MOTOREN

&

MENGENTEILER

HYMATEC GMBH
HYDRAULIK MASCHINEN TECHNIK

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Zahnradmotoren

– Serie XV –

Baugröße 1

Bestellnr.	Typ	Code
D = rechtsdrehend		
016-010-01000	XV1U/0,9D	X1U1602FIIA
016-010-01100	XV1U/1,2D	X1U1702FIIA
016-010-01200	XV1U/1,7D	X1U1802FIIA
016-010-01300	XV1U/2,2D	X1U2002FIIA
016-010-01400	XV1U/2,6D	X1U2102FIIA
016-010-01500	XV1U/3,2D	X1U2302FIIA
016-010-01600	XV1U/3,8D	X1U2502FIIA
016-010-01700	XV1U/4,3D	X1U2702FIIA
016-010-01800	XV1U/4,9D	X1U2902FIIA
016-010-01900	XV1U/5,9D	X1U3102FIIA
016-010-02000	XV1U/6,5D	X1U3202FIIA
016-010-02100	XV1U/7,8D	X1U3402FIIA
016-010-02200	XV1U/9,8D	X1U3602FIIA
S = linksdrehend		
016-010-01050	XV1U/0,9S	X1U1601FIIA
016-010-01150	XV1U/1,2S	X1U1701FIIA
016-010-01250	XV1U/1,7S	X1U1801FIIA
016-010-01350	XV1U/2,2S	X1U2001FIIA
016-010-01450	XV1U/2,6S	X1U2101FIIA
016-010-01550	XV1U/3,2S	X1U2301FIIA
016-010-01650	XV1U/3,8S	X1U2501FIIA
016-010-01750	XV1U/4,3S	X1U2701FIIA
016-010-01850	XV1U/4,9S	X1U2901FIIA
016-010-01950	XV1U/5,9S	X1U3101FIIA
016-010-02050	XV1U/6,5S	X1U3201FIIA
016-010-02150	XV1U/7,8S	X1U3401FIIA
016-010-02250	XV1U/9,8S	X1U3601FIIA

Europäischer Standard-4-Loch-Flansch -Bohrungsabstand = 71,9 x 52,4 mm / Rezess = Ø 25,4 mm / Welle -CO.001 1:8 -d = Ø 10 mm -M 7x1 -Passfeder = 2,4 mm / max. zulässiges Wellendrehmoment = 43 Nm / Ölanschlüsse = Flansch Ø 30 mm seitlich

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HYMATEC GMBH
HYDRAULIK MASCHINEN TECHNIK

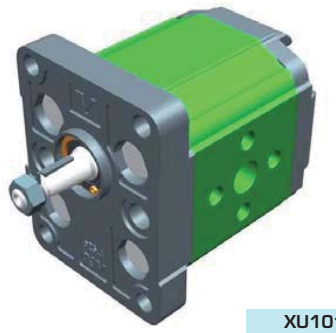
In eine Richtung drehender Motor - Serie XV

EUROPÄISCHE STANDARDMOTOR FLANSCH ø25.4 - KEGELWELLE

XV-1U

X	1	U	25	02	F	I	I	A

Serie		X	Serie XV
Gruppe		1	Gruppe 1
Kategorie		U	In eine Richtung drehender Motor
Hubraum		25	3.8
Flansch		02	Ø25.4 EUROPÄISCHER STANDARD Drehrichtung rechts
Welle		F	CO001 - Konisch 1:8 - ø10 - M7x1 - Scheibenfeder Dicke 2.4
Gehäuse	IN	I	Ansaugung - Ø30 Ø12 M6
	OUT	I	Druckseite - Ø30 Ø12 M6
Deckel		A	Standard



XU101

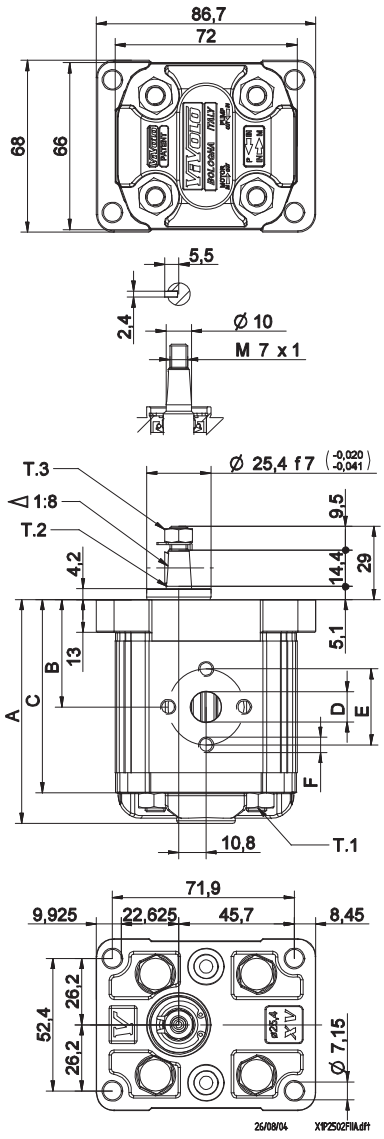
Technische Datentabelle

TYP	Hubraum	Maximaldruck	CODE	
	cm3/u	P1 bar	P3 bar	Drehung links	Drehung rechts
XV-1U/0.9	0,91	240	280	X 1 U 16 01 F I I A	X 1 U 16 02 F I I A
XV-1U/1.2	1,17	250	290	X 1 U 17 01 F I I A	X 1 U 17 02 F I I A
XV-1U/1.7	1,56	250	290	X 1 U 18 01 F I I A	X 1 U 18 02 F I I A
XV-1U/2.2	2,08	250	290	X 1 U 20 01 F I I A	X 1 U 20 02 F I I A
XV-1U/2.6	2,60	250	300	X 1 U 21 01 F I I A	X 1 U 21 02 F I I A
XV-1U/3.2	3,12	250	300	X 1 U 23 01 F I I A	X 1 U 23 02 F I I A
XV-1U/3.8	3,64	250	300	X 1 U 25 01 F I I A	X 1 U 25 02 F I I A
XV-1U/4.3	4,16	250	300	X 1 U 27 01 F I I A	X 1 U 27 02 F I I A
XV-1U/4.9	4,94	250	300	X 1 U 29 01 F I I A	X 1 U 29 02 F I I A
XV-1U/5.9	5,85	250	300	X 1 U 31 01 F I I A	X 1 U 31 02 F I I A
XV-1U/6.5	6,50	250	300	X 1 U 32 01 F I I A	X 1 U 32 02 F I I A
XV-1U/7.8	7,54	220	260	X 1 U 34 01 F I I A	X 1 U 34 02 F I I A
XV-1U/9.8	9,88	190	230	X 1 U 36 01 F I I A	X 1 U 36 02 F I I A

P1) Max. Betriebsdruck - P3) Max. Druckspitze
Für schwere Anwendungen empfiehlt sich eine Prüfung des zulässigen Wellendrehmoments

Dimensionstabelle

TYP	Gewicht	A	B	C	D	E	F	D	E	F
	kg	mm	mm	mm	IN			OUT		
XV-1U/0.9	0,950	78,1	37,3	66,1	ø12	30	M6x1	ø12	30	M6x1
XV-1U/1.2	0,970	79,0	37,8	67,0	ø12	30	M6x1	ø12	30	M6x1
XV-1U/1.7	1,010	80,5	38,5	68,5	ø12	30	M6x1	ø12	30	M6x1
XV-1U/2.2	1,030	82,5	39,5	70,5	ø12	30	M6x1	ø12	30	M6x1
XV-1U/2.6	1,060	84,5	40,5	72,5	ø12	30	M6x1	ø12	30	M6x1
XV-1U/3.2	1,090	86,5	41,5	74,5	ø12	30	M6x1	ø12	30	M6x1
XV-1U/3.8	1,120	88,5	42,5	76,5	ø12	30	M6x1	ø12	30	M6x1
XV-1U/4.3	1,170	90,5	43,5	78,5	ø12	30	M6x1	ø12	30	M6x1
XV-1U/4.9	1,200	93,5	45,0	81,5	ø12	30	M6x1	ø12	30	M6x1
XV-1U/5.9	1,260	97,0	46,8	85,0	ø12	30	M6x1	ø12	30	M6x1
XV-1U/6.5	1,300	98,5	48,0	86,5	ø12	30	M6x1	ø12	30	M6x1
XV-1U/7.8	1,360	103,5	50,0	91,5	ø12	30	M6x1	ø12	30	M6x1
XV-1U/9.8	1,500	112,5	54,5	100,5	ø12	30	M6x1	ø12	30	M6x1



T.1 = 24.5÷29.4 [Nm] - Anzugsmoment - Schrauben M8 T.3 = 11.5 [Nm] - Anzugsmoment - Schlüssel 11
T.2 = 43 [Nm] - zulässiges Wellendrehmoment (N.B. Zur Auswahl der Welle stets das zulässige Drehmoment prüfen).

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HYDRAULIK MASCHINEN TECHNIK

Tabelle der Varianten

FLANSCH ø25.4

XV-1U

FLANSCH ø25.4

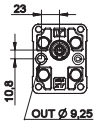
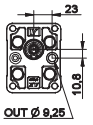
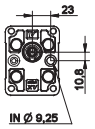
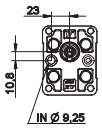
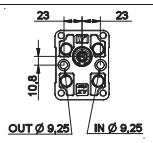
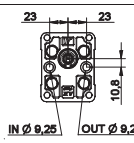
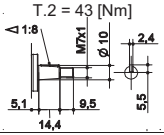
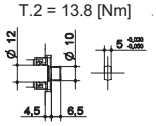
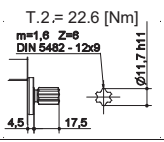
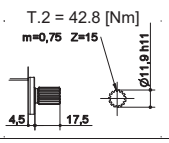
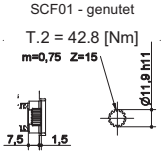
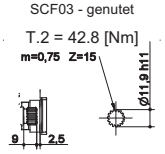
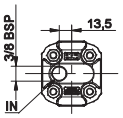
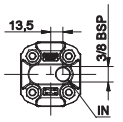
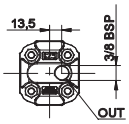
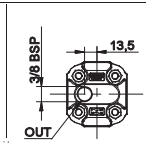
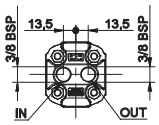
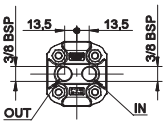
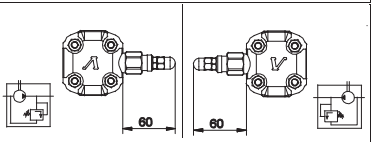
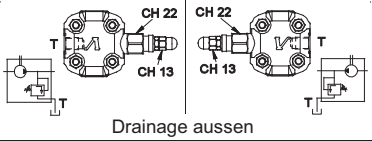
Drehung links		Drehung rechts	
	01		02
	03		04
	05		06
	07		08

Tabelle der Varianten

CO001 - Konisch T.2 = 43 [Nm] 	F	002 - mit gefrästem Endstü T.2 = 13.8 [Nm] 	D
SCF04 - genutet T.2 = 22.6 [Nm] 	J	SCF02 - genutet T.2 = 42.8 [Nm] 	L
SCF01 - genutet T.2 = 42.8 [Nm] 	Q	SCF03 - genutet T.2 = 42.8 [Nm] 	R

Deckel

Drehung links	Drehung rechts	
		A
		B
		C
		D
 Drainage innen		N
 Drainage aussen		O

Hubraum

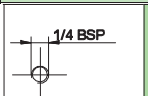
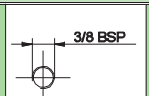
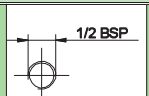
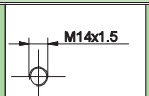
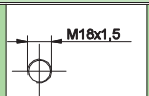
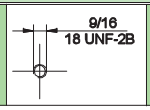
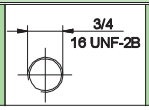
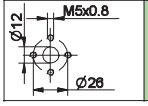
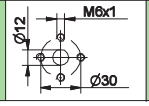
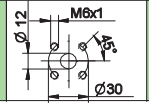
TYP	CODE
XV-1U/0.9	16
XV-1U/1.2	17
XV-1U/1.7	18
XV-1U/2.2	20
XV-1U/2.6	21
XV-1U/3.2	23
XV-1U/3.8	25
XV-1U/4.3	27
XV-1U/4.9	29
XV-1U/5.9	31
XV-1U/6.5	32
XV-1U/7.8	34
XV-1U/9.8	36

Gehäuse Standard

Hubraum cm3/u	Standardgewinde					
0.9	I - I	B - B	J - J	B - Z	Z - Z	G - F
1.2	I - I	B - B	J - J	B - Z	Z - Z	G - F
1.7	I - I	B - B	J - J	B - Z	Z - Z	G - F
2.2	I - I	B - B	J - J	B - Z	Z - Z	G - F
2.6	I - I	B - B	J - J	B - Z	Z - Z	G - F
3.2	I - I	B - B	J - J	B - Z	Z - Z	G - F
3.8	I - I	B - B	J - J	B - Z	Z - Z	G - F
4.3	I - I	B - B	J - J	B - Z	Z - Z	G - F
4.9	I - I	B - B	J - J	B - Z	Z - Z	G - F
5.9	I - I	B - B	J - J	B - Z	Z - Z	G - F
6.5	I - I	B - B	J - J	B - Z	Z - Z	G - F
7.8	I - I	B - B	J - J	B - Z	Z - Z	G - F
9.8	I - I	B - B	J - J	B - Z	Z - Z	G - F

Kombinationstabelle der lagermässig vorrätigen Standardgewinde und Anflanschungen

Gehäuse (Gewinde und Anflanschungen)

	A		B		C		D		E		F		G
	H		I		J	Gehäuse Geschlossen	Z						

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Zahnradmotoren

– Serie XV –

Baugröße 1

Bestellnr.	Typ	Code
	D = rechtsdrehend	
016-030-01000	XV1U/0,9D-Ø30-C0.002	X1U1612GIIA
016-030-01100	XV1U/1,2D-Ø30-C0.002	X1U1712GIIA
016-030-01200	XV1U/1,7D-Ø30-C0.002	X1U1812GIIA
016-030-01300	XV1U/2,2D-Ø30-C0.002	X1U2012GIIA
016-030-01400	XV1U/2,6D-Ø30-C0.002	X1U2112GIIA
016-030-01500	XV1U/3,2D-Ø30-C0.002	X1U2312GIIA
016-030-01600	XV1U/3,8D-Ø30-C0.002	X1U2512GIIA
016-030-01700	XV1U/4,3D-Ø30-C0.002	X1U2712GIIA
016-030-01800	XV1U/4,9D-Ø30-C0.002	X1U2912GIIA
016-030-01900	XV1U/5,9D-Ø30-C0.002	X1U3112GIIA
016-030-02000	XV1U/6,5D-Ø30-C0.002	X1U3212GIIA
016-030-02100	XV1U/7,8D-Ø30-C0.002	X1U3412GIIA
016-030-02200	XV1U/9,8D-Ø30-C0.002	X1U3612GIIA
	S = linksdrehend	
016-030-01050	XV1U/0,9S-Ø30-C0.002	X1U1611GIIA
016-030-01150	XV1U/1,2S-Ø30-C0.002	X1U1711GIIA
016-030-01250	XV1U/1,7S-Ø30-C0.002	X1U1811GIIA
016-030-01350	XV1U/2,2S-Ø30-C0.002	X1U2011GIIA
016-030-01450	XV1U/2,6S-Ø30-C0.002	X1U2111GIIA
016-030-01550	XV1U/3,2S-Ø30-C0.002	X1U2311GIIA
016-030-01650	XV1U/3,8S-Ø30-C0.002	X1U2511GIIA
016-030-01750	XV1U/4,3S-Ø30-C0.002	X1U2711GIIA
016-030-01850	XV1U/4,9S-Ø30-C0.002	X1U2911GIIA
016-030-01950	XV1U/5,9S-Ø30-C0.002	X1U3111GIIA
016-030-02050	XV1U/6,5S-Ø30-C0.002	X1U3211GIIA
016-030-02150	XV1U/7,8S-Ø30-C0.002	X1U3411GIIA
016-030-02250	XV1U/9,8S-Ø30-C0.002	X1U3611GIIA

4-Loch-Flansch -Bohrungsabstand = 73 x 56 mm / Rezess = Ø 30 mm / Welle -CO.002 1:8 -d = Ø 14 mm
-M 10x1 -Passfeder = 3,0 mm / max. zulässiges Wellendrehmoment = 119,8 Nm / Ölanschlüsse = IG 3/8 seitlich

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HYMATEC GMBH
HYDRAULIK MASCHINEN TECHNIK

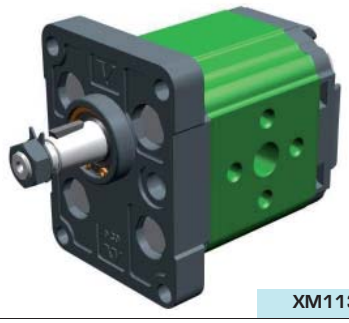
Umkehrmotor - Serie XV

STANDARDMOTOR
FLANSCH ø30 - KEGELWELLE

XV-1M

X	1	M	25	07	G	I	I	E

Serie		X	Serie XV
Gruppe		1	Gruppe 1
Kategorie		M	Umkehrmotor
Hubraum		25	3.8
Flansch		07	Ø30 STANDARD Drehrichtung umkehrbar
Welle		G	CO002 - Konisch 1:8 - ø14 - M10x1- Scheibenfeder Dicke 3
Gehäuse	IN	I	Ansaugung - Ø30 Ø12 M6
	OUT	I	Druckseite - Ø30 Ø12 M6
Deckel		E	Mit Drainage 1/4" BSP



XM113

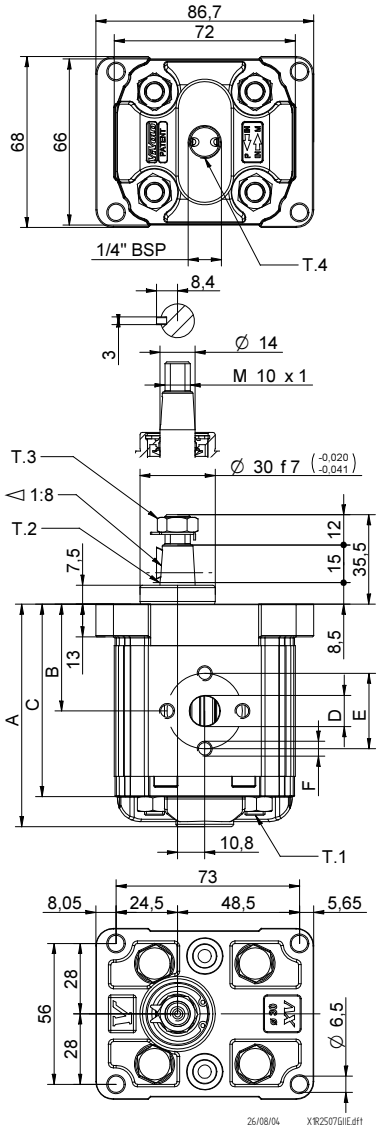
Technische Datentabelle

TYP	Hubraum	Maximaldruck		CODE	
	cm3/u	P1 bar	P3 bar	Drainage aussen	Drainage innen
XV-1M/0.9	0,91	240	280	X 1 M 16 07 G I I E	X 1 M 16 07 G I I F
XV-1M/1.2	1,17	250	290	X 1 M 17 07 G I I E	X 1 M 17 07 G I I F
XV-1M/1.7	1,56	250	290	X 1 M 18 07 G I I E	X 1 M 18 07 G I I F
XV-1M/2.2	2,08	250	290	X 1 M 20 07 G I I E	X 1 M 20 07 G I I F
XV-1M/2.6	2,60	250	300	X 1 M 21 07 G I I E	X 1 M 21 07 G I I F
XV-1M/3.2	3,12	250	300	X 1 M 23 07 G I I E	X 1 M 23 07 G I I F
XV-1M/3.8	3,64	250	300	X 1 M 25 07 G I I E	X 1 M 25 07 G I I F
XV-1M/4.3	4,16	250	300	X 1 M 27 07 G I I E	X 1 M 27 07 G I I F
XV-1M/4.9	4,94	250	300	X 1 M 29 07 G I I E	X 1 M 29 07 G I I F
XV-1M/5.9	5,85	250	300	X 1 M 31 07 G I I E	X 1 M 31 07 G I I F
XV-1M/6.5	6,50	250	300	X 1 M 32 07 G I I E	X 1 M 32 07 G I I F
XV-1M/7.8	7,54	220	260	X 1 M 34 07 G I I E	X 1 M 34 07 G I I F
XV-1M/9.8	9,88	190	230	X 1 M 36 07 G I I E	X 1 M 36 07 G I I F

P1) Max. Betriebsdruck - P3) Max. Druckspitze
Für schwere Anwendungen empfiehlt sich eine Prüfung des zulässigen Wellendrehmoments

Dimensionstabelle

TYP	Gewicht	A	B	C	D	E	F	D	E	F
	kg	mm	mm	mm	IN			OUT		
XV-1M/0.9	0,950	78,1	37,3	66,1	ø12	30	M6x1	ø12	30	M6x1
XV-1M/1.2	0,970	79,0	37,8	67,0	ø12	30	M6x1	ø12	30	M6x1
XV-1M/1.7	1,010	80,5	38,5	68,5	ø12	30	M6x1	ø12	30	M6x1
XV-1M/2.2	1,030	82,5	39,5	70,5	ø12	30	M6x1	ø12	30	M6x1
XV-1M/2.6	1,060	84,5	40,5	72,5	ø12	30	M6x1	ø12	30	M6x1
XV-1M/3.2	1,090	86,5	41,5	74,5	ø12	30	M6x1	ø12	30	M6x1
XV-1M/3.8	1,120	88,5	42,5	76,5	ø12	30	M6x1	ø12	30	M6x1
XV-1M/4.3	1,170	90,5	43,5	78,5	ø12	30	M6x1	ø12	30	M6x1
XV-1M/4.9	1,200	93,5	45,0	81,5	ø12	30	M6x1	ø12	30	M6x1
XV-1M/5.9	1,260	97,0	46,8	85,0	ø12	30	M6x1	ø12	30	M6x1
XV-1M/6.5	1,300	98,5	48,0	86,5	ø12	30	M6x1	ø12	30	M6x1
XV-1M/7.8	1,360	103,5	50,0	91,5	ø12	30	M6x1	ø12	30	M6x1
XV-1M/9.8	1,500	112,5	54,5	100,5	ø12	30	M6x1	ø12	30	M6x1



T.1 = 24.5÷29.4 [Nm] - Anzugsmoment - Schrauben M8 T.3 = 13 [Nm] - Anzugsmoment - Schlüssel 17
T.2 = 119.8 [Nm] - zulässiges Wellendrehmoment (N.B. Zur Auswahl der Welle stets das zulässige Drehmoment prüfen).
T.4 = 0.3÷0,5 bar - Drainage Maximaldruck

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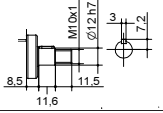
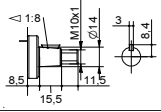
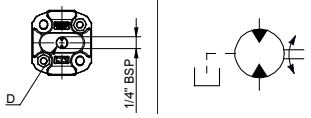
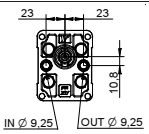
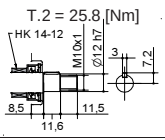
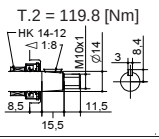
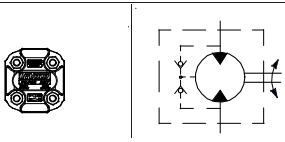
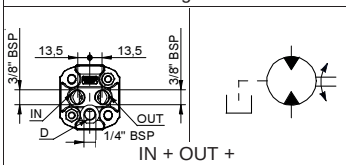
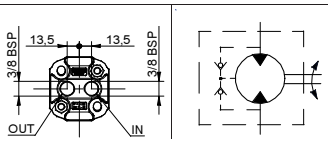
Tabelle der Varianten

FLANSCH ø30

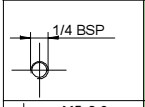
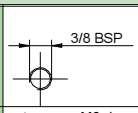
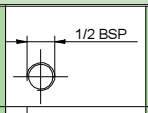
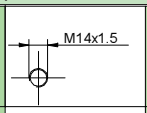
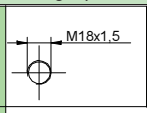
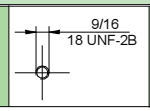
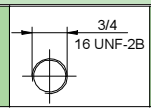
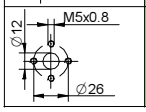
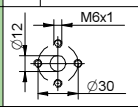
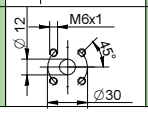
XV-1M

FLANSCH ø30		Welle				Deckel	
	07	CI001 - Zylindrisch T.2 = 25.8 [Nm] 	A	CO002 - Konisch T.2 = 119.8 [Nm] 	G	 Drainage aussen	E
	10	CI001+HK - Zylindrisch T.2 = 25.8 [Nm] 	P	CO002+HK - Konisch T.2 = 119.8 [Nm] 	O	 Drainage innen	F
						 IN + OUT +	K
						 IN + OUT +	L

Hubraum	
TYP	CODE
XV-1M/0.9	16
XV-1M/1.2	17
XV-1M/1.7	18
XV-1M/2.2	20
XV-1M/2.6	21
XV-1M/3.2	23
XV-1M/3.8	25
XV-1M/4.3	27
XV-1M/4.9	29
XV-1M/5.9	31
XV-1M/6.5	32
XV-1M/7.8	34
XV-1M/9.8	36

Gehäuse Standard				
Hubraum cm3/u	Standardgewinde			
0.9	I - I	B - B	J - J	Z - Z
1.2	I - I	B - B	J - J	Z - Z
1.7	I - I	B - B	J - J	Z - Z
2.2	I - I	B - B	J - J	Z - Z
2.6	I - I	B - B	J - J	Z - Z
3.2	I - I	B - B	J - J	Z - Z
3.8	I - I	B - B	J - J	Z - Z
4.3	I - I	B - B	J - J	Z - Z
4.9	I - I	B - B	J - J	Z - Z
5.9	I - I	B - B	J - J	Z - Z
6.5	I - I	B - B	J - J	Z - Z
7.8	I - I	B - B	J - J	Z - Z
9.8	I - I	B - B	J - J	Z - Z

Kombinationstabelle der lagermässig vorrätigen Standardgewinde und Anflanschungen

Gehäuse (Gewinde und Anflanschungen)														
 1/4 BSP	A	 3/8 BSP	B	 1/2 BSP	C	 M14x1.5	D	 M18x1,5	E	 9/16 18 UNF-2B	F	 3/4 16 UNF-2B	G
 M5x0.8 Ø12 Ø26	H	 M6x1 Ø12 Ø30	I	 M6x1 Ø12 15° Ø30	J	Gehäuse Geschlossen	Z							

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Zahnradmotoren

– Serie XV –

Baugröße 2

Bestellnr.	Typ	Code
D = rechtsdrehend		
016-050-01900	XV2U/4D	X2U4102EOOA
016-050-02000	XV2U/6D	X2U4302EOOA
016-050-02100	XV2U/9D	X2U4502EOOA
016-050-01000	XV2U/11D	X2U4702EOOA
016-050-01100	XV2U/14D	X2U4902EPOA
016-050-01200	XV2U/17D	X2U5102EPOA
016-050-01300	XV2U/19D	X2U5302EPOA
016-050-01400	XV2U/22D	X2U5502EPOA
016-050-01500	XV2U/26D	X2U5702EQPA
016-050-01600	XV2U/30D	X2U5902EQPA
016-050-01700	XV2U/34D	X2U6102EQPA
016-050-01800	XV2U/40D	X2U6302EQPA
S = linksdrehend		
016-050-01950	XV2U/4S	X2U4101EOOA
016-050-02050	XV2U/6S	X2U4301EOOA
016-050-02150	XV2U/9S	X2U4501EOOA
016-050-01050	XV2U/11S	X2U4701EOOA
016-050-01150	XV2U/14S	X2U4901EPOA
016-050-01250	XV2U/17S	X2U5101EPOA
016-050-01350	XV2U/19S	X2U5301EPOA
016-050-01450	XV2U/22S	X2U5501EPOA
016-050-01550	XV2U/26S	X2U5701EQPA
016-050-01650	XV2U/30S	X2U5901EQPA
016-050-01750	XV2U/34S	X2U6101EQPA
016-050-01850	XV2U/40S	X2U6301EQPA

Europäischer Standard-4-Loch-Flansch -Bohrungsabstand = 96,2 x 71,5 mm / Rezess = Ø 36,5 mm / Welle -CO.001 1:8 -d = Ø 17,4 mm -M 12x1,5 -Passfeder = 4,0 mm / max. zulässiges Wellendrehmoment = 233,2 Nm / Ölanschlüsse = Flansch LK 30/40 seitlich

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HYMATEC GMBH
HYDRAULIK MASCHINEN TECHNIK

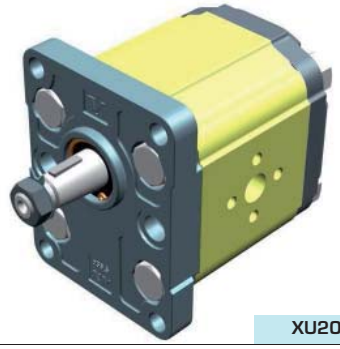
In eine Richtung drehender Motor - Serie XV

EUROPÄISCHE STANDARDMOTOR FLANSCH ø36.5 - KEGELWELLE

XV-2U

X	2	U	51	02	E	P	O	A

Serie		X	Serie XV
Gruppe		2	Gruppe 2
Kategorie		U	In eine Richtung drehender Motor
Hubraum		51	17
Flansch		02	Ø36,5 EUROPÄISCHER STANDARD Drehrichtung rechts
Welle		E	CO001 - Konisch 1:8 - ø17.4 - M12x1.5 - Scheibenfeder Dicke 4
Gehäuse	IN	P	Ansaugung - Ø40 Ø20 M8
	OUT	O	Druckseite - Ø30 Ø13.5 M6
Deckel		A	Standard



XU201

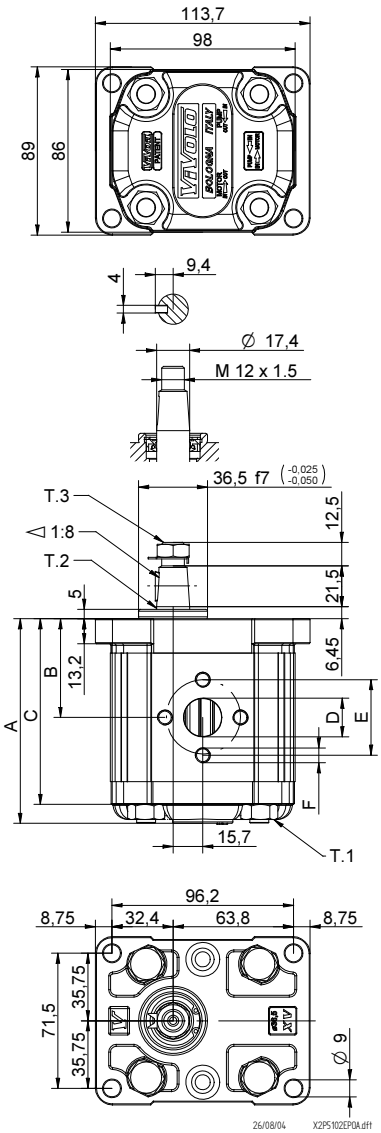
Technische Datentabelle

TYP	Hubraum	Maximaldruck	CODE	
	cm3/u	P1 bar	P3 bar	Drehung links	Drehung rechts
XV-2U/04	4,20	260	300	X 2 U 41 01 E O O A	X 2 U 41 02 E O O A
XV-2U/06	6,00	260	300	X 2 U 43 01 E O O A	X 2 U 43 02 E O O A
XV-2U/09	8,40	260	300	X 2 U 45 01 E O O A	X 2 U 45 02 E O O A
XV-2U/11	10,80	260	300	X 2 U 47 01 E O O A	X 2 U 47 02 E O O A
XV-2U/14	14,40	250	290	X 2 U 49 01 E P O A	X 2 U 49 02 E P O A
XV-2U/17	16,80	230	270	X 2 U 51 01 E P O A	X 2 U 51 02 E P O A
XV-2U/19	19,20	210	250	X 2 U 53 01 E P O A	X 2 U 53 02 E P O A
XV-2U/22	22,80	200	240	X 2 U 55 01 E P O A	X 2 U 55 02 E P O A
XV-2U/26	26,20	170	210	X 2 U 57 01 E Q P A	X 2 U 57 02 E Q P A
XV-2U/30	30,00	160	200	X 2 U 59 01 E Q P A	X 2 U 59 02 E Q P A
XV-2U/34	34,20	150	190	X 2 U 61 01 E Q P A	X 2 U 61 02 E Q P A
XV-2U/40	39,60	140	180	X 2 U 63 01 E Q P A	X 2 U 63 02 E Q P A

P1) Max. Betriebsdruck - P3) Max. Druckspitze
Für schwere Anwendungen empfiehlt sich eine Prüfung des zulässigen Wellendrehmoments

Dimensionstabelle

TYP	Gewicht	A	B	C	D	E	F	D	E	F
	kg	mm	mm	mm	IN			OUT		
XV-2U/04	2,200	87,2	41,7	77,2	ø13,5	30	M6x1	ø13,5	30	M6x1
XV-2U/06	2,300	90,2	43,2	80,2	ø13,5	30	M6x1	ø13,5	30	M6x1
XV-2U/09	2,400	94,2	45,2	84,2	ø13,5	30	M6x1	ø13,5	30	M6x1
XV-2U/11	2,500	98,2	47,2	88,2	ø13,5	30	M6x1	ø13,5	30	M6x1
XV-2U/14	2,700	104,2	50,2	94,2	ø13,5	30	M6x1	ø20	40	M8X1,25
XV-2U/17	2,800	108,2	52,2	98,2	ø13,5	30	M6x1	ø20	40	M8X1,25
XV-2U/19	2,900	112,2	54,2	102,2	ø13,5	30	M6x1	ø20	40	M8X1,25
XV-2U/22	3,050	118,2	57,2	108,2	ø13,5	30	M6x1	ø20	40	M8X1,25
XV-2U/26	3,150	122,2	59,2	112,2	ø20	40	M8X1,25	ø23,5	40	M8X1,25
XV-2U/30	3,400	130,2	63,2	120,2	ø20	40	M8X1,25	ø23,5	40	M8X1,25
XV-2U/34	3,600	137,2	66,7	127,2	ø20	40	M8X1,25	ø23,5	40	M8X1,25
XV-2U/40	3,800	146,2	71,2	136,2	ø20	40	M8X1,25	ø23,5	40	M8X1,25



T.1 = 54÷58.9 [Nm] - Anzugsmoment - Schrauben M10 T.3 = 40 [Nm] - Anzugsmoment - Schlüssel 19
T.2 = 233.2 [Nm] - zulässiges Wellendrehmoment (N.B. Zur Auswahl der Welle stets das zulässige Drehmoment prüfen).

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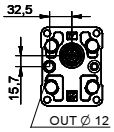
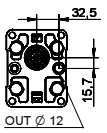
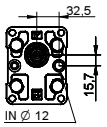
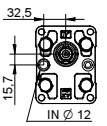
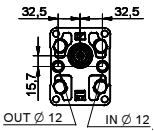
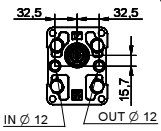
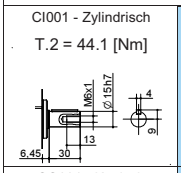
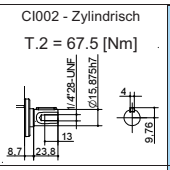
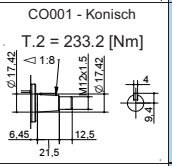
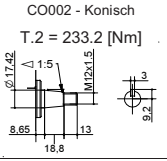
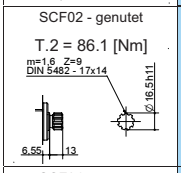
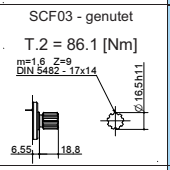
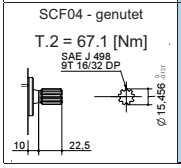
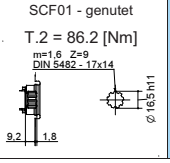
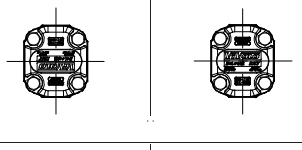
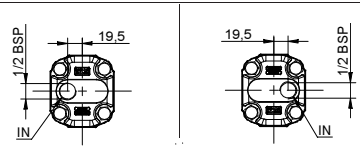
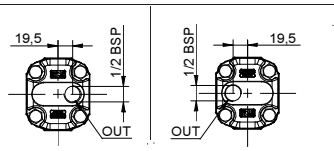
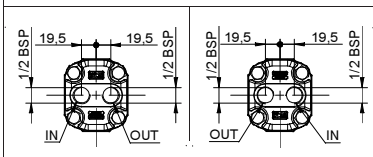
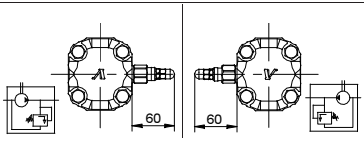
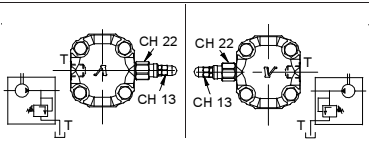
Tabelle der Varianten

FLANSCH ø36.5

XV-2U

FLANSCH ø36.5			
Drehung links		Drehung rechts	
	01		02
	03		04
	05		06
	07		08

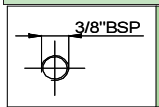
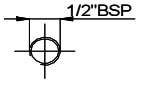
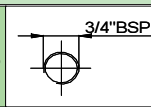
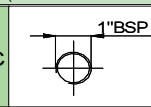
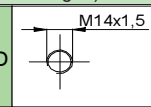
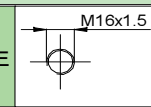
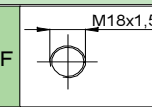
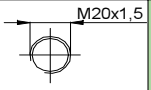
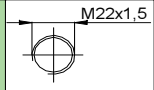
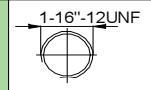
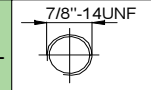
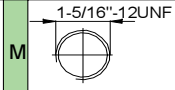
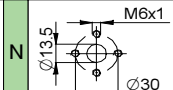
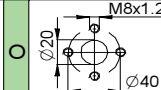
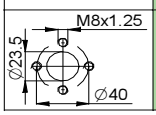
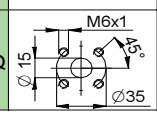
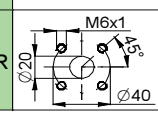
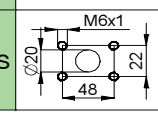
Welle			
	A		B
	E		F
	G		H
	I		L

Deckel		
Drehung links	Drehung rechts	
		A
		B
		C
		D
 Drainage innen		N
 Drainage aussen		O

Hubraum	
TYP	CODE
XV-2U/04	41
XV-2U/06	43
XV-2U/09	45
XV-2U/11	47
XV-2U/14	49
XV-2U/17	51
XV-2U/19	53
XV-2U/22	55
XV-2U/26	57
XV-2U/30	59
XV-2U/34	61
XV-2U/40	63

Gehäuse Standard						
Hubraum cm3/u	Standardgewinde					
4	O - O	S - R	B - B	L - M	Z - Z	
6	O - O	S - R	B - B	L - M	Z - Z	
9	O - O	S - R	B - B	L - M	Z - Z	
11	O - O	S - R	B - B	L - M	Z - Z	
14	P - O	S - R	C - B	L - M	Z - Z	
17	P - O	S - R	C - B	L - M	Z - Z	
19	P - O	S - R	C - B	L - M	Z - Z	
22	P - O	S - R	C - B	L - M	Z - Z	
26	Q - P	S - R	D - C	L - M	Z - Z	
30	Q - P	S - S	D - C	L - M	Z - Z	
34	Q - P	S - S	D - C	L - M	Z - Z	
40	Q - P	S - S	D - C	L - M	Z - Z	

Kombinationstabelle der lagermässig vorrätigen Standardgewinde und Anflanschungen

Gehäuse (Gewinde und Anflanschungen)																				
 3/8"BSP	A	 1/2"BSP	B	 3/4"BSP	C	 1"BSP	D	 M14x1,5	E	 M16x1.5	F	 M18x1,5	G
 M20x1,5	H	 M22x1,5	I	 1-16"-12UNF	L	 7/8"-14UNF	M	 1-5/16"-12UNF	N	 M6x1 Ø13.5 Ø30	O	 M8x1.25 Ø20 Ø40	P
 M8x1.25 Ø23.5 Ø40	Q	 M6x1 Ø 15 45° Ø35	R	 M6x1 Ø20 45° Ø40	S	 M6x1 Ø20 22 48	T	M8x1.25 Ø15 17.5 38	U	M6x1 Ø15 17.5 38	V	Gehäuse Geschlossen	Z

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Zahnradmotoren

– Serie XV –

Baugröße 1

Bestellnr.	Typ	Code
Reversierbar		
016-080-01000	XV1M/0,9-Leckö l extern	X1M1601FIIE
016-080-01050	XV1M/1,2-Leckö l extern	X1M1701FIIE
016-080-01100	XV1M/1,7-Leckö l extern	X1M1801FIIE
016-080-01150	XV1M/2,2-Leckö l extern	X1M2001FIIE
016-080-01200	XV1M/2,6-Leckö l extern	X1M2101FIIE
016-080-01250	XV1M/3,2-Leckö l extern	X1M2301FIIE
016-080-01300	XV1M/3,8-Leckö l extern	X1M2501FIIE
016-080-01350	XV1M/4,3-Leckö l extern	X1M2701FIIE
016-080-01400	XV1M/4,9-Leckö l extern	X1M2901FIIE
016-080-01450	XV1M/5,9-Leckö l extern	X1M3101FIIE
016-080-01500	XV1M/6,5-Leckö l extern	X1M3201FIIE
016-080-01550	XV1M/7,8-Leckö l extern	X1M3401FIIE
016-080-01600	XV1M/9,8-Leckö l extern	X1M3601FIIE

Europäischer Standard-4-Loch-Flansch -Bohrungsabstand = 71,9 x 52,4 mm / Rezess = Ø 25,4 mm / Welle -CO.001 1:8 -d = Ø 10 mm -M 7x1 -Passfeder = 2,4 mm / max. zulässiges Wellendrehmoment = 43 Nm / Ölanschlüsse = Flansche Ø 30 mm seitlich

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HYMATEC GMBH
HYDRAULIK MASCHINEN TECHNIK

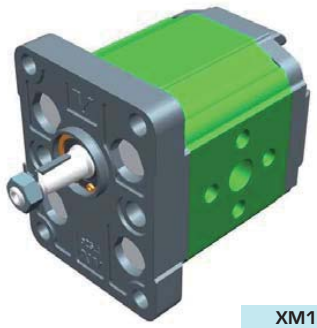
Umkehrmotor - Serie XV

EUROPÄISCHE STANDARDMOTOR
FLANSCH ø25.4 - KEGELWELLE

XV-1M

X	1	M	25	01	F	I	I	E

Serie		X	Serie XV
Gruppe		1	Gruppe 1
Kategorie		M	Umkehrmotor
Hubraum		25	3.8
Flansch		01	Ø25.4 EUROPÄISCHER STANDARD Drehrichtung umkehrbar
Welle		F	CO001 - Konisch 1:8 - ø10 - M7x1 - Scheibenfeder Dicke 2.4
Gehäuse	IN	I	Ansaugung - Ø30 Ø12 M6
	OUT	I	Druckseite - Ø30 Ø12 M6
Deckel		E	Mit Drainage 1/4" BSP

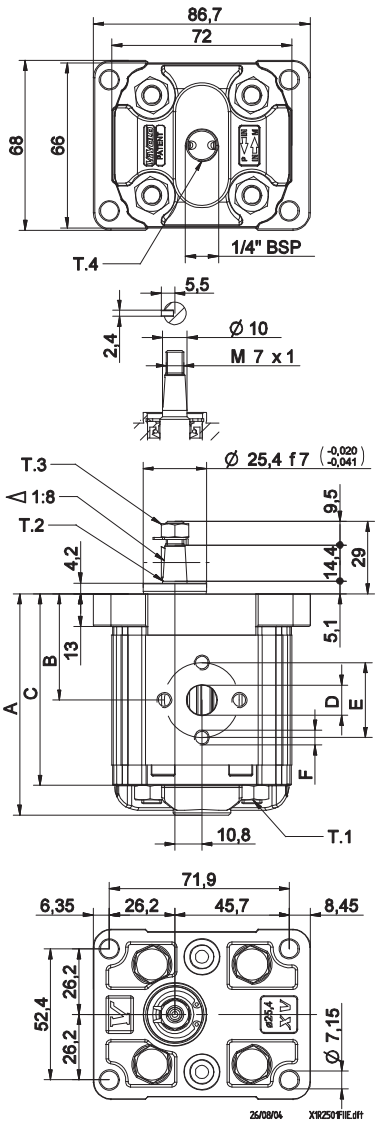


XM101

Technische Datentabelle

TYP	Hubraum	Maximaldruck		CODE	
	cm3/u	P1 bar	P3 bar	Drainage aussen	Drainage innen
XV-1M/0.9	0,91	240	280	X 1 M 16 01 F I I E	X 1 M 16 01 F I I F
XV-1M/1.2	1,17	250	290	X 1 M 17 01 F I I E	X 1 M 17 01 F I I F
XV-1M/1.7	1,56	250	290	X 1 M 18 01 F I I E	X 1 M 18 01 F I I F
XV-1M/2.2	2,08	250	290	X 1 M 20 01 F I I E	X 1 M 20 01 F I I F
XV-1M/2.6	2,60	250	300	X 1 M 21 01 F I I E	X 1 M 21 01 F I I F
XV-1M/3.2	3,12	250	300	X 1 M 23 01 F I I E	X 1 M 23 01 F I I F
XV-1M/3.8	3,64	250	300	X 1 M 25 01 F I I E	X 1 M 25 01 F I I F
XV-1M/4.3	4,16	250	300	X 1 M 27 01 F I I E	X 1 M 27 01 F I I F
XV-1M/4.9	4,94	250	300	X 1 M 29 01 F I I E	X 1 M 29 01 F I I F
XV-1M/5.9	5,85	250	300	X 1 M 31 01 F I I E	X 1 M 31 01 F I I F
XV-1M/6.5	6,50	250	300	X 1 M 32 01 F I I E	X 1 M 32 01 F I I F
XV-1M/7.8	7,54	220	260	X 1 M 34 01 F I I E	X 1 M 34 01 F I I F
XV-1M/9.8	9,88	190	230	X 1 M 36 01 F I I E	X 1 M 36 01 F I I F

P1) Max. Betriebsdruck - P3) Max. Druckspitze
Für schwere Anwendungen empfiehlt sich eine Prüfung des zulässigen Wellendrehmoments



Dimensionstabelle

TYP	Gewicht	A	B	C	D	E	F	D	E	F
	kg	mm	mm	mm	IN			OUT		
XV-1M/0.9	0,950	78,1	37,3	66,1	ø12	30	M6x1	ø12	30	M6x1
XV-1M/1.2	0,970	79,0	37,8	67,0	ø12	30	M6x1	ø12	30	M6x1
XV-1M/1.7	1,010	80,5	38,5	68,5	ø12	30	M6x1	ø12	30	M6x1
XV-1M/2.2	1,030	82,5	39,5	70,5	ø12	30	M6x1	ø12	30	M6x1
XV-1M/2.6	1,060	84,5	40,5	72,5	ø12	30	M6x1	ø12	30	M6x1
XV-1M/3.2	1,090	86,5	41,5	74,5	ø12	30	M6x1	ø12	30	M6x1
XV-1M/3.8	1,120	88,5	42,5	76,5	ø12	30	M6x1	ø12	30	M6x1
XV-1M/4.3	1,170	90,5	43,5	78,5	ø12	30	M6x1	ø12	30	M6x1
XV-1M/4.9	1,200	93,5	45,0	81,5	ø12	30	M6x1	ø12	30	M6x1
XV-1M/5.9	1,260	97,0	46,8	85,0	ø12	30	M6x1	ø12	30	M6x1
XV-1M/6.5	1,300	98,5	48,0	86,5	ø12	30	M6x1	ø12	30	M6x1
XV-1M/7.8	1,360	103,5	50,0	91,5	ø12	30	M6x1	ø12	30	M6x1
XV-1M/9.8	1,500	112,5	54,5	100,5	ø12	30	M6x1	ø12	30	M6x1

T.1 = 24.5÷29.4 [Nm] - Anzugsmoment - Schrauben M8
T.3 = 11.5 [Nm] - Anzugsmoment - Schlüssel 11
T.2 = 43 [Nm] - zulässiges Wellendrehmoment (N.B. Zur Auswahl der Welle stets das zulässige Drehmoment prüfen).
T.4 = 0.3÷0,5 bar - Drainage Maximaldruck

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Tabelle der Varianten

FLANSCH ø25.4

XV-1M

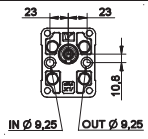
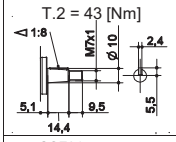
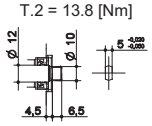
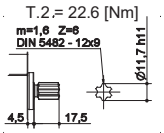
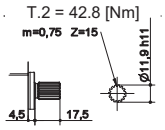
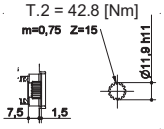
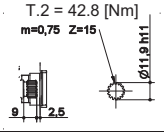
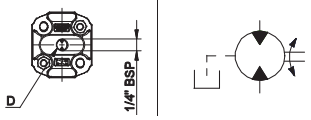
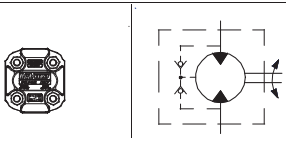
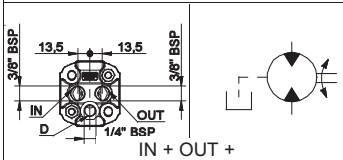
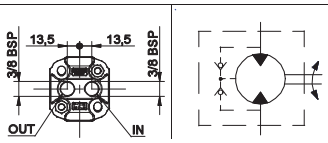
FLANSCH ø25.4	
	01
	04

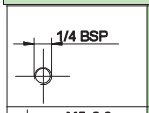
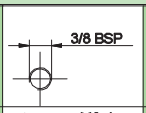
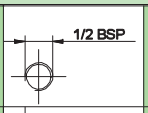
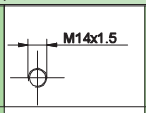
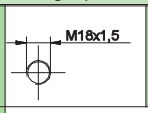
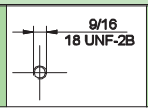
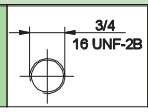
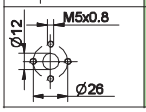
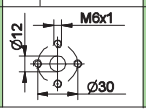
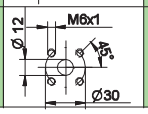
Tabelle der Varianten			
CO001 - Konisch T.2 = 43 [Nm] 	F	002 - mit gefrästem Endstü T.2 = 13.8 [Nm] 	D
SCF04 - genutet T.2 = 22.6 [Nm] 	J	SCF02 - genutet T.2 = 42.8 [Nm] 	L
SCF01 - genutet T.2 = 42.8 [Nm] 	Q	SCF03 - genutet T.2 = 42.8 [Nm] 	R

Deckel	
 Drainage aussen	E
 Drainage innen	F
 IN + OUT +	K
 IN + OUT +	L

Hubraum	
TYP	CODE
XV-1M/0.9	16
XV-1M/1.2	17
XV-1M/1.7	18
XV-1M/2.2	20
XV-1M/2.6	21
XV-1M/3.2	23
XV-1M/3.8	25
XV-1M/4.3	27
XV-1M/4.9	29
XV-1M/5.9	31
XV-1M/6.5	32
XV-1M/7.8	34
XV-1M/9.8	36

Gehäuse Standard				
Hubraum cm3/u	Standardgewinde			
0.9	I - I	B - B	J - J	Z - Z
1.2	I - I	B - B	J - J	Z - Z
1.7	I - I	B - B	J - J	Z - Z
2.2	I - I	B - B	J - J	Z - Z
2.6	I - I	B - B	J - J	Z - Z
3.2	I - I	B - B	J - J	Z - Z
3.8	I - I	B - B	J - J	Z - Z
4.3	I - I	B - B	J - J	Z - Z
4.9	I - I	B - B	J - J	Z - Z
5.9	I - I	B - B	J - J	Z - Z
6.5	I - I	B - B	J - J	Z - Z
7.8	I - I	B - B	J - J	Z - Z
9.8	I - I	B - B	J - J	Z - Z

Kombinationstabelle der lagermässig vorrätigen Standardgewinde und Anflanschungen

Gehäuse (Gewinde und Anflanschungen)														
	A		B		C		D		E		F		G
	H		I		J	Gehäuse Geschlossen	Z							

Zahnradmotoren

– Serie XV –

Baugröße 1

Bestellnr.	Typ	Code
Reversierbar		
016-100-01000	XV1M/0,9-Ø30-C0.002-Leckö l extern	X1M1607GIIE
016-100-01050	XV1M/1,2-Ø30-C0.002-Leckö l extern	X1M1707GIIE
016-100-01100	XV1M/1,7-Ø30-C0.002-Leckö l extern	X1M1807GIIE
016-100-01150	XV1M/2,2-Ø30-C0.002-Leckö l extern	X1M2007GIIE
016-100-01200	XV1M/2,6-Ø30-C0.002-Leckö l extern	X1M2107GIIE
016-100-01250	XV1M/3,2-Ø30-C0.002-Leckö l extern	X1M2307GIIE
016-100-01300	XV1M/3,8-Ø30-C0.002-Leckö l extern	X1M2507GIIE
016-100-01350	XV1M/4,3-Ø30-C0.002-Leckö l extern	X1M2707GIIE
016-100-01400	XV1M/4,9-Ø30-C0.002-Leckö l extern	X1M2907GIIE
016-100-01450	XV1M/5,9-Ø30-C0.002-Leckö l extern	X1M3107GIIE
016-100-01500	XV1M/6,5-Ø30-C0.002-Leckö l extern	X1M3207GIIE
016-100-01550	XV1M/7,8-Ø30-C0.002-Leckö l extern	X1M3407GIIE
016-100-01600	XV1M/9,8-Ø30-C0.002-Leckö l extern	X1M3607GIIE

4-Loch-Flansch -Bohrungsabstand = 73 x 56 mm / Rezess = Ø 30 mm / Welle -CO.002 1:8 -d = Ø 14 mm
-M 10x1 -Passfeder = 3,0 mm / max. zulässiges Wellendrehmoment = 119,8 Nm / Ölanschlüsse = Flansche Ø 30 mm seitlich

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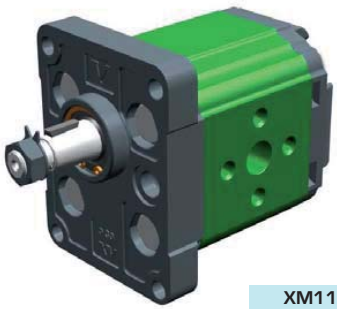
Umkehrmotor - Serie XV

STANDARDMOTOR
FLANSCH ø30 - KEGELWELLE

XV-1M

X	1	M	25	07	G	I	I	E

Serie		X	Serie XV
Gruppe		1	Gruppe 1
Kategorie		M	Umkehrmotor
Hubraum		25	3.8
Flansch		07	Ø30 STANDARD Drehrichtung umkehrbar
Welle		G	CO002 - Konisch 1:8 - ø14 - M10x1- Scheibenfeder Dicke 3
Gehäuse	IN	I	Ansaugung - Ø30 Ø12 M6
	OUT	I	Druckseite - Ø30 Ø12 M6
Deckel		E	Mit Drainage 1/4" BSP

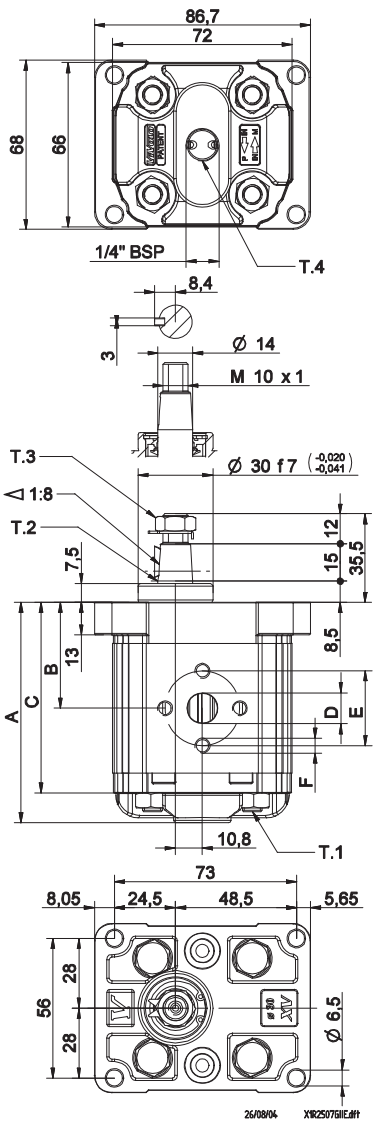


XM113

Technische Datentabelle

TYP	Hubraum	Maximaldruck		CODE	
	cm3/u	P1 bar	P3 bar	Drainage aussen	Drainage innen
XV-1M/0.9	0,91	240	280	X 1 M 16 07 G I I E	X 1 M 16 07 G I I F
XV-1M/1.2	1,17	250	290	X 1 M 17 07 G I I E	X 1 M 17 07 G I I F
XV-1M/1.7	1,56	250	290	X 1 M 18 07 G I I E	X 1 M 18 07 G I I F
XV-1M/2.2	2,08	250	290	X 1 M 20 07 G I I E	X 1 M 20 07 G I I F
XV-1M/2.6	2,60	250	300	X 1 M 21 07 G I I E	X 1 M 21 07 G I I F
XV-1M/3.2	3,12	250	300	X 1 M 23 07 G I I E	X 1 M 23 07 G I I F
XV-1M/3.8	3,64	250	300	X 1 M 25 07 G I I E	X 1 M 25 07 G I I F
XV-1M/4.3	4,16	250	300	X 1 M 27 07 G I I E	X 1 M 27 07 G I I F
XV-1M/4.9	4,94	250	300	X 1 M 29 07 G I I E	X 1 M 29 07 G I I F
XV-1M/5.9	5,85	250	300	X 1 M 31 07 G I I E	X 1 M 31 07 G I I F
XV-1M/6.5	6,50	250	300	X 1 M 32 07 G I I E	X 1 M 32 07 G I I F
XV-1M/7.8	7,54	220	260	X 1 M 34 07 G I I E	X 1 M 34 07 G I I F
XV-1M/9.8	9,88	190	230	X 1 M 36 07 G I I E	X 1 M 36 07 G I I F

P1) Max. Betriebsdruck - P3) Max. Druckspitze
Für schwere Anwendungen empfiehlt sich eine Prüfung des zulässigen Wellendrehmoments



Dimensionstabelle

TYP	Gewicht	A	B	C	D	E	F	D	E	F
	kg	mm	mm	mm	IN			OUT		
XV-1M/0.9	0,950	78,1	37,3	66,1	ø12	30	M6x1	ø12	30	M6x1
XV-1M/1.2	0,970	79,0	37,8	67,0	ø12	30	M6x1	ø12	30	M6x1
XV-1M/1.7	1,010	80,5	38,5	68,5	ø12	30	M6x1	ø12	30	M6x1
XV-1M/2.2	1,030	82,5	39,5	70,5	ø12	30	M6x1	ø12	30	M6x1
XV-1M/2.6	1,060	84,5	40,5	72,5	ø12	30	M6x1	ø12	30	M6x1
XV-1M/3.2	1,090	86,5	41,5	74,5	ø12	30	M6x1	ø12	30	M6x1
XV-1M/3.8	1,120	88,5	42,5	76,5	ø12	30	M6x1	ø12	30	M6x1
XV-1M/4.3	1,170	90,5	43,5	78,5	ø12	30	M6x1	ø12	30	M6x1
XV-1M/4.9	1,200	93,5	45,0	81,5	ø12	30	M6x1	ø12	30	M6x1
XV-1M/5.9	1,260	97,0	46,8	85,0	ø12	30	M6x1	ø12	30	M6x1
XV-1M/6.5	1,300	98,5	48,0	86,5	ø12	30	M6x1	ø12	30	M6x1
XV-1M/7.8	1,360	103,5	50,0	91,5	ø12	30	M6x1	ø12	30	M6x1
XV-1M/9.8	1,500	112,5	54,5	100,5	ø12	30	M6x1	ø12	30	M6x1

