04)	68 (2.68)	66.5 (2.62)	39.4 (1.55)	72.5 (2.85)	90 (3.45)	45 (1.77)
BT-10L	86 (3.39)	48.5 (1.91)	186 (7.32)	82 (3.23)	98 (3.86)	185 (7.28)	89.5 (3.52)	77.5 (3.05)	51 (2.00)	86 (3.86)	126 (4.96)	63 (2.48)

DÜŞÜK SESLİ PLEYT TİPİ BASINÇ EMNİYET VALFİ
LOW NOISE TYPE PILOT OPERATED RELIEF VALVES
SBG - 06



SEMBOL / SYMBOL



İŞLEVİ / FUNCTION

PİLOT KONTROLLÜ EMNİYET VALFLERİ ÖZELLİKLE AZ GÜRÜLTÜ MEYDANA GETİREN TİPLERDİR. BUNLAR, POMPALARI VE KONTROL VALFLERİNİ EKSTRA BASINÇTAN KORUR. SİSTEM BASINCINI SABİT TUTABİLİR. TAHLİYE HATTI SAYESİNDE UZAKTAN KONTROL VE BOŞALTICI İŞLEVİ DE VARDIR.

THE PILOT OPERATED RELIEF VALVES HAVE BEEN SPECIALLY CREATED INTO LOW NOISE TYPE. IT CAN PROTECT PUMPS AND CONTROL VALVES TO AVOID EXTRA PRESSURE, ALSO CAN KEEP SYSTEM PRESSURE STABLE AND WITH DRAIN PORT TO CARRY OUT “REMOTE CONTROL” AND UNLOADING FUNCTION.

DÜŞÜNCELER / REMARKS

* UZAKTAN KONTROL EMNİYET VALFLERİ TAHLİYE DEVRELERİNDE KULLANILIR. EĞER TAHLİYE HATTININ HACMİ ÇOK BÜYÜKSE SORUN OLABİLİR. TAHLİYE HATTININ İÇ ÇAPINI VE UZUNLUĞUNU AZALTMAYA ÇALIŞINIZ.
THE REMOTE CONTROL RELIEF VALVES ARE USED IN DRAIN CIRCUT. IF INTERNAL VOLUME OF DRAIN PORT IS TOO LARGE, THEN “CHATTERING”MIGHT BE HAPPENED. SO TRY TO MINIMIZE INTERNAL DIAMETER AND LENGHT OF PIPE.

* BASINÇ AYARLANIRKEN KİLİT SOMUNUNU GEVŞETİNİZ. SONRA ÜÇ KÖŞE TOPUZU YAVAŞÇA SAAT YÖNÜNDE ÇEVİRİRSENİZ, BASINÇ AZALIR. TOPUZUN BİR TUR DÖNMESİ 50 BAR’LIK BASINÇ DEĞİŞİMİNE KARŞILIK GELİR.
WHEN ADJUST PRESSURE, RELEASE LOCK NUT THEN SLOWLY TURN THE TRIANGLE HAND KNOB. USE CLOCKWISE TURN TO INCREASE THE PRESSURE AND USE COUNTER CLOCKWISE TURN TO DECREASE THE PRESSURE. THE PRESSURE CHANGE OF ONE CIRCLE TURN OF HAND KNOB, IS 50 BARS. AFTER ADJUSTMENT, PLEASE DONT FORGET TO CREW UP THE LOCK NUT.

* DÖNÜŞ HATTI DİREKT OLARAK TANKA VERİLMELİDİR. BAŞKA VALFLERİN DÖNÜŞ HATLARIYLA BİRLEŞTİRİLMEMELİDİR.
THE PIPE OF RETURN OIL TO TANK, CANNOT CONNECT WITH PIPE OF OTHER VALVES’ RETURN LINE, SHOULD RETURN TO OIL TANK DIRECTLY.

* KÜÇÜK DEBİLER İÇİN BASINÇ AYARI KARARSIZ OLABİLİR. BU YÜZDEN MODEL 06 SERİLERİ İÇİN DEBİ 5L/MIN (1.3 GPM) ÜZERİNDE OLMALIDIR.
WHEN USED IN SMALL FLOW, PRESSURE ADJUSTING MIGHT BE UNSTABLE. SO WHEN USE MODEL 06 SERIES, FLOW CONDITIONS SHOULD MORE THAN 5/L (1.3 GPM).

SİPARİŞ KODU / ORDERING CODE

SBG -- 06 -- A -- 50

- 50 — DİZAYN NUMARASI / DESİGN NUMBER
- A — BASINÇ AYAR ARALIKLARI / PRESSURE ADJUSTING RANGE
  - A: 7-70 KGF/CM^2 (100 -1000 PSI)
  - B: 35-140 KGF/CM^2 (500-2000 PSI)
  - C: 70-250 KGF/CM^2 (1000-3600 PSI)
- 06 — DELİK ÖLÇÜSÜ / PORT SIZE
  - 06:3/4”
- SBG — G: ALT PLEYT MONTAJI İÇİN

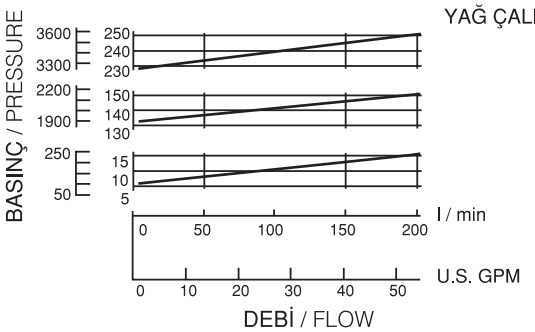
SBG - 06 SERİLERİ / SBG - 06 SERIES

TEKNİK BİLGİ / TECNICAL DATA

MODEL NO	MAKSİMUM BASINÇ MAX. PRESSURE KGF / CM^2 (PSI)	BASINÇ AYAR ARALIKLARI PRESSURE ADJ. RANGE KGF / CM^2 (PSI)	MAKS. DEBİ ORANI MAX. FLOW RATE LPM (GPM)	MONTAJ CİVATALARI MOUNTING BOLTS METER (INCH)
SBG -06 SERİLERİ SBG -06 SERIES	250 (3600)	A: 7 - 70 (100 -1000) B: 35 - 140 (500 - 200) C: 70 -250 (1000 - 3600)	200 (52.8)	M16X50L (5/8" -- 2) 4 PCS

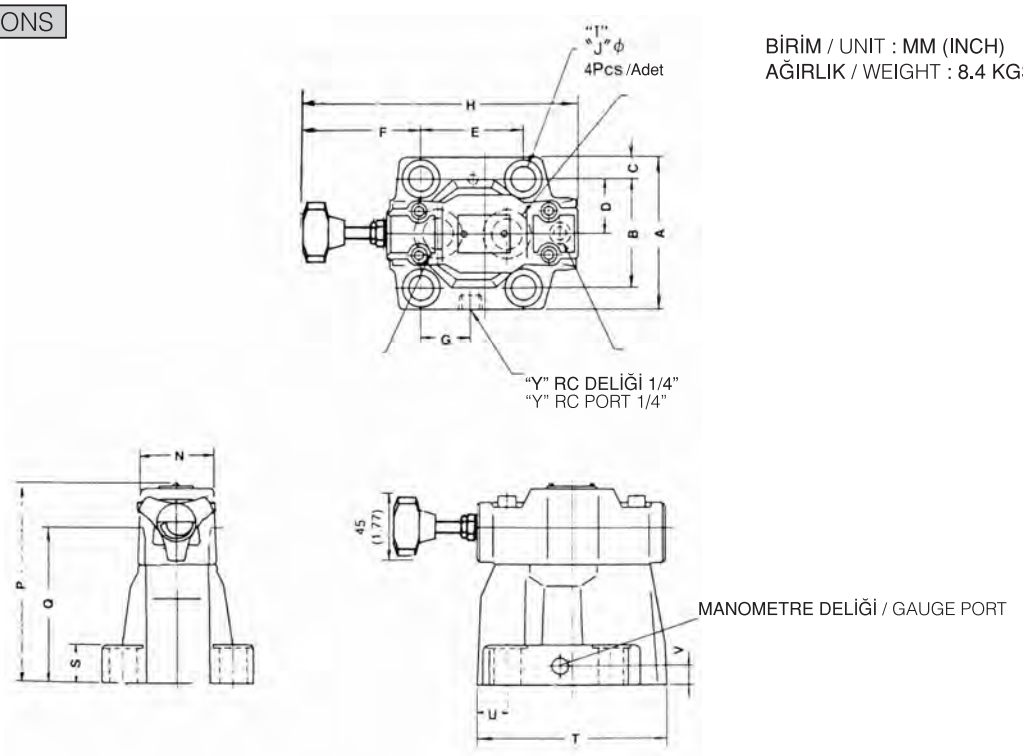
ÇALIŞMA EĞRİLERİ / PERFORMANCE CURVES

YAĞ ÇALIŞMA ÖLÇÜSÜ / MEASURED AT V= 35 CST AND T=50°C



ÖLÇÜLER / DIMENSIONS

BİRİM / UNIT : MM (INCH)
AĞIRLIK / WEIGHT : 8.4 KGS



MODEL	A	B	C	D	E	F	G	H	J	K	N	P	Q	S	T	U	V	BİRİM UNIT
SBG06	103 4.06	70 2.76	16.3 0.64	35 1.38	66.7 2.63	92 3.63	30.5 1.20	163.5 6.44	17.5 0.69	130 5.12	105 4.13	134 5.28	103 4.06	26 1.02	122 4.80	20 0.79	13 0.51	MM INCH

DÜŞÜK SES TİPİ SOLENOİD KONTROLLÜ EMNİYET VALFİ
LOW NOISE TYPE SOLENOID CONTROLLED RELIEF VALVES
SBSG - 06

İŞLEVİ / FUNCTION

DÜŞÜK SES TİPİ SELENOİD EMNİYET VALFİ SELENOİD YÖN VALFİ TAKILARAK ELEKTRİK SİNYALİ İLE POMPADAKİ YÜKÜ BOŞALTMAK VEYA UZAKTAN İKİ YA DA ÜÇ TİP BASINCI KONTROL ETMEK İÇİN KULLANILIR.
(SELENOİD VALF EMNİYET VALFİNE DAHİL DEĞİLDİR. ORANSAL VE DİREKT KONTROLLÜ SELENOİD VALFLERİ KATALOGTAKİ YERLERİNDEN S-DF * -02(1/4) - * - * BAKINIZ)

THE LOW NOISE TYPE SOLENOID CONTROL RELIEF VALVES CAN CONNECT WITH SOLENOID DIRECTIONAL CONTROL VALVES, BY USING ELECTRIC SIGNAL TO UNLOAD THE PUMPS' PRESSURE OR REMOTE CONTROL TWO OR THREE CLASSES OF PRESSURE TO THE SYSTEM. (SOLENOID DIRECTIONAL CONTROL VALVE IS NOT INCLUDED HERE, WHEN CHOOSE SOLENOID OPERATED DIRECTIONAL VALVE, PLS SEE PROPORTIONAL AND DIRECTIONAL CONTROL VALVES'. FOR SOLENOID RATINGS AND ORDERING CODE OF S-DF * -02(1/4) - * - *)

DÜŞÜNCELER / REMARKS

* UZAKTAN KUMANDALI EMNİYET VALFLERİ BOŞALTMA DEVRELERİNDE KULLANILIR. EĞER BOŞALTMA BORUSU HACMİ ÇOK GENİŞSE SES ARTABİLİR, BU DURUMDE BORU ÇAPINI DARALTIN.
THE REMOTE CONTROL RELIEF VALVES ARE USED IN DRAIN CIRCUT. IF INTERNAL VOLUME OF DRAIN PORT IS TOO LARGE, THEN " CHATTERING " MIGHT BE HAPPENED. SO TRY TO MINIMIZE INTERNAL DIAMETER AND LENGHT OF PIPE.

* BASINCI AYARLAMAK İÇİN KİLİDİ KALDIRIN VE VANAYI ÇEVİRİN. SAAT YÖNÜNDE ARTTIRMAK, SAAT YÖNÜNÜN TERSİNE İSE AZALTMAK İÇİN KULLANIN. BİR TAM VANA TURU BASINCI 50 BAR DEĞİŞTİRİR. İŞLEMDEN SONRA KİLİDİ TAKMAYI UNUTMAYIN.
WHEN ADJUST PRESSURE, RELEASE LOCK NUT THEN SLOWLY TURN THE TRIANGLE HAND KNOB. USE CLOCKWISE TURN TO INCREASE THE PRESSURE AND USE COUNTER CLOCKWISE TURN TO DECREASE THE PRESSURE. THE PRESSURE CHANGE OF ONE CIRCLE TURN OFF HAND KNOB, IS 50 BARS. AFTER ADJUSTMENT, PLEASE DONT FORGET TO CREW UP THE LOCK NUT.

* TANKA TAHLİYE BORUSU DİĞER SİSTEM ELEMANLARI İLE ORTAK KULLANILMAZ.
THE PIPE OF RETURN OIL TO TANK, CANNOT CONNECT WITH PIPE OF OTHER VALVES' RETURN LINE, SHOULD RETURN TO OIL TANK DIRECTLY.

* SİSTEM DÜŞÜK DEBİLERDE KULLANILIRSA, BASINÇ AYARLAMA DENGELİ OLMAYABİLİR. BU DURUMDA 06 SERİLERİ İÇİN DEBİ 5L / DK OLMALIDIR.
WHEN USED IN SMALL FLOW, PRESSURE ADJUSTING MIGHT BE UNSTABLE. SO WHEN USE MODEL 06 SERIES, FLOW CONDITIONS SHOULD MORE THAN 5L / MIN (1.3 GPM).

SİPARİŞ KODU / ORDERING CODE

SBSG -- 06 -- IPN -- A -- 50

DİZAYN NUMARASI / DESIGN NUMBER

BASINÇ AYAR ARALIĞI / PRESSURE ADJUSTING RANGE
A: 7-70 KGF/CM^2 (100 - 1000 PSI)
B: 35-140 KGF/CM^2 (500 - 2000 PSI)
C : 70-250 KGF/CM^2 (1000 - 3600 PSI)

EMİŞ YUVASI TİPİ / TYPE OF DRAIN PORT:
1PN: NORMAL DELİK / NORMALLY VENTED
2PN: ÇİFT BASINÇ VE DELİK / DUAL PRESSURE AND VENT
1NP: ENERJİLİ DELİK / ENERGIZED TO VENT
3P : ÜÇ BASINÇ / THREE PRESSURE
2P : İKİ BASINÇ / DUAL PRESSURE

YUVA BOYUTU / PORT SIZE
06:3/4"

G: ALT PLAKA BAĞLANTI İÇİN / FOR SUBPLATE MOUNTING

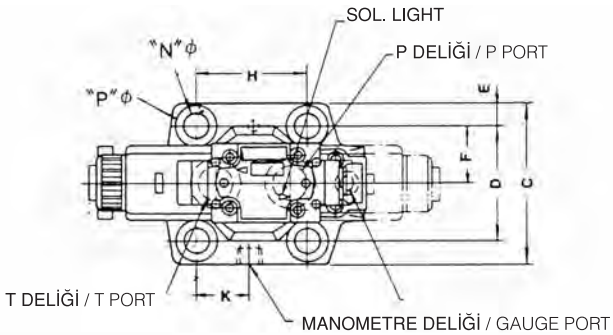
SBSG - 06 SERİLERİ / SERIES

TEKNİK BİLGİ / TECNICAL DATA

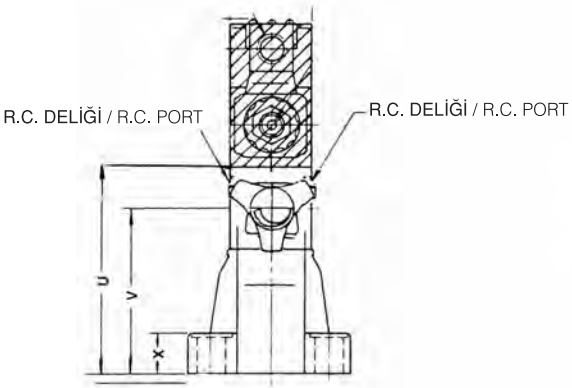
MODEL NO	MAKS. BASINÇ MAX. PRESSURE KGF / CM^2 (PSI)	BASINÇ AYAR ARALIĞI PRESSURE ADJ. RANGE KGF / CM^2 (PSI)	MAKS. DEBİ ORANI MAX. FLOW RATE LPM (GPM)	MONTAJ CIVATA ÖLÇÜSÜ MOUNTINGS BOLTS METER (INCH)
SBSG - 06 SERİLERİ SBSG - 06 SERIES	250 (3600)	A:7 - 70 (100 - 1000) B:35 -140 (500 - 200) C:70 - 250 (1000 - 3600)	200 (52.8)	M16X50L(5/7" -- 2") 4 PCS

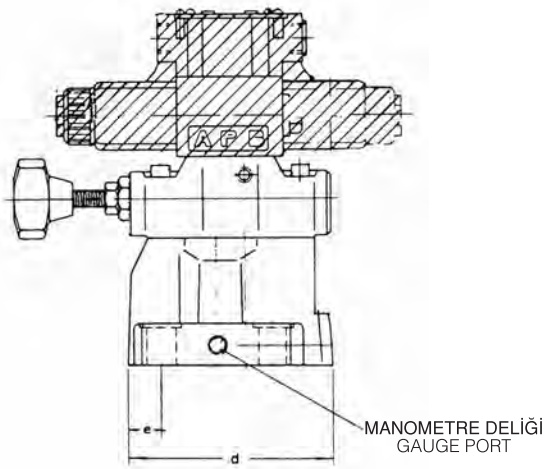
ÖLÇÜLER / DIMENSIONS

YAĞ ÇALIŞMA ÖLÇÜSÜ / MEASURED AT V= 35 CST AND T=50°C



BİRİM / UNIT : MM (INCH)
AĞIRLIK / WEIGHT : 5.6 KGS

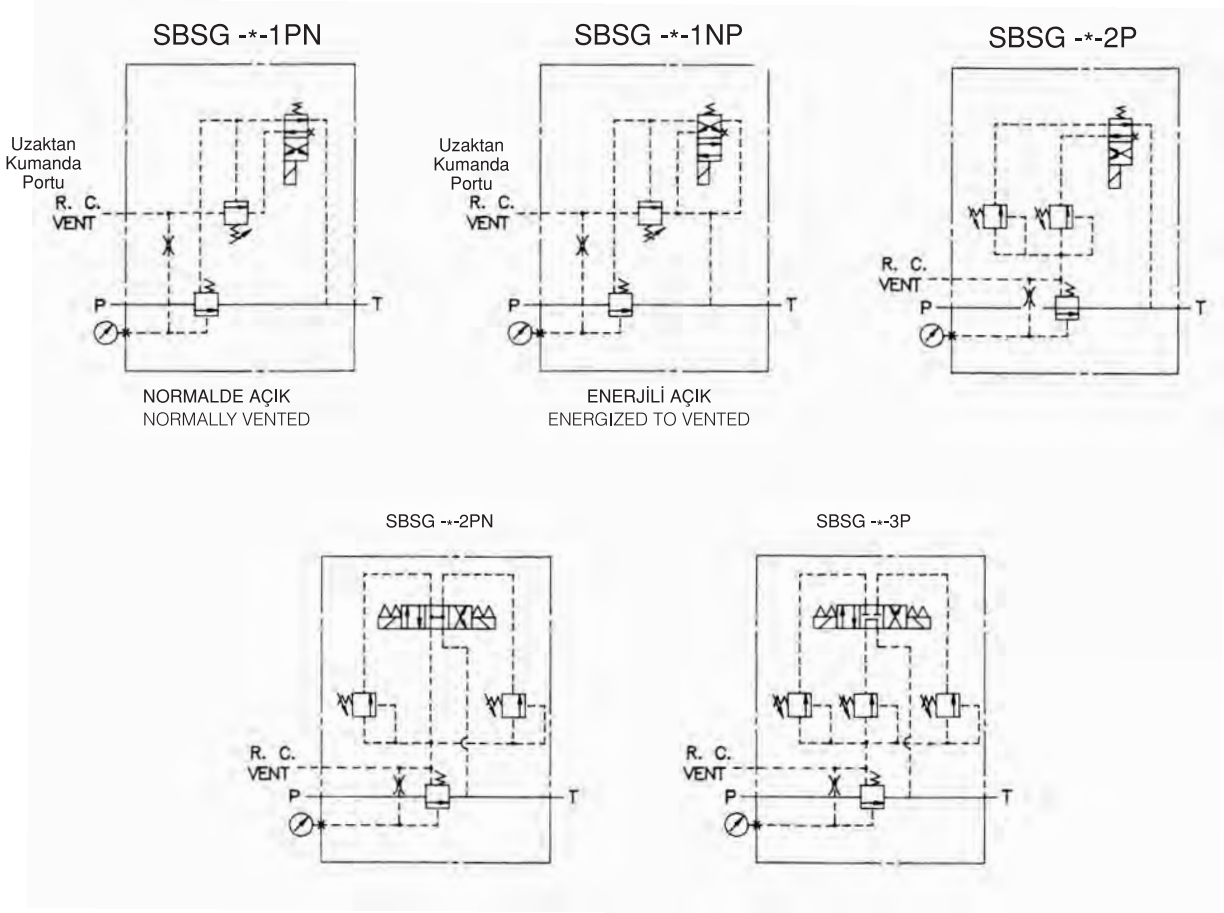




MODEL	C	D	E	F	H	J	K	N	P	U	V	X	d	e	BİRİM UNIT
SBSG06	103 4.06	70 2.76	16.3 0.64	35 1.38	66.7 2.63	92 3.63	30.5 1.20	18 0.71	26 1.02	134 5.28	105 4.13	26.5 1.04	122 4.80	20 0.79	MM INCH

SBSG - 06 SERİLERİ / SERIES

SEMBOL / SYMBOL

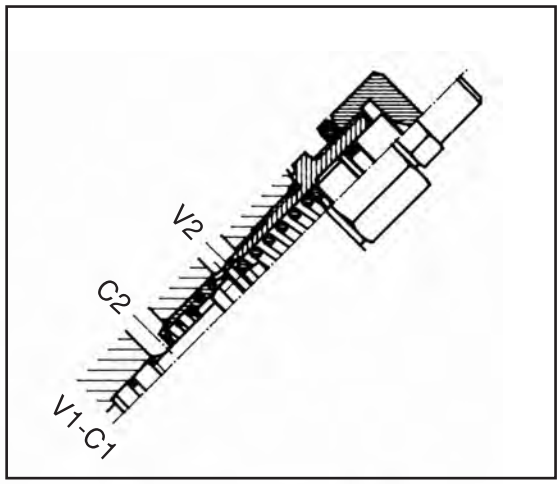


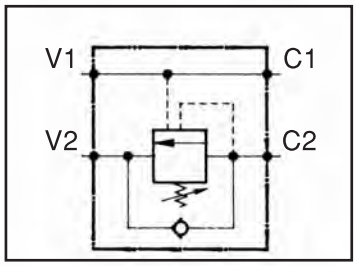
ÇALIŞMA TABLOLARI / FUNCTION TABLES

MODEL	GİRİŞ / INPUT		ÇIKIŞ / OUTPUT
	SOL A	SOL B	
1PN	OFF	NONE	KUMANDA PORTUNDAN / VENTED
	ON		AYARLANABİLİR BASINÇ / ADJUSTABLE PRESSURE
1PN	NONE	OFF	AYARLANABİLİR BASINÇ / ADJUSTABLE PRESSURE
		ON	KUMANDA PORTUNDAN / VENTED
2P	NONE	OFF	AYARLANABİLİR BASINÇ A'da / ADJUSTABLE PRESSURE AT A
		ON	AYARLANABİLİR BASINÇ B'de / ADJUSTABLE PRESSURE AT B
2PN	OFF	OFF	KUMANDA PORTUNDAN / VENTED
	ON	OFF	AYARLANABİLİR BASINÇ A'da / ADJUSTABLE PRESSURE AT A
	OFF	ON	AYARLANABİLİR BASINÇ B'de / ADJUSTABLE PRESSURE AT B
3P	OFF	OFF	AYARLANABİLİR BASINÇ C'de / ADJUSTABLE PRESSURE AT C
	ON	OFF	AYARLANABİLİR BASINÇ A'da / ADJUSTABLE PRESSURE AT A
	OFF	ON	AYARLANABİLİR BASINÇ B'de / ADJUSTABLE PRESSURE AT B

İÇTEN PİLOTLU TEK YÖNLÜ DENGE VALFİ
IN LINE, SINGLE ACTING, INTERNALLY PILOTED OVERCENTER VALVES

OWC / SE - ... / L





ÇALIŞMASI / OPERATING

Karşı denge valflerini üzerindeki sıkı nokta kavitasyonu önlemek için ve pompa çıkışından yük tutmak içindir. Isı koruması sağlar ve ayrıca her hangi bir arıza durumunda yük tutmayı sağlar.

Are overcenter valves with one tight point on hardened steel and are used to prevent cavitation, keeping a load from running ahead of the pump. They provide thermal relief protection and locking the load in cases of hydraulic line breakage or in the event of accidental operation of the directional valve when the pump is turned off.

NOT / NOTE:

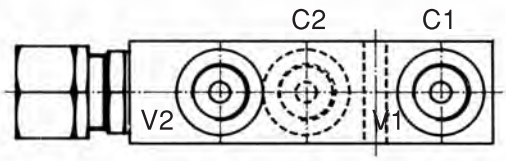
İstenilen yükün 1.3 katına ayarlanmalıdır.
Valve should be set at 1.3 times load induced pressure.

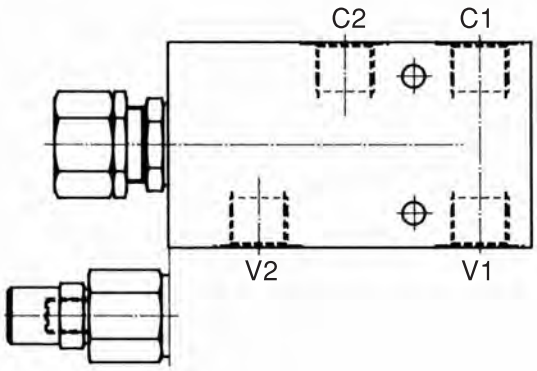
Max. Çalışma Basıncı:

$$\frac{350\ \text{bar}}{1.3} = 270\ \text{bar}$$

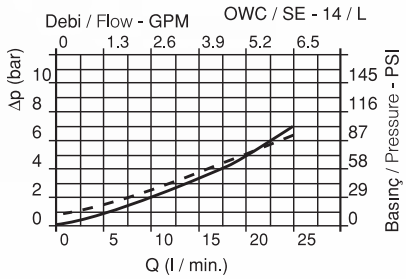
Standardı aliminyum gövde, çelik gövde isteğe bağlı.
Aluminium body valves as standard, steel body on request.

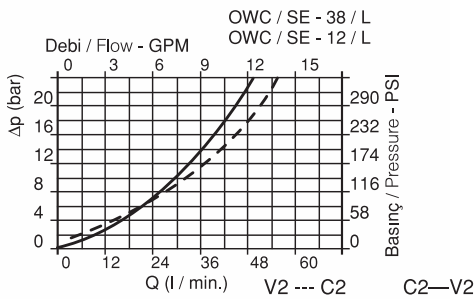
Valfte 2 çeşit ayar şekli mevcuttur.
The valve is avaliable with 2 types of adjustment.





HİDROLİK PERFORMANS / HYDRAULIC PERFORMANCE





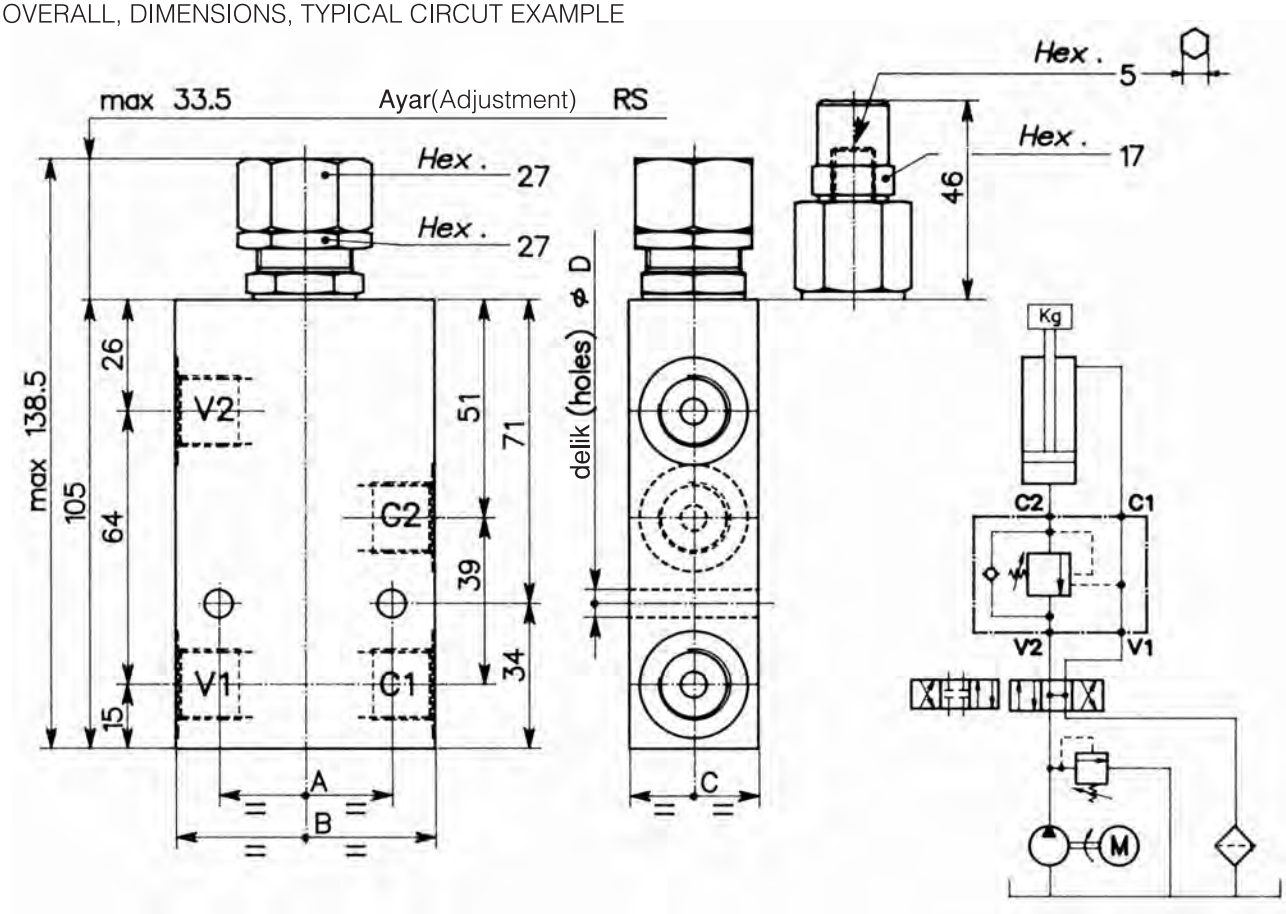
Yağ Vizikozitesi / Oil viscosity 46 cSt at 50° C

PERFORMANS / PERFORMANCE

Max. basınç ayarı Max. setting pressure		350 bar 5000 PSI
Pilot oranı Pilot ratio		4.25 : 1
Yağ sıcaklığı Oil temperature	°C	-30 +80
Filtrasyon Filtration	micron	30

İÇTEN PİLOTLU TEK YÖNLÜ DENGE VALFİ
IN LINE, SINGLE ACTING, INTERNALLY PILOTED OVERCENTER VALVES

GENEL, ÖLÇÜ, DEVRE ÖRNEĞİ
OVERALL, DIMENSIONS, TYPICAL CIRCUT EXAMPLE



VALF KODU VALVE CODE	A	B	C	D					Bağlantı ölçüsü Port Size V2-C2-V1-C1 GAS (BSPP)	Nominal Ölçü Rated Size DN	Maks. Debi Max. Flow Rate l/min-GPM
OWC / SE - 14/L-...	40	60	30	6.5					1/4”	6	25-6.5
OWC / SE - 38/L-...									3/8”	8	40-10
OWC / SE - 12/L-...	50	70	35	8.5					1/2”	10	60-15

VALF KODU VALVE CODE	Ayar Aralığı Setting Range 60 ÷ 350 bar 60 ÷ 350 bar	Ayar Aralığı Setting Range 30 ÷ 220 bar 30 ÷ 220 bar
OWC / SE - 14/L	316	317
OWC / SE - 38/L	003	053
OWC / SE - 12/L	008	058
OWC / SE - 14/L-RS	318	319
OWC / SE - 38/L-RS	150	151
OWC / SE - 12/L-RS	152	153

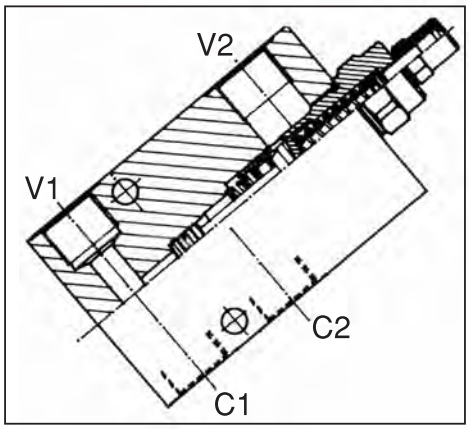
Debi 5 l/dk. iken Std. Basınç değeri Std. bar setting (made at 5 l/1')	Max. min bar ayar aralığı Setting range min-max bar	Renk Colour
350	60 ÷ 350	Yeşil Green
220	30 ÷ 220	Sarı Yellow

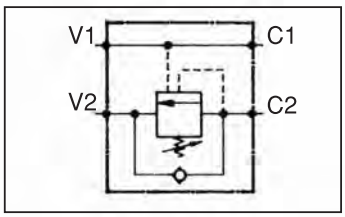
SİPARİŞ KODU / ORDERING CODE

001		000

İÇTEN PİLOTLU TEK YÖNLÜ TEK ETKİLİ DENGE VALFİ
IN LINE, SİNGLE ACTING, INTERNALLY PILOTED, OVERCENTER VALVES.

A - OWC / SE - ... / L
OWC / SE - ... - L

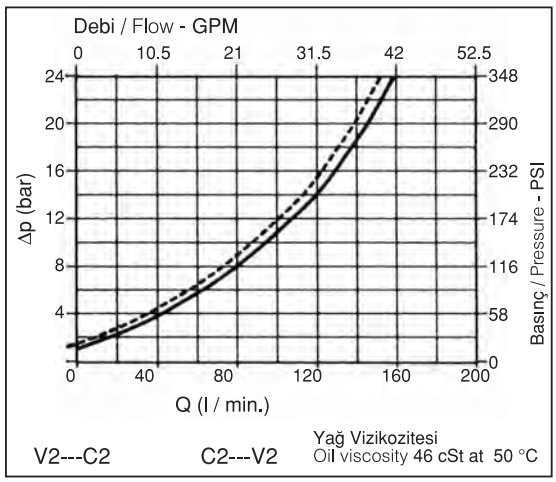




ÇALIŞMASI / OPERATION

Sert çelik kaplı kısmında sıkı bir nokta bulunan denge valfleri kavitasyonu önlemek içindir, ayrıca ısıl koruması vardır, herhangi bir sorun olduğunda ya da bozulma pompadan gelen yükü tutar.
İyi bir performans almak için bizim tavsiyemiz açık merkez valf kullanılmasıdır.

Are overcenter valves with one tight point on hardened steel and are used to prevent cavitation, keeping a load from running ahead of the pump. They provide thermal relief protection and locking the load in cases of hydraulic line breakage or in the event of accidental operation of the directional control valve when the pump is turned off. In order to get the best valve operation we suggest to use then with 'open centre' directional controls.



NOT / NOTE:

Valfler çalışma basıncından 1,3 kat daha düşük basınca ayarlanmalıdır.
Valve should be set at 1.3 times load induced pressure.

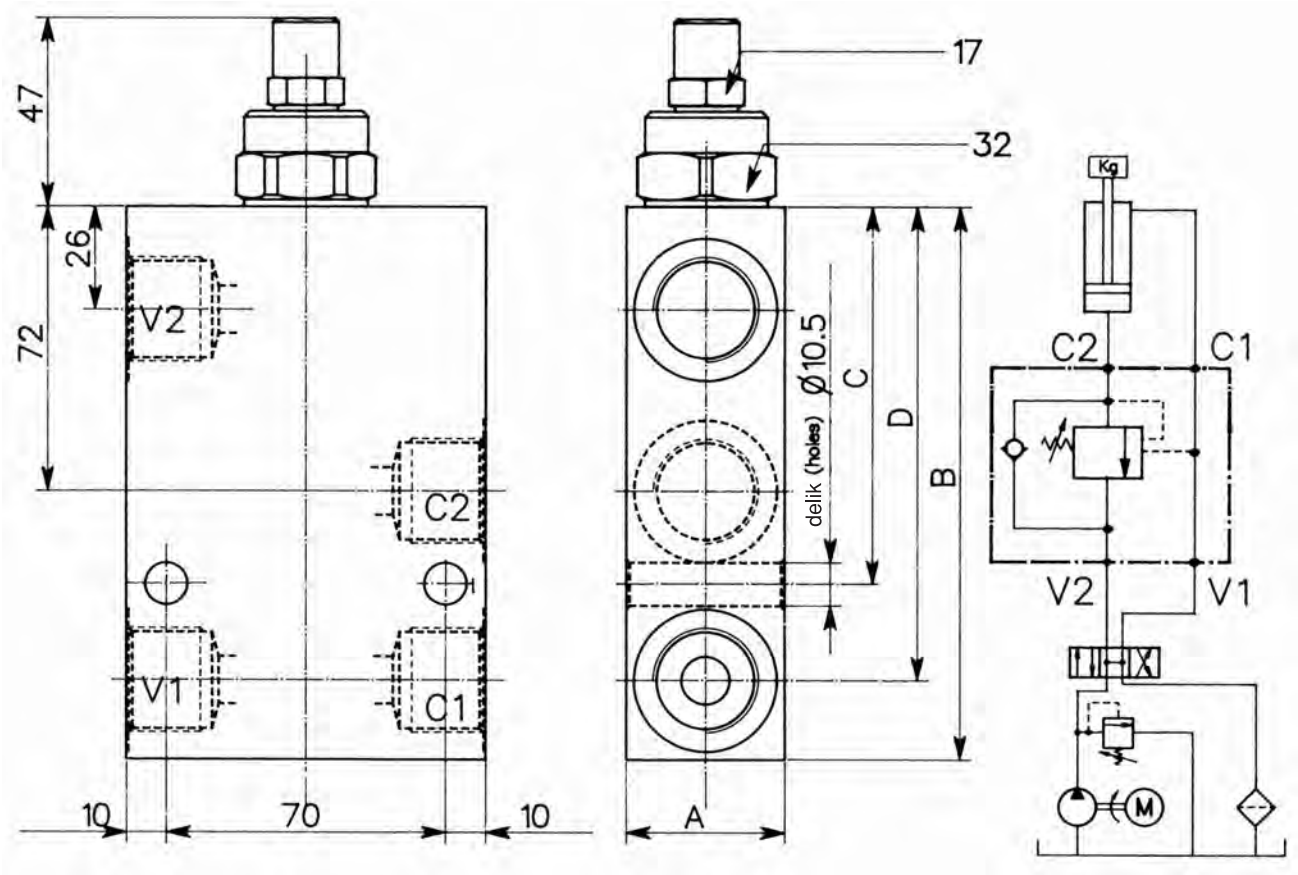
Max. Çalışma Basıncı: $\frac{350 \text{ bar}}{1.3}$ =270 bar
Max. Working Pressure

PERFORMANSLAR / PERFORMANCES

Nominal ölçü Rated size	DN	12
Max. debi Max. flow-rate		150 l/min 40 GPM
Max. basınç ayarı Max. setting pressure		350 bar 5075 PSI
Pilot oranı Pilot ratio		6.2 : 1
Yağ sıcaklığı Oil temperature	°C	-30 +80
Filtrasyon Filtration	micron	30 ÷ 50

Aliminyum ya da çelik gövde standarttır.
Standard with aluminium or steel body.

GENEL, BAĞLANTI ÇÖZÜMLERİ VE TİPİK DEVRE ÖRNEĞİ
GENEL, DIMENSIONS, MOUNTING SOLUTIONS AND TYPICAL CIRCUT EXAMPLE



VALF KODU VALVE CODE	Ayar aralığı Setting range 30 ÷ 350 bar	Gövde Body	A	B	C	D	Bağlantı ölçüsü Port size V1-C1 V2-C2 GAS (BSPP)	Nominal Ölçü Rated size DN	Maks. debi Max. flow rate l / min - GPM
A-OWC/SE-34/L	265	Çelik Steel	40	140	95	120	3/4”	12	120-31
OWC/SE-34/L	219	Aliminyum Aluminium							
A-OWC/SE-100/L	266	Çelik Steel	50	165	107	142	1 “	4	160-42
OWC/SE-100/L	267	Aliminyum Aluminium							

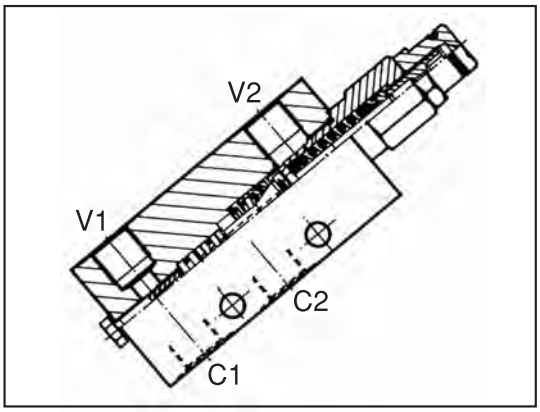
Debi 5 l/dk iken Std. bar setting (made at 5 l/1’)	Ayar aralığı Setting range min - max bar	Renk Colour
220	30 ÷ 350	Sarı Yellow

SİPARİŞ KODU / ORDERING CODE

001		000

HAT TİPİ, TEK ETKİLİ, İÇTEN PİLOTLU, OVERCERTER VALFLER
IN LINE, SINGLE ACTING, INTERNALLY PILOTED, OVERCENTER VALVES

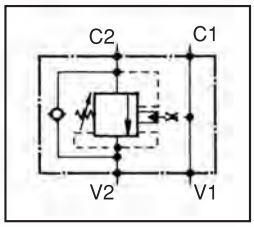
A - WB / CC / SE - ... / L



ÇALIŞMASI / OPERATION

Bu valf WB/C/SE-... / L valflerin özelliklerini taşır, ayrıca alt yolda kayda değer bir geri basınç taşır. Kapalı konumlu yön kontrollü ile tipik uygulamaları vardır.
Anti - şok yön kontrol valflerinde gerekebilir.

This valve mantain all the features of WB/C/SE-...L/ valves, even in presence of significant back pressure in the down stream line.
Typical application then with 'closed centre' directional control.

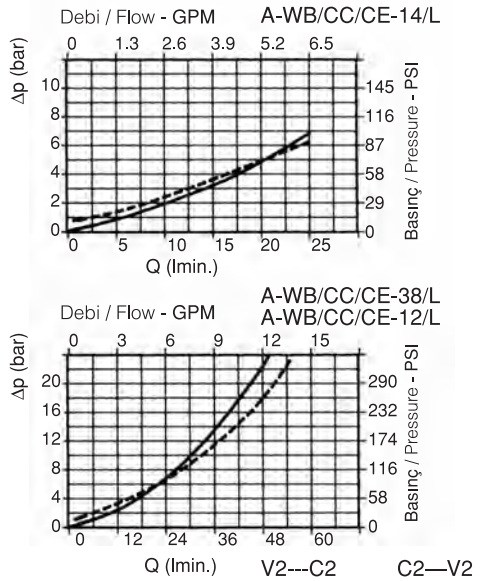


Not / Note:
Anti - şok yön kontrol valflerinde gerekebilir.
Anti-shock valves are required on the directional valve.

Not / Note:
Valfler çalışma basıncından 1,3 kat daha düşük basınca ayarlanmalıdır.
Valve should be set at 1.3 times load induced pressure.

Max. Çalışma Basıncı: $\frac{350 \text{ bar}}{1.3} = 270$ bar
Max. Working Pressure:

HİDROLİK PERFORMANSLAR
HYDRAULIC PERFORMANCE



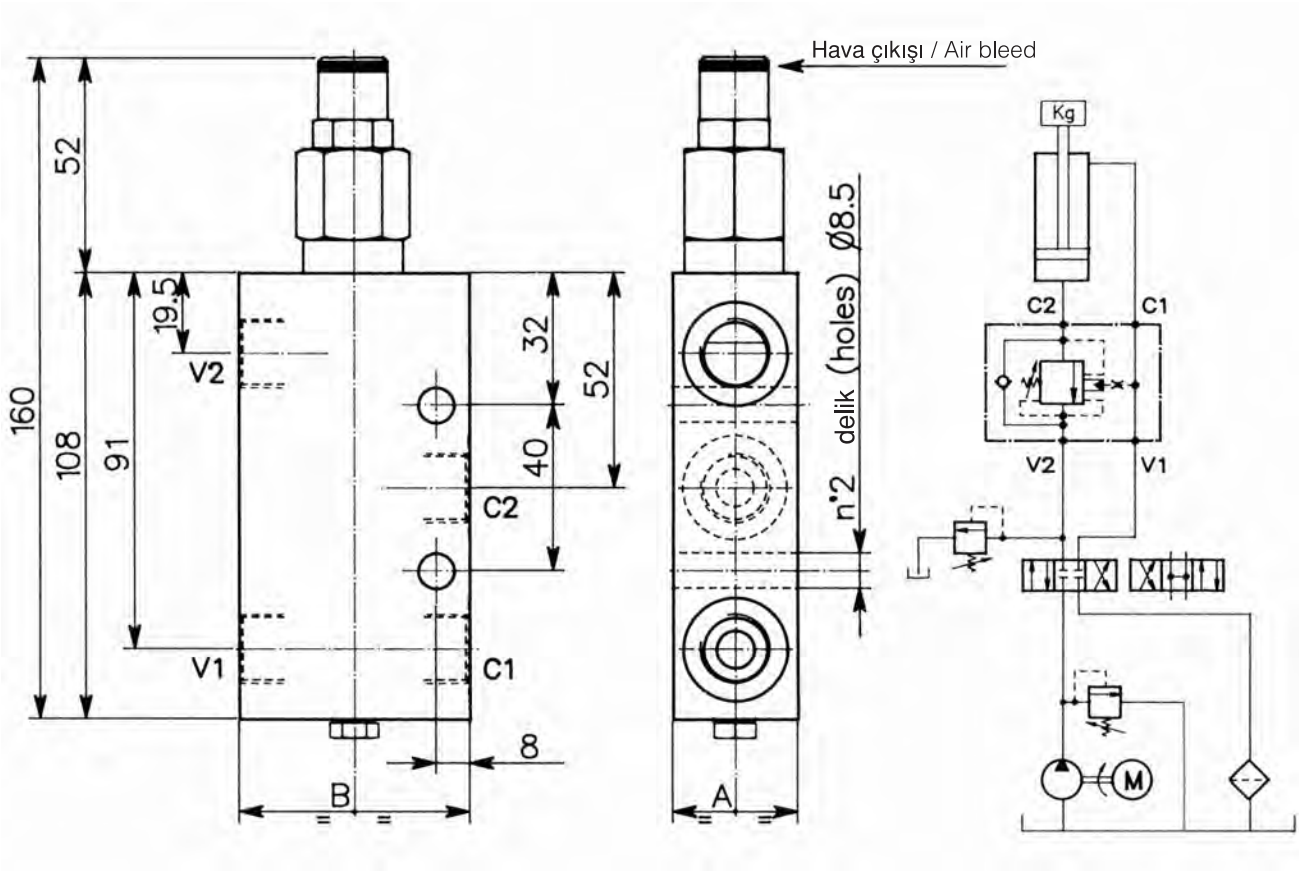
Yağ Vizikozitesi / Oil Viscosity 46 cSt at 50° C

PERFORMANSLAR / PERFORMANCES

Max. basınç ayarı Max. setting pressure		350 bar 5000 PSI
Pilot oranı Pilot ratio		4.25 : 1
Max. debi Max. flow-rate		60 l/min 15 GPM
Yağ sıcaklığı Oil temperature	°C	-30 +80
Filtrasyon Filtration	micron	30

Standart çelik gövde valfler. Steel body valves as standard.

GENEL, ÖLÇÜ, TİPİK DEVRE ÖRNEĞİ
OVERALL, DIMENSIONS, TYPICAL CIRCUT EXAMPLE



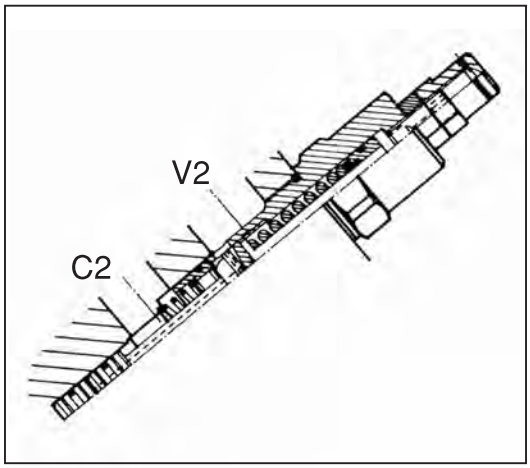
VALF KODU VALVE CODE	Ayar Aralığı Setting Range 100 ÷ 350 bar	Ayar Aralığı Setting Range 60 ÷ 210 bar	A	B			Bağlantı Ölçüsü Port Size V2-C2-V1-C1 GAS (BSPP)	Nominal Ölçü Rated Size DN	Maks. Debi Max. Flow Rate l/min-GPM
A - WB / CC / SE - 14 / L	548	549	30	55			1/4”	6	20-25
A - WB / CC / SE - 38 / L	447	446					3/8”	8	40-10
A - WB / CC / SE - 12 / L	456	455	35	65			1/2”	10	60-15

Debi 5 l/dk. iken Std. Basınç Değeri Std. bar setting (made at 5 l/1')	Ayar aralığı Setting Range min-max bar	Renk Colour
350	100 ÷ 350	Sarı Yellow
200	60 ÷ 210	Yeşil Green

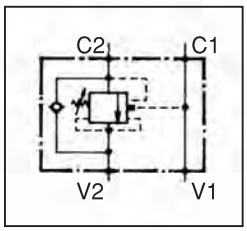
SİPARİŞ KODU / ORDERING CODE

001		000

HAT TİPİ, PİLOT KONTROLLÜ, TEK ETKİLİ OVERCENTER VALFLER
IN LINE, PILOT OPERATED SINGLE ACTING OVERVENTER VALVES.



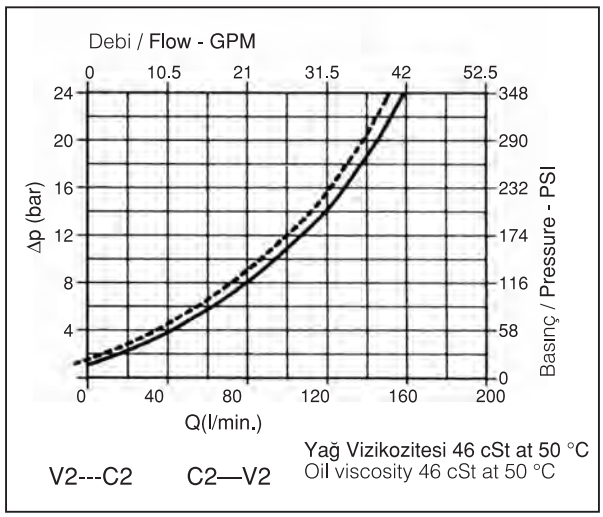
OWC/SE-.../L/CC



ÇALIŞMASI / OPERATION

Sert çelik kaplı kısmında sıkı bir nokta bulunan denge valfleri kavitasyonu önlemek içindir. Ayrıca ısıl koruması vardır, herhangi bir sorun olduğunda ya da bozulma pompodan gelen yükü tutar.
Bu valf WB/C/SE-.../L valflerinin özelliklerini taşır, ayrıca alt yolda kayda değer bir geri basınç taşır.
Bu valfin 'CC' modeli orta konumu kapalı valfler sistemler için dizayn edilmiştir.

Are overcenter valves with one tight point on hardened steel and are used to prevent cavitation, keeping a load from running ahead of the pump. They provide thermal relief protection and locking the load in cases of hydrauyic line breakage or in the event of accidental operation of the directional control valve when the pump is turned off.
This valves maintain all the features of OWC/SE-.../L valves, even in presence of significant back pressure in the downstream line.
This valves, 'CC' model, are designed for system with 'closed centre' actuators.



NOT / NOTE:
Anti-şok yön kontrol valflerinde gerekebilir.
Anti-shock valve is request on the directional valve.

Valfler çalışma basıncında 1.3 katı düşüğüne ayarlanmalıdır.
Valve should be set at 1.3 times load induced pressure.

Max. Çalışma Basıncı:
Max. Working Pressure: $\frac{350 \text{ bar}}{1.3} = 270 \text{ bar}$

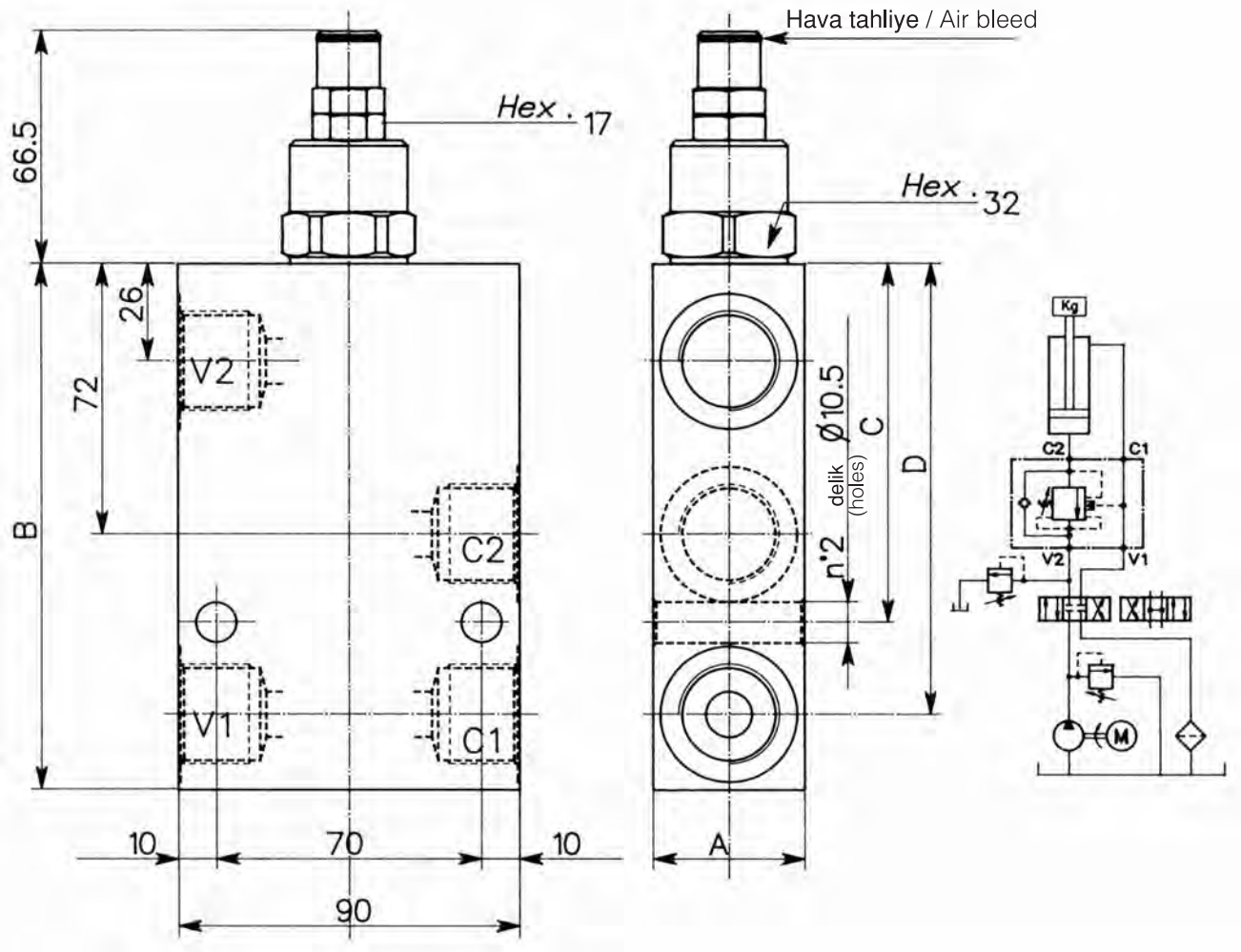
Standart aliminyum gövde çelik isteğe bağlı
Aluminium body valves as standard, steel body on request.

PERFORMANSLAR / PERFORMANCES

Nominal Ölçü Rated Size	DN	12 — 14
Max. debi Max. flow-rate		160 l/min 42 GPM
Max. basınç ayarı Max. setting pressure		350 bar 5000 PSI
Pilot oranı Pilot ratio		6.2 : 1
Yağ sıcaklığı Oil temperature	°C	-30 +80
Filtrasyon Filtration	micron	30

GENEL, ÖLÇÜLER, BAĞLANTI ÇÖZÜMLERİ VE TİPİK DEVRE ÖRNEĞİ

OVERALL, DIMENSIONS, MOUNTING SOLUTIONS AND TYPICAL CIRCUIT EXAMPLE



VALF KODU VALVE CODE	Basınç Aralıkları 60 ÷ 350 bar Setting Range	A	B	C	D			Bağlantı Ölçüsü Port Size V2-C2-V1-C1 GAS (BSPP)	Nominal Ölçü Rated Size DN	Maks. Debi - Oran Max. Flow rate l/min-GPM
OWC / SE - 34 / L / CC	468	40	140	95	120			3/4”	12	120-31
OWC / SE - 100 / L / CC	469	50	165	107	142			1”	14	160-42

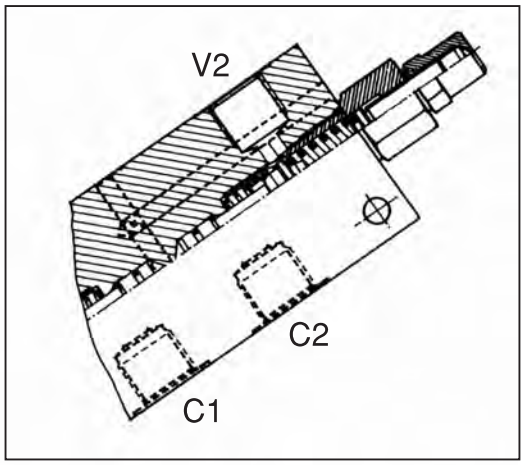
Debi 5 l/dk. iken Std. Basınç Değeri Std. bar setting (made at 5 l/1')	Ayar aralığı Setting Range Min-max bar	Renk Colour
220	30 ÷ 350	Sarı Yellow

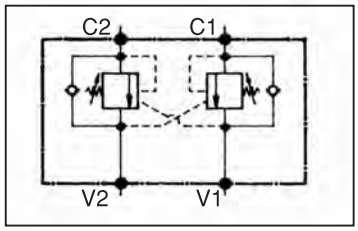
SİPARİŞ KODU / ORDERING CODE

001		000

HAT TİPİ, PİLOT KONTROLLÜ, ÇİFT ETKİLİ OVERCENTER VALFLER
IN LINE, PILOT OPERATED DOUBLE ACTING OVERCENTER VALVES.

OWC / DE / -... / LU

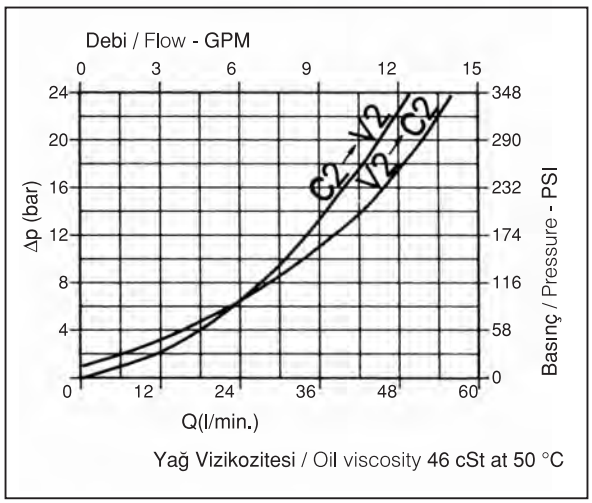




ÇALIŞMASI / OPERATION

Sert çelik kaplı kısmında sıkı bir nokta bulunan denge valfleri kavitasyonu önlemek içindir, ayrıca ısıl koruması vardır, herhangi bir sorun ya da bozulma olduğunda pompadan gelen yükü tutar.
İyi bir performans almak için bizim tavsiyemiz açık merkez valf kullanılmasıdır.

Are overcenter valves with one tight point on hardened steel and are used to prevent cavitation, keeping a load from running ahead of the pump. They provide thermal relief protection and locking the load in cases of hydraulic line breakage or in the event of accidental operation of the directional control valve when the pump is turned off. In order to get the best valve operation we suggest to use then with 'open centre' directional controls.



NOT / NOTE:

Valfler çalışma basıncında 1.3 katı düşüğüne ayarlanmalıdır.
Valve should be set at 1.3 times load induced pressure.

Max Çalışma Basıncı: / Max. Working Pressure $\frac{350 \text{ bar}}{1.3} = 270 \text{ bar}$

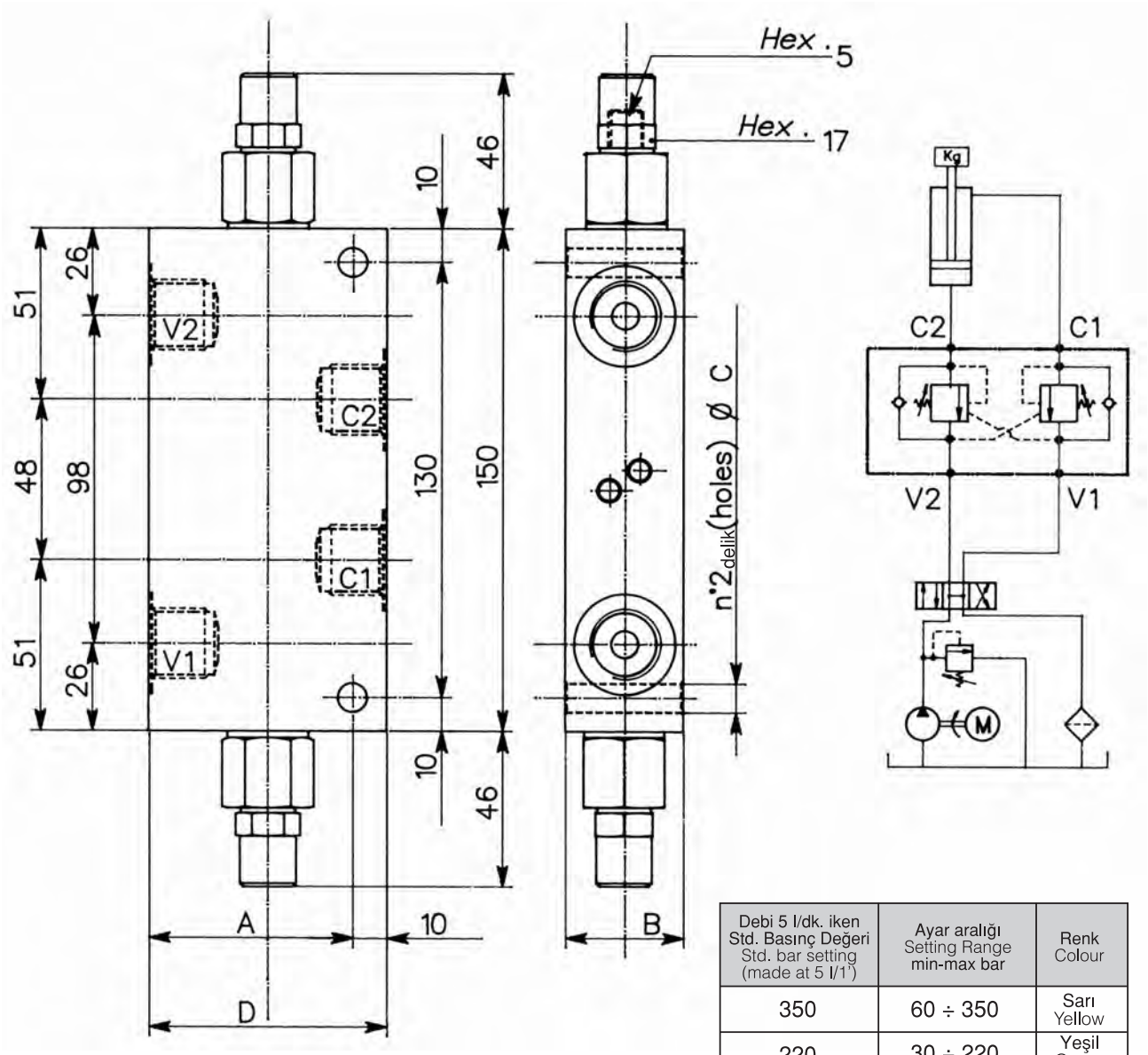
Aliminyum gövde standart, çelik gövde isteğe bağlı.
Aluminium body valves as standard, steel body on request.

PERFORMANSLAR / PERFORMANCES

Nominal ölçü Rated Size	DN	8
Max. debi Max. flow-rate		60 l/min 15 GPM
Max. basınç ayarı Max. setting pressure		350 bar 5000 PSI
Pilot oranı Pilot ratio		4.25 : 1
Yağ sıcaklığı Oil temperature	°C	-30 +80
Filtrasyon Filtration	micron	30

GENEL, ÖLÇÜLER, BAĞLANTI ÇÖZÜMLERİ VE TİPİK DEVRE ÖRNEĞİ

OVERALL, DIMENSIONS, MOUNTING SOLUTIONS AND TYPICAL CIRCUIT EXAMPLE



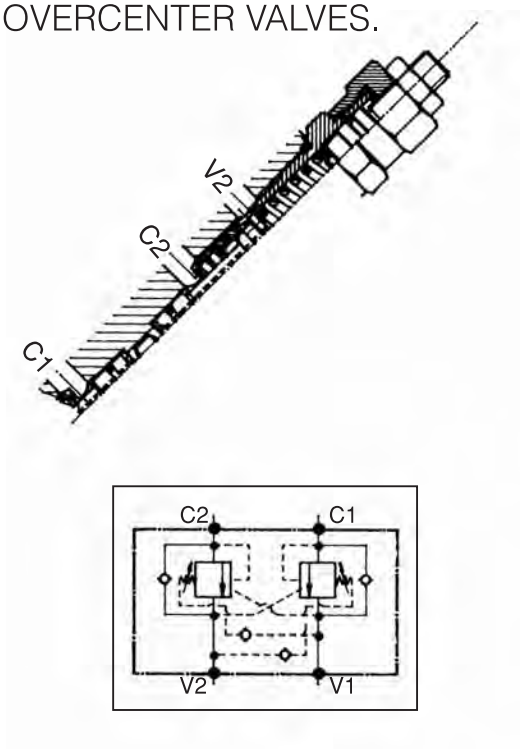
Debi 5 l/dk. iken Std. Basınç Değeri Std. bar setting (made at 5 l/1')	Ayar aralığı Setting Range min-max bar	Renk Colour
350	60 ÷ 350	Sarı Yellow
220	30 ÷ 220	Yeşil Green

VALF KODU VALVE CODE	Ayar aralığı Setting range 60 ÷ 350 bar	Ayar aralığı Setting range 30 ÷ 220 bar	A	B	C	D	Bağlantı Ölçüsü Port size V2-C2 V1-C1 GAS (BSPP)	Nominal Ölçü Rated size DN	Max. debi Max. flow rate l / min - GPM
OWC / DE - 14 / LU	106	107	50	30	6.5	60	1/4”	6	20-5
OWC / DE - 38 / LU	005	055					3/8”	8	40-10
OWC / DE - 12 / LU	010	060	60	35	8.5	70	1/2”	10	60-15

SİPARİŞ KODU / ORDERING CODE

001		000

HAT TİPİ, PİLOT KUMANDALI, ÇİFT ETKİLİ OVERCENTER VALFLER
IN LINE, PILOT OPERATED DOUBLE ACTING OVERCENTER VALVES.

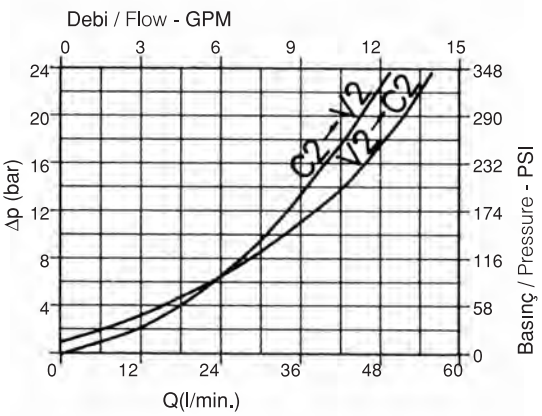


WB / C / DE / LU-...

ÇALIŞMASI / OPERATIONS

Sert çelik kaplı kısmında sıkı bir nokta bulunan denge valfleri kavitasyonu önlemek içindir, ayrıca ısıl koruması vardır, herhangi bir sorun ya da bozulma olduğunda pompadan gelen yükü tutar.
Bu valfler kapalı merkez portlu valflerle tasarlanmıştır.
Bununla birlikte açık merkez portlu valflerle de kullanılabilir.

Are overcenter valves with one tight point on hardened steel and are used to prevent cavitation, keeping a load from running ahead of the pump. They provide thermal relief protection and locking the load in cases of hydraulic line breakage or in the event of accidental operation of the directional control valve when the pump is turned off. This valves are designed for system with 'closed centre' actuators they could howiver be used in system with 'open centre' actuators.



Yağ Vizikozitesi / Oil viscosity 46 cSt at 50 °C

NOT / NOT:

Valfler çalışma basıncında 1.3 katı düşüğüne ayarlanmalıdır.
Valve should be set at 1.3 times load induced pressure.

Max Çalışma Basıncı:
Max. Working Pressure

$$\frac{350 \text{ bar}}{1.3} = 270 \text{ bar}$$

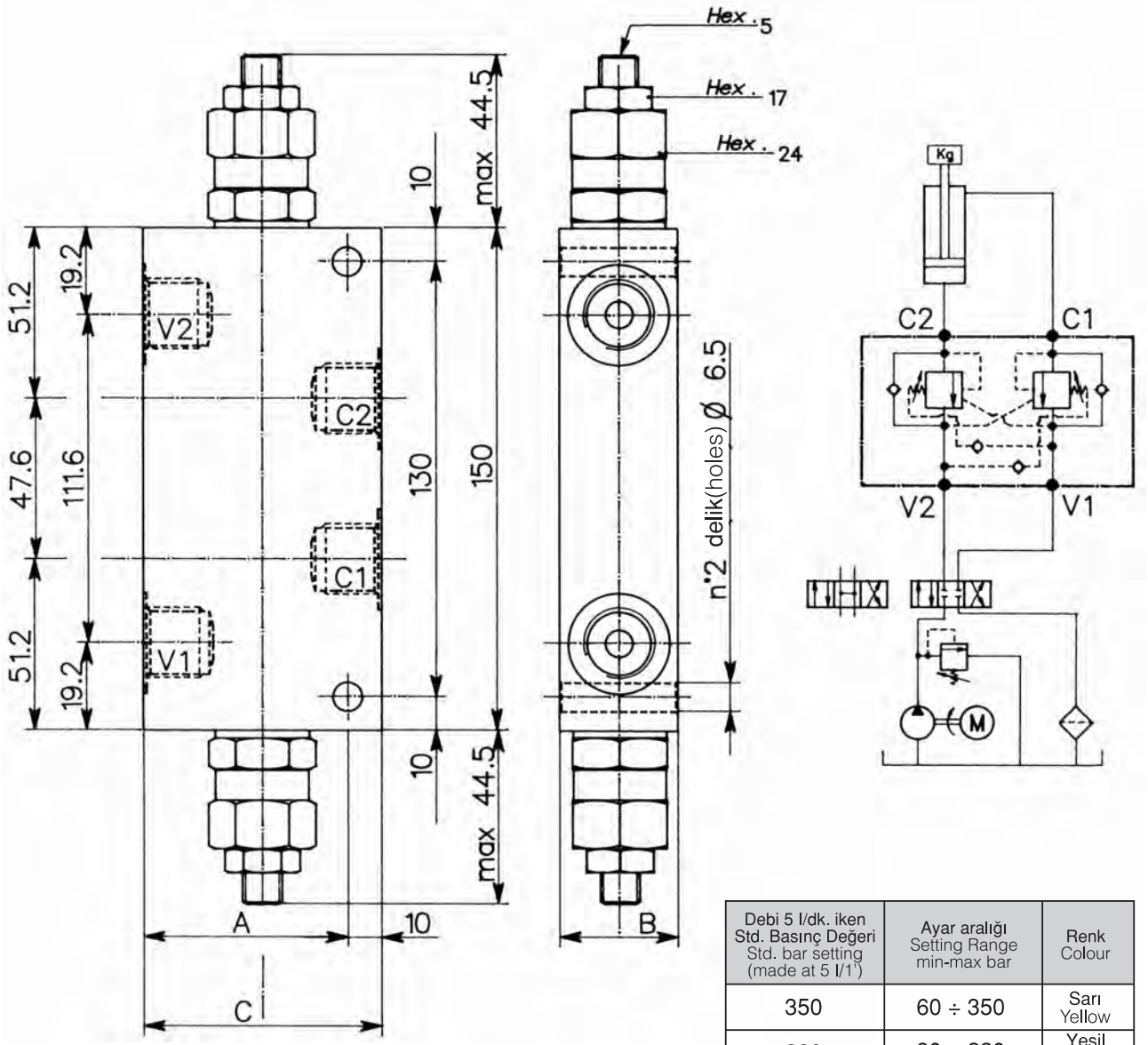
Aliminyum gövde standart, çelik gövde isteğe bağlı.
Aluminium body valves as standard, steel body on request.

PERFORMANSLAR / PERFORMANCES

Nominal ölçü Rated Size	DN	8
Max. debi Max. flow-rate		60 l/min 15 GPM
Max. basınç ayarı Max. setting pressure		350 bar 5000 PSI
Pilot oranı Pilot ratio		4.25 : 1
Yağ sıcaklığı Oil temperature	°C	-30 +80
Filtrasyon Filtration	micron	30

GENEL, ÖLÇÜLER, BAĞLANTI ÇÖZÜMLERİ VE TİPİK DEVRE ÖRNEĞİ

OVERALL, DIMENSIONS, MOUNTING SOLUTIONS AND TYPICAL CIRCUIT EXAMPLE



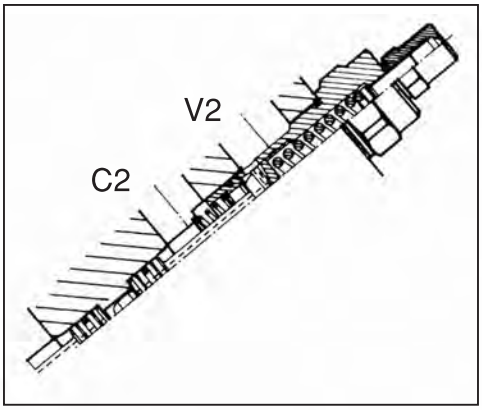
Debi 5 l/dk. iken Std. Basınç Değeri Std. bar setting (made at 5 l/1')	Ayar aralığı Setting Range min-max bar	Renk Colour
350	60 ÷ 350	Sarı Yellow
220	30 ÷ 220	Yeşil Green

VALF KODU VALVE CODE	Ayar aralığı Setting range 60 ÷ 350 bar	Ayar aralığı Setting range 30 ÷ 220 bar	A	B	C	Bağlantı Ölçüsü Port size V2-C2 V1-C1 GAS (BSPP)	Oranlı boyut Rated size DN	Max. debi Max. flow rate l / min - GPM
WB / C / DE / LU - 14	255	254	50	30	60	1/4"	6	20-5
WB / C / DE / LU - 38	257	256				3/8"	8	40-10
WB / C / DE / LU - 12	259	258	60	35	70	1/2"	10	60-15

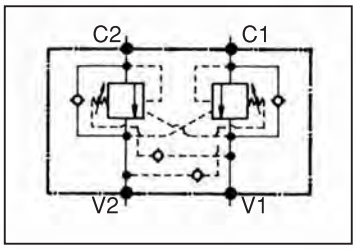
SİPARİŞ KODU / ORDERING CODE

001		000

HAT TİPİ, PİLOT KUMANDALI, ÇİFT ETKİLİ OVERCENTER VALFLER
IN LINE, PILOT OPERATED DOUBLE ACTING OVERCENTER VALVES.



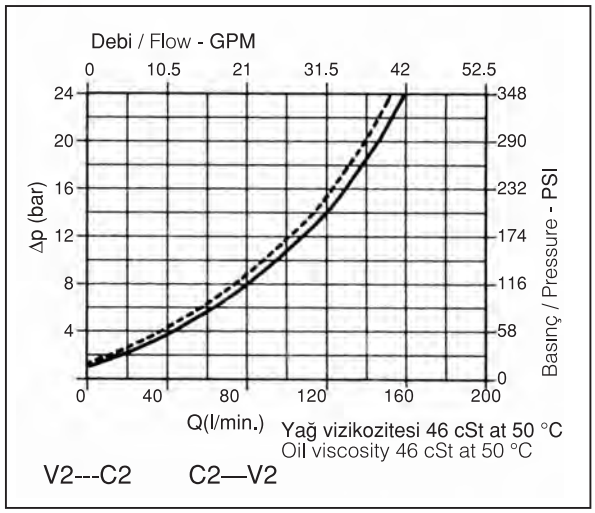
OWC / DE / - ... / LU



ÇALIŞMASI / OPERATIONS

Sert çelik kaplı kısmında sıkı bir nokta bulunan denge valfleri kavitasyonu önlemek içindir, ayrıca ısıl koruması vanrdır, herhangi bir sorun ya da bozulma olduğunda pompadan gelen yükü tutar. Bu valfler kapalı merkez portlu valflerle tasarlanmıştır ; fakat açık merkez portlu valflerle de kullanılabilir.

Are overcenter valves with one tight point on hardened steel and are used to prevent cavitation, keeping a load from running ahead of the pump. They provide thermal relief protection and locking the load in cases of hydraulic line breakage or in the event of accidental operation of the directional control valve when the pump is turned off. This valves are designed for system with 'closed centre' actuators they could howiver be used in system with 'open centre' actuators.



NOT / NOTE:

Valfler çalışma basıncında 1.3 katı düşüğüne ayarlanmalıdır.
Valve should be set at 1.3 times load induced pressure.

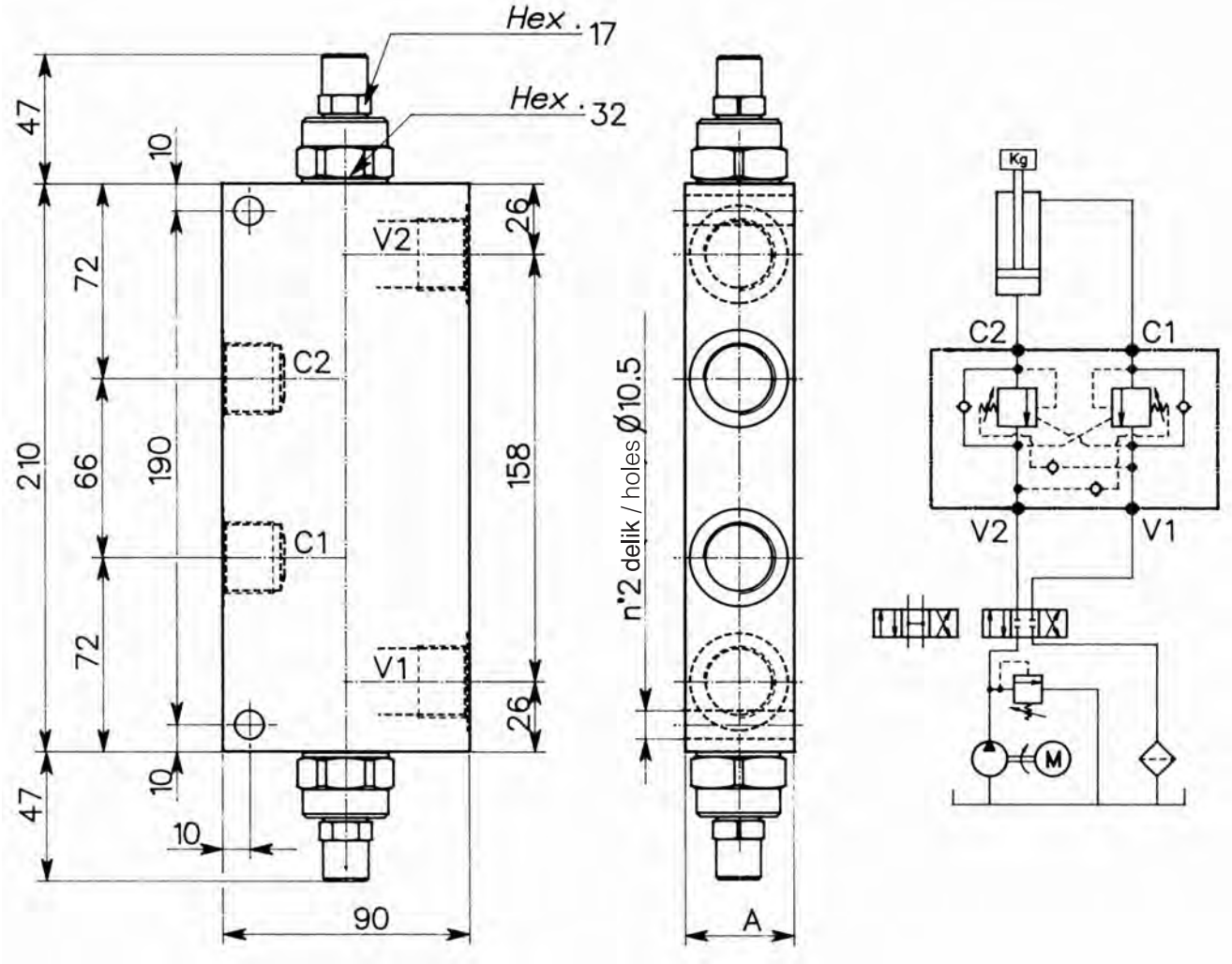
Max Çalışma Basıncı: / Max. Working Pressure $\frac{350 \text{ bar}}{1.3} = 270 \text{ bar}$

Aliminyum gövde standart, çelik gövde isteğe bağlı.
Aluminium body valves as standard, steel body on request.

PERFORMANSLAR / PERFORMANCES

Nominal ölçü Rated Size	DN	12 - 14
Max. debi Max. flow-rate		160 l/min 42 GPM
Max. basınç ayarı Max. setting pressure		350 bar 5000 PSI
Pilot oranı Pilot ratio		6.2 : 1
Yağ sıcaklığı Oil temperature	°C	-30 +80
Filtrasyon Filtration	micron	30

GENEL, ÖLÇÜLER, BAĞLANTI ÇÖZÜMLERİ VE TİPİK DEVRE ÖRNEĞİ
OVERALL, DIMENSIONS, MOUNTING SOLUTIONS AND TYPICAL CIRCUIT EXAMPLE



VALF KODU VALVE CODE	Basınç Aralıkları 30 ÷ 350 bar Setting Range	A						Bağlantı Ölçüsü Port Size V2-C2-V1-C1 GAS (BSPP)	Nominal Ölçü Rated Size DN	Max. Debi - Oran Max. Flow rate l/min-GPM
OWC / DE - 34 / LU	453	40						3/4”	12	120-31
OWC / DE - 100 / LU	454	50						1”	14	160-42

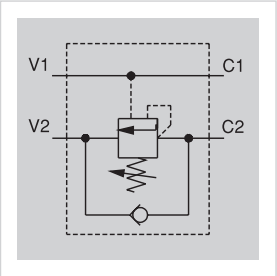
Debi 5 l/dk. iken Std. Basınç Değeri Std. bar setting (made at 5 l/1’)	Ayar aralığı Setting Range min-max bar	Renk Colour
220	30 ÷ 350	Sarı Yellow

SİPARİŞ KODU / ORDERING CODE

001		000

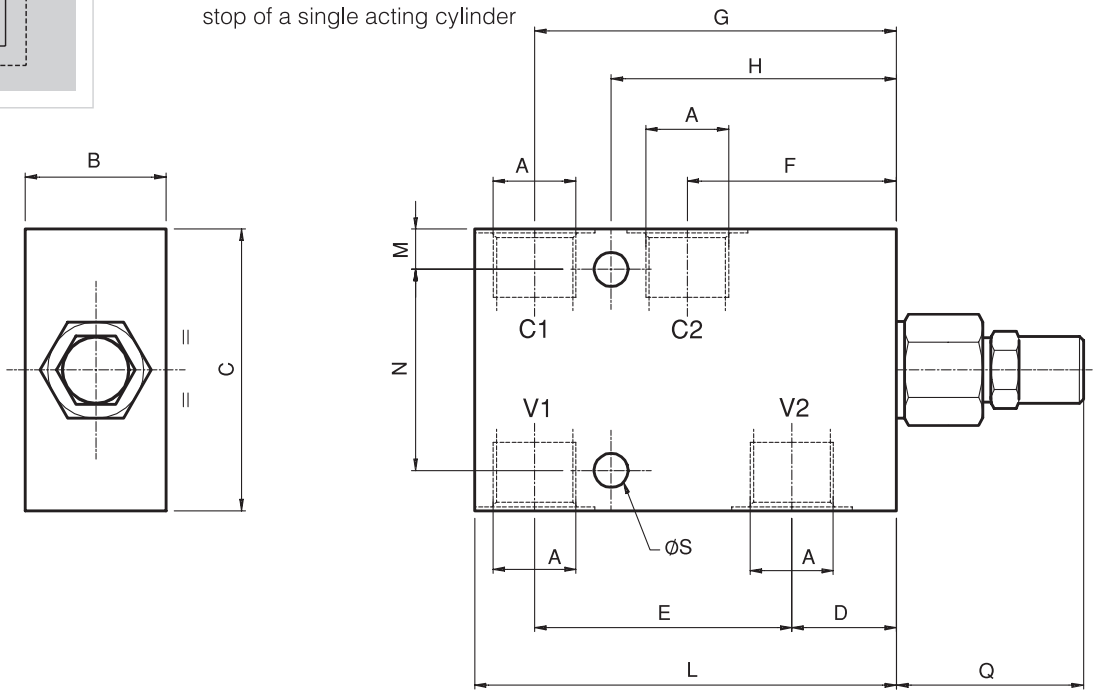
TEK ETKİLİ KARŞI DENGE VALFLERİ
SINGLE ACTING OVERCENTER VALVES

VBCL



Tek etkili karşı denge valf tipi VBCL yükün inişinin kontrolü ile tek etkili silindirin durmasını sağlar.

The single acting overcenter valves type VBCL allow both the descent control of a load and the stop of a single acting cylinder



TEKNİK ÖZELLİKLER / FEATURES

Kod Code	A	Max. Debi Max flow l/min	Max. Basınç Max pressure bar	B	C	D	E	F	G	H	L	M	N	Q	S	Pilot Oranı Pilot ratio	Ağırlık Weight Kg
VBCL140	BSPP 1/4	30	210	30	60	26	64	52	90	71	105	10	40	46,5	6,5	1:4,25	0,62
VBCL380	BSPP 3/8	40		30	60	26	64	52	90	71	105	10	40	46,5	6,5		0,58
VBCL120	BSPP 1/2	60		35	70	26	64	52	90	71	105	10	50	46,5	8,5		0,60

SİPARİŞ KODU / ORDERING CODE

VBCL *** * *

- BSPP 1/4 — 140
- BSPP 3/8 — 380
- BSPP 1/2 — 120

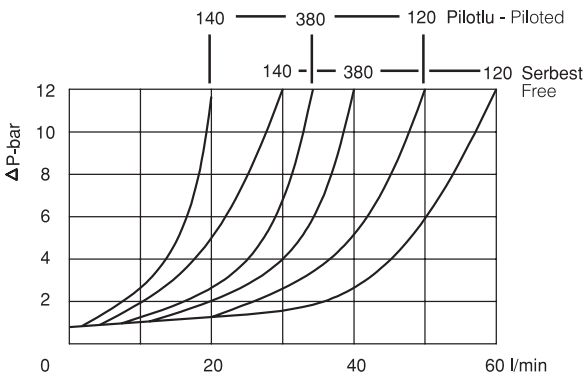
Ölçü / Size

- Yeşil yay 30±210 bar / Green spring — 1
- Sarı yay 60±350 bar / Yellow spring — 2

Sadece çelik gövde / For steel body only

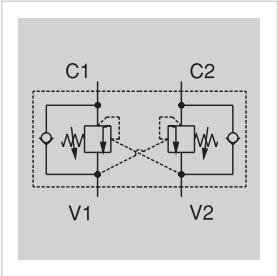
- Aliminyum gövde / Aluminium body — A
- Çelik gövde / Steel body — S

BASINÇ ÇİZGİLERİ/ PRESSURE DROPS



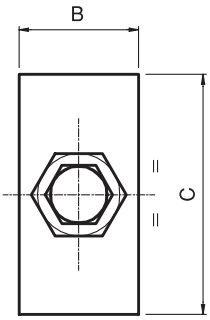
ÇİFT ETKİLİ KARŞI DENGE VALFLER
DOUBLE ACTING OVERCENTER VALVES

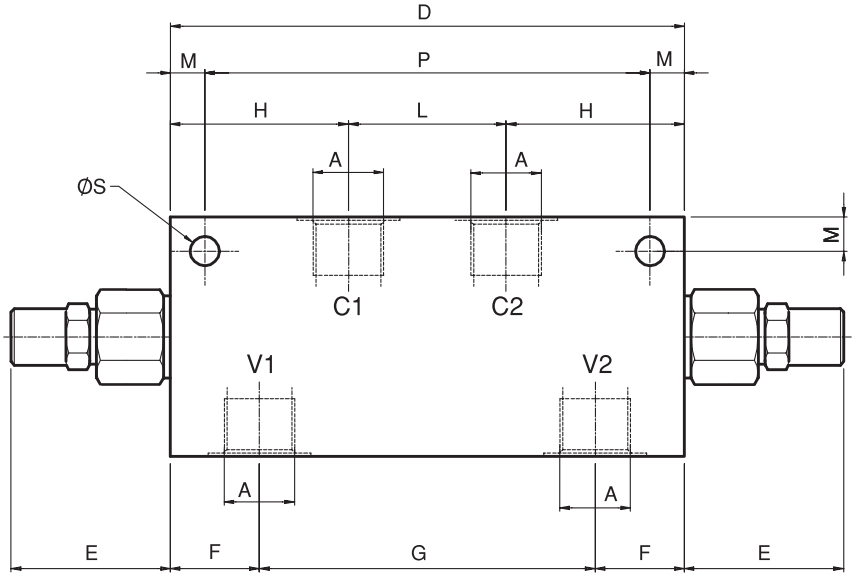
VBCD



VBDC çift etkili karşı denge valfleri hem yükün iniş kontrolünü sağlar, hem de çift etkili silindiri durdurur.

The double acting overcenter valves type VBCD allow both the descent control of a load and the stop of a double acting cylinder

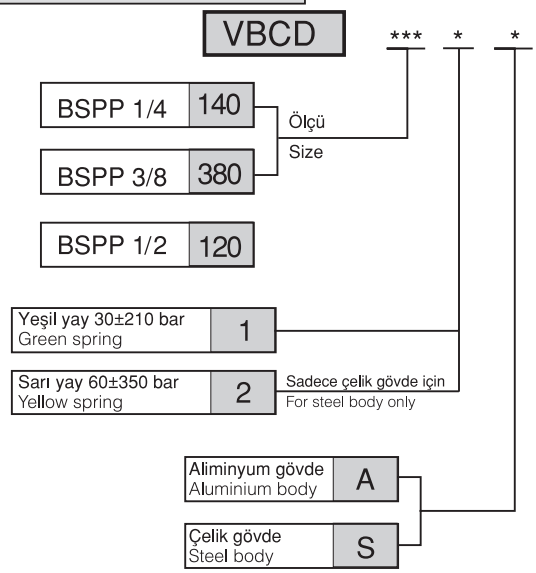




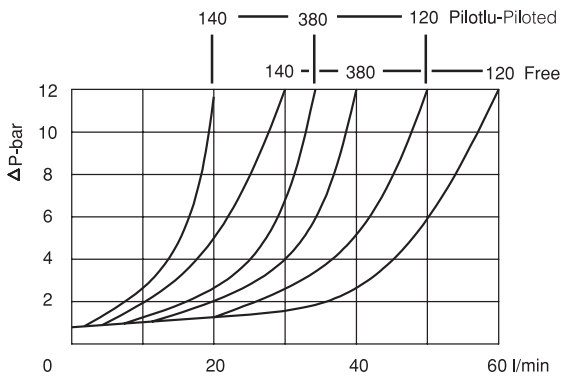
TEKNİK ÖZELLİKLER / FEATURES

Kod Code	A	Max. Debi Max flow l/min	Max. Basınç Max pressure bar	B	C	D	E	F	G	H	L	M	N	Pilot Oranı Pilot ratio	Ağırlık Weight Kg
VBCD140	BSPP 1/4	30	210	30	60	150	46,5	26	98	52	46	10	6,5	1:4,25	0,62
VBCD380	BSPP 3/8	40		30	60	150	46,5	26	98	52	46	10	6,5		0,58
VBCD120	BSPP 1/2	60		35	70	150	46,5	26	98	52	46	10	8,5		0,60

SİPARİŞ KODU / ORDERING CODE

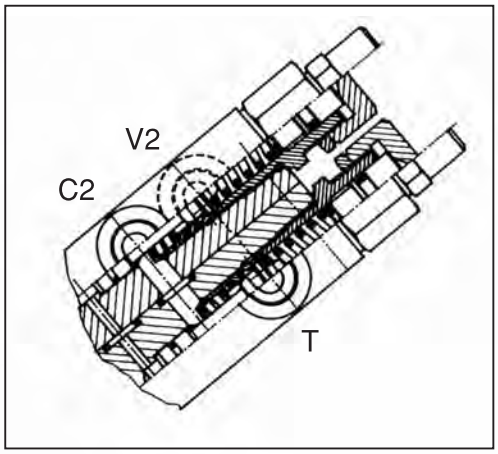


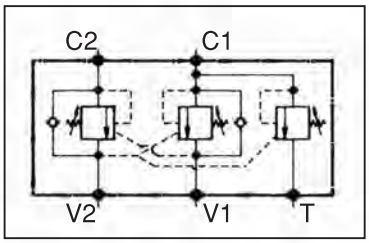
BASINÇ DÜŞÜŞÜ / PRESSURE DROP



TELESKOBİK SİLİNDİR BOŞALTMA VALFİ
DUAL OVERCENTER VALVES PILOT ASSISTED IN LINE VERSION WITH DOUBLE SECTION ON ONE SIDE

OWC / DE / SE - ... / LU - ...





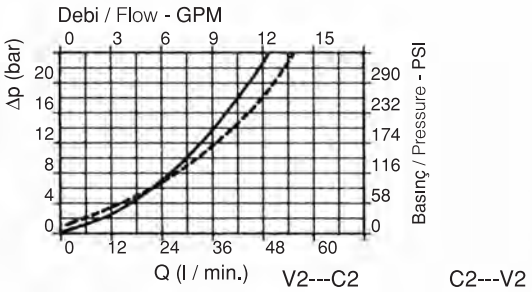
ÇALIŞMA / OPERATION

Bu valf; yön kontrol valfini by-pass ederek akışın yarısını veya yarısından fazlasını tanka aktarır. Silindirin dönüş hattını rahatlatarak sonuçta çalışma süresini ve aşırı yükle birlikte basınç düşüşlerini azaltır. Yukarıdaki özelliklerle yük tutma valfinin etkinliğini arttırır.
Büyük fark alanına sahip ve dolayısıyla büyük dönüş yağı hacmine sahip teleskobik silindirlere çok uygundur.

These valves enable to drain directly to tank half or more of the flow by passing the directional control valve, double the flow rate passing through the return line of the cylinder and consequently reduce operating time, peak loads and pressure drops.
all the above features finally lead to enhance the counter balance valve efficiency.
They are best suuited to control telescopic cylinders with large differential area and consequently large volume of return oil.

HİDROLİK PERFORMANSLAR
HYDRAULIC PERFORMANCE

OWC / DE /SE - 38 / LU-...
OWC / DE /SE - 12 / LU-...



Yağ vizikozitesi / Oil viscosity 46 cSt at 50 °C

NOT / NOTE:
Valfler çalışma basıncından 1,3 kat daha düşük basınca ayarlanmalıdır.

Valve should be set at 1.3 times load induced pressure.

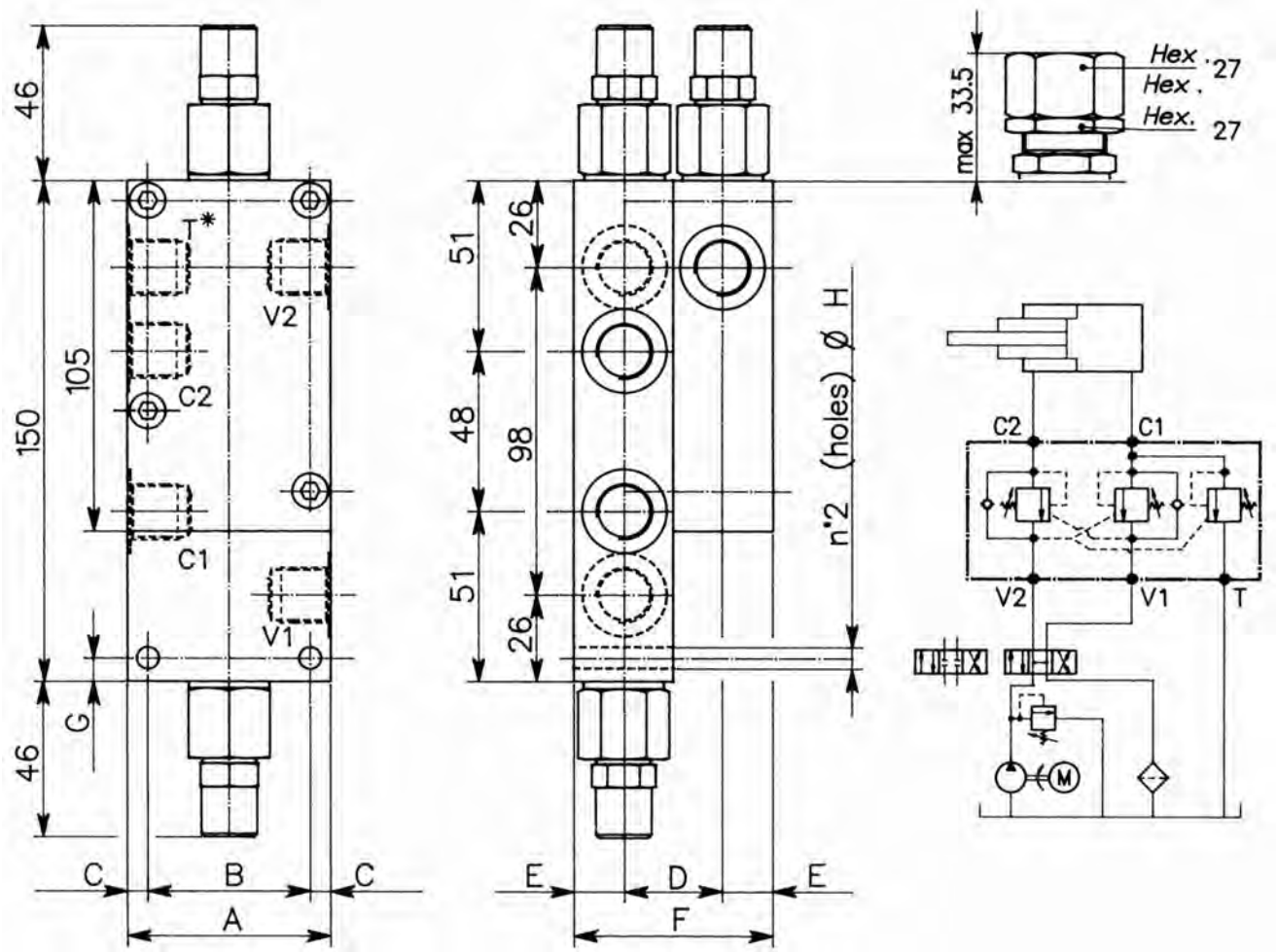
Max. Çalışma Basıncı: $\frac{350 \text{ bar}}{1.3}$ =270 bar
Max. Working Pressure

PERFORMANSLAR / PERFORMANCES

Max. basınç ayarı Max. setting pressure		350 bar 5000 PSI
Pilot oranı Pilot ratio		4.25 : 1
Yağ sıcaklığı Oil temperature	°C	-30 +80
Filtrasyon Filtration	micron	30

Standardı aliminyum gövdedir, istenildiğinde çelik gövde de olabilir.
Aliminium body valves as standard, steel body on request.

GENEL, ÖLÇÜ, DEVRE ÖRNEĞİ
OVERALL, DIMENSIONS, TYPICAL CIRCUT EXAMPLE



VALF KODU VALVE CODE	A	B	C	D	E	F	G	H		Bağlantı Ölçüsü Port Size V2-V1-C1-C2-T GAS (BSPP)	Nominal ölçü Rated Size DN	Max. Debi Max. Flow Rate l/min-GPM
OWC/DE/SE-38/L-...	60	48	6	29	15	59	7	6.5		3/8”	8	40-10
OWC/DE/SE-12/L-...	70	54	7	34	17.5	69	8	8.5		1/2”	10	60-15

VALF KODU VALVE CODE	Ayar Aralığı Setting Range 60 ÷ 350 bar	Ayar Aralığı Setting Range 30 ÷ 220 bar
OWC/DE/SE-38/LU	007	057
OWC/DE/SE-38/LU-RS	166	167
OWC/DE/SE-12/LU	012	062
OWC/DE/SE-12/LU-RS	168	169

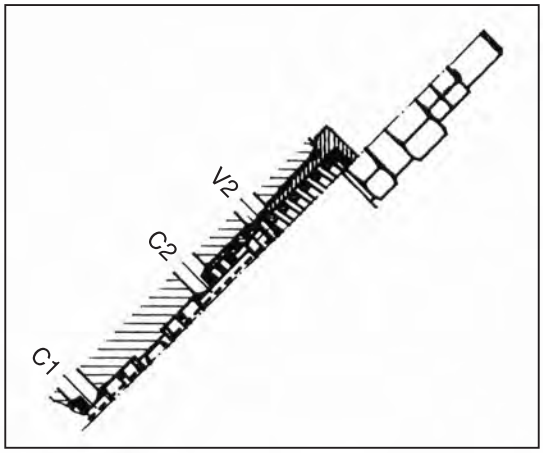
Debi 5 l/dk. iken Std. Basınç değeri Std. bar setting (made at 5 l/1')	Max. min bar ayar aralığı Setting range min-max bar	Renk Colour
350	60 ÷ 350	Yeşil Green
220	30 ÷ 220	Sarı Yellow

SİPARİŞ KODU / ORDERING CODE

001		000

SİLİNDİR GİRİŞLERİNE DİREKT OLARAK BAĞLANABİLEN, PİLOTLU, OVERCENTER VALF

PILOT OPERATED DOUBLE ACTING OVERCENTER VALVES DIRECTLY FLANGIABLE ON CYLINDER PORTS WITH BOLTS

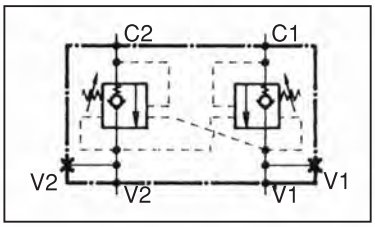


WB / DE / - .... FCB - ....

ÇALIŞMASI / OPERATION

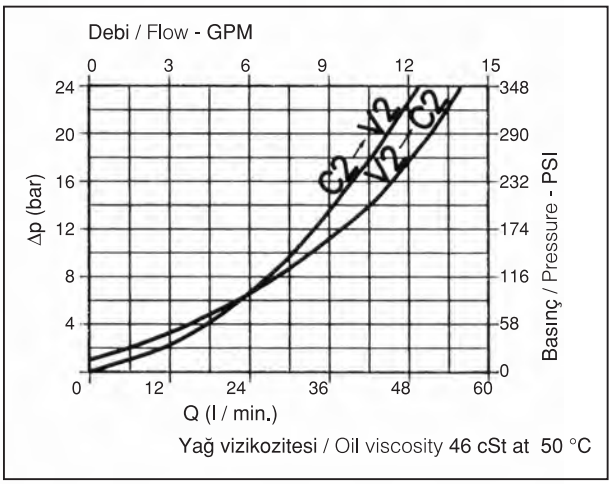
Sert çelik kaplı kısmında sıkı bir nokta bulunan denge valfleri kavitasyonu önlemekk içindir. Ayrıca ısıl korunması vardır. Herhangi bir sorun olduğunda ya da bozulmada pompadan gelen yükü tutar.

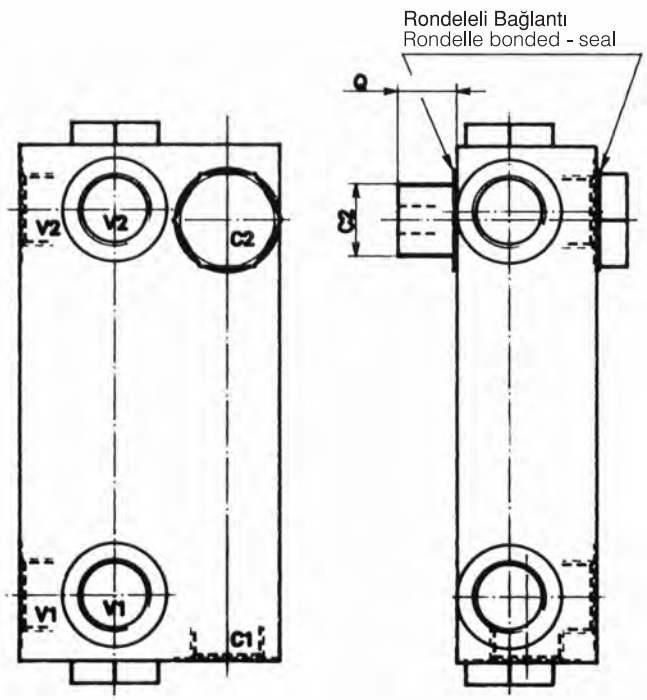
Are overcenter valves with one tight poent on harened steel and are used to prevent cavitation, keeping a load from running ahead of the pump. They provide thermal relief protection and locking the load in cases of hydraulic line breakage or in the event of accidental operation of the directional control valve when the pump is turned off.



NOT / NOTE:
Valfler çalışma basıncından 1.3 kat daha düşük basınca ayarlanmalıdır.
Valve should be set at 1.3 times load induced pressure.

Max Çalışma Basıncı: / Max. Working Pressure $\frac{350 \text{ bar}}{1.3} = 270 \text{ bar}$

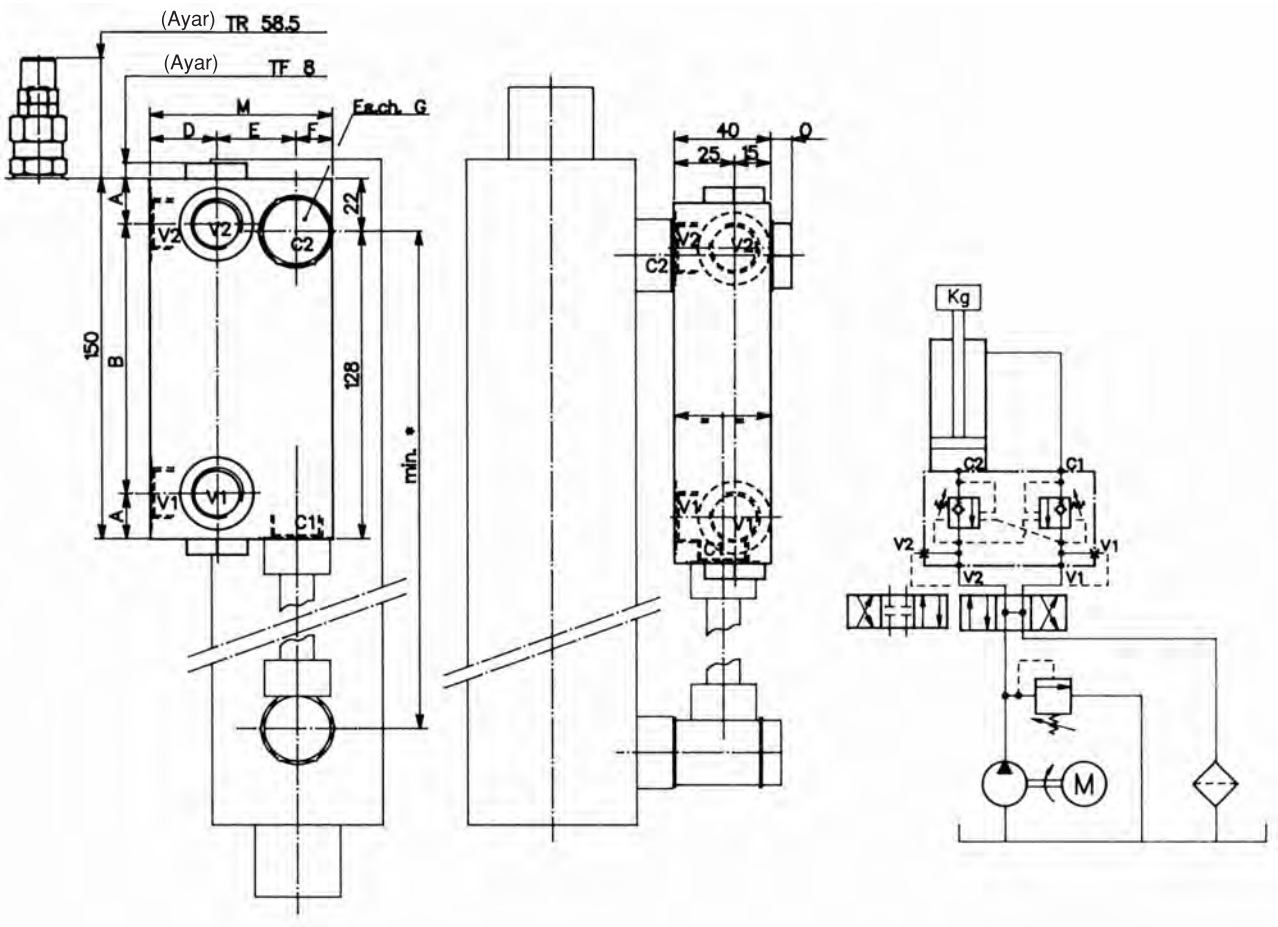




PERFORMANSLAR / PERFORMANCES

Nominal ölçü Rated size	DN	8
Max. debi Max. flow rate		60 l / min 15 GPM
Max. basınç ayarı Max. setting pressure		350 bar 5000 PSI
Pilot oranı Pilot ratio		4.25 : 1
Yağ sıcaklığı Oil temperature	°C	-30 +80
Filtrasyon Filtration	micron	30

GENEL, ÖLÇÜLER, BAĞLANTI ÇÖZÜMLERİ TİPİK DEVRE ÖRNEĞİ
OVERALL, DIMENSIONS, MOUNTING SOLUTIONS TYPICAL CIRCUIT EXAMPLE.



BAĞLANTI TİPİ OLARAK ÖLÇÜ
DIMENSIONS AS PER FITTING TYPE.

AYAR ŞEKİLLERİ ADJUSTMENT TYPE	TR Allen ile Dowel	TF Sabit ayarlı Fixed setting

NB. VALF 3 DELİKLE KUMANDA VALFİNE BAĞLANIR. ÖZEL SIKMA PULUYLA SİLİNDİRE DİREKT MONTE EDİLİR.
THE VALVE IS SUPPLED WITH 3 PLUGS AND RESPECTIVE WASHERS, ALTERNATIVELY SIDE OR HEAD MOUNTING POSSIBILITY.

GÖVDE YÜZEYİ ELOKSAL KAPLANMIŞTIR.
THE BODY IS SUPPLIED WITH AN ANODIZING SURFACE TREATMENT.

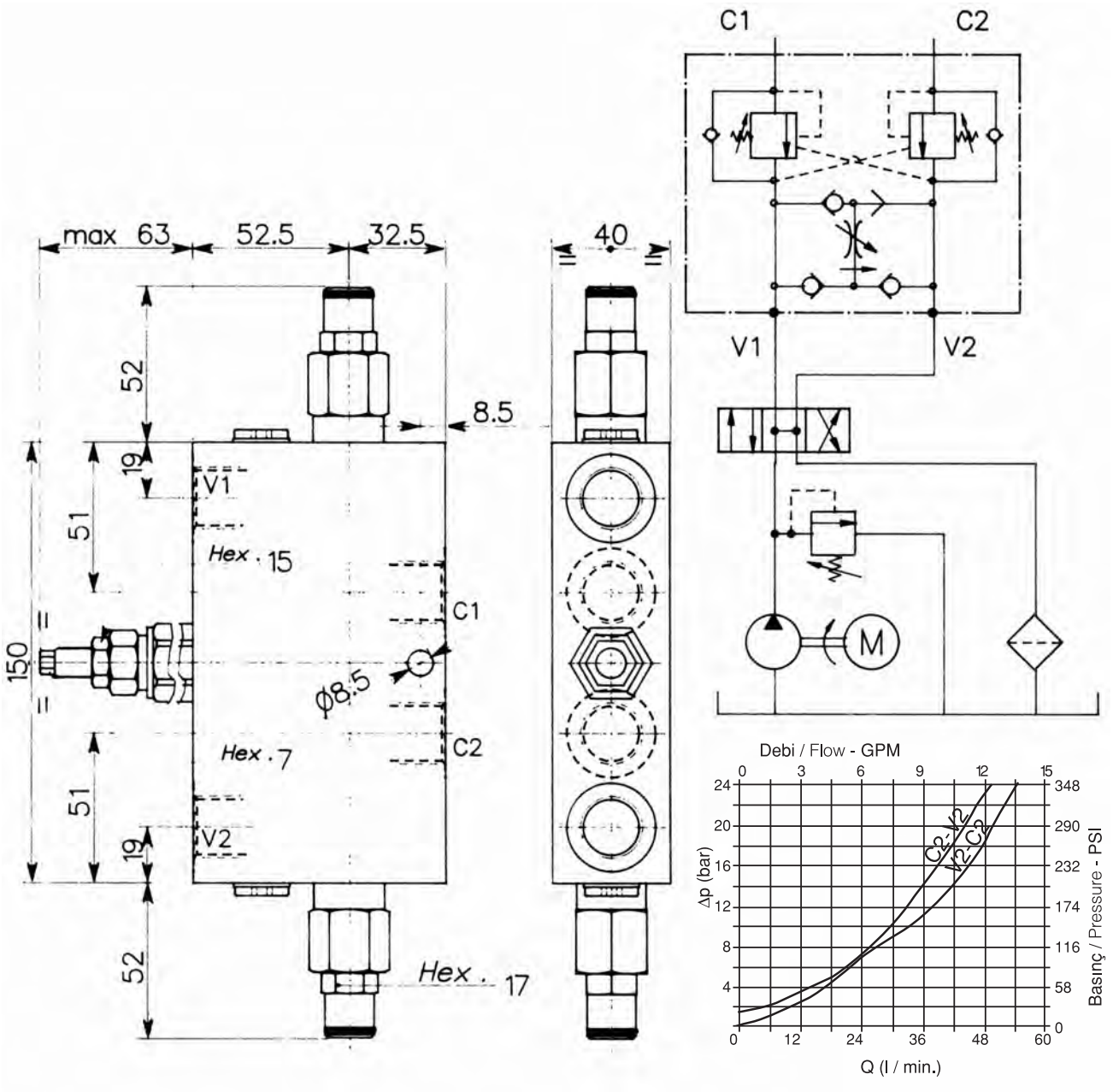
SIKMA TORKLARI 3/8" İÇİN - TIGHTENING TORQUE FOR 3/8" BSPP BOLTS: Nm 63 ÷ 71
SIKMA TORKLARI 1/2" İÇİN - TIGHTENING TORQUE FOR 1/2" BSPP BOLTS: Nm 75 ÷ 85

VALF KODU VALVE CODE	A	B	D	E	F	G	M	O	Q						DELİK ÖLÇÜSÜ PORT SİZE V1-V2-C1-C2
WB/DE-38FCB-....	21	108	25	27	13	22	65	9	11						3/8" GAS (BSPP)
WB/DE-12FCB-....	19	112	27	32	16	27	75	10	16						1/2" GAS (BSPP)

VALF KODU VALVE CODE	SİPARİŞ KODU ORDERING CODE		
WB/DE-38FCB-TR	001	288	000
WB/DE-12FCB-TR	001	289	000
WB/DE-38FCB-TR	001	290	000
WB/DE-12FCB-TR	001	291	000

Debi 5 l/dk. iken Std. Basınç değeri Std. bar setting (made at 5 l/1')	Max. min bar ayar aralığı Setting range min-max bar
350	60 ÷ 350

HIZ AYAR KONTROLLÜ YÜK TUTMA VALFLERİ
FLOW CONTROLED OVERCENTER VALVES

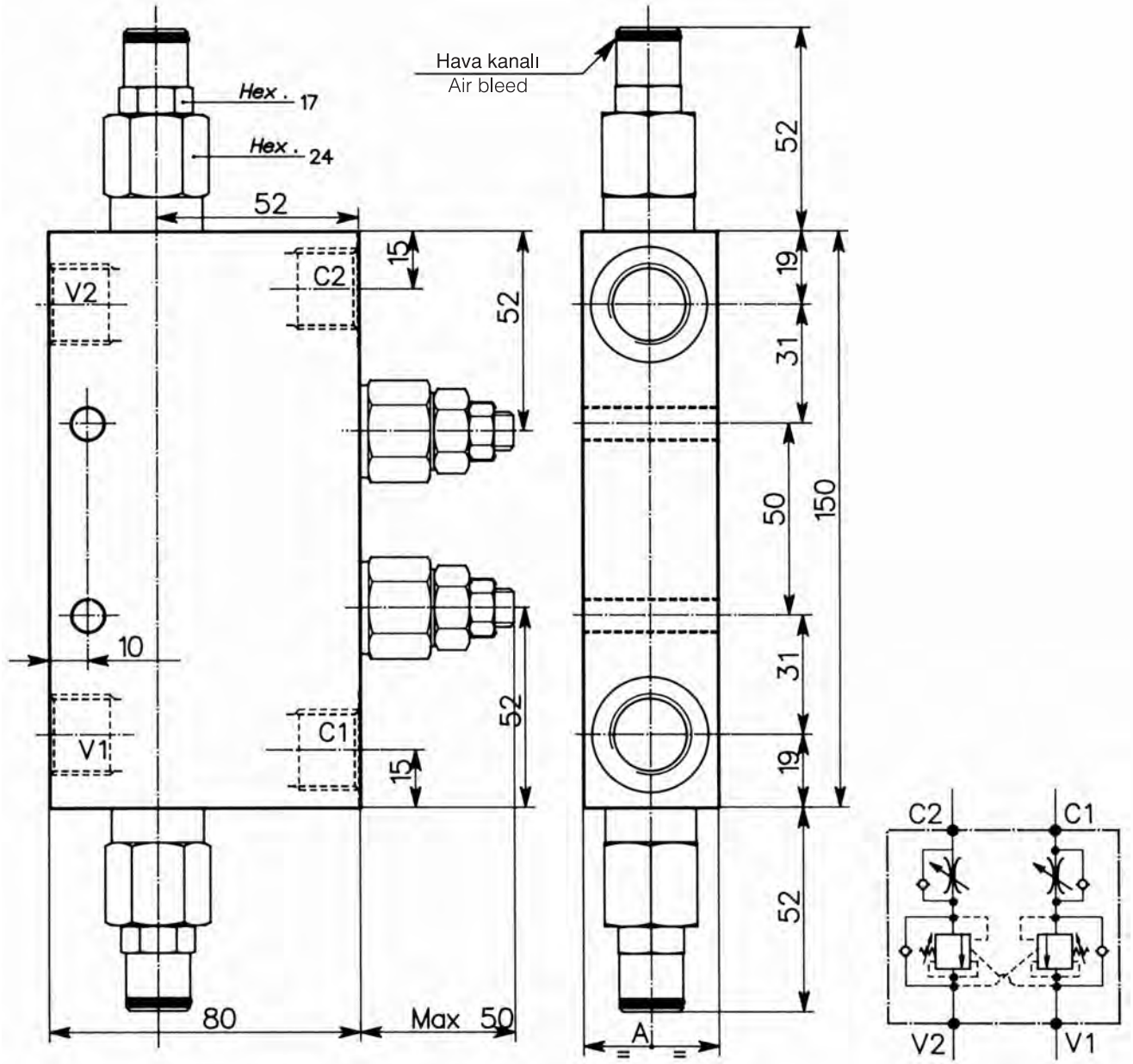


VALF KODU / VALVE CODE	Ayar Aralığı Setting Range 30 ÷ 350 bar	Delik ölçüsü Port size V1-V2-C1-C2 GAS (BSPP)	Tip Type	L/min -GPM
WB / CC - 12 / L - VSTC / 20 - R	105	1/2”	Hat - Line	60 - 15

Debi 5 l/dk. iken Std. Basınç değeri Std. bar setting (made at 5 l/1')	Max. min bar ayar aralığı Setting range min-max bar	Renk Colour
220	30 ÷ 350	Kırmızı Red

SİPARİŞ KODU ORDERING CODE		
010	489	

HIZ AYAR KONTROLLÜ YÜK TUTMA VALFLERİ
FLOW CONTROLED OVERCENTER VALVES



VALF KODU / VALVE CODE	Ayar Aralığı Setting Range 20 ÷ 350 bar	A			Delik ölçüsü Port size V2-C2-V1-C1 GAS (BSPP)	Nominal ölçü Rated size DN	Max. debi Max. flow rate l/min-GPM
WBC/DE-CC/VU-2C-14/LU	585	46.5			1/4”	6	20-5
WBC/DE-CC/VU-2C-38/LU	586				3/8”	8	40-10
WBC/DE-CC/VU-2C-12/LU	508	56.5			1/2”	10	60-15

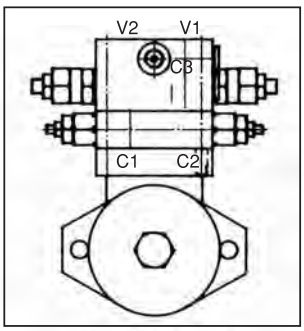
Debi 5 l/dk. iken Std. Basınç değeri Std. bar setting (made at 5 l/1')	Max. min bar ayar aralığı Setting range min-max bar	Renk Colour
350	20 ÷ 350	Kırmızı Red

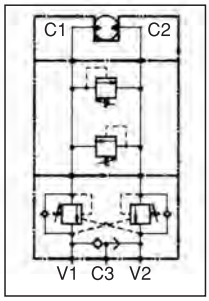
SİPARİŞ KODU ORDERING CODE		
010	489	

ÇİFT ETKİLİ KARŞI DENGE VE DİREKT ETKİLİ EMNİYET VALFLERİ, KİLİT MEKANİZMASI İLE MOTOR ÜZERİNE FLANŞLANABİLİR YÜK TUTMALAR

DOUBLE ACTING OVERCENTER AND DIRECT ACTING RELIEF VALVES FLANGEABLE OVER MOTORS WITH LOCKING BREAKAGE RELEASE

WB/VS/M/DI-VFF-F...12/14

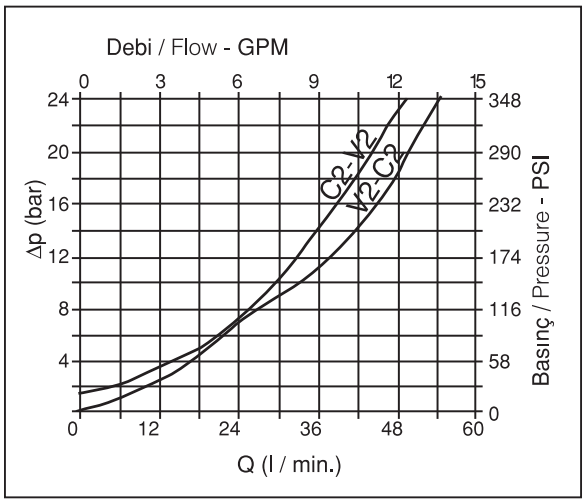




ÇALIŞMASI / OPERATION

Bu valf kavitasyonu çalışma, geçen debi ile iyi kontrolünü birleştirip basınç sıçramalarına karşı korumalı bir karşı denge valfidir. İçerisinde yay kontrollü koruma sistemi olarak shuttle valfi bulundurur. Flanşlı bağlantı tipi en iyi performans ve ayrıca kolay bağlantı sağlar. Basınç ve debide geniş aralıkta kontrol sağlar.

This valve combines the characteristics of cavitation free operation, finely controlled by delivered flow, of overcenter valves with those ones of protection aganist pressure peaks due to intermittent operation. It incorporates a shuttle valve to release the spring actuated locking brake. The flanged shaped provides best efficency and safety, together with easy installation. Excellent control capability in a wide range of flow / pressure.



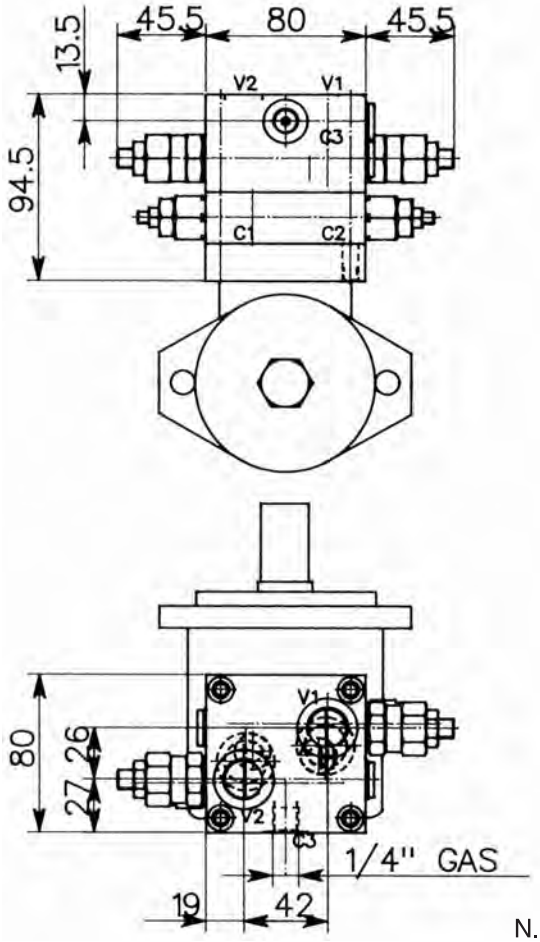
Özel durumlara karşı ayrılabilir yapıdadırlar. Normalde karşı denge valfleri emniyetten daha yüksek basınca ayarlanırlar bu da basınç sıçramalarını önler.

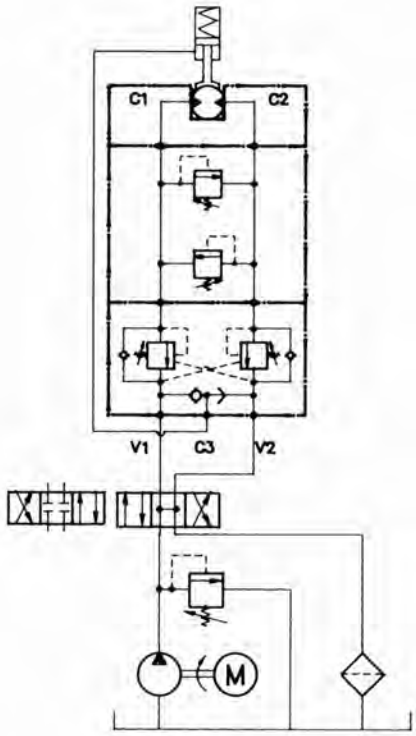
Valves are set independently and in according to operating specifications. Normally overcentre valves are set higher than reliefe ones this allows the absoription of pressure peaks from relief valves only without any intervention of overcentre valve.

PERFORMANSLAR / PERFORMANCES

Nominal ölçü Rated size	DN	8
Max. debi Max. flow rate		60 LT
Max. basınç Max. pressure		250 bar
Pilot oran Pilot ratio		4.25:1
Oda Sıcaklığı Room temperature	°C	-30 +50
Yağ sıcaklığı Oil temperature	°C	-30 +80
Filtrasyon Filtration	micron	30 ÷ 50

GENEL, ÖLÇÜLER, BAĞLANTI ÇÖZÜMLERİ TİPİK DEVRE ÖRNEĞİ
OVERALL, DIMENSIONS, MOUNTING SOLUTIONS TYPICAL CIRCUIT EXAMPLE.





N.B: Valf bağlantı noktalarında keçelidir.
The valve is supplied with bonded seal washers on fixing bolts.

75 ÷ 85 — 1/2" BSPP vidası için sıkma torku Nm
Tightening torque for 1/2" BSPP bolt

WB valf yayı / WB valve spring

Debi 5 l/dk. iken Std. Basınç değeri Std. bar setting (made at 5 l/1')	Max. min bar ayar aralığı Setting range min-max bar	Renk Colour
220	30 ÷ 250	Yeşil Green

VMP valf yayı / VMP valve spring

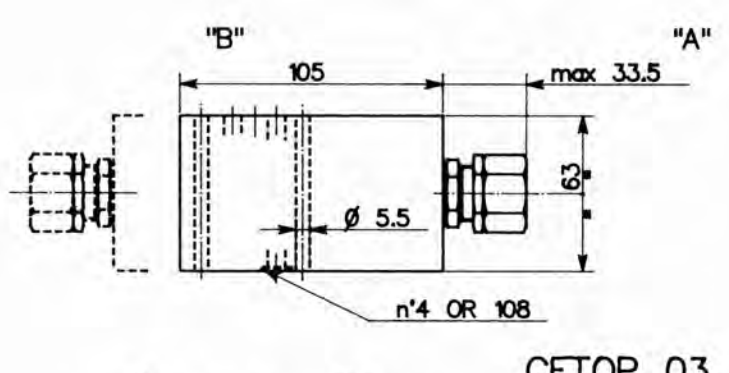
Debi 5 l/dk. iken Std. Basınç değeri Std. bar setting (made at 5 l/1')	Max. min bar ayar aralığı Setting range min-max bar	Renk Colour
140	10 ÷ 210	Yeşil Green

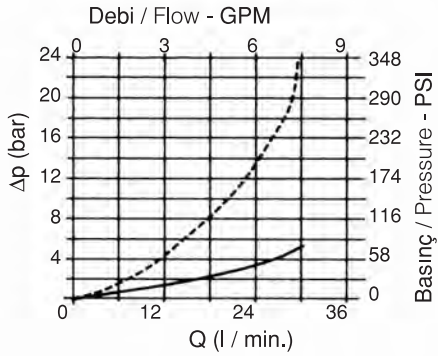
VALF KODU / VALVE CODE	Sipariş kodu Ordering code	Delik ölçüsü Port size V1-C1-V2-C2 GAS (BSPP)	Motor Tipi Motor Type	Delik aralığı Ports distance
WB/VS/M/DI-VFF-FSH-12/14	440	1/2"	Samhydraulic AG/BG/AR	40 x 8
WB/VS/M/DI-VFF-FOLD-12/14	441		Oildrive	44 x 17
WB/VS/M/DI-VFF-FOMS-12/14	442		Samhydraulic HPR/HPRC Danfoss OMS	32 x 22
WB/VS/M/DI-VFF-FOMR/OMP-12/14	443		Danfoss OMR/OMP	36 x 36

SİPARİŞ KODU ORDERING CODE		
010	489	

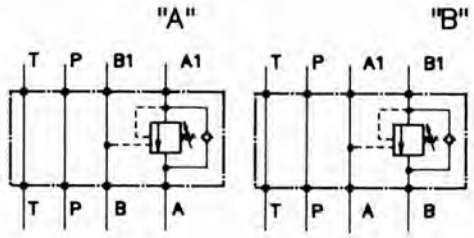
MODÜLER YÜK TUTMA VALFLERİ / MODULAR TYPE OVERCENTER VALVES

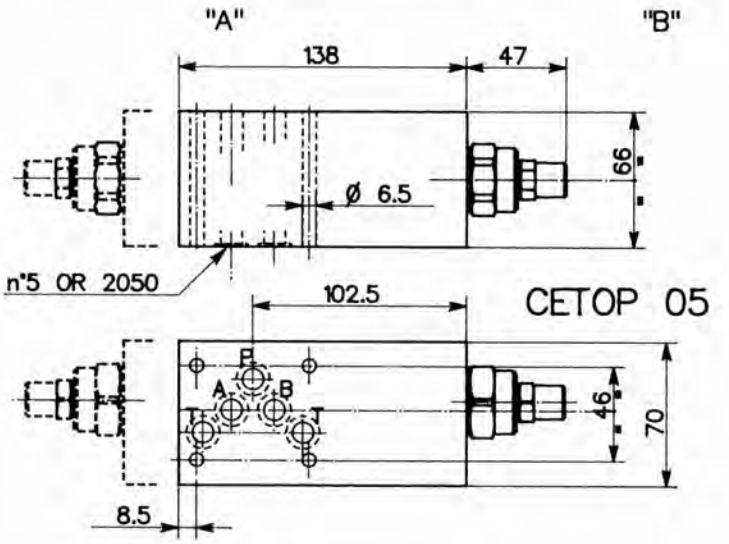
TEK ETKİLİ TİP - SİNGLE ACTING TYPE

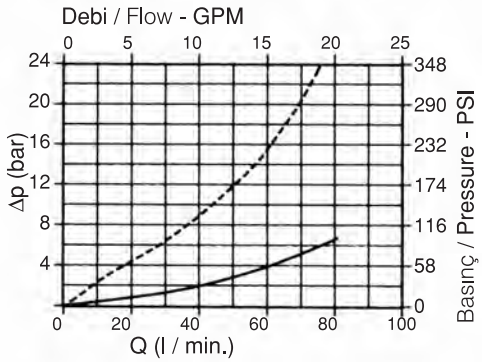




Yağ vizikozitesi / Oil viscosity 46 cSt at 50°C







Yağ vizikozitesi / Oil viscosity 46 cSt at 50°C

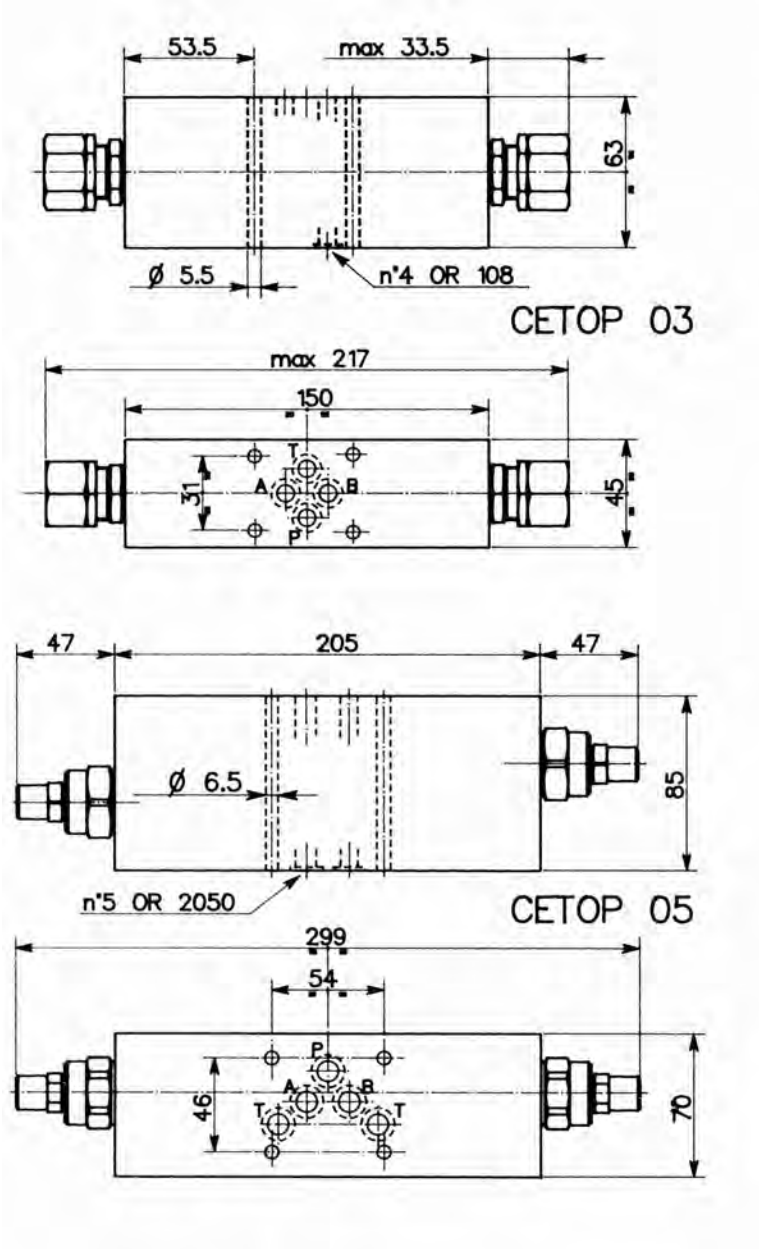
VALF KODU / VALVE CODE	Ayar aralığı Setting range 60 ÷ 350	Ayar aralığı Setting range 30 ÷ 220	Pilot oranı Pilot ratio	Flanş tipi Flange type	Max. akış oranı Max. flow rate l/min - GPM
OWC/SE-L6-RS/A	228	229	4.25 : 1	CETOP 03	30 - 8
OWC/SE-L6-RS/B	230	231			
OWC/SE-L10-RS/A	483		6.2 : 1	CETOP 05	80 - 20
OWC/SE-L10-RS/B	484				

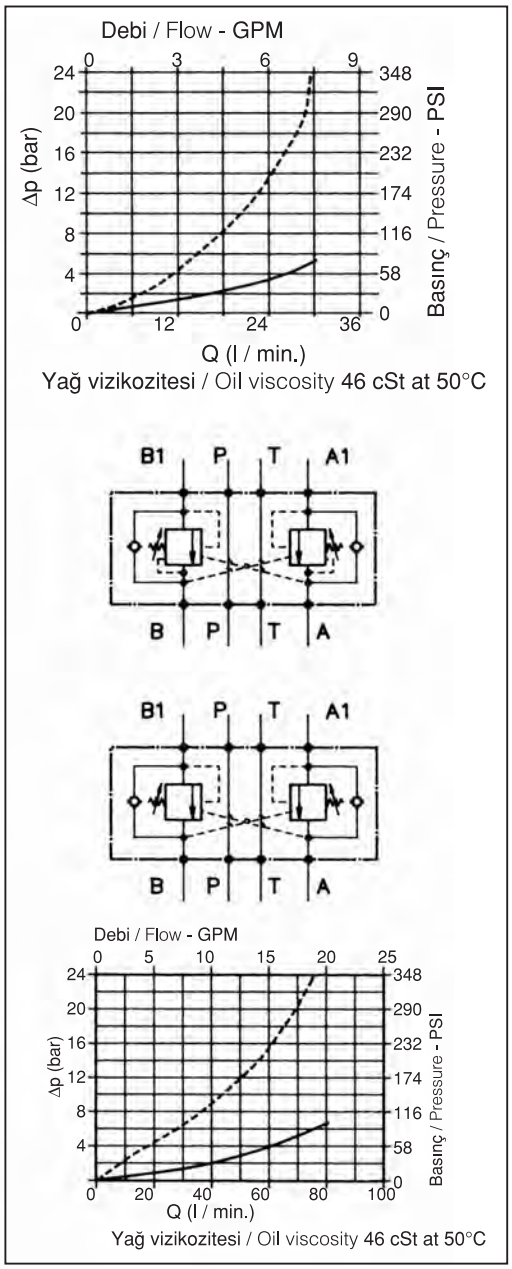
Debi 5 l/dk. iken Std. Basınç değeri Std. bar setting (made at 5 l/1')	Max. min bar ayar aralığı Setting range min-max bar	Renk Colour
350	60 ÷ 350	Sarı Yellow
220	30 ÷ 250	Yeşil Green

SİPARİŞ KODU ORDERING CODE		
010	489	

GENEL, ÖLÇÜLER, BAĞLANTI ÇÖZÜMLERİ TİPİK DEVRE ÖRNEĞİ
OVERALL, DIMENSIONS, MOUNTING SOLUTIONS TYPICAL CIRCUIT EXAMPLE.