T.1 = 24.5÷29.4 [Nm] - Anzugsmoment - Schrauben M8
T.3 = 13 [Nm] - Anzugsmoment - Schlüssel 17
T.2 = 119.8 [Nm] - zulässiges Wellendrehmoment (N.B. Zur Auswahl der Welle stets das zulässige Drehmoment prüfen).
T.4 = 0.3÷0,5 bar - Drainage Maximaldruck

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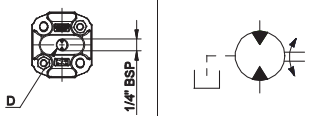
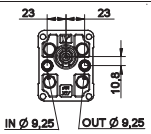
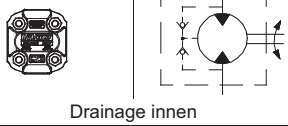
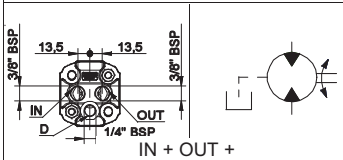
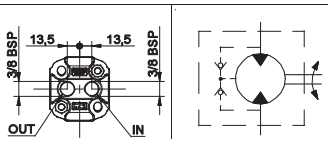
HYMATEC GMBH
HYDRAULIK MASCHINEN TECHNIK

Tabelle der Varianten

FLANSCH ø30

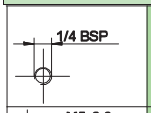
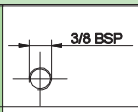
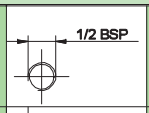
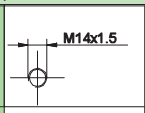
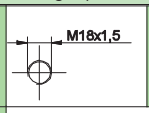
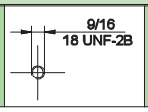
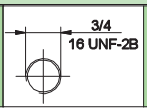
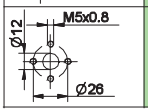
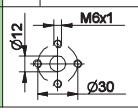
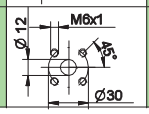
XV-1M

FLANSCH ø30		Tabelle der Varianten				Deckel	
	07	CI001 - Zylindrisch T.2 = 25.8 [Nm]	A	CO002 - Konisch T.2 = 119.8 [Nm]	G	 Drainage aussen	E
	10	CI001+HK - Zylindrisch T.2 = 25.8 [Nm]	P	CO002+HK - Konisch T.2 = 119.8 [Nm]	O	 Drainage innen	F
						 IN + OUT +	K
						 IN + OUT +	L

Hubraum	
TYP	CODE
XV-1M/0.9	16
XV-1M/1.2	17
XV-1M/1.7	18
XV-1M/2.2	20
XV-1M/2.6	21
XV-1M/3.2	23
XV-1M/3.8	25
XV-1M/4.3	27
XV-1M/4.9	29
XV-1M/5.9	31
XV-1M/6.5	32
XV-1M/7.8	34
XV-1M/9.8	36

Gehäuse Standard				
Hubraum cm3/u	Standardgewinde			
0.9	I - I	B - B	J - J	Z - Z
1.2	I - I	B - B	J - J	Z - Z
1.7	I - I	B - B	J - J	Z - Z
2.2	I - I	B - B	J - J	Z - Z
2.6	I - I	B - B	J - J	Z - Z
3.2	I - I	B - B	J - J	Z - Z
3.8	I - I	B - B	J - J	Z - Z
4.3	I - I	B - B	J - J	Z - Z
4.9	I - I	B - B	J - J	Z - Z
5.9	I - I	B - B	J - J	Z - Z
6.5	I - I	B - B	J - J	Z - Z
7.8	I - I	B - B	J - J	Z - Z
9.8	I - I	B - B	J - J	Z - Z

Kombinationstabelle der lagermässig vorrätigen Standardgewinde und Anflanschungen

Gehäuse (Gewinde und Anflanschungen)														
	A		B		C		D		E		F		G
	H		I		J	Gehäuse Geschlossen	Z							

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Zahnradmotoren

– Serie XV –

Baugröße 2

Bestellnr.	Typ	Code
Reversierbar		
016-120-01000	XV2M/4-Lecköl extern	X2M4101EOOE
016-120-01050	XV2M/6-Lecköl extern	X2M4301EOOE
016-120-01100	XV2M/9-Lecköl extern	X2M4501EOOE
016-120-01150	XV2M/11-Lecköl extern	X2M4701EOOE
016-120-01200	XV2M/14-Lecköl extern	X2M4901EPPE
016-120-01250	XV2M/17-Lecköl extern	X2M5101EPPE
016-120-01300	XV2M/19-Lecköl extern	X2M5301EPPE
016-120-01350	XV2M/22-Lecköl extern	X2M5501EPPE
016-120-01400	XV2M/26-Lecköl extern	X2M5701EQPE
016-120-01450	XV2M/30-Lecköl extern	X2M5901EQPE
016-120-01500	XV2M/34-Lecköl extern	X2M6101EQPE
016-120-01550	XV2M/40-Lecköl extern	X2M6301EQPE

Europäischer Standard-4-Loch-Flansch -Bohrungsabstand = 96,2 x 71,5 mm / Rezess = Ø 36,5 mm / Welle -CO.001 1:8 -d = Ø 17,4 mm -M 12x1,5 -Passfeder = 4,0 mm / max. zulässiges Wellendrehmoment = 233,2 Nm / Ölanschlüsse = Flansch LK 30/40 seitlich

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HYMATEC GMBH
HYDRAULIK MASCHINEN TECHNIK

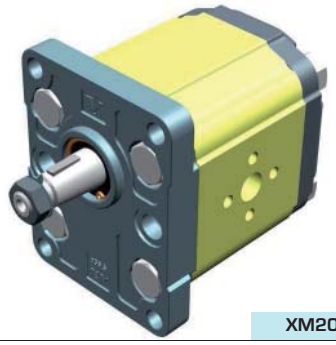
Umkehrmotor - Serie XV

EUROPÄISCHE STANDARDMOTOR
FLANSCH ø36.5 - KEGELWELLE

XV-2M

X	2	M	51	01	E	P	P	E

Serie		X	Serie XV
Gruppe		2	Gruppe 2
Kategorie		M	Umkehrmotor
Hubraum		51	17
Flansch		01	Ø36,5 EUROPÄISCHER STANDARD Drehrichtung umkehrbar
Welle		E	CO001 - Konisch 1:8 - ø17.4 - M12x1.5 - Scheibenfeder Dicke 4
Gehäuse	IN	P	Ansaugung - Ø40 Ø20 M8
	OUT	P	Druckseite - Ø40 Ø20 M8
Deckel		E	Mit Drainage aussen

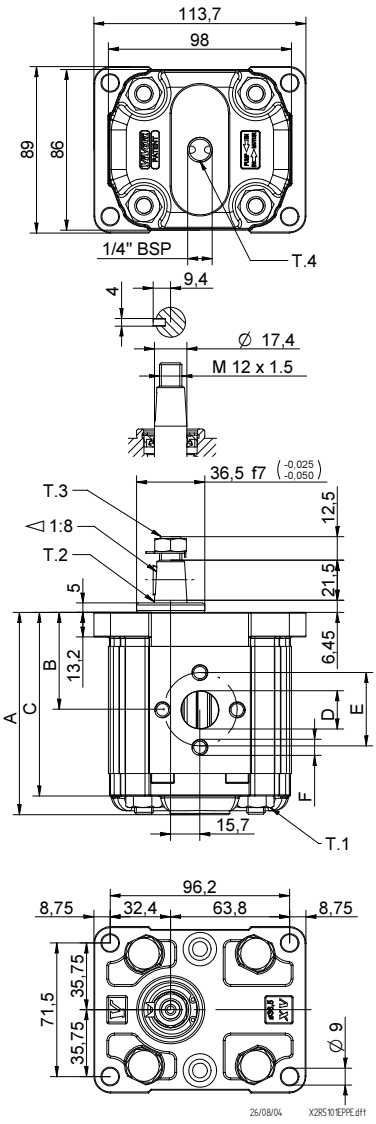


XM201

Technische Datentabelle

TYP	Hubraum	Maximaldruck		CODE	
	cm3/u	P1 bar	P3 bar	Drainage aussen	Drainage innen
XV-2M/04	4,20	260	300	X 2 M 41 01 E O O E	X 2 M 41 01 E O O F
XV-2M/06	6,00	260	300	X 2 M 43 01 E O O E	X 2 M 43 01 E O O F
XV-2M/09	8,40	260	300	X 2 M 45 01 E O O E	X 2 M 45 01 E O O F
XV-2M/11	10,80	260	300	X 2 M 47 01 E O O E	X 2 M 47 01 E O O F
XV-2M/14	14,40	250	290	X 2 M 49 01 E P P E	X 2 M 49 01 E P P F
XV-2M/17	16,80	230	270	X 2 M 51 01 E P P E	X 2 M 51 01 E P P F
XV-2M/19	19,20	210	250	X 2 M 53 01 E P P E	X 2 M 53 01 E P P F
XV-2M/22	22,80	200	240	X 2 M 55 01 E P P E	X 2 M 55 01 E P P F
XV-2M/26	26,20	170	210	X 2 M 57 01 E Q P E	X 2 M 57 01 E Q P F
XV-2M/30	30,00	160	200	X 2 M 59 01 E Q P E	X 2 M 59 01 E Q P F
XV-2M/34	34,20	150	190	X 2 M 61 01 E Q P E	X 2 M 61 01 E Q P F
XV-2M/40	39,60	140	180	X 2 M 63 01 E Q P E	X 2 M 63 01 E Q P F

P1) Max. Betriebsdruck - P3) Max. Druckspitze
Für schwere Anwendungen empfiehlt sich eine Prüfung des zulässigen Wellendrehmoments



Dimensionstabelle

TYP	Gewicht	A	B	C	D	E	F	D	E	F
	kg	mm	mm	mm	IN			OUT		
XV-2M/04	2,200	87,2	41,7	77,2	ø13,5	30	M6x1	ø13,5	30	M6x1
XV-2M/06	2,300	90,2	43,2	80,2	ø13,5	30	M6x1	ø13,5	30	M6x1
XV-2M/09	2,400	94,2	45,2	84,2	ø13,5	30	M6x1	ø13,5	30	M6x1
XV-2M/11	2,500	98,2	47,2	88,2	ø13,5	30	M6x1	ø13,5	30	M6x1
XV-2M/14	2,700	104,2	50,2	94,2	ø20	40	M8X1,25	ø20	40	M8X1,25
XV-2M/17	2,800	108,2	52,2	98,2	ø20	40	M8X1,25	ø20	40	M8X1,25
XV-2M/19	2,900	112,2	54,2	102,2	ø20	40	M8X1,25	ø20	40	M8X1,25
XV-2M/22	3,050	118,2	57,2	108,2	ø20	40	M8X1,25	ø20	40	M8X1,25
XV-2M/26	3,150	122,2	59,2	112,2	ø23,5	40	M8X1,25	ø20	40	M8X1,25
XV-2M/30	3,400	130,2	63,2	120,2	ø23,5	40	M8X1,25	ø20	40	M8X1,25
XV-2M/34	3,600	137,2	66,7	127,2	ø23,5	40	M8X1,25	ø20	40	M8X1,25
XV-2M/40	3,800	146,2	71,2	136,2	ø23,5	40	M8X1,25	ø20	40	M8X1,25

T.1 = 54÷58.9 [Nm] - Anzugsmoment - Schrauben M10
T.3 = 40 [Nm] - Anzugsmoment - Schlüssel 19
T.2 = 233.2 [Nm] - zulässiges Wellendrehmoment (N.B. Zur Auswahl der Welle stets das zulässige Drehmoment prüfen).
T.4 = 0.3÷0,5 bar - Drainage Maximaldruck

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HYMATEC GMBH
HYDRAULIK MASCHINEN TECHNIK

Tabelle der Varianten

FLANSCH ø36.5

XV-2M

FLANSCH ø36.5	Welle				Deckel	
	CI001 - Zylindrisch T.2 = 44.1 [Nm]	A	CI002 - Zylindrisch T.2 = 67.5 [Nm]	B		E
01					Drainage aussen	
04	CO001 - Konisch T.2 = 233.2 [Nm]	E	CO002 - Konisch T.2 = 233.2 [Nm]	F		F
					Drainage innen	
05	SCF02 - genutet T.2 = 86.1 [Nm]	G	SCF03 - genutet T.2 = 86.1 [Nm]	H		K
	SCF04 - genutet T.2 = 67.1 [Nm]	I	SCF01 - genutet T.2 = 86.2 [Nm]	L		L
					IN + OUT +	
						P
					Drainage am Flansch	

Hubraum	
TYP	CODE
XV-2M/04	41
XV-2M/06	43
XV-2M/09	45
XV-2M/11	47
XV-2M/14	49
XV-2M/17	51
XV-2M/19	53
XV-2M/22	55
XV-2M/26	57
XV-2M/30	59
XV-2M/34	61
XV-2M/40	63

Gehäuse Standard				
Hubraum cm3/u	Standardgewinde			
4	O - O	R - R	B - B	Z - Z
6	O - O	R - R	B - B	Z - Z
9	O - O	R - R	B - B	Z - Z
11	O - O	R - R	B - B	Z - Z
14	P - P	R - R	C - C	Z - Z
17	P - P	R - R	C - C	Z - Z
19	P - P	R - R	C - C	Z - Z
22	P - P	R - R	C - C	Z - Z
26	Q - P	S - S	D - D	Z - Z
30	Q - P	S - S	D - D	Z - Z
34	Q - P	S - S	D - D	Z - Z
40	Q - P	S - S	D - D	Z - Z

Kombinationstabelle der lagermässig vorrätigen Standardgewinde und Anflanschungen

Gehäuse (Gewinde und Anflanschungen)														
3/8"BSP	A	1/2"BSP	B	3/4"BSP	C	1"BSP	D	M14x1,5	E	M16x1.5	F	M18x1,5	G
M20x1,5	H	M22x1,5	I	1-16"-12UNF	L	7/8"-14UNF	M	1-5/16"-12UNF	N	M6x1	O	M8x1.25	P
M8x1.25	Q	M6x1	R	M6x1	S	M6x1	T	M8x1.25	U	M6x1	V	Gehäuse Geschlossen	Z

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Zahnradmotoren

– Serie XV –

Baugröße 2

Bestellnr.	Typ	Code
D = rechtsdrehend		
018-010-01000	XV2U/4D-BH-Ø50-C0.002	X2U4112FSRA
018-010-01100	XV2U/6D-BH-Ø50-C0.002	X2U4312FSRA
018-010-01200	XV2U/9D-BH-Ø50-C0.002	X2U4512FSRA
018-010-01300	XV2U/11D-BH-Ø50-C0.002	X2U4712FSRA
018-010-01400	XV2U/14D-BH-Ø50-C0.002	X2U4912FSRA
018-010-01500	XV2U/17D-BH-Ø50-C0.002	X2U5112FSRA
018-010-01600	XV2U/19D-BH-Ø50-C0.002	X2U5312FSRA
018-010-01700	XV2U/22D-BH-Ø50-C0.002	X2U5512FSRA
018-010-01800	XV2U/26D-BH-Ø50-C0.002	X2U5712FSRA
018-010-01900	XV2U/30D-BH-Ø50-C0.002	X2U5912FSSA
018-010-02000	XV2U/34D-BH-Ø50-C0.002	X2U6112FSSA
018-010-02100	XV2U/40D-BH-Ø50-C0.002	X2U6312FSSA
S = linksdrehend		
018-010-01050	XV2U/4S-BH-Ø50-C0.002	X2U4111FSRA
018-010-01150	XV2U/6S-BH-Ø50-C0.002	X2U4311FSRA
018-010-01250	XV2U/9S-BH-Ø50-C0.002	X2U4511FSRA
018-010-01350	XV2U/11S-BH-Ø50-C0.002	X2U4711FSRA
018-010-01450	XV2U/14S-BH-Ø50-C0.002	X2U4911FSRA
018-010-01550	XV2U/17S-BH-Ø50-C0.002	X2U5111FSRA
018-010-01650	XV2U/19S-BH-Ø50-C0.002	X2U5311FSRA
018-010-01750	XV2U/22S-BH-Ø50-C0.002	X2U5511FSRA
018-010-01850	XV2U/26S-BH-Ø50-C0.002	X2U5711FSRA
018-010-01950	XV2U/30S-BH-Ø50-C0.002	X2U5911FSSA
018-010-02050	XV2U/34S-BH-Ø50-C0.002	X2U6111FSSA
018-010-02150	XV2U/40S-BH-Ø50-C0.002	X2U6311FSSA

4-Loch-Flansch-BH-Durchschraubausführung -Bohrungsabstand = 60 x 60 mm / Rezess = Ø 50 mm / Welle -CO.002 1:5 -d = Ø 17,42 mm -M 12x1,25 -Passfeder = 3,0 mm / max. zulässiges Wellendrehmoment = 233,2 Nm / Ölanschlüsse = Flansch LK 35/40 seitlich

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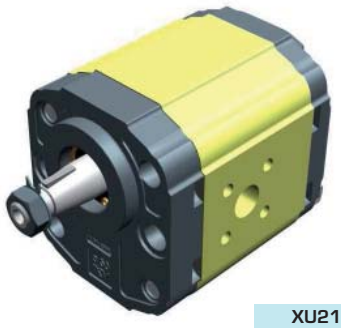
In eine Richtung drehender Motor - Serie XV

XV-2U

MOTOR TYP "BH"
FLANSCH ø50 GEFORMT - KEGELWELLE

X	2	U	51	12	F	S	R	A

Serie		X	Serie XV
Gruppe		2	Gruppe 2
Kategorie		U	In eine Richtung drehender Motor
Hubraum		51	17
Flansch		12	Ø50 DEUTSCHE NORM BH Drehrichtung rechts
Welle		F	CO002 - Konisch 1:5 - ø17.4 - M12x1.5 - Scheibenfeder Dicke 3
Gehäuse	IN	S	Ansaugung - Ø40 a 45° Ø20 M6
	OUT	R	Druckseite - Ø35 a 45° Ø15 M6
Deckel		A	Standard

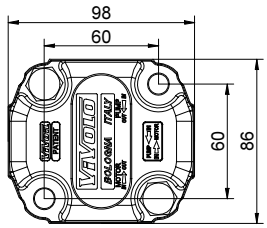


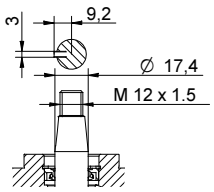
XU210

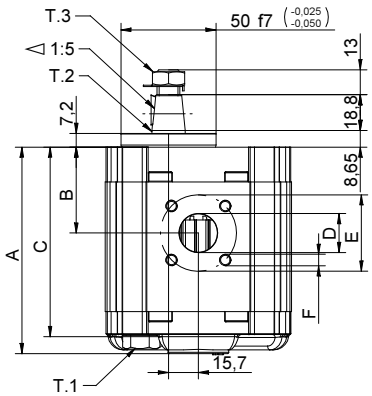
Technische Datentabelle

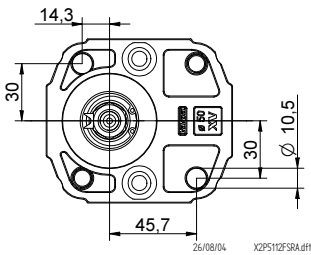
TYP	Hubraum	Maximaldruck		CODE	
	cm3/u	P1 bar	P3 bar	Drehung links	Drehung rechts
XV-2U/04	4,20	260	300	X 2 U 41 11 F S R A	X 2 U 41 12 F S R A
XV-2U/06	6,00	260	300	X 2 U 43 11 F S R A	X 2 U 43 12 F S R A
XV-2U/09	8,40	260	300	X 2 U 45 11 F S R A	X 2 U 45 12 F S R A
XV-2U/11	10,80	260	300	X 2 U 47 11 F S R A	X 2 U 47 12 F S R A
XV-2U/14	14,40	250	290	X 2 U 49 11 F S R A	X 2 U 49 12 F S R A
XV-2U/17	16,80	230	270	X 2 U 51 11 F S R A	X 2 U 51 12 F S R A
XV-2U/19	19,20	210	250	X 2 U 53 11 F S R A	X 2 U 53 12 F S R A
XV-2U/22	22,80	200	240	X 2 U 55 11 F S R A	X 2 U 55 12 F S R A
XV-2U/26	26,20	170	210	X 2 U 57 11 F S R A	X 2 U 57 12 F S R A
XV-2U/30	30,00	160	200	X 2 U 59 11 F S S A	X 2 U 59 12 F S S A
XV-2U/34	34,20	150	190	X 2 U 61 11 F S S A	X 2 U 61 12 F S S A
XV-2U/40	39,60	140	180	X 2 U 63 11 F S S A	X 2 U 63 12 F S S A

P1) Max. Betriebsdruck - P3) Max. Druckspitze
Für schwere Anwendungen empfiehlt sich eine Prüfung des zulässigen Wellendrehmoments









Dimensionstabelle

TYP	Gewicht	A	B	C	D	E	F	D	E	F
	kg	mm	mm	mm	IN			OUT		
XV-2U/04	2,100	87,2	38,6	77,2	ø15	35	M6x1	ø20	40	M6x1
XV-2U/06	2,200	90,2	38,6	80,2	ø15	35	M6x1	ø20	40	M6x2
XV-2U/09	2,300	94,2	40,6	84,2	ø15	35	M6x1	ø20	40	M6x3
XV-2U/11	2,400	98,2	45,0	88,2	ø15	35	M6x1	ø20	40	M6x4
XV-2U/14	2,600	104,2	45,0	94,2	ø15	35	M6x1	ø20	40	M6x5
XV-2U/17	2,700	108,2	45,0	98,2	ø15	35	M6x1	ø20	40	M6x6
XV-2U/19	2,800	112,2	45,0	102,2	ø15	35	M6x1	ø20	40	M6x7
XV-2U/22	2,950	118,2	52,5	108,2	ø15	35	M6x1	ø20	40	M6x8
XV-2U/26	3,050	122,2	52,5	112,2	ø15	35	M6x1	ø20	40	M6x9
XV-2U/30	3,300	130,2	60,7	120,2	ø20	40	M6x1	ø20	40	M6x10
XV-2U/34	3,500	137,2	60,7	127,2	ø20	40	M6x1	ø20	40	M6x11
XV-2U/40	3,700	146,2	60,7	136,2	ø20	40	M6x1	ø20	40	M6x12

T.1 = 54÷58.9 [Nm] - Anzugsmoment - Schrauben M10
T.3 = 40 [Nm] - Anzugsmoment - Schlüssel 19
T.2 = 233.2 [Nm] - zulässiges Wellendrehmoment (N.B. Zur Auswahl der Welle stets das zulässige Drehmoment prüfen).

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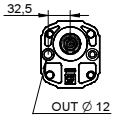
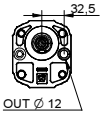
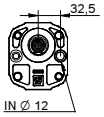
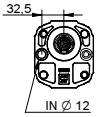
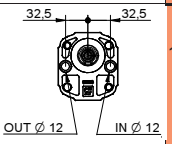
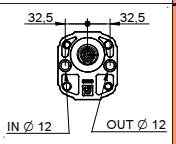
Tabelle der Varianten

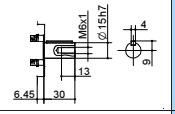
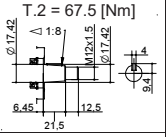
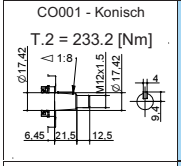
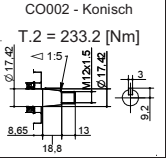
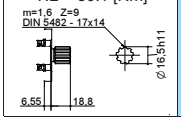
FLANSCH ø50 "BH" – Geformt

XV-2U

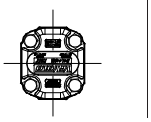
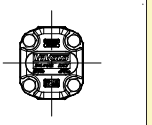
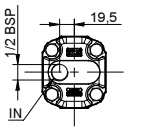
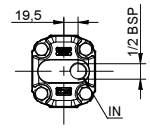
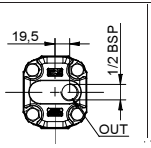
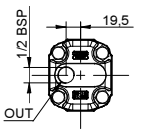
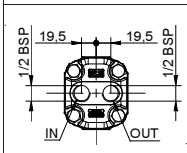
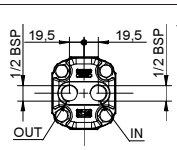
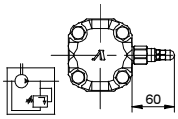
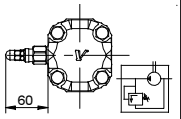
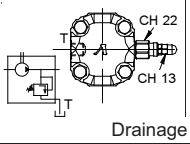
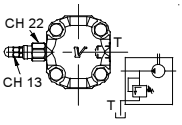
FLANSCH ø50 "BH" – Geformt

Drehung links		Drehung rechts	
	11		12
	13		14
	15		16
	17		18

Welle

CI001 - Zylindrisch T.2 = 44.1 [Nm] 	A	CI002 - Zylindrisch T.2 = 67.5 [Nm] 	B
CO001 - Konisch T.2 = 233.2 [Nm] 	E	CO002 - Konisch T.2 = 233.2 [Nm] 	F
SCF03 - genutet T.2 = 86.1 [Nm] 	H		

Deckel

Drehung links	Drehung rechts	
		A
		B
		C
		D
 Drainage innen		N
 Drainage aussen		O

Hubraum

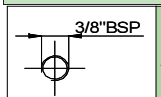
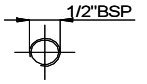
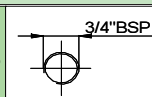
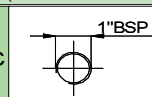
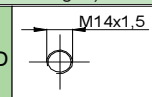
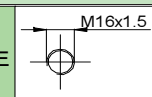
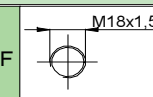
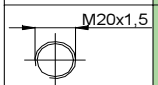
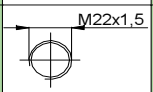
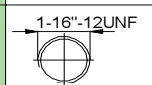
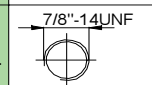
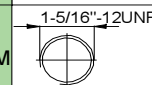
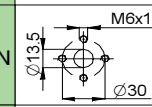
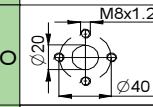
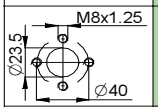
TYP	CODE
XV-2U/04	**41**
XV-2U/06	**43**
XV-2U/09	**45**
XV-2U/11	**47**
XV-2U/14	**49**
XV-2U/17	**51**
XV-2U/19	**53**
XV-2U/22	**55**
XV-2U/26	**57**
XV-2U/30	**59**
XV-2U/34	**61**
XV-2U/40	**63**

Gehäuse Standard

Hubraum cm3/u	Standardgewinde				
4	O - O	S - R	B - B	L - M	Z - Z
6	O - O	S - R	B - B	L - M	Z - Z
9	O - O	S - R	B - B	L - M	Z - Z
11	O - O	S - R	B - B	L - M	Z - Z
14	P - O	S - R	C - B	L - M	Z - Z
17	P - O	S - R	C - B	L - M	Z - Z
19	P - O	S - R	C - B	L - M	Z - Z
22	P - O	S - R	C - B	L - M	Z - Z
26	Q - P	S - R	D - C	L - M	Z - Z
30	Q - P	S - S	D - C	L - M	Z - Z
34	Q - P	S - S	D - C	L - M	Z - Z
40	Q - P	S - S	D - C	L - M	Z - Z

Kombinationstabelle der lagermässig vorrätigen Standardgewinde und Anflanschungen

Gehäuse (Gewinde und Anflanschungen)

	A		B		C		D		E		F		G
	H		I		L		M		N		O		P
	Q		R		S		T		U		V	Gehäuse Geschlossen	Z

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Zahnradmotoren

– Serie XV –

Baugröße 2

Bestellnr.	Typ	Code
D = rechtsdrehend		
018-020-01000	XV2U/4D-HY-Ø50-C0.002	X2U4122FSRA
018-020-01100	XV2U/6D-HY-Ø50-C0.002	X2U4322FSRA
018-020-01200	XV2U/9D-HY-Ø50-C0.002	X2U4522FSRA
018-020-01300	XV2U/11D-HY-Ø50-C0.002	X2U4722FSRA
018-020-01400	XV2U/14D-HY-Ø50-C0.002	X2U4922FSRA
018-020-01500	XV2U/17D-HY-Ø50-C0.002	X2U5122FSRA
018-020-01600	XV2U/19D-HY-Ø50-C0.002	X2U5322FSRA
018-020-01700	XV2U/22D-HY-Ø50-C0.002	X2U5522FSRA
018-020-01800	XV2U/26D-HY-Ø50-C0.002	X2U5722FSRA
018-020-01900	XV2U/30D-HY-Ø50-C0.002	X2U5922FSSA
018-020-02000	XV2U/34D-HY-Ø50-C0.002	X2U6122FSSA
018-020-02100	XV2U/40D-HY-Ø50-C0.002	X2U6322FSSA
S = linksdrehend		
018-020-01050	XV2U/4S-HY-Ø50-C0.002	X2U4121FSRA
018-020-01150	XV2U/6S-HY-Ø50-C0.002	X2U4321FSRA
018-020-01250	XV2U/9S-HY-Ø50-C0.002	X2U4521FSRA
018-020-01350	XV2U/11S-HY-Ø50-C0.002	X2U4721FSRA
018-020-01450	XV2U/14S-HY-Ø50-C0.002	X2U4921FSRA
018-020-01550	XV2U/17S-HY-Ø50-C0.002	X2U5121FSRA
018-020-01650	XV2U/19S-HY-Ø50-C0.002	X2U5321FSRA
018-020-01750	XV2U/22S-HY-Ø50-C0.002	X2U5521FSRA
018-020-01850	XV2U/26S-HY-Ø50-C0.002	X2U5721FSRA
018-020-01950	XV2U/30S-HY-Ø50-C0.002	X2U5921FSSA
018-020-02050	XV2U/34S-HY-Ø50-C0.002	X2U6121FSSA
018-020-02150	XV2U/40S-HY-Ø50-C0.002	X2U6321FSSA

4-Loch-Flansch-HY-Durchschraubausführung -Bohrungsabstand = 60 x 60 mm / Rezess = Ø 50 mm / Welle -CO.002 1:5 -d = Ø 17,42 mm -M 12x1,5 -Passfeder = 3,0 mm / max. zulässiges Wellendrehmoment = 233,2 Nm / Ölanschlüsse = Flansch LK 35/40 seitlich

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HYMATEC GMBH
HYDRAULIK MASCHINEN TECHNIK

In eine Richtung drehender Motor - Serie XV

XV-2U

MOTOR TYP "HY"
FLANSCH ø50 GEFORMT - KEGELWELLE

X	2	U	51	22	F	S	R	A

Serie		X	Serie XV
Gruppe		2	Gruppe 2
Kategorie		U	In eine Richtung drehender Motor
Hubraum		51	17
Flansch		22	Ø50 DEUTSCHE NORM HY Drehrichtung rechts
Welle		F	CO002 - Konisch 1:5 - ø17.4 - M12x1.5 - Scheibenfeder Dicke 3
Gehäuse	IN	S	Ansaugung - Ø40 a 45° Ø20 M6
	OUT	R	Druckseite - Ø35 a 45° Ø15 M6
Deckel		A	Standard

XU213

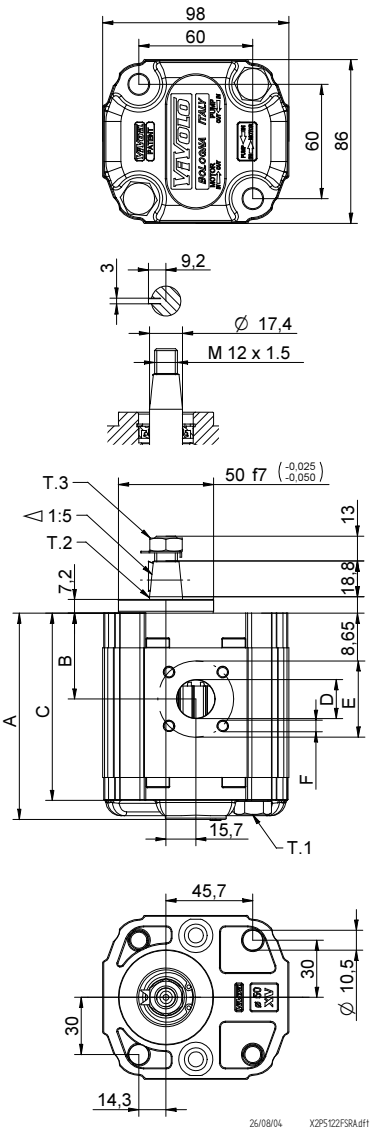
Technische Datentabelle

TYP	Hubraum	Maximaldruck		CODE	
	cm3/u	P1 bar	P3 bar	Drehung links	Drehung rechts
XV-2U/04	4,20	260	300	X 2 U 41 21 F S R A	X 2 U 41 22 F S R A
XV-2U/06	6,00	260	300	X 2 U 43 21 F S R A	X 2 U 43 22 F S R A
XV-2U/09	8,40	260	300	X 2 U 45 21 F S R A	X 2 U 45 22 F S R A
XV-2U/11	10,80	260	300	X 2 U 47 21 F S R A	X 2 U 47 22 F S R A
XV-2U/14	14,40	250	290	X 2 U 49 21 F S R A	X 2 U 49 22 F S R A
XV-2U/17	16,80	230	270	X 2 U 51 21 F S R A	X 2 U 51 22 F S R A
XV-2U/19	19,20	210	250	X 2 U 53 21 F S R A	X 2 U 53 22 F S R A
XV-2U/22	22,80	200	240	X 2 U 55 21 F S R A	X 2 U 55 22 F S R A
XV-2U/26	26,20	170	210	X 2 U 57 21 F S R A	X 2 U 57 22 F S R A
XV-2U/30	30,00	160	200	X 2 U 59 21 F S S A	X 2 U 59 22 F S S A
XV-2U/34	34,20	150	190	X 2 U 61 21 F S S A	X 2 U 61 22 F S S A
XV-2U/40	39,60	140	180	X 2 U 63 21 F S S A	X 2 U 63 22 F S S A

P1) Max. Betriebsdruck - P3) Max. Druckspitze
Für schwere Anwendungen empfiehlt sich eine Prüfung des zulässigen Wellendrehmoments

Dimensionstabelle

TYP	Gewicht	A	B	C	D	E	F	D	E	F
	kg	mm	mm	mm	IN			OUT		
XV-2U/04	2,100	87,2	38,6	77,2	ø15	35	M6x1	ø20	40	M6x1
XV-2U/06	2,200	90,2	38,6	80,2	ø15	35	M6x1	ø20	40	M6x2
XV-2U/09	2,300	94,2	40,6	84,2	ø15	35	M6x1	ø20	40	M6x3
XV-2U/11	2,400	98,2	45,0	88,2	ø15	35	M6x1	ø20	40	M6x4
XV-2U/14	2,600	104,2	45,0	94,2	ø15	35	M6x1	ø20	40	M6x5
XV-2U/17	2,700	108,2	45,0	98,2	ø15	35	M6x1	ø20	40	M6x6
XV-2U/19	2,800	112,2	45,0	102,2	ø15	35	M6x1	ø20	40	M6x7
XV-2U/22	2,950	118,2	52,5	108,2	ø15	35	M6x1	ø20	40	M6x8
XV-2U/26	3,050	122,2	52,5	112,2	ø15	35	M6x1	ø20	40	M6x9
XV-2U/30	3,300	130,2	60,7	120,2	ø20	40	M6x1	ø20	40	M6x10
XV-2U/34	3,500	137,2	60,7	127,2	ø20	40	M6x1	ø20	40	M6x11
XV-2U/40	3,700	146,2	60,7	136,2	ø20	40	M6x1	ø20	40	M6x12



T.1 = 54÷58.9 [Nm] - Anzugsmoment - Schrauben M10
T.3 = 40 [Nm] - Anzugsmoment - Schlüssel 19
T.2 = 233.2 [Nm] - zulässiges Wellendrehmoment (N.B. Zur Auswahl der Welle stets das zulässige Drehmoment prüfen).

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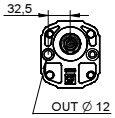
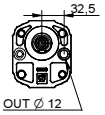
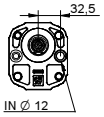
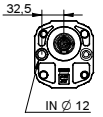
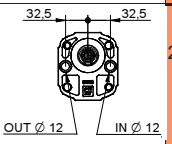
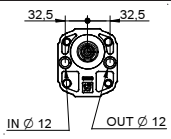
Tabelle der Varianten

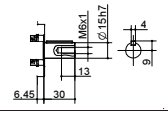
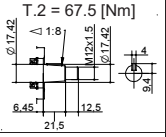
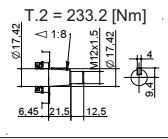
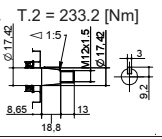
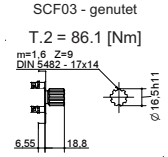
FLANSCH ø50 "HY" – Geformt

XV-2U

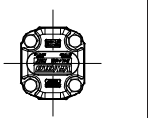
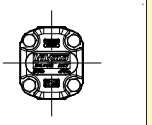
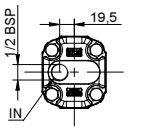
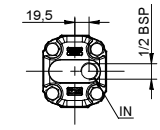
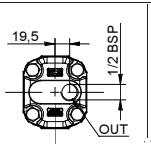
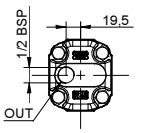
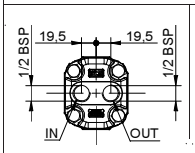
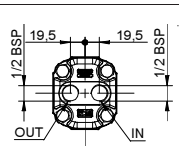
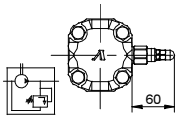
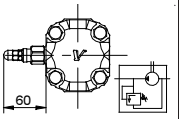
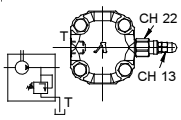
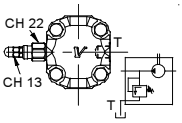
FLANSCH ø50 "HY" – Geformt

Drehung links		Drehung rechts	
	21		22
	23		24
	25		26
	27		28

Welle

CI001 - Zylindrisch T.2 = 44.1 [Nm] 	A	CI002 - Zylindrisch T.2 = 67.5 [Nm] 	B
CO001 - Konisch T.2 = 233.2 [Nm] 	E	CO002 - Konisch T.2 = 233.2 [Nm] 	F
SCF03 - genutet T.2 = 86.1 [Nm] 	H		

Deckel

Drehung links	Drehung rechts	
		A
		B
		C
		D
 Drainage innen		N
 Drainage aussen		O

Hubraum

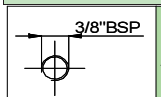
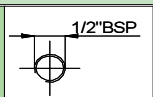
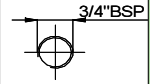
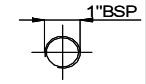
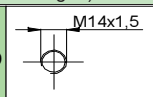
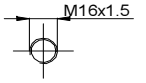
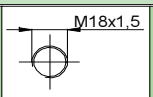
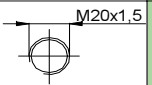
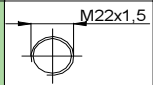
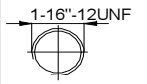
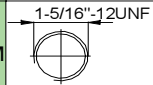
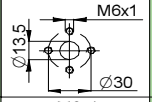
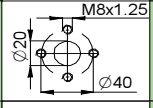
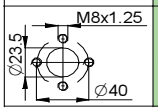
TYP	CODE
XV-2U/04	**41**
XV-2U/06	**43**
XV-2U/09	**45**
XV-2U/11	**47**
XV-2U/14	**49**
XV-2U/17	**51**
XV-2U/19	**53**
XV-2U/22	**55**
XV-2U/26	**57**
XV-2U/30	**59**
XV-2U/34	**61**
XV-2U/40	**63**

Gehäuse Standard

Hubraum cm3/u	Standardgewinde				
4	O - O	S - R	B - B	L - M	Z - Z
6	O - O	S - R	B - B	L - M	Z - Z
9	O - O	S - R	B - B	L - M	Z - Z
11	O - O	S - R	B - B	L - M	Z - Z
14	P - O	S - R	C - B	L - M	Z - Z
17	P - O	S - R	C - B	L - M	Z - Z
19	P - O	S - R	C - B	L - M	Z - Z
22	P - O	S - R	C - B	L - M	Z - Z
26	Q - P	S - R	D - C	L - M	Z - Z
30	Q - P	S - S	D - C	L - M	Z - Z
34	Q - P	S - S	D - C	L - M	Z - Z
40	Q - P	S - S	D - C	L - M	Z - Z

Kombinationstabelle der lagermässig vorrätigen Standardgewinde und Anflanschungen

Gehäuse (Gewinde und Anflanschungen)

	A		B		C		D		E		F		G
	H		I		L		M		N		O		P
	Q		R		S		T		U		V	Gehäuse Geschlossen	Z

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Zahnradmotoren

– Serie XV –

Baugröße 2

Bestellnr.	Typ	Code
D = rechtsdrehend		
018-030-01000	XV2U/4D-BH-Ø52-CF.001	X2U4132CSRA
018-030-01100	XV2U/6D-BH-Ø52-CF.001	X2U4332CSRA
018-030-01200	XV2U/9D-BH-Ø52-CF.001	X2U4532CSRA
018-030-01300	XV2U/11D-BH-Ø52-CF.001	X2U4732CSRA
018-030-01400	XV2U/14D-BH-Ø52-CF.001	X2U4932CSRA
018-030-01500	XV2U/17D-BH-Ø52-CF.001	X2U5132CSRA
018-030-01600	XV2U/19D-BH-Ø52-CF.001	X2U5332CSRA
018-030-01700	XV2U/22D-BH-Ø52-CF.001	X2U5532CSRA
018-030-01800	XV2U/26D-BH-Ø52-CF.001	X2U5732CSRA
018-030-01900	XV2U/30D-BH-Ø52-CF.001	X2U5932CSSA
018-030-02000	XV2U/34D-BH-Ø52-CF.001	X2U6132CSSA
018-030-02100	XV2U/40D-BH-Ø52-CF.001	X2U6332CSSA
S = linksdrehend		
018-030-01050	XV2U/4S-BH-Ø52-CF.001	X2U4131CSRA
018-030-01150	XV2U/6S-BH-Ø52-CF.001	X2U4331CSRA
018-030-01250	XV2U/9S-BH-Ø52-CF.001	X2U4531CSRA
018-030-01350	XV2U/11S-BH-Ø52-CF.001	X2U4731CSRA
018-030-01450	XV2U/14S-BH-Ø52-CF.001	X2U4931CSRA
018-030-01550	XV2U/17S-BH-Ø52-CF.001	X2U5131CSRA
018-030-01650	XV2U/19S-BH-Ø52-CF.001	X2U5331CSRA
018-030-01750	XV2U/22S-BH-Ø52-CF.001	X2U5531CSRA
018-030-01850	XV2U/26S-BH-Ø52-CF.001	X2U5731CSRA
018-030-01950	XV2U/30S-BH-Ø52-CF.001	X2U5931CSSA
018-030-02050	XV2U/34S-BH-Ø52-CF.001	X2U6131CSSA
018-030-02150	XV2U/40S-BH-Ø52-CF.001	X2U6331CSSA

4-Loch-Flansch-BH-Durchschraubausführung -Bohrungsabstand = 60 x 60 mm / Rezess = Ø 52 mm mit O-Ring
Zungenwelle versenkt -CF.001 / max. zulässiges Wellendrehmoment = 60,5 Nm / Ölanschlüsse = Flansch LK 35/40 seitlich

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HYMATEC GMBH
HYDRAULIK MASCHINEN TECHNIK

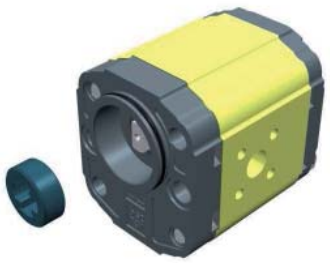
In eine Richtung drehender Motor - Serie XV

XV-2U

DEUTSCHE STANDARDMOTOR TYP "BH"
FLANSCH ø52 GEFORMT - WELLE MIT GEFRÄSTEM ENDSTÜCK

X	2	U	51	32	C	S	R	A

Serie		X	Serie XV
Gruppe		2	Gruppe 2
Kategorie		U	In eine Richtung drehender Motor
Hubraum		51	17
Flansch		32	Ø52 DEUTSCHE NORM Drehrichtung rechts (mit OR)
Welle		C	CF001 - mit gefrästem Endstück ø15 - Dicke 8 ("BH" deutscher Standard)
Gehäuse	IN	S	Ansaugung - Ø40 a 45° Ø20 M6
	OUT	R	Druckseite - Ø35 a 45° Ø15 M6
Deckel		A	Standard



XU216

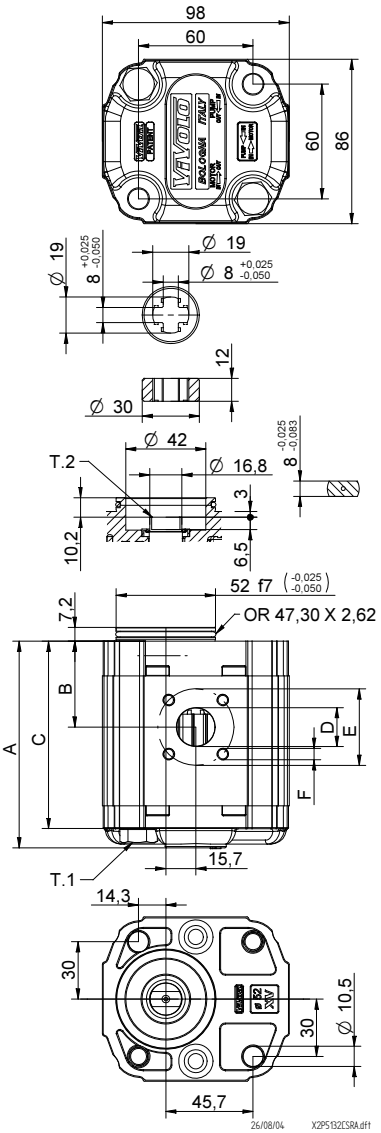
Technische Datentabelle

TYP	Hubraum	Maximaldruck		CODE	
	cm3/u	P1 bar	P3 bar	Drehung links	Drehung rechts
XV-2U/04	4,20	260	300	X 2 U 41 31 C S R A	X 2 U 41 32 C S R A
XV-2U/06	6,00	260	300	X 2 U 43 31 C S R A	X 2 U 43 32 C S R A
XV-2U/09	8,40	260	300	X 2 U 45 31 C S R A	X 2 U 45 32 C S R A
XV-2U/11	10,80	260	300	X 2 U 47 31 C S R A	X 2 U 47 32 C S R A
XV-2U/14	14,40	250	290	X 2 U 49 31 C S R A	X 2 U 49 32 C S R A
XV-2U/17	16,80	230	270	X 2 U 51 31 C S R A	X 2 U 51 32 C S R A
XV-2U/19	19,20	210	250	X 2 U 53 31 C S R A	X 2 U 53 32 C S R A
XV-2U/22	22,80	200	240	X 2 U 55 31 C S R A	X 2 U 55 32 C S R A
XV-2U/26	26,20	170	210	X 2 U 57 31 C S R A	X 2 U 57 32 C S R A
XV-2U/30	30,00	160	200	X 2 U 59 31 C S S A	X 2 U 59 32 C S S A
XV-2U/34	34,20	150	190	X 2 U 61 31 C S S A	X 2 U 61 32 C S S A
XV-2U/40	39,60	140	180	X 2 U 63 31 C S S A	X 2 U 63 32 C S S A

P1) Max. Betriebsdruck - P3) Max. Druckspitze
Für schwere Anwendungen empfiehlt sich eine Prüfung des zulässigen Wellendrehmoments

Dimensionstabelle

TYP	Gewicht	A	B	C	D	E	F	D	E	F
	kg	mm	mm	mm	IN			OUT		
XV-2U/04	2,100	87,2	38,6	77,2	ø15	35	M6x1	ø20	40	M6x1
XV-2U/06	2,200	90,2	38,6	80,2	ø15	35	M6x1	ø20	40	M6x2
XV-2U/09	2,300	94,2	40,6	84,2	ø15	35	M6x1	ø20	40	M6x3
XV-2U/11	2,400	98,2	45,0	88,2	ø15	35	M6x1	ø20	40	M6x4
XV-2U/14	2,600	104,2	45,0	94,2	ø15	35	M6x1	ø20	40	M6x5
XV-2U/17	2,700	108,2	45,0	98,2	ø15	35	M6x1	ø20	40	M6x6
XV-2U/19	2,800	112,2	45,0	102,2	ø15	35	M6x1	ø20	40	M6x7
XV-2U/22	2,950	118,2	52,5	108,2	ø15	35	M6x1	ø20	40	M6x8
XV-2U/26	3,050	122,2	52,5	112,2	ø15	35	M6x1	ø20	40	M6x9
XV-2U/30	3,300	130,2	60,7	120,2	ø20	40	M6x1	ø20	40	M6x10
XV-2U/34	3,500	137,2	60,7	127,2	ø20	40	M6x1	ø20	40	M6x11
XV-2U/40	3,700	146,2	60,7	136,2	ø20	40	M6x1	ø20	40	M6x12



T.1 = 54÷58.9 [Nm] - Anzugsmoment - Schrauben M10
T.2 = 60.5 [Nm] - zulässiges Wellendrehmoment (N.B. Zur Auswahl der Welle stets das zulässige Drehmoment prüfen).

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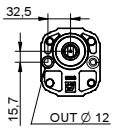
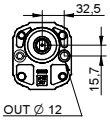
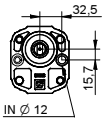
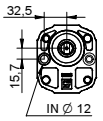
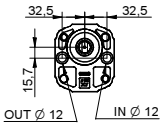
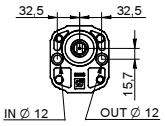
Tabelle der Varianten

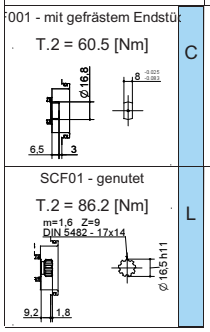
XV-2U

FLANSCH ø52 Deutsche Standardpumpe "BH"

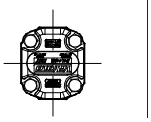
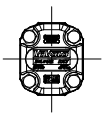
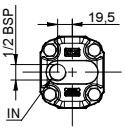
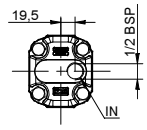
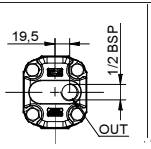
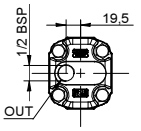
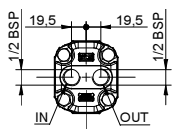
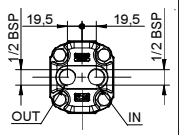
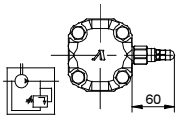
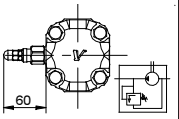
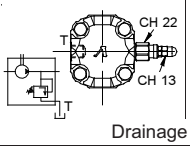
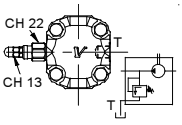
FLANSCH ø52 Deutsche Standardpumpe "BH"

Drehung links		Drehung rechts	
	31		32
	33		34
	35		36
	37		38

Welle



Deckel

Drehung links	Drehung rechts	
		A
		B
		C
		D
 Drainage innen		N
 Drainage aussen		O

Hubraum

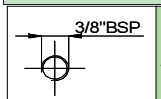
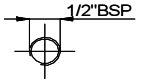
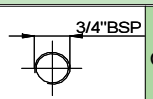
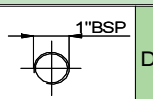
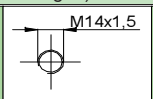
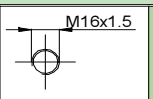
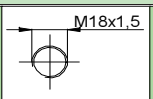
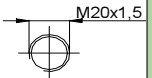
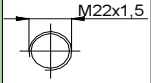
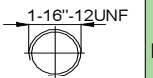
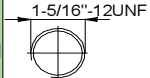
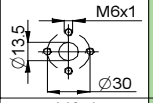
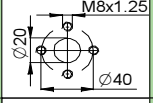
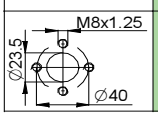
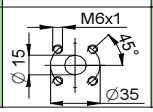
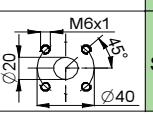
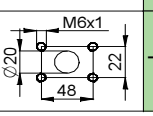
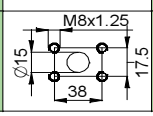
TYP	CODE
XV-2U/04	**41**
XV-2U/06	**43**
XV-2U/09	**45**
XV-2U/11	**47**
XV-2U/14	**49**
XV-2U/17	**51**
XV-2U/19	**53**
XV-2U/22	**55**
XV-2U/26	**57**
XV-2U/30	**59**
XV-2U/34	**61**
XV-2U/40	**63**

Gehäuse Standard

Hubraum cm3/u	Standardgewinde				
4	O - O	S - R	B - B	L - M	Z - Z
6	O - O	S - R	B - B	L - M	Z - Z
9	O - O	S - R	B - B	L - M	Z - Z
11	O - O	S - R	B - B	L - M	Z - Z
14	P - O	S - R	C - B	L - M	Z - Z
17	P - O	S - R	C - B	L - M	Z - Z
19	P - O	S - R	C - B	L - M	Z - Z
22	P - O	S - R	C - B	L - M	Z - Z
26	Q - P	S - R	D - C	L - M	Z - Z
30	Q - P	S - S	D - C	L - M	Z - Z
34	Q - P	S - S	D - C	L - M	Z - Z
40	Q - P	S - S	D - C	L - M	Z - Z

Kombinationstabelle der lagermässig vorrätigen Standardgewinde und Anflanschungen

Gehäuse (Gewinde und Anflanschungen)

 3/8"BSP	A	 1/2"BSP	B	 3/4"BSP	C	 1"BSP	D	 M14x1,5	E	 M16x1.5	F	 M18x1,5	G
 M20x1,5	H	 M22x1,5	I	 1-16"-12UNF	L	 7/8"-14UNF	M	 1-5/16"-12UNF	N	 M6x1 Ø13,5 Ø30	O	 M8x1.25 Ø20 Ø40	P
 M8x1.25 Ø23,5 Ø40	Q	 M6x1 45° Ø15 Ø35	R	 M6x1 45° Ø20 Ø40	S	 M6x1 Ø20 22 48	T	 M8x1.25 Ø15 17,5 38	U	M6x1 Ø15 17,5 38	V	Gehäuse Geschlossen	Z

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Zahnradmotoren

– Serie XV –

Baugröße 2

Bestellnr.	Typ	Code
	D = rechtsdrehend	
018-040-01000	XV2U/4D-Ø80-C0.002	X2U4142FSRA
018-040-01100	XV2U/6D-Ø80-C0.002	X2U4342FSRA
018-040-01200	XV2U/9D-Ø80-C0.002	X2U4542FSRA
018-040-01300	XV2U/11D-Ø80-C0.002	X2U4742FSRA
018-040-01400	XV2U/14D-Ø80-C0.002	X2U4942FSRA
018-040-01500	XV2U/17D-Ø80-C0.002	X2U5142FSRA
018-040-01600	XV2U/19D-Ø80-C0.002	X2U5342FSRA
018-040-01700	XV2U/22D-Ø80-C0.002	X2U5542FSRA
018-040-01800	XV2U/26D-Ø80-C0.002	X2U5742FSRA
018-040-01900	XV2U/30D-Ø80-C0.002	X2U5942FSSA
018-040-02000	XV2U/34D-Ø80-C0.002	X2U6142FSSA
018-040-02100	XV2U/40D-Ø80-C0.002	X2U6342FSSA
	S = linksdrehend	
018-040-01050	XV2U/4S-Ø80-C0.002	X2U4141FSRA
018-040-01150	XV2U/6S-Ø80-C0.002	X2U4341FSRA
018-040-01250	XV2U/9S-Ø80-C0.002	X2U4541FSRA
018-040-01350	XV2U/11S-Ø80-C0.002	X2U4741FSRA
018-040-01450	XV2U/14S-Ø80-C0.002	X2U4941FSRA
018-040-01550	XV2U/17S-Ø80-C0.002	X2U5141FSRA
018-040-01650	XV2U/19S-Ø80-C0.002	X2U5341FSRA
018-040-01750	XV2U/22S-Ø80-C0.002	X2U5541FSRA
018-040-01850	XV2U/26S-Ø80-C0.002	X2U5741FSRA
018-040-01950	XV2U/30S-Ø80-C0.002	X2U5941FSSA
018-040-02050	XV2U/34S-Ø80-C0.002	X2U6141FSSA
018-040-02150	XV2U/40S-Ø80-C0.002	X2U6341FSSA

4-Loch-Flansch -Bohrungsabstand = 100 x 72 mm / Rezess = Ø 80 mm mit O-Ring / Welle -CO.002 1:5 -d = Ø 17,42 mm -M 12x1,5 -Passfeder = 3,0 mm / max. zulässiges Wellendrehmoment = 233,2 Nm / Ölanschlüsse = Flansch LK 35/40 seitlich

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HYMATEC GMBH
HYDRAULIK MASCHINEN TECHNIK

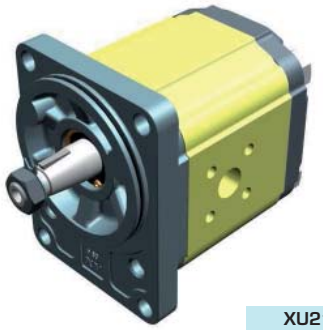
In eine Richtung drehender Motor - Serie XV

XV-2U

DEUTSCHE STANDARDMOTOR
FLANSCH ø80 - KEGELWELLE

X	2	U	51	42	F	S	R	A

Serie		X	Serie XV
Gruppe		2	Gruppe 2
Kategorie		U	In eine Richtung drehender Motor
Hubraum		51	17
Flansch		42	Ø80 DEUTSCHE NORM Drehrichtung rechts (mit OR)
Welle		F	CO002 - Konisch 1:5 - ø17.4 - M12x1.5 - Scheibenfeder Dicke 3
Gehäuse	IN	S	Ansaugung - Ø40 a 45° Ø20 M6
	OUT	R	Druckseite - Ø35 a 45° Ø15 M6
Deckel		A	Standard

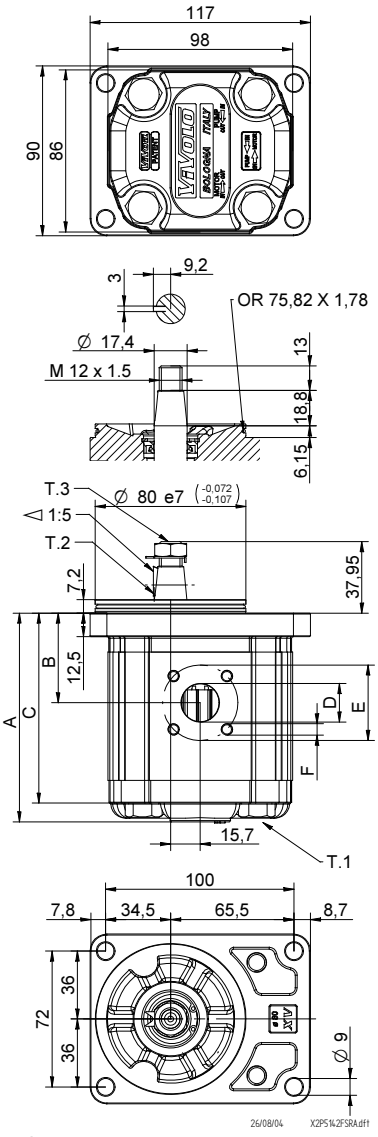


XU217

Technische Datentabelle

TYP	Hubraum	Maximaldruck		CODE	
	cm3/u	P1 bar	P3 bar	Drehung links	Drehung rechts
XV-2U/04	4,20	260	300	X 2 U 41 41 F S R A	X 2 U 41 42 F S R A
XV-2U/06	6,00	260	300	X 2 U 43 41 F S R A	X 2 U 43 42 F S R A
XV-2U/09	8,40	260	300	X 2 U 45 41 F S R A	X 2 U 45 42 F S R A
XV-2U/11	10,80	260	300	X 2 U 47 41 F S R A	X 2 U 47 42 F S R A
XV-2U/14	14,40	250	290	X 2 U 49 41 F S R A	X 2 U 49 42 F S R A
XV-2U/17	16,80	230	270	X 2 U 51 41 F S R A	X 2 U 51 42 F S R A
XV-2U/19	19,20	210	250	X 2 U 53 41 F S R A	X 2 U 53 42 F S R A
XV-2U/22	22,80	200	240	X 2 U 55 41 F S R A	X 2 U 55 42 F S R A
XV-2U/26	26,20	170	210	X 2 U 57 41 F S R A	X 2 U 57 42 F S R A
XV-2U/30	30,00	160	200	X 2 U 59 41 F S S A	X 2 U 59 42 F S S A
XV-2U/34	34,20	150	190	X 2 U 61 41 F S S A	X 2 U 61 42 F S S A
XV-2U/40	39,60	140	180	X 2 U 63 41 F S S A	X 2 U 63 42 F S S A

P1) Max. Betriebsdruck - P3) Max. Druckspitze
Für schwere Anwendungen empfiehlt sich eine Prüfung des zulässigen Wellendrehmoments



Dimensionstabelle

TYP	Gewicht	A	B	C	D	E	F	D	E	F
	kg	mm	mm	mm	IN			OUT		
XV-2U/04	2,330	89,7	41,1	79,7	ø15	35	M6x1	ø20	40	M6x1
XV-2U/06	2,430	92,7	41,1	82,7	ø15	35	M6x1	ø20	40	M6x2
XV-2U/09	2,530	96,7	43,1	86,7	ø15	35	M6x1	ø20	40	M6x3
XV-2U/11	2,630	100,7	47,5	90,7	ø15	35	M6x1	ø20	40	M6x4
XV-2U/14	2,730	106,7	47,5	96,7	ø15	35	M6x1	ø20	40	M6x5
XV-2U/17	2,830	110,7	47,5	100,7	ø15	35	M6x1	ø20	40	M6x6
XV-2U/19	2,930	114,7	47,5	104,7	ø15	35	M6x1	ø20	40	M6x7
XV-2U/22	3,180	120,7	55,0	110,7	ø15	35	M6x1	ø20	40	M6x8
XV-2U/26	3,280	124,7	55,0	114,7	ø15	35	M6x1	ø20	40	M6x9
XV-2U/30	3,530	132,7	63,2	122,7	ø20	40	M6x1	ø20	40	M6x10
XV-2U/34	3,730	139,7	63,2	129,7	ø20	40	M6x1	ø20	40	M6x11
XV-2U/40	3,930	148,7	63,2	138,7	ø20	40	M6x1	ø20	40	M6x12

T.1 = 54÷58.9 [Nm] - Anzugsmoment - Schrauben M10
T.3 = 40 [Nm] - Anzugsmoment - Schlüssel 19
T.2 = 233.2 [Nm] - zulässiges Wellendrehmoment (N.B. Zur Auswahl der Welle stets das zulässige Drehmoment prüfen).

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HYMATEC GMBH
HYDRAULIK MASCHINEN TECHNIK

Tabelle der Varianten

XV-2U

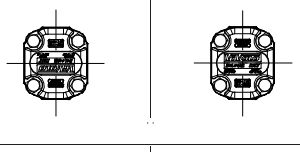
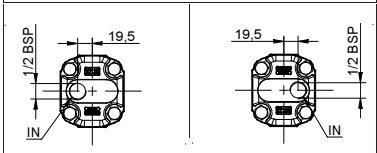
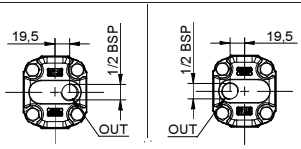
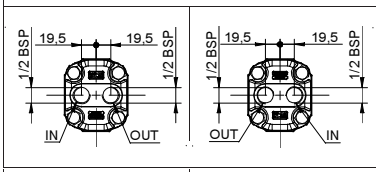
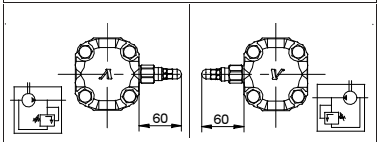
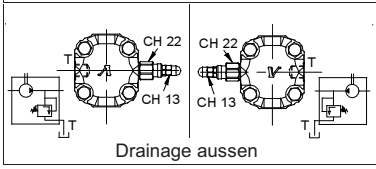
FLANSCH ø80 Deutsche Standardpumpe

FLANSCH ø80 Deutsche Standardpumpe			
Drehung links		Drehung rechts	
	41		42

Welle

CI001 - Zylindrisch T.2 = 44.1 [Nm]	A	CI002 - Zylindrisch T.2 = 67.5 [Nm]	B
CO001 - Konisch T.2 = 233.2 [Nm]	E	CO002 - Konisch T.2 = 233.2 [Nm]	F
SCF03 - genutet T.2 = 86.1 [Nm]	H		

Deckel

Drehung links	Drehung rechts	
		A
		B
		C
		D
 Drainage innen		N
 Drainage aussen		O

Hubraum

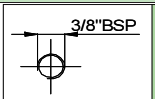
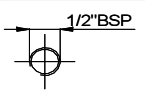
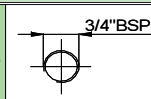
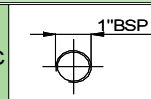
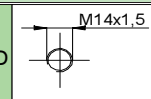
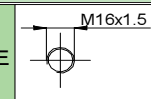
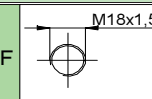
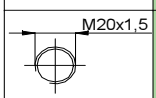
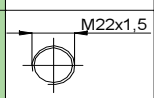
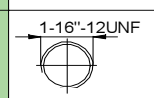
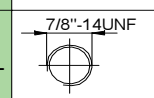
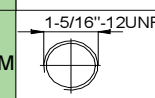
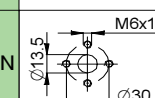
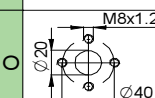
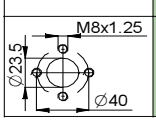
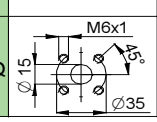
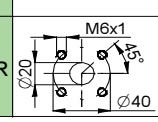
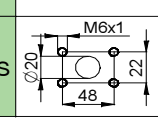
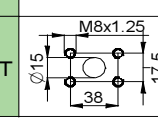
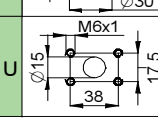
TYP	CODE
XV-2U/04	41
XV-2U/06	43
XV-2U/09	45
XV-2U/11	47
XV-2U/14	49
XV-2U/17	51
XV-2U/19	53
XV-2U/22	55
XV-2U/26	57
XV-2U/30	59
XV-2U/34	61
XV-2U/40	63

Gehäuse Standard

Hubraum cm3/u	Standardgewinde				
4	O - O	S - R	B - B	L - M	Z - Z
6	O - O	S - R	B - B	L - M	Z - Z
9	O - O	S - R	B - B	L - M	Z - Z
11	O - O	S - R	B - B	L - M	Z - Z
14	P - O	S - R	C - B	L - M	Z - Z
17	P - O	S - R	C - B	L - M	Z - Z
19	P - O	S - R	C - B	L - M	Z - Z
22	P - O	S - R	C - B	L - M	Z - Z
26	Q - P	S - R	D - C	L - M	Z - Z
30	Q - P	S - S	D - C	L - M	Z - Z
34	Q - P	S - S	D - C	L - M	Z - Z
40	Q - P	S - S	D - C	L - M	Z - Z

Kombinationstabelle der lagermässig vorrätigen Standardgewinde und Anflanschungen

Gehäuse (Gewinde und Anflanschungen)

 3/8"BSP	A	 1/2"BSP	B	 3/4"BSP	C	 1"BSP	D	 M14x1,5	E	 M16x1.5	F	 M18x1,5	G
 M20x1,5	H	 M22x1,5	I	 1-16"-12UNF	L	 7/8"-14UNF	M	 1-5/16"-12UNF	N	 M6x1	O	 M8x1.25	P
 M8x1.25	Q	 M6x1	R	 M6x1	S	 M6x1	T	 M8x1.25	U	 M6x1	V	Gehäuse Geschlossen	Z

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Zahnradmotoren

– Serie XV –

Baugröße 2

Bestellnr.	Typ	Code
D = rechtsdrehend		
018-060-01000	XV2U/4D-Ø82,5-SAEA-SCF.04	X2U4152ISRA
018-060-01100	XV2U/6D-Ø82,5-SAEA-SCF.04	X2U4352ISRA
018-060-01200	XV2U/9D-Ø82,5-SAEA-SCF.04	X2U4552ISRA
018-060-01300	XV2U/11D-Ø82,5-SAEA-SCF.04	X2U4752ISRA
018-060-01400	XV2U/14D-Ø82,5-SAEA-SCF.04	X2U4952ISRA
018-060-01500	XV2U/17D-Ø82,5-SAEA-SCF.04	X2U5152ISRA
018-060-01600	XV2U/19D-Ø82,5-SAEA-SCF.04	X2U5352ISRA
018-060-01700	XV2U/22D-Ø82,5-SAEA-SCF.04	X2U5552ISRA
018-060-01800	XV2U/26D-Ø82,5-SAEA-SCF.04	X2U5752ISRA
018-060-01900	XV2U/30D-Ø82,5-SAEA-SCF.04	X2U5952ISSA
018-060-02000	XV2U/34D-Ø82,5-SAEA-SCF.04	X2U6152ISSA
018-060-02100	XV2U/40D-Ø82,5-SAEA-SCF.04	X2U6352ISSA
S = linksdrehend		
018-060-01050	XV2U/4S-Ø82,5-SAEA-SCF.04	X2U4151ISRA
018-060-01150	XV2U/6S-Ø82,5-SAEA-SCF.04	X2U4351ISRA
018-060-01250	XV2U/9S-Ø82,5-SAEA-SCF.04	X2U4551ISRA
018-060-01350	XV2U/11S-Ø82,5-SAEA-SCF.04	X2U4751ISRA
018-060-01450	XV2U/14S-Ø82,5-SAEA-SCF.04	X2U4951ISRA
018-060-01550	XV2U/17S-Ø82,5-SAEA-SCF.04	X2U5151ISRA
018-060-01650	XV2U/19S-Ø82,5-SAEA-SCF.04	X2U5351ISRA
018-060-01750	XV2U/22S-Ø82,5-SAEA-SCF.04	X2U5551ISRA
018-060-01850	XV2U/26S-Ø82,5-SAEA-SCF.04	X2U5751ISRA
018-060-01950	XV2U/30S-Ø82,5-SAEA-SCF.04	X2U5951ISSA
018-060-02050	XV2U/34S-Ø82,5-SAEA-SCF.04	X2U6151ISSA
018-060-02150	XV2U/40S-Ø82,5-SAEA-SCF.04	X2U6351ISSA

2-Loch-SAE-A-Flansch -Bohrungsabstand = 106,4 mm / Rezess = Ø 82,5 mm mit O-Ring / Welle SAEJ498 -SCF.04 -d = Ø 15,45 mm z = 9
max. zulässiges Wellendrehmoment = 67,1 Nm / Ölanschlüsse = Flansch LK 35/40 seitlich

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HYMATEC GMBH
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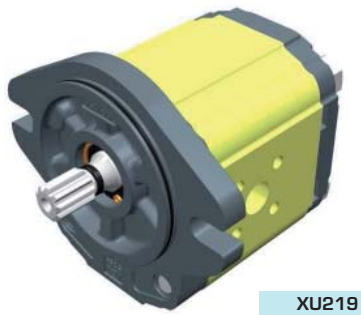
In eine Richtung drehender Motor - Serie XV

XV-2U

MOTOR TYP "SAE A"
FLANSCH ø82.5 - KEILWELLE

X	2	U	51	52	I	S	R	A

Serie		X	Serie XV
Gruppe		2	Gruppe 2
Kategorie		U	In eine Richtung drehender Motor
Hubraum		51	17
Flansch		52	Ø82.5 SAE A Drehrichtung rechts (mit OR)
Welle		I	SCF04 - genutet ø15.456 z=9, H=22.5 - SAE J498 9T 16/32DP
Gehäuse	IN	S	Ansaugung - Ø40 a 45° Ø20 M6
	OUT	R	Druckseite - Ø35 a 45° Ø15 M6
Deckel		A	Standard

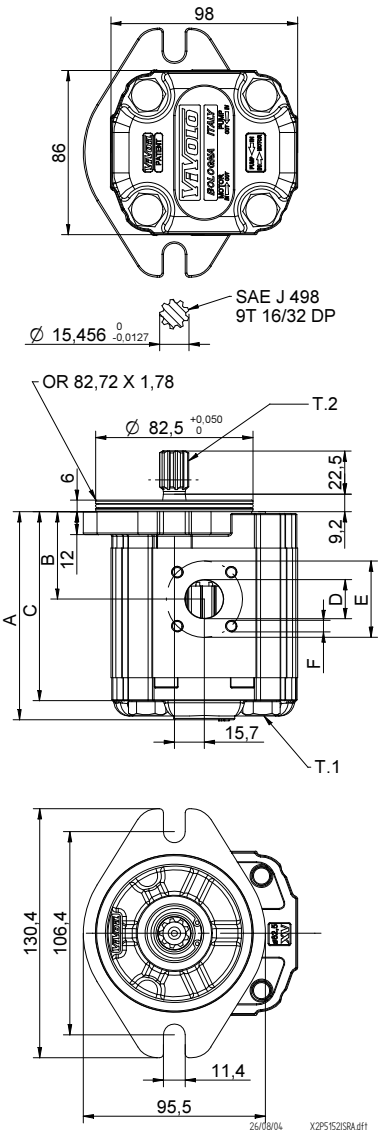


XU219

Technische Datentabelle

TYP	Hubraum	Maximaldruck	CODE	
	cm3/u	P1 bar	P3 bar	Drehung links	Drehung rechts
XV-2U/04	4,20	260	300	X 2 U 41 51 I S R A	X 2 U 41 52 I S R A
XV-2U/06	6,00	260	300	X 2 U 43 51 I S R A	X 2 U 43 52 I S R A
XV-2U/09	8,40	260	300	X 2 U 45 51 I S R A	X 2 U 45 52 I S R A
XV-2U/11	10,80	260	300	X 2 U 47 51 I S R A	X 2 U 47 52 I S R A
XV-2U/14	14,40	250	290	X 2 U 49 51 I S R A	X 2 U 49 52 I S R A
XV-2U/17	16,80	230	270	X 2 U 51 51 I S R A	X 2 U 51 52 I S R A
XV-2U/19	19,20	210	250	X 2 U 53 51 I S R A	X 2 U 53 52 I S R A
XV-2U/22	22,80	200	240	X 2 U 55 51 I S R A	X 2 U 55 52 I S R A
XV-2U/26	26,20	170	210	X 2 U 57 51 I S R A	X 2 U 57 52 I S R A
XV-2U/30	30,00	160	200	X 2 U 59 51 I S S A	X 2 U 59 52 I S S A
XV-2U/34	34,20	150	190	X 2 U 61 51 I S S A	X 2 U 61 52 I S S A
XV-2U/40	39,60	140	180	X 2 U 63 51 I S S A	X 2 U 63 52 I S S A

P1) Max. Betriebsdruck - P3) Max. Druckspitze
Für schwere Anwendungen empfiehlt sich eine Prüfung des zulässigen Wellendrehmoments



Dimensionstabelle

TYP	Gewicht	A	B	C	D	E	F	D	E	F
	kg	mm	mm	mm	IN			OUT		
XV-2U/04	2,280	88,0	39,4	78,0	ø15	35	M6x1	ø20	40	M6x1
XV-2U/06	2,380	91,0	39,4	81,0	ø15	35	M6x1	ø20	40	M6x2
XV-2U/09	2,480	95,0	41,4	85,0	ø15	35	M6x1	ø20	40	M6x3
XV-2U/11	2,580	99,0	45,8	89,0	ø15	35	M6x1	ø20	40	M6x4
XV-2U/14	2,780	105,0	45,8	95,0	ø15	35	M6x1	ø20	40	M6x5
XV-2U/17	2,880	109,0	45,8	99,0	ø15	35	M6x1	ø20	40	M6x6
XV-2U/19	2,980	113,0	45,8	103,0	ø15	35	M6x1	ø20	40	M6x7
XV-2U/22	3,130	119,0	53,3	109,0	ø15	35	M6x1	ø20	40	M6x8
XV-2U/26	3,230	123,0	53,3	113,0	ø15	35	M6x1	ø20	40	M6x9
XV-2U/30	3,480	131,0	61,5	121,0	ø20	40	M6x1	ø20	40	M6x10
XV-2U/34	3,680	138,0	61,5	128,0	ø20	40	M6x1	ø20	40	M6x11
XV-2U/40	3,880	147,0	61,5	137,0	ø20	40	M6x1	ø20	40	M6x12

T.1 = 54÷58.9 [Nm] - Anzugsmoment - Schrauben M10
T.2 = 67.1 [Nm] - zulässiges Wellendrehmoment (N.B. Zur Auswahl der Welle stets das zulässige Drehmoment prüfen).

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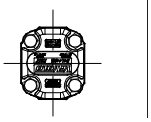
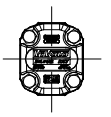
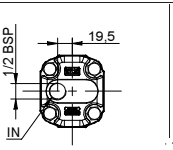
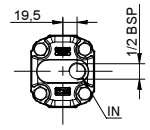
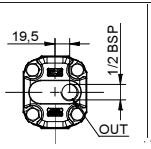
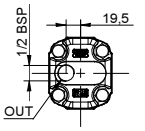
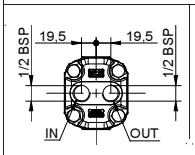
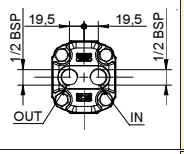
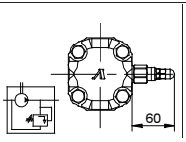
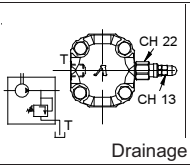
Tabelle der Varianten

FLANSCH ø82.5

XV-2U

FLANSCH ø82.5			
Drehung links		Drehung rechts	
	51		52
 Ohne OR	53	 Ohne OR	54

Welle			
CI001 - Zylindrisch T.2 = 44.1 [Nm]	A	CI002 - Zylindrisch T.2 = 67.5 [Nm]	B
CO001 - Konisch T.2 = 233.2 [Nm]	E	CO002 - Konisch T.2 = 233.2 [Nm]	F
SCF04 - genutet T.2 = 67.1 [Nm]	I		

Deckel		
Drehung links	Drehung rechts	
		A
		B
		C
		D
 Drainage innen		N
 Drainage aussen		O

Hubraum	
TYP	CODE
XV-2U/04	41
XV-2U/06	43
XV-2U/09	45
XV-2U/11	47
XV-2U/14	49
XV-2U/17	51
XV-2U/19	53
XV-2U/22	55
XV-2U/26	57
XV-2U/30	59
XV-2U/34	61
XV-2U/40	63

Gehäuse Standard					
Hubraum cm3/u	Standardgewinde				
4	O - O	S - R	B - B	L - M	Z - Z
6	O - O	S - R	B - B	L - M	Z - Z
9	O - O	S - R	B - B	L - M	Z - Z
11	O - O	S - R	B - B	L - M	Z - Z
14	P - O	S - R	C - B	L - M	Z - Z
17	P - O	S - R	C - B	L - M	Z - Z
19	P - O	S - R	C - B	L - M	Z - Z
22	P - O	S - R	C - B	L - M	Z - Z
26	Q - P	S - R	D - C	L - M	Z - Z
30	Q - P	S - S	D - C	L - M	Z - Z
34	Q - P	S - S	D - C	L - M	Z - Z
40	Q - P	S - S	D - C	L - M	Z - Z

Kombinationstabelle der lagermässig vorrätigen Standardgewinde und Anflanschungen

Gehäuse (Gewinde und Anflanschungen)																	
3/8"BSP	A	1/2"BSP	B	3/4"BSP	C	1"BSP	D	M14x1,5	E	M16x1.5	F	M18x1,5	G
M20x1,5	H	M22x1,5	I	1-16"-12UNF	L	7/8"-14UNF	M	1-5/16"-12UNF	N	M6x1	O	M8x1.25	P
M8x1.25	Q	M6x1	R	M6x1	S	M6x1	T	M8x1.25	U	M6x1	V	Gehäuse Geschlossen	Z

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Zahnradmotoren

– Serie XV –

Baugröße 2

Bestellnr.	Typ	Code
Reversierbar		
018-080-02200	XV2M/4-BH-Ø50-C0.002-Leckö̈l extern	X2M4107FRRE
018-080-02250	XV2M/6-BH-Ø50-C0.002-Leckö̈l extern	X2M4307FRRE
018-080-02300	XV2M/9-BH-Ø50-C0.002-Leckö̈l extern	X2M4507FRRE
018-080-02350	XV2M/11-BH-Ø50-C0.002-Leckö̈l extern	X2M4707FRRE
018-080-02400	XV2M/14-BH-Ø50-C0.002-Leckö̈l extern	X2M4907FRRE
018-080-02450	XV2M/17-BH-Ø50-C0.002-Leckö̈l extern	X2M5107FRRE
018-080-02500	XV2M/19-BH-Ø50-C0.002-Leckö̈l extern	X2M5307FRRE
018-080-02550	XV2M/22-BH-Ø50-C0.002-Leckö̈l extern	X2M5507FRRE
018-080-02600	XV2M/26-BH-Ø50-C0.002-Leckö̈l extern	X2M5707FSSE
018-080-02650	XV2M/30-BH-Ø50-C0.002-Leckö̈l extern	X2M5907FSSE
018-080-02700	XV2M/34-BH-Ø50-C0.002-Leckö̈l extern	X2M6107FSSE
018-080-02750	XV2M/40-BH-Ø50-C0.002-Leckö̈l extern	X2M6307FSSE

4-Loch-Flansch-BH-Durchschraubausführung -Bohrungsabstand = 60 x 60 mm / Rezess = Ø 50 mm / Welle -CO.002 1:5 -d = Ø 17,42 mm -M 12x1,5 -Passfeder = 3,0 mm / max. zulässiges Wellendrehmoment = 233,2 Nm / Ölanschlüsse = Flansch LK 35/40 seitlich

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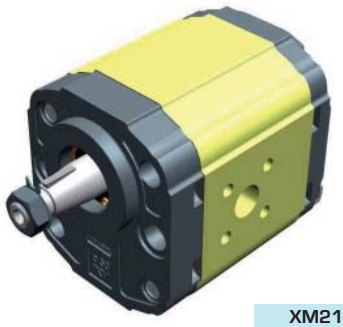
Umkehrmotor - Serie XV

MOTOR TYP "BH"
FLANSCH ø50 GEFORMT - KEGELWELLE

XV-2M

X	2	M	51	07	F	R	R	E

Serie		X	Serie XV
Gruppe		2	Gruppe 2
Kategorie		M	Umkehrmotor
Hubraum		51	17
Flansch		07	Ø50 DEUTSCHE NORM BH Drehrichtung umkehrbar
Welle		F	CO002 - Konisch 1:5 - ø17.4 - M12x1.5 - Scheibenfeder Dicke 3
Gehäuse	IN	R	Ansaugung - Ø35 a 45° Ø15 M6
	OUT	R	Druckseite - Ø35 a 45° Ø15 M6
Deckel		E	Mit Drainage aussen



XM210

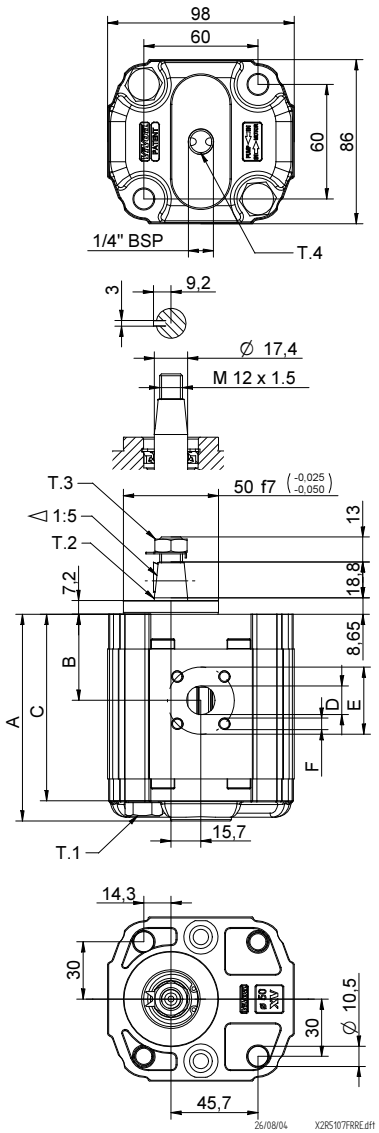
Technische Datentabelle

TYP	Hubraum	Maximaldruck		CODE	
	cm3/u	P1 bar	P3 bar	Drainage aussen	Drainage innen
XV-2M/04	4,20	260	300	X 2 M 41 07 F R R E	X 2 M 41 07 F R R F
XV-2M/06	6,00	260	300	X 2 M 43 07 F R R E	X 2 M 43 07 F R R F
XV-2M/09	8,40	260	300	X 2 M 45 07 F R R E	X 2 M 45 07 F R R F
XV-2M/11	10,80	260	300	X 2 M 47 07 F R R E	X 2 M 47 07 F R R F
XV-2M/14	14,40	250	290	X 2 M 49 07 F R R E	X 2 M 49 07 F R R F
XV-2M/17	16,80	230	270	X 2 M 51 07 F R R E	X 2 M 51 07 F R R F
XV-2M/19	19,20	210	250	X 2 M 53 07 F R R E	X 2 M 53 07 F R R F
XV-2M/22	22,80	200	240	X 2 M 55 07 F R R E	X 2 M 55 07 F R R F
XV-2M/26	26,20	170	210	X 2 M 57 07 F S S E	X 2 M 57 07 F S S F
XV-2M/30	30,00	160	200	X 2 M 59 07 F S S E	X 2 M 59 07 F S S F
XV-2M/34	34,20	150	190	X 2 M 61 07 F S S E	X 2 M 61 07 F S S F
XV-2M/40	39,60	140	180	X 2 M 63 07 F S S E	X 2 M 63 07 F S S F

P1) Max. Betriebsdruck - P3) Max. Druckspitze
Für schwere Anwendungen empfiehlt sich eine Prüfung des zulässigen Wellendrehmoments

Dimensionstabelle

TYP	Gewicht	A	B	C	D	E	F	D	E	F
	kg	mm	mm	mm	IN			OUT		
XV-2M/04	2,100	87,2	38,6	77,2	ø15	35	M6x1	ø15	35	M6x1
XV-2M/06	2,200	90,2	38,6	80,2	ø15	35	M6x1	ø15	35	M6x1
XV-2M/09	2,300	94,2	40,6	84,2	ø15	35	M6x1	ø15	35	M6x1
XV-2M/11	2,400	98,2	45,0	88,2	ø15	35	M6x1	ø15	35	M6x1
XV-2M/14	2,600	104,2	45,0	94,2	ø15	35	M6x1	ø15	35	M6x1
XV-2M/17	2,700	108,2	45,0	98,2	ø15	35	M6x1	ø15	35	M6x1
XV-2M/19	2,800	112,2	45,0	102,2	ø15	35	M6x1	ø15	35	M6x1
XV-2M/22	2,950	118,2	52,5	108,2	ø15	35	M6x1	ø15	35	M6x1
XV-2M/26	3,050	122,2	52,5	112,2	ø20	40	M6x1	ø20	40	M6x1
XV-2M/30	3,300	130,2	60,7	120,2	ø20	40	M6x1	ø20	40	M6x1
XV-2M/34	3,500	137,2	60,7	127,2	ø20	40	M6x1	ø20	40	M6x1
XV-2M/40	3,700	146,2	60,7	136,2	ø20	40	M6x1	ø20	40	M6x1



T.1 = 54÷58.9 [Nm] - Anzugsmoment - Schrauben M10 T.3 = 40 [Nm] - Anzugsmoment - Schlüssel 19
T.2 = 233.2 [Nm] - zulässiges Wellendrehmoment (N.B. Zur Auswahl der Welle stets das zulässige Drehmoment prüfen).
T.4 = 0.3÷0,5 bar - Drainage Maximaldruck

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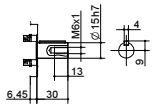
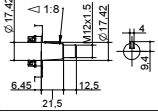
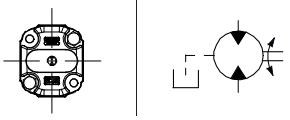
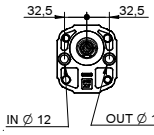
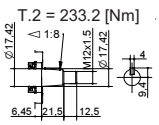
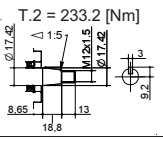
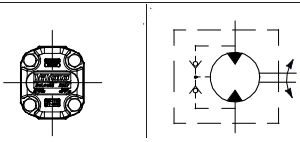
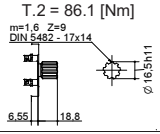
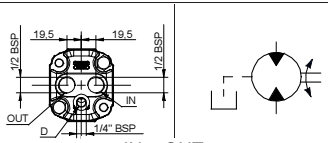
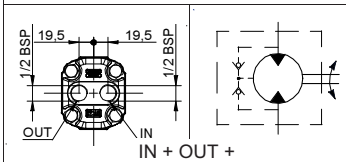
Tabelle der Varianten

FLANSCH ø50 "BH" – Geformt

XV-2M

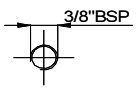
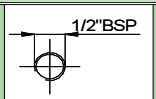
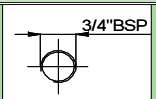
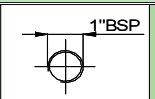
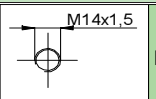
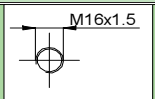
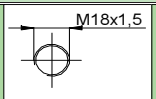
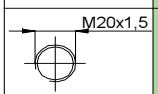
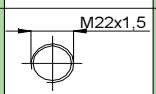
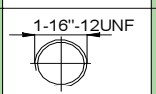
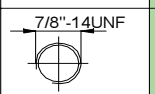
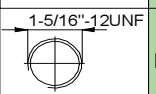
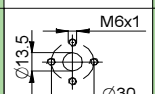
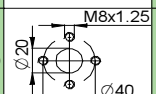
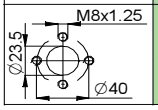
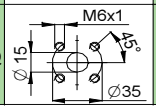
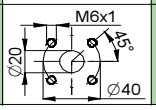
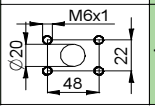
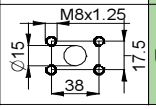
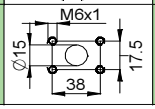
FLANSCH ø50 "BH" – Geformt		Welle				Deckel	
	07	CI001 - Zylindrisch T.2 = 44.1 [Nm] 	A	CI002 - Zylindrisch T.2 = 67.5 [Nm] 	B	 Drainage aussen	E
	10	CO001 - Konisch T.2 = 233.2 [Nm] 	E	CO002 - Konisch T.2 = 233.2 [Nm] 	F	 Drainage innen	F
		SCF03 - genutet T.2 = 86.1 [Nm] 	H			 IN + OUT +	K
						 IN + OUT +	L

Hubraum	
TYP	CODE
XV-2M/04	41
XV-2M/06	43
XV-2M/09	45
XV-2M/11	47
XV-2M/14	49
XV-2M/17	51
XV-2M/19	53
XV-2M/22	55
XV-2M/26	57
XV-2M/30	59
XV-2M/34	61
XV-2M/40	63

Gehäuse Standard				
Hubraum cm3/u	Standardgewinde			
4	O - O	R - R	B - B	Z - Z
6	O - O	R - R	B - B	Z - Z
9	O - O	R - R	B - B	Z - Z
11	O - O	R - R	B - B	Z - Z
14	P - P	R - R	C - C	Z - Z
17	P - P	R - R	C - C	Z - Z
19	P - P	R - R	C - C	Z - Z
22	P - P	R - R	C - C	Z - Z
26	Q - P	S - S	D - D	Z - Z
30	Q - P	S - S	D - D	Z - Z
34	Q - P	S - S	D - D	Z - Z
40	Q - P	S - S	D - D	Z - Z

Kombinationstabelle der lagermässig vorrätigen Standardgewinde und Anflanschungen

Gehäuse (Gewinde und Anflanschungen)

 3/8"BSP	A	 1/2"BSP	B	 3/4"BSP	C	 1"BSP	D	 M14x1,5	E	 M16x1.5	F	 M18x1,5	G
 M20x1,5	H	 M22x1,5	I	 1-16"-12UNF	L	 7/8"-14UNF	M	 1-5/16"-12UNF	N	 M6x1	O	 M8x1.25	P
 M8x1.25	Q	 M6x1	R	 M6x1	S	 M6x1	T	 M8x1.25	U	 M6x1	V	Gehäuse Geschlossen	Z

Zahnradmotoren

– Serie XV –

Baugröße 2

Bestellnr.	Typ	Code
Reversierbar		
018-090-01000	XV2M/4-HY-Ø50-C0.002-Leckö̈l extern	X2M4113FRRE
018-090-01050	XV2M/6-HY-Ø50-C0.002-Leckö̈l extern	X2M4313FRRE
018-090-01100	XV2M/9-HY-Ø50-C0.002-Leckö̈l extern	X2M4513FRRE
018-090-01150	XV2M/11-HY-Ø50-C0.002-Leckö̈l extern	X2M4713FRRE
018-090-01200	XV2M/14-HY-Ø50-C0.002-Leckö̈l extern	X2M4913FRRE
018-090-01250	XV2M/17-HY-Ø50-C0.002-Leckö̈l extern	X2M5113FRRE
018-090-01300	XV2M/19-HY-Ø50-C0.002-Leckö̈l extern	X2M5313FRRE
018-090-01350	XV2M/22-HY-Ø50-C0.002-Leckö̈l extern	X2M5513FRRE
018-090-01400	XV2M/26-HY-Ø50-C0.002-Leckö̈l extern	X2M5713FSSE
018-090-01450	XV2M/30-HY-Ø50-C0.002-Leckö̈l extern	X2M5913FSSE
018-090-01500	XV2M/34-HY-Ø50-C0.002-Leckö̈l extern	X2M6113FSSE
018-090-01550	XV2M/40-HY-Ø50-C0.002-Leckö̈l extern	X2M6313FSSE

4-Loch-Flansch-HY-Durchschraubausführung -Bohrungsabstand = 60 x 60 mm / Rezess = Ø 50 mm / Welle -CO.002 1:5 -d = Ø 17,42 mm -M 12x1,5 -Passfeder = 3,0 mm / max. zulässiges Wellendrehmoment = 233,2 Nm / Ölanschlüsse = Flansch LK 35/40 seitlich

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HYMATEC GMBH
HYDRAULIK MASCHINEN TECHNIK

Umkehrmotor - Serie XV

MOTOR TYP "HY"
FLANSCH ø50 GEFORMT - KEGELWELLE

XV-2M

X	2	M	51	13	F	R	R	E

Serie		X	Serie XV
Gruppe		2	Gruppe 2
Kategorie		M	Umkehrmotor
Hubraum		51	17
Flansch		13	Ø50 DEUTSCHE NORM HY Drehrichtung umkehrbar
Welle		F	CO002 - Konisch 1:5 - ø17.4 - M12x1.5 - Scheibenfeder Dicke 3
Gehäuse	IN	R	Ansaugung - Ø35 a 45° Ø15 M6
	OUT	R	Druckseite - Ø35 a 45° Ø15 M6
Deckel		E	Mit Drainage aussen

XM213

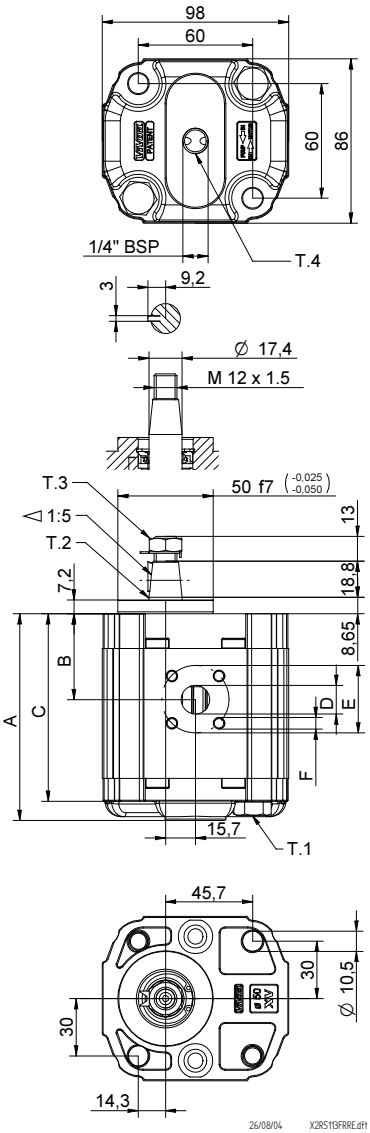
Technische Datentabelle

TYP	Hubraum	Maximaldruck		CODE														
	cm3/u	P1 bar	P3 bar	Drainage aussen								Drainage innen						
XV-2M/04	4,20	260	300	X	2	M	41	13	F	R	R	E	X	2	M	41	13	F	R	R	F
XV-2M/06	6,00	260	300	X	2	M	43	13	F	R	R	E	X	2	M	43	13	F	R	R	F
XV-2M/09	8,40	260	300	X	2	M	45	13	F	R	R	E	X	2	M	45	13	F	R	R	F
XV-2M/11	10,80	260	300	X	2	M	47	13	F	R	R	E	X	2	M	47	13	F	R	R	F
XV-2M/14	14,40	250	290	X	2	M	49	13	F	R	R	E	X	2	M	49	13	F	R	R	F
XV-2M/17	16,80	230	270	X	2	M	51	13	F	R	R	E	X	2	M	51	13	F	R	R	F
XV-2M/19	19,20	210	250	X	2	M	53	13	F	R	R	E	X	2	M	53	13	F	R	R	F
XV-2M/22	22,80	200	240	X	2	M	55	13	F	R	R	E	X	2	M	55	13	F	R	R	F
XV-2M/26	26,20	170	210	X	2	M	57	13	F	S	S	E	X	2	M	57	13	F	S	S	F
XV-2M/30	30,00	160	200	X	2	M	59	13	F	S	S	E	X	2	M	59	13	F	S	S	F
XV-2M/34	34,20	150	190	X	2	M	61	13	F	S	S	E	X	2	M	61	13	F	S	S	F
XV-2M/40	39,60	140	180	X	2	M	63	13	F	S	S	E	X	2	M	63	13	F	S	S	F

P1) Max. Betriebsdruck - P3) Max. Druckspitze
Für schwere Anwendungen empfiehlt sich eine Prüfung des zulässigen Wellendrehmoments

Dimensionstabelle

TYP	Gewicht	A	B	C	D	E	F	D	E	F
	kg	mm	mm	mm	IN			OUT		
XV-2M/04	2,100	87,2	38,6	77,2	ø15	35	M6x1	ø15	35	M6x1
XV-2M/06	2,200	90,2	38,6	80,2	ø15	35	M6x1	ø15	35	M6x1
XV-2M/09	2,300	94,2	40,6	84,2	ø15	35	M6x1	ø15	35	M6x1
XV-2M/11	2,400	98,2	45,0	88,2	ø15	35	M6x1	ø15	35	M6x1
XV-2M/14	2,600	104,2	45,0	94,2	ø15	35	M6x1	ø15	35	M6x1
XV-2M/17	2,700	108,2	45,0	98,2	ø15	35	M6x1	ø15	35	M6x1
XV-2M/19	2,800	112,2	45,0	102,2	ø15	35	M6x1	ø15	35	M6x1
XV-2M/22	2,950	118,2	52,5	108,2	ø15	35	M6x1	ø15	35	M6x1
XV-2M/26	3,050	122,2	52,5	112,2	ø20	40	M6x1	ø20	40	M6x1
XV-2M/30	3,300	130,2	60,7	120,2	ø20	40	M6x1	ø20	40	M6x1
XV-2M/34	3,500	137,2	60,7	127,2	ø20	40	M6x1	ø20	40	M6x1
XV-2M/40	3,700	146,2	60,7	136,2	ø20	40	M6x1	ø20	40	M6x1



T.1 = 54÷58.9 [Nm] - Anzugsmoment - Schrauben M10 T.3 = 40 [Nm] - Anzugsmoment - Schlüssel 19
T.2 = 233.2 [Nm] - zulässiges Wellendrehmoment (N.B. Zur Auswahl der Welle stets das zulässige Drehmoment prüfen).
T.4 = 0.3÷0,5 bar - Drainage Maximaldruck

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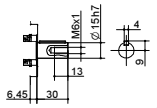
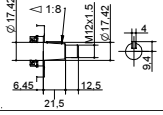
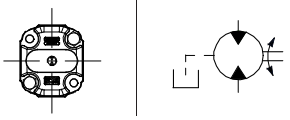
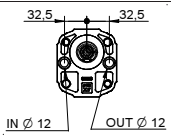
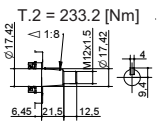
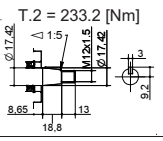
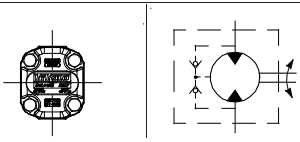
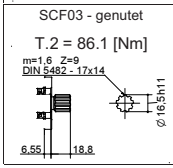
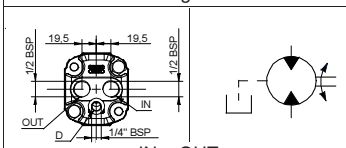
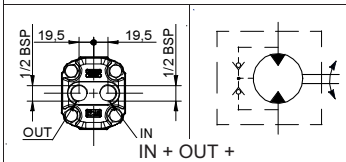
HYDRAULIK MASCHINEN TECHNIK

Tabelle der Varianten

FLANSCH ø50 "HY" – Geformt

XV-2M

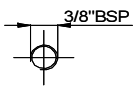
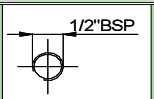
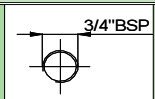
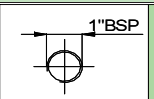
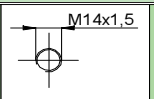
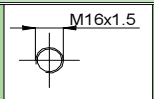
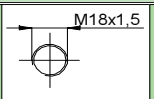
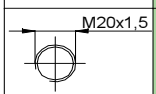
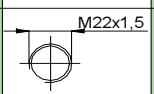
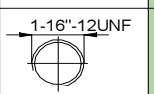
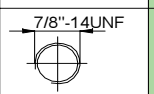
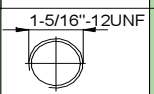
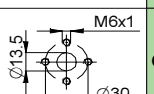
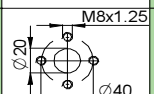
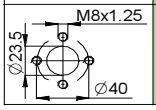
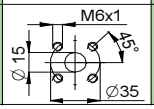
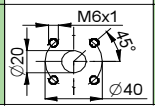
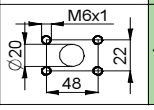
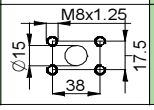
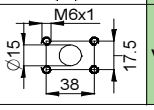
FLANSCH ø50 "HY" – Geformt		Welle				Deckel	
	13	CI001 - Zylindrisch T.2 = 44.1 [Nm] 	A	CI002 - Zylindrisch T.2 = 67.5 [Nm] 	B	 Drainage aussen	E
	16	CO001 - Konisch T.2 = 233.2 [Nm] 	E	CO002 - Konisch T.2 = 233.2 [Nm] 	F	 Drainage innen	F
		SCF03 - genutet T.2 = 86.1 [Nm] 	H			 IN + OUT +	K
						 IN + OUT +	L

Hubraum	
TYP	CODE
XV-2M/04	41
XV-2M/06	43
XV-2M/09	45
XV-2M/11	47
XV-2M/14	49
XV-2M/17	51
XV-2M/19	53
XV-2M/22	55
XV-2M/26	57
XV-2M/30	59
XV-2M/34	61
XV-2M/40	63

Gehäuse Standard				
Hubraum cm3/u	Standardgewinde			
4	O - O	R - R	B - B	Z - Z
6	O - O	R - R	B - B	Z - Z
9	O - O	R - R	B - B	Z - Z
11	O - O	R - R	B - B	Z - Z
14	P - P	R - R	C - C	Z - Z
17	P - P	R - R	C - C	Z - Z
19	P - P	R - R	C - C	Z - Z
22	P - P	R - R	C - C	Z - Z
26	Q - P	S - S	D - D	Z - Z
30	Q - P	S - S	D - D	Z - Z
34	Q - P	S - S	D - D	Z - Z
40	Q - P	S - S	D - D	Z - Z

Kombinationstabelle der lagermässig vorrätigen Standardgewinde und Anflanschungen

Gehäuse (Gewinde und Anflanschungen)

 3/8"BSP	A	 1/2"BSP	B	 3/4"BSP	C	 1"BSP	D	 M14x1,5	E	 M16x1.5	F	 M18x1,5	G
 M20x1,5	H	 M22x1,5	I	 1-16"-12UNF	L	 7/8"-14UNF	M	 1-5/16"-12UNF	N	 M6x1	O	 M8x1.25	P
 M8x1.25	Q	 M6x1	R	 M6x1	S	 M6x1	T	 M8x1.25	U	 M6x1	V	Gehäuse Geschlossen	Z

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Zahnradmotoren

– Serie XV –

Baugröße 2

Bestellnr.	Typ	Code
Reversierbar		
018-100-01000	XV2M/4-BH-Ø52-CF.001-Leckö l extern	X2M4119CRRE
018-100-01050	XV2M/6-BH-Ø52-CF.001-Leckö l extern	X2M4319CRRE
018-100-01100	XV2M/9-BH-Ø52-CF.001-Leckö l extern	X2M4519CRRE
018-100-01150	XV2M/11-BH-Ø52-CF.001-Leckö l extern	X2M4719CRRE
018-100-01200	XV2M/14-BH-Ø52-CF.001-Leckö l extern	X2M4919CRRE
018-100-01250	XV2M/17-BH-Ø52-CF.001-Leckö l extern	X2M5119CRRE
018-100-01300	XV2M/19-BH-Ø52-CF.001-Leckö l extern	X2M5319CRRE
018-100-01350	XV2M/22-BH-Ø52-CF.001-Leckö l extern	X2M5519CRRE
018-100-01400	XV2M/26-BH-Ø52-CF.001-Leckö l extern	X2M5719CSSE
018-100-01450	XV2M/30-BH-Ø52-CF.001-Leckö l extern	X2M5919CSSE
018-100-01500	XV2M/34-BH-Ø52-CF.001-Leckö l extern	X2M6119CSSE
018-100-01550	XV2M/40-BH-Ø52-CF.001-Leckö l extern	X2M6319CSSE

4-Loch-Flansch-BH-Durchschraubausführung -Bohrungsabstand = 60 x 60 mm / Rezess = Ø 52 mm mit O-Ring
Zungenwelle versenkt -CO.001 / max. zulässiges Wellendrehmoment = 60,5 Nm / Ölanschlüsse = Flansch LK 35/40 seitlich

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HYMATEC GMBH
HYDRAULIK MASCHINEN TECHNIK

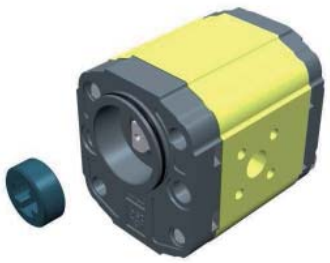
Umkehrmotor - Serie XV

XV-2M

DEUTSCHE STANDARDMOTOR TYP "BH"
FLANSCH ø52 GEFORMT - WELLE MIT GEFRÄSTEM ENDSTÜCK

X	2	M	51	19	C	R	R	E

Serie		X	Serie XV
Gruppe		2	Gruppe 2
Kategorie		M	Umkehrmotor
Hubraum		51	17
Flansch		19	Ø52 DEUTSCHE NORM Drehrichtung umkehrbar (mit OR)
Welle		C	CF001 - mit gefrästem Endstück ø15 - Dicke 8 ("BH" deutscher Standard)
Gehäuse	IN	R	Ansaugung - Ø35 a 45° Ø15 M6
	OUT	R	Druckseite - Ø35 a 45° Ø15 M6
Deckel		E	Mit Drainage aussen



XM216

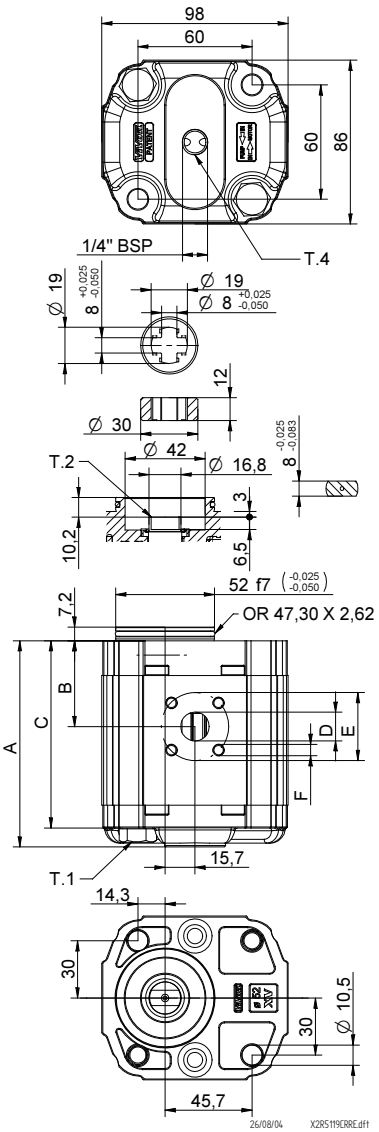
Technische Datentabelle

TYP	Hubraum	Maximaldruck		CODE	
	cm3/u	P1 bar	P3 bar	Drainage aussen	Drainage innen
XV-2M/04	4,20	260	300	X 2 M 41 19 C R R E	X 2 M 41 19 C R R F
XV-2M/06	6,00	260	300	X 2 M 43 19 C R R E	X 2 M 43 19 C R R F
XV-2M/09	8,40	260	300	X 2 M 45 19 C R R E	X 2 M 45 19 C R R F
XV-2M/11	10,80	260	300	X 2 M 47 19 C R R E	X 2 M 47 19 C R R F
XV-2M/14	14,40	250	290	X 2 M 49 19 C R R E	X 2 M 49 19 C R R F
XV-2M/17	16,80	230	270	X 2 M 51 19 C R R E	X 2 M 51 19 C R R F
XV-2M/19	19,20	210	250	X 2 M 53 19 C R R E	X 2 M 53 19 C R R F
XV-2M/22	22,80	200	240	X 2 M 55 19 C R R E	X 2 M 55 19 C R R F
XV-2M/26	26,20	170	210	X 2 M 57 19 C S S E	X 2 M 57 19 C S S F
XV-2M/30	30,00	160	200	X 2 M 59 19 C S S E	X 2 M 59 19 C S S F
XV-2M/34	34,20	150	190	X 2 M 61 19 C S S E	X 2 M 61 19 C S S F
XV-2M/40	39,60	140	180	X 2 M 63 19 C S S E	X 2 M 63 19 C S S F

P1) Max. Betriebsdruck - P3) Max. Druckspitze
Für schwere Anwendungen empfiehlt sich eine Prüfung des zulässigen Wellendrehmoments

Dimensionstabelle

TYP	Gewicht	A	B	C	D	E	F	D	E	F
	kg	mm	mm	mm	IN			OUT		
XV-2M/04	2,100	87,2	38,6	77,2	ø15	35	M6x1	ø15	35	M6x1
XV-2M/06	2,200	90,2	38,6	80,2	ø15	35	M6x1	ø15	35	M6x1
XV-2M/09	2,300	94,2	40,6	84,2	ø15	35	M6x1	ø15	35	M6x1
XV-2M/11	2,400	98,2	45,0	88,2	ø15	35	M6x1	ø15	35	M6x1
XV-2M/14	2,600	104,2	45,0	94,2	ø15	35	M6x1	ø15	35	M6x1
XV-2M/17	2,700	108,2	45,0	98,2	ø15	35	M6x1	ø15	35	M6x1
XV-2M/19	2,800	112,2	45,0	102,2	ø15	35	M6x1	ø15	35	M6x1
XV-2M/22	2,950	118,2	52,5	108,2	ø15	35	M6x1	ø15	35	M6x1
XV-2M/26	3,050	122,2	52,5	112,2	ø20	40	M6x1	ø20	40	M6x1
XV-2M/30	3,300	130,2	60,7	120,2	ø20	40	M6x1	ø20	40	M6x1
XV-2M/34	3,500	137,2	60,7	127,2	ø20	40	M6x1	ø20	40	M6x1
XV-2M/40	3,700	146,2	60,7	136,2	ø20	40	M6x1	ø20	40	M6x1



T.1 = 54÷58.9 [Nm] - Anzugsmoment - Schrauben M10
T.2 = 60.5 [Nm] - zulässiges Wellendrehmoment (N.B. Zur Auswahl der Welle stets das zulässige Drehmoment prüfen).
T.4 = 0.3÷0,5 bar - Drainage Maximaldruck

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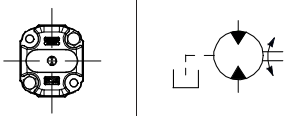
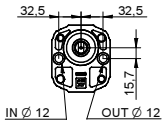
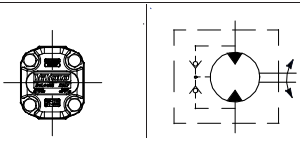
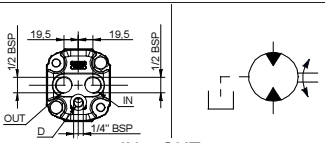
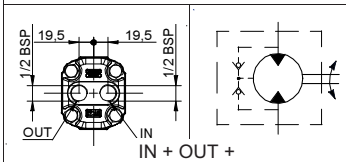
Tabelle der Varianten

FLANSCH ø52 Deutsche Standardpumpe "BH"

XV-2M

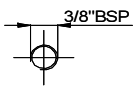
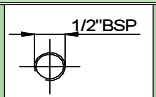
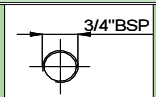
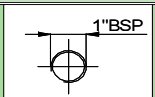
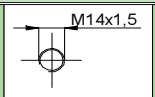
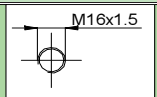
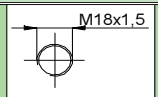
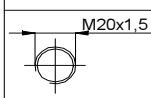
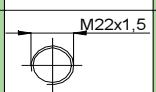
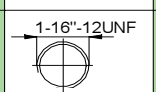
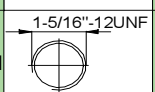
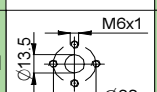
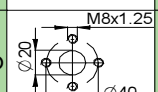
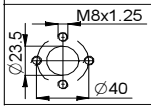
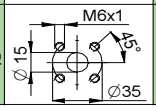
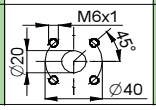
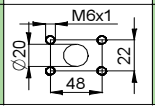
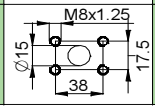
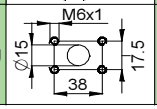
FLANSCH ø52 Deutsche Standardpumpe "BH"		Welle				Deckel	
	19	001 - mit gefrästem Endstü	C	SCF05 - genutet T.2 = 86.2 [Nm] m=1,6 Z=9 DIN 5482 - 17x14	K	 Drainage aussen	E
	22	SCF01 - genutet T.2 = 86.2 [Nm] m=1,6 Z=9 DIN 5482 - 17x14	L			 Drainage innen	F
						 IN + OUT +	K
						 IN + OUT +	L

Hubraum	
TYP	CODE
XV-2M/04	41
XV-2M/06	43
XV-2M/09	45
XV-2M/11	47
XV-2M/14	49
XV-2M/17	51
XV-2M/19	53
XV-2M/22	55
XV-2M/26	57
XV-2M/30	59
XV-2M/34	61
XV-2M/40	63

Gehäuse Standard				
Hubraum cm3/u	Standardgewinde			
4	O - O	R - R	B - B	Z - Z
6	O - O	R - R	B - B	Z - Z
9	O - O	R - R	B - B	Z - Z
11	O - O	R - R	B - B	Z - Z
14	P - P	R - R	C - C	Z - Z
17	P - P	R - R	C - C	Z - Z
19	P - P	R - R	C - C	Z - Z
22	P - P	R - R	C - C	Z - Z
26	Q - P	S - S	D - D	Z - Z
30	Q - P	S - S	D - D	Z - Z
34	Q - P	S - S	D - D	Z - Z
40	Q - P	S - S	D - D	Z - Z

Kombinationstabelle der lagermässig vorrätigen Standardgewinde und Anflanschungen

Gehäuse (Gewinde und Anflanschungen)

	A		B		C		D		E		F		G
	H		I		L		M		N		O		P
	Q		R		S		T		U		V	Gehäuse Geschlossen	Z

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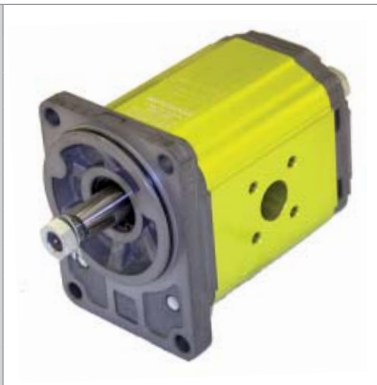
Zahnradmotoren

– Serie XV –

Baugröße 2



Bestellnr.	Typ	Code
Reversierbar		
018-110-01000	XV2M/4-Ø80-C0.002-Lecköl extern	X2M4125FRRE
018-110-01050	XV2M/6-Ø80-C0.002-Lecköl extern	X2M4325FRRE
018-110-01100	XV2M/9-Ø80-C0.002-Lecköl extern	X2M4525FRRE
018-110-01150	XV2M/11-Ø80-C0.002-Lecköl extern	X2M4725FRRE
018-110-01200	XV2M/14-Ø80-C0.002-Lecköl extern	X2M4925FRRE
018-110-01250	XV2M/17-Ø80-C0.002-Lecköl extern	X2M5125FRRE
018-110-01300	XV2M/19-Ø80-C0.002-Lecköl extern	X2M5325FRRE
018-110-01350	XV2M/22-Ø80-C0.002-Lecköl extern	X2M5525FRRE
018-110-01400	XV2M/26-Ø80-C0.002-Lecköl extern	X2M5725FSSE
018-110-01450	XV2M/30-Ø80-C0.002-Lecköl extern	X2M5925FSSE
018-110-01500	XV2M/34-Ø80-C0.002-Lecköl extern	X2M6125FSSE
018-110-01550	XV2M/40-Ø80-C0.002-Lecköl extern	X2M6325FSSE

4-Loch-Flansch -Bohrungsabstand = 100 x 72 mm / Rezess = Ø 80 mm mit O-Ring / Welle -CO.002 1:5 -d = Ø 17,42 mm -M 12x1,5 -Passfeder = 3,0 mm / max. zulässiges Wellendrehmoment = 233,2 Nm / Ölanschlüsse = Flansch LK 35/40 seitlich

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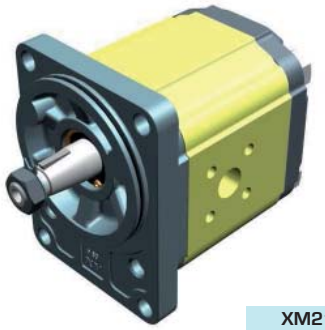
Umkehrmotor - Serie XV

DEUTSCHE STANDARDMOTOR FLANSCH ø80 - KEGELWELLE

XV-2M

X	2	M	51	25	F	R	R	E

Serie		X	Serie XV
Gruppe		2	Gruppe 2
Kategorie		M	Umkehrmotor
Hubraum		51	17
Flansch		25	Ø80 DEUTSCHE NORM Drehrichtung umkehrbar (mit OR)
Welle		F	CO002 - Konisch 1:5 - ø17.4 - M12x1.5 - Scheibenfeder Dicke 3
Gehäuse	IN	R	Ansaugung - Ø35 a 45° Ø15 M6
	OUT	R	Druckseite - Ø35 a 45° Ø15 M6
Deckel		E	Mit Drainage aussen