ÇİFT ETKİLİ TİP - DOUBLE ACTING TYPE



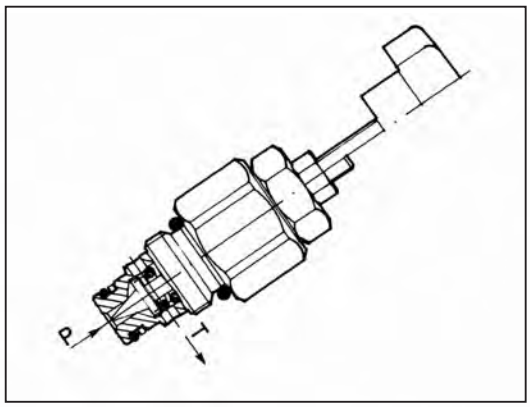


VALF KODU / VALVE CODE	Ayar aralığı Setting range 60 ÷ 350	Ayar aralığı Setting range 30 ÷ 220	Pilot oranı Pilot ratio	Flanş tipi Flange type	Max. akış oranı Max. flow rate l/min - GPM
OWC/DE-L6-RS	226	227	4.25 : 1	CETOP 03	30 - 8
OWC/DE-L10	292		6.2 : 1	CETOP 05	80 - 20

Debi 5 l/dk. iken Std. Basınç değeri Std. bar setting (made at 5 l/1')	Max. min bar ayar aralığı Setting range min-max bar	Renk Colour
350	60 ÷ 350	Sarı Yellow
220	30 ÷ 250	Yeşil Green

SİPARİŞ KODU ORDERING CODE		
010	489	

DİREKT ETKİLİ EMNİYET VALFİ
DIRECT ACTING RELIEF VALVES



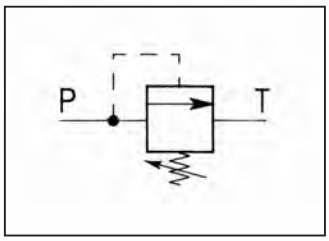
VMP / 20 / SN

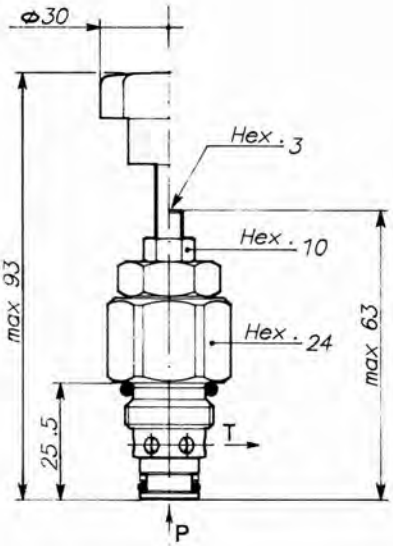
ÇALIŞMASI VE KULLANIMI / OPERATION AND USE

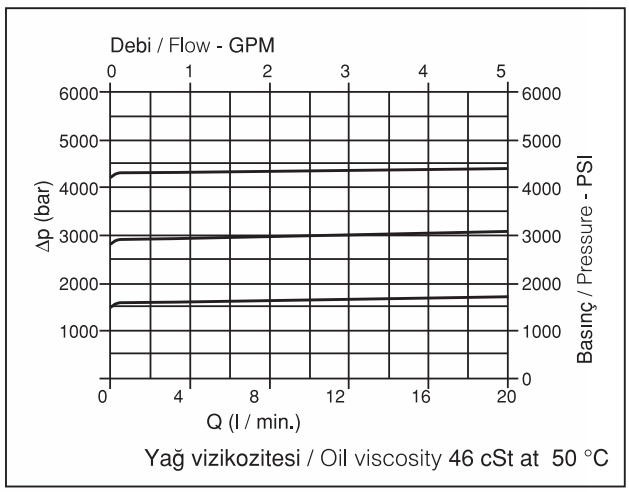
Düşük histerisli ve basınç sıçramalı direkt etkili emniyet valfleri.
Low hysteresis and pressure peaks direct acting relief valves.

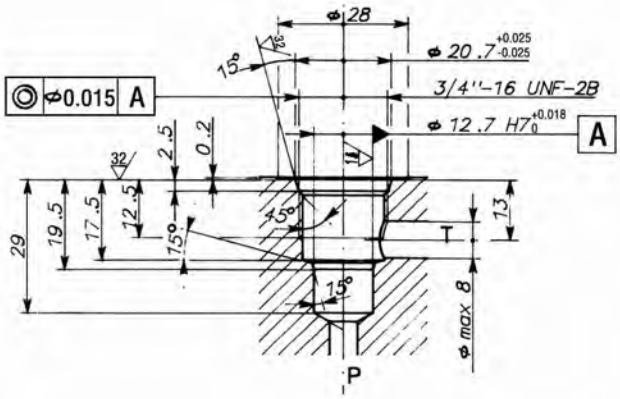
Ana uyguyamalar - Main applications:

- Düşük debili hidrolik sistemler / Low-flow hydraulic systems.
- Isıl genişlemelere karşı korumalı sistem / System protection aganist thermic expansiones.
- Pilot kontrollü mantık elemanları / Logic elements pilot operatione.





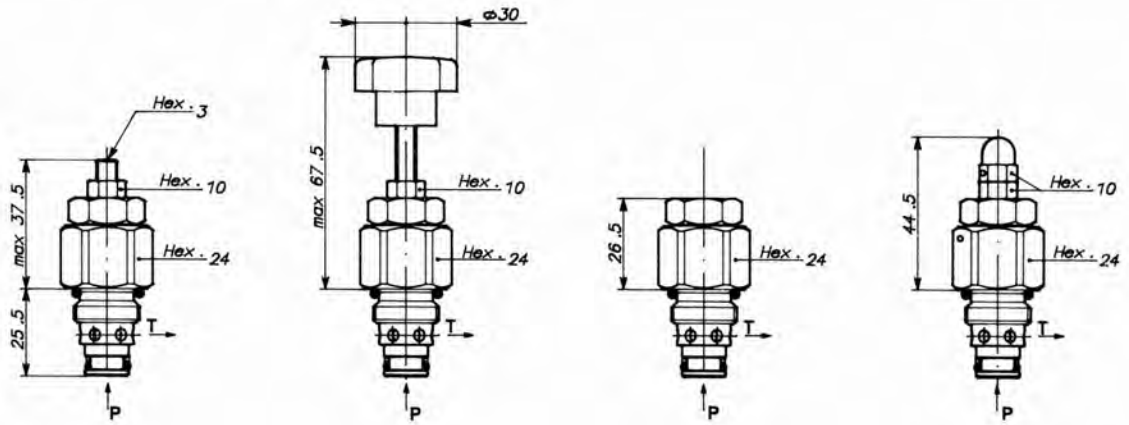




PERFORMANSLAR / PERFORMANCES

Nominal ölçü Nominal rate		5
Max. debi - oran Max. flow - rate		20 l/min 5 GPM
Max. basınç ayarı Max. setting pressure		450 bar 6400 PSI
Oda sıcaklığı Room temperature	°C	-30 +50
Yağ sıcaklığı Oil temperature	°C	-30 +80
Filtrasyon Filtration	micron	30 ÷ 50

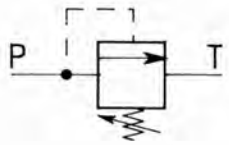
VALF DONANIMI VALVE DENOMINATION	VMP KARTRİÇ TİPİ EMNİYET VALFLERİ / CARTRIDGE TYPE RELIEF VALVES			
VALF KODU VALVE CODE	VMP / 20-G-SN	VMP / 20-V-SN	VMP / 20-TF-SN	VMP / 20-PB-SN
Ayar / Adjustment	Allenli / Dowel	Topuz / Handknob	Sabit ayar / Fixed setting	Mühürlü / Sealed



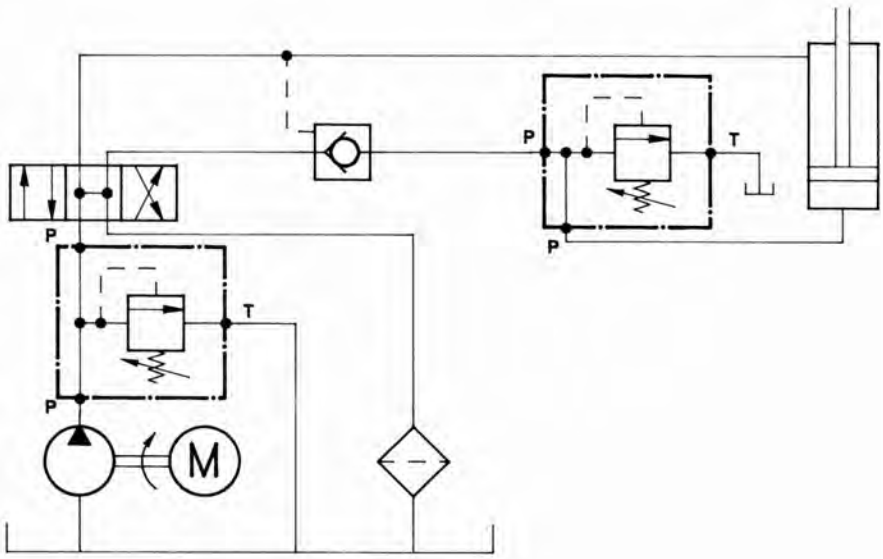
Debi 5 l/dk. iken Std. Basınç değeri Std. bar setting (made at 5 l/1')	Basınç değer aralığı Setting Range min-max bar	Renk Colour	Allen ayarlı Dowel adjustment	El ayarlı Handknob adjusment	Sabit ayarlı Fixed setting	Mühürlü ayarlı Sealed adjustment
80	5 ÷ 100	Mavi Blue	040	438	443	446
180	10 ÷ 210	Yeşil Green	278	439	442	445
320	20 ÷ 350	Sarı Yellow	279	440	441	444

SİPARİŞ KODU / ORDERING CODE

001		000

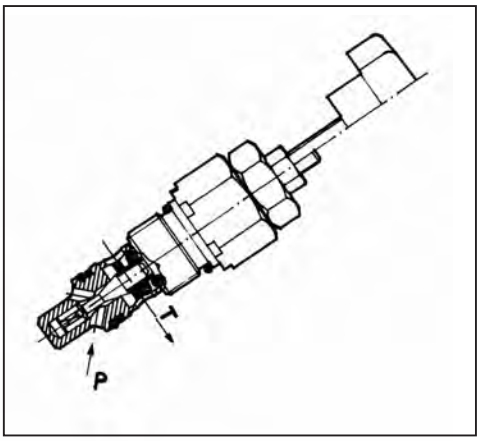


TİPİK DEVRE ÖRNEĞİ / TYPICAL CIRCUIT EXAMPLE



DİREKT ETKİLİ; PİLOT PİSTON EMNİYET VALFİ
DIRECT ACTING; PILOT PISTON RELIEF VALVE

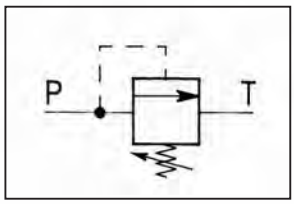
VMP / 20

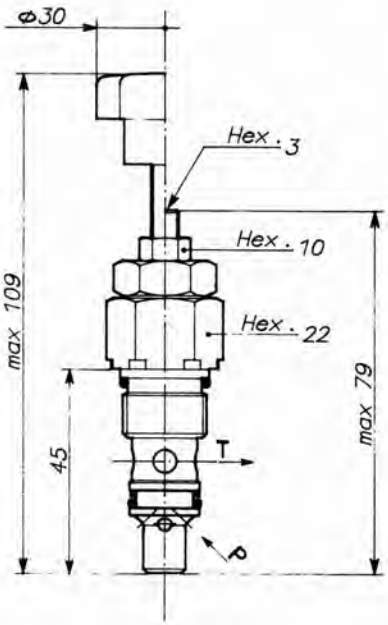


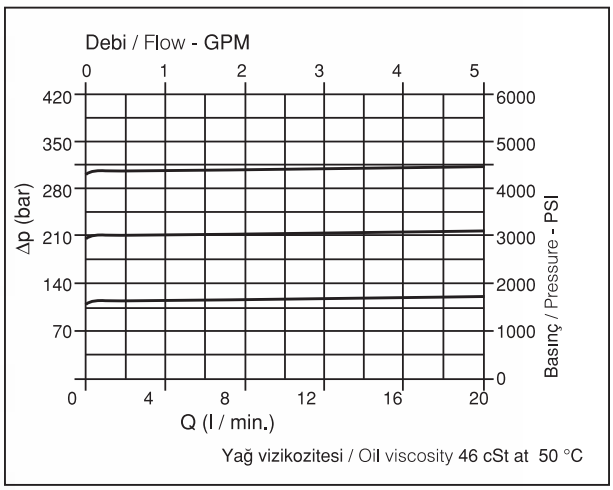
ÇALIŞMASI / OPERATION

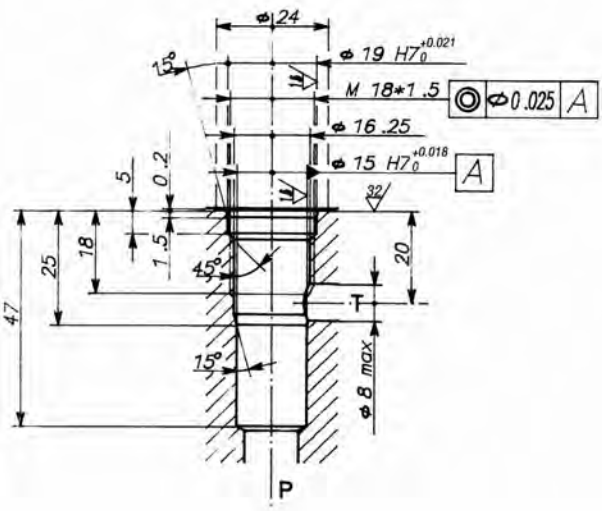
Direkt etkili emnilet valfleri bir pilot pistona uyar. Bu tür valfler, düşük basınç sıçramaları ve histeris ve buna bağlı olarak çalışmalarda yüksek ayar gösterir; bunlar bu nedenle uzun servis süresi sunarlar.

Direct acting relief valves fitting a pilot piston. Such valves show reduced peaks and hysteresis and, consequently, an increased regularity in operation; they are therefore indicated for continuons - service applications.







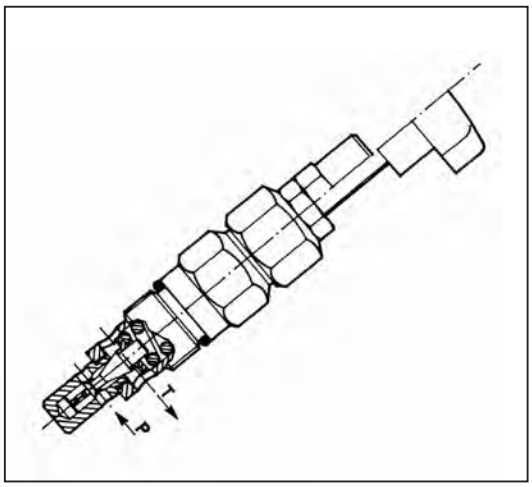


PERFORMANSLAR / PERFORMANCES

Nominal Rated size	DN	6
Max. debi oranı Max. flow-rate		20 l / min 5 GPM
Max. basınç ayarı Max. setting pressure		450 bar 6400 PSI
Oda sıcaklığı Room Temperature	°C	-30 +50
Yağ sıcaklığı Oil temperature	°C	-30 +80
Filtrasyon Filtration	micron	30 ÷ 50

DİREKT ETKİLİ; PİSTONLU PİLOT UYARICILI EMNİYET VALFİ
DIRECT ACTING; PILOT PISTON RELIEF VALVE

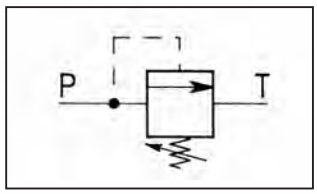
VMP / 35

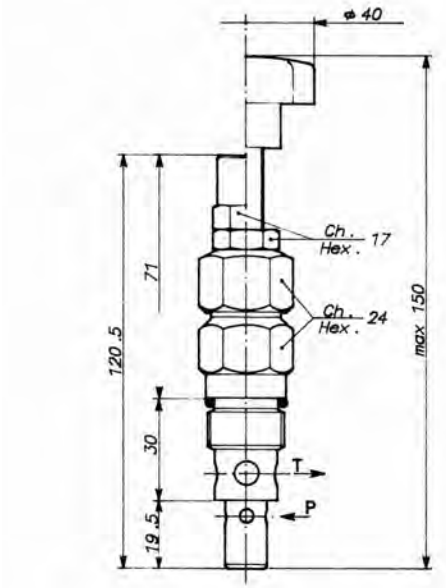


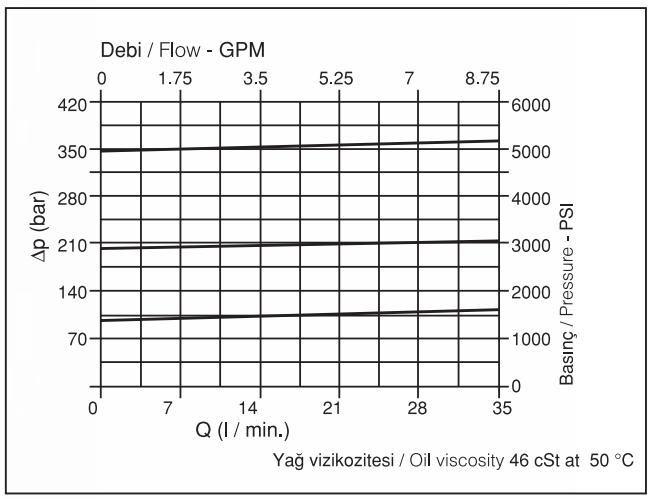
ÇALIŞMASI / OPERATION

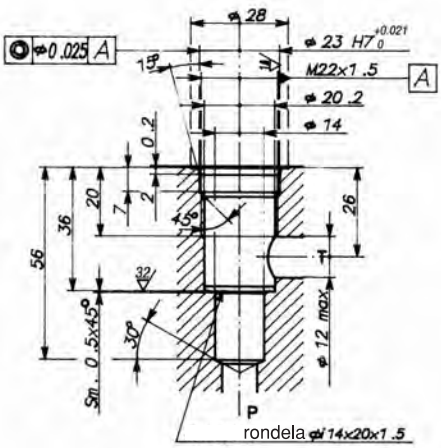
Pistonlu direkt emniyet valfi pilot ayarlıdır. Direkt emniyet valfleri, eğride, düşük basınç tepeleri oluşturur. Arttırılmış regubiyon yapar.

Direct acting relief valves fitting a pilot piston. Such valves show reduced peaks and hysteresis and, consequently, an increased regularity in operation; they are therefore indicated for continuons - service applications.





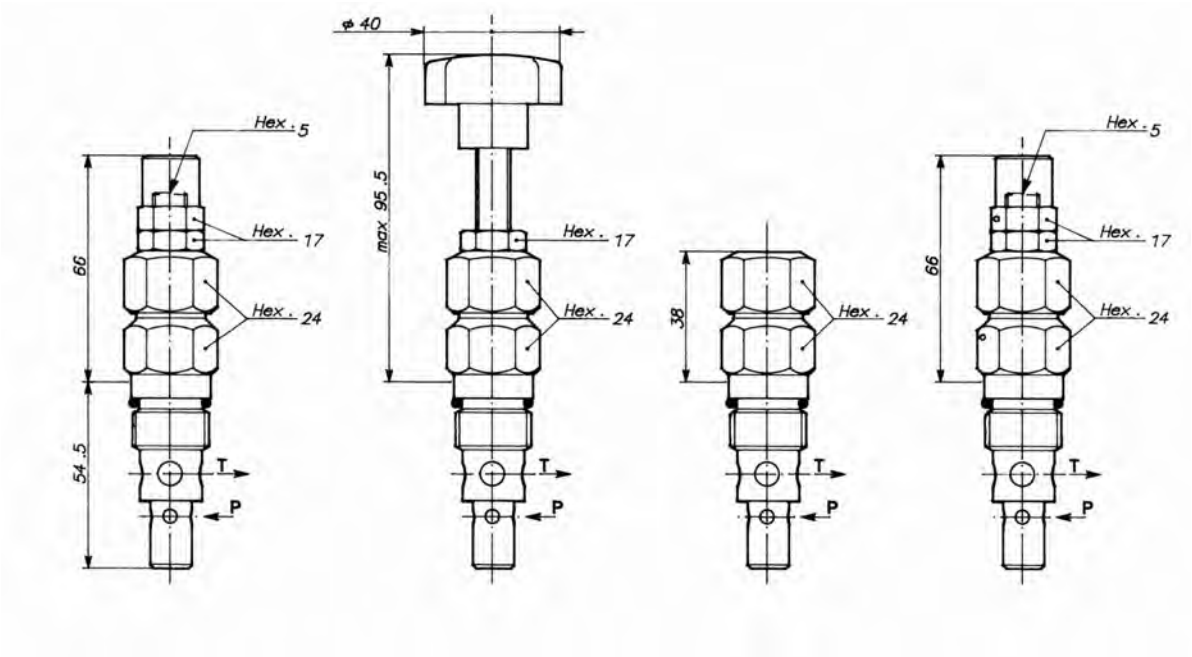




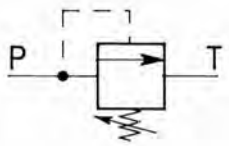
PERFORMANSLAR / PERFORMANCES

Nominal Rated size	DN	8
Max. debi oranı Max. flow-rate		35 l / min 8.75 GPM
Max. basınç ayarı Max. setting pressure		450 bar 6400 PSI
Oda sıcaklığı Room Temperature	°C	-30 +50
Yağ sıcaklığı Oil temperature	°C	-30 +80
Filtrasyon Filtration	micron	30 ÷ 50

VALF DONANIMI VALVE DENOMINATION	VMP KARTRİÇ TİPİ EMNİYET VALFLERİ / CARTRIDGE TYPE RELIEF VALVES			
VALF KODU VALVE CODE	VMP / 35-G	VMP / 35-V	VMP / 35-TF	VMP / 35-PB
Ayar / Adjustment	Allenli / Dowel	Topuz / Handknob	Sabit ayar / Fixed setting	Mühürlü / Sealed



Debi 5 l/dk. iken Std. Basınç değeri Std. bar setting (made at 5 l/1')	Basınç değer aralığı Setting Range min-max bar	Renk Colour	Allen ayarlı Dowel adjustment	Topuz ayarlı Handknob adjusment	Sabit ayarlı Fixed setting	Mühürlü ayarlı Sealed adjustment
80	5 ÷ 100	Mavi Blue	003	115	409	405
180	10 ÷ 210	Yeşil Green	113	116	410	406
320	20 ÷ 350	Sarı Yellow	114	117	411	407

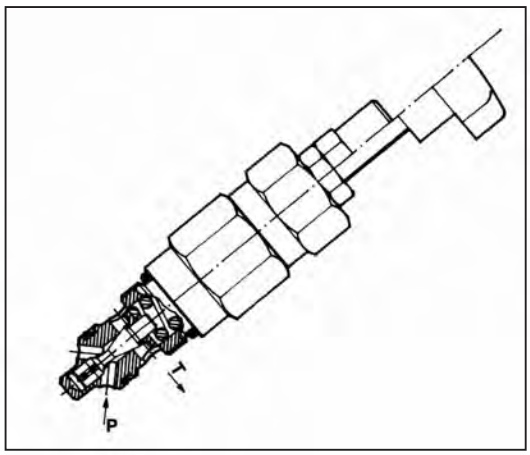


SİPARİŞ KODU / ORDERING CODE

001		000

DİREKT ETKİLİ; PİSTONLU PİLOT UYARICILI EMNİYET VALFİ
DIRECT ACTING; PILOT PISTON RELIEF VALVE

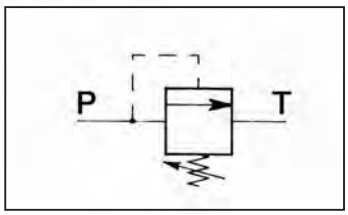
VMP / 45 - SN

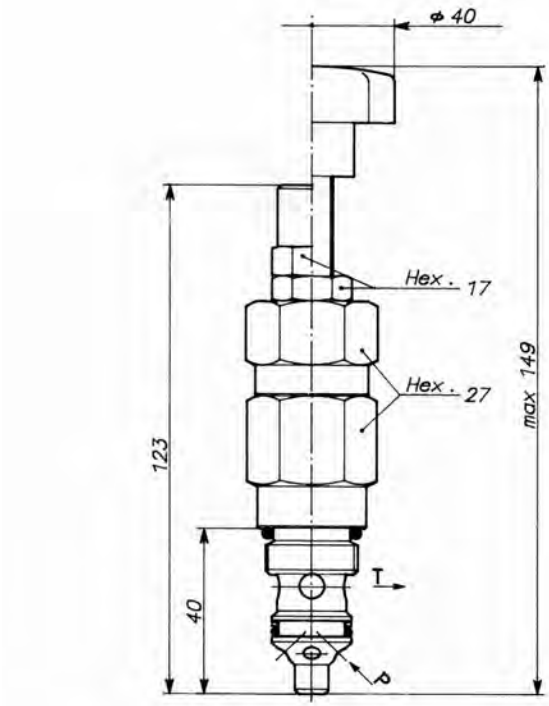


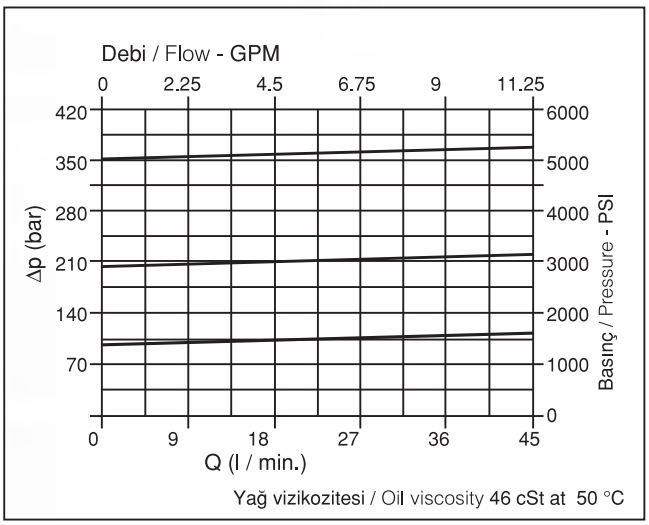
ÇALIŞMASI / OPERATION

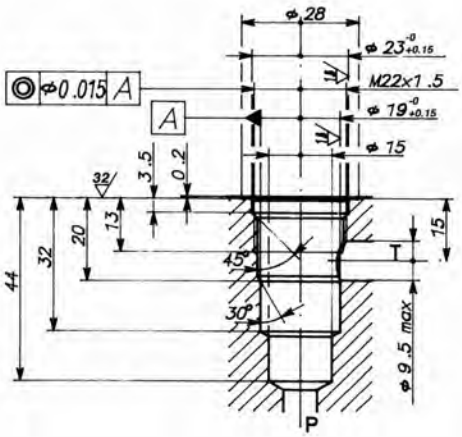
Pistonlu direkt emniyet valfi pilot ayarlıdır. Direkt etkili emniyet valfleri düşük basınç tepeleri oluşturur (eğride). Arttırılmış regulasyon yapar.

Direct acting relief valves fitting a pilot piston. Such valves show reduced peaks and hysteresis and, consequently, an increased regularity in operation; they are therefore indicated for continuons - service applications.





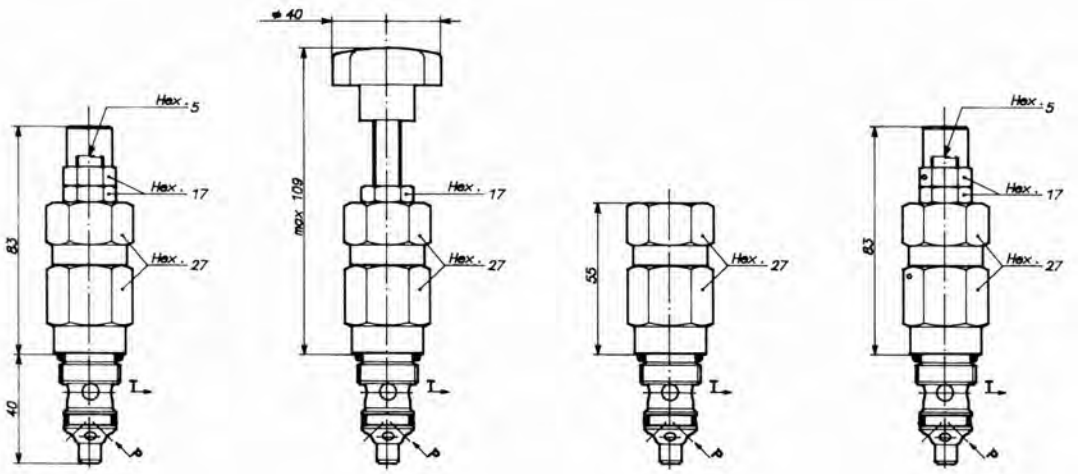




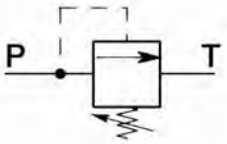
PERFORMANSLAR / PERFORMANCES

Nominal Rated size	DN	9
Max. debi oranı Max. flow-rate		45 l /min 11.25 GPM
Max. basınç Max. setting		450 bar 6400 PSI
Oda sıcaklığı Room Temperature	°C	-30 +50
Yağ sıcaklığı Oil temperature	°C	-30 +80
Filtrasyon Filtration	micron	30 ÷ 50

VALF DONANIMI VALVE DENOMINATION	VMP KARTRİÇ TİPİ EMNİYET VALFLERİ / CARTRIDGE TYPE RELIEF VALVES			
VALF KODU VALVE CODE	VMP / 45-G-SN	VMP / 45-V-SN	VMP / 45-TF-SN	VMP / 45-PB-SN
Ayar / Adjustment	Allenli / Dowel	Topuz ile / Handknob	Sabit ayar / Fixed setting	Mühürlü / Sealed



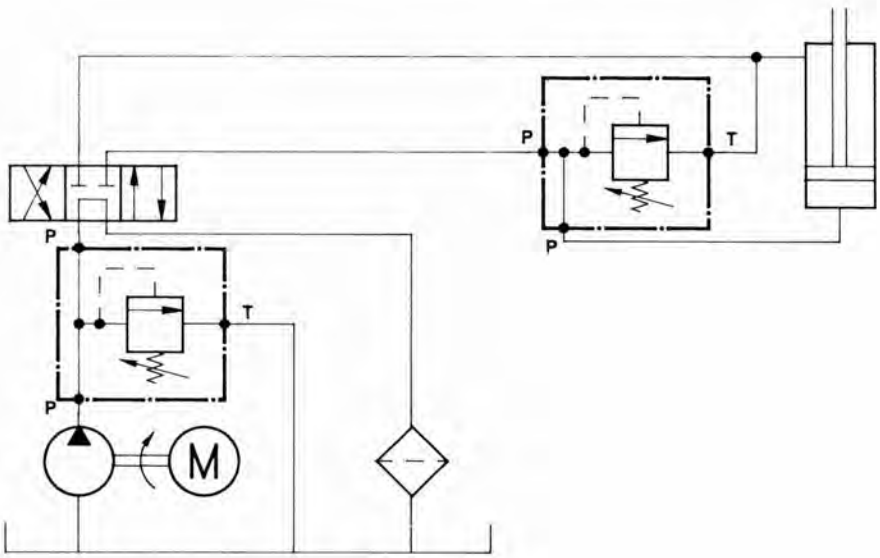
Debi 5 l/dk. iken Std. Basınç değeri Std. bar setting (made at 5 l/1')	Basınç değer aralığı Setting Range min-max bar	Renk Colour	Allen ayarlı Dowel adjustment	El ayarlı Handknob adjusment	Sabit ayarlı Fixed setting	Mühürlü ayarlı Sealed adjustment
80	5 ÷ 100	Mavi Blue	035	483	486	489
180	10 ÷ 200	Yeşil Green	268	484	487	490
320	25 ÷ 350	Sarı Yellow	269	485	488	491



SİPARİŞ KODU / ORDERING CODE

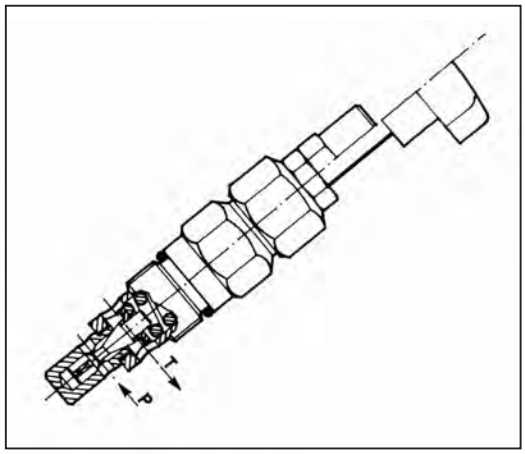
002		000

TİPİK DEVRE ÖRNEĞİ / TYPICAL CIRCUIT EXAMPLE



DİREKT ETKİLİ; PİSTONLU PİLOT UYARICILI EMNİYET VALFİ
DIRECT ACTING; PILOT PISTON RELIEF VALVE

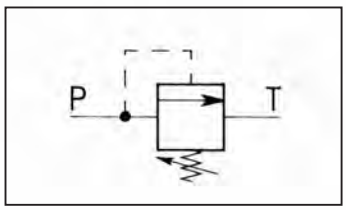
VMP / 80

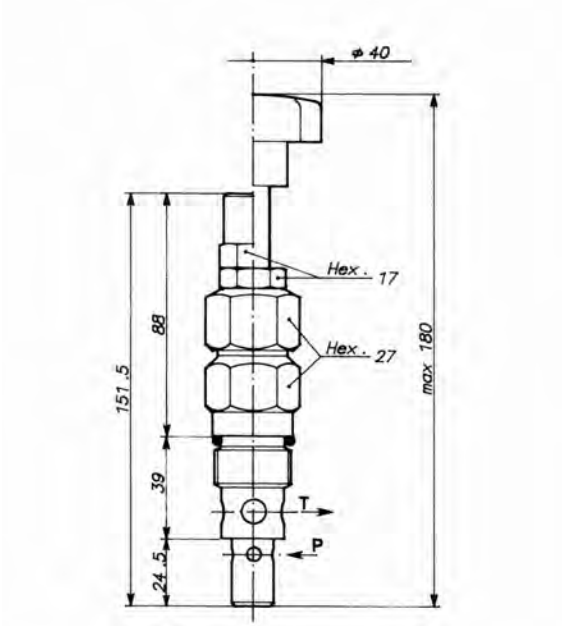


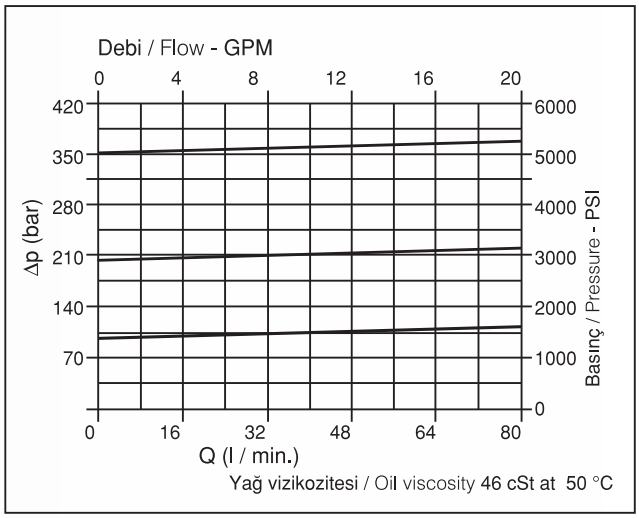
ÇALIŞMASI / OPERATION

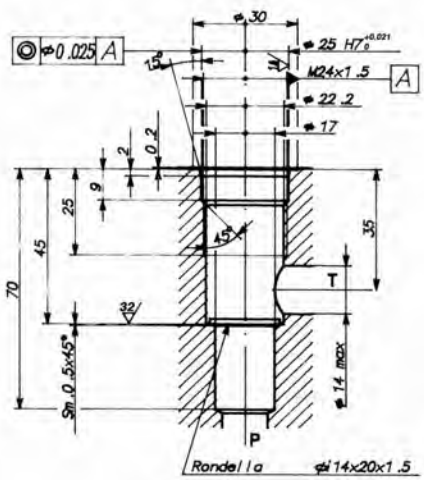
Pistonlu direkt emniyet valfi pilot ayarlıdır. Direkt etkili emniyet valfleri düşük basınç tepeleri oluşturur (eğride). Arttırılmış regulasyon yapar.

Direct acting relief valves fitting a pilot piston. Such valves show reduced peaks and hysteresis and, consequently, an increased regularity in operation; they are therefore indicated for continuons - service applications.





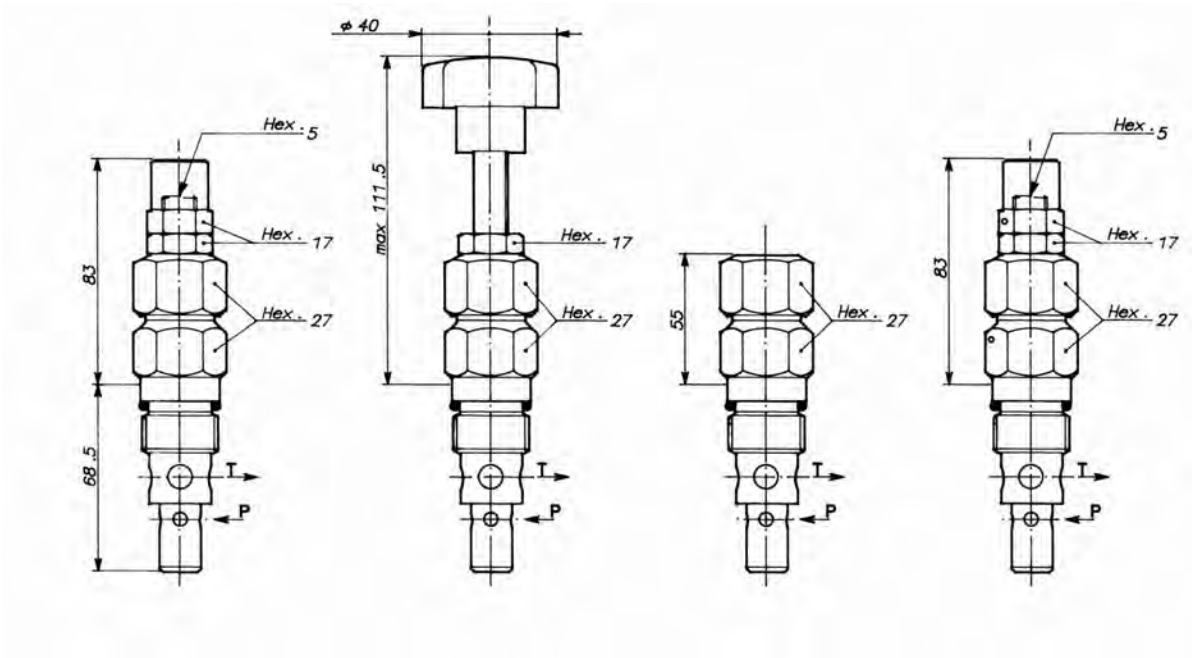




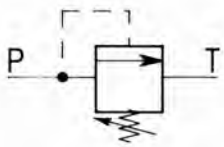
PERFORMANSLAR / PERFORMANCES

Nominal Rated size	DN	11
Max. debi oranı Max. flow-rate		80 l /min 20 GPM
Max. basınç Max. setting		450 bar 6400 PSI
Oda sıcaklığı Room Temperature	°C	-30 +50
Yağ sıcaklığı Oil temperature	°C	-30 +80
Filtrasyon Filtration	micron	30 ÷ 50

VALF DONANIMI VALVE DENOMINATION	VMP KARTRİÇ TİPİ EMNİYET VALFLERİ / CARTRIDGE TYPE RELIEF VALVES			
VALF KODU VALVE CODE	VMP / 80-G	VMP / 80-V	VMP / 80-TF	VMP / 80-PB
Ayar / Adjustment	Allenli / Dowel	Topuz ile / Handknob	Sabit ayar / Fixed setting	Mühürlü / Sealed



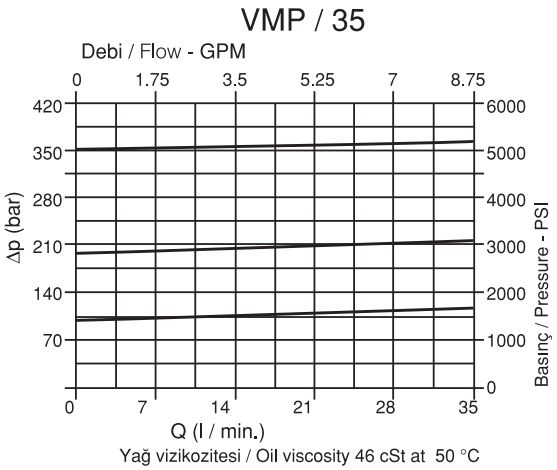
Debi 5 l/dk. iken Std. Basınç değeri Std. bar setting (made at 5 l/1')	Basınç değer aralığı Setting Range min-max bar	Renk Colour	Allen ayarlı Dowel adjustment	El ayarlı Handknob adjusment	Sabit ayarlı Fixed setting	Mühürlü ayarlı Sealed adjustment
40	5 ÷ 100	Mavi Blue	005	167	528	533
80	5 ÷ 100	Siyah Black	163	168	529	534
120	10 ÷ 150	Yeşil Green	164	169	530	325
210	25 ÷ 250	Sarı Yellow	165	170	531	535
320	40 ÷ 350	Kırmızı Red	166	171	532	314

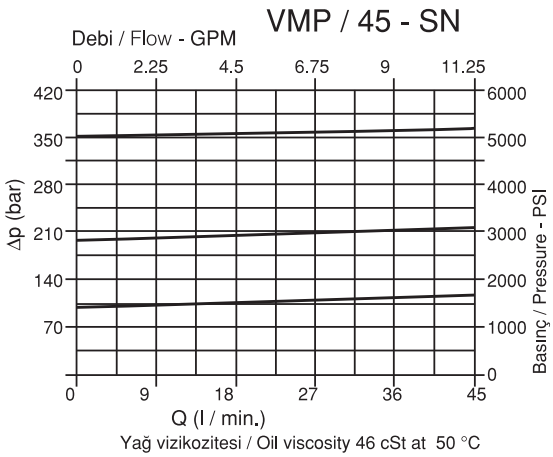


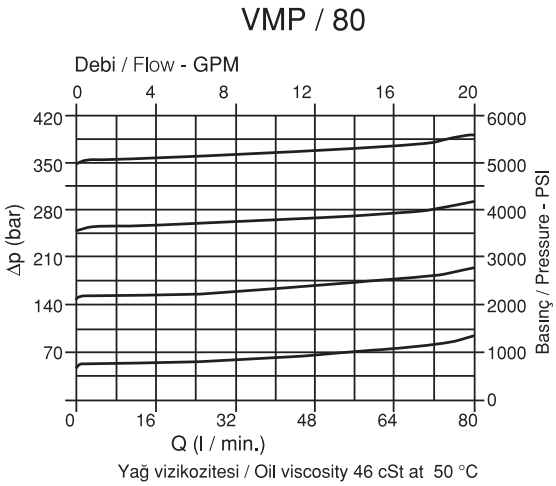
SİPARİŞ KODU / ORDERING CODE

002		000

VDI... VMP/ DI



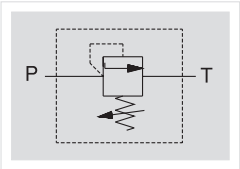




PERFORMANSLAR / PERFORMANCES			
Max. debi oranı Max. flow-rate	VMP/35	l / min	35
Max. debi oranı Max. flow-rate	VMP/45	l / min	45
Max. debi oranı Max. flow-rate	VMP/80	l / min	80
Max. çalışma ayarı Max. working pressure		bar	350
Max. basınç Max. pressure		bar	450
Oda sıcaklığı Room Temperature		°C	-30 +50
Yağ sıcaklığı Oil temperature		°C	-30 +80
Filtrasyon Filtration		micron	30 ÷ 50

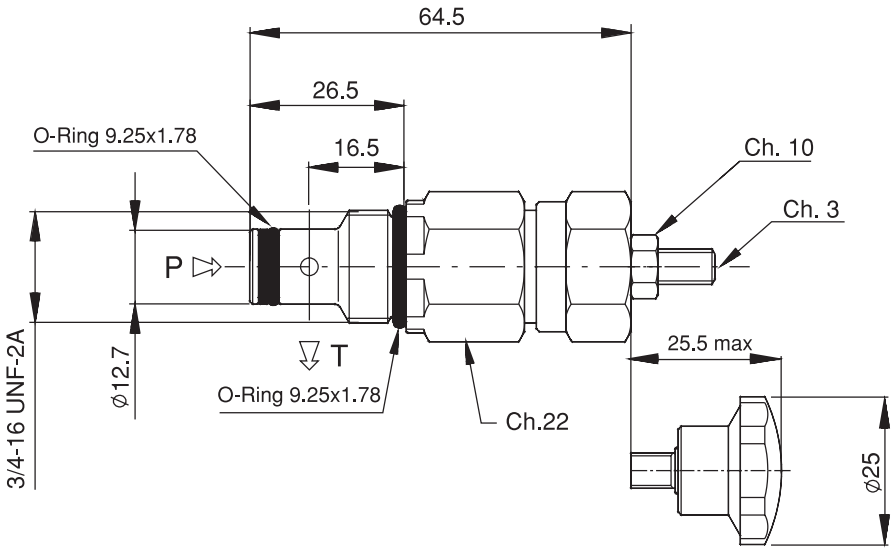
EMNİYET VALFLERİ / RELIEF VALVES

VMD10



TEKNİK ÖZELLİKLER / FEATURES

Max. debi Max flow l/min	Yay Spring	Max. basınç Max pressure bar	Ağırlık Weight Kg
20	1	50	0,16
	2	150	
	3	250	
	4	350	



SİPARİŞ KODU / ORDERING CODE

VMD10 * *

Vida Screw	C
Elle Handwheel	V

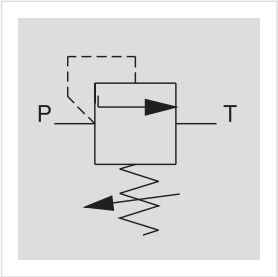
Ayar
Adjustment

50 bar(max)	1
150 bar(max)	2
250 bar(max)	3
350 bar(max)	4

Ayar aralığı
Setting range

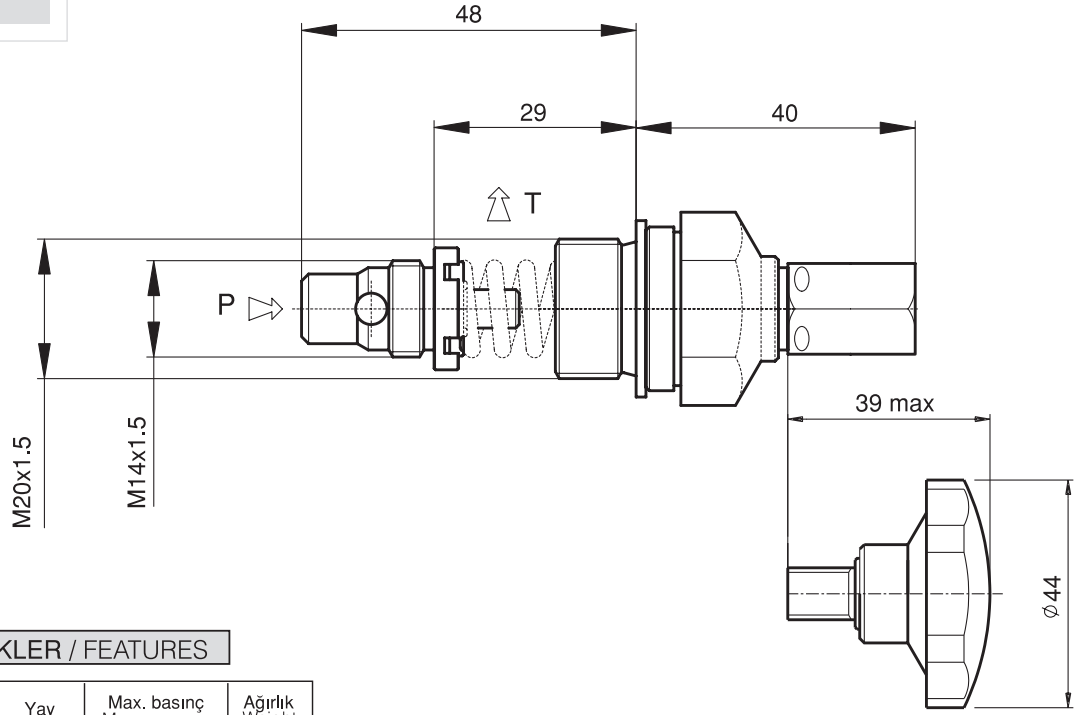
EMNİYET VALFLERİ / RELIEF VALVES

VMD40



Direkt etkili VMD40 emniyet valfleri devrenin basıncını sınırlamak için kullanılır.

The direct action VMD40 relief valves are used to limit the pressure inside the circuit



TEKNİK ÖZELLİKLER / FEATURES

Kod Code	Max. Debi Max flow l/min	Yay Spring	Max. basınç Max pressure bar	Ağırlık Weight Kg
VMD40	40	1	100	0,12
		2	210	
		3	350	

SİPARİŞ KODU / ORDERING CODE

VMD40 * *

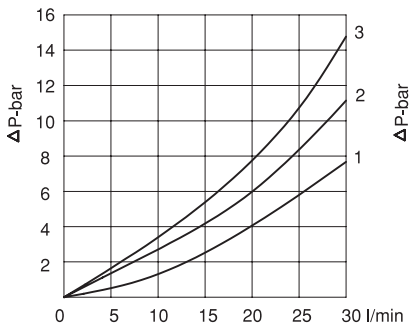
- Vida / Screw: C
- Elle / Handwheel: V

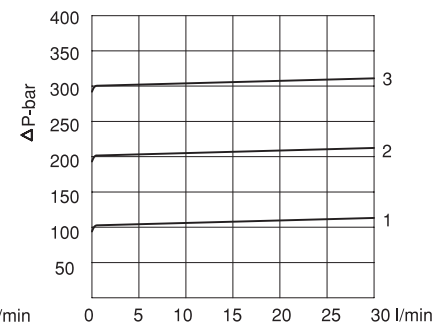
Ayar / Adjustment

- 100 bar (max): 1
- 210 bar (max): 2
- 300 bar (max): 3

Ayar aralığı / Setting range

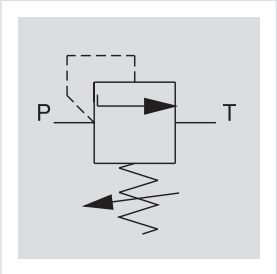
BASINÇ DİYAGRAMI / PRESSURE DROPS





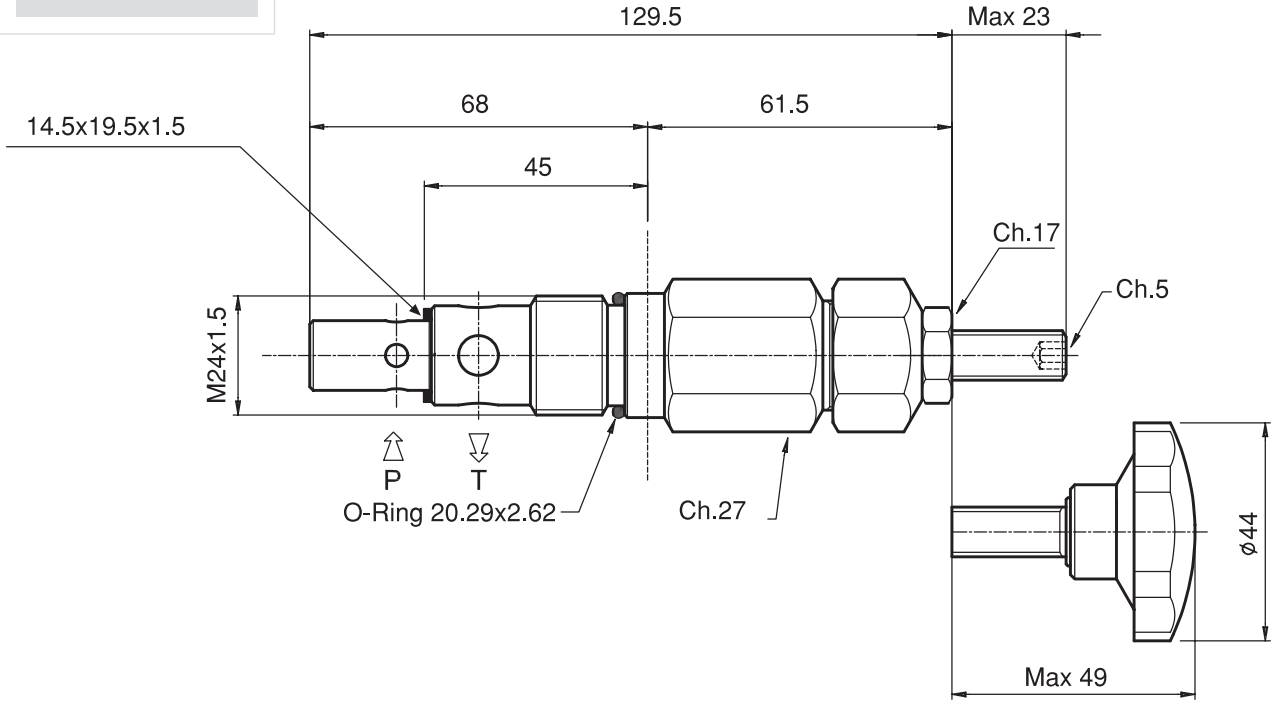
EMNİYET VALFLERİ / RELIEF VALVES

VMD80



Direkt etkili VMD40 emniyet valfleri devredeki basıncı sınırlamak için kullanılır.

The direct action VMD80 relief valves are used to limit the pressure inside the circuit



SİPARİŞ KODU / ORDERING CODE

VMD80 * *

- Vida / Screw: C
- Elle / Handwheel: V

Ayar / Adjustment

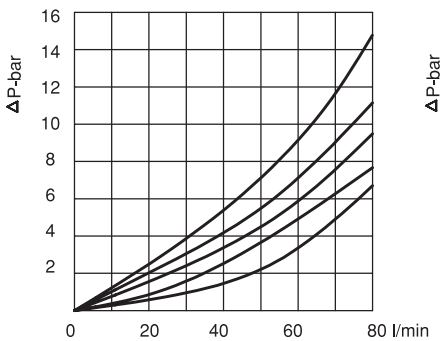
- 50 bar (max): 1
- 100 bar (max): 2
- 150 bar (max): 3
- 250 bar (max): 4
- 350 bar (max): 5

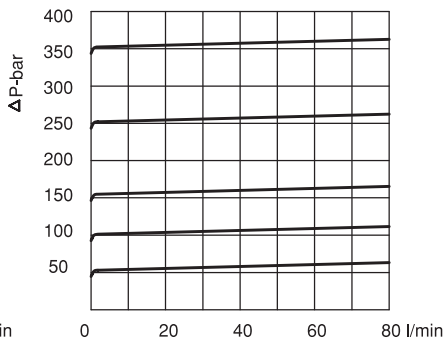
Ayar aralığı / Setting range

TEKNİK ÖZELLİKLER / FEATURES

Kod Code	Max. Debi Max flow l/min	Yay Spring	Max. Basınç Max pressure bar	Ağırlık Weight Kg
VMD80	80	1	50	0,35
		2	100	
		3	150	
		4	250	
		5	350	

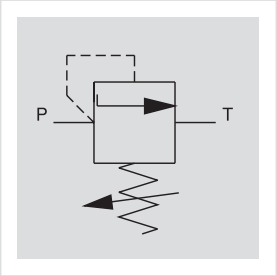
BASINÇ DİYAGRAMI / PRESSURE DROPS





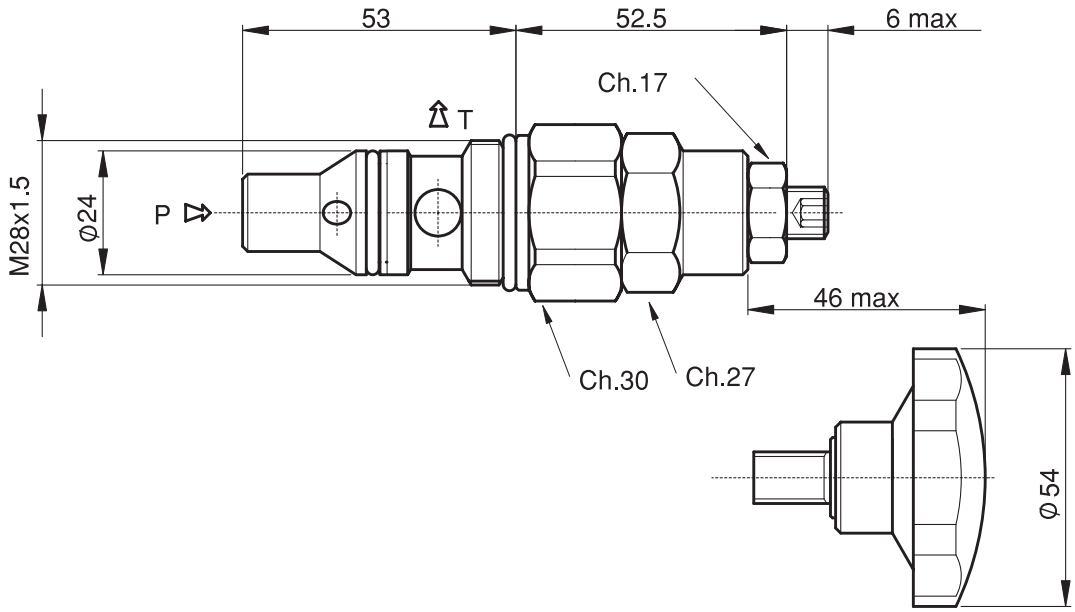
EMNİYET VALFLERİ / RELIEF VALVES

VMD120



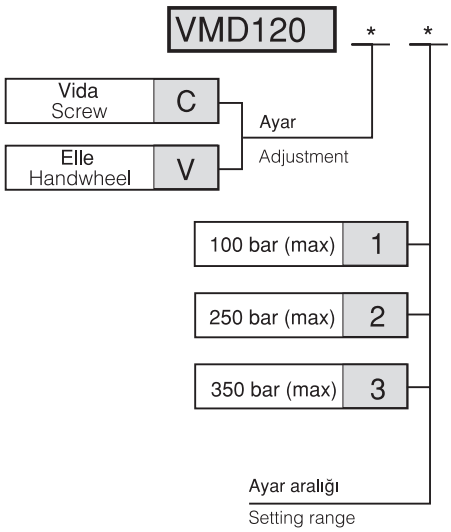
Direkt etkili VMD120 emniyet valfleri devredeki basıncı sınırlamak için kullanılır.

The direct action VMD120 relief valves are used to limit the pressure inside the circuit

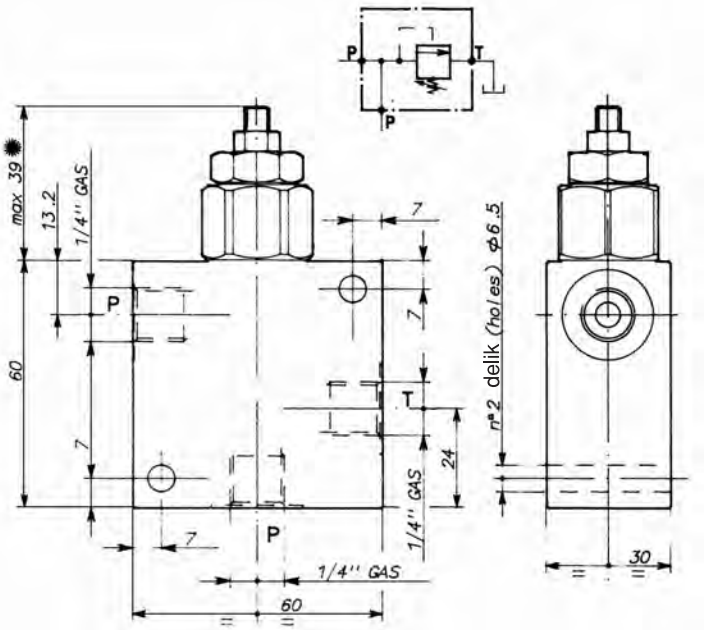


TEKNİK ÖZELLİKLER / FEATURES

Kod Code	Max. debi Max flow l/min	Yay Spring	Max basınç Max pressure bar	Ağırlık Weight Kg
VMD120	120	1	100	0,3
		2	250	
		3	350	



VALF DONANIMI VALVE DENOMINATION	SABİT GÖVDELİ EMNİYET VALFİ / RELIEF VALVE WITH OFFSET BODY			
VALF KODU VALVE CODE	VMP/20-G/C-14-SN	VMP/20-V/C-14-SN	VMP/20-TF/C-14-SN	VMP/20-PB/C-14-SN
Ayar / Adjustment	Allenli / Dowel	Topuz ile / Handknob	Sabit ayar / Fixed setting	Mühürlü / Sealed



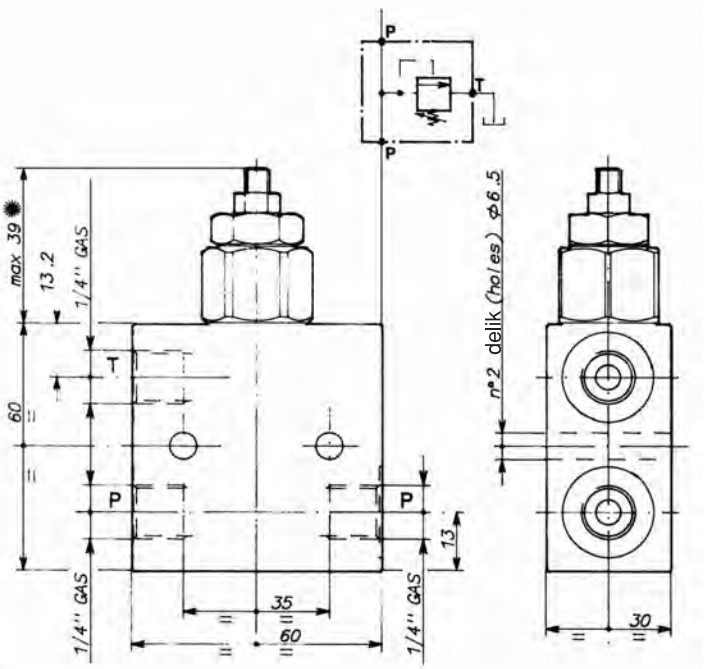
Basınç değer aralığı Setting Range min-max bar	Allen ayarlı Dowel adjustment	El ayarlı Handknob adjusment	Sabit ayarlı Fixed setting	Mühürlü ayarlı Sealed adjustment
5 ÷ 100	060	447	450	453
10 ÷ 210	289	448	451	454
20 ÷ 350	290	449	452	455

SİPARİŞ KODU / ORDERING CODE

002		000

✹ HER BİR KARTİÇ AYAR TİPİ İÇİN KATALOĞUN İLGİLİ BÖLÜMLERİNE BAKINIZ.
DIMENSION AS PER CARTRIDGE ADJUSTMENT TYPE, SEE RELEVANT CATALOGUE SECTION.

VALF DONANIMI VALVE DENOMINATION	DÜZ GÖVDELİ EMNİYET VALFLERİ / RELIEF VALVE WITH LINE BODY			
VALF KODU VALVE CODE	VMP/20-G/C-14-L-SN	VMP/20-V/C-14-L-SN	VMP/20-TF/C-14-L-SN	VMP/20-PB/C-14-L-SN
Ayar / Adjustment	Allenli / Dowel	Topuz ile / Handknob	Sabit ayar / Fixed setting	Mühürlü / Sealed



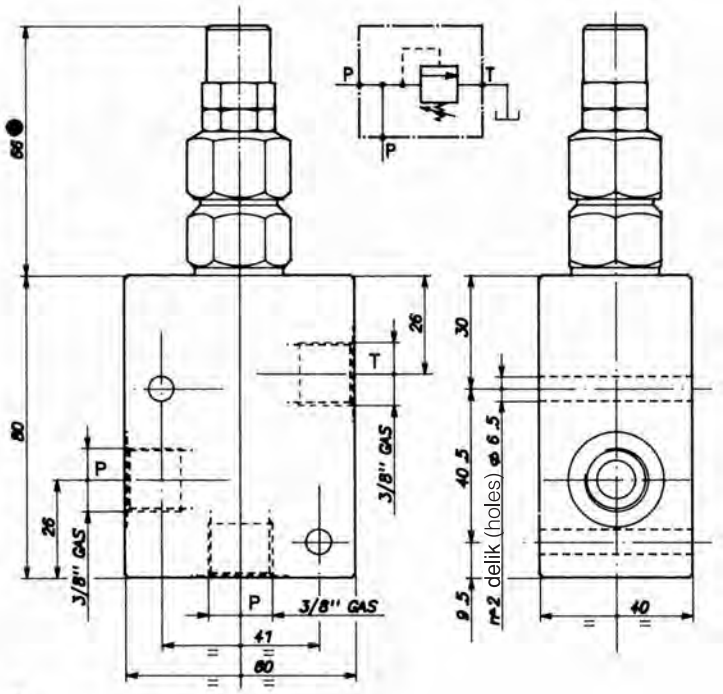
Basınç değer aralığı Setting Range min-max bar	Allen ayarlı Dowel adjustment	El ayarlı Handknob adjusment	Sabit ayarlı Fixed setting	Mühürlü ayarlı Sealed adjustment
5 ÷ 100	062	465	468	471
10 ÷ 210	293	466	469	472
20 ÷ 350	294	467	470	473

SİPARİŞ KODU / ORDERING CODE

002		000

HER BİR KARTİÇİN BAĞLANTI TİPİ İÇİN KATALOĞUN İLGİLİ BÖLÜMLERİNE BAKINIZ.
✹ DIMENSION AS PER CARTRIDGE ADJUSTMENT TYPE, SEE RELEVANT CATALOGUE SECTION.

VALF DONANIMI VALVE DENOMINATION	VMP HAT TİPİ DENGELEMELİ EMNİYET VALFİ / RELIEF VALVE WITH OFFSET BODY			
VALF KODU VALVE CODE	VMP/35-G/C-38	VMP/35-V/C-38	VMP/35-TF/C-38	VMP/35-PB/C-38
Ayar / Adjustment	Allenli / Dowel	Topuz ile / Handknob	Sabit ayar / Fixed setting	Mühürlü / Sealed



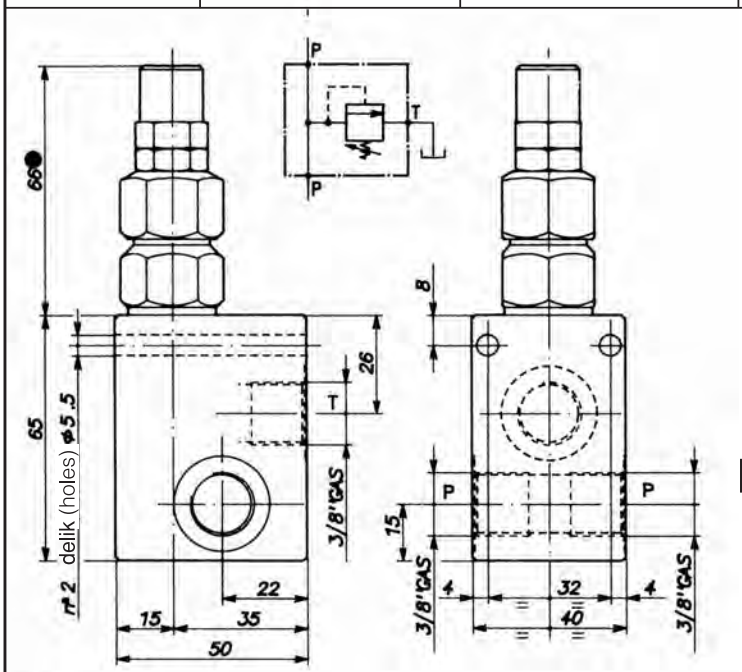
Basınç değer aralığı Setting Range min-max bar	Allen ayarlı Dowel adjustment	El ayarlı Handknob adjusment	Sabit ayarlı Fixed setting	Mühürlü ayarlı Sealed adjustment
5 ÷ 100	013	125	415	412
10 ÷ 200	123	126	416	413
25 ÷ 350	124	127	417	414

SİPARİŞ KODU / ORDERING CODE

002		000

HER BİR KARTİÇ AYAR TİPİ İÇİN KATALOGUN İLGİLİ BÖLÜMLERİNE BAKINIZ
DIMENSION AS PER CARTRIDGE ADJUSTMENT TYPE, SEE RELEVANT CATALOGUE SECTION

VALF DONANIMI VALVE DENOMINATION	VMP HAT TİPİ DENGELEMELİ EMNİYET VALFİ / RELIEF VALVE WITH LINE BODY			
VALF KODU VALVE CODE	VMP/35-G/C-38/L	VMP/35-V/C-38/L	VMP/35-TF/C-38/L	VMP/35-PB/C-38/L
Ayar / Adjustment	Allenli / Dowel	Topuz ile / Handknob	Sabit ayar / Fixed setting	Mühürlü / Sealed



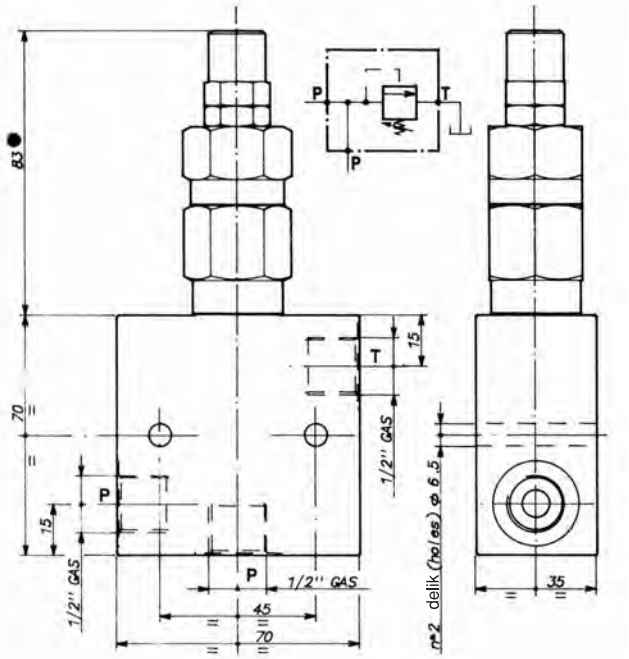
Basınç değer aralığı Setting Range min-max bar	Allen ayarlı Dowel adjustment	El ayarlı Handknob adjusment	Sabit ayarlı Fixed setting	Mühürlü ayarlı Sealed adjustment
5 ÷ 100	015	135	421	418
10 ÷ 200	133	136	422	419
25 ÷ 350	134	137	423	420

SİPARİŞ KODU / ORDERING CODE

002		000

HER BİR KARTİÇİN BAĞLANTI TİPİ İÇİN KATALOĞUN İLGİLİ BÖLÜMLERİNE BAKINIZ
DIMENSION AS PER CARTRIDGE ADJUSTMENT TYPE, SEE RELEVANT CATALOGUE SECTION

VALF DONANIMI VALVE DENOMINATION	VMP HAT TİPİ DENGELEMELİ EMNİYET VALFİ / RELIEF VALVE WITH OFFSET BODY			
VALF KODU VALVE CODE	VMP/45-G/C-12-SN	VMP/45-V/C-12-SN	VMP/45-TF/C-12-SN	VMP/45-PB/C-12-SN
Ayar / Adjustment	Allenli / Dowel	Topuz ile / Handknob	Sabit ayar / Fixed setting	Mühürlü / Sealed



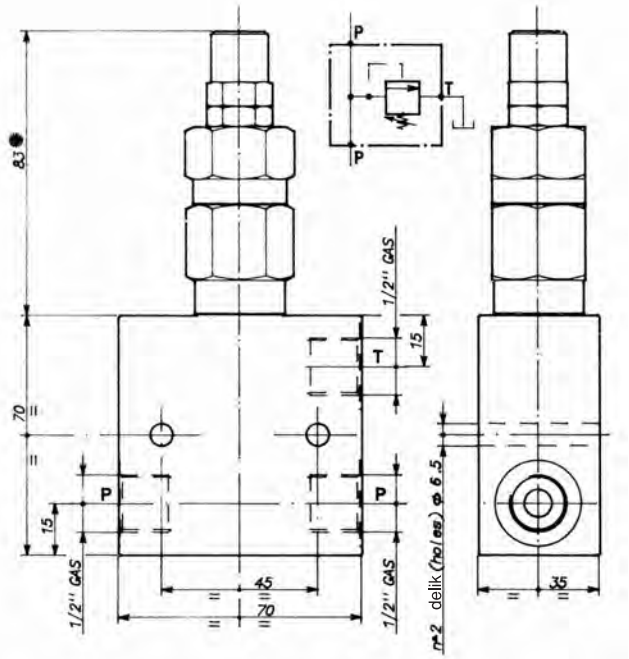
Basınç değer aralığı Setting Range min-max bar	Allen ayarlı Dowel adjustment	El ayarlı Handknob adjusment	Sabit ayarlı Fixed setting	Mühürlü ayarlı Sealed adjustment
5 ÷ 100	037	510	513	516
10 ÷ 200	272	511	514	517
25 ÷ 350	273	512	515	518

SİPARİŞ KODU / ORDERING CODE

002		000

HER BİR KARTİÇ AYAR TİPİ İÇİN KATALOĞUN İLGİLİ BÖLÜMLERİNE BAKINIZ.
DIMENSION AS PER CARTRIDGE ADJUSTMENT TYPE, SEE RELEVANT CATALOGUE SECTION.

VALF DONANIMI VALVE DENOMINATION	WMP HAT TİPİ DENGELEMELİ EMNİYET VALFİ / RELIEF VALVE WITH LINE BODY			
VALF KODU VALVE CODE	VMP/45-G/C-12-L-SN	VMP/45-V/C-12-L-SN	VMP/45-TF/C-12-L-SN	VMP/45-PB/C-12-L-SN
Ayar / Adjustment	Allenli / Dowel	Topuz ile / Handknob	Sabit ayar / Fixed setting	Mühürlü / Sealed



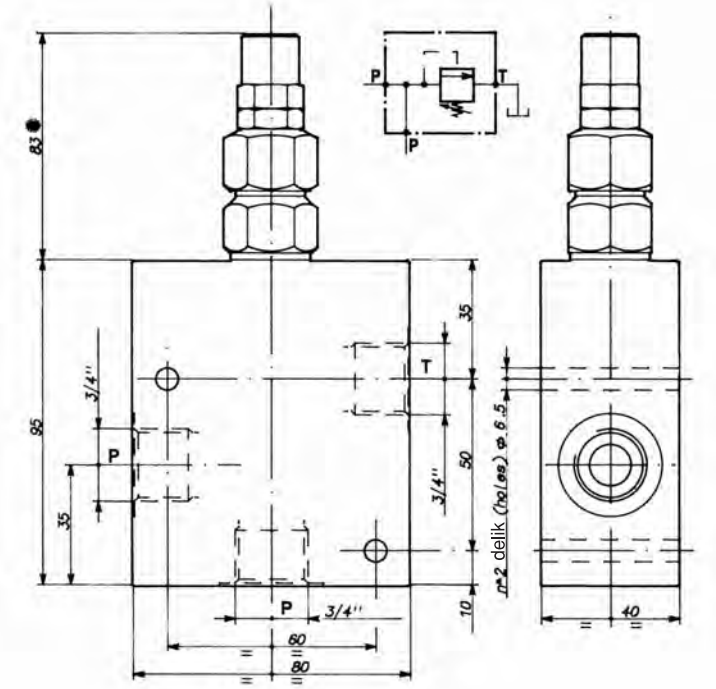
Basınç değer aralığı Setting Range min-max bar	Allen ayarlı Dowel adjustment	El ayarlı Handknob adjusment	Sabit ayarlı Fixed setting	Mühürlü ayarlı Sealed adjustment
5 ÷ 100	039	519	522	525
10 ÷ 200	276	520	523	526
25 ÷ 350	277	521	524	527

SİPARİŞ KODU / ORDERING CODE

002		000

HER BİR KARTİÇİN BAĞLANTI TİPİ İÇİN KATALOĞUN İLGİLİ BÖLÜMLERİNE BAKINIZ.
DIMENSION AS PER CARTRIDGE ADJUSTMENT TYPE, SEE RELEVANT CATALOGUE SECTION.

VALF DONANIMI VALVE DENOMINATION	VMP HAT TİPİ DENGELEMELİ EMNİYET VALFİ / RELIEF VALVE WITH OFFSET BODY			
VALF KODU VALVE CODE	VMP/80-G/C-34	VMP/80-V/C-34	VMP/80-TF/C-34	VMP/80-PB/C-34
Ayar / Adjustment	Allenli / Dowel	Topuz ile / Handknob	Sabit ayar / Fixed setting	Mühürlü / Sealed



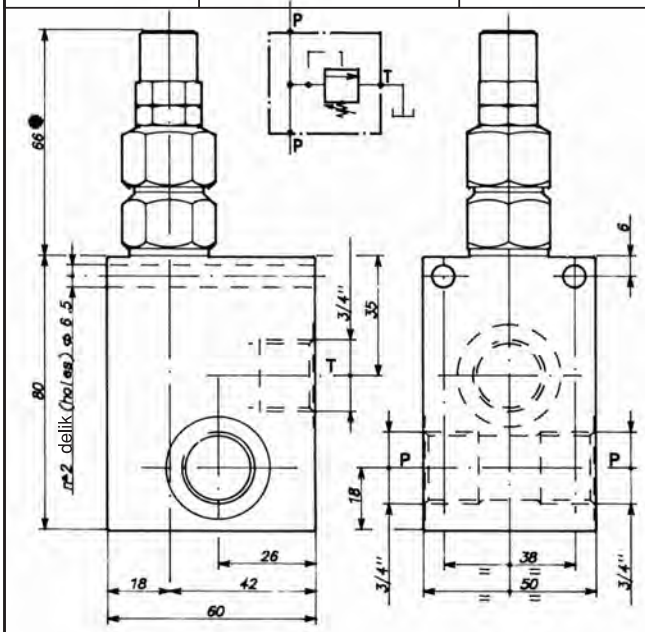
Basınç değer aralığı Setting Range min-max bar	Allen ayarlı Dowel adjustment	El ayarlı Handknob adjusment	Sabit ayarlı Fixed setting	Mühürlü ayarlı Sealed adjustment
5 ÷ 50	022	194	556	561
5 ÷ 100	190	195	557	562
10 ÷ 150	191	196	558	563
25 ÷ 250	192	197	559	564
40 ÷ 350	193	198	560	565

SİPARİŞ KODU / ORDERING CODE

002		000

HER BİR KARTİÇ AYAR TİPİ İÇİN KATALOĞUN İLGİLİ BÖLÜMLERİNE BAKINIZ.
DIMENSION AS PER CARTRIDGE ADJUSTMENT TYPE, SEE RELEVANT CATALOGUE SECTION.

VALF DONANIMI VALVE DENOMINATION	VMP HAT TİPİ DENGELEMELİ EMNİYET VALFİ / RELIEF VALVE WITH LINE BODY			
VALF KODU VALVE CODE	VMP/80-G/C-34/L	VMP/80-V/C-34/L	VMP/80-TF/C-34/L	VMP/80-PB/C-34/L
Ayar / Adjustment	Allenli / Dowel	Topuz ile / Handknob	Sabit ayar / Fixed setting	Mühürlü / Sealed



Basınç değer aralığı Setting Range min-max bar	Allen ayarlı Dowel adjustment	El ayarlı Handknob adjusment	Sabit ayarlı Fixed setting	Mühürlü ayarlı Sealed adjustment
5 ÷ 50	024	212	566	571
5 ÷ 100	208	213	567	572
10 ÷ 150	209	214	568	573
25 ÷ 250	210	215	569	574
40 ÷ 350	211	216	570	575

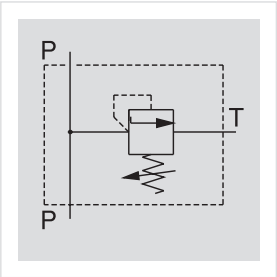
SİPARİŞ KODU / ORDERING CODE

002		000

✹ HER BİR KARTİÇİN BAĞLANTI TİPİ İÇİN KATALOĞUN İLGİLİ BÖLÜMLERİNE BAKINIZ.
DIMENSION AS PER CARTRIDGE ADJUSTMENT TYPE, SEE RELEVANT CATALOGUE SECTION.

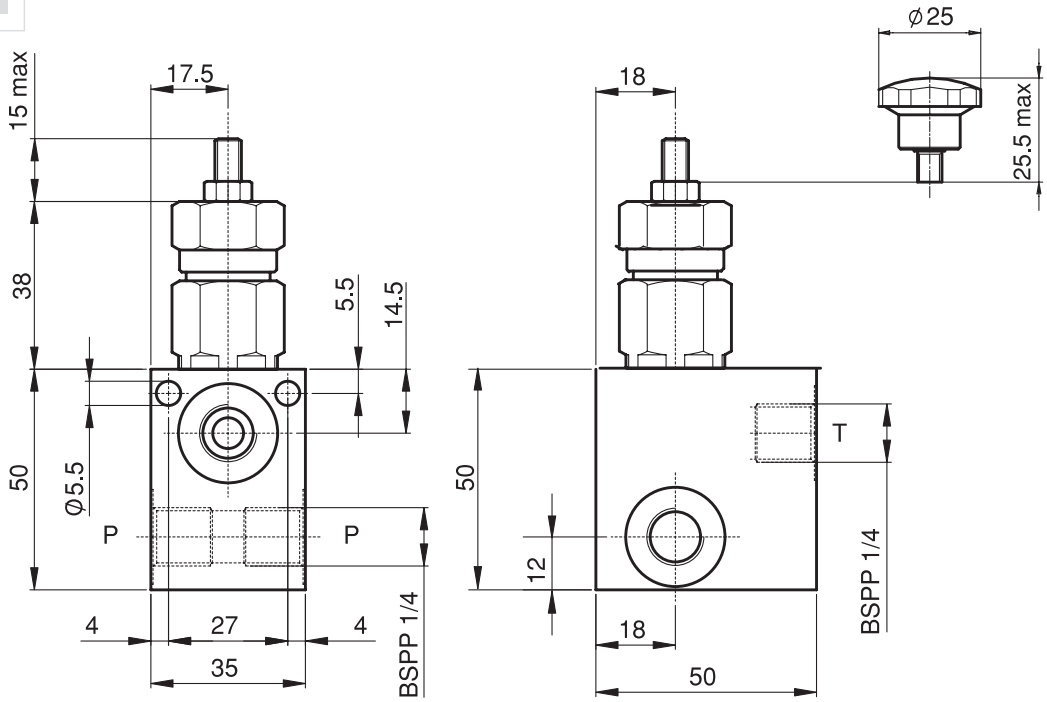
DİREKT ETKİLİ EMNİYET VALFİ / DIRECT ACTING RELIEF VALVES

VMDR10



Direkt etkili VMDR10 emniyet valfleri devredeki basıncı sınırlamak için kullanılır.

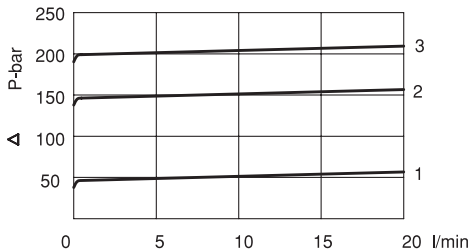
The direct action VMDR10 relief valves are used to limit the pressure inside the circuit

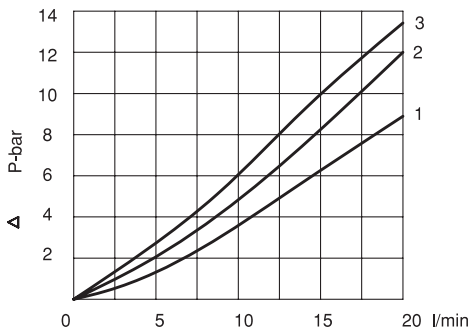


TEKNİK ÖZELLİKLER / FEATURES

Kod Code	A	Max. debi Max flow l/min	Max. basınç Max pressure bar	Ağırlık Weight Kg
VMDR10140	BSPP 1/4	20	210	0,25
VMDR10380	BSPP 3/8	20		

BASINÇ DİYAGRAMI / PRESSURE DROPS





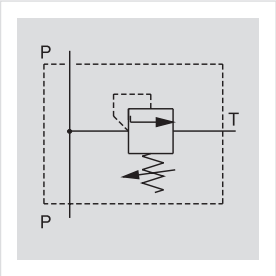
SİPARİŞ KODU / ORDERING CODE

VMDR10 *** * *

- Dimensione / Size
  - BSPP 1/4 — 140
  - BSPP 3/8 — 380
- Ayar / Adjustment
  - Vida / Screw — C
  - Elle / Handwheel — V
- Ayar aralığı / Setting range
  - 50 bar (max) — 1
  - 150 bar (max) — 2
  - 210 bar (max) — 3

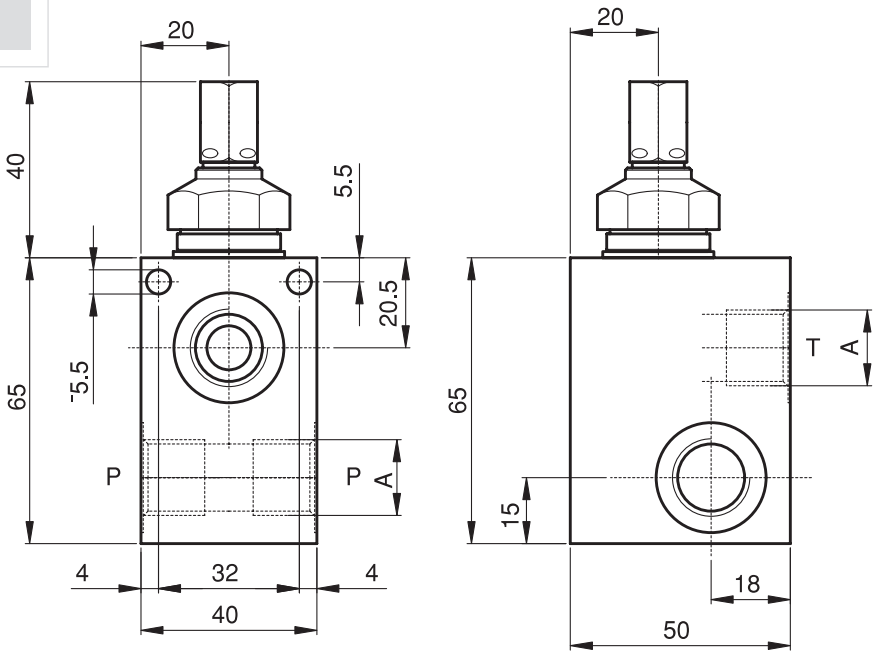
DİREKT ETKİLİ EMNİYET VALFİ / DIRECT ACTING RELIEF VALVES

VMDR40



Direkt etkili VMDR40 emniyet valfleri devredeki basıncı sınırlamak için kullanılır.

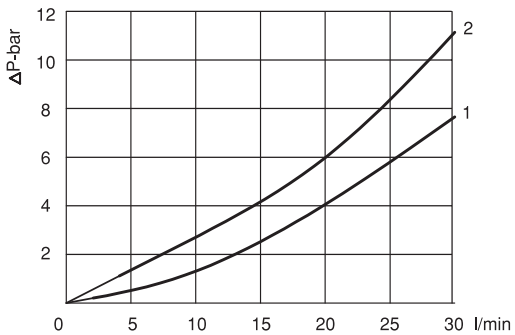
The direct action VMDR40 relief valves are used to limit the pressure inside the circuit

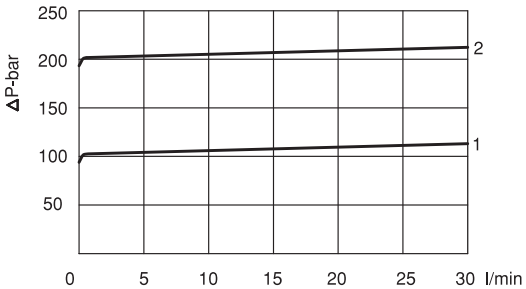


TEKNİK ÖZELLİKLER / FEATURES

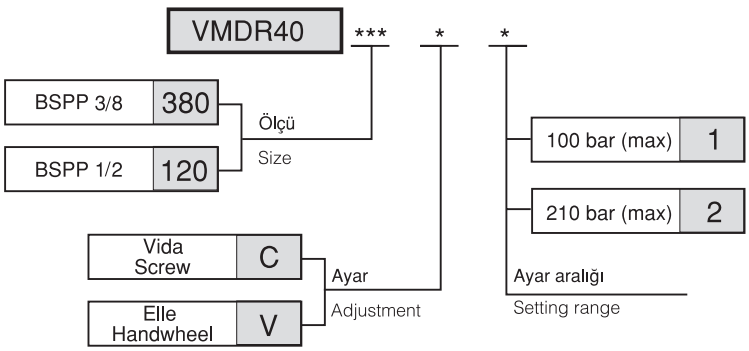
Kod Code	A	Max. debi Max flow l/min	Max. basınç Max pressure bar	Ağırlık Weight Kg
VMDR40380	BSPP 3/8	40	210	0,45
VMDR40120	BSPP 1/2	40		

BASINÇ DİYAGRAMI / PRESSURE DROPS



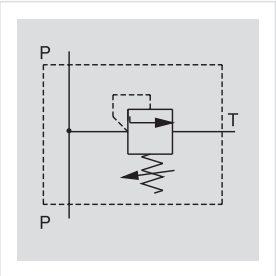


SİPARİŞ KODU / ORDERING CODE



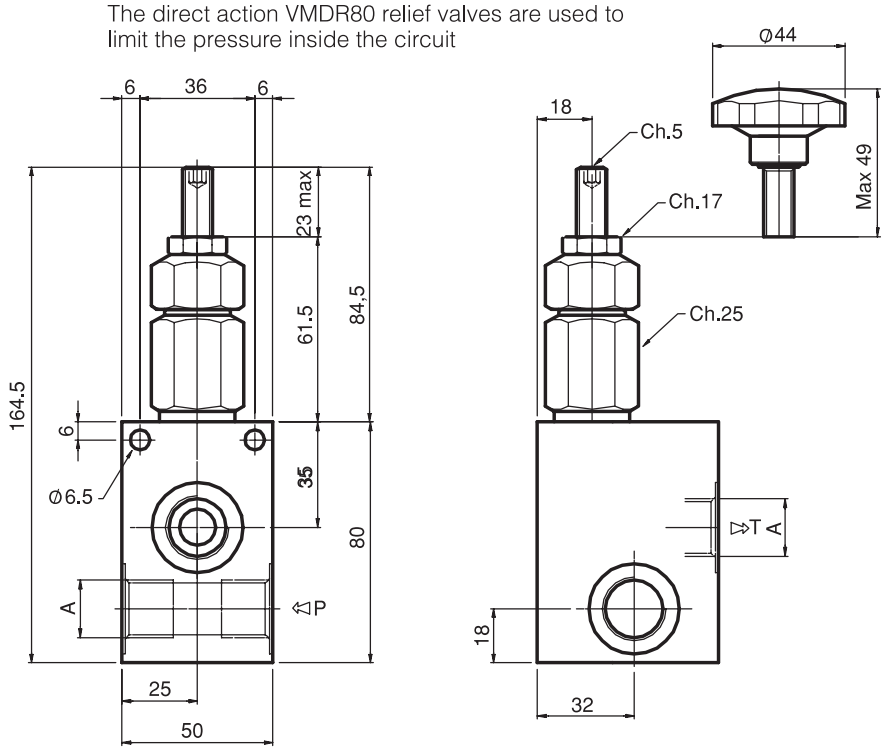
DİREKT ETKİLİ EMNİYET VALFİ / DIRECT ACTING RELIEF VALVES

VMDR80



Direkt etkili VMDF80 emniyet valfleri devredeki basıncı sınırlamak için kullanılır.

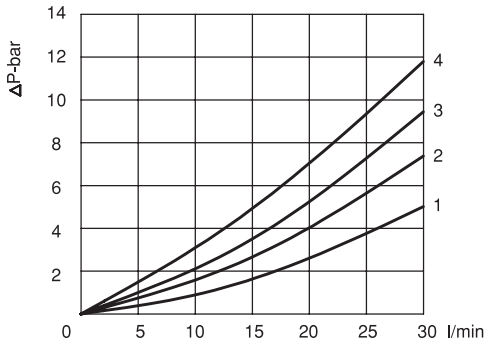
The direct action VMDR80 relief valves are used to limit the pressure inside the circuit

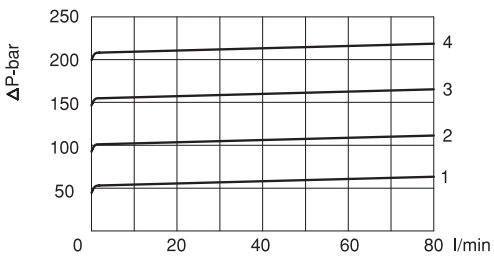


TEKNİK ÖZELLİKLER / FEATURES

Kod Code	A	Max. debi Max flow l/min	Max. basınç Max pressure bar	Ağırlık Weight Kg
VMDR80120	BSPP 1/2	80	210	0,75
VMDR80340	BSPP 3/4	80		0,70

BASINÇ DİYAGRAMI / PRESSURE DROPS





SİPARİŞ KODU / ORDERING CODE

VMDR80 *** * *

- BSPP 1/2 — 120
- BSPP 3/4 — 340

Ölçü / Size

- Vida / Screw — C
- Elle / Handwheel — V

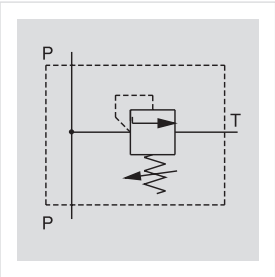
Ayar / Adjustment

- 50 bar (max) — 1
- 100 bar (max) — 2
- 150 bar (max) — 3
- 210 bar (max) — 4

Ayar aralığı / Setting range

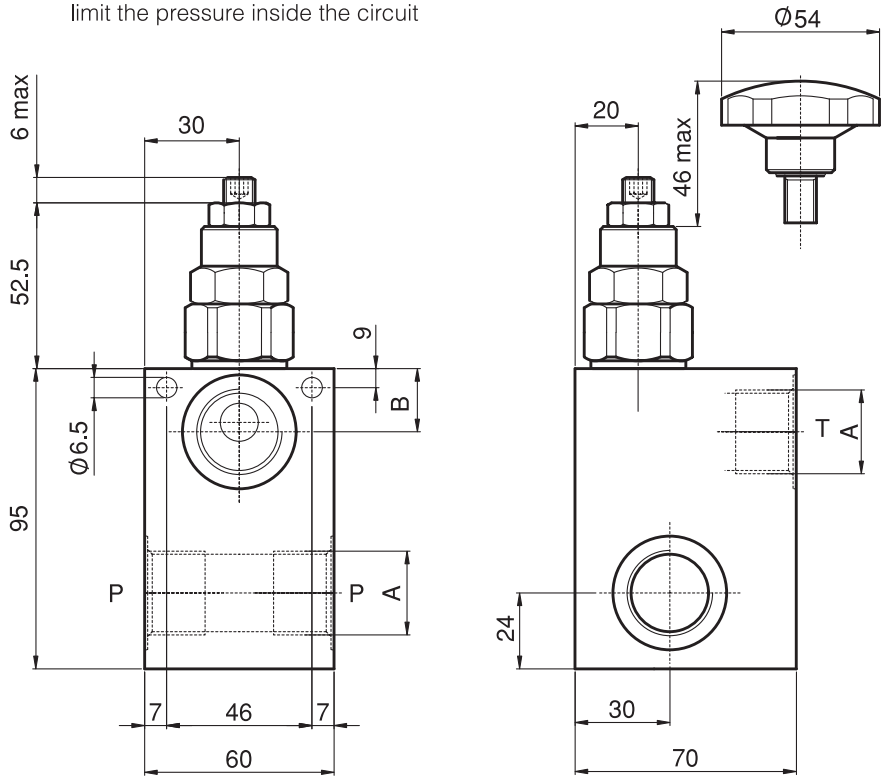
DİREKT ETKİLİ EMNİYET VALFİ / DIRECT ACTING RELIEF VALVES

VMDR120



Direkt etkili VMDR120 emniyet valfleri devredeki basıncı sınırlamak için kullanılır.

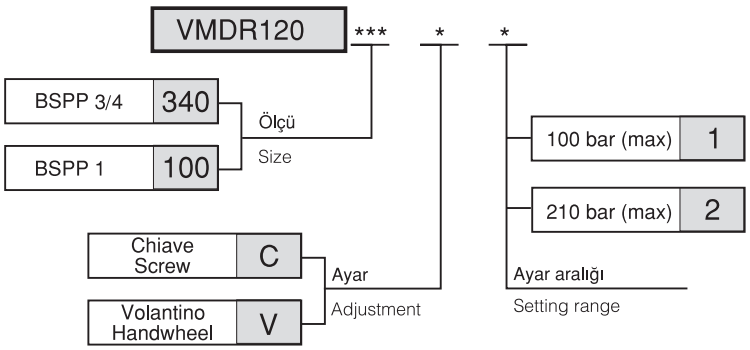
The direct action VMDR120 relief valves are used to limit the pressure inside the circuit



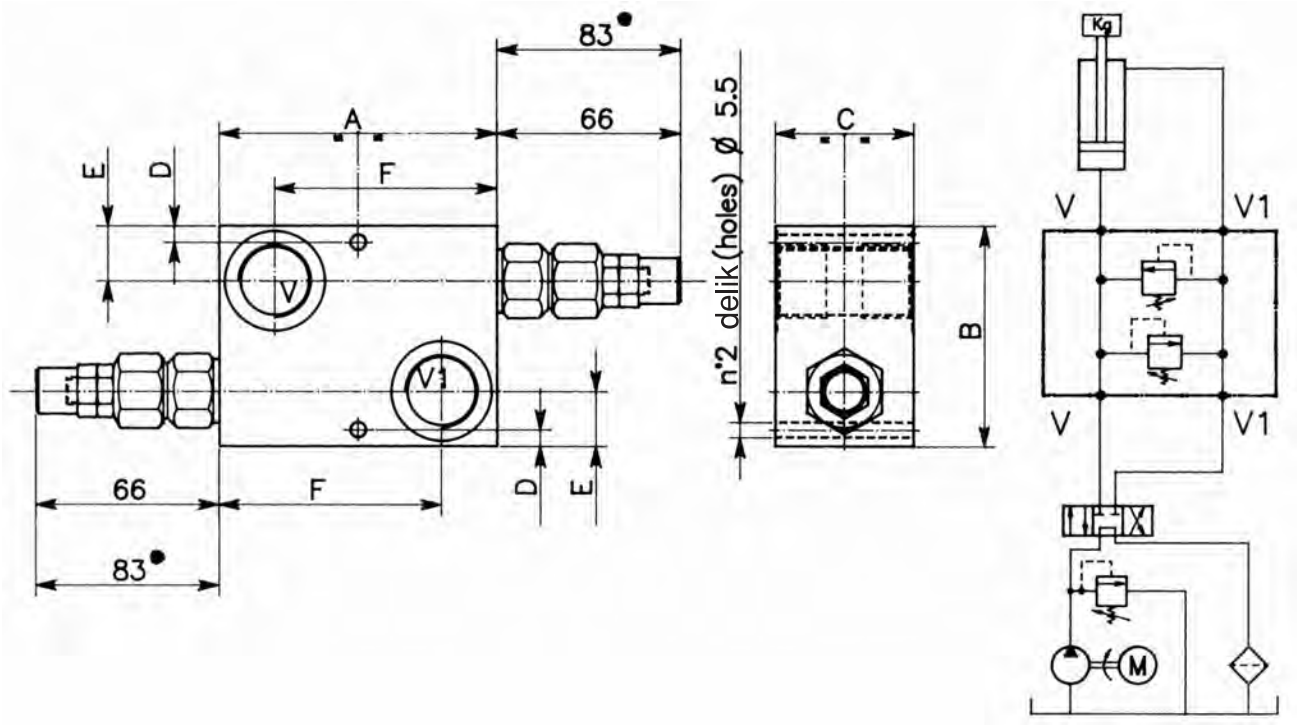
TEKNİK ÖZELLİKLER / FEATURES

Kod Code	A	Max. debi Max flow l/min	Max. basınç Max pressure bar	Ağırlık Weight Kg
VMDR120340	BSPP 3/4	120	210	1,20
VMDR120100	BSPP 1	120		1,20

SİPARİŞ KODU / ORDERING CODE



HAT TİPİ İKİZ EMNİYET VALFİ
IN LINE, DOUBLE RELIEF VALVE



Her bir VMP / DI / 80 için
Dimensions as per VMP / DI / 80-... valves

Debi 5 l/dk. iken std. basınç değeri Std. bar setting (made at 5 l/1')	Basınç değer aralığı Setting Range min-max bar	TYPE TYPE
40	5 ÷ 50	1
80	5 ÷ 100	2
120	10 ÷ 150	3
180	10 ÷ 200	4
210	25 ÷ 250	5
320	◎25 ÷ 350	6
	40 ÷ 350	

VMO / DI / 80 - 34 / L - AP Yüksek basınç tipi / High pressure type

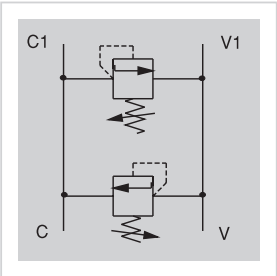
VMP / DI / 35 - ...
◎ VMP / DI / 35 - ... ayar aralığı /setting range

VALF KODU VALVE CODE	YAY MODELİ / SPRINGS TYPE						A	B	C	D	E	F	Delik ölçüsü Port size V - V1 GAS(BSPP)
	1	2	3	4	5	6							
VMP/DI/35-38/L	– –	051	– –	281	– –	282	80	60	40	5.5	18	64	3 / 8”
VMP/DI/35-12/L	– –	052	– –	283	– –	284							1 / 2”
VMP/DI/80-34/L	053	285	286	– –	287	288	100	80	50	6	20	80	3 / 4”
VMP/DI/80-34/L-AP	– –	– –	– –	– –	– –	332							

SİPARİŞ KODU / ORDERING CODE		
002		000

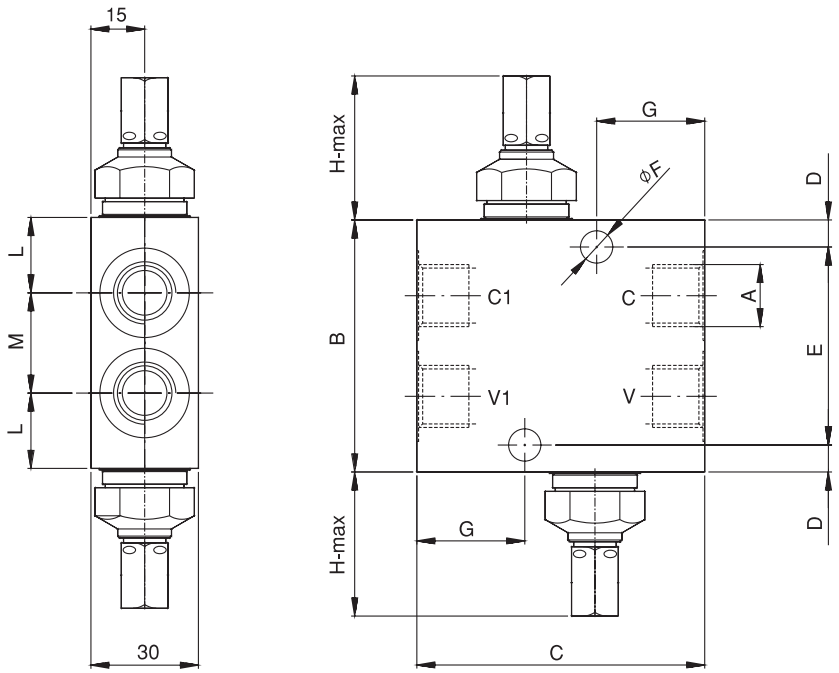
DİREKT ETKİLİ ÇAPRAZ EMNİYET VALFLER
DOUBLE CROSS LINE DIRECT ACTING RELIEF VALVES

VBDC



Direkt etkili ikiz çapraz emniyet valfler tip VBDC hidrolik sistemdeki motor ve silindirlere gelen yükteki dalgalanmayı önler.

The double cross line direct acting relief valves type VBDC are typically used to protect a hydraulic motor or cylinder from load-induced pressure surges.



TEKNİK ÖZELLİKLER / FEATURES

Kod Code	A	Valf tipi Type of valve	Max. debi Max flow l/min	Max. basınç Max Pressure bar	B	C	D	E	F	G	H	L	M	Ağırlık Weight Kg
VBDC140	BSPP 1/4	VMD10	20	350	60	70	5.5	49	6.5	21	53	14.5	22	
VBDC380	BSPP 3/8	VMD40	40		70	80	7.5	55	9	30	40	21	28	
VBDC120	BSPP1/2	VMD40	40									18.5	33	

SİPARİŞ KODU / ORDERING CODE

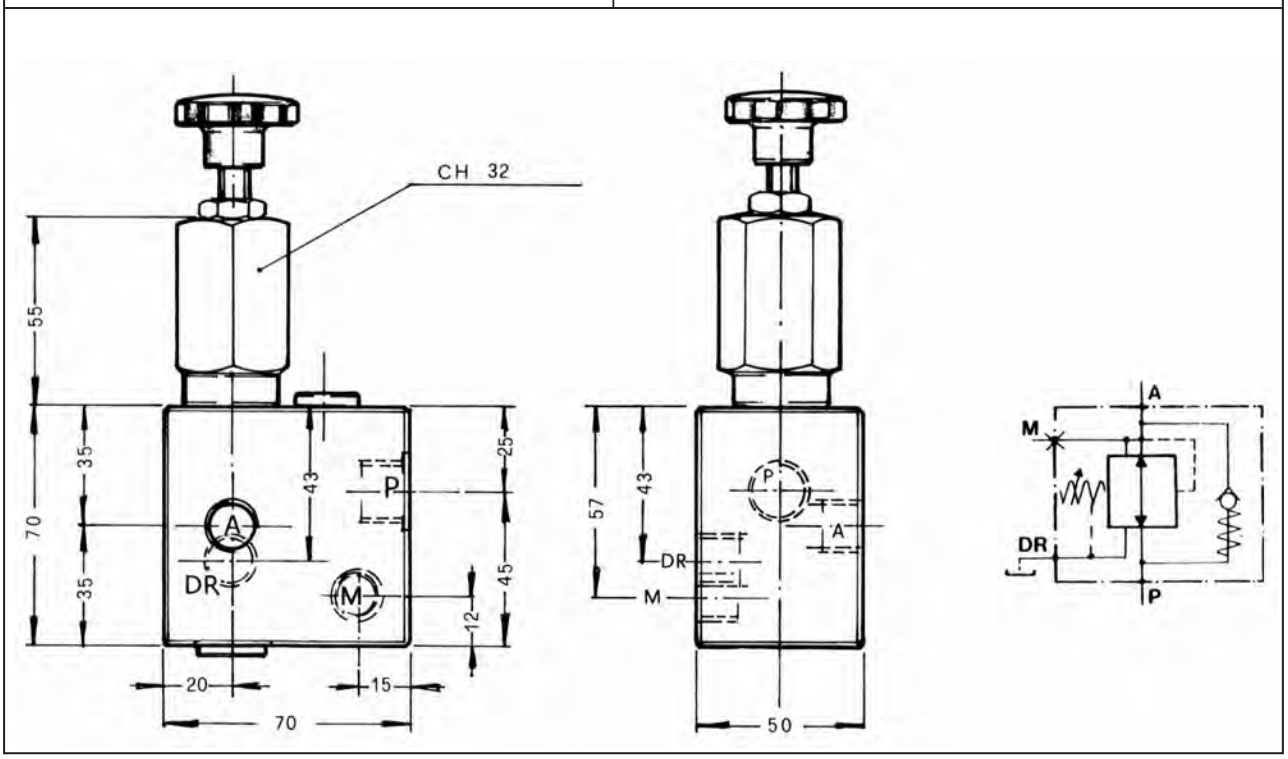
VBDC *** *

Ölçü / Size:
- BSPP 1/4 — 140
- BSPP 3/8 — 380
- BSPP 1/2 — 120

Ayar aralığı / Setting range:
- 100 bar (max) — 1
- 210 bar (max) — 2
- 350 bar (max) — 3

HAT TİPİ BASINÇ DÜŞÜRÜCÜ
IN LINE, PRESSURE REDUCER VALVE

VALFİN ADI / VALF DENOMINATION	
VRP / 14 - L	VRP / 38 - L

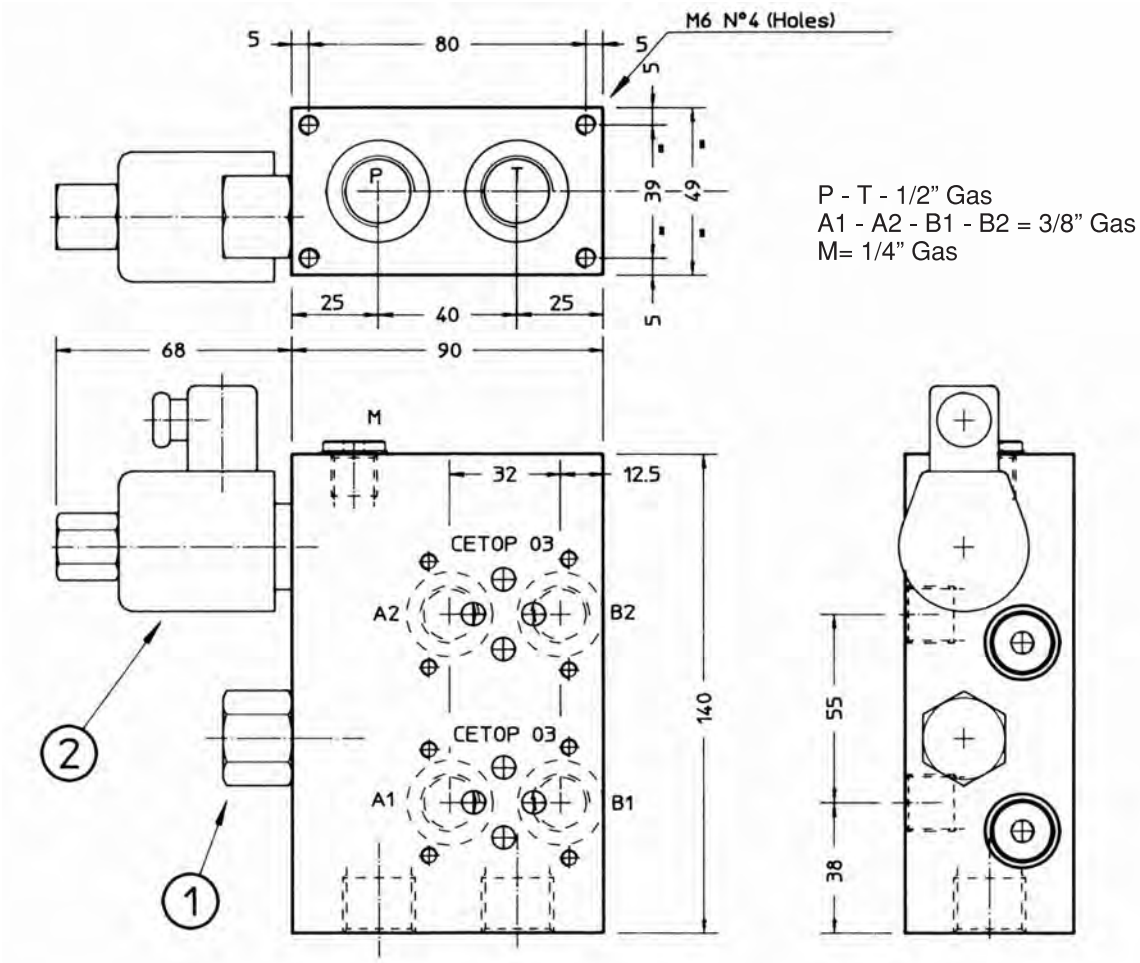


DELİK ÖLÇÜSÜ / PORT SIZE				
ADI / DENOMINATION	A	P	DR	M
VRP / 14 - L	1/4”	1/4”	1/4”	1/4”
VRP / 38 - L	3/8”	3/8”	3/8”	1/4”

YAYLAR / SPRINGS		
Debi 5 l / dk. iken Std. basınç değeri Std. setting bar (made at 5 l / 1”)	Basınç değer aralıkları Setting range Min-Max bar	Renk Colour
50	50 ÷ 0	Siyah Black
150	150 ÷ 0	Mavi Blue
250	250 ÷ 0	Yeşil Green
350	350 ÷ 0	Sarı Yellow

Max. Çalışma Basıncı Max. Working Pressure	350 bar	Max. Debi Max. Flow	45 l/ min.

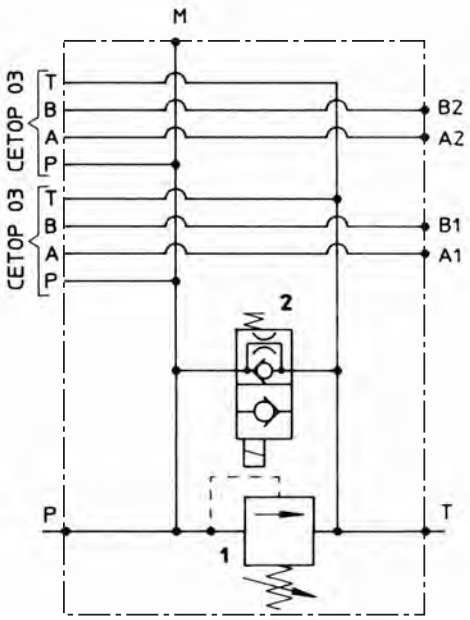
CETOP 3 ELEKTRİK BOŞALTMALI VALF PLEYTLERİ
CETOP 3 ELECTRICAL OVERRIDE VALVE PLATES



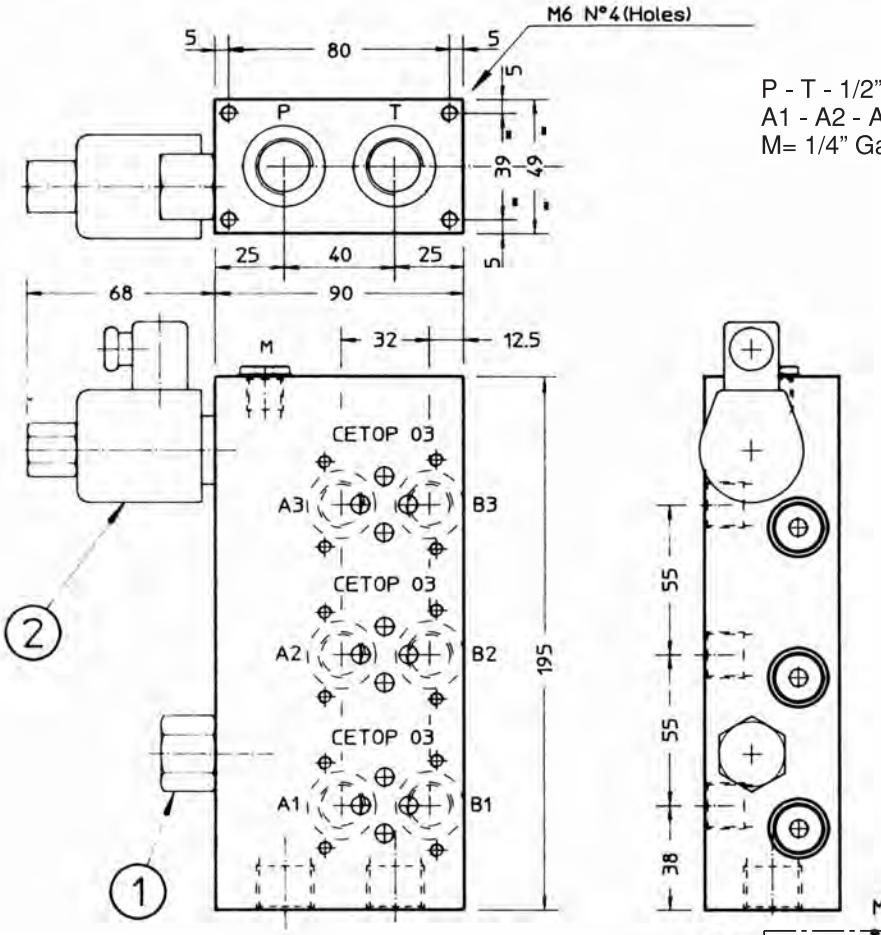
P - T - 1/2” Gas
A1 - A2 - B1 - B2 = 3/8” Gas
M= 1/4” Gas

VALF KODU VALVE CODE	SİPARİŞ KODU ORDERING CODE
VMP/35R-CBE/2E-12-38-14	SK20090LS

N°	VALF KODU VALVE CODE	Q	SİPARİŞ KODU ORDERING CODE
1	VMP/35-R	1	-
2	VMS/C/NA-40-78	1	005.169.000
	12 V.DC		



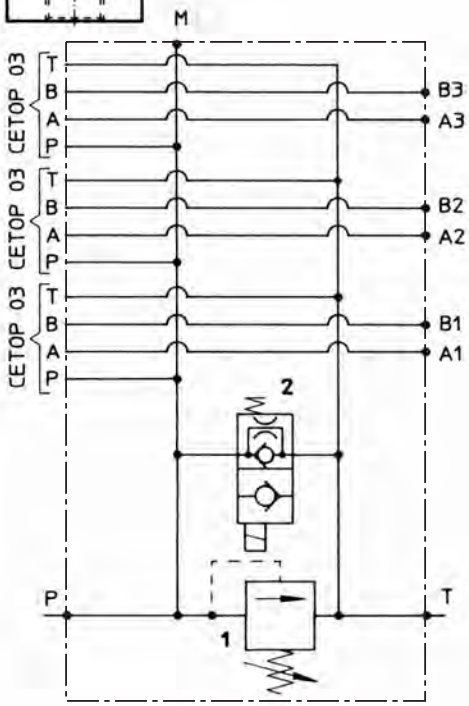
CETOP 3 ELEKTRİK BOŞALTMALI VALF PLEYTLERİ
CETOP 3 ELECTRICAL OVERRIDE VALVE PLATES



P - T - 1/2" Gas
A1 - A2 - A3 - B1 - B2 -B3 = 3/8" Gas
M= 1/4" Gas

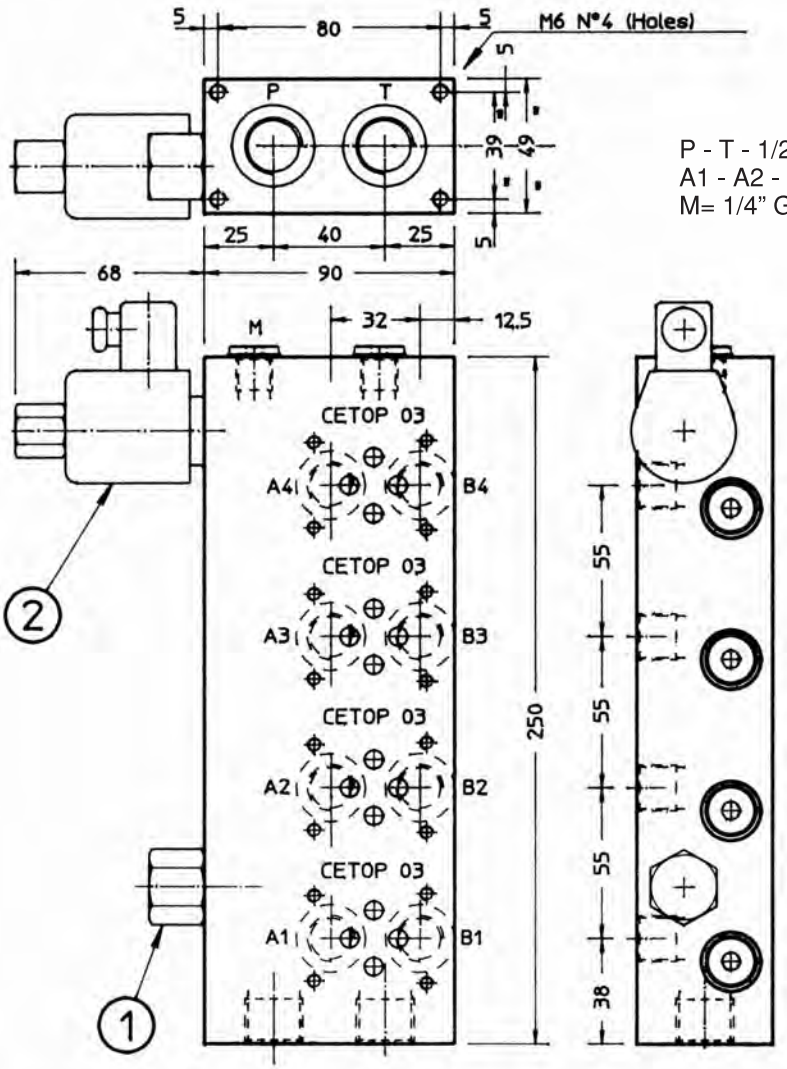
VALF KODU VALVE CODE	SİPARİŞ KODU ORDERING CODE
VMP/35-CBE/3E-12-38-14	SK20100LS

N°	VALF KODU VALVE CODE	Q	SİPARİŞ KODU ORDERING CODE
1	VMP/35-R	1	-
2	VMS/C/NA-40-78	1	005.169.000
	12 V.DC		



CETOP 3 ELEKTRİK BOŞALTMALI VALF PLEYTLERİ

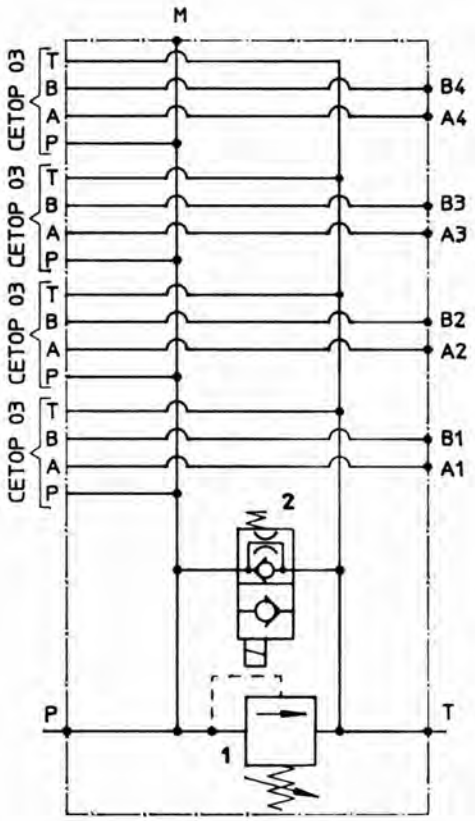
CETOP 3 ELECTRICAL OVERRIDE VALVE PLATES



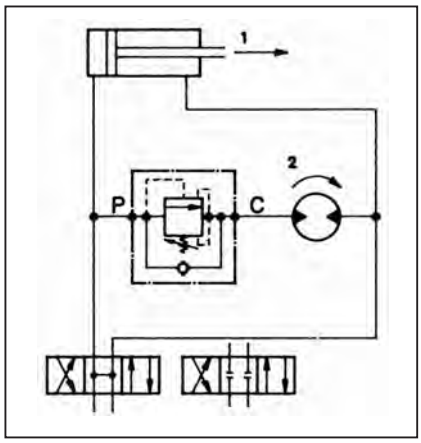
P - T - 1/2” Gas
A1 - A2 - A3 - A4 - B1 - B2 -B3 - B4 = 3/8” Gas
M= 1/4” Gas

VALF KODU VALVE CODE	SİPARİŞ KODU ORDERING CODE
VMP/35R-CBE/4E-12-38-14	SK201600LS

N°	VALF KODU VALVE CODE	Q	SİPARİŞ KODU ORDERING CODE
1	VMP/35-R	1	-
2	VMS/C/NA-40-78 12 V.DC	1	005.169.000



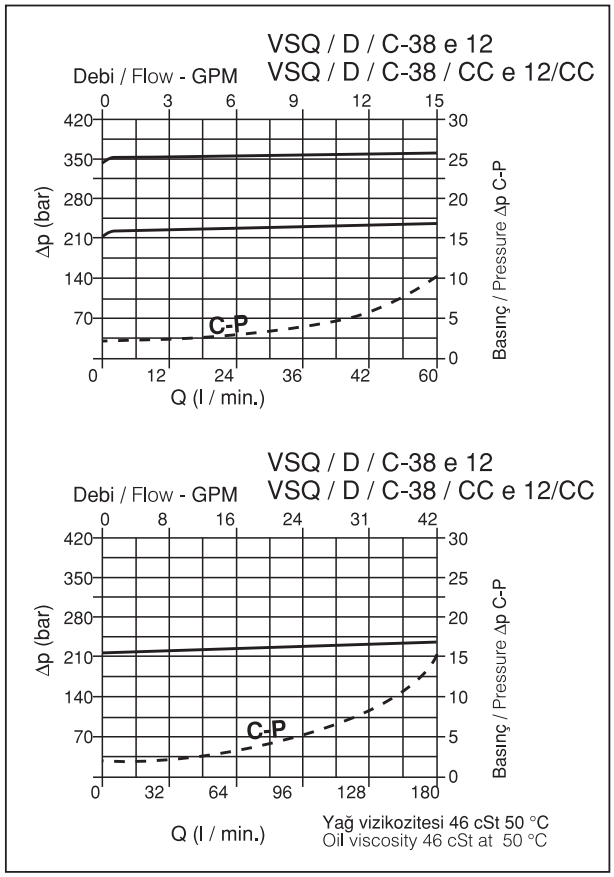
DİREKT ETKİLİ PİSTONLU BASINÇ SIRALAMA VALFİ
DIRECT ACTING; SEQUENCE VALVES DIFFERENTIAL PISTON TYPE



ÇALIŞMASI / OPERATION

Bu valfler dengeli ve harici sızıntısızdır. İkinci aktuatörün oluşturduğu geri basınca duyarsızdır.
Direkt etkili sıralama valfi diferansiyel piston stilli ve dahili çeklidir.
Ayarlanan değere kadar tek yönlü akışa izin verir. Diğer yönde kilitler. Iki veya daha fazla hidrolik silindirin kontrol sıralaması için en uygun kullanım alanıdır. İkinci silindirin orta ve yüksek basınç oluşturduğu durumlurda sabit akış vermek için dizayn edilmiştir. ikincil basıncın değeri 20 bardan düşük olduğu durumlar için önerilmez.

This valves are balanced and without external drain, insensitive to back pressure generated by the second actuator.
Direct acting sequence valve with differential piston style and check builtin, one point tight only on hardehed steel. Allows free flow in one direction and block flow in the reserve direction until setting value. Tehy are best suited to control sequence of operation of two or more hydraulic actuators, and designed for constant flow where the pressure generated by second actuator is medium -high (it is not recommended if the secondary pressure is below 20 bar).



NOT / NOTE:

Bu valfin “CC” modeli orta konumu kapalı valf sistemler için dizayn edilmiştir.

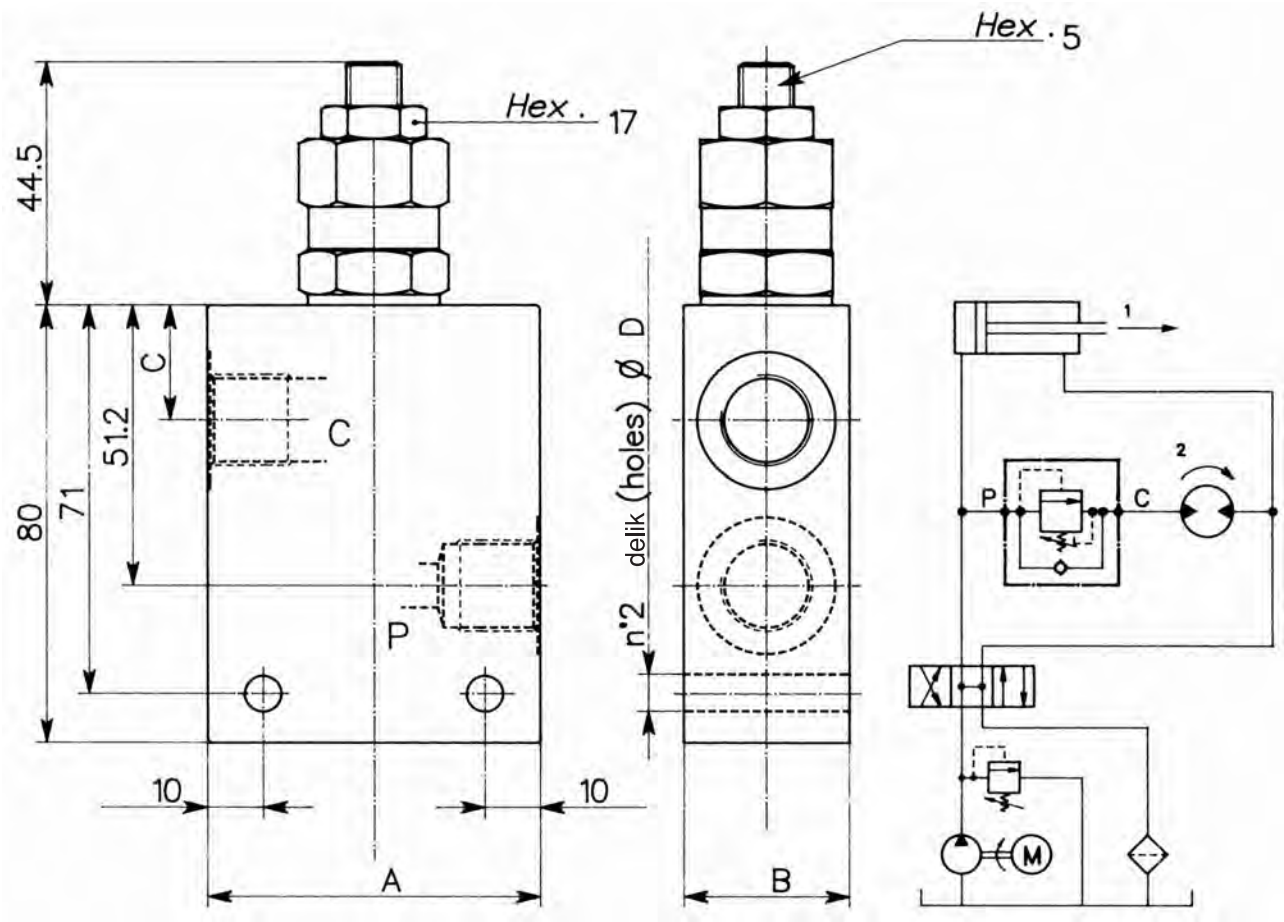
The CC valves models are best suited for system with ‘closed centre’ directional controls.

On reqest, any type of setting.