XM217

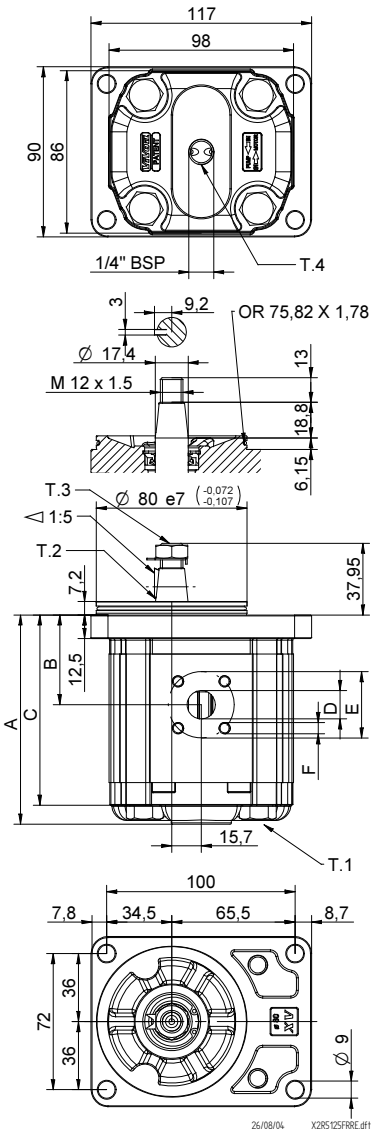
Technische Datentabelle

TYP	Hubraum	Maximaldruck		CODE	
	cm3/u	P1 bar	P3 bar	Drainage aussen	Drainage innen
XV-2M/04	4,20	260	300	X 2 M 41 25 F R R E	X 2 M 41 25 F R R F
XV-2M/06	6,00	260	300	X 2 M 43 25 F R R E	X 2 M 43 25 F R R F
XV-2M/09	8,40	260	300	X 2 M 45 25 F R R E	X 2 M 45 25 F R R F
XV-2M/11	10,80	260	300	X 2 M 47 25 F R R E	X 2 M 47 25 F R R F
XV-2M/14	14,40	250	290	X 2 M 49 25 F R R E	X 2 M 49 25 F R R F
XV-2M/17	16,80	230	270	X 2 M 51 25 F R R E	X 2 M 51 25 F R R F
XV-2M/19	19,20	210	250	X 2 M 53 25 F R R E	X 2 M 53 25 F R R F
XV-2M/22	22,80	200	240	X 2 M 55 25 F R R E	X 2 M 55 25 F R R F
XV-2M/26	26,20	170	210	X 2 M 57 25 F S S E	X 2 M 57 25 F S S F
XV-2M/30	30,00	160	200	X 2 M 59 25 F S S E	X 2 M 59 25 F S S F
XV-2M/34	34,20	150	190	X 2 M 61 25 F S S E	X 2 M 61 25 F S S F
XV-2M/40	39,60	140	180	X 2 M 63 25 F S S E	X 2 M 63 25 F S S F

P1) Max. Betriebsdruck - P3) Max. Druckspitze
Für schwere Anwendungen empfiehlt sich eine Prüfung des zulässigen Wellendrehmoments

Dimensionstabelle

TYP	Gewicht	A	B	C	D	E	F	D	E	F
	kg	mm	mm	mm	IN			OUT		
XV-2M/04	2,330	89,7	41,1	79,7	ø15	35	M6x1	ø15	35	M6x1
XV-2M/06	2,430	92,7	41,1	82,7	ø15	35	M6x1	ø15	35	M6x1
XV-2M/09	2,530	96,7	43,1	86,7	ø15	35	M6x1	ø15	35	M6x1
XV-2M/11	2,630	100,7	47,5	90,7	ø15	35	M6x1	ø15	35	M6x1
XV-2M/14	2,730	106,7	47,5	96,7	ø15	35	M6x1	ø15	35	M6x1
XV-2M/17	2,830	110,7	47,5	100,7	ø15	35	M6x1	ø15	35	M6x1
XV-2M/19	2,930	114,7	47,5	104,7	ø15	35	M6x1	ø15	35	M6x1
XV-2M/22	3,180	120,7	55,0	110,7	ø15	35	M6x1	ø15	35	M6x1
XV-2M/26	3,280	124,7	55,0	114,7	ø20	40	M6x1	ø20	40	M6x1
XV-2M/30	3,530	132,7	63,2	122,7	ø20	40	M6x1	ø20	40	M6x1
XV-2M/34	3,730	139,7	63,2	129,7	ø20	40	M6x1	ø20	40	M6x1
XV-2M/40	3,930	148,7	63,2	138,7	ø20	40	M6x1	ø20	40	M6x1



T.1 = 54÷58.9 [Nm] - Anzugsmoment - Schrauben M10 T.3 = 40 [Nm] - Anzugsmoment - Schlüssel 19
T.2 = 233.2 [Nm] - zulässiges Wellendrehmoment (N.B. Zur Auswahl der Welle stets das zulässige Drehmoment prüfen).
T.4 = 0.3÷0,5 bar - Drainage Maximaldruck

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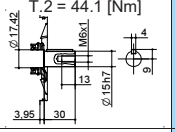
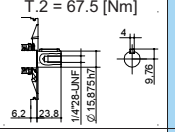
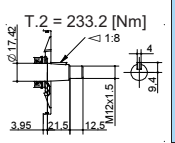
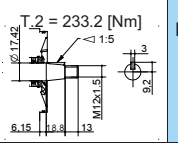
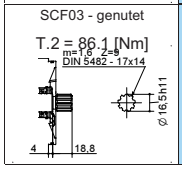
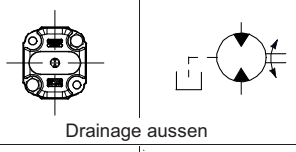
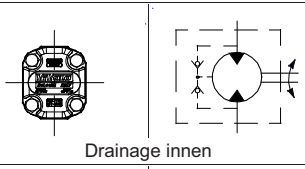
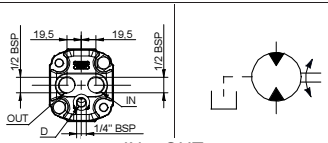
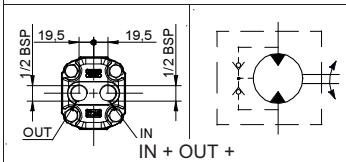
Tabelle der Varianten

FLANSCH ø80 Deutsche Standardpumpe

XV-2M

FLANSCH ø80 Deutsche Standardpumpe	
	25

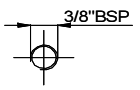
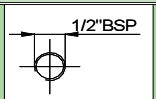
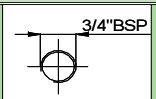
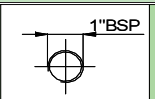
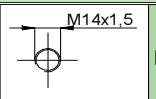
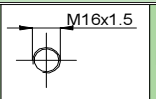
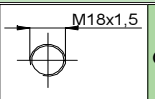
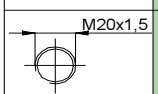
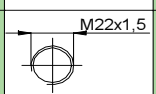
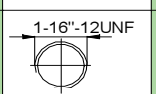
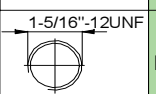
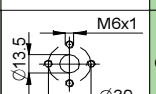
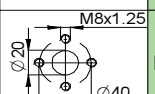
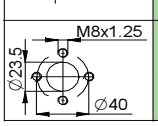
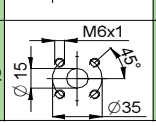
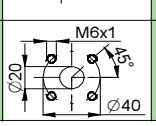
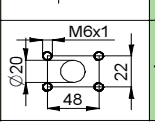
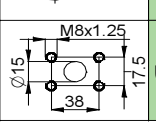
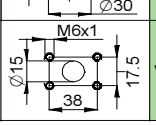
Welle			
CI001 - Zylindrisch T.2 = 44.1 [Nm] 	A	CI002 - Zylindrisch T.2 = 67.5 [Nm] 	B
CO001 - Konisch T.2 = 233.2 [Nm] 	E	CO002 - Konisch T.2 = 233.2 [Nm] 	F
SCF03 - genutet T.2 = 86.1 [Nm] 	H		

Deckel	
 Drainage aussen	E
 Drainage innen	F
 IN + OUT +	K
 IN + OUT +	L

Hubraum	
TYP	CODE
XV-2M/04	41
XV-2M/06	43
XV-2M/09	45
XV-2M/11	47
XV-2M/14	49
XV-2M/17	51
XV-2M/19	53
XV-2M/22	55
XV-2M/26	57
XV-2M/30	59
XV-2M/34	61
XV-2M/40	63

Gehäuse Standard				
Hubraum cm3/u	Standardgewinde			
4	O - O	R - R	B - B	Z - Z
6	O - O	R - R	B - B	Z - Z
9	O - O	R - R	B - B	Z - Z
11	O - O	R - R	B - B	Z - Z
14	P - P	R - R	C - C	Z - Z
17	P - P	R - R	C - C	Z - Z
19	P - P	R - R	C - C	Z - Z
22	P - P	R - R	C - C	Z - Z
26	Q - P	S - S	D - D	Z - Z
30	Q - P	S - S	D - D	Z - Z
34	Q - P	S - S	D - D	Z - Z
40	Q - P	S - S	D - D	Z - Z

Kombinationstabelle der lagermässig vorrätigen Standardgewinde und Anflanschungen

Gehäuse (Gewinde und Anflanschungen)																	
 3/8"BSP	A	 1/2"BSP	B	 3/4"BSP	C	 1"BSP	D	 M14x1,5	E	 M16x1.5	F	 M18x1,5	G
 M20x1,5	H	 M22x1,5	I	 1-16"-12UNF	L	 7/8"-14UNF	M	 1-5/16"-12UNF	N	 M6x1	O	 M8x1.25	P
 M8x1.25	Q	 M6x1	R	 M6x1	S	 M6x1	T	 M8x1.25	U	 M6x1	V	Gehäuse Geschlossen	Z

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Zahnradmotoren

– Serie XV –

Baugröße 2

Bestellnr.	Typ	Code
Reversierbar		
018-130-01000	XV2M/4-Ø82,5-SAEA-SCF.04-Leckö extern	X2M4131IRRE
018-130-01050	XV2M/6-Ø82,5-SAEA-SCF.04-Leckö extern	X2M4331IRRE
018-130-01100	XV2M/9-Ø82,5-SAEA-SCF.04-Leckö extern	X2M4531IRRE
018-130-01150	XV2M/11-Ø82,5-SAEA-SCF.04-Leckö extern	X2M4731IRRE
018-130-01200	XV2M/14-Ø82,5-SAEA-SCF.04-Leckö extern	X2M4931IRRE
018-130-01250	XV2M/17-Ø82,5-SAEA-SCF.04-Leckö extern	X2M5131IRRE
018-130-01300	XV2M/19-Ø82,5-SAEA-SCF.04-Leckö extern	X2M5331IRRE
018-130-01350	XV2M/22-Ø82,5-SAEA-SCF.04-Leckö extern	X2M5531IRRE
018-130-01400	XV2M/26-Ø82,5-SAEA-SCF.04-Leckö extern	X2M5731ISSE
018-130-01450	XV2M/30-Ø82,5-SAEA-SCF.04-Leckö extern	X2M5931ISSE
018-130-01500	XV2M/34-Ø82,5-SAEA-SCF.04-Leckö extern	X2M6131ISSE
018-130-01550	XV2M/40-Ø82,5-SAEA-SCF.04-Leckö extern	X2M6331ISSE

2-Loch-SAE-A-Flansch -Bohrungsabstand = 106,4 mm / Rezess = Ø 82,5 mm mit O-Ring / Welle SAEJ498 -SCF.04 -d = Ø 15,45 mm z = 9
max. zulässiges Wellendrehmoment = 67,1 Nm / Ölanschlüsse = Flansch LK 35/40 seitlich

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Umkehrmotor - Serie XV

MOTOR TYP "SAE A"
FLANSCH ø82.5 - KEILWELLE

XV-2M

X	2	M	51	31	I	R	R	E

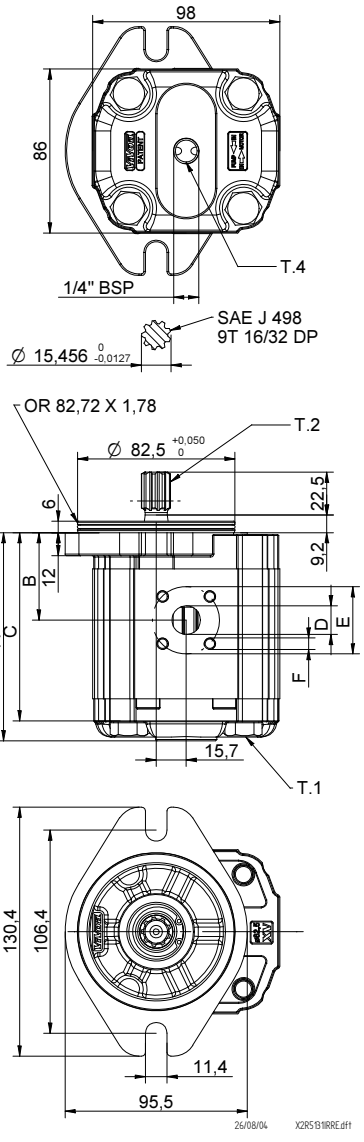
Serie		X	Serie XV
Gruppe		2	Gruppe 2
Kategorie		M	Umkehrmotor
Hubraum		51	17
Flansch		31	Ø82.5 SAE A Drehrichtung umkehrbar (mit OR)
Welle		I	SCF04 - genutet ø15.456 z=9, H=22.5 - SAE J498 9T 16/32DP
Gehäuse	IN	R	Ansaugung - Ø35 a 45° Ø15 M6
	OUT	R	Druckseite - Ø35 a 45° Ø15 M6
Deckel		E	Mit Drainage aussen

XM219

Technische Datentabelle

TYP	Hubraum	Maximaldruck		CODE	
	cm3/u	P1 bar	P3 bar	Drainage aussen	Drainage innen
XV-2M/04	4,20	260	300	X 2 M 41 31 I R R E	X 2 M 41 31 I R R F
XV-2M/06	6,00	260	300	X 2 M 43 31 I R R E	X 2 M 43 31 I R R F
XV-2M/09	8,40	260	300	X 2 M 45 31 I R R E	X 2 M 45 31 I R R F
XV-2M/11	10,80	260	300	X 2 M 47 31 I R R E	X 2 M 47 31 I R R F
XV-2M/14	14,40	250	290	X 2 M 49 31 I R R E	X 2 M 49 31 I R R F
XV-2M/17	16,80	230	270	X 2 M 51 31 I R R E	X 2 M 51 31 I R R F
XV-2M/19	19,20	210	250	X 2 M 53 31 I R R E	X 2 M 53 31 I R R F
XV-2M/22	22,80	200	240	X 2 M 55 31 I R R E	X 2 M 55 31 I R R F
XV-2M/26	26,20	170	210	X 2 M 57 31 I S S E	X 2 M 57 31 I S S F
XV-2M/30	30,00	160	200	X 2 M 59 31 I S S E	X 2 M 59 31 I S S F
XV-2M/34	34,20	150	190	X 2 M 61 31 I S S E	X 2 M 61 31 I S S F
XV-2M/40	39,60	140	180	X 2 M 63 31 I S S E	X 2 M 63 31 I S S F

P1) Max. Betriebsdruck - P3) Max. Druckspitze
Für schwere Anwendungen empfiehlt sich eine Prüfung des zulässigen Wellendrehmoments



Dimensionstabelle

TYP	Gewicht	A	B	C	D	E	F	D	E	F
	kg	mm	mm	mm	IN			OUT		
XV-2M/04	2,280	88,0	39,4	78,0	ø15	35	M6x1	ø15	35	M6x1
XV-2M/06	2,380	91,0	39,4	81,0	ø15	35	M6x1	ø15	35	M6x1
XV-2M/09	2,480	95,0	41,4	85,0	ø15	35	M6x1	ø15	35	M6x1
XV-2M/11	2,580	99,0	45,8	89,0	ø15	35	M6x1	ø15	35	M6x1
XV-2M/14	2,780	105,0	45,8	95,0	ø15	35	M6x1	ø15	35	M6x1
XV-2M/17	2,880	109,0	45,8	99,0	ø15	35	M6x1	ø15	35	M6x1
XV-2M/19	2,980	113,0	45,8	103,0	ø15	35	M6x1	ø15	35	M6x1
XV-2M/22	3,130	119,0	53,3	109,0	ø15	35	M6x1	ø15	35	M6x1
XV-2M/26	3,230	123,0	53,3	113,0	ø20	40	M6x1	ø20	40	M6x1
XV-2M/30	3,480	131,0	61,5	121,0	ø20	40	M6x1	ø20	40	M6x1
XV-2M/34	3,680	138,0	61,5	128,0	ø20	40	M6x1	ø20	40	M6x1
XV-2M/40	3,880	147,0	61,5	137,0	ø20	40	M6x1	ø20	40	M6x1

T.1 = 54÷58.9 [Nm] - Anzugsmoment - Schrauben M10
T.2 = 67.1 [Nm] - zulässiges Wellendrehmoment (N.B. Zur Auswahl der Welle stets das zulässige Drehmoment prüfen).
T.4 = 0.3÷0,5 bar - Drainage Maximaldruck

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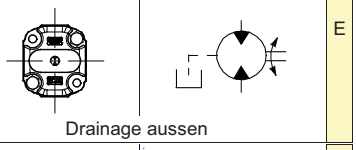
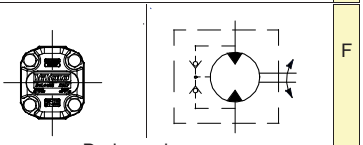
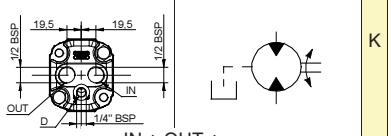
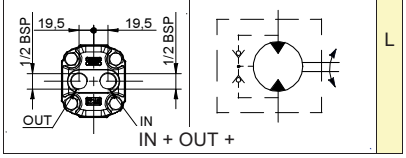
Tabelle der Varianten

FLANSCH ø82.5

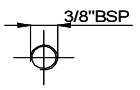
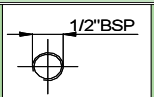
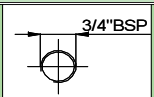
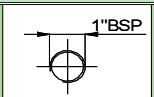
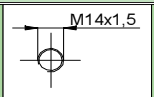
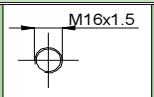
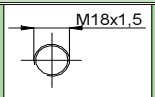
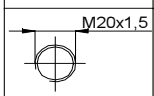
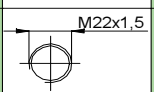
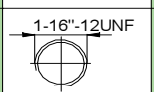
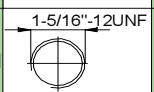
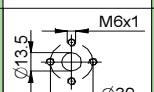
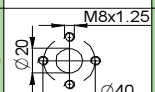
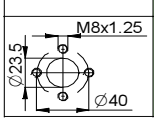
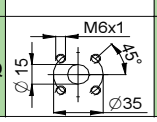
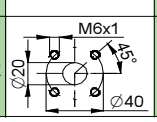
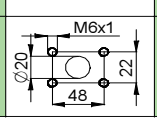
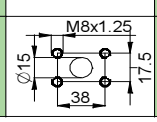
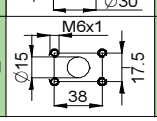
XV-2M

FLANSCH ø82.5		Welle				Deckel	
	31	CI001 - Zylindrisch T.2 = 44.1 [Nm]	A	CI002 - Zylindrisch T.2 = 67.5 [Nm]	B	 Drainage aussen	E
 Ohne OR	32	CO001 - Konisch T.2 = 233.2 [Nm]	E	CO002 - Konisch T.2 = 233.2 [Nm]	F	 Drainage innen	F
		SCF04 - genutet T.2 = 67.1 [Nm] SAE J 498 9T 16/32 DP	I			 IN + OUT +	K
						 IN + OUT +	L

Hubraum	
TYP	CODE
XV-2M/04	41
XV-2M/06	43
XV-2M/09	45
XV-2M/11	47
XV-2M/14	49
XV-2M/17	51
XV-2M/19	53
XV-2M/22	55
XV-2M/26	57
XV-2M/30	59
XV-2M/34	61
XV-2M/40	63

Gehäuse Standard				
Hubraum cm3/u	Standardgewinde			
4	O - O	R - R	B - B	Z - Z
6	O - O	R - R	B - B	Z - Z
9	O - O	R - R	B - B	Z - Z
11	O - O	R - R	B - B	Z - Z
14	P - P	R - R	C - C	Z - Z
17	P - P	R - R	C - C	Z - Z
19	P - P	R - R	C - C	Z - Z
22	P - P	R - R	C - C	Z - Z
26	Q - P	S - S	D - D	Z - Z
30	Q - P	S - S	D - D	Z - Z
34	Q - P	S - S	D - D	Z - Z
40	Q - P	S - S	D - D	Z - Z

Kombinationstabelle der lagermässig vorrätigen Standardgewinde und Anflanschungen

Gehäuse (Gewinde und Anflanschungen)																	
 3/8"BSP	A	 1/2"BSP	B	 3/4"BSP	C	 1"BSP	D	 M14x1,5	E	 M16x1.5	F	 M18x1,5	G
 M20x1,5	H	 M22x1,5	I	 1-16"-12UNF	L	 7/8"-14UNF	M	 1-5/16"-12UNF	N	 M6x1 Ø13.5 Ø30	O	 M8x1.25 Ø20 Ø40	P
 M8x1.25 Ø23.5 Ø40	Q	 M6x1 Ø 15 45° Ø35	R	 M6x1 Ø20 45° Ø40	S	 M6x1 Ø20 22 48	T	 M8x1.25 Ø15 17.5 38	U	 M6x1 Ø15 17.5 38	V	Gehäuse Geschlossen	Z

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Zahnradmotoren

– Serie XV –

Baugröße 3

Bestellnr.	Typ	Code
D = rechtsdrehend		
019-010-01000	XV3U/15D	X3U6602AAAA
019-010-01100	XV3U/18D	X3U6802AAAA
019-010-01200	XV3U/21D	X3U7002AAAA
019-010-01300	XV3U/27D	X3U7202AAAA
019-010-01400	XV3U/32D	X3U7402ABBA
019-010-01500	XV3U/38D	X3U7802ABBA
019-010-01600	XV3U/43D	X3U7902ABBA
019-010-01700	XV3U/47D	X3U8002ABBA
019-010-01800	XV3U/51D	X3U8102ABBA
019-010-01900	XV3U/54D	X3U8202ABBA
019-010-02000	XV3U/61D	X3U8302ACCA
019-010-02100	XV3U/64D	X3U8502ACCA
019-010-02200	XV3U/70D	X3U8602ACCA
019-010-02300	XV3U/74D	X3U8702ACCA
019-010-02400	XV3U/90D	X3U8902ACCA
S = linksdrehend		
019-010-01050	XV3U/15S	X3U6601AAAA
019-010-01150	XV3U/18S	X3U6801AAAA
019-010-01250	XV3U/21S	X3U7001AAAA
019-010-01350	XV3U/27S	X3U7201AAAA
019-010-01450	XV3U/32S	X3U7401ABBA
019-010-01550	XV3U/38S	X3U7801ABBA
019-010-01650	XV3U/43S	X3U7901ABBA
019-010-01750	XV3U/47S	X3U8001ABBA
019-010-01850	XV3U/51S	X3U8101ABBA
019-010-01950	XV3U/54S	X3U8201ABBA
019-010-02050	XV3U/61S	X3U8301ACCA
019-010-02150	XV3U/64S	X3U8501ACCA
019-010-02250	XV3U/70S	X3U8601ACCA
019-010-02350	XV3U/74S	X3U8701ACCA
019-010-02450	XV3U/90S	X3U8901ACCA

4-Loch-Flansch -Bohrungsabstand = 137 x 98,4 mm / Rezess = Ø 50,8 mm / Welle -CO.001 1:8 -d = Ø 22 mm
-M 14x1,5 -Passfeder = 4,0 mm / max. zulässiges Wellendrehmoment = 482 Nm / Ölanschlüsse = Flansch LK 40/51/62 seitlich

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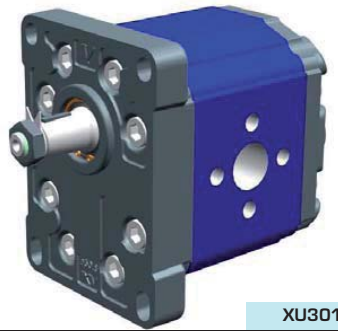
In eine Richtung drehender Motor - Serie XV

XV-3U

EUROPÄISCHE STANDARDMOTOR
FLANSCH ø50.8 - KEGELWELLE

X	3	U	78	02	A	B	B	A

Serie		X	Serie XV
Gruppe		3	Gruppe 3
Kategorie		U	In eine Richtung drehender Motor
Hubraum		78	38
Flansch		02	Ø50.8 Drehrichtung rechts
Welle		A	CO001 - Konisch 1:8 - ø22 - Scheibenfeder Dicke 4
Gehäuse	IN	B	Ansaugung - Ø51 Ø27 M10
	OUT	B	Druckseite - Ø51 Ø27 M10
Deckel		A	Standard

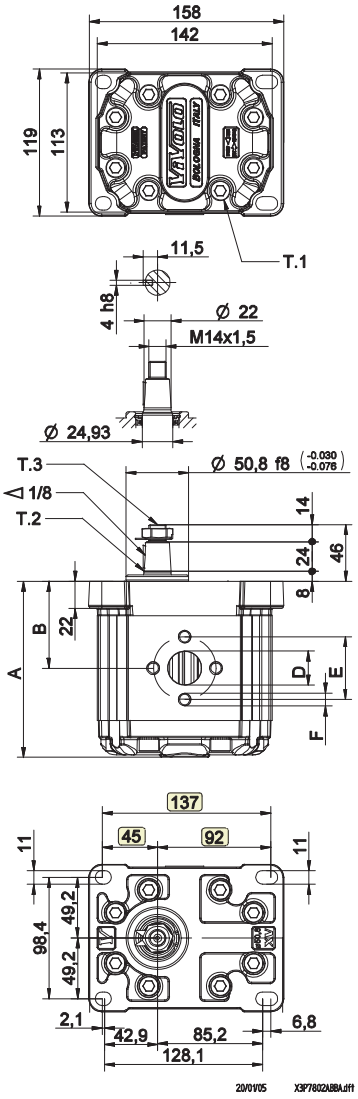


XU301

Technische Datentabelle

TYP	Hubraum	Maximaldruck		CODE	
	cm3/u	P1 bar	P3 bar	Drehung links	Drehung rechts
XV-3U/15	14,89	300	320	X 3 U 66 01 A A A A	X 3 U 66 02 A A A A
XV-3U/18	17,37	300	320	X 3 U 68 01 A A A A	X 3 U 68 02 A A A A
XV-3U/21	21,10	280	300	X 3 U 70 01 A A A A	X 3 U 70 02 A A A A
XV-3U/27	26,97	250	270	X 3 U 72 01 A A A A	X 3 U 72 02 A A A A
XV-3U/32	32,27	250	270	X 3 U 74 01 A B B A	X 3 U 74 02 A B B A
XV-3U/38	38,47	250	270	X 3 U 78 01 A B B A	X 3 U 78 02 A B B A
XV-3U/43	43,44	250	270	X 3 U 79 01 A B B A	X 3 U 79 02 A B B A
XV-3U/47	47,16	230	250	X 3 U 80 01 A B B A	X 3 U 80 02 A B B A
XV-3U/51	50,88	230	250	X 3 U 81 01 A B B A	X 3 U 81 02 A B B A
XV-3U/54	54,60	230	250	X 3 U 82 01 A B B A	X 3 U 82 02 A B B A
XV-3U/61	60,81	230	250	X 3 U 83 01 A C C A	X 3 U 83 02 A C C A
XV-3U/64	64,53	210	230	X 3 U 85 01 A C C A	X 3 U 85 02 A C C A
XV-3U/70	70,74	200	220	X 3 U 86 01 A C C A	X 3 U 86 02 A C C A
XV-3U/74	74,46	180	200	X 3 U 87 01 A C C A	X 3 U 87 02 A C C A
XV-3U/90	86,87	150	170	X 3 U 89 01 A C C A	X 3 U 89 02 A C C A

P1) Max. Betriebsdruck - P3) Max. Druckspitze
Für schwere Anwendungen empfiehlt sich eine Prüfung des zulässigen Wellendrehmoments



Dimensionstabelle

TYP	Gewicht	A	B	D	E	F	D	E	F
	kg	mm	mm	IN			OUT		
XV-3U/15	7,010	124,0	61,0	ø20	40	M8	ø20	40	M8
XV-3U/18	7,070	126,0	62,0	ø20	40	M8	ø20	40	M8
XV-3U/21	7,150	129,0	63,5	ø20	40	M8	ø20	40	M8
XV-3U/27	7,250	133,0	65,5	ø20	40	M8	ø20	40	M8
XV-3U/32	7,390	138,0	68,0	ø27	51	M10	ø27	51	M10
XV-3U/38	7,520	143,0	70,5	ø27	51	M10	ø27	51	M10
XV-3U/43	7,630	147,0	72,5	ø27	51	M10	ø27	51	M10
XV-3U/47	7,710	150,0	74,0	ø27	51	M10	ø27	51	M10
XV-3U/51	7,790	153,0	75,5	ø27	51	M10	ø27	51	M10
XV-3U/54	7,870	156,0	77,0	ø27	51	M10	ø27	51	M10
XV-3U/61	8,010	161,0	79,5	ø36	62	M10	ø36	62	M10
XV-3U/64	8,090	164,0	81,0	ø36	62	M10	ø36	62	M10
XV-3U/70	8,220	169,0	83,5	ø36	62	M10	ø36	62	M10
XV-3U/74	8,300	172,0	85,0	ø36	62	M10	ø36	62	M10
XV-3U/90	8,570	182,0	90,0	ø36	62	M10	ø36	62	M10

T.1 = 60÷65 [Nm] - Anzugsmoment - Schrauben M10
T.2 = 482 [Nm] - zulässiges Wellendrehmoment (N.B. Zur Auswahl der Welle stets das zulässige Drehmoment prüfen).
T.3 = 75 [Nm] - Anzugsmoment - Schlüssel 22

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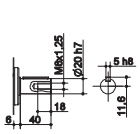
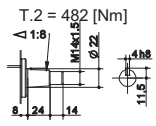
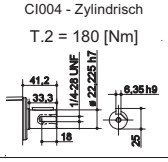
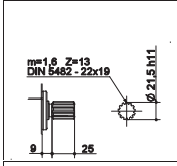
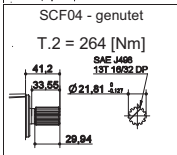
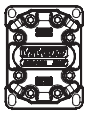
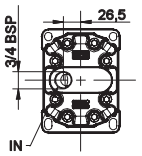
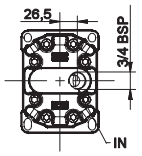
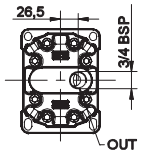
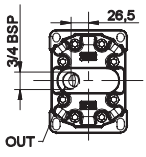
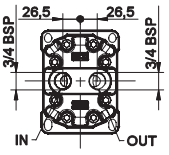
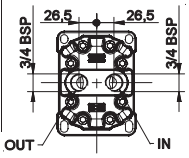
Tabelle der Varianten

FLANSCH ø50.8

XV-3U

FLANSCH ø50.8			
Drehung links		Drehung rechts	
	01		02

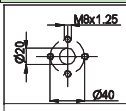
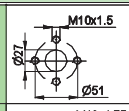
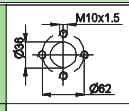
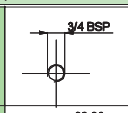
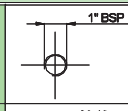
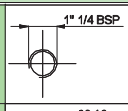
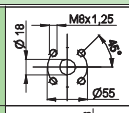
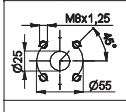
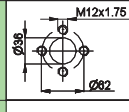
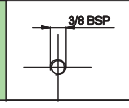
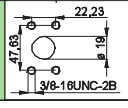
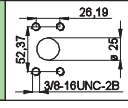
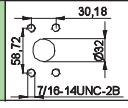
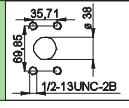
Tabelle der Varianten			
CO001 - Konisch T.2 = 482 [Nm]	A		B
			
CI004 - Zylindrisch T.2 = 180 [Nm]	C		H
			
SCF04 - genutet T.2 = 264 [Nm]	I		
			

Deckel		
Drehung links	Drehung rechts	
		A
		B
		C
		D

Hubraum	
TYP	CODE
XV-3U/15	66
XV-3U/18	68
XV-3U/21	70
XV-3U/27	72
XV-3U/32	74
XV-3U/38	78
XV-3U/43	79
XV-3U/47	80
XV-3U/51	81
XV-3U/54	82
XV-3U/61	83
XV-3U/64	85
XV-3U/70	86
XV-3U/74	87
XV-3U/90	89

Gehäuse Standard			
Hubraum cm3/u	Standardgewinde		
14	A - A	D - D	H – H
17	A - A	D - D	H – H
21	A - A	D - D	H – H
26	A - A	E - E	H – H
32	B - B	E - E	H – H
38	B - B	E - E	H – H
43	B - B	E - E	H – H
47	B - B	E - E	H – H
51	B - B	E - E	H – H
54	B - B	E - E	H – H
61	C - C	F - F	
64	C - C	F - F	
70	C - C	F - F	
74	C - C	F - F	
90	C - C	F - F	

Kombinationstabelle der lagermässig vorrätigen Standardgewinde und Anflanschungen

Gehäuse (Gewinde und Anflanschungen)																					
	A		B		C		D		E		F		G
	H		I		L		M		N		O		P
Gehäuse Geschlossen	Z												

HYMATEC GMBH
HYDRAULIK MASCHINEN TECHNIK

PL 01 T E

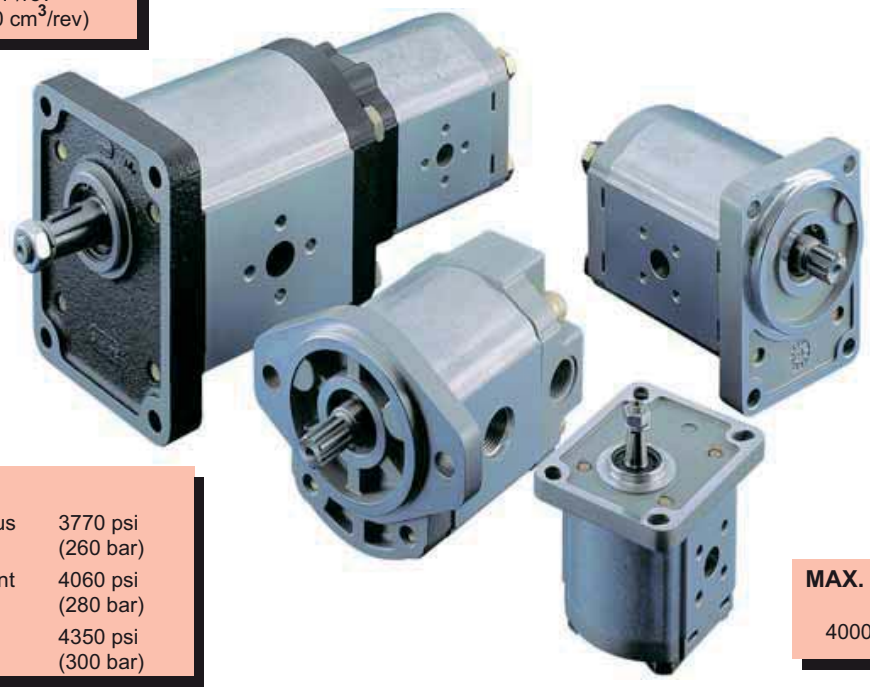
POLARIS®

Hydraulic gear pumps and motors

through bore aluminum body

DISPLACEMENTS

From	0.07 in^3/rev (1.07 cm^3/rev)
To	5.56 in^3/rev (91.10 cm^3/rev)



PRESSURE

Max. Continuous	3770 psi (260 bar)
Max. Intermittent	4060 psi (280 bar)
Max. Peak	4350 psi (300 bar)

MAX. SPEED

4000 min^{-1}

- Group 1, 2 and 3 with displacements from 0.07 in^3/rev (1,07 cm^3/rev) to 5.56 in^3/rev (91.10 cm^3/rev).
- Drive shafts, mounting flanges and ports according to the international standards.
- Combination of multiple pumps in standard version, common inlet and separated stages.
- Integrated outboard bearings for heavy duty application.
- Many types of built-in valves.

"POLARIS" more than fifty years of Casappa experience in design and production of hydraulic components, characterized by large investments in research and development in order to propose new and personalized solutions to the market. Our use of CAD 3D in the developement of this generation permit us the 3D modelling and the virtual simulation of the behaviour of the components inserted in the hydraulic circuit. This means that the process will take less time and the quality of the products is better.
Polaris pumps and motors are basically composed of a gear housing in aluminium alloy, two gear wheels supported by sleeve bearings and two end plates, the front and the rear cover, either in aluminium or in cast iron with excellent mechanical characteristics. Our success is based largely on the quality of our product. This guaranties the consistencies of the efficiencies and low level of noise emission during the life of our products.

Edition: 01/10.2003

CASAPPA®
FLUID POWER DESIGN

Hymatec-GmbH – Hebbelstraße 22 94315 Straubing
Tel.: 09421/1887797 – Fax: 09421/1887799 – Email: info@hymatec-gmbh.de – www.hymatec-gmbh.de

FEATURES

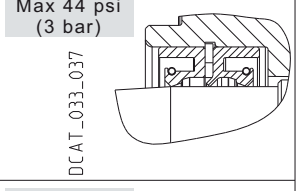
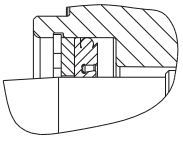
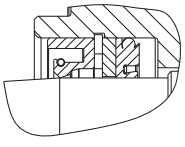
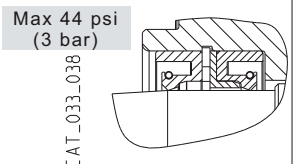
Construction	External gear type pumps and motors
Mounting	EUROPEAN - SAE - GERMAN standard flanges
Line connection	Screw and flange
Direction of rotation (looking on drive shaft)	Anti-clock (S) - clockwise (D) - reversible external drain (L - R) reversible internal drain (B)
Inlet pressure range for pumps	10 ÷ 44 psi [0,7 ÷ 3 bar (abs.)]
Max back pressure for single rotation motors and reversible internal drain motors	p_1 (continuous) max 73 psi (5 bar)
	p_2 (for 20 s) max 116 psi (8 bar)
	p_3 (for 8 s) max 218 psi (15 bar)
Max drain line pressure on the reversible rotation motors	73 psi (5 bar)
Max back pressure on the series motors (reversible motors external drain)	< p_1 (max continuous pressure) < 2175 psi (<150 bar)
Fluid temperature range	See table (1)
Fluid	Mineral oil based hydraulic fluids to ISO/DIN. For other fluids please consult our technical sales department.
Viscosity range	From 60 to 456 SSU [12 to 100 mm^2/s (cSt)] recommended
	Up to 3410 SSU [750 mm^2/s (cSt)] permitted
Filtering requirement	See table (2) page 4

Tab. 1

Type	Fluid composition	Max pressure psi - (bar)	Max speed [min^{-1}]	Temperature °F - (°C)	**Seals (●)**	**Special shaft seals (◆)**
ISO/DIN	Mineral oil based hydraulic fluid to ISO/DIN	See page 5	See page 5	-13 ÷ +176 (-25 ÷ +80)	N	D - H - C
				-13 ÷ +230 (-25 ÷ +110)	V	D

(●) **N**= Buna N (standard) - **V**= Viton

(◆) Shaft seals max pressure and mounting scheme

	D Standard shaft seal with wiper seal	H High pressure special shaft seal	C High pressure special shaft seal with wiper seal
Single rotation pumps	Max 44 psi (3 bar)  DCAT_033_037	Max 363 psi (25 bar) #  DCAT_033_039	Max 363 psi (25 bar) #  DCAT_033_036
Single rotation motors Reversible rotation pumps and motors	Max 44 psi (3 bar)  DCAT_033_038		

Pressure could change in connection with shaft speed rotation.
For more information please consult our technical sales department.

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FEATURES

Filtration

Tab. 2

Working pressure	Δp > 2900 psi - (200 bar)	Δp < 2900 psi - (200 bar)
Contamination class NAS 1638	8	10
Contamination class ISO 4406	19/17/14	21/19/16
Achieved with filter ßx≥75	10 μm	25 μm

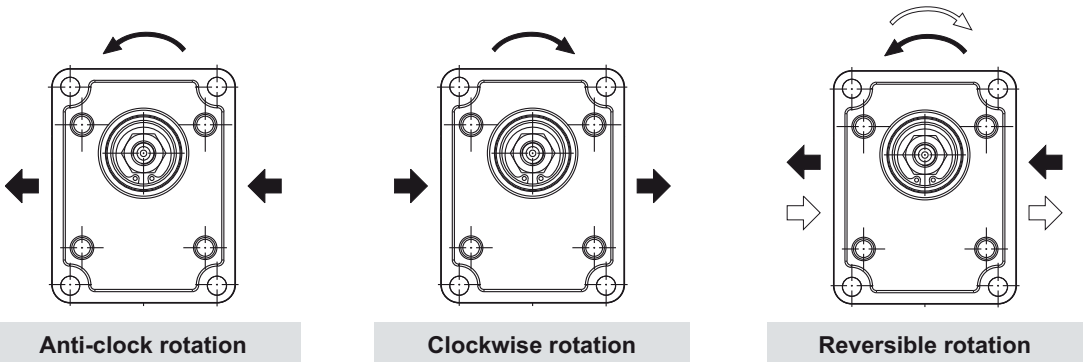
Casappa recommends to use its own production filters:

IKRON

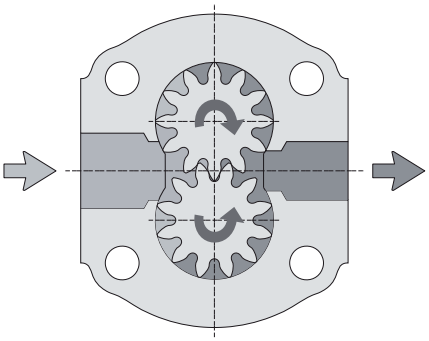
General notes

Available with different inlet and outlet ports.
For more information please consult our technical sales department.

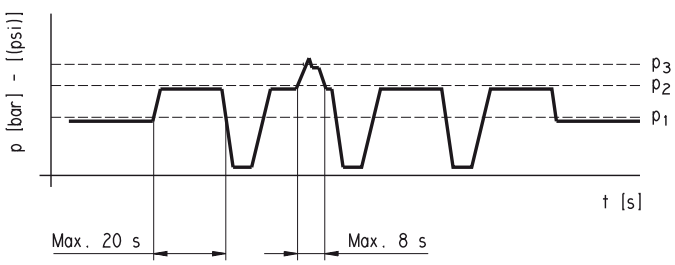
Definition of rotation direction looking on the drive shaft



Anti-clock rotation | **Clockwise rotation** | **Reversible rotation**



Pressure definition



p_1 Max. continuous pressure
p_2 Max. intermittent pressure
p_3 Max. peak pressure

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GENERAL DATA PUMPS AND MOTORS

Series	Pump type PLP Motor type PLM	Displacement	Max. pressure			Max. speed	Min. speed
			p_1	p_2	p_3		
		in^3/rev (cm^3/rev)	psi (bar)			min^{-1}	
POLARIS 10	PL. 10•1	0.07 (1,07)	3770 (260)	4060 (280)	4205 (290)	4000	650
	PL. 10•1,5	0.10 (1,60)	3770 (260)	4060 (280)	4205 (290)	4000	650
	PL. 10•2	0.13 (2,13)	3770 (260)	4060 (280)	4205 (290)	4000	650
	PL. 10•2,5	0.16 (2,67)	3770 (260)	4060 (280)	4205 (290)	4000	650
	PL. 10•3,15	0.20 (3,34)	3770 (260)	4060 (280)	4205 (290)	4000	650
	PL. 10•4	0.26 (4,27)	3625 (250)	3915 (270)	4060 (280)	4000	650
	PL. 10•5	0.33 (5,34)	3625 (250)	3915 (270)	4060 (280)	4000	650
	PL. 10•5,8	0.38 (6,20)	3335 (230)	3625 (250)	3770 (260)	3500	650
	PL. 10•6,3	0.41 (6,67)	3335 (230)	3625 (250)	3770 (260)	3500	650
	PL. 10•8	0.52 (8,51)	2610 (180)	2900 (200)	3045 (210)	3500	650
	PL. 10•10	0.65 (10,67)	2030 (140)	2320 (160)	2465 (170)	3500	650
POLARIS 20	PL. 20•4	0.30 (4,95)	3625 (250)	4060 (280)	4350 (300)	4000	600
	PL. 20•6,3	0.40 (6,61)	3625 (250)	4060 (280)	4350 (300)	4000	600
	PL. 20•7,2	0.44 (7,29)	3625 (250)	4060 (280)	4350 (300)	4000	600
	PL. 20•8	0.50 (8,26)	3625 (250)	4060 (280)	4350 (300)	3500	600
	PL. 20•9	0.56 (9,17)	3625 (250)	4060 (280)	4350 (300)	3500	600
	PL. 20•10,5	0.66 (10,9)	3625 (250)	4060 (280)	4350 (300)	3500	600
	PL. 20•11,2	0.69 (11,23)	3625 (250)	4060 (280)	4350 (300)	3500	600
	PL. 20•14	0.89 (14,53)	3625 (250)	4060 (280)	4350 (300)	3500	500
	PL. 20•16	1.03 (16,85)	3625 (250)	4060 (280)	4350 (300)	3000	500
	PL. 20•19	1.16 (19,09)	2900 (200)	3190 (220)	3480 (240)	3000	500
	PL. 20•20	1.29 (21,14)	2900 (200)	3190 (220)	3480 (240)	3000	500
	PL 20•24,5	1.52 (24,84)	2465 (170)	2755 (190)	3045 (210)	2500	500
	PL. 20•25	1.61 (26,42)	2465 (170)	2755 (190)	3045 (210)	2500	500
	PL. 20•27,8	1.72 (28,21)	1885 (130)	2175 (150)	2465 (170)	2000	500
	PL. 20•31,5	2.01 (33,03)	1885 (130)	2175 (150)	2465 (170)	2000	500
POLARIS 30	PL. 30•22	1.34 (21,99)	3625 (250)	3915 (270)	4060 (280)	3000	350
	PL. 30•27	1.63 (26,70)	3625 (250)	3915 (270)	4060 (280)	3000	350
	PL. 30•34	2.11 (34,55)	3480 (240)	3770 (260)	3915 (270)	3000	350
	PL. 30•38	2.40 (39,27)	3480 (240)	3770 (260)	3915 (270)	3000	350
	PL. 30•43	2.68 (43,98)	3335 (230)	3625 (250)	3770 (260)	3000	350
	PL. 30•51	3.16 (51,83)	3045 (210)	3335 (230)	3480 (240)	2500	350
	PL. 30•61	3.74 (61,26)	2755 (190)	3045 (210)	3190 (220)	2500	350
	PL. 30•73	4.50 (73,82)	2465 (170)	2755 (190)	2900 (200)	2500	350
	PL. 30•82	4.98 (81,68)	2320 (160)	2465 (170)	2610 (180)	2200	350
	PL. 30•90	5.56 (91,10)	2175 (150)	2320 (160)	2465 (170)	2200	350

p_1= Max. continuous pressure p_2= Max. intermittent pressure p_3= Max. peak pressure

The values in the table refer to unidirectional pumps and motors.
Reversible pump and motors max pressures are 15% lower than those shown in table.
For different working conditions please consult our sales department.

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GENERAL DATA PUMPS AND MOTORS

Q	US gpm (l/min)	Flow
M	lbf in (Nm)	Torque
P	HP (kW)	Power
V	in^3/rev (cm^3/rev)	Displacement
n	min^{-1}	Speed
Δp	psi (bar)	Pressure

Efficiencies

		Pumps	Motors
$\eta_v = \eta_v (V, \Delta p, n)$	Volumetric efficiency	(≈ 0,97)	(≈ 0,96)
$\eta_m = \eta_m (V, \Delta p, n)$	Mechanical efficiency	(≈ 0,88)	(≈ 0,85)
$\eta_t = \eta_v \bullet \eta_m$	Overall efficiency	(≈ 0,85)	(≈ 0,82)

DESIGN CALCULATIONS FOR PUMP

$$\mathbf{Q} = V(cm^3/rev) \bullet \eta_v \bullet n \bullet 10^{-3} \quad [l/min]$$

$$\mathbf{M} = \frac{\Delta p\ (bar) \bullet V\ (cm^3/rev)}{62{,}83 \bullet \eta_m} \quad [Nm]$$

$$\mathbf{P} = \frac{\Delta p\ (bar) \bullet V\ (cm^3/rev) \bullet n}{600 \bullet 1000 \bullet \eta_t} \quad [kW]$$

DESIGN CALCULATIONS FOR MOTOR

$$\mathbf{Q} = \frac{V\ (cm^3/rev) \bullet n \bullet 10^{-3}}{\eta_v} \quad [l/min]$$

$$\mathbf{M} = \frac{\Delta p\ (bar) \bullet V\ (cm^3/rev) \bullet \eta_m}{62{,}83} \quad [Nm]$$

$$\mathbf{P} = \frac{\Delta p\ (bar) \bullet V\ (cm^3/rev) \bullet n \bullet \eta_t}{600 \bullet 1000} \quad [kW]$$

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Note: Diagrams providing approximate selection data will be found on subsequent pages.

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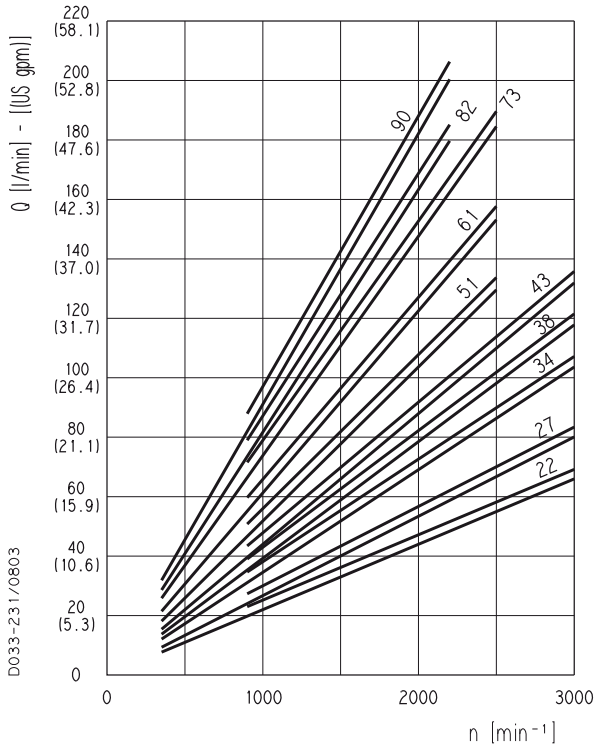
POLARIS 30 GEAR MOTORS PERFORMANCE CURVES

PLM 30

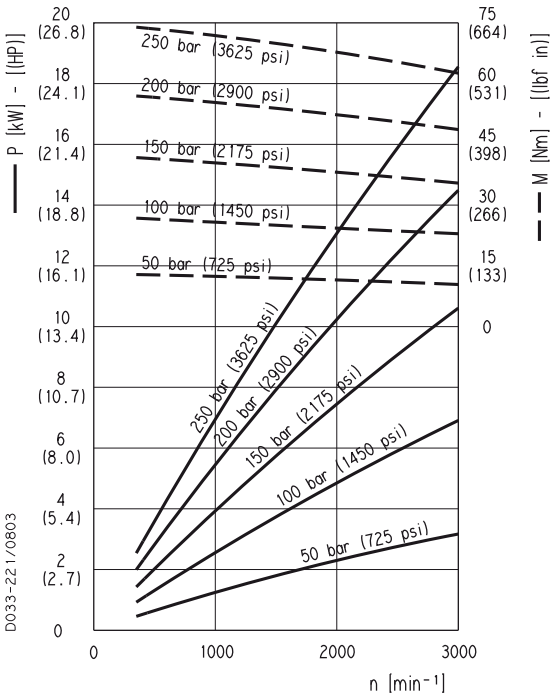
PLM 30



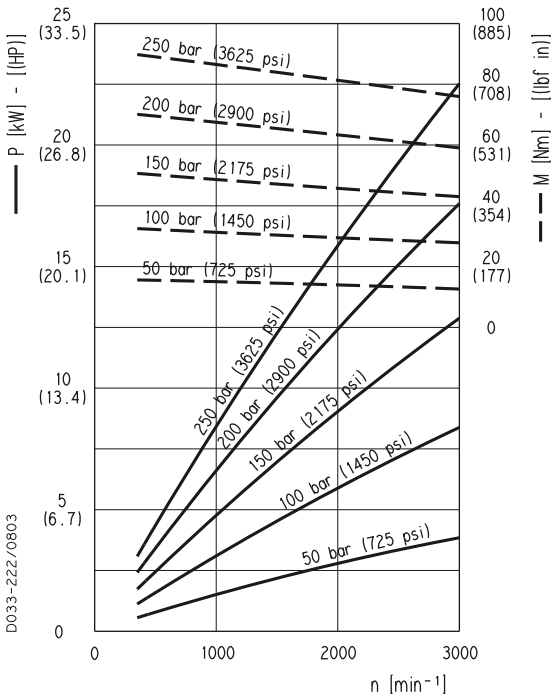
Each curve has been obtained at 122 °F (50°C), using oil with viscosity 168 SSU (36 cSt) at 104 °F (40°C) and at these pressures.

PLM 30•22 . . . 290-3625 psi (20-250 bar)
PLM 30•27 . . . 290-3625 psi (20-250 bar)
PLM 30•34 . . . 290-3480 psi (20-240 bar)
PLM 30•38 . . . 290-3480 psi (20-240 bar)
PLM 30•43 . . . 290-3335 psi (20-230 bar)
PLM 30•51 . . . 290-3045 psi (20-210 bar)
PLM 30•61 . . . 290-2775 psi (20-190 bar)
PLM 30•73 . . . 290-2465 psi (20-170 bar)
PLM 30•82 . . . 290-2320 psi (20-160 bar)
PLM 30•90 . . . 290-2175 psi (20-150 bar)

PLM 30•22



PLM 30•27



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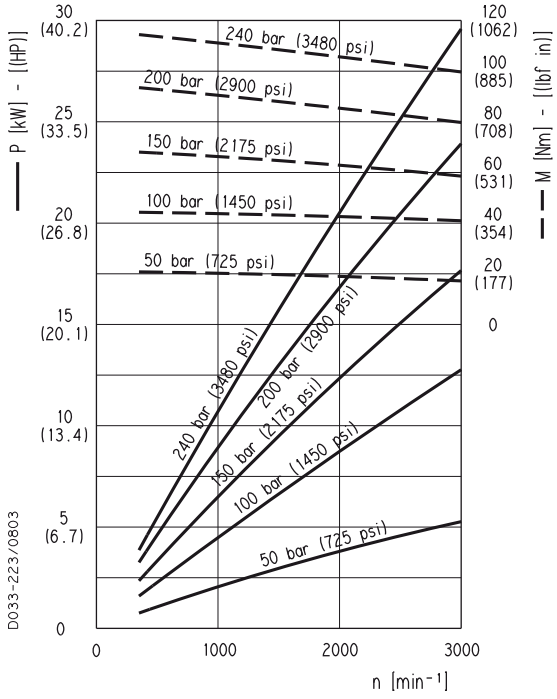
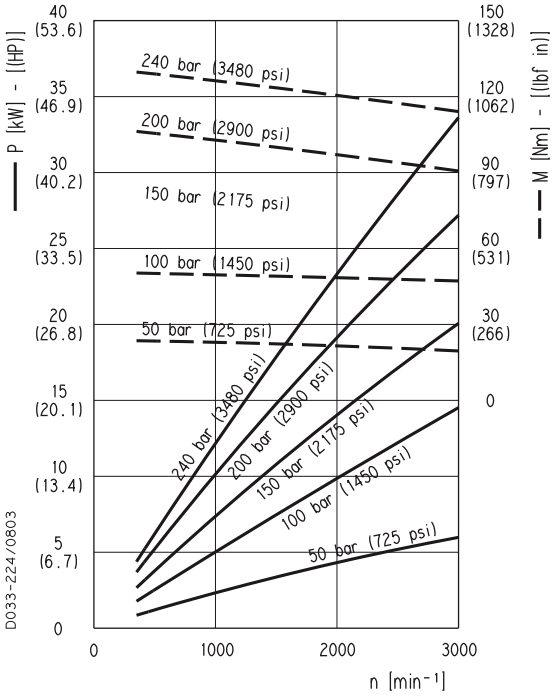
POLARIS 30 GEAR MOTORS PERFORMANCE CURVES

PLM 30

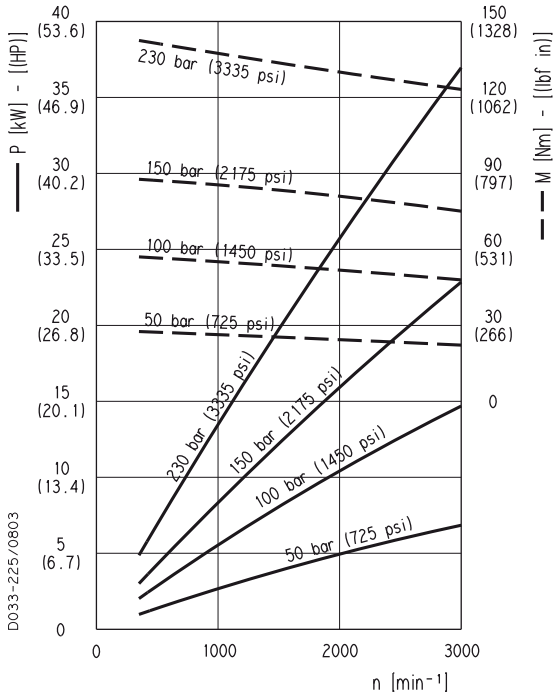
PLM 30•34



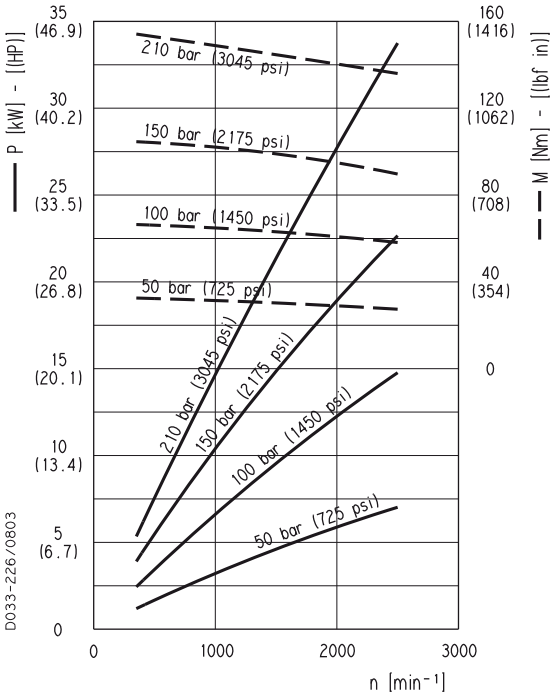
PLM 30•38



PLM 30•43



PLM 30•51



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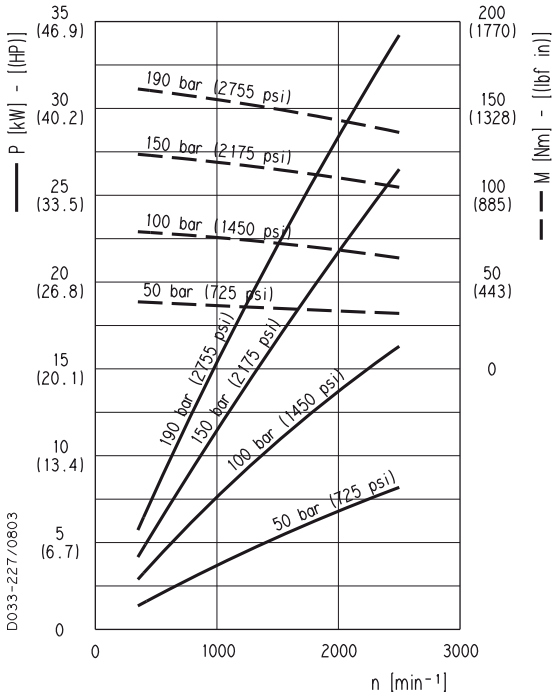
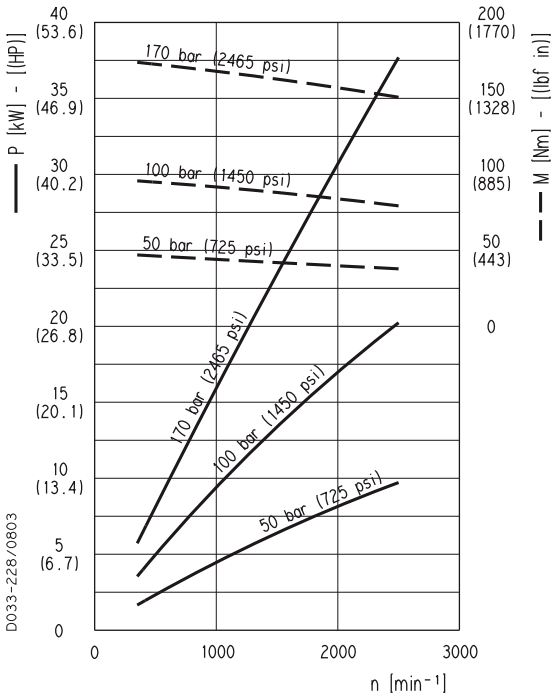
POLARIS 30 GEAR MOTORS PERFORMANCE CURVES

PLM 30

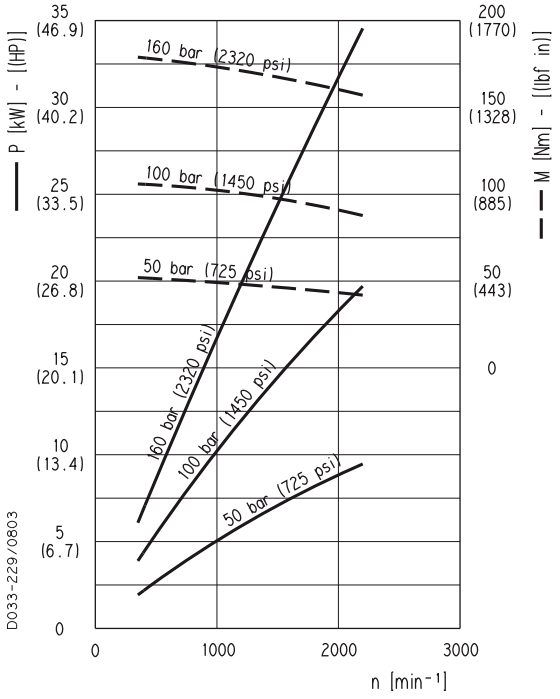
PLM 30•61



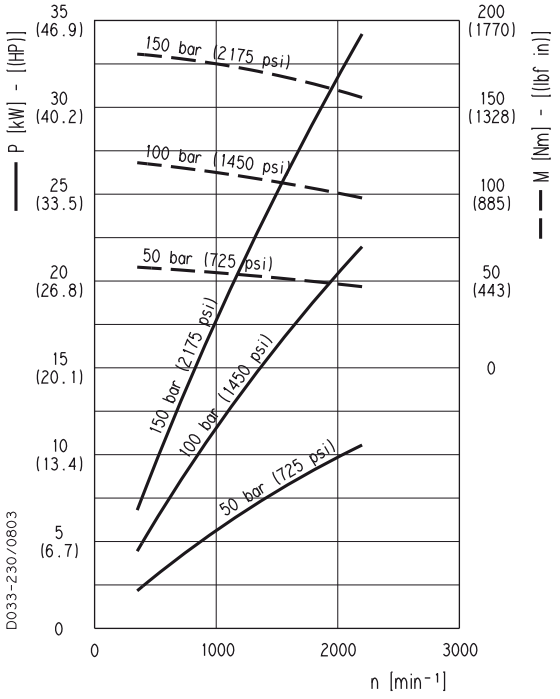
PLM 30•73



PLM 30•82



PLM 30•90



01/10.03

HYMATEC GMBH
HYDRAULIK MASCHINEN TECHNIK

PL 01 T E

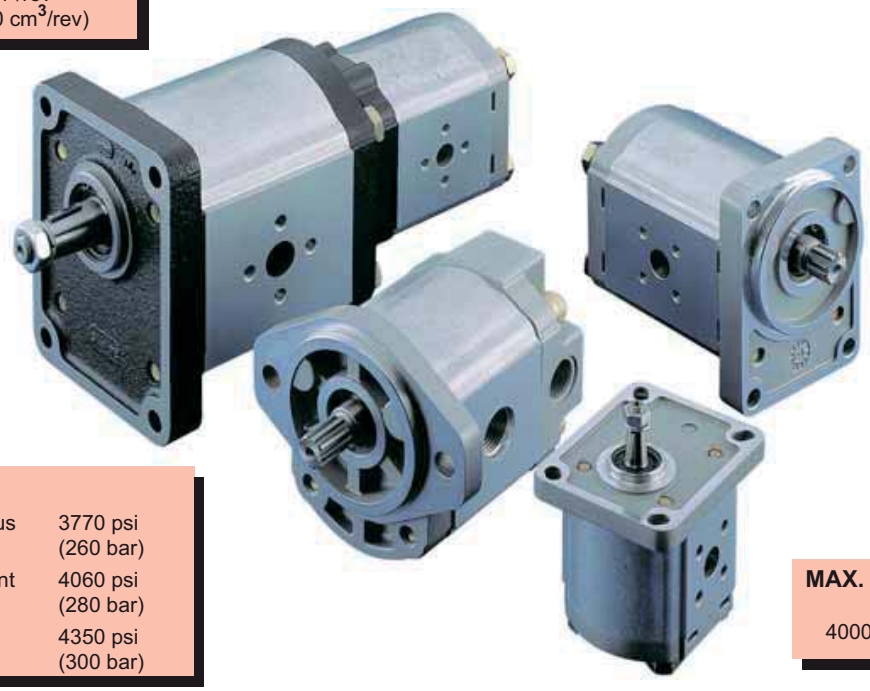
POLARIS®

Hydraulic gear pumps and motors

through bore aluminum body

DISPLACEMENTS

From	0.07 in^3/rev (1.07 cm^3/rev)
To	5.56 in^3/rev (91.10 cm^3/rev)



PRESSURE

Max. Continuous	3770 psi (260 bar)
Max. Intermittent	4060 psi (280 bar)
Max. Peak	4350 psi (300 bar)

MAX. SPEED

4000 min^{-1}

- Group 1, 2 and 3 with displacements from 0.07 in^3/rev (1,07 cm^3/rev) to 5.56 in^3/rev (91.10 cm^3/rev).
- Drive shafts, mounting flanges and ports according to the international standards.
- Combination of multiple pumps in standard version, common inlet and separated stages.
- Integrated outboard bearings for heavy duty application.
- Many types of built-in valves.

"POLARIS" more than fifty years of Casappa experience in design and production of hydraulic components, characterized by large investments in research and development in order to propose new and personalized solutions to the market. Our use of CAD 3D in the developement of this generation permit us the 3D modelling and the virtual simulation of the behaviour of the components inserted in the hydraulic circuit. This means that the process will take less time and the quality of the products is better.
Polaris pumps and motors are basically composed of a gear housing in aluminium alloy, two gear wheels supported by sleeve bearings and two end plates, the front and the rear cover, either in aluminium or in cast iron with excellent mechanical characteristics. Our success is based largely on the quality of our product. This guaranties the consistencies of the efficiencies and low level of noise emission during the life of our products.

Edition: 01/10.2003

CASAPPA®
FLUID POWER DESIGN

Hymatec-GmbH – Hebbelstraße 22 94315 Straubing
Tel.: 09421/1887797 – Fax: 09421/1887799 – Email: info@hymatec-gmbh.de – www.hymatec-gmbh.de

FEATURES

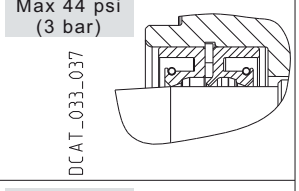
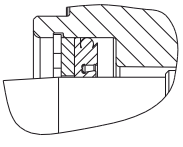
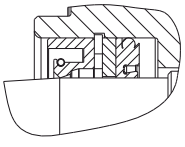
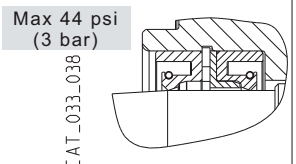
Construction	External gear type pumps and motors
Mounting	EUROPEAN - SAE - GERMAN standard flanges
Line connection	Screw and flange
Direction of rotation (looking on drive shaft)	Anti-clock (S) - clockwise (D) - reversible external drain (L - R) reversible internal drain (B)
Inlet pressure range for pumps	10 ÷ 44 psi [0,7 ÷ 3 bar (abs.)]
Max back pressure for single rotation motors and reversible internal drain motors	p_1 (continuous) max 73 psi (5 bar)
	p_2 (for 20 s) max 116 psi (8 bar)
	p_3 (for 8 s) max 218 psi (15 bar)
Max drain line pressure on the reversible rotation motors	73 psi (5 bar)
Max back pressure on the series motors (reversible motors external drain)	< p_1 (max continuous pressure) < 2175 psi (<150 bar)
Fluid temperature range	See table (1)
Fluid	Mineral oil based hydraulic fluids to ISO/DIN. For other fluids please consult our technical sales department.
Viscosity range	From 60 to 456 SSU [12 to 100 mm^2/s (cSt)] recommended
	Up to 3410 SSU [750 mm^2/s (cSt)] permitted
Filtering requirement	See table (2) page 4

Tab. 1

Type	Fluid composition	Max pressure psi - (bar)	Max speed [min^{-1}]	Temperature °F - (°C)	**Seals (●)**	**Special shaft seals (◆)**
ISO/DIN	Mineral oil based hydraulic fluid to ISO/DIN	See page 5	See page 5	-13 ÷ +176 (-25 ÷ +80)	N	D - H - C
				-13 ÷ +230 (-25 ÷ +110)	V	D

(●) **N**= Buna N (standard) - **V**= Viton

(◆) Shaft seals max pressure and mounting scheme

	D Standard shaft seal with wiper seal	H High pressure special shaft seal	C High pressure special shaft seal with wiper seal
Single rotation pumps	Max 44 psi (3 bar)  DCAT_033_037	Max 363 psi (25 bar) #  DCAT_033_039	Max 363 psi (25 bar) #  DCAT_033_036
Single rotation motors Reversible rotation pumps and motors	Max 44 psi (3 bar)  DCAT_033_038		

Pressure could change in connection with shaft speed rotation.
For more information please consult our technical sales department.

01/10.03

FEATURES

Filtration

Tab. 2

Working pressure	Δp > 2900 psi - (200 bar)	Δp < 2900 psi - (200 bar)
Contamination class NAS 1638	8	10
Contamination class ISO 4406	19/17/14	21/19/16
Achieved with filter ßx≥75	10 μm	25 μm

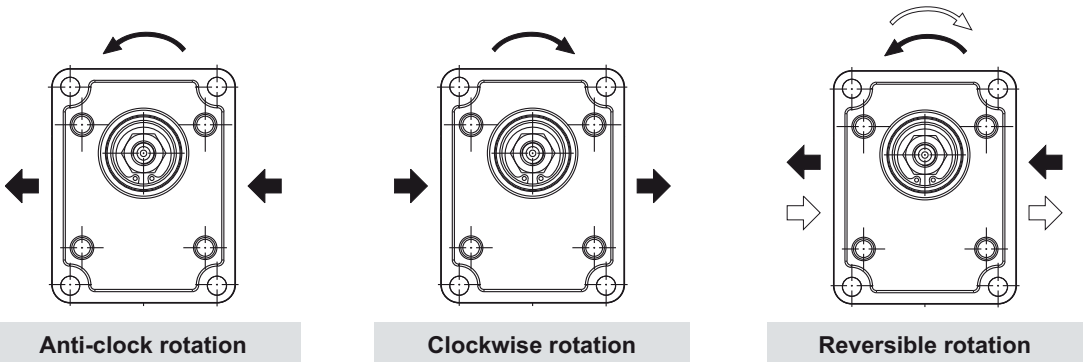
Casappa recommends to use its own production filters:

IKRON

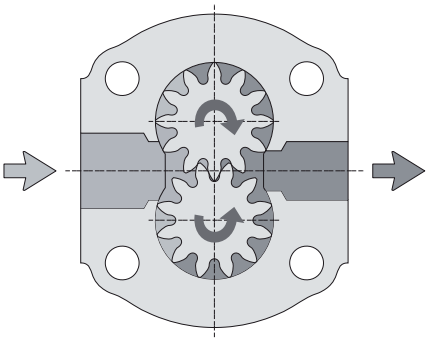
General notes

Available with different inlet and outlet ports.
For more information please consult our technical sales department.

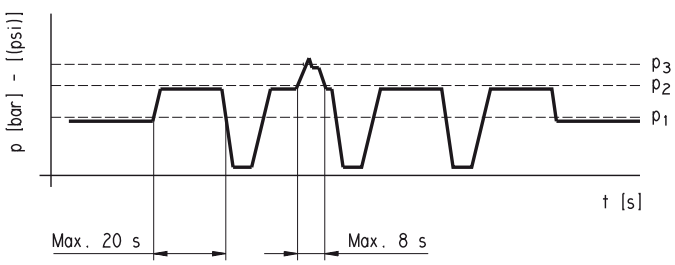
Definition of rotation direction looking on the drive shaft



Anti-clock rotation | **Clockwise rotation** | **Reversible rotation**



Pressure definition



p_1 Max. continuous pressure
p_2 Max. intermittent pressure
p_3 Max. peak pressure

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GENERAL DATA PUMPS AND MOTORS

Series	Pump type PLP Motor type PLM	Displacement	Max. pressure			Max. speed	Min. speed
			p_1	p_2	p_3		
		in^3/rev (cm^3/rev)	psi (bar)			min^{-1}	
POLARIS 10	PL. 10•1	0.07 (1,07)	3770 (260)	4060 (280)	4205 (290)	4000	650
	PL. 10•1,5	0.10 (1,60)	3770 (260)	4060 (280)	4205 (290)	4000	650
	PL. 10•2	0.13 (2,13)	3770 (260)	4060 (280)	4205 (290)	4000	650
	PL. 10•2,5	0.16 (2,67)	3770 (260)	4060 (280)	4205 (290)	4000	650
	PL. 10•3,15	0.20 (3,34)	3770 (260)	4060 (280)	4205 (290)	4000	650
	PL. 10•4	0.26 (4,27)	3625 (250)	3915 (270)	4060 (280)	4000	650
	PL. 10•5	0.33 (5,34)	3625 (250)	3915 (270)	4060 (280)	4000	650
	PL. 10•5,8	0.38 (6,20)	3335 (230)	3625 (250)	3770 (260)	3500	650
	PL. 10•6,3	0.41 (6,67)	3335 (230)	3625 (250)	3770 (260)	3500	650
	PL. 10•8	0.52 (8,51)	2610 (180)	2900 (200)	3045 (210)	3500	650
	PL. 10•10	0.65 (10,67)	2030 (140)	2320 (160)	2465 (170)	3500	650
POLARIS 20	PL. 20•4	0.30 (4,95)	3625 (250)	4060 (280)	4350 (300)	4000	600
	PL. 20•6,3	0.40 (6,61)	3625 (250)	4060 (280)	4350 (300)	4000	600
	PL. 20•7,2	0.44 (7,29)	3625 (250)	4060 (280)	4350 (300)	4000	600
	PL. 20•8	0.50 (8,26)	3625 (250)	4060 (280)	4350 (300)	3500	600
	PL. 20•9	0.56 (9,17)	3625 (250)	4060 (280)	4350 (300)	3500	600
	PL. 20•10,5	0.66 (10,9)	3625 (250)	4060 (280)	4350 (300)	3500	600
	PL. 20•11,2	0.69 (11,23)	3625 (250)	4060 (280)	4350 (300)	3500	600
	PL. 20•14	0.89 (14,53)	3625 (250)	4060 (280)	4350 (300)	3500	500
	PL. 20•16	1.03 (16,85)	3625 (250)	4060 (280)	4350 (300)	3000	500
	PL. 20•19	1.16 (19,09)	2900 (200)	3190 (220)	3480 (240)	3000	500
	PL. 20•20	1.29 (21,14)	2900 (200)	3190 (220)	3480 (240)	3000	500
	PL 20•24,5	1.52 (24,84)	2465 (170)	2755 (190)	3045 (210)	2500	500
	PL. 20•25	1.61 (26,42)	2465 (170)	2755 (190)	3045 (210)	2500	500
	PL. 20•27,8	1.72 (28,21)	1885 (130)	2175 (150)	2465 (170)	2000	500
	PL. 20•31,5	2.01 (33,03)	1885 (130)	2175 (150)	2465 (170)	2000	500
POLARIS 30	PL. 30•22	1.34 (21,99)	3625 (250)	3915 (270)	4060 (280)	3000	350
	PL. 30•27	1.63 (26,70)	3625 (250)	3915 (270)	4060 (280)	3000	350
	PL. 30•34	2.11 (34,55)	3480 (240)	3770 (260)	3915 (270)	3000	350
	PL. 30•38	2.40 (39,27)	3480 (240)	3770 (260)	3915 (270)	3000	350
	PL. 30•43	2.68 (43,98)	3335 (230)	3625 (250)	3770 (260)	3000	350
	PL. 30•51	3.16 (51,83)	3045 (210)	3335 (230)	3480 (240)	2500	350
	PL. 30•61	3.74 (61,26)	2755 (190)	3045 (210)	3190 (220)	2500	350
	PL. 30•73	4.50 (73,82)	2465 (170)	2755 (190)	2900 (200)	2500	350
	PL. 30•82	4.98 (81,68)	2320 (160)	2465 (170)	2610 (180)	2200	350
	PL. 30•90	5.56 (91,10)	2175 (150)	2320 (160)	2465 (170)	2200	350

p_1= Max. continuous pressure p_2= Max. intermittent pressure p_3= Max. peak pressure

The values in the table refer to unidirectional pumps and motors.
Reversible pump and motors max pressures are 15% lower than those shown in table.
For different working conditions please consult our sales department.

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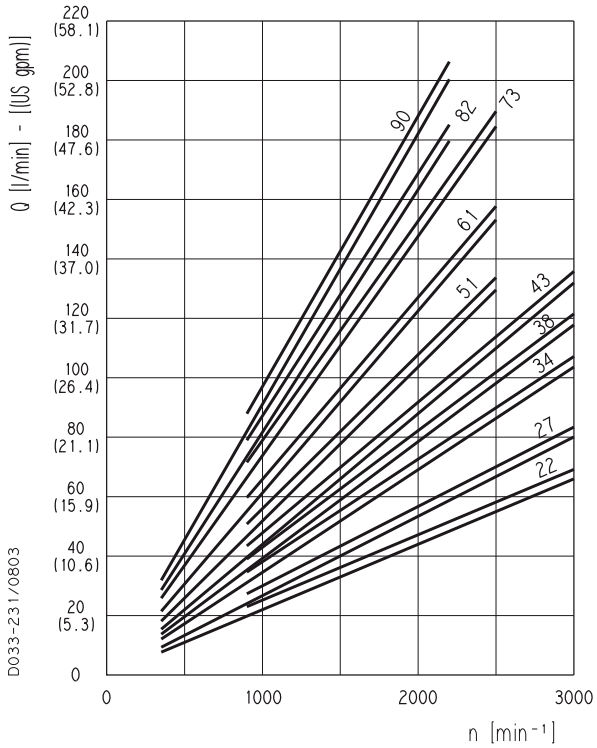
POLARIS 30 GEAR MOTORS PERFORMANCE CURVES

PLM 30

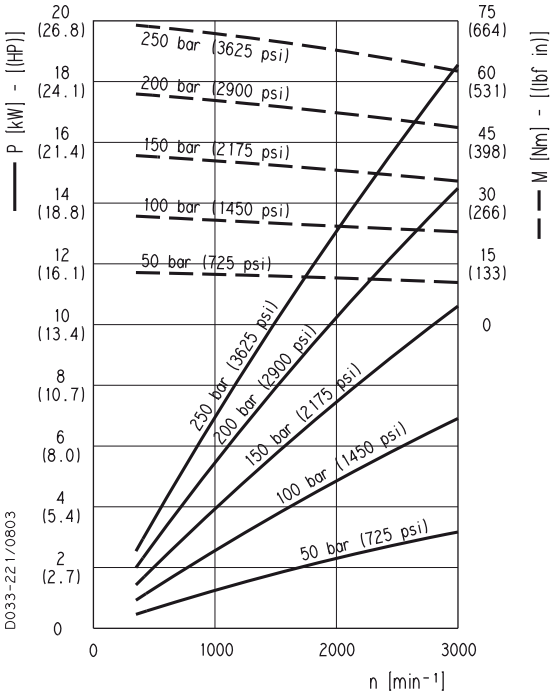
PLM 30



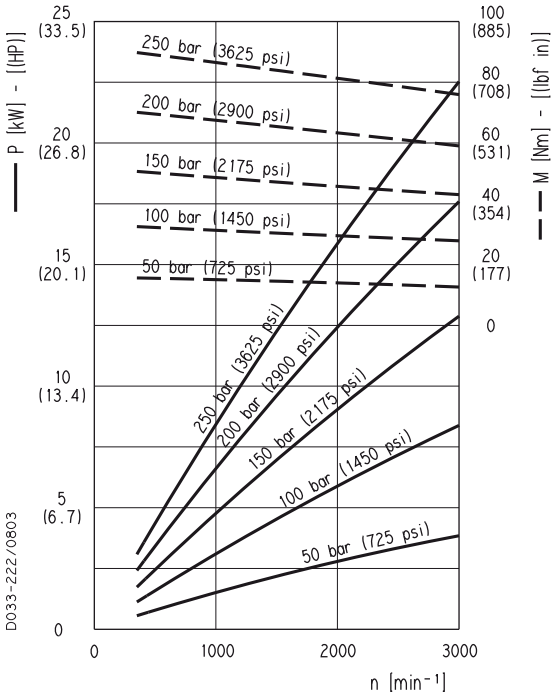
Each curve has been obtained at 122 °F (50°C), using oil with viscosity 168 SSU (36 cSt) at 104 °F (40°C) and at these pressures.

PLM 30•22 . . . 290-3625 psi (20-250 bar)
PLM 30•27 . . . 290-3625 psi (20-250 bar)
PLM 30•34 . . . 290-3480 psi (20-240 bar)
PLM 30•38 . . . 290-3480 psi (20-240 bar)
PLM 30•43 . . . 290-3335 psi (20-230 bar)
PLM 30•51 . . . 290-3045 psi (20-210 bar)
PLM 30•61 . . . 290-2775 psi (20-190 bar)
PLM 30•73 . . . 290-2465 psi (20-170 bar)
PLM 30•82 . . . 290-2320 psi (20-160 bar)
PLM 30•90 . . . 290-2175 psi (20-150 bar)

PLM 30•22



PLM 30•27



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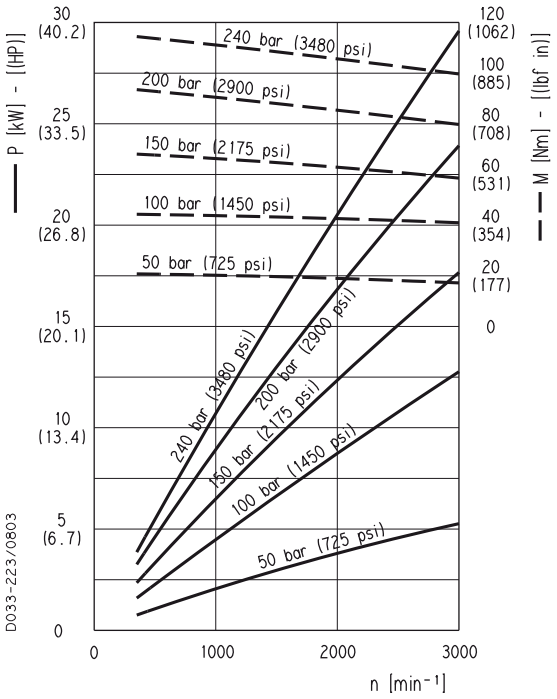
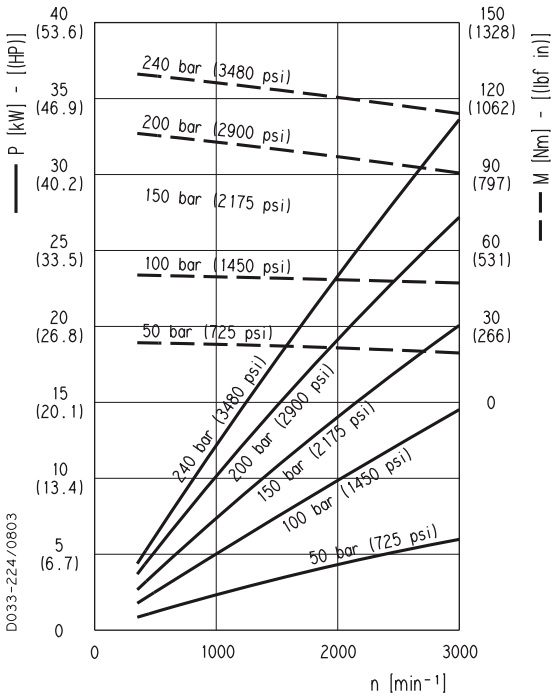
POLARIS 30 GEAR MOTORS PERFORMANCE CURVES

PLM 30

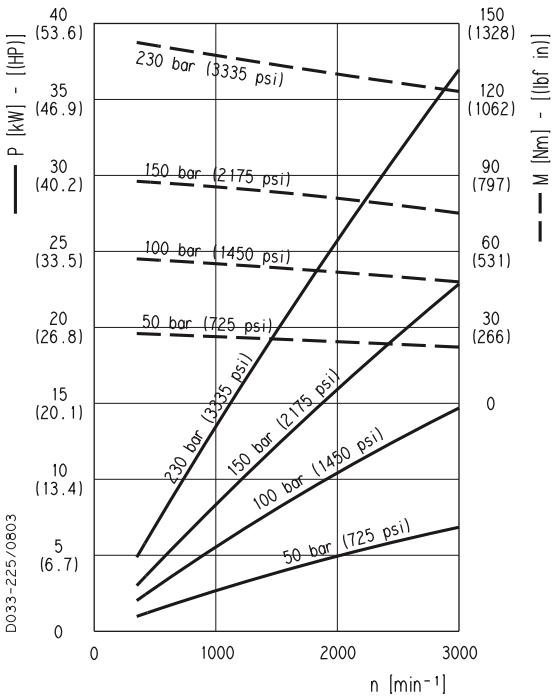
PLM 30•34



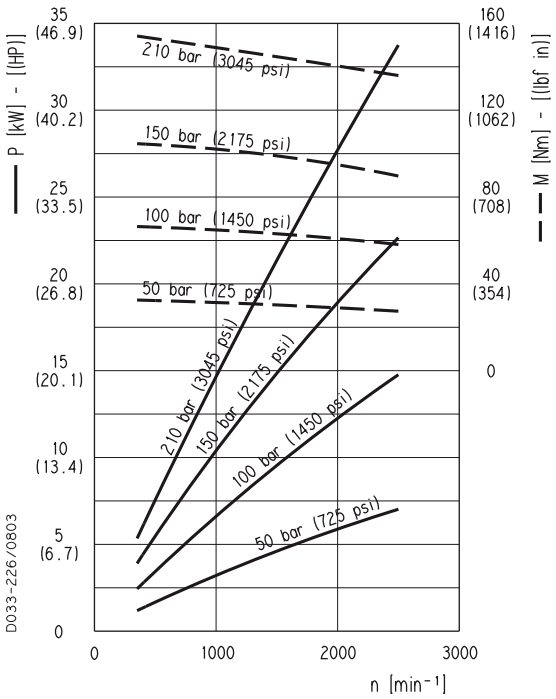
PLM 30•38



PLM 30•43



PLM 30•51



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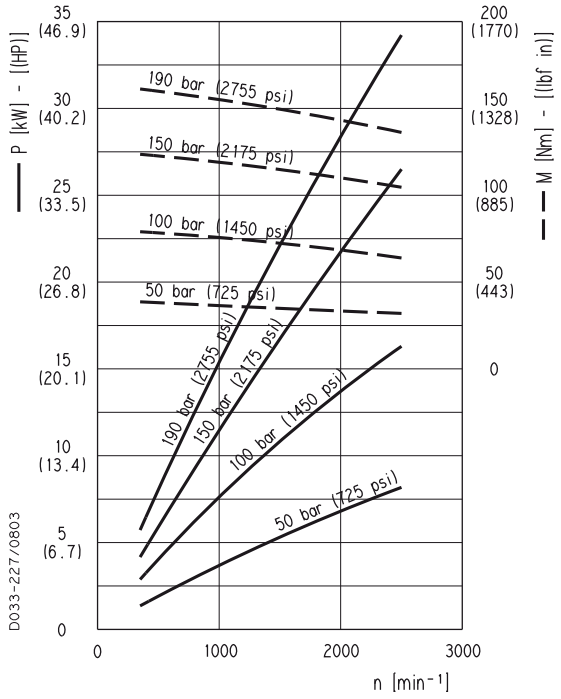
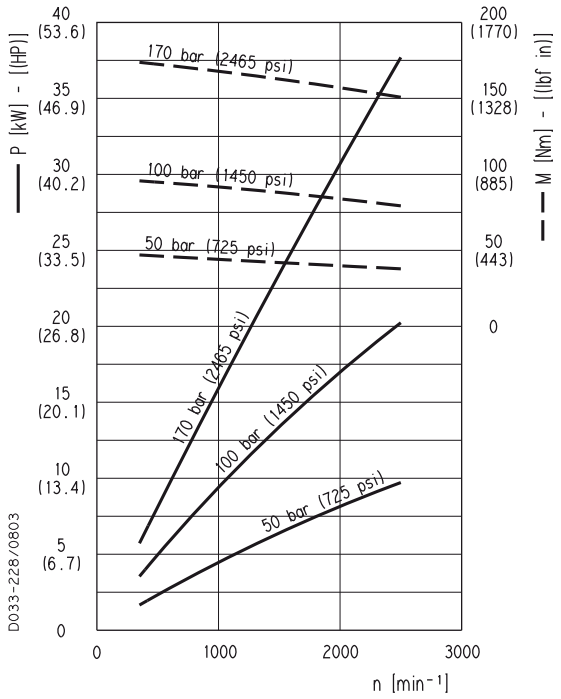
POLARIS 30 GEAR MOTORS PERFORMANCE CURVES

PLM 30

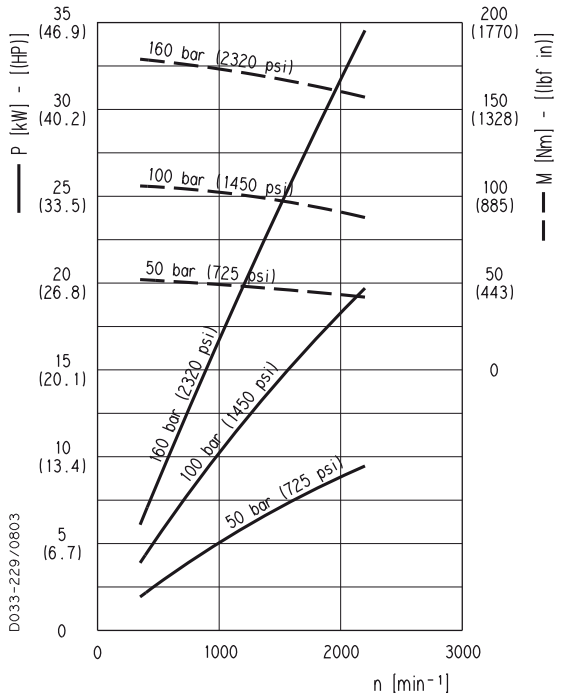
PLM 30•61



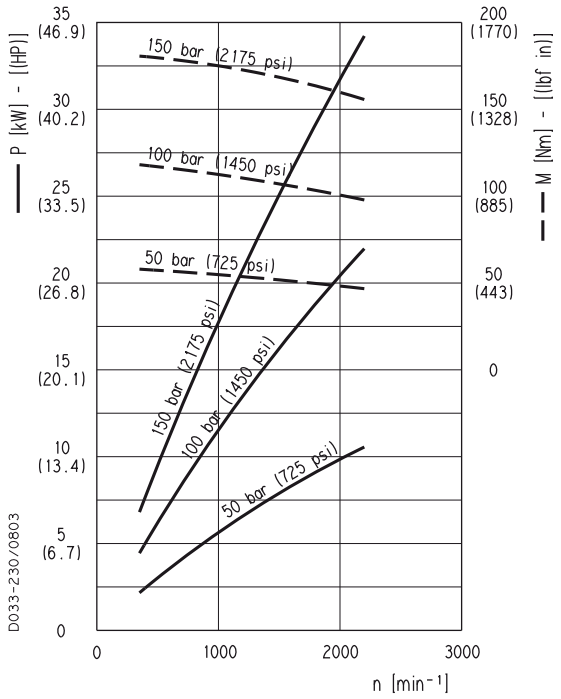
PLM 30•73



PLM 30•82



PLM 30•90



01/10.03

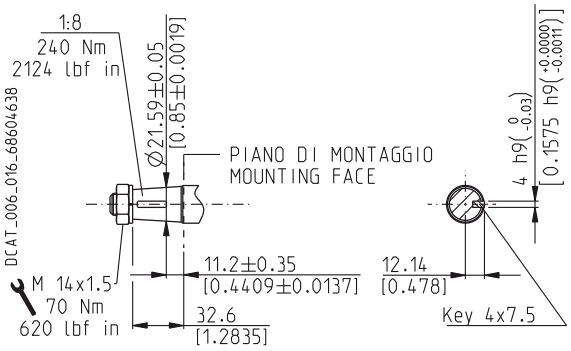
POLARIS 30 — DRIVE SHAFTS

EUROPEAN TAPERED 1:8 — 83

Not available with size:

30•82 - 30•90

Mounting face refer to flange code **E3**

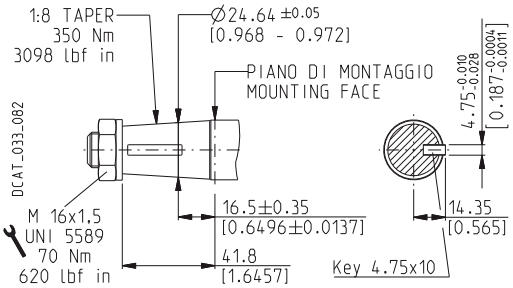


EUROPEAN TAPERED 1:8 — 84

Not available with size:

30•22 - 30•27 - 30•34 - 30•38

Mounting face refer to flange code **E4**

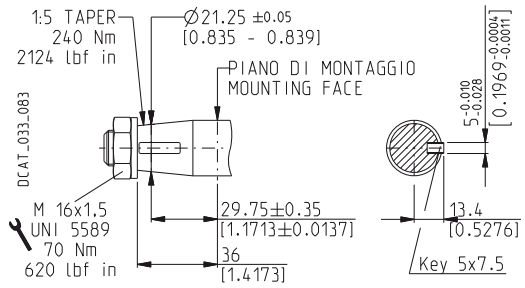


GERMAN TAPERED 1:5 — 56

Not available with size:

30•61 - 30•73 - 30•82 - 30•90

Mounting face refer to flange code **B3**

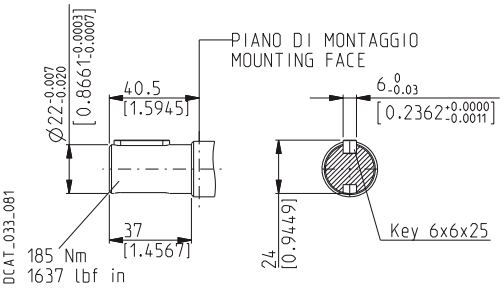


STRAIGHT — 41

Not available with size:

30•82 - 30•90

Mounting face refer to flange code **E3**

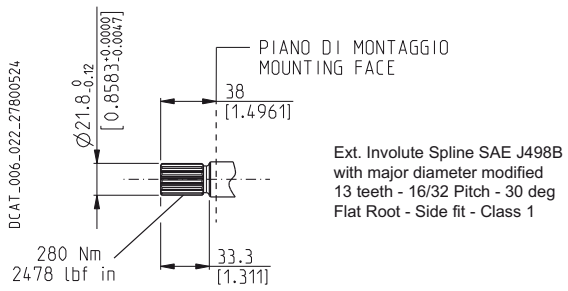


SAE "B" SPLINE — A8

Not available with size:

30•82 - 30•90

Mounting face refer to flange code **U3**



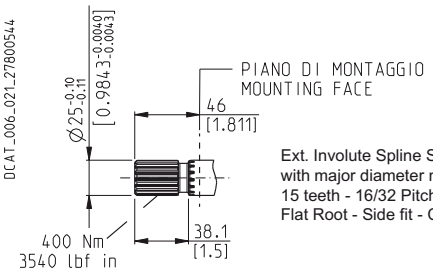
Ext. Involute Spline SAE J498B
with major diameter modified
13 teeth - 16/32 Pitch - 30 deg
Flat Root - Side fit - Class 1

SAE "BB" SPLINE — A5

Not available with size:

30•22 - 30•38 - 30•82 - 30•90

Mounting face refer to flange code **U3**



Ext. Involute Spline SAE J498B
with major diameter modified
15 teeth - 16/32 Pitch - 30 deg
Flat Root - Side fit - Class 1

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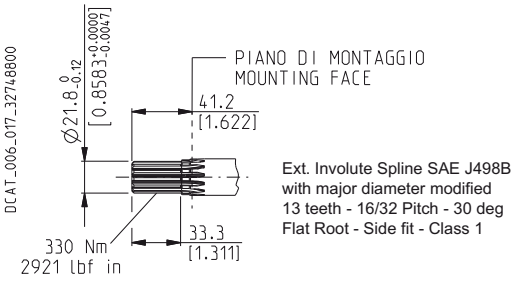
POLARIS 30

DRIVE SHAFTS

SAE “B” SPLINE — 04

Mounting face refer to flange code **S5**

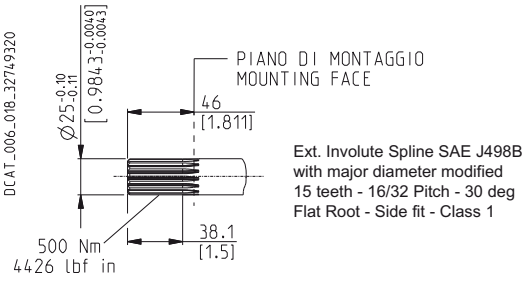


SAE “BB” SPLINE — 05

Not available with size:

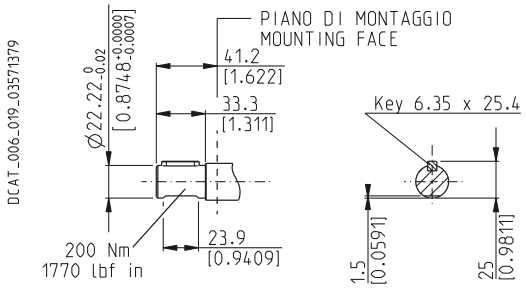
30•90

Mounting face refer to flange code **S5**



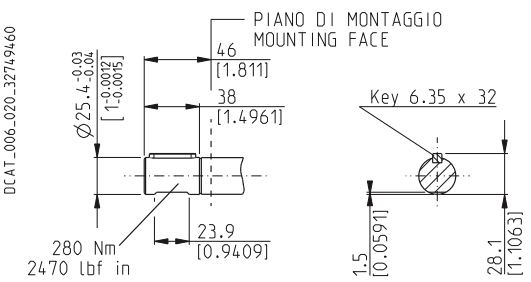
SAE “B” STRAIGHT — 32

Mounting face refer to flange code **S5**



SAE “BB” STRAIGHT — 33

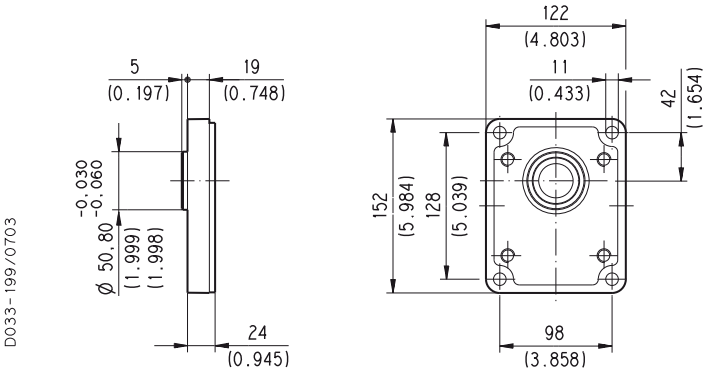
Mounting face refer to flange code **S5**



01/10.03

POLARIS 30 — MOUNTING FLANGES AND TABLE OF COMPATIBILITY

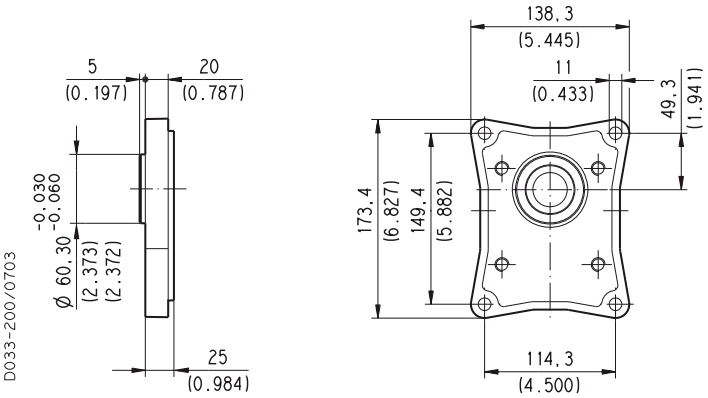
EUROPEAN E3



	DRIVE SHAFTS See page 55 e 56							
VERSIONS See page 46	**83**	**41**	**04**	**05**	**32**	**33**	**A5**	**A8**
0	#	#	x	x	x	x	x	x

Standard combination
x Available combination

EUROPEAN E4



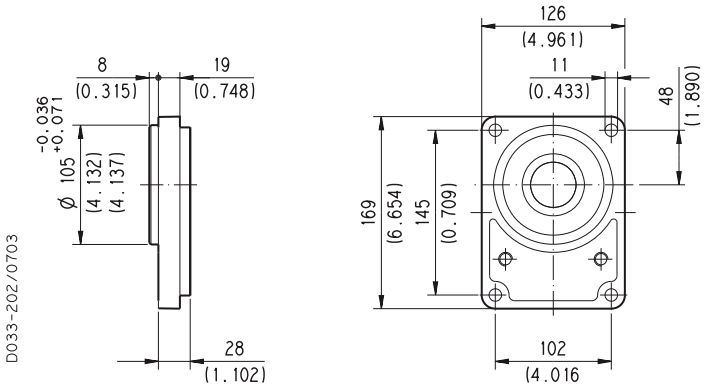
	DRIVE SHAFTS See page 55 e 56			
VERSIONS See page 46	**84**	**41**	**A5**	**A8**
0	#	x	x	x

Standard combination
x Available combination

01/10.03

POLARIS 30 — MOUNTING FLANGES AND TABLE OF COMPATIBILITY

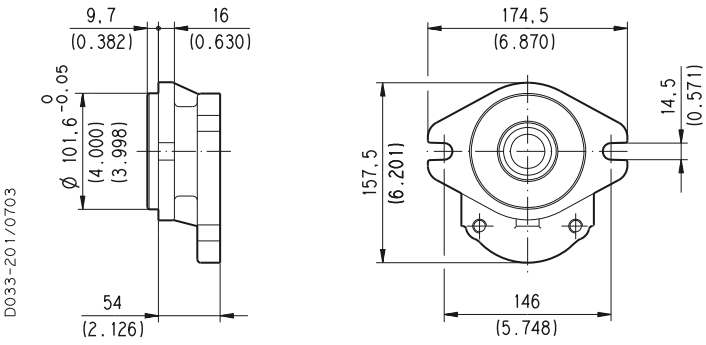
GERMAN — B3



VERSIONS See page 46	DRIVE SHAFTS See page 55 e 56			
	56	83	A5	A8
0	#	x	x	x

Standard combination
x Available combination

SAE "B" 2 BOLTS — S5



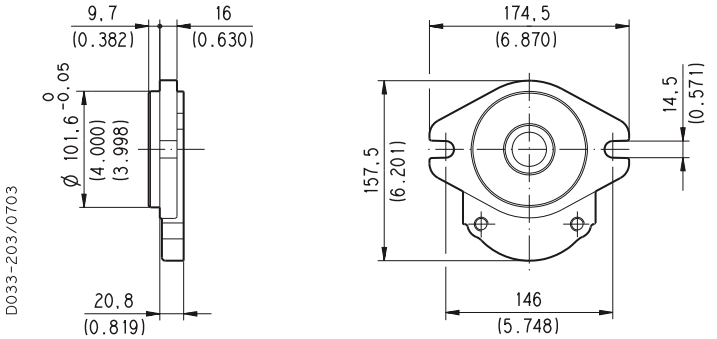
VERSIONS See page 46	DRIVE SHAFTS See page 55 e 56			
	04	05	32	33
0	#	#	#	#

Standard combination
x Available combination

01/10.03

POLARIS 30 — MOUNTING FLANGES AND TABLE OF COMPATIBILITY

SAE "B" 2 BOLTS **U3**



	DRIVE SHAFTS See page 55 e 56		
VERSIONS See page 46	**A5**	**A8**	**83**
0	**#**	**#**	**x**

Standard combination
x Available combination

01/10.03

CASAPPA

Polaris

IN/OUT PORTS TYPE

	SIDE PORTS												REAR PORTS			
PORTS TYPE	German		European		Split SSM		Split SSS		Gas BSPP		SAE ODT		Gas BSPP		SAE ODT	
Pump type	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
Motor type	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN
PL. 10•1	BB	BA							GC	GC	OB	OA	GC	GC	OB	OA
PL. 10•1,5	BB	BA							GC	GC	OB	OA	GC	GC	OB	OA
PL. 10•2	BB	BA							GC	GC	OB	OA	GC	GC	OB	OA
PL. 10•2,5	BB	BA							GC	GC	OB	OA	GC	GC	OB	OA
PL. 10•3,15	BB	BA							GC	GC	OB	OA	GC	GC	OB	OA
PL. 10•4	BB	BA							GC	GC	OB	OA	GC	GC	OB	OA
PL. 10•5	BB	BA							GD	GD	OB	OA	GD	GD	OB	OA
PL. 10•5,8	BB	BA							GD	GD	OB	OA	GD	GD	OB	OA
PL. 10•6,3	BB	BA							GD	GD	OB	OA	GD	GD	OB	OA
PL. 10•8	BB	BA							GD	GD	OC	OB	GD	GD	OB	OB
PL. 10•10	BB	BA							GD	GD	OC	OB	GD	GD	OB	OB
PL. 20•4	BE	BC	EA	EA	MA	MA	SA	SA	GD	GD	OC	OC	GD	GD	OC	OC
PL. 20•6,3	BE	BC	EA	EA	MA	MA	SA	SA	GD	GD	OC	OC	GD	GD	OC	OC
PL. 20•7,2	BE	BC	EA	EA	MA	MA	SA	SA	GD	GD	OC	OC	GD	GD	OC	OC
PL. 20•8	BE	BC	EA	EA	MA	MA	SA	SA	GD	GD	OC	OC	GD	GD	OC	OC
PL. 20•9	BE	BC	EA	EA	MA	MA	SA	SA	GD	GD	OC	OC	GD	GD	OC	OC
PL. 20•10,5	BE	BC	EA	EA	MA	MA	SA	SA	GD	GD	OC	OC	GD	GD	OC	OC
PL. 20•11,2	BE	BC	EA	EA	MA	MA	SA	SA	GD	GD	OC	OC	GD	GD	OC	OC
PL. 20•14	BE	BC	EB	EA	MB	MA	SB	SA	GE	GD	OD	OC	GE	GD	OD	OC
PL. 20•16	BE	BC	EB	EA	MB	MA	SB	SA	GE	GD	OD	OC	GE	GD	OD	OC
PL. 20•19	BE	BC	EB	EA	MB	MA	SB	SA	GE	GD	OD	OC	GE	GD	OD	OC
PL. 20•20	BE	BC	EB	EA	MB	MA	SB	SA	GE	GD	OD	OC	GE	GD	OD	OC
PL. 20•24,5	BE	BC	EB	EA	MC	MB	SC	SB	GE	GD	OD	OC	GE	GD	OD	OC
PL. 20•25	BE	BC	EB	EA	MC	MB	SC	SB	GE	GD	OD	OC	GE	GD	OD	OC
PL. 20•27,8	BE	BC	EB	EA	MC	MB	SC	SB	GE	GD	OD	OC	GE	GD	OD	OC
PL. 20•31,5	BE	BC	EB	EA	MC	MB	SC	SB	GE	GD	OD	OC	GE	GD	OD	OC
PL. 30•22	BM	BL	ED	EB	MB	MA	SB	SA	GF	GF	OF	OD				
PL. 30•27	BM	BL	ED	EB	MC	MB	SC	SB	GF	GF	OF	OD				
PL. 30•34	BM	BL	ED	EB	MC	MB	SC	SB	GF	GF	OF	OD				
PL. 30•38	BM	BL	ED	EB	MD	MC	SD	SC	GF	GF	OG	OF				
PL. 30•43	BM	BL	ED	EB	MD	MC	SD	SC	GF	GF	OG	OF				
PL. 30•46	BM	BL	ED	EB	MD	MC	SD	SC	GF	GF	OG	OF				
PL. 30•51	BM	BL	ED	EB	MD	MC	SD	SC	GF	GF	OG	OF				
PL. 30•61	BM	BL	ED	EB	ME	MD	SE	SD	GG	GF	OH	OG				
PL. 30•73	BM	BL	EF	ED	ME	MD	SE	SD	GG	GF	OH	OG				
PL. 30•82	BM	BL	EF	ED	ME	MD	SE	SD	GH	GG	OH	OG				
PL. 30•90	BM	BL	EF	ED	MF	ME	SF	SE	GH	GG	OH	OG				

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EXTERNAL DRAIN PORTS

IN/OUT PORTS TYPE	SIDE PORTS						REAR PORTS	
	German	European	Split SSM	Split SSS	Gas BSPP	SAE ODT	Gas BSPP	SAE ODT
PL. 10	GA	–	–	–	GA	03	GA	03
PL. 20	TA	GB	GB	03	GB	03	GB	03
PL. 30	GC	GC	GC	OA	GC	OA	–	–

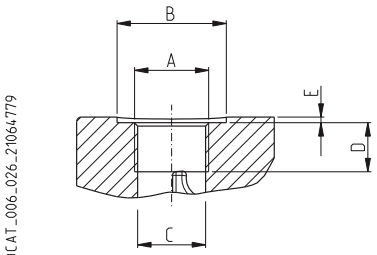
DRAIN PORTS SIZES

Tightening torque for low pressure side port.

GAS STRAIGHT THREAD PORTS — BSPP

British standard pipe parallel (55°) conforms to UNI - ISO 228

CODE	Nominal size	A	∅ B	∅ C	D	E	
			mm (in)	mm (in)	mm (in)	mm (in)	Nm (lbf in)
GA	1/8"	G 1/8	16,5 (0.6496)	8,75 (0.3444)	12 (0.4724)	1 (0.0394)	$5^{+0,25}$ (44 ÷ 46)
GB	1/4"	G 1/4	21,5 (0.8465)	12 (0.4724)	15 (0.5906)	1,5 (0.0591)	15^{+1} (133 ÷ 142)

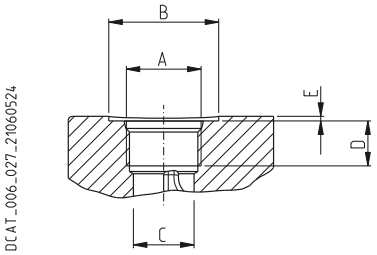


DCAT_006_026_21064779

METRIC STRAIGHT THREAD PORTS ISO 6149 — METRIC

Metric thread ISO 60° conforms to ISO/R 262

CODE	A	∅ B	∅ C	D	E	
		mm (in)	mm (in)	mm (in)	mm (in)	Nm (lbf in)
TA	M 10x1	22 (0.8661)	9 (0.3543)	13 (0.5118)	0,5 (0.0197)	$10^{+0,5}$ (89 ÷ 93)



DCAT_006_027_21060524

SAE STRAIGHT THREAD PORTS J514 — ODT

American straight thread UNC-UNF 60° conforms to ANSI B 1.1

CODE	A	∅ B	∅ C	D	E	
		mm (in)	mm (in)	mm (in)	mm (in)	Nm (lbf in)
03	7/16"-20 UNF-2B	21 (0.8267)	9,5 (0.3740)	14 (0.5512)	1 (0.0394)	12^{+1} (106 ÷ 115)

Other drain ports are shown on subsequent pages.

01/10.03

CASAPPA

Polaris

PORTS SIZES

Tightening torque for low pressure side port.

Tightening torque for high pressure side port [values obtained at 5075 psi (350 bar)]

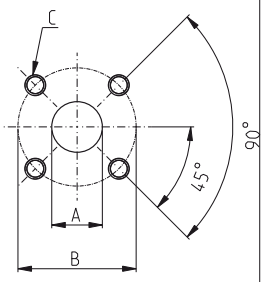
For reversible rotation, please consult only the tightening torque for high pressure side port.

GERMAN FLANGED PORTS - 4 Bolts — GERMAN

Metric thread ISO 60° conforms to ISO/R 262

CODE	A	B	C		
	mm (in)	mm (in)	Thread Depth mm (in)	Nm (lbf in)	Nm (lbf in)
BA	8 (0.3150)	30 (1.1811)	M6 12 (0.4724)	8 $^{+0,5}$ (71 ÷ 75)	8 $^{+0,5}$ (71 ÷ 75)
BB	13 (0.5118)	30 (1.1811)	M6 12 (0.4724)	8 $^{+0,5}$ (71 ÷ 75)	8 $^{+0,5}$ (71 ÷ 75)
BC	15 (0.5906)	35 (1.3780)	M 6 12 (0.4724)	8 $^{+0,5}$ (71 ÷ 75)	8 $^{+0,5}$ (71 ÷ 75)
BE	20 (0.7874)	40 (1.5748)	M 6 12 (0.4724)	15 $^{+1}$ (133 ÷ 142)	15 $^{+1}$ (133 ÷ 142)
BL	19 (0.7480)	55 (2.1654)	M8 18 (0.7087)	20 $^{+1}$ (177 ÷ 186)	20 $^{+1}$ (177 ÷ 186)
BM	27 (1.0630)	55 (2.1654)	M8 18 (0.7087)	15 $^{+1}$ (133 ÷ 142)	20 $^{+1}$ (177 ÷ 186)

DCAT_033_028_17681888



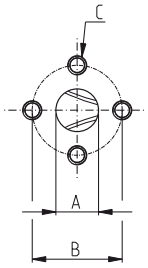
EUROPEAN FLANGED PORTS - 4 Bolts — EUROPEAN

Metric thread ISO 60° conforms to ISO/R 262

CODE	A	B	C		
	mm (in)	mm (in)	Thread Depth mm (in)	Nm (lbf in)	Nm (lbf in)
EA	13 (0.5118)	30 (1.1811)	M 6 13 (0.5118)	8 $^{+0,5}$ (71 ÷ 75)	8 $^{+0,5}$ (71 ÷ 75)
EB	19 (0.7480)	40 (1.5748)	M 8 14 (0.5512)	15 $^{+1}$ (133 ÷ 142)	15 $^{+1}$ (133 ÷ 142)
			M 8 (◆) 18 (0.7087)	15 $^{+1}$ (◆) (133 ÷ 142)	15 $^{+1}$ (◆) (133 ÷ 142)
ED	27 (1.0630)	51 (2.0079)	M 10 18 (0.7087)	20 $^{+1}$ (177 ÷ 186)	30 $^{+2,5}$ (266 ÷ 288)
EF	33 (1.2992)	62 (2.4409)	M 12 18 (0.7087)	25 $^{+1}$ (221 ÷ 230)	50 $^{+2,5}$ (443 ÷ 465)

(◆) For POLARIS 30

DCAT_006_024_21060533



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PORTS SIZES

Tightening torque for low pressure side port.

Tightening torque for high pressure side port [values obtained at 5075 psi (350 bar)]

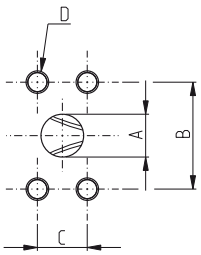
For reversible rotation, please consult only the tightening torque for high pressure side port.

SAE FLANGED PORTS J518 - Standard pressure series 3000 PSI — SSM

Metric thread ISO 60° conforms to ISO/R 262

CODE	A mm (in)	B mm (in)	C mm (in)	D Thread Depth mm (in)	Nm (lbf in)	Nm (lbf in)
MA	12,5 (0.4921)	38,1 (1.50))	17,5 (0.6890)	M 8 14 (0.5512)	15 +1 (133 ÷ 142)	15 +1 (133 ÷ 142)
				M8 (◆) 22 (0.8661)	20 +1 (◆) (177 ÷ 186)	20 +1 (◆) (177 ÷ 186)
MB	19 (0.7480)	47,6 (1.8740)	22,2 (0.8740)	M 10 14 (0.5512)	20 +1 (177 ÷ 186)	25 +1 (266 ÷ 288)
				M 10 (◆) 22 (0.8661)	20 +1 (◆) (177 ÷ 186)	35 +2,5 (◆) (310 ÷ 332)
MC	25,4 (1.0000)	52,4 (2.0630)	26,2 (1.0315)	M 10 14 (0.5512)	20 +1 (177 ÷ 186)	25 +1 (266 ÷ 288)
				M 10 (◆) 22 (0.8661)	20 +1 (◆) (177 ÷ 186)	35 +2,5 (◆) (310 ÷ 332)
MD	30,5 (1.2008)	58,7 (2.3110)	30,2 (1.1890)	M 10 15 (0,5906)	20 +1 (177 ÷ 186)	30 +2,5 (266 ÷ 288)
				M 10 (◆) 22 (0.8661)	20 +1 (◆) (177 ÷ 186)	35 +2,5 (◆) (310 ÷ 332)
ME	39,3 (1.5472)	69,8 (2.7480)	35,7 (1.4055)	M 12 22 (0.8661)	30 +2,5 (266 ÷ 288)	60 +5 (531 ÷ 575)
MF	51 (2.0079)	77,8 (3.0630)	42,9 (1.6890)	M 12 22 (0.8661)	30 +2,5 (266 ÷ 288)	60 +5 (531 ÷ 575)

DCAT_006_025_21064252



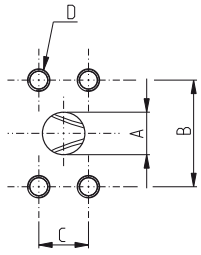
(◆) For POLARIS 30

SAE FLANGED PORTS J518 - Standard pressure series 3000 PSI — SSS

American straight thread UNC-UNF 60° conforms to ANSI B 1.1

CODE	A mm (in)	B mm (in)	C mm (in)	D Thread Depth mm (in)	Nm (lbf in)	Nm (lbf in)
SA	12,5 (0.4921)	38,1 (1.50))	17,5 (0.6890)	5/16-18 UNC-2B 14 (0.5512)	15 +1 (133 ÷ 142)	15 +1 (133 ÷ 142)
				5/16-18 UNC-2B (◆) 22 (0.8661)	20 +1 (◆) (177 ÷ 186)	20 +1 (◆) (177 ÷ 186)
SB	19 (0.7480)	47,6 (1.8740)	22,2 (0.8740)	3/8 - 16 UNC-2B 14 (0.5512)	20 +1 (177 ÷ 186)	20 +1 (177 ÷ 186)
				3/8 - 16 UNC-2B (◆) 22 (0.8661)	30 +2,5 (◆) (266 ÷ 288)	20 +1 (◆) (177 ÷ 186)
SC	25,4 (1.0000)	52,4 (2.0630)	26,2 (1.0315)	3/8 - 16 UNC-2B 14 (0.5512)	20 +1 (177 ÷ 186)	25 +1 (221 ÷ 230)
				3/8 - 16 UNC-2B (◆) 22 (0.8661)	20 +1 (◆) (177 ÷ 186)	30 +2,5 (◆) (266 ÷ 288)
SD	30,5 (1.2008)	58,7 (2.3110)	30,2 (1.1890)	7/16 - 14 UNC-2B 22 (0.8661)	20 +1 (177 ÷ 186)	45 +2,5 (398 ÷ 420)
SE	39,3 (1.5472)	69,8 (2.7480)	35,7 (1.4055)	1/2 - 13 UNC-2B 22 (0.8661)	30 +2,5 (266 ÷ 288)	70 +5 (620 ÷ 664)
SF	51 (2.0079)	77,8 (3.0630)	42,9 (1.6890)	1/2 - 13 UNC-2B 22 (0.8661)	30 +2,5 (◆) (266 ÷ 288)	70 +5 (620 ÷ 664)

DCAT_006_028_21060740



(◆) For POLARIS 30

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PORTS SIZES

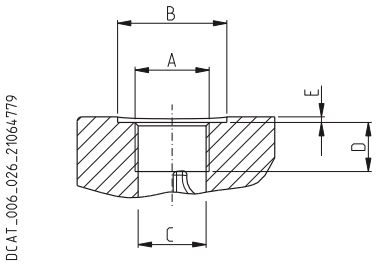
Tightening torque for low pressure side port.

Tightening torque for high pressure side port [values obtained at 5075 psi (350 bar)]

For reversible rotation, please consult only the tightening torque for high pressure side port.