PERFORMANSLAR / PERFORMANCES

Nominal Rated size	DN	8-10-12-14
Max. debi-oran Max. flow-rate		160 l / min 42 GPM
Max. basınç ayarı Max. setting pressure		350 bar 5000 PSI
Oda sıcaklığı Room temperature	°C	-30 +50
Yağ sıcaklığı Oil temperature	°C	-30 +80
Filtrasyon Filtratıon	micron	30 ÷ 50

DİREKT ETKİLİ; PİSTONLU BASINÇ SIRALAMA VALFLERİ
DIRECT ACTING; SEQUENCE VALVES , DIFFERENTIAL PISTON TYPE



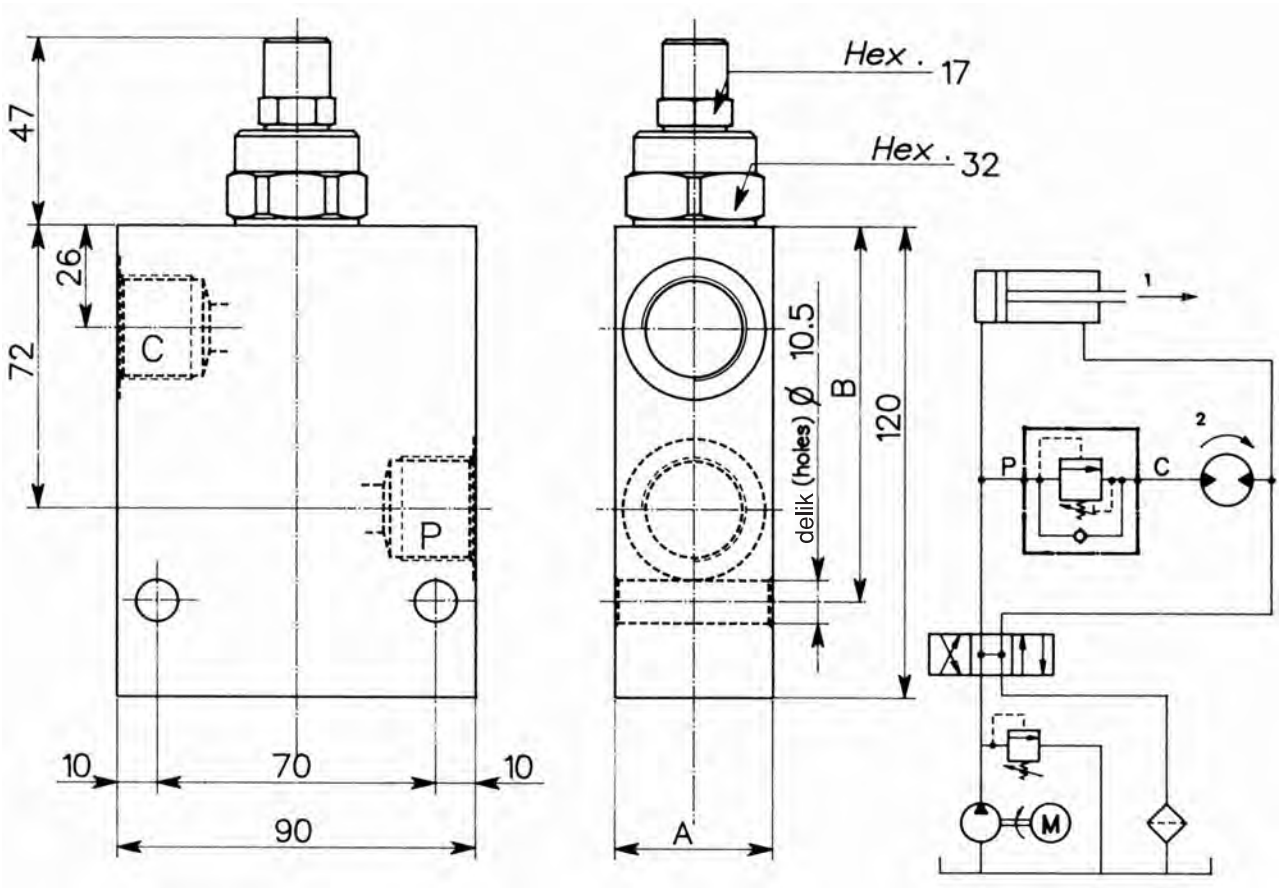
VALF KODU VALVE CODE	Basınç ayar aralığı 60 ÷ 350 bar Setting range	Basınç ayar aralığı 30 ÷ 220 bar Setting range	A	B	C	D	Delik ölçüsü Port size C - P GAS (BSPP)	Nominal ölçü Rated size DN	Max. debi oran Max. flow-rate l / min - GPM
VSQ / D / C-38	297	070	60	30	21	6.5	3 / 8”	8	40
VSQ / D / C-12	298	071	70	35	19	8.5	1 / 2”	10	60

Debi 5 l / dk. iken S.td. basınç değeri Std. bar setting (made at 5 / 1”)	Basınç ayar aralıkları Setting range Min-Max bar	Renk Colour
350	60 ÷ 350	Sarı Yellow
220	30 ÷ 220	Yeşil Green

SİPARİŞ KODU / ORDERING CODE

002		000

DİREKT ETKİLİ; PİSTONLU BASINÇ SIRALAMA VALFLERİ
DIRECT ACTING; SEQUENCE VALVES , DIFFERENTIAL PISTON TYPE

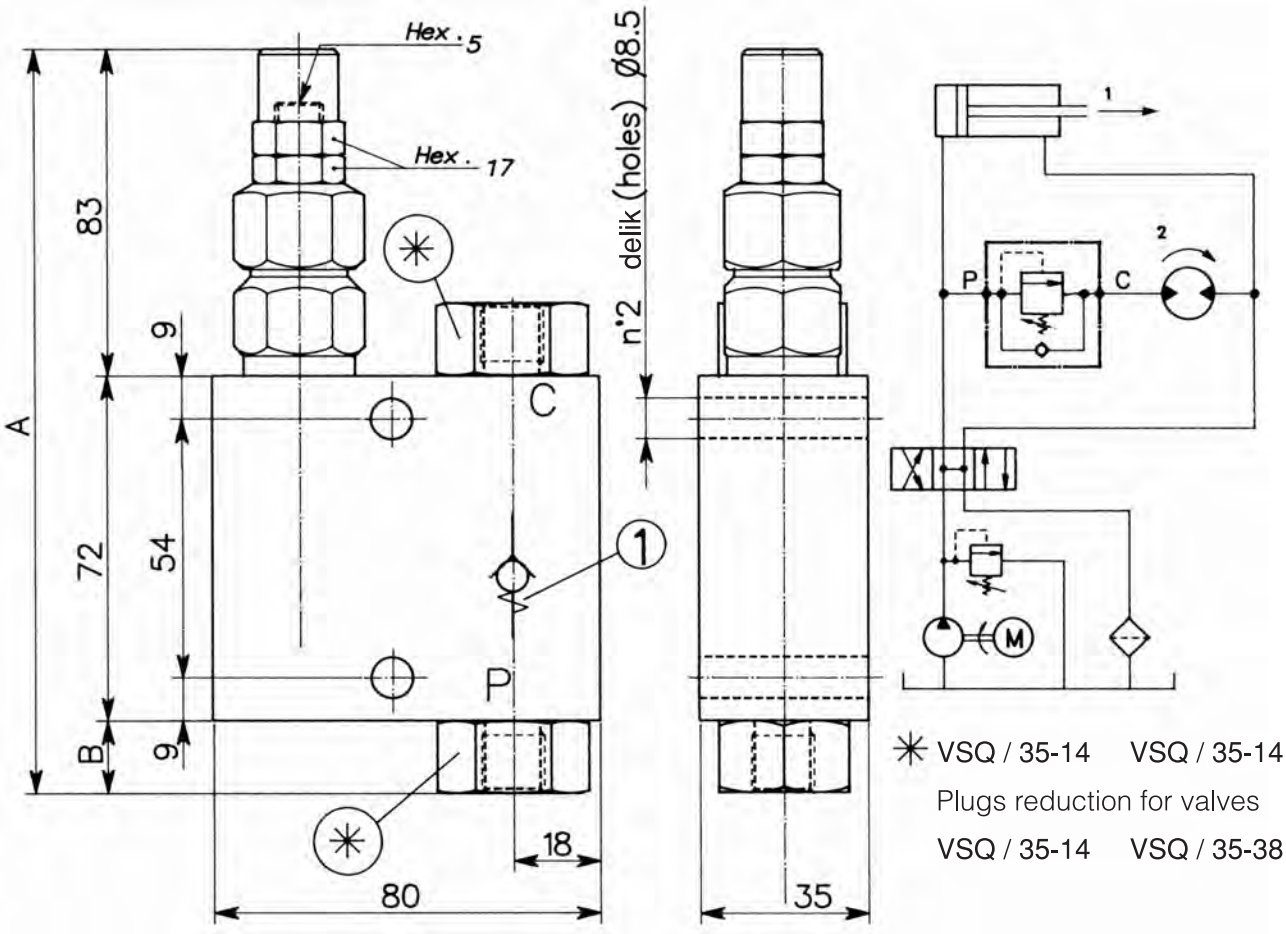


VALF KODU VALVE CODE	Basınç ayar aralığı 30 ÷ 350 bar Setting range	A	B					Delik ölçüsü Port size C - P GAS (BSPP)	Nominal ölçü Rated size DN	Max. debi oran Max. flow-rate l / min - GPM
VSQ / D / C-34	691	60	30					3 / 4”	12	120 - 31
VSQ / D / C-100	692	50	107					1”	14	160 - 42

Debi 5 l / dk. iken S.td. basınç değeri Std. bar setting (made at 5 / 1”)	Basınç ayar aralıkları Setting range Min-Max bar	Renk Colour
220	30 ÷ 350	Sarı Yellow

SİPARİŞ KODU / ORDERING CODE		
002		000

DİREKT ETKİLİ PİSTONLU BASINÇ SIRALAMA EMNİYET VALFİ
DIRECT ACTING; SEQUENCE VALVES DIFFERENTIAL PISTON TYPE



VALF KODU VALVE CODE	Açma basıncı Opening pressure valv. n'1	Basınç değer aralığı 25 ÷ 350 bar Setting range	Basınç değer aralığı 10 ÷ 200 bar Setting range	Basınç değer aralığı 5 ÷ 100 bar Setting range	A	B	Delik ölçüsü Port size C - P GAS (BSPP)	Nominal ölçü Rated size DN	Max. debi oran Max. flow-rate l / min - GPM
VSQ / 35-14	1 bar	264	263	032	165	10	1/4”	6	20-5
VSQ / 35-38	1 bar	259	258	031	170	15	3/8”	8	40-10
VSQ / 35-12	1 bar	254	253	030	155	– –	1/2”	10	60-15
VSQ / 35-14	1 bar	267	266	265					
VSQ / 35-38	1 bar	262	261	260					
VSQ / 35-12	1 bar	257	256	255					

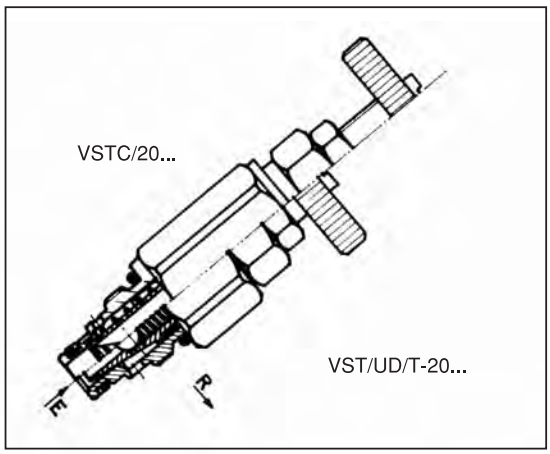
Debi 5 l / dk. iken Std. basınç değeri Std. bar setting (made at 5 l / 1”)	Basınç değer aralıkları Setting range Min-Max bar	Renk Colour
320	25 ÷ 350	Sarı Yellow
180	10 ÷ 200	Yeşil Green
80	5 ÷ 100	Mavi Blue

SİPARİŞ KODU / ORDERING CODE

002		000

İKİ YOLLU KARTİÇ TİP HIZ AYAR VALFİ
TWO WAYS FLOW REGULATOR CARTRIDGE VALVE

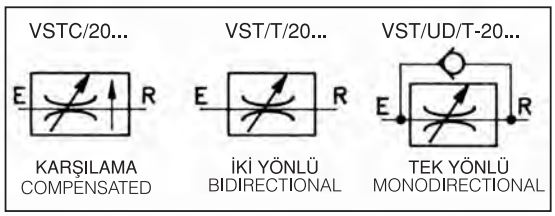
VSTC/20-... VST/T/20-...
VST/UD/T-20-...

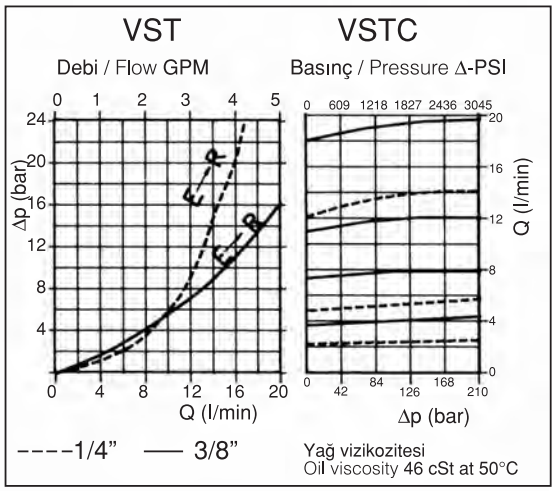


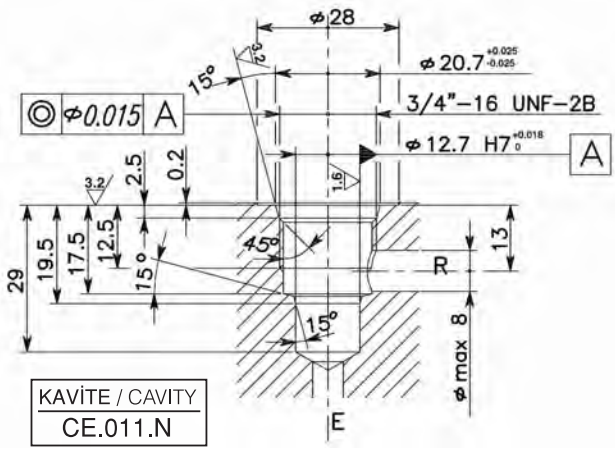
ÇALIŞMASI VE KULLANIMI / OPERATION AND USE

Bu kartiç tipi valfler küçük ölçüdedirler.
Üç tipi vardır:
- VSCT/20: İç basınç dengelemeli. Yük basıncından bağımsızolarak sabit bir akış sağlar.
- VST/T/20: Dengelemesiz tip. Basınç dengelemesi gerekmeyen durumlurda kullanılır. İki yönlü akış.
- VST/UD/T-20: Akış "R" den "E" ye kadar tam bir kapanma sağlanana kadar olur, ters yönde akış "E" den "R" ye serbest olur.

These are flow regulator cartrıdge valves with small dimensions.
They are avilable in three versions:
- VSCT/20: İnternally presure compensated. It allows to keep a constant flow regardless of changes in load pressure. Flow direction: from "E" to "R" port.
- VST/T/20: not compensated type. It allows a flow regulation when a pressure compensation is not requered. Bidirectional flow.
- VST/UD/T-20: regulates the flow from "R" to "E" until it reaches a perfect closing; while in the opposite direction, from "E" to "R" the oil flows freely without any control.





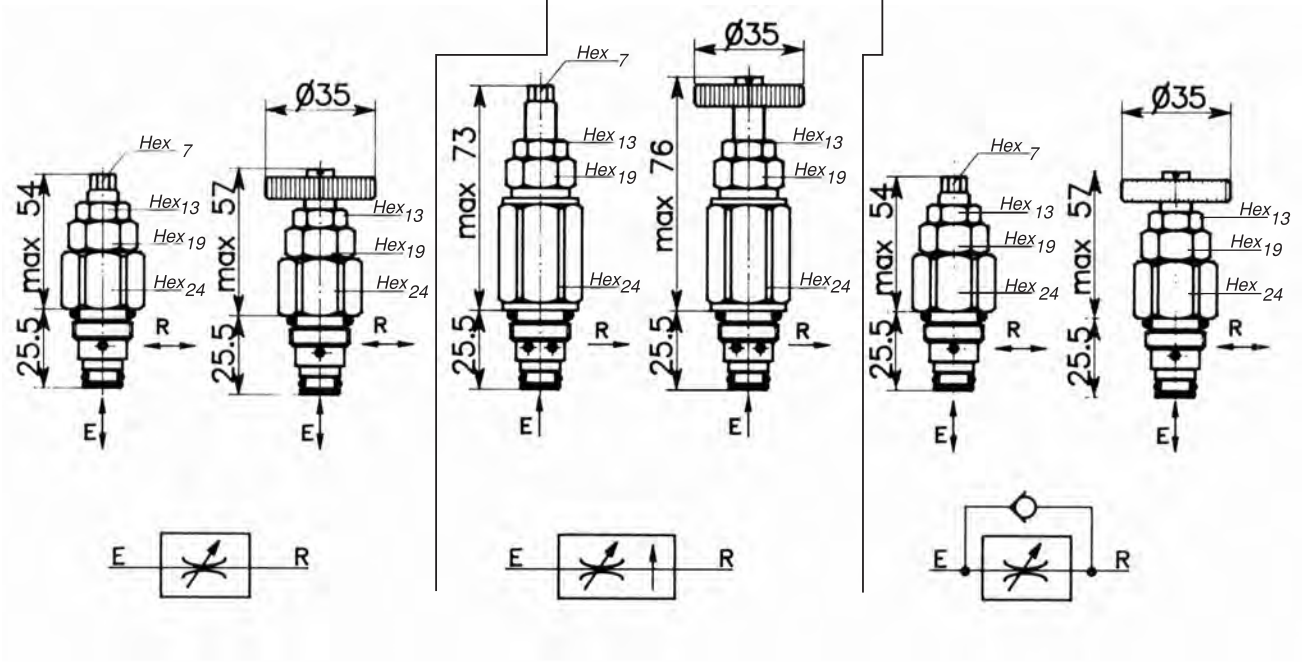


Diğer kartiçlerle birleştirilebilir.
Unified cavity: interchangeability with other cartridges.

PERFORMANSLAR / PERFORMANCES

Nominal ölçü Rated size	DN	6 -8
Max. debi-oran Max. flow-rate		20 l/min 5 GPM
Max. basınç Max. pressure	VST	350 bar 5000 PSI
Max. basınç Max. pressure	VSTC	210 bar 3045 PSI
Yağ sıcaklığı Oil temperature	°C	-30 +80
Filtrasyon Filtration	micron	30 ÷ 50

VALF DONANIMI VALVE DENOMINATION	KATRİÇ TİP HIZ AYAR / CARTRIDGE FLOW REGULATOR					
TİP / TYPE	İKİ YÖNLÜ BIDIRECTIONAL / VST / T		KARŞILAMA BASINÇ DUYARLI COMPENSANTED / VSTC		TEK YÖNLÜ ÇEKVALFLİ MONODIRECTIONAL / VST / UD	
VALF KODU VALVE CODE	VST/T-20-R	VST/T-20-V	VSTC/20-R	VSTC/20-V	VST/UD/T-20-R	VST/UD/T-20-V
Ayar / Adjustment	Somun anahtarı Spanner	Elle Handwheel	Somun anahtarı Spanner	Elle Handwheel	Somun anahtarı Spanner	Elle Handwheel



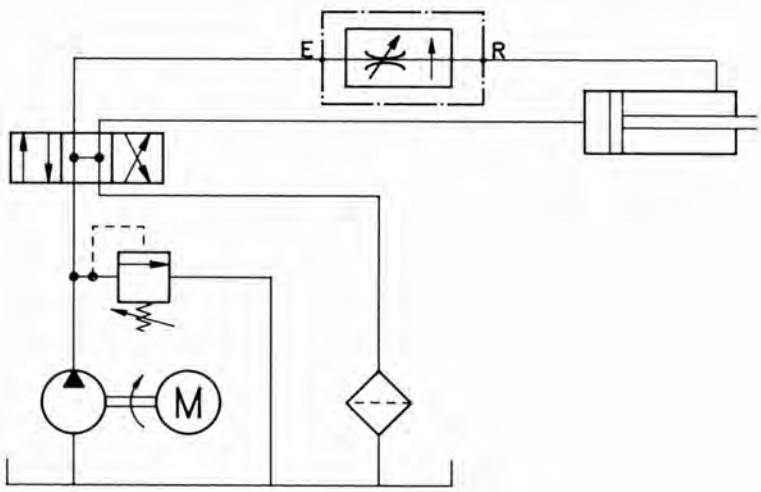
TİP / TYPE	İKİ YÖNLÜ BIDIRECTIONAL		BASINÇ DUYARLI KARŞILAMA PRESSURE COMPENSATED		TEK YÖNLÜ ÇEKVALFLİ MONODIRECTIONAL	
Max. debi-oran Max.flow rate l/min - GPM	Anahtar ile ayarlı Spanner adjustment	El ayarlı Handwheel adjustment	Anahtar ile ayarlı Spanner adjustment	El ayarlı Handwheel adjustment	Anahtar ile ayarlı Spanner adjustment	El ayarlı Handwheel adjustment
20 - 5	084	067	081	023	024	025

Tork
Installaton Torque Nm 46 ÷ 54

SİPARİŞ KODU / ORDERING CODE

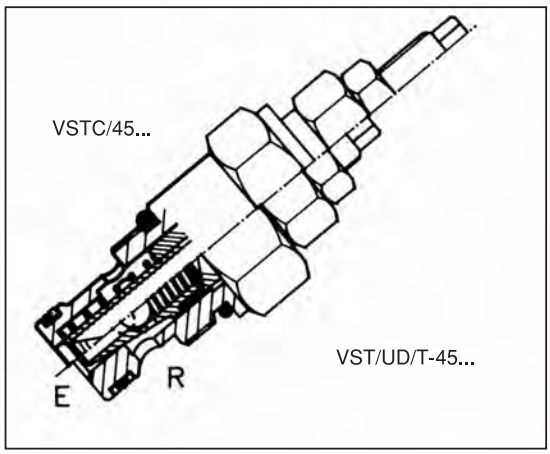
004		000

TİPİK DEVRE ÖRNEĞİ / TYPICAL CIRCUIT EXAMPLE



İKİ YOLLU KARTİÇ TİP HIZ AYAR VALFİ
TWO WAYS FLOW REGULATOR CARTRIDGE VALVE

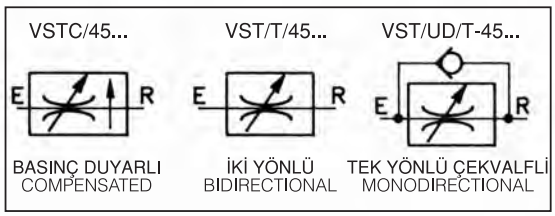
VSTC / 45 -... VST / T / 45 -...
VST / UD / T / 45 -...

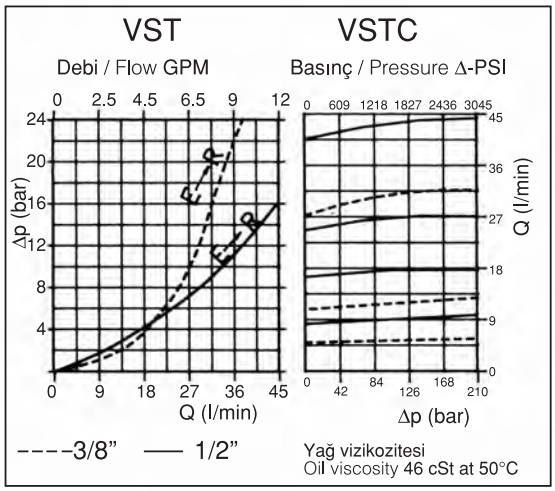


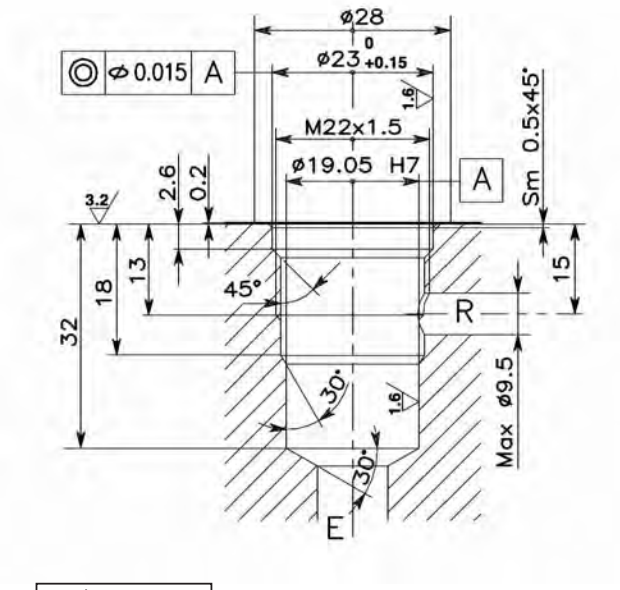
ÇALIŞMASI VE KULLANIMI / OPERATION AND USE

Bu kartiç tipi valfler küçük ölçüdedirler.
Üç tipi vardır:
- VSCT/20: İç basınç dengelemeli. Yük basıncından bağımsızolarak sabit bir akış sağlar.
- VST/T/20: Dengelemesiz tip. Basınç dengelemesi gerekmeyen durumlurda kullanılır. İki yönlü akış.
- VST/UD/T-20: Akış "R" den "E" ye kadar tam bir kapanma sağlanana kadar olur, ters yönde akış "E" den "R" ye serbest olur.

These are flow regulator cartrıdge valves with small dimensions.
They are avilable in three versions:
- VSCT/20: İnternally presure compensated. It allows to keep a constant flow regardless of changes in load pressure. Flow direction: from "E" to "R" port.
- VST/T/20: not compensated type. It allows a flow regulation when a pressure compensation is not requered. Bidirectional flow.
- VST/UD/T-20: regulates the flow from "R" to "E" until it reaches a perfect closing; while in the opposite direction, from "E" to "R" the oil flows freely without any control.







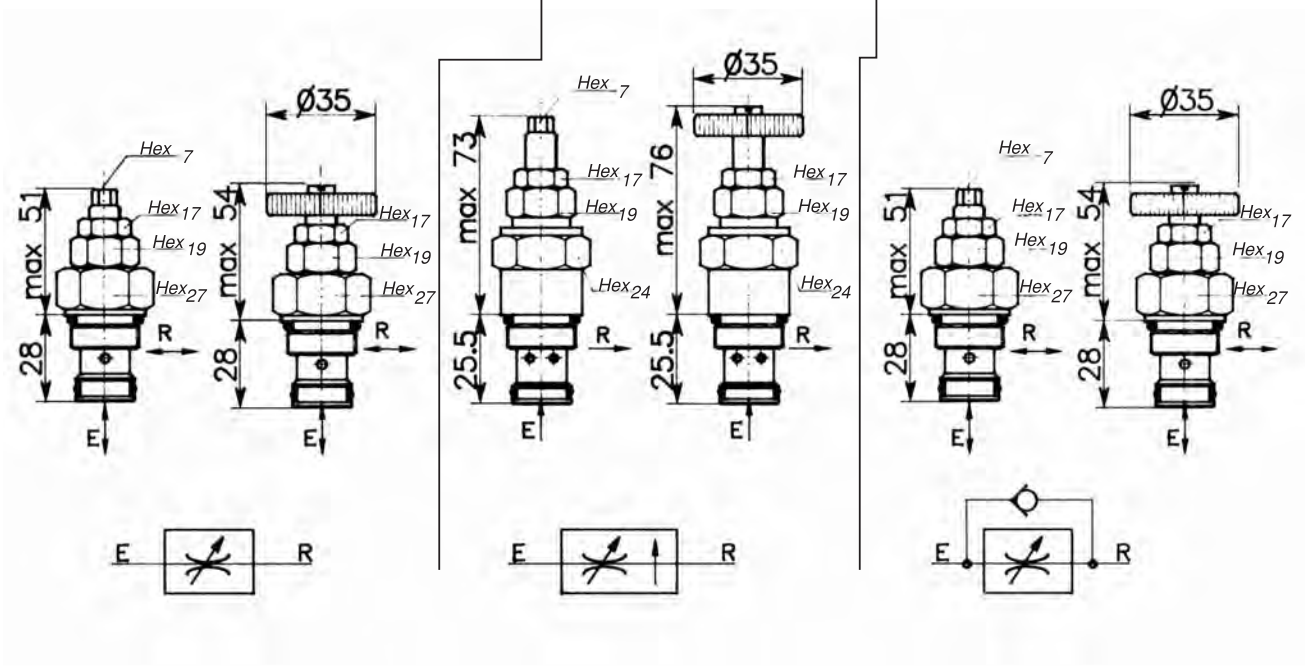
KAVİTE / CAVITY
CE.014.N

Diğer kartiçlerle birleştirilebilir.
Unified cavity: interchangeability with other cartridges.

PERFORMANSLAR / PERFORMANCES

Nominal ölçü Rated size	DN	6 -8
Max. debi-oran Max. flow-rate		45 l/min 12 GPM
Max. basınç Max. pressure	VST	350 bar 5000 PSI
Max. basınç Max. pressure	VSTC	210 bar 3045 PSI
Yağ sıcaklığı Oil temperature	°C	-30 +80
Filtrasyon Filtration	micron	30 ÷ 50

VALF DONANIMI VALVE DENOMINATION	KARTRİÇ TİP HIZ AYAR / CARTRIDGE FLOW REGULATOR					
TİP / TYPE	İKİ YÖNLÜ BIDIRECTIONAL / VST / T		KARŞILAMA BASINÇ DUYARLI COMPENSANTED / VSTC		TEK YÖNLÜ ÇEKVALFLİ MONODIRECTIONAL / VST / UD	
VALF KODU VALVE CODE	VST/T-45-R	VST/T-45-V	VSTC/45-R	VSTC/45-V	VST/UD/T-45-R	VST/UD/T-45-V
Ayar / Adjustment	Somun anahtarı Spanner	Elle Handwheel	Somun anahtarı Spanner	Elle Handwheel	Somun anahtarı Spanner	Elle Handwheel



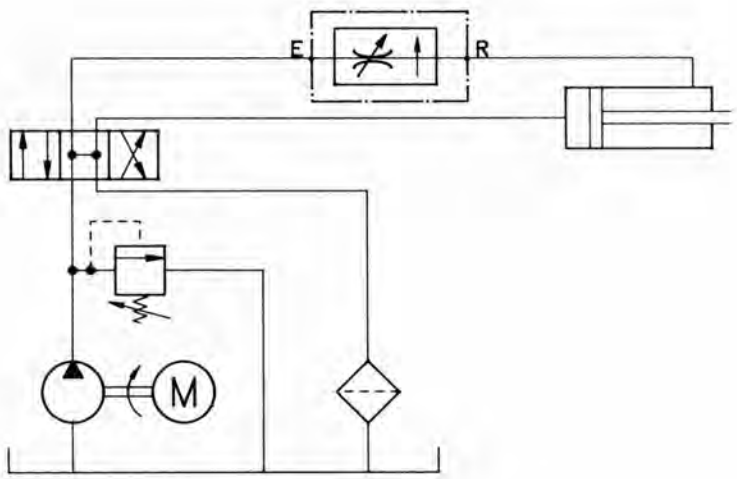
TİP / TYPE	İKİ YÖNLÜ BIDIRECTIONAL		BASINÇ DUYARLI COMPENSATED		TEK YÖNLÜ ÇEKVALFLİ UNDIRECTIONAL	
Max. debi-oran Max.flow rate l/min - GPM	Anahtar ile ayarlı Spanner adjustment	El ayarlı Handwheel adjustment	Anahtar ile ayarlı Spanner adjustment	El ayarlı Handwheel adjustment	Anahtar ile ayarlı Spanner adjustment	El ayarlı Handwheel adjustment
45 - 12	085	018	080	010	027	026

Tork
Installaton Torque Nm 46 ÷ 54

SİPARİŞ KODU / ORDERING CODE

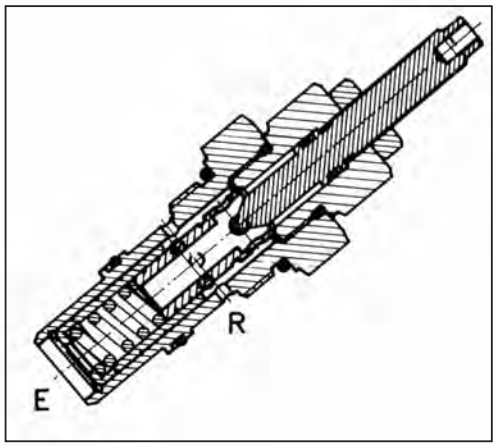
004		000

TİPİK DEVRE ÖRNEĞİ / TYPICAL CIRCUIT EXAMPLE



İKİ YOLLU KARTİÇ TİPİ HIZ AYAR VALFİ
TWO WAYS FLOW REGULATOR CARTRIDGE VALVE

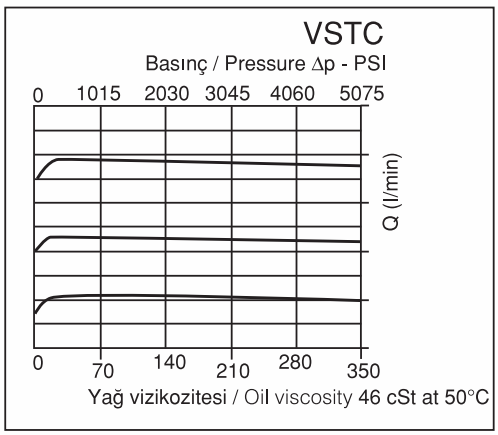
VSTC / 100 - ...

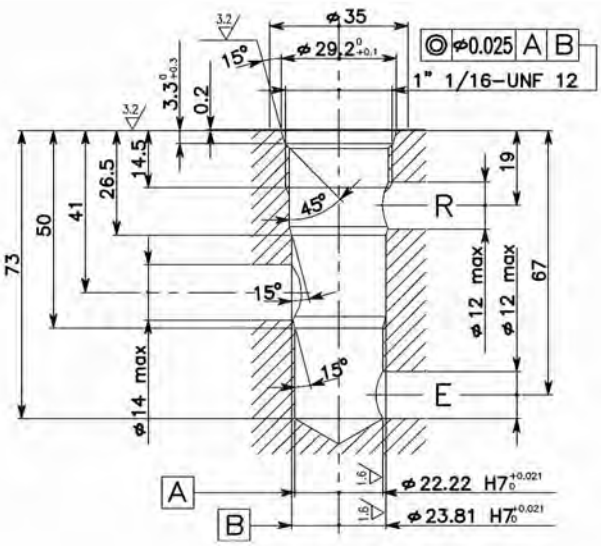


ÇALIŞMASI VE KULLANIMI / OPERATION AND USE

Bunlar küçük boyutlu debi ayar kartiç valfleridir. İçten basnç ayarlıdır. Giriş basıncı ne olursa olsun çıkış basıncını sabit tutar.
Akış yönü “E” den “R” ye.

These are flow regulator cartridge valves with small dimensions. Internally pressure compensated. It allows to keep a constant flow regardless of changes in load pressure. Flow direction: from “E” to “R” port.





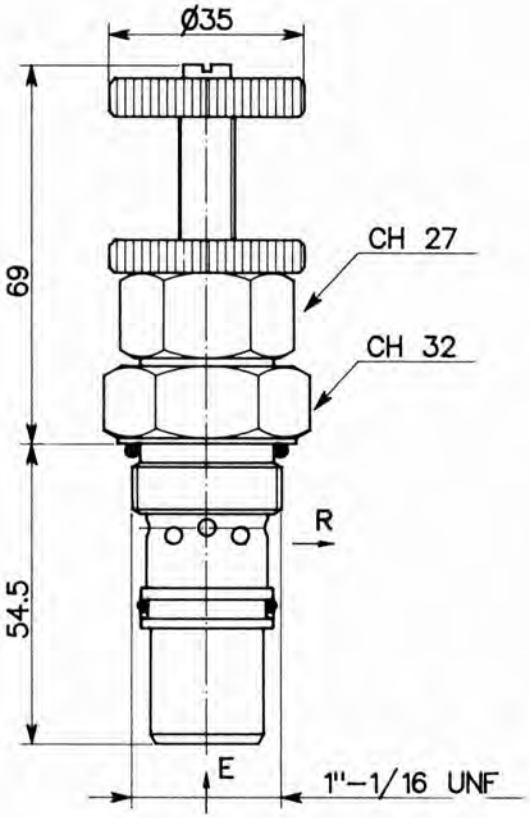
KAVİTE / CAVITY
CE.025.N

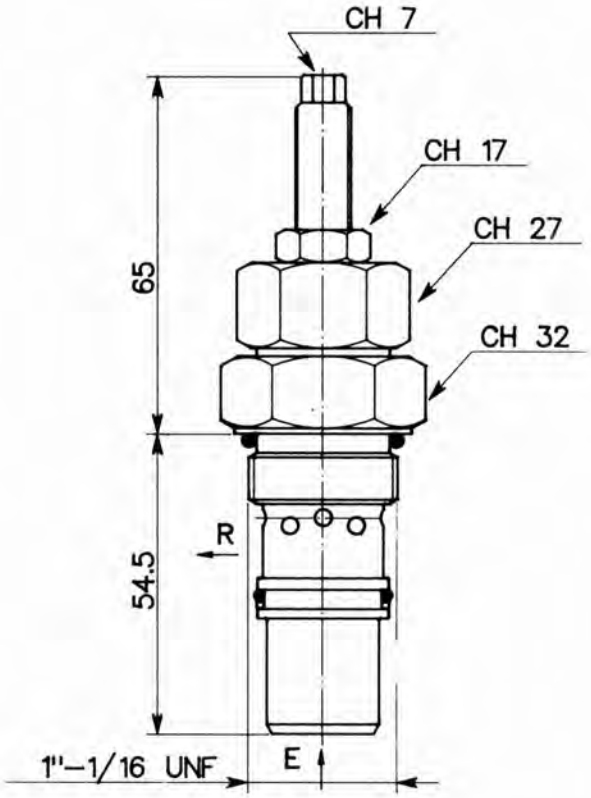
PERFORMANSLAR / PERFORMANCES

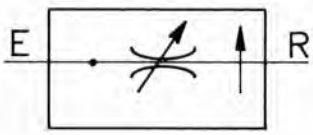
Nominal ölçü Rated size	DN	12 -14
Max. debi-oran Max. flow-rate		100 l/min 24 GPM
Max. basınç Max. pressure		350 bar 5000 PSI
Yağ sıcaklığı Oil temperature	°C	-30 +80
Filtrasyon Filtration	micron	30 ÷ 50

Diğer kartiçlerle birleştirilebilir.
Unified cavity: interchangeability with other cartridges.

VALFİN ADI / VALF DENOMINATION	İKİ YOLLU KARTİÇ TİP BASINÇ DUYARLI AYAR VALFLERİ PRIORITY TWO WAYS CARTRODGE TYPE, PRESSURE COMPENSATED FLOW CONTROL	
VALF KODU / VALF CODE	VTSC / 100 -V	VTSC / 100 -R
AYARI / ADJUSTMENT	Volan tip / Handwhell	Anahtar tip / Spanner



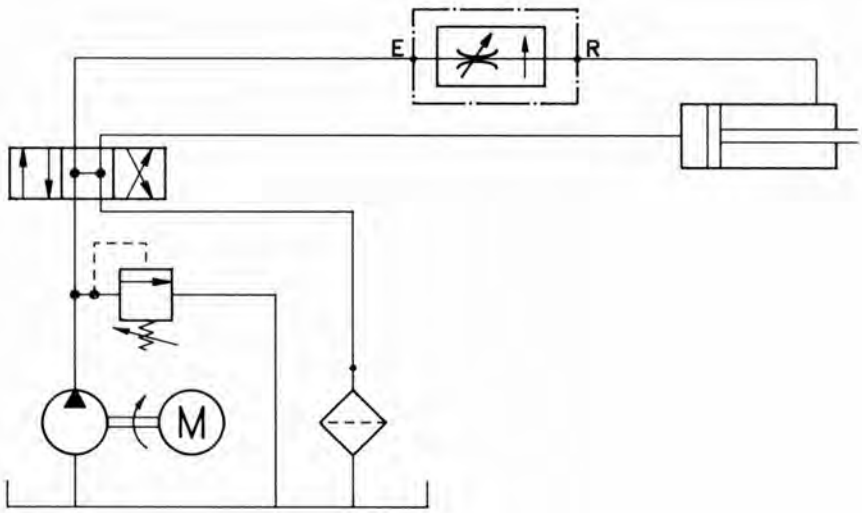




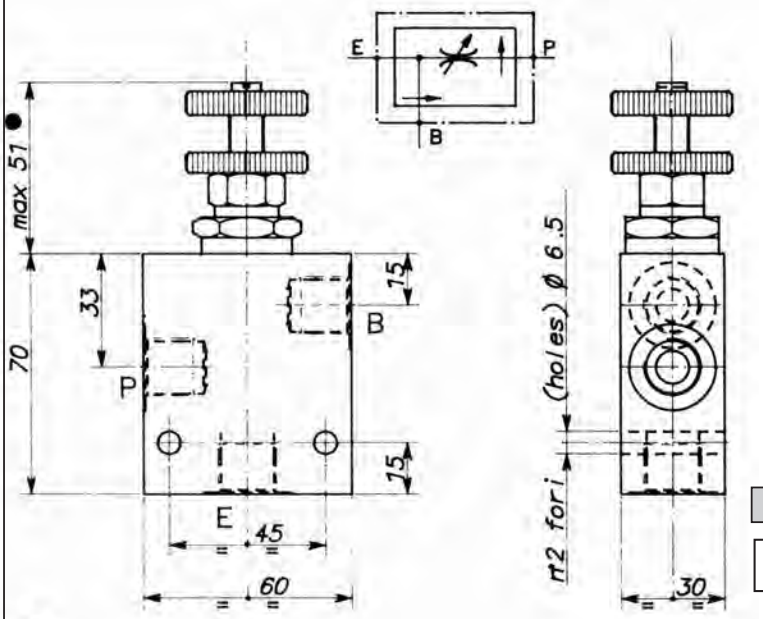
SİPARİŞ KODU / ORDERING CODE		
004		000

Max. debi- oran Max. flow rate l/min -GPM	Anahtar ayarlı Spanner adjustment	El ayarlı Handwheel adjustment
200 - 24	210	211

TİPİK DEVRE ÖRNEĞİ / TYPICAL CIRCUIT EXAMPLE



VALFİN ADI VALF DENOMINATION	ÜÇ YOLLU KARTRİÇ TİP BASINÇ DUYARLI HIZ AYAR VALFİ GÖVDE İLE BİRLİKTE PRIORITY THREE WAYS CARTRODGE TYPE, PRESSURE COMPENSATED FLOW CONTROL WITH BODY	
VALF KODU / VALF CODE	VRF / CN / 3V-V / C-38	VRF / CN / 3V-R / C-38
AYAR / ADJUSTMENT	Elle / Handwhell	Anahtarla / Spanner



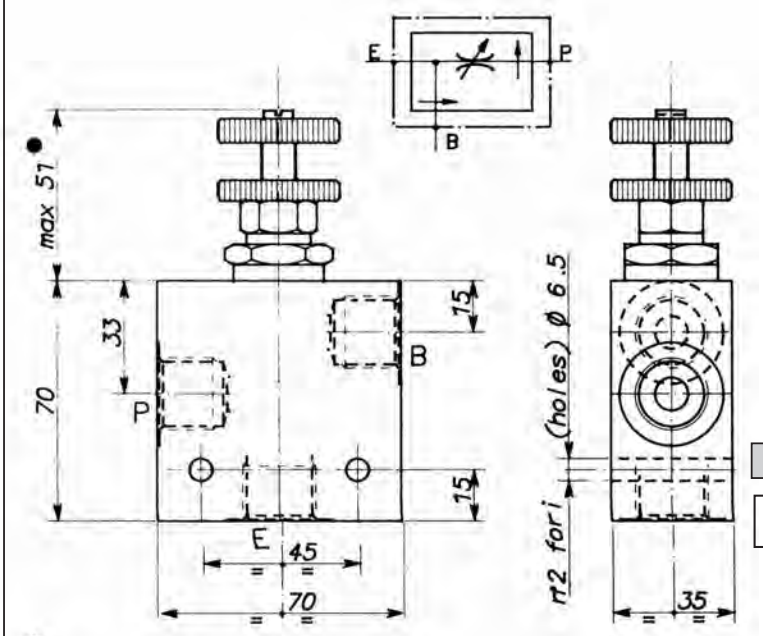
Max. debi-oran Max. flow-rate l/min - GPM	Yuva boyutu Port size E-P-B GAS - BSPP	Elle ayarlı Handwheel adjustment	Anahtar ayarlı Spanner adjustment
30 - 7.5	3/8”	020	016

SİPARİŞ KODU / ORDERING CODE

004		000

● HER BİR KARTRİÇ İÇİN KATALOĞUN İLGİLİ BÖLÜMÜNE BAKIN
DIMENSIDN AS PER CARTRIDGE ADJUSTMENT TYPE, SEE RELEVANT CATALOGUE SECTION.

VALFİN ADI VALF DENOMINATION	ÜÇ YOLLU KARTRİÇ TİP BASINÇ AYAR VALFİ GÖVDE İLE BİRLİKTE PRIORITY THREE WAYS CARTRODGE TYPE, PRESSURE COMPENSATED FLOW CONTROL WITH BODY	
VALF KODU / VALF CODE	VRF / CN / 3V-V / C-12	VRF / CN / 3V-R / C-12
AYAR / ADJUSTMENT	Elle / Handwhell	Anahtarla / Spanner



Max. debi-oran Max. flow-rate l/min - GPM	Yuva boyutu Port size E-P-B GAS - BSPP	Elle ayarlı Handwheel adjustment	Anahtar ayarlı Spanner adjustment
45 - 11	1/2”	021	017

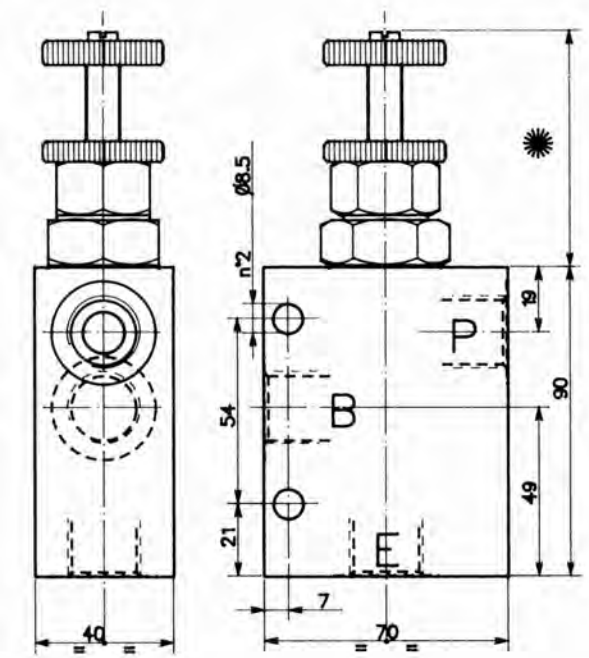
SİPARİŞ KODU / ORDERING CODE

004		000

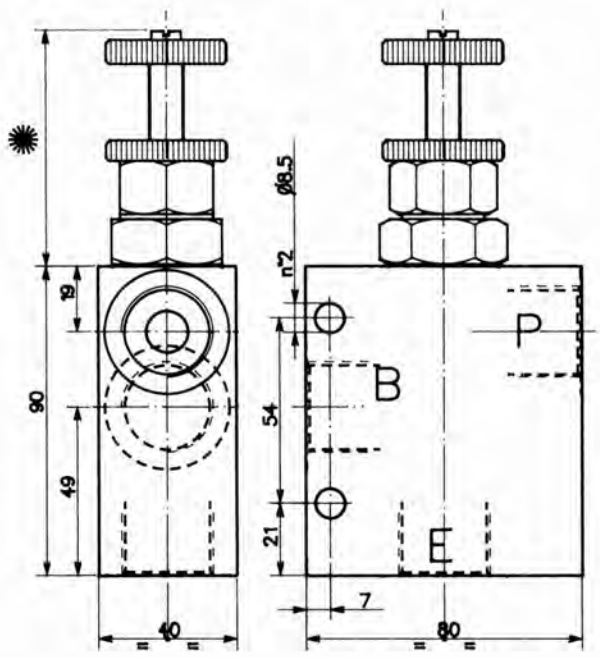
● HER BİR KARTRİÇ İÇİN KATALOĞUN İLGİLİ BÖLÜMÜNE BAKINIZ.
DIMENSIDN AS PER CARTRIDGE ADJUSTMENT TYPE, SEE RELEVANT CATALOGUE SECTION.

VALFİN ADI VALVE DENOMINATION	ÜÇ YOLLU KARTRİÇ TİP BASINÇ AYAR VALFİ GÖVDE İLE BİRLİKTE PRIORITY THREE WAYS CARTRODGE TYPE, PRESSURE COMPENSATED FLOW CONTROL WITH BODY		Delik Ölçüsü Port Size
VALF KODU VALF CODE	VRF / C / 3V - 100 / C -12 -R	VRF / C / 3V - 100 / C -12 -V	1 / 2” GAS
VALF KODU VALF CODE	VRF / C / 3V - 100 / C -34 -R	VRF / C / 3V - 100 / C -34 -V	3 /4 “ GAS
VALF KODU VALF CODE	VRF / C / 3V - 100 / C -100 -R	VRF / C / 3V - 100 / C -100 -V	1” GAS
Ayar / Adjustment	Anahtarla / Spanner	Volan Elle / Handwhell	

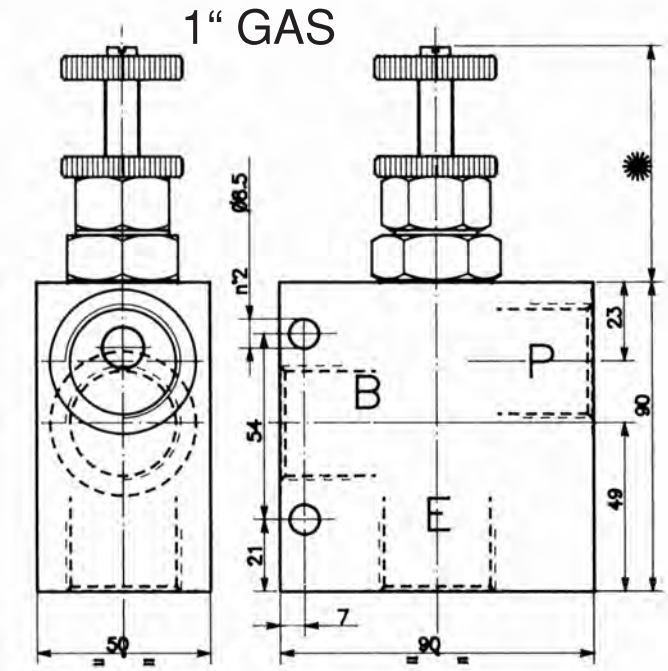
1 / 2 “ GAS

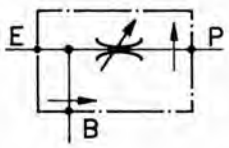


3 / 4 “ GAS



1“ GAS





Max. debi-oran Max. flow-rate l/min - GPM	Delik ölçüsü Port size E-P-B GAS - BSPP	Elle ayarlı Handwheel adjustment	Anahtar ayarlı Spanner adjustment
100 - 24	1/2”	222	227
	3/4”	223	229
	1”	224	231

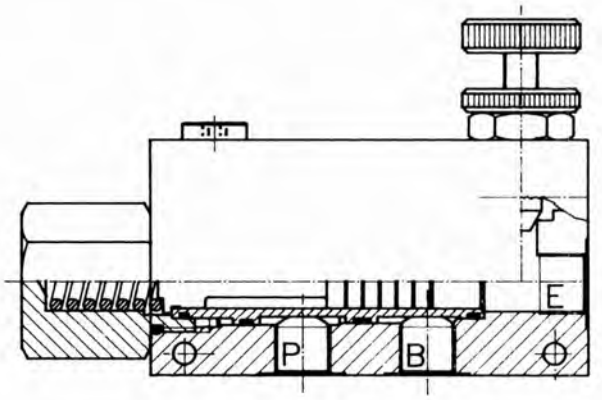
SİPARİŞ KODU / ORDERING CODE

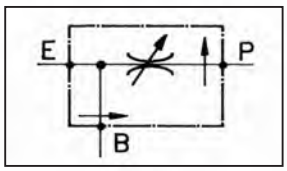
004		000

HER BİR KARTRİÇ İÇİN KATALOĞUN İLGİLİ BÖLÜMÜNE BAKIN
DIMENSION AS PER CARTRIDGE ADJUSTMENT TYPE, SEE RELEVANT CATALOGUE SECTION.

ÜÇ YOLLU İKİ BASINÇ DUYARLI HIZ AYAR VALFİ
PRIPRITY THREE WAY, DOUBLE PRESSURE COMPENSATED FLOW CONTROL

VRF / 3V - ....

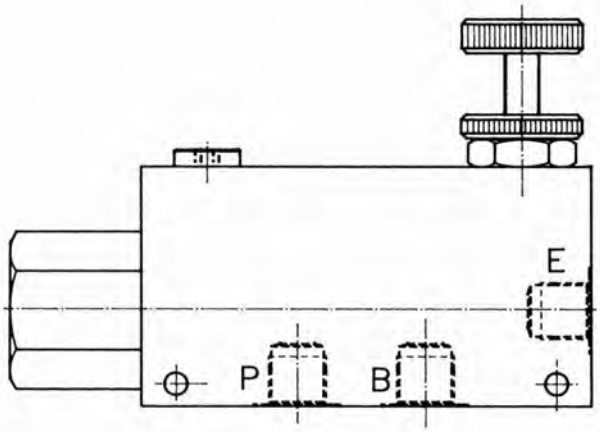


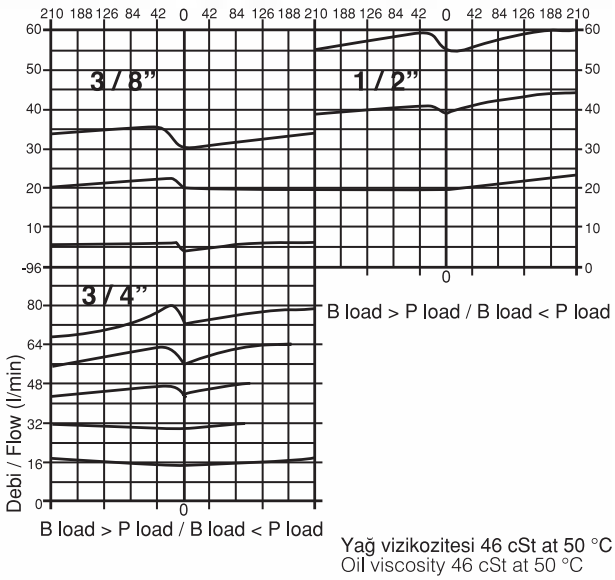


ÇALIŞMASI VE KULLANIMI / OPERATION AND USE

Elle ayarlı üç yollu iki basınç duyarlı hız ayar valfi. Valf kontrol edilen devrede debiyi ayarlar ve fazla debiyi ya başka bir devreye ya da tanka tahliye eder. Sabit kontrol edilen akış, giriş basıncı veya debi ne olursa olsun korunur.

Priority three way, double pressure compensated flow control, handknob adjustable setting. The valve establishes priority flow to the controlled flow circuit and bypasses all excess flow to the secondary circuit, or to tank. Constant controlled flow is maintained regardless of changes in flow or load pressure and regardless of which working pressure is the higher.





NOT / NOTE:

Akış oranı ayarı / Flow range adjustment 0 ÷ 3 devir (turns)

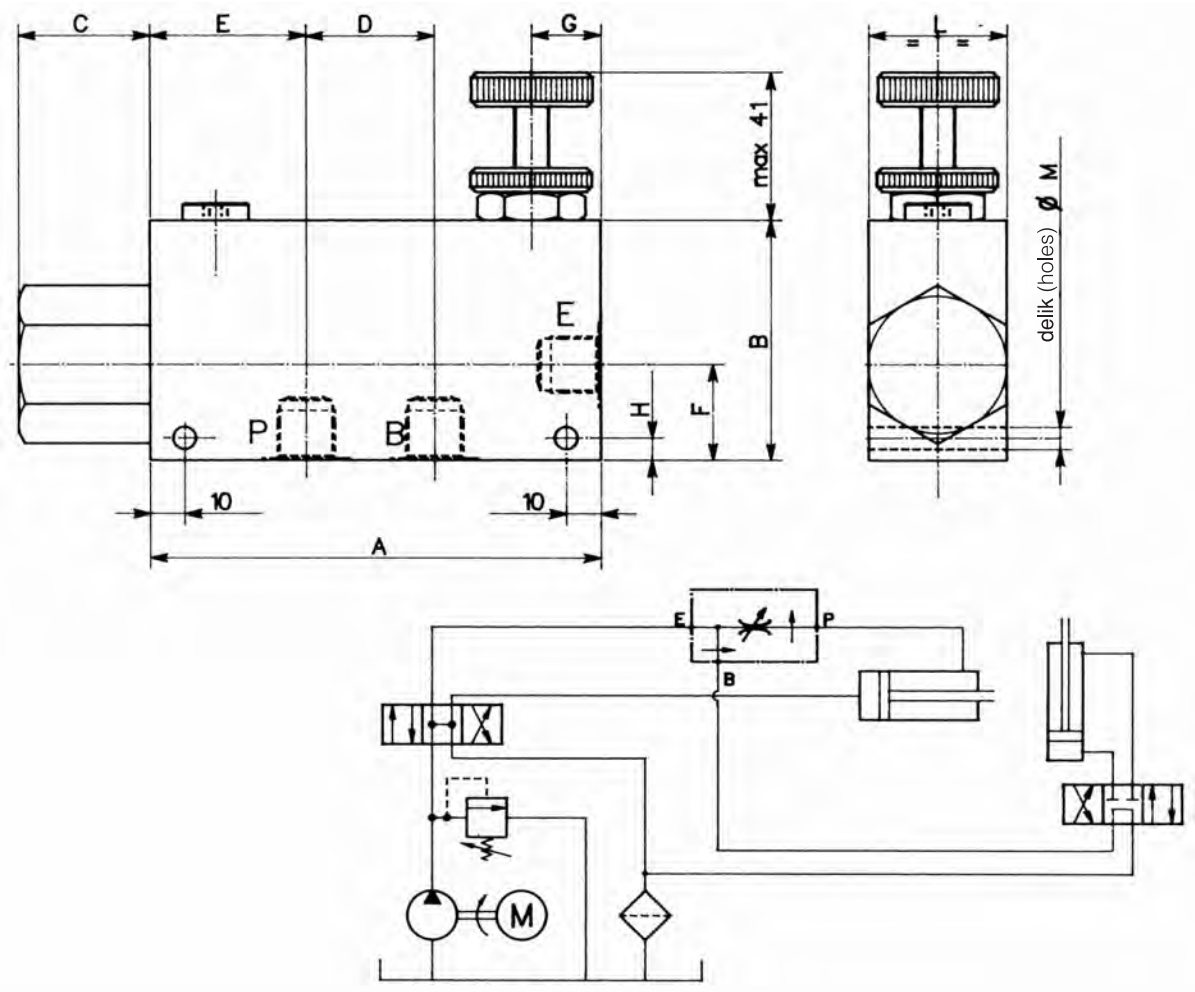
Kapalı durumdaki sızıntı: dakikada birkaç damla
Leakage in closed position: few drops per minute.

Max. Çalışma Basıncı / Max. Working pressure: 210 bar

PERFORMANSLAR / PERFORMANCES

Nominal ölçü Rated size	DN	8 - 10 - 12
Max. debi oran Max. flow-rate		150 l/min 37.5 GPM
Max. basınç Max. pressure		210 bar 3045 PSI
Oda sıcaklığı Room temperature	°C	-30 +50
Yağ sıcaklığı Oil temperature	°C	-30 +80
Filtrasyon Filtration	micron	30

GENEL, ÖLÇÜLER, TİPİK DEVRE ÖRNEĞİ
OVERALL, DIMENSIONS, TYPICAL CIRCUIT EXAMPLE



VALF KODU VALVE CODE	A	B	C	D	E	F	G	H	L	M	Delik boyutu Port size E-P-B GAS (BSPP)	Nominal ölçü Rated size DN	QP (l/min)	QE (l/min)
VRF / 3V - 38	130	70	38	37	45	28	20	6.5	40	6.5	3 / 8”	8	30	55
VRF / 3V - 12											1 / 2”	10	55	90
VRF / 3V - 34	155	90	35	44	54	35	25	7.5	50	8.5	3 / 4”	12	90	150

QE = “E” deki max. giriş debisi - l/min
QE = Max. admitted inlet flow “E” port - l/min

QP = “P” deki max. çıkış debisi - l/min
QP = Max. delivery in priority “P” - l/min

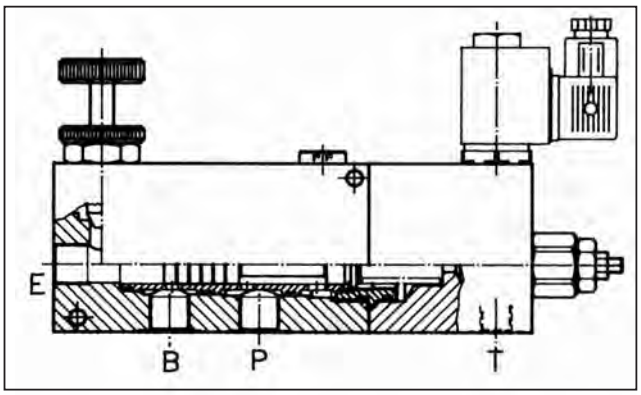
VALF KODU VALVE CODE	KOD CODE
VRF / 3V -38	003
VRF / 3V -12	005
VRF / 3V -34	007

SİPARİŞ KODU / ORDERING CODE

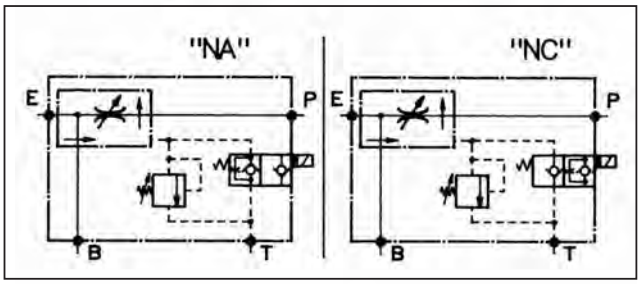
004		000

ÜÇ YOLLU, İKİ YUVALI, EMNİYET VE ELEKTRİK KONTROLLÜ KAPAMA VALFLİ AYARLI TİP AKIŞ KONTROL VALFİ (KIRICI VALFİ)

THREE-WAY, TWO PORTS, COMPENSATED TYPE PRIORITY FLOW CONTROL VALVE WITH BUILT IN RELIEF AND ELECTRICALLY CONTROLLING VENTING FOR PRIORITY FLOW SHUT-OFF



VRF / 3V + VMP + VMS - ....

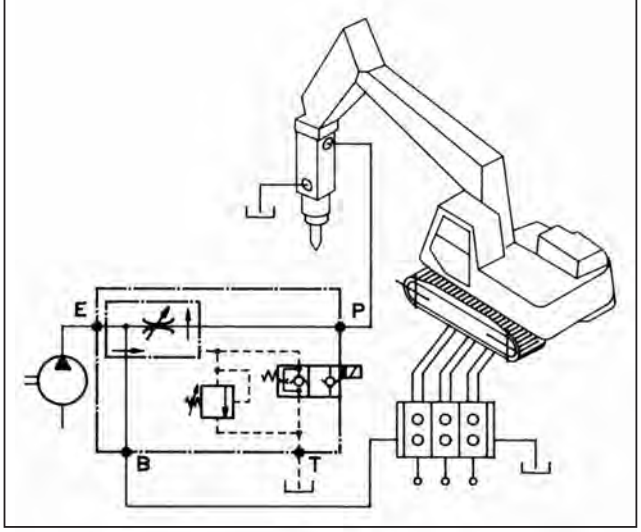


ÇALIŞMASI VE KULLANIMI / OPERATION AND USE

VRF / 3V serisinden üretildi, bu valfler bypass veya gelen akışı direkt salar; yani çalışma yuvasına elektrik kontrollü basınç ayar valfi takılmıştır. “P” yuvasından başka, ana akış “B” tahliye edilir, “NA” normalde açık elektrik verilmemiş solenoid valf takılır. Solenoide enerji vererek, hattaki hazır akış “P” yuvasına yönlendirilir, ve fazla gelen basınç da “B” yuvasına gider. Eğer “NC” normalde kapalı solenoid kullanılırsa sistemin işleyişi tersine çevirir. Bu valfin kullanıldığı tipik örnek; kazı makinalarıdır.

Developed from VRF / 3V series. these valves are also intended to bypass or let through the preset priority flow by means of an electrically operated pressure control valve mounted on the priority work port. Excluding the priority port ”P”, the main flow is bypassed to port “B”, fitting a normally open and de-energized solenoid valve”NA”. Energizing the solenoid, the preadjusted flow is directed through the priority port “P” and the eceeding flow through the secondary port “B”. In case of a normally closed solenoid valve “NC”, the whole operation is reserved.
A typical application is with hammer drills for ecvators.

TİPİK DEVRE ÖRNEĞİ / TYPICAL CIRCUIT EXAMPLE



NOTE:

Akış oran ayarı / Flow range adjustment 0 ÷ 3 devir (turns).

Kapalı durumda sızıntı: Dakikada birkaç damla
Leakage in closed position: few drops per minute.

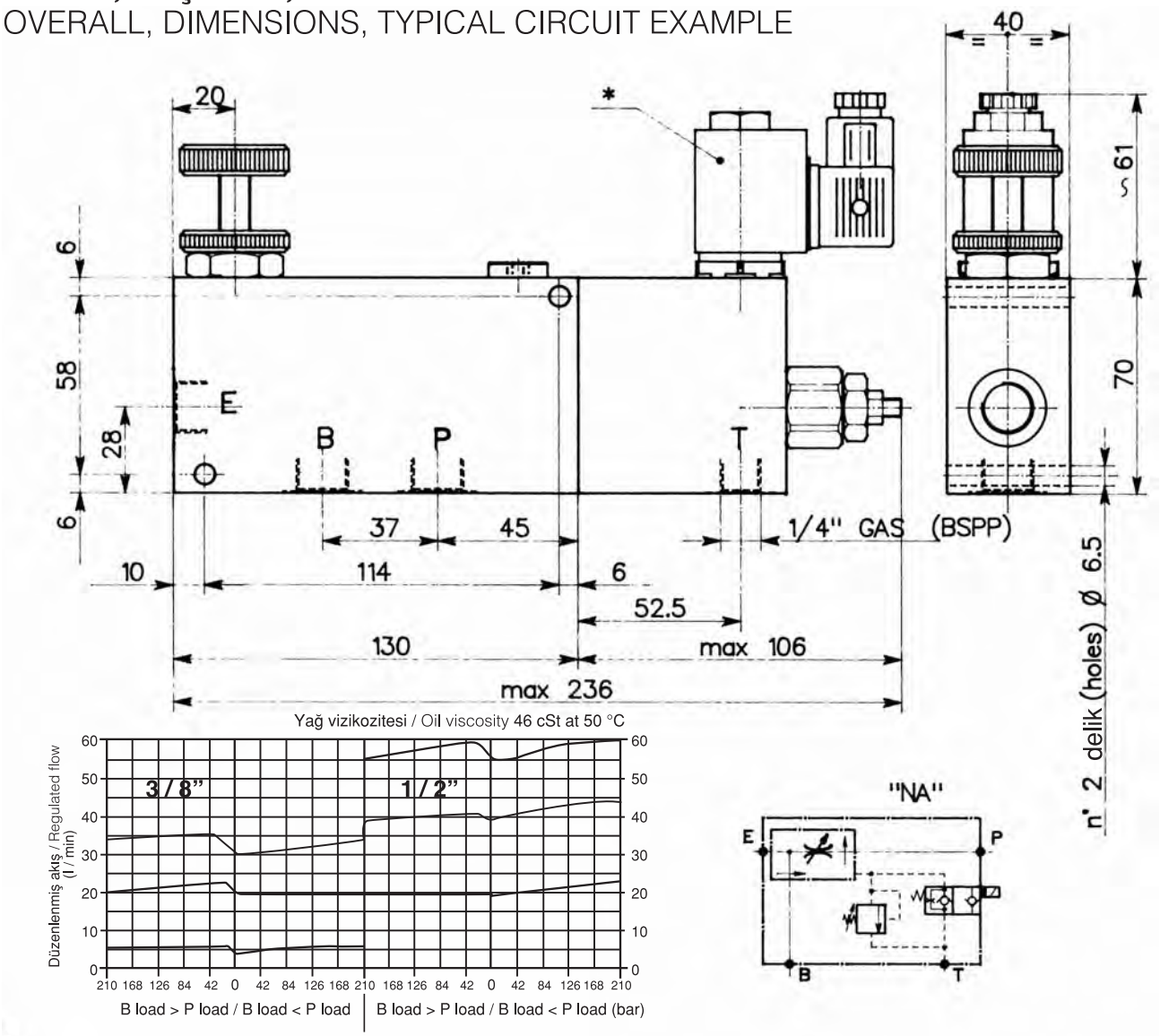
Çelik gövde standart, aliminyum gövde isteğe bağlı (210 bar)
Stell body valves as standard$ aluminium body on request (210 bar).

PERFORMANSLAR / PERFORMANCES

Nominal ölçü Rated size	DN	8 - 10 - 12 - 14 - 16
Max. debi - oran Max. flow-rate		400 l/min 105 GPM
Max. basınç Max. pressure		350 bar 5075 PSI
Oda sıcaklığı Room temperature	°C	-30 +50
Yağ sıcaklığı Oil temperature	°C	-30 +80
Filtrasyon Filtration	micron	25

GENEL, ÖLÇÜLER, TİPİK DEVRE ÖRNEĞİ

OVERALL, DIMENSIONS, TYPICAL CIRCUIT EXAMPLE



*Bobin voltajı 24V DC bağlantı tipi HIRSHMANN (DIN43650), standart olarak normalde açık "NA" diğer bilgiler için kataloğun ilgili sayfasına bakınız.

Coil voltage 24 V. DC, connection type HIRSHMANN (DON 43650) standard as normally open "NA", for further details please refer to catalogue .

QE = "E" deki max. giriş debisi - l/min
QE = Max. admitted inlet flow "E" port - l/min

QP = "P" deki max. çıkış debisi - l/min
QP = Max. delivery in priority "P" - l/min

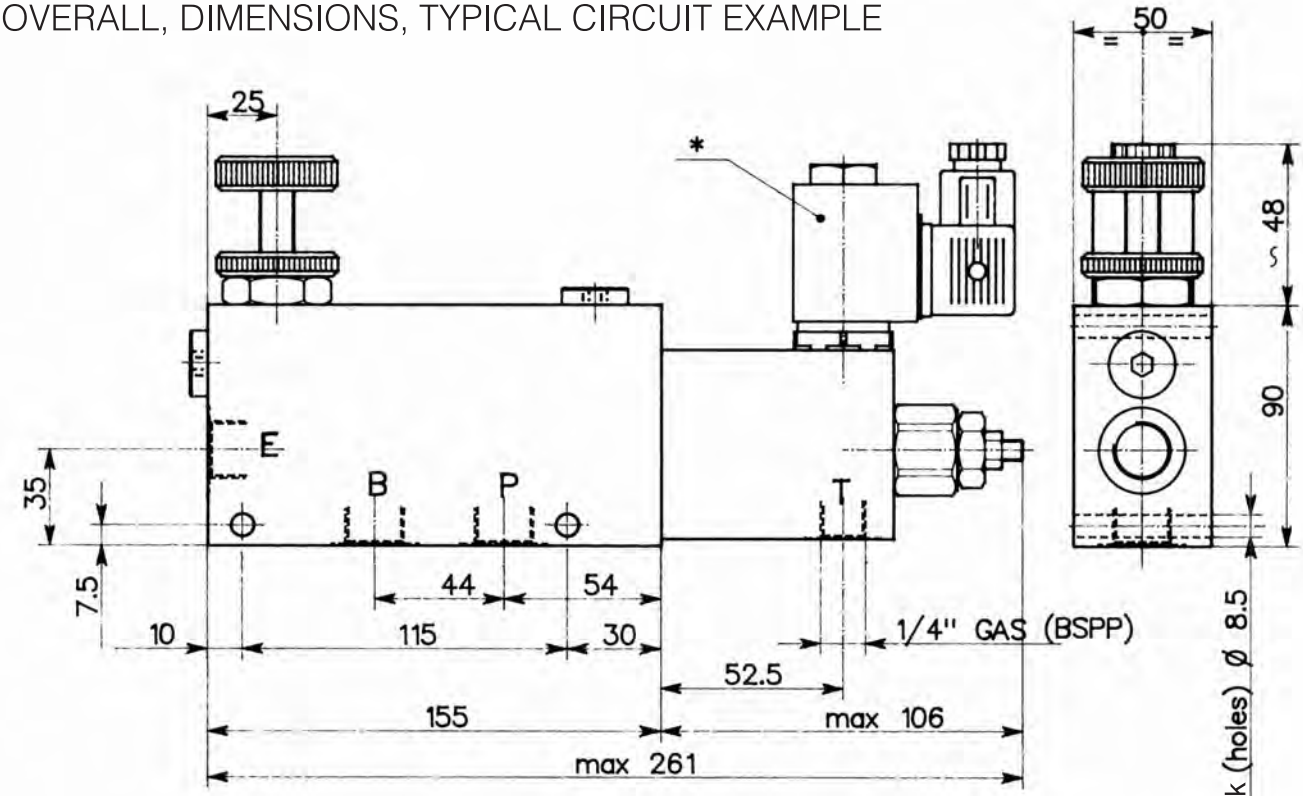
VALF KODU VALVE CODE	"P" deki ayar aralığı Setting range "P" 20 ÷ 350 bar	"P" deki ayar aralığı Setting range "P" 10 ÷ 210 bar	Voltaj - Voltage Valf ayarı Valve configuration	Delik ölçüsü Port size E-P-B GAS (BSPP)	Nominal ölçü Rated size DN	QP (l/min)	QE (l/min)
VRF / 3V+VMP+VMS-38	194	195	24 volt DC "NA"-Normally open	3 / 8"	8	30	55
VRF / 3V+VMP+VMS-12	196	197	24 volt DC "NA"-Normally open	1/ 2"	10	55	90

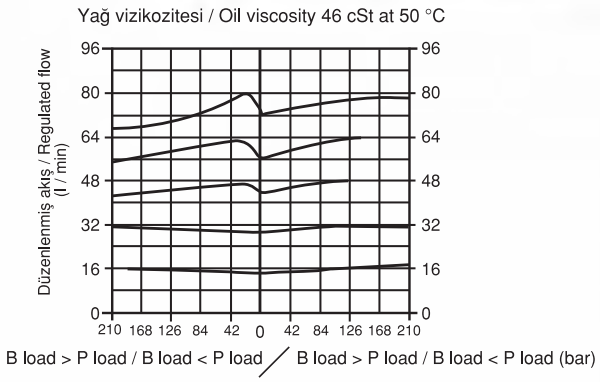
Max. basınç Max. pressure		(bar)
E - B	P	T
350	210	2

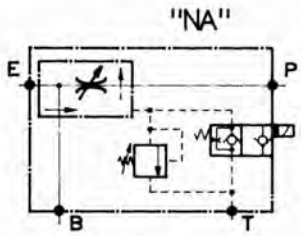
SİPARİŞ KODU / ORDERING CODE

004		000

GENEL, ÖLÇÜLER, TİPİK DEVRE ÖRNEĞİ
OVERALL, DIMENSIONS, TYPICAL CIRCUIT EXAMPLE







Bobin voltajı 24V DC bağlantı tipi HIRSHMANN (DIN43650), standart olarak normalde açık "NA" diğer bilgiler için kataloğun ilgili sayfasına bakınız.
Coil voltage 24 V. DC, connection type HIRSHMANN (DON 43650) standard as normally open "NA", for further details please refer
* to catalogue.

QE = "E" deki max. giriş debisi - l/min
QE = Max. admitted inlet flow "E" port - l/min

QP = "P" deki max. çıkış debisi - l/min
QP = Max. delivery in priority "P" - l/min

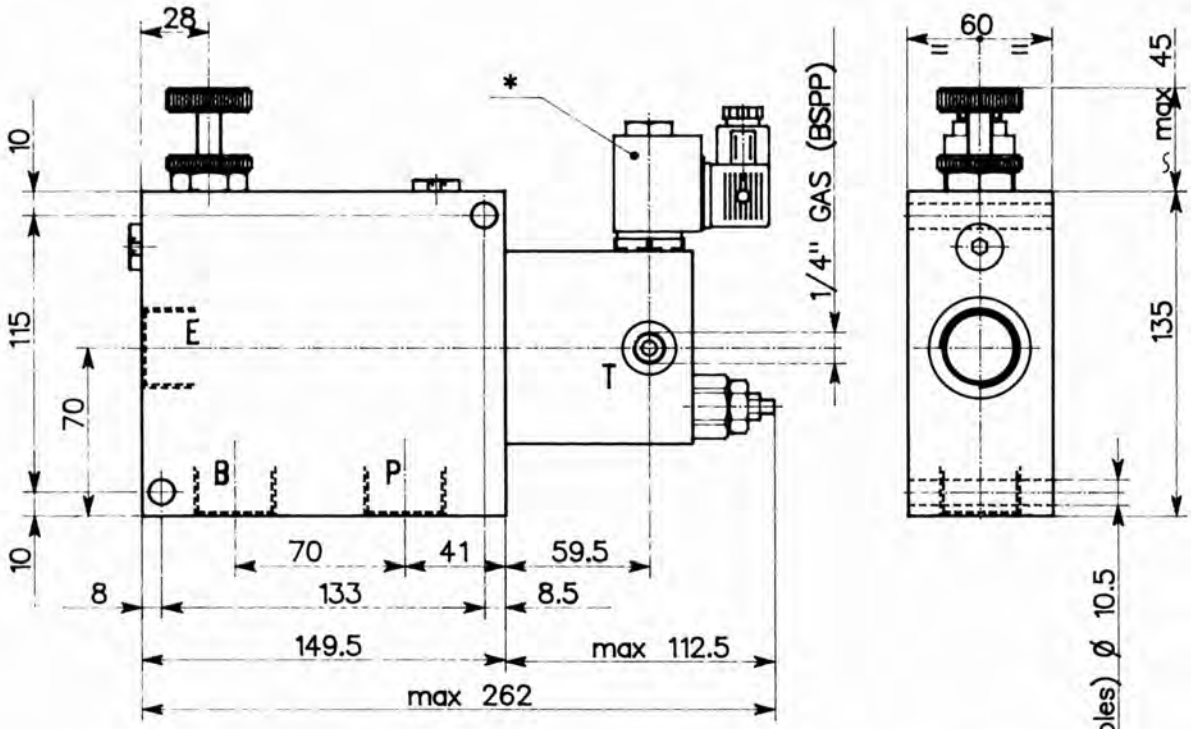
VALF KODU VALVE CODE	"P" deki ayar aralığı Setting range "P" 20 ÷ 350 bar	"P" deki ayar aralığı Setting range "P" 10 ÷ 210 bar	Voltaj - Voltage Valf ayarı Valve configuration	Delik ölçüsü Port size E-P-B GAS (BSPP)	Nominal ölçü Rated size DN	QP (l/min)	QE (l/min)
VRF / 3V+VMP+VMS-34	198	199	24 volt DC "NA"-Normally open	3 / 4"	12	90	150

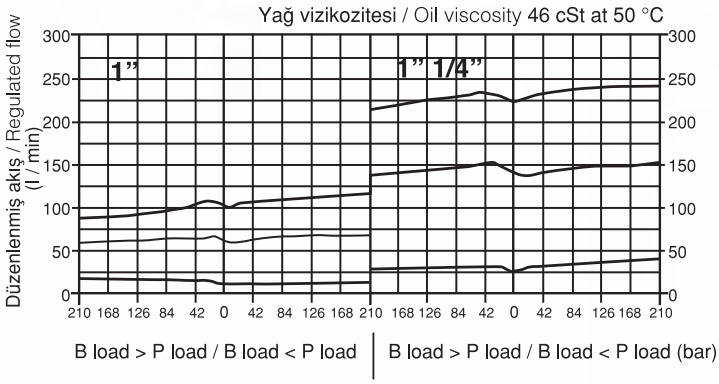
Max. basınç Max. pressure (bar)		
E - B	P	T
350	210	2

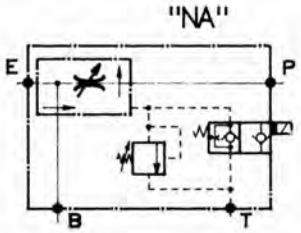
SİPARİŞ KODU / ORDERING CODE

004		000

GENEL, ÖLÇÜLER, TİPİK DEVRE ÖRNEĞİ
OVERALL, DIMENSIONS, TYPICAL CIRCUIT EXAMPLE







Bobin voltajı 24V DC bağlantı tipi HIRSHMANN (DIN43650), standart olarak normalde açık "NA" diğer bilgiler için kataloğun ilgili
* sayfasına bakınız.
Coil voltage 24 V. DC, connection type HIRSHMANN (DON 43650) standard as normally open "NA", for further details please refer to catalogue.

QE = "E" deki max. giriş debisi - l/min
QE = Max. admitted inlet flow "E" port - l/min

QP = "P" deki max. çıkış debisi - l/min
QP = Max. delivery in priority "P" - l/min

VALF KODU VALVE CODE	"P" deki ayar aralığı Setting range "P" 20 ÷ 350 bar	"P" deki ayar aralığı Setting range "P" 10 ÷ 210 bar	Voltaj - Voltage Valf ayarı Valve configuration	Delik ölçüsü Port size E-P-B GAS (BSPP)	Nominal ölçü Rated size DN	QP (l/min)	QE (l/min)
VRF/3V+VMP+VMS-100	200	201	24 volt DC "NA"-Normally open	1"	14	150	250
VRF/3V+VMP+VMS-114	202	203	24 volt DC "NA"-Normally open	1"1/4	16	250	400

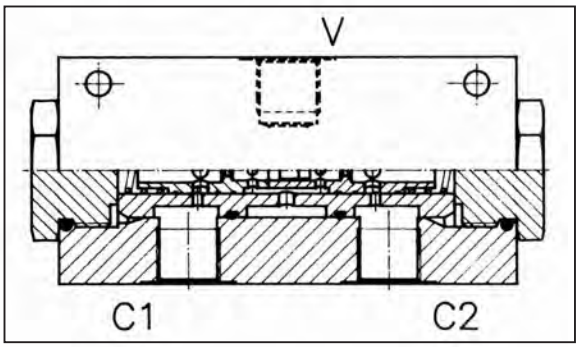
Max. basınç Max. pressure (bar)		
E - B	P	T
350	210	2

SİPARİŞ KODU / ORDERING CODE

004		000

AKIŞ BÖLÜCÜ / FLOW DIVIDERS COMBINERS

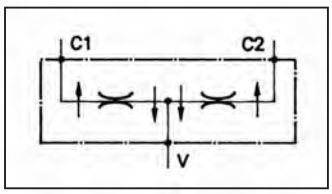
VDF / ....



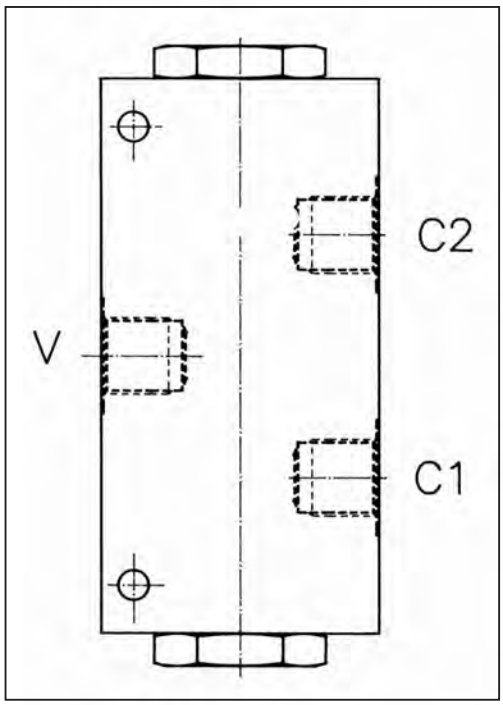
ÇALIŞMASI / OPERATION

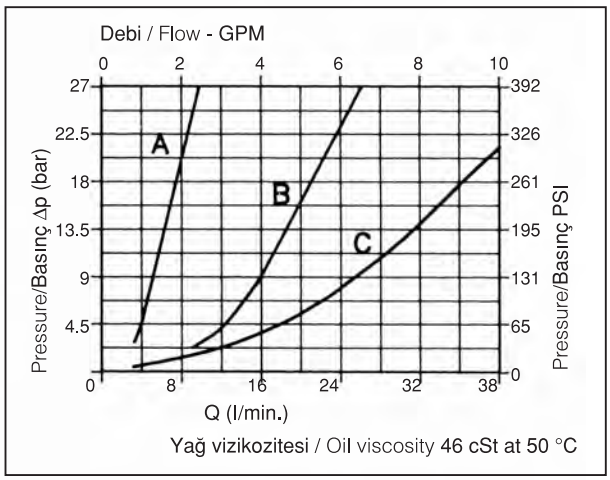
Bunlar basınç duyarlı valflerdir, pompadan gelen akışı giriş yükü ne olursa olsun iki eşit parçaya böler (±3%)

These are pressure compensated valves designed to divide the flow from a pump into equal parts (±3%) regardless to load.



En iyi performans için performans tablosundan valfi seçin.
For best performances choose the valve according to the performances schedule.

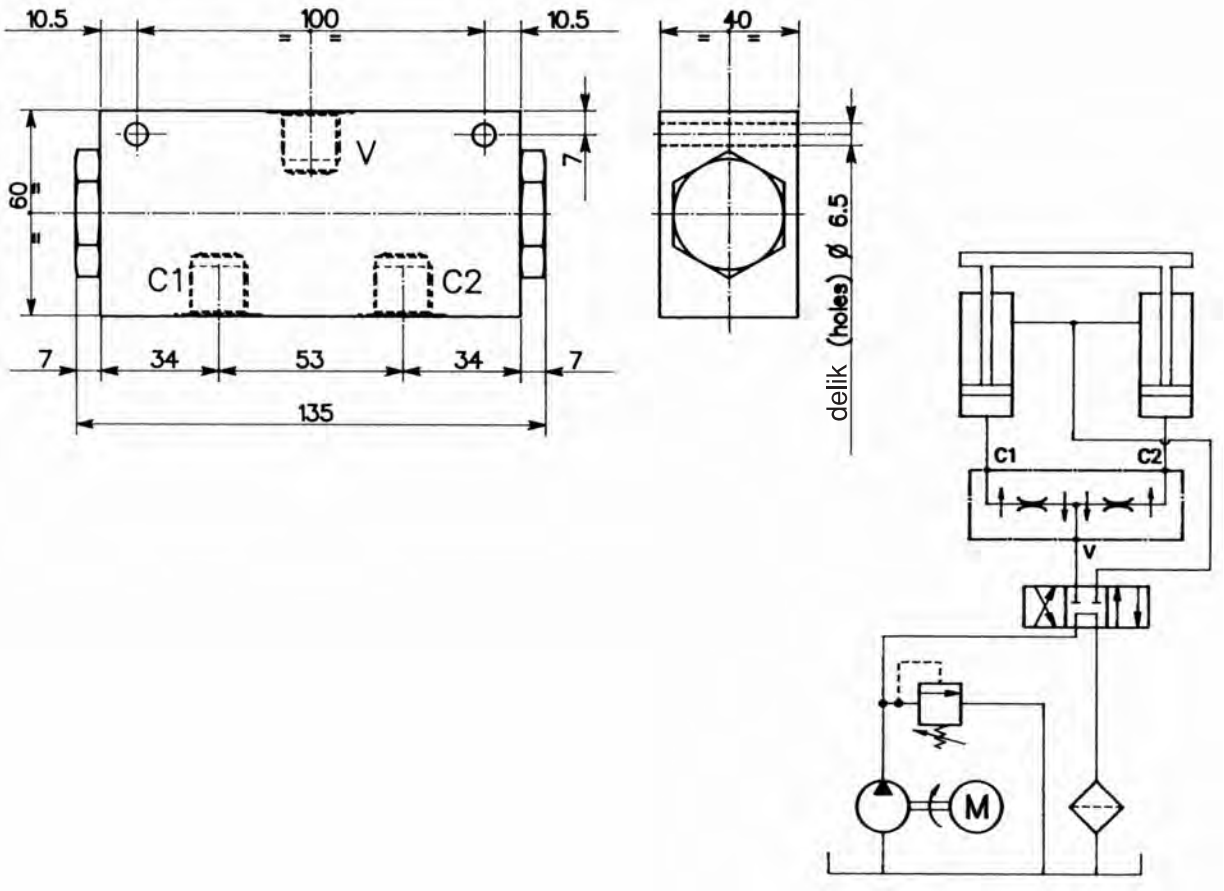




PERFORMANSLAR / PERFORMANCES

Nominal ölçü Rated size	DN	50%
Max. debi - oran Max. flow-rate		38 l/min 10 GPM
Max. basınç Max. pressure		210 bar 3045 PSI
Oda sıcaklığı Room temperature	°C	-30 +50
Yağ sıcaklığı Oil temperature	°C	-30 +80
Filtrasyon Filtration	micron	30

GENEL, ÖLÇÜLER, BAĞLANTI ÇÖZÜMLER, TİPİK DEVRE ÖRNEĞİ
OVERALL, DIMENSIONS, MOUNTING SOLUTIONS AND TYPICAL CIRCUIT

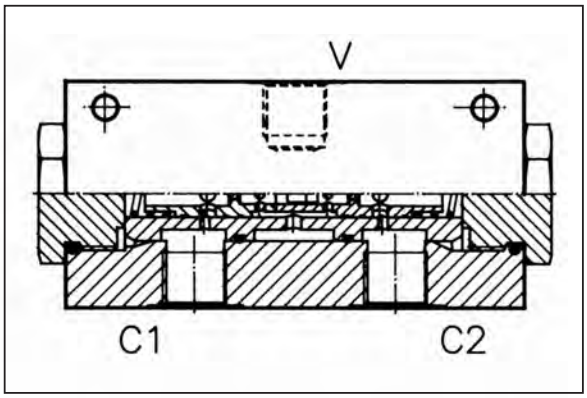


İstenirse akış bölüm oranı %35 - %65 yapılabilir.
Flow division ratio 35% - 65% on request.

VALF KODU VALVE CODE	KOD CODE	Delik ölçüsü Port size V GAS (BSPP)	Delik ölçüsü Port size C1 - C2 GAS (BSPP)	Giriş kapasitesi (Max. uygulanan tolerans±%3) Inlet capacity (max admitted slippage ±3%)	Debi Bölüm oranı Flow division ratio	Max. debi Max.flow l / min - GPM
VDF / 38 - A	008	3 / 8”	3 / 8”	6.5 to 11 l/min	50%-50%	38 - 9.5
VDF / 38 - B	076	3 / 8”	3 / 8”	13 to 22 l/min		
VDF / 38 - C	077	3 / 8”	3 / 8”	25 to 38 l/min		Max. çalışma basıncı Max. working pressure bar - PSI
VDF / 12 - A	009	1 / 2”	3 / 8”	6.5 to 11 l/min		
VDF / 12 - B	078	1 / 2”	3 / 8”	13 to 22 l/min		
VDF / 12 - C	079	1 / 2”	3 / 8”	25 to 38 l/min		210 - 3045

AKIŞ BÖLÜCÜ / FLOW DIVIDERS COMBINERS

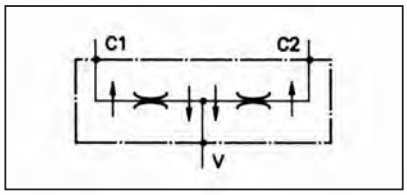
VDF / 34 - ...
VDF / 100



ÇALIŞMASI / OPERATION

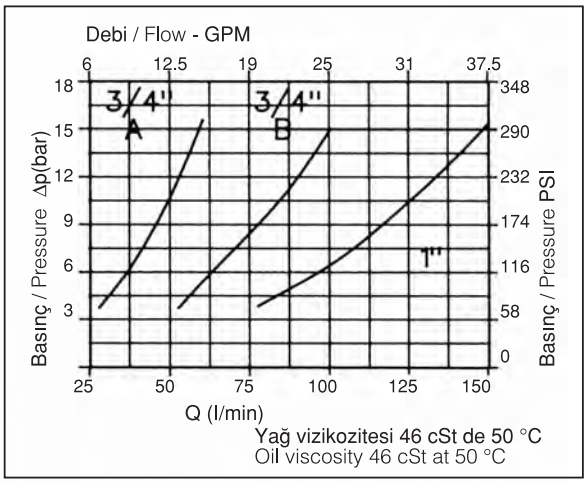
Bunlar basınç ayarlı valflerdir, pompadan gelen akışı iki eşit parçaya bölmek için dizayn edilmiştir. (±3%)
Birleştirme tam ters yöndedir.

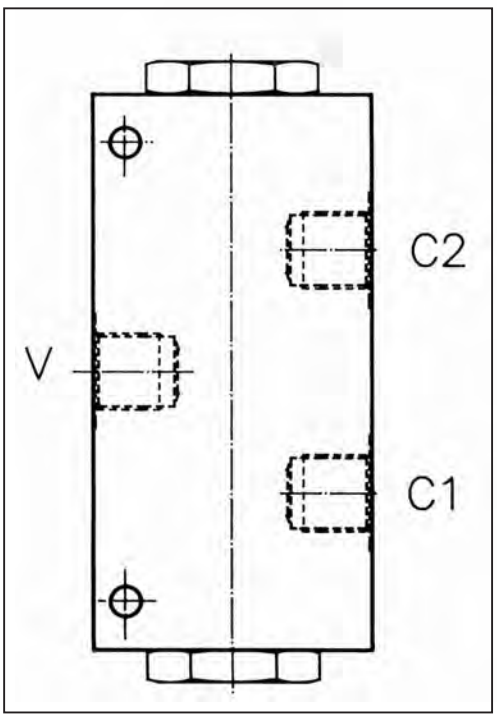
These are pressure compensated valves designed to divide the flow from a pump into equal parts (±3%) regardless to load.
Re - combination of equal flows in the reserve direction.



NOT / NOTE:
En iyi performans için performans tablosundan valfi seçin.

For best performances choose the valve according to the performances schedule.

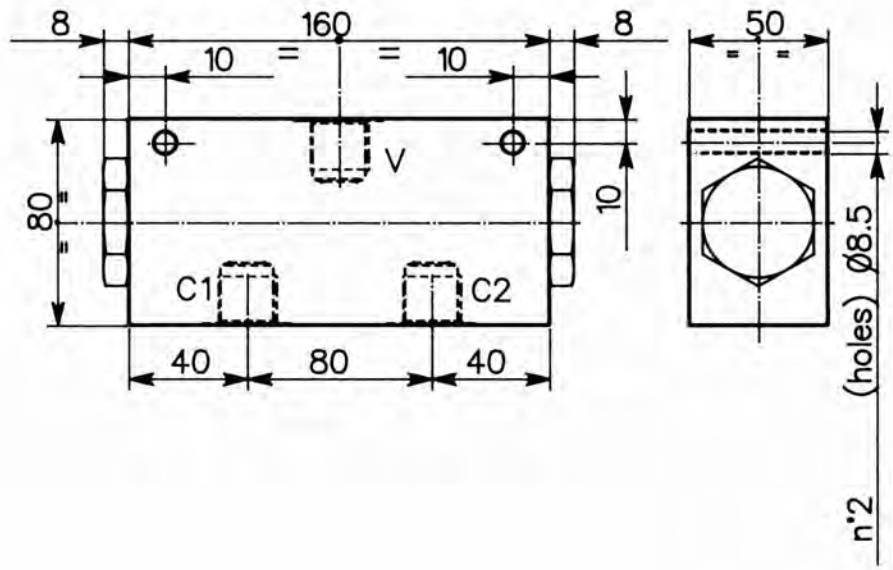


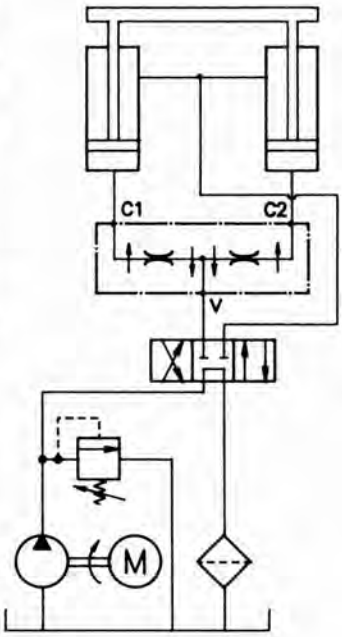


PERFORMANSLAR / PERFORMANCES

Debi bölüm oranı Flow division ratio	DN	50%
Max. debi - oran Max. flow-rate		150 l/min 38 GPM
Max. çalışma basınç Max. working pressure		210 bar 3045 PSI
Oda sıcaklığı Room temperature	°C	-30 +50
Yağ sıcaklığı Oil temperature	°C	-30 +80
Filtrasyon Filtration	micron	30

GENEL, ÖLÇÜLER, BAĞLANTI ÇÖZÜMLER, TİPİK DEVRE ÖRNEĞİ
OVERALL, DIMENSIONS, MOUNTING SOLUTIONS AND TYPICAL CIRCUIT





Alüminyum gövde standart çelik gövde isteğe bağlı
Aluminium body valves as standard, steel body on request

İsteğe bağlı akış bölüm oranı %35 - %65
Flow division ratio 36% - 65% on request

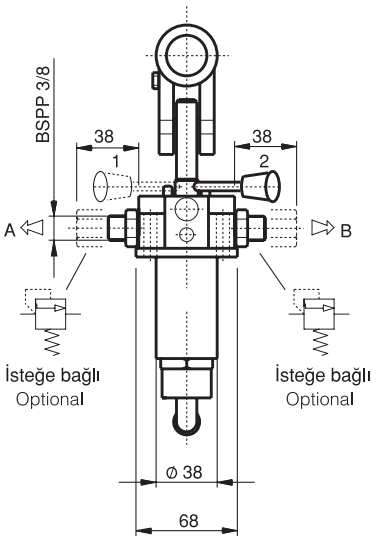
VALFİN KODU VALF CODE	KOD CODE	Delik ölçüsü Port size V GAS (BSPP)	Delik ölçüsü Port size C1-C2 GAS (BSPP)	Giriş kapasitesi İnlet capacity Uygulanan tolerans (max. admitted slippage ±3%)	Debi bölüm oranı Flow division ratio	Max. çalışma basıncı Max. working pressure bar - PSI
VDF / 34 - A	056	3/4”	1/2”	7 to 15 GPM	50%-50% ±3%	210 - 3045
VDF / 34 - B	058	3/4”	1/2”	15 to 25 GPM		
VDF / 100	059	1”	3/4”	24 to 38 GPM		

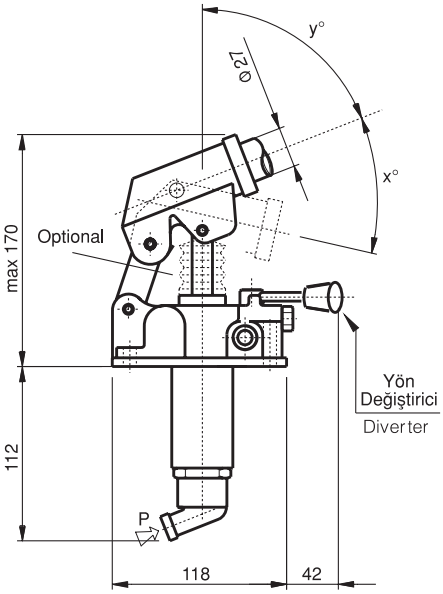
SİPARİŞ KODU / ORDERING CODE

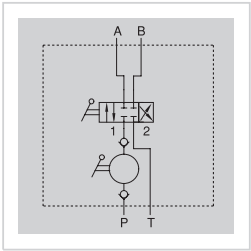
004		000

EL POMPALARI / HAND PUMPS

PMI







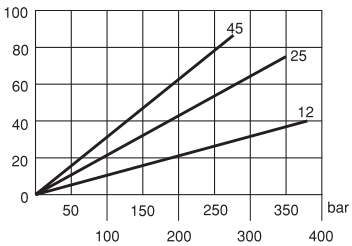
12/25/45 cm^3 el pompaları tank üstü monte edilebilir. Boyalı döküm gövde, kromlu mil, 4 yolu 3 yön bölücü L= 600 mm çalıştırma kolu. İsteğe göre kol için plastik koruma ve emniyet valfi.

12/25/45 cm^3 hand pumps for mounting on reservoir. Painted cast-iron body, chromed steel rod. 4 ways, 3 positions diverter.
L=600 mm operation lever. On request: rod rubber protection, relief valve

TEKNİK ÖZELLİKLER / FEATURES

Yer değiştirme Displacement	Max. Çalışma Basıncı Max working pressure	PMS Ağırlık Weight Kg	PMI Ağırlık Weight Kg
12 cm^3	380 bar	4,2	4,8
25 cm^3	350 bar		
45 cm^3	280 bar		

Basınç için gerekli manivela gücü (daN)
Effort (daN) operating on the end of the lever



Koruyucu mille
With rod protection

Basma debisi Displacement	X	Y
12 cm^3	45°	55°
25 cm^3	75°	35°
45 cm^3	75°	35°

Koruyucu milsiz
Without rod protection

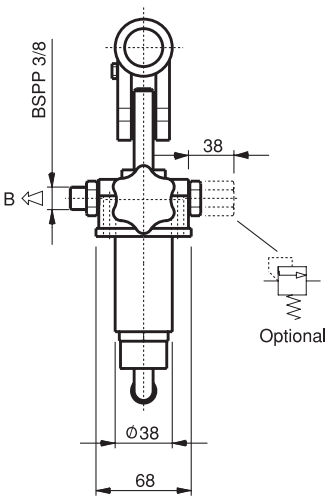
Basma debisi Displacement	X	Y
12 cm^3	65°	35°
25 cm^3	85°	25°
45 cm^3	75°	35°

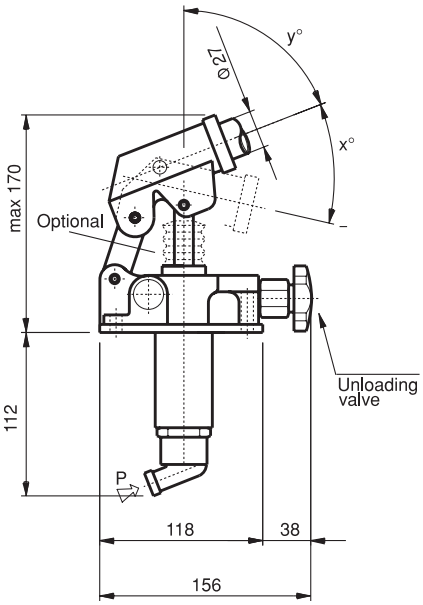
SİPARİŞ KODU / ORDERING CODE

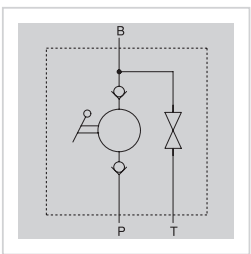
PMS / PMI ** *

- ** : 12 / 25 / 45 — Basma debisi / Displacement
- * : İsteğe bağlı / Optionals
  - Kauçuk koruma / Rubber protection — P
  - Emniyet Valfi / Relief valve — RV

PMS





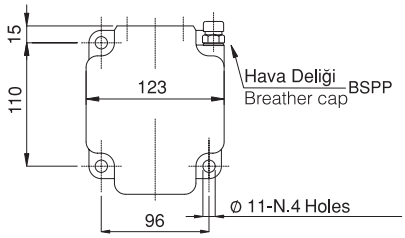


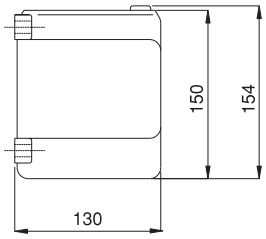
12/25/45 cm^3 el pompaları tank üstü monte edilebilir. Boyalı döküm gövde, kromlu mil, 4 yolu 3 yön bölücü L= 600 mm çalıştırma kolu. İsteğe göre kol için plastik koruma ve emniyet valfi.

12/25/45 cm^3 hand pumps for mounting on reservoir. Painted cast-iron body, chromed steel rod. 4 ways, 3 positions diverter. L=600 mm operation lever.
On request: rod rubber protection, relief valve

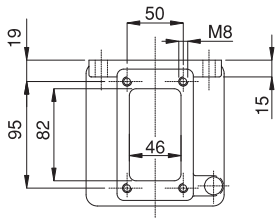
ALİMİNYUM DEPO / ALUMINIUM RESERVOIRS

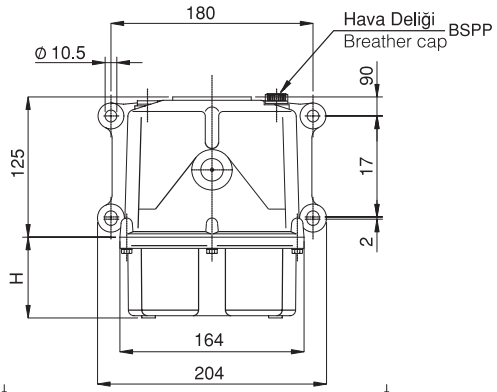
TNA

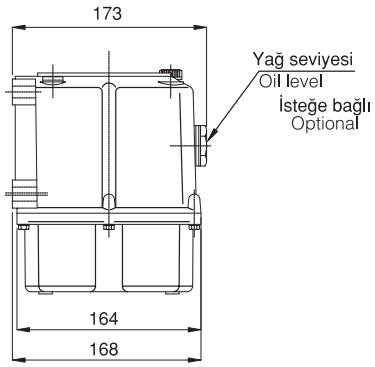




Kod Code	Kapasite Capacity	Ağırlık Weight Kg
TNA1	1	1,0

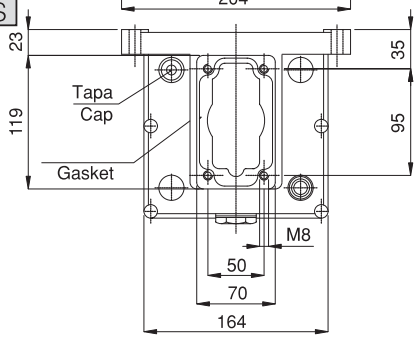






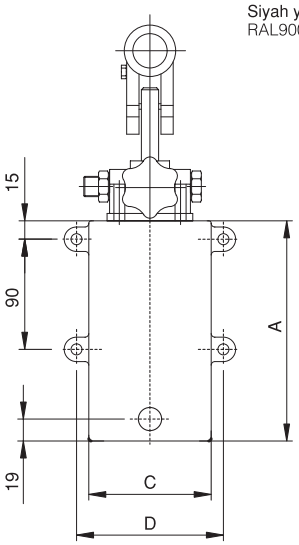
TEKNİK ÖZELLİKLER / FEATURES

Kod Code	Kapasite Capacity	H mm	Ağırlık Weight Kg
TNA2	2	25	1,5
TNA3	3	70	1,6
TNA5	5	180	1,8

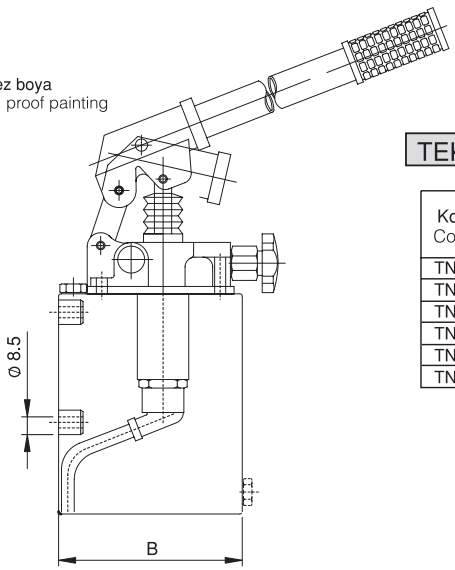


ÇELİK DEPO / STEEL RESERVOIRS

TNK



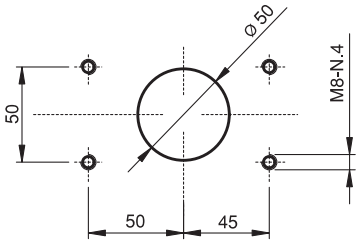
Siyah yağ geçirmez boya
RAL9005 black oil proof painting



Pompaya bağlamak için delikler vardır.
Drilling to be carried out on the tank for the pump fixing

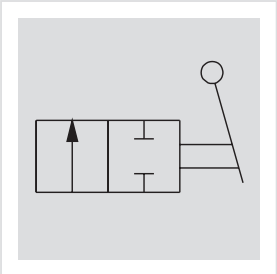
TEKNİK ÖZELLİKLER / FEATURES

Kod Code	Kapasite Capacity	A	B	C	D	Ağırlık Weight Kg
TNK1	1	120	150	100	120	2,0
TNK2	2	180	150	100	120	2,2
TNK3	3	247	150	100	120	2,5
TNK5	5	200	175	175	195	4,5
TNK7	7	269	175	175	195	5,4
TNK10	10	376	175	175	195	6,8



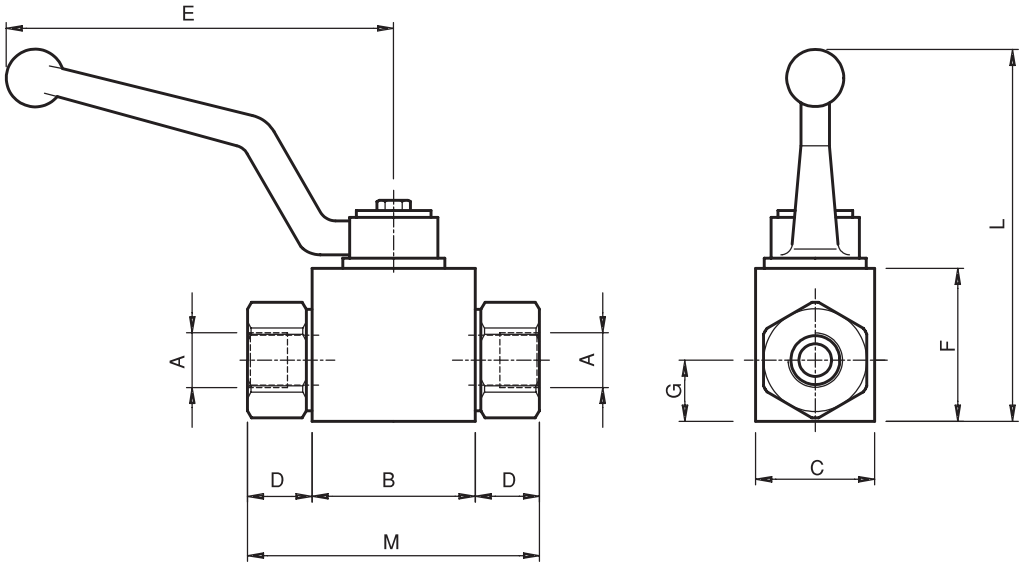
2 YOLLU HİDROLİK KÜRESEL VANA / 2 WAYS HYDRAULIC BALL VALVES

RAS2



RAS2 2 yollu küresel vanalar yüksek basınçlı akan yağın açılıp kapatılmasını sağlarlar.

RAS2 2 ways ball valves allow the opening or shutting of the oil flow at high pressure



TEKNİK ÖZELLİKLER / FEATURES

Kod Code	A	Max. Akış Max flow l/min	Max. Basınç Max pressure bar	B	C	D	E	F	G	L	M	Ağırlık Weight Kg
RAS2140	BSPP 1/4	25	500	42	30	14	107	35	15	88	70	0,50
RAS2380	BSPP 3/8	35		44	30	15	105	40	18	94	72	0,65
RAS2120	BSPP 1/2	60		48	37	17,5	108	43	18	96	83	0,75
RAS2340	BSPP 3/4	100	315	62	45	16	180	55	23	105	95	1,40
RAS2100	BSPP 1	150		66	55	23,5	180	65	30	115	113	2,15

SİPARİŞ KODU / ORDERING CODE

RAS2 *** *

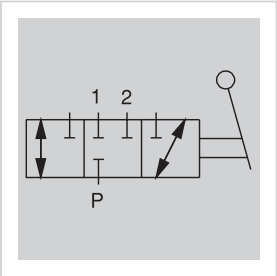
Ölçü / Size:
- BSPP 1/4 — 140
- BSPP 3/8 — 380
- BSPP 1/2 — 120
- BSPP 3/4 — 340
- BSPP 1 — 100

Talep edilmezse / Omit if not requested

Bağlantı deliği yok / With fixing holes — H

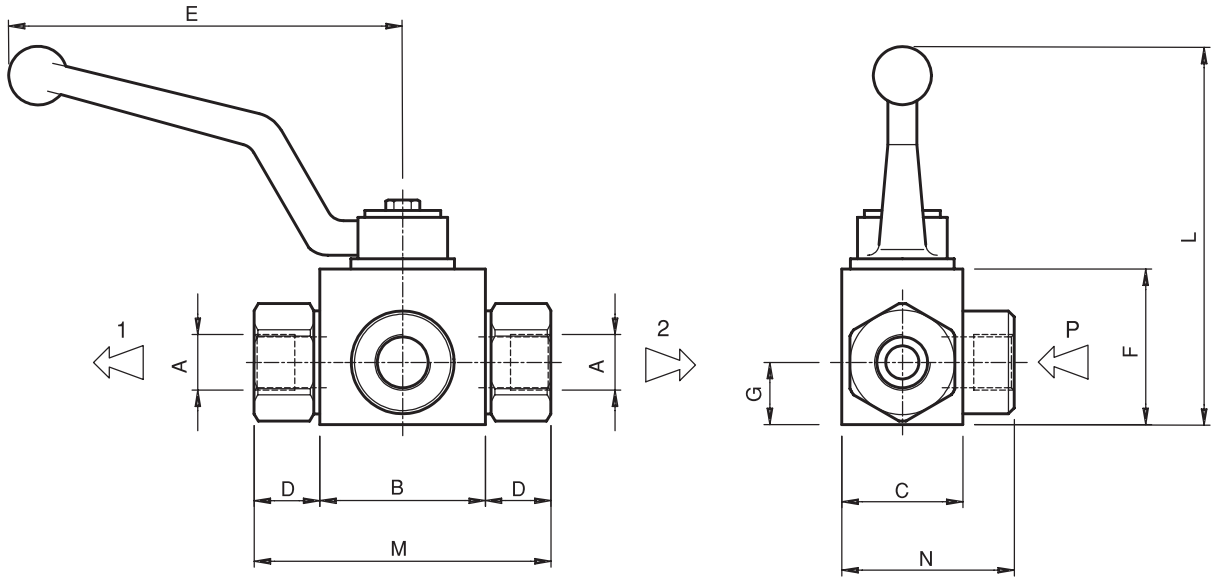
3 / 3 'L' TİPİ HİDROLİK KÜRESEL VANA
3 / 3 'L' TYPE HYDRAULIC BALL VALVES

RAS3



RAS3 3 yollu geri dönüşlü küresel vanalar.

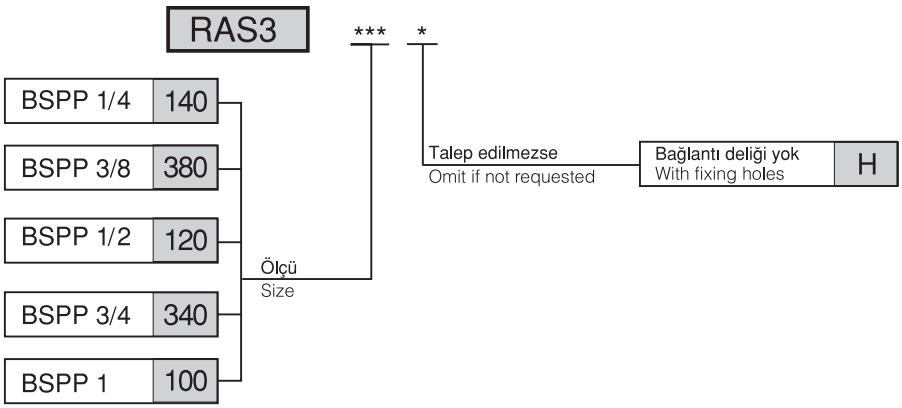
RAS3 3 ways ball valves are employed to reverse the oil flow



TEKNİK ÖZELLİKLER / FEATURES

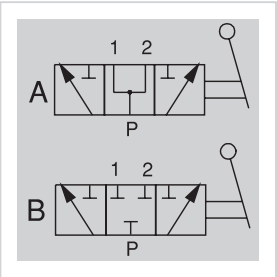
Kod Code	A	Max. Akış Max flow l/min	Max. Basınç Max pressure bar	B	C	D	E	F	G	L	M	Ağırlık Weight Kg
RAS3140	BSPP 1/4	25	315	42	30	14	107	35	15	88	70	0,53
RAS3380	BSPP 3/8	35		44	30	15	105	40	18	94	72	0,70
RAS3120	BSPP 1/2	60		48	37	17,5	108	43	18	96	83	0,80
RAS3340	BSPP 3/4	100	250	62	45	16	180	55	23	105	95	1,50
RAS3100	BSPP 1	150		66	55	23,5	180	65	30	115	113	2,35

SİPARİŞ KODU / ORDERING CODE



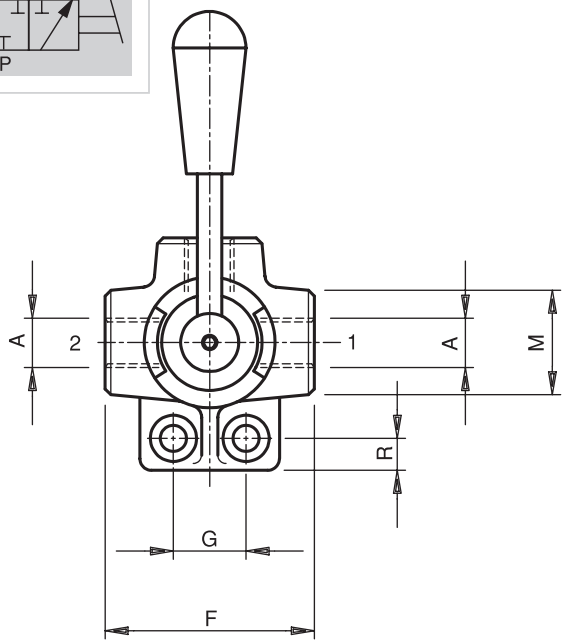
3 / 3 HİDROLİK KÜRESEL VANA
3 / 3 HYDRAULIC FLOW DIVERTER

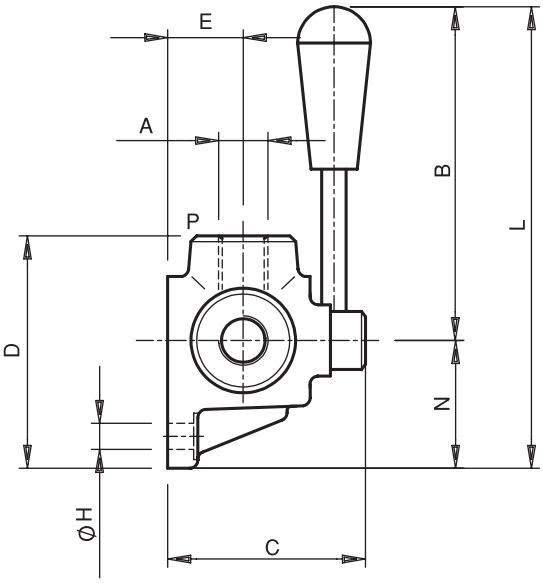
DDF3



DDF3, 3 yollu küresel vana akışının yönünü değiştirmek için kullanılır.

DDF3, 3 ways flow diverters are employed to reverse the oil flow

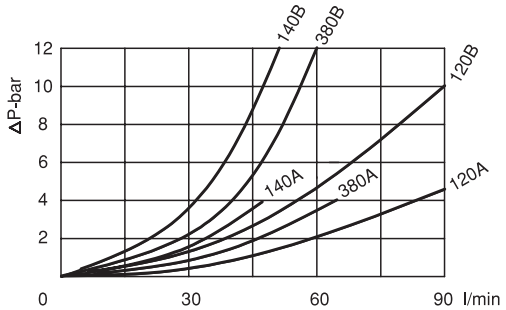


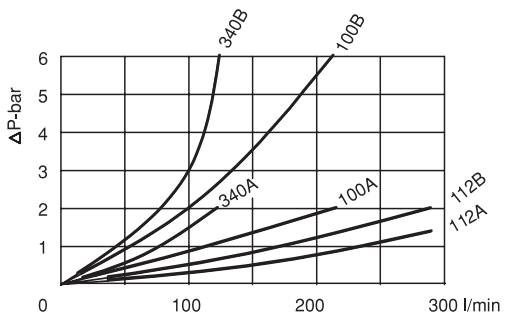


TEKNİK ÖZELLİKLER / FEATURES

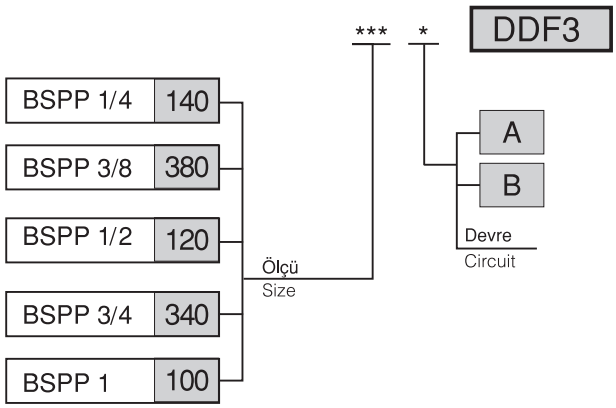
Kod Code	A	Max. debi Max flow l/min	Max Basınç Max pressure bar	B	C	D	E	F	G	H	L	M	N	R	Ağırlık Weight Kg
DDF3140	BSPP 1/4	40	300	128	62	77	21	73	24	8,5	169	35	41	14,5	0,95
DDF3380	BSPP 3/8	60		128	62	77	21	73	24	8,5	169	35	41	14,5	0,90
DDF3120	BSPP 1/2	90	250	128	70	96	25	85	32	10,5	180	40	52	17	1,45
DDF3340	BSPP 3/4	120	220	125	80	100	28	90	32	10,5	180	45	55	14	1,80
DDF3100	BSPP 1	200		140	90	115	32,5	96	32	11	207	56	67	17	2,50

BASINÇ DÜŞÜŞÜ / PRESSURE DROP



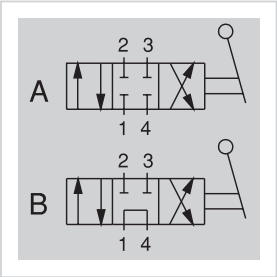


SİPARİŞ KODU / ORDERING CODE

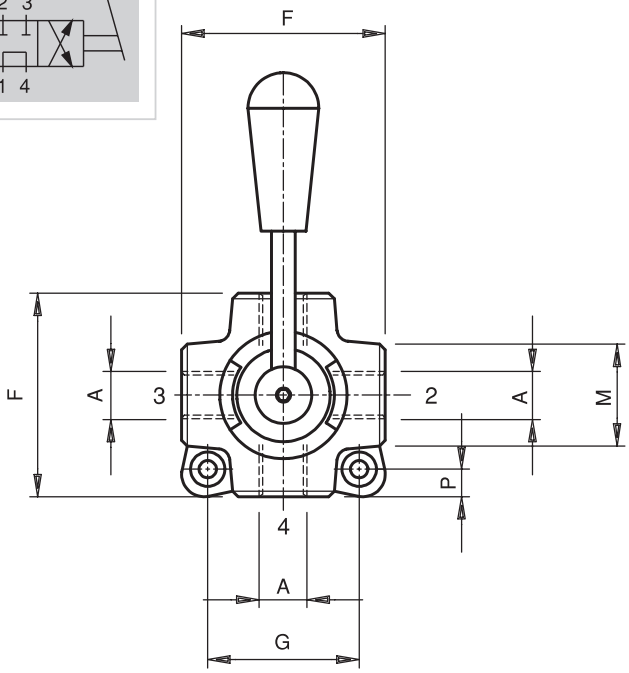


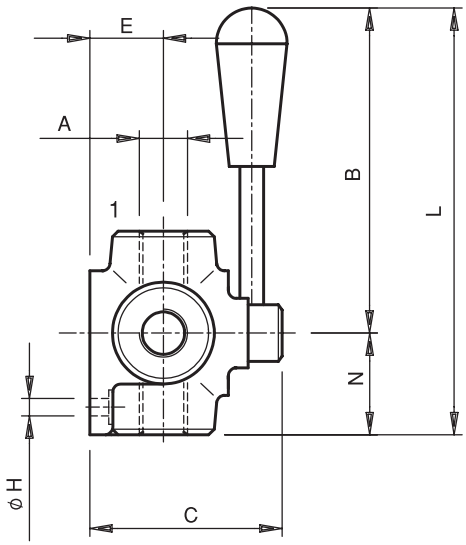
4/3 HİDROLİK KÜRESEL VANA
4 / 3 HYDRAULIC FLOW DIVERTERS

IDF4



IDF4, 4 E 3 Küresel vanalar akışın yönünü değiştirirler
IDF4, 4 ways flow diverters are employed to reverse the oil flow

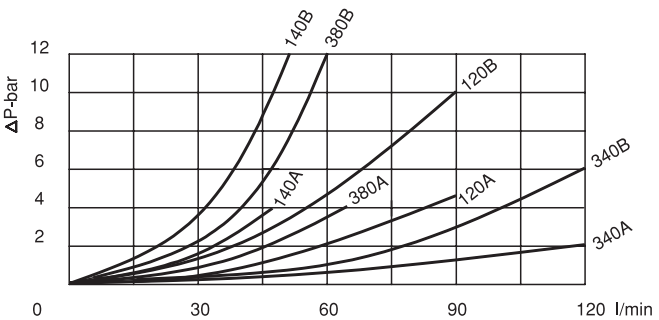




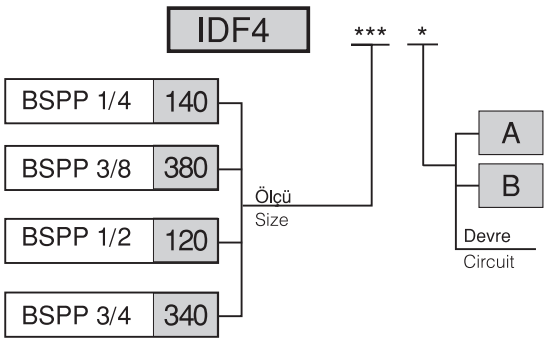
TEKNİK ÖZELLİKLER / FEATURES

Kod Code	A	Max. Debi Max flow l/min	Max. Basınç Max pressure bar	B	C	E	F	G	H	L	M	N	P	Ağırlık Weight Kg
IDF4140	BSPP 1/4	40	300	126	70	24	77	53,5	8,5	165	35	39	11	1,33
IDF4380	BSPP 3/8	60		126	70	24	77	53,5	8,5	165	35	39	11	1,27
IDF4120	BSPP 1/2	90	250	123	80	28	90	68	8,5	168	42	45	10	1,87
IDF4340	BSPP 3/4	120		145	90	32	95	74	8,5	195	49	50	12	2,50

BASINÇ DÜŞÜŞÜ / PRESSURE DROP

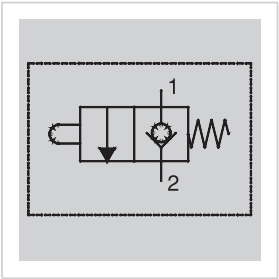


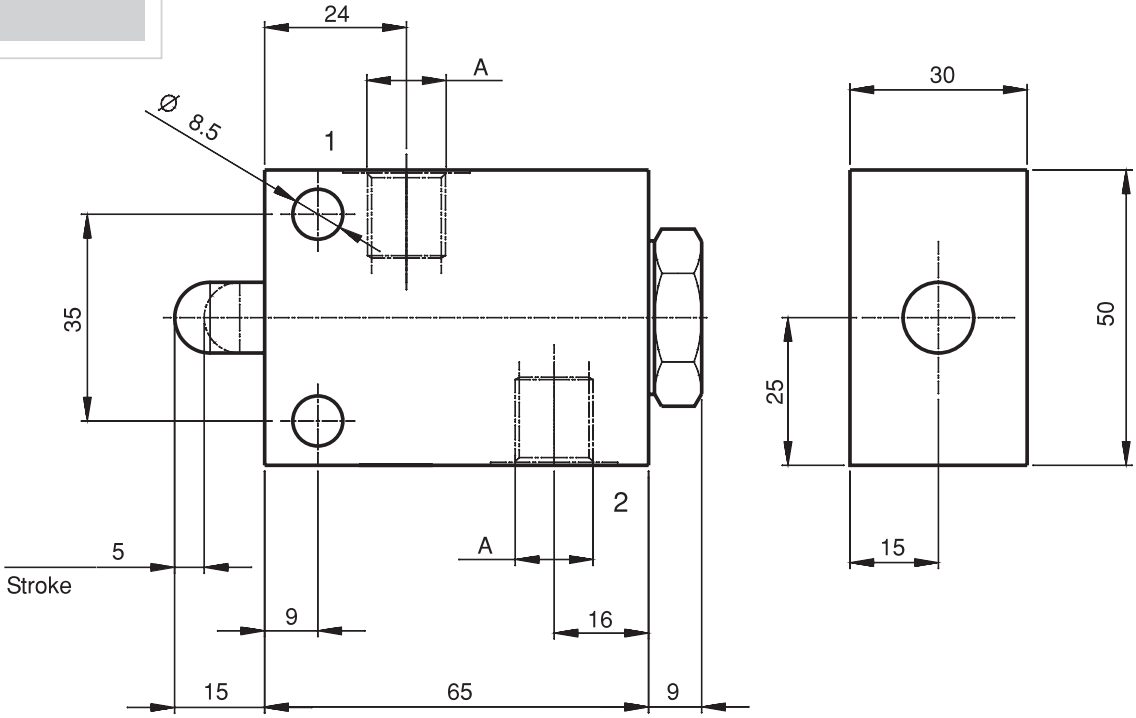
SİPARİŞ KODU / ORDERING CODE



2/2 PİM KONTROLLÜ VALF / END-STROKE VALVES

FCM





ÖZELLİKLER / FEATURES

Kod Code	A	Max. Debi Max flow l/min	Max. Basınç Max pressure bar	Ağırlık Weight Kg
FCM140	BSPP 1/4	40	300	0.70
FCM380	BSPP 3/8			0.65

SİPARİŞ KODU / ORDERING CODE

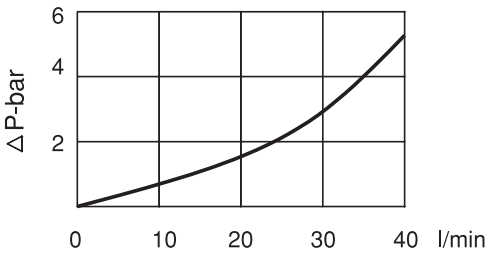
FCM ***

BSPP 1/4 140

BSPP 3/8 380

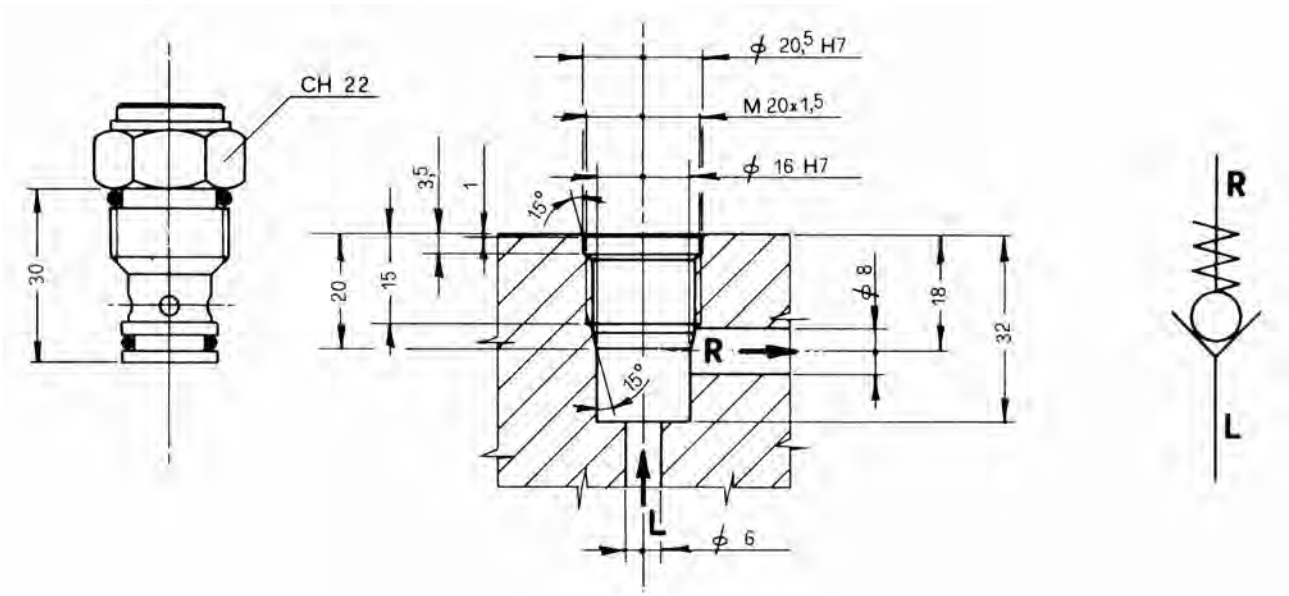
Ölçü
Size

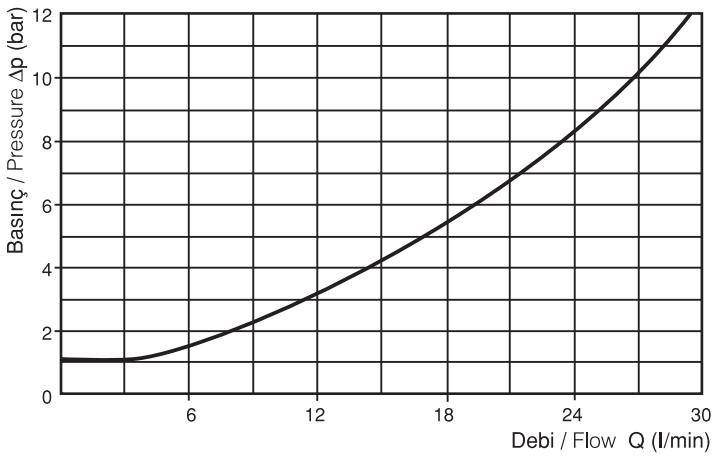
BASINÇ DÜŞÜŞÜ / PRESSURE DROPS



KARTRİÇ TİP ÇEK VALF / CARTRIDGE TYPE CHECKVALVE

VNR / C -14 / 38



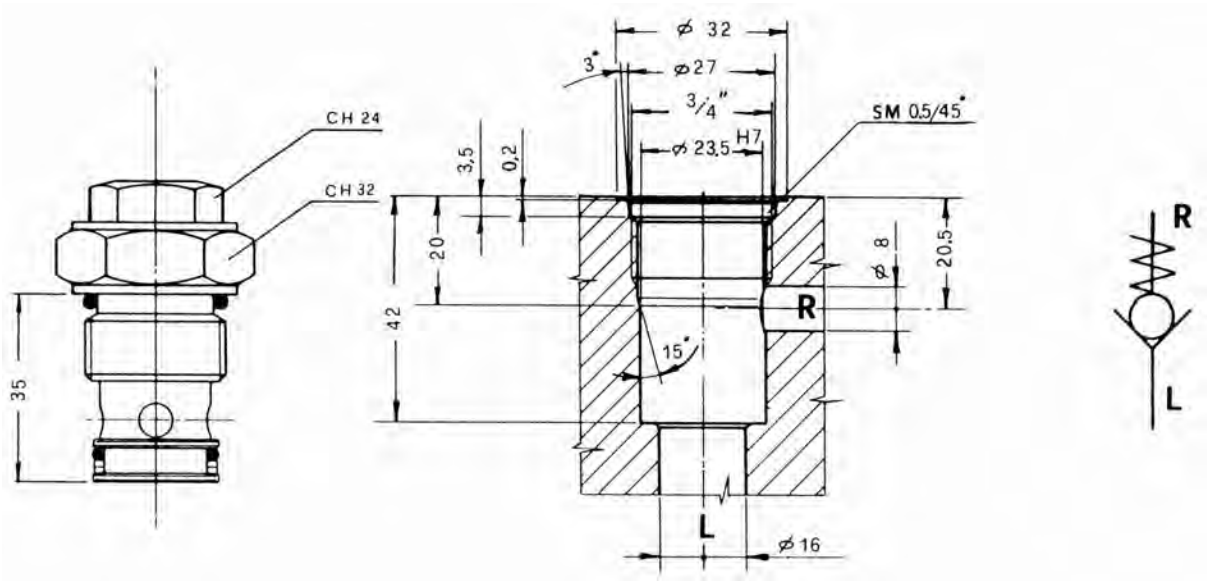


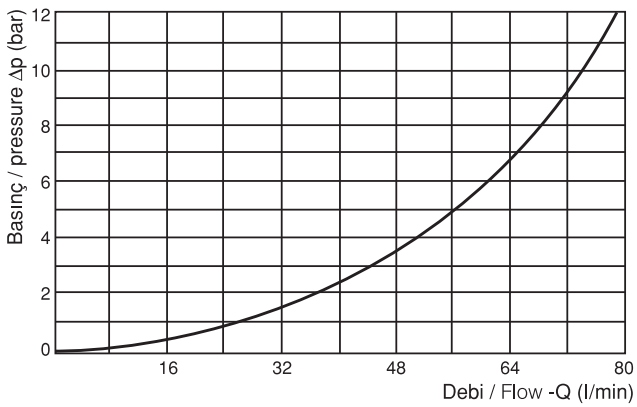
YAYLAR / SPRING	
Çalışma basıncı Cracking pressure (bar)	Renk Colour
1	Siyah Black
8	Sarı Yellow

Max. Çalışma basıncı Max. working pressure	350 bar
Max. debi Max. flow	30 l/min.

DELİK ÖLÇÜSÜ / PORT SIZE
KARTRİÇ / CARTRIDGE

VALFİN ADI / VALF DENOMINATION	KATRİÇ TİP ÇEKVALF / CARTRIDGE TYPE CHECK VALVE
VALF KODU / VALF CODE	VNR / C-12 / 34
TİP / TYPE	



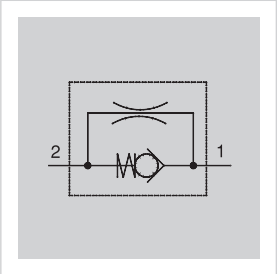


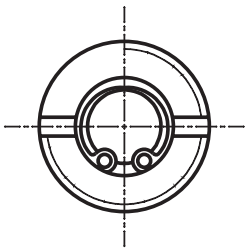
YAYLAR / SPRING	
Çalışma basıncı Cracking pressure	Renk Colour
1	Siyah Black
8	Sarı Yellow

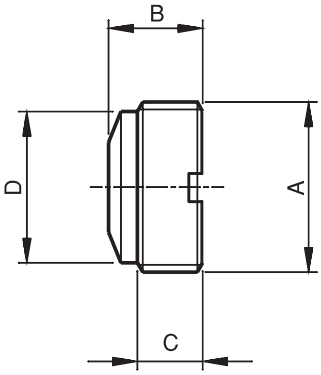
Max. çalışma basıncı Max. cracking pressure	350 bar
Debi max. Flow max.	80 l/min

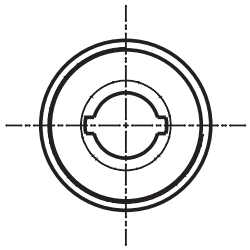
ORİFİSLİ ÇEK VALF / CHECK VALVES WITH GAPS

VS

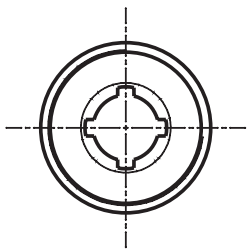








2 Orifisli
2 Gaps

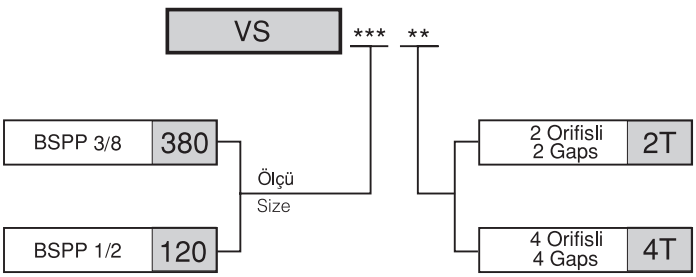


4 Orifisli
4 Gaps

TEKNİK ÖZELLİKLER / FEATURES

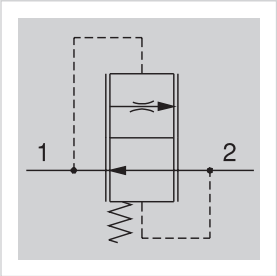
Kod Code	A	Max. debi Max flow l/min	Max. basınç Max pressure bar	B	C	D	Ağırlık Weight Kg
VS3802T	BSPP 3/8	35	500	10	6	14,5	0,15
VS3804T	BSPP 3/8	35	500	10	6	14,5	0,15
VS1202T	BSPP 1/2	60	350	11,5	8	18,3	0,20
VS1204T	BSPP 1/2	60	350	11,5	8	18,3	0,20

SİPARİŞ KODU / ORDERING CODE



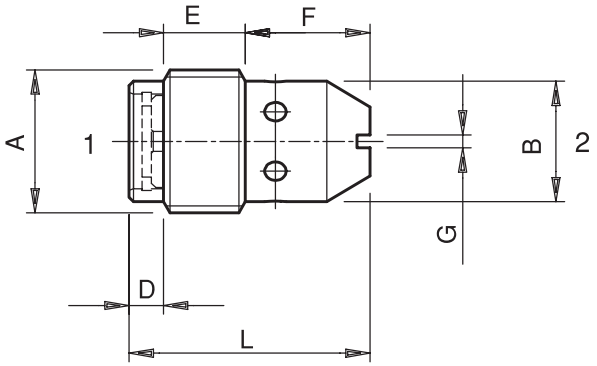
SABİT AYARLI YÜK KONTROL VALFİ
FIXED COMPENSATED LOAD CONTROL VALVES

VSC



VSC sabit ayarlı yük kontrol valfleri yükün düşüşünü sabit tutar.