GAS STRAIGHT THREAD PORTS **BSPP**

British standard pipe parallel (55°) conforms to UNI - ISO 228



CODE	Nominal size	A	∅ B	∅ C	D	E		
			mm (in)	mm (in)	mm (in)	mm (in)	Nm (lbf in)	Nm (lbf in)
GC	3/8"	G 3/8	25 (0.9843)	15 (0.5906)	14 (0.5512)	2 (#) (0.0787)	15 $^{+1}$ (#) (133 ÷ 142)	–
			–			–	15 $^{+1}$ (133 ÷ 142)	25 $^{+1}$ (221 ÷ 230)
GD	1/2"	G 1/2	–	19 (0.7480)	14 (0.5512)	–	20 $^{+1}$ (177 ÷ 186)	50 $^{+2,5}$ (443 ÷ 465)
					17 (◆) (0.6693)	–	20 $^{+1}$ (◆) (177 ÷ 186)	50 $^{+2,5}$ (◆) (443 ÷ 465)
GE	3/4"	G 3/4	–	24,5 (0.9646)	18 (0.7087)	–	30 $^{+2,5}$ (266 ÷ 288)	90 $^{+5}$ (797 ÷ 841)
GF	1"	G 1	–	30,5 (1.2008)	18 (0.7086)	–	50 $^{+2,5}$ (443 ÷ 465)	130 $^{+10}$ (1151 ÷ 1239)
GG	1" 1/4	G 1 1/4	–	39 (1.5354)	22 (0.8661)	–	60 $^{+5}$ (531 ÷ 575)	170 $^{+10}$ (1505 ÷ 1593)
GH	1" 1/2	G 1 1/2	–	45 (1.7716)	24 (0.9448)	–	70 $^{+5}$ (620 ÷ 664)	210 $^{+15}$ (1859 ÷ 1992)

(#) Drain port
(◆) For POLARIS 20

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PORTS SIZES

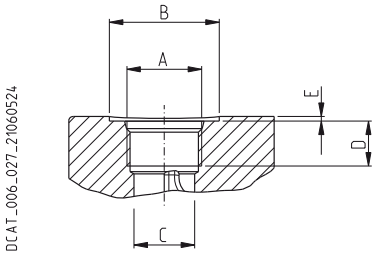
Tightening torque for low pressure side port.

Tightening torque for high pressure side port [values obtained at 5075 psi (350 bar)]

For reversible rotation, please consult only the tightening torque for high pressure side port.

SAE STRAIGHT THREAD PORTS J514 — ODT

American straight thread UNC-UNF 60° conforms to ANSI B 1.1



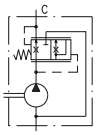
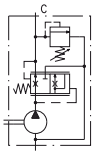
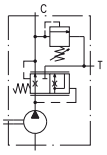
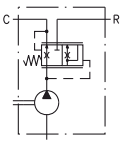
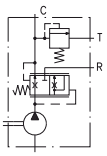
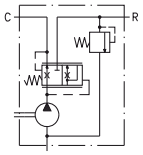
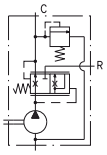
CODE	Nominal size	A	∅ B	∅ C	D	E		
			mm (in)	mm (in)	mm (in)	mm (in)	Nm (lbf in)	Nm (lbf in)
OA	3/8"	9/16" - 12 UNF - 2B	26 (1.0236)	13 (0.5118)	15 (0.5906)	1 (0.03934)	15 $^{+1}$ (133 ÷ 142)	25 $^{+1}$ (221 ÷ 230)
						2 (#) (0.0787)	15 $^{+1}$ (#) (133 ÷ 142)	–
OB	1/2"	3/4" - 16 UNF - 2B	32 (1.2598)	17,5 (0.690)	15 (0.5906)	–	20 $^{+1}$ (177 ÷ 186)	45 $^{+2,5}$ (398 ÷ 420)
OC	5/8"	7/8" - 14 UNF - 2B	35 (1.3780)	20,5 (0.8071)	15 (◆) (0.5906)	0,5 (0.0197)	30 $^{+2,5}$ (266 ÷ 288)	70 $^{+5}$ (620 ÷ 664)
					17 (0.6693)			
OD	3/4"	1 1/16" - 12 UNF - 2B	42 (1.6535)	24,8 (0.9764)	20 (0.7874)	0,5 (0.0197)	40 $^{+2,5}$ (354 ÷ 376)	120 $^{+10}$ (1062 ÷ 1151)
OF	1"	1 5/16" - 12 UNF - 2B	49 (1.9291)	30,5 (1.2008)	20 (0.7874)	0,5 (0.0197)	60 $^{+5}$ (531 ÷ 575)	170 $^{+10}$ (1505 ÷ 1593)
OG	1" 1/4	1 5/8" - 12 UNF - 2B	58 (2.2835)	39,1 (1.5394)	20 (0.7874)	0,5 (0.0197)	70 $^{+5}$ (620 ÷ 664)	200 $^{+10}$ (1770 ÷ 1858)
OH	1" 1/2	1 7/8" - 12 UNF - 2B	65 (2.5591)	45 (1.7717)	20 (0.7874)	0,5 (0.0197)	100 $^{+5}$ (885 ÷ 929)	270 $^{+15}$ (2389 ÷ 2522)

(#) Drain port
(◆) For POLARIS 10

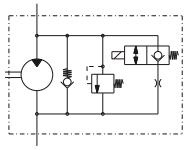
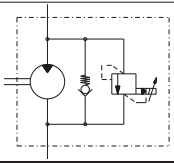
01/10.03

VALVE OPTIONS (◆)

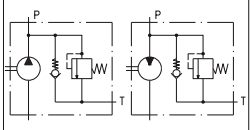
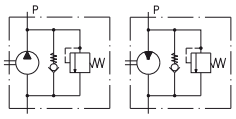
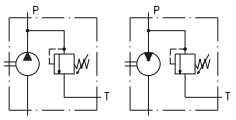
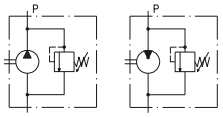
PRIORITY VALVE

P1	Costant delivery and internal recirculation of excess flow.	
P2	Costant delivery at controlled pressure. Internal recirculation of excess flow and drain valve.	
P3	Costant delivery at controlled pressure. Excess flow and drain valve must be connected to tank.	
P4	Costant delivery and excess flow can both be used under load.	
P5T	Costant delivery at controlled pressure with drain valve connected to tank. Excess flow can be used under load.	
P7	Costant delivery. Excess flow at controlled pressure can be used under load. Internal recirculation of drain valve.	
P9	Costant delivery at controlled pressure. Internal recirculation of valve drain. Excess flow can be used under load.	

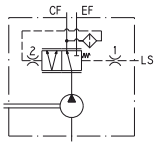
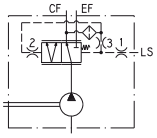
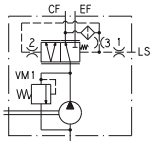
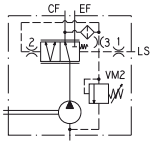
ELECTRIC VALVE FOR MOTORS

EC08..	By-pass valve normally closed with max. pressure relief valve and anti-cavitation valve.	
DBVSA..	Proportional relief valve and anti-cavitation valve.	

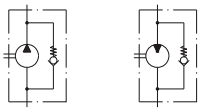
MAX PRESSURE RELIEF VALVE

VPEF..	Fixed setting with external drain.	
VPIF..	Fixed setting with internal drain.	
VPER..	Adjustable setting with external drain.	
VPIR..	Adjustable setting with internal drain.	

LOAD SENSING VALVE

...	Static.	
...	Dynamic.	
...	Dynamic with relief valve fitted on the main line.	
...	Dynamic with relief valve fitted on controlled line.	

CHECK VALVE

V8	Anti-cavitation valve.	

(◆) For more information please consult our technical sales department.

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HOW TO ORDER POLARIS 30 SINGLE UNITS

1		2		3		4	5		6		7		8		9		10
PLP30•22	-	R		0		83	E3	-	L	-	ED/EB	-	N	-	C	-	FS

1 Type	PUMP TYPE	MOTOR TYPE
in³/rev (cm³/rev)		
1.34 (21,99)	PLP 30•22	PLM 30•22
1.63 (26,70)	PLP 30•27	PLM 30•27
2.11 (34,55)	PLP 30•34	PLM 30•34
2.40 (39,27)	PLP 30•38	PLM 30•38
2.68 (43,98)	PLP 30•43	PLM 30•43
3.16 (51,83)	PLP 30•51	PLM 30•51
3.74 (61,26)	PLP 30•61	PLM 30•61
4.50 (73,82)	PLP 30•73	PLM 30•73
4.98 (81,68)	PLP 30•82	PLM 30•82
5.56 (91,10)	PLP 30•90	PLM 30•90

2 Rotation	CODE
Left	S
Right	D
Reversible rear external drain	R

3 Version	CODE
Without outboard bearing	0

4 Drive shaft	CODE
European tapered 1:8	83
European tapered 1:8	84
German tapered 1:5	56
Straight	41
SAE “B” spline	A8
SAE "BB" spline	A5
SAE "B" spline	04
SAE "BB" spline	05
SAE "B" straight	32
SAE "BB" straight	33

5 Mounting flange	CODE
European	E3
European	E4
German	B3
SAE "B" 2 bolt	S5
SAE “B” 2 bolt	U3

6 Ports position	CODE
Side	L

7 Ports IN/OUT		CODE
GERMAN FLANGED PORTS		
Type		Side
22-27-34-38-43 46-51-61-73-82-90	PLP30	BM/BL
	PLM30	BL/BM
EUROPEAN FLANGED PORTS		
Type		Side
22-27-34-38-43 46-51-61	PLP30	ED/EB
	PLM30	EB/ED
73-82-90	PLP30	EF/ED
	PLM30	ED/EF

CODE	7 Ports IN/OUT	
SAE FLANGED PORTS (SSM)		
Side	Type	
MB/MA	PLP 30	22
MA/MB	PLM 30	
MC/MB	PLP 30	27-34
MB/MC	PLM 30	
MD/MC	PLP 30	38-43-46-51
MC/MD	PLM 30	
ME/MD	PLP 30	61-73-82
MD/ME	PLM 30	
MF/ME	PLP 30	90
ME/MF	PLM 30	
SAE FLANGED PORTS (SSS)		
Side	Type	
SB/SA	PLP 30	22
SA/SB	PLM 30	
SC/SB	PLP 30	27-34
SB/SC	PLM 30	
SD/SC	PLP 30	38-43-46-51
SC/SB	PLM 30	
SE/SD	PLP 30	61-73-82
SD/SE	PLM 30	
SF/SE	PLP 30	90
SE/SF	PLM 30	
GAS STRAIGHT THREAD PORTS (BSPP)		
Side	Type	
GF/GF	PLP 30	22-27-34-38-43-46-51
	PLM 30	
GG/GF	PLP 30	61-73
GF/GG	PLM 30	
GH/GG	PLP 30	82-90
GG/GH	PLM 30	
SAE STRAIGHT THREAD PORTS (ODT)		
Side	Type	
OF/OD	PLP 30	22-27-34
OD/OF	PLM 30	
OG/OF	PLP 30	38-43-46-51
OF/OG	PLM 30	
OH/OG	PLP 30	61-73-82-90
OG/OH	PLM 30	

CODE	8 Seals (a)
N	Buna (standard)
V	Viton

CODE	9 Shaft seal options
C	High back pressure seal with wiper seal
D	Standard seal with wiper seal
H	High back pressure seal

CODE	10 Shaft arrangement
FS	Female spline

(a) Choose the seals according to the temperature shown on page 3.

01/10.03

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HYMATEC GMBH
HYDRAULIK MASCHINEN TECHNIK

KAPPA®

Hydraulic gear pumps

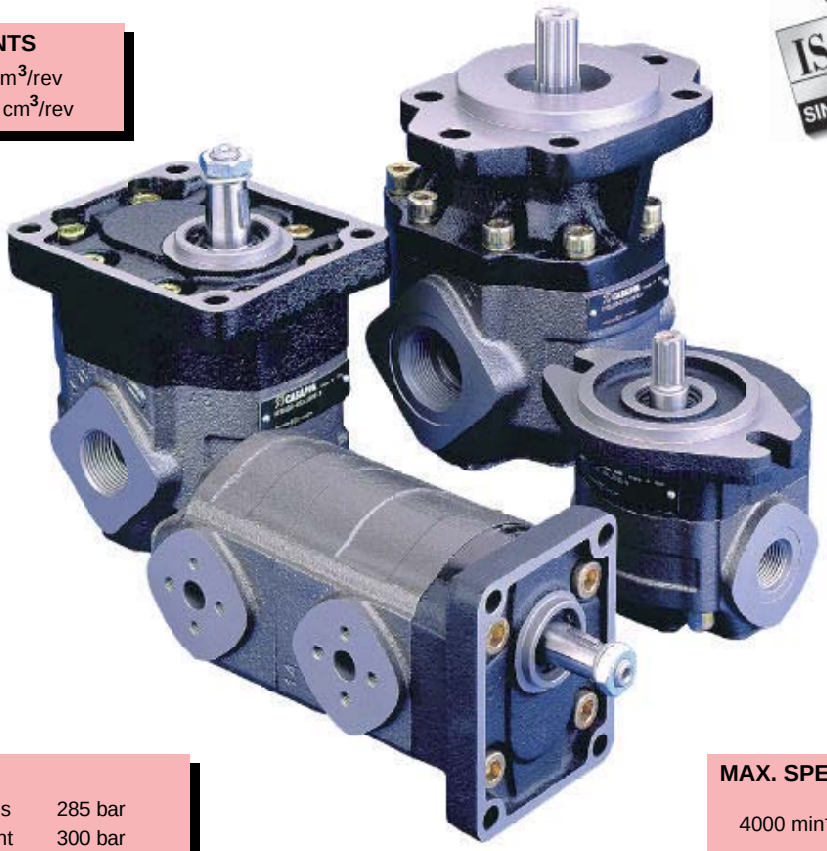
two pieces cast iron housing

Replaces: K 01 T E

DISPLACEMENTS

From	4,95 cm^3/rev
To	73,82 cm^3/rev

ISO 9001 FM 27654 SINCE MARCH 1994



PRESSURE

Max. continuous	285 bar
Max. intermittent	300 bar
Max. peak	330 bar

MAX. SPEED

4000 min^{-1}

- High operating pressures
- High efficiency at high temperature
- Exceptional working life expectancy

Edition: 02/09.2002

KAPPA pump and motor units consist essentially of a housing and a mounting flange in cast iron of superior mechanical specifications. KAPPA is available with mountig flanges and side or rear ports according to SAE and European standard. The rigidity of assembly and the compact design of KAPPA pumps and motors ensure reliability and high volumetric efficiency also at high operating pressures. Infinite care and attention is taken over the design and construction of each single component, and with quality monitored unceasingly, the result is a consistent, perfectly balanced assembly that guarantees unbroken service under the most arduous operating conditions. KAPPA series is the right choice wherever noise, contamination, non inflammable fluids and size are critical factors. The wide choice of combinations of mounting flanges, shafts and ports ensure to KAPPA series to be applied in a vast range of application.

CASAPPA®
FLUID POWER DESIGN

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CASAPPA

Kappa

Replaces: 01/01.02

FEATURES

Construction	External gear type pumps and motors
Mounting	EUROPEAN - SAE - ISO standard flanges
Line connections	Screw and flange
Direction of rotation (looking on drive shaft)	Anti-clock (S) - clockwise (D) - reversible (L, R or B)
Inlet pressure range for pumps	0,7 ÷ 3 bar (abs.)
Max back pressure for single rotation motors	p_1 (continuous) max 5 bar
	p_2 (for 20 s) max 8 bar
	p_3 (for 8 s) max 15 bar
Max drain line pressure on the reversible rotation motors	5 bar
Max back pressure on the series motors	150 bar
Fluid temperature range	See table (1)
Fluid	Mineral oil based hydraulic fluids to ISO/DIN and fire resistant fluids [see table (1)]. For other fluids please consult our technical sales department.
Viscosity range	From 12 to 100 mm^2/s (cSt) recommended
	Up to 750 mm^2/s (cSt) permitted
Filtering requirement	See table (2)

Tab. 1

Type	Fluid composition	Max pressure [bar]	Max speed [min^{-1}]	Temperature [°C]	Seals (◆)
ISO/DIN	Mineral oil based hydraulic fluid to ISO/DIN	See page 3 - 4	See page 3 - 4	-25 ÷ +80	N
					N-H
				-25 ÷ +110	V
HFA	Oil emulsion in water 5 ÷ 15% of oil	50	1500	2 ÷ 55	N
HFB	Water emulsion in oil 40 % of water	120	1500	2 ÷ 60	
HFC	Water - glycol	100	1500	-20 ÷ +60	N Bz
HFD	Phosphate ester	150	1500	-10 ÷ +80	V Bz

(◆) **N**= Buna N (standard) - **N-H**= Buna N and high back pressure shaft seals - **V**= Viton
N Bz= Buna N and Bronze thrust plates - **V Bz**= Viton and Bronze thrust plates

Tab. 2

Working pressure	Δp > 200 bar	Δp < 200 bar
Contamination class NAS 1638	8	10
Contamination class ISO 4406	19/17/14	21/19/16
Achieved with filter ßx=75	10 μm	25 μm

02/09.02

GENERAL NOTES

Available with different inlet and outlet ports. If you use fire resistant fluids specify the type of them at the order. For more information please consult our technical sales department.

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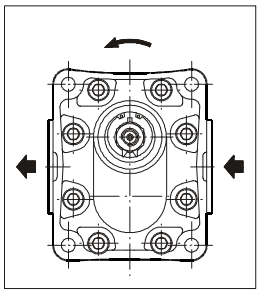
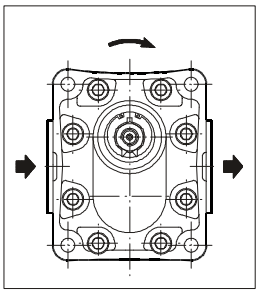
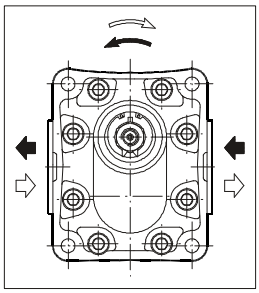
DEFINITION OF ROTATION DIRECTION LOOKING ON THE DRIVE SHAFT



Anti-clock rotation

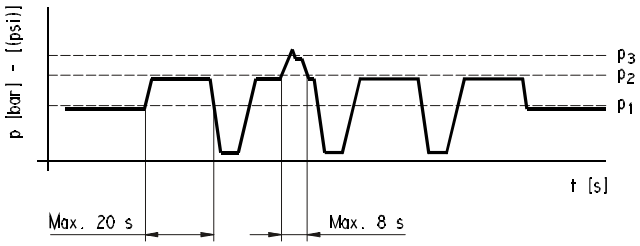


Clockwise rotation



Reversible rotation

PRESSURE DEFINITION



p_1 Max. continuous pressure

p_2 Max. intermittent pressure

p_3 Max. peak pressure

01/01.02

KAPPA 20 GENERAL DATA MOTORS

KM 20

Motor type	Displacement	Max. pressure			Max. speed	Min. speed
		p_1	p_2	p_3		
	cm^3/rev	bar			min^{-1}	
KM 20•4	4,95	285	300	330	4000	350
KM 20•6,3	6,61	285	300	330	4000	350
KM 20•8	8,26	285	300	330	3500	350
KM 20•11,2	11,23	275	290	320	3500	350
KM 20•14	14,53	265	290	320	3500	350
KM 20•16	16,85	260	290	320	3000	300
KM 20•20	21,14	210	230	250	3000	300
KM 20•25	26,42	180	200	220	2500	300
KM 20•31,5	33,03	140	160	180	2000	300

p_1= Max. continuous pressure p_2= Max. intermittent pressure p_3= Max. peak pressure

The values in the table refer to unidirectional motors.
Reversible motor max pressures are 15% lower than those shown in table.
For different working conditions please consult our sales department.

01/01.02

KAPPA 30 GENERAL DATA MOTORS

KM 30

Motor type	Displacement	Max. pressure			Max. speed	Min. speed
		p_1	p_2	p_3		
	cm^3/rev	bar			min^{-1}	
KM 30•27	26,7	280	300	310	3000	350
KM 30•34	34,56	260	280	300	3000	350
KM 30•38	39,27	260	280	300	3000	350
KM 30•43	43,98	250	270	290	3000	350
KM 30•51	51,83	230	250	270	2500	350
KM 30•56	56,54	215	235	255	2500	350
KM 30•61	61,26	200	220	240	2500	350
KM 30•73	73,82	180	200	220	2500	350

p_1= Max. continuous pressure p_2= Max. intermittent pressure p_3= Max. peak pressure

The values in the table refer to unidirectional motors.
Reversible motor max pressures are 15% lower than those shown in table.
For different working conditions please consult our sales department.

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DESIGN CALCULATIONS FOR MOTORS

Q	[l/min]	Delivery
M	[Nm]	Torque
P	[kW]	Power
V	[cm^3/rev]	Displacement
n	[min^{-1}]	Speed
Δp	[bar]	Pressure
$\eta_v = \eta_v (V, \Delta p, n)$	(≈ 0,96)	Volumetric efficiency
$\eta_m = \eta_m (V, \Delta p, n)$	(≈ 0,85)	Mechanical efficiency
$\eta_t = \eta_v \bullet \eta_m$	(≈ 0,82)	Overall efficiency

$$\mathbf{Q} = \frac{V \bullet n \bullet 10^{-3}}{\eta_v} \quad [l/min]$$

$$\mathbf{M} = \frac{\Delta p \bullet V \bullet \eta_m}{62{,}83} \quad [Nm]$$

$$\mathbf{P} = \frac{\Delta p \bullet V \bullet n \bullet \eta_t}{600 \bullet 1000} \quad [kW]$$

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Note: Diagrams providing approximate selection data will be found on subsequent pages.

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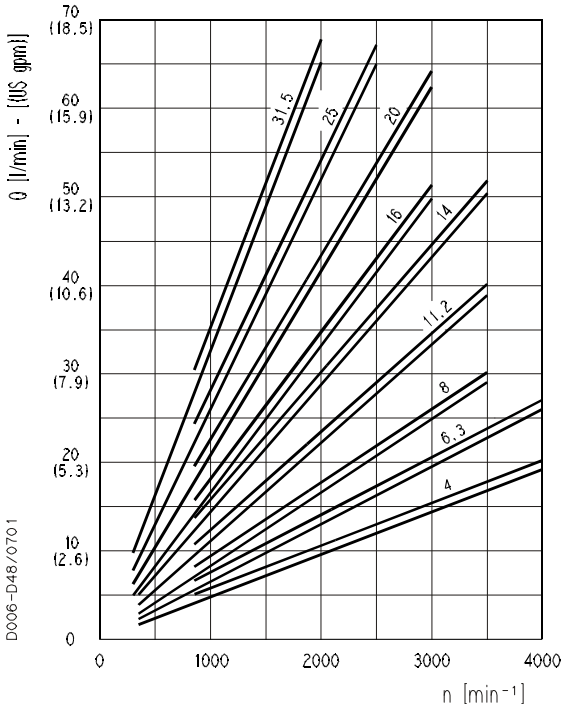
KAPPA 20 GEAR MOTORS PERFORMANCE CURVES

KM 20

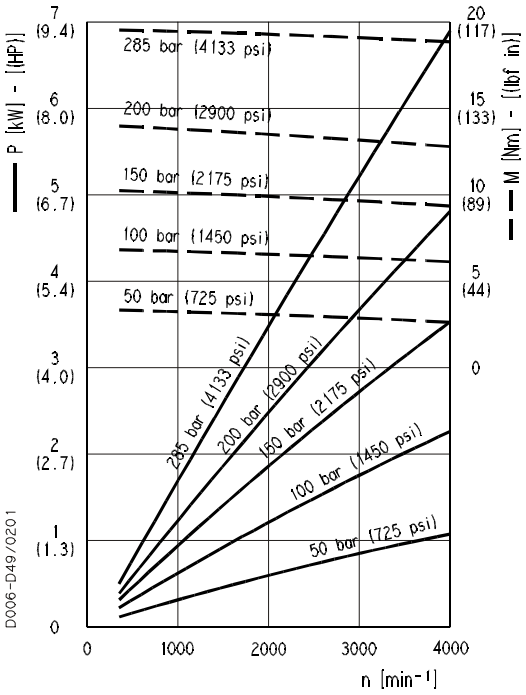
KM 20



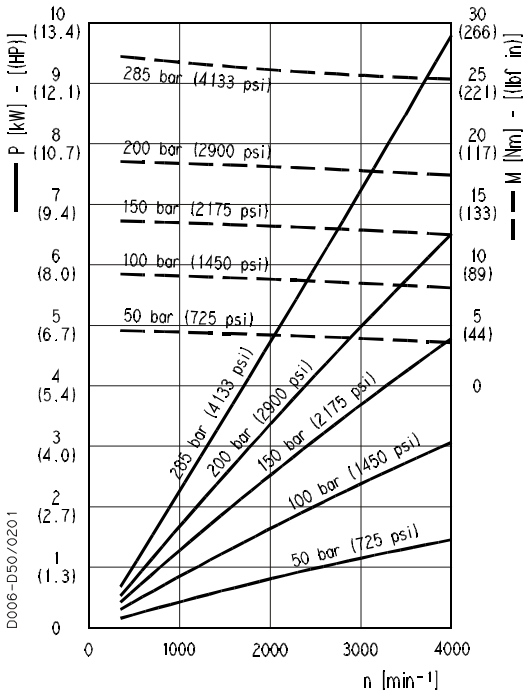
Each curve has been obtained at 50°C, using oil with viscosity 36 mm^2/s at 40°C and at these pressures.

KM 20•4 . . . . . 20-285 bar
KM 20•6,3 . . . . 20-285 bar
KM 20•8 . . . . . 20-285 bar
KM 20•11,2 . . . 20-275 bar
KM 20•14 . . . . 20-265 bar
KM 20•16 . . . . 20-260 bar
KM 20•20 . . . . 20-210 bar
KM 20•25 . . . . 20-180 bar
KM 20•31,5 . . . 20-140 bar

KM 20•4



KM 20•6,3

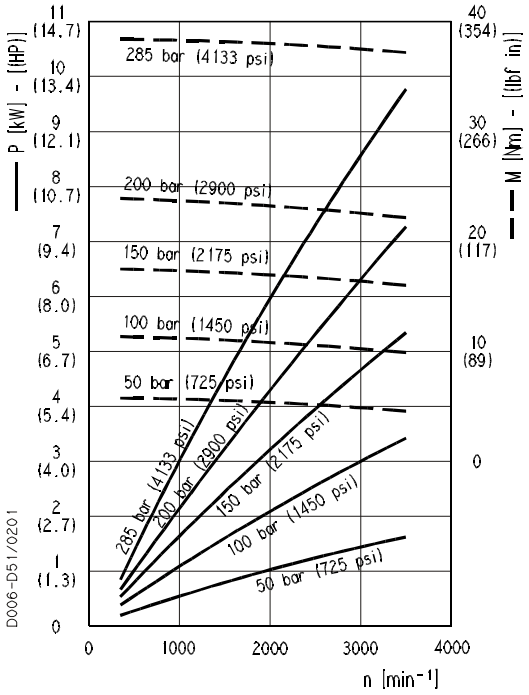


01/01.02

KAPPA 20 GEAR MOTORS PERFORMANCE CURVES

KM 20

KM 20•8



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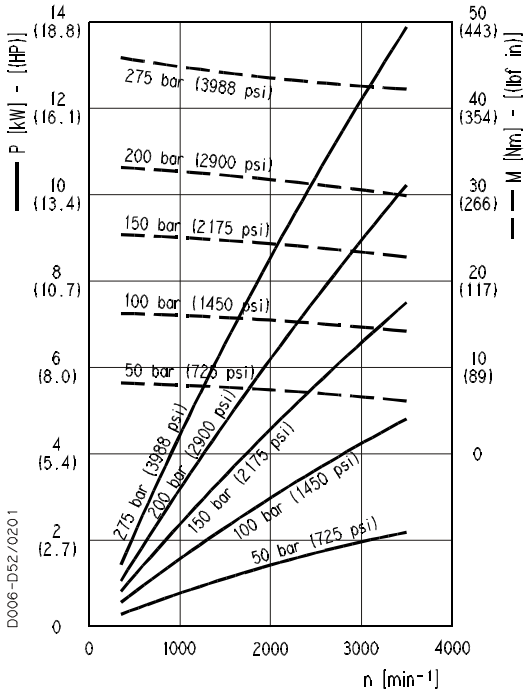
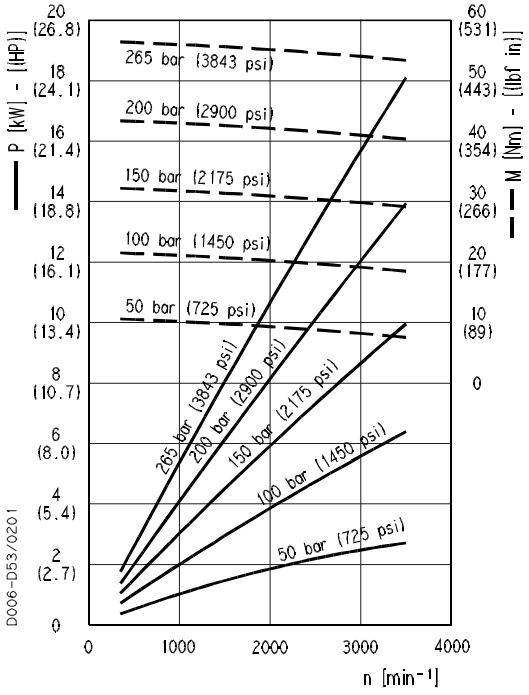
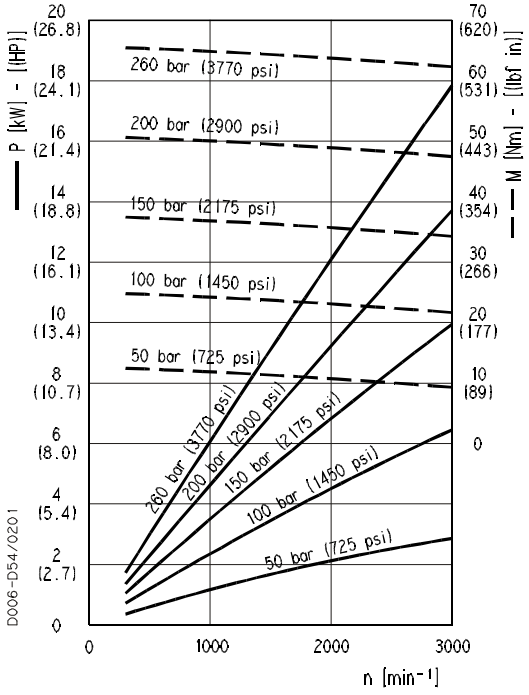


KM 20•14



KM 20•16



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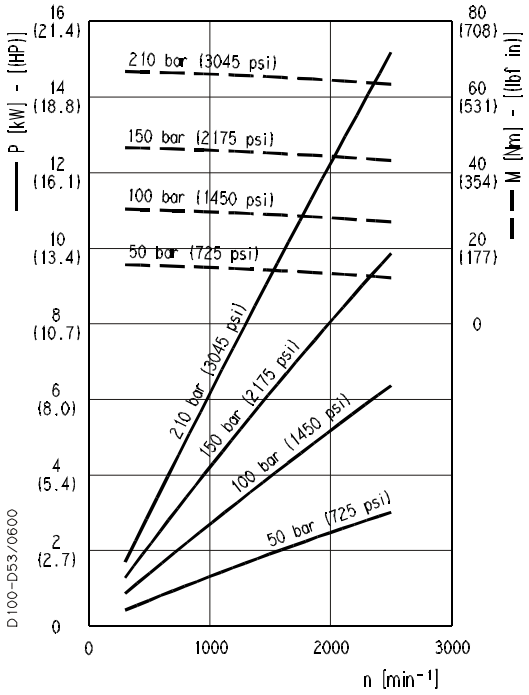
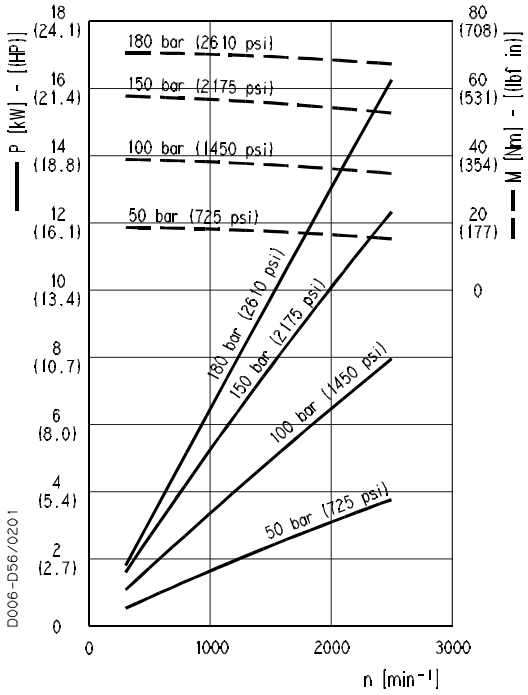
KAPPA 20 GEAR MOTORS PERFORMANCE CURVES

KM 20

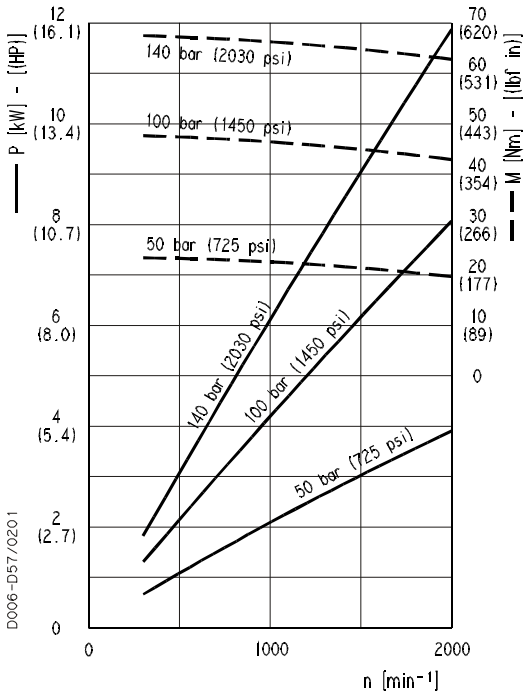
KM 20•20



KM 20•25



KM 20•31,5

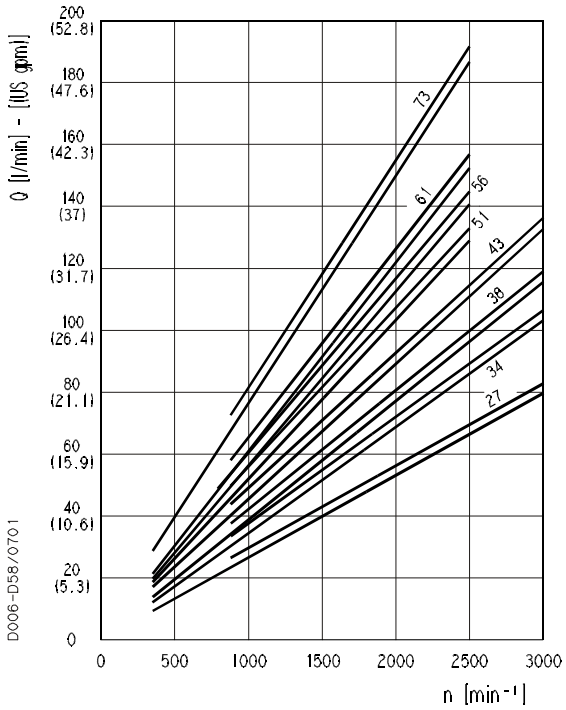


01/01.02

KAPPA 30 GEAR MOTORS PERFORMANCE CURVES

KM 30

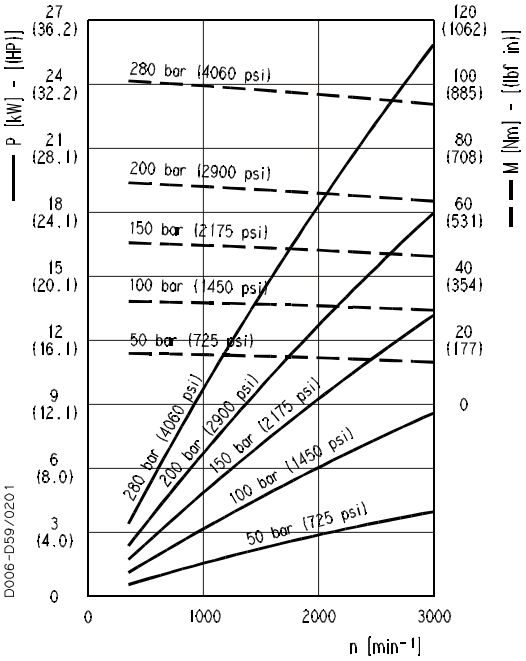
KM 30



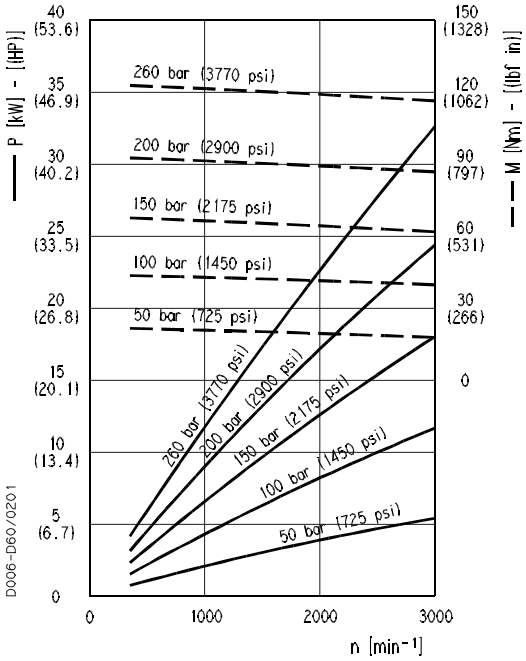
Each curve has been obtained at 50°C, using oil with viscosity 36 mm^2/s at 40°C and at these pressures.

KM 30•27 . . . . 20-280 bar
KM 30•34 . . . . 20-260 bar
KM 30•38 . . . . 20-260 bar
KM 30•43 . . . . 20-250 bar
KM 30•51 . . . . 20-230 bar
KM 30•56 . . . . 20-215 bar
KM 30•61 . . . . 20-200 bar
KM 30•73 . . . . 20-180 bar

KM 30•27



KM 30•34

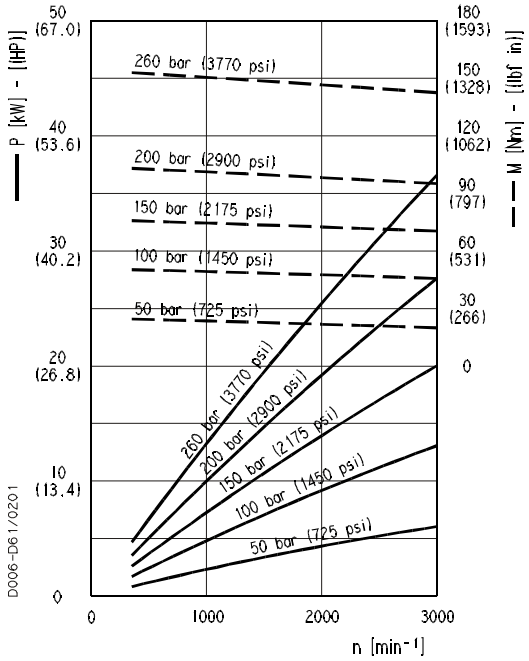


01/01.02

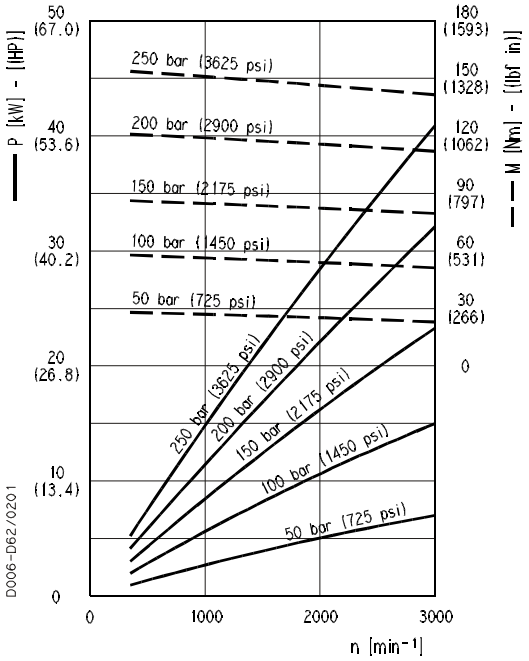
KAPPA 30 GEAR MOTORS PERFORMANCE CURVES

KM 30

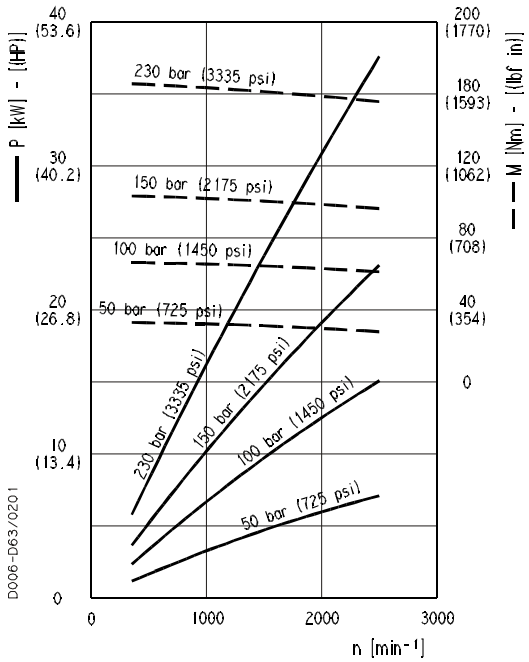
KM 30•38



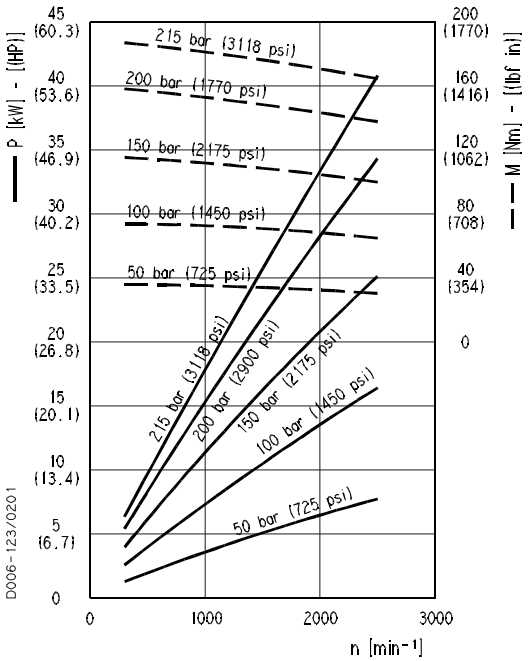
KM 30•43



KM 30•51



KM 30•56

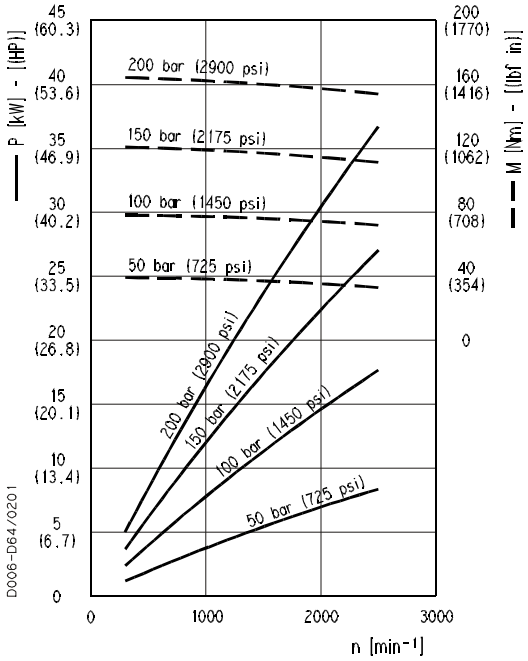


01/01.02

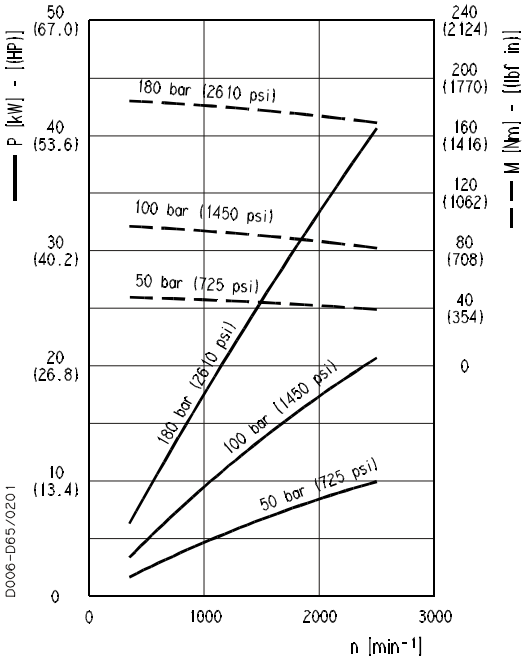
KAPPA 30 GEAR MOTORS PERFORMANCE CURVES

KM 30

KM 30•61



KM 30•73



01/01.02

HYMATEC GMBH
HYDRAULIK MASCHINEN TECHNIK

KAPPA®

Hydraulic gear pumps

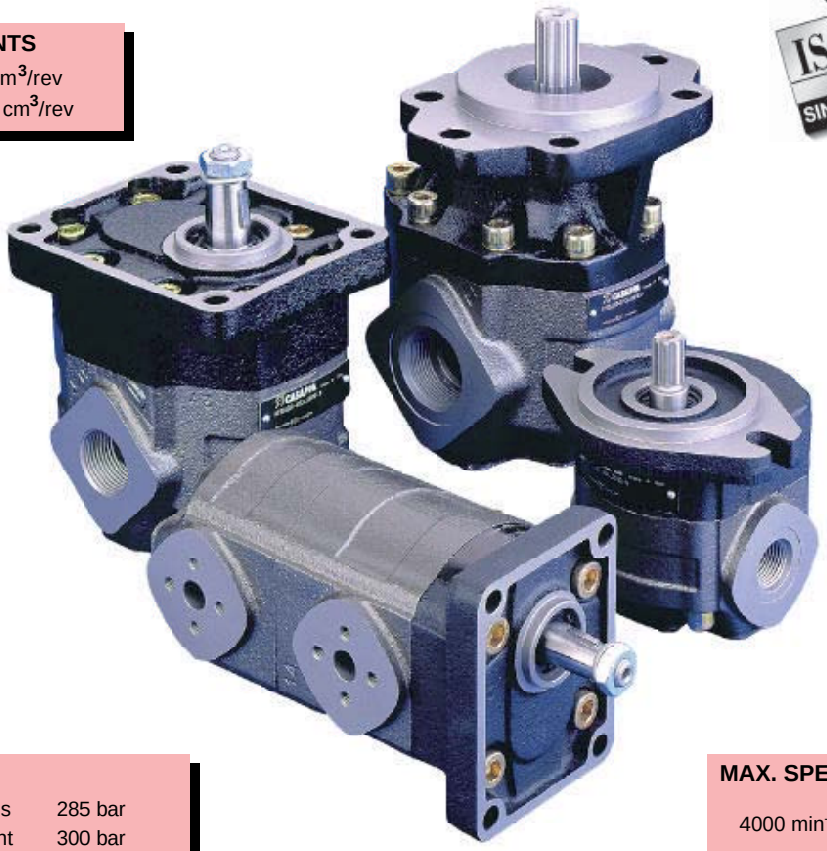
two pieces cast iron housing

Replaces: K 01 T E

DISPLACEMENTS

From	4,95 cm^3/rev
To	73,82 cm^3/rev

ISO 9001 FM 27654 SINCE MARCH 1994



PRESSURE

Max. continuous	285 bar
Max. intermittent	300 bar
Max. peak	330 bar

MAX. SPEED

4000 min^{-1}

- High operating pressures
- High efficiency at high temperature
- Exceptional working life expectancy

Edition: 02/09.2002

KAPPA pump and motor units consist essentially of a housing and a mounting flange in cast iron of superior mechanical specifications. KAPPA is available with mountig flanges and side or rear ports according to SAE and European standard. The rigidity of assembly and the compact design of KAPPA pumps and motors ensure reliability and high volumetric efficiency also at high operating pressures. Infinite care and attention is taken over the design and construction of each single component, and with quality monitored unceasingly, the result is a consistent, perfectly balanced assembly that guarantees unbroken service under the most arduous operating conditions. KAPPA series is the right choice wherever noise, contamination, non inflammable fluids and size are critical factors. The wide choice of combinations of mounting flanges, shafts and ports ensure to KAPPA series to be applied in a vast range of application.

CASAPPA®
FLUID POWER DESIGN

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Tel.: 09421/1887797 – Fax: 09421/1887799 – Email: info@hymatec-gmbh.de – www.hymatec-gmbh.de

INSTRUCTIONS

INSTALLATION

Pump

The direction of rotation of single-rotation pumps must be the same as that of the drive shaft. Check that the coupling flange correctly aligns the transmission shaft and the pump shaft. Flexible couplings should be used (never rigid fittings) wich will not generate an axial or radial load on the pump shaft.

Motor

The direction of rotation of single-rotation motors must match circuit connections. Check that the coupling flange correctly aligns the transmission shaft and the motor shaft. Flexible couplings should be used (never rigid fittings) wich will not generate an axial or radial load on the motor shaft.

TANK

Tank capacity must be sufficient for the system's operating conditions (~ 3 times the amount of oil in circulation) to avoid overheating of the fluid. A heat exchanger should be installed if necessary. The intake and return lines in the tank must be spaced apart (by inserting a vertical divider) to prevent the return-line oil from being taken up again immediately.

LINES

The lines must have a major diameter which is at least as large as the diameter of pump or motor ports, and must be perfectly sealed. To reduce loss of power, the lines should be as short as possible, reducing the sources of hydraulic resistance (elbow, throttling, gate valves, etc.) to a minimum. A length of flexible tubing is recommended to reduce the transmission of vibrations. All return lines must end below the minimum oil level, to prevent foaming. Before connecting the lines, remove any plugs and make sure that the lines are perfectly clean.

FILTERS

We recommend filtering the entire system flow. Filters should be fitted as indicated in the first pages of the catalogue. Only coarse filters are recommended for pump intake.

HYDRAULIC FLUID

Use hydraulic fluid conforming to ISO/DIN standards, having viscosity as specified in the first pages of the catalogue. Avoid using mixtures of different oils which could result in decomposition and reduction of the oil's lubricating power.

STARTING UP

Check that all circuit connections are tight and that the entire system is completely clean. Insert the oil in the tank, using a filter. Bleed the circuit to assist in filling. Set the pressure relief valves to the lowest possible setting. Turn on the system for a few moments at minimum speed, then bleed the circuit again and check the level of oil in the tank. In the difference between pump or motor temperature and fluid temperature exceeds 10 °C, rapidly switch the system on and off to heat it up gradually. Then gradually increase the pressure and speed of rotation until the pre-set operating levels as specified in the catalogue are attained.

PERIODICAL CHECKS - MAINTENANCE

Keep the outside surface clean especially in the area of the drive shaft seal. In fact, abrasive powder can accelerate wear on the seal and cause leakage. Replace filters regularly to keep the fluid clean. The oil level must be checked and oil replaced periodically depending on the system's operating conditions.

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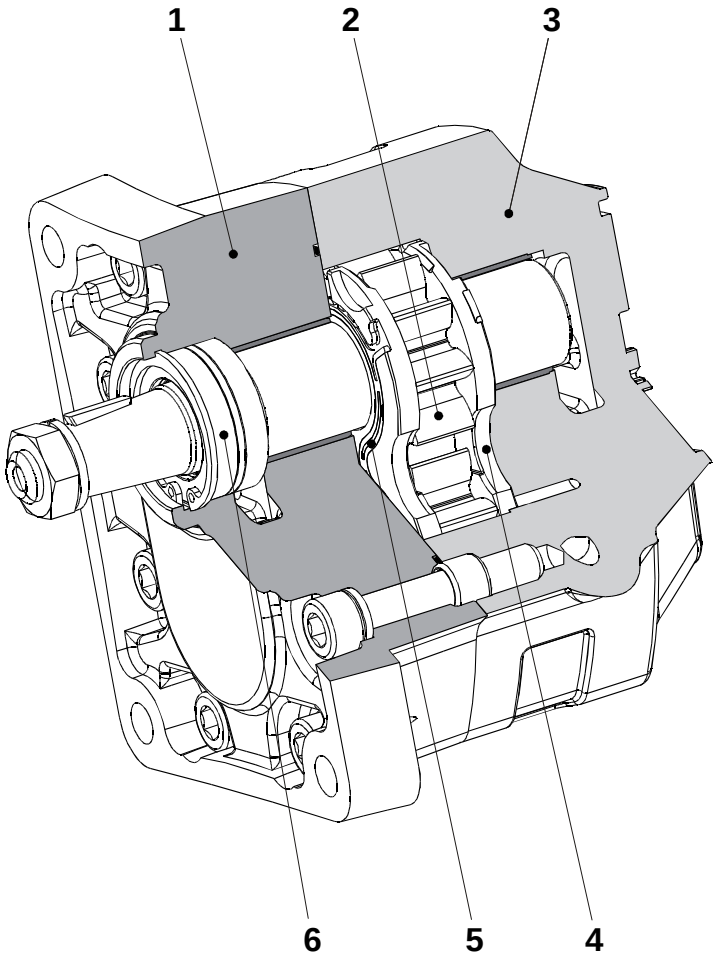
INSTRUCTIONS



1 _ Mountig flange
2 _ Gear
3 _ Body
4 _ Thrust plate
5 _ Seal
6 _ Shaft seal

01/01.02

HYMATEC GMBH
HYDRAULIK MASCHINEN TECHNIK

KAPPA®

Hydraulic gear pumps

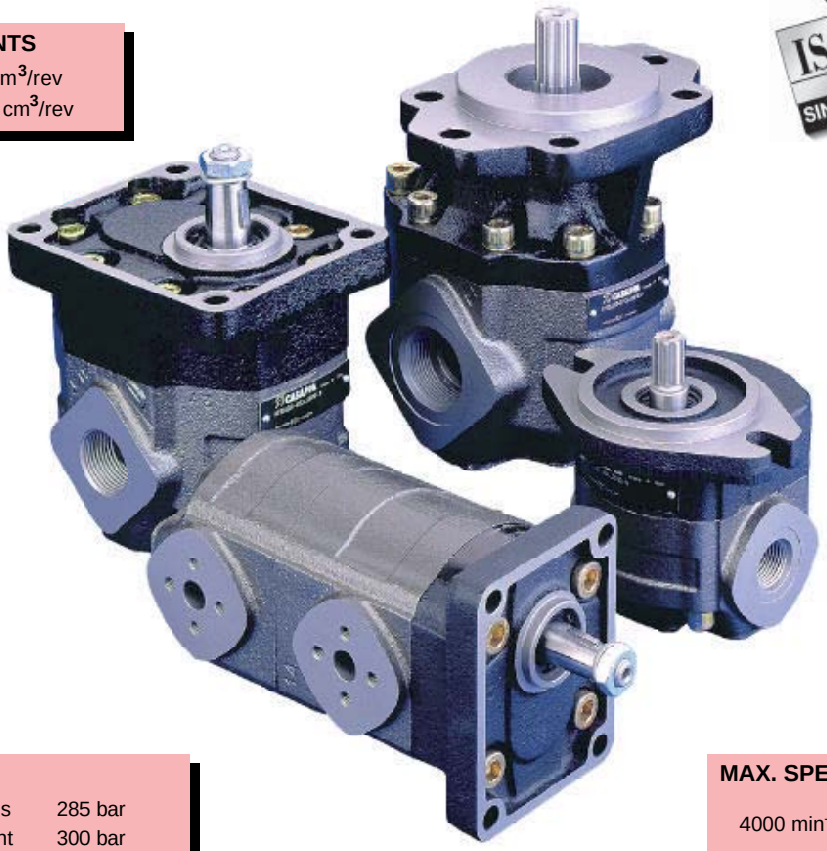
two pieces cast iron housing

Replaces: K 01 T E

DISPLACEMENTS

From	4,95 cm^3/rev
To	73,82 cm^3/rev

ISO 9001 FM 27654 SINCE MARCH 1994



PRESSURE

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Edition: 02/09.2002

KAPPA pump and motor units consist essentially of a housing and a mounting flange in cast iron of superior mechanical specifications. KAPPA is available with mountig flanges and side or rear ports according to SAE and European standard. The rigidity of assembly and the compact design of KAPPA pumps and motors ensure reliability and high volumetric efficiency also at high operating pressures. Infinite care and attention is taken over the design and construction of each single component, and with quality monitored unceasingly, the result is a consistent, perfectly balanced assembly that guarantees unbroken service under the most arduous operating conditions. KAPPA series is the right choice wherever noise, contamination, non inflammable fluids and size are critical factors. The wide choice of combinations of mounting flanges, shafts and ports ensure to KAPPA series to be applied in a vast range of application.

CASAPPA®
FLUID POWER DESIGN

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CASAPPA

Kappa

Replaces: 01/01.02

FEATURES

Construction	External gear type pumps and motors
Mounting	EUROPEAN - SAE - ISO standard flanges
Line connections	Screw and flange
Direction of rotation (looking on drive shaft)	Anti-clock (S) - clockwise (D) - reversible (L, R or B)
Inlet pressure range for pumps	0,7 ÷ 3 bar (abs.)
Max back pressure for single rotation motors	p_1 (continuous) max 5 bar
	p_2 (for 20 s) max 8 bar
	p_3 (for 8 s) max 15 bar
Max drain line pressure on the reversible rotation motors	5 bar
Max back pressure on the series motors	150 bar
Fluid temperature range	See table (1)
Fluid	Mineral oil based hydraulic fluids to ISO/DIN and fire resistant fluids [see table (1)]. For other fluids please consult our technical sales department.
Viscosity range	From 12 to 100 mm^2/s (cSt) recommended
	Up to 750 mm^2/s (cSt) permitted
Filtering requirement	See table (2)

Tab. 1

Type	Fluid composition	Max pressure [bar]	Max speed [min^{-1}]	Temperature [°C]	Seals (◆)
ISO/DIN	Mineral oil based hydraulic fluid to ISO/DIN	See page 3 - 4	See page 3 - 4	-25 ÷ +80	N
					N-H
				-25 ÷ +110	V
HFA	Oil emulsion in water 5 ÷ 15% of oil	50	1500	2 ÷ 55	N
HFB	Water emulsion in oil 40 % of water	120	1500	2 ÷ 60	
HFC	Water - glycol	100	1500	-20 ÷ +60	N Bz
HFD	Phosphate ester	150	1500	-10 ÷ +80	V Bz

(◆) **N**= Buna N (standard) - **N-H**= Buna N and high back pressure shaft seals - **V**= Viton
N Bz= Buna N and Bronze thrust plates - **V Bz**= Viton and Bronze thrust plates

Tab. 2

Working pressure	Δp > 200 bar	Δp < 200 bar
Contamination class NAS 1638	8	10
Contamination class ISO 4406	19/17/14	21/19/16
Achieved with filter ßx=75	10 µm	25 µm

02/09.02

GENERAL NOTES

Available with different inlet and outlet ports. If you use fire resistant fluids specify the type of them at the order. For more information please consult our technical sales department.

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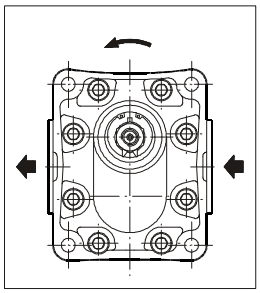
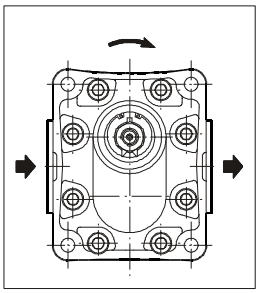
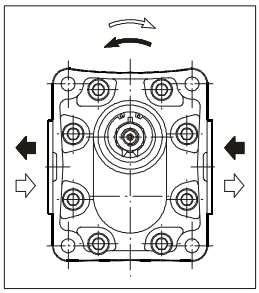
DEFINITION OF ROTATION DIRECTION LOOKING ON THE DRIVE SHAFT



Anti-clock rotation

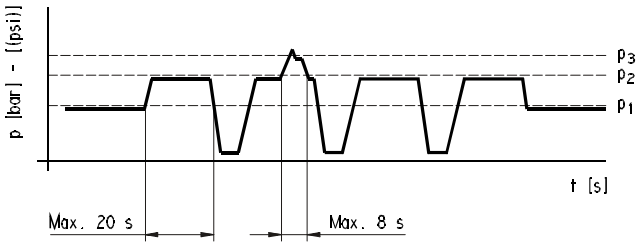


Clockwise rotation



Reversible rotation

PRESSURE DEFINITION



p_1 Max. continuous pressure

p_2 Max. intermittent pressure

p_3 Max. peak pressure

01/01.02

KAPPA 20 GENERAL DATA MOTORS

KM 20

Motor type	Displacement	Max. pressure			Max. speed	Min. speed
		p_1	p_2	p_3		
	cm^3/rev	bar			min^{-1}	
KM 20•4	4,95	285	300	330	4000	350
KM 20•6,3	6,61	285	300	330	4000	350
KM 20•8	8,26	285	300	330	3500	350
KM 20•11,2	11,23	275	290	320	3500	350
KM 20•14	14,53	265	290	320	3500	350
KM 20•16	16,85	260	290	320	3000	300
KM 20•20	21,14	210	230	250	3000	300
KM 20•25	26,42	180	200	220	2500	300
KM 20•31,5	33,03	140	160	180	2000	300

p_1= Max. continuous pressure p_2= Max. intermittent pressure p_3= Max. peak pressure

The values in the table refer to unidirectional motors.
Reversible motor max pressures are 15% lower than those shown in table.
For different working conditions please consult our sales department.

01/01.02

DESIGN CALCULATIONS FOR MOTORS

Q	[l/min]	Delivery
M	[Nm]	Torque
P	[kW]	Power
V	[cm^3/rev]	Displacement
n	[min^{-1}]	Speed
Δ**p**	[bar]	Pressure
$\eta_v = \eta_v (V, \Delta p, n)$	($\approx 0,96$)	Volumetric efficiency
$\eta_m = \eta_m (V, \Delta p, n)$	($\approx 0,85$)	Mechanical efficiency
$\eta_t = \eta_v \bullet \eta_m$	($\approx 0,82$)	Overall efficiency

$$\mathbf{Q} = \frac{V \bullet n \bullet 10^{-3}}{\eta_v} \quad [l/min]$$

$$\mathbf{M} = \frac{\Delta p \bullet V \bullet \eta_m}{62,83} \quad [Nm]$$

$$\mathbf{P} = \frac{\Delta p \bullet V \bullet n \bullet \eta_t}{600 \bullet 1000} \quad [kW]$$

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Note: Diagrams providing approximate selection data will be found on subsequent pages.

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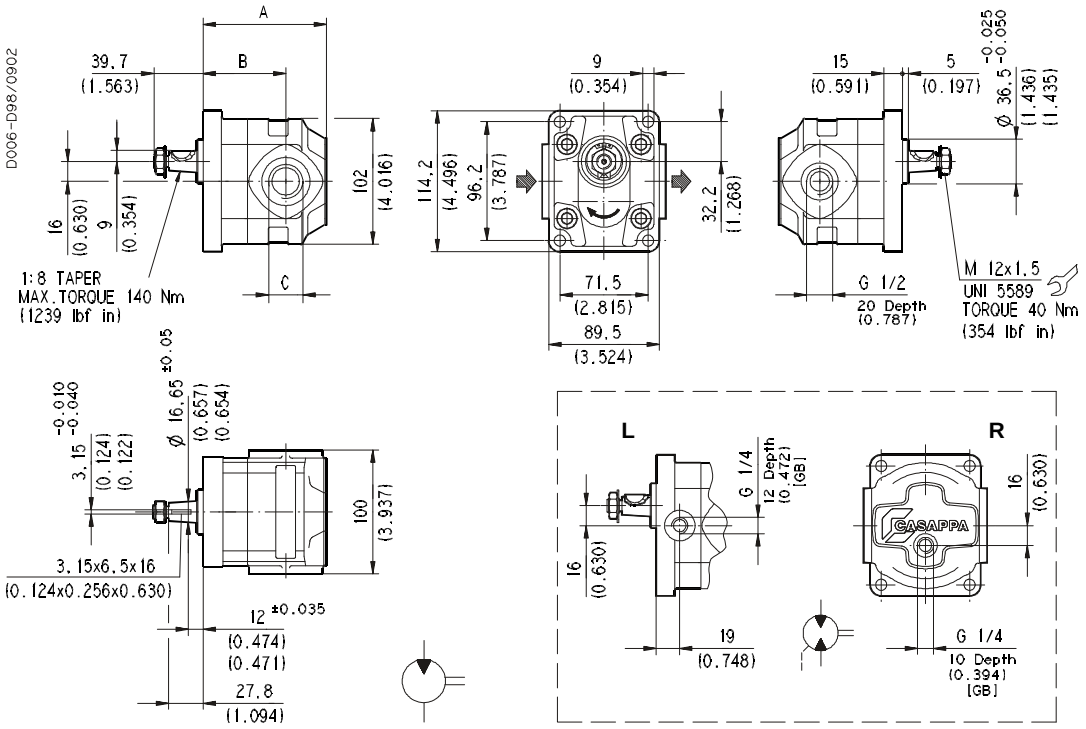
KAPPA 20 | HYDRAULIC GEAR MOTORS EUROPEAN STANDARD | 82 E2

GAS STRAIGHT THREAD PORTS
British standard pipe parallel (55°) conforms to UNI - ISO 228



Motor type			A mm (in)	B mm (in)	C mm (in)
KM 20•4	S D L R B	0-82 E2-L GD/GD-N	87,5 (3.445)	60 (2.362)	G 1/2 Depth 20 (0.787)
KM 20•6,3			90 (3.543)	62,5 (2.461)	
KM 20•8			92,5 (3.642)	65 (2.559)	
KM 20•11,2			96 (3.780)	68,5 (2.697)	
KM 20•14		0-82 E2-L GD/GE-N	100 (3.937)	67 (2.638)	G 3/4 Depth 22 (0.866)
KM 20•16			105,5 (4.154)	72,5 (2.854)	
KM 20•20			112 (4.409)	79 (3.110)	
KM 20•25			120 (4.724)	72 (2.835)	
KM 20•31,5			130 (5.118)	82 (3.228)	

Rotation: S=left - D=right - L=reversible side drain - R=reversible rear drain - B=reversible internal drain

How to order:

KM 20•4 S0-82 E2-L GD/GD-N

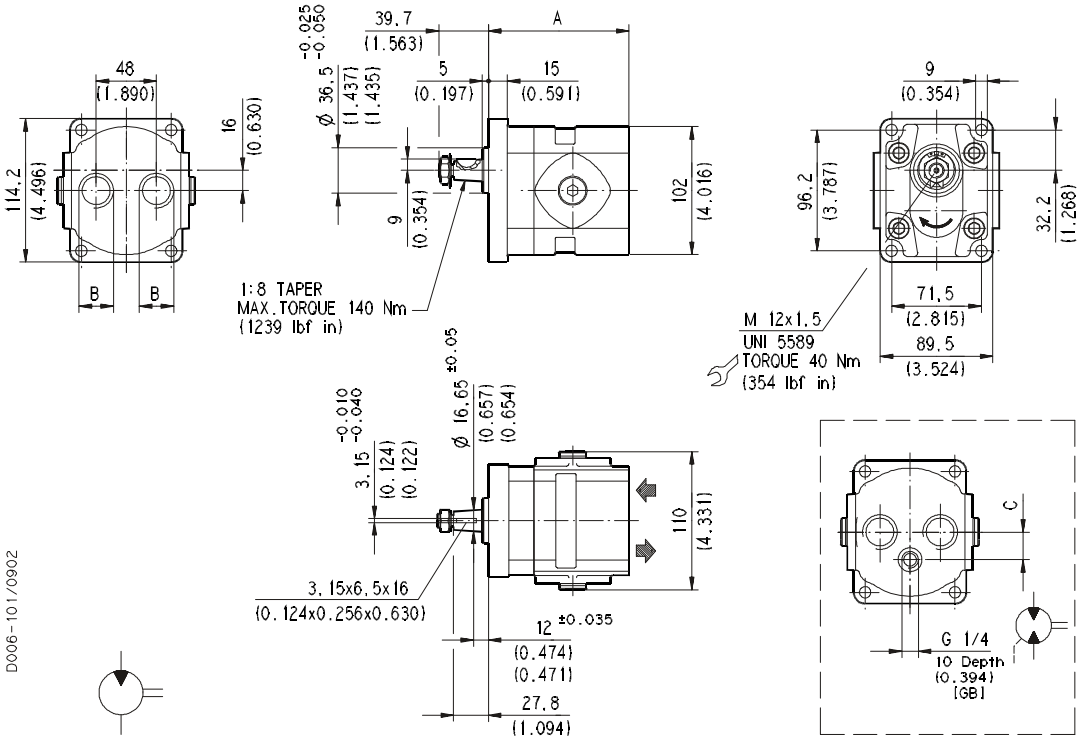
Replaces: 01/01.02

02/09.02

D006-D98/0902

KAPPA 20 — HYDRAULIC GEAR MOTORS EUROPEAN STANDARD — 82 E2 - P

GAS STRAIGHT THREAD PORTS
British standard pipe parallel (55°) conforms to UNI - ISO 228



D006-101/0902

Replaces: 01/01.02

Rear ports version.

Motor type			A	B	C
			mm (in)	mm (in)	mm (in)
KM 20•4	S D R B	0-82 E2-P GD/GD-N	84,5 (3.327)	G 1/2 Depth 17 (0.670)	19 (0.748)
KM 20•6,3			87 (3.425)		
KM 20•8			89,5 (3.524)		
KM 20•11,2			93 (3.661)		
KM 20•14		0-82 E2-P GE/GE-N	112 (4.409)	G 3/4 Depth 18 (0.709)	22 (0.866)
KM 20•16			115,5 (4.547)		
KM 20•20			122 (4.803)		
KM 20•25			130 (5.118)		
KM 20•31,5			140 (5.512)		

Rotation: S=left - D=right - R=reversible rear drain - B=reversible internal drain

How to order:

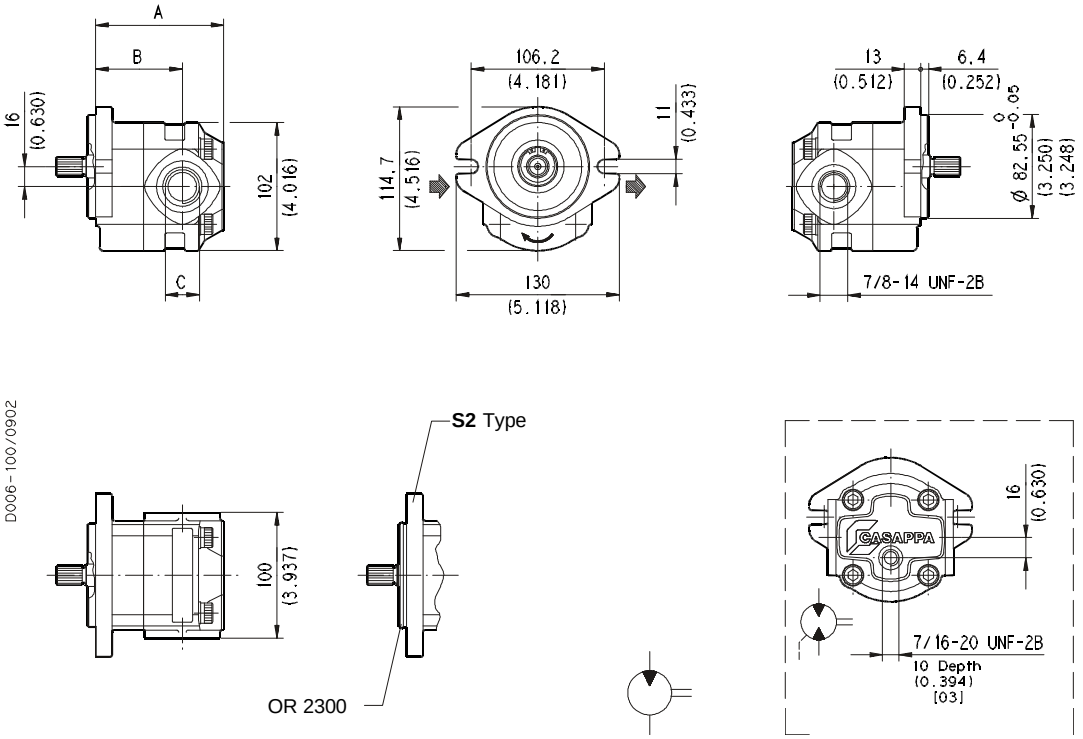
KM 20•4 S0-82 E2-P GD/GD-N

02/09.02

KAPPA 20 — HYDRAULIC GEAR MOTORS SAE STANDARD — ... S1

SAE STRAIGHT THREAD PORTS J514
American straight thread UNC-UNF 60° conforms to ANSI B 1.1

Replaces: 01/01.02



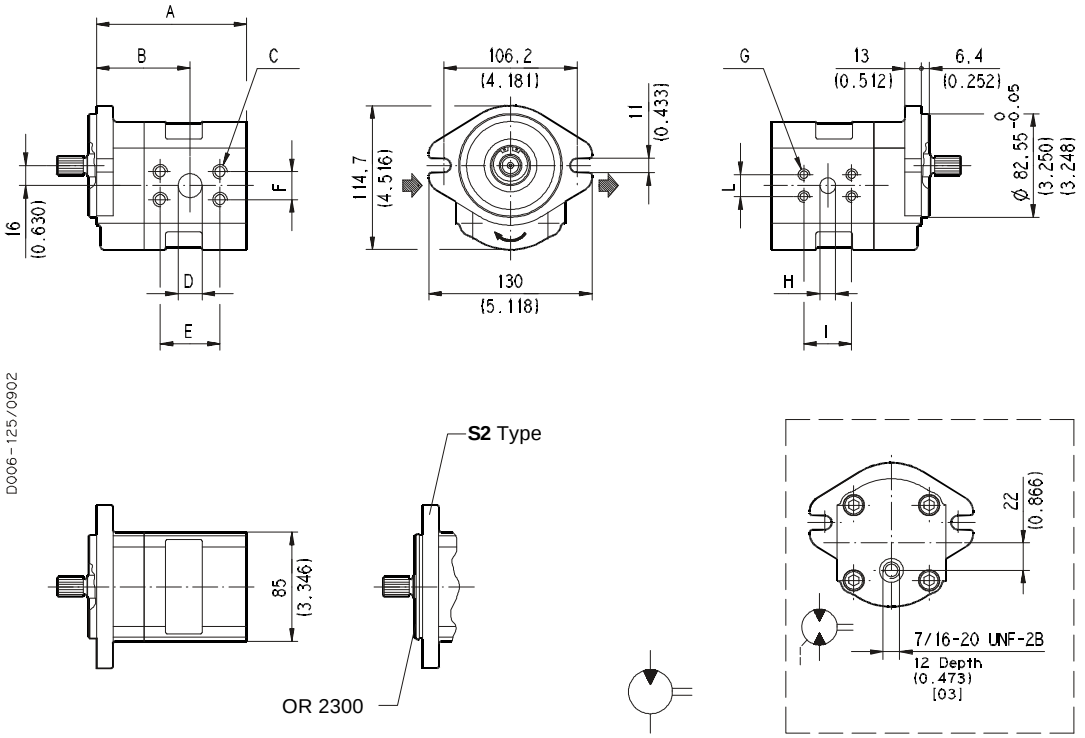
Side ports version (L) - To order see page 93 and 94

Motor type	A	B	C	Ports code	
	mm (in)	mm (in)	mm (in)	IN	OUT
KM 20•4	89,5 (3.524)	62 (2.441)	7/8-14 UNF-2B	**OC**	**OC**
KM 20•6,3	92 (3.622)	64,5 (2.539)			
KM 20•8	94,5 (3.720)	67 (2.638)			
KM 20•11,2	98 (3.858)	70,5 (2.776)			
KM 20•14	102 (4.016)	69 (2.717)	1-1/16-12 UN-2B		**OD**
KM 20•16	107,5 (4.232)	74,5 (2.933)			
KM 20•20	114 (4.488)	81 (3.189)			
KM 20•25	122 (4.803)	74 (2.913)			
KM 20•31,5	132 (5.197)	84 (3.307)			

02/09.02

KAPPA 20 — HYDRAULIC GEAR MOTORS SAE STANDARD — ... S1

SAE FLANGED PORTS J518 - Standard pressure series 3000 PSI
Metric thread ISO 60° conforms to ISO/R 262



Replaces: 01/01.02

Side ports version (L) - To order see page 93 and 94

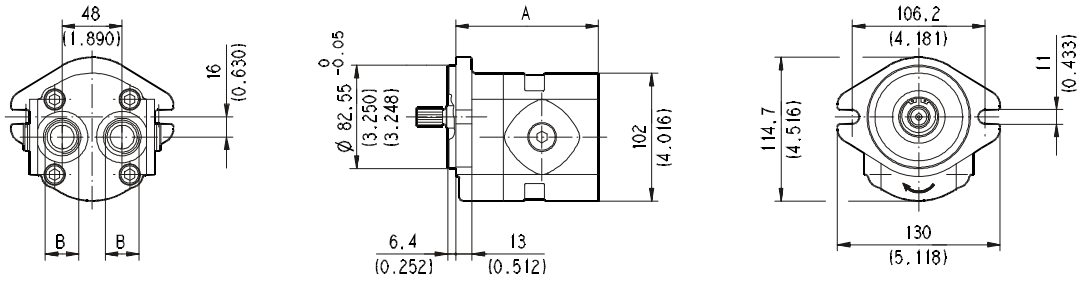
Motor type	A	B	C	D	E	F	G	H	I	L	Ports code	
	mm (in)	mm (in)	mm (in)	mm (in)	mm (in)	mm (in)	mm (in)	mm (in)	mm (in)	mm (in)	IN	OUT
KM 20•4	101,5 (3.996)	62 (2.441)	M 8 Depth 12 (0.472)	12,5 (0.492)	38,1 (1.500)	17,5 (0.689)	M 8 Depth 12 (0.472)	12,5 (0.492)	38,1 (1.500)	17,5 (0.689)	MA	MA
KM 20•6,3	104 (4.094)	64,5 (2.539)										
KM 20•8	106,5 (4.193)	67 (2.638)										
KM 20•11,2	111 (4.370)	70,5 (2.776)										
KM 20•14	116 (4.567)	69 (2.717)	M 10 Depth 12 (0.472)	19 (0.748)	47,6 (1.874)	22,2 (0.874)						MB
KM 20•16	119,5 (4.705)	74,5 (2.933)										
KM 20•20	126 (4.961)	81 (3.189)										
KM 20•25	134 (5.276)	74 (2.913)		25,4 (1.000)	52,4 (2.063)	26,2 (1.031)	M 10 Depth 12 (0.472)	19 (0.748)	47,6 (1.874)	22,2 (0.874)	MB	MC
KM 20•31,5	144 (5.669)	84 (3.307)										

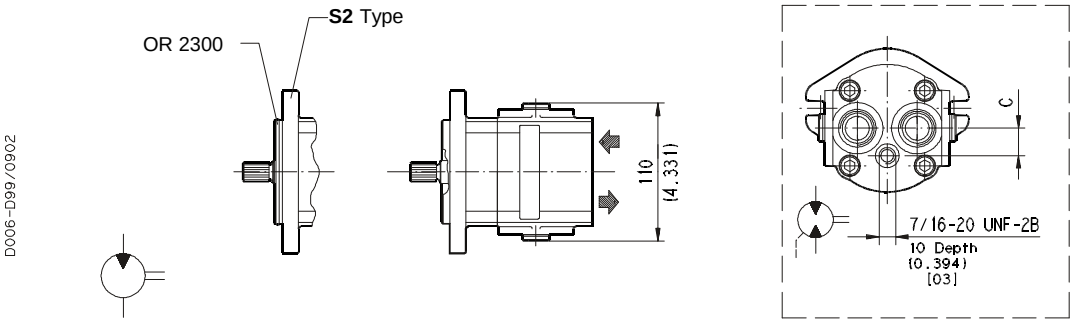
02/09.02

KAPPA 20 — HYDRAULIC GEAR MOTORS SAE STANDARD — ... S1

SAE STRAIGHT THREAD PORTS J514
American straight thread UNC-UNF 60° conforms to ANSI B 1.1

Replaces: 01/01.02





D006-D99/0902

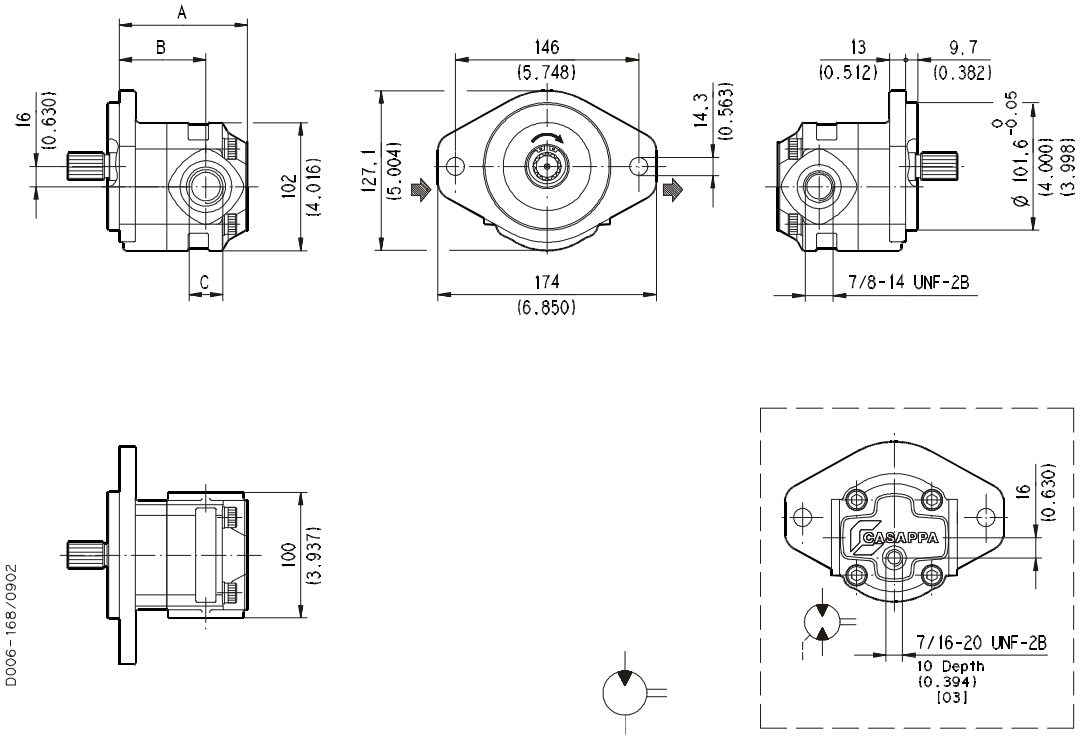
Rear ports version (P) - To order see page 93 and 94

Motor type	A	B	C	Ports code	
	mm (in)	mm (in)	mm (in)	IN	OUT
KM 20•4	86,5 (3.406)	7/8-14 UNF-2B	19 (0.748)	**OC**	**OC**
KM 20•6,3	89 (3.504)				
KM 20•8	91,5 (3.602)				
KM 20•11,2	95 (3.740)				
KM 20•14	114 (4.488)	1-1/16-12 UN-2B	22 (0.866)		**OD**
KM 20•16	117,5 (4.623)				
KM 20•20	124 (4.882)				
KM 20•25	132 (5.197)				
KM 20•31,5	142 (5.591)				

02/09.02

KAPPA 20 — HYDRAULIC GEAR MOTORS SAE STANDARD — ... S5

SAE STRAIGHT THREAD PORTS J514
American straight thread UNC-UNF 60° conforms to ANSI B 1.1



D006-168/0902

Side ports version (L) - To order see page 93 and 94

Motor type	A	B	C	Ports code	
	mm (in)	mm (in)	mm (in)	IN	OUT
KM 20•4	89,5 (3.524)	62 (2.441)	7/8-14 UNF-2B	OC	OC
KM 20•6,3	92 (3.622)	64,5 (2.539)			
KM 20•8	94,5 (3.720)	67 (2.638)			
KM 20•11,2	98 (3.858)	70,5 (2.776)			
KM 20•14	102 (4.016)	69 (2.717)	1-1/16-12 UN-2B		OD
KM 20•16	107,5 (4.232)	74,5 (2.933)			
KM 20•20	114 (4.488)	81 (3.189)			
KM 20•25	122 (4.803)	74 (2.913)			
KM 20•31,5	132 (5.197)	84 (3.307)			

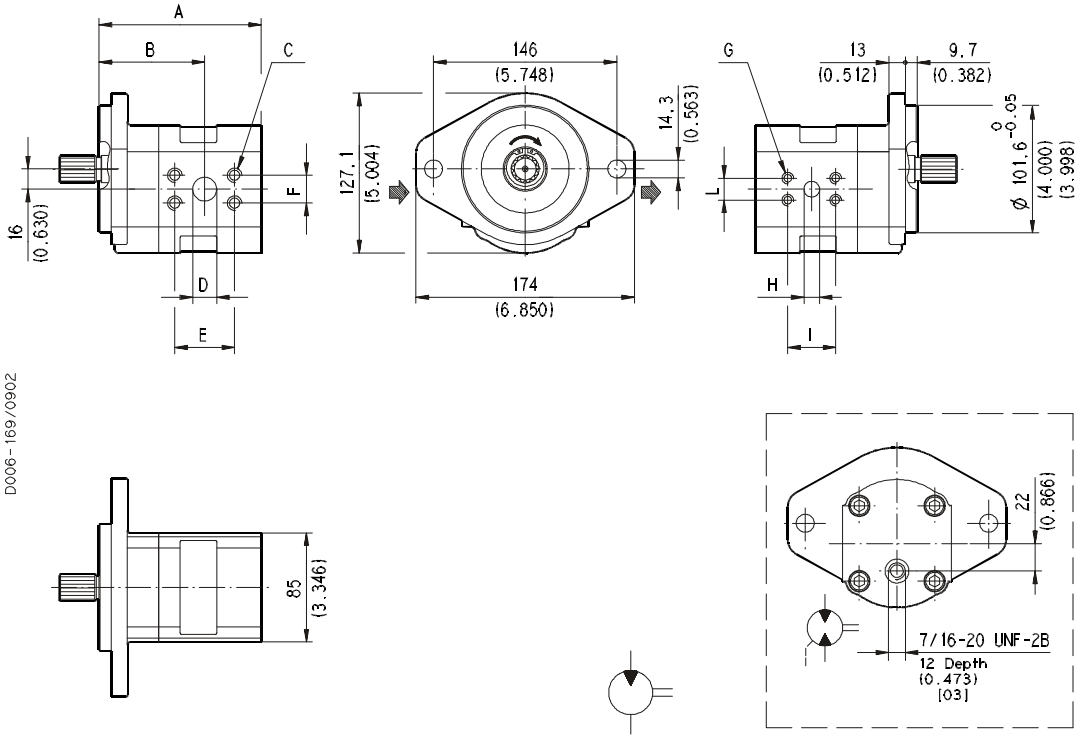
Replaces: 01/01.02

02/09.02

KAPPA 20 — HYDRAULIC GEAR MOTORS SAE STANDARD — ... S5

SAE FLANGED PORTS J518 - Standard pressure series 3000 PSI
Metric thread ISO 60° conforms to ISO/R 262

Replaces: 01/01.02



D006-169/0902

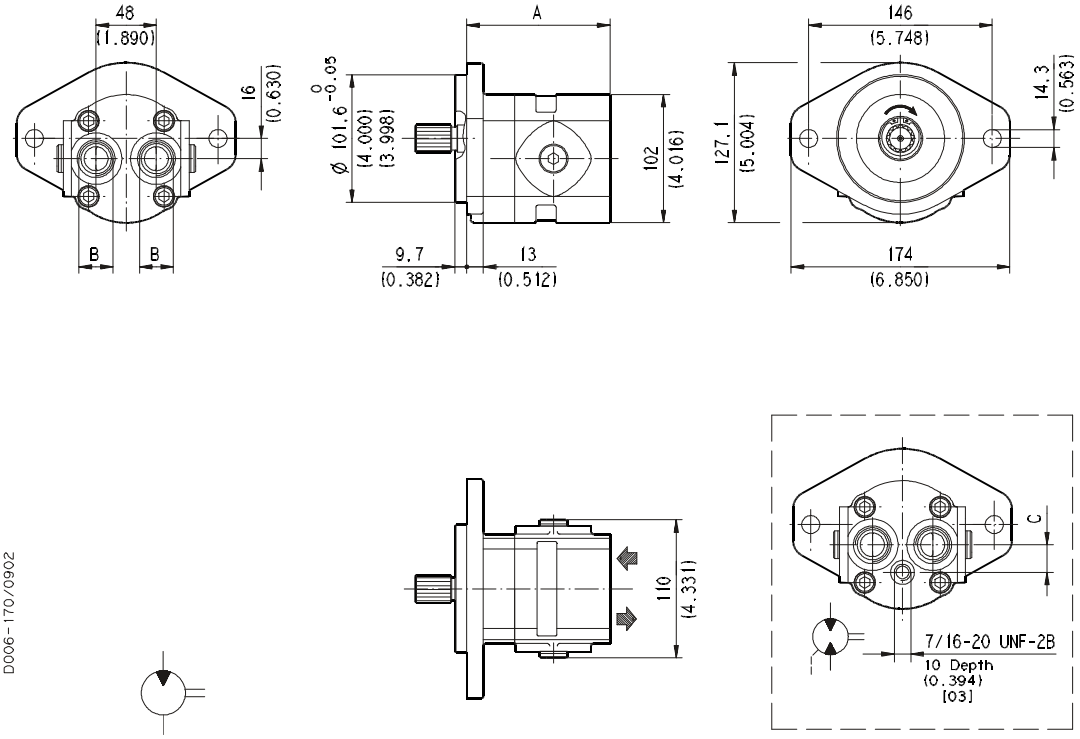
Side ports version (L) - To order see page 93 and 94

Motor type	A	B	C	D	E	F	G	H	I	L	Ports code	
	mm (in)	mm (in)	mm (in)	mm (in)	mm (in)	mm (in)	mm (in)	mm (in)	mm (in)	mm (in)	IN	OUT
KM 20•4	101,5 (3.996)	62 (2.441)	M 8 Depth 12 (0.472)	12,5 (0.492)	38,1 (1.500)	17,5 (0.689)	M 8 Depth 12 (0.472)	12,5 (0.492)	38,1 (1.500)	17,5 (0.689)	MA	MA
KM 20•6,3	104 (4.094)	64,5 (2.539)										
KM 20•8	106,5 (4.193)	67 (2.638)										
KM 20•11,2	111 (4.370)	70,5 (2.776)										
KM 20•14	116 (4.567)	69 (2.717)	M 10 Depth 12 (0.472)	19 (0.748)	47,6 (1.874)	22,2 (0.874)						MB
KM 20•16	119,5 (4.705)	74,5 (2.933)										
KM 20•20	126 (4.961)	81 (3.189)										
KM 20•25	134 (5.276)	74 (2.913)		25,4 (1.000)	52,4 (2.063)	26,2 (1.031)	M 10 Depth 12 (0.472)	19 (0.748)	47,6 (1.874)	22,2 (0.874)	MB	MC
KM 20•31,5	144 (5.669)	84 (3.307)										

02/09.02

KAPPA 20 | HYDRAULIC GEAR MOTORS SAE STANDARD | ... S5

SAE STRAIGHT THREAD PORTS J514
American straight thread UNC-UNF 60° conforms to ANSI B 1.1



D006-170/0902

Replaces: 01/01.02

02/09.02

Rear ports version (P) - To order see page 93 and 94

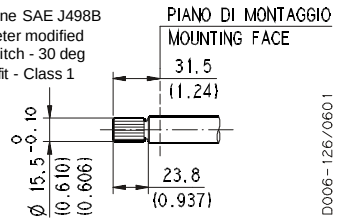
Motor type	A	B	C	Ports code	
	mm (in)		mm (in)	IN	OUT
KM 20•4	86,5 (3.406)	7/8-14 UNF-2B	19 (0.748)	OC	OC
KM 20•6,3	89 (3.504)				
KM 20•8	91,5 (3.602)				
KM 20•11,2	95 (3.740)				
KM 20•14	114 (4.488)	1-1/16-12 UN-2B	22 (0.866)		OD
KM 20•16	117,5 (4.623)				
KM 20•20	124 (4.882)				
KM 20•25	132 (5.197)				
KM 20•31,5	142 (5.591)				

KAPPA 20 END DRIVE SHAFTS — SAE

Replaces: 01/01.02

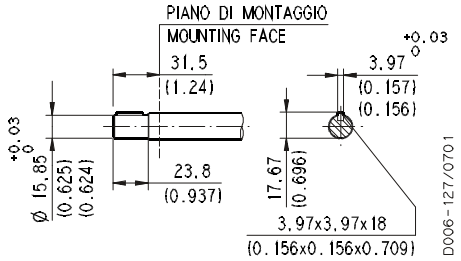
SAE "A" SPLINE — 03

Ext. Involute Spline SAE J498B
with major diameter modified
9 teeth - 16/32 Pitch - 30 deg
Flat Root - Side fit - Class 1



MAX 100 Nm (885 lbf in)

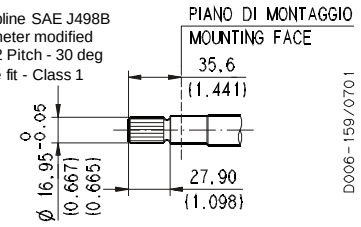
SAE "A" STRAIGHT — 31



MAX 70 Nm (620 lbf in)

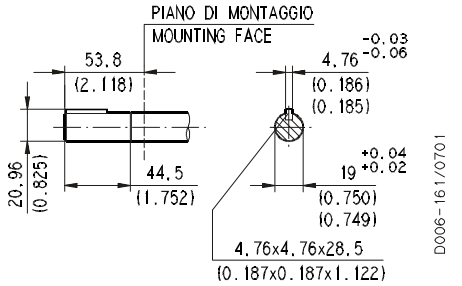
SAE SPLINE — 01

Ext. Involute Spline SAE J498B
with major diameter modified
10 teeth - 16/32 Pitch - 30 deg
Flat Root - Side fit - Class 1



MAX 100 Nm (885 lbf in)

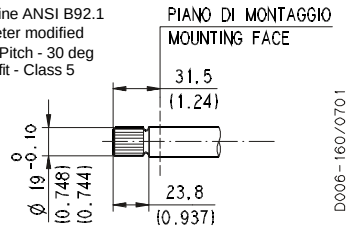
STRAIGHT — 49



MAX 140 Nm (1239 lbf in)

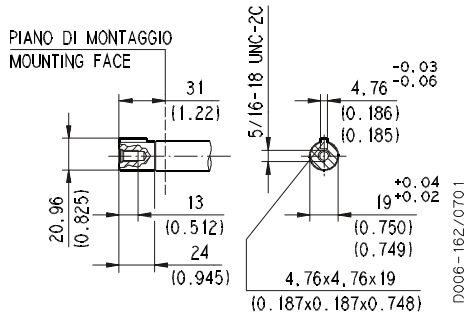
SAE SPLINE — 07

Ext. Involute Spline ANSI B92.1
with major diameter modified
11 teeth - 16/32 Pitch - 30 deg
Flat Root - Side fit - Class 5



MAX 170 Nm (1505 lbf in)

STRAIGHT — 50

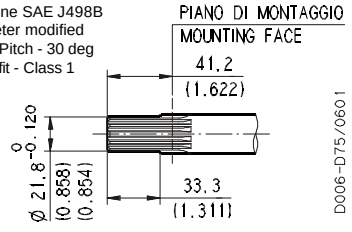


MAX 100 Nm (885 lbf in)

02/09.02

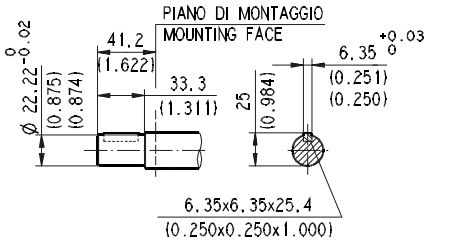
SAE "B" SPLINE — 04

Ext. Involute Spline SAE J498B
with major diameter modified
13 teeth - 16/32 Pitch - 30 deg
Flat Root - Side fit - Class 1



MAX 300 Nm (2655 lbf in)

SAE "B" STRAIGHT — 32



MAX 200 Nm (1770 lbf in)

HOW TO ORDER SAE STADARD MOTORS

1	2	3		4	5		6	7		8
Motor type	Rotation	Version	–	Drive shaft	Mounting flange	–	Ports position	Ports IN/OUT	–	Seals
KM20•4	S	0	–	03	S1	–	L	OC/OC	–	N

1 Motor type	CODE
cm^3/rev	
4,95	KM 20•4
6,61	KM 20•6,3
8,26	KM 20•8
11,23	KM 20•11,2
14,53	KM 20•14
16,85	KM 20•16
21,14	KM 20•20
26,42	KM 20•25
33,03	KM 20•31,5

2 Rotation	CODE
Left	S
Right	D
Reversible	R
Reversible internal drain	B

3 Version	CODE
Without outboard bearing	0

4 Drive shaft	CODE
SAE “A” spline (9 theeth)	03
SAE spline (10 theeth)	01
SAE spline (11 theeth)	07
SAE “B” spline (13 theeth)	04
SAE “A” straight	31
Straight	49
Straight	50
SAE “B” straight	32

5 Mounting flange	CODE
SAE “A” 2 holes	S1
SAE “A” 2 holes (with o-ring seal)	S2
SAE “B” 2 holes (a)	S5

CODE	6 Ports position
L	Side
P	Rear

CODE	7 Ports IN/OUT		
SAE STRAIGHT THREAD PORTS (ODT)			
	Side	Rear	Motor type
	OC/OC	OC/OC	KM 20•4
	OC/OC	OC/OC	KM 20•6,3
	OC/OC	OC/OC	KM 20•8
	OC/OC	OC/OC	KM 20•11,2
	OC/OD	OD/OD	KM 20•14
	OC/OD	OD/OD	KM 20•16
	OC/OD	OD/OD	KM 20•20
	OC/OD	OD/OD	KM 20•25
	OC/OD	OD/OD	KM 20•31,5
METRIC SAE SPLIT PORTS SAE J518 C			
	Side	Rear	Motor type
	MA/MA		KM 20•4
	MA/MA		KM 20•6,3
	MA/MA		KM 20•8
	MA/MA		KM 20•11,2
	MA/MB		KM 20•14
	MA/MB		KM 20•16
	MA/MB		KM 20•20
	MB/MC		KM 20•25
	MB/MC		KM 20•31,5

CODE	8 Seals (b)
N	Buna (standard)
V	Viton
V Bz	Viton and Bronze thrust plates

(a) Available only with 04 and 32 shaft

(b) Choose the seals according to the temperature shown on page 1

01/01.02

ORDER EXAMPLE

Standard motor KM 20•4 S0 - 03 S1 - L OC/OC - N

Special version motor KM 20•4 S0 - 04 S5 - L MA/MA - V Bz

Hymatec-GmbH – Hebbelstraße 22 94315 Straubing
Tel.: 09421/1887797 – Fax: 09421/1887799 – Email: info@hymatec-gmbh.de – www.hymatec-gmbh.de

HYMATEC GMBH
HYDRAULIK MASCHINEN TECHNIK

KAPPA®

Hydraulic gear pumps

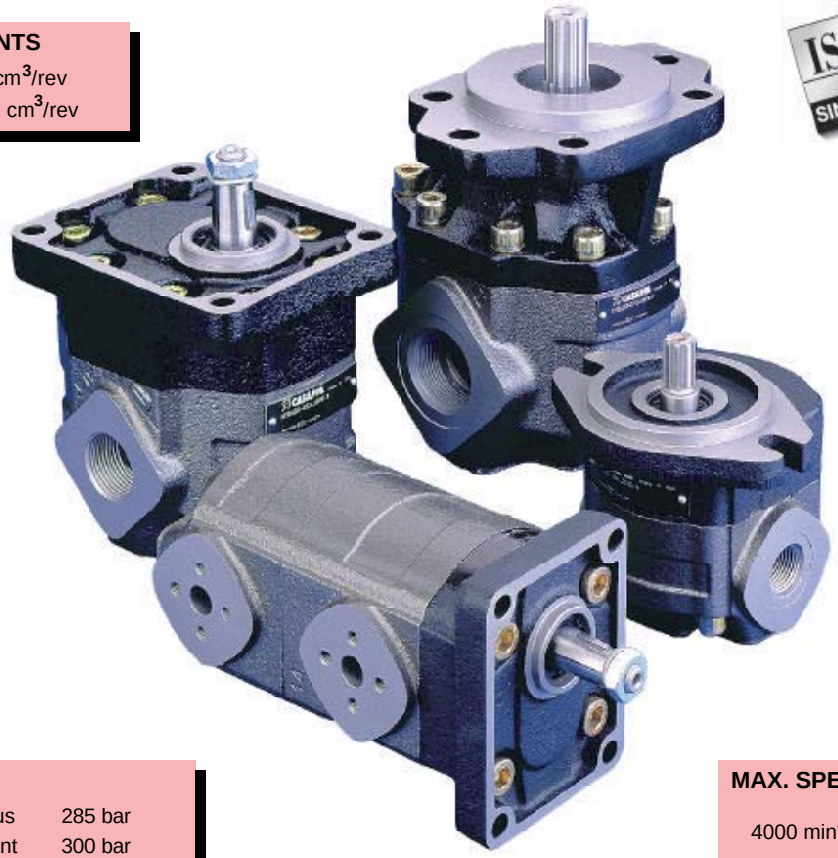
two pieces cast iron housing

Replaces: K 01 T E

DISPLACEMENTS

From	4,95 cm^3/rev
To	73,82 cm^3/rev

ISO 9001 FM 27654 SINCE MARCH 1994



PRESSURE

Max. continuous	285 bar
Max. intermittent	300 bar
Max. peak	330 bar

MAX. SPEED

4000 min^{-1}

- High operating pressures
- High efficiency at high temperature
- Exceptional working life expectancy

Edition: 02/09.2002

KAPPA pump and motor units consist essentially of a housing and a mounting flange in cast iron of superior mechanical specifications. KAPPA is available with mountig flanges and side or rear ports according to SAE and European standard. The rigidity of assembly and the compact design of KAPPA pumps and motors ensure reliability and high volumetric efficiency also at high operating pressures. Infinite care and attention is taken over the design and construction of each single component, and with quality monitored unceasingly, the result is a consistent, perfectly balanced assembly that guarantees unbroken service under the most arduous operating conditions. KAPPA series is the right choice wherever noise, contamination, non inflammable fluids and size are critical factors. The wide choice of combinations of mounting flanges, shafts and ports ensure to KAPPA series to be applied in a vast range of application.

CASAPPA®
FLUID POWER DESIGN

Hymatec-GmbH – Hebbelstraße 22 94315 Straubing
Tel.: 09421/1887797 – Fax: 09421/1887799 – Email: info@hymatec-gmbh.de – www.hymatec-gmbh.de

CASAPPA

Kappa

Replaces: 01/01.02

FEATURES

Construction	External gear type pumps and motors
Mounting	EUROPEAN - SAE - ISO standard flanges
Line connections	Screw and flange
Direction of rotation (looking on drive shaft)	Anti-clock (S) - clockwise (D) - reversible (L, R or B)
Inlet pressure range for pumps	0,7 ÷ 3 bar (abs.)
Max back pressure for single rotation motors	p_1 (continuous) max 5 bar
	p_2 (for 20 s) max 8 bar
	p_3 (for 8 s) max 15 bar
Max drain line pressure on the reversible rotation motors	5 bar
Max back pressure on the series motors	150 bar
Fluid temperature range	See table (1)
Fluid	Mineral oil based hydraulic fluids to ISO/DIN and fire resistant fluids [see table (1)]. For other fluids please consult our technical sales department.
Viscosity range	From 12 to 100 mm^2/s (cSt) recommended
	Up to 750 mm^2/s (cSt) permitted
Filtering requirement	See table (2)

Tab. 1

Type	Fluid composition	Max pressure [bar]	Max speed [min^{-1}]	Temperature [°C]	Seals (◆)
ISO/DIN	Mineral oil based hydraulic fluid to ISO/DIN	See page 3 - 4	See page 3 - 4	-25 ÷ +80	N
					N-H
				-25 ÷ +110	V
HFA	Oil emulsion in water 5 ÷ 15% of oil	50	1500	2 ÷ 55	N
HFB	Water emulsion in oil 40 % of water	120	1500	2 ÷ 60	
HFC	Water - glycol	100	1500	-20 ÷ +60	N Bz
HFD	Phosphate ester	150	1500	-10 ÷ +80	V Bz

(◆) **N**= Buna N (standard) - **N-H**= Buna N and high back pressure shaft seals - **V**= Viton
N Bz= Buna N and Bronze thrust plates - **V Bz**= Viton and Bronze thrust plates

Tab. 2

Working pressure	Δp > 200 bar	Δp < 200 bar
Contamination class NAS 1638	8	10
Contamination class ISO 4406	19/17/14	21/19/16
Achieved with filter ßx=75	10 μm	25 μm

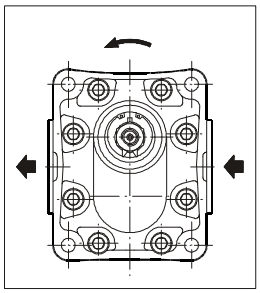
02/09.02

GENERAL NOTES

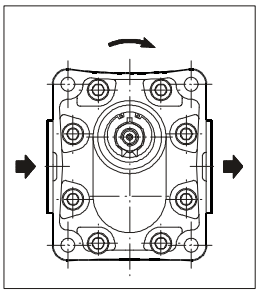
Available with different inlet and outlet ports. If you use fire resistant fluids specify the type of them at the order. For more information please consult our technical sales department.

Hymatec-GmbH – Hebbelstraße 22 94315 Straubing
Tel.: 09421/1887797 – Fax: 09421/1887799 – Email: info@hymatec-gmbh.de – www.hymatec-gmbh.de

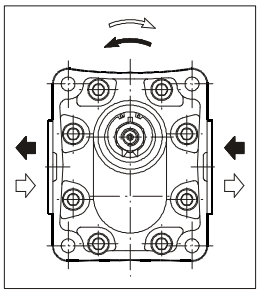
DEFINITION OF ROTATION DIRECTION LOOKING ON THE DRIVE SHAFT



Anti-clock rotation

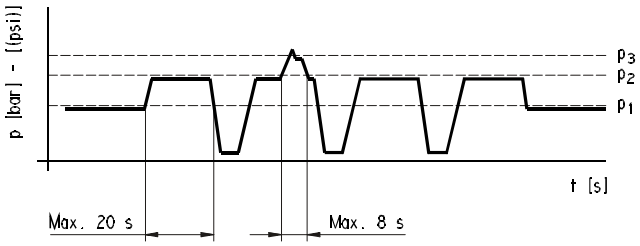


Clockwise rotation



Reversible rotation

PRESSURE DEFINITION



p_1 Max. continuous pressure

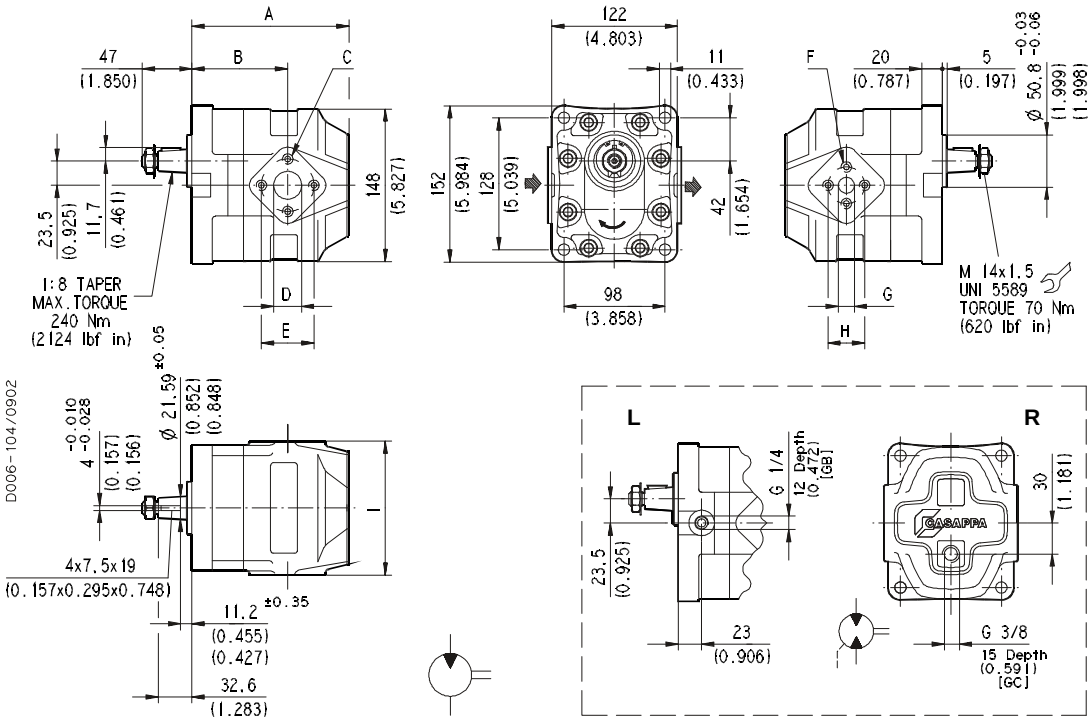
p_2 Max. intermittent pressure

p_3 Max. peak pressure

01/01.02

KAPPA 30 | HYDRAULIC GEAR MOTORS EUROPEAN STANDARD | 83 E3

EUROPEAN FLANGED PORTS - 4 Bolts
Metric thread ISO 60° conforms to ISO/R 262



The following version are also available:
KM 30•22 L0-83 E3-Z EV/EZ-N
KM 30•22 B0-83 E3-Z EV/EZ-N
(For more information please consult our technical sales department).

Motor type			A	B	C	D	E	F	G	H	I
			mm (in)	mm (in)	mm (in)	mm (in)	mm (in)	mm (in)	mm (in)	mm (in)	mm (in)
KM 30•27	S D L R B	0-83 E3-L EB/ED-N	133 (5.236)	85 (3.346)	M 10 Depth 17 (0.669)	27 (1.063)	51 (2.008)	M 8 Depth 17 (0.669)	19 (0.748)	40 (1.575)	130 (5.118)
KM 30•34			138 (5.433)	90 (3.543)							
KM 30•38			141 (5.551)	93 (3.661)							
KM 30•43			144 (5.669)	96 (3.780)							
KM 30•51			149 (5.866)	93 (3.661)							
KM 30•56			152 (5.984)	97 (3.819)							
KM 30•61			155 (6.102)	100 (3.937)							
KM 30•73		0-83 E3-L ED/EF-N	163 (6.417)	108 (4.252)	M 12 Depth 17 (0.669)	33 (1.299)	62 (2.441)	M 10 Depth 17 (0.669)	27 (1.063)	51 (2.008)	135 (5.315)

Rotation: S=left - D=right - L=reversible side drain - R=reversible rear drain - B=reversible internal drain

How to order:

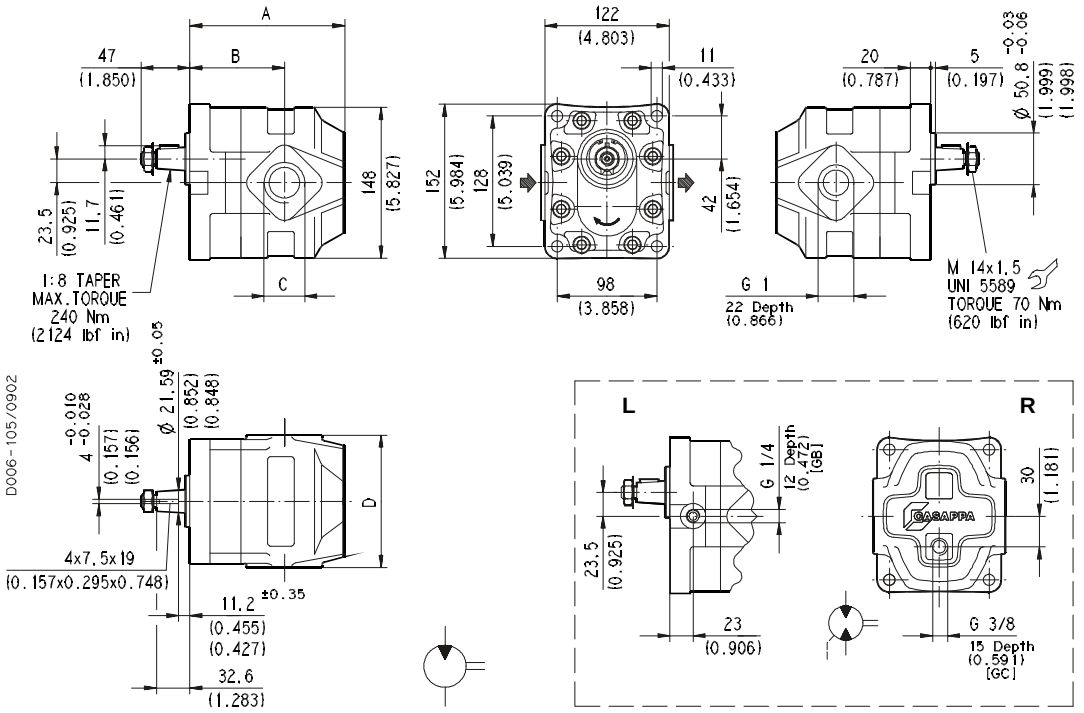
KM 30•27 S0-83 E3-L EB/ED-N

Replaces: 01/01.02

02/09.02

KAPPA 30 | HYDRAULIC GEAR MOTORS EUROPEAN STANDARD | 83 E3

GAS STRAIGHT THREAD PORTS
British standard pipe parallel (55°) conforms to UNI - ISO 228



Motor type			A	B	C	I
			mm (in)	mm (in)	mm (in)	mm (in)
KM 30•27	S D L R B	0-83 E3-L GF/GF-N	133 (5.236)	85 (3.346)	G 1 Depth 22 (0.866)	130 (5.118)
KM 30•34			138 (5.433)	90 (3.543)		
KM 30•38			141 (5.551)	93 (3.661)		
KM 30•43			144 (5.669)	96 (3.780)		
KM 30•51			149 (5.866)	93 (3.661)		
KM 30•56			152 (5.984)	97 (3.819)		
KM 30•61			155 (6.102)	100 (3.937)		
KM 30•73		0-83 E3-L GF/GG-N	163 (6.417)	108 (4.252)	G 1 1/4 Depth 24 (0.945)	135 (5.315)

Rotation: S=left - D=right - L=reversible side drain - R=reversible rear drain - B=reversible internal drain

How to order:

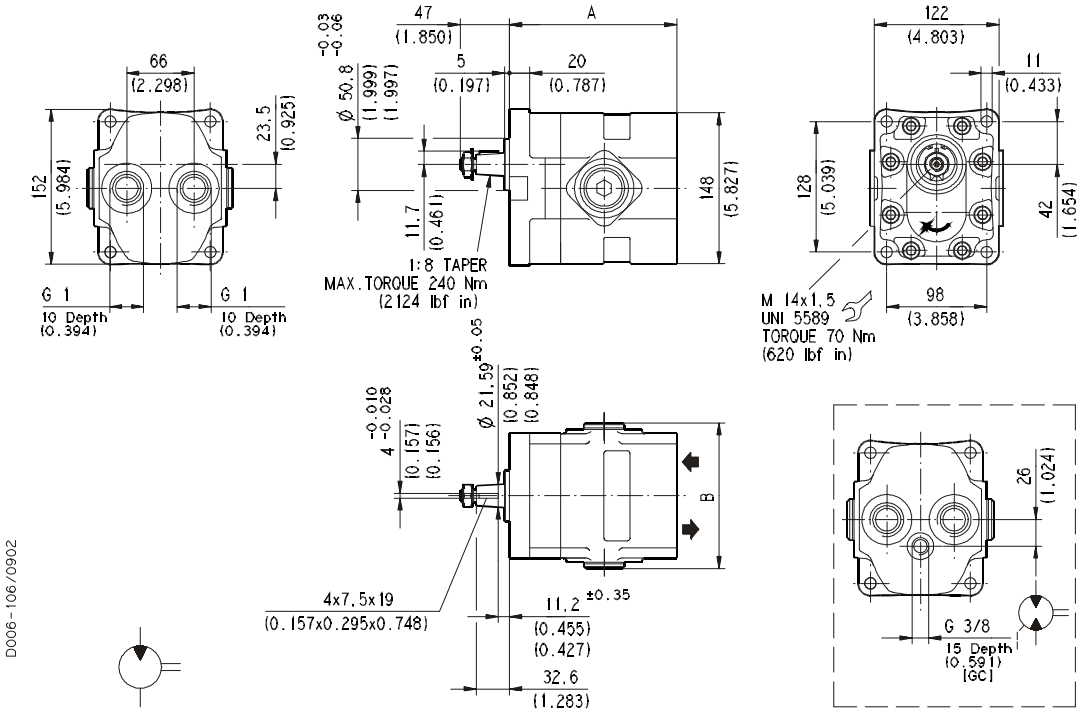
KM 30•27 S0-83 E3-L GF/GF-N

Replaces: 01/01.02

02/09.02

KAPPA 30 | HYDRAULIC GEAR MOTORS EUROPEAN STANDARD | 83 E3

GAS STRAIGHT THREAD PORTS
British standard pipe parallel (55°) conforms to UNI - ISO 228



Rear ports version.