VSC fixed compensated load control valves keep the load descent constant



TEKNİK ÖZELLİKLER / FEATURES

Kod Code	A	Max. debi Max flow l/min	Max. basınç Max pressure bar	B	D	E	F	L	G	Sıkma torku Tightening torque Nm	Ağırlık Weight Kg
VSC 140	BSPP 1/4	12	250	10,5	/	8	15	23	1,2	2	0,015
VSC 380	BSPP 3/8	18		13,5	/	10	15	25	1,5	3	0,022
VSC 120	BSPP 1/2	47	210	17	4,5	13	17,5	35	2	4	0,048

VSC 140

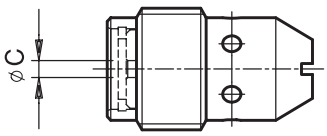
Referans numaraları Reference numbers	ϕC	Kontrollü Akış a 100 bar±10% Controlled flow at 100 bar±10% l/min
1	1,25	1,5
2	1,5	2,5
3	2	3,5
4	2,25	4,5
5	2,5	5,5
6	3	7
7	3,5	9
8	4	12

VSC 380

Referans numaraları Reference numbers	ϕC	Kontrollü Akış a 100 bar±10% Controlled flow at 100 bar±10% l/min
1	1,25	2
2	1,5	3
3	2	4
4	2,25	5
5	2,5	6
6	3	9
7	3,5	12
8	4	18

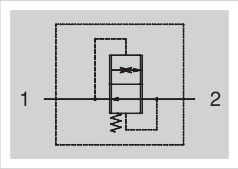
VSC 120

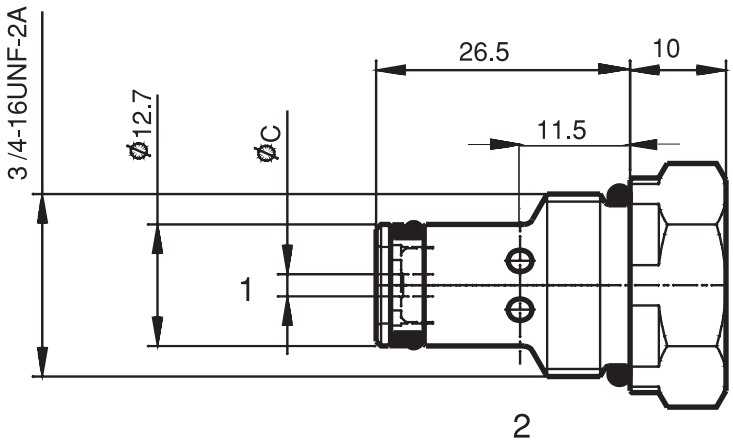
Referans numaraları Reference numbers	ϕC	Kontrollü Akış a 100 bar±10% Controlled flow at 100 bar±10% l/min
1	2,5	9
2	3	12
3	3,5	17
4	4	21
5	4,5	27
6	5	32
7	5,5	40
8	6	47



SABİT YÜK KONTROL VALFİ
FIXED COMPENSATED LOAD CONTROL VALVES

VSC6





SİPARİŞ KODU / ORDERING CODE

VSC6 *

1	2	3	4	5	6	7	8

Referans Numaraları
Reference number (See table)

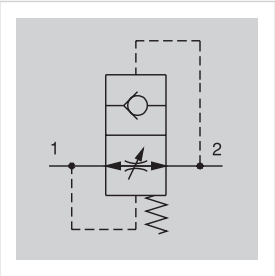
Referans Numaraları Reference numbers	Ø C	Kontrollü akış a 100 bar±10% Controlled flow at 100 bar±10% L/min
1	1.25	1.5
2	1.5	2.5
3	2	3.5
4	2.25	4.5
5	2.5	5.5
6	3	7
7	3.5	9
8	4	12

TEKNİK ÖZELLİKLER / FEATURES

Max. debi Max flow l/min	Max. basınç Max pressure bar	ağırlık Weight Kg
12	250	0.15

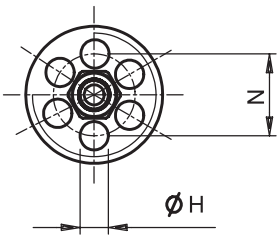
HORTUM PATLAMA KATRİCİ / ADJUSTABLE CHECK VALVES

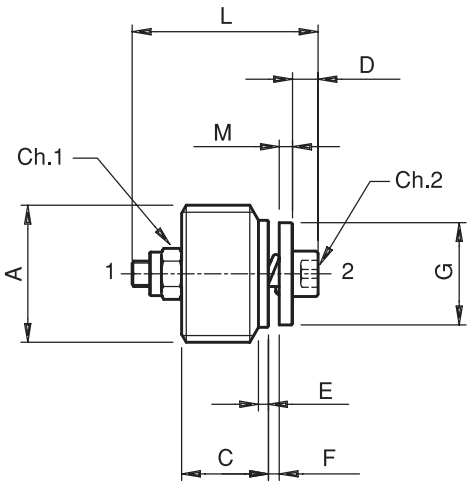
VUBA

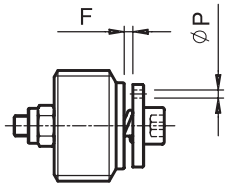


VUBA ayarlı çekvalfler hortum patlamalarına karşı silindirin çıkışına bağlanarak yükün birden boşalmasını engeller. Yüksek mukavemetli çelikten yapılır.

VUBA adjutable check valves are mounted directly on the cylinder to avoid load uncontrdled descent in case of piping breakage. They are made of high resistence steel







İsteğe bağlı "F" ayarı
"F" setting on request

Düz popette delik isteğe bağlı
Hole on flat poppet on request

TEKNİK ÖZELLİKLER / FEATURES

Kod Code	A	Max. debi Max flow l/min	Max. basınç Max pressure bar	C	D	E	G	H	L	M	N	Ch1	Ch2	Sıkma torku Tightening torque Nm	Ağırlık Weight Kg
VUBA 140	BSPP 1/4	25	350	8,2	3	1,2	10,4	2,5	19	1,4	8	5,5	2,5	2	0,007
VUBA 380	BSPP 3/8	50		11	3	1,5	12,7	3,25	23	2	10	5,5	2,5	3	0,013
VUBA 120	BSPP 1/2	80		13	4	1,5	15	4	29	2	11,5	7	3	4	0,024
VUBA 340	BSPP 3/4	150		18	4	1,5	18	5,2	34	2	14,5	7	3	10	0,047
VUBA 1215	M 12x1,5	15		8,4	3	1	10	1,6	19	1,4	7,5	5,5	2,5	2	0,007
VUBA 1415	M 14x1,5	25		11	3	1,5	11,5	2,5	23	2	9	5,5	2,5	3	0,012
VUBA 1615	M 16x1,5	50		11	3	1,5	12,7	3,25	23	2	10	5,5	2,5	3	0,013

SİPARİŞ KODU / ORDERING CODE

VUBA *** F*,* P*,*

- BSPP 1/4 — 140
- BSPP 3/8 — 380
- BSPP 1/2 — 120
- BSPP 3/4 — 340
- M 12x1,5 — 1215
- M 14x1,5 — 1415
- M 16x1,5 — 1615

Ölçü
Size

Düz popetteki delik
Hole on flat poppet

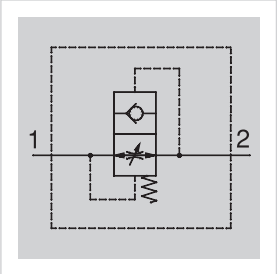
Örnek delik: 1,5 mm - Example : hole of 1,5 mm
Codice-Code P1,5
Omit if not required

Ayar
Setting

Örnek ayar: 0,7 mm - Example : setting 0,7 mm
Kod-Code F0,7
Omit if not required

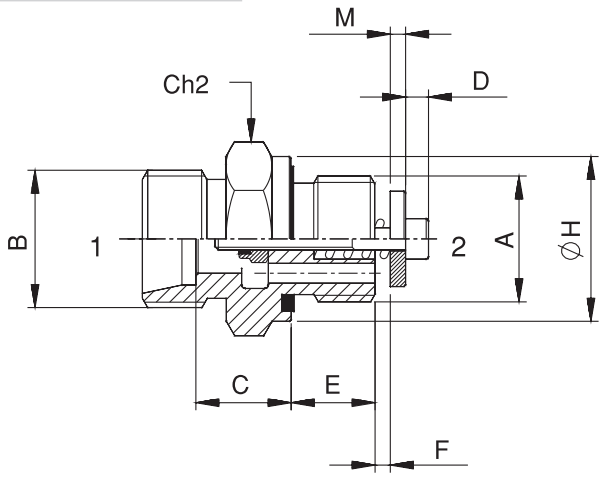
DIN AYARLI ÇEKVALFLERİ / DIN ADJUSTABLE CHECK VALVES

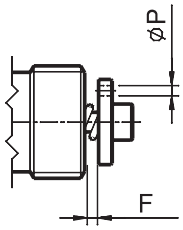
VUBADIN



VUBA DIN ayarlı çekvalfler hortum patlamasına karşı silindirin çıkışına bağlanarak yükün birden boşalmasını engeller.

VUBA adjutable check valves are mounted directly on the cylinder to avoid load uncontrolled descent in case of piping breakage. They are made of high resistence steel
Valves have been realized directly on DIN fittings





İsteğe bağlı "F" ayarı
"F" setting on request

Düz popette delik isteğe bağlı
Hole on flat poppet on request

TEKNİK ÖZELLİKLER / FEATURES

Kod Code	A	Max. debi Max flow l/min	Max. basınç Max pressure bar	B	C	D	E	Ø Tubo/Hose	H	M	Ch2	Ağırlık Weight Kg
VUBA380T10	BSPP 3 / 8	50	315	M 16x1.5	12.5	3	11	10	21.6	2	22	0,040
VUBA380T12	BSPP 3 / 8	50	315	M 18x1.5	12.5	3	11	12	21.6	2	22	0,040
VUBA380T15	BSPP 3 / 8	50	315	M 22x1.5	13.5	3	11	15	21.6	2	24	0,055
VUBA120T15	BSPP 1 / 2	80	315	M 22x1.5	14	4	13	15	26.8	2	27	0,065

SİPARİŞ KODU / ORDERING CODE

VUBA *** *** F*,* P*,*

Ölçü / Size
- BSPP 3/8 — 380
- BSPP 1/2 — 120

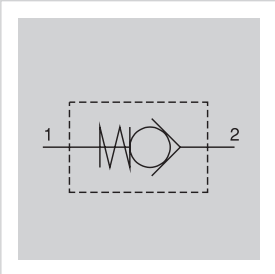
- Ø10 BON For d.10 pipe — T10 — Sadece VUBA380 / VUBA380 only
- Ø12 BON For d.12 pipe — T12 — Sadece VUBA380 / VUBA380 only
- Ø15 BON For d.15 pipe — T15

Ayar / Setting
Örnek ayar: 0,7 mm - Example : setting 0,7 mm
Codice-Code F0,7
Omit if not required

Düz popetteki delik / Hole on flat poppet
Örnek delik 1,5 mm - Example : hole of 1,5 mm
Codice-Code P1,5
Omit if not required

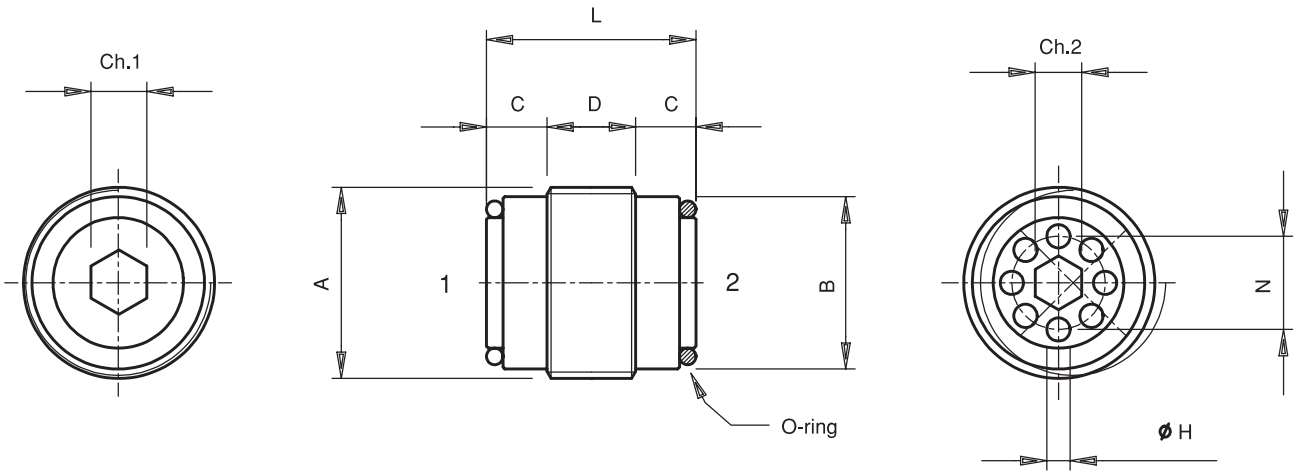
KÜRESEL ÇEKVALFLER / BALL CHECK VALVES

VUI



VUI tipi çekvalfler yağın gidişine bir yönde izin verir diğer yönde kapatır.

VUI cartridge check valves allow oil passing through one way only and stop it on the opposite way



TEKNİK ÖZELLİKLER / FEATURES

Kod Code	A	Max. debi Max flow l/min	Max. basınç Max pressure bar	B	C	D	H	L	N	Ch1	Ch2	O-ring	Sıkma torku Tightening torque Nm	Ağırlık Weight Kg
VUI 140	BSPP 1/4	20	350	11,3	5,5	6	1,25	17	6,5	3	3	9x1	6	0,012
VUI 380	BSPP 3/8	30		24	5,5	7,5	2	18,5	8	4	3	10,8x1,78	6	0,020
VUI 120	BSPP 1/2	50		18,5	7	8,5	2,25	22,5	10,5	6	5	14x1,78	10	0,036
VUI 340	BSPP 3/4	80		24	7,5	13,5	3	28,5	14	8	8	18,7x2,6	20	0,073

SİPARİŞ KODU / ORDERING CODE

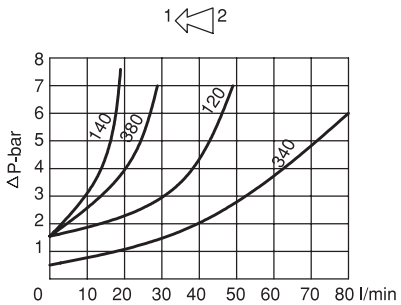
VUI ***

- BSPP 1/4 — 140
- BSPP 3/8 — 380
- BSPP 1/2 — 120
- BSPP 3/4 — 340

Ölçü
Size

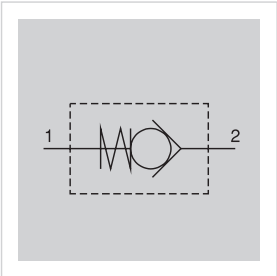
Açma basıncı 0,5 bar
Opening pressure

BASINÇ DÜŞÜŞÜ / PRESSURE DROP



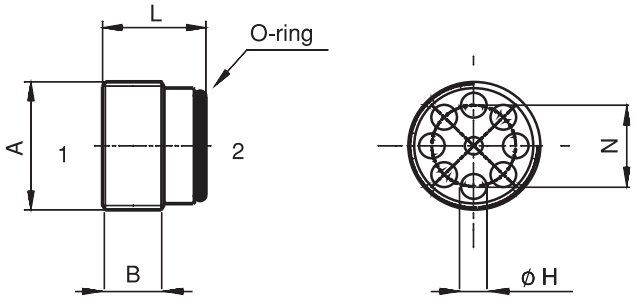
DİSK TİPİ KATRİÇ ÇEKVALFLER / DISK CHECK VALVES

VUP



VUP tipi çekvalfler yağın gidişine bir yönde izin verir diğer yönde kapatır.

VUI cartridge check valves allow oil passing through one way only and stop it on the opposite way. Sealing is granted by a ground disk



TEKNİK ÖZELLİKLER / FEATURES

Kod Code	A	Max. debi max flow l/min	Max. basınç Max pressure bar	Sıkma torku Tightening torque Nm	O-ring	B	N	ø H	Ağırlık Weight Kg
VUP140	BSPP	20	500	6	9x1	6	7	2	0,010
VUP380	BSPP 3/8	35	500	6	10,8x1,78	8	9,5	3	0,015
VUP120	BSPP	60	350	10	14x1,78	10	12	4	0,019

SİPARİŞ KODU / ORDERING CODE

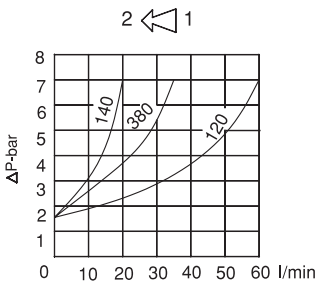
VUP ***

BSPP 1/4	140
BSPP 3/8	380
BSPP 1/2	120

Ölçü
Size

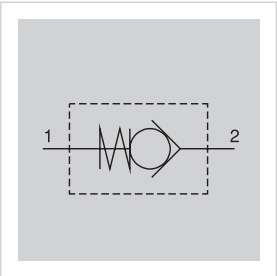
Açılış basıncı
Opening pressure 0,5 bar

BASINÇ DÜŞÜŞÜ / PRESSURE DROP



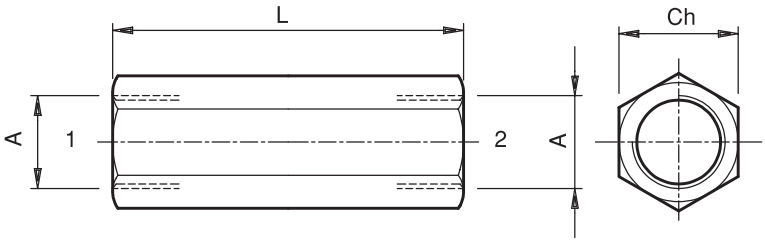
ÇEK VALFLER / CHECK VALVES

VUR

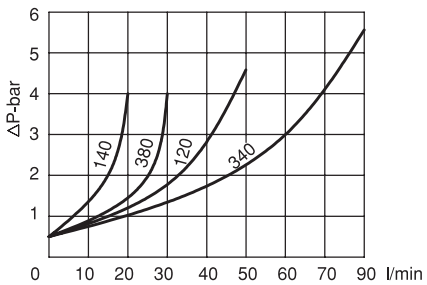


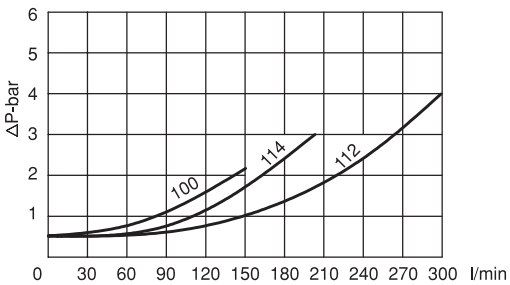
Vur tipi çekvalfler yağın gidişine bir yönde izin verir, diger yönde kapatır.

VUR check valves allow oil passing through one way only and stop it on the opposite way



BASINÇ DÜŞÜŞÜ / PRESSURE DROP





VUR

BSPP 1/4	140	*** Ölçü / Size	
BSPP 3/8	380		
BSPP 1/2	120		
BSPP 3/4	340		
BSPP 1	100		
BSPP 1-1/4	114		
BSPP 1-1/2	112		

**	Sfera-Ball	SF
	Poppet	SP

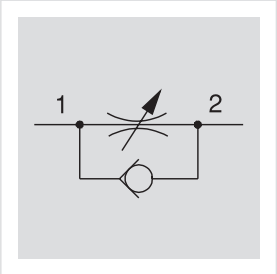
*	Siyah yay 1 bar Black spring (Standard)	1
	Sarı yay 3 bar Yellow spring	3
	Kırmızı yay 6 bar Red spring	6

TEKNİK ÖZELLİKLER / FEATURES

Kod Code	A	Max. Debi Max flow l/min	Max. Basınç Max pressure bar	L	Ch	Ağırlık Weight Kg
VUR 140	BSPP 1/4	15	350	55	19	0,10
VUR 380	BSPP 3/8	30	350	65	27	0,18
VUR 120	BSPP 1/2	50	320	75	27	0,31
VUR 340	BSPP 3/4	90	300	86	35	0,45
VUR 100	BSPP 1	150	250	110	41	0,95
VUR 114	BSPP 1-1/4	200	250	123	55	1,49
VUR 112	BSPP 1-1/2	300	210	138	65	2,40

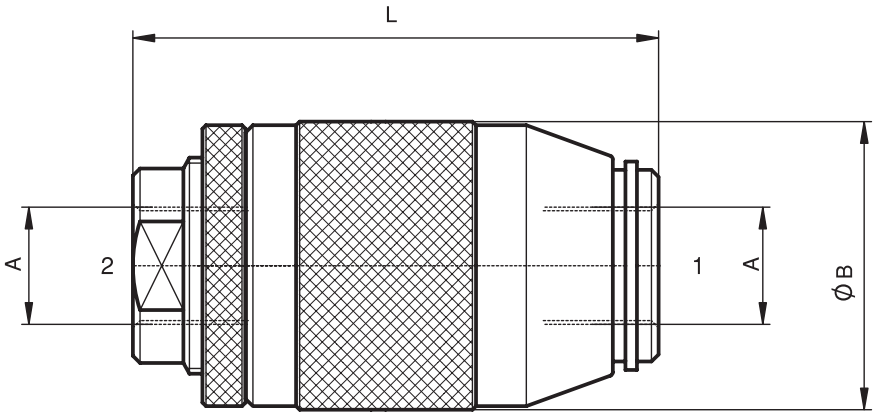
TEK YÖNLÜ HIZ AYAR VALFİ
UNIDIRECTIONAL FLOW CONTROL VALVES

VURF



VURF hız ayar valfleri bir yönde ayar yaparken diğer yönde serbest geçiş sunar.

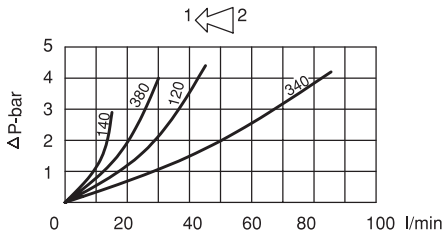
VURF flow control valves allow flow adjustment in one way and free passage in opposite direction

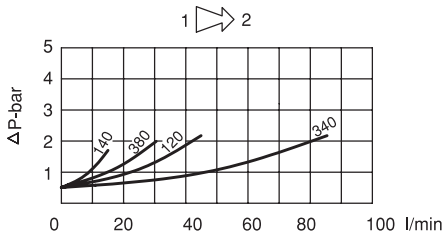


TEKNİK ÖZELLİKLER / FEATURES

Kod Code	A	Max. debi Max flow l/min	Max. basınç Max pressure bar	B	L	Ağırlık Weight Kg
VURF140	BSPP 1/4	15	350	34	62	0,23
VURF380	BSPP 3/8	30		40	73	0,42
VURF120	BSPP 1/2	45		45	83	0,66
VURF340	BSPP 3/4	85	300	54	102	1,12

BASINÇ DİYAGRAMI / PRESSURE DROP





SİPARİŞ KODU / ORDERING CODE

VURF ***

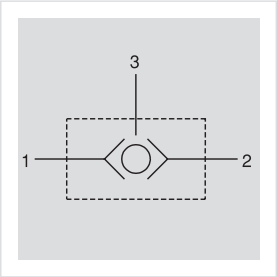
BSPP 1/4	140
BSPP 3/8	380
BSPP 1/2	120
BSPP 3/4	340

Ölçü
Size

Açılış basıncı
Opening pressure 0,5 bar

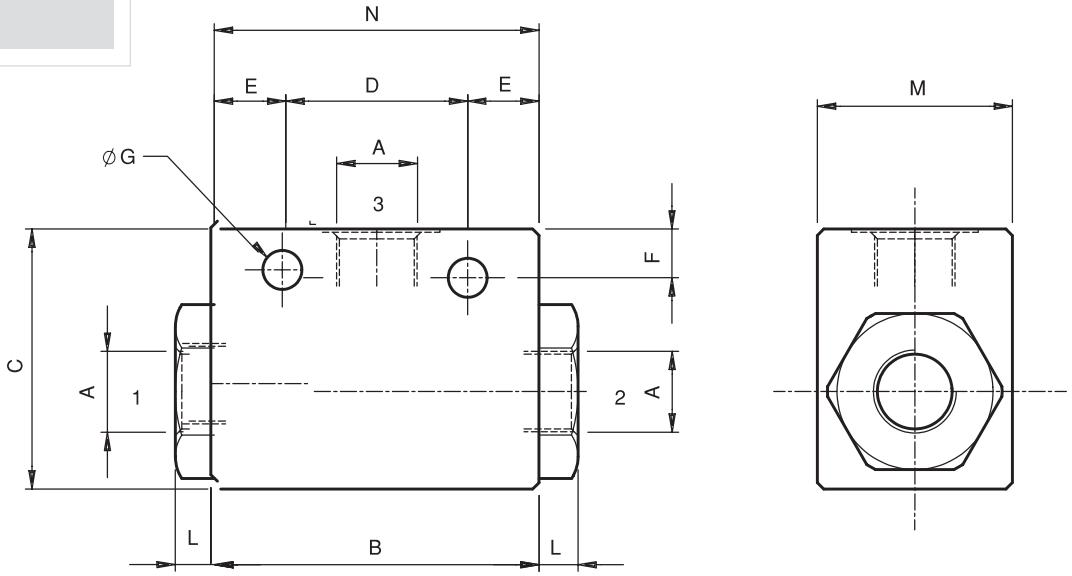
VEYA VALFİ / LOAD SHUTTLE-BALL VALVES

VUSF



VUSF Veya valfleri iki basınç hattı aynı anda valfe geldiğinde basıncı küçük olanı kapatır veya ikisini de ayırır.

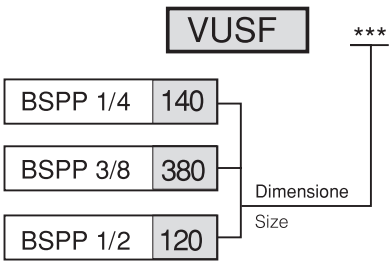
VUSF load shuttle ball valves are employed when two pressure lines converge inside the valve in the same time (the lower pressure line locks) or separately



TEKNİK ÖZELLİKLER / FEATURES

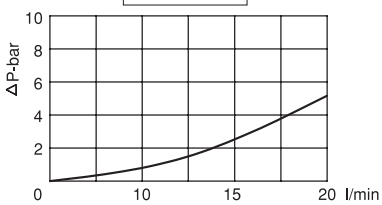
Kod Code	A	Max. debi Max flow l/min	Max. basınç Max pressure bar	B	C	D	E	F	G	L	M	N	Ağırlık Weight Kg
VUSF140	BSPP 1/4	20	350	50	40	28	11	8	7,5	6	30	62	0,21
VUSF380	BSPP 3/8	30		65	50	45	10	8	8	6,5	35	78	0,41
VUSF120	BSPP 1/2	60	320	80	60	60	10	10	10	7,5	40	95	0,67

SİPARİŞ KODU / ORDERING CODE

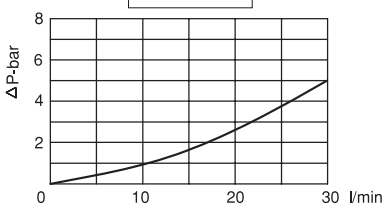


BASINÇ DÜŞÜŞÜ / PRESSURE DROP

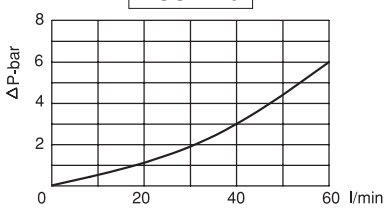
VUSF140



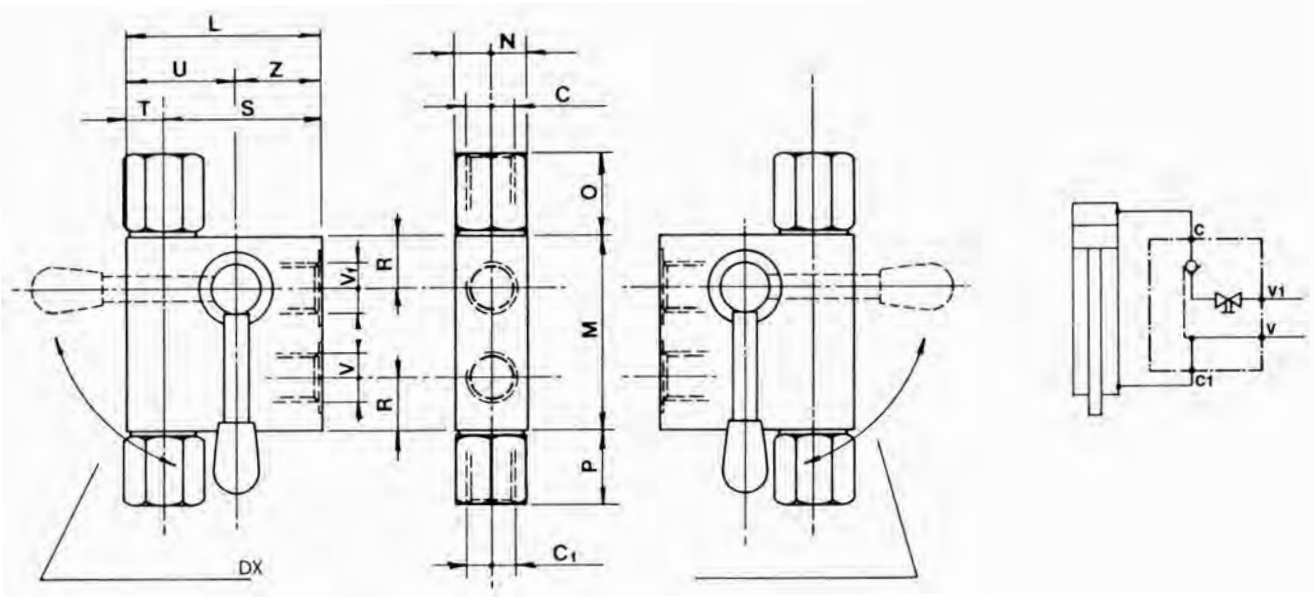
VUSF380



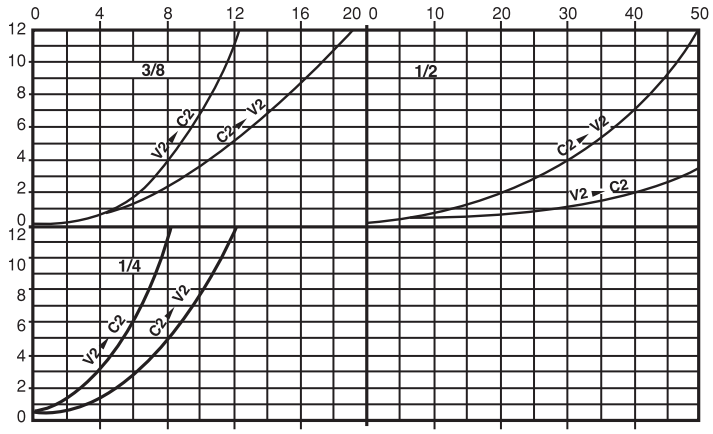
VUSF120



VALFİN ADI / VALF DENOMINATION	EL KUMANDALI KİLİTLEME VALFİ MANUEL CONTROLLED LOCKING VALVE
VALF KODU / VALF CODE	VNR / SO / SE-14 / 38 / 12 / L-DR-SR
TİP / TYPE	



ADI / DENOMINATION	L	M	N	O	P	R	S	T	U	Z	PILOTAGGIO
VNR/SO/SE-14L-DR-SR	60	60	30	27.5	20.5	16	48	12	36	24	4:1
VNR/SO/SE-38L-DR-SR	70	70	30	28.5	23.5	16	55	15	38	32	4:1
VNR/SO/SE-12L-DR-SR	80	80	30	32.5	31.5	21	64	16	44	36	3.5:1



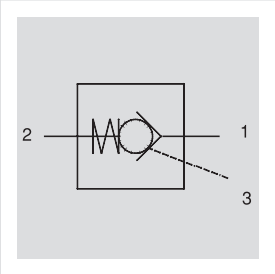
YAYLAR / SPRING	
Açma basıncı Cracking pressure (bar)	Renk Colour
1	Siyah Black
6	Sarı Yellow

DELİK ÖLÇÜSÜ / PORT SIZE		
ADI / DENOMINATION	V1 - V2	C - C1
VNR/SO/SE-14 L-DR-SR	1/4”	1/4”
VNR/SO/SE-38 L-DR-SR	3/8”	3/8”
VNR/SO/SE-12 L-DR-SR	1/2”	1/2”

Max. çalışma basıncı Max. working pressure	350 bar
Max. debi Max. flow	Performans grafiği Performance graph

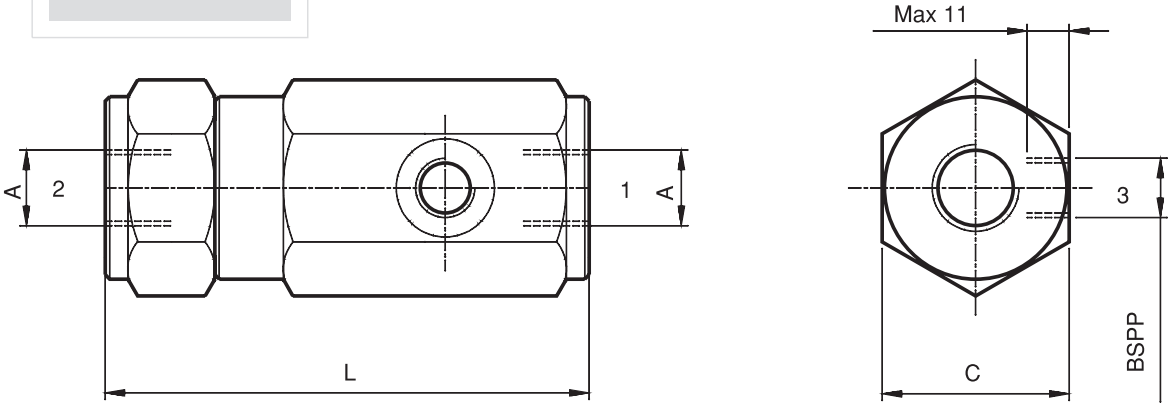
PİLOT KUMANDALI BORU TİPİ ÇEKVALF
SINGLE ACTING PILOT CHECK VALVES

VRPE



VRSE tek etkili pilot çekvalfler hidrolik silindirleri kilitler.

VRSE single acting pilot check valves lock a hydraulic cylinder



TEKNİK ÖZELLİKLER / FEATURES

Kod Code	A	Max. debi Max flow l/min	Max. basınç Max pressure bar	L	C	Pilot oranı Pilot ratio	Çalışma basıncı Opening pressure bar	Ağırlık Weight Kg
VRPE140	BSPP 1 / 4	25	350	100	36	1:5	0,5	0,75
VRPE380	BSPP 3 / 8	40	350	105	41	1:4,4	0,5	1
VRPE120	BSPP 1 / 2	60	350	125	41	1:4,2	0,5	1,1
VRPE340	BSPP 3 / 4	90	300	130	55	1:4	0,5	2

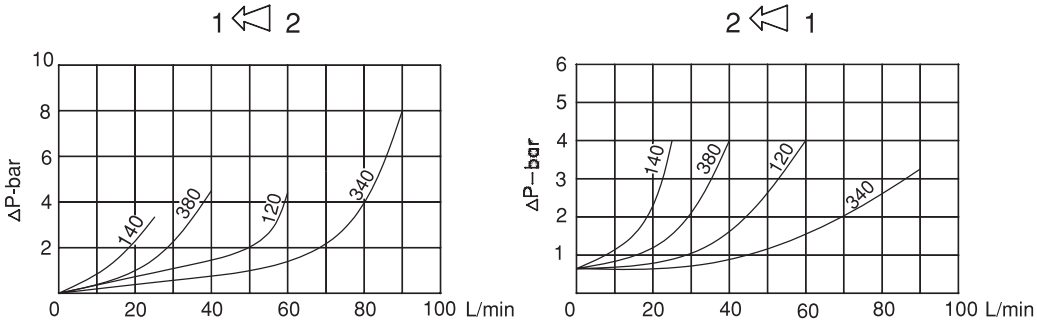
SİPARİŞ KODU / ORDERING CODE

VRPE ***

BSPP 1/4	140
BSPP 3/8	380
BSPP 1/2	120
BSPP 3/4	340

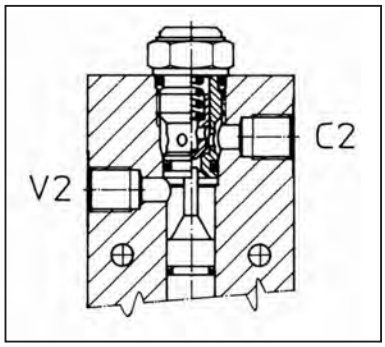
Ölçü
Size

BASINÇ DİYAGRAMI / PRESSURE DROPS



PİLOT ÇEKVALFLER / PILOT CHECK VALVES

VNR/C/SO/DE

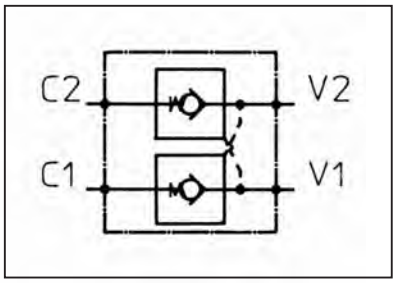


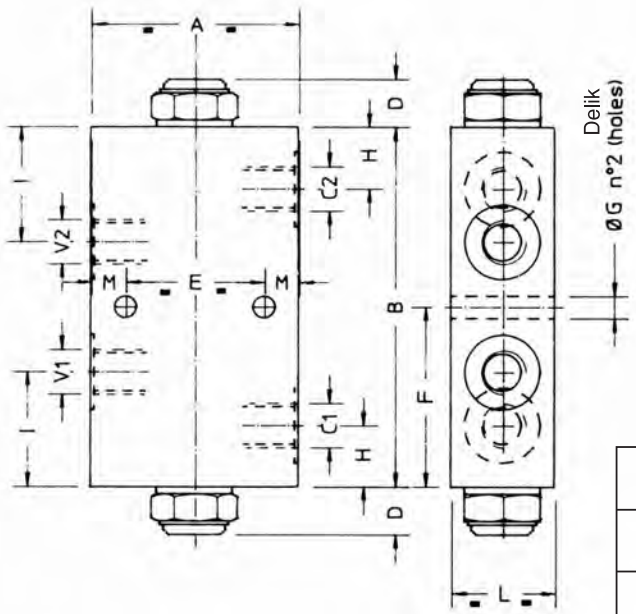
ÇALIŞMA / OPERATION

Bir silindiri kilitler ya da bir devrede kilitleme sağlayarak akışın geri dönüşünü pilot verilene kadar önler.
Çift ve tek pilot kontrollü çek modları içten pilotludur. Yuva “V” direkt bağlı iç pilot.

To lock a cylinder or part a circuit and prevent reserve flow until pilot pressure is applied.
Double and single pilot operated check models are internally piloted. Port “V”
Line assembly internal pilot.

Aliminyum gövde standart, çelik gövde isteğe bağlı.
Alluminium body valves as standard , steel body is on request.





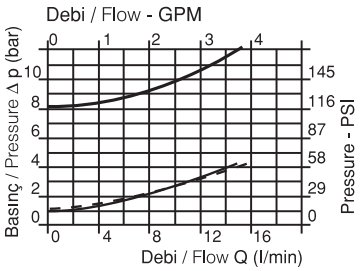
PERFORMANSLAR / PERFORMANCES

Max. basınç Max. pressure		350 bar 5075 PSI
Oda sıcaklığı Room Temperature	°C	-30 +50
Yağ sıcaklığı Oil temperature	°C	-30 +80
Filtrasyon Filtration	micron	30 ÷ 50

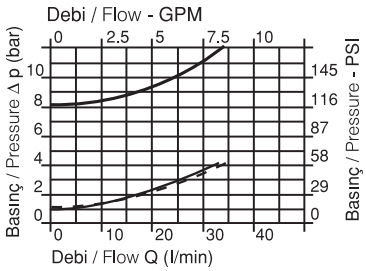
C - V	A	B	D	E	F	G	H	I	L	M	Pilot oranı Pilot ratio	Nominal Rated size DN	Max. debi / Max. flow rate l/min-GPM	
1/4” GAS	60	105	15	40	52.5	6.5	18	33.5	30	10	4:1	6	15-4	VNR/C/SO/DE-14
3/8” GAS	70	110	118		55	8.5	20.5	38	35	15		8	35-9.2	VNR/C/SO/DE-38
1/2” GAS												10	45-12	VNR/C/SO/DE-12

HİDROLİK PERFORMANS / HYDRAULIC PERFORMANCE

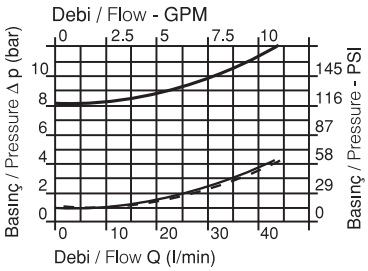
VNR/C/SO/DE-14



VNR/C/SO/DE-38



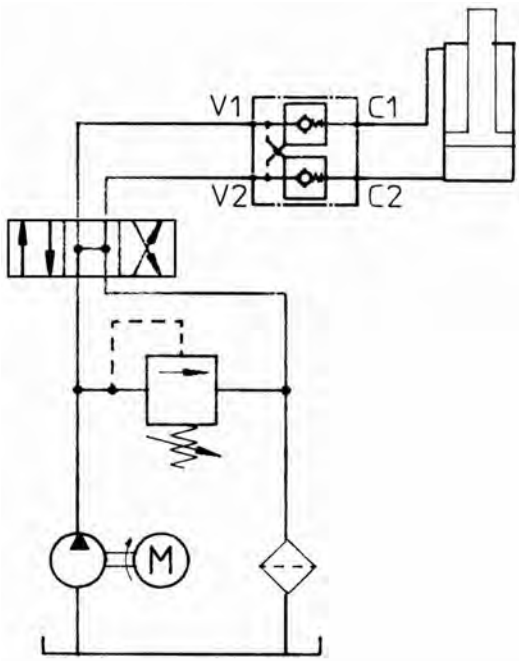
VNR/C/SO/DE-12



——— VNR/C/SO/DE-.. 8 bar (Serbest akış / Free flow)
- - - - VNR/C/SO/DE-.. 1 Bar (Serbest akış / Free flow)
—·— VNR/C/SO/DE-.. (Piloted opened)

Yağ vizikozitesi 46 cSt at 50 °C
Oil viscosity 46 cSt at 50 °C

TİPİK DEVRE ÖRNEĞİ
TYPICAL CIRCUIT EXAMPLE



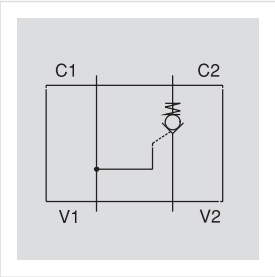
Açma basıncı Opening pressure 1 bar	Açma basıncı Opening pressure 8 bar	VALF / VALVE
047	127	VNR/C/SO/DE-14
128	129	← Pilot piston O.ring
049	133	VNR/C/SO/DE-38
134	135	← Pilot piston O.ring
050	136	VNR/C/SO/DE-12
137	138	← Pilot piston O.ring

SİPARİŞ KODU / ORDERING CODE

003		000

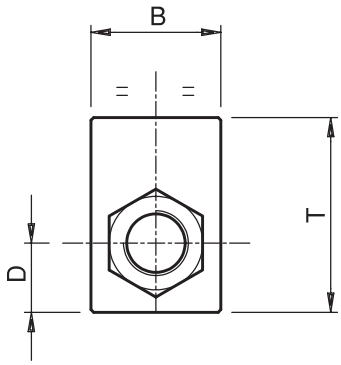
HAT TİPİ TEKLİ İKİZ KİLİTLEME VALFİ
SINGLE - DOUBLE ACTING PILOT CHECK VALVES

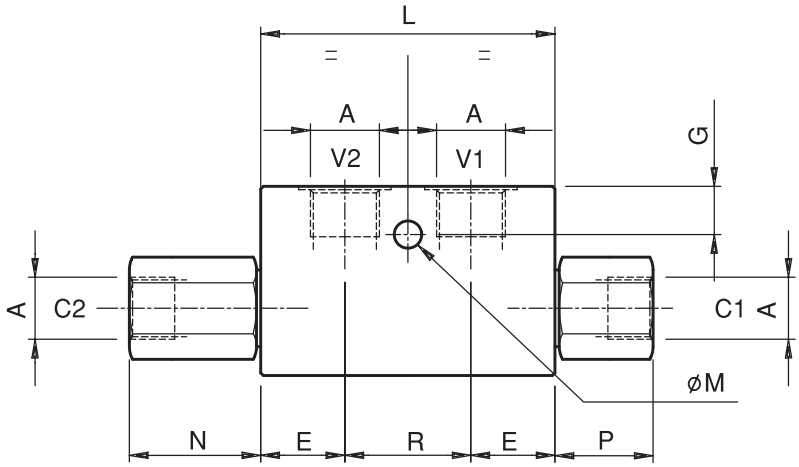
VRSE
VRDE



VRSE tek etkili pilot çekvalfler hidrolik silindirleri kilitler.

VRSE single acting pilot check valves lock a hydraulic cylinder.

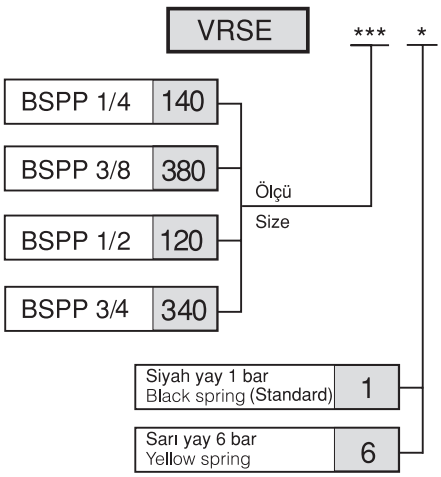




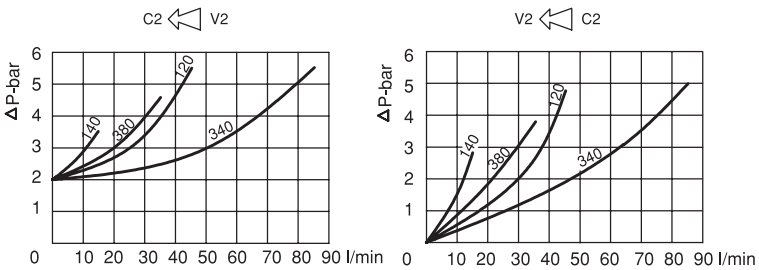
TEKNİK ÖZELLİKLER / FEATURES

Kod Code	A	Max. debi Max flow l/min	Max. basınç Max pressure bar	B	D	E	G	L	M	N	P	R	T	Pilot oranı Pilot ratio	Ağırlık Weight Kg
VRSE 140	BSPP 1/4	15	320	30	12	16	13	60	6,5	28	22	28	40	1:4	0,61
VRSE 380	BSPP 3/8	35		35	15	16	15	70	6,5	29	23	38	50	1:4	0,62
VRSE 120	BSPP 1/2	45	300	35	16	21	15	80	6,5	33	26	38	50	1:4	1,04
	BSPP 3/4	70	210	40	21	25	15	100	8,5	42	32	50	60	1:3,5	1,23

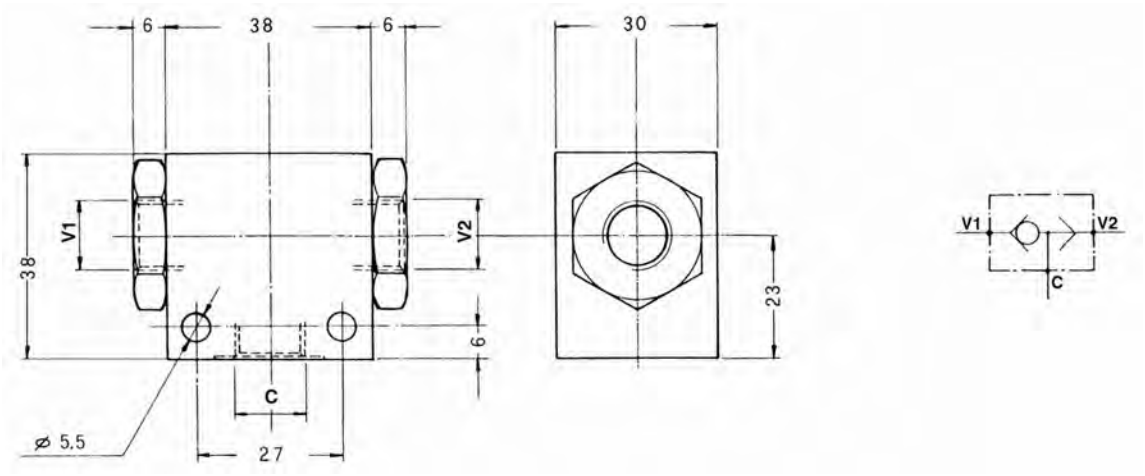
SİPARİŞ KODU / ORDERING CODE

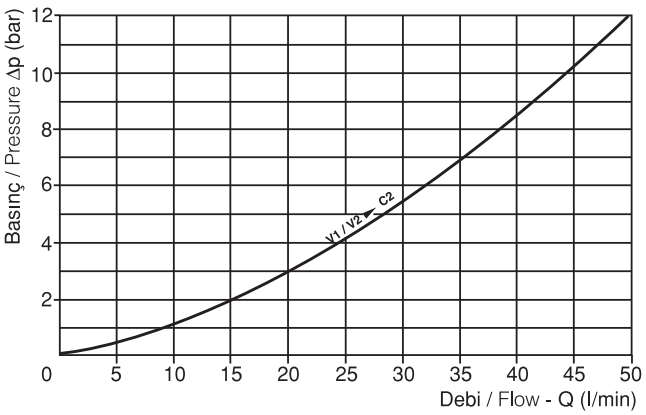


BASINÇ DİYAGRAMI / PRESSURE DROPS



VALFİN ADI / VALF DENOMINATION	HAT TİPİ VEYA VALFİ / IN LINE LOAD SHUTTLE VALVE
VALF KODU / VALF CODE	VFF / 14
TİP / TYPE	



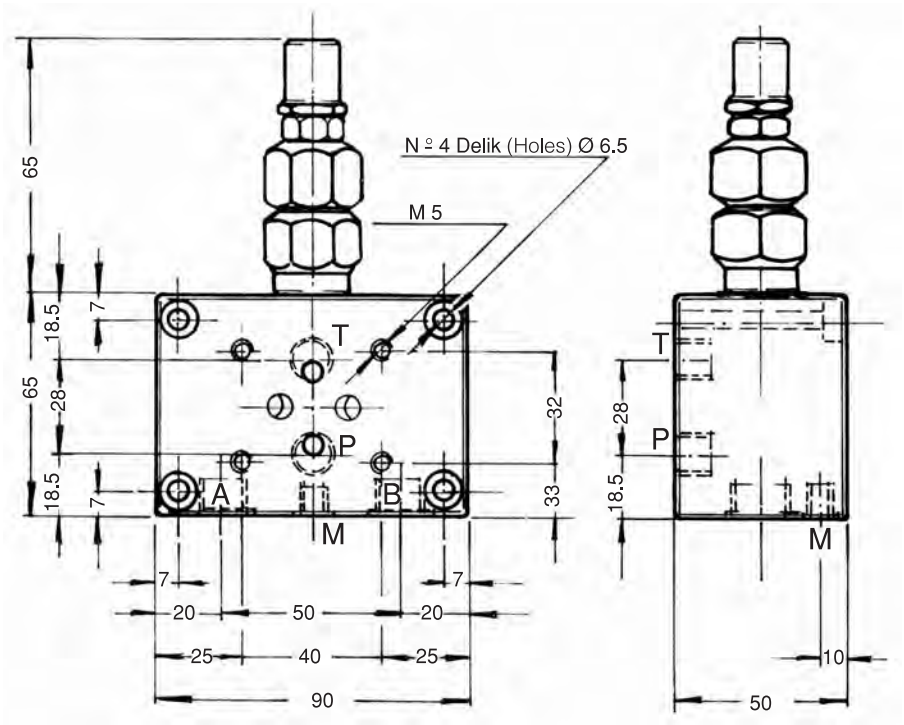


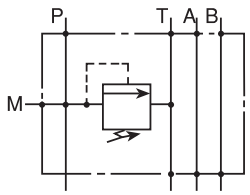
DELİK ÖLÇÜSÜ / PORT SIZE		
ADI / DENOMINATION	V1 - V2 - C	
	1/4"	

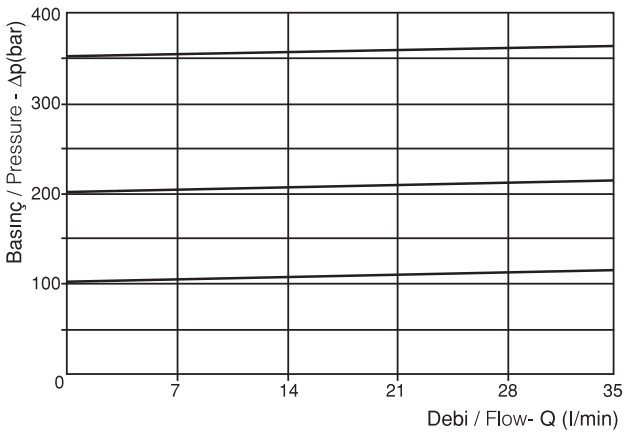
Max. çalışma basıncı Max. working pressure	350 bar
Max. debi Max. flow	Performans grafiği Performance graph

CETOP 3 TEKLİ VALF PLEYTLERİ / CETOP 3 SINGLE MANIFOLDS

VMP / 35 / CBE /E - 38 - 14







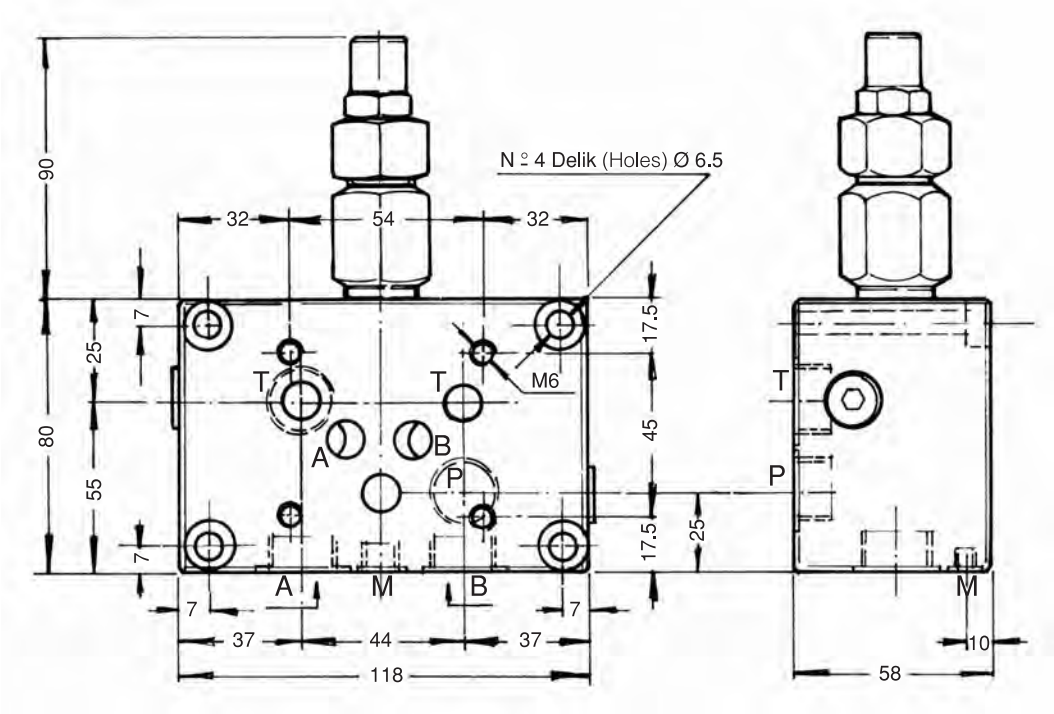
YAYLAR / SPRINGS		
Standart basınç ayarı Std. setting bar (made at 5 l/1')	Basınç ayar aralığı Adj. Pressure range bar	Renk Colour
80	5 ÷ 100	Mavi Blue
180	10 ÷ 200	Yeşil Green
320	25 ÷ 350	Sarı Yellow

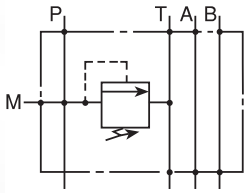
Max. Çalışma basıncı Max. working pressure	350 bar
Max. debi Max flow	35 l/min

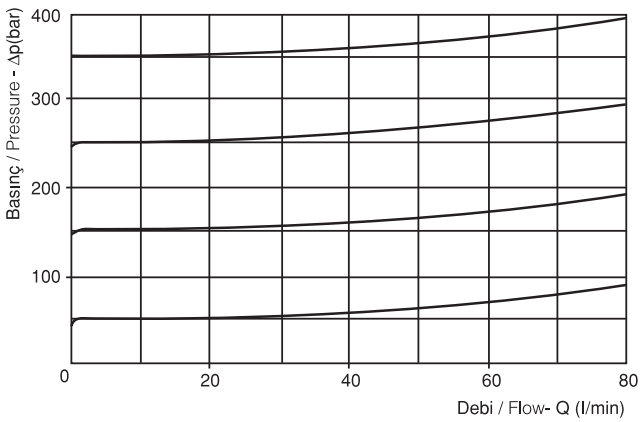
BAĞLANTI ÖLÇÜSÜ / PORT SIZE				
ADI DENOMATION	P	T	AB	M
	3/8"	3/8"	3/8"	1/4"

CETOP 5 TEKLİ VALF PLEYTLERİ / CETOP 5 SINGLE MANIFOLDS

VMP / 80 / CBE /E - 12 - 34 - 14







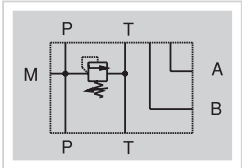
YAYLAR / SPRINGS		
Standart basınç ayarı Std. setting bar (made at 5 l/1')	Basınç ayar aralıkları Adj. Pressure range bar	Renk Colour
40	5 ÷ 50	Mavi Blue
120	10 ÷ 150	Yeşil Green
210	25 ÷ 250	Sarı Yellow
320	40 ÷ 350	Kırmızı Red

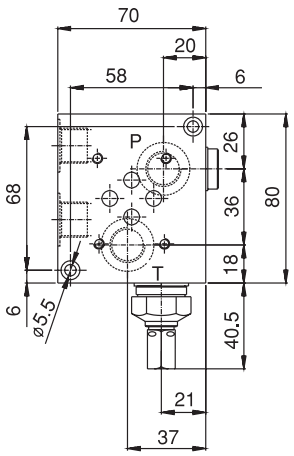
Max. Çalışma basıncı Max. working pressure	350 bar
Max. debi Max flow	80 l/min

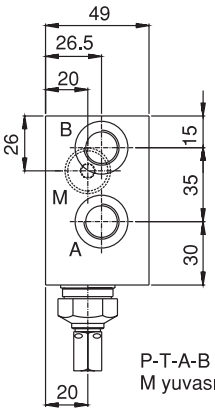
BAĞLANTI ÖLÇÜSÜ / PORT SIZE				
ADI DENOMATION	P	T	AB	M
	1/2"	3/4"	1/2"	1/4"

CETOP3 TEKLİ MANİFOLTLAR / CETOP3 SINGLE MANIFOLDS

BS3







P-T-A-B yuvaları / ports : BSPP 3/8
M yuvası/port : BSPP 1/4

ÖZELLİKLER / FEATURES

Max. akış Max flow l/min	Yay Spring	Max. basınç Max pressure bar	Ağırlık Weight Kg
40	1	100	0,80
	2	210	
	3	350	

SİPARİŞ KODU / ORDERING CODE

BS3 * *

- Vida / Screw: C
- Kol kumandalı / Handwheel: V
- Valfsiz / Without valve: W

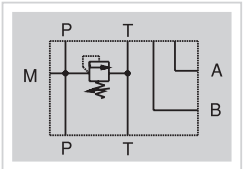
Ayarlama / Adjustment

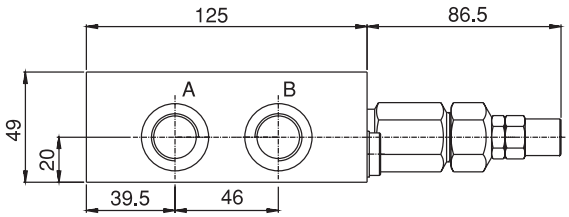
- W Valfsiz / Without valve
- 1 100 bar (max)
- 2 210 bar (max)
- 3 350 bar (max)

Ayar Sırası / Setting range

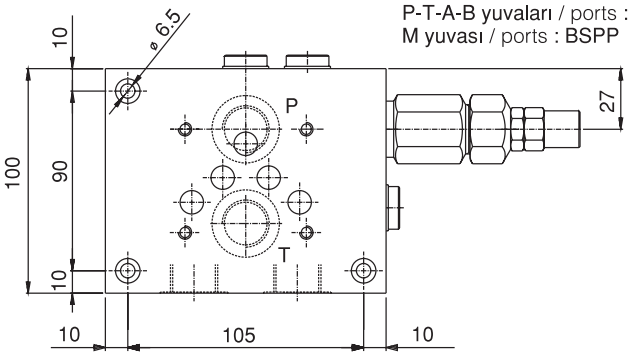
CETOP5 TEKLİ MANİFOLTLAR / CETOP5 SINGLE MANIFOLDS

BS5





P-T-A-B yuvaları / ports : BSPP 1/2
M yuvası / ports : BSPP



ÖZELLİKLER / FEATURES

Max. debi Max flow l/min	Yay Spring	Max. pressure Max pressure bar	Ağırlık Weight Kg
80	1	50	1.85
	2	100	
	3	150	
	4	210	
	5	350	

SİPARİŞ KODU / ORDERING CODE

BS5 * *

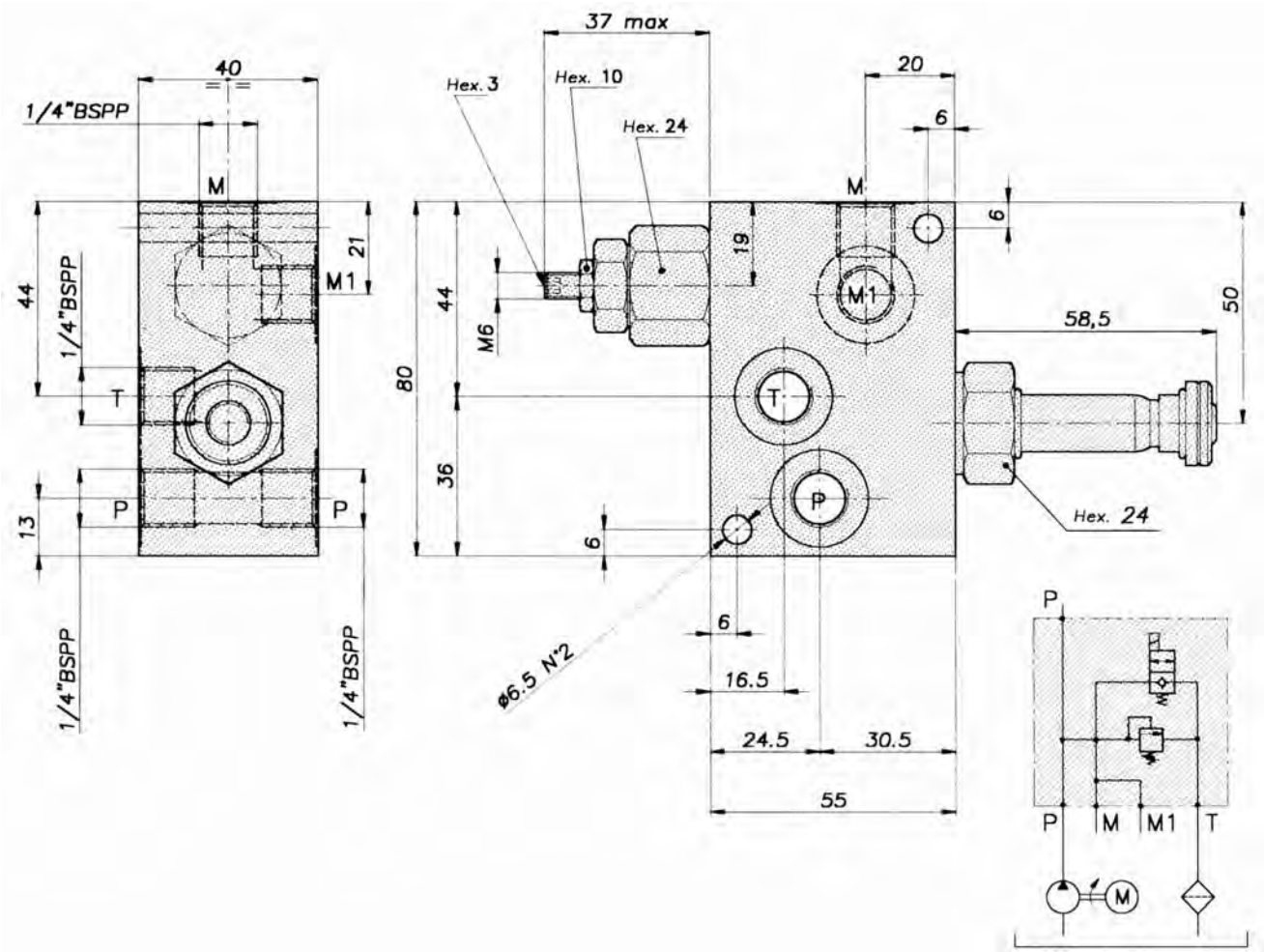
- Vida / Screw: C
- Kol kumandalı / Handwheel: V

Ayarlama / Adjustment

- 1 50 bar (max)
- 2 100 bar (max)
- 3 150 bar (max)
- 4 250 bar (max)
- 5 350 bar (max)

Ayar sırası / Setting range

HAT TİPİ ELEKTRİKLİ EMNİYET VALFİ
IN LINE RELIEF VALVE WITH SOLENOID OPERATED DRAIN



TANIMLAMA / DESCRIPTION

Küçük ölçülere ve fazla yer kaplamayan bir dizayna sahiptir. Direkt etkili emniyet valfiyle selenoid valften oluşur.
Integraded component with small dimensions and compact design incorporating a direct acting relief valve and a solenoid valve to redirect the flow to the tank.

ÇALIŞMA / OPERATION

Bu basınç kontrol valfi hidrolik devreyi korur. Selenoid yardımıyla girişteki akışı tanka yönlendirir. Max 20 / dk. debili pompa içeren devrelerde özellikleri sayesinde kullanılır.
This valve controls the pressure (P) protecting the pump and the hydraulic circuit (relief valve), allowing the incoming flow to be redirected to the tank (T) by a solenoid valve . Thanks to these features is used in all circuits with low rate pumps (max 20 l / min.)

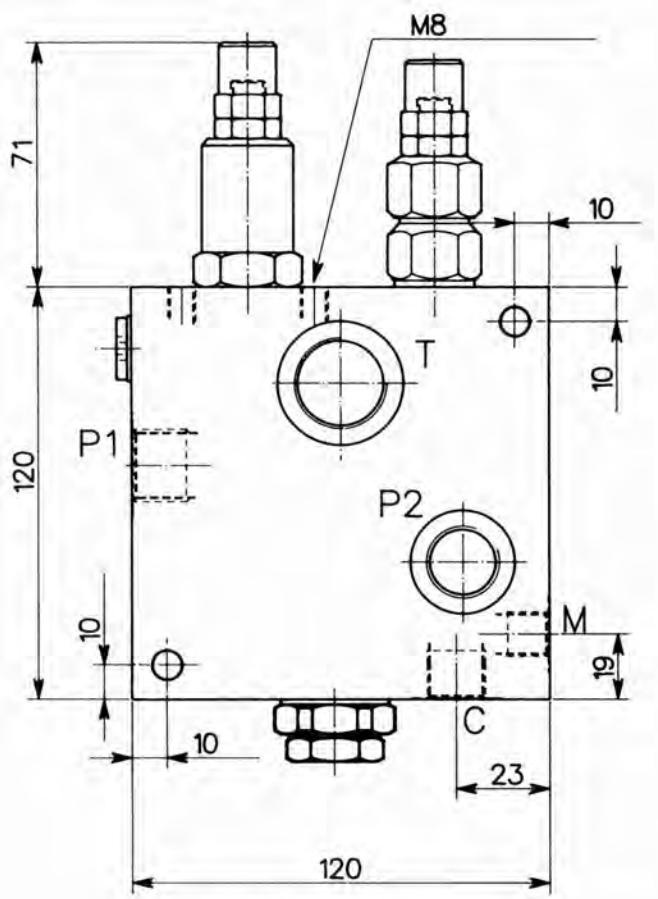
VALF KODU / VALVE CODE	Basınç değer aralığı 20 ÷ 350 bar Setting range 20 ÷ 350 bar	Voltage Voltage	Delik ölçüsü Port size P-T-M-M1 GAS (BSPP)	Nominal ölçü Rated size DN	Max. debi oran Max. flow-rate l / min - GPM
VMP-VMS-20-SN-14-14-F	669		1 / 4”	6	20 - 5

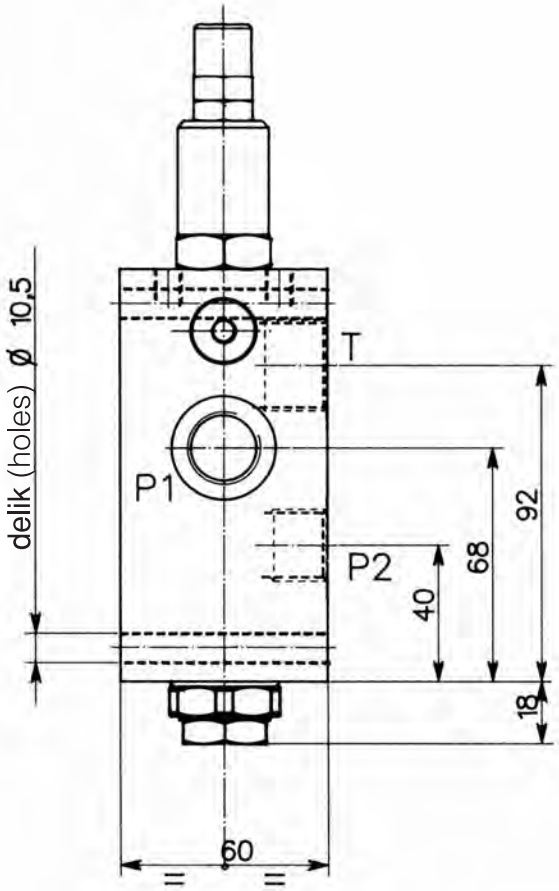
Debi 5 l / dk. iken S.td. basınç değeri Std. bar setting (made at 5 / 1”)	Basınç değer aralıkları Setting range Min-Max bar	Renk Colour
320	20 ÷ 350	Yeşil Green

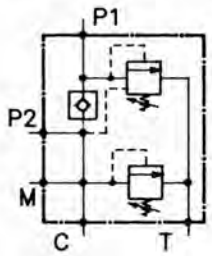
SİPARİŞ KODU / ORDERING CODE

002		000

VALFİN ADI / VALF DENOMINATION	TANDEM SIFIRLAMA VALFİ / TWO PUMP UNLOADING VALVE
VALF KODU / VALF CODE	VD / 34 / 12- 14
TİP / TYPE	HAT TİPİ / IN LINE MOUNTING







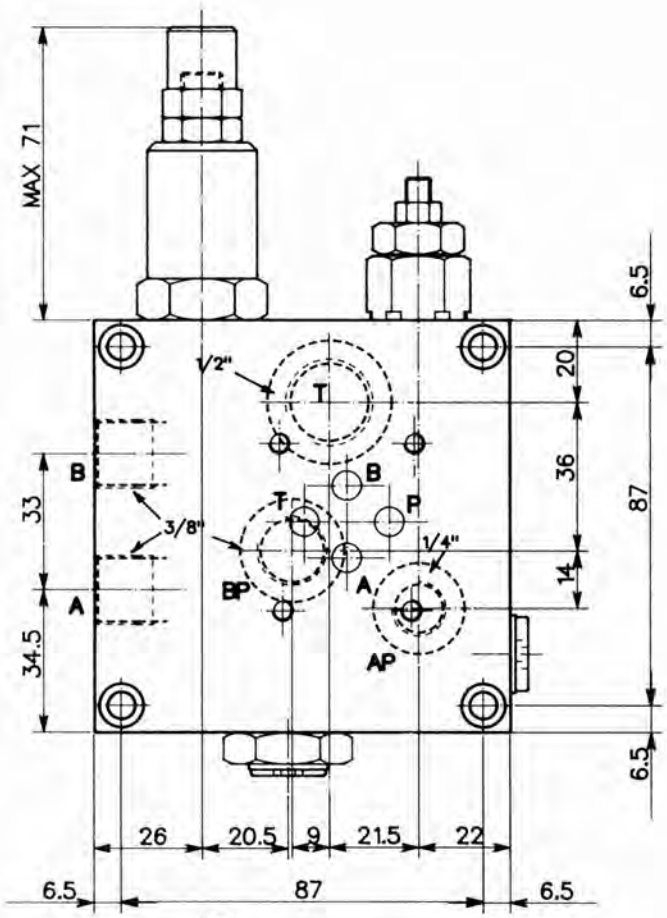
VALF VALVE	Debi 5 l/dk. iken std. basınç değeri Std. bar setting (made at 5 l/1')	Basınç ayar aralıkları Setting range min-max bar	Renk Colour
VMP / 35	350	25 ÷ 350	Sarı Yellow

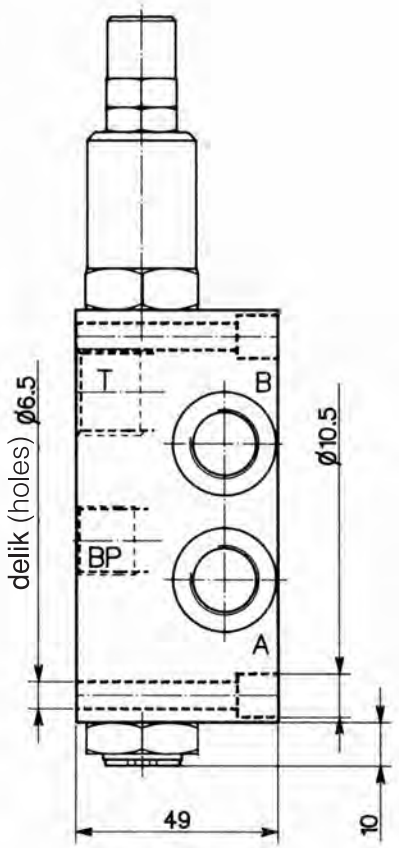
VALF KODU VALVE CODE	Basınç ayar aralıkları Setting range 25 ÷ 350 bar		Delik ölçüsü Port size T GAS (BSPP)	Delik ölçüsü Port size P1 - P2 GAS (BSPP)	Delik ölçüsü Port size M GAS (BSPP)	Nominal ölçü Rated size DN	Max. debi-oran Max. flow-rate l/min - GPM
VD / 34 - 12 - 14	046		3 / 4”	1 / 2”	1 / 4”	10	90 - 22

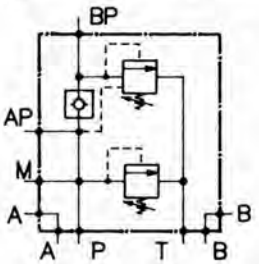
SİPARİŞ KODU / ORDERING CODE

002		000

VALFİN ADI / VALF DENOMINATION	TANDEM SIFIRLAMA VALFİ / TWO PUMP UNLOADING VALVE
VALF KODU / VALF CODE	VD / CTP - 03
TİP / TYPE	CETOP SIZE 6 (3)







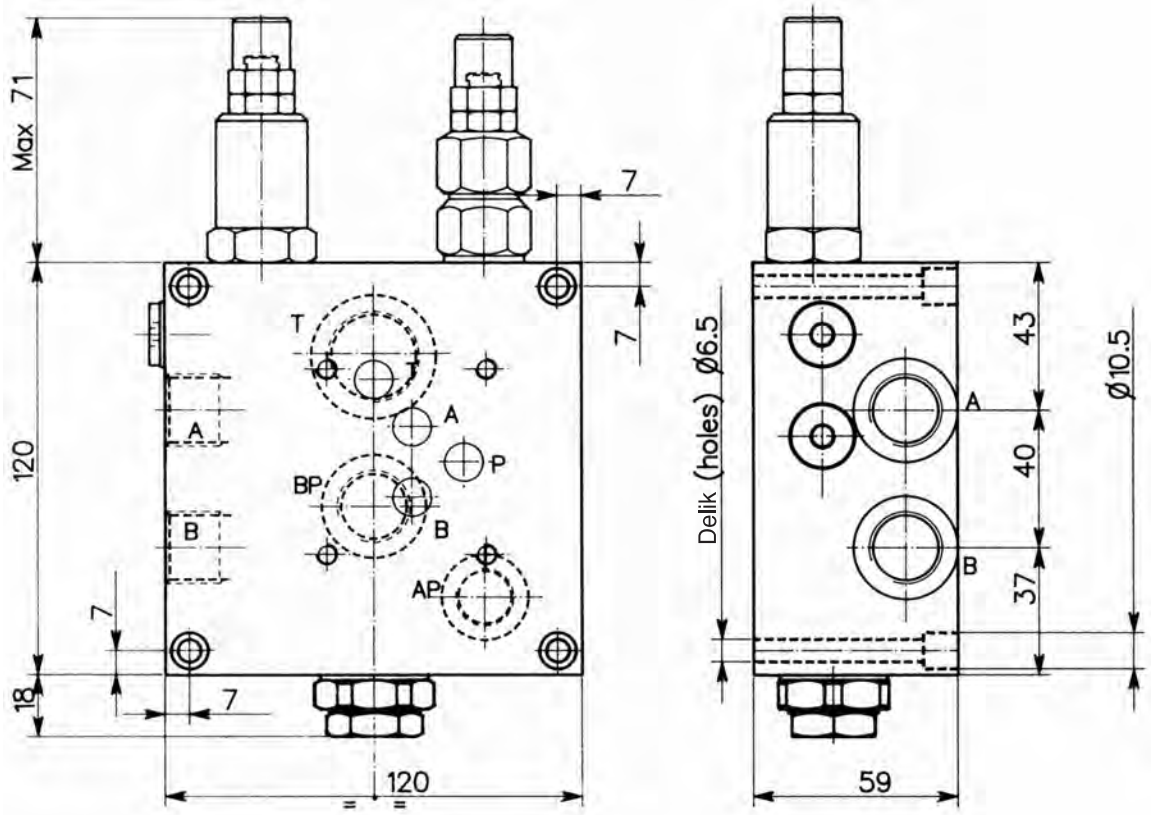
VALF VALVE	Debi 5 l/dk. iken std. basınç değeri Std. bar setting (made at 5 l/1')	Basınç ayar aralıkları Setting range min-max bar
VMP / 20	70	5 ÷ 100
VMP / 20	140	10 ÷ 210
VMP / 20	280	20 ÷ 350

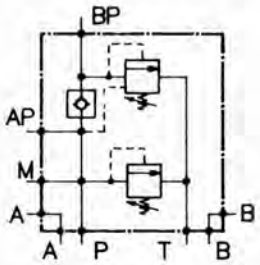
VALF KODU VALVE CODE	Basınç ayar aralıkları Setting range 5 ÷ 100 bar	Basınç ayar aralıkları Setting range 10 ÷ 210 bar	Basınç ayar aralıkları Setting range 20 ÷ 350 bar	Delik ölçüsü Port size T GAS (BSPP)	Delik ölçüsü Port size A - B BP GAS (BSPP)	Delik ölçüsü Port size AP - M GAS (BSPP)	Nominal ölçü Rated size DN	Max. debi-oran Max. flow-rate l/min - GPM
VD / CTP - 03	675	676	677	1 / 2"	3 / 8"	1 / 4"	10	90

SİPARİŞ KODU / ORDERING CODE

002		000

VALFİN ADI / VALF DENOMINATION	TANDEM SIFIRLAMA VALFİ / TWO PUMP UNLOADING VALVE
VALF KODU / VALF CODE	VD / CTP - 05
TİP / TYPE	CETOP SIZE 10 (05)





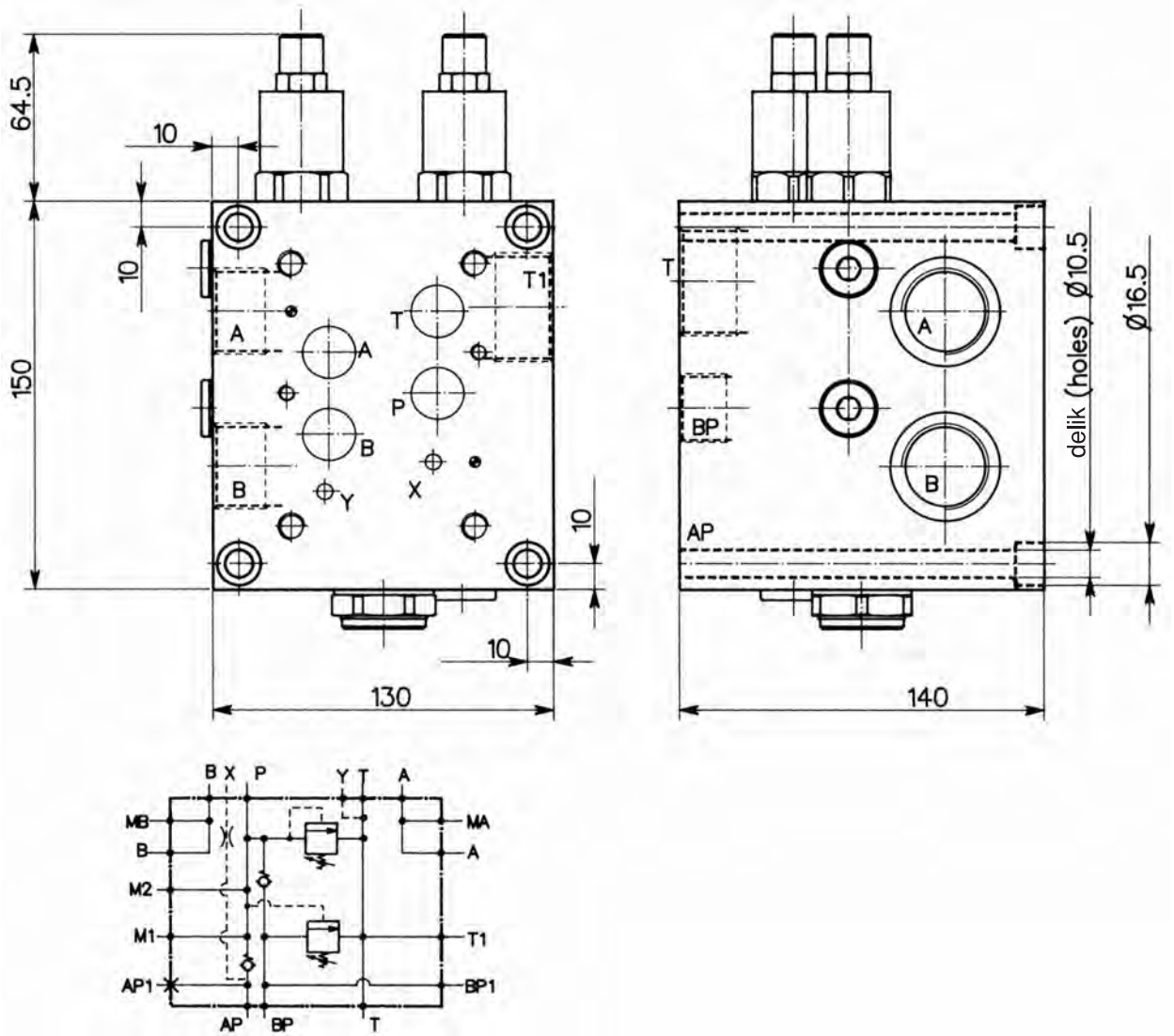
VALF VALVE	Debi 5 l/dk. iken std. basınç değeri Std. bar setting (made at 5 l/1')	Basınç ayar aralıkları Setting range min-max bar
VMP / 35	70	5 ÷ 100
VMP / 35	140	10 ÷ 210
VMP / 35	280	20 ÷ 350

VALF KODU VALVE CODE	Basınç ayar aralıkları Setting range 5 ÷ 100 bar	Basınç ayar aralıkları Setting range 10 ÷ 210 bar	Basınç ayar aralıkları Setting range 20 ÷ 350 bar	Delik ölçüsü Port size T GAS (BSPP)	Delik ölçüsü Port size A - B BP GAS (BSPP)	Delik ölçüsü Port size AP GAS (BSPP)	Nominal ölçü Rated size DN	Max. debi-oran Max. flow-rate l/min - GPM
VD / CTP - 05	678	679	680	3 / 4”	1 / 2”	3 / 8”	10	90 - 22

SİPARİŞ KODU / ORDERING CODE

002		000

VALFİN ADI / VALF DENOMINATION	TANDEM SIFIRLAMA VALFİ / TWO PUMP UNLOADING VALVE
VALF KODU / VALF CODE	VDP / L16 / FC7-34 / L -F
TİP / TYPE	CETOP SIZE 16 (07)

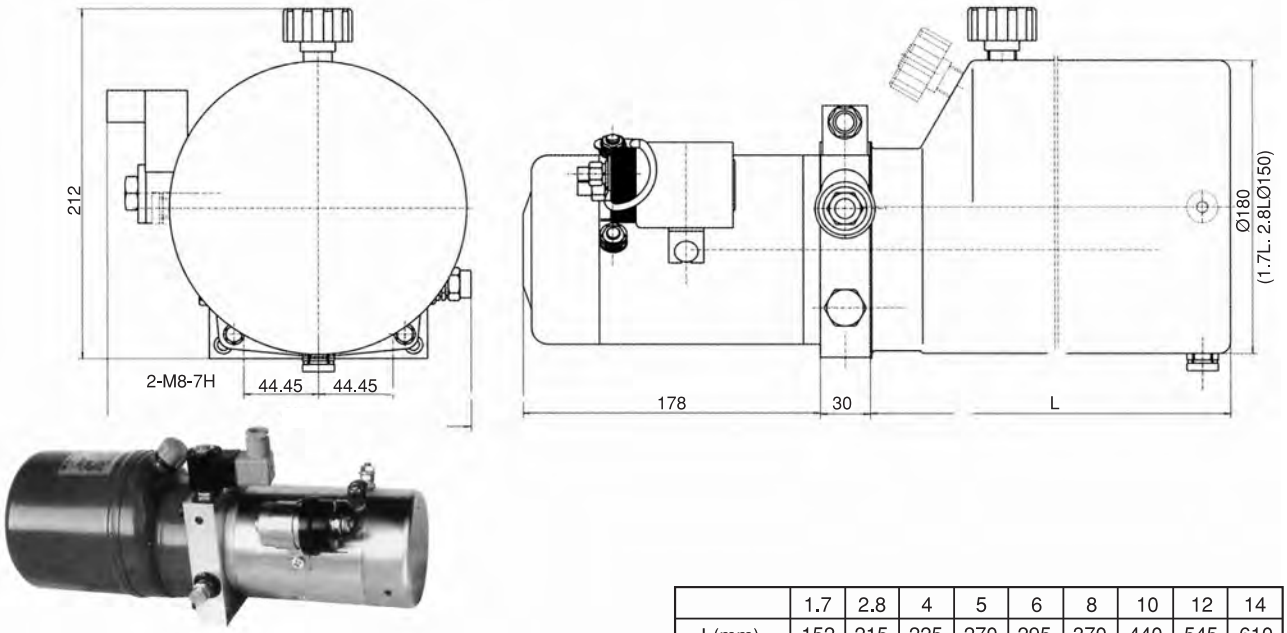


VALF KODU VALVE CODE	Basınç ayar aralıkları Setting range VPR - 12	Delik ölçüsü Port size T-T1 GAS (BSPP)	Delik ölçüsü Port size A - B GAS (BSPP)	Delik ölçüsü Port size BP-BP1 GAS (BSPP)	Delik ölçüsü Port size AP-AP1 GAS (BSPP)	Delik ölçüsü Port size M1-M2 MA-MB GAS (BSPP)	Max. debi-oran Max. flow-rate l/min - GPM
VDP/L16/FC7-34/L-F	404	1 1/4”	1”	3/4”	1/2”	1/4”	200 - 50

SİPARİŞ KODU / ORDERING CODE

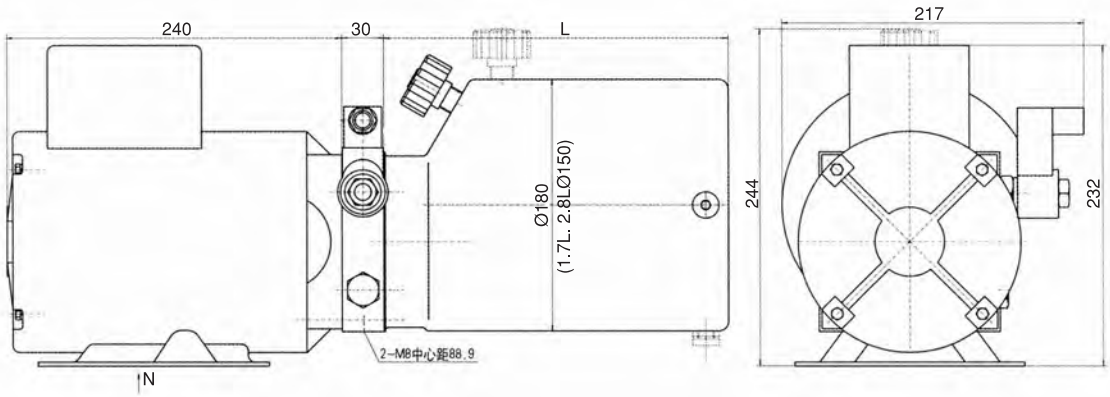
002		000

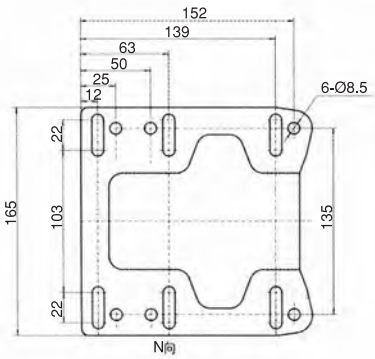
DC GÜÇ ÜNİTELERİ / DC POWER UNIT



	1.7	2.8	4	5	6	8	10	12	14
L(mm)	152	215	225	270	295	370	440	545	610

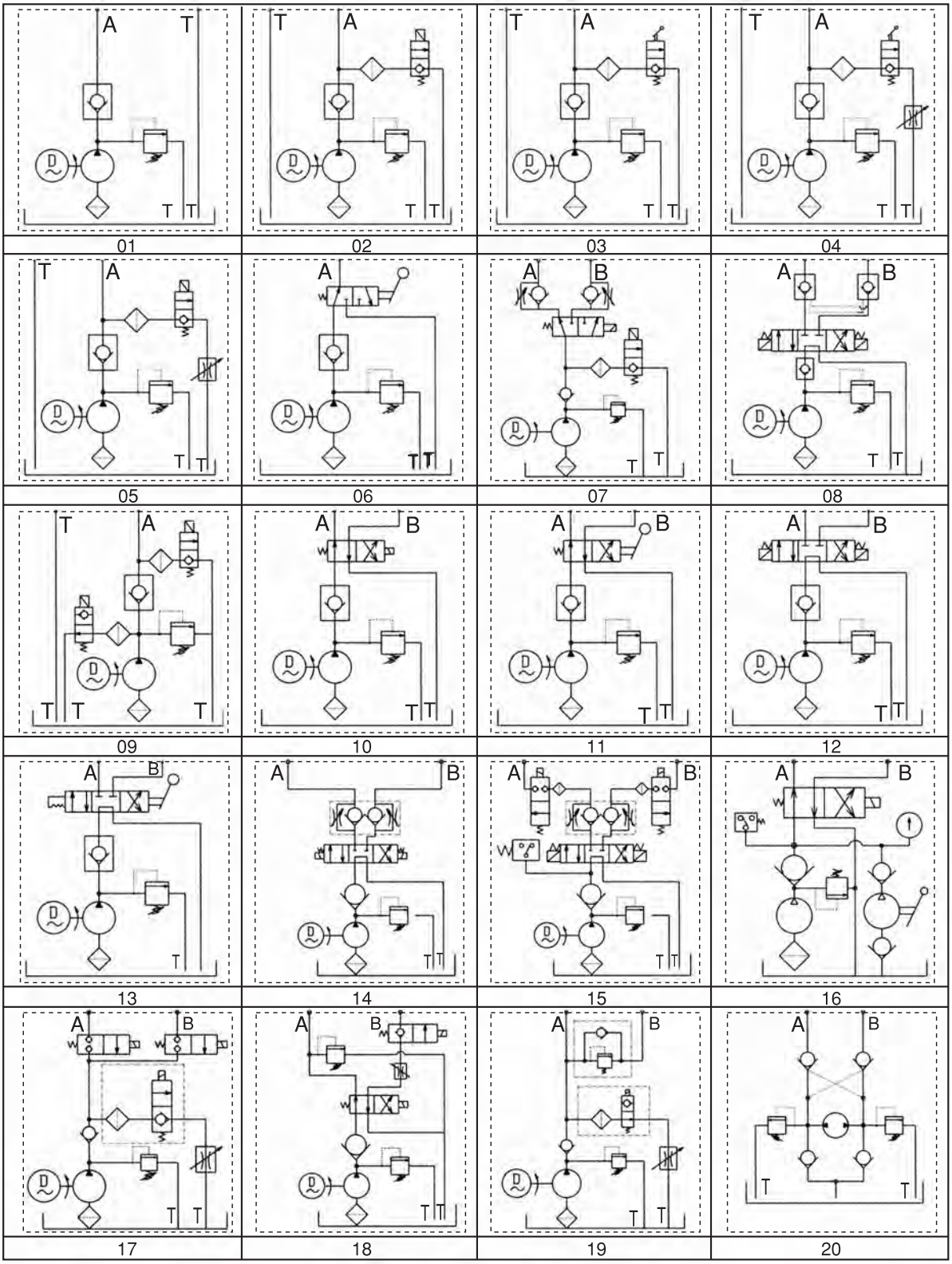
AC GÜÇ ÜNİTELERİ / AC POWER UNIT





	1.7	2.8	4	5	6	8	10	12	14
L(mm)	152	215	225	270	295	370	440	545	610

HİDROLİK GÜÇ ÜNİTELERİ ŞEMATİK ÇİZİMİ
POWER UNIT HYDRAULIC SCHEMATIC DIAGRAM



Not: Bunun dışında işe özel hidrolik şema hazırlanır.

ÖRNEK UYGULAMA ALANLARI

Uygulama 1 / Application 1

Elektrikli basketbol potalarında, geri dönüşü hız kontrollü tek etkili iki set pistonun kontrolünde kullanır.

Application of Electric-basketball stands, controllling two sets of one - way cylinders, with downspeed control characteistic.

Uygulama 2 / Application 2

Solenoid valf kontrollü kaldırıcılarda kullanılır.

Application of plat-lifting and car-lifting with the solenoid valve controlling.

Uygulama 3 / Application 3

Kalkan köprü uygulaması, geri dönüşü ayarlı iki set tek etkili sıralı kontrolünde kullanır.

Application of Dock-bridge, controlling two sets of one way cylinders for sequential operation, with down-speed control characteristic.

Uygulama 4 / Application 4

Beton karma makinalarında, güvenlik için el pompası ile kontrol edilebilir.

Application of Concrete mixer, with manual pump for emergency.

Uygulama 5 / Application 5

Elektrikli kaldırıcıların uygulamalarında, el kumandası ile kontrol edilir.

Application of electric-stacker, with Manual valve controlling.

ÖRNEK UYGULAMA ALANLARI

Uygulama 6 / Application 6

İkili araba kaldırıcılarında kullanılır. Geri dönüşü hız ayarlı iki set tek etkili silindir kullanılır.

Application of scissor car-lifting controlling two sets of one-way cylinders, with down-speed control characteristie for twice-lifting.

Uygulama 7 / Application 7

Geri dönüşü hız kontrollü el kumandalı valfi araba kaldırıcıları.

Application of plat-lifting, manual valve controlling with down speed control charracteristic.

Uygulama 8 / Application 8

Çöp arabaları uygulaması, emniyetli bir set tek etkili silindir ileri geri hareketinde.

Application of Model A Garbage-lorry, controlling one set of one-way cylinder with the characteristic of relieving in meso-position and shuttling movement.

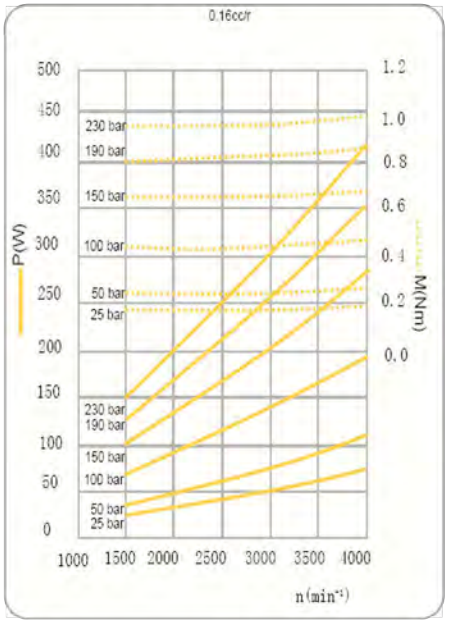
Uygulama 9 / Application 9

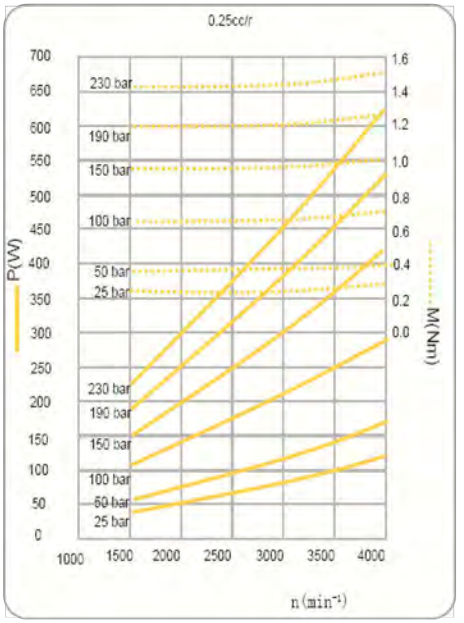
Boru kaynatma makinalarının uygulamasında tek yönlü bir set emniyetli silindirin kontrolünde.

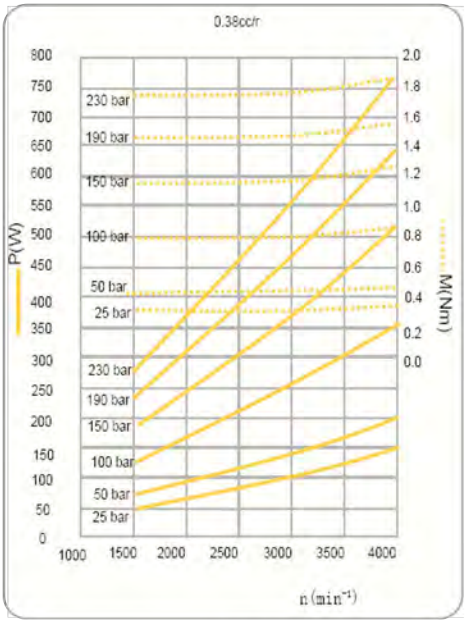
Application of Plastic-pipe welder, controlling one set of one-way cylinder with the characteristic of relieving in meso-position and shuttling movement.

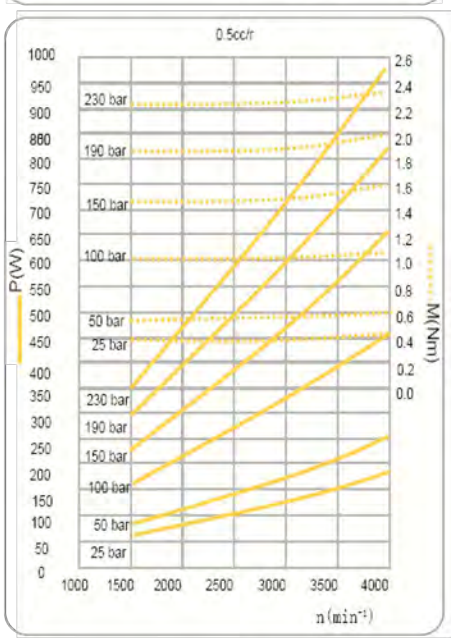
Diğer Uygulamalar / More Application

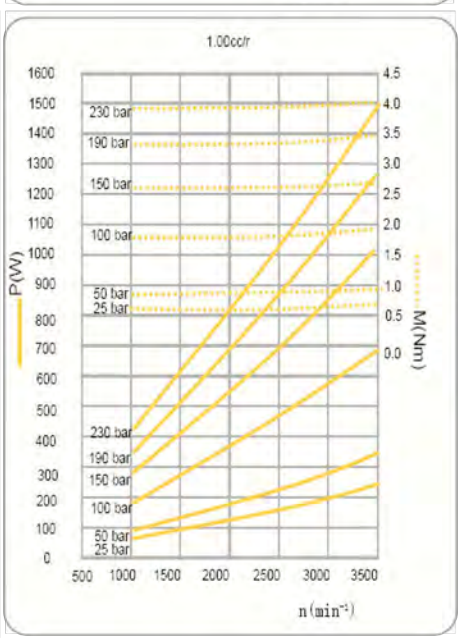
Dişli Pompa Karakteristikleri / Gear Pump Use Guide

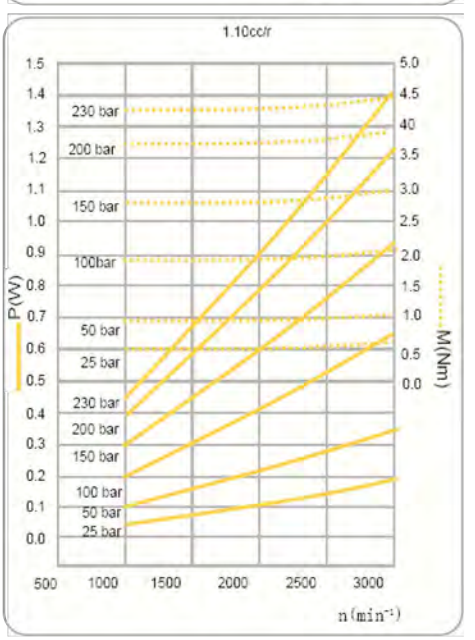


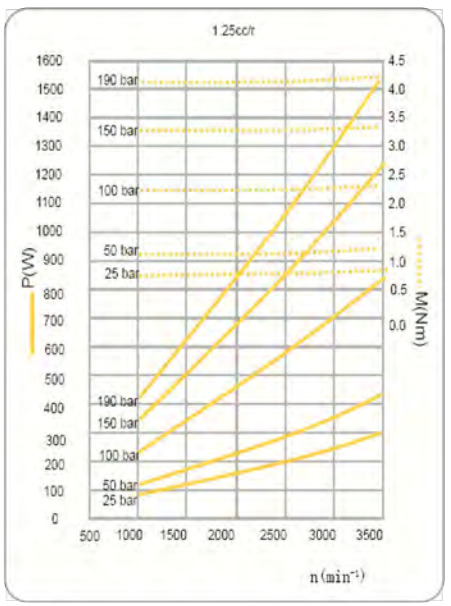


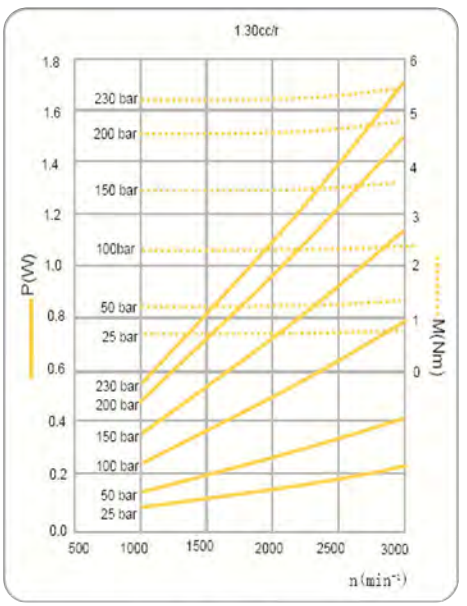


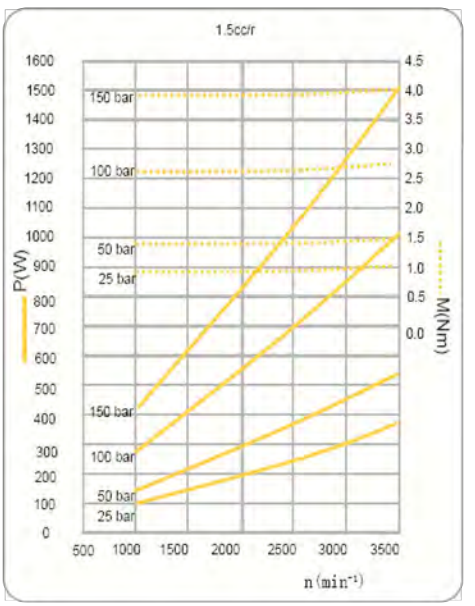




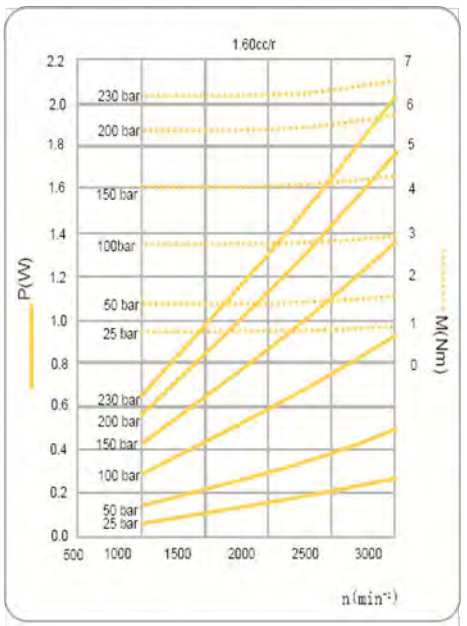


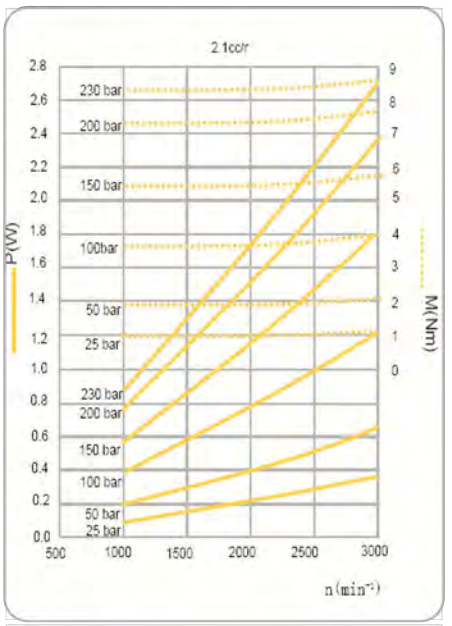


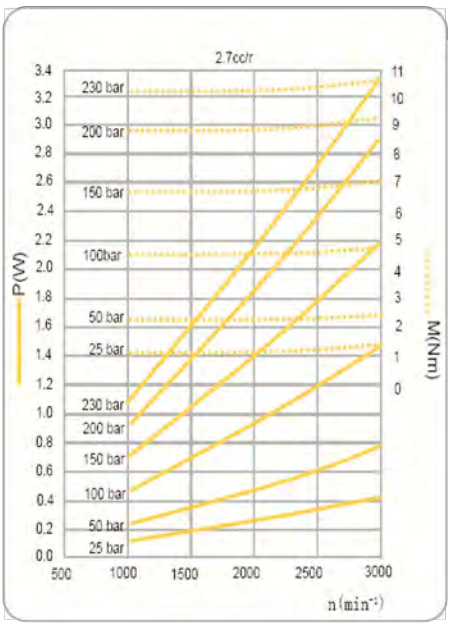


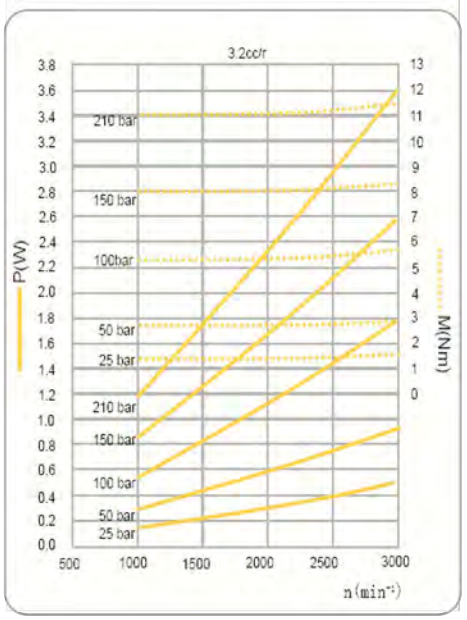


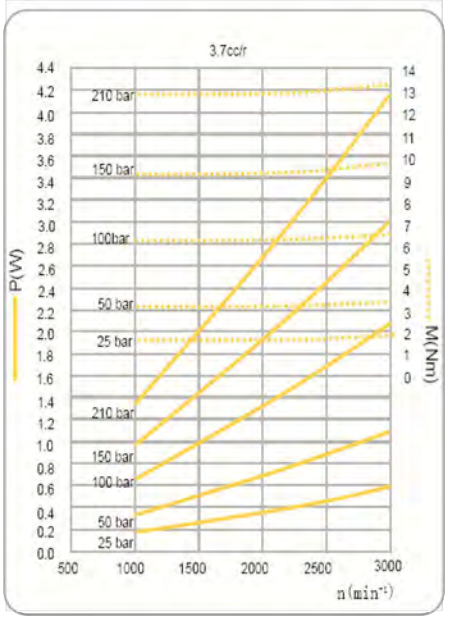
Dişli Pompa Karakteristikleri / Gear Pump Use Guide

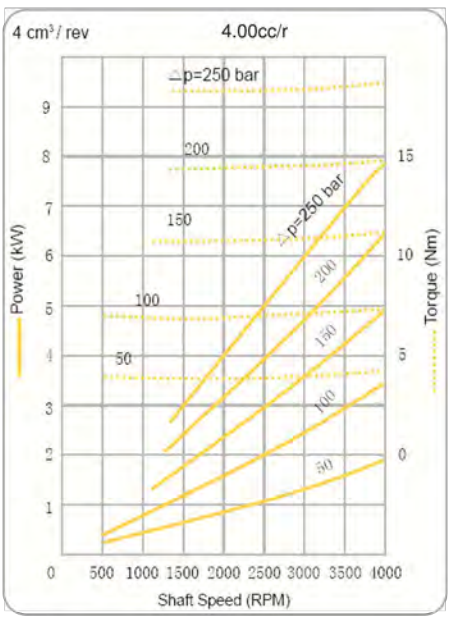


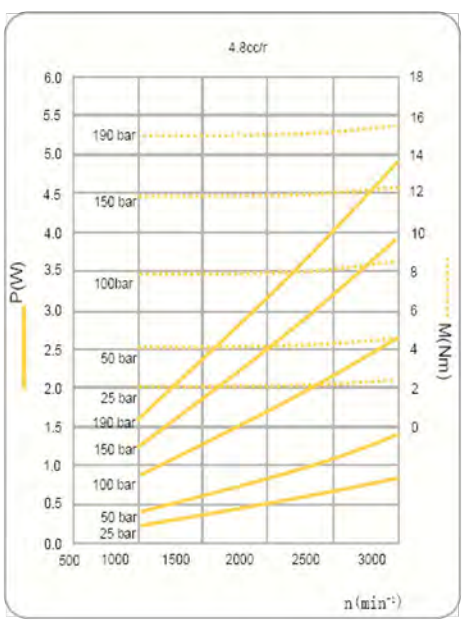


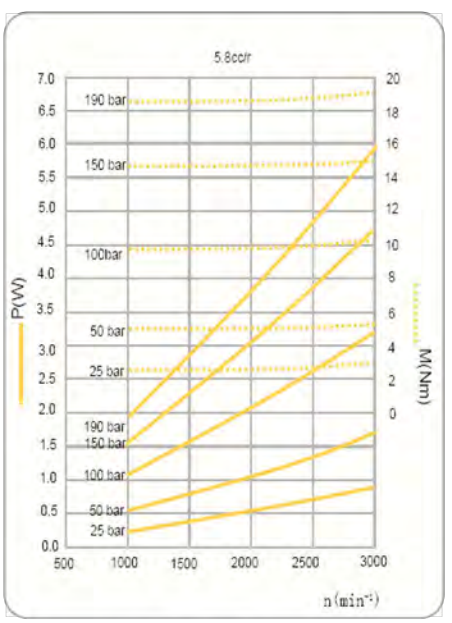


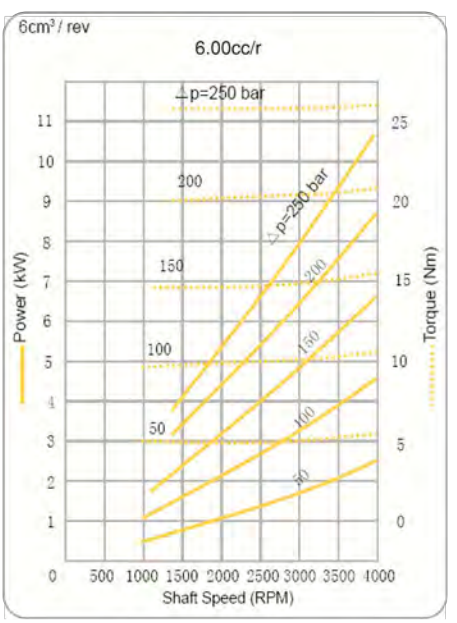




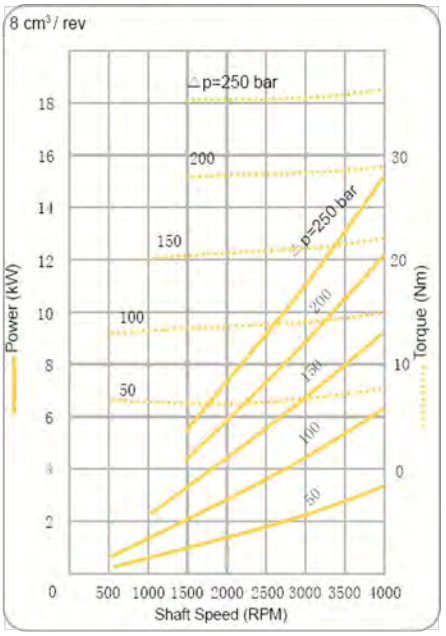


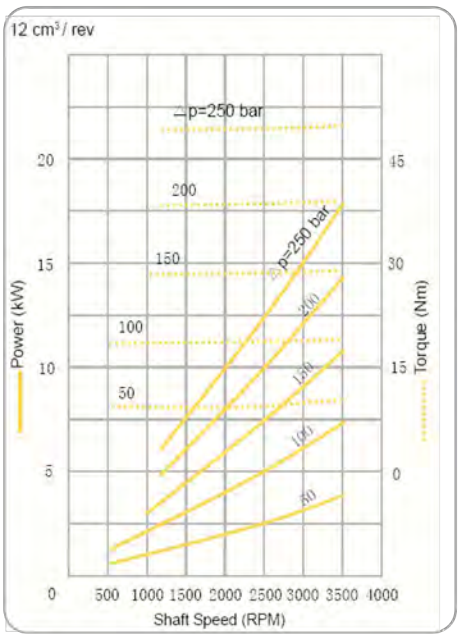


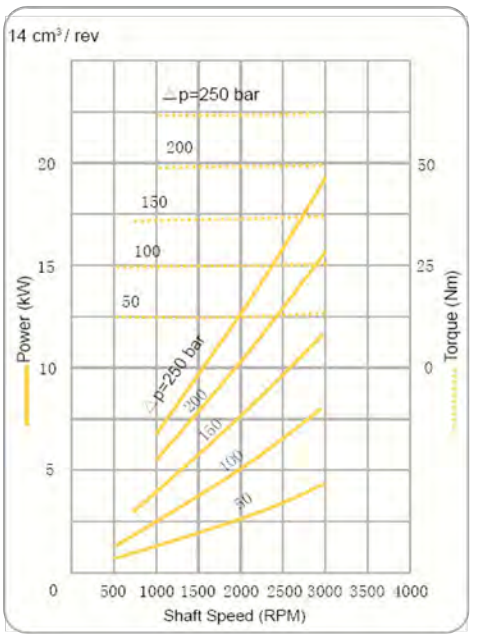


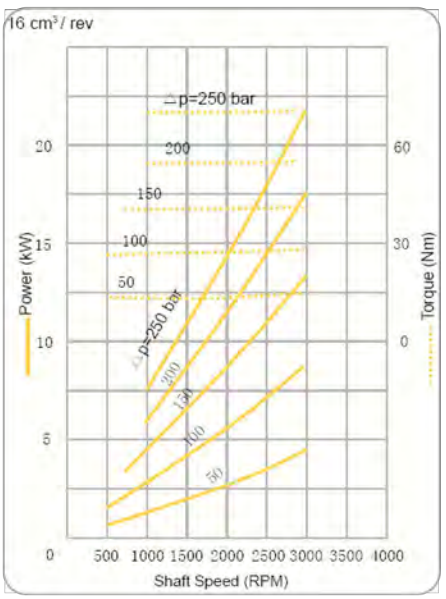


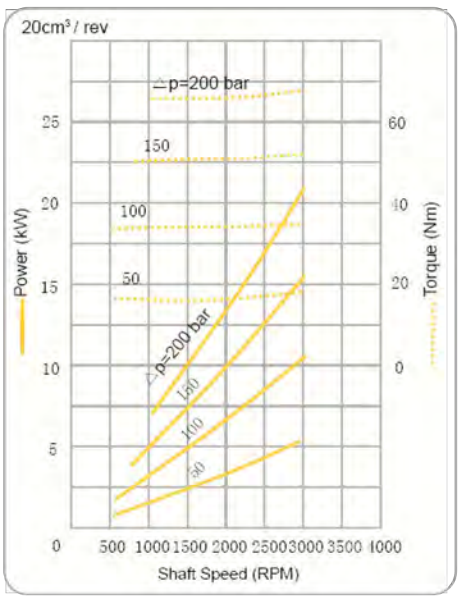
Dişli Pompa Karakteristikleri / Gear Pump Use Guide

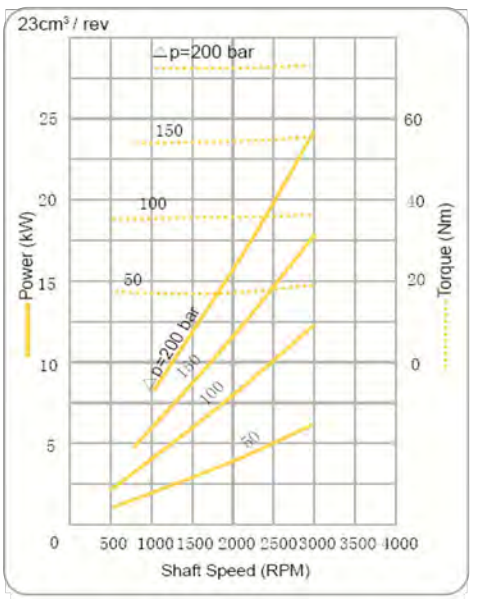


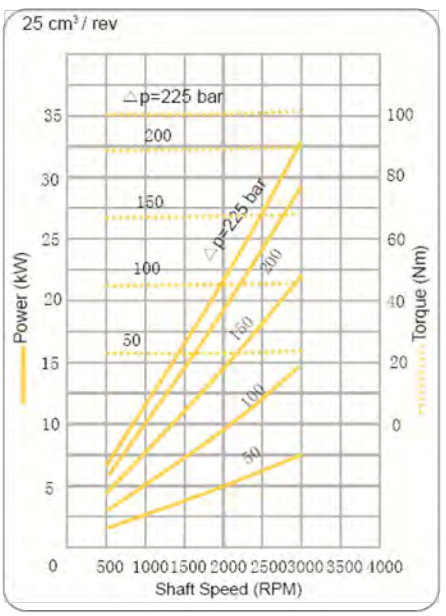


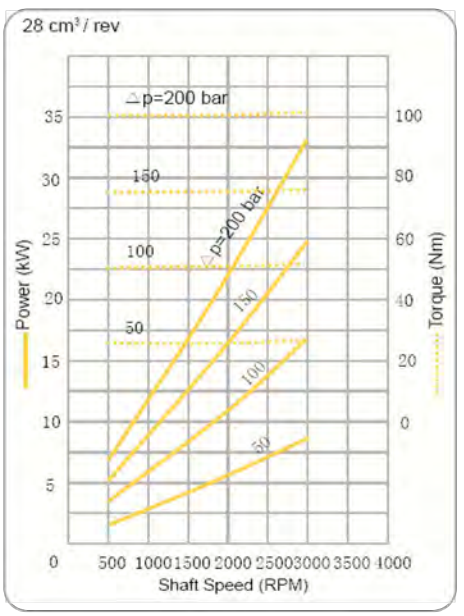


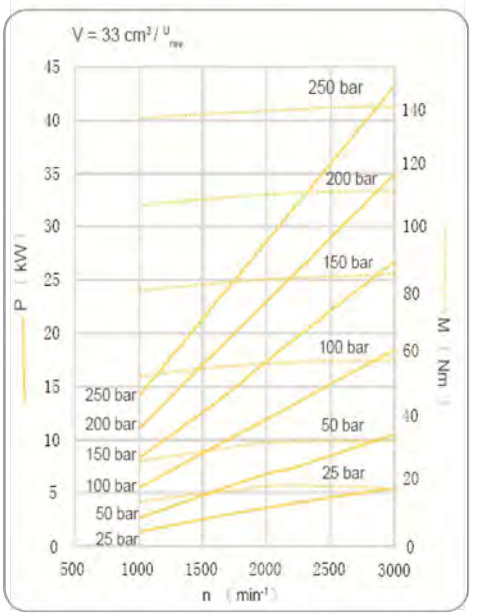




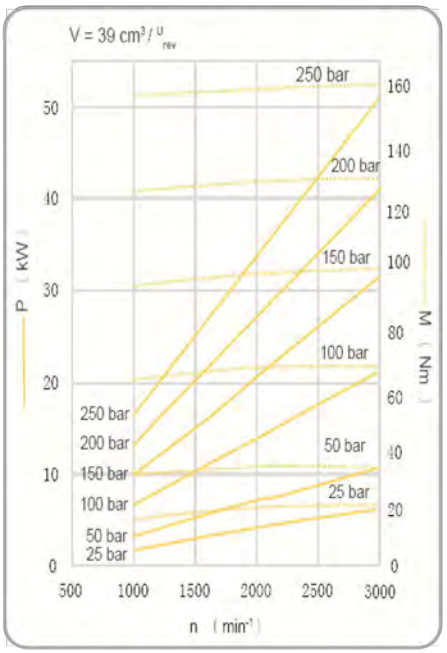


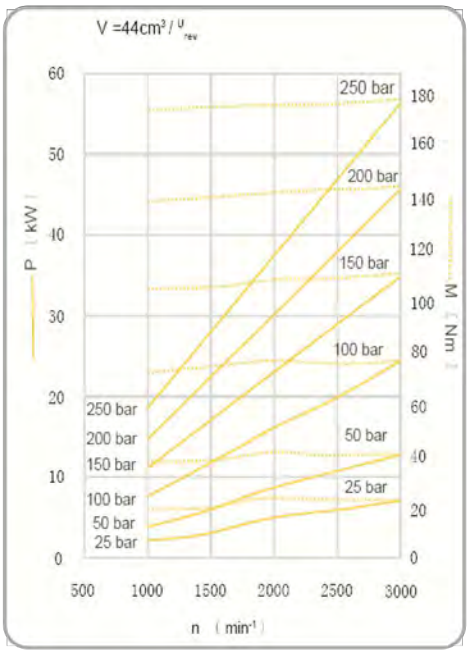


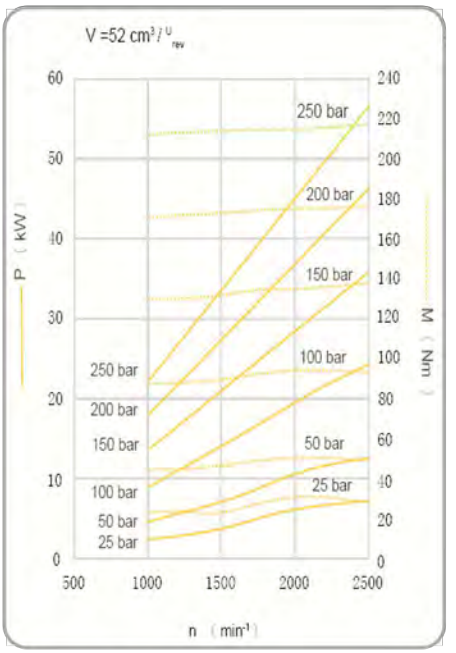


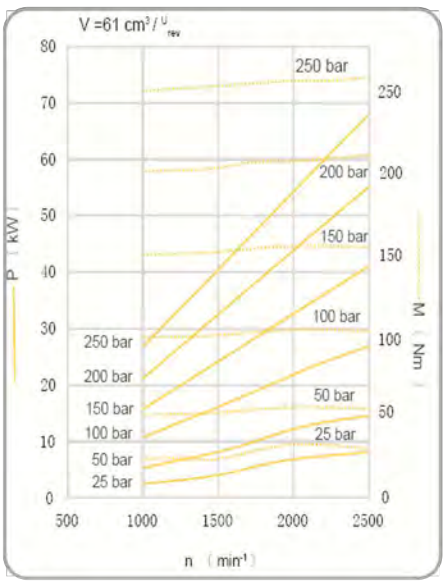


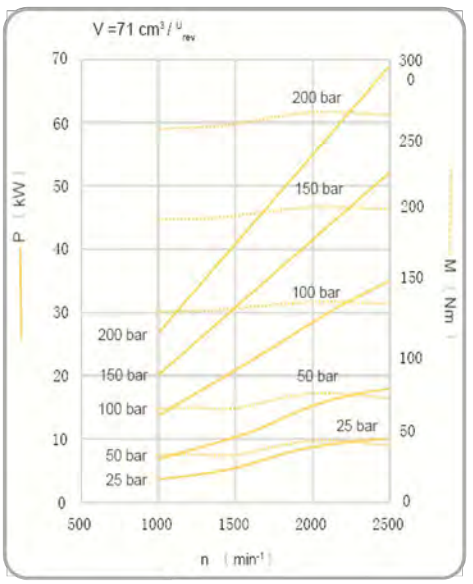
Dişli Pompa Karakteristikleri / Gear Pump Use Guide

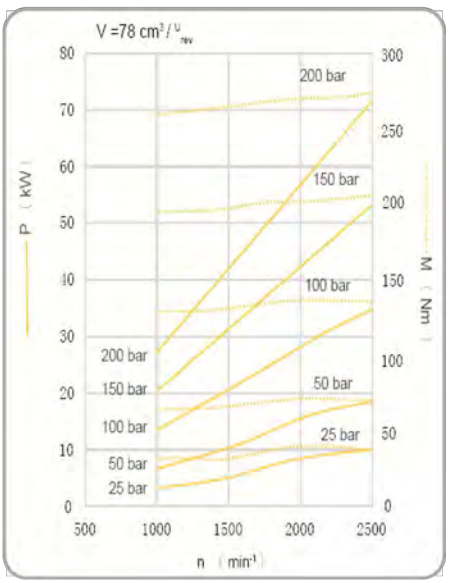


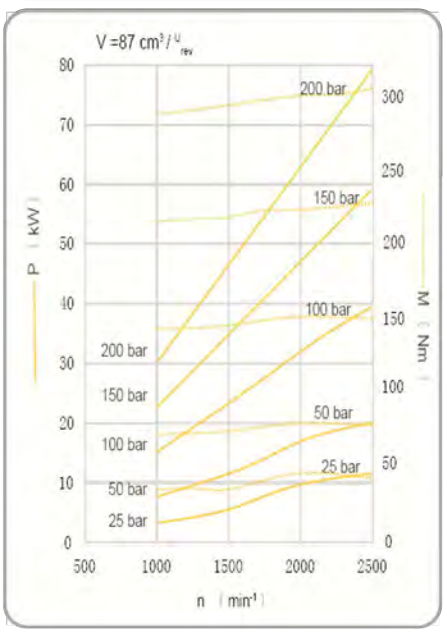












0PF**L**B01***

0 Grup / Group 0

P: Dişli pompa / Gear pump

Pompa deplasmanı / Pump displacement

Emiş / **basınç pozisyonu** / Inlet / outlet combination

0	P	F	**	L07	B01	*	BF

F: Basınç seviyesi / Pressure level: 200 bar

G: Basınç seviyesi / Pressure level: 250 bar

Şaft ve flanş pozisyonu / Shaft extension and flange combination

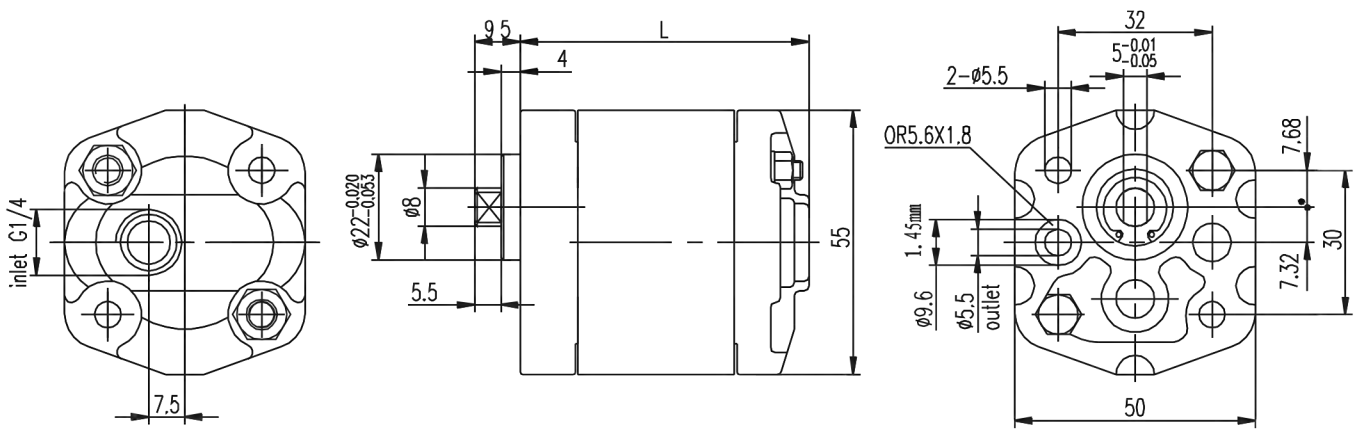
Dönüş yönü / Rotation direction:
L: **sol** / CCW
R: **sağ** / CW

Emiş / **basma hattı pozisyonu** / Inlet / out position combination:
BF- **emiş arka kapak ve basınç ön kapak** / back inlet and front out.

0PF**L**B01***

MODEL	DİSP. DISPLACEMENT (ml/r)	BASINÇ/PRESSUR (bar)		DEVİR / SPEED (r/min)			L (mm)	EMİŞ / INLET
		RATED	PİK / PEAK	RATED	MAX	Min		
0PF0.16L07B01***	0.16	200	250	2000	6000	800	61	G1/4
0PF0.25L07B01***	0.25	200	250	2000	6000	800	62	
0PF0..38L07B01***	0.38	200	250	2000	6000	800	62.5	
0PF0.50L07B01***	0.50	200	250	2000	6000	800	63	
0PF0.75L07B01***	0.75	200	250	2000	6000	800	66	
0PF1.00L07B01***	1.00	200	250	2000	6000	800	68	
0PF1.25L07B01***	1.25	200	250	2000	5000	800	71	
0PF1.50L07B01***	1.50	200	250	2000	4500	800	73	
0PF1.75L07B01***	1.75	200	250	2000	4000	800	75	
0PF2.00L07B01***	2.00	160	200	2000	3500	800	77	

0PFL07B01LBF**



1PF***L**B02***

1 Grup / Group 1

P: Dişli pompa / Gear pump

F: Basınç seviyesi / Pressure level: 200 bar

G: Basınç seviyesi / Pressure level: 250 bar

Pompa deplasmanı / Pump displacement

Emiş / **basınç pozisyonu** / Inlet / outlet combination

1	P	F	***	L**	B02	L	BF

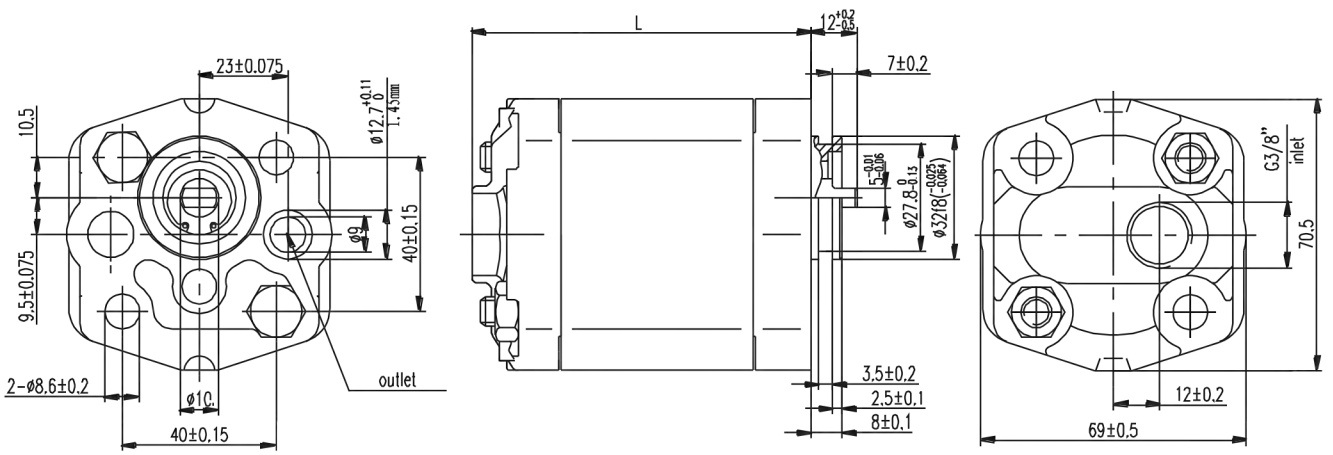
Şaft ve flanş pozisyonu / Shaft extension and flange combination

Dönüş yönü / Rotation direction:
L: **sol** / CCW
R: **sağ** / CW

Emiş / **basma hattı pozisyonu** / Inlet / out position combination:
BF- **emiş arka kapak ve basınç ön kapak** / back inlet and front out.

1PF***L**B02***

MODEL	DİSP. DISPLACEMENT (ml/r)	BASINÇ/PRESSUR (bar)		DEVİR / SPEED (r/min)			L (mm)	EMİŞ / INLET
		RATED	PİK / PEAK	RATED	MAX	Min		
1PF1.1L01B02* **	1.1	200	250	2000	6000	600	74	G3/8
1PF1.3L01B02* **	1.3	200	250	2000	6000	600	75	
1PF1.6L01B02* **	1.6	200	250	2000	6000	600	76	
1PF1.8L01B02* **	1.8	200	250	2000	6000	600	77	
1PF2.1L01B02* **	2.1	200	250	2000	6000	600	78	
1PF2.7L01B02* **	2.7	200	250	2000	6000	600	80	
1PF3.2L01B02* **	3.2	200	250	2000	5000	600	82	
1PF3.7L01B02* **	3.7	200	250	2000	4500	600	84	
1PF4.2L01B02* **	4.2	200	250	2000	4000	600	86	
1PF4.8L01B02* **	4.8	160	200	2000	3500	600	88	
1PF5.8L01B02* **	5.8	160	200	2000	2900	600	92	
1PF8.0L01B02* **	8.0	160	200	2000	2100	600	100	



1PF******Z02**

1 Grup / Group 1

P: Dişli pompa / Gear pump

F: Basınç seviyesi / Pressure level: 200 bar

Pompa deplasmanı / Pump displacement

Emiş / **basınç pozisyonu** / Inlet / outlet combination

1	P	F	***	***	Z02	B	BB

Şaft ve flanş kombinasyonu / Shaft extension and flange combination

Dönüş yönü / Rotation direction:
L: **sol** / CCW
R: **sağ** / CW

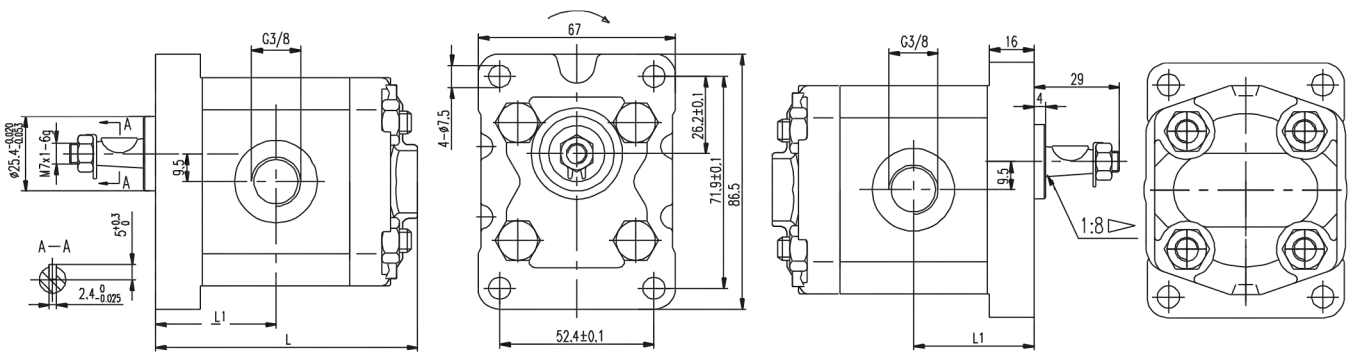
Emiş / **basma hattı pozisyonu** / Inlet / out position combination:
SS- **emiş yan ve basınç yan** / Side inlet and back out.

1PF + 1PF Tandem uygulamaları mevcuttur.

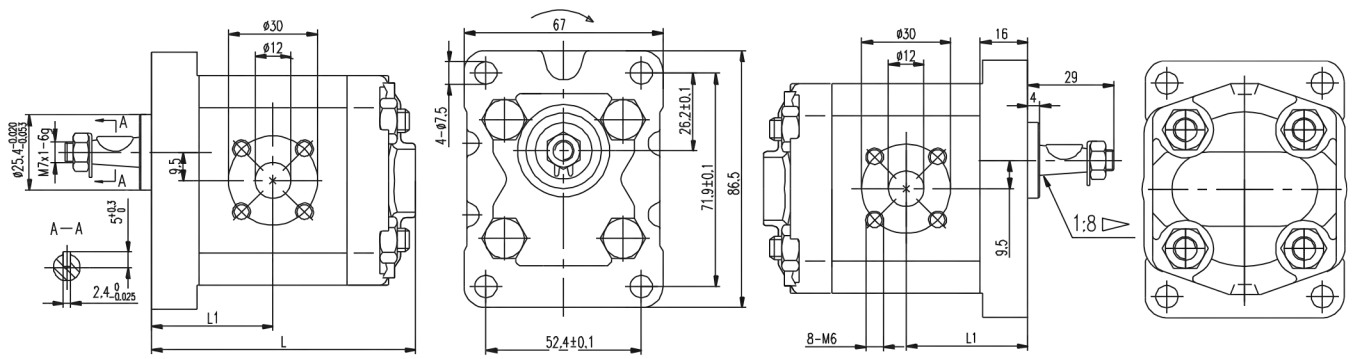
1PF******Z02**

MODEL	DİSP. DISPLACEMENT (ml/r)	BASINÇ/PRESSUR (bar)		DEVİR / SPEED (r/min)			L (mm)	Lt (mm)
		RATED	PİK / PEAK	RATED	MAX	Min		
1PF1.1******Z02**	1.1	200	250	2000	6000	600	75	33
1PF1.3******Z02**	1.3	200	250	2000	6000	600	76	34
1PF1.6******Z02**	1.6	200	250	2000	6000	600	78	35
1PF1.8******Z02**	1.8	200	250	2000	6000	600	78.5	35.5
1PF2.1******Z02**	2.1	200	250	2000	6000	600	79	36
1PF2.7******Z02**	2.7	200	250	2000	6000	600	81	37
1PF3.2******Z02**	3.2	200	250	2000	5000	600	83	38
1PF3.7******Z02**	3.7	200	250	2000	4500	600	85	39
1PF4.2******Z02**	4.2	200	250	2000	4000	600	87	40
1PF4.8******Z02**	4.8	160	200	2000	3500	600	89	41
1PF5.8******Z02**	5.8	160	200	2000	2900	600	93	43
1PF8.0******Z02**	8.0	160	200	2000	2100	600	101	47

1PF***L46ZO2SS



1PF***F01ZO2SS



2PF**L**P02*

2 Grup / Group 2

A: Döküm kapaklı / Cast iron cover

P: Dişli pompa / Gear pump

F: Basınç seviyesi / Pressure level: 200 bar

G: Basınç seviyesi / Pressure level: 250 bar

Pompa deplasmanı / Pump displacement

2	A	P	F	**	L**	P02	*	BB

Emiş / **basınç pozisyonu** / Inlet / outlet combination

Şaft ve flanş kombinasyonu / Shaft extension and flange combination

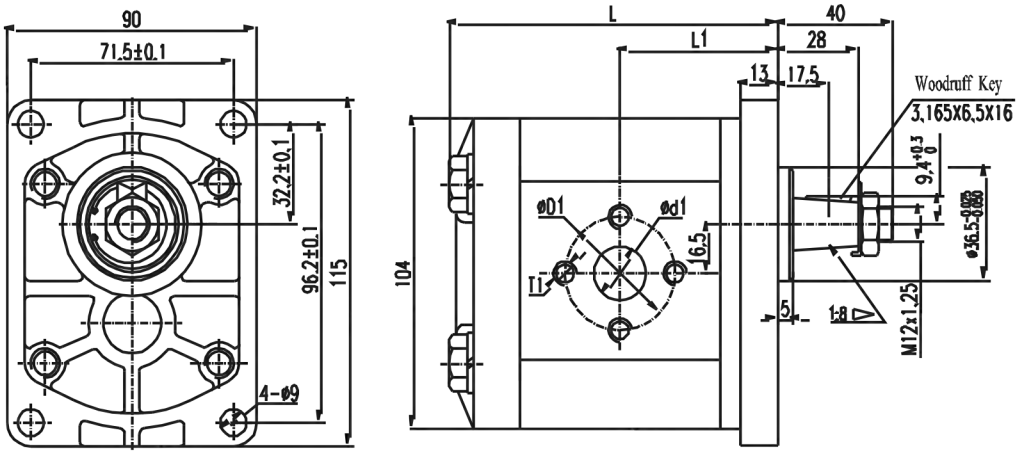
Dönüş yönü / Rotation direction:
L: **sol** / CCW
R: **sağ** / CW

Emiş / **basma hattı pozisyonu** / Inlet / out position combination:
SS- **emiş yan ve basınç yan** / Side inlet and back out.

2APF + 2APF Tandem uygulamaları
2APF + 1PF Tandem uygulamaları mevcuttur.

2APF**F**Z03*

MODEL	DİSP. DISPLACEMENT (ml/r)	BASINÇ/ PRESSUR (bar)		DEVİR / SPEED (r/min)			L (mm)	Lt (mm)	EMİŞ / INLET			BASINÇ / OUTLET		
		RATED	PİK / PEAK	RATED	MAX	Min			¢D1	¢d1	T1	¢D2	¢d2	T2
2APF4F02Z03*	4	200 (250)	250 (300)	2000	3500	500	95.5	43.3	30	13	M6	30	13	M6
2APF6F02Z03*	6	200 (250)	250 (300)	2000	3500	500	99	45						
2APF8F02Z03*	8	200 (250)	250 (300)	2000	3500	500	102	46.5						
2APF10F06Z03*	10	200 (250)	250 (300)	2000	3500	500	105	48	40	20	M8			
2APF12F06Z03*	12	200 (250)	250 (300)	2000	3500	500	108	49.5						
2APF14F06Z03*	14	200 (250)	250 (300)	2000	3500	500	111	51						
2APF16F06Z03*	16	200 (250)	250 (280)	2000	3500	500	114	52.5						
2APF18F06Z03*	18	200 (250)	250 (280)	2000	3500	500	117.5	54.3						
2APF20F06Z03*	20	200 (250)	250 (280)	2000	3500	500	121	56						
2APF23F06Z03*	23	200	250	2000	3000	500	125.5	58.3						
2APF25F06Z03*	25	200	250	2000	3000	500	128	59.5						
2APF28F06Z03*	28	160	200	2000	3000	500	133	62						
2APF30F06Z03*	30	160	200	2000	3000	500	136	63.5						



3APF**F**Z05*

3 Grup / Group 3

P: Dişli pompa / Gear pump

F: Basınç seviyesi / Pressure level: 200 bar

Pompa deplasmanı / Pump displacement

3	P	F	**	F**	Z05	*	BB

Emiş / **basınç pozisyonu** / Inlet / outlet combination

Şaft ve flanş kombinasyonu / Shaft extension and flange combination

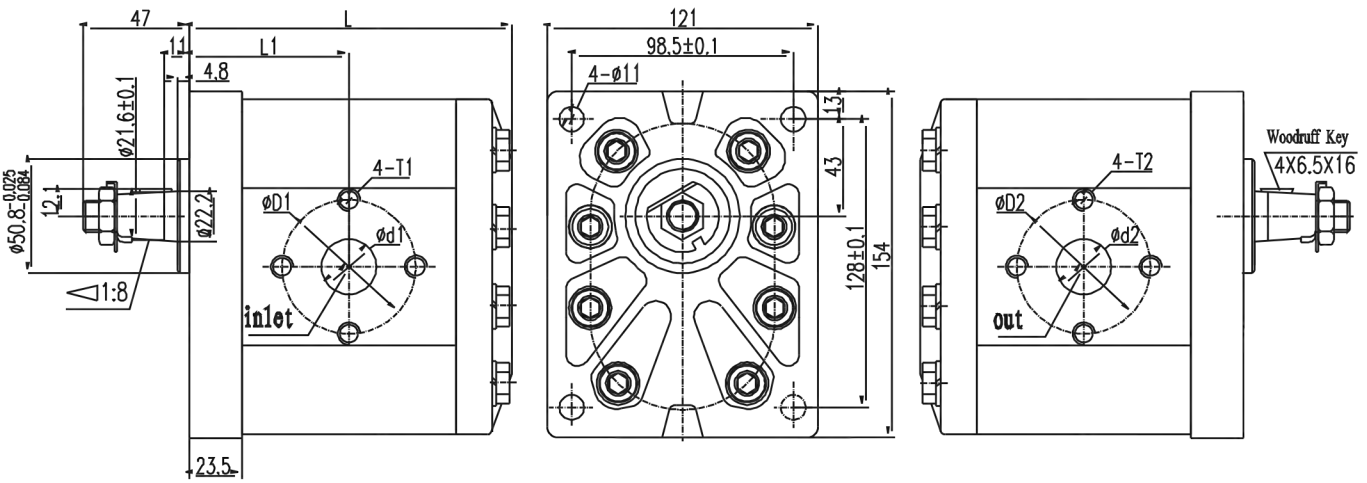
Dönüş yönü / Rotation direction:
L: **sol** / CCW
R: **sağ** / CW

Emiş / **basma hattı pozisyonu** / Inlet / out position combination:
SS- **emiş yan ve basınç yan** / Side inlet and back out.

3PF + 2APF Tandem uygulaması
3PF + 2APF Tandem uygulamaları
3PF + 1PF Tandem uygulamaları mevcuttur.

3PF**F**Z05*

MODEL	DİSP. DISPLACEMENT (ml/r)	BASINÇ/ PRESSUR (bar)		DEVİR / SPEED (r/min)			L (mm)	Lt (mm)	¢D1 (mm)	¢d1 (mm)	T1 (mm)	¢D2 (mm)	L (mm)	T2 (mm)
		RATED	PİK / PEAK	RATED	MAX	Min								
3PF22F10	22	200 (250)	250 (300)	2000	3000	400	128.5	65.5	56	27	M10	56	19	M10
3PF26F10	26	200 (250)	250 (300)	2000	3000	400	131.5	67						
3PF34F10	34	200 (250)	250 (300)	2000	3000	400	137	69.8						
3PF39F10	39	200 (250)	250 (300)	2000	3000	400	141	71.8						
3PF43F09	43	200 (250)	250 (300)	2000	2800	400	143.5	73	51	27		51	27	
3PF51F11	51	200 (250)	250 (300)	2000	2400	400	149.5	76	56	27		56	27	
3PF60F12	60	180 (200)	230 (250)	1500	2800	400	156	79.3	62	33		51	27	
3PF70F12	70	180 (200)	200 (230)	1500	2500	400	163	82.8						
3PF78F12	78	160 (200)	200 (230)	1500	2300	400								
3PF89F12	89	140 (180)	180 (200)	1500	2000	400								



2 MF

İki Yönlü Dişli Motor / 2MF Bi-Direction Gear Motor

Sipariş Kodu / Ordering Code

Şaft ve flanş kombinasyonları / Shaft extension and flange combination
Z03:1:8 Şaft + Avrupa Dikdörtgen Flanş / Z03: 1:8 shaft - Europe rectangle flange:

Direnaj tipi / Mode of drain:
I: **İçten drenajlı** / Inner drain
Boş / Omit
Dıştan drenajlı / Outside drain

Dönüş yönü / Rotation direction:
B: **İki yöne** / Bi-direction
L: **Sol** / CCW
R: **Sağ** / CW

Giriş / **Çıkış kombinasyonu** / Inlet / outlet combination
F85: inlet=ø35/M6/ø15: outlet=ø35/M6/ø15

2	A	M	F	8	F85	Z03	B	SS	-	0	-	1

Giriş / **Çıkış kombinasyonu** / Inlet / out position combination
SS - **Yan giriş ve yan çıkış** / Side inlet and side out

Motor deplasmanı / Motor displacement
4/6/8/10/12/14/16/18/20/23/25

F: **Sürekli çalışma basıncı** / Continous work pressure:200 bar

M: **Dişli motor** / Gear motor

A: **Döküm kapak** / Cast iron cover
Boş / Omit: **Aliminyum kapak** / Aluminum cover

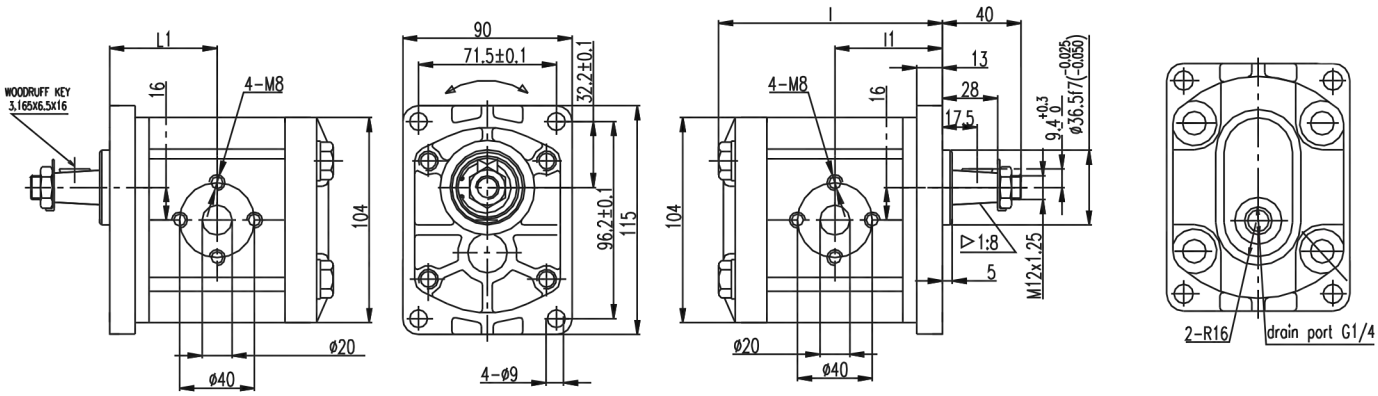
O: **Dıştan rulmanlı** / Outboard bearing
Boş / Omit: **rulmansız** / Without outboard bearing

2: **Grup 2** / Group 2

2 MF

İki Yönlü Dişli Motor / 2MF Bi-Direction Gear Motor

Tip / Type: 2MF**F**Z03B

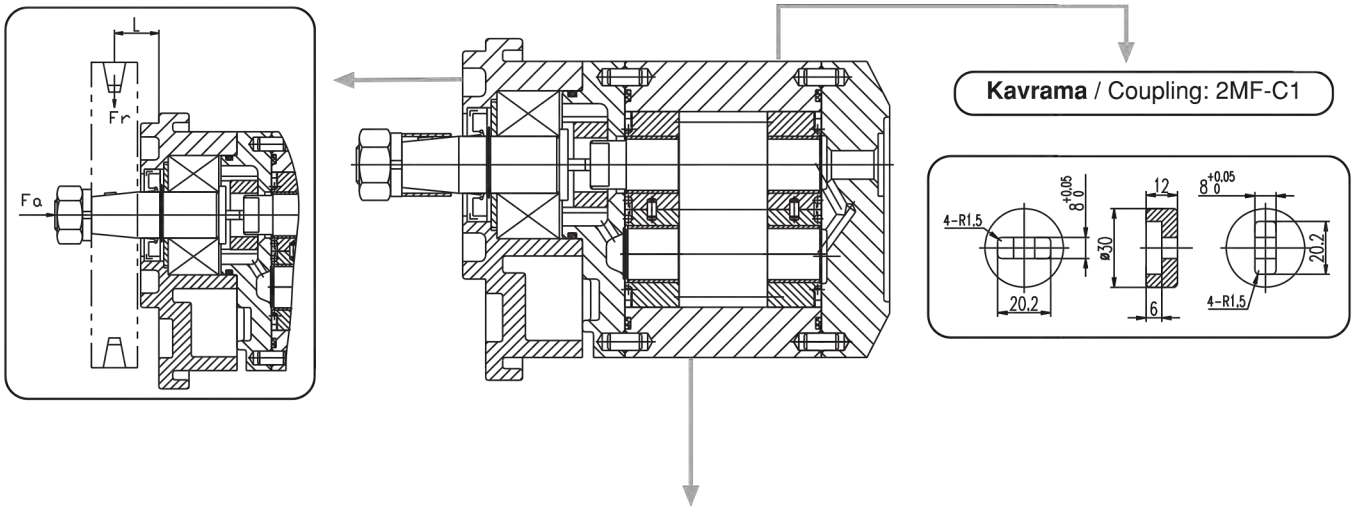


DISPLACEMENT (ml/r)	4	6	8	10	12	14	16	18	20	23	25
L1	46	47	49	50	52	53	55	57	58	60	62
L	98	100	104	106	110	112	116	119	122	125	130

2 MF-B-0

İki Yönlü Dıştan Yataklı Dişli Motor / 2MF -B-0 Gear Motor With Outboard Bearing

Dıştan Yataklı / Outboard Bearing: 2MF**F**Z**B-0



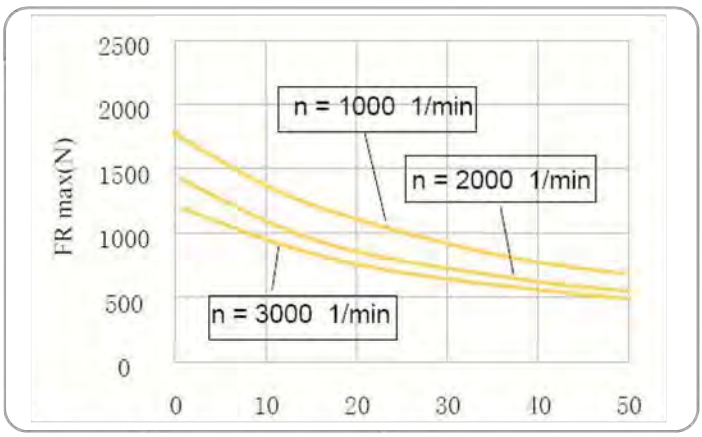
Tip / Type: 2MF**F**B11B

2 MF

İki Yönlü Dişli Motor / 2MF Bi-Direction Gear Motor

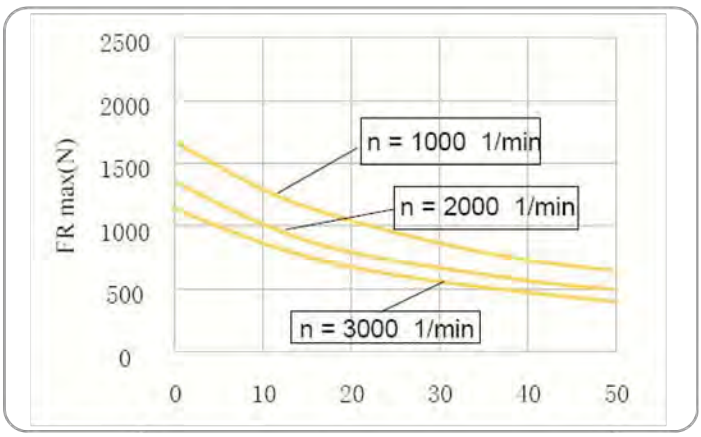
İzin Verilebilen Yük ve Çıkış Değerleri Tablosu / Permissible Load Of Outboard Bearing

FO=0N



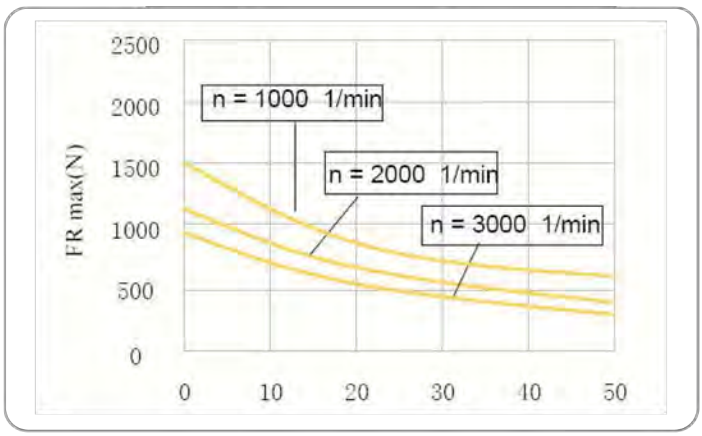
L:mm

FO=200N



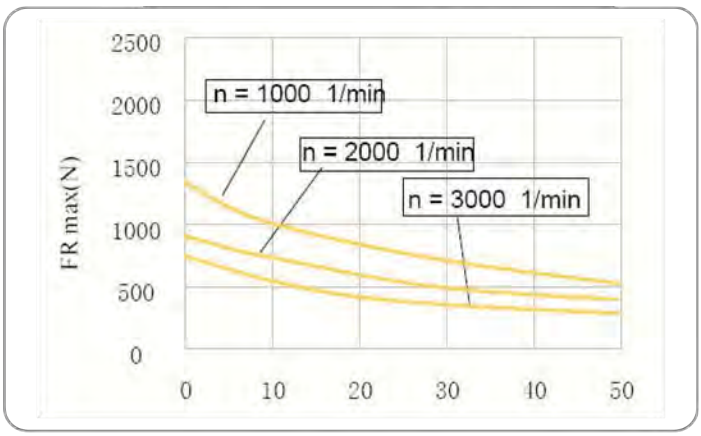
L:mm

FO=400N



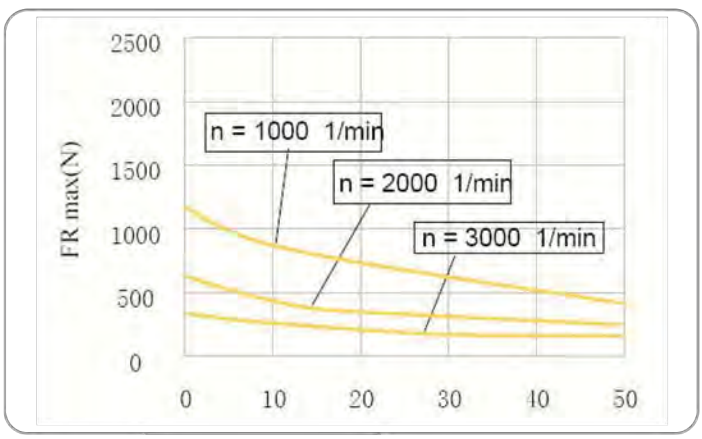
L:mm

FO=600N



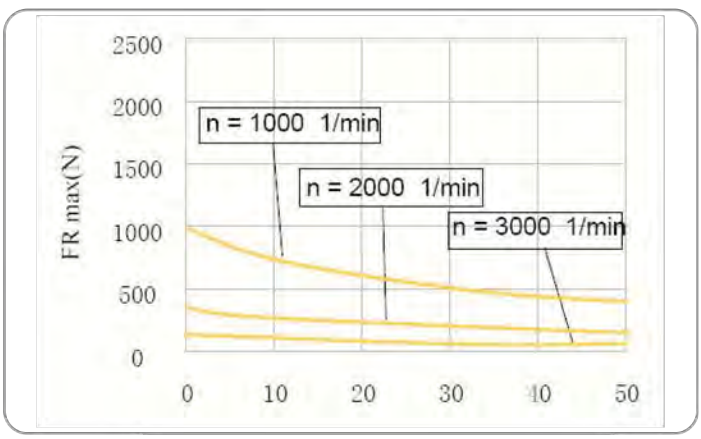
L:mm

FO=800N



L:mm

FO=900N

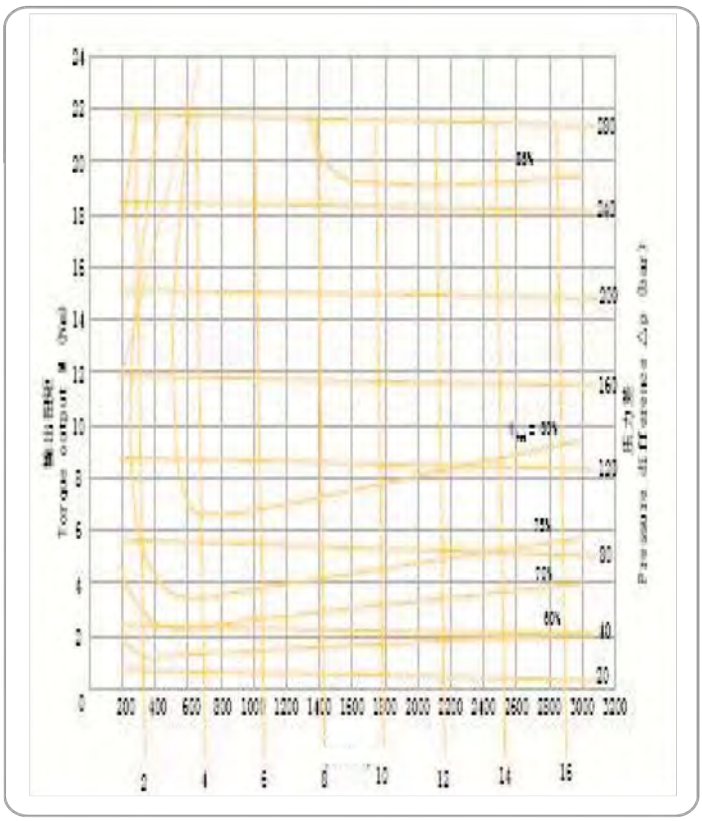


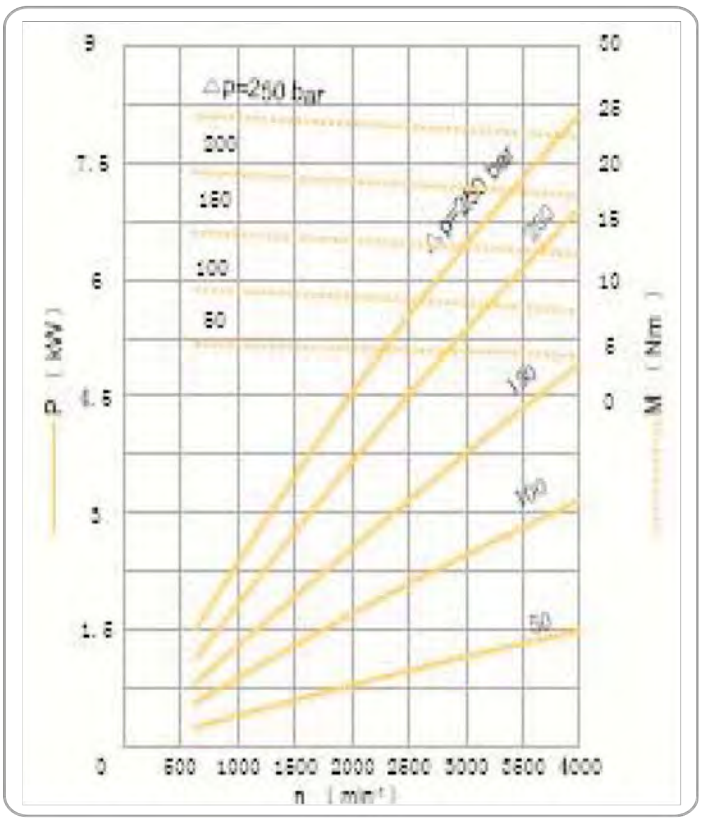
L:mm

2 MF

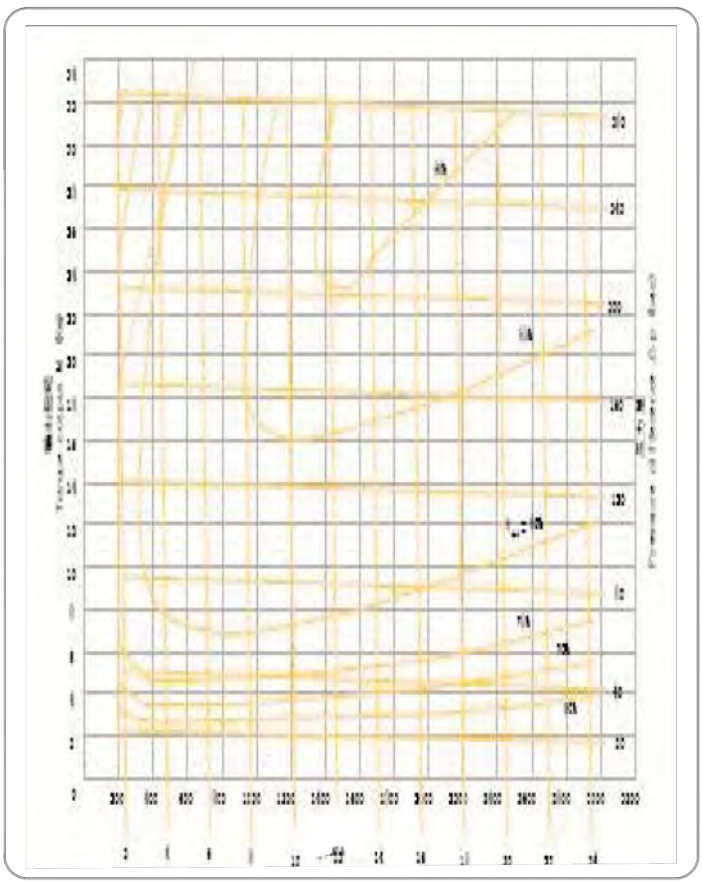
İki Yönlü Dişli Motor / 2MF Bi-Direction Gear Motor

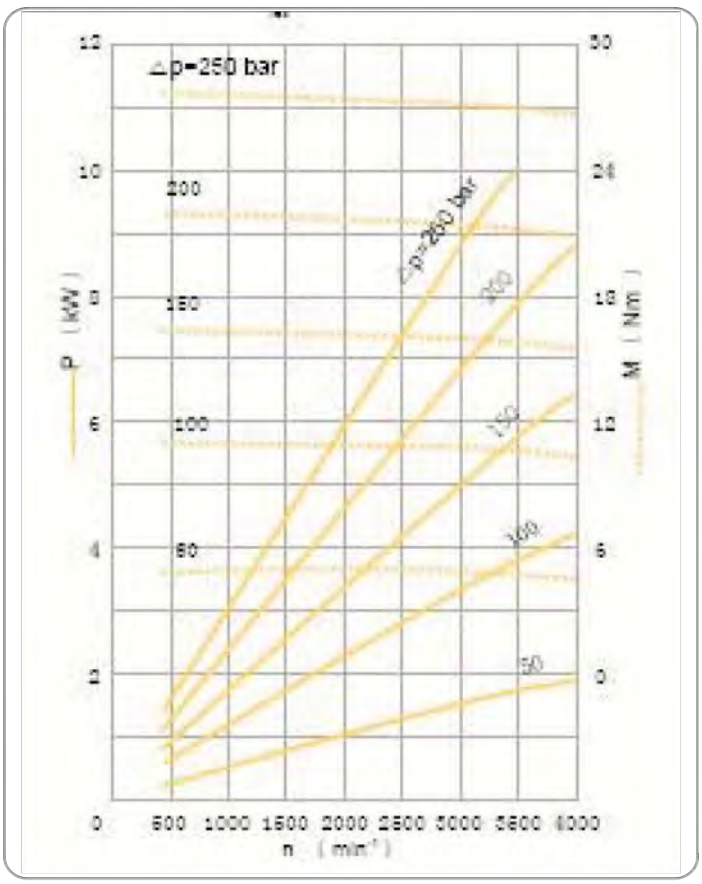
2MF6 Karakteristik Tablosu / Charactenstic Curves Of 2MF6





2MF8 Karakteristik Tablosu / Charactenstic Curves Of 2MF8

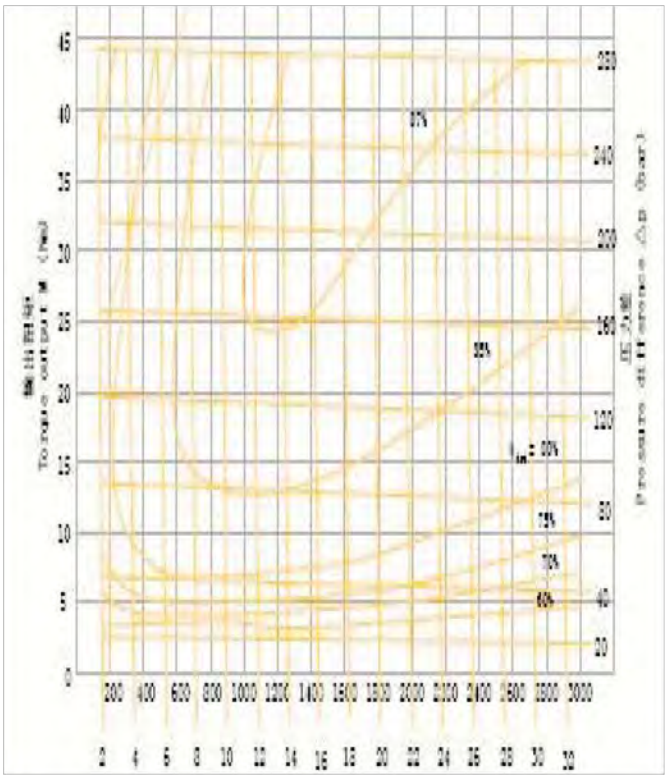


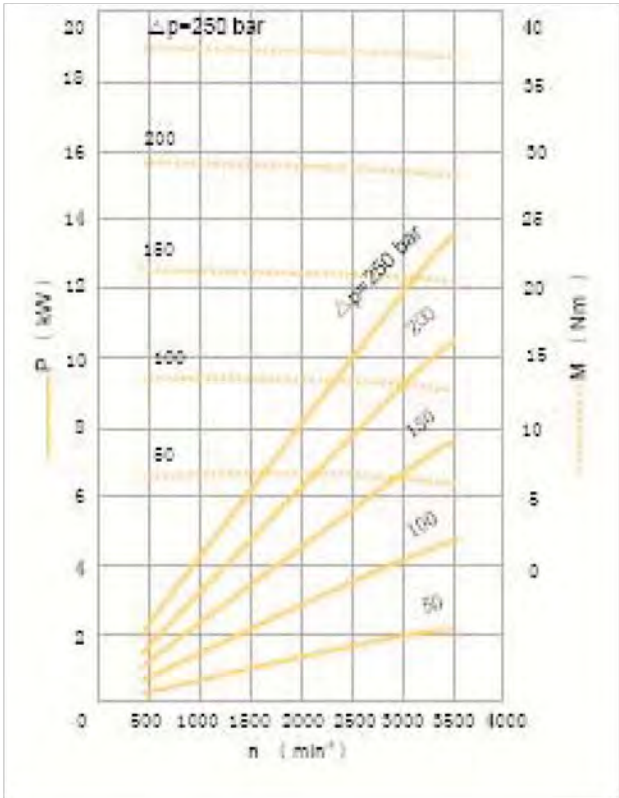


2 MF

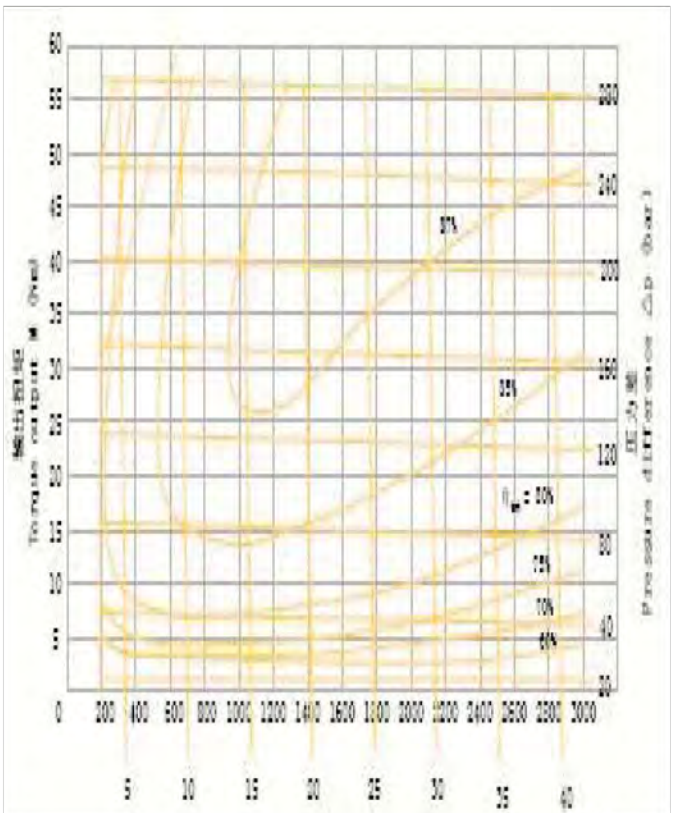
İki Yönlü Dişli Motor / 2MF Bi-Direction Gear Motor

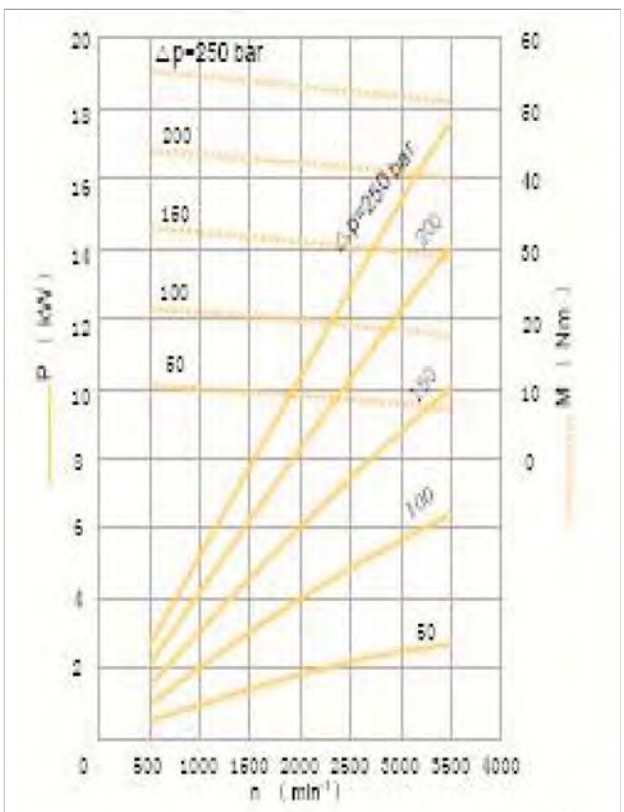
2MF11 Karakteristik Tablosu / Charactenstic Curves Of 2MF11





2MF14 Karakteristik Tablosu / Charactenstic Curves Of 2MF14

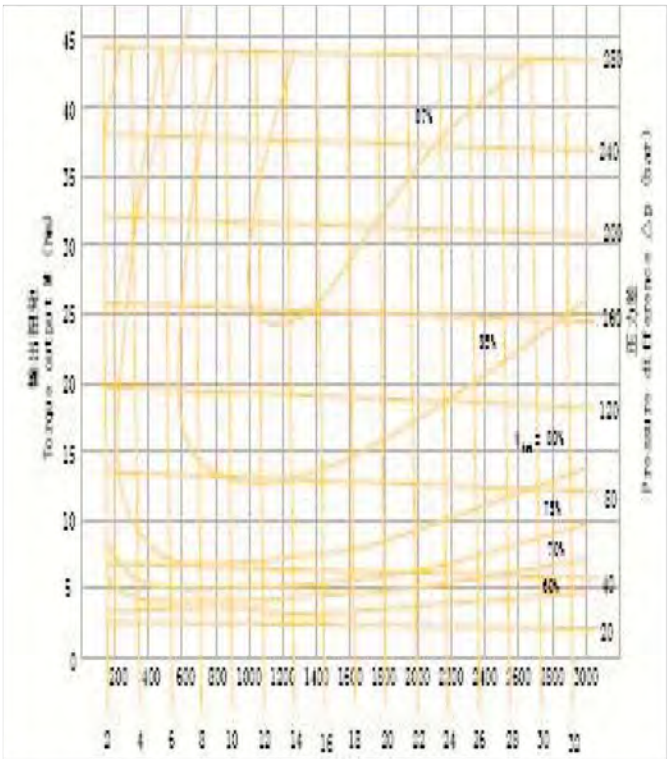


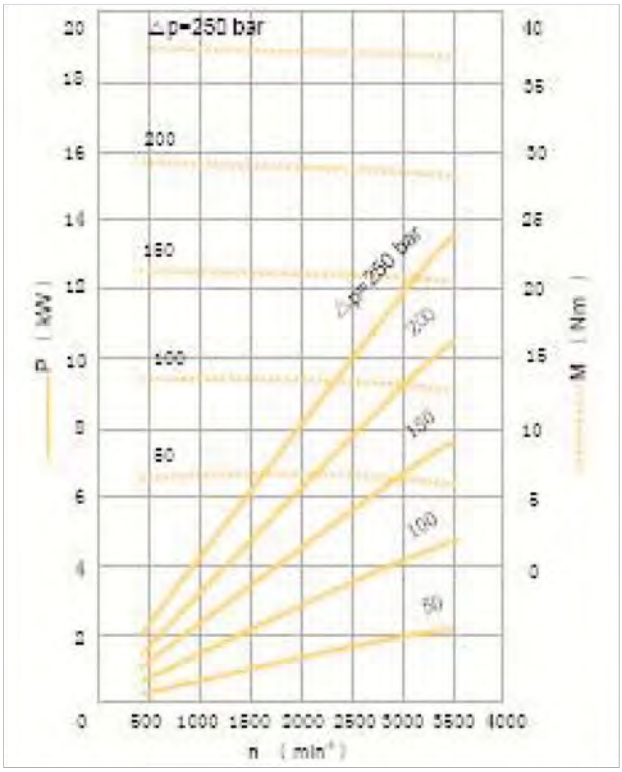


2 MF

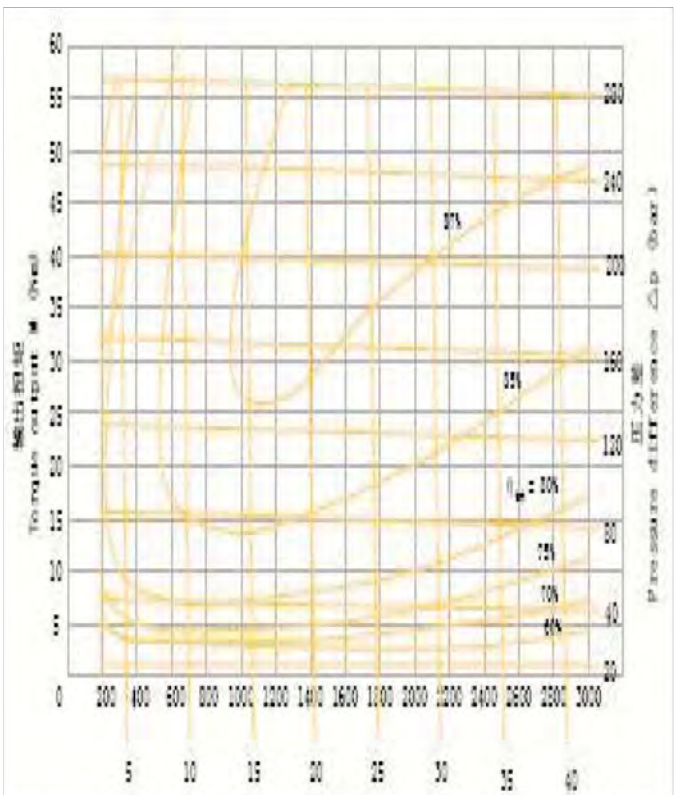
İki Yönlü Dişli Motor / 2MF Bi-Direction Gear Motor

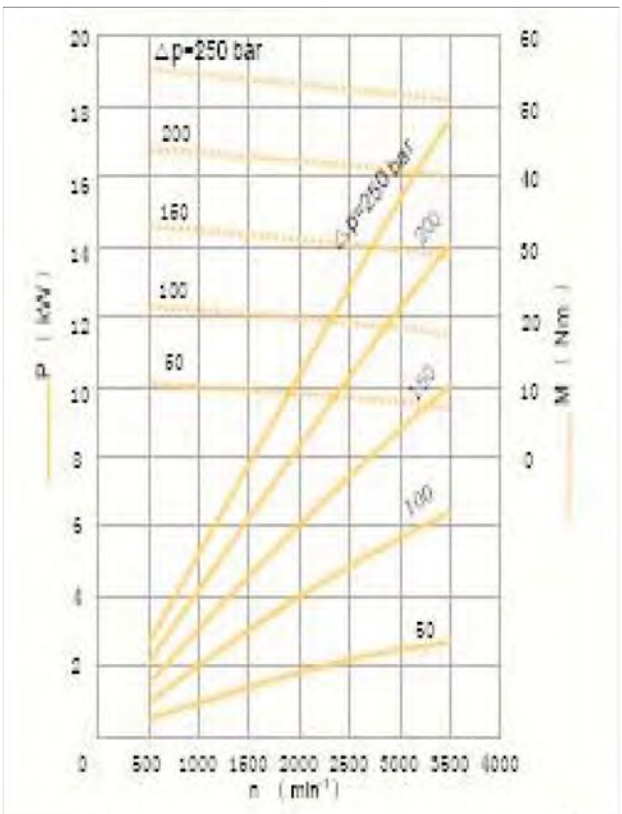
2MF16 Karakteristik Tablosu / Charactenstic Curves Of 2MF16





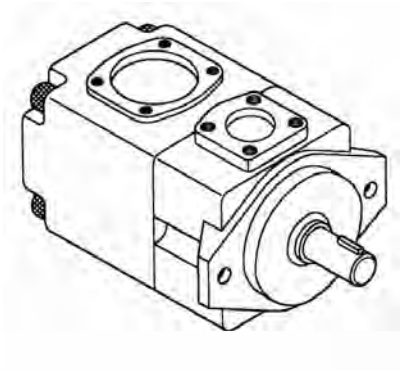
2MF19 Karakteristik Tablosu / Charactenstic Curves Of 2MF19

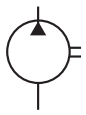




SABİT DEPLASMANLI YÜKSEK BASINÇ PALETLİ POMPA
FIXED DISPLACEMENT HI-PRESSURE VANE PUMP

VQ15
VQ25
VQ35
VQ45





SEMBOL
SYMBOL

SİPARİŞ KODU / ORDERING CODE

VQ ※ – ※ – ※ – ※ ※ ※ – 01

Maksimum Basınç : 245 kgf / cm^2
Max. Pressure: 245 kgf / cm^2

Dizayn No. / Design Number

Emme Hattı Pozisyonu / Suctidn Port position
(Şaftın sonunda görülen / Viewed from Shaft End)
A: Yukarı / Upward (normal)
B: Aşağı / Downward
R: Sağ elde / On right hand
L: Sol elde / On left hand

Basınç Hattı Pozisyonu / Discharge Port Position
(Viewed from Shaft End)
A: Yukarı / Upward (normal)
B: Aşağı / Downward
R: Sağ elde / On right hand
L: Sol elde / On left hand

Şaft Dönüşü / Shaft Rotation
(Viewed from Shaft End)
R: Saat yönünde / Clockwise
L: Saat yönünün tersi / Anti - Clockwise

Bağlama Tipi / Type of Mounting
L: Ayak Bağlantı / Foot Mounting
F: Flanş Bağlantı / Flange Mounting

Normal Displacement (c./rev)
VQ15: 8, 11, 14, 17, 19, 23, 26, 31
VQ25: 18, 22, 26, 32, 38, 43, 47, 52, 60, 65, 75
VQ35: 60, 66, 76, 82, 88, 94, 108, 116, 125
VQ45: 136, 156, 189, 216, 237

Seri No / Series Number: 15, 25, 35, 45

SABİT DEPLASMANLI YÜKSEK BASINÇ PALETLİ POMPA
FIXED DISPLACEMENT HI-PRESSURE VANE PUMP

VQ15, 25, 35, 45 Serileri Performans Kartı

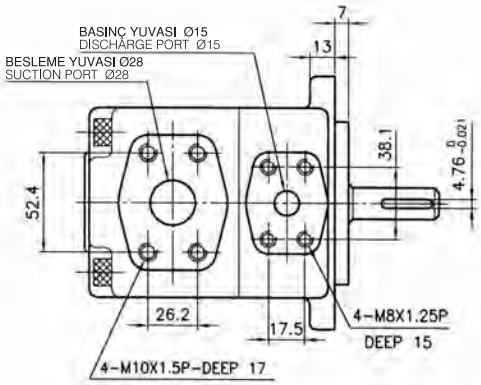
Max. Basınç / Max. Pressure: 245 kgf / cm²

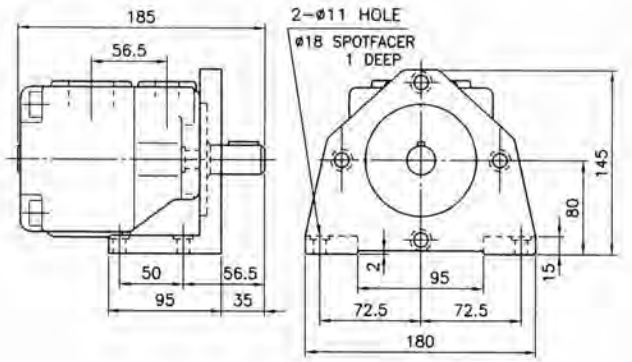
	Model	Yüksüz Durumdaki Debi Delivery Flow (l / min) at no load pressure				Devir Running Speed (rpm)		Max. Basınç Press.	Ağırlık weight (kg)	
		Devir / Running Speed (rpm)				Max.	Min.	kgf / cm²	Foot Type	Flange Type
		1000	1200	1500	1800					
VQ15	VQ15-06	6.2	7.4	9.3	11.2	1800	1200	210	12.5	10.5
	VQ15-08	8.1	9.7	12.1	14.6	1800	950	210	12.5	10.5
	VQ15-11	11.2	13.4	16.8	20.1	1800	950	245	12.5	10.5
	VQ15-14	14.3	17.1	21.5	25.7	1800	950	245	12.5	10.5
	VQ15-17	17.1	20.5	25.6	30.7	1800	950	245	12.5	10.5
	VQ15-19	19.2	23.0	28.8	34.5	1800	950	245	12.5	10.5
	VQ15-23	23.3	27.9	34.9	41.9	1800	950	245	12.5	10.5
	VQ15-26	26.1	31.3	39.1	46.9	1800	950	245	12.5	10.5
	VQ15-31	31.1	37.3	46.6	—	1500	950	245	12.5	10.5
VQ25	VQ25-18	18.1	21.7	27.2	32.6	1800	950	245	19	14
	VQ25-22	22.1	26.5	33.2	39.8	1800	950	245	19	14
	VQ25-26	26.2	31.4	39.3	47.1	1800	950	245	19	14
	VQ25-32	32.1	38.5	48.1	57.7	1800	950	245	19	14
	VQ25-38	38.2	45.8	57.3	68.7	1800	950	245	19	14
	VQ25-43	43.2	51.8	64.8	77.7	1800	950	245	19	14
	VQ25-47	47.1	56.5	77.0	85.0	1800	950	245	19	14
	VQ25-52	52.3	62.7	78.4	94.1	1800	950	245	19	14
	VQ25-60	60.2	72.7	90.3	108.3	1800	950	210	19	14
	VQ25-65	65.3	78.3	97.9	117.5	1800	950	210	19	14
	VQ25-75	75.0	90.0	112.5	—	1500	950	175	19	14
VQ35	VQ35-60	60.3	72.3	90.4	108.5	1800	900	210	42	34
	VQ35-66	66.4	79.6	99.6	119.5	1800	900	210	42	34
	VQ35-76	76.3	91.5	114.4	137.3	1800	900	210	42	34
	VQ35-82	82.2	98.6	123.3	147.9	1800	900	210	42	34
	VQ35-88	88.3	105.9	132.4	158.9	1800	900	210	42	34
	VQ35-94	94.5	113.4	141.7	170.1	1800	900	210	42	34
	VQ35-108	108.2	129.8	162.3	194.4	1800	900	210	42	34
	VQ35-116	116.1	139.3	174.1	208.9	1800	900	175	42	34
	VQ35-125	124.6	149.5	186.9	—	1500	900	175	42	34
VQ45	VQ45-136	136.8	164.0	204.0	246.0	1800	600	175	50	42
	VQ45-156	156.2	188.0	234.0	280.0	1800	600	175	50	42
	VQ45-189	189.5	227.0	284.0	340.0	1800	600	175	50	42
	VQ45-216	216.0	260.0	324.0	—	1500	600	175	50	42
	VQ45-237	237.0	285.0	355.0	—	1500	600	175	50	42

SABİT DEPLASMANLI PALETLİ POMPA
FIXED DISPLACEMENT VANE PUMP

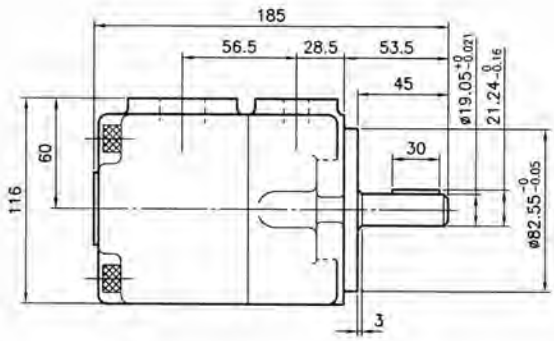
TEKNİK RESMİ / DIMENSIONAL DRAWING

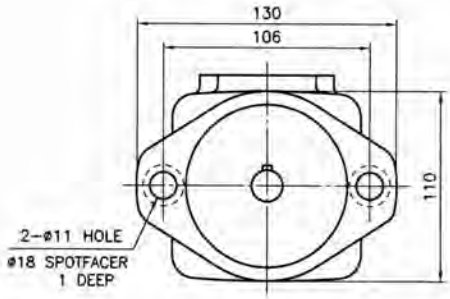
VQ15



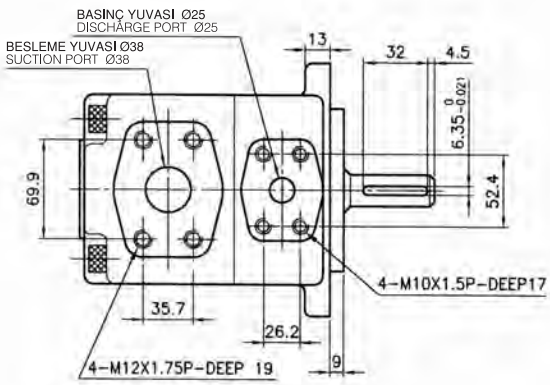


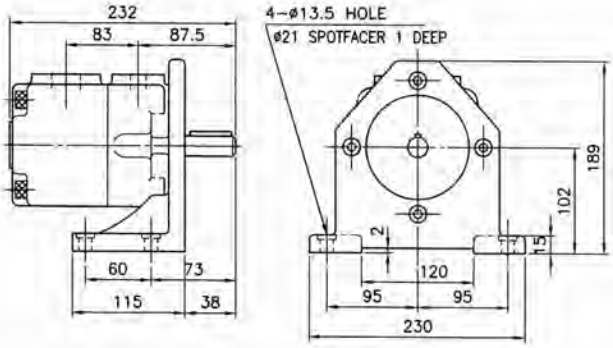
Ayak Tipi / Foot Type



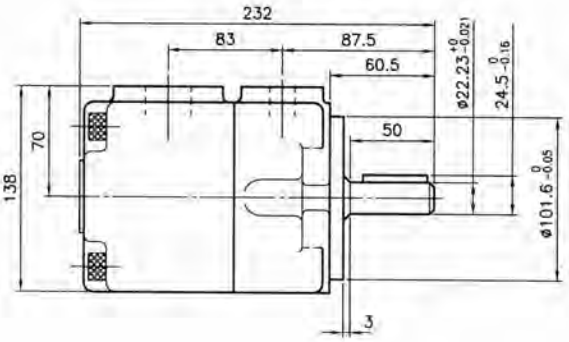


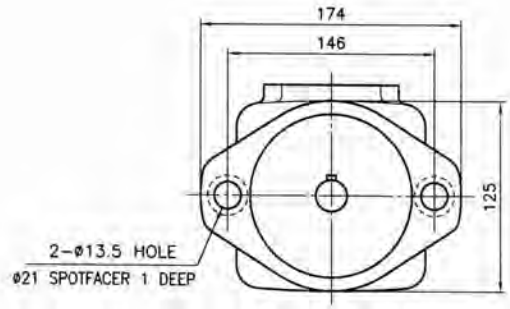
VQ25





Ayak Tipi / Foot Type

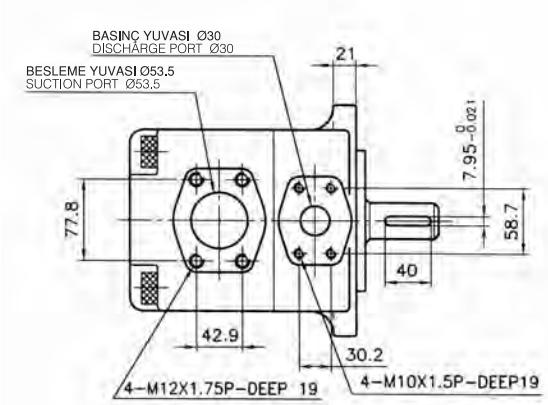


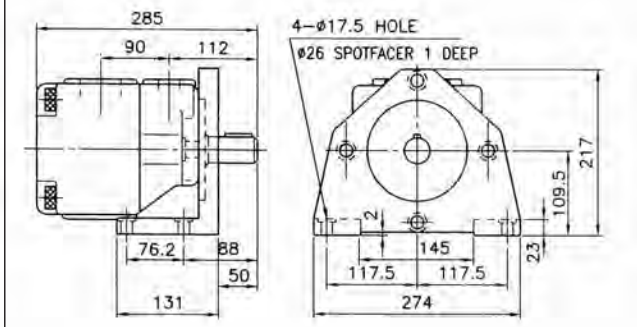


SABİT DEPLASMANLI YÜKSEK BASINÇ PALETLİ POMPA
FIXED DISPLACEMENT HI-PRESSURE VANE PUMP

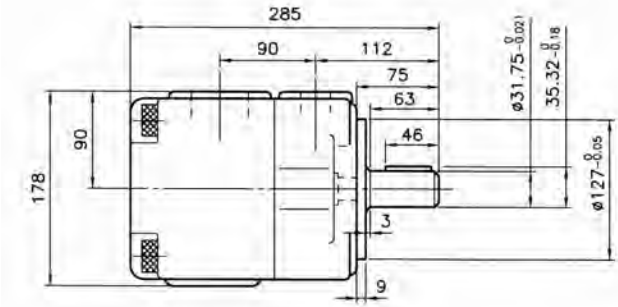
TEKNİK RESMİ / DIMENSIONAL DRAWING

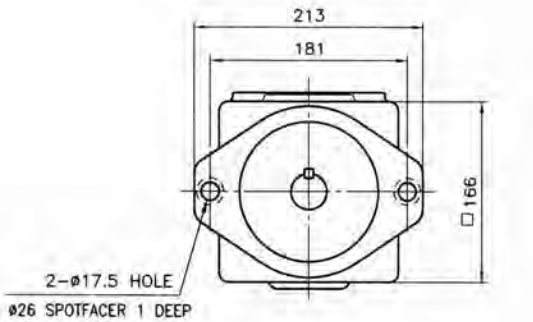
VQ35



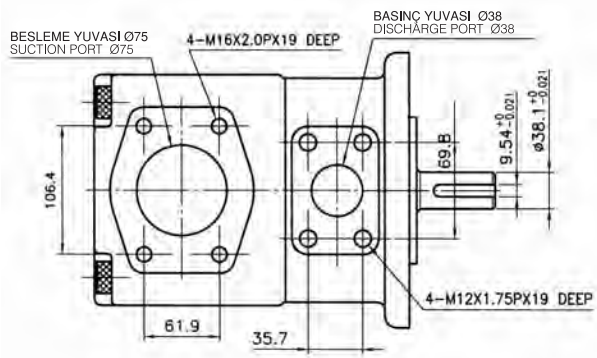


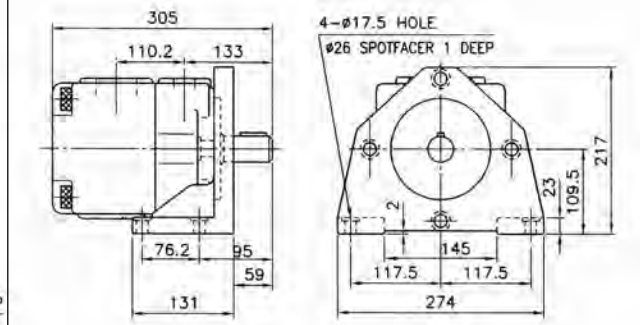
Ayak Tipi / Foot Type



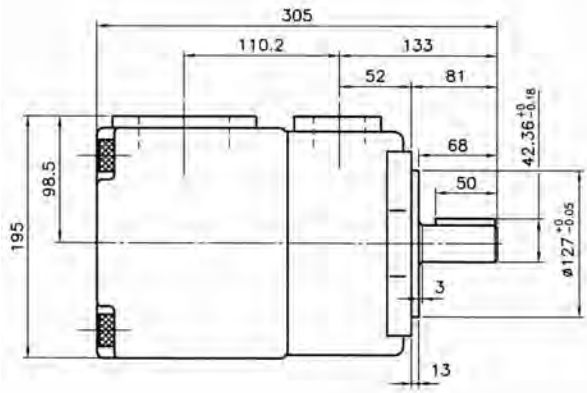


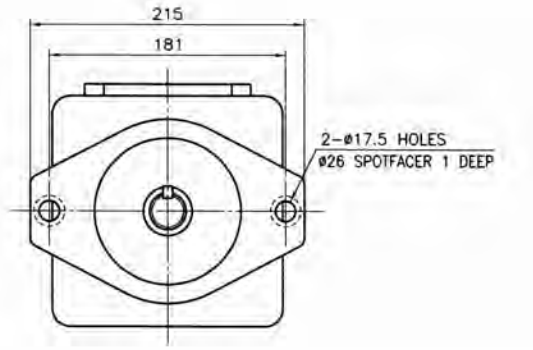
VQ45





Ayak Tipi / Foot Type





Düşük Hızlı Yüksek Torklu Hidrolik Motorlar, W11 ve W61 Serileri
Low Speed High Torque Hydraulic Motors, W11-W61 Series

W11 - W61 Serisi Orbit Hidrolik Motorlar / W11-W61 Series Orbit Hydraulic Motor

Oil Distributor	Series	Displacement cc/r [in³/r]	Max. Pressure MPa [PSI]	Speed Rpm	Max. Torque Nm [lbf-in]
Spool Valve	**W11**	50-400 [3.1-24.4]	14 [2030]	145-858	521 [4611]
	W21	50-500 [3.1-30.5]	17 [2465]	110-863	500 [4425]
	W31	100-400 [6.1-24.4]	16 [2320]	121-540	660 [5841]
	W41	245-800 [15.0-48.8]	15 [2175]	106-390	1380 [12214]
Disc Valve	**W51**	80-500 [4.9-30.5]	28 [4060]	142-856	860 [7612]
	W61	195-985 [11.9-60.1]	31 [4495]	155-865	1877 [16613]

Model Correspondance to Other Brands

Rnomac	Sauer Danfoss	Eaton Charlynn	Parker	M+S	SAM
W11	OMP	H Series	OMP	MP / MLHP	BG, BH
W21	OMR	S Series	TC; TB; TE; TH	MR / MLHR	BR, BS, AR
W31	OMH	--	--	--	--
W41	--	--	TF; TL; TG	MH / MLHH	--
W51	OMS	2000 Series	OMS	MS / MLHS	HR
W61	OMT;OMV	6000 Series	OMT	MT / MLHT; MV / MLHV	HT

Düşük Hızlı Yüksek Torklu Hidrolik Motorlar, W11 Serisi
Low Speed High Torque Hydraulic Motor, W11 Series

Performans Bilgileri
Performance Data

☐ **Sürekli**

■ **Aralıklı**

☐ Continuous

■ İntermittent

W11-50 50ml/r

Flow (LPM) \ ΔP (Mpa)	3	6	7	8	10	11	12.5	16.5
8	18 150	36 147	42 144	50 140	60 137	72 127	79 122	102 90
15	19 290	37 285	43 283	48 276	61 275	73 265	83 256	105 230
20	17 388	37 385	42 381	50 375	62 372	72 365	80 352	107 332
30	15 584	36 578	42 570	50 566	63 560	70 555	81 546	108 516
35	15 680	35 675	42 670	50 662	63 654	68 646	80 640	106 610
45	14 878	34 868	40 863	48 856	62 849	70 840	80 830	
50	13 970	35 960	40 955	48 950	63 942			

W11-63 63ml/r

Flow (LPM) \ ΔP (Mpa)	3	6	7	8	10	11	12.5	16.5
8	22 125	46 124	54 123	62 121	76 118	91 116	98 113	126 72
15	22 233	46 231	54 229	60 227	76 224	91 222	104 219	132 185
20	20 310	46 309	54 307	63 305	78 301	90 298	100 294	134 263
30	20 465	45 463	53 462	63 460	79 457	88 455	102 451	135 409
35	19 543	44 540	53 539	63 537	79 533	84 531	100 528	133 484
45	18 705	42 702	50 700	60 698	78 695	88 693	100 689	
50	16 781	44 778	50 776	60 774	79 770			

W11-80 80ml/r

Flow (LPM) \ ΔP (Mpa)	3	6	7	8	10	11	12.5	16.5
8	28 97	60 93	70 92	80 89	100 84	110 80	128 75	168 50
15	28 184	61 181	70 178	80 174	100 169	114 166	128 160	170 140
20	27 246	60 243	70 240	80 238	100 234	112 230	129 223	170 205
30	26 370	60 366	69 363	79 360	100 354	110 350	128 345	170 322
35	25 432	58 426	67 424	77 420	100 415	110 411	126 405	170 385
45	23 554	53 550	65 546	77 541	95 536	108 530	124 524	168 503
50	20 616	55 608	65 606	75 603	95 599	105 593	123 585	168 560
60	19 741	53 732	62 727	75 722	95 717	108 712		
75	16 825	47 820	60 815	70 810	90 808			

W11-100 100ml/r

Flow (LPM) \ ΔP (Mpa)	3	6	7	8	10	11	12.5	16.5
8	35 78	74 75	88 73	100 70	126 64	140 68	160 56	210 35
15	35 150	74 145	85 144	100 141	126 137	140 133	160 129	212 110
20	34 197	74 195	88 193	100 190	125 189	145 183	161 178	212 160
30	33 295	71 294	85 293	95 290	123 288	138 283	158 279	212 259
35	29 347	70 345	81 344	95 342	120 337	135 335	155 330	212 310
45	30 445	66 443	80 442	93 439	120 435	133 432	155 426	208 405
50	25 498	66 495	79 493	93 491	118 485	134 480	152 476	
60	22 599	65 594	75 589	93 587	116 584	132 577		
75	20 674	58 666	75 663	88 660	113 655			

W11-315 315ml/r

Flow (LPM) \ ΔP (Mpa)	3	6	7	8	10	12.5
8	115 25	244 24	282 22	312 17	388 13	
15	116 46	243 46	284 45	324 43	406 40	503 20
20	114 62	242 62	282 61	325 57	405 56	505 44
30	109 93	238 93	276 92	320 90	400 88	500 76
35	105 109	232 108	273 107	314 105	398 103	498 93
45	100 140	225 140	268 138	310 136	390 135	490 125
50	92 156	218 155	262 154	306 153	384 150	486 140
60	89 188	215 187	258 186	300 184	378 180	
75	69 236	195 235	236 233	278 232		

W11-400 400ml/r

Flow (LPM) \ ΔP (Mpa)	3	6	7	8	8.5	12.5
8	147 19	305 18	355 17			
15	147 38	308 37	359 35	406 33	435 32	531 76
20	144 49	305 49	358 47	408 45	435 43	510 37
30	137 73	300 73	352 72	400 70	433 68	528 63
35	135 85	294 85	345 84	395 82	425 81	525 73
45	130 110	286 110	339 108	390 106	420 105	515 100
50	117 124	278 124	330 122	382 120	410 119	
60	112 148	274 148	326 147	378 146	402 145	
75	88 185	246 185	298 184	350 182		

Not: Tüm testler hidrolik ya ve 50°C de yapılmıştır. Çalışma şartlarına göre de erler farklılık gösterebilir.
Note: All the data are tested at 50°C with N68 anti-wear hydraulic oil. Actual data may vary slightly from unit to unit in production.

Düşük Hızlı Yüksek Torklu Hidrolik Motorlar, W11 Serisi
Low Speed High Torque Hydraulic Motor, W11 Series

Özellikler / Specifications

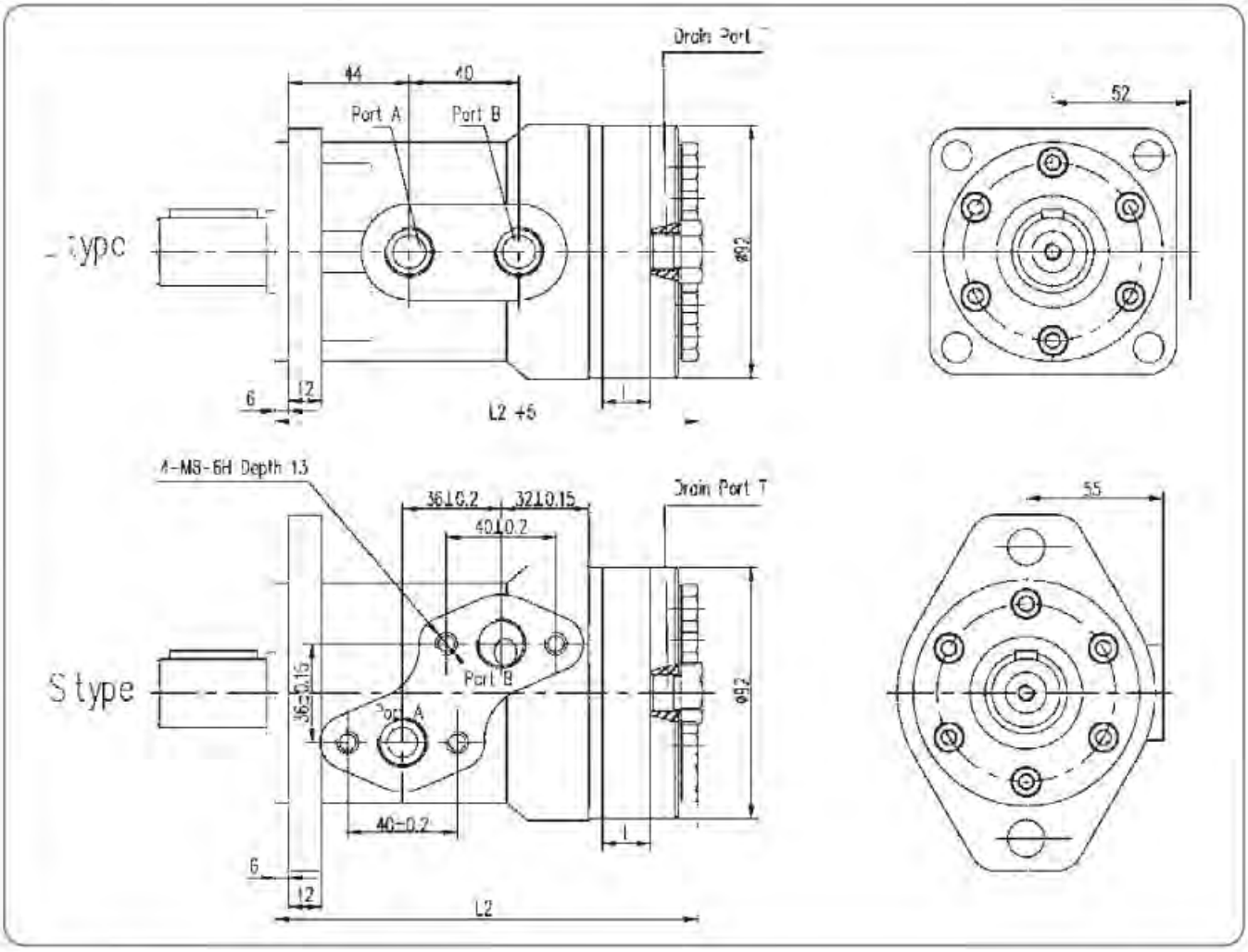
Deplasman Displacement cm^3/r [in^3/r]		50 [3.1]	63 [3.8]	80 [4.9]	100 [6.1]	125 [7.6]	160 [9.8]	200 [12.2]	250 [15.3]	315 [19.2]	400 [24.4]
Akış Flow LPM [GPM]	Cont.	38 [8]	45 [10]	58 [13]	58 [13]	58 [13]	58 [13]	58 [13]	58 [13]	58 [13]	58 [13]
	Int.	45 [11]	53 [12]	69 [15]	69 [15]	69 [15]	69 [15]	69 [15]	69 [15]	69 [15]	69 [15]
Max. Hız Max. Speed (RPM)	Cont.	698	663	685	560	456	356	285	236	179	145
	Int.	858	775	820	671	548	426	341	282	210	173
Basınç Pressure ∧Bar [∧PSI]	Cont.	125 [1813]	125 [1813]	125 [1813]	125 [1813]	125 [1813]	125 [1813]	110 [1595]	100 [1450]	90 [1305]	90 [1305]
	Int.	140 [2030]	140 [2030]	140 [2030]	140 [2030]	140 [2030]	125 [1813]	125 [1813]	125 [1813]	125 [1813]	110 [1595]
Tork Torque Nm [lbf-in]	Cont.	74 [655]	87 [770]	124 [1097]	155 [1372]	194 [1717]	227 [2009]	282 [2496]	302 [2673]	365 [3230]	456 [4036]
	Int.	86 [761]	98 [867]	141 [1248]	176 [1558]	221 [1956]	260 [2301]	318 [2814]	383 [3390]	406 [3593]	521 [4611]

Not:
1. Intermittent (aralıklı) hidromotor aralıklı olarak pik basınca çıkış de eridir. Continuous (sürekli) hidromotor sürekli belirtilen basınçlarda çalışabilir.
2. Motorda yüksek basınç ve maksimum hız altında çalışma olmamalıdır.
3. Çalışma süresi pik basınçta normal sürenin %10'unu geçmemelidir.
4. Önerilen hidrolik ya ı, viskozite 37-73 cSt, temizlik ISO18/13 olmalıdır.
5. Maksimum çalışma sıcaklı ı 80 °C'dir.
6. Maksimum çalışma basıncı %40 altında bir saat tam kapasite ile çalışması tavsiye edilir.
7. İzin verilen maksimum geri basıncı 100 bar, ancak önerilen geri basınç olmamalıdır. Sızıntı hattına 50 bar kapasiteli boru gerekmektedir.

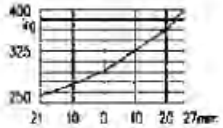
Note:
1. Intermittent means the entrance of the maximum pressure; continuous working pressure means the differential pressure.
2. Motor should not work under the highest pressure and the maximum speed.
3. The running time should not exceed 10% under intermittent working conditions.
4. Recommending N68 anti-wear hydraulic oil, viscosity 37-73cSt, cleanliness ISO18/13.
5. The Maximum working temperature is 80°E.
6. One hour running time under 40% of maximum working pressure is recommended before full capacity working.
7. The maximum allowable back pressure is 10MPa, but the recommended back pressure should not exceed 5MPa.a leaking pipes is needed when exceeding.

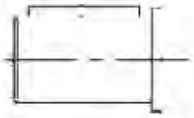
Düşük Hızlı Yüksek Torklu Hidrolik Motorlar, W11 Serisi
Low Speed High Torque Hydraulic Motor, W11 Series

Ölçme ve montaj bilgileri / Dimensions and mounting data



Şaft yük kapasitesi
Shaft Coad Capacity
Radial Load: 400Kg Max.
Axis load: 200 Kg max.



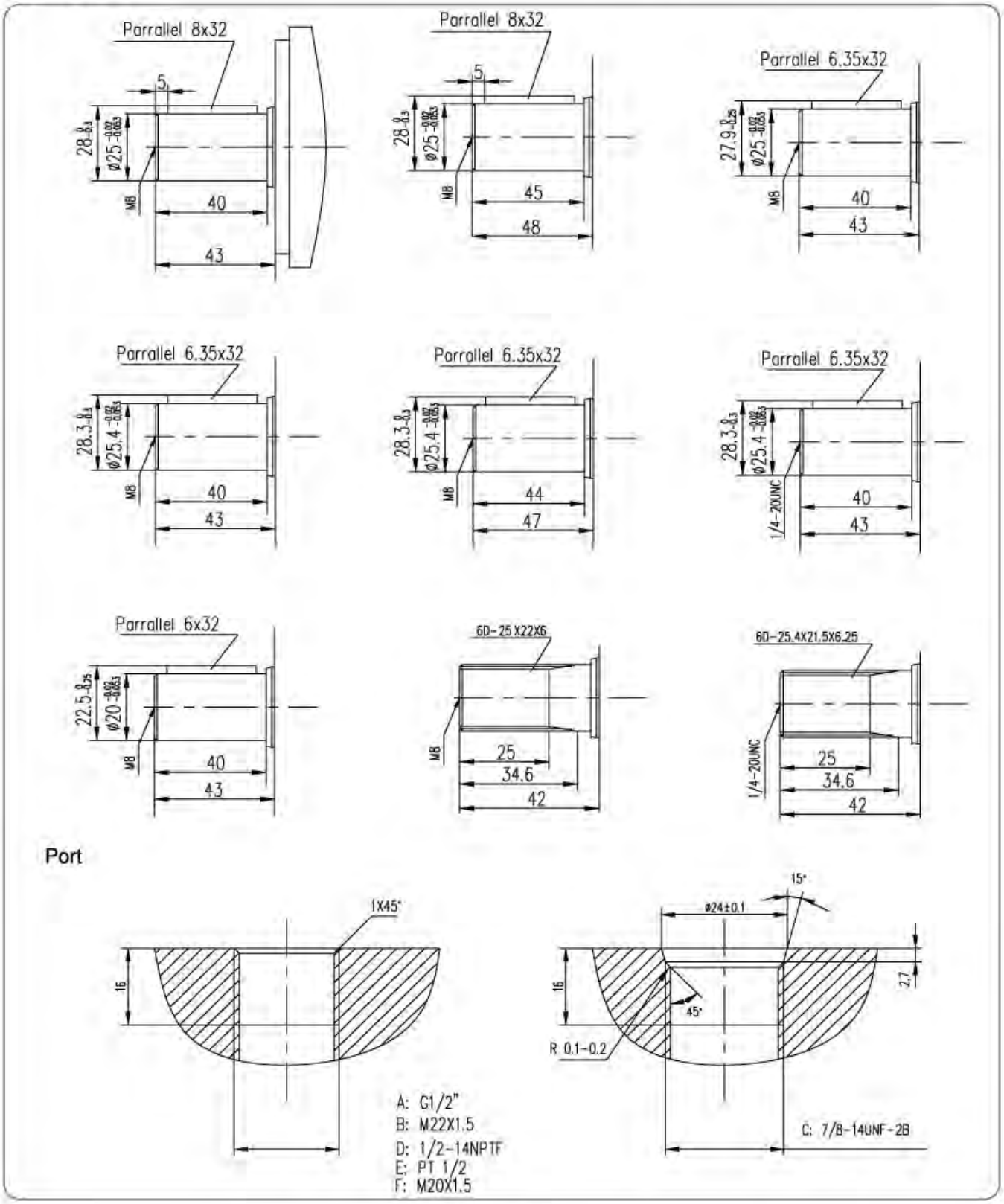


Displacement	50	63	80	100	125	160	200	250	315	400
L	9	11.5	14.5	17.8	23	29	37	46	57	72
L1	143	146	147.5	151	156	162	170	179.5	190.5	205
L2	148	151	152.5	158	161	167	175	184.5	184.5	210

Milinin dönme yönü: standart şaftın dönüşü, motor mili ucu bakarak, "A" portu saat yönünde "B" portu saat yönü tersi
Direction of shatt rotation: standart when facing shaft end of motor, shaft rotation Clockwise when port "A" is pressurized, Counter-clockwise port "B" is pressurized

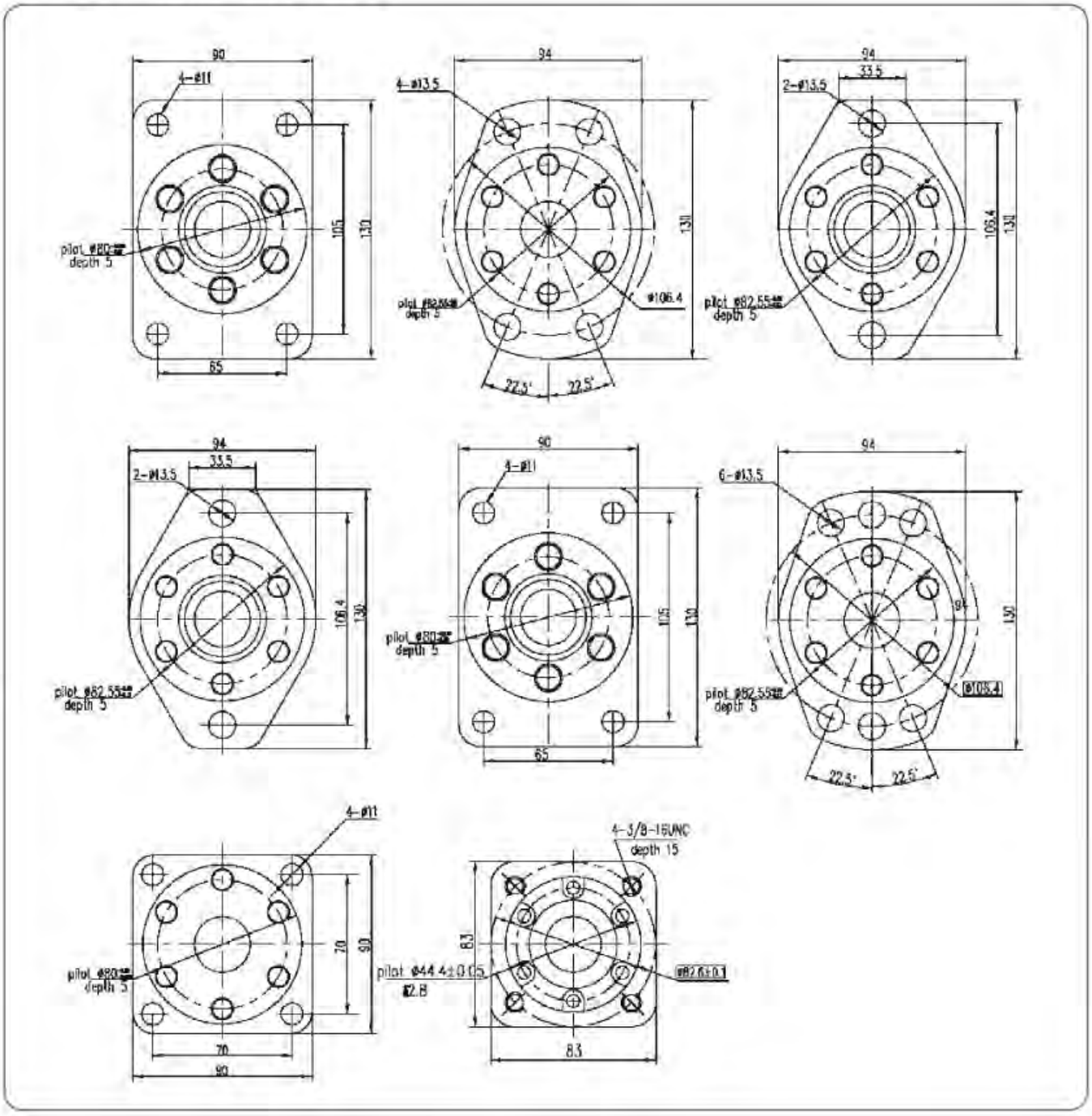
Düşük Hızlı Yüksek Torklu Hidrolik Motorlar, W11 Serisi
Low Speed High Torque Hydraulic Motor, W11 Series

Şaft / Shaft



Düşük Hızlı Yüksek Torklu Hidrolik Motorlar, W11 Serisi
Low Speed High Torque Hydraulic Motor, W11 Series

Montaj Flanşları / Mounting Flange



Düşük Hızlı Yüksek Torklu Hidrolik Motorlar, W11 Serisi
Low Speed High Torque Hydraulic Motor, W11 Series

Opsiyonel Ölçüler Kod Numaraları / Code Numbers for Optional Dimensions

Descriptions			Displacement / No.									
Flange	Shaft	Oil Port	50	63	80	100	160	200	125	250	305	400
Rhomb-flange Pilot Φ82.55 with Dust Plate	Φ25.,parallel key:8;shaft thread:M8	G1/2" Drain port G1/4	11 - 02 80	-02 81	-02 82	-02 83	-02 84	-02 85	-02 8a	-02 86	-02 87	-02 88
Rhomb-flange Pilot Φ82.55	Φ25.4,parallel key:6.35;shaft thread:1/4-20 UNC	G1/2"	11 - 00 20	-00 21	-00 22	-00 23	-00 24	-00 25	-00 2a	-00 26	-00 27	-00 28
Square-flange Pilot Φ80,	Φ25.,parallel key:8;shaft thread:M8	M18X1.5wit hout drain port	11 - 00 30	-00 31	-00 32	-00 33	-00 34	-00 35	-00 3a	-00 36	-00 37	-00 38
Rhomb-flange Pilot Φ82.55	Φ25.,parallel key:8;shaft thread:M8	M18X1.5, Drain port M14X1.5	11 - 00 40	-00 41	-00 42	-00 43	-00 44	-00 45	-00 4a	-00 46	-00 47	-00 48
Rhomb-flange Pilot Φ82.55	Φ25.,parallel key:8;shaft thread:M8	G1/2", Drain port M14X1.5	11 - 00 80	-00 81	-00 82	-00 83	-00 84	-00 85	-00 8a	-00 86	-00 87	-00 88
Square-flange Pilot Φ80,	6D-25X22X6; shaft thread:M8	M18X1.5, Drain port M14X1.5	11 - 11 10	-111 1	-111 2	-111 3	-111 4	-111 5	-111 a	-111 6	-111 7	-111 8
Rectangular-flange Pilot Φ85, with Dust Plate	6D-25X22X6; shaft thread:M8	M20X1.5, Drain port M14X1.5	11 - 11 40	-11 41	-11 42	-11 43	-11 44	-11 45	-11 4a	-11 46	-11 47	-11 48
Rhomb-flange Pilot Φ82.55	Φ25.,parallel key:8;shaft thread:M8	G1/2"	11 - 01 60	-01 61	-01 62	-01 63	-01 64	-01 65	-01 6a	-01 66	-01 67	-01 68
Square-flange Pilot Φ80,	Φ25.,parallel key:8;shaft thread:M8	G1/2"	11 - 01 70	-01 71	-01 72	-01 73	-01 74	-01 75	-01 7a	-01 76	-01 77	-01 78
Square-flange Pilot Φ80, with Dust Plate	Φ25.,parallel key:8;shaft thread:M10	M18X1.5 Drain port M14X1.5	11 - 05 20	-05 21	-05 22	-05 23	-05 24	-05 25	-05 2a	-05 26	-05 27	-05 28
Rhomb-flange Pilot Φ82.55	Φ25.4.,parallel key:6.35;shaft thread:M8	G1/2"	11 - 01 80	-01 81	-01 82	-01 83	-01 84	-01 85	-01 8a	-01 86	-01 87	-01 88
Square-flange Pilot Φ80, with Dust Plate	Φ25.,parallel key:8;shaft thread:M8	M18X1.5 Drain port M14X1.5	11 - 01 20	-01 21	-01 22	-01 23	-01 24	-01 25	-01 2a	-01 26	-01 27	-01 28
Rhomb-flange Pilot Φ82.55, with Dust Plate	Φ25.,parallel key:8;shaft thread:M8	M18X1.5, Drain port M14X1.5	11 - 00 50	-00 51	-00 52	-00 53	-00 54	-00 55	-00 5a	-00 56	-00 57	-00 58
Rhomb-flange Pilot Φ82.55, with Dust	Φ25.,parallel key:8;shaft thread:M8	G1/2" Drain port M14X1.5	11 - 02 30	-02 31	-02 32	-02 33	-02 34	-02 35	-02 3a	-02 36	-02 37	-02 38

Düşük Hızlı Yüksek Torklu Hidrolik Motorlar, W11 Serisi
Low Speed High Torque Hydraulic Motor, W11 Series

Plate												
Rhomb-flange Pilot Φ82.55, center diatance 110.5	Φ25.,parallel key:8;shaft thread:M8	G1/2"	11 - 0190	-0191	-0192	-0193	-0194	-0195	-019a	-0196	-0197	-0198
Rhomb-flange Pilot Φ82.55	Φ25.,parallel key:8;shaft thread:M8	G1/2" Drain port M14X1.5	11 - 0350	-0351	-0352	-0353	-0354	-0355	-035a	-0356	-0357	-0358
Rhomb-flange Pilot Φ82.55	Φ25.4.,parallel key:6.35;shaft thread:M8	G1/2"	11 - 0340	-0341	-0342	-0343	-0344	-0345	-034a	-0346	-0347	-0348

Düşük Hızlı Yüksek Torklu Hidrolik Motorlar, W11 Serisi
Low Speed High Torque Hydraulic Motor, W11 Series

W11 Serisi Hidrolik Motor / W11 Series Hydraulic Motor

Tanımı ve Özellikleri
W11 Serisi orbit motorlar geroler tip ve küçük hacimli hidrolik motorlardır. Özellikleri aşa ıdadır.
• Di er hidromotorlarla karşılaştırıldı ında spool valf ve geroler kartiçleriyle kompak ve gelişmiş bir yapıya sahiptir.
• Güvenilir tasarımıyla keçe grubu yüksek basınçta çalışabilir.
• Motor mil dönme hızı ve yönü kolayca ve sorunsuzca kontrol edilebilir.
• 15 dev/dak kadar düşük maliyetli kademeli hız de işimleri sa lanabilir.
• Hidrolik sistemlerde seri yada paralel olarak ba lanabilir.
• Düşük ataleti ve yükle başlamak kolay, pozitif ve negatif dönüşlerde durdurmaya ihtiyaç duymadan yön de işimi mümkündür.
• Ticari uygulamalar için ekonomik, yüksek verimli ve uygundur.
• Montajda çeşitli flanş, mil ve ya girişi alternatifleri vardır.

Description and Features
W11 Series orbital hydraulic motors are small volume hydraulic motors with design of spool valve and Geroler element. They have the following product features:
• Advanced design of spool valve and Geroler element, smaller size and compacter structure compared with other type hydraulic motors.
• Credible design of shaft seal, which can bear high pressure.
• Direction of shaft, rotation and speed can be controlled easily and smoothly.
• Stepless speed variation, mini. stable speed could be 15r/m, easy to install, low costs.
• Could be used in parallel or in series connection in the hydraulic systems.
• Low rotation inertia, easy to start with load, both positive and negative rotation being allowed, and no need to stop the rotation for changing the rotation direction.
• High efficiency and economical, suitable for medium duty applications.
• A variety of connection dims. options of flange, output shaft and oil port.

W11 Serisi orbital hidrolik motorlar ço unlukla çevirme mekanizmaları uygulanan uygulamalarda kullanılır. Tarım makineleri, hafif sanayi, kaldırma ve taşıma, madencilik ve inşaat vb.
• Tarım Makineleri: Kombine biçer döver, tohum eken, döner ekici, çim biçme makinesi, sprey makinesi, yem karıştırma makinesi ve sondaj makinesi vb.
• Balıkçılık Makine: A girgırları vb.
• Hafif Sanayi Makineleri: Sarma makinesi, tekstil makinesi, baskı makinesi ve ticari çamaşır makine vb.
• İnşaat Makineleri: Yol silindiri, çimento mikseri ve temizleme makinesi vb. gibi çalışma alanları mevcuttur.

W11 Series orbital hydraulic motors have wide applications, mainly applied to the slewing mechanisms of machinery in agriculture, light industry, lifting and transportation, mining and construction etc, as below,
• Agricultural machinery: Combined harvester, seed sower, rotary cultivator , lawn mower, spray machine, fodder mixing machine and drilling machine etc.
• Fishing machinery: net hauler.
• Light industrial machinery, reeling machine, textile machine, printing machine and commercial washing machine etc.
• Construction machinery: road roller, cement mixer and sweeper etc.

Düşük Hızlı Yüksek Torklu Hidrolik Motorlar, W21 Serisi
Low Speed High Torque Hydraulic Motor, W21 Series

W21 Serisi Hidrolik Motor / W21 Series Hydraulic Motor

Özellikler / Specifications

Deplasman Displacement cm³/r [in³/r]		50 [3.1]	63 [3.8]	80 [4.9]	100 [6.1]	125 [7.6]	160 [9.8]	200 [12.2]	250 [15.3]	315 [19.2]	400 [24.4]	500 [30.5]
Akış Flow LPM [GPM]	Cont.	40 [9]	53 [12]	58 [13]	58 [13]	58 [13]	58 [13]	58 [13]	58 [13]	58 [13]	58 [13]	58 [13]
	Int.	46 [10]	58 [13]	68 [15]	68 [15]	68 [15]	68 [15]	68 [15]	68 [15]	68 [15]	68 [15]	68 [15]
Max. Hız Max. Speed (RPM)	Cont.	750	760	653	551	440	344	276	220	175	140	110
	Int.	863	832	766	646	516	404	323	258	205	162	128
Basınç Pressure ^Bar [^PSI]	Cont.	140 [2030]	140 [2030]	140 [2030]	140 [2030]	140 [2030]	140 [2030]	125 [1813]	110 [1595]	90 [1305]	90 [1305]	80 []
	Int.	170 [2465]	170 [2465]	170 [2465]	170 [2465]	170 [2465]	170 [2465]	150 [2175]	130 [1885]	110 [1595]	100 [1450]	90 [1305]
Tork Torque Nm [lbf-in]	Cont.	89 [788]	112 [991]	142 [1257]	178 [1575]	223 [1974]	285 [2522]	318 [2815]	350 [3098]	360 [3186]	418 [3700]	464 [4107]
	Int.	108 [956]	136 [1204]	172 [1522]	216 [1912]	270 [2390]	346 [3062]	382 [3381]	413 [3655]	400 [3540]	464 [4107]	500 [4425]

Not:
1. Hidromotor aralıklı olarak pik basınca çıkış de eridir. Hidromotor sürekli belirtilen basınçlarda çalışabilir.
2. Motorda yüksek basınç ve maksimum hız altında çalışma olmamalıdır.
3. Çalışma süresi pik basınçta normal sürenin %10'unu geçmemelidir.
4. Önerilen hidrolik ya ı, viskozite 37-73 cSt, temizlik ISO18/13 olmalıdır.
5. Maksimum çalışma sıcaklı ı 80 °C'dir.
6. Maksimum çalışma basıncı %40 altında bir saat tam kapasite ile çalışması tavsiye edilir.
7. İzin verilen maksimum geri basıncı 100 bar, ancak önerilen geri basınç olmamalıdır. Sızıntı hattına 50 bar kapasiteli boru gerekmektedir.

Note:
1. Intermittent means the entrance of the maximum pressure; continuous working pressure means the differential pressure.
2. Motor should not work under the highest pressure and the maximum speed.
3. The running time should not exceed 10% under intermittent working conditions.
4. Recommending N68 anti-wear hydraulic oil, viscosity 37-73cSt, cleanliness ISO18/13.
5. The Maximum working temperature is 80°Ê.
6. One hour running time under 40% of maximum working pressure is recommended before full capacity working.
7. The maximum allowable back pressure is 10MPa, but the recommended back pressure should not exceed 5MPa.a leaking pipes is needed when exceeding.

Düşük Hızlı Yüksek Torklu Hidrolik Motorlar, W21 Serisi
Low Speed High Torque Hydraulic Motor, W21 Series

Performans Bilgileri / Performance Data

☐ **Sürekli** ■ **Aralıklı** ☐ Continuous ■ İntermittent

W21-50 50ml/r

Flow (LPM)	ΔP (Mpa) 5	7	9	10	12	14	16	17.5
5	35 95	45 85	60 75	66 74	78 70	89 45		
10	36 185	45 175	63 165	68 162	79 150	95 130	106 110	120 85
15	35 282	49 276	65 265	75 260	88 250	100 230	110 210	120 185
20	34 375	45 374	65 365	69 360	85 345	95 330	110 308	125 275
25	34 475	45 466	60 460	69 450	80 436	98 420	109 395	125 360
30	35 575	45 570	60 561	68 552	80 541	95 531	109 500	125 465
35	32 665	42 663	59 655	66 654	80 635	93 623	107 598	
40	30 760	41 758	58 753	66 750	79 738	92 725	105 700	
45	29 855	40 855	58 850	65 845	78 835	90 814		

W21-63 63ml/r

Flow (LPM)	ΔP (Mpa) 5	7	9	10	12	14	16	17.5
5	41 76	60 67	76 59	83 58	98 55	112 36		
10	45 146	61 138	77 130	85 125	101 120	118 102	132 87	150 67
15	43 222	61 218	80 209	92 202	110 190	125 160	138 145	150 130
20	43 295	57 294	82 288	87 284	105 272	120 245	139 223	152 195
25	48 375	56 368	76 363	86 355	100 312	122 328	130 255	153 205
30	44 454	56 450	74 443	85 431	100 427	120 419	136 395	157 367
35	40 525	53 523	74 517	83 516	100 501	117 492	134 472	
40	37 600	52 598	73 594	82 592	98 583	115 572		
45	28 675	48 675	70 671	80 667	93 659			

W21-80 80ml/r

Flow (LPM)	ΔP (Mpa) 5	7	9	10	12	14	16	17.5
10	56 115	78 108	98 105	107 100	130 91	148 75	170 53	180 45
20	50 238	82 235	105 226	118 223	132 208	160 195	180 173	188 162
30	48 364	75 360	96 356	115 345	130 330	150 320	178 300	190 283
40	45 487	72 482	97 475	105 472	128 460	149 446	177 420	189 409
50	42 615	70 615	90 606	98 599	125 590	147 568	171 547	187 535
60	40 740	63 724	85 720	95 715	118 705	142 688	169 668	185 657
70	36 860	58 852	82 840	90 837	112 820	139 810	165 790	179 776
75	29 925	56 915	77 910	85 899	110 886	133 870	162 855	177 837

W21-100 100ml/r

Flow (LPM)	ΔP (Mpa) 5	7	9	10	12	14	16	17.5
10	73 99	99 95	123 86	139 85	160 75	183 62	210 52	223 45
20	68 199	95 195	123 187	143 182	165 175	199 163	220 150	238 138
30	65 299	95 294	120 288	140 285	165 278	194 263	220 249	240 235
40	59 400	88 398	119 387	135 385	161 380	192 366	218 350	238 336
50	55 499	85 495	118 488	125 484	157 475	185 463	217 451	235 436
60	48 599	79 595	110 587	119 585	150 579	180 568	216 550	235 536
70	43 699	70 692	100 687	112 683	142 679	170 668	200 645	229 636
75	39 748	63 740	98 732	105 735	140 720	167 715	198 695	227 686

W21-125 125ml/r

Flow (LPM)	ΔP (Mpa) 5	7	9	10	12	14	16	17.5
10	90 72	122 71	160 65	175 63	205 55	237 42	259 22	270 14
20	85 155	119 152	158 150	172 145	208 138	250 122	278 109	292 90
30	42 236	108 235	158 233	165 225	206 218	242 206	277 192	291 170
40	79 315	105 312	150 309	161 307	205 302	238 298	275 273	289 254
50	75 399	95 395	145 393	158 390	196 380	238 368	265 355	285 337
60	60 475	95 475	139 470	155 468	183 463	223 450	254 428	279 416
70	60 555	83 552	125 550	150 549	178 545	212 538	252 515	262 500
75	55 595	80 593	122 590	145 585	172 582	205 577	245 552	261 537

W21-160 160ml/r

Flow (LPM)	ΔP (Mpa) 5	7	9	10	12	14	16	17.5
10	115 57	160 56	205 52	220 50	262 43	300 38	340 34	362 27
20	115 119	160 115	206 110	230 108	265 102	320 95	355 84	380 76
30	105 184	158 180	202 177	220 172	261 165	305 153	344 134	378 130
40	100 247	145 245	195 238	218 236	256 230	299 217	340 199	375 185
50	92 307	142 305	188 300	209 298	250 290	295 280	336 261	366 244
60	84 369	137 367	180 365	199 361	240 355	286 342	330 334	360 304
70	65 436	120 435	165 430	180 427	223 415	282 402	320 336	350 366
75	60 465	117 462	158 459	175 456	220 447	272 432	314 415	342 395

Düşük Hızlı Yüksek Torklu Hidrolik Motorlar, W21 Serisi
Low Speed High Torque Hydraulic Motor, W21 Series

W21-200 200ml/r

Flow (LPM)	ΔP (Mpa) 5	7	9	10.5	12	14	17.5
10	149	205	255	290	328	370	443
	50	48	45	43	40	30	23
20	140	202	250	323	330	411	448
	99	96	93	90	85	78	65
30	130	192	242	307	325	376	445
	150	148	140	136	131	122	105
40	125	186	233	305	314	390	436
	200	196	193	188	181	170	149
50	120	177	225	295	305	382	427
	250	247	242	238	231	218	192
60	110	166	220	285	292	373	419
	300	295	290	288	282	268	236
70	98	150	205	244	278	330	410
	350	348	342	338	330	318	282
75	85	141	199	235	268	323	400
	375	372	366	362	356	342	310

W21-250 250ml/r

Flow (LPM)	ΔP (Mpa) 3	5	7	8	10	11	14	17.5
10	115	182	252	295	350	380	470	535
	40	39	38	35	32	30	23	16
20	110	178	252	295	352	385	470	548
	80	79	75	75	69	67	57	48
30	100	170	250	285	349	380	469	546
	120	119	116	115	110	106	95	80
40	90	159	232	269	330	366	460	530
	159	156	155	153	150	147	130	110
50	80	148	216	252	320	352	453	520
	200	198	195	194	162	160	152	147
60	75	130	200	235	305	340	433	505
	240	240	238	236	232	228	210	180
70	50	117	190	220	290	320	412	495
	280	278	278	275	270	267	250	215
75	42	105	180	210	280	610	405	486
	300	299	298	297	294	288	272	239

W21-315 315ml/r

Flow (LPM)	ΔP (Mpa) 3	5	6.5	8	9	13	13.5
10	135	215	279	343	385	515	550
	32	28	26	25	24	23	22
20	135	216	288	350	380	508	552
	60	59	58	57	56	52	50
30	125	205	275	340	375	494	543
	93	91	90	89	88	80	79
40	115	195	266	335	366	485	526
	122	120	119	118	117	105	104
50	90	170	252	320	352	474	511
	153	152	151	148	146	137	132
60	80	160	230	305	334	457	492
	190	185	190	178	175	160	156
70	58	135	215	285	320	442	470
	222	220	216	212	205	190	180
75	55	125	205	269	308	426	469
	234	232	230	227	225	208	200

W21-400 400ml/r

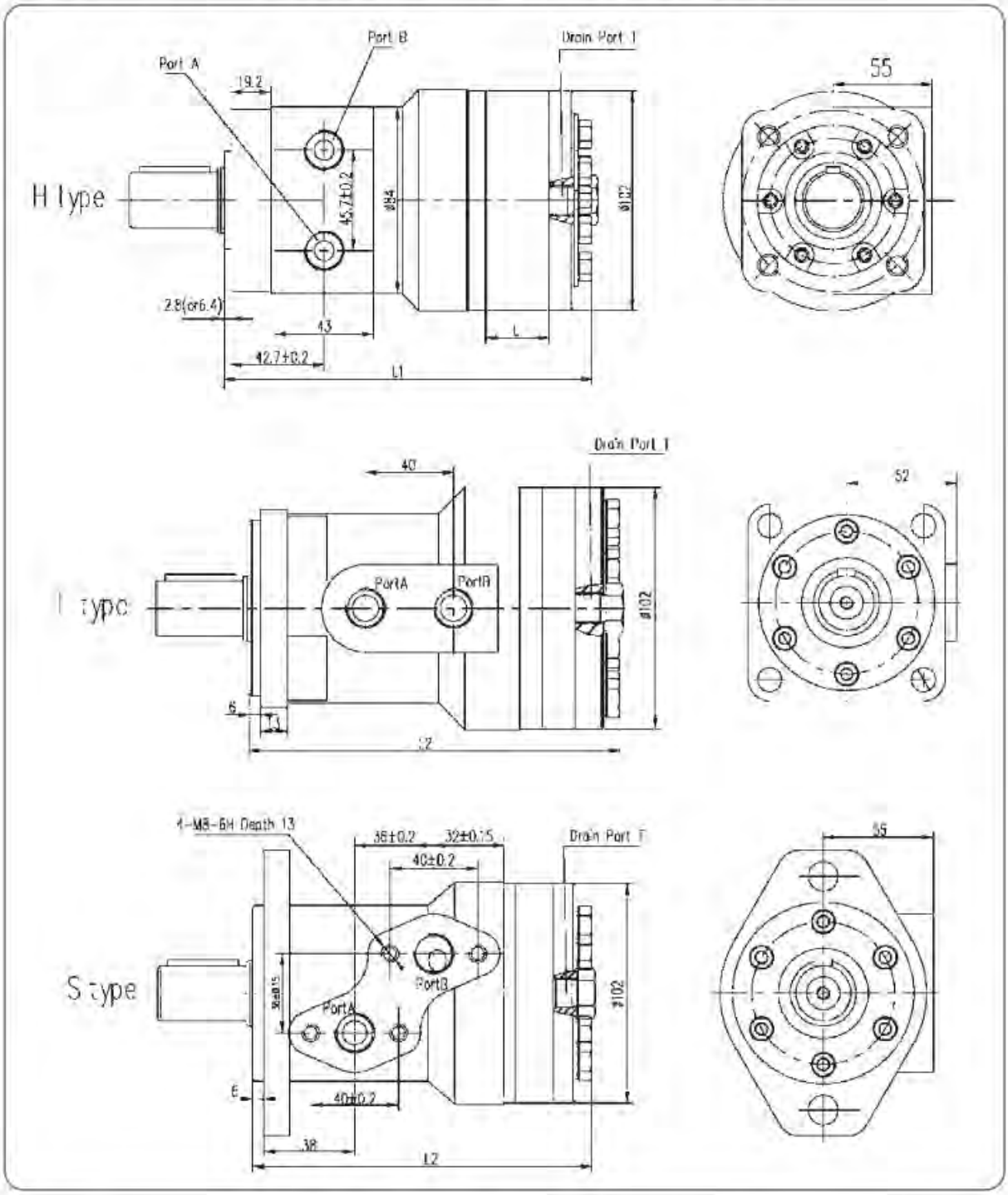
Flow (LPM)	ΔP (Mpa) 3	5	6.5	8	9	13	13.5
10	170	252	370	440	485	595	620
	24	23	22	20	19	17	16
20	170	281	365	436	480	590	615
	48	47	45	44	42	40	36
30	154	278	355	426	470	580	610
	72	70	68	66	63	60	59
40	144	273	350	410	466	576	606
	95	94	90	83	80	76	70
50	137	269	344	406	460	570	600
	121	119	116	112	108	101	95
60	135	265	330	390	445	555	670
	145	140	134	130	118	110	105
70	120	245	315	370	435	545	650
	170	169	165	160	154	150	145
75	115	235	300	350	425	525	630
	180	176	170	165	162	158	153

W21-500 500ml/r

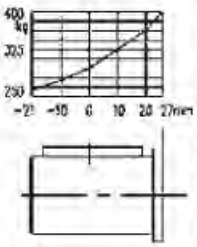
Flow (LPM)	ΔP (Mpa) 3	5	6.5	8	9	13
10	200	345	462	582	635	755
	29	27	26	24	22	20
20	199	340	455	575	625	745
	39	38	37	36	34	30
30	190	328	447	566	626	739
	59	58	57	56	54	50
40	188	319	437	556	616	729
	78	77	76	75	73	70
50	180	310	427	546	606	718
	97	96	95	95	93	90
60	175	300	416	432	597	702
	118	117	115	114	112	110
70	170	290	413	421	586	690
	138	137	135	133	131	130
75	160	278	402	411	575	678
	158	157	155	152	150	149

Not: Tüm testler hidrolik ya ve 50°C de yapılmıştır. Çalışma şartlarına göre de erler farklılık gösterebilir.
Note: All the data are tested at 50°C with N68 anti-wear hydraulic oil. Actual data may vary slightly from unit to unit in production.

Düşük Hızlı Yüksek Torklu Hidrolik Motorlar, W21 Serisi
Low Speed High Torque Hydraulic Motor, W21 Series



Şaft yük kapasitesi
Shaft Coad Capacity
Radial Load: 800Kg Max.
Axis load: 300 Kg max.

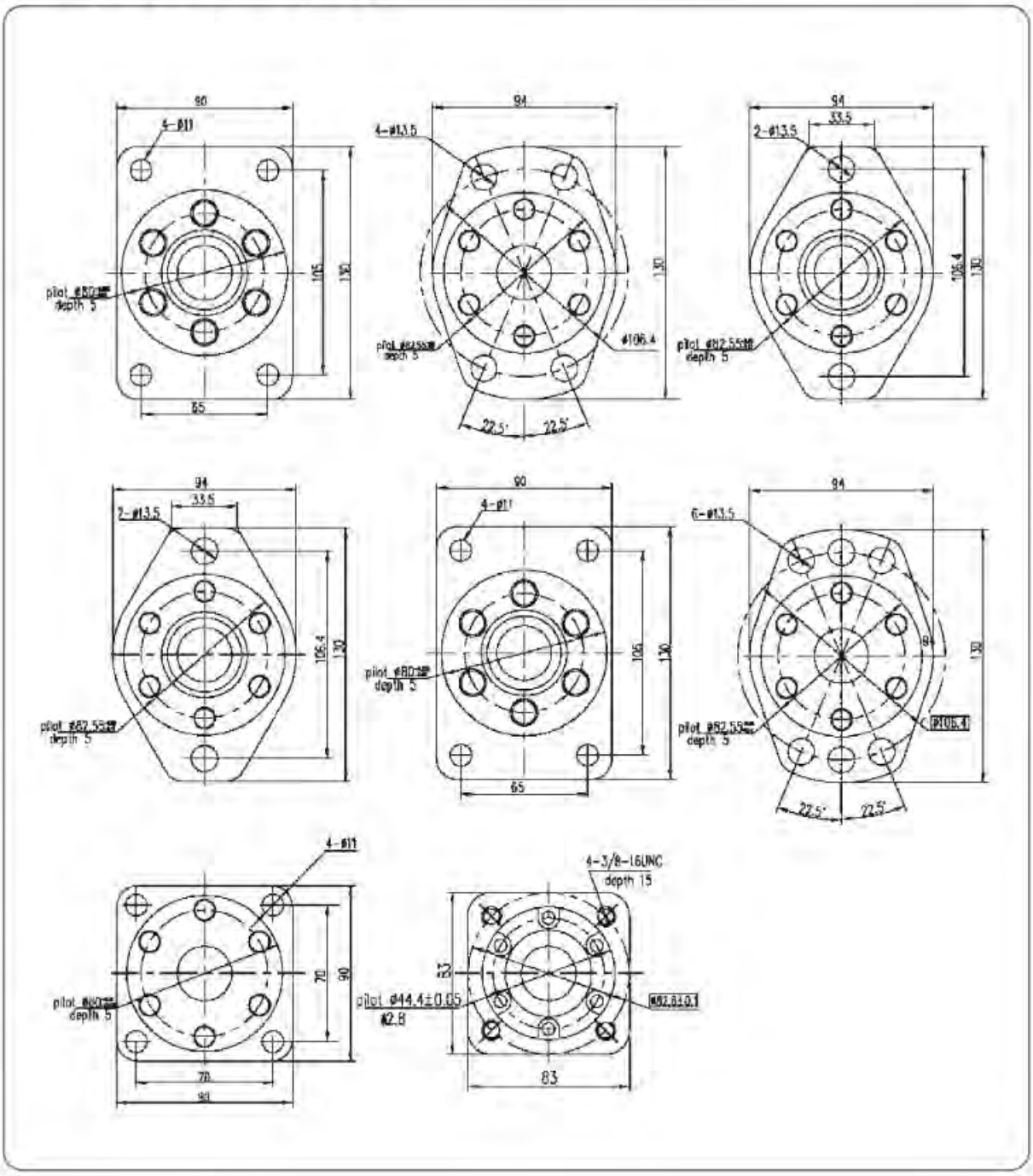


Displacement	50	63	80	100	125	160	200	250	315	400	500
L	9	11.3	14.5	17.8	23	29	37	46	57	72	90
L1	145	143.3	151.5	134.8	160	166	174	183	194	209	227
L2	151	151.3	156.5	158.8	165	171	179	188	199	214	232

Milinin dönme yönü standart şaftın dönüşü motor mili ucu bakarak, "A" portu saat yönünde "B" portu saat yönü tersi
Direction ofshaft rotation standart when facing shaft end of motor, shaft rotation Clockwise when port "A" is pressurized Counter-Clockwise port "B" is pressurized

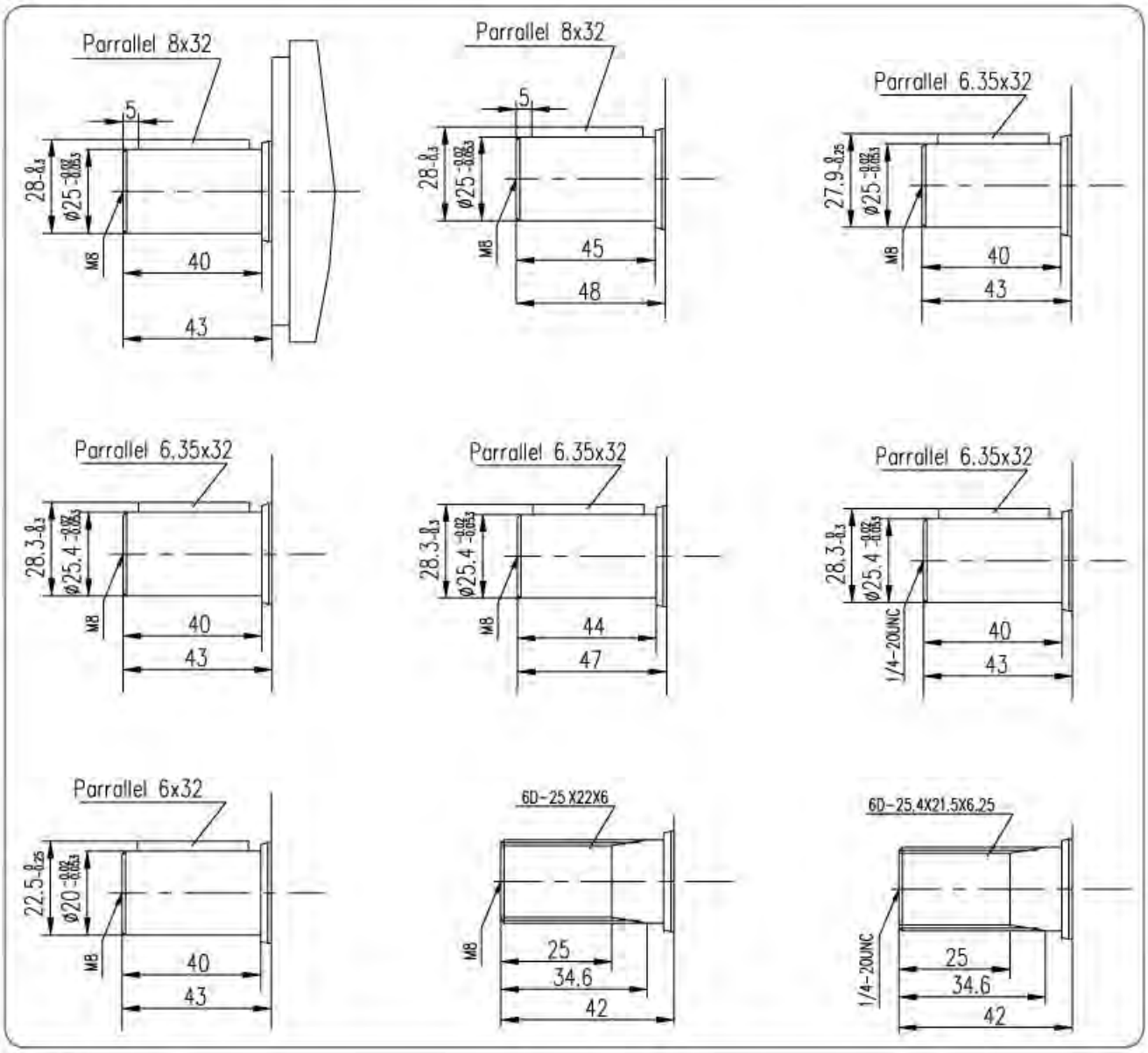
Düşük Hızlı Yüksek Torklu Hidrolik Motorlar, W21 Serisi
Low Speed High Torque Hydraulic Motor, W21 Series

Montaj Flanşları / Mounting Flange

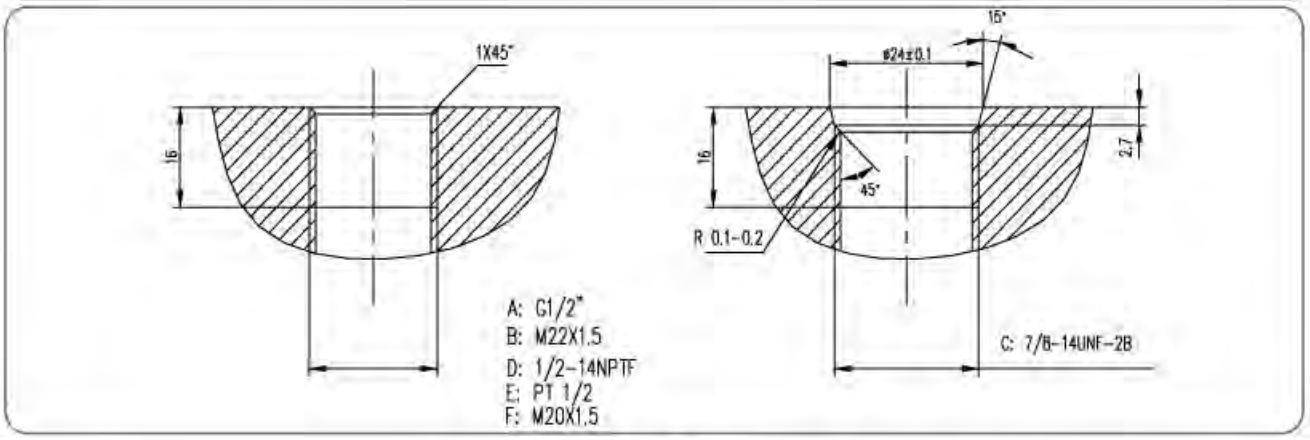


Düşük Hızlı Yüksek Torklu Hidrolik Motorlar, W21 Serisi
Low Speed High Torque Hydraulic Motor, W21 Series

Şaft / Shaft



Port



Düşük Hızlı Yüksek Torklu Hidrolik Motorlar, W21 Serisi
Low Speed High Torque Hydraulic Motor, W21 Series

Opsiyonel Ölçüler Kod Numaraları / Code Numbers for Optional Dimensions

Flange	Shaft	Oil Port	50	63	80	100	160	200	125	250	305	400
Rhomb-flange Pilot Φ82.55	Φ25.4,parallel key:6.35;shaft thread:1/4-20 UNC	G1/2"	21 - 00 10	-001 1	-001 2	-001 3	-001 4	-001 5	-001 a	-001 6	-001 7	-001 8
Rhomb-flange Pilot Φ82.55	Φ25.,parallel key:8;shaft thread:M8	G1/2"	21 - 00 20	-002 1	-002 2	-002 3	-002 4	-002 5	-002 a	-002 6	-002 7	-002 8
Square-flange Pilot Φ80	Φ25.,parallel key:8;shaft thread:M8	M18X1.5wit hout drain port	21 - 00 30	-003 1	-003 2	-003 3	-003 4	-003 5	-003 a	-003 6	-003 7	-003 8
Rhomb-flange Pilot Φ82.55	Φ25.,parallel key:8;shaft thread:M8	M18X1.5, Drain port M14X1.5	21 - 00 40	-004 1	-004 2	-004 3	-004 4	-004 5	-004 a	-004 6	-004 7	-004 8
Rhomb-flange Pilot Φ82.55	Φ25.,parallel key:8;shaft thread:M8	G1/2", Drain port M14X1.5	21 - 00 80	-008 1	-008 2	-008 3	-008 4	-008 5	-008 a	-008 6	-008 7	-008 8
Square-flange Pilot Φ80	6D-25X22X6; shaft thread:M8	M18X1.5, drain port M14X1.5	21 - 11 10	-111 1	-111 2	-111 3	-111 4	-111 5	-111 a	-111 6	-111 7	-111 8
Rectangular-f flange Pilot Φ85, with Dust Plate	6D-25X22X6; shaft thread:M8	M20X1.5, Drain port M14X1.5	21 - 11 40	-114 1	-114 2	-114 3	-114 4	-114 5	-114 a	-114 6	-114 7	-114 8
Rhomb-flange Pilot Φ82.55	Φ25.,parallel key:8;shaft thread:M8	G1/2"	21 - 01 60	-016 1	-016 2	-016 3	-016 4	-016 5	-016 a	-016 6	-016 7	-016 8
Square-flange Pilot Φ80	Φ25.,parallel key:8;shaft thread:M8	G1/2"	21 - 01 70	-017 1	-017 2	-017 3	-017 4	-017 5	-017 a	-017 6	-017 7	-017 8
Square-flange Pilot Φ80, with Dust Plate	Φ25.,parallel key:8;shaft thread:M10	M18X1.5 Drain port M14X1.5	21 - 05 20	-052 1	-052 2	-052 3	-052 4	-052 5	-052 a	-052 6	-052 7	-052 8
Rhomb-flange Pilot Φ82.55	Φ25.4,parallel key:6.35;shaft thread:M8	G1/2"	21 - 01 80	-018 1	-018 2	-018 3	-018 4	-018 5	-018 a	-018 6	-018 7	-018 8
Square-flange Pilot Φ80, with Dust Plate	Φ25.,parallel key:8;shaft thread:M8	M18X1.5 Drain port M14X1.5	21 - 01 20	-012 1	-012 2	-012 3	-012 4	-012 5	-012 a	-012 6	-012 7	-012 8
Square-flange Pilot Φ80, with Dust Plate	Φ25.,parallel key:8;shaft thread:M8	M18X1.5, Drain port M14X1.5	21 - 00 50	-005 1	-005 2	-005 3	-005 4	-005 5	-005 a	-005 6	-005 7	-005 8
Rhomb-flange Pilot Φ82.55, with Dust Plate	Φ25.,parallel key:8;shaft thread:M8	G1/2" Drain port M14X1.5	21 - 02 30	-023 1	-023 2	-023 3	-023 4	-023 5	-023 a	-023 6	-023 7	-023 8
Rhomb-flange Pilot Φ82.55,center diatance 110.5	Φ25.,parallel key:8;shaft thread:M8	G1/2"	21 - 01 90	-019 1	-019 2	-019 3	-019 4	-019 5	-019 a	-019 6	-019 7	-019 8
Rhomb-flange Pilot Φ82.55	Φ25.,parallel key:8;shaft thread:M8	G1/2" Drain port M14X1.5	21 - 03 50	-035 1	-035 2	-035 3	-035 4	-035 5	-035 a	-035 6	-035 7	-035 8
Rhomb-flange Pilot Φ82.55	Φ25.4,parallel key:6.35;shaft thread:M8	G1/2"	21 - 03 40	-034 1	-034 2	-034 3	-034 4	-034 5	-034 a	-034 6	-034 7	-034 8
Rhomb-flange Pilot Φ82.55 with Dust Plate	Φ25.,parallel key:8;shaft thread:M8	G1/2" Drain port G1/4	21 - 02 80	-028 1	-028 2	-028 3	-028 4	-028 5	-028 a	-028 6	-028 7	-028 8

Düşük Hızlı Yüksek Torklu Hidrolik Motorlar, W31 Serisi
Low Speed High Torque Hydraulic Motor, W31 Series

W31 Serisi Hidrolik Motor / W31 Series Hydraulic Motor

Özellikler / Specifications

Deplasman Displacement cm³/r [in³/r]		100 [6.1]	160 [9.8]	200 [12.2]	250 [15.3]	315 [19.2]	400 [24.4]
Akış Flow LPM [GPM]	Cont.	50 [11]	50 [11]	50 [11]	50 [11]	50 [11]	50 [11]
	Int.	60 [13]	60 [13]	60 [13]	60 [13]	60 [13]	60 [13]
Max. Hız Max. Speed (RPM)	Cont.	450	281	226	180	147	121
	Int.	540	337	272	216	177	142
Basınç Pressure ^Bar [^PSI]	Cont.	140 [2030]	125 [1813]	125 [1813]	120 [1740]	120 [1740]	110 [1595]
	Int.	160 [2320]	140 [2030]	140 [2030]	130 [1885]	130 [1885]	125 [1813]
Tork Torque Nm [lbf-in]	Cont.	178 [1575]	272 [2407]	330 [2921]	392 [3469]	499 [4417]	581 [5142]
	Int.	216 [1929]	306 [2708]	357 [3160]	424 [3753]	540 [4779]	660 [5841]

Not:
1. Hidromotor aralıklı olarak pik basınca çıkış de eridir. Hidromotor sürekli belirtilen basınçlarda çalışabilir.
2. Motorda yüksek basınç ve maksimum hız altında çalışma olmamalıdır.
3. Çalışma süresi pik basınçta normal sürenin %10'unu geçmemelidir.
4. Önerilen hidrolik ya ı, viskozite 37-73 cSt, temizlik ISO18/13 olmalıdır.
5. Maksimum çalışma sıcaklı ı 80 °C'dir.
6. Maksimum çalışma basıncı %40 altında bir saat tam kapasite ile çalışması tavsiye edilir.
7. İzin verilen maksimum geri basıncı 100 bar, ancak önerilen geri basınç olmamalıdır. Sızıntı hattına 50 bar kapasiteli boru gerekmektedir.

Note:
1. Intermittent means the entrance of the maximum pressure; continuous working pressure means the differential pressure.
2. Motor should not work under the highest pressure and the maximum speed.
3. The running time should not exceed 10% under intermittent working conditions.
4. Recommending N68 anti-wear hydraulic oil, viscosity 37-73cSt, cleanliness ISO18/13.
5. The Maximum working temperature is 80°Ê.
6. One hour running time under 40% of maximum working pressure is recommended before full capacity working.
7. The maximum allowable back pressure is 10MPa, but the recommended back pressure should not exceed 5MPa.a leaking pipes is needed when exceeding.

Düşük Hızlı Yüksek Torklu Hidrolik Motorlar, W31 Serisi
Low Speed High Torque Hydraulic Motor, W31 Series

Performans Bilgileri
Performance Data

☐ **Sürekli**

■ **Aralıklı**

☐ Continuous

■ İntermittent

W31-100 100ml/r

Flow (LPM) \ △P (Mpa)	3	5	7	8	10	12.5	15
8	35 75	59 74	83 72	97 70	121 69	147 66	
16	35 150	60 147	85 144	98 141	125 138	148 133	173 128
22	34 207	59 202	84 198	98 194	125 189	147 183	170 178
30	33 282	57 276	82 270	95 267	123 264	143 258	168 248
36	32 338	55 331	80 324	93 320	120 317	140 309	165 295
45	30 423	52 414	78 405	90 400	113 396	136 387	165 370
55	25 517	49 506	76 495	88 489	108 484	134 473	162 456
65		46 611	75 598	85 585	105 578	132 572	

W31-160 160ml/r

Flow (LPM) \ △P (Mpa)	3	5	7	8	10	12.5	15
8	56 47	94 46	134 45	155 44	193 42		
16	56 94	95 93	135 91	156 90	195 85	238 82	
22	55 138	94 137	135 135	155 134	193 130	236 125	278 120
30	54 176	93 175	135 173	154 170	193 166	235 160	275 156
36	53 212	92 211	133 210	153 209	191 205	232 200	270 195
45	52 264	90 263	130 260	150 259	187 255	228 250	265 243
55	50 323	86 322	125 319	147 318	180 313	224 308	260 300
65		82 382	120 380	141 378	176 370	216 360	212 350

W31-200 200ml/r

Flow (LPM) \ △P (Mpa)	3	5	7	8	10	11	12.5
8	70 38	118 37	167 35	193 34	242 30	258 26	
16	72 75	120 74	170 72	195 71	245 68	260 66	294 60
22	71 103	120 102	168 100	193 99	244 95	253 94	292 88
30	70 141	118 140	166 138	191 137	242 134	251 131	288 126
36	68 169	115 168	162 166	187 164	237 160	248 156	280 150
45	65 212	110 211	156 209	182 208	232 204	242 200	276 196
55		105 258	152 256	180 255	230 250	238 248	270 242
65		100 306	145 305	175 302	225 300	231 295	265 290

W31-250 250ml/r

Flow (LPM) \ △P (Mpa)	3	5	7	8	10	11	12.5
8	87 30	147 29	208 28	242 27	302 25		
16	88 60	150 59	210 58	245 57	306 55	323 50	362 48
22	86 83	150 82	210 80	243 78	304 75	320 73	360 70
30	84 113	148 112	208 110	240 109	300 105	315 103	355 100
36	80 135	143 134	203 132	235 131	295 127	310 125	351 120
45	75 169	140 168	200 166	230 165	290 160	305 158	347 152
55		135 206	195 205	225 203	284 200	298 198	340 193
65		130 244	190 243	220 240	280 238	290 235	340 231

W31-315 315ml/r

Flow (LPM) \ △P (Mpa)	3	4	6	8	10	12.5
8	110 24	148 23	225 21	305 17	380 13	
16	111 48	148 47	227 45	308 42	380 38	450 32
22	110 66	147 65	226 63	307 61	379 58	448 50
30	109 90	145 89	222 87	305 85	377 81	444 77
36	105 107	141 106	219 104	300 102	372 100	440 97
45	100 134	137 133	215 131	295 128	367 125	433 120
55		130 164	210 162	290 160	360 157	426 153
65			200 190	285 189	350 185	420 176

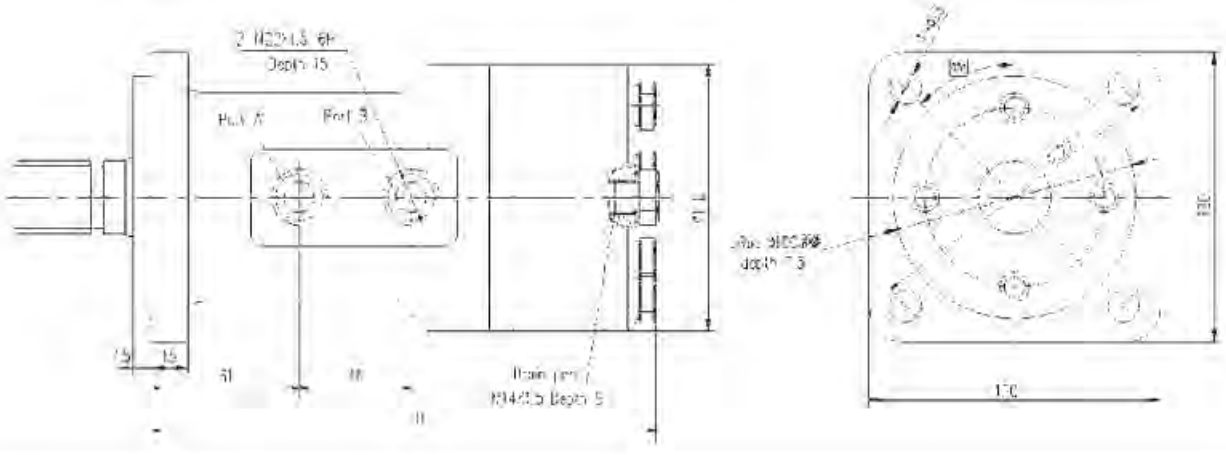
W31-400 400ml/r

Flow (LPM) \ △P (Mpa)	3	4	6	8	9	11
8	139 19	188 18	286 17	387 15	435 12	
16	139 38	190 37	288 35	390 33	436 32	513 30
22	138 53	188 52	288 50	390 48	435 47	510 45
30	137 71	186 70	286 68	388 66	433 64	508 60
36	135 85	182 84	282 82	385 80	430 78	505 73
45	130 106	176 105	277 103	380 100	424 98	498 95
55	123 129	170 128	270 126	372 124	416 123	490 120
65		160 150	260 148	360 146	402 142	480 138

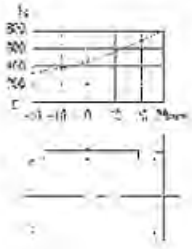
Not: Tüm testler hidrolik ya ve 50°C de yapılmıştır. Çalışma şartlarına göre de erler farklılık gösterebilir.
Note: All the data are tested at 50°C with N68 anti-wear hydraulic oil. Actual data may vary slightly from unit to unit in production.

Düşük Hızlı Yüksek Torklu Hidrolik Motorlar, W31 Serisi
Low Speed High Torque Hydraulic Motor, W31 Series

Ölçü ve Montaj Bilgileri / Dimensions and Mounting Data

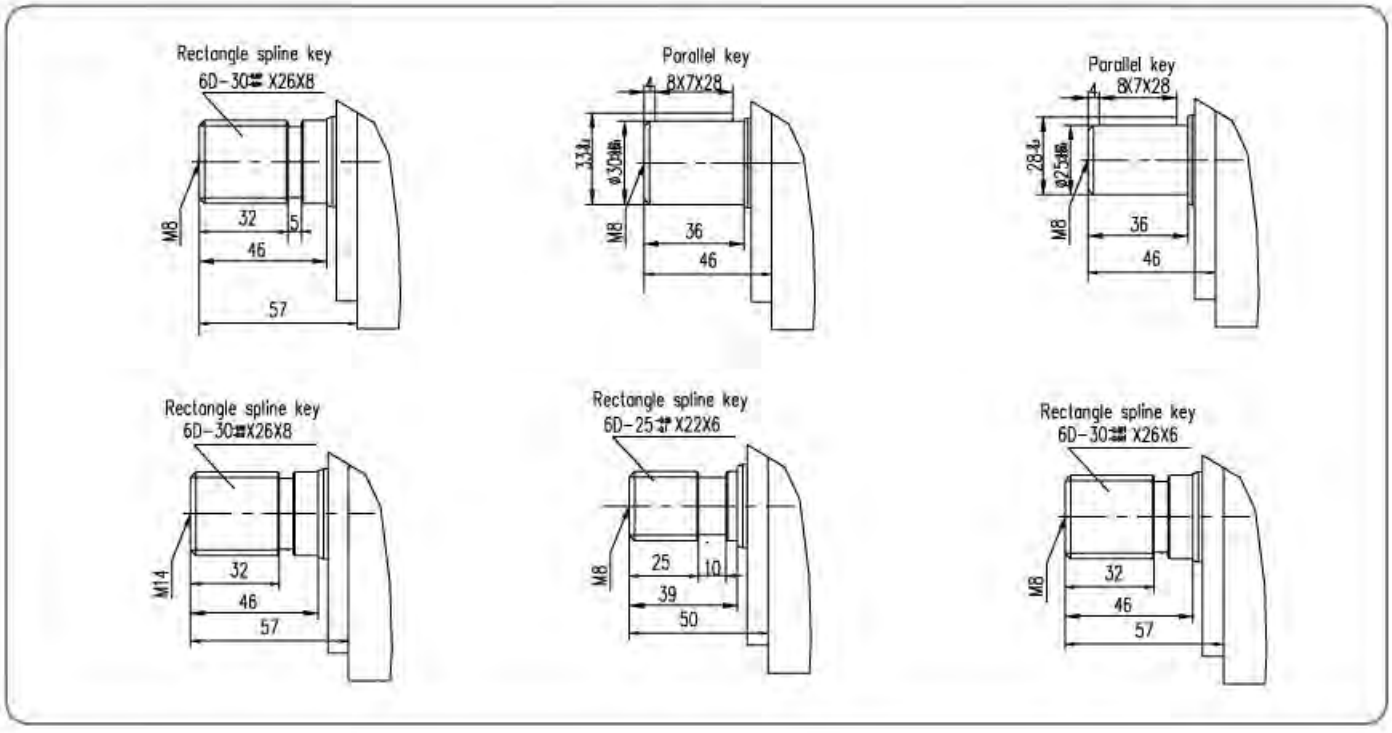


Şaft yük kapasitesi
Shaft Coad Capacity
Radial Load: 800Kg Max.
Axis load: 300 Kg max.



Displacement	100	160	200	250	315	400
H	185	194	200	207.5	217.5	230

Milinin dönme yönü standart şaftın dönüşü motor mili ucu bakarak, "A" portu saat yönünde "B" portu saat yönü tersi
Direction ofshaft rotation standart when facing shaft end of motor, shaft rotation Dockvise when port "A" is pressurized
Counter-dockviseport "B" is pressurized



Düşük Hızlı Yüksek Torklu Hidrolik Motorlar, W41 Serisi
Low Speed High Torque Hydraulic Motor, W41 Series

W41 Serisi Hidrolik Motor / W41 Series Hydraulic Motor

Özellikler / Specifications

Deplasman Displacement cm^3/r [in^3/r]		245 [15.0]	310 [18.9]	390 [23.8]	500 [30.5]	630 [38.4]	800 [48.8]
Akış Flow LPM [GPM]	Cont.	80 [18]	80 [18]	80 [18]	80 [18]	80 [18]	80 [18]
	Int.	100 [22]	100 [22]	100 [22]	100 [22]	100 [22]	100 [22]
Max. Hız Max. Speed (RPM)	Cont.	320	250	200	156	120	106
	Int.	390	300	240	200	150	120
Basınç Pressure ∧Bar [∧PSI]	Cont.	140 [2030]	140 [2030]	140 [2030]	140 [2030]	125 [1813]	100 [1450]
	Int.	150 [2175]	150 [2175]	150 [2175]	150 [2175]	130 [1885]	120 [1740]
Tork Torque Nm [lbf-in]	Cont.	435 [3850]	556 [4921]	698 [6178]	870 [7700]	997 [8824]	1024 [9063]
	Int.	502 [4443]	664 [5877]	798 [7063]	1058 [9364]	1178 [10426]	1380 [12214]

Not:
1. Hidromotor aralıklı olarak pik basınca çıkış de eridir. Hidromotor sürekli belirtilen basınçlarda çalışabilir.
2. Motorda yüksek basınç ve maksimum hız altında çalışma olmamalıdır.
3. Çalışma süresi pik basınçta normal sürenin %10'unu geçmemelidir.
4. Önerilen hidrolik ya ı, viskozite 37-73 cSt, temizlik ISO18/13 olmalıdır.
5. Maksimum çalışma sıcaklı ı 80 °C'dir.
6. Maksimum çalışma basıncı %40 altında bir saat tam kapasite ile çalışması tavsiye edilir.
7. İzin verilen maksimum geri basıncı 100 bar, ancak önerilen geri basınç olmamalıdır. Sızıntı hattına 50 bar kapasiteli boru gerekmektedir.

Note:
1. Intermittent means the entrance of the maximum pressure; continuous working pressure means the differential pressure.
2. Motor should not work under the highest pressure and the maximum speed.
3. The running time should not exceed 10% under intermittent working conditions.
4. Recommending N68 anti-wear hydraulic oil, viscosity 37-73cSt, cleanliness ISO18/13.
5. The Maximum working temperature is 80°E.
6. One hour running time under 40% of maximum working pressure is recommended before full capacity working.
7. The maximum allowable back pressure is 10MPa, but the recommended back pressure should not exceed 5MPa.a leaking pipes is needed when exceeding.

Düşük Hızlı Yüksek Torklu Hidrolik Motorlar, W31 Serisi
Low Speed High Torque Hydraulic Motor, W31 Series

Opsiyonel Ölçüler Kod Numaraları / Code Numbers for Optional Dimensions

Parameters			Discharges					
Flange	Shaft	Oil Port	100	160	200	250	315	400
Bolt hole: 4- ¢13 ; pilot: ¢100	6D-30X26X6	M22X1.5, without drain port	31 - 10 10	-101 1	-101 2	-101 3	-101 4	-101 5
	6D-30X26X8	M22X1.5, without drain port	31 - 10 20	-102 1	-102 2	-102 3	-102 4	-102 5
	6D-30X26X6	M22X1.5, Drain port M14X1.5,	31 - 10 30	-103 1	-103 2	-103 3	-103 4	-103 5
	6D-30X26X8	M22X1.5, Drain port M14X1.5,	31 - 10 40	-104 1	-104 2	-104 3	-104 4	-104 5
	Straight shaft 25,key width 8	M22X1.5, Drain port M14X1.5,	31 - 00 50	-005 1	-005 2	-005 3	-005 4	-005 5
	Straight shaft 25,key width 8	M22X1.5, without drain port	31 - 00 60	-006 1	-006 2	-006 3	-006 4	-006 5
	Straight shaft 30,key width 8	M22X1.5, Drain port M14X1.5,	31 - 00 70	-007 1	-007 2	-007 3	-007 4	-007 5
	Straight shaft 30,key width 8	M22X1.5, without drain port	31 - 00 80	-008 1	-008 2	-008 3	-008 4	-008 5
	6D-30X26X8(Center hole threadM14)	M22X1.5, without drain port	31 - 10 90	-109 1	-109 2	-109 3	-109 4	-109 5

Düşük Hızlı Yüksek Torklu Hidrolik Motorlar, W41 Serisi
Low Speed High Torque Hydraulic Motor, W41 Series

Performans Bilgileri
Performance Data

☐ **Sürekli**

■ **Aralıklı**

☐ Continuous

■ İntermittent

W41-245 245ml/r

Flow (LPM) \ △P (Mpa)	3.5	7	9	12	14	17.5	20
5	122 19	248 19	318 18	401 15			
10	129 37	258 36	334 34	426 32	456 31	598 27	
20	127 77	256 77	332 76	430 74	454 66	594 58	693 44
30	124 115	252 114	328 112	426 106	455 97	595 86	695 76
40	114 158	242 158	322 156	421 152	458 142	603 128	690 115
50	106 196	234 196	316 193	412 186	451 175	598 162	688 147
60	96 232	222 231	305 227	403 218	448 208	596 192	678 180
70	83 275	214 274	290 274	392 268	443 254	582 237	669 231
75	75 290	206 290	282 288	382 280	438 266	573 252	661 236
80	70 303	195 303	275 297	370 291	436 280	568 264	650 248
90		180 348	258 346	355 340	430 325	552 308	634 293

W41-310 310ml/r

Flow (LPM) \ △P (Mpa)	3.5	7.5	10	13.5	15	17.5	20
5	154 16	325 13					
10	162 29	343 26	455 20	557 16			
20	168 62	350 61	468 55	582 48	629 41	733 12	806 20
30	166 93	345 90	472 83	581 77	630 68	742 62	822 48
40	155 126	338 126	463 120	576 112	627 100	738 90	825 75
50	142 159	326 156	456 150	569 142	623 125	729 116	824 99
60	121 186	312 186	440 180	556 170	645 155	714 142	813 125
70	105 223	300 222	426 216	540 206	632 189	704 178	802 160
75	96 237	289 234	420 225	530 215	624 198	696 186	795 168
80	84 245	278 244	408 236	519 228	612 212	689 198	785 176
90	63 282	258 280	388 275	496 266	593 248	668 234	760 209

W41-395 395ml/r

Flow (LPM) \ △P (Mpa)	3.5	6	10.5	12.5	15	19
5	196 12	349 11	518 10			
10	205 23	362 22	545 21	701 18	804 12	
20	208 49	365 48	542 46	707 41	812 37	985 33
30	202 73	356 72	541 70	706 64	806 56	984 32
40	196 99	345 98	530 96	702 87	802 78	972 72
50	174 124	332 122	519 118	687 107	796 98	957 92
60	155 147	320 144	500 142	668 130	792 116	945 107
70	138 174	305 173	480 170	647 155	790 142	923 130
75	132 183	295 182	467 178	634 165	788 150	912 138
80	114 193	278 192	452 188	622 175	772 158	895 146
90	92 220	255 220	436 215	596 205	752 185	882 166

W41-500 500ml/r

Flow (LPM) \ △P (Mpa)	2.5	5	8.5	10	12.5	16
5	164 9	318 9	517 8			
10	178 19	335 18	556 17	669 16	790 14	968 10
20	178 42	330 42	560 41	672 38	798 36	986 30
30	173 63	320 63	552 61	661 58	792 54	981 48
40	162 85	310 85	542 83	654 79	782 75	972 68
50	146 103	298 102	524 102	635 98	769 94	955 86
60	122 124	276 123	503 123	615 118	746 113	933 104
70	98 147	256 147	482 147	598 142	728 136	918 124
75	80 156	241 155	470 155	583 152	715 144	901 132
80	62 166	223 166	456 166	572 158	700 153	882 141
90	36 176	202 175	422 172	550 166	672 160	870 158

W41-625 625ml/r

Flow (LPM) \ △P (Mpa)	3.5	5	7	8.5	10.5	14
5	250 7	380 7	510 6	640 5	755 4	
10	260 15	395 14	535 13	670 12	795 10	1060 8
20	275 30	425 30	570 28	710 27	850 25	1065 22
30	295 45	450 44	605 44	755 43	925 42	1270 37
40	297 60	450 59	610 58	765 56	920 55	1330 52
50	285 76	445 75	605 75	760 73	915 70	1325 67
60	285 93	440 92	595 91	755 90	915 88	1325 84
70	280 106	430 105	585 105	745 102	905 100	1320 93
75	275 116	415 115	575 114	735 113	895 112	1315 106
80	240 124	400 123	560 122	720 121	880 119	1300 114
90	225 142	380 141	540 139	700 138	855 137	1250 131

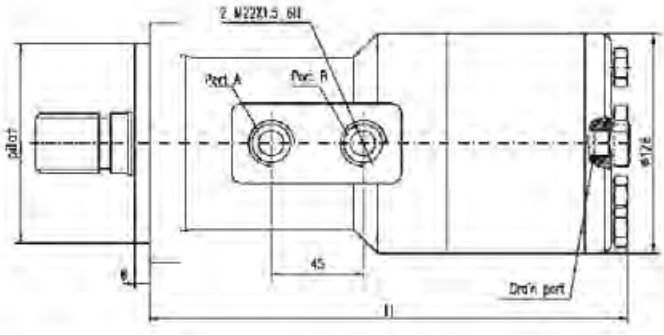
W41-800 800ml/r

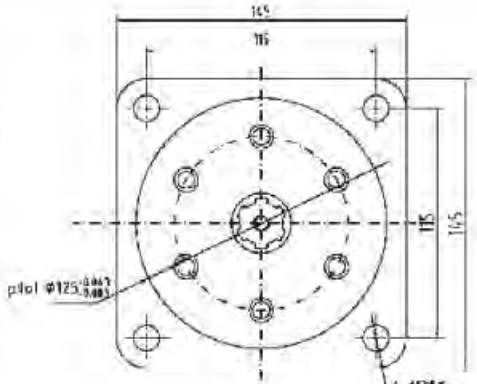
Flow (LPM) \ △P (Mpa)	3.5	5	7	8.5	10.5	13
5	420 6	590 6	775 5	958 4		
10	420 12	594 12	790 11	972 10	1176 9	1407 7
20	435 24	608 23	840 23	1020 21	1204 20	1428 17
30	420 36	596 35	830 35	1005 34	1204 33	1412 29
40	390 48	595 47	796 47	975 46	1190 45	1410 43
50	380 60	545 59	780 58	960 56	1176 54	
60	360 74	525 73	765 71	945 70	1172 69	
70	340 84	515 83	750 82	932 80	1167 77	
75	325 92	510 91	732 89	910 88	1140 83	
80	315 96	475 96	722 95	865 93	1126 91	
90		460 106	700 104	860 102		

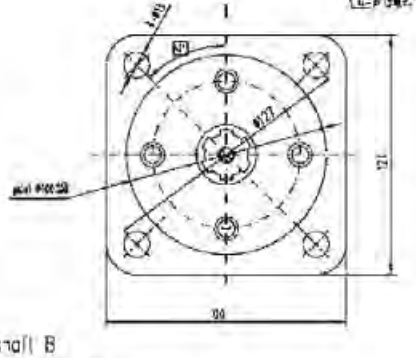
Not: Tüm testler hidrolik ya ve 50°C de yapılmıştır. Çalışma şartlarına göre de erler farklılık gösterebilir.
Note: All the data are tested at 50°C with N68 anti-wear hydraulic oil. Actual data may vary slightly from unit to unit in production.

Düşük Hızlı Yüksek Torklu Hidrolik Motorlar, W41 Serisi
Low Speed High Torque Hydraulic Motor, W41 Series

Ölçü ve Montaj Bilgileri / Dimensions and Mounting Data

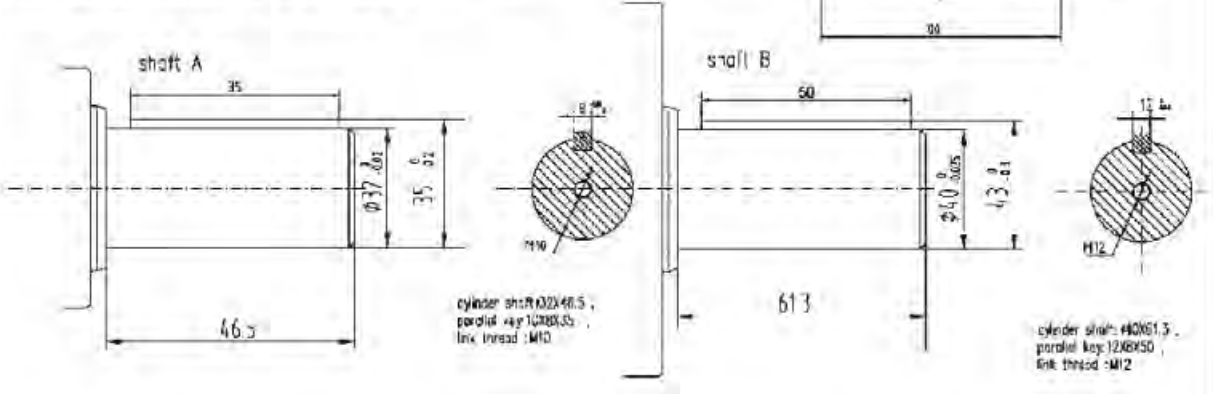


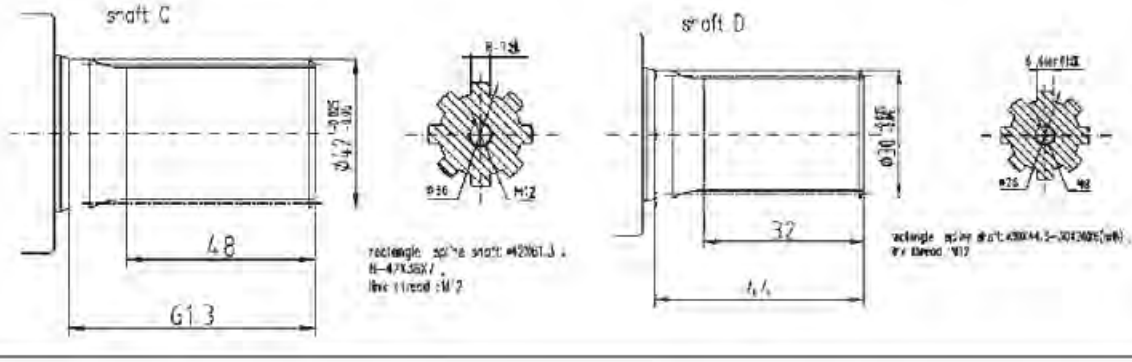




Displacement	245	310	390	500	630	850
H	212	219	228	239	2535	2745

Milinin dönme yönü standart şaftın dönüşü motor mili ucu bakarak, "A" portu saat yönünde "B" portu saat yönü tersi
Direction ofshaft rotation standart when facing shaft end of motor, shaft rotation Dockvise when port "A" is pressurized
Counter-dockviseport "B" is pressurized





Düşük Hızlı Yüksek Torklu Hidrolik Motorlar, W41 Serisi
Low Speed High Torque Hydraulic Motor, W41 Series

Opsiyonel Ölçüler Kod Numaraları / Code Numbers for Optional Dimensions

Feature			Displacement/No.					
Flange	Shaft	Oil Port	245	310	390	500	630	800
Bolt hole: 4- 13; pilot: 125 Square-flange	8D-42X36X7	M22X1.5, without drain port	41 - 1110	-1111	-1112	-1113	-1114	-1115
	8D-42X36X7	M22X1.5, Drain port M14X1.5,	41 - 1130	-1131	-1132	-1133	-1134	-1135
	8D-42X36X7	M22X1.5, Drain port G1/4,	41 - 1150	-1151	-1152	-1153	-1154	-1155
	Straight shaft 40,key width 12	M22X1.5, without drain port	41 - 0110	-0111	-0112	-0113	-0114	-0115
	Straight shaft 40,key width 12	M22X1.5, Drain port M14X1.5,	41 - 0130	-0131	-0132	-0133	-0134	-0135
	Straight shaft 40,key width 12	M22X1.5, Drain port G1/4,	41 - 0150	-0151	-0152	-0153	-0154	-0155
	Straight shaft 35,key width 10	M22X1.5, Drain port M14X1.5,	41 - 0120	-0121	-0122	-0123	-0124	-0125
Bolt hole: 4- 13; pilot: 125 Square-flange	6D-30X26X6	M22X1.5, without drain port	41 - 1010	-1011	-1012	-1013	-1014	-1015
	6D-30X26X8	M22X1.5, without drain port	41 - 1020	-1021	-1022	-1023	-1024	-1025
	6D-30X26X6	M22X1.5, Drain port M14X1.5,	41 - 1030	-1031	-1032	-1033	-1034	-1035
	6D-30X26X8	M22X1.5, without drain port	41 - 1050	-1051	-1052	-1053	-1054	-1055
	Straight shaft 25,key width 8	M22X1.5, Drain port M14X1.5,	41 - 0050	-0051	-0052	-0053	-0054	-0055
	Straight shaft 25,key width 8	M22X1.5, without drain port	41 - 0060	-0061	-0062	-0063	-0064	-0065
	Straight shaft 30,key width 8	M22X1.5, Drain port M14X1.5,	41 - 0070	-0071	-0072	-0073	-0074	-0075
	Straight shaft 30,key width 8	M22X1.5, without drain port	41 - 0080	-0081	-0082	-0083	-0084	-0085
	6D-30X26X8(Center hole threadM14)	M22X1.5, without drain port	41 - 1090	-1091	-1092	-1093	-1094	-1095

Düşük Hızlı Yüksek Torklu Hidrolik Motorlar, W51 Serisi
Low Speed High Torque Hydraulic Motor, W51 Series

W51 Serisi Hidrolik Motor / W51 Series Hydraulic Motor

Tanım ve Özellikler
W51 Serisi orbital hidrolik motorlar en gelişmiş disk valf sayesinde yüksek verimlilik, sorumluluk ve güvenlik çalışma sa larlar. Yaygın olarak kullanılan bu ürün geniş bir kullanım yelpazesine sahiptir. İnşaat makineleri, tarım makineleri, madencilik ekipmanları, kaldırma vinçler, nakliyat, makine imalatı vb. gruplar aşa ıdaki özelliklere sahiptir.
• Geroler tipi elemanı ile yüksek tork, düşük hız disk valfli motorlar.
• Kompakt boyut ve küçük hacimli, do rudan çalışma bileşenleriyle ekstra sürücü ve mekanik ba lantılar gerektirmez türlü şekilde adaptasyonlar sa lar.
• Geniş hız veya tork ile ilgili istekleriniz cevaplanabilir.
• Milinin dönme vasıtasıyla kolayca pozitif ve negatif yönde ayarlanabilmektedir.
• Basit bir hidrolik kontrollü vana ile her iki dönme yönünde aynı tork çıkışı elde edilebilir.
• Kontrollü vana ile her iki dönme yönünde aynı tork çıkışı elde edilebilir.
• Geniş hız kapsamında, 50 ile 800 devir içinde stabil iş sa lanabilir.
• Maks. sürekli çalışma basıncı 200 bara, aralımlı basınç ile 310 bar ulaşır. Yüksek basınçlı hidrolik sistemlerdeki gereksinimleri karşılayacak mil dönme hızlarına sahiptir.
• Yön kolay ve sorunsuz edilebilir.
• Paralel olarak veya hidrolik sistemler içinde seri ba lantılı olarak kullanılan olabilir. A ır hizmet uygulamaları için uygundur.
• Yüksek verimli ve ekonomiktir.
• Çeşitli ba lantı şekilleri flanş seçenekleri, çıkış mili ve ya ı giriş çıkışları mevcuttur.

Description and Features
W51 Series orbital hydraulic motors are the most advanced disc valve orbital hydraulic motors, with high working efficiency, liability and safety. It has a wide range of product models, which are widely used in construction machinery, agricultural machinery, mining equipments, lifting cranes, transportations, machinery manufacturing and military industries etc. They have the following product features:
• High Torque Low Speed disc valve motors with Geroler type element.
• Compact size and small volume, could drive the working components directly and need not the extra mechanical joint that needed by the system, which provide wide adaptions to the kinds of applications.
• Wide range of displacement, could satisfy wide requests on speeds or torques,
• The rotation of shaft could be easily adjusted between positive and negative directions through a simple hydraulic controlled valve connected with the ports and same torque outputs of both directions could be get for both directions of rotation.
• Broad speed scope, could work stably within 50-800RPM.
• The Max. continious working pressure reaches 20Mpa, and Max. intermittent pressure reaches 31Mpa, which highly satisfying the steadly progressed requirements from hydraulic systems.
• Direction of shaft rotation and speed can be controlled easily and smoothly.
• Could be used in parallel or in series connection in the hydraulic systems.
• High efficiency and economical, suitable for heavy duty applications.
• A variety of connection dims. options of flange, output shaft and oil port.

Düşük Hızlı Yüksek Torklu Hidrolik Motorlar, W51 Serisi
Low Speed High Torque Hydraulic Motor, W51 Series

Özellikler / Specifications

Deplasman Displacement cm³/r [in³/r]		80 [4.9]	100 [6.1]	125 [7.6]	160 [9.8]	195 [11.9]	245 [15.0]	305 [18.6]	395 [24.1]	500 [30.5]
Akış Flow LPM [GPM]	Cont.	75 [16]	75 [16]	75 [16]	75 [16]	75 [16]	75 [16]	75 [16]	75 [16]	75 [16]
	Int.	85 [19]	95 [21]	95 [21]	115 [25]	115 [25]	115 [25]	115 [25]	130 [29]	130 [29]
Max. Hız Max. Speed (RPM)	Cont.	850	675	552	430	345	287	231	178	142
	Int.	956	855	700	660	529	423	347	308	246
Basınç Pressure ^Bar [^PSI]	Cont.	175 [2538]	175 [2538]	175 [2538]	175 [2538]	175 [2538]	175 [2538]	150 [2175]	150 [2175]	120 [1740]
	Int.	280 [4060]	280 [4060]	280 [4060]	250 [3625]	250 [3625]	250 [3625]	210 [3045]	175 [2538]	150 [2175]
Tork Torque Nm [lbf-in]	Cont.	178 [1575]	223 [1974]	278 [2461]	356 [3151]	445 [3939]	557 [4930]	580 [5133]	715 [6328]	720 [6373]
	Int.	285 [2522]	356 [3151]	445 [3939]	509 [4505]	636 [5629]	755 [6682]	763 [6753]	840 [7435]	860 [7612]

Not:
1. Hidromotor aralıklı olarak pik basınca çıkış de eridir. Hidromotor sürekli belirtilen basınçlarda çalışabilir.
2. Motorda yüksek basınç ve maksimum hız altında çalışma olmamalıdır.
3. Çalışma süresi pik basınçta normal sürenin %10'unu geçmemelidir.
4. Önerilen hidrolik ya ı, viskozite 37-73 cSt, temizlik ISO18/13 olmalıdır.
5. Maksimum çalışma sıcaklı ı 80 °C'dir.
6. Maksimum çalışma basıncı %40 altında bir saat tam kapasite ile çalışması tavsiye edilir.
7. İzin verilen maksimum geri basıncı 100 bar, ancak önerilen geri basınç olmamalıdır. Sızıntı hattına 50 bar kapasiteli boru gerekmektedir.

Note:
1. Intermittent means the entrance of the maximum pressure; continuous working pressure means the differential pressure.
2. Motor should not work under the highest pressure and the maximum speed.
3. The running time should not exceed 10% under intermittent working conditions.
4. Recommending N68 anti-wear hydraulic oil, viscosity 37-73cSt, cleanliness ISO18/13.
5. The Maximum working temperature is 80°Ê.
6. One hour running time under 40% of maximum working pressure is recommended before full capacity working.
7. The maximum allowable back pressure is 10MPa, but the recommended back pressure should not exceed 5MPa.a leaking pipes is needed when exceeding.

Düşük Hızlı Yüksek Torklu Hidrolik Motorlar, W51 Serisi
Low Speed High Torque Hydraulic Motor, W51 Series

Performans Bilgileri / Performance Data

☐ **Sürekli** ■ **Aralıklı** ☐ Continuous ■ İntermittent

W51-80 80ml/r

Flow (LPM)	ΔP (Mpa) 3.5	7	10	14	17	21	24	28
4	35 46	75 42	103 38	145 35	176 30	208 23	220 14	245 2
8	35 97	75 90	105 86	152 83	180 78	216 69	236 60	257 49
16	35 195	75 187	105 182	150 178	186 170	217 162	249 148	265 132
24	35 284	75 280	105 270	152 263	188 258	222 245	256 232	289 210
32	35 388	75 380	103 371	155 360	190 359	230 345	265 328	287 300
45	30 538	70 535	101 530	149 518	186 510	228 482	262 470	282 430
60	30 720	70 716	97 710	147 679	183 670	229 635	258 599	278 569
75	25 899	65 878	95 860	146 856	179 842	221 801	242 756	269 723
85	22 956	60 948	90 926	140 905	172 893	218 885	225 852	238 801

W51-100 100ml/r

Flow (LPM)	ΔP (Mpa) 3.5	7	10	14	17	21	24	28
4	45 33	89 32	130 30	175 24	208 16	246 6		
8	46 75	90 72	135 68	180 55	215 53	251 38	278 30	
16	46 152	93 150	140 146	185 140	220 128	269 112	295 99	318 82
24	46 230	93 225	140 218	188 212	231 201	270 176	305 172	356 150
32	42 315	93 310	142 300	186 290	233 275	278 240	310 238	372 225
45	40 440	90 435	141 426	190 410	228 400	285 368	340 355	389 340
61	35 590	90 582	138 570	185 560	230 538	290 510	330 490	369 475
75	35 725	85 716	136 702	178 678	228 660	280 641	315 622	356 603
85	32 820	80 815	130 805	176 792	225 778	275 759	307 710	
95	24 920	75 918	122 901	169 887	225 869	268 842	310 808	

W51-125 125ml/r

Flow (LPM)	ΔP (Mpa) 3.5	7	10	14	17	21	24	28
4	55 29	115 25	172 21	221 17	280 14	325 10	360 4	
8	57 61	115 58	172 52	221 46	285 42	326 40	362 31	412 25
16	56 124	116 120	174 116	235 110	295 106	345 99	379 93	446 83
24	58 185	118 183	180 176	238 166	302 154	352 149	402 140	486 126
32	55 246	120 240	180 235	240 230	312 222	361 218	408 210	508 200
45	50 356	115 340	175 335	236 330	310 321	360 311	406 298	502 286
60	45 460	113 455	173 450	240 448	300 445	360 440	420 438	470 436
75	42 560	110 558	170 555	230 552	290 550	345 548	410 545	460 540
85	40 642	105 640	160 635	230 630	300 628	355 625	415 620	
95	32 730	90 727	155 725	220 723	285 720	350 718	400 715	

W51-160 160ml/r

Flow (LPM)	ΔP (Mpa) 3.5	7	10	14	17	21	24
4	65 23	131 20	191 19	260 13	318 9	384 3	428 2
8	70 47	135 45	196 42	265 36	335 36	404 34	460 28
16	70 98	140 95	208 91	286 85	360 83	440 78	502 50
24	74 145	145 142	216 139	293 128	372 125	450 116	521 107
32	74 198	150 196	220 191	300 180	373 182	459 175	526 161
45	70 282	150 279	221 276	305 265	380 254	458 240	530 236
60	65 370	145 368	210 365	300 362	375 360	455 355	
75	60 459	135 456	205 453	300 451	375 449		
85	55 520	130 518	200 516	290 514	370 512		
95	50 580	128 578	200 575	290 572	265 570		
115	35 698	120 680	190 670	280 660			

Düşük Hızlı Yüksek Torklu Hidrolik Motorlar, W51 Serisi
Low Speed High Torque Hydraulic Motor, W51 Series

Performans Bilgileri / Performance Data

W51-200 200ml/r

Flow (LPM)	ΔP (Mpa) 3.5	7	10	14	17	21	24
4	79 16	160 14	198 12	305 7	370 5	440 2	
8	86 37	165 35	245 34	325 27	420 24	522 20	570 13
16	90 78	175 76	256 75	345 68	438 66	523 60	596 53
24	91 116	180 114	268 113	360 105	448 103	542 98	610 90
32	91 160	185 156	270 154	371 150	460 146	550 136	620 130
45	91 226	186 222	280 219	376 215	466 209	550 202	
60	80 304	186 300	271 293	375 286	465 280	550 272	
75	75 382	176 376	268 370	370 361	460 350		
85	68 425	168 420	260 412	360 408	458 400		
95	60 482	160 476	256 470	355 459	445 449		
115	44 578	145 570	235 564	330 549			

W51-250 250ml/r

Flow (LPM)	ΔP (Mpa) 3.5	7	10	14	17	21	24
4	105 13	210 11	312 10	410 6	524 4	630 3	
8	109 29	215 27	320 25	425 21	545 19	650 15	740 12
16	115 63	225 57	336 57	450 52	565 51	676 49	765 46
24	115 94	230 90	342 87	465 81	580 77	690 72	780 66
32	115 129	235 125	356 121	475 115	600 112	706 105	
45	110 183	235 180	356 176	480 170	600 165		
60	95 240	230 236	350 234	470 230	580 220		
75	90 303	215 300	336 296	465 290			
85	80 340	210 336	325 330	455 320			
95	75 385	200 378	320 375	445 365			
115	60 463	185 458	305 456	428 448			

W51-305 305ml/r

Flow (LPM)	ΔP (Mpa) 3.5	7	10	14	17	21	
4	135 12	260 10	386 9	500 6	610 1		
8	135 25	270 23	390 21	520 19	640 15	768 11	
16	140 52	280 50	410 48	545 44	675 40	815 34	
24	145 77	290 75	420 72	560 66	700 60	732 56	
32	145 104	295 102	428 100	575 91	710 85		
45	140 147	295 144	425 142	580 133	720 124		
60	125 195	281 190	423 185	570 176			
75	110 243	265 236	408 232	560 220			
85	104 275	258 271	382 265	540 260			
95	95 307	250 300	359 296	502 290			
115	75 366	228 361	342 358				

W51-400 400ml/r

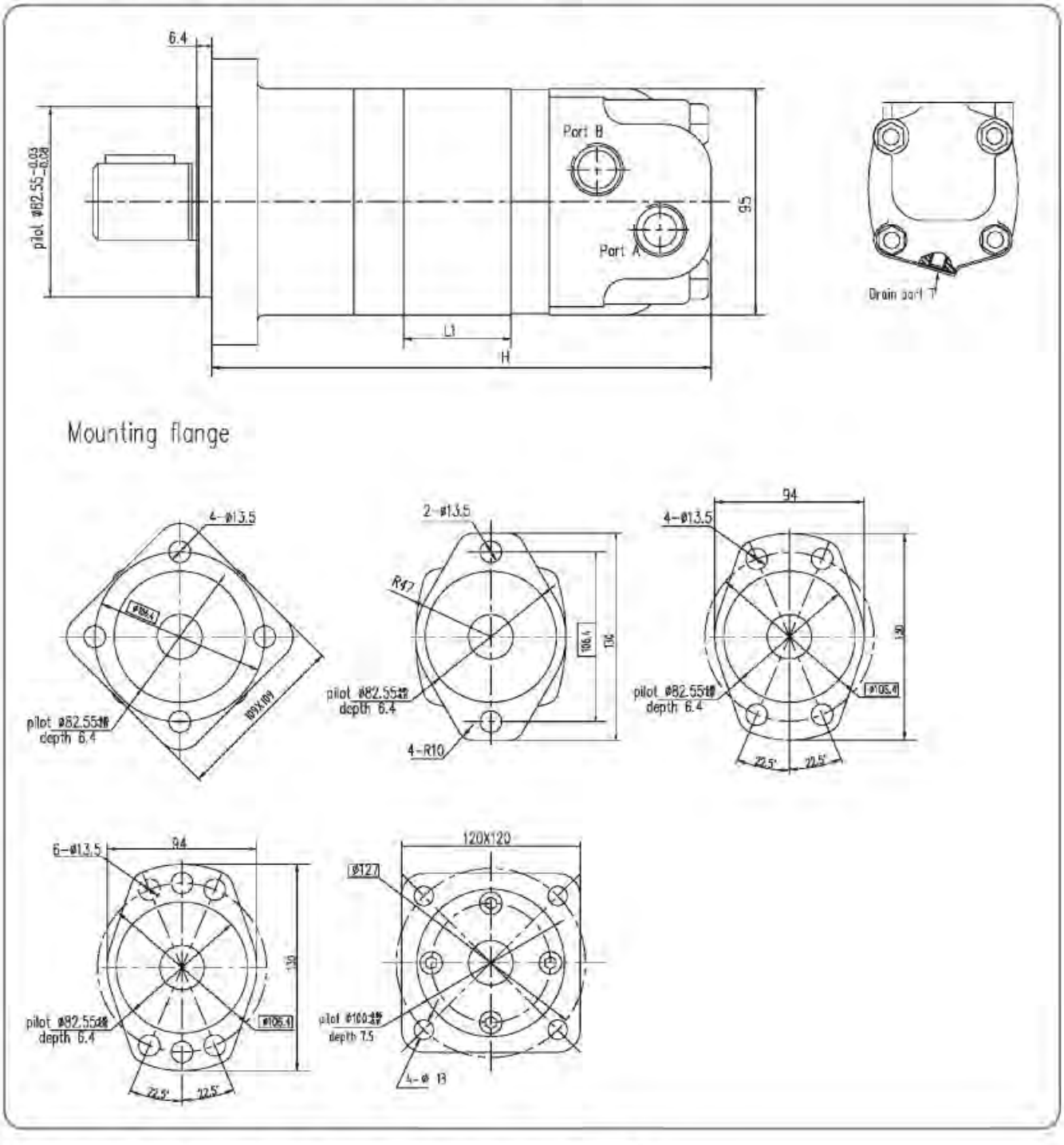
Flow (LPM)	ΔP (Mpa) 3.5	7	10	14	17		
4	175 9	350 8	496 7	665 6	820 4		
8	180 19	360 18	510 17	695 14	830 11		
16	190 39	375 37	542 36	730 34	866 29		
24	190 58	385 56	550 54	750 50	880 46		
32	190 80	390 78	560 74	765 70			
45	190 113	390 112	560 108	755 102			
60	180 150	380 148	542 144				
75	165 188	370 186	532 180				
85	154 211	358 210	522 208				
95	140 238	340 236	512 232				
115	120 288	320 284	498 278				

Not: Tüm testler hidrolik ya ve 50°C de yapılmıştır. Çalışma şartlarına göre de erler farklılık gösterebilir.

Note: All the data are tested at 50°C with N68 anti-wear hydraulic oil. Actual data may vary slightly from unit to unit in production.

Düşük Hızlı Yüksek Torklu Hidrolik Motorlar, W51 Serisi
Low Speed High Torque Hydraulic Motor, W51 Series

Ölçü ve Montaj Bilgileri / Dimensions and Mounting Data

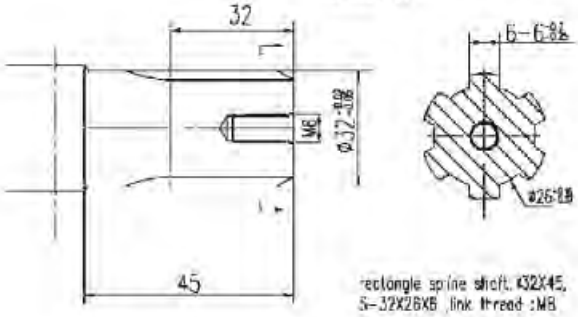


Dis(ml/r)	80	100	125	160	195	245	305	395	500
H	185	190	196	201	203	212	224	240	257

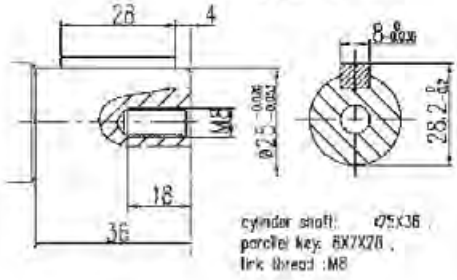
Düşük Hızlı Yüksek Torklu Hidrolik Motorlar, W51 Serisi
Low Speed High Torque Hydraulic Motor, W51 Series

Şaft / Shaft

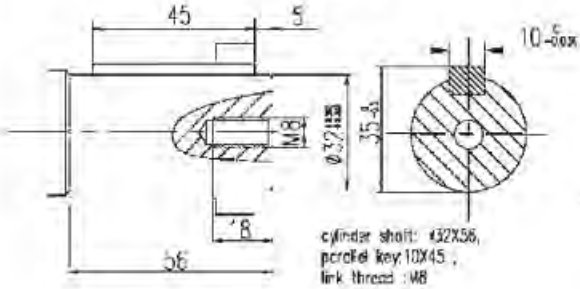
shaft A



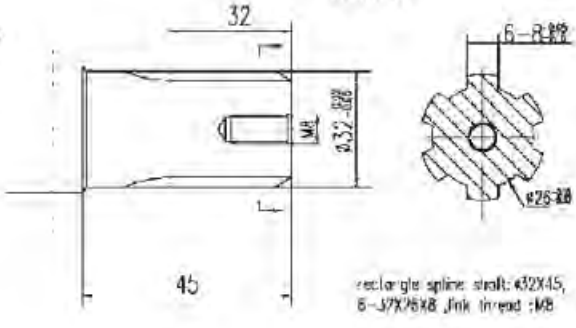
shaft B



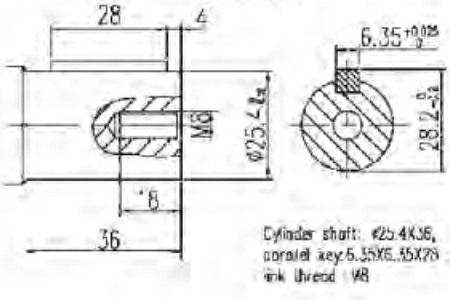
shaft C



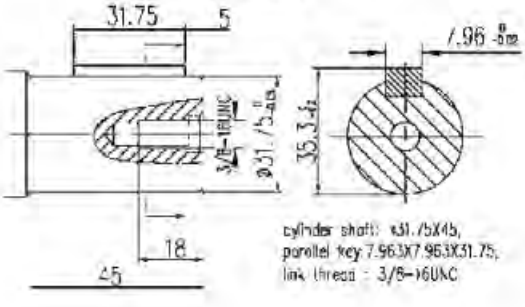
shaft D



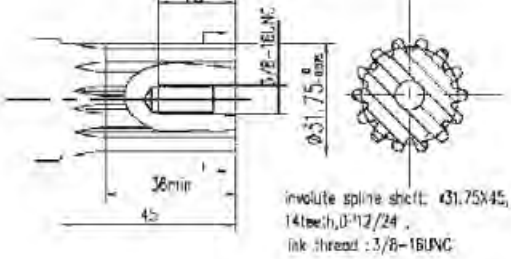
shaft E



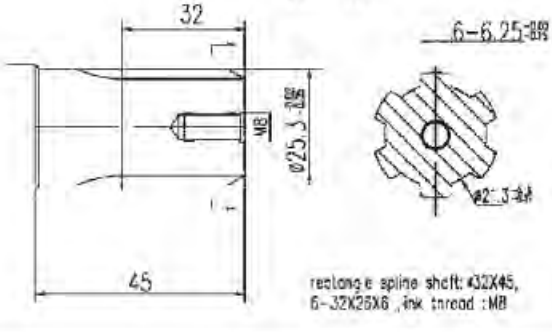
shaft F



shaft G

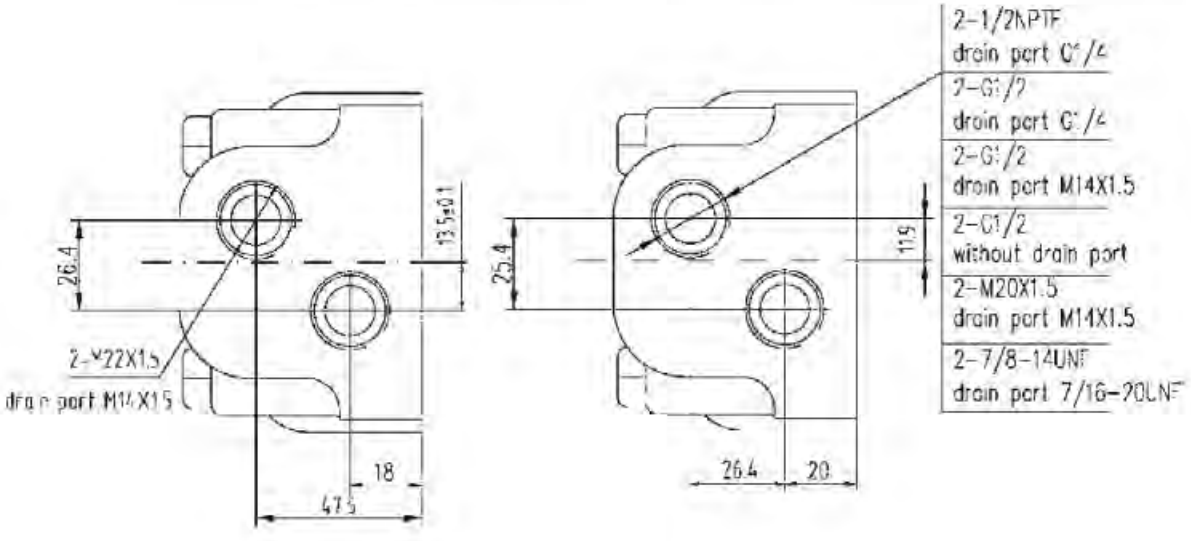


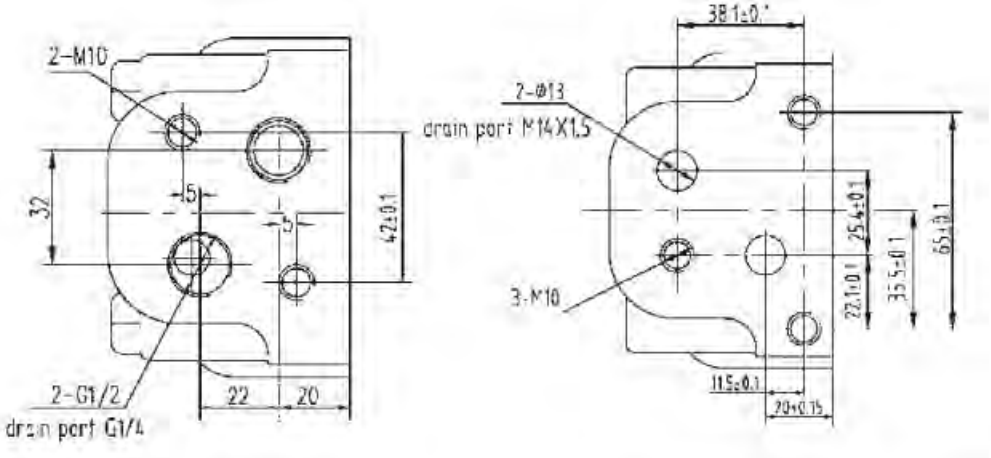
shaft H

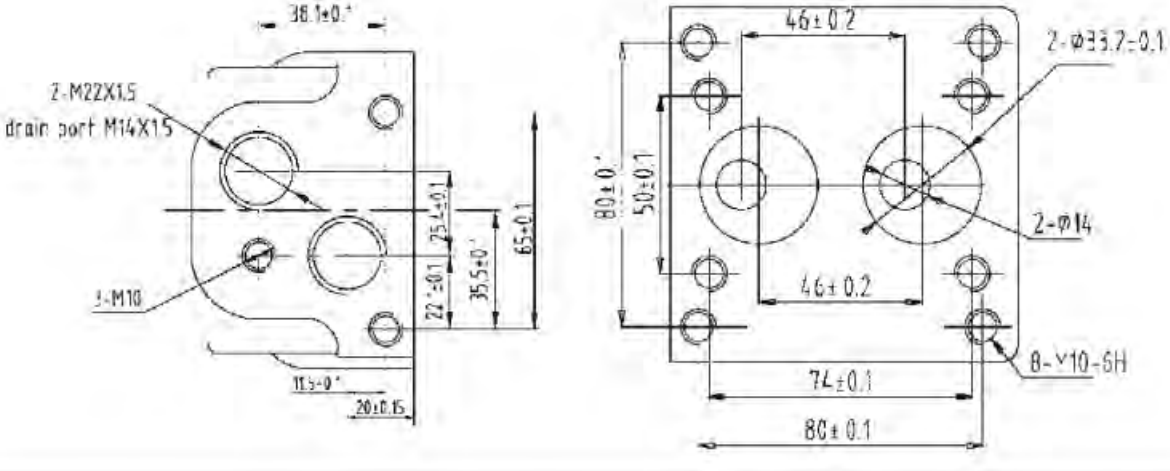


Düşük Hızlı Yüksek Torklu Hidrolik Motorlar, W51 Serisi
Low Speed High Torque Hydraulic Motor, W51 Series

Port / Port







Düşük Hızlı Yüksek Torklu Hidrolik Motorlar, W51 Serisi
Low Speed High Torque Hydraulic Motor, W51 Series

Opsiyonel Ölçüler Kod Numaraları / Code Numbers for Optional Dimensions

Feature			**Displacement/No.**								
Flange	Shaft	Oil Port	80	100	125	160	195	245	305	395	500
Square-flange 109X109 Pilot Φ82.55	6D-30X26X6 ;shaft thread:M8	M22X1.5 without drain port	51 - 10 11	-101 2	-101 3	-101 4	-101 5	-101 6	-101 7	-101 8	-101 9
Rhomb-flange Pilot Φ82.55	6D-30X26X6 ;shaft thread:M8	M22X1.5 without drain port	51 - 10 21	-102 2	-102 3	-102 4	-102 5	-102 6	-102 7	-102 8	-102 9
Square-flange 109X109 Pilot Φ82.55	6D-30X26X6 Shaft extension 52.5	G1/2 Drain port G1/4	51 - 10 31	-103 2	-103 3	-103 4	-103 5	-103 6	-103 7	-103 8	-103 9
Rhomb-flange Pilot Φ82.55	6D-30X26X6 Shaft extension 52.5	M22X1.5 M14X1.5	51 - 10 41	-104 2	-104 3	-104 4	-104 5	-104 6	-104 7	-104 8	-104 9
Square-flange 109X109 Pilot Φ82.55	6D-30X26X6 Shaft extension 66.5	M22X1.5 M14X1.5	51 - 10 51	-105 2	-105 3	-105 4	-105 5	-105 6	-105 7	-105 8	-105 9
Rhomb-flange Pilot Φ82.55	6D-30X26X6 Shaft extension 66.5	M22X1.5 M14X1.5	51 - 10 61	-106 2	-106 3	-106 4	-106 5	-106 6	-106 7	-106 8	-106 9
Square-flange 109X109 Pilot Φ82.55	Straight shaft 25.4,key width 8	M22X1.5 M14X1.5	51 - 01 01	-010 2	-010 3	-010 4	-010 5	-010 6	-010 7	-010 8	-010 9
Square-flange 109X109 Pilot Φ82.55	Straight shaft 25,key width 8	M22X1.5 M14X1.5	51 - 01 11	-011 2	-011 3	-011 4	-011 5	-011 6	-011 7	-011 8	-011 9
Rhomb-flange Pilot Φ82.55	Straight shaft 32,key width10	M22X1.5 M14X1.5	51 - 01 21	-012 2	-012 3	-012 4	-012 5	-012 6	-012 7	-012 8	-012 9
Square-flange 109X109 Pilot Φ82.55	Straight shaft 32,key width10	M22X1.5 without drain port	151-01 31	-013 2	-013 3	-013 4	-013 5	-013 6	-013 7	-013 8	-013 9
Rhomb-flangeΦ82.55	Straight shaft 25,key width 8	G1/2 Drain port G1/4	51 - 01 41	-014 2	-014 3	-014 4	-014 5	-014 6	-014 7	-014 8	-014 9
Square-flange 109X109 Pilot Φ82.55	Straight shaft 1.25,key width 7.963	G1/2 Drain port G1/4	51 - 01 51	-015 2	-015 3	-015 4	-015 5	-015 6	-015 7	-015 8	-015 9
Rhomb-flange Pilot Φ82.55	Straight shaft 1.25,key width 7.963	G1/2 Drain port G1/4	51 - 01 61	-016 2	-016 3	-016 4	-016 5	-016 6	-016 7	-016 8	-016 9
Square-flange 109X109 Pilot Φ82.55	Straight shaft 25.4,key width 6.35	G1/2 Drain port G1/4	51 - 02 11	-021 2	-021 3	-021 4	-021 5	-021 6	-021 7	-021 8	-021 9
Rhomb-flange Pilot Φ82.55	Straight shaft 30,key width 8	M22X1.5 without drain port	51 - 02 21	-022 2	-022 3	-022 4	-022 5	-022 6	-022 7	-022 8	-022 9
Square-flange 109X109 Pilot Φ82.55	Straight shaft 30,key width 8	G1/2 Drain port G1/4	51 - 02 11	-023 2	-023 3	-023 4	-023 5	-023 6	-023 7	-023 8	-023 9

Düşük Hızlı Yüksek Torklu Hidrolik Motorlar, W61 Serisi
Low Speed High Torque Hydraulic Motor, W61 Series

W61 Serisi Hidrolik Motor / W61 Series Hydraulic Motor

Özellikler / Specifications

Deplasman Displacement cm³/r [in³/r]		195 [11.9]	245 [15.0]	310 [18.9]	390 [23.8]	490 [29.9]	625 [38.1]	800 [48.8]	985 [60.1]
Akış Flow LPM [GPM]	Cont.	150 [33]	150 [33]	150 [33]	150 [33]	150 [33]	150 [33]	150 [33]	150 [33]
	Int.	170 [37]	210 [46]	225 [49]	225 [49]	225 [49]	225 [49]	225 [49]	225 [49]
Max. Hız Max. Speed (RPM)	Cont.	776	615	484	385	308	242	186	155
	Int.	865	836	699	572	453	354	275	230
Basınç Pressure △Bar [△ PSI]	Cont.	205 [2973]	205 [2973]	205 [2973]	205 [2973]	170 [2465]	140 [2030]	120 [1740]	120 [1740]
	Int.	310 [4495]	310 [4495]	310 [4495]	310 [4495]	275 [3988]	170 [2465]	140 [2030]	140 [2030]
Tork Torque Nm [lbf-in]	Cont.	572 [5063]	733 [6488]	928 [8213]	1156 [10231]	1213 [10736]	1331 [11780]	1378 [12196]	1565 [13851]
	Int.	852 [7541]	1176 [10408]	1356 [12002]	1633 [14453]	1878 [16622]	1368 [12108]	1645 [14559]	1877 [16613]

Not:
1. Hidromotor aralıklı olarak pik basınca çıkış de eridir. Hidromotor sürekli belirtilen basınçlarda çalışabilir.
2. Motorda yüksek basınç ve maksimum hız altında çalışma olmamalıdır.
3. Çalışma süresi pik basınçta normal sürenin %10'unu geçmemelidir.
4. Önerilen hidrolik ya ı, viskozite 37-73 cSt, temizlik ISO18/13 olmalıdır.
5. Maksimum çalışma sıcaklı ı 80 °C'dir.
6. Maksimum çalışma basıncı %40 altında bir saat tam kapasite ile çalışması tavsiye edilir.
7. İzin verilen maksimum geri basıncı 100 bar, ancak önerilen geri basınç olmamalıdır. Sızıntı hattına 50 bar kapasiteli boru gerekmektedir.

Note:
1. Intermittent means the entrance of the maximum pressure; continuous working pressure means the differential pressure.
2. Motor should not work under the highest pressure and the maximum speed.
3. The running time should not exceed 10% under intermittent working conditions.
4. Recommending N68 anti-wear hydraulic oil, viscosity 37-73cSt, cleanliness ISO18/13.
5. The Maximum working temperature is 80°È.
6. One hour running time under 40% of maximum working pressure is recommended before full capacity working.
7. The maximum allowable back pressure is 10MPa, but the recommended back pressure should not exceed 5MPa.a leaking pipes is needed when exceeding.

Düşük Hızlı Yüksek Torklu Hidrolik Motorlar, W61 Serisi
Low Speed High Torque Hydraulic Motor, W61 Series

Performans Bilgileri / Performance Data

☐ **Sürekli** ■ **Aralıklı** ☐ Continuous ■ İntermittent

W61-195 195ml/r

Flow (LPM)	△P (Mpa) 3.5	7	10.5	14	17	21	24	27.5	31
15	80 76	175 74	271 71	366 65	454 62	521 45	589 32	654 18	
30	86 153	179 148	274 144	371 130	464 119	545 116	626 99	704 82	779 65
45	85 230	180 226	279 221	374 212	476 202	565 186	654 168	751 148	825 118
61	79 307	179 303	280 300	376 290	475 283	574 258	664 236	760 214	845 181
76	80 385	179 379	281 373	380 365	480 255	574 332	671 305	769 280	860 246
91	80 462	174 456	274 450	375 439	474 430	575 412	669 388	770 363	
106	74 539	176 532	271 525	375 513	474 502	570 475	669 448	770 420	
121	70 617	169 609	269 602	369 590	470 575	570 541	670 510	763 480	
136	70 692	163 684	264 674	364 660	465 645	565 600	664 564	763 527	
151	70 770	164 759	261 745	364 733	466 717	559 666	660 624		
170	65 866	161 854	259 844	360 825	461 808	555 749	655 702		

W61-245 245ml/r

Flow (LPM)	△P (Mpa) 3.5	7	10.5	14	17	20.5	24	27.5	31
15	106 60	227 56	346 54	461 48	577 42	643 39	751 30	853 12	960 6
30	110 120	237 116	354 113	475 104	596 95	701 81	800 67	905 48	1018 35
45	110 182	235 179	360 175	482 165	607 157	721 141	840 123	955 107	1075 90
61	112 244	236 240	360 236	487 228	611 221	730 202	844 184	960 163	1181 144
76	105 306	232 301	354 297	485 287	614 277	735 256	853 238	980 217	1100 197
91	104 365	231 361	356 357	482 348	612 338	735 314	861 290	979 270	
106	102 426	227 421	352 416	483 403	611 375	733 355	855 335	980 320	
121	91 489	216 481	346 474	470 461	600 447	725 422	850 395	975 370	
136	80 550	210 544	334 537	460 524	580 510	710 480	840 454		
151	80 612	202 606	330 600	456 585	580 570	700 538	800 507		
170	66 688	202 682	326 674	446 685	575 640	685 606	755 571		
189		195 758	316 749	441 731	555 710	670 675			
208		191 834	311 824	431 804	551 783	665 742			

W61-310 310ml/r

Flow (LPM)	△P (Mpa) 3.5	7	10.5	14	17	21	24	27.5	31
15	136 47	292 45	431 42	573 38	684 32	801 24	934 17	1020 10	1070 3
30	140 95	300 92	451 87	596 81	732 73	870 63	985 54	1100 44	1235 32
45	140 143	306 140	461 135	612 129	760 120	909 110	1045 99	1180 88	1330 75
61	140 192	302 188	462 184	615 178	771 167	920 154	1060 140	1200 124	1350 109
76	135 241	296 236	457 232	617 226	772 216	925 200	1075 182	1220 165	
91	130 289	296 282	456 278	614 273	774 260	929 248	1078 232	1226 215	
106	130 336	290 333	450 327	609 320	768 308	928 295	1073 276	1220 257	
121	125 384	285 381	444 375	600 367	763 354	918 341	1060 320		
136	120 430	276 421	434 416	590 410	748 396	912 383	1050 360		
151	115 478	271 466	424 461	578 456	743 441	902 427	1035 403		
189	110 597	245 582	384 576	523 570	682 551	836 534			
227		220 698	364 691	513 684	647 661	796 641			

W61-395 395ml/r

Flow (LPM)	△P (Mpa) 3.5	7	10.5	14	17	20.5	24	27.5	31
15	188 37	378 36	563 34	743 32	923 28	1083 21	1276 13	1371 5	1635 1
30	188 75	383 73	578 71	763 67	953 64	1137 54	1316 44	1456 32	1635 20
45	188 114	388 111	583 108	773 104	968 99	1152 90	1341 80	1540 78	
61	183 153	383 150	583 146	773 143	968 131	1156 125	1345 115		
76	183 192	383 188	583 186	778 181	973 174	1161 161	1356 151		
91	173 228	373 228	573 224	768 219	968 211	1156 203			
106	168 267	368 265	568 260	763 254	963 247	1151 235			
121	163 305	358 303	558 298	753 291	947 281	1146 268			
136	158 345	343 339	548 335	733 328	733 316	1131 300			
151	153 385	328 379	538 374	733 367	917 358				
189	133 481	303 474	518 468	733 459	913 448				
227		283 569	502 561	721 551	891 537				

Düşük Hızlı Yüksek Torklu Hidrolik Motorlar, W61 Serisi
Low Speed High Torque Hydraulic Motor, W61 Series

W61-490 490ml/r

Flow (LPM)	△P (Mpa) 3.5	5	7	10.5	14	17	20.5	24	27.5
15	235 30	486 29	725 28	962 27	1195 25	1408 21	1643 17	1880 12	
30	235 60	486 59	734 57	973 54	1213 51	1442 45	1680 38		
45	235 91	485 89	733 87	974 84	1218 79	1450 71			
61	234 122	480 121	728 118	973 114	1217 109	1456 100			
76	225 152	470 150	723 147	972 144	1217 139				
91	220 184	469 181	719 180	968 176	1210 171				
106	209 214	459 211	708 208	957 204	1205 198				
121	194 244	448 241	700 237	947 232	1200 226				
136	175 275	433 272	683 265	937 260	1170 255				
151	160 306	423 303	673 295	917 290	1145 284				
189	130 382	364 379	588 365	857 362					
227		323 454	546 442	800 435					

W61-625 625ml/r

Flow (LPM)	△P (Mpa) 3.5	5	7	8.5	10.5	12	14	17
15	275 24	425 24	570 23	709 22	849 21	954 18	1063 16	1190 15
30	295 45	450 44	604 44	754 43	923 42	1093 39	1267 37	1355 36
45	295 72	448 71	609 71	764 70	918 68	1123 66	1327 64	1375 63
61	285 94	445 93	604 92	759 91	914 89	1118 87	1323 85	1370 83
76	280 119	439 118	594 117	754 116	914 115	1118 112	1324 110	1372 107
91	264 143	429 142	585 140	744 139	904 138	1108 135	1317 132	1365 130
106	255 168	414 166	574 165	734 164	893 162	1103 159	1312 156	1360 153
121	240 192	400 190	559 188	719 187	878 185	1088 182	1297 179	1345 176
136	220 216	379 214	539 213	698 212	853 210	1047 207		
151	200 240	360 239	519 238	679 237	833 236	1012 233		
189		310 298	469 296	629 294	788 290			
227		254 355	430 353	588 350	742 345			

W61-800 800ml/r

Flow (LPM)	△P (Mpa) 3.5	5	7	8.5	10.5	12	14
15	434 18	607 17	838 17	1018 16	1238 15	1377 14	1646 13
30	419 36	395 35	828 35	1003 34	1238 33	1412 31	1606 29
45	379 55	564 55	794 54	970 54	1187 53	1358 51	
61	339 75	519 74	758 72	937 71	1167 70		
76	324 93	498 92	728 90	897 89	1135 87		
91	314 111	468 110	698 109	857 108	1076 105		
106	309 129	448 128	648 127	797 125	1016 123		
121	279 148	419 146	608 145	746 143			
136	269 166	398 165	547 165	695 164			
151	249 184	348 183	497 182	631 180			
189		299 230	438 228	576 225			
227			378 276	516 273			

W61-985 985ml/r

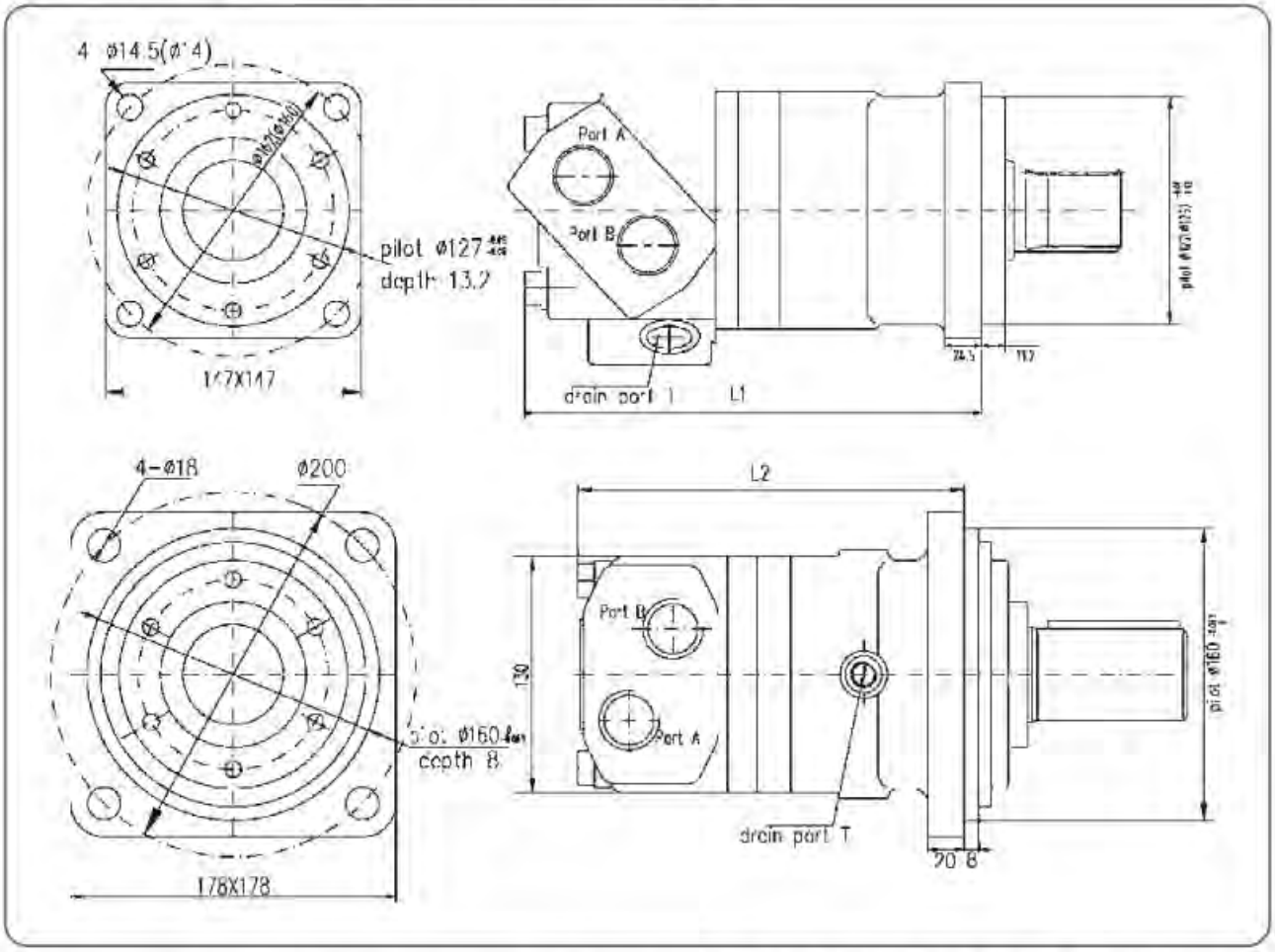
Flow (LPM)	△P (Mpa) 3.5	5	7	8.5	10.5	12	14
15	484 15	774 15	964 14	1203 14	1443 13	1567 13	1786 12
30	494 30	749 30	994 29	1233 28	1477 27	1637 26	1871 25
45	494 45	749 45	1000 44	1248 43	1492 42	1696 41	
61	489 61	739 61	995 60	1243 59	1497 58		
76	475 77	730 76	983 76	1233 75	1481 74		
91	460 92	704 92	959 91	1217 90	1466 89		
106	444 107	700 107	949 106	1197 105	1446 103		
121	425 123	674 122	923 121	1156 120			
136	394 138	645 138	893 137	1120 135			
151	365 153	609 152	864 151	1080 150			
189	325 191	585 190	829 189	1047 188			
227		525 230	809 229	1020 226			

Not: Tüm testler hidrolik ya ve 50°C de yapılmıştır. Çalışma şartlarına göre de erler farklılık gösterebilir.

Note: All the data are tested at 50°C with N68 anti-wear hydraulic oil. Actual data may vary slightly from unit to unit in production.

Düşük Hızlı Yüksek Torklu Hidrolik Motorlar, W61 Serisi
Low Speed High Torque Hydraulic Motor, W61 Series

Ölçü ve Montaj Bilgileri / Dimensions and Mounting Data



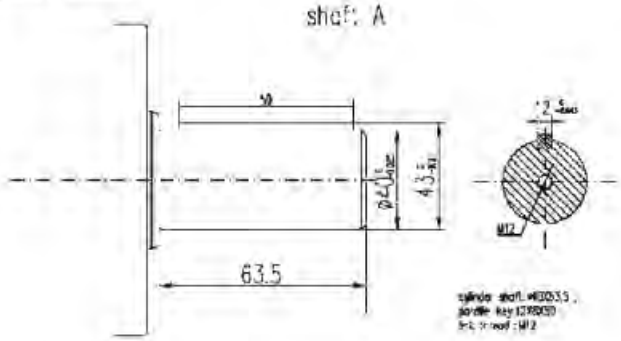
Displacement	195	245	310	395	490	625	800	985
L1	270	276	283	292	303	318	333	358
L2	230	236	2455	2515	2625	277	293	317

Milinin dönme yönü standart şaftın dönüşü motor mili ucu bakarak,
"A" portu saat yönünde
"B" portu saat yönü tersi
Direction ofshaft rotation standart when facing shaft end of motor, shaft rotation
Dockvise when port "A" is pressurized
Counter-dockviseport "B" is pressurized

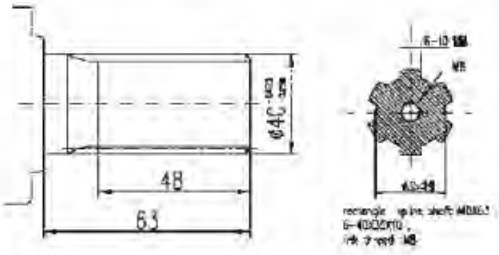
Düşük Hızlı Yüksek Torklu Hidrolik Motorlar, W61 Serisi
Low Speed High Torque Hydraulic Motor, W61 Series

Şaft / Shaft

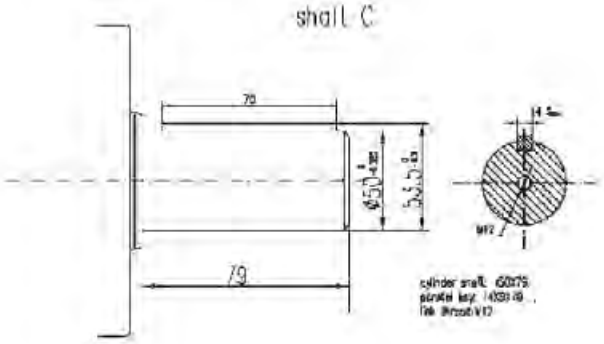
shaft A



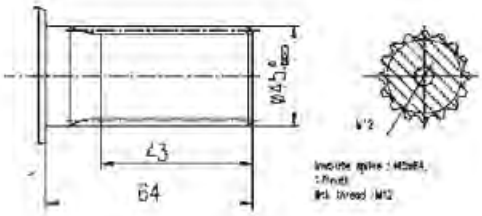
shaft B



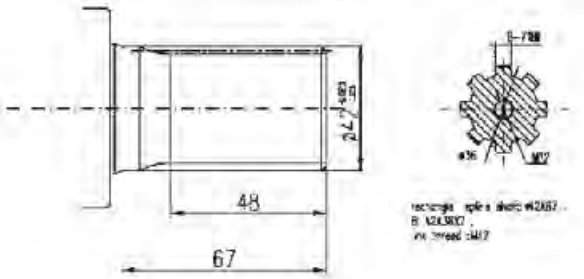
shaft C



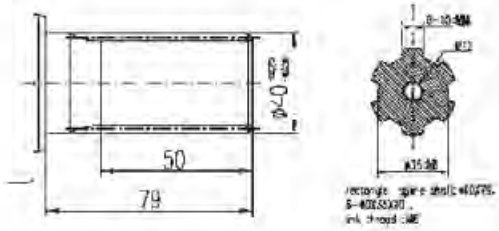
shaft D



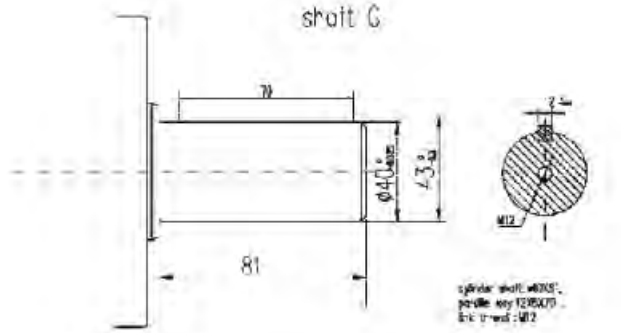
shaft E



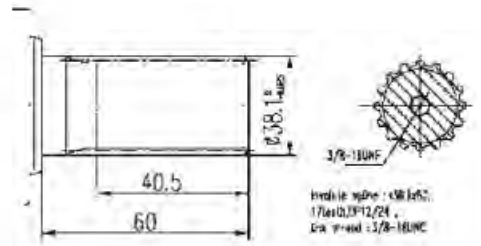
shaft F



shaft G

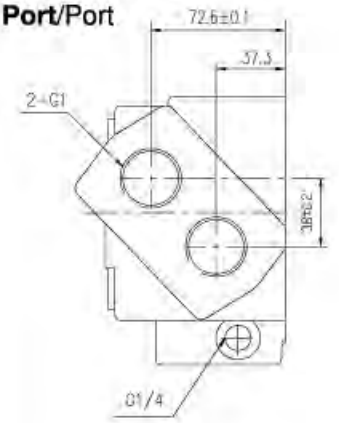


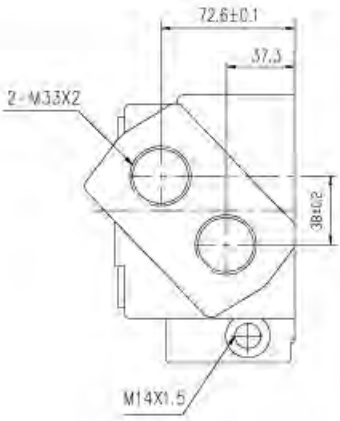
shaft H

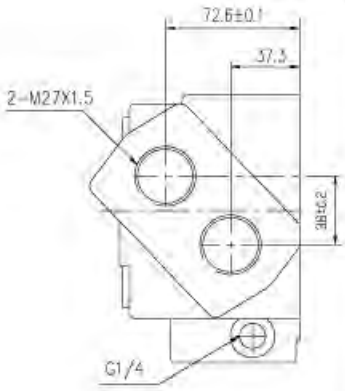


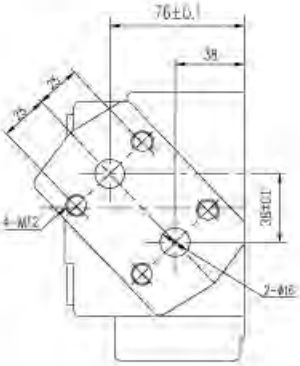
Düşük Hızlı Yüksek Torklu Hidrolik Motorlar, W61 Serisi
Low Speed High Torque Hydraulic Motor, W61 Series

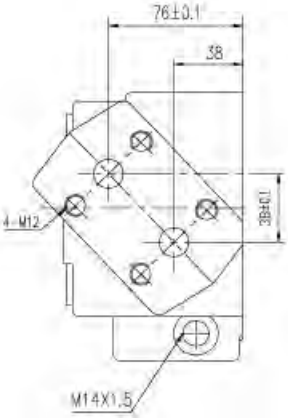
Port/Port

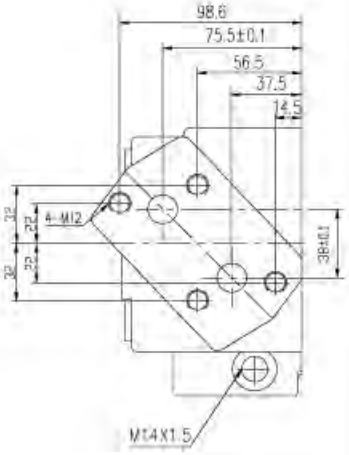


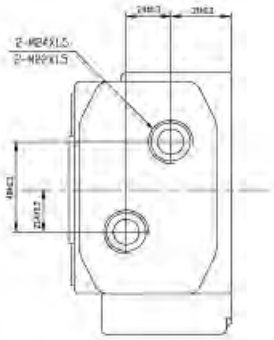


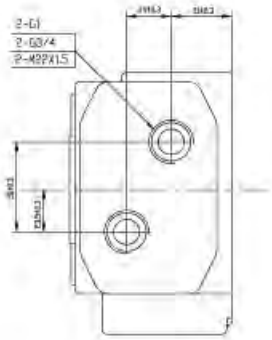


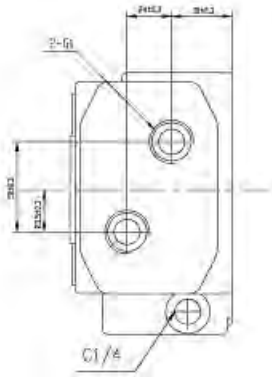


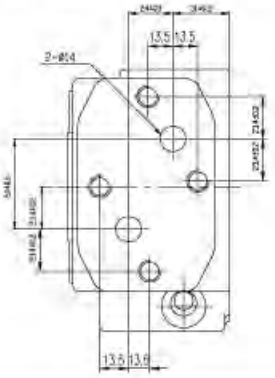


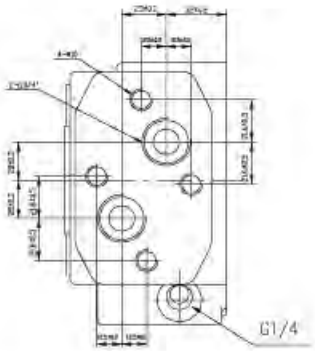












Düşük Hızlı Yüksek Torklu Hidrolik Motorlar, W61 Serisi
Low Speed High Torque Hydraulic Motor, W61 Series

Opsiyonel Ölçüler Kod Numaraları / Code Numbers for Optional Dimensions

Feature			**Displacement/No.**							
Flange	Shaft	Oil Port	195	245	310	395	490	625	800	985
Square-flange Pilot Φ127	Straight shaft: Φ40 Flatkey:12X45	2-Å 14 4-M12	61 - 0091	-0092	-0093	-0094	-0095	-0096	-0097	-0098
Square-flange Pilot Φ160	Involute Spline : 17m=2.5	2-G3/4 4-M12 Leakingport:G1/4	61 - 2401	-2402	-2403	-2404	-2405	-2406	-2407	-2408
Square-flange Pilot Φ125	Straight shaft Φ40 Flatkey:12X45	M24X1.5 Drain port M14X1.5	61 - 0051	-0052	-0053	-0054	-0055	-0056	-0057	-0058
Square-flange Pilot Φ125	Straight shaft Φ50 Flatkey:14X70	Oilport:2-G1 Leakingport G1/4	61 - 0071	-0072	-0073	-0074	-0075	-0076	-0077	-0078
Square-flange Pilot Φ160	Rectangle spline 6-40x35x10	2-M33X2 Drain port M14X1.5	61 - 1061	-1062	-1063	-1064	-1065	-1066	-1067	-1068
Square-flange Pilot Φ127	Involute Spline: 16 m=2	2-M33X2	61 - 2501	-2502	-2503	-2504	-2505	-2506	-2507	-2508
Square-flange Pilot Φ127	Rectangle spline 6-40x35x10	2-M33X2 Drain port M14X1.5	61 - 1011	-1012	-1013	-1014	-1015	-1016	-1017	-1018
Square-flange Pilot Φ160	Straight shaft Φ50 Flatkey:14X70	2-M33X2 Drain port M14X1.5	61 - 0101	-0102	-0103	-0104	-0105	-0106	-0107	-0108
Square-flange Pilot Φ160	Straight shaft Φ40 Flatkey:12X70	2-M33X2 Drain port M14X1.5	61 - 0111	-0112	-0113	-0114	-0115	-0116	-0117	-0117

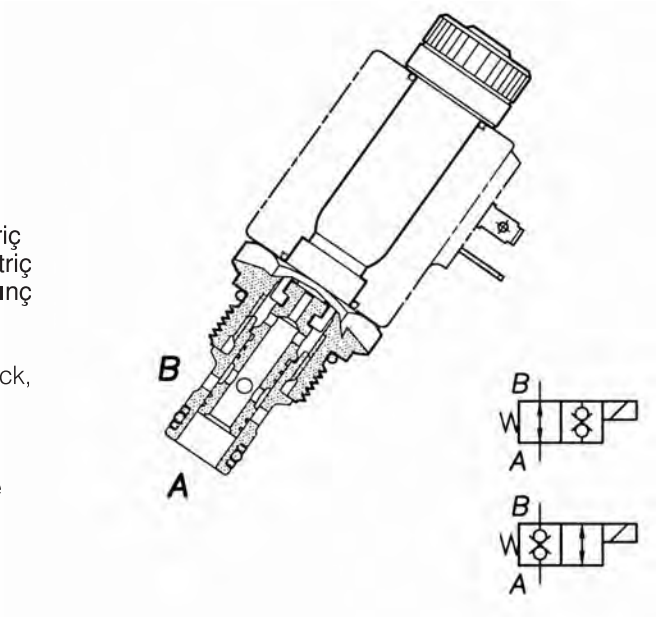
Düşük Hızlı Yüksek Torklu Hidrolik Motorlar, W61 Serisi
Low Speed High Torque Hydraulic Motor, W61 Series

Opsiyonel Ölçüler Kod Numaraları / Code Numbers for Optional Dimensions

Feature			**Displacement/No.**							
Flange	Shaft	Oil Port	195	245	310	390	490	625	800	985
Square-flange Pilot Φ160	Involute Spline :17 m=2.5	2-G1/2 Drain port: G1/4	61 - 2101	-2102	-2103	-2104	-2105	-2106	-2107	-2108
Square-flange Pilot Φ160	Straight shaft Φ50 Flatkey14X70	2-M22X1.5 Drain port: M14X1.5	61 - 0061	-0062	-0063	-0064	-0065	-0066	-0067	-0068
Square-flange Pilot Φ160	Involute Spline :16 m=2.5	2-M22X1.5 Drain port: M14X1.5	61 - 2151	-2152	-2153	-2154	-2155	-2156	-2157	-2158
Square-flange Pilot Φ125	Straight shaft: Φ40 Flatkey:12X70	2-M24X1.5 Drain port: M14X1.5	61 - 0011	-0012	-0013	-0014	-0015	-0016	-0017	-0018
Square-flange Pilot Φ125	Straight shaft :Φ32 Flatkey:10X36	2-M24X1.5 Drain port: M14X1.5	61 - 0161	-0162	-0163	-0164	-0165	-0166	-0167	-0168
Square-flange Pilot Φ127	Straight shaft :Φ40 Flatkey:12X36	2-M33X2 Drain port: M14X1.5	61 - 0021	-0022	-0023	-0024	-0025	-0026	-0027	-0028
Square-flange Pilot Φ160	Involute Spline :17 m=2.5	2-G1 Drain port: G1/4	61 - 2201	-2202	-2203	-2204	-2205	-2206	-2207	-2208
Square-flange Pilot Φ125	Straight shaft :Φ40 Flatkey:12X45	2-M22X1.5 Drain port: M14X1.5	61 - 0031	-0032	-0033	-0034	-0035	-0036	-0037	-0038
Square-flange Pilot Φ160	Rectangle spline 6-40x35x10	2-G1 Drain port: G1/4	61 - 1041	-1042	-1043	-1044	-1045	-1046	-1047	-1048
Square-flange Pilot Φ127	Rectangle spline 8-40x35x10	2-M33X2 Drain port: M14X1.5	61 - 1031	-1032	-1033	-1034	-1035	-1036	-1037	-1038
Square-flange Pilot Φ127	Rectangle spline 8-42x36x7	2-¢ 14 4-M12	61 - 1051	-1052	-1053	-1054	-1055	-1056	-1057	-1058
Square-flange Pilot Φ125	Straight shaft :Φ40 Flatkey:12X45	2-G3/4 4-M10,Drain port:G1/4	61 - 0041	-0042	-0043	-0044	-0045	-0046	-0047	-0048
Square-flange Pilot Φ160	Involute Spline :17 m=2.5	2- M22X1.5 Drain port: G1/4	61 - 2301	-2302	-2303	-2304	-2305	-2306	-2307	-2308
Square-flange Pilot Φ160	Rectangle spline 8-42x36x7	2-¢ 14 4-M10	61 - 1071	-1072	-1073	-1074	-1075	-1076	-1077	-1078
Square-flange Pilot Φ125	Straight shaft :Φ40 Flatkey:12X63	2-M33X2 Drain port: M14X1.5	61 - 0151	-0152	-0153	-0154	-0155	-0156	-0157	-0158
Square-flange Pilot Φ127	Rectangle spline 8-42x36x7	2-M33X2 Drain port: M14X1.5	61 - 1021	-1022	-1023	-1024	-1025	-1026	-1027	-1028

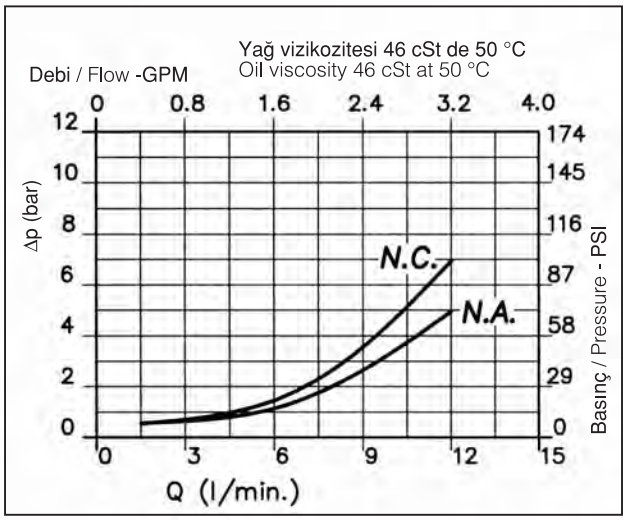
ÇİFT ÇEKLİ İKİ YOLLU KARTRİÇ SELENOİD
TWO WAY CARTRIDGE SOLENOID VALVE DOUBLE CHECK WITH UNIFIED CAVITY

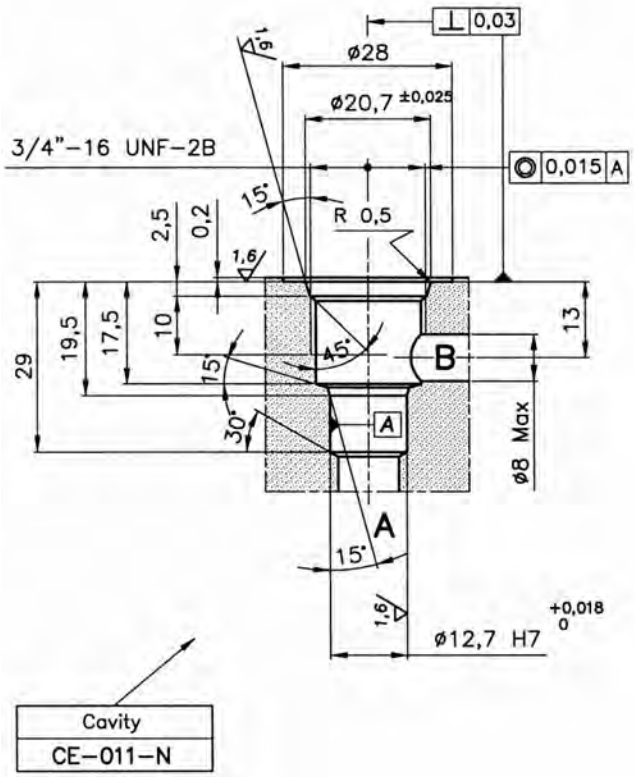
VEDT-...-10-011N-34UNF



Normalde açık ve kapalı çift çekli iki yollu direkt etkili kartriç selenoid valf. Kartriç açıkken akış iki yönde de ilerler. Kartriç kapalı iken iki yönde de akış durur (A'daki veya B'deki basınç ne olursa olsun). Sızıntı sanal olarak sıfırdır.

Two way, direct acting, cartridge solenoid valve double check, normally open and closed. The flow is followed in both directions when the cartridge is opened.
When the cartridge is closed, the flow is stopped in both directions(from A to B and From B to A) regardless of the pressure in A or B. The leakage is virtually zero.



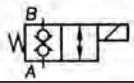
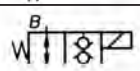


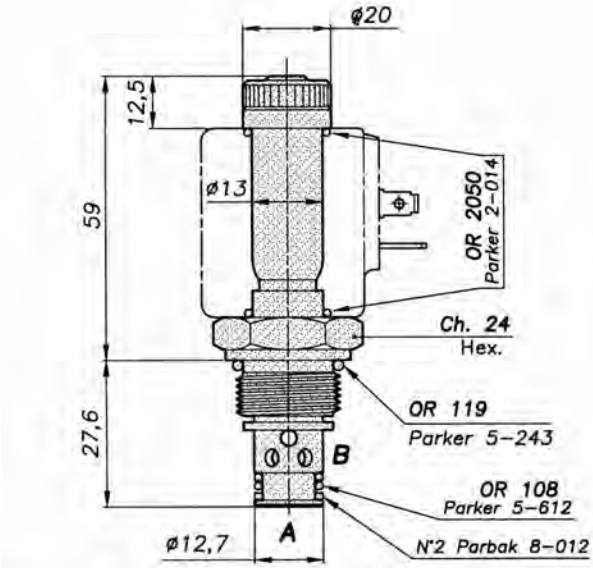
PERFORMANSLAR / PERFORMANCES

Nominal ölçü Flow division ratio	DN	6
Max. debi - oran Max. flow-rate		10 l/min 2.5 GPM
Max. basınç Max. pressure		210 bar 3045 PSI
Min. çalışma voltajı Min. operating voltage		90% of nominal tension
Oda sıcaklığı Room temperature	°C	-30 +50
Yağ sıcaklığı Oil temperature	°C	-30 +80
Filtrasyon Filtration	µm	25
Sıkma torku Tightening torque	Nm	47
Ağırlık Weight	Kg	0.15

ÇİFT ÇEKLİ İKİ YOLLU KARTRİÇ SELENOİD

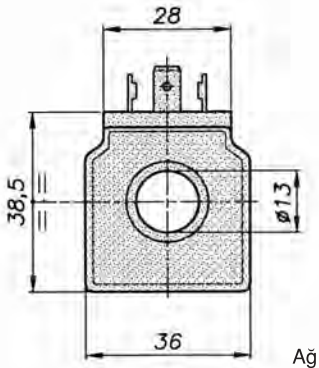
TWO WAY CARTRIDGE SOLENOID VALVE DOUBLE CHECK WITH UNIFIED CAVITY

Özellik / Function	Sipariş kodu Ordering code	Açıklama Description	Kavite Cavity	Notlar Notes
	005.562.000	VEDT-NC-10-011N-34UNF	CE-011-N	Normalde kapalı Normally closed
	005.563.000	VEDT-NA-10-011N-34UNF	CE-011-N	Normalde açık Normally open



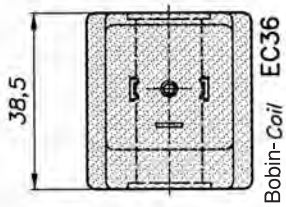
Kavite / Cavity
CE-011-N

BOBİN / COIL

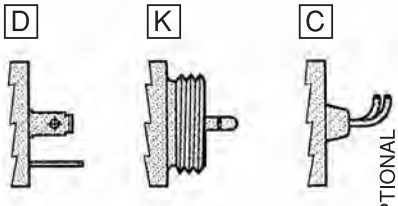


Ağırlık / Weight: 0.200 Kg

Güç Tüketimi / Power Consumption
AC: 32VA (normal şartlarda / nominal coal)
DC: 22W (normal şartlarda / nominal coal)



Başlangıçtaki güç tüketimi normaldekinden 3.5 kat daha fazladır.
Power at starting is max. 3.5 times higher than service one.



OPTIONAL

Bağlantı Connection	Cod.
DIN Konnektör (Hirsch.)	D
Fişli - Kostal	K
Kablolu- Cavi Leads	C

SİPARİŞ KODU / ORDERING CODE

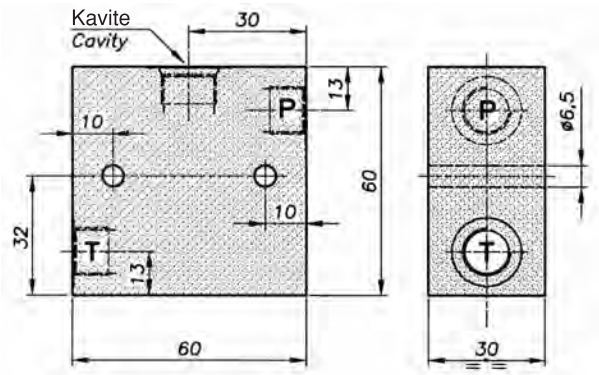
C	3	6							+

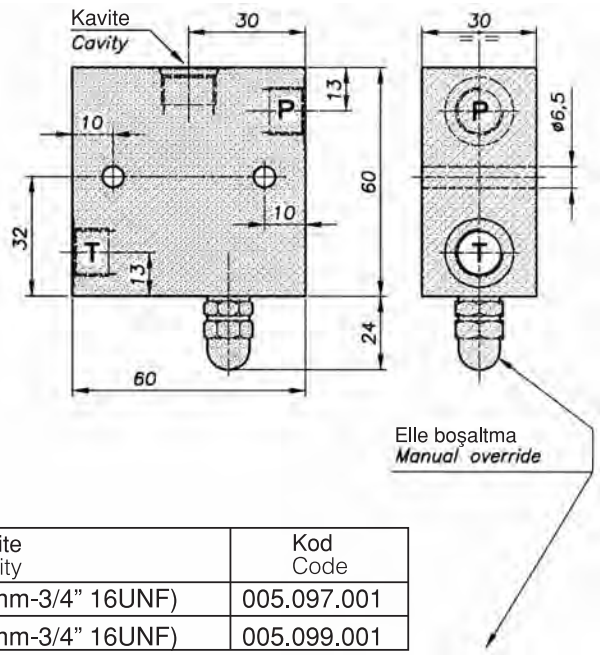
Bobin Coil	Cod.
EC36 22W	C36

Bağlantı Connection	Cod.
DIN Konnektör (Hirsch.)	D
Fişli - Kostal	K
Kablolu- Cavi Leads	C

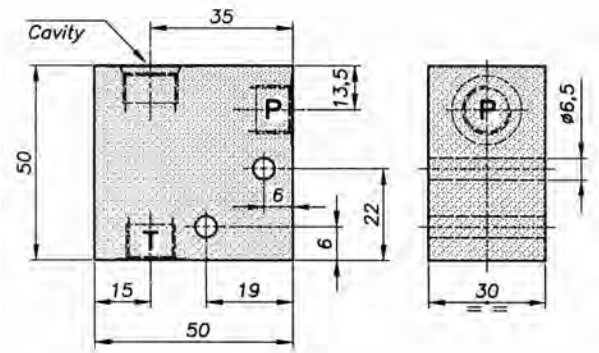
Volt / Hertz	Cod.
12 V DC	012DC
24 V DC	024DC
24 V AC	024AC
220V 50Hz	22050
110V 50Hz	11050

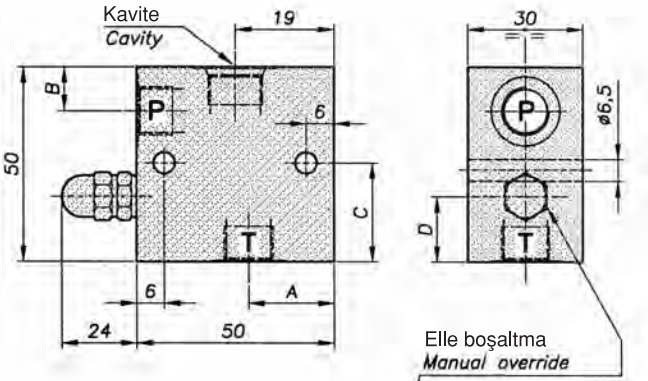
İKİ YOLLU İKİ KONUMLU KARTRİÇ SELENOİD VALFLER İÇİN GÖVDELER
BODIES FOR TWO-WAY TWO-POSITION CARTRIDGE SOLENOID VALVES





Delikler Ports T-P	Açıklama Short description	Kavite Cavity	Kod Code	
1/4" GAS	C-14GAS-011N-L	CE-011N (Ø 12.7mm-3/4" 16UNF)	005.097.001	
3/8" GAS	C-38GAS-011N-L	CE-011N (Ø 12.7mm-3/4" 16UNF)	005.099.001	
1/4" GAS	C-14GAS-011N-L-E	CE-011N (Ø 12.7mm-3/4" 16UNF)	005.098.001	Elle Boşaltma Manuel override
3/8" GAS	C-38GAS-011N-L-E	CE-011N (Ø 12.7mm-3/4" 16UNF)	005.100.001	Elle Boşaltma Manuel override

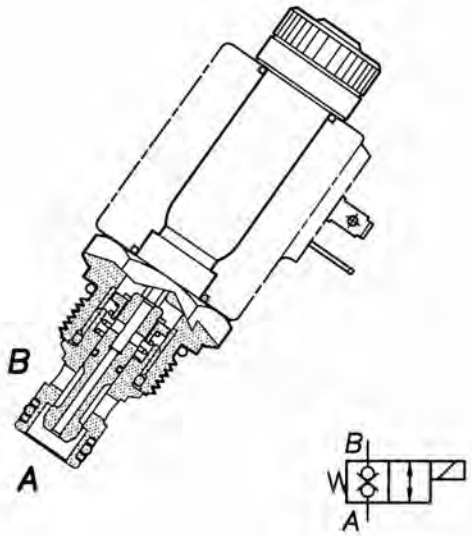




Delikler Ports T-P	Açıklama Short description	Kavite / Cavity	Kod Code		A	B	C	D
1/4" GAS	C-14GAS-011N-T	CE-011N (Ø 12.7mm-3/4" 16UNF)	005.071.001					
3/8" GAS	C-38GAS-011N-T	CE-011N (Ø 12.7mm-3/4" 16UNF)	005.072.001					
1/4" GAS	C-14GAS-011N-T-E	CE-011N (Ø 12.7mm-3/4" 16UNF)	005.524.001	Elle Boşaltma Manuel override	16	13.5	24	14
3/8" GAS	C-38GAS-011N-T-E	CE-011N (Ø 12.7mm-3/4" 16UNF)	005.093.001	Elle Boşaltma Manuel override	14	12.5	23.5	13.5

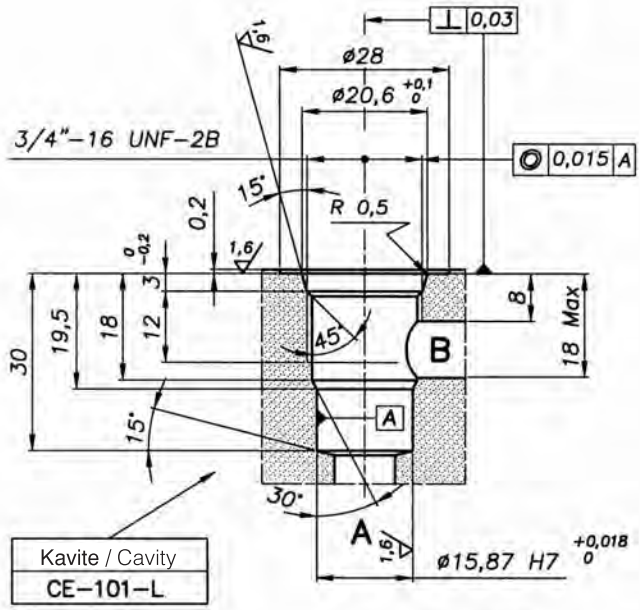
ÇİFT ÇEKLİ İKİ YOLLU KATRİÇ SELENOİD
TWO WAY CARTRIDGE SOLENOID VALVE DOUBLE CHECK WITH UNIFIED CAVITY

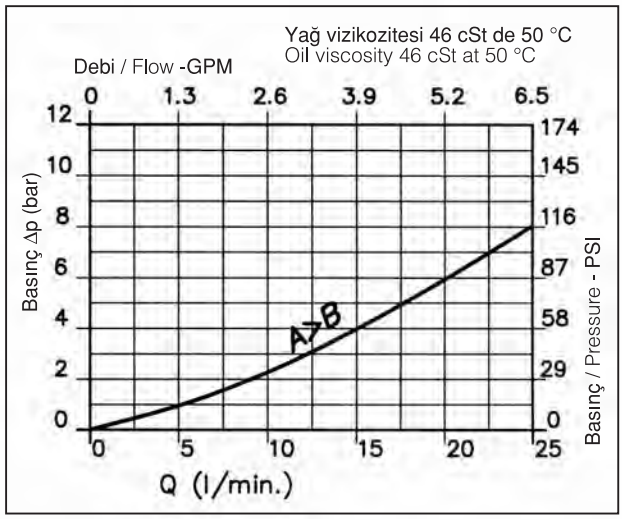
VEDT-NC-25-...-34UNF

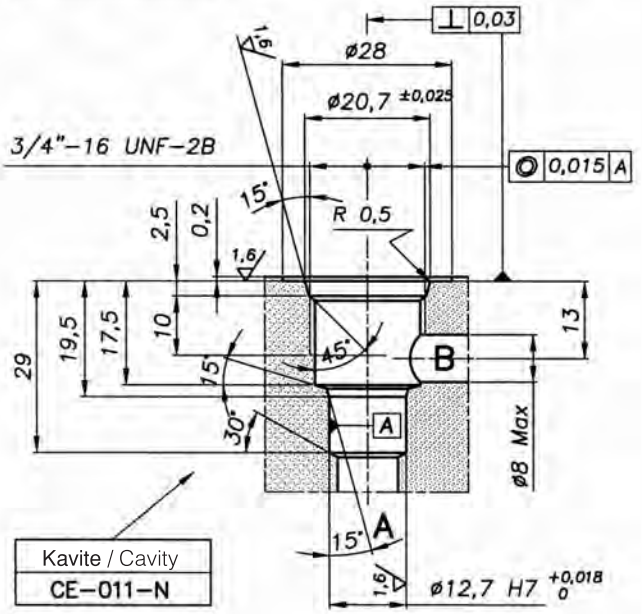


Normalde açık ve kapalı çift çekli iki yollu direkt etkili katriç selenoid valf. Katriç açıkken akış iki yöne de ilerler. Katriç kapalıyken iki yöne de akış durur. Sızıntı sanal olarak sıfırdır.

Two way, direct acting, cartridge solenoid valve double check, normally open and closed. The flow is allowed in both directions when the coil is energized.
When the coil is not energized, the flow is stopped in both directions (from A to B and B to A) regardless of the pressure in A or B. The leakage is virtually zero.





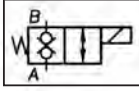


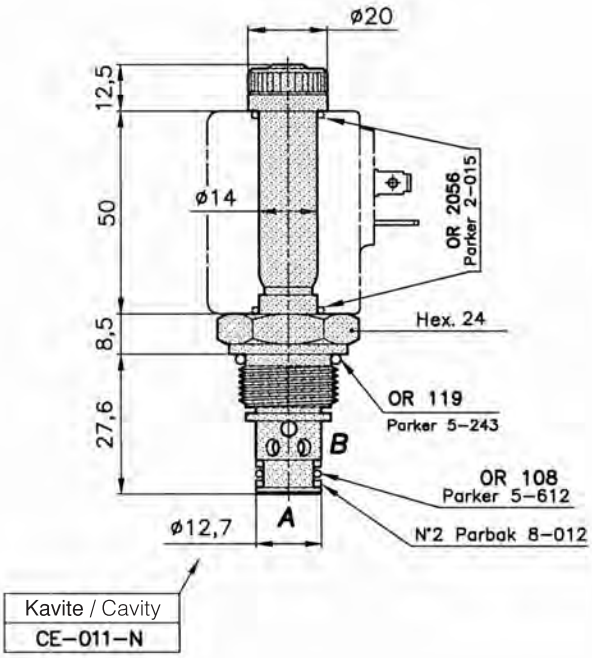
PERFORMANSLAR / PERFORMANCES

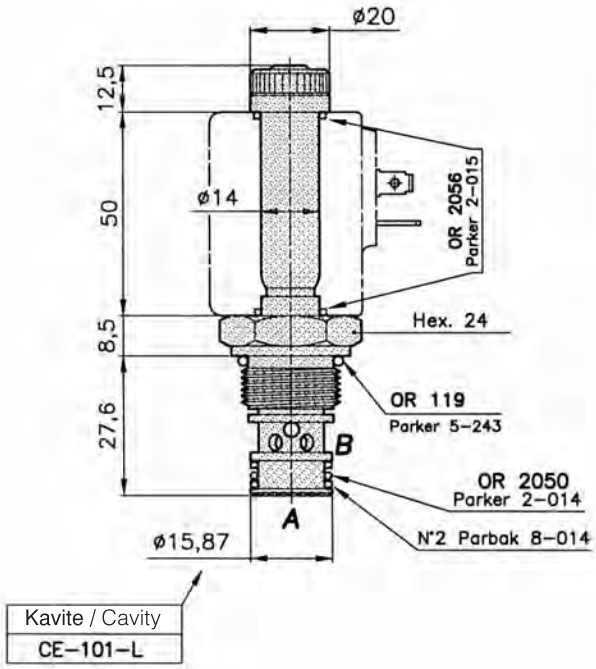
Nominal ölçü Flow division ratio	DN	6
Max. debi - oran Max. flow-rate		25 l/min 6.5 GPM
Max. basınç Max. pressure		210 bar 3045 PSI
Min. çalışma voltajı Min. operating voltage		90% of nominal tension
Oda sıcaklığı Room temperature	°C	-30 +50
Yağ sıcaklığı Oil temperature	°C	-30 +80
Filtrasyon Filtration	µm	25
Sıkma torku Tightening torque	Nm	47
Ağırlık Weight	Kg	0.15

ÇİFT ÇEKLİ İKİ YOLLU KARTRİÇ SELENOİD

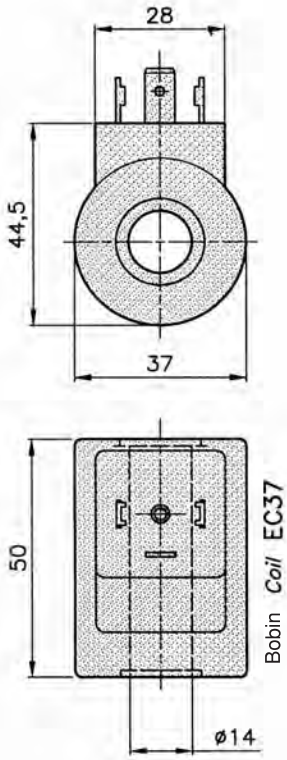
TWO WAY CARTRIDGE SOLENOID VALVE DOUBLE CHECK WITH UNIFIED CAVITY

Özellik / Function	Sipariş kodu Ordering code	Açıklama Description	Kavite Cavity	Notlar Notes
	005.567.000	VEDT-NC-25-011N-34UNF	CE-011-N	Normalde kapalı Normally closed
	005.568.000	VEDT-NC-25-101L-34UNF	CE-101-L	





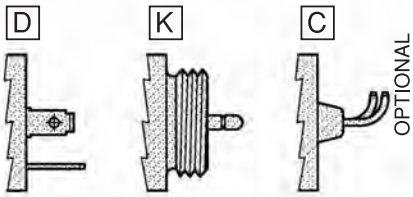
BOBİN / COIL



Ağırlık / Weight: 0.200 Kg

Güç Tüketimi / Power Consumption
AC: 35VA (normal şartlarda / nominal coal)
DC: 20W (normal şartlarda / nominal coal)

Başlangıçtaki güç tüketimi normaldekinden 3.5 kat daha fazladır.
Power at starting is max. 3.5 times higher than service one.



Soket Plug	Cod.
DIN Konnektör (Hirsch.)	D
Fişli - Kostal	K
Kablolu- Cavi Leads	C

SİPARİŞ KODU / ORDERING CODE

C	3	7							+

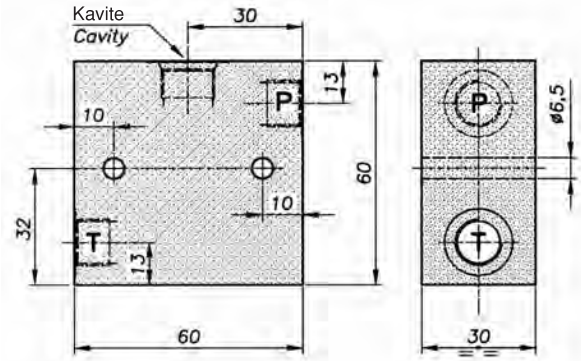
Bobin Coil	Cod.
EC37 20W	C37

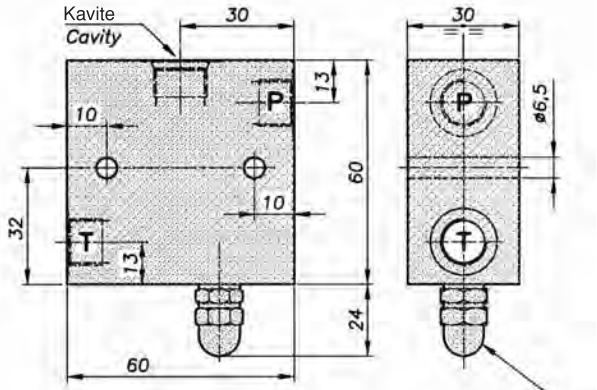
Bağlantı Connection	Cod.
DIN Konnektör (Hirsch.)	D
Fişli - Kostal	K
Kablolu- Cavi Leads	C

Volt / Hertz	Cod.
12 V DC	012DC
24 V DC	024DC
24 V AC	024AC
220V 50Hz	22050
110V 50Hz	11050

İKİ YOLLU İKİ KONUMLU KARTRİÇ SELENOİD VALFLER İÇİN GÖVDELER

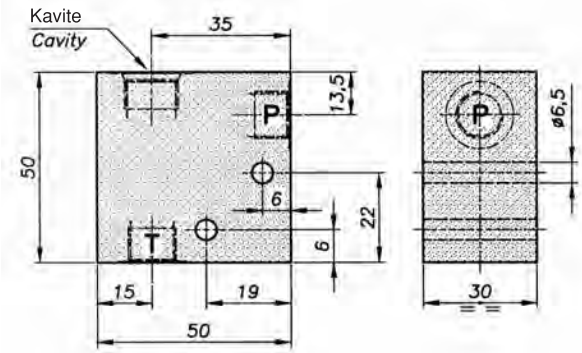
BODIES FOR TWO-WAY TWO-POSITION CARTRIDGE SOLENOID VALVES

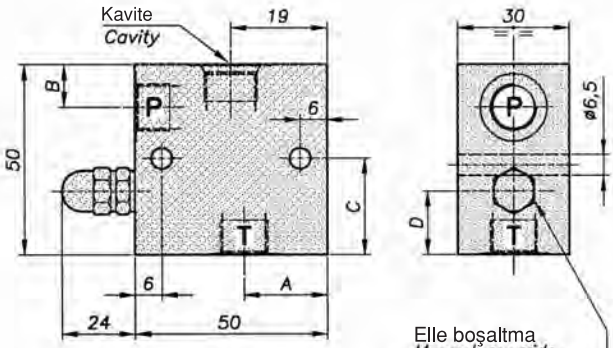




Elle boşaltma
Manual override

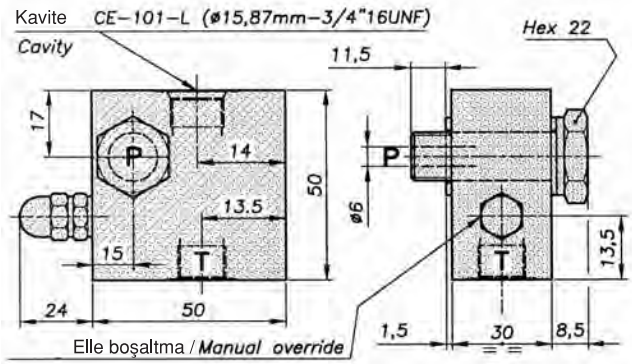
Delikler Ports T-P	Kısa tanımlama Short description	Kavite / Cavity	Kod Code	
1/4" GAS	C-14GAS-011N-L	CE-011-N (Ø 12.7mm-3/4" 16UNF)	005.097.001	
3/8" GAS	C-38GAS-011N-L	CE-011-N (Ø 12.7mm-3/4" 16UNF)	005.099.001	
3/8" GAS	C-38GAS-101L-L	CE-101-L (Ø 15.87mm-3/4" 16UNF)	005.095.001	
1/4" GAS	C-14GAS-011N-L-E	CE-011-N (Ø 12.7mm-3/4" 16UNF)	005.098.001	Elle boşaltma Manuel override
3/8" GAS	C-38GAS-011N-L-E	CE-011-N (Ø 12.7mm-3/4" 16UNF)	005.100.001	Elle boşaltma Manuel override
3/8" GAS	C-38GAS-101L-L-E	CE-101-L (Ø 15.87mm-3/4" 16UNF)	005.096.001	Elle boşaltma Manuel override

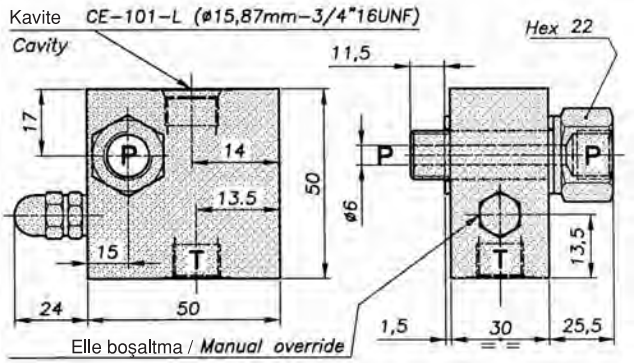




Elle boşaltma
Manual override

Delikler Ports T-P	Kısa tanımlama Short description	Kavite / Cavity	Kod Code		A	B	C	D
1/4" GAS	C-14GAS-011N-T	CE-011-N (Ø 12.7mm-3/4" 16UNF)	005.071.001					
3/8" GAS	C-38GAS-011N-T	CE-011-N (Ø 12.7mm-3/4" 16UNF)	005.072.001					
3/8" GAS	C-38GAS-101L-T	CE-101-L (Ø 15.87mm-3/4" 16UNF)	005.094.001					
1/4" GAS	C-14GAS-011N-T-E	CE-011-N (Ø 12.7mm-3/4" 16UNF)	005.524.001	Elle boşaltma Manuel override	16	13.5	24	14
3/8" GAS	C-38GAS-011N-T-E	CE-011-N (Ø 12.7mm-3/4" 16UNF)	005.093.001	Elle boşaltma Manuel override	14	12.5	23.5	13.5
3/8" GAS	C-38GAS-101L-T-E	CE-101-L (Ø 15.87mm-3/4" 16UNF)	005.523.001	Elle boşaltma Manuel override	14	12.5	23.5	13.5





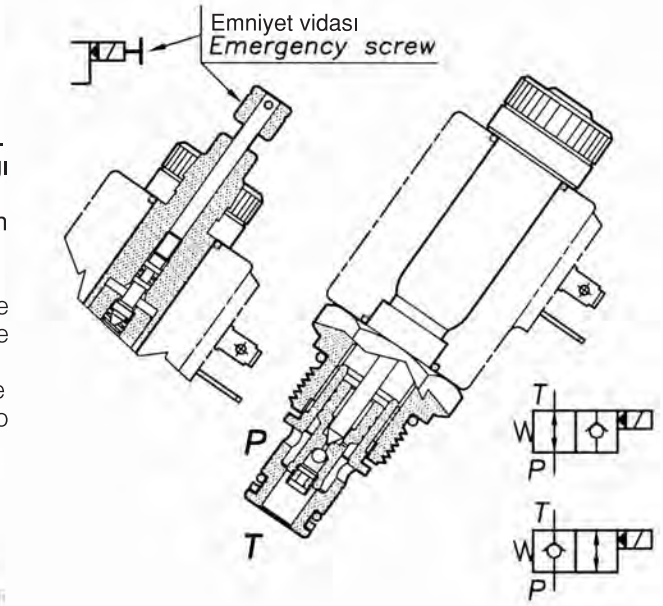
Delikler Ports T-P	Kısa tanımlama Short description	Kod Code	Delikler Ports T-P	Kısa tanımlama Short description	Kod Code
3/8" GAS	C-38GAS-101L-TB-E	010.272.501	3/8" GAS	C-38GAS-101L-TB-E	010.272.601

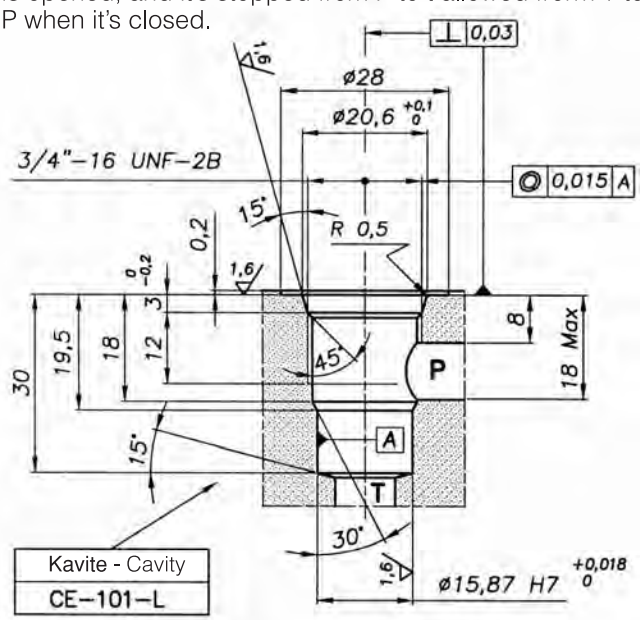
İKİ YOLLU KARTRİÇ SELENOİD
TWO WAY CARTRIDGE SOLENOID VALVE WITH UNIFIED CAVITY

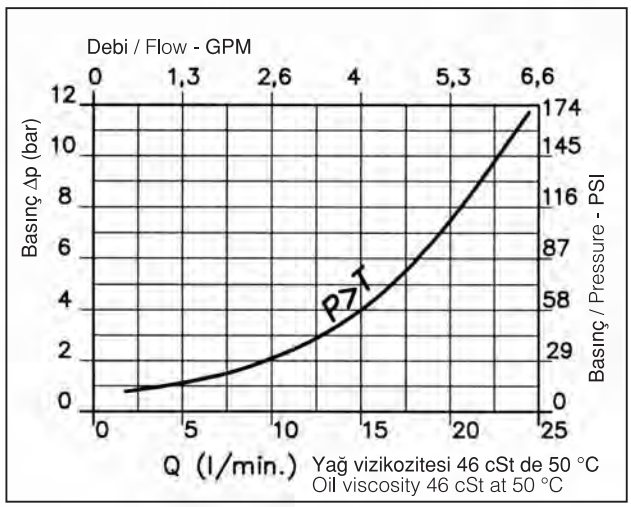
VE- ... - 20 - ... - 34UNF

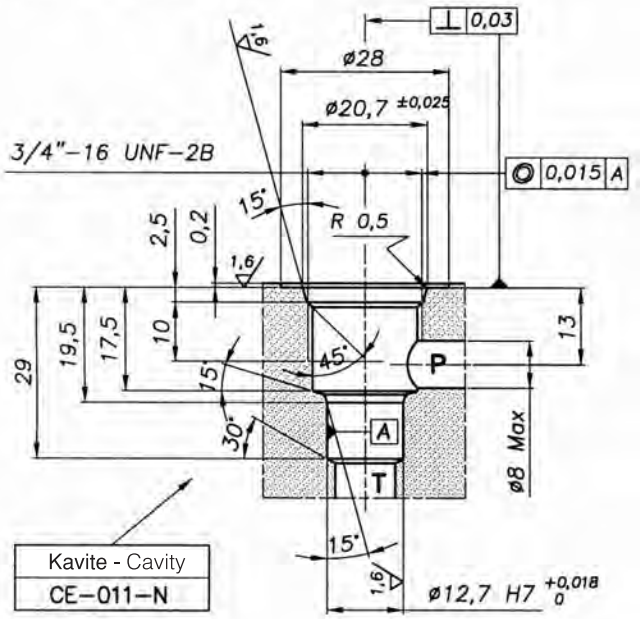
İki yollu, pilot kumandalı, popet tip katriç tip selenoid valf. Bu kartriç, geri basıncın çalışma basıncının %90'ına ulaştığı zaman bile çalışır. Sanal olarak sızıntı sıfırdır. Kartriç açıkken iki yönede akış açıktır. Kapandığında ise "P" den "T" ye akış kesilir ve "T" den "P" ye açık kalır.

Two way, pilot operated, poppet style cartrıdge can operate even with a back pressure of 90% of the working one. The leakage is virtually zero.
The flow is allowed in both directions when the cartridge is opened, and it's stopped from P to t allowed from T to P when it's closed.







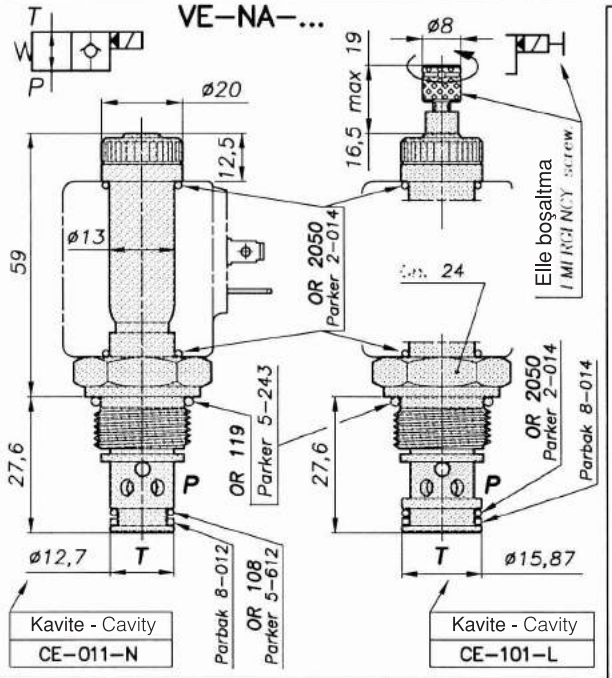


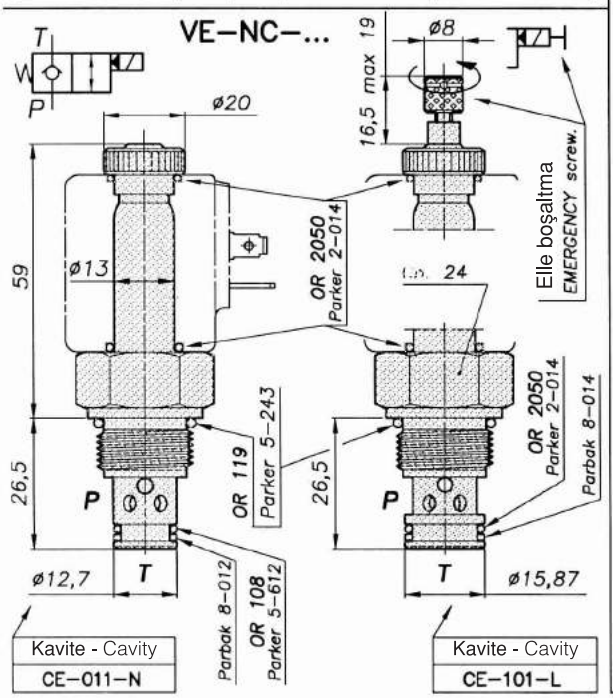
PERFORMANSLAR / PERFORMANCES

Nominal ölçü Flow division ratio	DN	6
Max. debi - oran Max. flow-rate		25 l/min 5 GPM
Max. basınç Max. pressure (solenoid C30)		210 bar 3045 PSI
Max. basınç Max. pressure (solenoid C36)		300 bar 4350 PSI
Min. çalışma voltajı Min. operating voltage		90% of nominal tension
Oda sıcaklığı Room temperature	°C	-30 +50
Yağ sıcaklığı Oil temperature	°C	-30 +80
Filtrasyon Filtration	µm	25
Sıkma torku Tightening torque	Nm	47
Ağırlık Weight	Kg	0.12

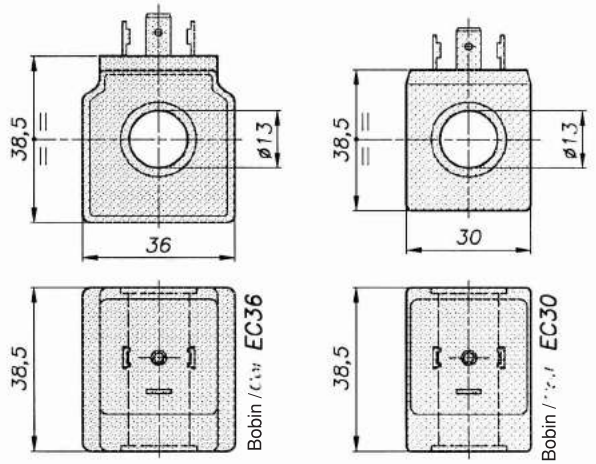
İKİ YOLLU KARTRİÇ SELENOİD VALFLER
CARTRIDGE TWO WAY SOLENOID VALVE WITH UNIFIED CAVITY

İşlevi / Function	Sipariş Kodu Ordering Code	Tanımlama Description	Kavite Cavity	Notlar Notes
	005.540.000	VE–NA–20–011N–34UNF	CE–011–N	Normalde açık *Normally open*
	005.540.000.E	VE–NA–20–011N–34UNF–E	CE–011–N	
	005.541.000	VE–NC–20–011N–34UNF	CE–011–N	Normalde kapalı *Normally closed*
	005.541.000.E	VE–NC–20–011N–34UNF–E	CE–011–N	
	005.542.000	VE–NA–20–101L–34UNF	CE–101–L	Normalde açık *Normally open*
	005.542.000.E	VE–NA–20–101L–34UNF–E	CE–101–L	
	005.543.000	VE–NC–20–101L–34UNF	CE–101–L	Normalde kapalı *Normally closed*
	005.543.000.E	VE–NC–20–101L–34UNF–E	CE–101–L	





BOBİN / COILS



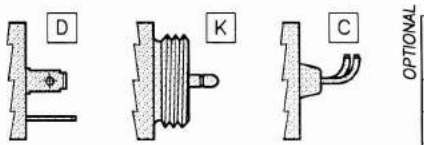
Ağırlık / Weight: 0.200 Kg

Güç Tüketimi / Power consumption
AC: 32 VA (Normal sıcaklık / nominal cool)
DC: 22 W (Normal sıcaklık / nominal cool)

Ağırlık / Weight: 0.125 Kg

Güç Tüketimi / Power consumption
AC: 28 VA (Normal sıcaklık / nominal cool)
DC: 18 W (Normal sıcaklık / nominal cool)

Başlangıçtaki güç tüketimi normalden max. 3.5 kat fazladır.
Power at starting is max. 3.5 times higher than service one.



OPTIONAL

Bağlantı Plug	Cod.
DIN Konnektör (Hirsch.)	D
Fişli - Kostal	K
Kablolu- Cavi Leads	C

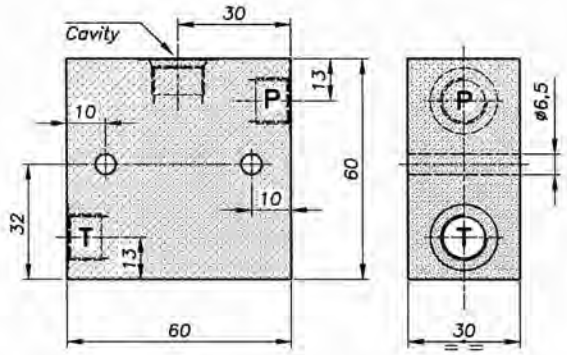
SİPARİŞ KODU / ORDERING CODE

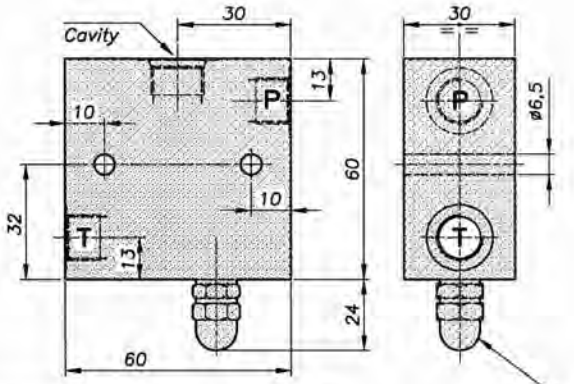
Bobin Coil	Cod.
EC30 18W	C30
EC36 22W	C36

Bağlantı Connection	Cod.
DIN Konnektör (Hirsch.)	D
Fişli - Kostal	K
Kablolu- Cavi Leads	C

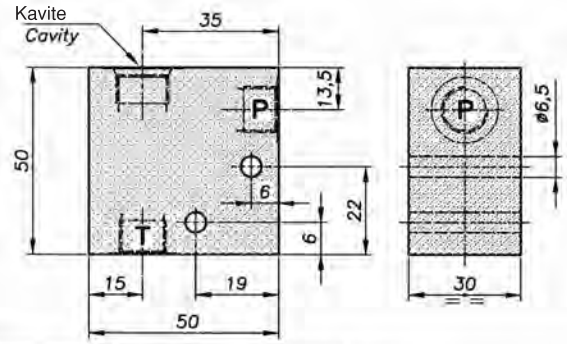
Volt / Hertz	Cod.
12V DC	012DC
24V DC	024DC
24V AC	024AC
220V 50Hz	22050
110V 50Hz	11050

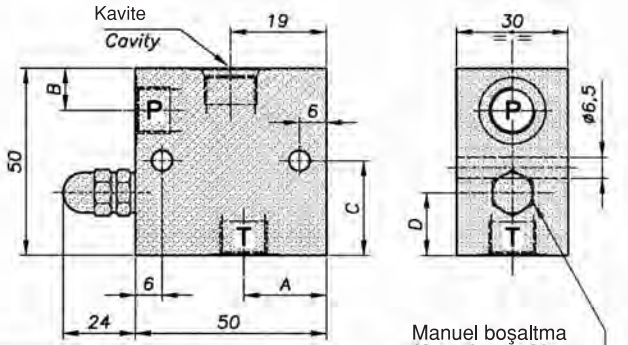
İKİ YOLLU İKİ KONUMLU KARTRİÇ SELENOİD VALFLER İÇİN GÖVDE
BODIES FOR TWO-WAY TWO -POSITION CARTRIDGE SOLENOID VALVES



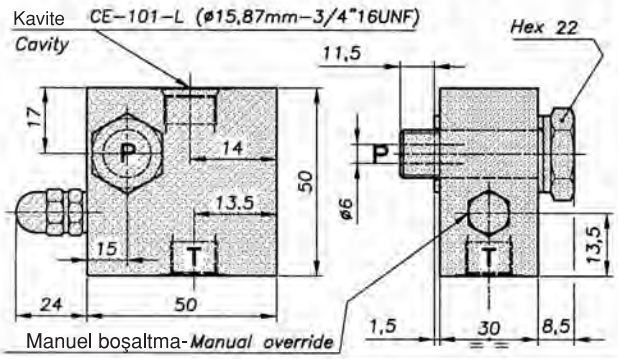


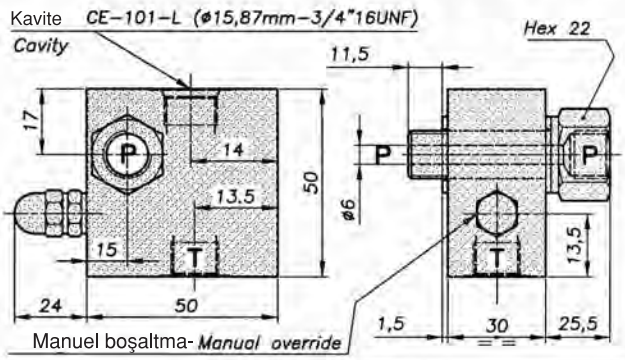
Delikler Ports T–P	Kısa tanımlama Short description	Kavite / Cavity	Cod.	
1/4"GAS	C–14GAS–011N–L	CE–011–N (ø12,7mm–3/4"16UNF)	005.097.001	Manuel boşaltma *Manual override*
3/8"GAS	C–38GAS–011N–L	CE–011–N (ø12,7mm–3/4"16UNF)	005.099.001	
3/8"GAS	C–38GAS–101L–L	CE–101–L (ø15,87mm–3/4"16UNF)	005.095.001	
1/4"GAS	C–14GAS–011N–L–E	CE–011–N (ø12,7mm–3/4"16UNF)	005.098.001	Manuel boşaltma
3/8"GAS	C–38GAS–011N–L–E	CE–011–N (ø12,7mm–3/4"16UNF)	005.100.001	Manuel boşaltma
3/8"GAS	C–38GAS–101L–L–E	CE–101–L (ø15,87mm–3/4"16UNF)	005.096.001	Manuel boşaltma





Delikler Ports T–P	Kısa tanımlama Short description	Kavite / Cavity	Cod.		A	B	C	D
1/4"GAS	C–14GAS–011N–T	CE–011–N (ø12,7mm–3/4"16UNF)	005.071.001	Manuel boşaltma *Manual override*				
3/8"GAS	C–38GAS–011N–T	CE–011–N (ø12,7mm–3/4"16UNF)	005.072.001					
3/8"GAS	C–38GAS–101L–T	CE–101–L (ø15,87mm–3/4"16UNF)	005.094.001					
1/4"GAS	C–14GAS–011N–T–E	CE–011–N (ø12,7mm–3/4"16UNF)	005.524.001	Manuel boşaltma	16	13,5	24	14
3/8"GAS	C–38GAS–011N–T–E	CE–011–N (ø12,7mm–3/4"16UNF)	005.093.001	Manuel boşaltma	14	12,5	23,5	13,5
3/8"GAS	C–38GAS–101L–T–E	CE–101–L (ø15,87mm–3/4"16UNF)	005.525.001	Manuel boşaltma	14	12,5	23,5	13,5

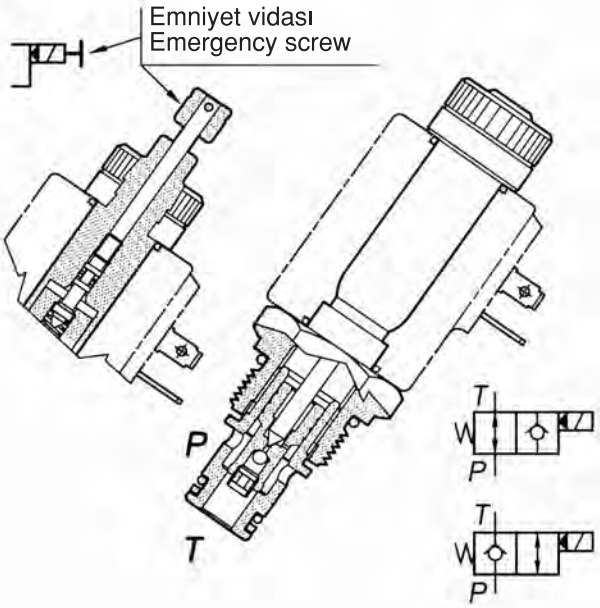




Delikler Ports T–P	Kısa tanımlama Short description	Cod.	Delikler Ports T–P	Kısa tanımlama Short description	Cod.
3/8"GAS	C–38GAS–101L–TB–E	010.272.501	3/8"GAS	C–38GAS–101L–TB–E	010.272.601

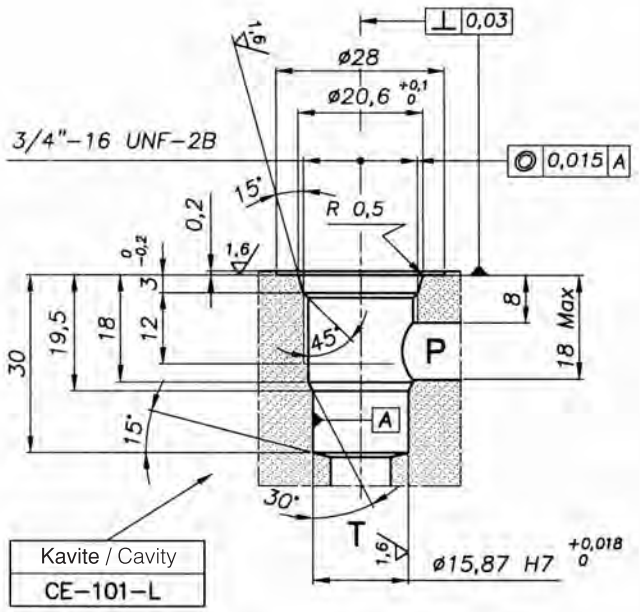
İKİ YOLLU KARTRİÇ SELENOİD
TWO WAY CARTRIDGE SOLENOID VALVE WITH UNIFIED CAVITY

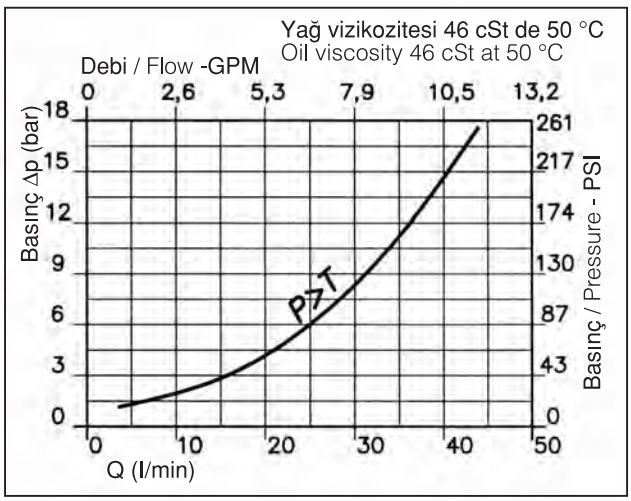
VEP-...-40-...-34UNF

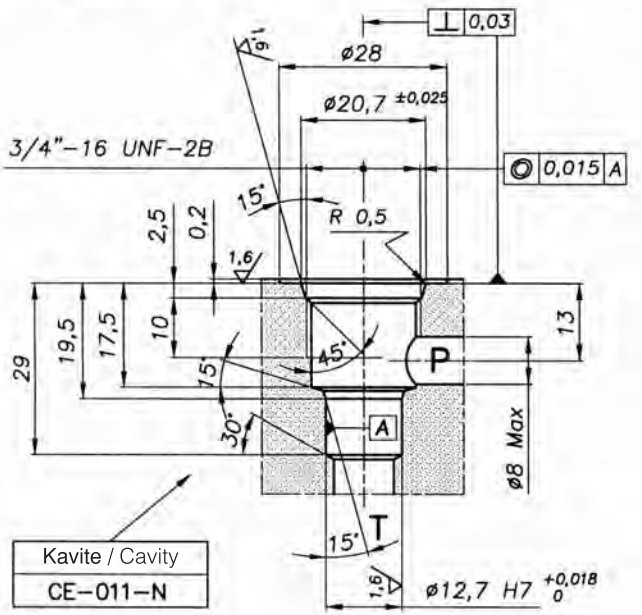


İki yollu, pilot kontrollü, kartriç tip selenoid valf. Bu kartiç geri basıncın çalışma basıncının %90 'a ulaştığı zamanda bile çalışır. Sızıntı sanal olarak sıfırdır.
Kartriç açıkken; akış iki yöne de açıktır. Kapandığında ise P den T ye akış kesilir, T den P ye acık kalır.

Two way pilot operated, poppet style cartridge solenoid valve. This cartridge can operate even with a back pressure of 90% of the working one. the leakage is virtually zero.
The flow is allowed in both directions when the cartridge is opened, and it's stopped from P to T and allowed from T to P when it's closed.





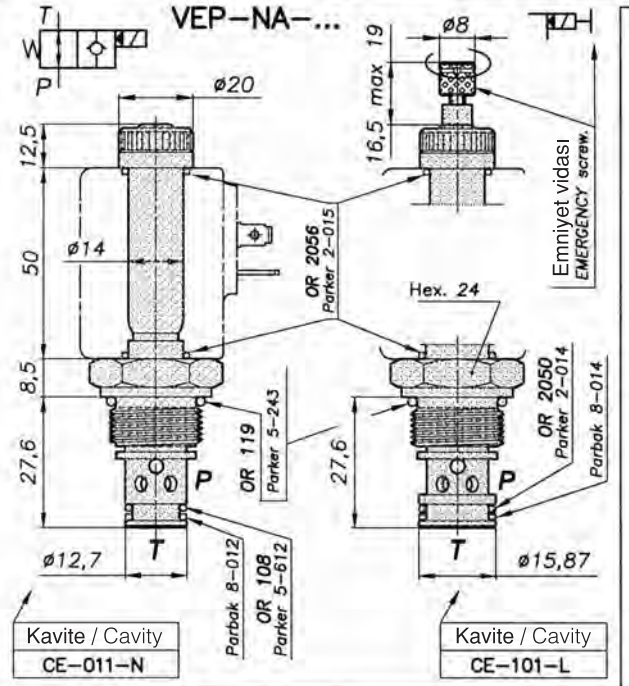


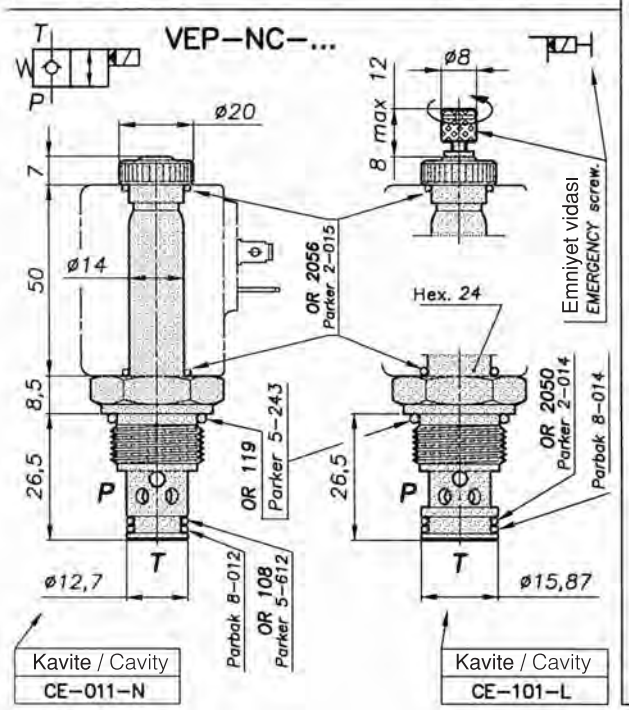
PERFORMANSLAR / PERFORMANCES

Nominal ölçü Flow division ratio	DN	6
Max. debi - oran Max. flow-rate		40 l/min 10.5 GPM
Max. basınç Max. pressure		350 bar 5000 PSI
Min. çalışma voltajı Min. operating voltage		Normal gerilimin'in 90% of nominal tension
Oda sıcaklığı Room temperature	°C	-30 +50
Yağ sıcaklığı Oil temperature	°C	-30 +80
Filtrasyon Filtration	µm	25
Sıkma torku Tightening torque	Nm	47
Ağırlık Weight	Kg	0.12

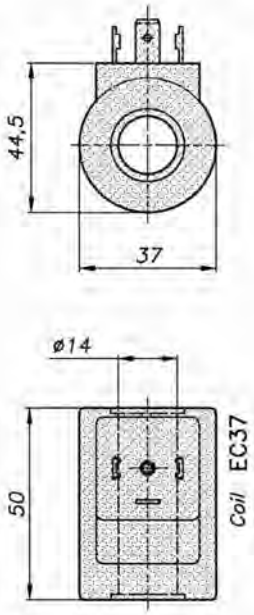
İKİ YOLLU SELENOİD VALF
TWO WAY CARTRIDGE SOLENOID VALVE WITH UNIFIED CAVITY

Özellik Function	Sipariş kodu Ordering code	Tanımlama Description	Kavite Cavity	Notlar / Notes
	005.548.000	VEP–NA–40–011N–34UNF	CE–011–N	Normalde açık Normally open
	005.548.000.E	VEP–NA–40–011N–34UNF–E	CE–011–N	
	005.549.000	VEP–NC–40–011N–34UNF	CE–011–N	Normalde kapalı Normally closed
	005.549.000.E	VEP–NC–40–011N–34UNF–E	CE–011–N	
	005.550.000	VEP–NA–40–101L–34UNF	CE–101–L	Normalde açık Normally open
	005.550.000.E	VEP–NA–40–101L–34UNF–E	CE–101–L	
	005.551.000	VEP–NC–40–101L–34UNF	CE–101–L	Normalde kapalı Normally closed
	005.551.000.E	VEP–NC–40–101L–34UNF–E	CE–101–L	





BOBİN / COIL



Ağırlık: 0.200 Kg

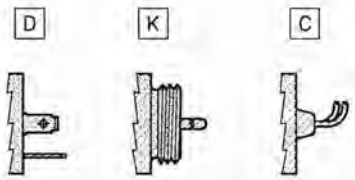
Güç tüketimi:
AC: 35 VA (normal sıcaklıkta)
DC: 20 W (normal sıcaklıkta)

Genel bobin bilgisi için ilgili sayfaya bakın. Farklı montajlar mümkündür.

Weight: 0.200 Kg

Generall coil informations:
AC: 35 VA (nominal cool)
DC: 20 W (nominal cool)

Available on request different voltages.



OPTIONAL

Soket Plug	Cod.
DIN Konnektör (Hirsch.)	D
Fişli - Kostal	K
Kablolu- Cavi Leads	C

SİPARİŞ KODU / ORDERING CODE

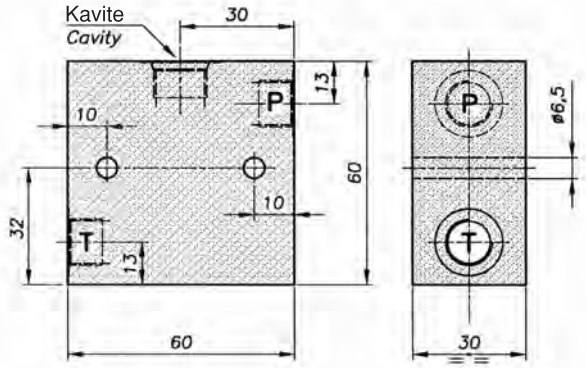
C	3	7							+	

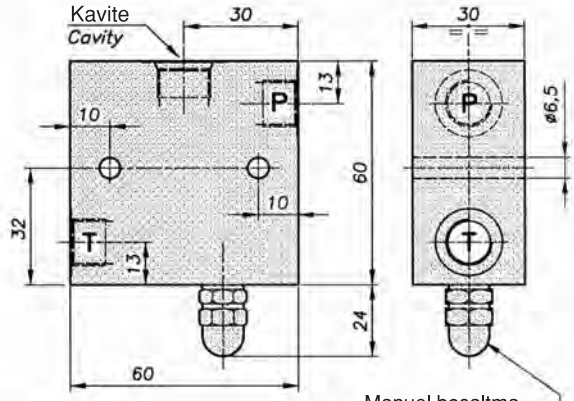
Bobin Coil	Cod.
EC37 20W	C37

Bağlantı Connection	Cod.
DIN Konnektör (Hirsch.)	D
Fişli - Kostal	K
Kablolu- Cavi Leads	C

Volt / Hertz	Cod.
12V DC	012DC
24V DC	024DC
24V AC	024AC
220V 50Hz	22050
110V 50Hz	11050

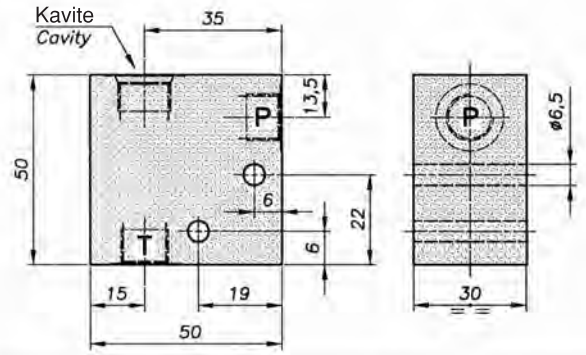
2/2 KARTRİÇ SELENOİD VALF GÖVDELERİ
BODIES FOR TWO-WAY TWO-POSITION CARTRIDGE SOLENOID VALVES

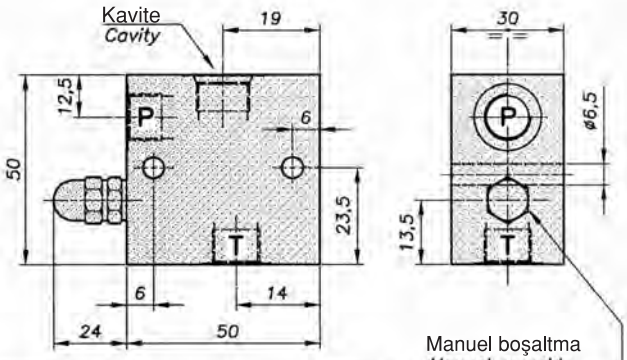




Manuel boşaltma
Manual override

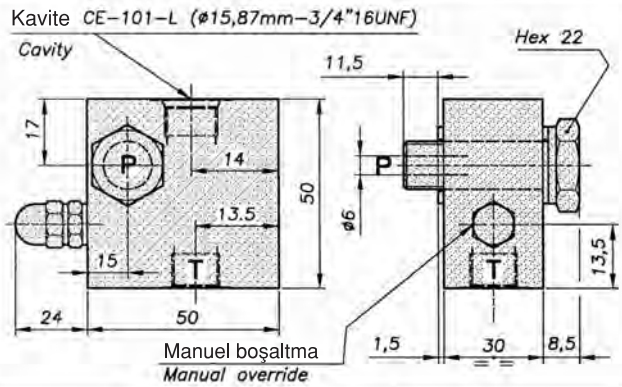
Delikler T–P Ports	Kısa tanımlama Short description	Kavite / Cavity	Cod.	
3/8"GAS	C–38GAS–011N–L	CE–011–N (ø12,7mm–3/4"16UNF)	005.099.001	
3/8"GAS	C–38GAS–101L–L	CE–101–L (ø15,87mm–3/4"16UNF)	005.095.001	
3/8"GAS	C–38GAS–011N–L–E	CE–011–N (ø12,7mm–3/4"16UNF)	005.100.001	Manuel boşaltma
3/8"GAS	C–38GAS–101L–L–E	CE–101–L (ø15,87mm–3/4"16UNF)	005.096.001	Manuel boşaltma

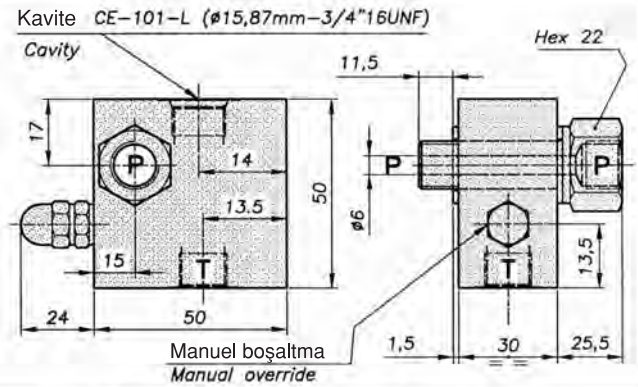




Manuel boşaltma
Manual override

Delikler Ports T–P	Kısa tanımlama Short description	Kavite / Cavity	Cod.	
3/8"GAS	C–38GAS–011N–T	CE–011–N (ø12,7mm–3/4"16UNF)	005.072.001	
3/8"GAS	C–38GAS–101L–T	CE–101–L (ø15,87mm–3/4"16UNF)	005.094.001	
3/8"GAS	C–38GAS–011N–T–E	CE–011–N (ø12,7mm–3/4"16UNF)	005.093.001	Manuel boşaltma
3/8"GAS	C–38GAS–101L–T–E	CE–101–L (ø15,87mm–3/4"16UNF)	005.525.001	Manuel boşaltma

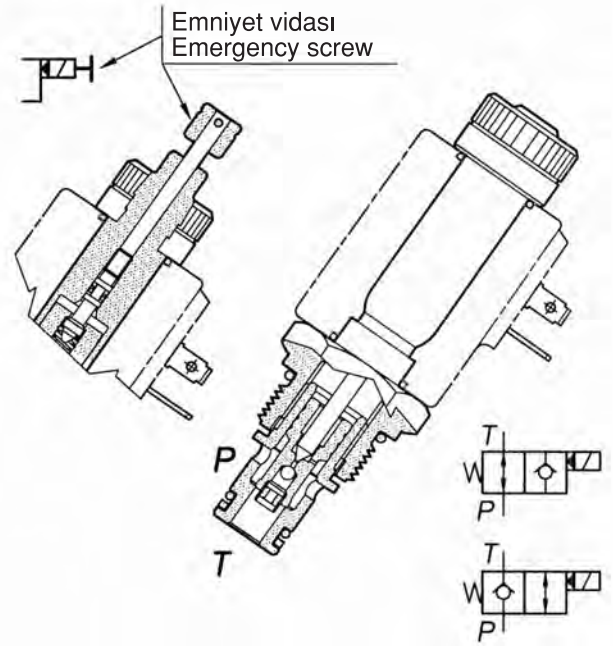




Delikler Ports T–P	Kısa tanımlama Short description	Cod.	Delikler Ports T–P	Kısa tanımlama Short description	Cod.
3/8"GAS	C–38GAS–101L–TB–E	010.272.501	3/8"GAS	C–38GAS–101L–TB–E	010.272.601

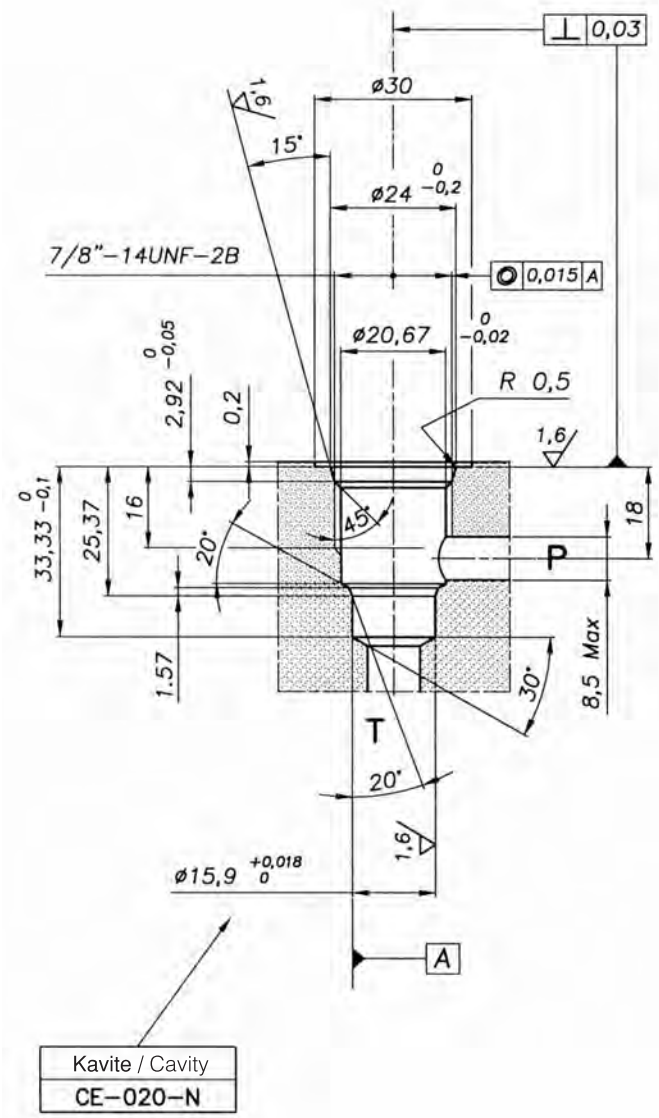
İKİ YOLLU KARTRİÇ SELENOİD
TWO WAY CARTRIDGE SOLENOID VALVE WITH UNIFIED CAVITY

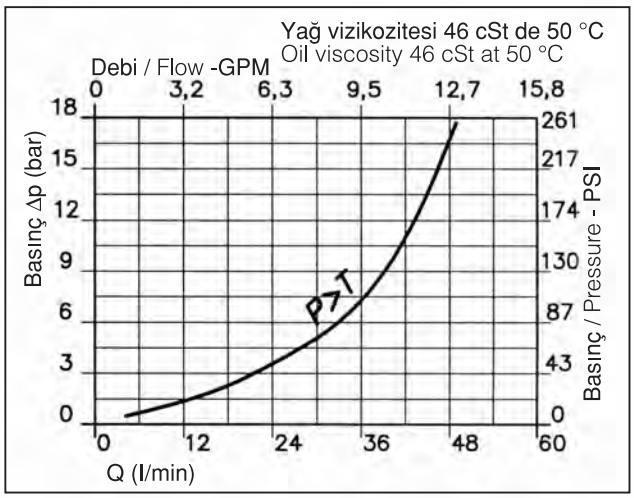
VEP-...-50-020N-78UNF



İki yollu, pilot kontrollü, kartriç tip selenoid valf. Bu kartiç geri basıncın çalışma basıncının %90 dahi olsa çalışır. Sızıntı sanal olarak sıfırdır.
Kartriç açıkken akış iki yolda gider. Kapalı iken ise P den T ye akış durur, T den P ye gider.

Two way pilot operated, poppet style cartridge solenoid valve. This cartridge can operate even with a back pressure of 90% of the working one. the leakage is virtually zero.
The flow is allowed in both directions when the cartridge is opened, and it's stopped from P to T and allowed from T to P when it's closed.



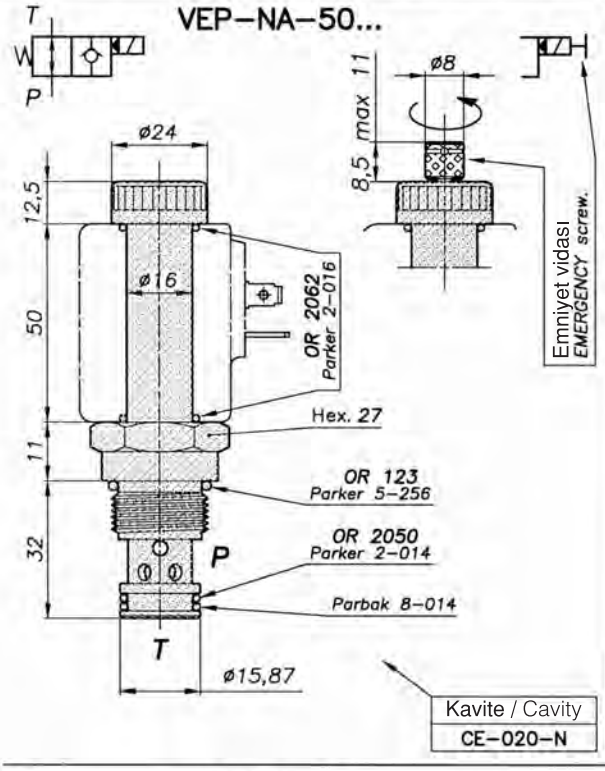


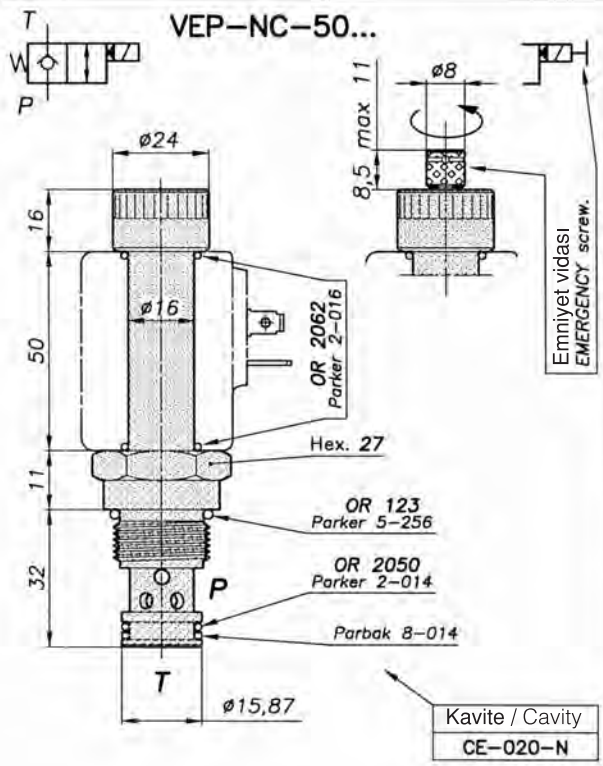
PERFORMANSLAR / PERFORMANCES

Nominal ölçü Flow division ratio	DN	6
Max. debi - oran Max. flow-rate		50 l/min 13 GPM
Max. basınç Max. pressure		350 bar 5000 PSI
Min. çalışma voltajı Min. operating voltage		Normal gerilimin'in 90% of nominal tension
Oda sıcaklığı Room temperature	°C	-30 +50
Yağ sıcaklığı Oil temperature	°C	-30 +80
Filtrasyon Filtration	µm	25
Sıkma torku Tightening torque	Nm	47
Ağırlık Weight	Kg	0.12

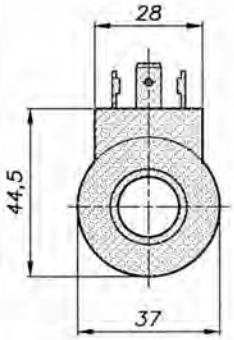
İKİ YOLLU KARTRİÇ SELENOİD
TWO WAY CARTRIDGE SOLENOID VALVE WITH UNIFIED CAVITY

Özellik Function	Sipariş kodu Ordering code	Tanımlama Description	Kavite Cavity	Notlar Notes
	005.552.000	VEP–NA–50–020N–78UNF	CE–020–N	Normalde açık Normallly open
	005.552.000.E	VEP–NA–50–020N–78UNF–E	CE–020–N	
	005.553.000	VEP–NC–50–020N–78UNF	CE–020–N	Normalde kapalı Normallly closed
	005.553.000.E	VEP–NC–50–020N–78UNF–E	CE–020–N	





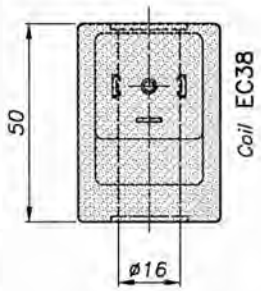
BOBİN / COIL



Ağırlık: 0.200 Kg

Güç tüketimi:
AC: 50 VA (normal şartlarda)
DC: 26 W (normal şartlarda)

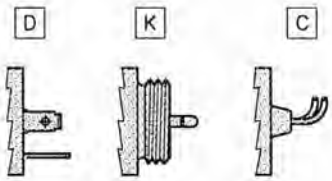
Başlangıçtaki güç tüketimi normaldekinden 3.5 kat daha fazladır.



Weight: 0.200 Kg

Power consumption
AC: 50 VA (nominal cool)
DC: 26 W (nominal cool)

Power at starting is max. 3.5 times higher than service one.



OPTIONAL

Soket Plug	Cod.
DIN Konnektör (Hirsch.)	D
Fişli - Kostal	K
Kablolu- Cavi Leads	C

SİPARİŞ KODU / ORDERING CODE

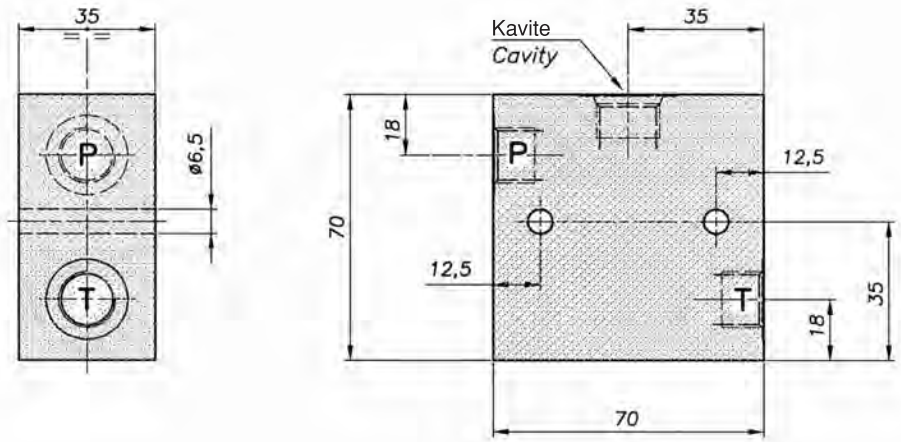
C	3	8							+	

Bobin Coil	Cod.
EC38 26W	C38

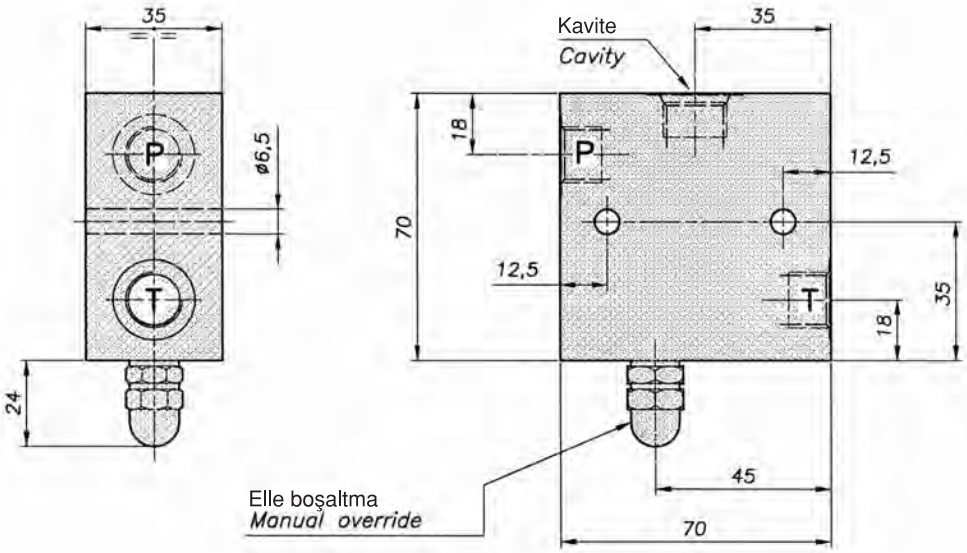
Bağlantı Connection	Cod.
DIN Konnektör (Hirsch.)	D
Fişli - Kostal	K
Kablolu- Cavi Leads	C

Volt / Hertz	Cod.
12V DC	012DC
24V DC	024DC
24V AC	024AC
220V 50Hz	22050
110V 50Hz	11050

2/2 KARTRİÇ SELENOİD VALF GÖVDESİ
BODIES FOR TWO-WAY TWO-POSITION CARTRIDGE SOLENOID VALVES



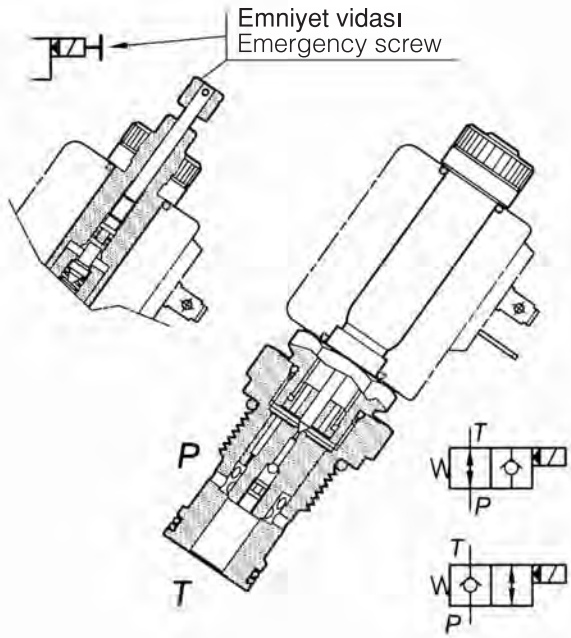
Delikler Ports	Kısa tanımlama Short description	Kavite / Cavity	Cod.	Notlar / Notes
3/8"GAS	C–38GAS–020N–L	CE–020–N (ø15,9mm–7/8"14UNF)	005.221.001	–
1/2"GAS	C–12GAS–020N–L	CE–020–N (ø15,9mm–7/8"14UNF)	005.233.001	–



Delikler Ports T–P	Kısa tanımlama Short description	Kavite / Cavity	Cod.	Notlar / Notes
3/8"GAS	C–38GAS–020N–L	CE–020–N (ø15,9mm–7/8"14UNF)	005.197.001	
1/2"GAS	C–12GAS–020N–L	CE–020–N (ø15,9mm–7/8"14UNF)	005.209.001	

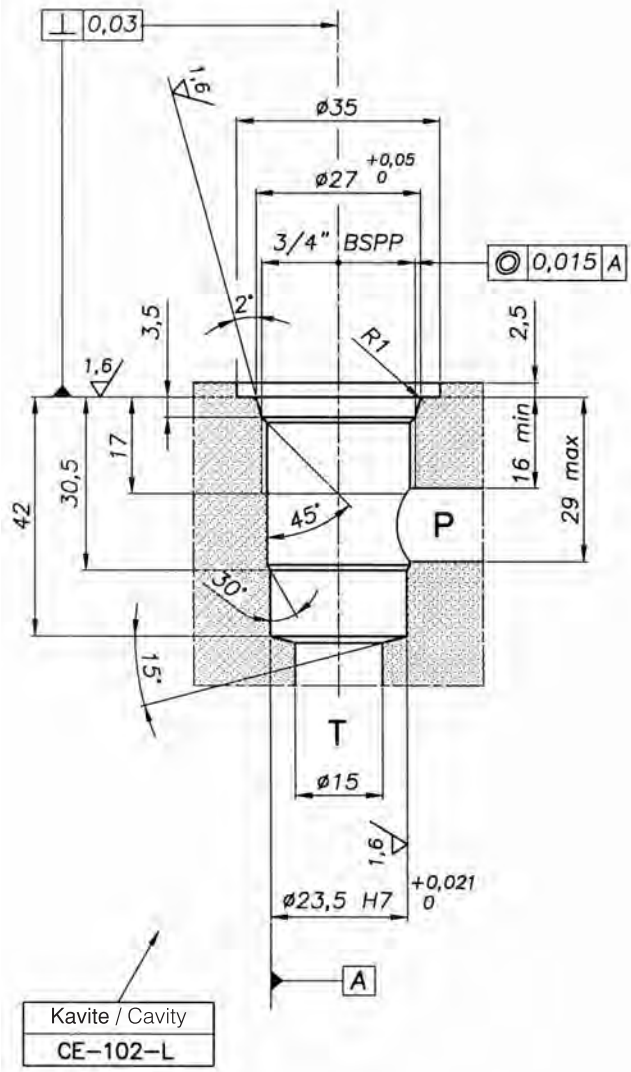
İKİ YOLLU KARTRİÇ SELENOİD
TWO WAY CARTRIDGE SOLENOID VALVE WITH UNIFIED CAVITY

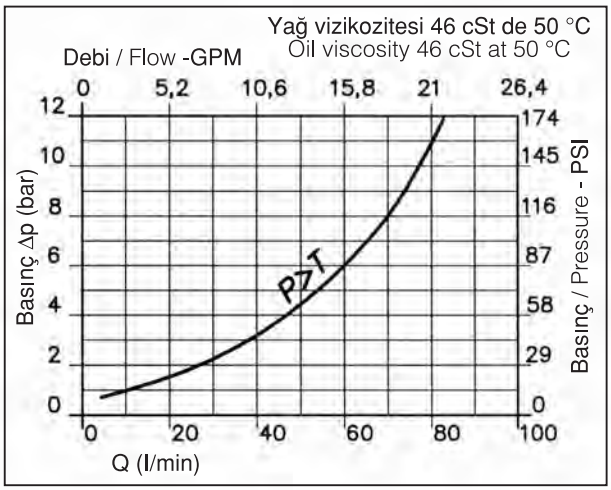
VE-...-80-102L-34GAS



İki yollu, pilot kumandalı, popet tip kartriç selenoid valf. Bu kartiç geri basıncın çalışma basıncının %90' ına ulaştığı zamanda bile çalışır. Sızıntı sanal olarak sıfırdır.
Kartriç açıkken iki yöne de akış açıktır. Kapandığında ise P den T ye akış kesilir ve T den P ye açık kalır.

Two way pilot operated, poppet style cartridge solenoid valve. This cartridge can operate even with a back pressure of 90% of the working one. The leakage is virtually zero.
The flow is allowed in both directions when the cartridge is opened, and it's stopped from P to T and allowed from T to P when it's closed.



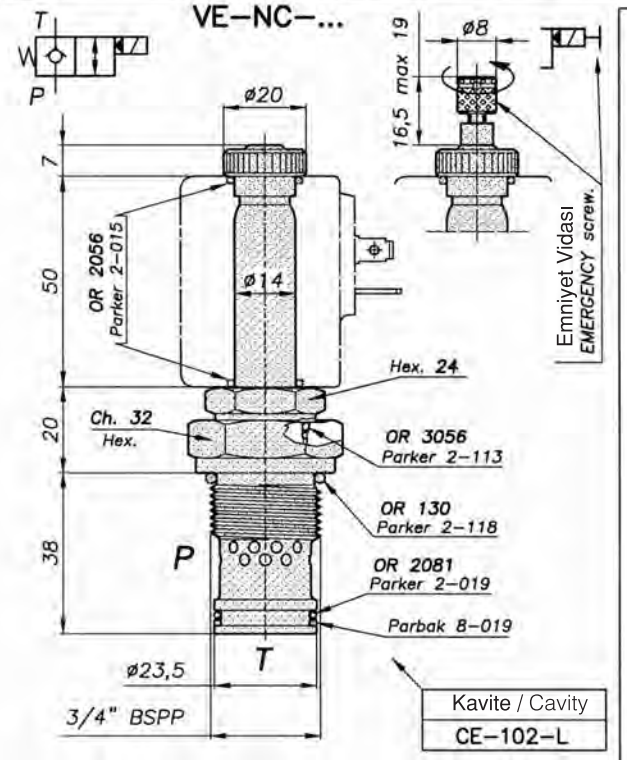


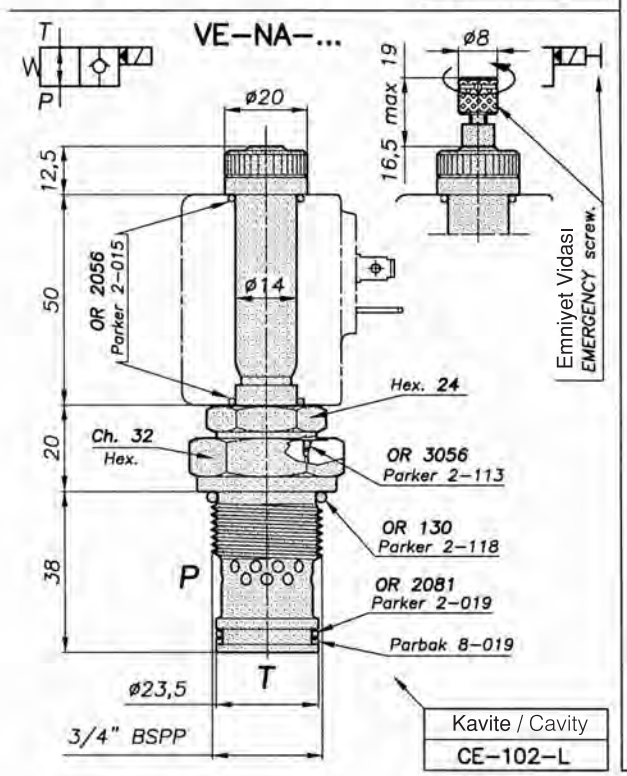
PERFORMANSLAR / PERFORMANCES

Nominal ölçü Flow division ratio	DN	9
Max. debi - oran Max. flow-rate		80 l/min 21 GPM
Max. basınç Max. pressure		350 bar 4350 PSI
Min. çalışma voltajı Min. operating voltage		Normal gerilimin'in 90% of nominal tension
Oda sıcaklığı Room temperature	°C	-30 +50
Yağ sıcaklığı Oil temperature	°C	-30 +80
Filtrasyon Filtration	µm	25
Sıkma torku Tightening torque	Nm	47
Ağırlık Weight	Kg	0.25

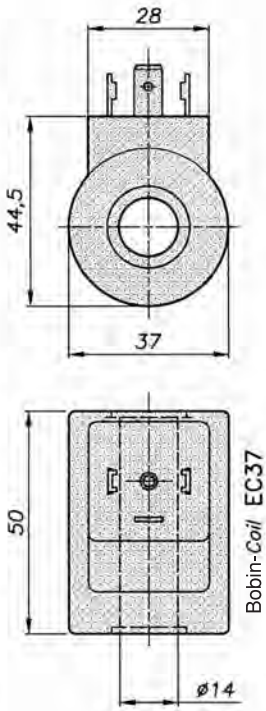
İKİ YOLLU KARTRİÇ TİPİ SELENOİD
TWO WAY CARTRIDGE SOLENOID VALVE WITH UNIFIED CAVITY

İşlevi / Function	Sipariş Kodu Ordering Code	Tanımlama Description	Kavite Cavity	Notlar Notes
	005.554.000	VE–NA–80–102L–34GAS	CE–102–L	Normalde açık Normally closed
	005.554.000.E	VE–NA–80–102L–34GAS–E	CE–102–L	
	005.555.000	VE–NC–80–102L–34GAS	CE–102–L	Normalde kapalı Normally closed
	005.555.000.E	VE–NC–80–102L–34GAS–E	CE–102–L	





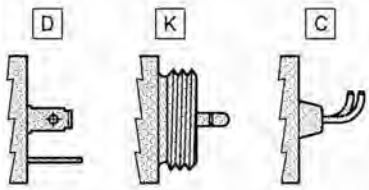
BOBİN / COIL



Ağırlık / Weight: 0.200 Kg

Güç Tüketimi / Power consumption
AC: 35 VA (Normal sıcaklık / nominal cool)
DC: 20 W (Normal sıcaklık / nominal cool)

Başlangıçtaki güç tüketimi normalden max. 3.5 kat fazladır.
Power at starting is max. 3.5 times higher than service one.



OPTIONAL

Plug	Cod.
DIN Konnektör (hirsch)	D
Fişli / Kostal	K
Kablolu Cavi Leads	C

SİPARİŞ KODU / ORDERING CODE

C	3	7							+	

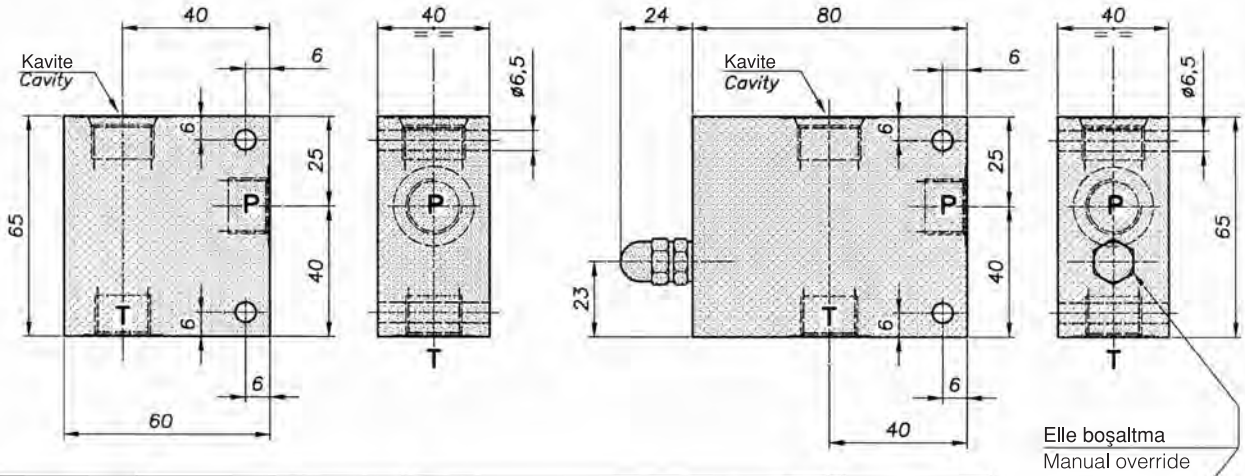
Bobin Coil	Cod.
EC37 20W	C37

Bağlantı Connection	Cod.
DIN Konnektör (hirsch)	D
Fişli / Kostal	K
Kablolu Cavi Leads	C

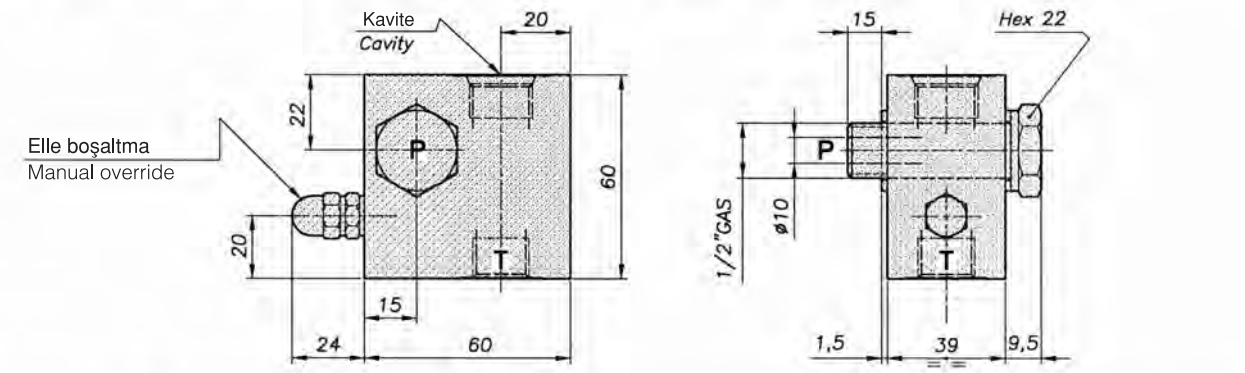
Volt / Hertz	Cod.
12V DC	012DC
24V DC	024DC
24V AC	024AC
220V 50Hz	22050
110V 50Hz	11050

2/2 KARTRİÇLİ SELENOİD VALF GÖVDESİ

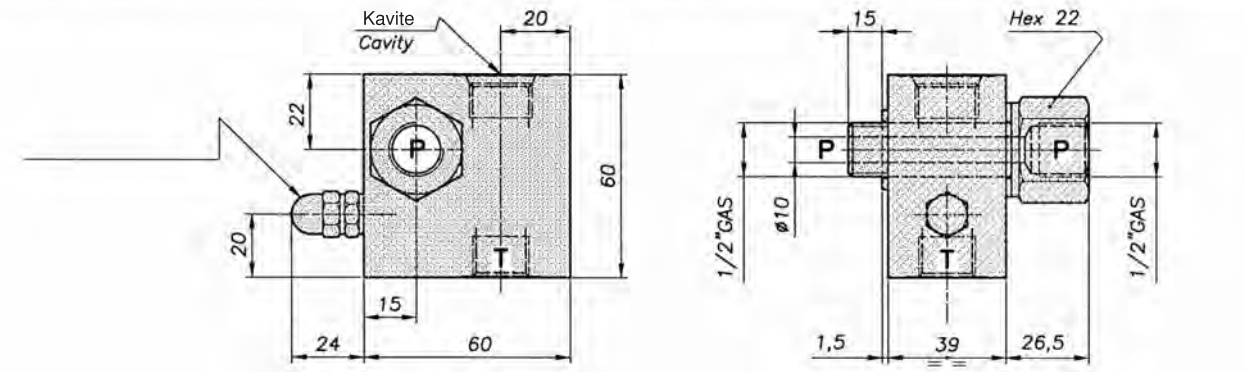
BODIES FOR TWO-WAY TWO-POSITION CARTRIDGE SOLENOID VALVES



Delikler Ports T-P	Kısa tanımlama Short description	Kavite / Cavity	Kod Code	
1/2"GAS	C-12GAS-102L-T	CE-102-L (ø23,5mm-3/4"GAS)	005.527.001	
3/4"GAS	C-34GAS-102L-T	CE-102-L (ø23,5mm-3/4"GAS)	005.529.001	
1/2"GAS	C-12GAS-102L-T-E	CE-102-L (ø23,5mm-3/4"GAS)	005.526.001	Elle boşaltma
3/4"GAS	C-34GAS-102L-T-E	CE-102-L (ø23,5mm-3/4"GAS)	005.528.001	Elle boşaltma

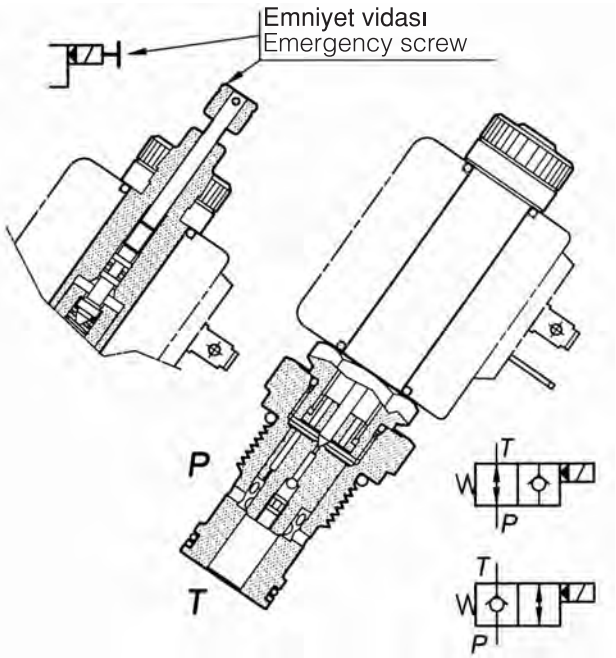


Delikler Ports T-P	Kısa tanımlama Short description	Kavite / Cavity	Kod Code	Notlar Notes
1/2"GAS	C-12GAS-102L-TB-E	CE-102-L (ø23,5mm-3/4"GAS)	010.272.502	Elle boşaltma



Delikler Ports T-P	Kısa tanımlama Short description	Kavite / Cavity	Kod Code	Notlar Notes
1/2"GAS	C-12GAS-102L-TB-E	CE-102-L (ø23,5mm-3/4"GAS)	010.272.602	Elle boşaltma

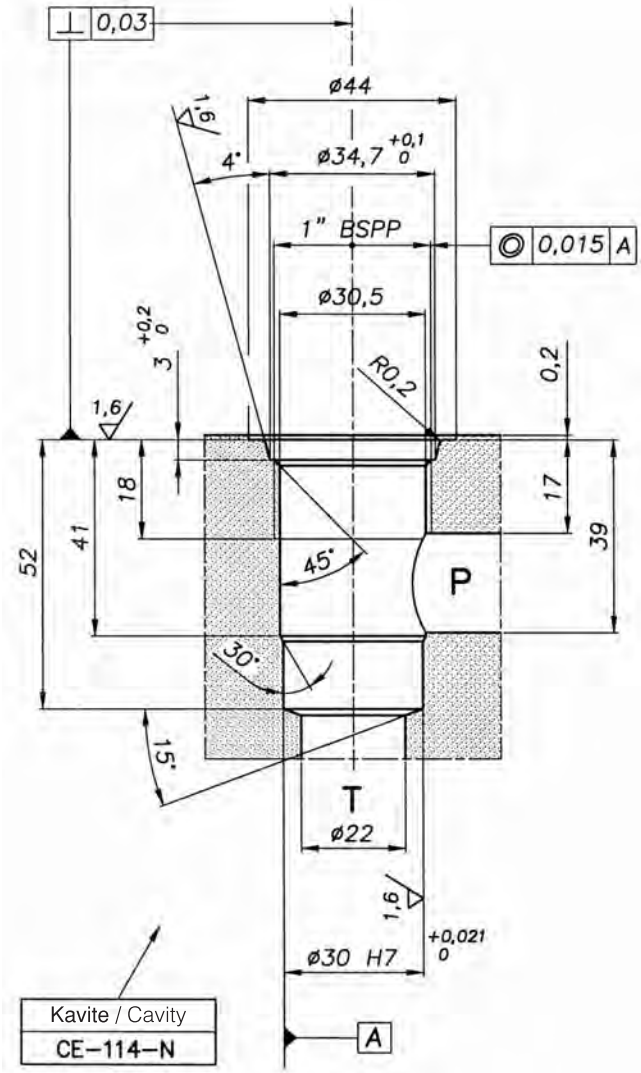
İKİ YOLLU KARTRİÇ TİPİ SELENOİD VALF
TWO WAY CARTRIDGE SOLENOID VALVE WITH UNIFIED CAVITY

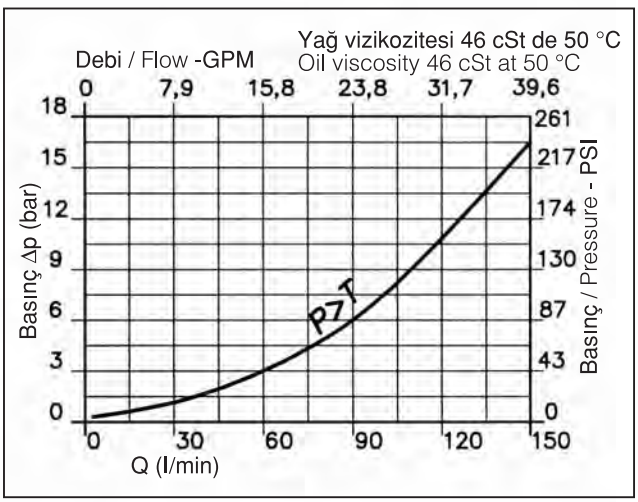


VE - ... - 150 - 114N - 100GAS

İki yollu, pilot kumandalı, popet tip kartriç selenoid valf. Bu kartriç, geri basıncın çalışma basıncının %90'ına ulaştığı zamanda bile çalışır. Sızıntı sanal olarak sıfırdır.
Kartriç açıkken iki yöne de akış açıktır. Kapandığında ise P den T ye akış kesilir ve T den P ye açık kalır.

Two way pilot operated, poppet style cartridge solenoid valve. This cartridge can operate even with a back pressure of 90% of the working one. the leakage is virtually zero.
The flow is allowed in both directions when the cartridge is opened, and it's stopped from P to T and allowed from T to P when it's closed.



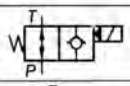
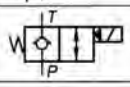


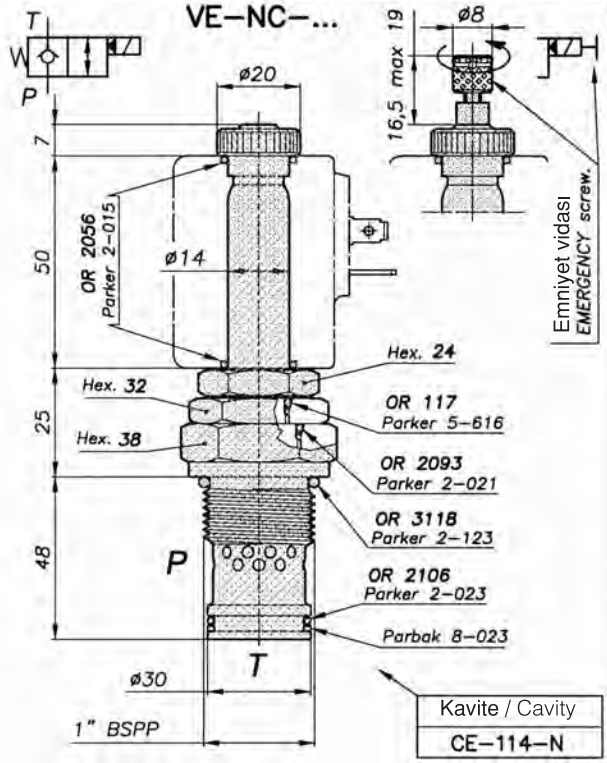
PERFORMANSLAR / PERFORMANCES

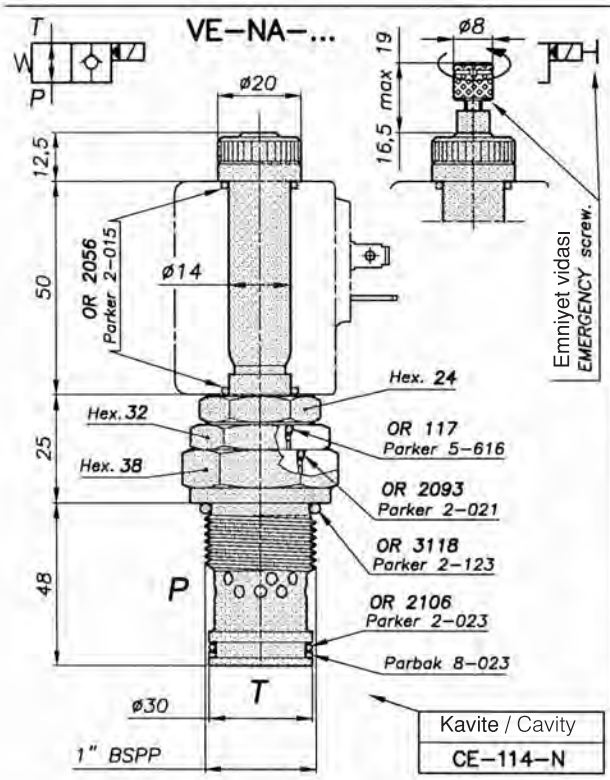
Nominal ölçü Flow division ratio	DN	11.5
Max. debi - oran Max. flow-rate		150 l/min 39 GPM
Max. basınç Max. pressure		300 bar 4350 PSI
Min. çalışma voltajı Min. operating voltage		Normal gerilimin'in 90% of nominal tension
Oda sıcaklığı Room temperature	°C	-30 +50
Yağ sıcaklığı Oil temperature	°C	-30 +80
Filtrasyon Filtration	µm	25
Sıkma torku Tightening torque	Nm	47
Ağırlık Weight	Kg	0.39

İKİ YOLLU KARTRİÇ TİPİ SELENOİD VALF

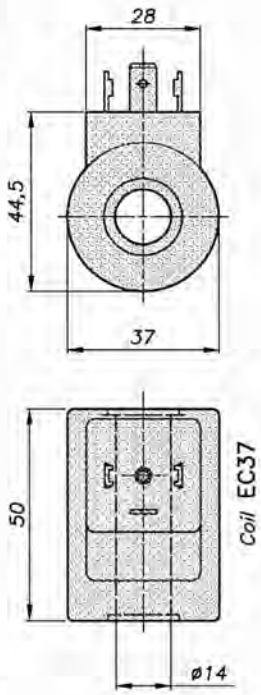
TWO WAY CARTRIDGE SOLENOID VALVE WITH UNIFIED CAVITY

İşlevi / Function	Sipariş Kodu Ordering Code	Tanımlama Description	Kavite / Cavity	Notlar Notes
	005.556.000	VE–NA–150–114N–100GAS	CE–114–N	Normalde açık Normally closed
	005.556.000.E	VE–NA–150–114N–100GAS–E	CE–114–N	
	005.557.000	VE–NC–150–114N–100GAS	CE–114–N	Normalde kapalı Normally closed
	005.557.000.E	VE–NC–150–114N–100GAS–E	CE–114–N	





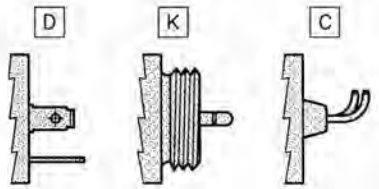
BOBİN / COIL



Ağırlık / Weight: 0.200 Kg

Güç Tüketimi / Power consumption
AC: 35 VA (Normal sıcaklık / nominal cool)
DC: 20 W (Normal sıcaklık / nominal cool)

Başlangıçtaki güç tüketimi normalden max. 3.5 kat fazladır.
Power at starting is max. 3.5 times higher than service one.



OPTIONAL

Plug	Cod.
DIN Konnektör (hirsch)	D
Fişli / Kostal	K
Kablolu Cavi Leads	C

SİPARİŞ KODU / ORDERING CODE

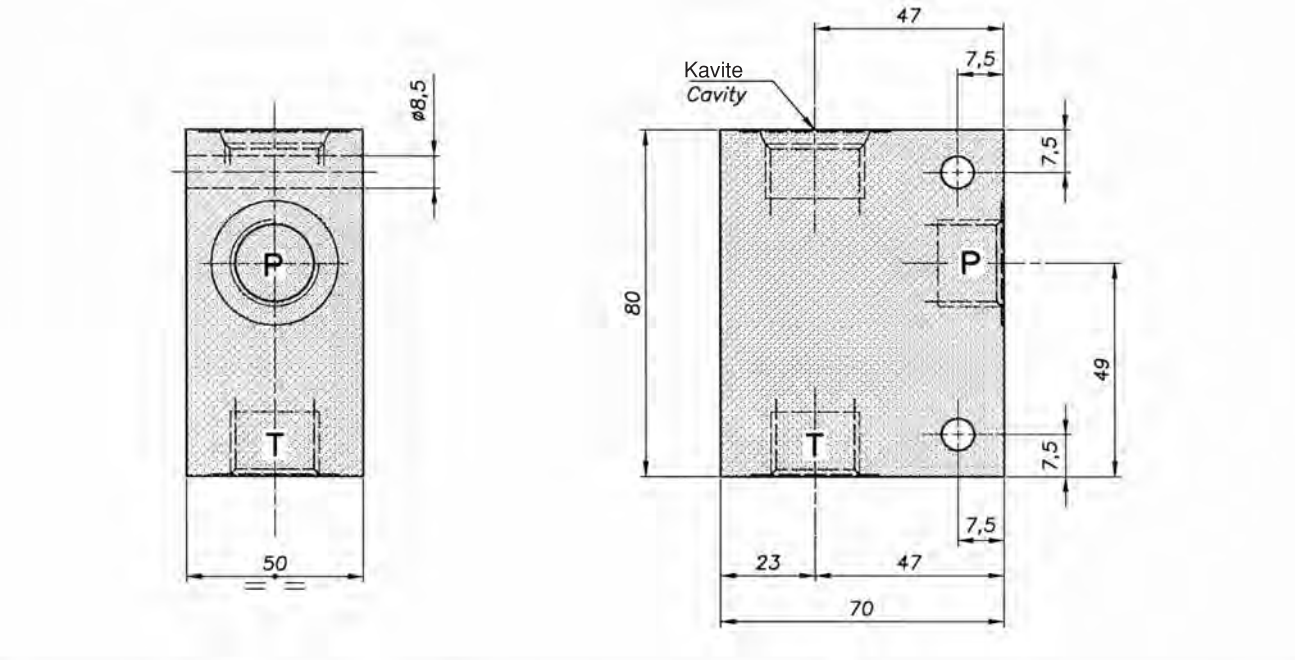
C	3	7							+	

Bobin Coil	Cod.
EC37 20W	C37

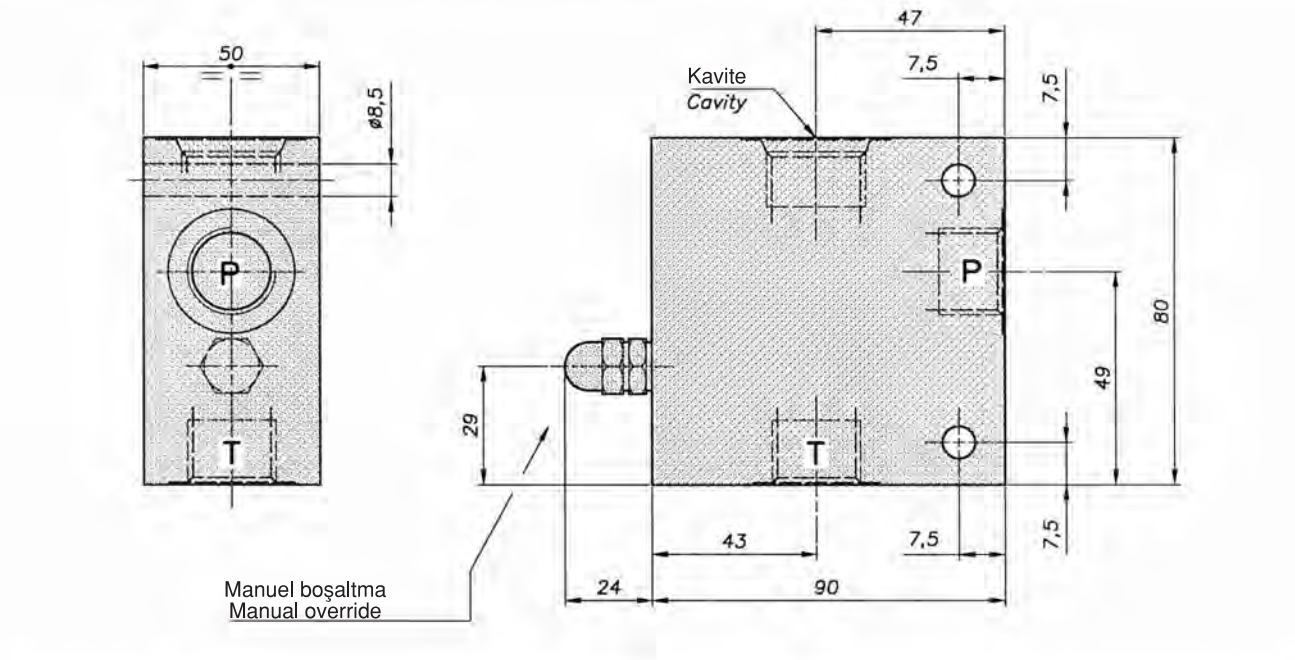
Bağlantı Connection	Cod.
DIN Konnektör (hirsch)	D
Fişli / Kostal	K
Kablolu Cavi Leads	C

Volt / Hertz	Cod.
12V DC	012DC
24V DC	024DC
24V AC	024AC
220V 50Hz	22050
110V 50Hz	11050

2/2 KARTİÇ SELENOİD VALF GÖVDESİ
BODIES FOR TWO-WAY TWO -POSITION CARTRIDGE SOLENOID VALVES



Delikler Ports T-P	Kısa tanımlama Short description	Kavite / Cavity	Cod.	Notlar Notes
3/4"GAS	C-34GAS-114-N-T	CE-114-N (ø30mm-100GAS)	005.530.001	–
1"GAS	C-100GAS-114-N-T	CE-114-N (ø30mm-100GAS)	005.533.001	–



Delikler Ports T-P	Kısa tanımlama Short description	Kavite / Cavity	Kod Cod.	Notlar Notes
3/4"GAS	C-34GAS-114-N-T-E	CE-114-N (ø30mm-100GAS)	005.531.001	Manuel boşaltma
1"GAS	C-100GAS-114-N-T-E	CE-114-N (ø30mm-100GAS)	005.532.001	Manuel boşaltma

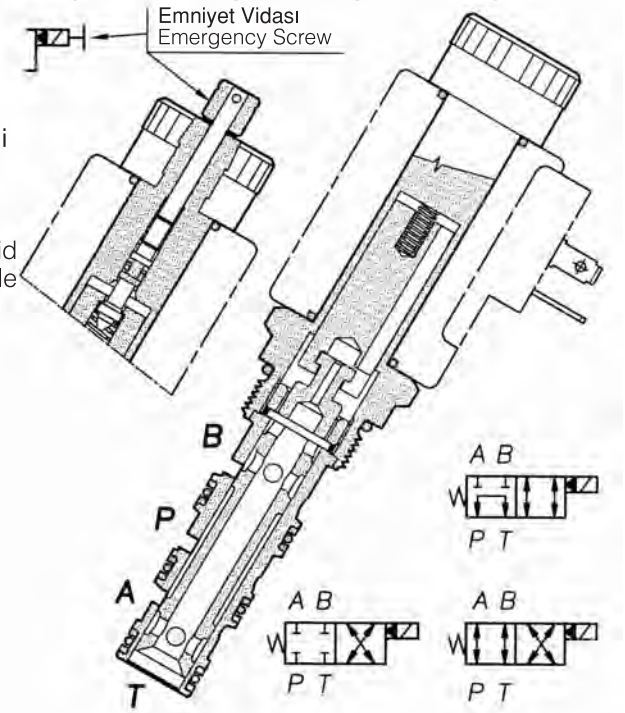
DÖRT YOLLU - İKİ KONUMLU SELENOİD KARTRİÇ VALFLER

CARTRIDGE FOUR-WAY TWO-POSITION SOLENOID VALVES WITH UNIFIED CAVITY

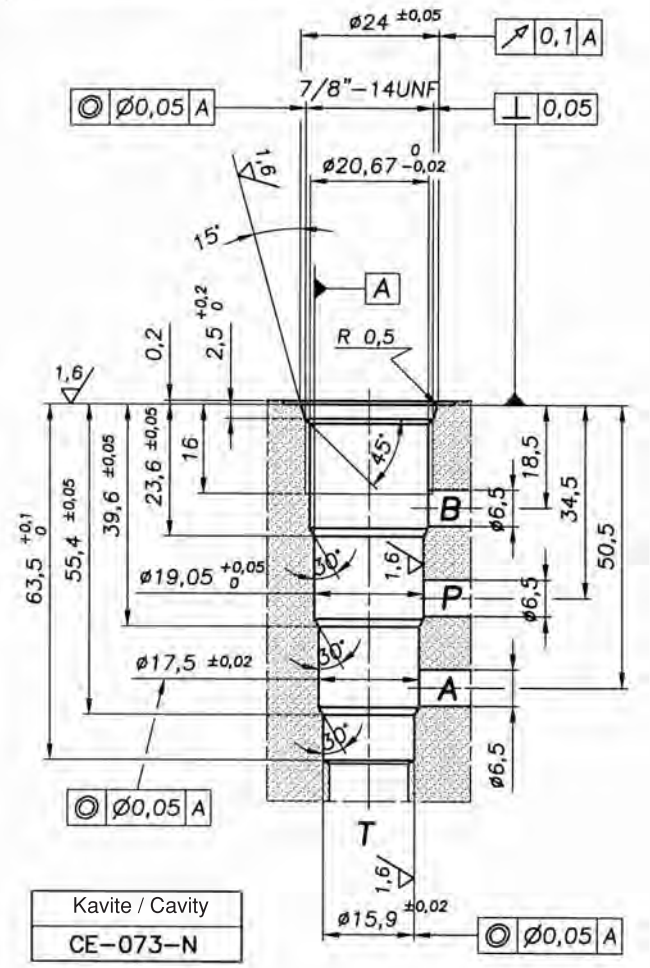
VE - 4V - 50 - 073N - 78UNF

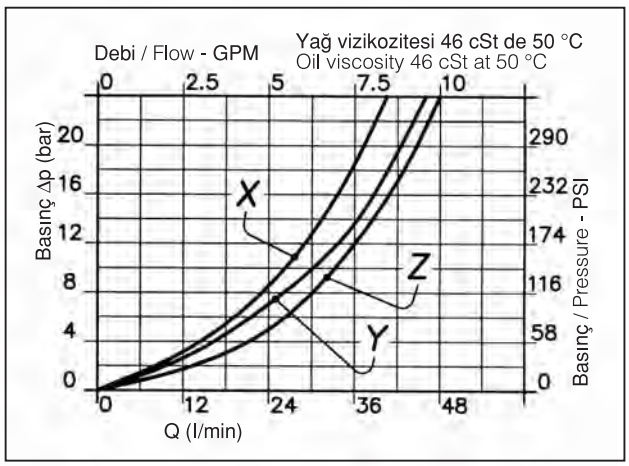
Dört yollu iki konumlu direkt etkili selenoid kartriç valf. Enerjili veya enerjisiz durumdaki fonksiyonları için tabloya bakınız. Kartriç herhangi bir porttan akış girişine izin verir.

Four-way two-position direct acting solenoid valve ating solenoid cartrıdge valves. See table below for function performed while energized or de-energized.
The cartridge allow incoming flow at any port.



A B / P T	P>B		A>T	
	Δp Eğri Courve Z		Δp Eğri Courve Y	
A B / P T	P>T	P>A	B>T	
	Δp X	Δp Y	Δp Z	
A B / P T	P>A	B>T	P>B	A>T
	Δp Y	Δp Y	Δp Y	Δp Y





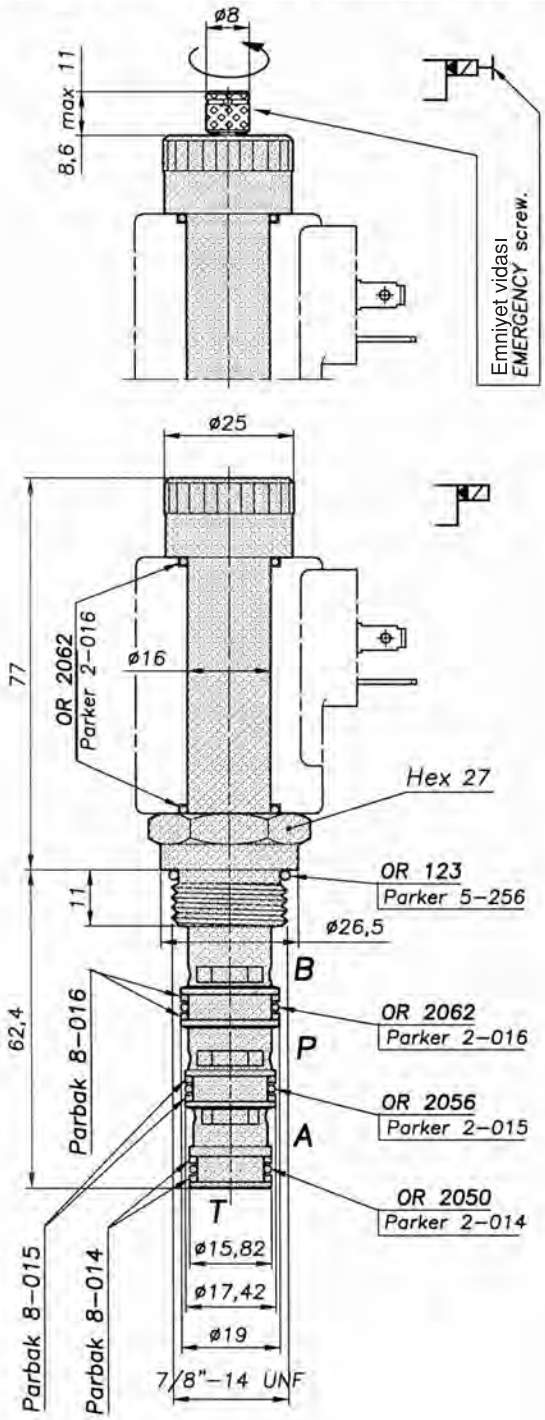
PERFORMANSLAR / PERFORMANCES

Nominal ölçü Rated size	DN	6.5
Max. debi - oran Max. flow-rate		40 l/min 10 GPM
Max. basınç Max. pressure		210 bar 3000 PSI
Oda sıcaklığı Room temperature	°C	-30 +50
Yağ sıcaklığı Oil temperature	°C	-30 +80
Filtrasyon Filtration	µm	30
Sıkma torku Tightening torque	Nm	40
Ağırlık Weight	Kg	0.250

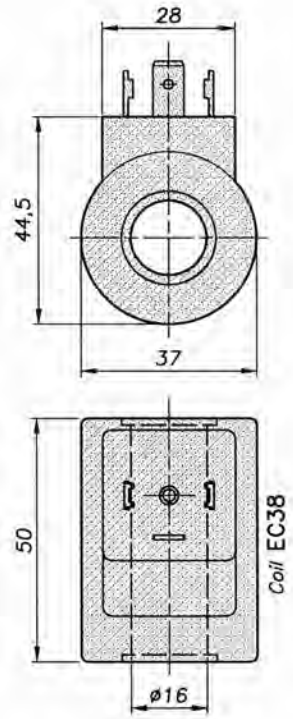
DÖRT YOLLU - İKİ KONUMLU SELENOİD KARTRİÇ VALFLER

CARTRIDGE FOUR-WAY TWO-POSITION SOLENOID VALVES WITH UNIFIED CAVITY

İşlevi / Function	Sipariş Kodu Ordering Code	Tanımlama Description	Kavite Cavity
	005.247.000	VE–4V–50–073N–78UNF–A	CE–073–N
	005.248.000	VE–4V–50–073N–78UNF–A–E	CE–073–N
	005.249.000	VE–4V–50–073N–78UNF–B	CE–073–N
	005.250.000	VE–4V–50–073N–78UNF–B–E	CE–073–N
	005.251.000	VE–4V–50–073N–78UNF–C	CE–073–N
	005.252.000	VE–4V–50–073N–78UNF–C–E	CE–073–N



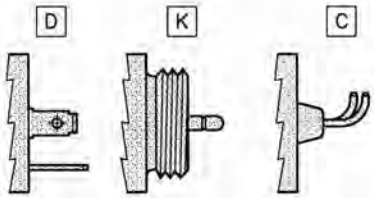
BOBİN / COIL



Ağırlık / Weight: 0.200 Kg

Güç Tüketimi / Power consumption
AC: 50 VA (Normal sıcaklık / nominal cool)
DC: 26 W (Normal sıcaklık / nominal cool)

Başlangıçtaki güç tüketimi normalden max. 3.5 kat fazladır.
Power at starting is max. 3.5 times higher than service one.



OPTIONAL

Plug	Cod.
DIN Konnektör (hirsch)	D
Fişli / Kostal	K
Kablolu Cavi Leads	C

SİPARİŞ KODU / ORDERING CODE

C	3	8							+

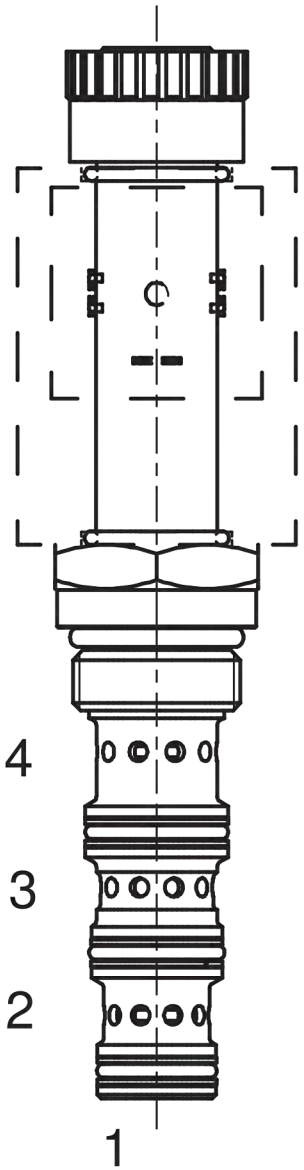
Bobin Coil	Cod.
EC38 26W	C38

Bağlantı Connection	Cod.
DIN Konnektör (hirsch)	D
Fişli / Kostal	K
Kablolu Cavi Leads	C

Volt / Hertz	Cod.
12V DC	012DC
24V DC	024DC
24V AC	024AC
220V 50Hz	22050
110V 50Hz	11050

WSV10-42-A

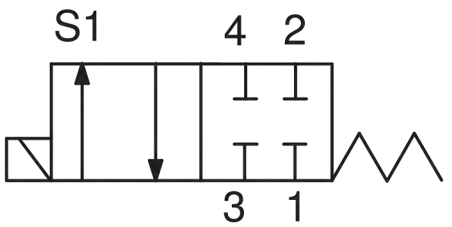
7/8-14 UNF selenoid valf, direk çekmeli, 4 yollu 2 pozisyonlu (kapalı merkez)
7/8-14 UNF solenoid spool valve, direct-acting, 4 way 2 positions (closed center)



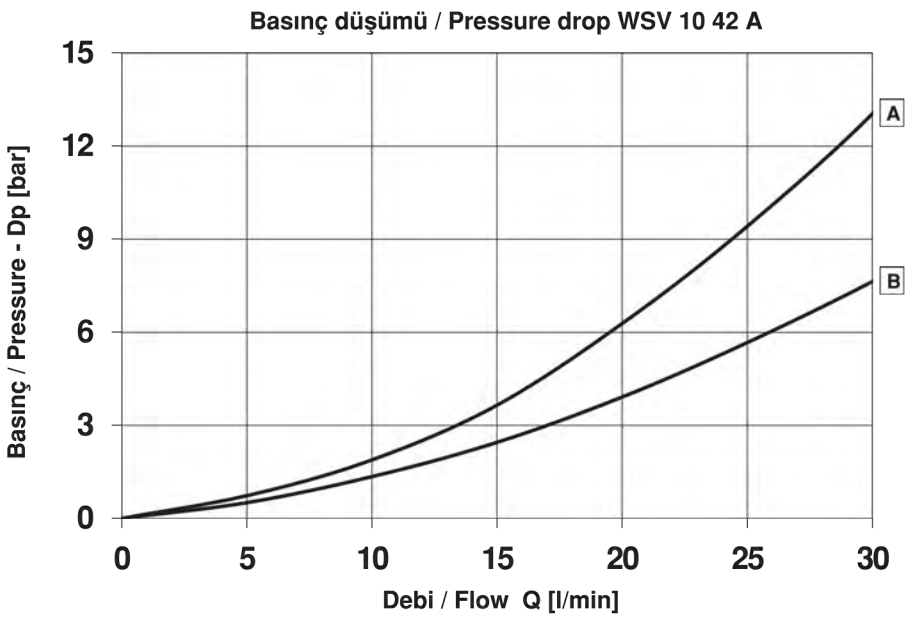
OPERASYON
WSV10-42-A serisi valf enerjisizken kapalı merkez S1 bobini enerjilendiğinde 3>4, ve 2 > 1 akış gerçekleşir.

DESCRIPTION
7/8-14 UNF (SAE 10) solenoid spool valve, direct-acting, 4 way 2 positions (closed center)
OPERATION
When de-energized, the WSV10-42-A blocks flow to all ports (closed center); when coil S1 is energized, flow is allowed from 3>4, and 2 > 1 Standard valves haven't been equipped w./ manual override

KARAKTERİSTİKLERİ		PERFORMANCE
Ölçü / kavite	7/8-14 UNF	Cavity rated size
Akış kapasitesi	20 l/min - 5,2 GPM	Flow-rate
Maksimum basınç	250 bar - 3625 PSI	Max pressure
Akış @ max. Dp 7bar (ecc. 3 > 4)	21 l/min - 5,5 GPM	Flow @ max. Dp 7bar (ener. 3 > 4)
max. Dp @ akış nom. (ecc. 3 > 4)	6,5 bar - 94 PSI	max. Dp @ nom. flow (ener. 3 > 4)
Min. çalışma voltajı	90% nominal gerilim / of nominal tension	Min. operating voltage
Çalışma sıcaklıkları	-30°C + 50°C	Working environment temp.
min. filtrasyon (ISO STANDARD)	20 / 18 / 14	Minimum filtration (ISO STANDARD)
Sıkma torku	45-50 Nm	Tightening torque
Ağırlığı	0,22 Kg	Weight (w/o. coils)



Enerjili / Energized	
3→4 »	A
2→1 »	B



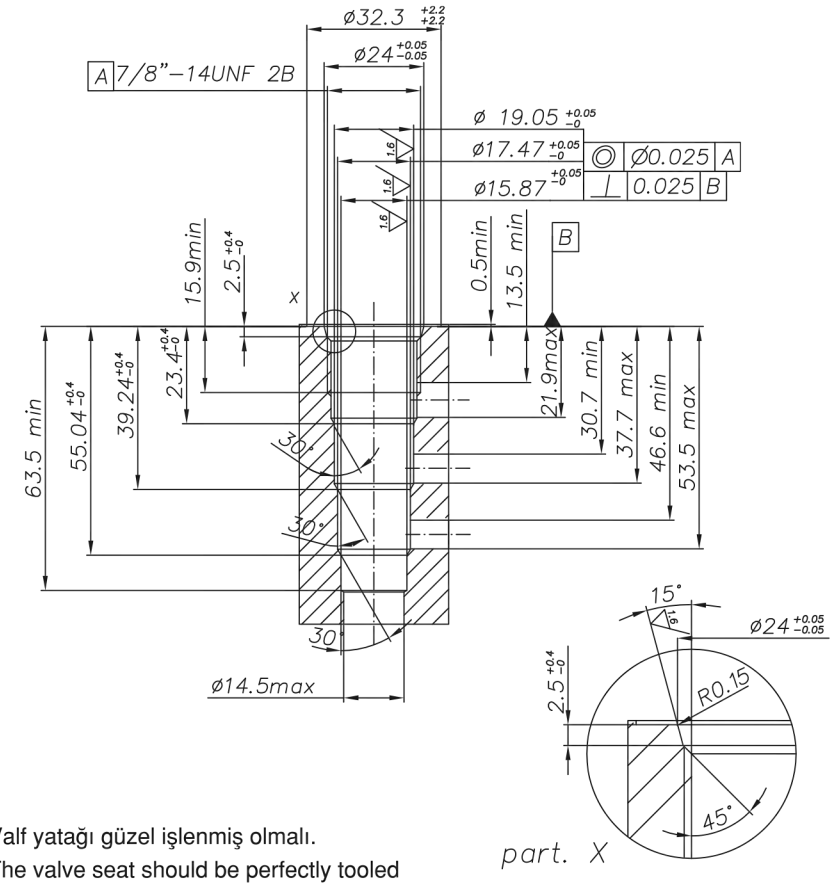
Lütfen dikkatlice okuyunuz.
UYARI;
Kartriç valflerimiz D.C. bobinle çalıştırılmak üzere dizayn edilmiştir. A.C. bobinle çalıştırılmak istenirse lütfen teknik ofisimizden bilgi isteyiniz.

READ CAREFULLY
WARNING:
The cartridges are designed to work with D.C. power supply. To work with A.C. power supply please ask to our technical office.

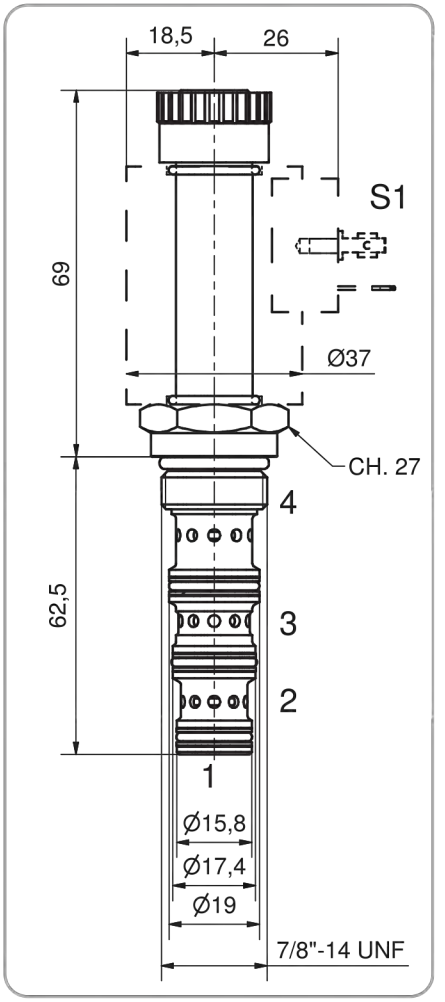
Yağ viskozitesi 46 cSt a 50°C
Oil viscosity 46 cSt at 50°C

WSV10-42-A Serisi Selenoid Kartriçler / WSV10-42-A Series Solenoid Cartridges

KAVİTE - CAVITY CE.167.N



Valf yatağı güzel işlenmiş olmalı.
The valve seat should be perfectly tooled



SİPARİŞ KODU - HOW TO ORDER

WSV10-42-A - ___ - ___ - B - 00 - **

Özel İstekler / Special issue

**	İstek yoksa boş kalacak omit if not request
D0	DIN konnektör w/DIN connector
DR	Doğrultuculu DIN konnektör w/ rectifled DIN connector

Voltaj / Voltage

00	Bobinsiz - w/o coil
12D	12 VDC
24D	24 VDC
220R	220 RAC

Bağlantı Tipi
Connector type

0	Bobinsiz - w/o coil
C	Kablolu - Leads
D	DIN
G	ALMAN TİPİ DEUTSCH DT04-2P
S	AMP SUPERSEAL 1,5
T	AMP JUNIOR Timer

Sızdırmazlık elemanı
Seals

B	Buna (standard)
V	Viton

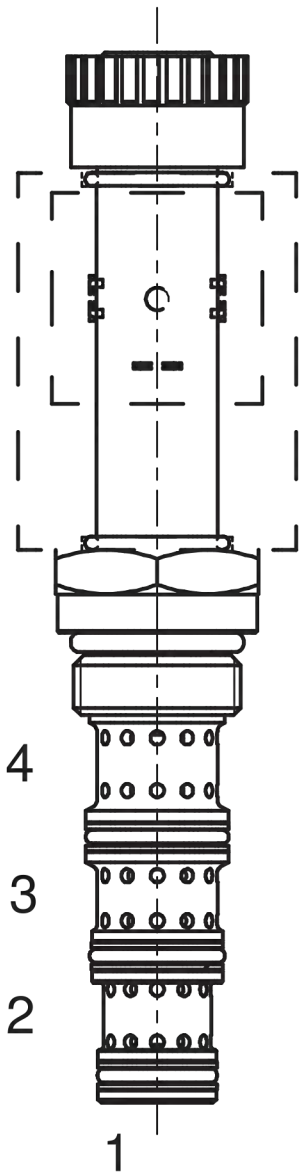
Alüminyum Gövde
Aluminium body

00	bloksuz - w/o body
2B	3/8 BSPP
3B	1/2 BSPP

NOT: Farklı valf, ölçü ve voltaj için teknik ofisimizle irtibata geçiniz.
NOTE: For different valve's geometries, cavity, voltages, coil's power, body's ports and material, etc..., please contact our Technical Dept.

WSV10-42-B

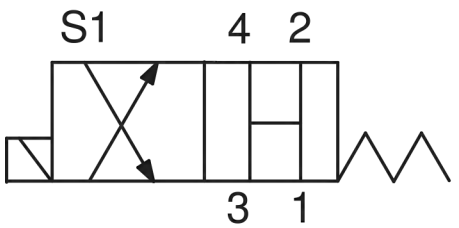
7/8-14 UNF selenoid valf, direk çekmeli, 4 yollu 2 pozisyonlu (açık merkez)
7/8-14 UNF solenoid spool valve, direct-acting, 4 way 2 positions (open center)



OPERASYON
WSV10-42-B serisi valf enerjisizken H merkez S1 bobini enerjilendiğinde 3>2, ve 4 > 1 akış gerçekleşir.

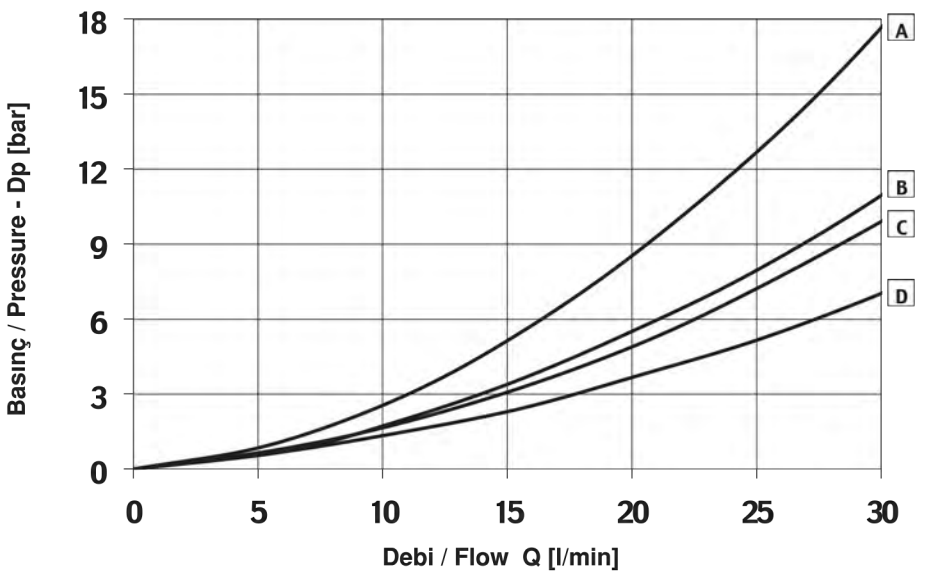
DESCRIPTION
7/8-14 UNF (SAE 10) solenoid spool valve, direct-acting, 4 way 2 positions (open center)
OPERATION
When de-energized, the WSV10-42-B allows flow to all ports (open center); when coil S1 is energized, flow is allowed from 3>2, and 4 > 1 Standard valves haven't been equipped w./manual override

KARAKTERİSTİKLERİ		PERFORMANCE
Ölçü / kavite	7/8-14 UNF	Cavity rated size
Akış kapasitesi	25 l/min - 6,6 GPM	Flow-rate
Maksimum basınç	250 bar - 3625 PSI	Max pressure
Akış @ max. Dp 7bar (ecc. 3 > 2)	18 l/min - 4,8 GPM	Flow @ max. Dp 7bar (ener. 3 > 2)
max. Dp @ akış nom. (ecc. 3 > 2)	13 bar - 190 PSI	max. Dp @ nom. flow (ener. 3 > 2)
Min. çalışma voltajı	90% nominal gerilim / of nominal tension	Min. operating voltage
Çalışma sıcaklıkları	-30°C + 50°C	Working environment temp.
min. filtrasyon (ISO STANDARD)	20 / 18 / 14	Minimum filtration (ISO STANDARD)
Sıkma torku	45-50 Nm	Tightening torque
Ağırlığı	0,22 Kg	Weight (w/o. coils)



Enerjisiz De-energized			Enerjili Energized		
3→1	»	D	3→2	»	A
2→1	»	C	4→1	»	C
4→1	»	B			

Basınç düşümü / Pressure drop WSV 10 42 B



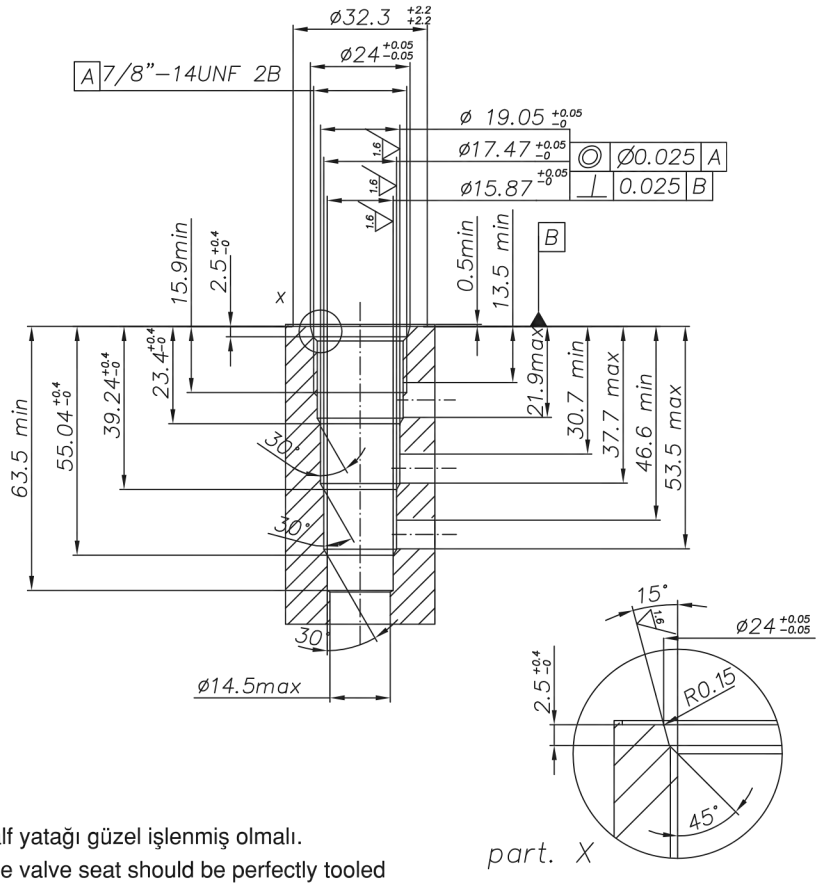
Lütfen dikkatlice okuyunuz.
UYARI;
Kartriç valflerimiz D.C. bobinle çalıştırılmak üzere dizayn edilmiştir. A.C. bobinle çalıştırılmak istenirse lütfen teknik ofisimizden bilgi isteyiniz.

READ CAREFULLY
WARNING:
The cartridges are designed to work with D.C. power supply. To work with A.C. power supply please ask to our technical office.

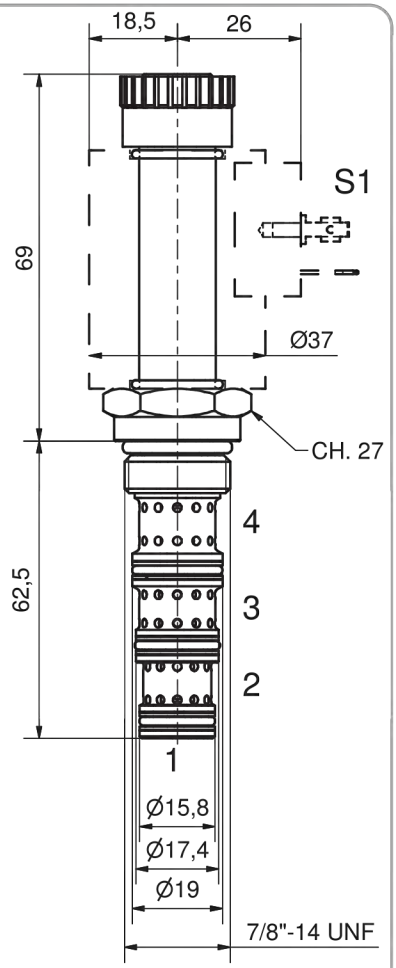
Yağ viskozitesi 46 cSt a 50°C
Oil viscosity 46 cSt at 50°C

WSV10-42-B Serisi Selenoid Kartriçler / WSV10-42-B Series Solenoid Cartridges

KAVİTE - CAVITY CE.167.N



Valf yatağı güzel işlenmiş olmalı.
The valve seat should be perfectly tooled



SİPARİŞ KODU - HOW TO ORDER

WSV10-42-B - ___ - ___ - B - 00 - **

Özel İstekler / Special issue

**	İstek yoksa boş kalacak omit if not request
D0	DIN konnektör w/DIN connector
DR	Doğrultuculu DIN konnektör w/ rectifled DIN connector

Voltaj / Voltage

00	Bobinsiz - w/o coil
12D	12 VDC
24D	24 VDC
220R	220 RAC

Bağlantı Tipi
Connector type

0	Bobinsiz - w/o coil
C	Kablolu - Leads
D	DIN
G	ALMAN TİPİ DEUTSCH DT04-2P
S	AMP SUPERSEAL 1,5
T	AMP JUNIOR Timer

Sızdırmazlık elemanı
Seals

B	Buna (standard)
V	Viton

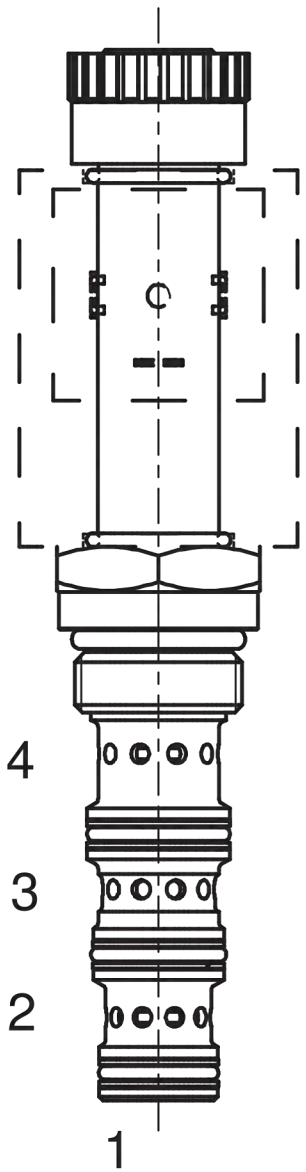
Alüminyum Gövde
Aluminium body

00	bloksuz - w/o body
2B	3/8 BSPP
3B	1/2 BSPP

NOT: Farklı valf, ölçü ve voltaj için teknik ofisimizle irtibata geçiniz.
NOTE: For different valve's geometries, cavity, voltages, coil's power, body's ports and material, etc..., please contact our Technical Dept.

WSV10-42-C

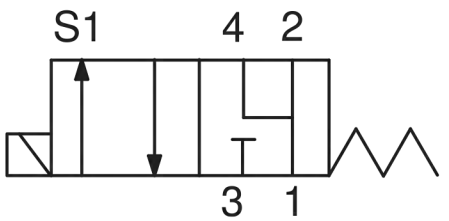
7/8-14 UNF selenoid valf, direk çekmeli, 4 yollu 2 pozisyonlu (”motor” merkez)
7/8-14 UNF solenoid spool valve, direct-acting, 4 way 2 positions (”motor” center)



OPERASYON
WSV10-42-C serisi valf enerjisizken 3 port kapalı 2>1, ve 4 > 1 açık S1 enerjilendiğinde 3>4, ve 2 > 1 akış gerçekleşir.

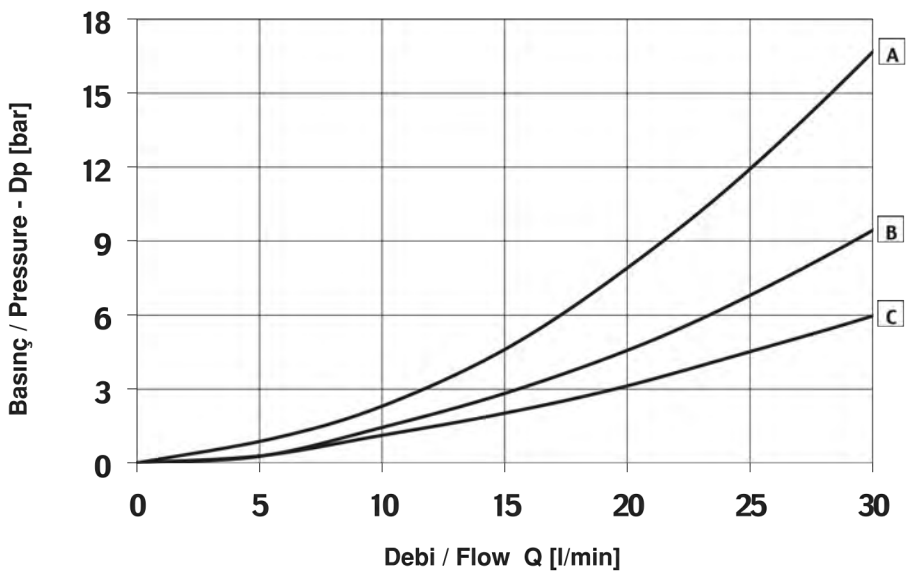
DESCRIPTION
7/8-14 UNF (SAE 10) solenoid spool valve, direct-acting, 4 way 2 positions (”motor” center)
OPERATION
When de-energized, the SV10-42-C blocks flow to ports 3 and allowing flow from 2>1, and 4>1 (”motor” center); when coil S1 is energized, flow is allowed from 3>4, and 2 > 1
Standard valves haven’t been equipped w./ manual override

KARAKTERİSTİKLERİ		PERFORMANCE
Ölçü / kavite	7/8-14 UNF	Cavity rated size
Akış kapasitesi	20 l/min - 5,2 GPM	Flow-rate
Maksimum basınç	250 bar - 3625 PSI	Max pressure
Akış @ max. Dp 7bar (ecc. 3 > 4)	18,5 l/min - 4,9 GPM	Flow @ max. Dp 7bar (ener. 3 > 4)
max. Dp @ akış nom. (ecc. 3 > 4)	8 bar - 115 PSI	max. Dp @ nom. flow (ener. 3 > 4)
Min. çalışma voltajı	90% nominal gerilim / of nominal tension	Min. operating voltage
Çalışma sıcaklıkları	-30°C + 50°C	Working environment temp.
min. filtrasyon (ISO STANDARD)	20 / 18 / 14	Minimum filtration (ISO STANDARD)
Sıkma torku	45-50 Nm	Tightening torque
Ağırlığı	0,22 Kg	Weight (w/o. coils)



Enerjisiz De-energized			Enerjili Energized		
2→1	»	B	3→4	»	A
4→1	»	B	2→1	»	C

Basınç düşümü / Pressure drop WSV 10 42 C



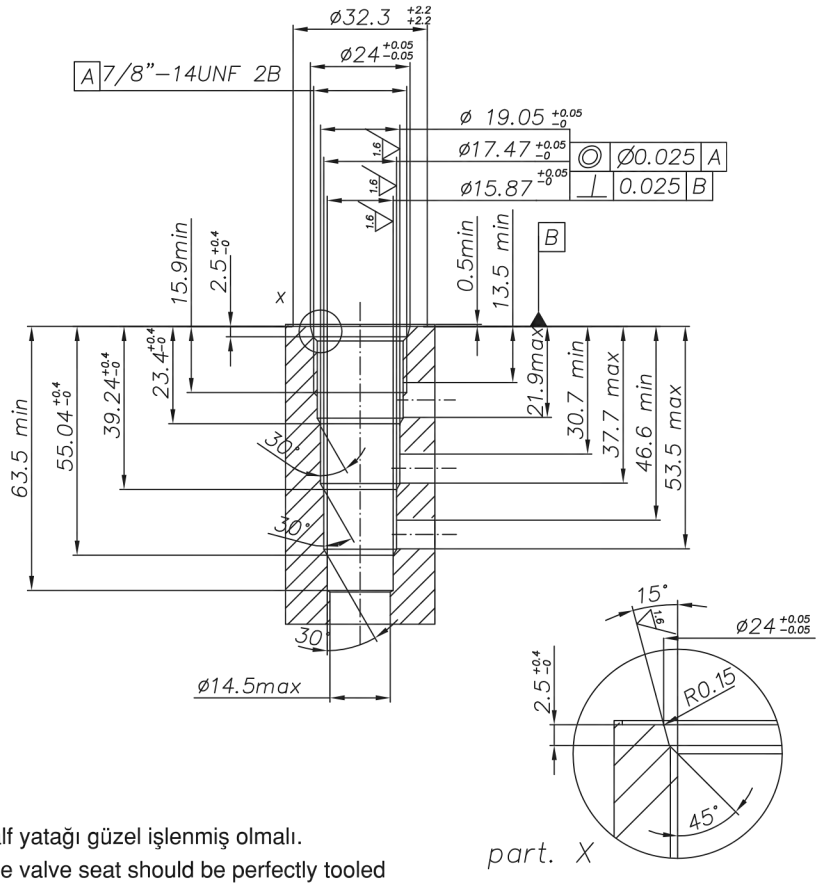
Lütfen dikkatlice okuyunuz.
UYARI;
Kartriç valflerimiz D.C. bobinle çalıştırılmak üzere dizayn edilmiştir. A.C. bobinle çalıştırılmak istenirse lütfen teknik ofisimizden bilgi isteyiniz.

READ CAREFULLY
WARNING:
The cartridges are designed to work with D.C. power supply. To work with A.C. power supply please ask to our technical office.

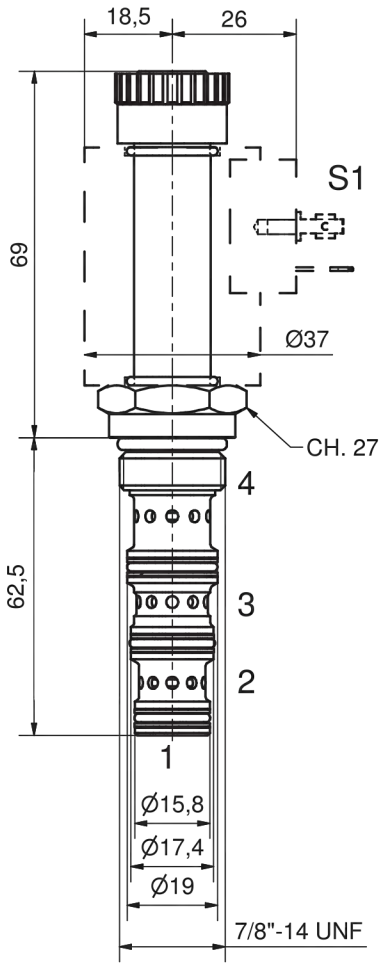
Yağ viskozitesi 46 cSt a 50°C
Oil viscosity 46 cSt at 50°C

WSV10-42-C Serisi Selenoid Kartriçler / WSV10-42-C Series Solenoid Cartridges

KAVİTE - CAVITY **CE.167.N**



Valf yatağı güzel işlenmiş olmalı.
The valve seat should be perfectly tooled



SİPARİŞ KODU - HOW TO ORDER

WSV10-42-C - ___ - ___ - B - 00 - **

Özel İstekler / Special issue	
**	İstek yoksa boş kalacak omit if not request
D0	DIN konnektör w/DIN connector
DR	Doğrultuculu DIN konnektör w/ rectifled DIN connector

Voltaj / Voltage	
00	Bobinsiz - w/o coil
12D	12 VDC
24D	24 VDC
220R	220 RAC

Bağlantı Tipi Connector type	
0	Bobinsiz - w/o coil
C	Kablolu - Leads
D	DIN
G	ALMAN TİPİ DEUTSCH DT04-2P
S	AMP SUPERSEAL 1,5
T	AMP JUNIOR Timer

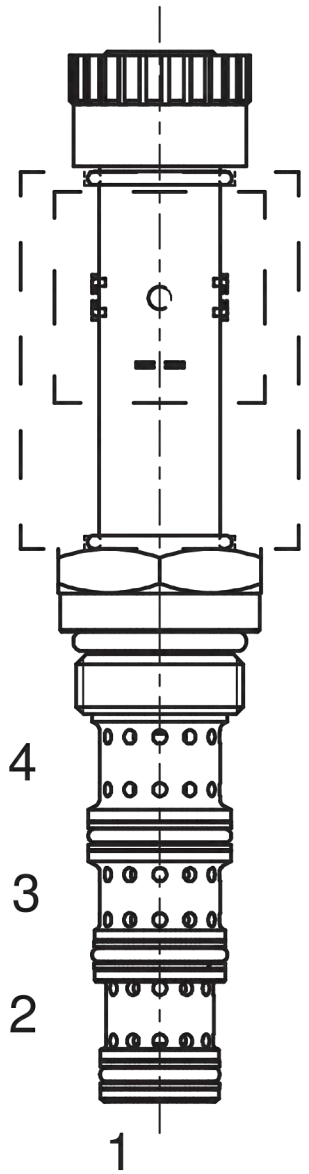
Sızdırmazlık elemanı Seals	
B	Buna (standard)
V	Viton

Alüminyum Gövde Aluminium body	
00	bloksuz - w/o body
2B	3/8 BSPP
3B	1/2 BSPP

NOT: Farklı valf, ölçü ve voltaj için teknik ofisimizle irtibata geçiniz.
NOTE: For different valve's geometries, cavity, voltages, coil's power, body's ports and material, etc..., please contact our Technical Dept.

WSV10-42-F

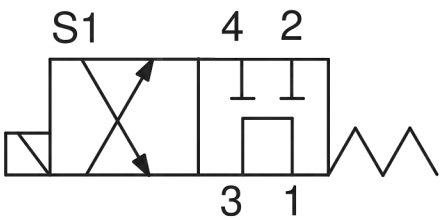
7/8-14 UNF selenoid valf, direk çekmeli, 4 yollu 2 pozisyonlu ("tandem" merkez)
7/8-14 UNF solenoid spool valve, direct-acting, 4 way 2 positions ("tandem" center)



OPERASYON
WSV10-42-F serisi valf enerjisizken 2 ve 4 port kapalı 3>1 açık S1 enerjilendiğinde 3>2, ve 4 > 1 akış gerçekleşir.

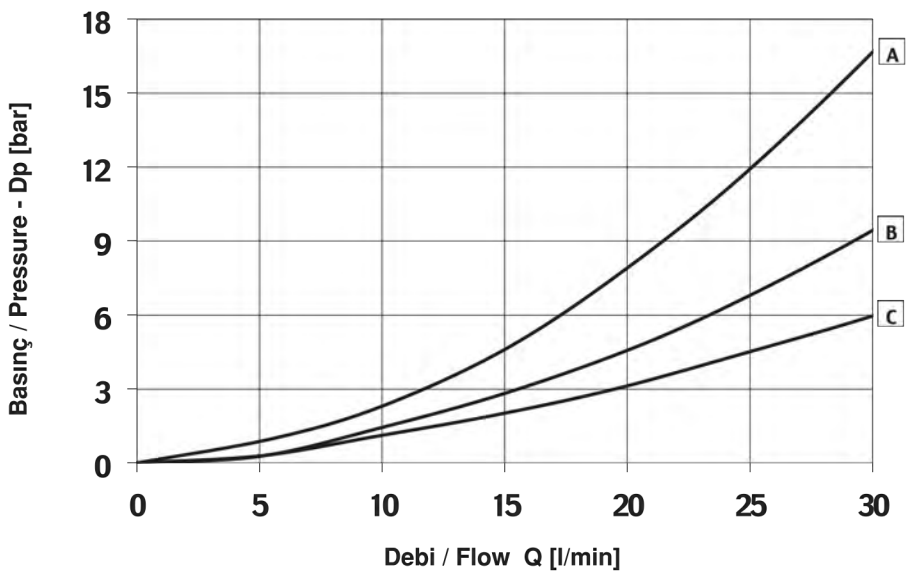
DESCRIPTION
7/8-14 UNF (SAE 10) solenoid spool valve, direct-acting, 4 way 2 positions ("tandem" center)
OPERATION
When de-energized, the SV10-42-F blocks flow to all ports 2 and 4, while allowing flow from 3>1 ("tandem" center); when coil S1 is energized, flow is allowed from 3>2, and 4 >1
Standard valves haven't been equipped w./ manual override

KARAKTERİSTİKLERİ		PERFORMANCE
Ölçü / kavite	7/8-14 UNF	Cavity rated size
Akış kapasitesi	20 l/min - 5,2 GPM	Flow-rate
Maksimum basınç	250 bar - 3625 PSI	Max pressure
Akış @ max. Dp 7bar (ecc. 3 > 4)	16,5 l/min - 4,4 GPM	Flow @ max. Dp 7bar (ener. 3 > 2)
max. Dp @ akış nom. (ecc. 3 > 4)	14,5 bar - 210 PSI	max. Dp @ nom. flow (ener. 3 > 2)
Min. çalışma voltajı	90% nominal gerilim / of nominal tension	Min. operating voltage
Çalışma sıcaklıkları	-30°C + 50°C	Working environment temp.
min. filtrasyon (ISO STANDARD)	20 / 18 / 14	Minimum filtration (ISO STANDARD)
Sıkma torku	45-50 Nm	Tightening torque
Ağırlığı	0,22 Kg	Weight (w/o. coils)



Enerjisiz De-energized			Enerjili Energized		
3→1	»	C	3→2	»	A
4→1	»	B	4→1	»	B

Basınç düşümü / Pressure drop WSV 10 42 F



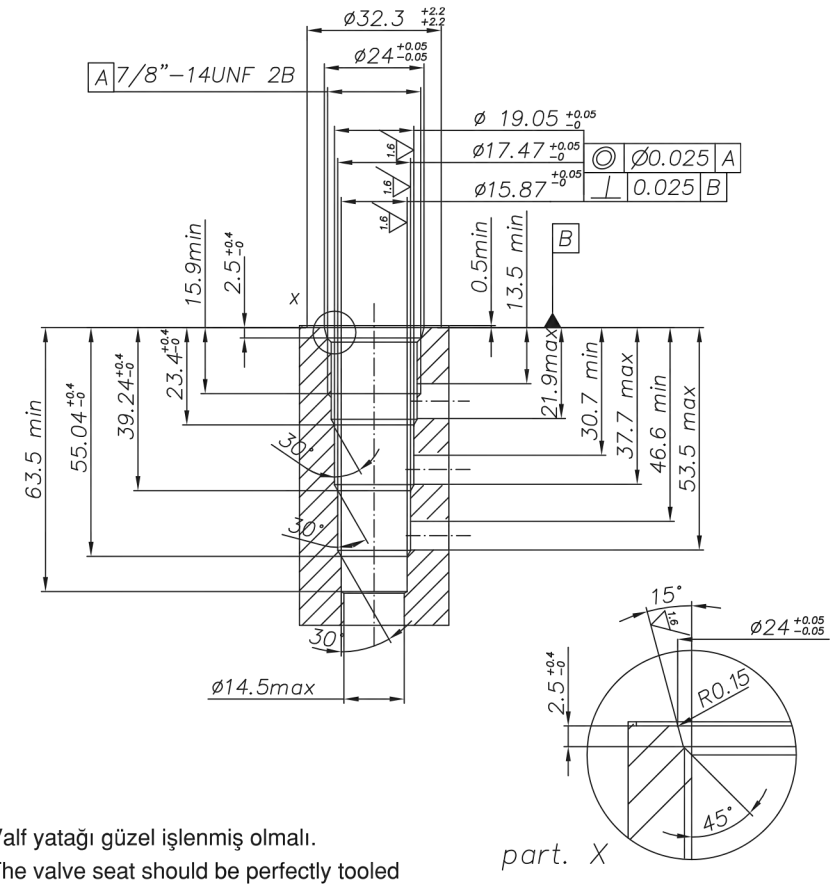
Lütfen dikkatlice okuyunuz.
UYARI;
Kartriç valflerimiz D.C. bobinle çalıştırılmak üzere dizayn edilmiştir. A.C. bobinle çalıştırılmak istenirse lütfen teknik ofisimizden bilgi isteyiniz.

READ CAREFULLY
WARNING:
The cartridges are designed to work with D.C. power supply. To work with A.C. power supply please ask to our technical office.

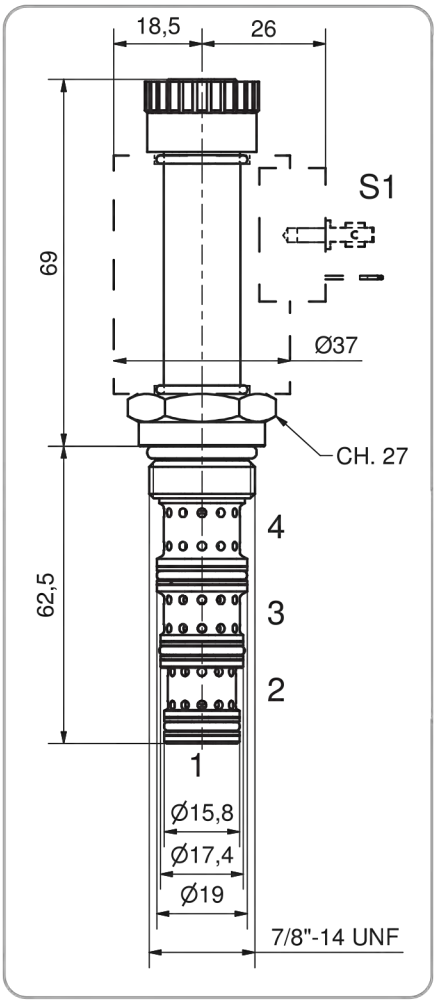
Yağ viskozitesi 46 cSt a 50°C
Oil viscosity 46 cSt at 50°C

WSV10-42-F Serisi Selenoid Kartriçler / WSV10-42-F Series Solenoid Cartridges

KAVİTE - CAVITY CE.167.N



Valf yatağı güzel işlenmiş olmalı.
The valve seat should be perfectly tooled



SİPARİŞ KODU - HOW TO ORDER

WSV10-42-F - ___ - ___ - B - 00 - **

Özel İstekler / Special issue

**	İstek yoksa boş kalacak omit if not request
D0	DIN konnektör w/DIN connector
DR	Doğrultuculu DIN konnektör w/ rectified DIN connector

Voltaj / Voltage

00	Bobinsiz - w/o coil
12D	12 VDC
24D	24 VDC
220R	220 RAC

Bağlantı Tipi
Connector type

0	Bobinsiz - w/o coil
C	Kablolu - Leads
D	DIN
G	ALMAN TİPİ DEUTSCH DT04-2P
S	AMP SUPERSEAL 1,5
T	AMP JUNIOR Timer

Sızdırmazlık elemanı
Seals

B	Buna (standard)
V	Viton

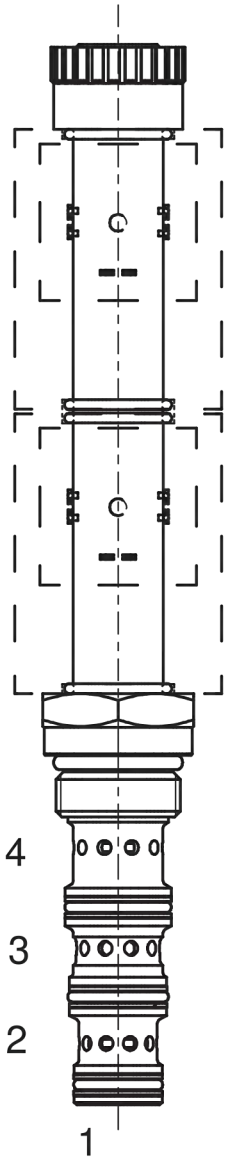
Alüminyum Gövde
Aluminium body

00	bloksuz - w/o body
2B	3/8 BSPP
3B	1/2 BSPP

NOT: Farklı valf, ölçü ve voltaj için teknik ofisimizle irtibata geçiniz.
NOTE: For different valve's geometries, cavity, voltages, coil's power, body's ports and material, etc..., please contact our Technical Dept.

WSV10-43-A

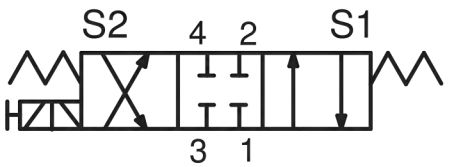
7/8-14 UNF selenoid valf, direk çekmeli, 4 yollu 3 pozisyonlu (kapalı merkez)
7/8-14 UNF solenoid spool valve, direct-acting, 4 way 3 positions (closed center)



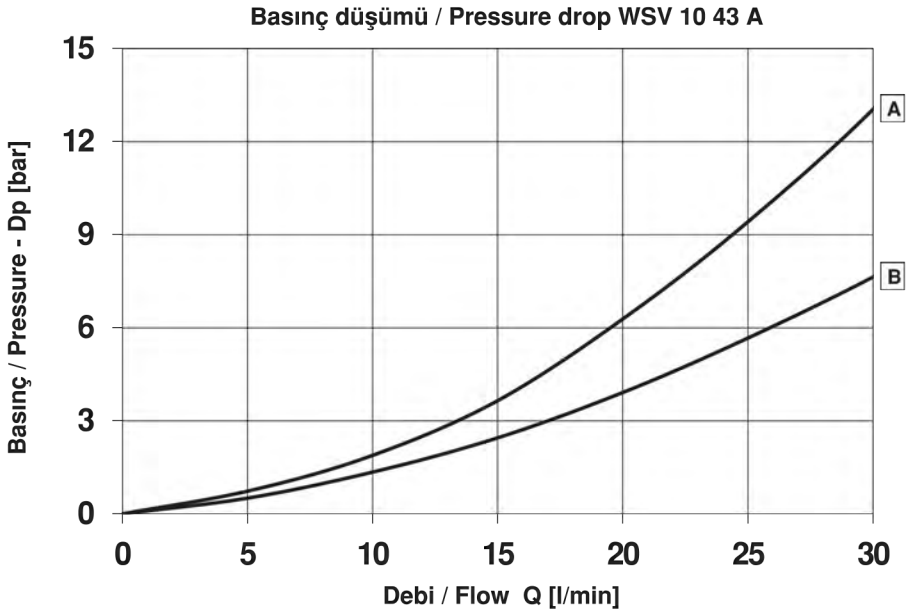
OPERASYON
WSV10-43-A serisi valf enerjisizken kapalı merkez S1 bobini enerjilendiğinde 3>4, ve 2>1 akış gerçekleşir. S2 bobini enerjilendiğinde 3>2, ve 4>1 akış gerçekleşir. Standart selenoid valflerde manuel kullanım mevcuttur. Bu çalıştırma düzeninde 3>4, ve 2>1 akış sağlanır.

DESCRIPTION
7/8-14 UNF (SAE 10) solenoid spool valve, direct-acting, 4 way 3 positions (closed center)
OPERATION
When de-energized, the SV10-43-A blocks flow to all ports (closed center); when coil S1 is energized, flow is allowed from 3>4, and 2>1, while coil S2 is energized, flow is allowed from 3>2, and 4>1
STANDARD MANUAL OVERRIDE OPERATION
Standard valves have been equipped w./ push manual override: during its activation flow is allowed from 3>2, and 4>1

KARAKTERİSTİKLERİ		PERFORMANCE
Ölçü / kavite	7/8-14 UNF	Cavity rated size
Akış kapasitesi	20 l/min - 5,2 GPM	Flow-rate
Maksimum basınç	250 bar - 3625 PSI	Max pressure
Akış @ max. Dp 7bar (ecc. 3 > 4)	21 l/min - 5,5 GPM	Flow @ max. Dp 7bar (ener. 3 > 4)
max. Dp @ akış nom. (ecc. 3 > 4)	6,5 bar - 94 PSI	max. Dp @ nom. flow (ener. 3 > 4)
Min. çalışma voltajı	90% nominal gerilim / of nominal tension	Min. operating voltage
Çalışma sıcaklıkları	-30°C + 50°C	Working environment temp.
min. filtrasyon (ISO STANDARD)	20 / 18 / 14	Minimum filtration (ISO STANDARD)
Sıkma torku	45-50 Nm	Tightening torque
Ağırlığı	0,30 Kg	Weight (w/o. coils)



Enerjili / Energized		
3→2	»	A
3→4	»	A
2→1	»	B
4→1	»	B



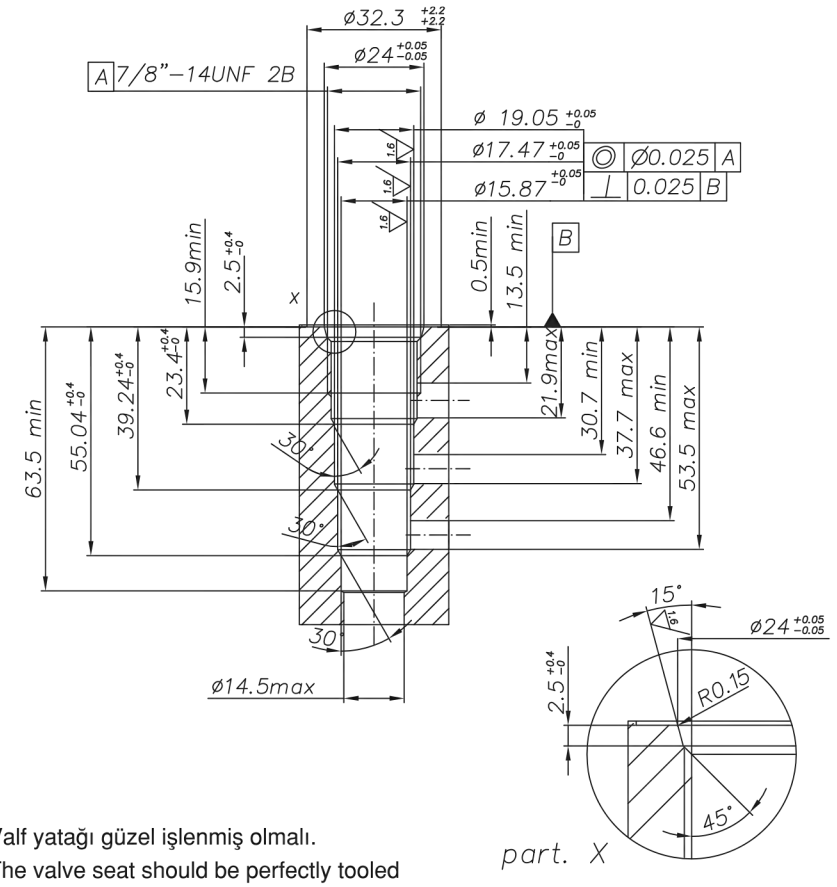
Lütfen dikkatlice okuyunuz.
UYARI;
Kartriç valflerimiz D.C. bobinle çalıştırılmak üzere dizayn edilmiştir. A.C. bobinle çalıştırılmak istenirse lütfen teknik ofisimizden bilgi isteyiniz.

READ CAREFULLY
WARNING:
The cartridges are designed to work with D.C. power supply. To work with A.C. power supply please ask to our technical office.

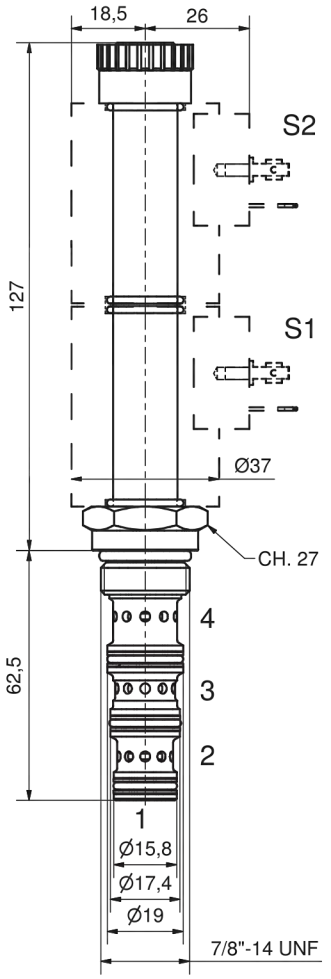
Yağ viskozitesi 46 cSt a 50°C
Oil viscosity 46 cSt at 50°C

WSV10-43-A Serisi Selenoid Kartriçler / WSV10-43-A Series Solenoid Cartridges

KAVİTE - CAVITY CE.167.N



Valf yatağı güzel işlenmiş olmalı.
The valve seat should be perfectly tooled



SİPARİŞ KODU - HOW TO ORDER

WSV10-43-A - ___ - ___ - B - 00 - **

Özel İstekler / Special issue	
**	İstek yoksa boş kalacak omit if not request
D0	DIN konnektör w/DIN connector
DR	Doğrultuculu DIN konnektör w/ rectifled DIN connector

Voltaj / Voltage	
00	Bobinsiz - w/o coil
12D	12 VDC
24D	24 VDC
220R	220 RAC

Bağlantı Tipi Connector type	
0	Bobinsiz - w/o coil
C	Kablolu - Leads
D	DIN
G	ALMAN TİPİ DEUTSCH DT04-2P
S	AMP SUPERSEAL 1,5
T	AMP JUNIOR Timer

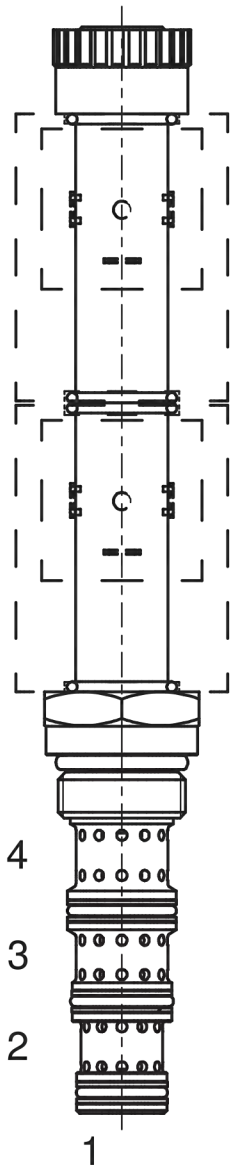
Sızdırmazlık elemanı Seals	
B	Buna (standard)
V	Viton

Alüminyum Gövde Aluminium body	
00	bloksuz - w/o body
2B	3/8 BSPP
3B	1/2 BSPP

NOT: Farklı valf, ölçü ve voltaj için teknik ofisimizle irtibata geçiniz.
NOTE: For different valve's geometries, cavity, voltages, coil's power, body's ports and material, etc..., please contact our Technical Dept.

WSV10-43-B

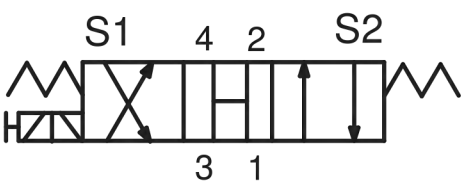
7/8-14 UNF selenoid valf, direk çekmeli, 4 yollu 3 pozisyonlu (açık merkez)
7/8-14 UNF solenoid spool valve, direct-acting, 4 way 3 positions (open center)



OPERASYON
WSV10-43-B serisi valf enerjisizken H merkez S1 bobini enerjilendiğinde 3>2, ve 4>1 akış gerçekleşir. S2 bobini enerjilendiğinde 3>4, ve 2>1 akış gerçekleşir. Standart selenoid valflerde manuel kullanım mevcuttur. Bu çalıştırma düzeninde 3>4, ve 2>1 akış sağlanır.

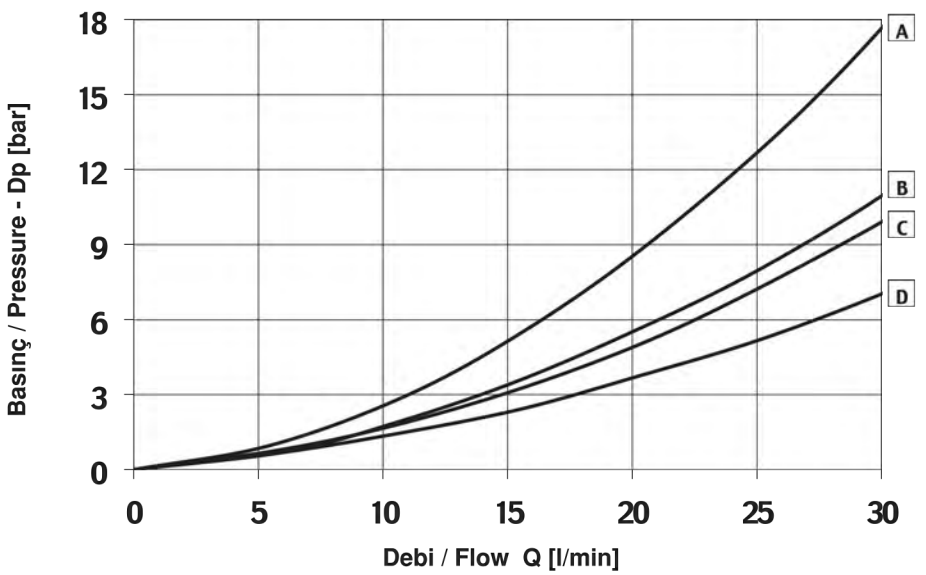
DESCRIPTION
7/8-14 UNF (SAE 10) solenoid spool valve, direct-acting, 4 way 3 positions (open center)
OPERATION
When de-energized, the SV10-43-B allows flow to all ports (open center); when coil S1 is energized, flow is allowed from 3>2, and 4>1, while coil S2 is energized, flow is allowed from 3>4, and 2>1
STANDARD MANUAL OVERRIDE OPERATION
Standard valves have been equipped w./ push manual override: during its activation flow is allowed from 3>4, and 2>1

KARAKTERİSTİKLERİ		PERFORMANCE
Ölçü / kavite	7/8-14 UNF	Cavity rated size
Akış kapasitesi	25 l/min - 6,6 GPM	Flow-rate
Maksimum basınç	250 bar - 3625 PSI	Max pressure
Akış @ max. Dp 7bar (ecc. 3 > 4)	18 l/min - 4,8 GPM	Flow @ max. Dp 7bar (ener. 3 > 4)
max. Dp @ akış nom. (ecc. 3 > 4)	13 bar - 190 PSI	max. Dp @ nom. flow (ener. 3 > 4)
Min. çalışma voltajı	90% nominal gerilim / of nominal tension	Min. operating voltage
Çalışma sıcaklıkları	-30°C + 50°C	Working environment temp.
min. filtrasyon (ISO STANDARD)	20 / 18 / 14	Minimum filtration (ISO STANDARD)
Sıkma torku	45-50 Nm	Tightening torque
Ağırlığı	0,30 Kg	Weight (w/o. coils)



Enerjisiz De-energized			Enerjili Energized		
3→1	»	D	3→2	»	A
2→1	»	C	3→4	»	A
4→1	»	B	2→1	»	B
			4→1	»	C

Basınç düşümü / Pressure drop WSV 10 43 B



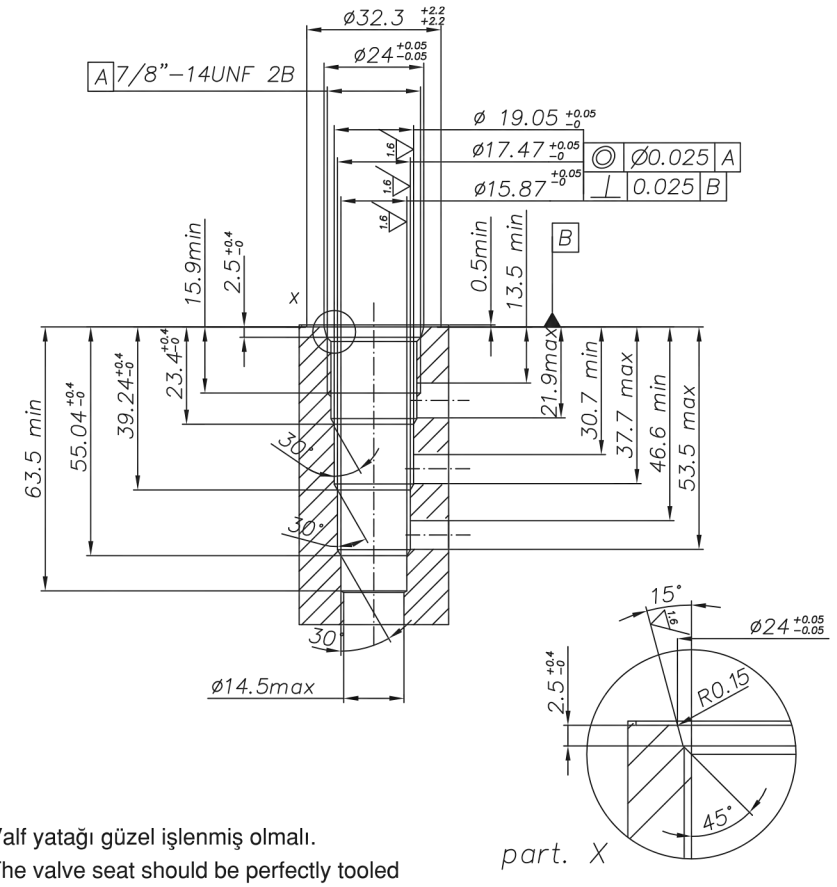
Lütfen dikkatlice okuyunuz.
UYARI;
Kartriç valflerimiz D.C. bobinle çalıştırılmak üzere dizayn edilmiştir. A.C. bobinle çalıştırılmak istenirse lütfen teknik ofisimizden bilgi isteyiniz.

READ CAREFULLY
WARNING:
The cartridges are designed to work with D.C. power supply. To work with A.C. power supply please ask to our technical office.

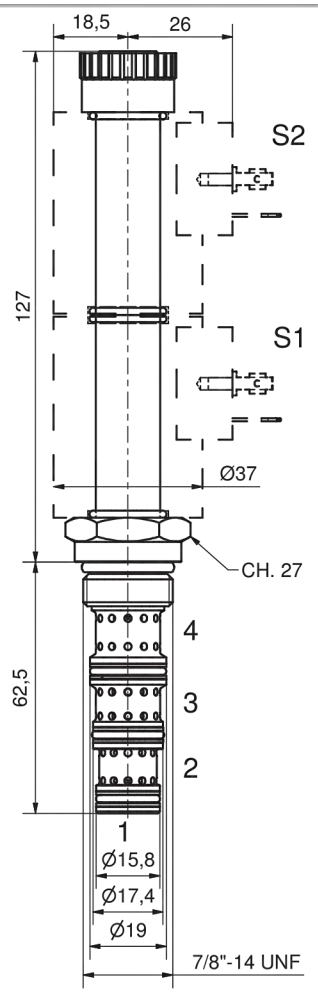
Yağ viskozitesi 46 cSt a 50°C
Oil viscosity 46 cSt at 50°C

WSV10-43-B Serisi Selenoid Kartriçler / WSV10-43-B Series Solenoid Cartridges

KAVİTE - CAVITY CE.167.N



Valf yatağı güzel işlenmiş olmalı.
The valve seat should be perfectly tooled



SİPARİŞ KODU - HOW TO ORDER

WSV10-43-B - ___ - ___ - B - 00 - **

Özel İstekler / Special issue

**	İstek yoksa boş kalacak omit if not request
D0	DIN konnektör w/DIN connector
DR	Doğrultuculu DIN konnektör w/ rectified DIN connector

Voltaj / Voltage

00	Bobinsiz - w/o coil
12D	12 VDC
24D	24 VDC
220R	220 RAC

Bağlantı Tipi
Connector type

0	Bobinsiz - w/o coil
C	Kablolu - Leads
D	DIN
G	ALMAN TİPİ DEUTSCH DT04-2P
S	AMP SUPERSEAL 1,5
T	AMP JUNIOR Timer

Sızdırmazlık elemanı
Seals

B	Buna (standard)
V	Viton

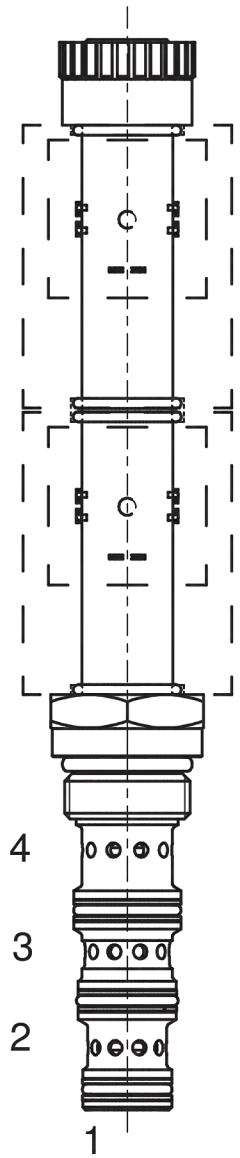
Alüminyum Gövde
Aluminium body

00	bloksuz - w/o body
2B	3/8 BSPP
3B	1/2 BSPP

NOT: Farklı valf, ölçü ve voltaj için teknik ofisimizle irtibata geçiniz.
NOTE: For different valve's geometries, cavity, voltages, coil's power, body's ports and material, etc..., please contact our Technical Dept.

WSV10-43-C

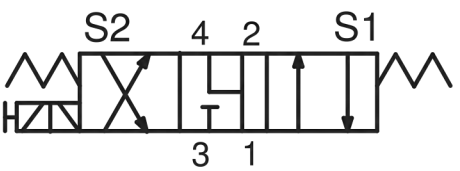
7/8-14 UNF selenoid valf, direk çekmeli, 4 yollu 3 pozisyonlu (4-2-1 açık merkez)
7/8-14 UNF solenoid spool valve, direct-acting, 4 way 3 positions ("motor" center)



OPERASYON
WSV10-43-C serisi valf enerjisizken 4-2-1 açık merkez S1 bobini enerjilendiğinde 3>4, ve 2>1 akış gerçekleşir. S2 bobini enerjilendiğinde 3>2, ve 4>1 akış gerçekleşir. Standart selenoid valflerde manuel kullanım mevcuttur. Bu çalıştırma düzeninde 3>2, ve 4>1 akış sağlanır.

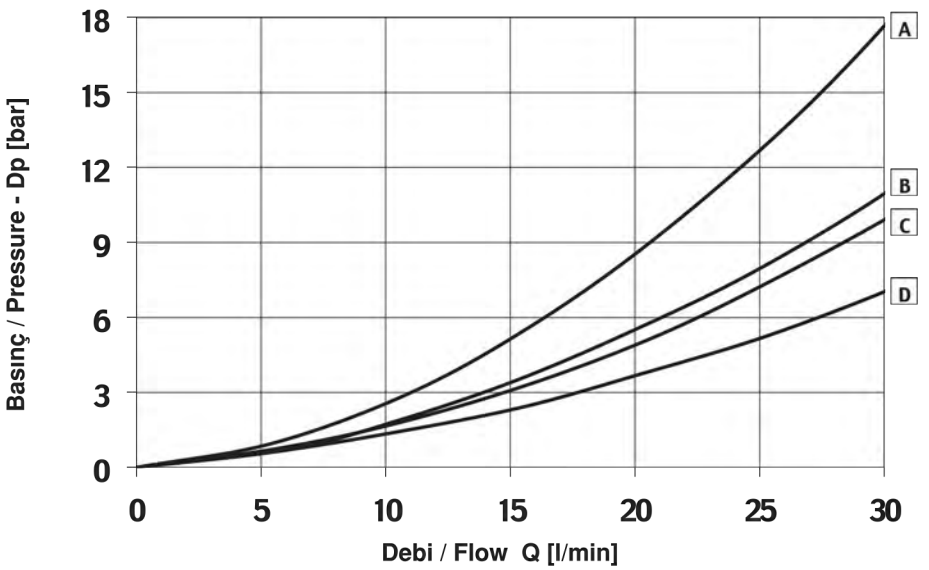
DESCRIPTION
7/8-14 UNF (SAE 10) solenoid spool valve, direct-acting, 4 way 3 positions ("motor" center)
OPERATION
When de-energized, the SV10-43-C blocks flow to ports 3 and allowing flow from 2>1, and 4>1 ("motor" center); when coil S1 is energized, flow is allowed from 3>4, and 2>1, while coil S2 is energized, flow is allowed from 3>2, and 4>1
STANDARD MANUAL OVERRIDE OPERATION
Standard valves have been equipped w./ push manual override: during its activation flow is allowed from 3>2, and 4>1

KARAKTERİSTİKLERİ		**PERFORMANCE**
Ölçü / kavite	7/8-14 UNF	Cavity rated size
Akış kapasitesi	20 l/min - 5,2 GPM	Flow-rate
Maksimum basınç	250 bar - 3625 PSI	Max pressure
Akış @ max. Dp 7bar (ecc. 3 > 4)	18,5 l/min - 4,9 GPM	Flow @ max. Dp 7bar (ener. 3 > 4)
max. Dp @ akış nom. (ecc. 3 > 4)	8 bar - 115 PSI	max. Dp @ nom. flow (ener. 3 > 4)
Min. çalışma voltajı	90% nominal gerilim / of nominal tension	Min. operating voltage
Çalışma sıcaklıkları	-30°C + 50°C	Working environment temp.
min. filtrasyon (ISO STANDARD)	20 / 18 / 14	Minimum filtration (ISO STANDARD)
Sıkma torku	45-50 Nm	Tightening torque
Ağırlığı	0,30 Kg	Weight (w/o. coils)



Enerjisiz De-energized			Enerjili Energized		
2→1	»	C	3→2	»	B
4→1	»	C	3→4	»	A
			2→1	»	D
			4→1	»	D

Basınç düşümü / Pressure drop WSV 10 43 C



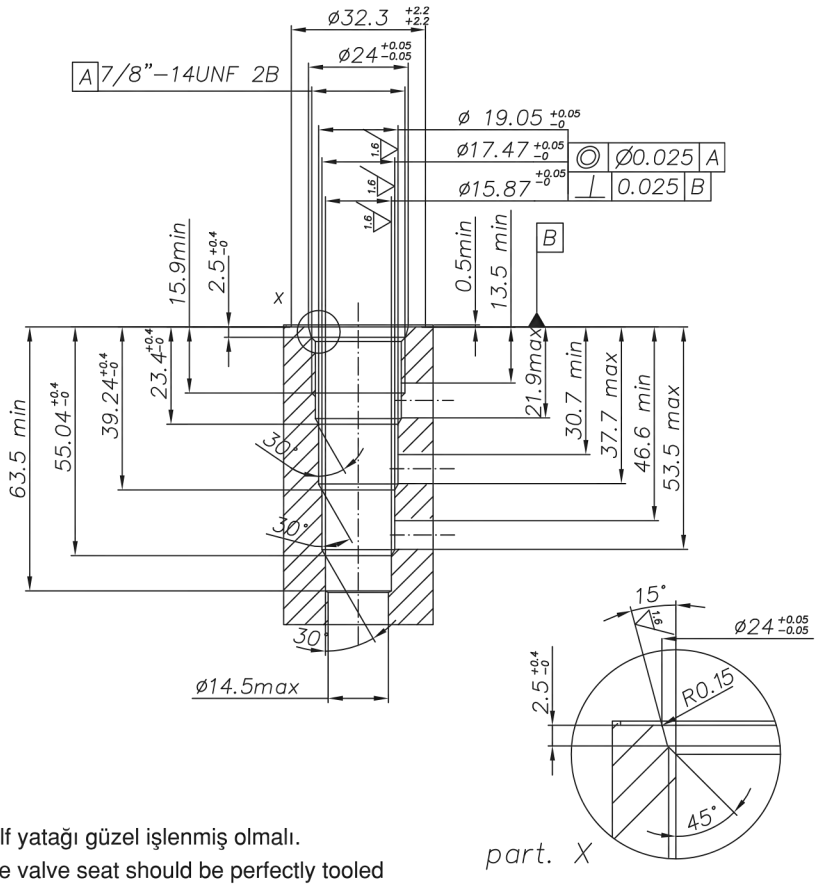
Lütfen dikkatlice okuyunuz.
UYARI;
Kartriç valflerimiz D.C. bobinle çalıştırılmak üzere dizayn edilmiştir. A.C. bobinle çalıştırılmak istenirse lütfen teknik ofisimizden bilgi isteyiniz.

READ CAREFULLY
WARNING:
The cartridges are designed to work with D.C. power supply. To work with A.C. power supply please ask to our technical office.

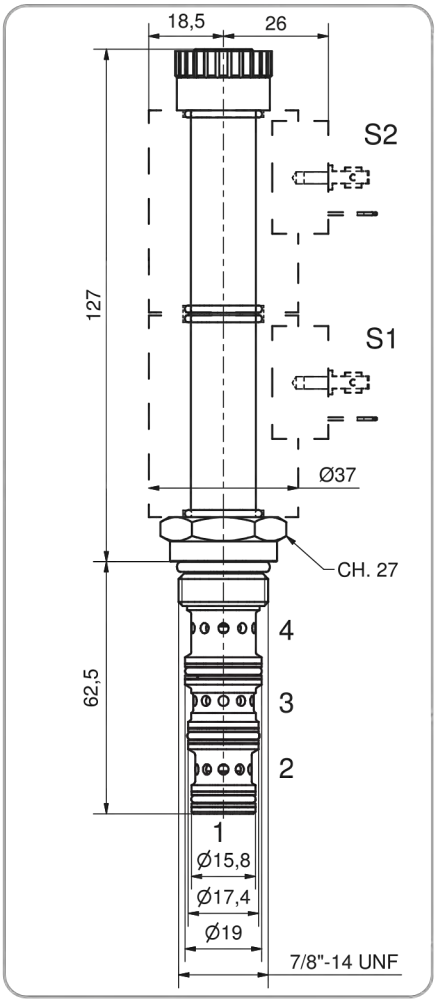
Yağ viskozitesi 46 cSt a 50°C
Oil viscosity 46 cSt at 50°C

WSV10-43-C Serisi Selenoid Kartriçler / WSV10-43-C Series Solenoid Cartridges

KAVİTE - CAVITY CE.167.N



Valf yatağı güzel işlenmiş olmalı.
The valve seat should be perfectly tooled



SİPARİŞ KODU - HOW TO ORDER

WSV10-43-C - ___ - ___ - B - 00 - **

Özel İstekler / Special issue	
**	İstek yoksa boş kalacak omit if not request
D0	DIN konnektör w/DIN connector
DR	Doğrultuculu DIN konnektör w/ rectifled DIN connector

Voltaj / Voltage	
00	Bobinsiz - w/o coil
12D	12 VDC
24D	24 VDC
220R	220 RAC

Bağlantı Tipi Connector type	
0	Bobinsiz - w/o coil
C	Kablolu - Leads
D	DIN
G	ALMAN TİPİ DEUTSCH DT04-2P
S	AMP SUPERSEAL 1,5
T	AMP JUNIOR Timer

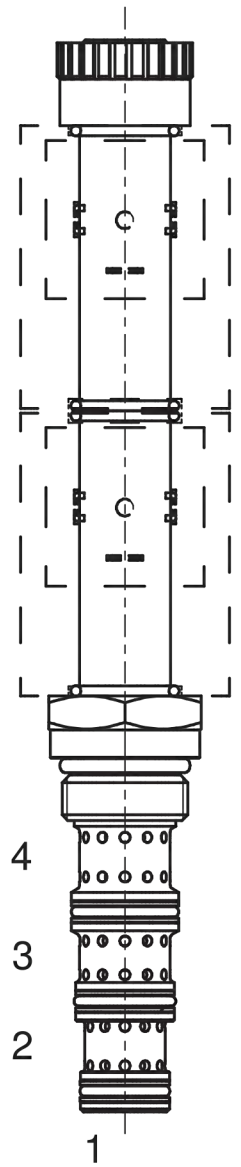
Sızdırmazlık elemanı Seals	
B	Buna (standard)
V	Viton

Alüminyum Gövde Aluminium body	
00	bloksuz - w/o body
2B	3/8 BSPP
3B	1/2 BSPP

NOT: Farklı valf, ölçü ve voltaj için teknik ofisimizle irtibata geçiniz.
NOTE: For different valve's geometries, cavity, voltages, coil's power, body's ports and material, etc..., please contact our Technical Dept.

WSV10-43-F

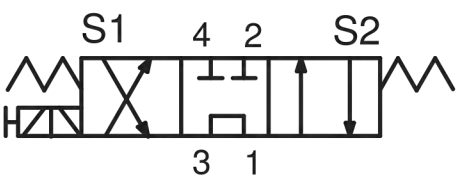
7/8-14 UNF selenoid valf, direk çekmeli, 4 yollu 3 pozisyonlu (açık merkez)
7/8-14 UNF solenoid spool valve, direct-acting, 4 way 3 positions ("tandem" center)



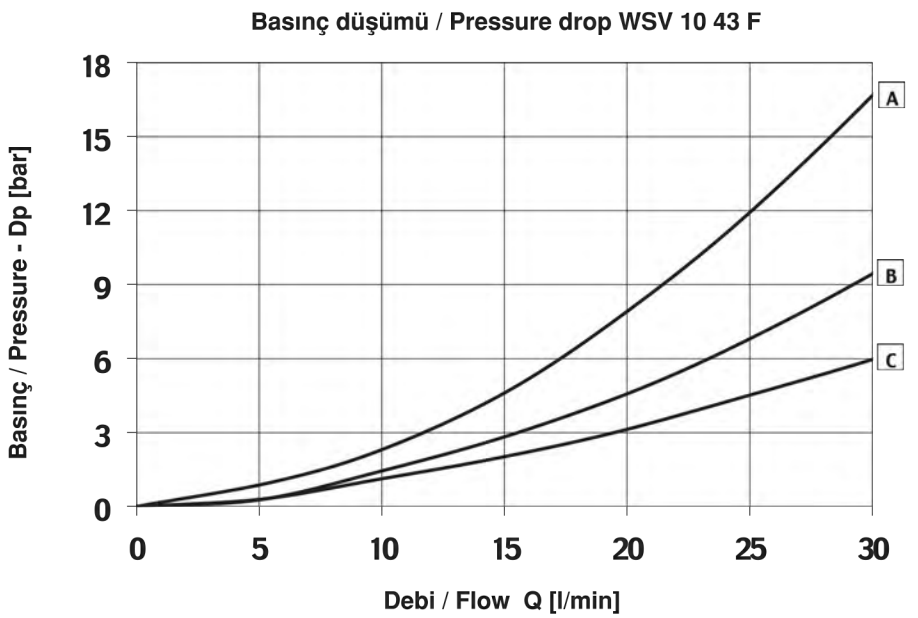
OPERASYON
WSV10-43-F serisi valf enerjisizken 2, 4 ve 3>1 açık merkez S1 bobini enerjilendiğinde 3>2, ve 4>1 akış gerçekleşir. S2 bobini enerjilendiğinde 3>4, ve 2>1 akış gerçekleşir. Standart selenoid valflerde manuel kullanım mevcuttur. Bu çalıştırma düzeninde 3>4, ve 2>1 akış sağlanır.

DESCRIPTION
7/8-14 UNF (SAE 10) solenoid spool valve, direct-acting, 4 way 3 positions ("tandem" center)
OPERATION
When de-energized, the SV10-43-F blocks flow to ports 2 and 4, while allowing flow from 3>1 ("tandem" center); when coil S1 is energized, flow is allowed from 3>2, and 4>1, while coil S2 is energized, flow is allowed from 3>4, and 2>1
STANDARD MANUAL OVERRIDE OPERATION
Standard valves have been equipped w./ push manual override: during its activation flow is allowed from 3>4, and 2>1

KARAKTERİSTİKLERİ		PERFORMANCE
Ölçü / kavite	7/8-14 UNF	Cavity rated size
Akış kapasitesi	20 l/min - 5,2 GPM	Flow-rate
Maksimum basınç	250 bar - 3625 PSI	Max pressure
Akış @ max. Dp 7bar (ecc. 3 > 4)	16,5 l/min - 4,4 GPM	Flow @ max. Dp 7bar (ener. 3 > 4)
max. Dp @ akış nom. (ecc. 3 > 4)	14,5 bar - 210 PSI	max. Dp @ nom. flow (ener. 3 > 4)
Min. çalışma voltajı	90% nominal gerilim / of nominal tension	Min. operating voltage
Çalışma sıcaklıkları	-30°C + 50°C	Working environment temp.
min. filtrasyon (ISO STANDARD)	20 / 18 / 14	Minimum filtration (ISO STANDARD)
Sıkma torku	45-50 Nm	Tightening torque
Ağırlığı	0,30 Kg	Weight (w/o. coils)



Enerjisiz De-energized			Enerjili Energized		
3→1	»	C	3→2	»	A
			3→4	»	A
			2→1	»	B
			4→1	»	B



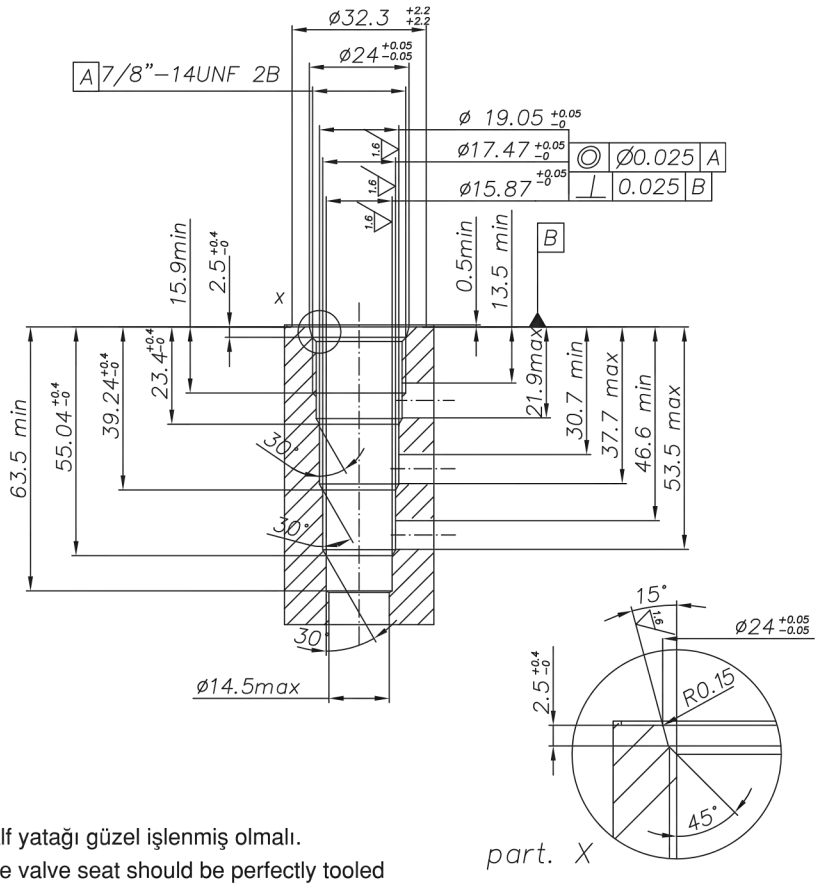
Lütfen dikkatlice okuyunuz.
UYARI;
Kartriç valflerimiz D.C. bobinle çalıştırılmak üzere dizayn edilmiştir. A.C. bobinle çalıştırılmak istenirse lütfen teknik ofisimizden bilgi isteyiniz.

READ CAREFULLY
WARNING:
The cartridges are designed to work with D.C. power supply. To work with A.C. power supply please ask to our technical office.

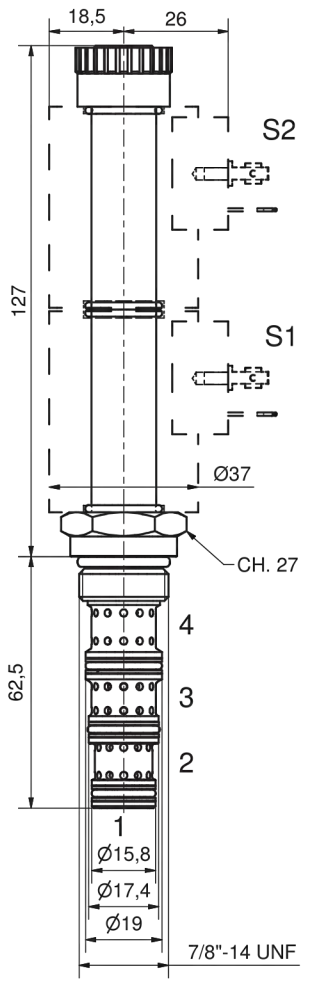
Yağ viskozitesi 46 cSt a 50°C
Oil viscosity 46 cSt at 50°C

WSV10-43-F Serisi Selenoid Kartriçler / WSV10-43-F Series Solenoid Cartridges

KAVİTE - CAVITY CE.167.N



Valf yatağı güzel işlenmiş olmalı.
The valve seat should be perfectly tooled



SİPARİŞ KODU - HOW TO ORDER

WSV10-43-F - ___ - ___ - B - 00 - **

Özel İstekler / Special issue	
**	İstek yoksa boş kalacak omit if not request
D0	DIN konnektör w/DIN connector
DR	Doğrultuculu DIN konnektör w/ rectified DIN connector

Voltaj / Voltage	
00	Bobinsiz - w/o coil
12D	12 VDC
24D	24 VDC
220R	220 RAC

Bağlantı Tipi Connector type	
0	Bobinsiz - w/o coil
C	Kablolu - Leads
D	DIN
G	ALMAN TİPİ DEUTSCH DT04-2P
S	AMP SUPERSEAL 1,5
T	AMP JUNIOR Timer

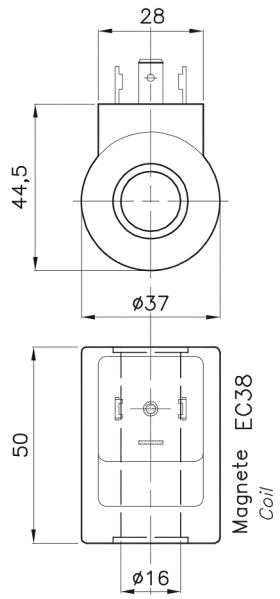
Sızdırmazlık elemanı Seals	
B	Buna (standard)
V	Viton

Alüminyum Gövde Aluminium body	
00	bloksuz - w/o body
2B	3/8 BSPP
3B	1/2 BSPP

NOT: Farklı valf, ölçü ve voltaj için teknik ofisimizle irtibata geçiniz.
NOTE: For different valve's geometries, cavity, voltages, coil's power, body's ports and material, etc..., please contact our Technical Dept.

EC38 26W

%100 Bobin Çalışırlığı
Bobina per servizio CONTINUATIVO ED 100% CONTINUOUS DUTY COIL ED 100%



KARAKTERİSTİKLERİ		PERFORMANCE
İzin verilen gerilim	±10%	V oltage Duty Rating
Operasyon	ED 100%	W orking Duty Rating
Sınıf izolasyonu	Classe H (180°)	H eat insulation class
Ağırlık	0.200 Kg	W eight
Güç tüketimi		P ower consumption
AC	32 VA	A C (cold coil)
DC	26 W	DC (cold coil)
Çalışma sıcaklıkları	-30°C + 50°C	W orking Env. Temp.

SİPARİŞ KODU - HOW TO ORDER

C38 D 012DC + DR

Bobin / Coil

EC38 26W	C38

Bağlantı şekli Connnection

C	Kablolu - Leads
D	DIN
G	ALMAN TİPİ DEUTSCH DT04-2P
S	AMP SUPERSEAL 1,5
T	AMP JUNIOR Timer

Volt / Volt

012DC	12V DC
024DC	124V DC
220RC	220V RAC

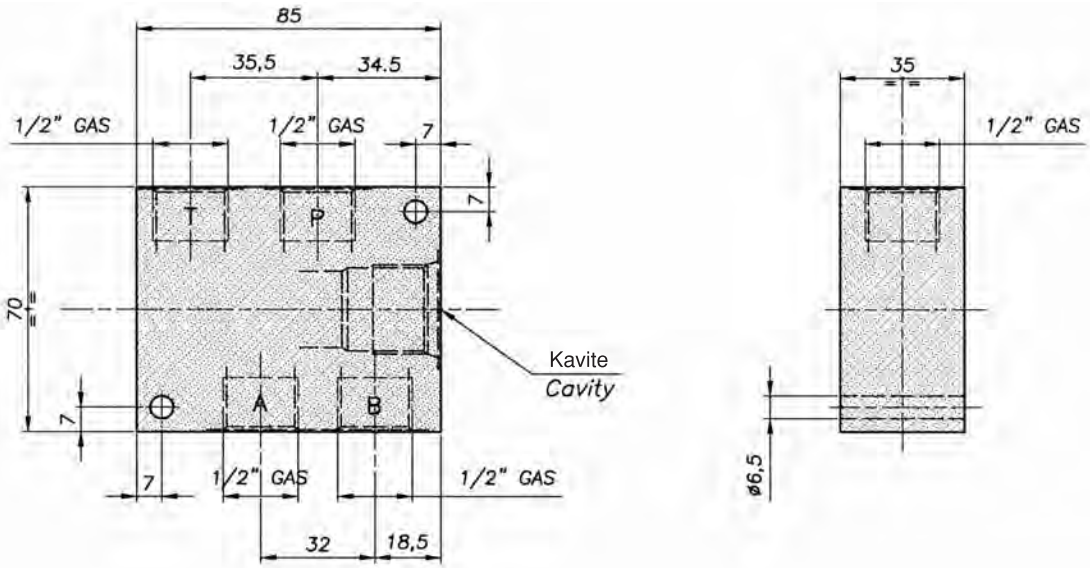
OPZIONALE | OPTIONAL

Bağlantı / Plug

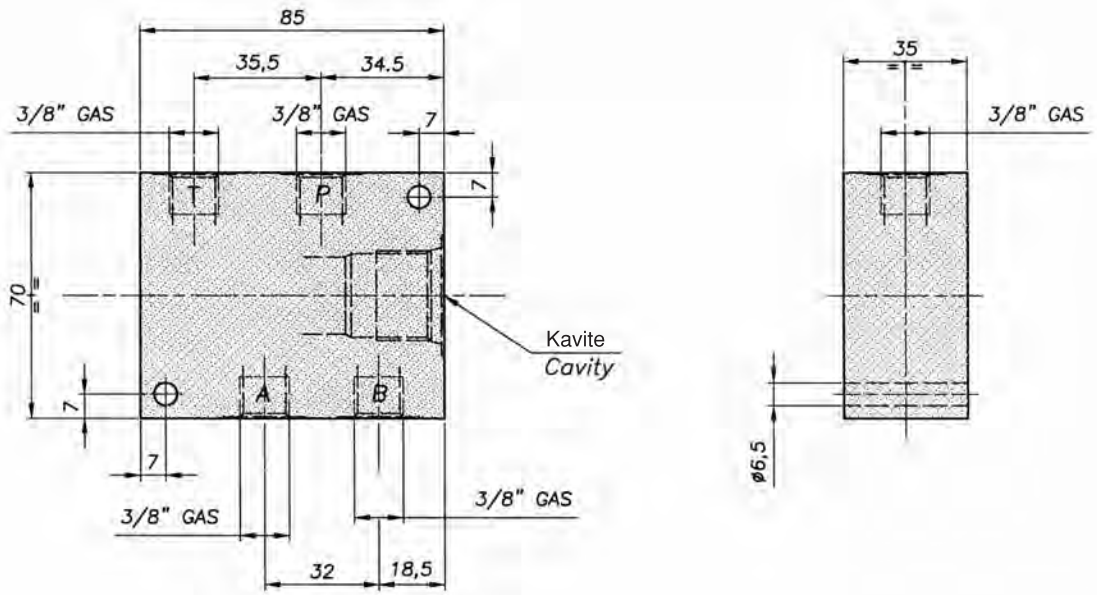
DR	Do rultuculu DIN con raddrizzatore DIN with rectifier
D	Konnektör DIN

NOT: Farklı gerilim, güç, bağlantı veya özel uygulamalar için teknik ofisimizle irtibata geçiniz.
NOTE: For other voltages, powers, connections or special applications, please contact our Technical Dept.

DÖRT YOLLU - İKİ KONUMLU KARTRİÇ GÖVDELERİ
CARTRIDGE FOUR-WAY TWO-POSITION SOLENOID VALVES WITH UNIFIED CAVITY



Delikler Ports	Kısa tanımlama Short description	Kavite / Cavity	Cod.
1/2" GAS	C-12GAS-073N-4V	7/8" 14 UNF CE-073-N	005.248.001



Delikler Ports	Kısa tanımlama Short description	Kavite / Cavity	Cod.
3/8" GAS	C-38GAS-073N-4V	7/8" 14 UNF CE-073-N	005.247.003

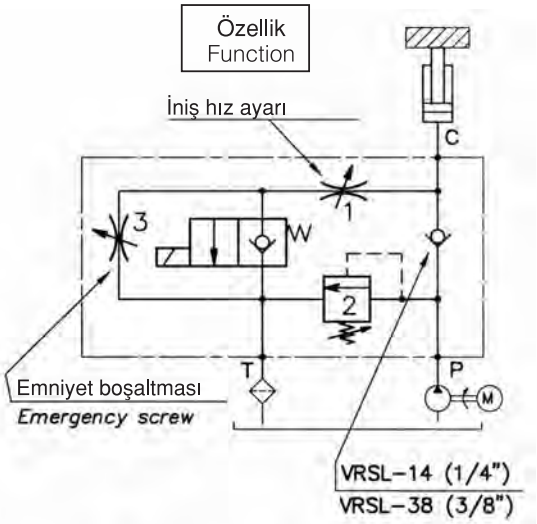
TEK ETKİLİ SİLİNDİR VE ELEKTRİK MOTOR SÜRÜCÜSÜNÜ KONTROL ETMEK İÇİN DİZAYN EDİLMİŞ BLOK (PLATFORM KALDIRMA - İNDİRME VALFİ)

INTEGRATED BLOCK DESIGNED TO CONTROL SINGLE ACTING CYLINDER AND ELECTRIC MOTOR DRIVEN

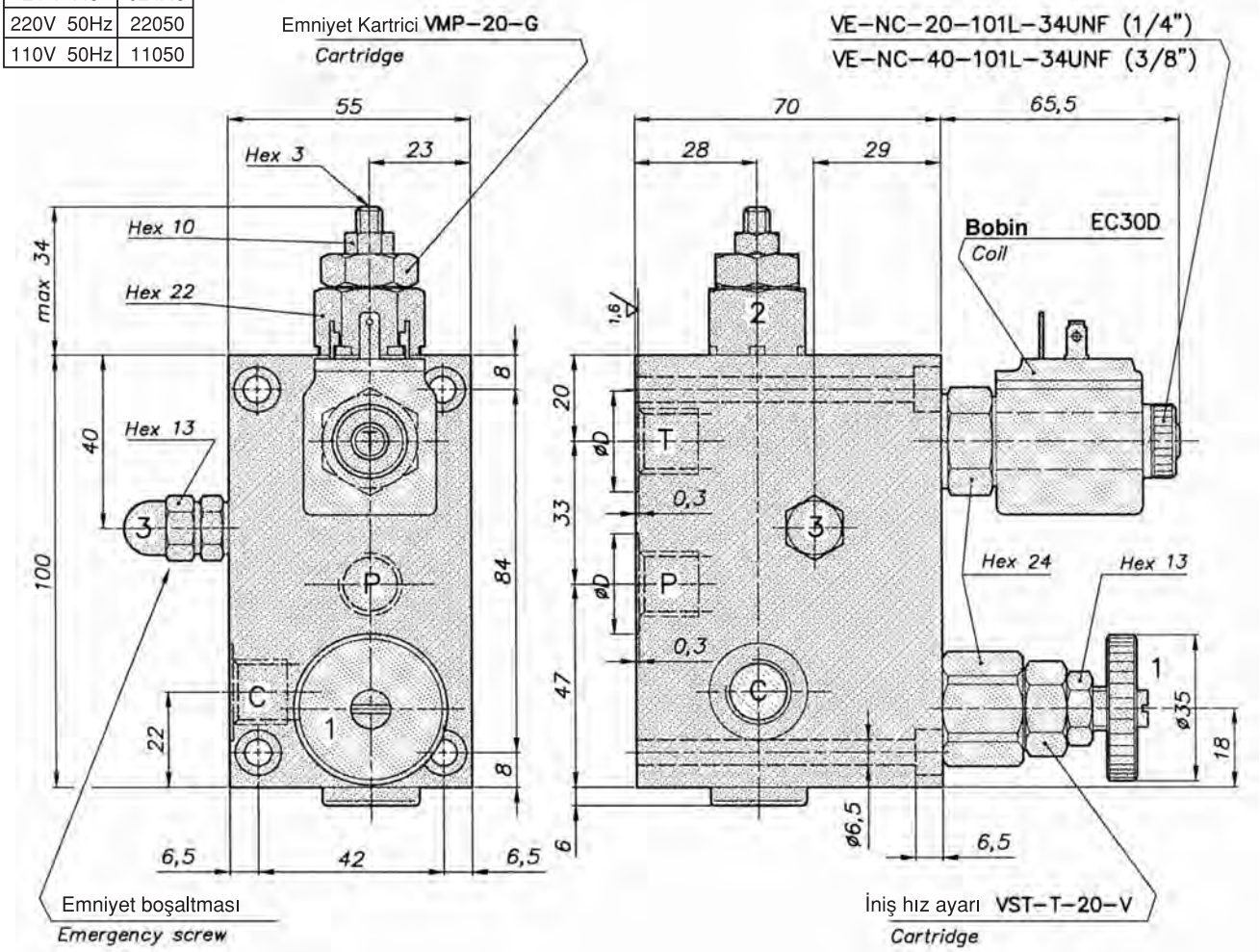
SİPARİŞ KODU ORDERING CODE	VALF KODU VALVE CODE	Ayar aralıkları Min - max bar Setting range	Delik ölçüsü Port size C-P-T GAS (BSPP)	Nominal ölçü Rated size DN	Max. debi Max. flow rate l/min GPM	Çap Diameter Ø D
005.078.000	VC-DC-14-C-VMP-20	30 ÷ 350	1/4”	6	20 - 5	22
005.082.000	VC-DC-38-C-VMP-20	30 ÷ 350	3/8”	6	40 - 10	25

Valfte VE-NC-...-101L-34 UNF kartriç ve EC30D solenoid bulunur. (Max. basınç 210 bar)
The valve is supplied with cartridge VE-NC-...-101L-34UNF with solenoid EC30D (max. pressure 210 bar, AC 28 VA, DC 18 W, DIN connector).

Alttaki tabloya siparişte istenilen güç kaynağı belirtiniz.
Please specify on the order the desired power supply (see table below)



Volt / Hertz	Cod.
12 V DC	012DC
24 V DC	024DC
24 V AC	024AC
220V 50Hz	22050
110V 50Hz	11050



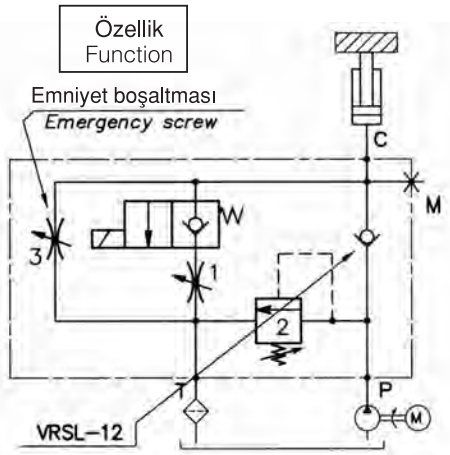
TEK ETKİLİ SİLİNDİR VE ELEKTRİK MOTOR SÜRÜCÜSÜNÜ KONTROL ETMEK İÇİN DİZAYN EDİLMİŞ BLOK (PLATFORM - İNDİRME KALDIRMA VALFİ)

INTEGRATED BLOCK DESIGNED TO CONTROL SINGLE ACTING CYLINDER AND ELECTRIC MOTOR DRIVEN

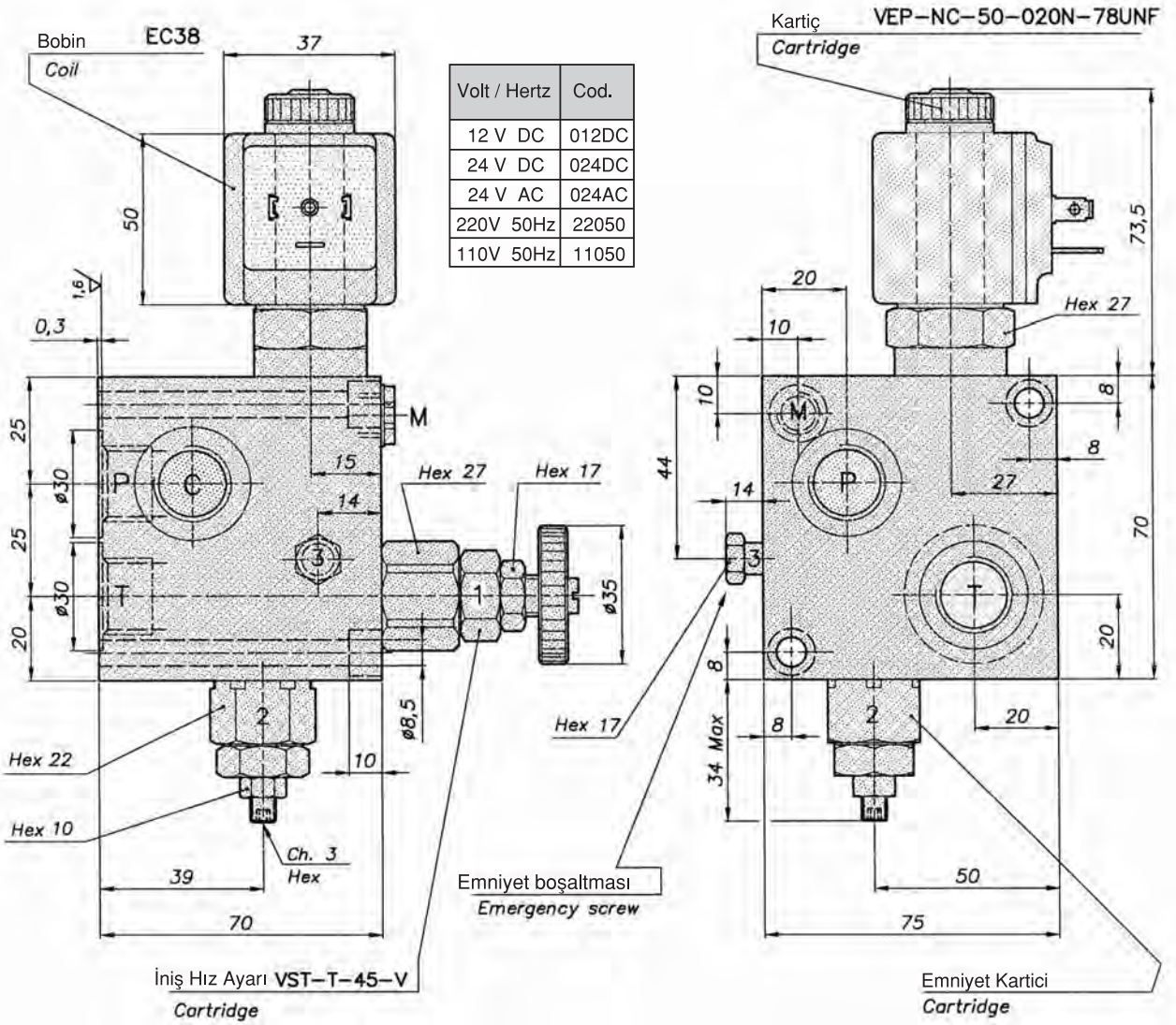
SİPARİŞ KODU ORDERING CODE	VALF KODU VALVE CODE	Ayar aralıkları Min - max bar Setting range	Delik ölçüsü Port size C-P-T GAS (BSPP)	Delik ölçüsü Port size M GAS (BSPP)	Nominal ölçü Rated size DN	Max. debi Max. flow rate l/min GPM
005.078.000	VC-DC-12R-E-SM	30 ÷ 350	1/2”	1/4”	9	60 - 15

Bu valfte VE-NC-50-020N-78UNF kartiçleri ile EC38D solenoid kullanılır. (Max. basınç 300 bar)
The valve is supplied with cartridge VE-NC-50-020N-78UNF with solenoid EC38D (max. pressure 300 bar, AC 50 VA, DC 26 W, DIN connector).

Alttaki tabloya siparişte istenilen güç kaynağı belirtiniz.
Please specify on the order the desired power supply (see table below)



Volt / Hertz	Cod.
12 V DC	012DC
24 V DC	024DC
24 V AC	024AC
220V 50Hz	22050
110V 50Hz	11050



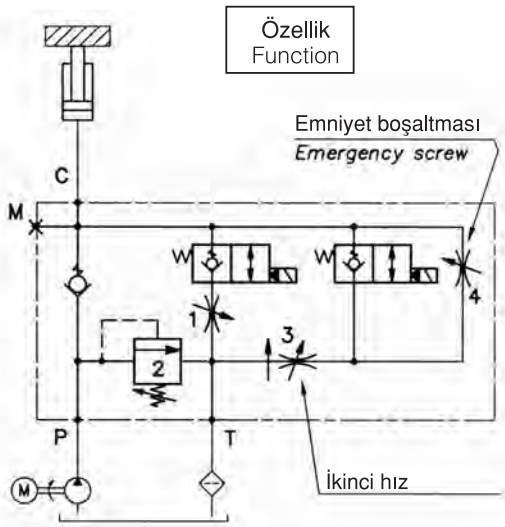
TEK ETKİLİ SİLİNDİR VE ELEKTRİK MOTOR SÜRÜCÜSÜNÜ KONTROL ETMEK İÇİN DİZAYN EDİLMİŞ BLOK (ÇİFT HIZLI PLATFORM KALKIŞ - İNİŞ VALFİ)

INTEGRATED BLOCK DESIGNED TO CONTROL SINGLE ACTING CYLINDER AND ELECTRIC MOTOR DRIVEN

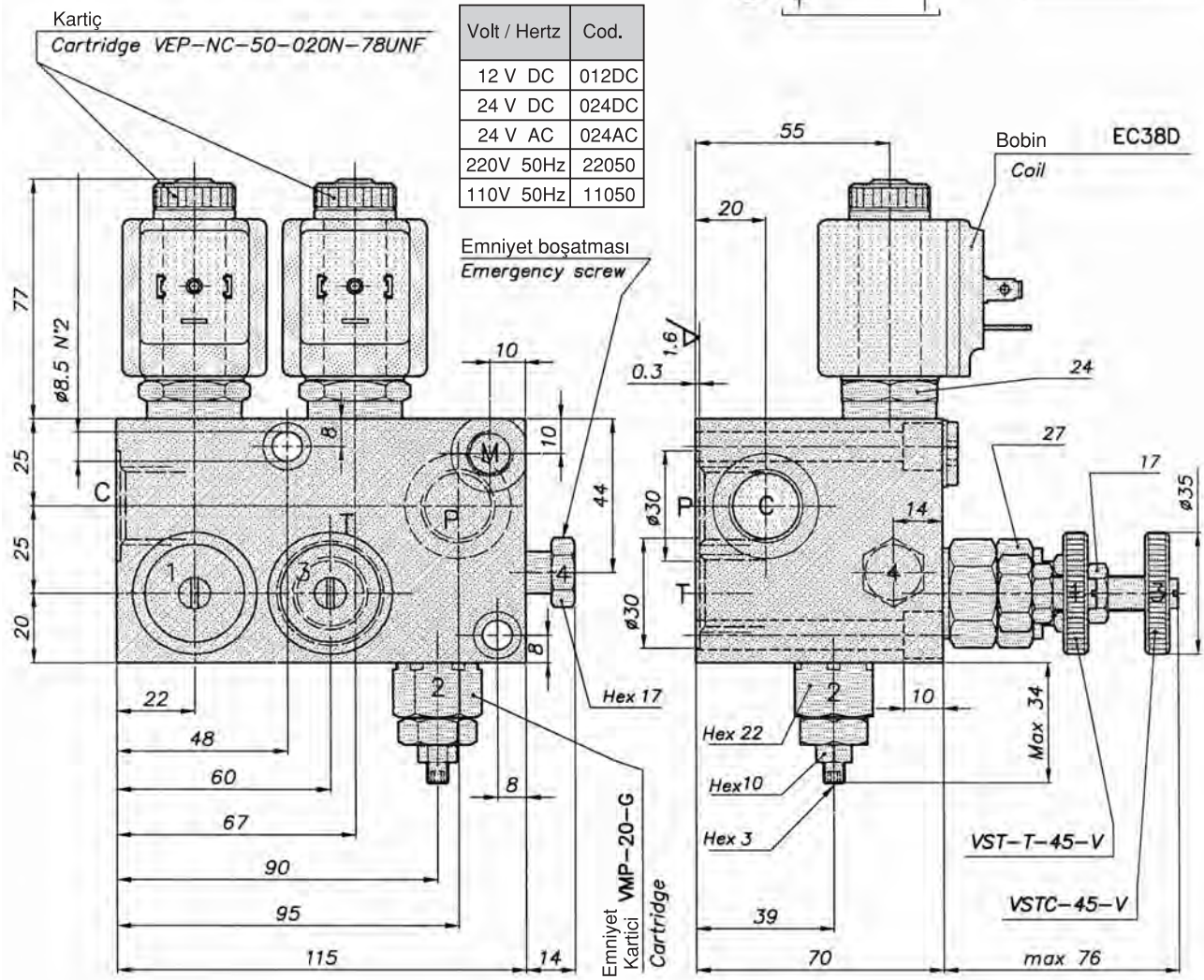
SİPARİŞ KODU ORDERING CODE	VALF KODU VALVE CODE	Ayar aralıkları Min - max bar Setting range	Delik ölçüsü Port size C-P-T GAS (BSPP)	Delik ölçüsü Port size M GAS (BSPP)	Nominal ölçü Rated size DN	Max. debi Max. flow rate l/min GPM
005.090.000	VC-DC-12R-LVE-SM-14	30 ÷ 350	1/2”	1/4”	9	60 - 15

Bu valfte VE-NC-50-020N-78UNF kartiçleri ile EC38D solenoid kullanılır. (Max. basınç 350 bar) AC’de 50 VA, DC’de 26W kullanılır.
The valve is supplied with cartridge VE-NC-50-020N-78UNF with solenoid EC38D (max. pressure 350 bar, AC 50 VA, DC 26 W, DIN connector).

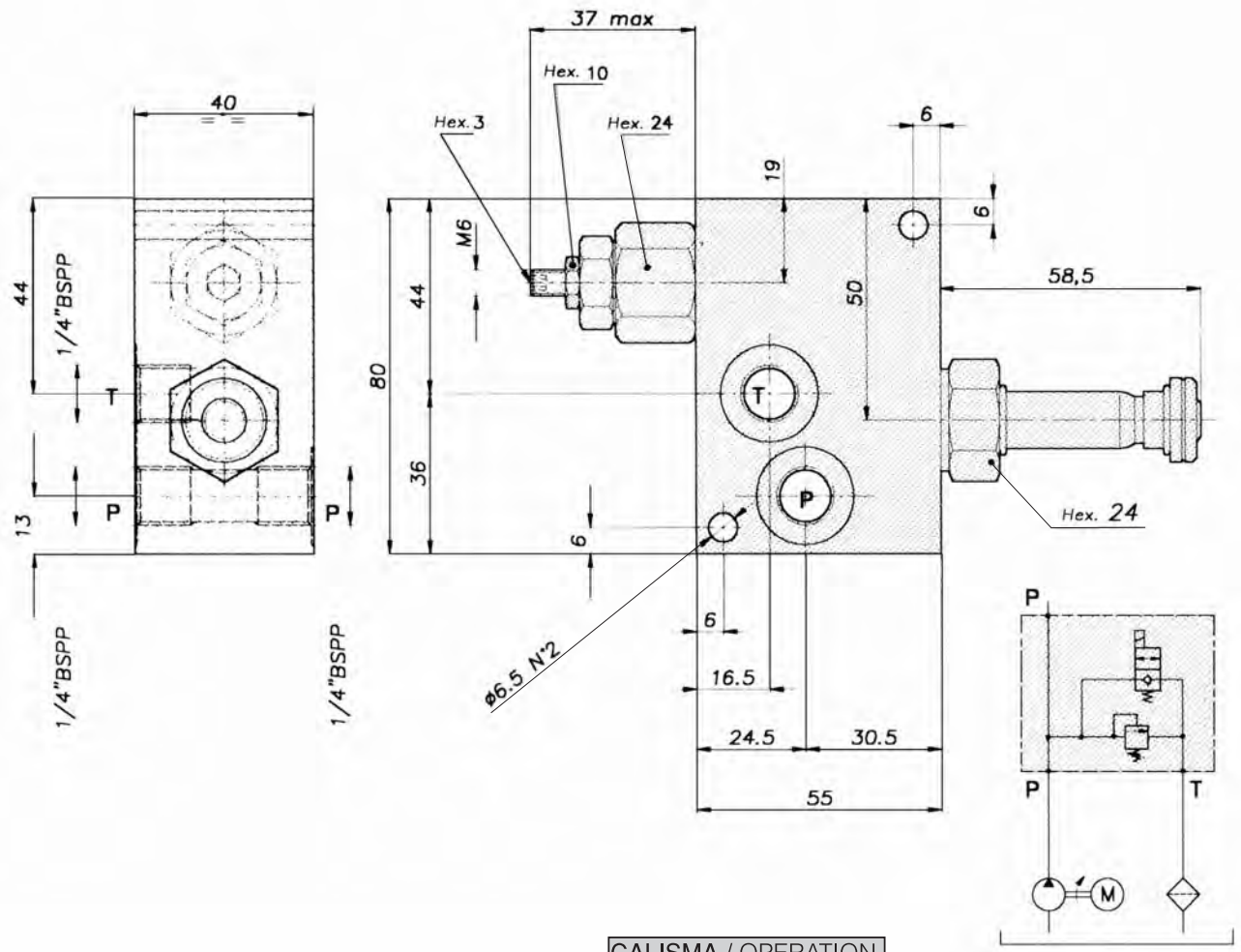
Alttaki tabloya siparişte istenilen güç kaynağı belirtiniz.
Please specify on the order the desired power supply (see table below)



Volt / Hertz	Cod.
12 V DC	012DC
24 V DC	024DC
24 V AC	024AC
220V 50Hz	22050
110V 50Hz	11050



ELEKTRİKLİ EMNİYET VALFLERİ / ELECTRICAL RELIEF VALVES



TANIMLAMA / DESCRIPTION

Küçük ölçülere ve fazla yer kaplamayan bir dizayna sahiptir. Direkt etkili emniyet valfiyle solenoid valften oluşur.
Integraded component with small dimensions and compact design incorporating a direct acting relief valve and a solenoid valve to redirect the flow to the tank.

ÇALIŞMA / OPERATION

Bu basınç kontrol valfi hidrolik devreyi korur. Solenoid yardımıyla girişteki akışı tanka yönlendirir. Max 20 / dk. debili pompa içeren devrelerde özellikleri sayesinde kullanılır.
This valve controls the pressure (P) protecting the pump and the hydraulic circuit (relief valve), allowing the incoming flow to be redirected to the tank (T) by a solenoid valve . Thanks to these features is used in all circuits with low rate pumps (max 20 l / min.)

VALF KODU VALVE CODE	Basınç ayar aralığı Setting range 20 ÷ 350 bar	Voltaj Voltage	Delik ölçüsü Port size P-T GAS (BSPP)	Nominal ölçü Rated size DN	Max. debi- oran Max. flow-rate l/min - GPM
VMP-VMS-20-SN-14-F	668	A RICHIESTA	1/4"	6	20-5

Std. bar setting (made at 5 l/1')	Ayar aralığı Setting range min -max bar	Renk Colour
320	20 ÷ 350	Sarı Yellow

SİPARİŞ KODU / ORDERING CODE

002		000

R1 FLEX HİDROLİK HORTUMLAR / R1 FLEX HYDRAULIC HOSES

ÜRÜN KODU ORDERING CODE	ÖLÇÜ SIZE
SAE100R1AT	1/4” R1 HİDROLİK HORTUM
SAE100R1AT	5/16 R1 HİDROLİK HORTUM
SAE100R1AT	3/8” R1 HİDROLİK HORTUM
SAE100R1AT	1/2” R1 HİDROLİK HORTUM
SAE100R1AT	5/8” R1 HİDROLİK HORTUM
SAE100R1AT	3/4” R1 HİDROLİK HORTUM
SAE100R1AT	1” R1 HİDROLİK HORTUM
SAE100R1AT	11/4” R1 HİDROLİK HORTUM

HİDROLİK HORTUM TEKNİK BİLGİSİ

HİDROLİK HORTUM / HYDRAULIC HOSE SAE J517 100 R1AT

İÇ ÇAP İNTERNAL DIMENSIONS				GÜÇLENDİRME REINFORCEMENT		DIŞ ÇAP OUTSIDE DIAMETER	BASINÇ PRESSURE		KIVRILMA BENDING	AĞIRLIK WEIGHT
ANMA (ihch)	ANMA (INCH)	MIN (mm)	MAX (mm)	MIN (mm)	MAX (mm)	MAX (mm)	ÇALIŞMA MAX(Bar)	PATLAMA MIN(Bar)	ÇAPI DIAMETER (mm)	(Kg/m)
3/16”	4.8	4.6	5.4	8.9	10.1	12.5	207	827	89	0.25
1/4”	6.4	6.2	7.0	10.6	11.7	14.1	189	758	102	0.30
5/16”	7.9	7.7	8.5	12.1	13.3	15.7	172	689	114	0.36
3/8”	9.5	9.3	10.1	14.5	15.7	18.1	155	620	127	0.42
1/2”	12.7	12.3	13.5	17.5	19.0	21.5	138	551	178	0.50
5/8”	15.9	15.5	16.7	20.6	22.2	24.7	103	413	203	0.60
3/4”	19.0	18.6	19.8	24.6	26.2	28.6	86	345	241	0.73
7/8”	22.2	21.8	23.0	27.8	29.4	31.8	78	310	279	0.94
1”	25.4	25.0	26.4	32.5	34.1	36.6	69	276	305	1.04
1 1/4”	31.8	31.4	33.0	39.3	41.7	44.8	43	172	419	1.50
1 1/2”	38.1	37.7	39.3	45.6	48.0	52.0	34	138	508	1.78
2”	50.8	50.4	52.0	58.7	61.9	65.9	26	103	635	2.24

YAPISI: Hortum; Yağa dayanıklı sentetik kauçuk iç hortum, iki tel örgü güçlendirme ve bir adet yağ ve hava şartlarına dayanıklı sentetik kaplama kauçuktan oluşur.
UYGULAMALAR: Bu seri glikol, mineral yağlar emülsiyonlar, hidrokarbonlar vb. hidrolik akışkanlarda kullanılır.
ÇALIŞMA SICAKLIĞI: -40 °C’den, +100 °C’ye kadar.

CONSTRUCTION: This hose consists of an inner tube of oil resistant synthetic rubber, a single wire braid reinforcement, and an oil-and weather-resistant synthetic rubber cover.
APPLICATIONS: Hose range suitable to carry hydraulics fluids, such as glycol, mineral oils, emulsion, hydrocarbons, etc.
WORKING TEMPERATURE: From -40 °C to +100 °C

R2 FLEX HİDROLİK HORTUMLAR / R2 FLEX HYDRAULIC HOSES

ÜRÜN KODU ORDERING CODE	ÖLÇÜ SIZE
SAE100R2AT	1/4” R2 HİDROLİK HORTUM
SAE100R2AT	5/16 R2 HİDROLİK HORTUM
SAE100R2AT	3/8” R2 HİDROLİK HORTUM
SAE100R2AT	1/2” R2 HİDROLİK HORTUM
SAE100R2AT	5/8” R2 HİDROLİK HORTUM
SAE100R2AT	3/4” R2 HİDROLİK HORTUM
SAE100R2AT	1” R2 HİDROLİK HORTUM
SAE100R2AT	11/4” R2 HİDROLİK HORTUM

Hortumlara rekor takılması için, lütfen fiyat alınız.

HİDROLİK HORTUM TEKNİK BİLGİSİ

HİDROLİK HORTUM / HYDRAULIC HOSE SAE J517 100 R2AT

İÇ ÇAP İNTERNAL DIMENSIONS				GÜÇLENDİRME REINFORCEMENT		DIŞ ÇAP OUTSIDE DIAMETER	BASINÇ PRESSURE		KIVRILMA BENDING	AĞIRLIK WEIGHT
ANMA (ihch)	ANMA (INCH)	MIN (mm)	MAX (mm)	MIN (mm)	MAX (mm)	MAX (mm)	ÇALIŞMA MAX(Bar)	PATLAMA MIN(Bar)	ÇAPI DIAMETER (mm)	(Kg/m)
3/16”	4.8	4.6	5.4	10.6	11.7	14.1	345	1378	89	0.40
1/4”	6.4	6.2	7.0	12.1	13.3	15.7	345	1378	102	0.44
5/16”	7.9	7.7	8.5	13.7	14.9	17.3	293	1171	114	0.53
3/8”	9.5	9.3	10.1	16.1	17.3	19.7	276	1102	127	0.62
1/2”	12.7	12.3	13.5	19	20.6	23.1	241	965	178	0.74
5/8”	15.9	15.5	16.7	22.2	23.8	26.3	189	758	203	0.88
3/4”	19.0	18.6	19.8	26.2	27.8	30.2	155	620	241	1.05
7/8”	22.2	21.8	23.0	29.4	31.0	33.4	138	551	279	1.32
1”	25.4	25.0	26.4	34.1	35.7	38.9	138	551	305	1.57
1 1/4”	31.8	31.4	33.0	43.2	45.6	49.6	112	448	419	2.37
1 1/2”	38.1	37.7	39.3	49.6	52.0	56.0	86	345	508	2.69
2”	50.8	50.4	52.0	62.3	64.7	68.6	78	310	635	3.36

YAPISI: Hortum; Yağa dayanıklı sentetik kauçuk iç hortum, iki tel örgü güçlendirme ve bir adet yağ ve hava şartlarına dayanıklı sentetik kaplama kauçuktan oluşur.
UYGULAMALAR: Bu seri glikol, mineral yağlar emülsiyonlar, hidrokarbonlar vb. hidrolik akışkanlarda kullanılır.
ÇALIŞMA SICAKLIĞI: -40 °C’den, +100 °C’ye kadar.

CONSTRUCTION: This hose consists of an inner tube of oil resistant synthetic rubber, a single wire braid reinforcement, and an oil-and weather-resistant synthetic rubber cover.
APPLICATIONS: Hose range suitable to carry hydraulics fluids, such as glycol, mineral oils, emulsion, hydrocarbons, etc.
WORKING TEMPERATURE: From -40 °C to +100 °C

R6 TEKSTİL ÖRGÜLÜ HİDROLİK / R6 TEXTILE BRAIDED HYDRAULIC

ALT KAT: HİDROLİK YAĞLARINA DAYANIKLI ÖZEL NBR KAUÇUK.
TAKVİYE: YÜKSEK MUKAVEMETLİ TEK KAT SENTETİK TEKSTİL ÖRGÜ.
ÜST KAT: YAĞLARA, OZONA, AŞINMAYA VE HER TÜRLÜ HAVA ŞARTLARINA DAYANIKLI CR ÜST KAT.
KULLANIM YERİ: HİDROLİK KONTROLLÜ ÜNİTELERDE YÜKSEK BASINÇLI HİDRROLİK YAĞ, FUEL - OİL, GRES YAĞI, SU VE HAVA TAHLİYESİNDE.

TUBE: HYDRAULIC OIL RESISTANT SPECIAL NBR RUBBER.
REINFORCEMENT: HIGH TENSILE SYNTHETIC BRAID.
COVER: OIL, ABRASION, OZONE AND WEATHER RESISTANT BLACK CR RUBBER.
APPLICATION: FOR HYDRAULIC CONTROL LINES, DISCHARGE UNDER PRESSURE OF HYDRAULIC FLUIDS, FUEL, GREASE, AIR AND WATER.

ID/İÇ		OD/DÇ	WP/ÇB		BP/PB		BR/KY/r	W/A	L/B
Inch	mm	mm	BAR	PSI	BAR	PSI	mm	gr/mt	mt
3/16	4.8	11.1	34	493	136	1972	50	99	+10
1/4	6.4	12.7	28	406	112	1624	65	119	+10
5/16	7.9	14.3	28	406	112	1624	80	137	+10
3/8	9.5	15.9	28	406	112	1624	80	160	+10
1/2	12.7	19.8	28	406	112	1624	100	228	+10
5/8	15.9	23	24	348	96	1392	125	268	+10
3/4	19	26.5	21	305	83	1218	150	340	+10
1	25.4	34.5	9	131	36	522	170	539	+10

-40 °C / +100 °C
-40 °F / +212 °F

R9 SPİRAL ÇELİK TELLİ HİDROLİK / R9 MULTISPIRAL HYDRAULIC

ALT KAT: MİNERAL, NEBATİ VE GLİKOL BAZLI HİDROLİK YAĞLARA DAYANIKLI ÖZEL SENTETİK KAUÇUK
TAKVİYE: 4 KAT ÇOK YÜKSEK MUKAVEMETLİ SPİRAL ÇELİK TEL.
ÜST KAT: YAĞLARA, AŞINMAYA VE HER TÜRLÜ HAVA ŞARTLARINA DAYANIKLI SARGILI ÖZEL SENTETİK KAUÇUK.
KULLANIM YERİ: ÇOK YÜKSEK PİK BASINÇLARA VE ZOR ŞARTLARA MARUZ KALACAK HİDROLİK SİSTEMLERDE.

TUBE: HYDRAULIC FLUIDS ON A MINERAL, VEGETABLE OIL AND GLYCOL BASIS RESISTANT SPECIAL SYNTHETIC NEOPRENE RUBBER.
REINFORCEMENT: 4 HIGH TENSILE STEEL SPIRALS.
COVER: HYDRAULIC OIL, .ABRASION AND WEATHER RESISTANT WRAPPED SYNTHENIC RUBBER.
APPLICATION: FOR HYDRAULIC SYSTEMS WITH HIGH PEAK PRESSURES AND ARDOUS CONDITIONS OF OPERATIONS.

ID/İÇ		OD/DÇ	WP/ÇB		BP/PB		BR/KY/r	W/A	L/B
Inch	mm	mm	BAR	PSI	BAR	PSI	mm	gr/mt	mt
3/8	9.5	21.4	445	6453	1780	25810	180	850	+3
1/2	12.7	24.6	415	6018	1660	24070	230	950	+3
5/8	16	28.5	350	5075	1400	20300	250	1140	+3
3/4	19	31.5	350	5075	1400	20300	300	1485	MAX 61
1	25.4	39.7	280	4060	1120	16240	340	2057	MAX 61
1 1/4	31.8	50.8	210	3045	840	12180	460	3218	MAX 61
1 1/2	38.1	57.2	185	2683	740	10730	560	3741	MAX 61
2	50.8	69.8	175	2538	700	10150	660	4500	MAX 61

ATEŞE DAYANIKLILIK / FLAME RESISTANCE : (U.S. MSHA ONAYLI / U.S. MSHA APPROVED)
SOĞUĞA DAYANIKLILIK / COLD RESISTANCE : (- 55 ºC)
YÜKSEK SICAKLIK / HIGH TEMPERATURE: (+135 ºC)

-40 °C / +100 °C
-40 °F / +212 °F

(+125 °C SÜREKLİ OLMAYAN)
(+125 °C DISCONTINUOUS)

ÇELİK TEL ÖRGÜLÜ YIKAMA / HYDRO - WASH

ALT KAT: 150 °C SICAK SUYA VE DETERJANLI SOLÜSYONLARA DAYANIKLI ÖZEL SENTETİK KAUÇUK.
TAKVİYE: YÜKSEK MUKAVEMETLİ İKİ KAT ÇELİK TEL ÖRGÜ.
ÜST KAT: YAĞLARA, AŞINMAYA VE HER TÜRLÜ HAVA ŞARTLARINA DAYANIKLI SARGILI ÜZERİ DELİKLİ ÖZEL SENTETİK KAUÇUK.
KULLANIM YERİ: YÜKSEK BASNÇLI SICAK SU İLE YIKAMA İŞLERİNDE.

TUBE: 150 °C, HOT WATER AND DETERGENT SOLUTIONS RESISTANT SPECIAL SYNTHETIC RUBBER.
REINFORCEMENT: HIGH TENSILE 2 STEEL BRAID.
COVER: OIL, ABRASION AND WEATHER RESISTANT PIN PRICKED SYNTHETIC RUBBER.
APPLICATION: FOR HIGH PRESSURE HOT WATER CLEANING APPLICATIONS.

ID/İÇ		OD/DÇ 2T 2SC		WP/ÇB 2T 2SC		BP/PB 2T 2SC		BR/KY/r 2T 2SC		W/A 2T 2SC		L/B
Inch	mm	mm	mm	BAR	PSI	BAR	PSI	mm	mm	gr/mt	gr/mt	mt
1/4	6.4	15	13.8	400	5800	1600	23200	100	75	386	302	+10
5/16	8	16.6	15.6	400	5800	1400	20300	115	85	427	362	+10
3/8	9.5	19	17.7	400	5800	1320	19140	130	90	559	452	+10
1/2	12.7	22.2	21	350	5075	1100	15950	180	130	651	559	+10

ATEŞE DAYANIKLILIK / FLAME RESISTANCE : (U.S. MSHA ONAYLI / U.S. MSHA APPROVED)
SOĞUĞA DAYANIKLILIK / COLD RESISTANCE : (- 55 ºC)
YÜKSEK SICAKLIK / HIGH TEMPERATURE: (+135 ºC)

-40 °C / +150 °C
-40 °F / +302 °F

(+125 °C SÜREKLİ OLMAYAN)
(+125 °C DISCONTINUOUS)

ÇELİK TEL ÖRGÜLÜ HİDROLİK / STEEL WIRE BRAIDED HYDRAULIC

SAE 100 R2 AT / DIN - EN 853 25 N

ALT KAT: HİDROLİK YAĞLARA DAYANIKLI ÖZEL SENTETİK KAUÇUK.
TAKVİYE: YÜKSEK MUKAVEMETLİ İKİ KAT ÇELİK TEL ÖRGÜ.
ÜST KAT: YAĞLARA, AŞINMAYA VE HER TÜRLÜ HAVA ŞARTLARINA DAYANIKLI SARGILI ÖZEL SENTETİK KAUÇUK.
KULLANIM YERİ: İŞ VE TARIM MAKİNALARINDA YÜKSEK BASINÇ GEREKTİREN HİDROLİK DEVRELERDE.

TUBE: HYDRAULIC OIL RESISTANT SPECIAL SYNTHETIC RUBBER.
REINFORCEMENT: HIGH TENSILE 2 STEEL BRAID.
COVER: OIL, ABRASION AND WEATHER RESISTANT WRAPPED SYNTHETIC RUBBER.
APPLICATION: FOR HIGH PRESSURE HYDRAULIC SYSTEMS IN INDUSTRY AND AGRICULTURE.

ID/İÇ		OD/DÇ	WP/ÇB		BP/PB		VACUUM	BR/KY/r	W/A	L/B
Inch	mm	mm	BAR	PSI	BAR	PSI	BAR	mm	gr/mt	mt
3/16	4.8	13.4	415	6018	1650	23925	-0.95	90	285	+10
1/4	6.4	15	400	5800	1600	23200	-0.95	100	386	+10
5/16	8	16.6	350	5075	1400	20300	-0.95	115	427	+10
3/8	9.5	19	330	4785	1320	19140	-0.95	130	559	+10
1/2	12.7	22.2	275	3988	1100	15950	-0.95	180	651	+10
5/8	16	25.4	250	3625	1000	14500	-0.95	205	776	+10
3/4	19	29.3	215	3118	850	12325	-0.80	240	956	+10
1	25.4	38.1	165	2393	650	9425	-0.80	300	1380	+10
1 1/4	31.8	48.3	125	1813	500	7250	-0.80	420	2024	+10
1 1/2	38.1	54.6	90	1305	360	5220	-0.80	500	2256	+10

ATEŞE DAYANIKLILIK / FLAME RESISTANCE : (U.S. MSHA ONAYLI / U.S. MSHA APPROVED)
SOĞUĞA DAYANIKLILIK / COLD RESISTANCE : (- 55 ºC)
YÜKSEK SICAKLIK / HIGH TEMPERATURE: (+135 ºC)

-40 °C / +100 °C
-40 °F / +212 °F

(+125 °C SÜREKLİ OLMAYAN)
(+125 °C DISCONTINUOUS)

ÇELİK TEL ÖRGÜLÜ HİDROLİK / STEEL WIRE BRAIDED HYDRAULIC

SAE 100 R1 AT / DIN - EN 853 15 N

ALT KAT: HİDROLİK YAĞLARA DAYANIKLI ÖZEL SENTETİK KAUÇUK.
TAKVİYE: YÜKSEK MUKAVEMETLİ TEK KAT ÇELİK TEL ÖRGÜ.
ÜST KAT: YAĞLARA, AŞINMAYA VE HER TÜRLÜ HAVA ŞARTLARINA DAYANIKLI SARGILI ÖZEL SENTETİK KAUÇUK.
KULLANIM YERİ: İŞ VE TARIM MAKİNALARINDA YÜKSEK BASINÇ GEREKTİREN HİDROLİK DEVRELERDE.

TUBE: HYDRAULIC OIL RESISTANT SPECIAL SYNTHETIC RUBBER.
REINFORCEMENT: HIGH TENSILE STEEL BRAID.
COVER: OIL, ABRASION AND WEATHER RESISTANT WRAPPED SYNTHETIC RUBBER.
APPLICATION: FOR HIGH PRESSURE HYDRAULIC SYSTEMS IN INDUSTRY AND AGRICULTURE.

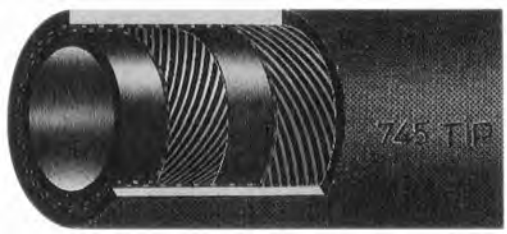
ID/İÇ		OD/DÇ	WP/ÇB		BP/PB		VACUUM	BR/KY/r	W/A	L/B
Inch	mm	mm	BAR	PSI	BAR	PSI	BAR	mm	gr/mt	mt
3/16	4.8	11.8	250	3625	1000	14500	-0.80	90	179	+10
1/4	6.4	13.4	225	3263	900	13050	-0.80	100	228	+10
5/16	8	15	215	3118	850	12325	-0.80	115	265	+10
3/8	9.5	17.4	180	2610	720	10440	-0.80	130	343	+10
1/2	12.7	20.6	160	2320	640	9280	-0.80	180	420	+10
5/8	16	23.7	130	1885	520	7540	-0.80	200	484	+10
3/4	19	27.7	105	1523	420	6090	-0.80	240	599	+10
1	25.4	35.6	88	1276	350	5075	-0.80	300	895	+10
1 1/4	31.8	43.5	63	914	250	3625	-0.60	420	1217	+10
1 1/2	38.1	50.6	50	725	200	2900	-0.60	500	1472	+10

ATEŞE DAYANIKLILIK / FLAME RESISTANCE : (U.S. MSHA ONAYLI / U.S. MSHA APPROVED)
SOĞUĞA DAYANIKLILIK / COLD RESISTANCE : (- 55 ºC)
YÜKSEK SICAKLIK / HIGH TEMPERATURE: (+135 ºC)

-40 °C / +100 °C
-40 °F / +212 °F

(+125 °C SÜREKLİ OLMAYAN)
(+125 °C DISCONTINUOUS)

HAFİF HİZMET HAVA / LIGHT DUTY AIR



ALT KAT: KOMPRESSÖR YAĞLARINA DAYANIKLI TAABİ VE SENTETİK KAUÇUK.
TAKVİYE: YÜKSEK MUKAVEMETLİ SENTETİK TEKSTİL.
ÜST KAT: AŞINMAYA, OZONA VE HER TÜRLÜ HAVA ŞARTLARINA DAYANIKLI SENTETİK KAUÇUK.
KULLANIM YERİ: HAVA İLE ÇALIŞAN ALETLERDE VE BASINÇLI HAVA TAHLİYESİNDE.

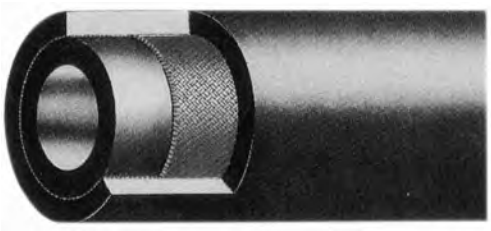
TUBE: OIL-MIST RESISTANT NATURAL AND SYNTHETIC RUBBER.
REINFORCEMENT: HIGH TENSILE SYNTHETIC TEXTILE.
COVER: ABRASION, OZONE AND WEATHER RESISTANT SYNTHETIC RUBBER.
APPLICATION: FOR PNEUMATIC EQUIPMENTS AND TOOLS.

ID/İÇ		OD/DÇ	WP/ÇB		BP/PB		BR/KY/r	W/A	L/B
Inch	mm	mm	BAR	PSI	BAR	PSI	mm	gr/mt	mt
1/2	12.7	22	10	145	40	580	127	399	40-46-61
5/8	16	25	10	145	40	580	160	432	40-46-61
3/4	19	29	10	145	40	580	190	551	40-46-61
1	25.4	36	10	145	40	580	254	746	40-46-61
1 1/4	32	44	10	145	40	580	320	1077	40-46-61
1 1/2	38	51	10	145	40	580	380	1346	40-46-61
1 3/4	44.5	57	10	145	40	580	445	1431	40-46-61
2	51	63	10	145	40	580	510	1610	40-46-61
2 1/2	63.5	78	10	145	40	580	635	2375	40-46-61
3	76.2	92	10	145	40	580	762	3140	40-46-61
4	101.6	117	10	145	40	580	1016	3832	40-46-61

NOT: 20- 25 Bar çeşitleri mevcuttur. Bilgi için firmamıza danışın.

EN ISO 2398	TİP 1 TYPE 1	TİP 2 TYPE 2	TİP 3 TYPE 3		
A SINIFI KOD: CLASS A CODE:	081	082	083	-25 °C / +70 °C	-13 °F / +158 °C
B SINIFI KOD: CLASS B CODE:	091	092	093	-40 °C / +70 °C	-40 °F / + 158 °C

AKARYAKIT POMPA / PETROL POMP



ALT KAT: PETROLE, BENZİNE VE MAZOTA DAYANIKLI DÜZ, SİYAH, İLETKEN SENTETİK NİTRİL KAUÇUK.
TAKVİYE: YÜKSEK MUKAVEMETLİ SENTETİK TEKSTİL VE STATİK ELEKTRİĞ İLETİN BAKIR TEL.
ÜST KAT: YAĞLARA, OZONA, HER TÜRLÜ HAVA ŞARTLARINA VE AŞINMAYA DAYANIKLI ÖZEL SETETİK KAUÇUK.
KULLANIM YERİ: SERVİS İSTASYONLARINDA, POMPALARDAN NAKİL VASITALARINA YAKIT DAĞITMA İŞLERİNDE.(NORMAL-SÜPER-KURŞUNSUZ BENZİN-MAZOT-MOTORİN)

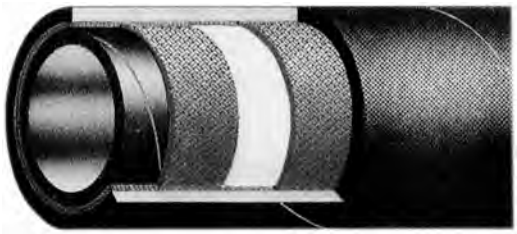
TUBE: OIL AND PETROL RESISTANT, SMOOTH, CONDUCTIVE SYNTHETIC NITRILE BLACK RUBBER.
REINFORCEMENT: HIGH TENSILE SYNTHETIC TEXTILE AND ANTISTATIC COPPER WIRE.
COVER: OIL, WEATHER, OZONE, ABRASION RESISTANT, SMOOTH SPECIAL SYNTHETIC RUBBER.
APPLICATION: FOR FUEL DISPENSING; REGULAR AND SUPER GRADE PETROL, UNLEADED PETROL AND DIESEL OIL.

ID/İÇ		OD/DÇ	WP/ÇB		BP/PB		BR/KY/r	W/A	L/B
Inch	mm	mm	BAR	PSI	BAR	PSI	mm	gr/m	m
1/2”	12.7	21.5	16	232	48	696	127	297	+6
5/8”	16	26	16	232	48	696	160	417	+6
3/4”	19	29	16	232	48	696	190	483	+6
1”	25.4	36.5	16	232	48	696	254	692	+6

NOT: Daha yüksek basınçlara dayanıklı “telli” ve “bezli” hortum çeşitleri de mevcuttur. Bilgi için lütfen firmamıza danışınız.

-35 °C / +80 °C
-36 °F / +176 °F

KİMYASAL MADDE VERİCİ EPDM / CHEMICAL DELIVERY EPDM



ALT KAT: KİMYASAL MADDELERE DAYANIKLI SİYAH EPDM KAUÇUK.
TAKVİYE: YÜKSEK MUKAVEMETLİ SENTETİK TEKSTİL VE STATİK ELEKTRİĞİ İLETİN BAKIR TEL.
ÜST KAT: SÜRTÜNMEYE, ISIYA OZONA VE HER TÜRLÜ HAVA ŞARTLARINA DAYANIKLI EPDM KAUÇUK.
KULLANIM YERİ: ÇEŞİTLİ ASİT, BAZ VE KİMYEVİ MADDE (BKZ. SEL KİMYASALLARA DAYANIM TABLOSU), DENİZ VE SANAYİİ SULARI TAHLİYE İŞLERİNDE.

TUBE: CHEMICAL RESISTANT BLACK, EPDM RUBBER.
REINFORCEMENT: HIGH TENSILE SYNTHETIC TEXTILE AND ANTISTATIC COPPER WIRE.
COVER: WEATHER, OZONE, ABRASION RESISTANT, EPDM RUBBER.
APPLICATION: FOR DISCHARGE OF CORROSIVE CHEMICALS (SEE CHEMICAL RESISTANCE CHART), SEA AND INDUSTRIAL WATER.

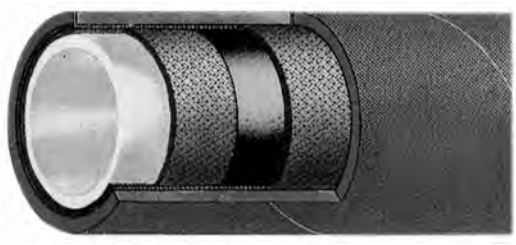
ID/İÇ		OD/DÇ	WP/ÇB		BP/PB		BR/KY/r	W/A	L/B
Inch	mm	mm	BAR	PSI	BAR	PSI	mm	gr/m	m
3/4	19	30	10	145	40	580	190	585	40-46-61
1	25.4	36.5	10	145	40	580	254	743	40-46-61
1 1/4	32	45	10	145	40	580	320	1034	40-46-61
1 1/2	38	51	10	145	40	580	380	1194	40-46-61
1 3/4	44.5	59	10	145	40	580	445	1549	40-46-61
2	50.8	65	10	145	40	580	510	1737	40-46-61
2 1/2	63.5	79	10	145	40	580	635	2323	40-46-61
2 3/4	70	85.5	10	145	40	580	700	2534	40-46-61
3	76.2	92	10	145	40	580	762	2815	40-46-61
4	101.6	118	10	145	40	580	1016	3732	40-46-61

ÖNEMLİ : Sipariş verilirken; Madde konsantrasyon ve çalışma sıcaklığı gibi kullanım özellikleri açıkça belirtilmelidir.
Diğer çaplar, basınçlar, renkler, üst kat tipi ve çift spiral tel istek üzerine üretilir.

IMPORTANT : When ordering; Clearly specify working conditions such as a material, concentration and working temperature.
Other diameters, pressures, colours, cover type and double steel wire helix can be made upon request.

-40 °C / +120 °C
-40 °F / +248 °F

SÜT & NEBATİ YAĞ İLETİM / MILK & VEGETABLE OIL DELIVERY



ALT KAT: NAKLEDİLEN GIDA MADDESİNİN SÜT, NEBATİ YAĞ VB. TAT, KOKU, RENK GİBİ ÖZELLİKLERİNİ DEĞİŞTİRMEYEN ULUSLARARASI GIDA ŞARTNAMELERİNE UYGUN, ÖZEL BEYAZ SENTETİK NBR KAUÇUK (110 °C ISIYA KADAR BİRKAÇ DAKİKA DETERJANLA YIKANABİLİR)
TAKVİYE: YÜKSEK MUKAVEMETLİ SENTETİK TEKSTİL.
ÜST KAT: YAĞLARA, OZONA, SÜRTÜNMEYE VE HER TÜRLÜ HAVA ŞARTLARINA DAYANIKLI, RENKLİ ÖZEL SENTETİK KAUÇUK.
KULLANIM YERİ: SÜT, NEBATE YAĞ VE YAĞLI SIVILARI NAKLETME İŞLERİNDE.

TUBE: WHITE COLOUR NON-TOXIC, TASTE AND ODOUR FREE, VEGETABLE OIL RESISTANT, FOOD GRADE SPECIAL SYNTHETIC NBR RUBBER.
REINFORCEMENT: HIGH TENSILE SYNTHETIC TEXTIL.
COVER: OIL ,WEATHER, OZONE, ABRASION RESISTANT, COLORUED SPECIAL SYNTHETIC RUBBER.
APPLICATION: FOR DISCHARGE OF MILK, VEGETABLE OIL AND BEVERAGES.

ID/İÇ		OD/DÇ	WP/ÇB		BP/PB		BR/KY/r	W/A	L/B
Inch	mm	mm	BAR	PSI	BAR	PSI	mm	gr/m	m
3/4”	19	30	10	145	30	435	190	635	40-46-61
1”	25.4	37	10	145	30	435	254	821	40-46-61
1 1/4”	32	44	10	145	30	435	320	1028	40-46-61
1 1/2”	38	51	10	145	30	435	380	1293	40-46-61
1 3/4”	44.5	57.5	10	145	30	435	445	1483	40-46-61
2”	50.8	65	10	145	30	435	510	1810	40-46-61
2 1/2”	63.5	77.5	10	145	30	435	635	2202	40-46-61
3”	76.2	92	10	145	30	435	762	2952	40-46-61
4”	101.6	117.5	10	145	30	435	1016	3828	40-46-61

-40 °C / +80 °C
-40 °F / +176 °F

TOZ VE HAVA EMİCİ / DUST AND AIR SUCTION

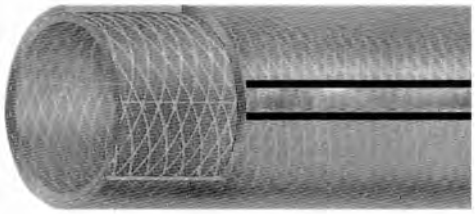
ALT KAT: TABİİ VE SENTETİK KAUÇUK.
TAKVİYE: SENTETİK TEKSTİL VE ÇELİK SPİRAL TEL.
ÜST KAT: HER TÜRLÜ HAVA ŞARTLARNA, AŞINMAYA, ISIYA DAYANIKLI SENTETİK KAUÇUK - BOĞUMLU.
KULLANIM YERİ: SICAK VE SOĞUK HAVA, TOZ, İS, TALAŞ, SNAİ KIRINTI, TOHUM, TAHIL, VS. NAKLETME VE EMME İŞLERİNDE.

TUBE: NATUREL AND SYNTHETIC RUBBER.
REINFORCEMENT: SYNTHETIC TEXTILE AND STEEL HELIX WIRE.
COVER: ABRASION WEATHER, AND HEAT RESISTANT SYNTHETIC RUBBER - CORRUGATE.
APPLICATION: FOR SUCTION AND DELIVERY OF AIR, DUST GRAIN, POWDER ETC.

ID/İÇ		OD/DÇ	WP/ÇB		BP/PB		VACUUM	BR/KY/r	W/A	L/B
Inch	mm	mm	BAR	PSI	BAR	PSI	BAR	mm	gr/mt	mt
1	25.4	32					-0.60	102	435	1-46
1 1/4	32	39					-0.60	128	620	1-46
1 1/2	38	45					-0.60	152	725	1-46
1 3/4	44.5	52					-0.60	178	810	1-46
2	51	58					-0.60	204	920	1-46
2 1/2	63.5	72					-0.60	254	1420	1-46
3	76.2	84.5					-0.60	305	1650	1-46
4	101.6	110					-0.60	407	2350	1-46
5	127	135					-0.60	508	3030	1-46
6	152.4	162					-0.60	610	3861	1-46
8	203.2	214					-0.60	1219	6335	1-20
10	254	267					-0.60	1524	8860	1-10
12	304.8	315					-0.60	1829	10400	1-10

-20 °C / +70 °C
-4 °F / +158 °F

GIDAYA UYGUN PVC ÖRGÜLÜ / NON-TOXIC - PVC BRAIDED



ALT KAT: GIDAYA UYGUN PVC.
TAKVİYE: YÜKSEK MUKAVEMETLİ SENTETİK TEKSTİL.
ÜST KAT: AŞINMAYA, OZONA VE HER TÜRLÜ HAVA ŞARTLARINA DAYANIKLI ŞEFAF PVC.
KULLANIM YERİ: HER TÜRLÜ SULAMA, HAVA, TUZ, HAFİF KİMYASALLAR VB. TAHLİYE İŞLERİNDE.

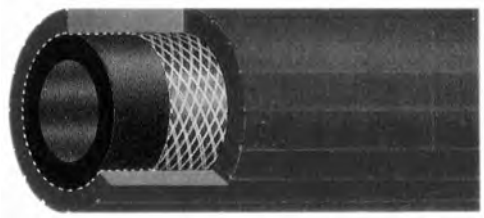
TUBE: NON - TOXIC GLASS CLEAR PVC.
REINFORCEMENT: HIGH TENSILE SYNTHETIC TEXTILE.
COVER: ABRASION OZONE AND WEATHER RESISTANT GLASS CLEAR PVC ALLOWING EASY INSPECTION DURING SERVICE.
APPLICATION: FOR CONVEYING LIQUIDS, AIR, POWDERED FOODS, SALTS, LIGHT CHEMICALS.

ID/İÇ		OD/DÇ	WP/ÇB		BP/PB		W/A	L/B
Inch	mm	mm	BAR	PSI	BAR	PSI	gr/mt	mt
1/4	6	12	20	290	60	870	106	100
5/16	8	14	20	290	60	870	130	100
3/8	10	16	15	218	45	653	153	100
1/2	13	19	15	218	45	653	189	100
5/8	16	22	10	145	30	435	223	100
3/4	19	26	10	145	30	435	308	100
1	25	3	8	116	24	348	453	50
1 1/4	32	40	7	102	21	305	564	50
1 1/2	38	48	5	73	15	218	860	30

-5 °C / +60 °C

NOT: " Hafif hizmet su verici / Light duty water delivery • Standart hizmet su verici / Standard duty water delivery • Orta hizmet su alıcı-verici / Medium duty suction&delivery • Çelik spiralli gıdaya uygun / Non-toxic steel spiral • Havalandırma / Ventilation • Pülverizatör (ilaçlama) 50-80-100 bar / Agricultural (Spray) 50-80-100 bar" modelleri de mevcuttur. Bilgi için lütfen firmamıza danışınız.

KAYNAK / WELDING



ALT KAT: OKSİJEN VE ASETİLENE DAYANIKLI ÖZEL SİYAH THERMORUB KARIŞIM.
TAKVİYE: YÜKSEK MUKAVEMETLİ SENTETİK TEKSTİL.
ÜST KAT: ALEVE, AŞINMAYA VE HER TÜRLÜ HAVA ŞARTLARINA DAYANIKLI ÖZEL THERMORUB KARIŞIM.
KULLANIM YERİ: ENDÜSTRİYEL OKSİJEN VE ASETİLEN KAYNAĞI İŞLERDE.

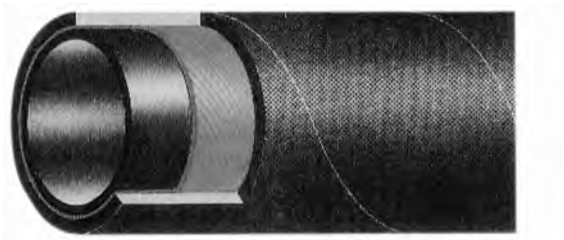
TUBE: BLACK SMOOTH SPECIAL THERMORUB COMPOUND RESISTANT TO OXYGEN AND ACENTLY GAS.
REINFORCEMENT: HIGH TENSILE SYNTHETIC TEXTILE.
COVER: ABRASION, WEATHER AND FLAME RESISTANT, SPECIAL SYNTHETIC THERMORUB COMPOUND.
APPLICATION: FOR INDUSTTRIAL WELDING.

ID/İÇ		OD/DÇ	WP/ÇB		BP/PB		BR/KY/r	W/A	L/B
Inch	mm	mm	BAR	PSI	BAR	PSI	mm	gr/mt	mt
1/4	6	12	20	290	60	870	60	120	100
1/4	6	13.5	20	290	60	870	60	160	100
5/16	8	14	20	290	60	870	80	145	100
5/16	8	15	20	290	60	870	80	175	100
5/16	8	16	20	290	60	870	90	209	100
	9	16	20	290	60	870	100	195	100
3/8	10	17.5	20	290	60	870	100	225	100
1/2	12.7	21	20	290	60	870	127	311	100

-20 °C / +80 °C

NOT: “ Hafif hizmet su verici / Light duty water delivery • Standart hizmet su verici / Standard duty water delivery • Orta hizmet su alıcı-verici / Medium duty suction&delivery • Çelik spiralli gıdaya uygun / Non-toxic steel spiral • Havalandırma / Ventilation • Pülverizatör (ilaçlama) 50-80-100 bar / Agricultural (Spray) 50-80-100 bar” modelleri de mevcuttur. Bilgi için lütfen firmamıza danışınız.

RADYATÖR / RADIATOR



ALT KAT: ISIYA DAYANIKLI EPDM KAUÇUK.
TAKVİYE: YÜKSEK MUKAVEMETLİ SENTETİK TEKSTİL.
ÜST KAT: ISIYA YAŞLANMAYA VE HER TÜRLÜ HAVA ŞARTLARINA DAYANIKLI EPDM KAUÇUK.
KULLANIM YERİ: İÇTEN YANMALI MOTOR SOĞUTMA SİSTEMLERİNDE VE SICAK SU DOLAŞIMINDA.

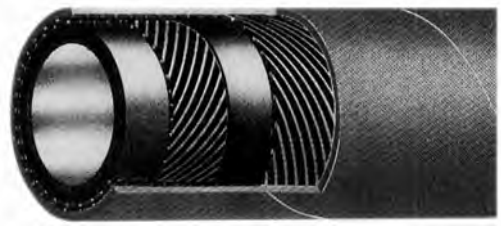
TUBE: HEAT RESISTANT EPDM RUBBER.
REINFORCEMENT: HIGH TENSILE SYNTHETIC RUBBER.
COVER: HEAT, AGEING AND WEATHER RESISTANT EPDM BASED RUBBER.
APPLICATION: COOLING SYSTEMS OF AUTOMOTIVE AND STATIONARY ENGINES.

ID/İÇ		OD/DÇ	WP/ÇB		BP/PB		W/A	L/B
Inch	mm	mm	BAR	PSI	BAR	PSI	gr/mt	mt
1/2”	12.7	19	4	58	12	174	210	1-40-46-61
5/8”	16	22	4	58	12	174	255	1-40-46-61
-	18	24	4	58	12	174	281	1-40-46-61
3/4”	19	25	4	58	12	174	295	1-40-46-61
-	20	26	4	58	12	174	308	1-40-46-61
7/8”	22	28	4	58	12	174	334	1-40-46-61
1”	25.4	32	4	58	12	174	421	1-40-46-61
1 1/8”	28	34.5	4	58	12	174	459	1-40-46-61
1 3/16”	30	38	4	58	12	174	586	1-40-46-61
1 1/4”	32	40	4	58	12	174	621	1-40-46-61
1 3/8”	35	43	4	58	12	174	672	1-40-46-61
1 1/2”	38	47	4	58	12	174	825	1-40-46-61
-	40	49	4	58	12	174	864	1-40-46-61
1 5/8”	42	51	4	58	12	174	903	1-40-46-61
1 3/4”	44.5	54	4	58	12	174	1021	1-40-46-61
-	48	57.5	4	58	12	174	1094	1-40-46-61
2”	50.8	60	4	58	12	174	1152	1-40-46-61
2 3/16”	55	65	4	58	12	174	1324	1-40-46-61
2/ 3/8”	60	70	4	58	12	174	1434	1-40-46-61
2 1/2”	63.5	73.5	4	58	12	174	1511	1-40-46-61
2 3/4”	70	80	4	58	12	174	1654	1-40-46-61
3”	76.2	86	4	58	12	174	1791	1-40-46-61
-	80	90	4	58	12	174	1875	1-40-46-61
3 1/2”	90	100	4	58	12	174	2095	1-40-46-61
4”	10.6	111.5	4	58	12	174	2165	1-40-46-61

-40 °C / +125 °C
-40 °F / +297 °F

NOT: “ Bezli buhar / Textile steam • Çelik tel örgülü buhar / Steel wire reinforced steam 208 °C ” modelleri de mevcuttur. Bilgi için lütfen firmamıza danışınız.

SANAYİ TİPİ SU / INDUSTRIAL TYPE WATER



ALT KAT: TABİİ VE SENTETİK KAUÇUK.
TAKVİYE: YÜKSEK MUKAVEMETLİ SENTETİK TEKSTİL.
ÜST KAT: IHER TÜRLÜ HAVA ŞARTLARINA DAYANIKLI SENTETİK KAUÇUK.
KULLANIM YERİ: İNŞAAT, SANAYİ, GEMİ VE HER TÜRLÜ SULAMA İŞLERİNDE.

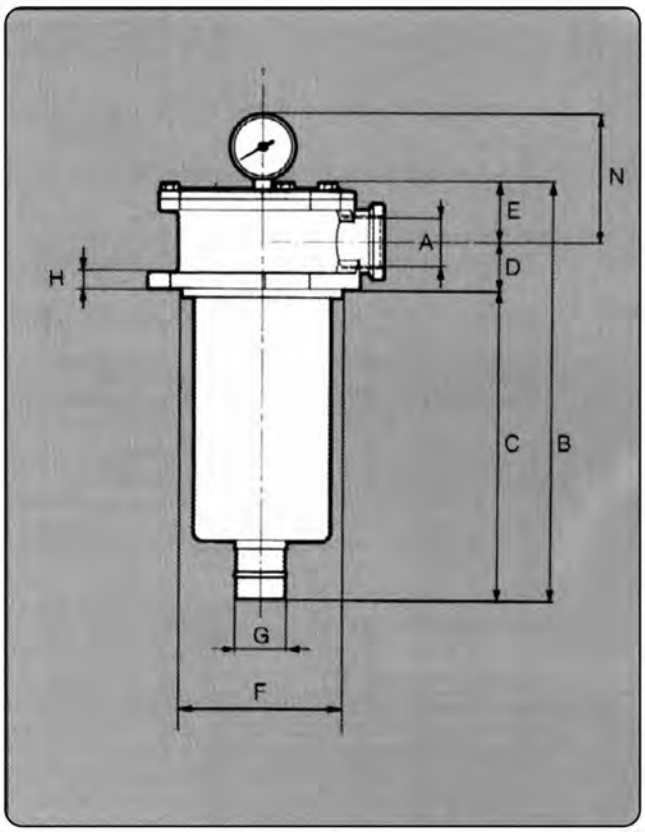
TUBE: NATURAL AND SYNTHETIC RUBBER.
REINFORCEMENT: HIGH TENSILE SYNTHETIC TEXTILE.
COVER: WEATHER RESISTANT SYNTHETIC RUBBER.
APPLICATION: FOR VADIOUS WATERING SYSTEMS IN INDUSTRIES, CONSTRUCTIONS AND ALSO USED ON SHIPS.

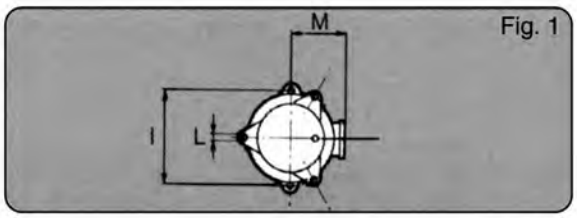
ID/İÇ		OD/DÇ	WP/ÇB		BP/PB		BR/KY/r	W/A	L/B
Inch	mm	mm	BAR	PSI	BAR	PSI	mm	gr/mt	mt
3/8	10	17	10	145	30	435	100	213	40-46
1/2	12.7	20	10	145	30	435	127	255	40-46-61
5/8	16	23	10	145	30	435	160	305	40-46-61
3/4	19	27	10	145	30	435	190	401	40-46-61
1	25.4	33	10	145	30	435	254	492	40-46-61
1 1/4	32	41	10	145	30	435	320	712	40-46-61
1 3/8	35	44	10	145	30	435	350	810	40-46-61
1 1/2	38	47	10	145	30	435	380	830	40-46-61
1 3/4	44.5	54	10	145	30	435	445	1025	40-46-61
2	51	60	10	145	30	435	510	1102	40-46-61
2 1/2	63.5	74	10	145	30	435	635	1550	40-46-61
2 3/4	70	82	10	145	30	435	700	2019	40-46-61
3	76.2	88	10	145	30	435	762	1205	40-46-61
4	101.6	115	10	145	30	435	1016	3155	40-46-61
5	127	140	10	145	30	435	1270	3775	20-40-46-61
6	152.4	165	10	145	30	435	1524	4320	20-40-46-61
8	203.2	222	10	145	30	435	2032	7495	20
10	254	270	10	145	30	435	2540	8695	10

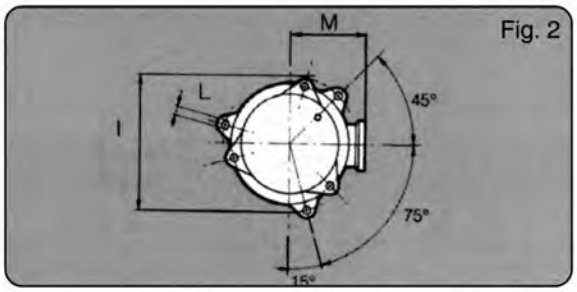
-25 °C / +70 °C
-13 °F / +158 °F

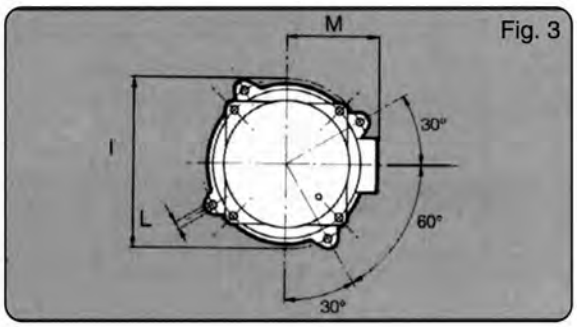
NOT: " Su / Water - Alçak basınçlı su / Low pressure water • Orta basınçlı su / Medium pressure water • Yüksek basınçlı su / High pressure water " modelleri de mevcuttur. Bilgi için lütfen firmamıza danışınız.

DALDIRMA TİP DÖNÜŞ FİLTRESİ
SIF SERİSİ FİLTRELER / SIF SERIES FILTERS









ÖLÇÜ TABLOSU / DIMENSIONS TABLE

Fig.	Kod Code	A	B	C	D	E	F	G	H	I	L	M	N
1	SIF.10A	1/2"	140	90	21	29	66	24	8	90	7	50	72
	SIF.10B		173	106	29	41	86	28	10	115	9	67	80
	SIF.15B	3/4"											
	SIF.15C		220	150									
	SIF.15L		310	220				40					
	SIF.20C	1"	220	150				28					
	SIF.20L		310	220				40					
2	SIF.20D		330	245	36	50	129	40		175	11	95	91
	SIF.25D	1" 1/4	330	245	36	50	129	40		175		95	91
3	SIF.25E		270	175	38	48	173	50	11	220		120	94
	SIF.30E												
	SIF.30F	1" 1/2	330	235									
	SIF.30G												
	SIF.35H	2"	380	285				63					

YEDEK FİLTRE ELEMANI

Komple Kod Code Complete Filter	Filtre elemanı Cartridge
SIF.10A	FXR.A3M
SIF.10B	FXR.A5M
SIF.15B	
SIF.15C	FXR.A6M
SIF.15L	FXR.S6M
SIF.20C	FXR. A6M
SIF.20D	FXR.A8M
SIF.20L	FXR.S6M
SIF.25D	FXR.A8M
SIF.25E	FXR.A0M
SIF.30E	
SIF.30F	FXR.B1M
SIF.30G	FXR.B2M
SIF.35H	FXR.B3M

TEKNİK ÖZELLİKLER / TECHNICAL SPECIFICATION

SIF serisi filtreler dönüş hattına takılmak içindir. Tüm filtreler by-pass valfi ile tamalanmıştır.
SIF series filters are for installation, on the return line, semi - submerged in the tank. All filters are complete with by-pass valve.

1. Çalışma sıcaklığı / Operating temperature:
   from -25 °C a +110 °C
2. Max. çalışma basıncı / Max. operating pressure:
   3 bar
3. Test basıncı / Testing pressure:
   6 bar
4. By-pass valf açılışı / By-pass valve opening:
   dp 1.5 bar + / - %9
5. Filtre elemanı bozulma basıncı / Filter element collapse pressure:
   3 bar Series 10C, 30C,
   10 bar Series 10A, 25A, 10, 30, 60, 90
6. Debi oranı / Flow rate:
   from 15 to 550 l/min
7. Filtre elemanları / Filter elements:
   10A: Güçlendirilmiş inorganik mikrofiber, 10µ mutlak Bx ≥ 75 filtreleme derecesinde / Reinforced inorganic microfiber with 10µ absolute Bx ≥ 75 filtering grade.
   25A: Güçlendirilmiş inorganik mikrofiber, 25µ mutlak Bx ≥ 75 filtreleme derecesinde / Reinforced inorganic microfiber with 25µ absolute Bx ≥ 75 filtering grade.
   10C: Resin işlemi görmüş kağıt, 10µ mutlak Bx ≥ 2 filtreleme derecesinde / Resin treated paper with 10µ nominal Bx ≥ 2 filtering grade.
   30C: Resin işlemi görmüş kağıt, 30µ mutlak Bx ≥ 2 filtreleme derecesinde / Resin treated paper with 30µ nominal Bx ≥ 2 filtering grade.
   10: Resin işlemi görmüş kağıt, metal ağ ile güçlendirilmiş, 10µ mutlak Bx ≥ 2 filtreleme derecesinde / Resin treated paper with metal mesh, with 30µ nominal Bx ≥ 2 filtering grade.
   30: Resin işlemi görmüş kağıt, metal ağ ile güçlendirilmiş, 30µ mutlak Bx ≥ 2 filtreleme derecesinde / Resin treated paper with metal mesh, with 30µ nominal Bx ≥ 2 filtering grade.
   60: Metal örgü 60µ nominal filtrelendirme derecesinde / Metal cloth with 60µ nominal filtering grade.
   90: Metal örgü 90µ nominal filtrelendirme derecesinde / Metal cloth with 90µ nominal filtering grade.
8. Kirlilik göstergesi / Clogging indicators:
   IND. 02629: Basınç göstergesi 1'den 12 bar'a kadar, arkadan bağlantılı / Pressure gauge, scale from 1 to 12 bar, rear attachment.
   IND. 026218: 0'dan 2 bar'a kadar ayarlı basınç siwici, NA kontaklı / Pressure switch with make-type contacts with setting range from 0 to 2 bar.
   IND. 02619: 0'dan 2 bar'a kadar ayarlı basınç siwici, NC kontaklı / As IND. 02618 but with break - type contacts.
   IND. 02622: Ayarlanabilir basınç swici, diyaframlı tip / Adjustable diaphragm pressure switch contacts, setting 1,3 bar ±0.2 bar.

Debi Oranı l/min Dp= 0.30 bar basınç farkında ölçü / Flow rate in l/min measured with Dp= 0.30 bar

Tip / Type	10A	25A	10C	30C	10	30	60	90
SIF. 10A	15	17	20	25	20	25	30	35
SIF. 10B	30	32	36	42	36	42	50	60
SIF. 15B	35	40	42	48	42	48	60	70
SIF. 15C	50	55	58	62	58	62	80	90
SIF. 15L	60	74	74	80	74	80	110	122
SIF. 20C	60	65	68	72	68	72	100	110
SIF. 20D	90	95	100	105	100	105	150	160
SIF. 20L	70	84	84	90	84	90	130	142
SIF. 25D	110	115	120	130	120	130	180	190
SIF. 25E	120	130	135	145	135	145	220	240
SIF. 30E	130	140	150	160	150	160	250	270
SIF. 30F	175	185	200	210	200	210	320	350
SIF. 30G	180	190	205	215	205	215	330	360
SIF. 35H	300	320	350	360	350	360	480	550

Flow rates measured with oil with 30 cSt kinematic viscosity and 0.89 Kg / dm^3 desnity.

TÜM FİLTRELER İÇİN SİPARİŞ TABLOSU / TÜM FİLTRELER İÇİN SİPARİŞ TABLOSU

S I F . 1 0 A 1 O

Seri / Serie

SIF

BSP Dişlileri / BSP Thread

10	1/2"
15	3/4"
20	1"
25	1" 1/4"
30	1" 1/2
35	2"

Ölçüler / Dimensions

A	Ø 66	h, 140
B	Ø 86	h, 173
C	Ø 86	h, 220
D	Ø 129	h, 330
E	Ø 173	h, 270
F	Ø 173	h, 330 drain Ø50
G	Ø 173	h, 380 drain Ø63
H	Ø 173	h, 380
I	Ø 86	h, 310

Filtre elemanları / Filtering element

10A	10 µ inorganik fiber Bx 75 10 µ inorganic fiber Bx 75
25A	25 µ inorganik fiber Bx 75 25 µ inorganic fiber Bx 75
10C	10 µ kağıt / 10 µ paper
30C	30 µ kağıt / 30 µ paper
10	10 µ reinforced paper 10 µ reinforced paper
30	30 µ reinforced paper 30 µ reinforced paper
60	60 µ metal örgü / mtl. fabric
90	90 µ metal örgü / mtl. fabric

MP Serisi Hidrolik Basınç Yükselticiler / The MP Series Of Hydraulic Pressure Intensifiers

- **Takım Tezgahı için parça fixleme**
- **Test Makinaları**
- **Hidrolik Paket Üniteleri**
- **Taş Kırma Makinaları**
- **Denizaltı R.O.V.**
- **Hidrolik Yapı Takımları**
- **Pres Uygulamaları**
- **Yıkım Araçları**
- **Basınçlı Kalıplar**
- **Hızlı kalıp Değiştirme Ekipmanları**

- Hydraulic Workholding on Machine Tools
- Static and Impulse Testing Equipment
- Hydraulic Power Packs
- Stone Chrushing Machines
- Subsea R.O.V.'s
- Hydraulic Construction Tools
- Press Applications
- Demolition Tools
- Pressure Die Casting Machines
- Quick Die Changing Equipment

MP Serisi Fonksiyonu / The Function Of the MP-Series

MP Serisi pistonlu hidrolik basınç yükseltici, verilen basıncı otomatik olarak son basınca gelene kadar arttırmaktadır.

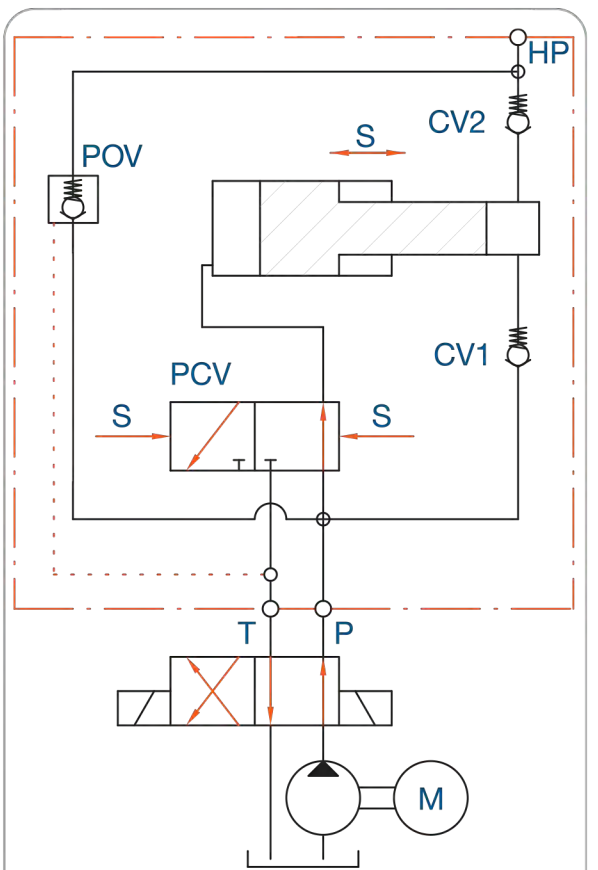
Figür 1'de basınç yükselticilerinin temel olarak düzenleyici bir piston ve pistonu kontrol eden bir valften (PCV) oluştuğunu gösterir. Düzenleyici pistonun her strok sonunda piston kontrol valfinin (PCV) konumunu değiştirecek bir (S) sinyal oluşturur. Piston kontrol valfinin konum değiştirmesiyle düzenleyici piston ters yönde hareket eder. Son basınca ulaşıldığında düzenleyici piston sadece basıncı koruyarak hareket eder.

The Function
The MP-Series of hydraulic pressure intensifiers are reciprocating, and will automatically increase a supplied pressure to a higher end pressure.

Fig. 1 shows the basic principle of the intensifiers, consisting of a piston arrangement and a Piston Control Valve, PCV. The position of the pistons will at the end of every stroke prompt a signal S to the PCV, which makes this change position, ensuring the pistons are moving in the opposite direction. This cycle will continue until the end pressure has been reached. At this point the pistons stop, and will now only move to maintain the end pressure.

General Data

Material	: Cast Iron and steel (also available in stainless steel)
Surface coating	: Chromit blue finish
Fluids	: Recognised hydraulic fluids and water glycol (water and other fluids are possible)
Filtration	: 10 u nominal, maximum 19/16 according to ISO 4406



Figür 1 / Fig 1

Devir ve Genel Bakış / The Cycle and Overview

Hidrolik yön kontrol valfimizden gelen basınçlı akışkan yön kontrol valfinin A-B partlarından basınç yükselticinin P ve T hatlarına bağlanır. Hidrolik akışkan basınçlı olarak CV1, CV2 ve POV çek valfleri üzerinden HP çıkış hattına doğru yönelir ve basınç yükselticiye bağlı olan silindir hızla hareket eder.

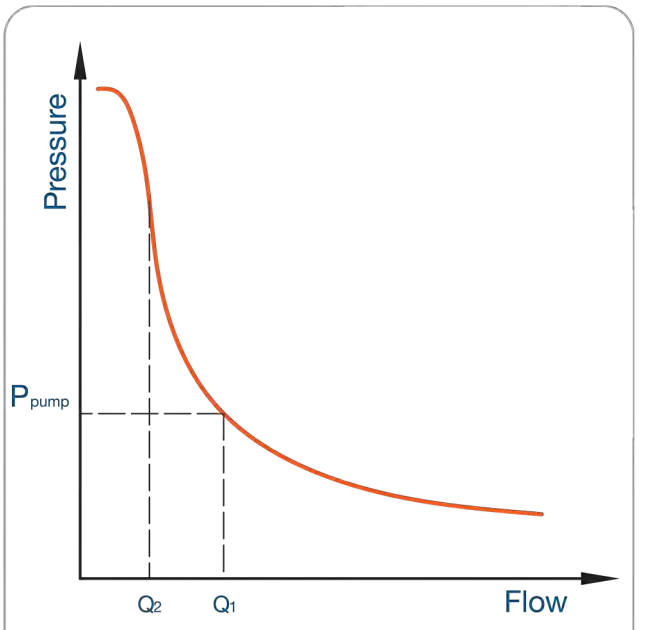
Sistem basıncı pompa basıncına ulaştığında, düzenleyici piston akışının basıncını arttırmaya başlar ve bu gerekli basınca ulaşıncaya kadar devam eder. Daha sonra düzenleyici piston basıncı sadece iç kaçakların telafi için hareket eder. Basınç yükselticiler hareketini gösteren Basınç-Akış diyagramı Figür 2'de gösterilmiştir.

Hidrolik silindirin yüksek basınç hattının tahliye için hidrolik yön kontrol valfi konum değiştirir ve basınçlı yağ POV pilotlu çekvalfe iç pilot verir ve bu hattan basınçlı yağ tanka geri döner.

The Cycle
When a hydraulic fluid is supplied to the P-connection of the intensifier and the T-connection is connected to tank, the oil will be directed through the check valves CV1 and CV2 to the high pressure connection HP. If the internal pilot operated check valve POV is incorporated the oil will go straight to the HP connection. In this situation all the flow supplied goes to the high pressure side ensuring a fast filling of the system.

When pump pressure has been reached, the intensifier pistons will deliver the flow to the high pressure side, and continue to do so until the required end pressure has been reached. The pistons then stop, and will only move to make up for a pressure loss due to leakage or consumption. A general flow-pressure curve for the intensifier is shown in Fig.2.

For evacuating the high pressure side the internal POV is used. This valve is opened by directing the supplied pressure to the T-port and connecting the P-port to tank. This allows the oil from the high pressure side to flow directly back to tank.



Figür 2 / Fig 2

Yükseltici Modeli Intensifier Model		Mounting	Maks. Giriş Debisi Max. Inlet flow (LPM / GPM)	Maks. Besleme Basıncı Max. Supply Pressure (bar / psi)	Maks. Çıkış Basıncı Max. Output pressure (bar / psi)	Detaylar Details
MP-T		in-line Hat Tipi	15 / 4.0	200 / 3,000	800 / 11,600	page 4
MP-C		cetop /NG6 Cetop/NG6	15 / 4.0	200 / 3,000	500 / 7,250	page 5
MP-F		flange on Flanslı	15 / 4.0	200 / 3,000	700 / 10,000	page 6
MP-M		in-line Flanslı	35 / 9.3	200 / 3,000	800 / 11,600	page 7
MP-L		in-line Hat Tipi	80 / 21.0	200 / 3,000	800 / 11,600	page 8
MP-2000		in-line Hat Tipi	12 / 3.0	200 / 3,000	3,000 / 43,500	page 9
MPL-1400		in-line Hat Tipi	25 / 6.5	200 / 3,000	2,400 / 20,300	page 10
MPL-2000		in-line Hat Tipi	25 / 6.5	200 / 3,000	2,800 / 40,600	page 10
MPL-4000		in-line Hat Tipi	25 / 6.5	200 / 3,000	4,000 / 60,000	page 10

MP-T Serisi Basınç Yükselticiler/ The MP-T Pressure Intensifier

- **Hat tipi basınç yükselticiler**
- **Çıkış basıncı 800 bar/11,600 psi'a kadar yükseltilir.**
- **Birden fazla yükseltme oranı kullanılabilir.**
- **Basınç arttırma anında sürekli akış sağlanır.**
- **PO çekvalf dahil bütün yüksek basınç valflerine uyumludur.**
- In-Line Pressure Intensifier
- End pressure up to 800 bar / 11,600 psi
- Multiple intensification ratios available
- Reciprocating - delivers continuous flow during pressure build up
- All high pressure valves are integrated

Oran Ratio (i)	Max. Giriş Debisi Max. Inlet flow (LPM / GPM)	Çıkış Debisi Q1 Outlet Flow Q1 (LPM / GPM)	Çıkış Debisi Q2 Outlet Flow Q2 (LPM / GPM)	Max. Besleme Basıncı Max. Supply Pressure (bar / psi)	Max. Çıkış Basıncı Max. Output Pressure (bar / psi)
1.5	8.0 / 2.1	0.8 / 0.21	0.3 / 0.08	200 / 2,900	300 / 4,350
2.0	8.0 / 2.1	0.8 / 0.21	0.2 / 0.08	200 / 2,900	400 / 5,800
3.4	15.0 / 4.0	2.2 / 0.58	0.5 / 0.13	200 / 2,900	680 / 9,860
4.0	14.0 / 3.7	1.8 / 0.47	0.4 / 0.10	200 / 2,900	800 / 11,600
5.0	14.0 / 3.7	1.4 / 0.37	0.3 / 0.08	160 / 2,320	800 / 11,600
7.0	13.0 / 3.4	1.1 / 0.29	0.2 / 0.05	114 / 1,653	800 / 11,600
9.0	13.0 / 3.4	0.7 / 0.19	0.1 / 0.03	89 / 1,290	800 / 11,600

Ağırlık: 1,3 / Weight: 1,3 kg

Sipariş Kodu / Ordering Code*

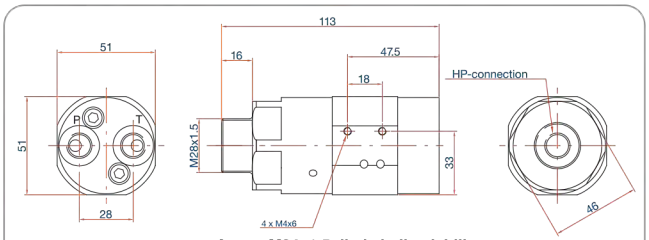
MP–T – – –

POV	
No	S
Yes	P

	Supply side	High press. side
G	G 1/4"	G 1/4
U	7/16-20 UNF	9/16-20 UNF

Yoğunlaştırma / Intensification						
1.5	2.0	3.4	4.0	5.0	7.0	9.0

Örnek / Example
MP-T with POV, intensifi cation 5.0 and BSP connections: MP-T-P-5.0-G



Ayrıca M24x1.5 dişde kullanılabilir.
Also available with M24x1.5 thread.

Ölçüler mm dir / dimensions in mm

* **İlk olarak gerekli pilotlu çekvalfe ardından yoğunlaştırma oranına son olarak da bağlantı şekline karar verilir. (BSP UNF)**

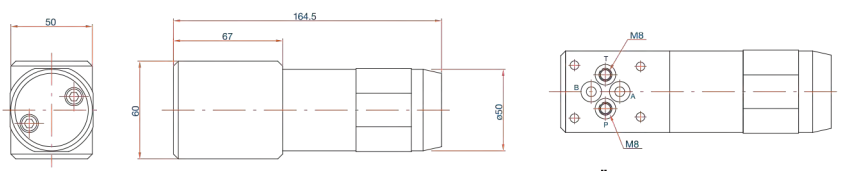
* First decide whether the pilot operated check valve, POV, is required, then decide the intensification ratio (i), and finally decide the connections (BSP or UNF).

MP-C Serisi Basınç Yükselticiler/ The MP-C Pressure Intensifier

- **Cetop DO3/NG6 basınç yükselticiler**
- **Çıkış basıncı 500 bar/7,000 psi'a kadar yükseltilir.**
- **Birden fazla yükseltme oranı kullanılabilir.**
- **Basınç arttırma anında sürekli akış sağlanır.**
- **PO çekvalf dahil olmak üzere tüm yüksek basınç valflerle uyumludur.**
- Cetop DO3/NG6 Pressure Intensifier
- End pressure up to 500 bar / 7,000 psi
- Multiple intensification ratios available
- Reciprocating - delivers continuous flow during pressure build up
- All high pressure valves are integrated including a p.o. check valve

Oran Ratio (i)	Max. Giriş Debisi Max. Inlet flow (LPM / GPM)	Çıkış Debisi Q1 Outlet Flow Q1 (LPM / GPM)	Çıkış Debisi Q2 Outlet Flow Q2 (LPM / GPM)	Max. Besleme Basıncı Max. Supply Pressure (bar / psi)	Max. Çıkış Basıncı Max. Output Pressure (bar / psi)
1.5	8.0 / 2.1	0.8 / 0.21	0.3 / 0.08	200 / 2,900	300 / 4,350
2.0	8.0 / 2.1	0.8 / 0.21	0.2 / 0.08	200 / 2,900	400 / 5,800
3.4	15.0 / 4.0	2.2 / 0.58	0.5 / 0.13	147 / 2,132	500 / 7,250
4.0	14.0 / 3.7	1.8 / 0.47	0.4 / 0.10	125 / 1,812	500 / 7,250
5.0	14.0 / 3.7	1.4 / 0.37	0.3 / 0.08	100 / 1,450	500 / 7,250
7.0	13.0 / 3.4	1.1 / 0.29	0.2 / 0.05	71 / 1,036	500 / 7,250
9.0	13.0 / 3.4	0.7 / 0.19	0.1 / 0.03	56 / 806	500 / 7,250

Ağırlık: 2,7 / Weight: 2,7 kg



Ölçüler mm dir / dimensions in mm

Sipariş Kodu / Ordering Code*

Yoğunlaştırma / Intensification						
1.5	2.0	3.4	4.0	5.0	7.0	9.0

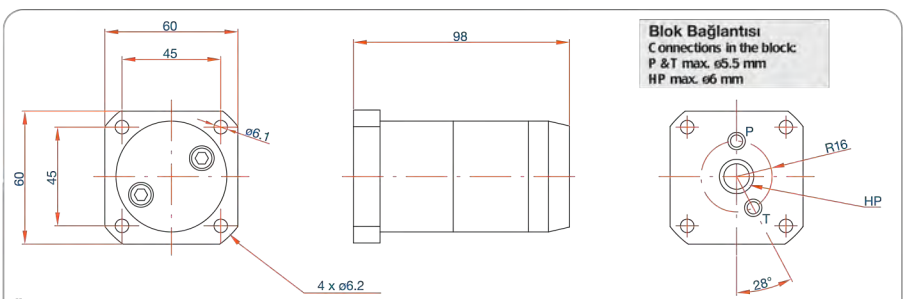
Örnek / Example
MP-C 4 oranında yoğunlaştırma ile
MP-C with intensification 4.0: MP-C-4.0

MP-F Serisi Basınç Yükselticiler/ The MP-F Pressure Intensifier

- **Flanşlı basınç yükselticiler**
- **Çıkış basıncı 700 bar/10,000 psi'a kadar yükseltilir.**
- **Birden fazla yükseltme oranı kullanılabilir.**
- **Basınç arttırma anında sürekli akış sağlanır.**
- **Bütün yüksek basınç valflerine uyumludur.**
- Flange-On Pressure Intensifier
- End pressure up to 700 bar / 10,000 psi
- Multiple intensification ratios available
- Reciprocating - delivers continuous flow during pressure build up
- All high pressure valves are integrated including a p.o. check valve

Oran Ratio (i)	Max. Giriş Debisi Max. Inlet flow (LPM / GPM)	Çıkış Debisi Q1 Outlet Flow Q1 (LPM / GPM)	Çıkış Debisi Q2 Outlet Flow Q2 (LPM / GPM)	Max. Besleme Basıncı Max. Supply Pressure (bar / psi)	Max. Çıkış Basıncı Max. Output Pressure (bar / psi)
2.0	8.0 / 2.1	0.8 / 0.21	0.2 / 0.08	200 / 2,900	400 / 5,800
3.4	15.0 / 4.0	2.2 / 0.58	0.5 / 0.13	200 / 2,900	680 / 9,860
4.0	14.0 / 3.7	1.8 / 0.47	0.4 / 0.10	175 / 2,538	700 / 10,150
5.0	14.0 / 3.7	1.4 / 0.37	0.3 / 0.08	140 / 2,030	700 / 10,150
7.0	13.0 / 3.4	1.1 / 0.29	0.2 / 0.05	100 / 1,450	700 / 10,150

Ağırlık: 1,4 / Weight: 1,4 kg



Ölçüler mm dir / dimensions in mm

Sipariş Kodu / Ordering Code*

Yoğunlaştırma / Intensification				
2.0	3.4	4.0	5.0	7.0

Örnek / Example

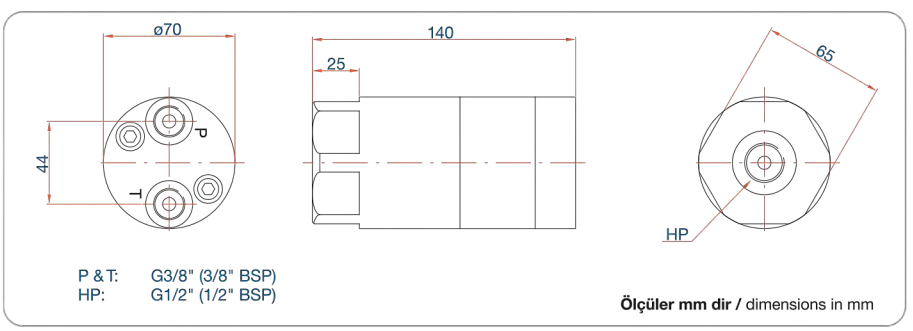
MP-F 4 oranında yoğunlaştırma ile
MP-F with intensification 3.4: MP-F -3.4

MP-M Serisi Basınç yükselticiler/ The MP-M Pressure Intensifier

- **Hat tipi basınç yükselticiler**
- **Çıkış basıncı 800 bar/11,600 psi'a kadar yükseltilir.**
- **Birden fazla yükseltme oranı kullanılabilir.**
- **Basınç arttırma anında sürekli akış sağlanır.**
- **P.O çekvalf dahil bütün yüksek basınç valfleri ile uyumludur.**
- In-Line Pressure Intensifier
- End pressure up to 800 bar / 11,600 psi
- Multiple intensification ratios available
- Reciprocating - delivers continuous flow during pressure build up
- All high pressure valves are integrated including a p.o. check valve

Oran Ratio (i)	Max. Giriş Debisi Max. Inlet flow (LPM / GPM)	Çıkış Debisi Q1 Outlet Flow Q1 (LPM / GPM)	Çıkış Debisi Q2 Outlet Flow Q2 (LPM / GPM)	Max. Besleme Basıncı Max. Supply Pressure (bar / psi)	Max. Çıkış Basıncı Max. Output Pressure (bar / psi)
1.8	25.0 / 6.6	5.0 / 1.32	1.5 / 0.39	200 / 2,900	360 / 5,220
3.4	35.0 / 9.3	5.0 / 1.32	2.8 / 0.74	200 / 2,900	680 / 9,860
4.0	35.0 / 9.3	4.0 / 1.06	2.4 / 0.63	200 / 2,900	800 / 11,600
5.0	35.0 / 9.3	3.5 / 0.93	1.9 / 0.50	160 / 2,030	800 / 11,600
7.0	35.0 / 9.3	3.0 / 0.80	1.3 / 0.34	114 / 1,450	800 / 11,600

Ağırlık: 3,5 / Weight: 3,5 kg



Ölçüler mm dir / dimensions in mm

Sipariş Kodu / Ordering Code*

Yoğunlaştırma / Intensification				
1.8	3.4	4.0	5.0	7.0

Örnek / Example

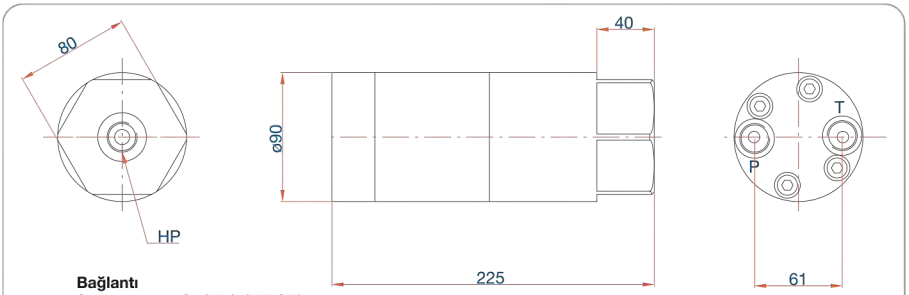
MP-M 4 oranında yoğunlaştırma ile
MP-M with intensification 7.0: MP-M-7.0

MP-L Serisi Basınç Yükselticiler/ The MP-L Pressure Intensifier

- **Hat tipi basınç yükselticiler**
- **Çıkış basıncı 800 bar/11,600 psi'a kadar yükseltilir.**
- **Birden fazla yükseltme oranı kullanılabilir.**
- **Basınç arttırma anında sürekli akış sağlanır.**
- **P.O çekvalfler dahil olmak üzere tüm yüksek basınç valfleri ile uyumludur.**
- In-Line Pressure Intensifier
- End pressure up to 800 bar / 11,600 psi
- Multiple intensification ratios available
- Reciprocating - delivers continuous flow during pressure build up
- All high pressure valves are integrated including a p.o. check valve

Oran Ratio (i)	Max. Giriş Debisi Max. Inlet flow (LPM / GPM)	Çıkış Debisi Q1 Outlet Flow Q1 (LPM / GPM)	Çıkış Debisi Q2 Outlet Flow Q2 (LPM / GPM)	Max. Besleme Basıncı Max. Supply Pressure (bar / psi)	Max. Çıkış Basıncı Max. Output Pressure (bar / psi)
2.0	50.0 / 13.22	5.0 / 1.32	2.0 / 0.52	200 / 2,900	400 / 5,800
3.4	80.0 / 21.16	17.8 / 4.71	13.0 / 3.44	200 / 2,900	680 / 9,860
4.0	80.0 / 21.16	14.7 / 3.89	11.0 / 2.91	200 / 2,900	800 / 11,600
5.0	80.0 / 21.16	11.6 / 3.06	8.0 / 2.33	160 / 2,320	800 / 11,600
7.0	80.0 / 21.16	8.4 / 2.22	6.3 / 1.67	114 / 1,653	800 / 11,600

Ağırlık: 9,0 / Weight: 9,0 kg



Bağlantı
Connections: G1/2" (1/2"BSP)

Ölçüler mm dir / dimensions in mm

Sipariş Kodu / Ordering Code*

Yoğunlaştırma / Intensification				
2.0	3.4	4.0	5.0	7.0

Örnek / Example

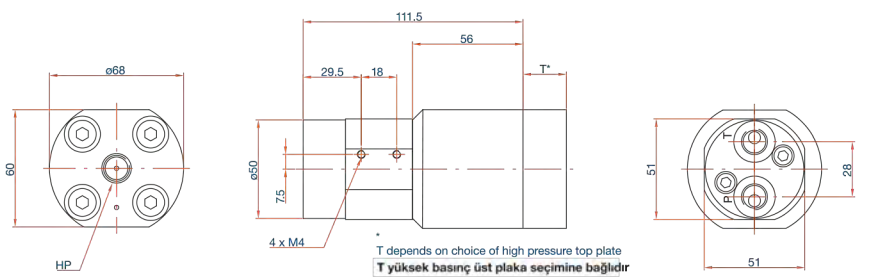
MP-L 4 oranında yoğunlaştırma ile
MP-L with intensification 4.0: MP-L-4.0

MP-2000 Serisi Basınç Yükselticiler/ The MP-2000 Pressure Intensifier

- **Hat tipi basınç yükselticiler**
- **Çıkış basıncı 2,000 bar/29,000 psi'a kadar yükseltilir. (mümkün olan en yüksek basınçlar)**
- **Birden fazla yükseltme oranı kullanılabilir.**
- **Basınç arttırma anında sürekli akış sağlanır.**
- **Tüm yüksek basınç valflerine entegre edilmiştir, hepsi ile kullanılabilir.**
- In-Line Pressure Intensifier
- End pressure up to (2,000) bar / 29,000 psi
(higher pressures possible)
- Multiple intensification ratios available
- Reciprocating - delivers continuous flow during pressure build up
- All high pressure valves are integrated

Oran Ratio (i)	Max. Giriş Debisi Max. Inlet flow (LPM / GPM)	Çıkış Debisi Q1 Outlet Flow Q1 (LPM / GPM)	Çıkış Debisi Q2 Outlet Flow Q2 (LPM / GPM)	Max. Besleme Basıncı Max. Supply Pressure (bar / psi)	Max. Çıkış Basıncı Max. Output Pressure (bar / psi)
7.0	13.0 / 3.40	1.1 / 0.29	0.2 / 0.05	200 / 2,900	1,400 / 20,300
10.0	12.0 / 3.17	0.7 / 0.18	0.2 / 0.05	200 / 2,900	2,000 / 29,000
13.0	10.0 / 2.64	0.5 / 0.13	0.1 / 0.02	154 / 2,233	2,000 / 29,000
16.0	10.0 / 2.64	0.4 / 0.10	0.1 / 0.02	125 / 1,812	2,000 / 29,000

Ağırlık: 2,7 / Weight: 2,7 kg



Ölçüler mm dir / dimensions in mm

Sipariş Kodu / Ordering Code*

MP-2000 – –

POV	
Yes	S
No	P

Yoğunlaştırma / Intensification			
7.0	10.0	13.0	16.0

Örnek / Example

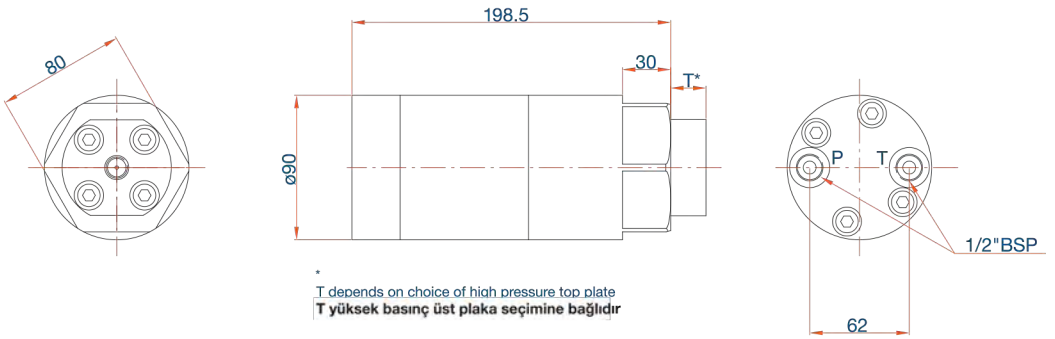
MP-2000 with the POV integrated and intensification 10.0: MP-2000-P-10.0

1400 / 4000 MP-2000 Serisi Basınç Yükselticiler/ The MPL-2000 Pressure Intensifier 1400 / 4000

- **Hat tipi basınç yükselticiler**
- **Çıkış basıncı 1000'den 4000 bara/14,500 psi'den 58,000 psi'a kadar yükseltilir.**
- **Basınç arttırma anında sürekli akış sağlanır.**
- **Tüm yüksek basınç valflerine entegre edilmiştir, hepsi ile kullanılabilir.**
- In-Line Pressure Intensifier
- End pressures from 1000 to 4000bar / 14,500 to 58,000 psi
- Reciprocating - delivers continuous flow during pressure build up
- All high pressure valves are integrated

Oran Ratio (i)	Max. Giriş Debisi Max. Inlet flow (LPM / GPM)	Çıkış Debisi Q1 Outlet Flow Q1 (LPM / GPM)	Çıkış Debisi Q2 Outlet Flow Q2 (LPM / GPM)	Max. Besleme Basıncı Max. Supply Pressure (bar / psi)	Max. Çıkış Basıncı Max. Output Pressure (bar / psi)
MPL-1400:					
7.0:1	50.0 / 13.1	8.0 / 2.1	5.9 / 1.5	200 / 3,000	1,400 / 20,300
MPL-2000:					
14.0:1	30.0 / 7.8	5.0 / 1.3	2.9 / 0.8	200 / 3,000	2,800 / 40,600
MPL-4000:					
20.0:1	30.0 / 7.8	4.0 / 1.0	2.0 / 0.5	200 / 3,000	4,000 / 58,000

Ağırlık: 9,0 / Weight: 9,0 kg



* T depends on choice of high pressure top plate
T yüksek basınç üst plaka seçimine bağlıdır

Ölçüler mm dir / dimensions in mm

Özellikler / Specials

MP-T serisi hidrolik basınç yükselticileri özel uygulamalar ve müşteri talepleri karşılamak için ideal ürünlerdir.

Özel müşteri uygulamaları için iki uygulama aşağıda verilmiştir.

MP-T-R Basınç Yükselticiler

MP-T serileri basınç 30 bardan 210 bara yükseltilirken 1500 devir döner uygulamalar kullanılabilir.

MPM-F Basınç Yükselticiler

The MP-T series of hydraulic pressure intensifiers is ideal for making specials, to meet the market demands.

Below are two examples on specials made for customers.

The MP-T-R pressure intensifier

is based on the MP-T series, but modified to be inserted in a rotating application, where it rotates at 1,500 rpm, while intensifying a supplied pressure of 30 Bar to 210 Bar.

The MPM-F pressure intensifier is a made to meet the space requirements of a customer for hydraulic tongs in the off shore industry

Aksesuarlar / Accessories

M-Kit / M-Kit

M-Kit yükselticiyi yere bağlamak için kullanılan iki braketten oluşur.

The M-Kit consists of two mounting brackets, used to fasten the intensifier to a base plate.

Bağlantı Kiti / Connection Kit

Bağlantı kitleri yükselticilerin doğrudan bloklara bağlanmasını sağlarlar.
Bu sayede bağlantı için borulara ihtiyaç ortadan kaldırırlar.

Connection Kits are available for mounting the intensifiers directly to a hydraulic block, The P and T connection is then supplied directly through the Connection Kit, eliminating the need for tubing.

M-Somun / M-Nut

M-Somun M28x1.5 ölçüsünde yükselticinin avantajı için kullanılan bir somundur.

The M-Nut is a M28 x 1.5 Nut used for mounting the MP-T pressure intensifier.

Cetop DO3 / NG6 Üst Plaka / Cetop DO3 / NG6 top plate

Cetop DO3 / NG6 üst plaka MP-C basınç yükselticilerinin üstünü örtme amacı ile kullanılır.

The Cetop DO3 / NG6 top plate is for closing the top of the MP-C pressure intensifier.

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Sang-A

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