Motor type			A	B
			mm (in)	mm (in)
KM 30•27	S D R B	0-83 E3-P GF/GF-N	148 (5.827)	143 (5.630)
KM 30•34			153 (6.024)	
KM 30•38			156 (6.142)	
KM 30•43			159 (6.260)	
KM 30•51			164 (6.457)	
KM 30•56			167 (6.575)	148 (5.827)
KM 30•61			170 (6.693)	
KM 30•73			178 (7.008)	

Rotation: S=left - D=right - R=reversible rear drain - B=reversible internal drain

How to order:

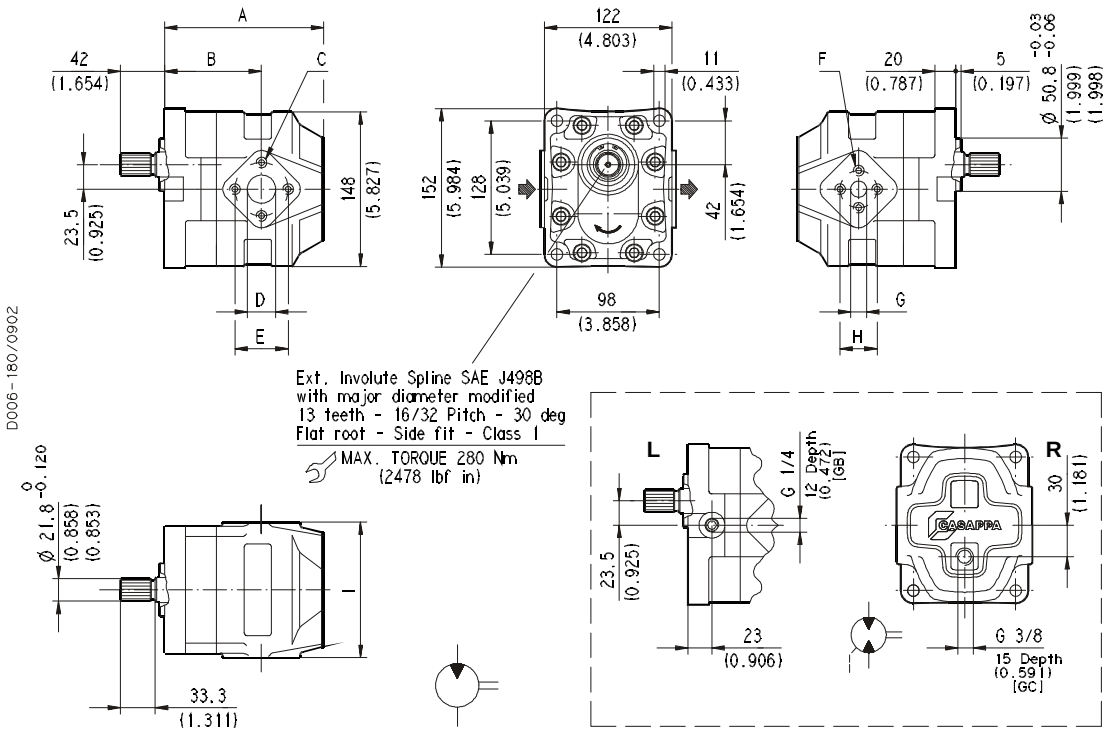
KM 30•27 S0-83 E3-P GF/GF-N

Replaces: 01/01.02

02/09.02

KAPPA 30 — HYDRAULIC GEAR MOTORS EUROPEAN STANDARD — A8 E3

EUROPEAN FLANGED PORTS - 4 Bolts
Metric thread ISO 60° conforms to ISO/R 262



Motor type			A	B	C	D	E	F	G	H	I
			mm (in)	mm (in)	mm (in)	mm (in)	mm (in)	mm (in)	mm (in)	mm (in)	mm (in)
KM 30•27	S D L R B	0-A8 E3-L EB/ED-N	133 (5.236)	85 (3.346)	M 10 Depth 17 (0.669)	27 (1.063)	51 (2.008)	M 8 Depth 17 (0.669)	19 (0.748)	40 (1.575)	130 (5.118)
KM 30•34			138 (5.433)	90 (3.543)							
KM 30•38			141 (5.551)	93 (3.661)							
KM 30•43			144 (5.669)	96 (3.780)							
KM 30•51			149 (5.866)	93 (3.661)							
KM 30•56			152 (5.984)	97 (3.819)							
KM 30•61			155 (6.102)	100 (3.937)							
KM 30•73		0-A8 E3-L ED/EF-N	163 (6.417)	108 (4.252)	M 12 Depth 17 (0.669)	33 (1.299)	62 (2.441)	M 10 Depth 17 (0.669)	27 (1.063)	51 (2.008)	135 (5.315)

Rotation: S=left - D=right - L=reversible side drain - R=reversible rear drain - B=reversible internal drain

How to order:

KM 30•27 S0-A8 E3-L ED/EB-N

Replaces: 01/01.02

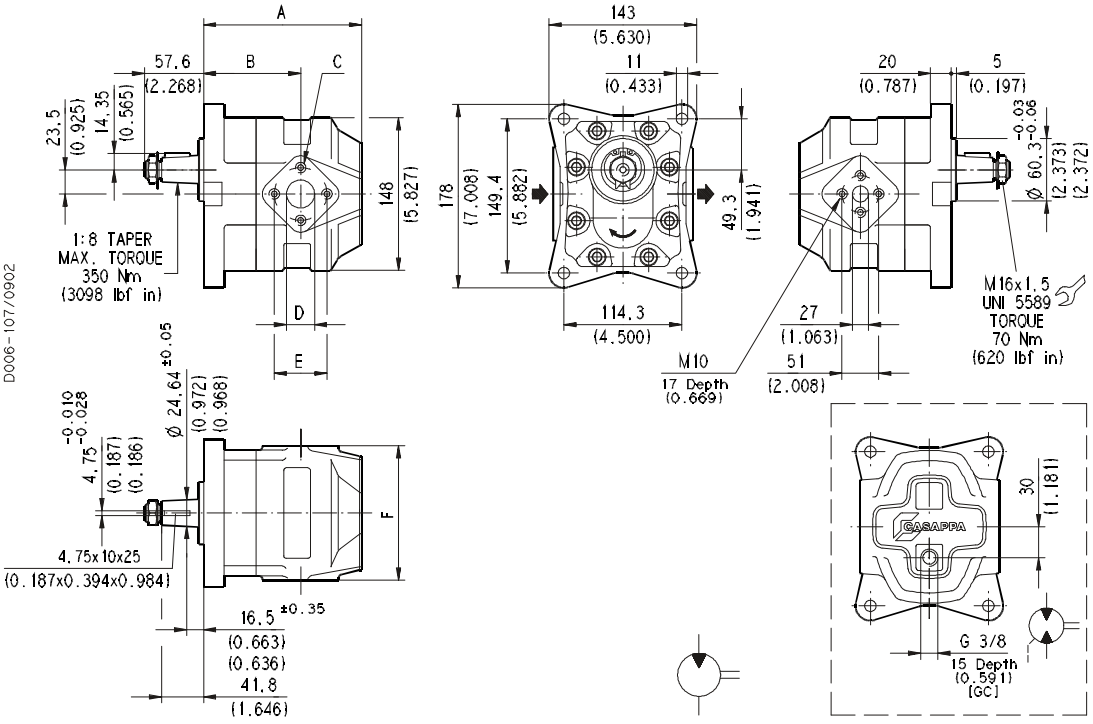
02/09.02

Replaces: 01/01.02

D006-107/0902

KAPPA 30 | HYDRAULIC GEAR MOTORS EUROPEAN STANDARD | 84 E4

EUROPEAN FLANGED PORTS - 4 Bolts
Metric thread ISO 60° conforms to ISO/R 262



Motor type			A	B	C	D	E	F
			mm (in)	mm (in)	mm (in)	mm (in)	mm (in)	mm (in)
KM 30•51	S D R B	0-84 E4-L ED/ED-N	150 (5.906)	94 (3.701)	M 10 Depth 17 (0.669)	27 (1.063)	51 (2.008)	130 (5.118)
KM 30•61		0-84 E4-L ED/EF-N	156 (6.142)	101 (3.976)	M 12 Depth 17 (0.669)	33 (1.299)	62 (2.441)	135 (5.315)
KM 30•73			164 (6.457)	109 (4.291)				

Rotation: S=left - D=right - R=reversible rear drain - B=reversible internal drain

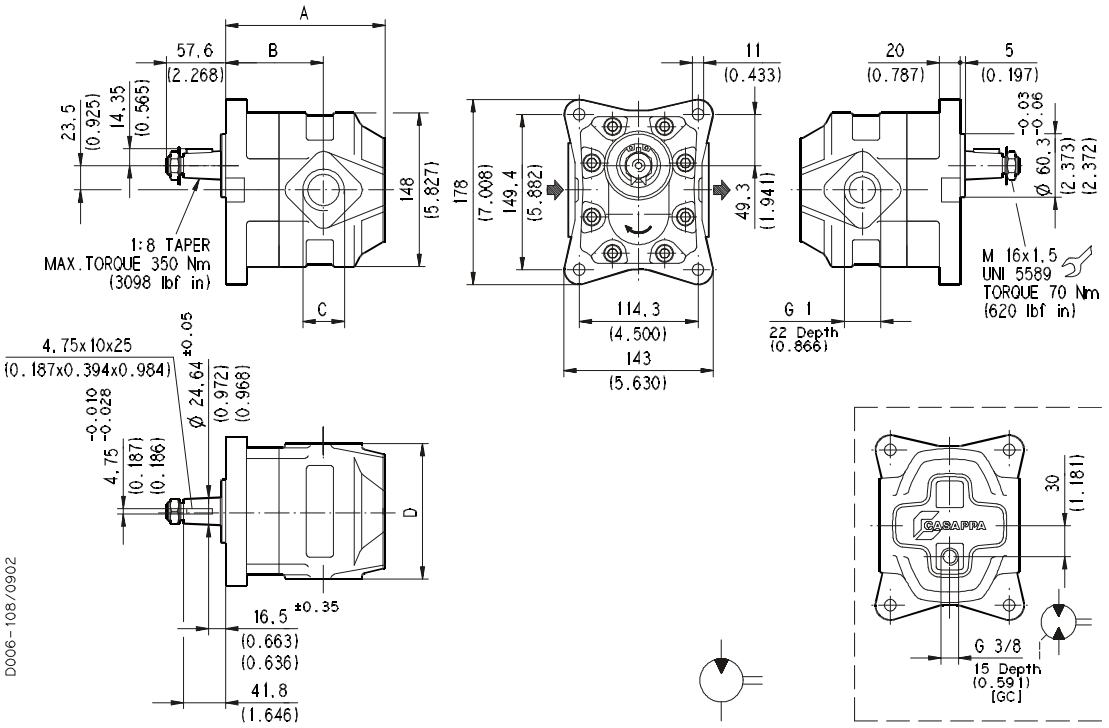
How to order:

KM 30•51 S0-84 E4-L ED/ED-N

02/09.02

KAPPA 30 — HYDRAULIC GEAR MOTORS EUROPEAN STANDARD — 84 E4

GAS STRAIGHT THREAD PORTS
British standard pipe parallel (55°) conforms to UNI - ISO 228



D006-108/0902

Replaces: 01/01.02

Motor type			A	B	C	D
			mm (in)	mm (in)	mm (in)	mm (in)
KM 30•51	S D R B	0-84 E4-L GF/GF-N	150 (5.906)	94 (3.701)	G 1 Depth 22 (0.866)	130 (5.118)
KM 30•61		0-84 E4-L GF/GG-N	156 (6.142)	101 (3.976)	G 1 1/4 Depth 24 (0.945)	135 (5.315)
KM 30•73			164 (6.457)	109 (4.291)		

Rotation: S=left - D=right - R=reversible rear drain - B=reversible internal drain

How to order:

KM 30•51 S0-84 E4-L GF/GF-N

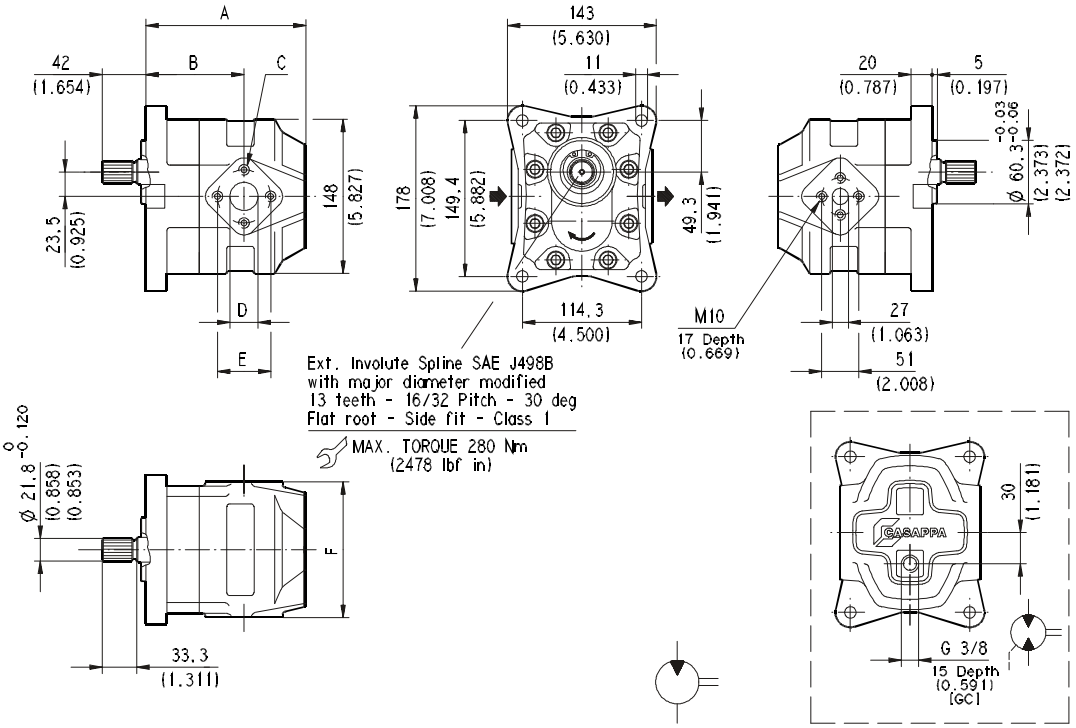
02/09.02

KAPPA 30 | HYDRAULIC GEAR MOTORS EUROPEAN STANDARD | A8 E4

EUROPEAN FLANGED PORTS - 4 Bolts
Metric thread ISO 60° conforms to ISO/R 262

Replaces: 01/01.02

D006-178/0902



Motor type			A	B	C	D	E	F
			mm (in)	mm (in)	mm (in)	mm (in)	mm (in)	mm (in)
KM 30•51	S D R B	0-A8 E4-L ED/ED-N	150 (5.906)	94 (3.701)	M 10 Depth 17 (0.669)	27 (1.063)	51 (2.008)	130 (5.118)
KM 30•61	S D R B	0-A8 E4-L ED/EF-N	156 (6.142)	101 (3.976)	M 12 Depth 17 (0.669)	33 (1.299)	62 (2.441)	135 (5.315)
KM 30•73	S D R B	0-A8 E4-L ED/EF-N	164 (6.457)	109 (4.291)	M 12 Depth 17 (0.669)	33 (1.299)	62 (2.441)	135 (5.315)

Rotation: S=left - D=right - R=reversible rear drain - B=reversible internal drain

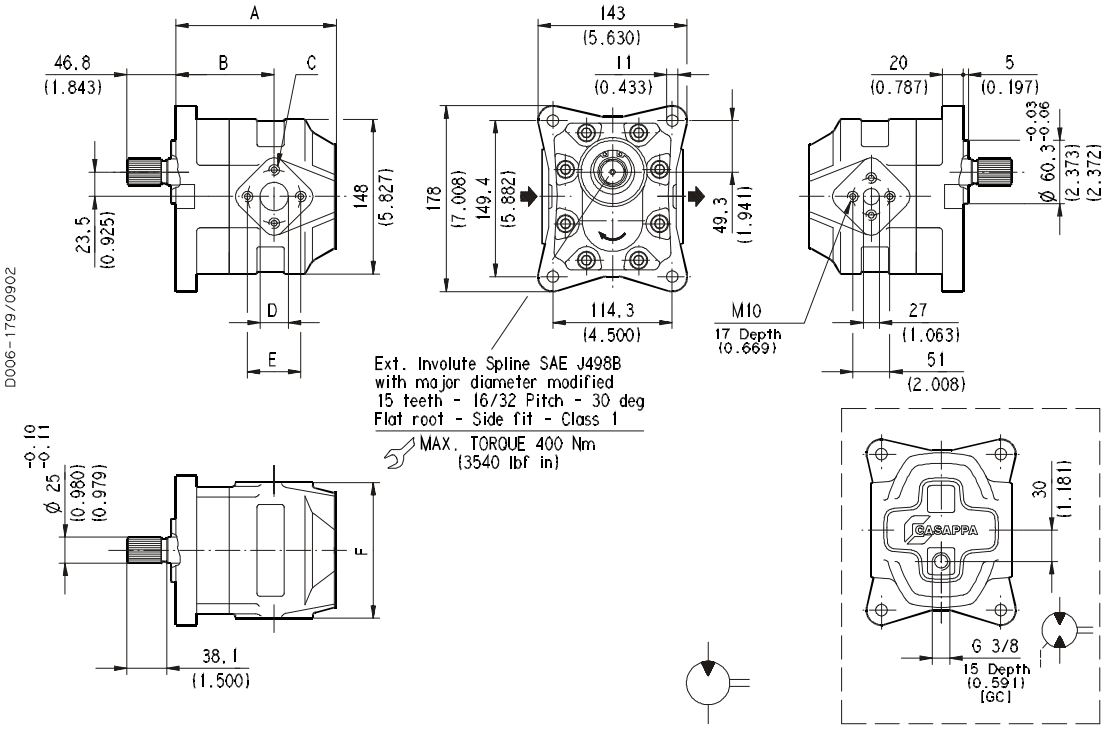
How to order:

KM 30•51 S0-A8 E4-L ED/ED-N

02/09.02

KAPPA 30 | HYDRAULIC GEAR MOTORS EUROPEAN STANDARD | A5 E4

EUROPEAN FLANGED PORTS - 4 Bolts
Metric thread ISO 60° conforms to ISO/R 262



D006-179/0902

Replaces: 01/01.02

Motor type			A	B	C	D	E	F
			mm (in)	mm (in)	mm (in)	mm (in)	mm (in)	mm (in)
KM 30•51	S D R B	0-A5 E4-L ED/ED-N	150 (5.906)	94 (3.701)	M 10 Depth 17 (0.669)	27 (1.063)	51 (2.008)	130 (5.118)
KM 30•61		0-A5 E4-L ED/EF-N	156 (6.142)	101 (3.976)	M 12 Depth 17 (0.669)	33 (1.299)	62 (2.441)	135 (5.315)
KM 30•73			164 (6.457)	109 (4.291)				

Rotation: S=left - D=right - R=reversible rear drain - B=reversible internal drain

How to order:

KM 30•51 S0-A5 E4-L ED/ED-N

02/09.02

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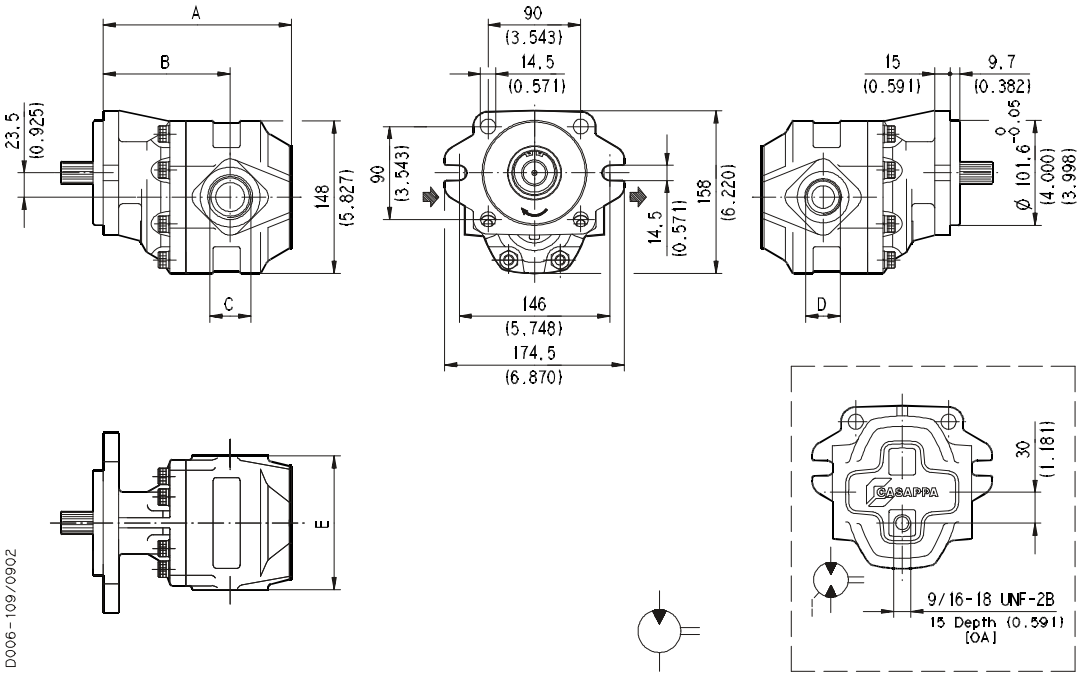
Tel.: 09421/1887797 – Fax: 09421/1887799 – Email: info@hymatec-gmbh.de – www.hymatec-gmbh.de

KAPPA 30 — HYDRAULIC GEAR MOTORS SAE STANDARD — ... S3

SAE STRAIGHT THREAD PORTS J514
American straight thread UNC-UNF 60° conforms to ANSI B 1.1

Replaces: 01/01.02



To order see page 104 and 105.

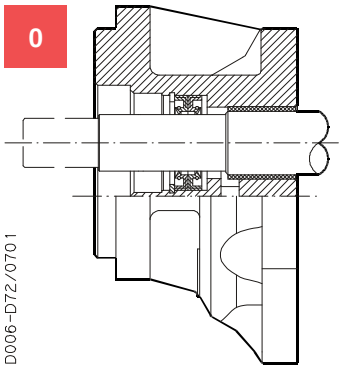
Motor type	A	B	C	D	E	Ports code	
	mm (in)	mm (in)			mm (in)	IN	OUT
KM 30•27	164 (6.457)	115 (4.528)	1-5/16-12 UN-2B	1-1/16-12 UN-2B	130 (5.118)	OD	OF
KM 30•34	169 (6.654)	120 (4.724)					
KM 30•38	172 (6.772)	123 (4.843)	1-5/8-12 UN-2B	1-5/16-12 UN-2B		OF	OG
KM 30•43	175 (6.890)	126 (4.961)					
KM 30•51	180 (7.087)	123 (4.843)					
KM 30•56 *	182 (7.165)	127 (5.000)	1-7/8-12 UN-2B	1-5/8-12 UN-2B	135 (5.433)	OG	OH
KM 30•61	186 (7.323)	130 (5.118)					
KM 30•73	194 (7.638)	138 (5.433)					

* Available only with 04 and 32 shaft for 0 and 1 version.

02/09.02

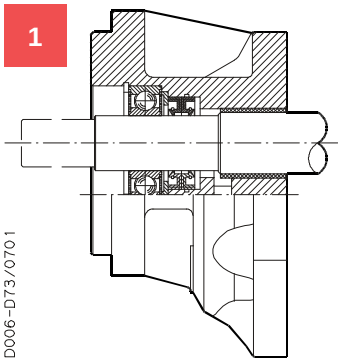
KAPPA 30 SAE VERSION — SAE

0



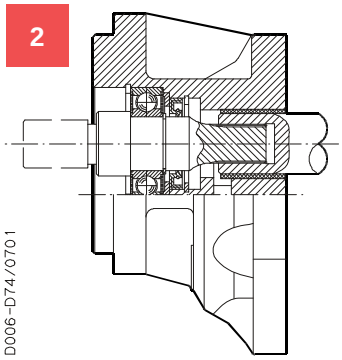
Version for applications without radial and axial load on the drive shaft.

1



Version for applications with low radial load and without axial load on the drive shaft.

2

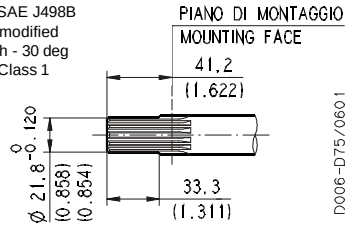


Special version with independent shaft for applications with low radial load and without axial load on the drive shaft.

KAPPA 30 END DRIVE SHAFTS — SAE

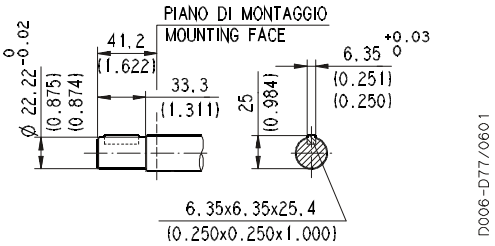
SAE "B" SPLINE — 04

Ext. Involute Spline SAE J498B
with major diameter modified
13 teeth - 16/32 Pitch - 30 deg
Flat Root - Side fit - Class 1



MAX 300 Nm (2655 lbf in) ◆

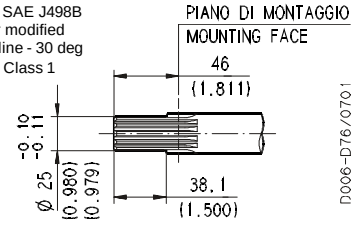
SAE "B" STRAIGHT — 32



MAX 200 Nm (1770 lbf in) ◆

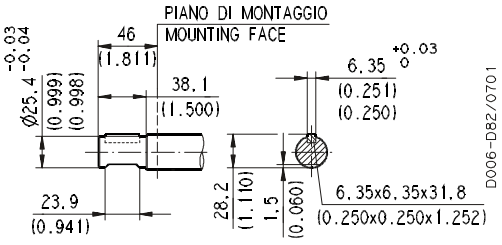
SAE "BB" SPLINE — 05

Ext. Involute Spline SAE J498B
with major diameter modified
15 teeth - 16/32 Spline - 30 deg
Flat Root - Side fit - Class 1



MAX 450 Nm (3983 lbf in) ◆

SAE "BB" STRAIGHT — 33



MAX 280 Nm (2478 lbf in) ◆

◆ For "2" version whichever end shaft, the max. torque applicable is M= 170 Nm (1505 lbf in)

01/01.02

HOW TO ORDER SAE STADARD MOTORS

1	2	3		4	5		6	7		8
Motor type	Rotation	Version	–	Drive shaft	Mounting flange	–	Ports position	Ports IN/OUT	–	Seals
KM30•27	S	0	–	04	S3	–	L	OF/OD	–	N

1 Motor type	CODE
cm^3/rev	
26,7	KM 30•27
34,56	KM 30•34
39,27	KM 30•38
43,98	KM 30•43
51,83	KM 30•51
56,54	KM 30•56
61,26	KM 30•61
73,82	KM 30•73

2 Rotation	CODE
Left	S
Right	D
Reversible	R
Reversible internal drain	B

3 Version	CODE
Without outboard bearing	0
With outboard bearing	1
With outboard bearing and indep. shaft	2

4 Drive shaft	CODE
SAE “B” spline (13 theeth)	04
SAE “B” straight	32
SAE “BB” spline (15 theeth)	05
SAE “BB” straight	33

5 Mounting flange	CODE
SAE “B” 2-4 holes	S3

CODE	6 Ports position
L	Side

CODE	7 Ports IN/OUT	
SAE STRAIGHT THREAD PORTS (ODT)		
Side	Motor type	
OD/OF	KM 30•27	
O/DOF	KM 30•34	
OF/OG	KM 30•38	
OF/OG	KM 30•43	
OF/OG	KM 30•51	
OG/OH	KM 30•56	
OG/OH	KM 30•61	
OG/OH	KM 30•73	

CODE	8 Seals (a)
N	Buna (standard)
N-H	Buna with high back pressure shaft seals
V	Viton
V Bz	Viton and Bronze thrust plates

(a) Choose the seals according to the temperature shown on page 2

01/01.02

ORDER EXAMPLE

Standard motor KM 30•27 S0 - 04 S3 - L OD/OF - N

Special version motor KM 30•27 S2 - 32 S3 - L OD/OF - V Bz

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Planetenmotor Serie MM

Bestellnr.	Typ	Code
080-010-01000	Planetenmotor 8,2ccm-W:Ø16-hinten	MM8C
080-010-01050	Planetenmotor 12,9ccm-W:Ø16-hinten	MM12,5C
080-010-01100	Planetenmotor 20ccm-W:Ø16-hinten	MM20C
080-010-01150	Planetenmotor 31,8ccm-W:Ø16-hinten	MM32C
080-010-01200	Planetenmotor 40ccm-W:Ø16-hinten	MM40C
080-010-01250	Planetenmotor 50ccm-W:Ø16-hinten	MM50C
080-010-01300	Planetenmotor 8,2ccm-W:Ø16-seitlich	MMS8C
080-010-01350	Planetenmotor 12,9ccm-W:Ø16-seitlich	MMS12,5C
080-010-01400	Planetenmotor 20ccm-W:Ø16-seitlich	MMS20C
080-010-01450	Planetenmotor 31,8ccm-W:Ø16-seitlich	MMS32C
080-010-01500	Planetenmotor 40ccm-W:Ø16-seitlich	MMS40C
080-010-01550	Planetenmotor 50ccm-W:Ø16-seitlich	MMS50C

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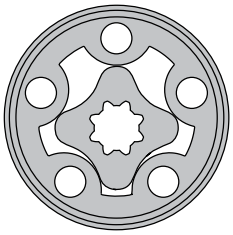
HYDRAULIC MOTORS MM

APPLICATION

- » Conveyors
- » Textile machines
- » Mining machinery
- » Machine tools
- » Ventilators
- » Construction plant equipment and access platforms etc.



CONTENTS

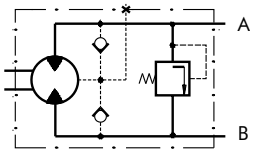
OPTIONS

- » Model- Spool valve, gerotor
- » With or without flange
- » Side and rear ports
- » Series with pressure valve(s)
- » Shafts- straight and splined
- » Metric and BSPP ports
- » Speed sensoring;

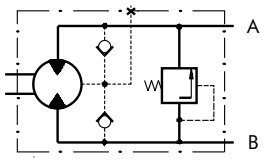
GENERAL

Displacement, [cm^3/rev.]	8,2÷50
Max. Speed, [RPM]	400÷1950
Max. Torque, [daNm]	1,1÷4,5
Max. Output, [kW]	1,8÷2,4
Max. Pressure Drop, [bar]	70÷100
Max. Oil Flow, [l/min]	16÷20
Min. Speed, [RPM]	20÷50
Pressure fluid	Mineral based- HLP(DIN 51524) or HM(ISO 6743/4)
Temperature range, [°C]	-30÷90
Optimal Viscosity range, [mm^2/s]	20÷75
Filtration	ISO code 20/16 (Min. recommended fluid filtration of 25 micron)

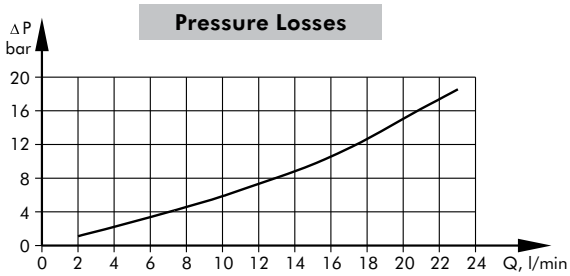
MMP Series with Integrated Internal Crossover Relief Valve A⟶B, Δp=100 bar (50 bar)



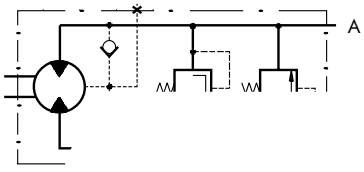
MMP Series with Integrated Internal Crossover Relief Valve B⟶A, Δp=100 bar (50 bar)



Pressure Losses



MMD Series with Integrated Internal Crossover Relief Valves A⟷B, Δp=100 bar (50 bar)



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HYMATEC GMBH
HYDRAULIK MASCHINEN TECHNIK

SPECIFICATION DATA

Type		MM 8	MM 12,5	MM 20	MM 32	MM 40	MM 50
Displacement [cm³/rev.]		8,2	12,9	20	31,8	40	50
Max. Speed, [RPM]	cont.	1950	1550	1000	630	500	400
	int.*	2440	1940	1250	790	625	500
Max. Torque [daNm]	cont.	1,1	1,6	2,5	4	4,1	4,5
	int.*	1,5	2,3	3,5	5,7	5,7	5,8
	peak**	2,1	3,3	5,1	6,4	6,6	8
Max. Output [kW]	cont.	1,8	2,4	2,4	2,4	1,8	1,7
	int.*	2,6	3,2	3,2	3,2	3,0	2,1
Max. Pressure Drop [bar]	cont.	100	100	100	100	80	70
	int.*	140	140	140	140	110	90
	peak**	200	200	200	200	140	125
Max. Oil Flow [l/min]	cont	16	20	20	20	20	20
	int.*	20	25	25	25	25	25
Max. Inlet Pressure, [bar]	cont.	140	140	140	140	140	140
	int.*	175	175	175	175	175	175
	peak**	225	225	225	225	225	225
Max. Return Pressure w/o Drain Line or Max. Pressure in Drain Line, [bar]	cont. 0-100 RPM	140	140	140	140	140	140
	cont. 100-400 RPM	100	100	100	100	100	100
	cont. 400-800 RPM	50	50	50	50	50	-
	cont. >800 RPM	20	20	20	-	-	-
	int.* 0-max. RPM	140	140	140	140	140	140
Max. Return Pressure with Drain Line [bar]	cont.	140	140	140	140	140	140
	int.*	175	175	175	175	175	175
	peak**	225	225	225	225	225	225
Max. Starting Pressure with Unloaded Shift, [bar]		4	4	4	4	4	4
Min. Starting Torque [daNm]	at max. press. drop cont.	0,7	1,2	2,1	3,4	3,3	3,7
	at max. press. drop int.*	1,0	1,7	2,9	4,8	4,6	4,8
Min. Speed***, [RPM]		50	40	30	30	25	20
Weight, avg. [kg]	MM	1,9	2,0	2,1	2,2	2,3	2,5
For "F" flange: +0,2 kg	MMS	2,0	2,1	2,2	2,3	2,4	2,6
	MMP	2,2	2,3	2,4	2,5	2,6	2,8
	MMD	2,6	2,7	2,8	2,9	3,0	3,2

* Intermittent operation: the permissible values may occur for max. 10% of every minute.
** Peak load: the permissible values may occur for max. 1% of every minute.
*** For speeds of 20 RPM or lower, consult factory or your regional manager.
1. Intermittent speed and intermittent pressure drop must not occur simultaneously.
2. Recommended filtration is per ISO cleanliness code 20/16. A nominal filtration of 25 micron or better.
3. Recommend using a premium quality, anti-wear type mineral based hydraulic oil HLP(DIN51524) or HM (ISO 6743/4). If using synthetic fluids consult the factory for alternative seal materials.
4. Recommended minimum oil viscosity 13 mm²/s at operating temperature 50°C.
5. Recommended maximum system operating temperature is 82°C.
6. To assure optimum motor life fill with fluid prior to loading and run at moderate load and speed for 15-30 min.

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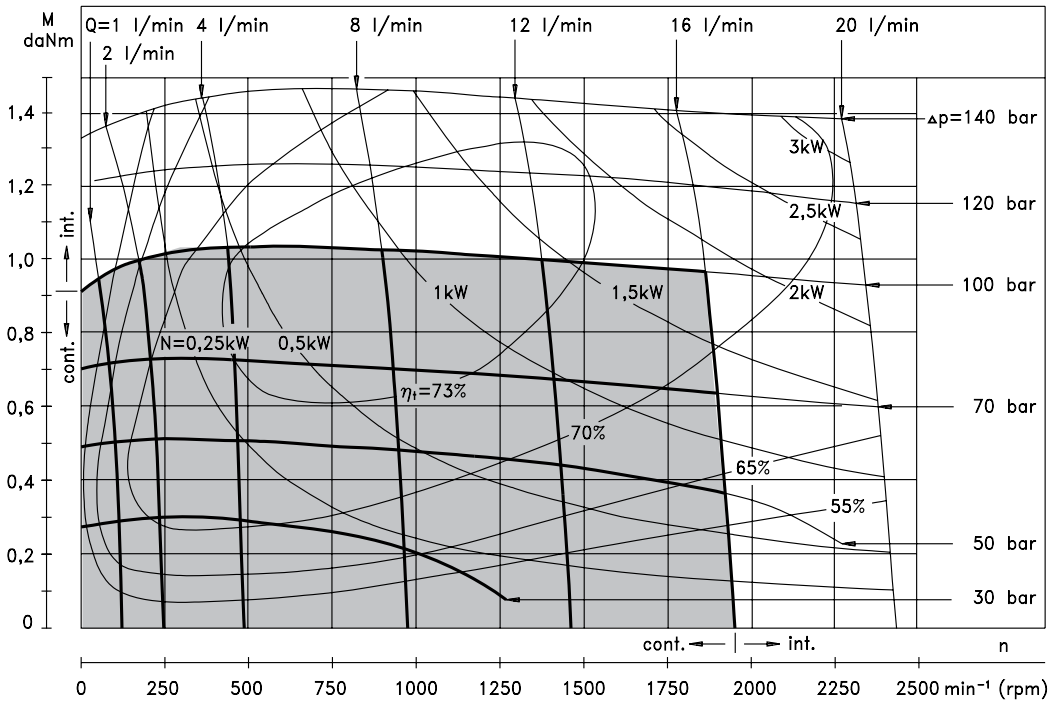
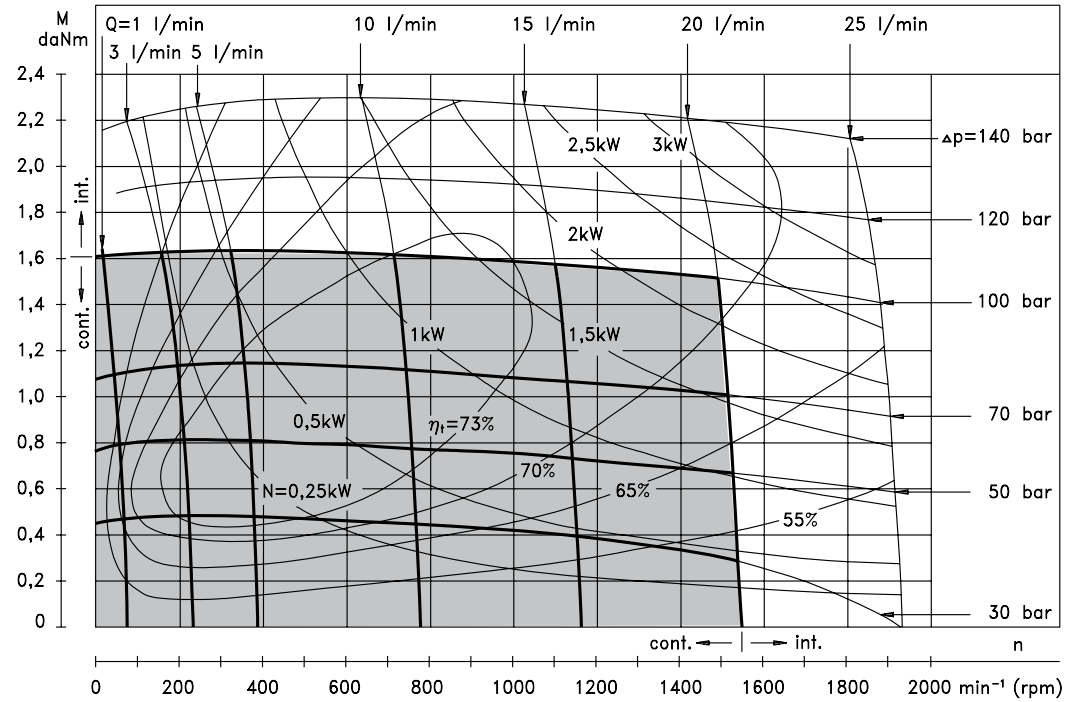
FUNCTION DIAGRAMS

MM 8



MM 12,5



The function diagrams data was collected at back pressure 5÷10 bar
and oil with viscosity of 32 mm²/s at 50° C.

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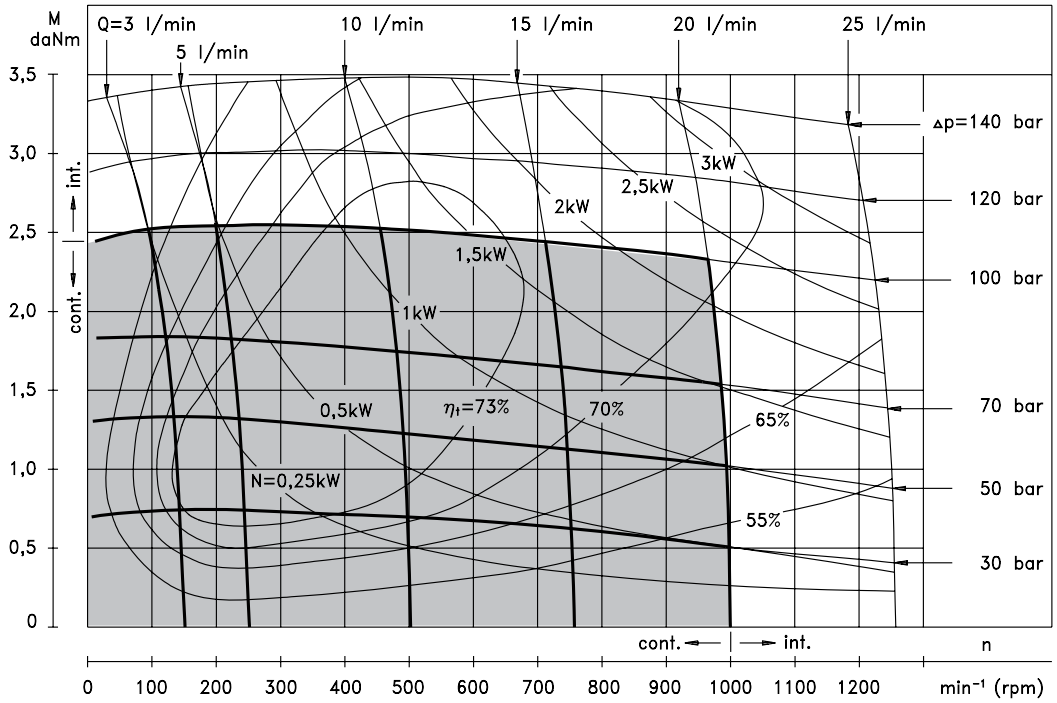
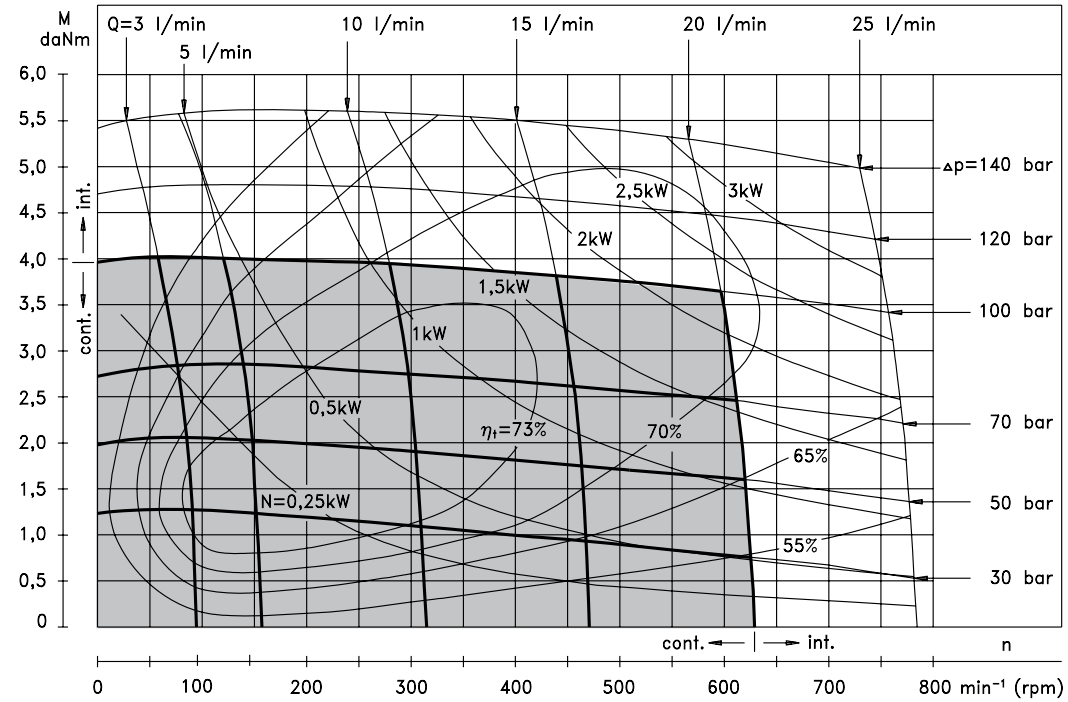
FUNCTION DIAGRAMS

MM 20



MM 32



The function diagrams data was collected at back pressure 5÷10 bar
and oil with viscosity of 32 mm²/s at 50° C.

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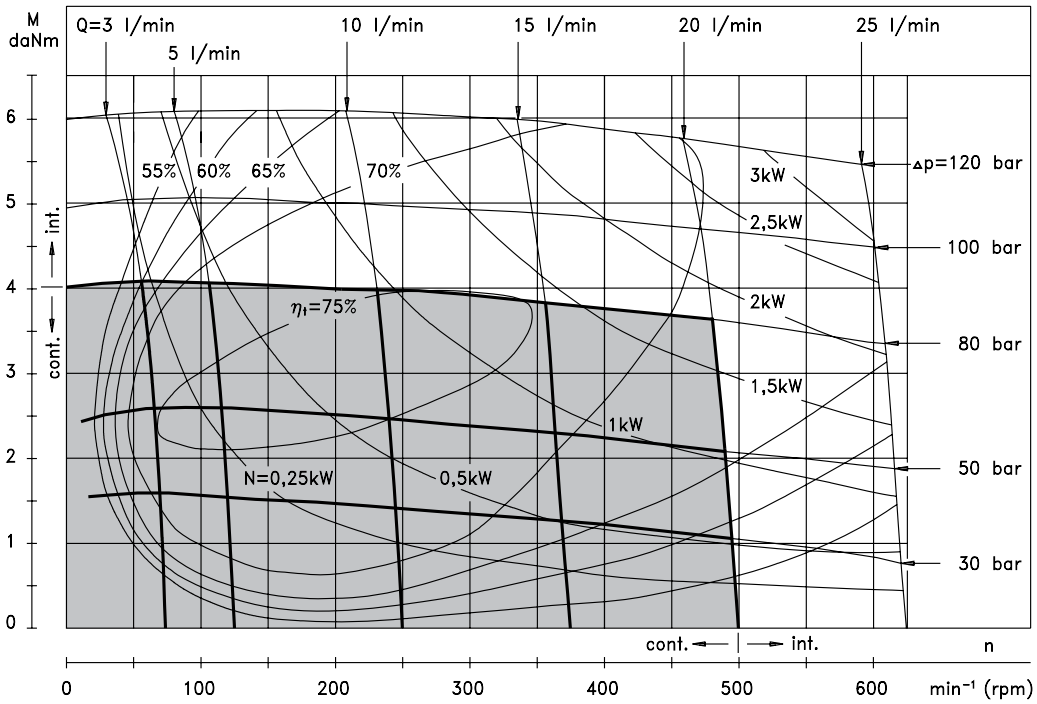
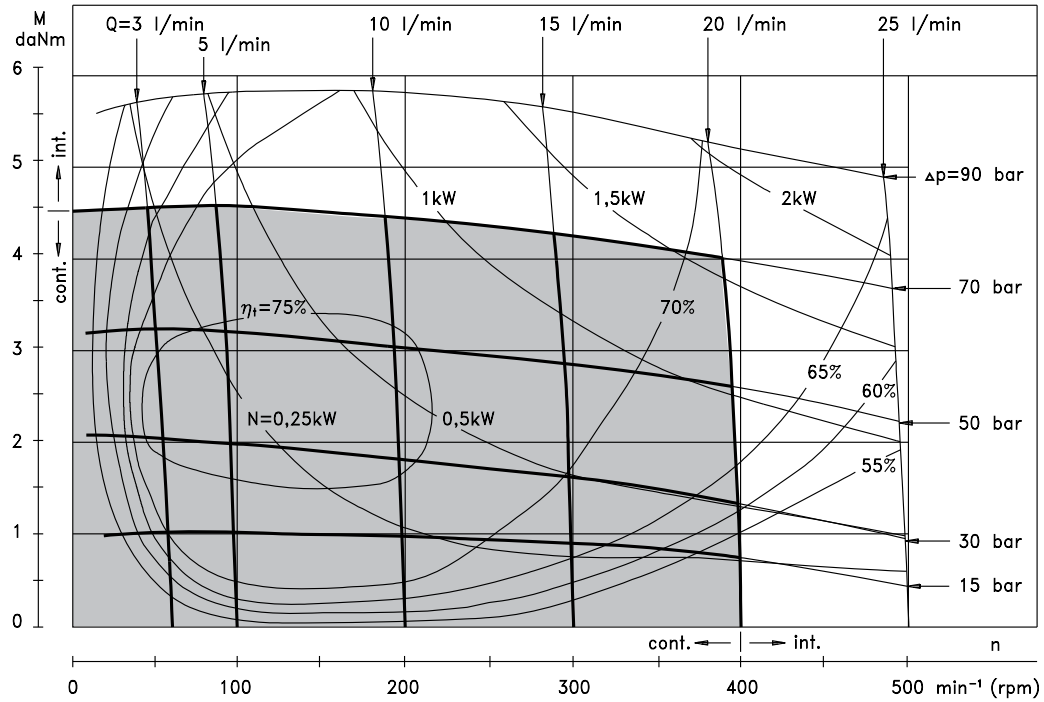
FUNCTION DIAGRAMS

MM 40



MM 50



The function diagrams data was collected at back pressure 5÷10 bar and oil with viscosity of 32 mm²/s at 50° C.

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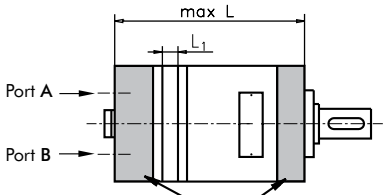
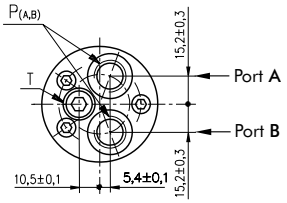
DIMENSIONS AND MOUNTING DATA

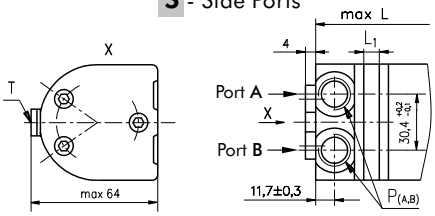


Porting

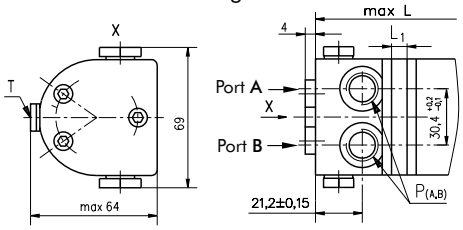
Rear Ports



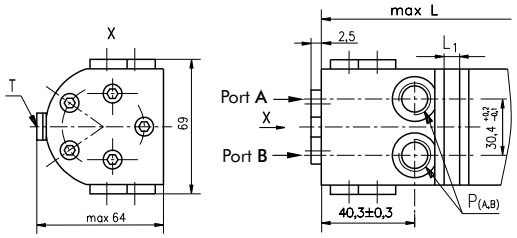
S - Side Ports



P - Side Ports with
Single Crossover Relief Valve

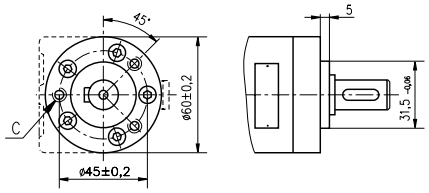


D - Side Ports with
Dual Crossover Relief Valve

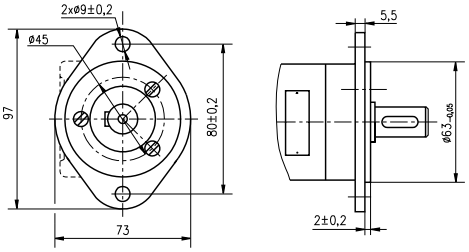


Mounting

Three Bolts Mount



F - Oval Mount (2 Holes)



C : 3xM6- 12 mm depth
P$_{(A, B)}$: 2xG3/8 or (M18x1,5)- 12 mm depth
T : G1/8 or (M10x1)- 10 mm depth

Standard Rotation
Viewed from Shaft End
Port **A** Pressurized - **CW**
Port **B** Pressurized - **CCW**

Reverse Rotation
Viewed from Shaft End
Port **A** Pressurized - **CCW**
Port **B** Pressurized - **CW**

Type	L,mm	Type	L,mm	Type	L,mm	Type	L,mm	L_1,mm
MM 8	104	MMS 8	105	MMP 8	115	MMD 8	134	3,5
MM12,5	106	MMS12,5	107	MMP12,5	117	MMD12,5	136	5,5
MM 20	109	MMS 20	110	MMP 20	120	MMD 20	139	8,5
MM 32	114	MMS 32	115	MMP 32	125	MMD 32	144	13,5
MM 40	117,5	MMS 40	118,5	MMP 40	128,5	MMD 40	147,5	17
MM 50	121,5	MMS 50	122,5	MMP 50	132,5	MMD 50	151,5	21

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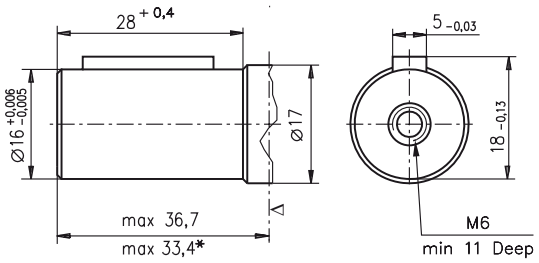
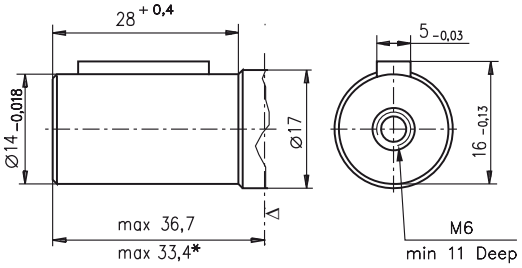
SHAFT EXTENSIONS

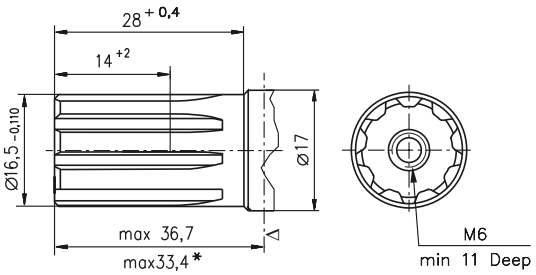
C - ø16 straight, Parallel key 5x5x16 DIN 6885
Max. Torque 3,9 daNm



CK - ø14 Straight, Parallel key 5x5x16 DIN 6885
Max. Torque 3 daNm

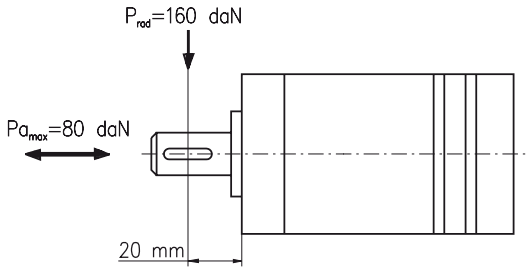


SH - ø16,5 Splined, B17x14 DIN 5482
Max. Torque 4,4 daNm



∇ - Motor Mounting Surface
* For **F** Mounting

PERMISSIBLE SHAFT LOAD



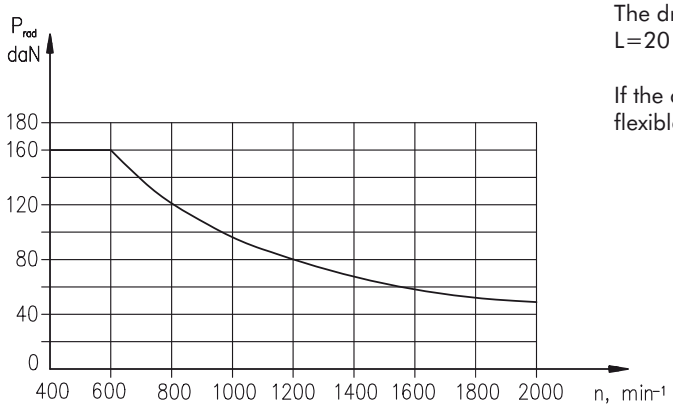
The permissible radial shaft load [Prad] is calculated from the distance [L] between the point of load application and the mounting surface:

$$P_{rad} = \frac{600}{n} \times \frac{13040}{(61{,}5+L)}\ , \text{[daN]}$$

[L in mm; L≤80]

The drawing shows the permissible radial load when L=20 mm.

If the calculated shaft load exceeds the permissible, a flexible coupling must be used.



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ORDER CODE

	1	2	3	4	5	6	7	8	9	10
M M										

Pos.1 - Adjustment Option

omit - without valve
P - Side ports with single crossover relief valve
D - Side ports with dual crossover relief valve

Pos.2 - Mounting Flange

omit - Three bolts mount
F - Oval mount, two holes

Pos.3 - Port type (not valid for **P** and **D** version)

omit - Rear ports
S - Side ports

Pos.4 - Displacement code

8 - 8,2 [cm^3/rev]
12,5 - 12,9 [cm^3/rev]
20 - 20,0[cm^3/rev]
32 - 31,8[cm^3/rev]
40 - 40,0[cm^3/rev]
50 - 50,0[cm^3/rev]

Pos. 5 - Shaft Extensions*

C - ø16 straight, Parallel key 5x5x16 DIN 6885
VC - ø16 straight, Parallel key 5x5x16 DIN 6885 with corrosion resistant bushing
CK - ø14 straight, Parallel key 5x5x16 DIN 6885
SH - ø16,5 splined, B17x14 DIN 5482

Pos. 6 - Ports

omit - BSPP (ISO 228)
M - Metric (ISO 262)

Pos. 7 - Line to controled ** (see page 4)

/L - B→A (left running)
/R - A→B (right running)

Pos. 8 - Valve Rated Pressure ***

/50 - Δp=50 bar
/100 - Δp=100 bar

Pos. 9 - Special Features (see page 46)

Pos.10 - Design Series

omit - Factory specified

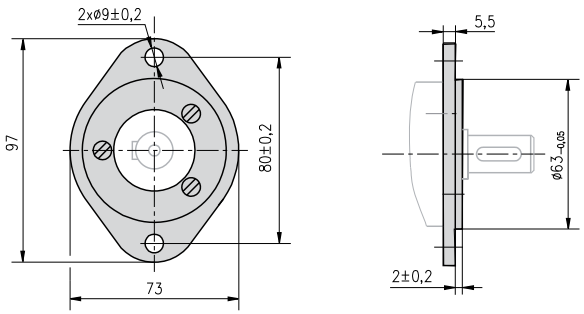
NOTES:

* The permissible output torque for shafts must not be exceeded!
** For **"P"** option useful only.
*** For **"P"** and **"D"** option useful only.

The hydraulic motors are mangano-phosphatized as standard.

F - FLANGE KIT (2 Holes)

Order No:48443 014 00



Flange Kit includes 3 screws - M6x14 for attaching flange to the motor.

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Planetenmotor Serie MP

Bestellnr.	Typ	Code
080-020-01000	Planetenmotor 25ccm-W:Ø25-HD	MP25CD
080-020-01050	Planetenmotor 32ccm-W:Ø25-HD	MP32CD
080-020-01100	Planetenmotor 39,7ccm-W:Ø25-HD	MP40CD
080-020-01150	Planetenmotor 49,5ccm-W:Ø25-HD	MP50CD
080-020-01200	Planetenmotor 79,2ccm-W:Ø25-HD	MP80CD
080-020-01250	Planetenmotor 99ccm-W:Ø25-HD	MP100CD
080-020-01300	Planetenmotor 123,8ccm-W:Ø25-HD	MP125CD
080-020-01350	Planetenmotor 158,4ccm-W:Ø25-HD	MP160CD
080-020-01400	Planetenmotor 198ccm-W:Ø25-HD	MP200CD
080-020-01450	Planetenmotor 247,5ccm-W:Ø25-HD	MP250CD
080-020-01500	Planetenmotor 316,8ccm-W:Ø25-HD	MP315CD
080-020-01550	Planetenmotor 396ccm-W:Ø25-HD	MP400CD
080-020-01600	Planetenmotor 495ccm-W:Ø25-HD	MP500CD
080-020-01650	Planetenmotor 623ccm-W:Ø25-HD	MP630CD

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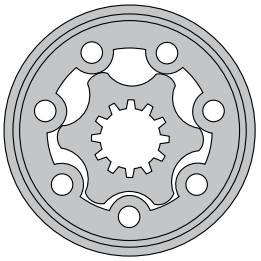
HYDRAULIC MOTORS MP

APPLICATION

- » Conveyors
- » Feeding mechanism of robots and manipulators
- » Metal working machines
- » Textile machines
- » Machines for agriculture
- » Food industries
- » Grass cutting machinery etc.



CONTENTS

OPTIONS

- » Model- Spool valve, gerotor
- » Flange and wheel mount
- » Motor with needle bearing
- » Side and rear ports
- » Shafts- straight, splined and tapered
- » Shaft seal for high and low pressure
- » Metric and BSPP ports
- » Speed sensoring
- » Other special features

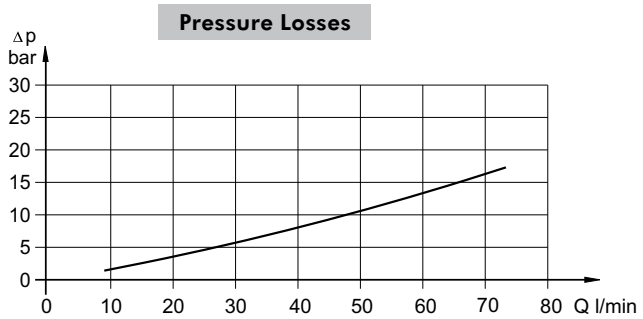
GENERAL

Displacement, [cm^3/rev.]	25÷623,6
Max. Speed, [RPM]	95÷1600
Max. Torque, [daNm]	3,3÷50
Max. Output, [kW]	3,3÷10,5
Max. Pressure Drop, [bar]	55÷140
Max. Oil Flow, [l/min]	40÷60
Min. Speed, [RPM]	10
Pressure fluid	Mineral based- HLP(DIN 51524) or HM(ISO 6743/4)
Temperature range, [°C]	-30÷90
Optimal Viscosity range, [mm^2/s]	20÷75
Filtration	ISO code 20/16 (Min. recommended fluid filtration of 25 micron)

Oil flow in drain line

Pressure drop (bar)	Viscosity (mm^2/s)	Oil flow in drain line (l/min)
100	20	2,5
	35	1,8
140	20	3,5
	35	2,8

Pressure Losses



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HYDRAULIK MASCHINEN TECHNIK

SPECIFICATION DATA

Specification Data for MP... motors with C, CO, SH, K and SA shafts.
(ø28,56 sealing diameter)

Type		MP													
		25	**32**	**40**	**50**	**80**	**100**	**125**	**160**	**200**	**250**	**315**	**400**	**500**	**630**
Displacement, [cm^3/rev.]		25	32	40	49,5	79,2	99	123,8	158,4	198	247,5	316,8	396	495	623,6
Max. Speed,	cont.	1600	1560	1500	1210	755	605	486	378	303	242	190	150	120	95
[RPM]	int.*	1800	1720	1750	1515	945	755	605	472	378	303	236	189	150	120
Max.	cont.	3,3	4,3	6,2	9,4	15,1	19,3	23,7	31,3	36,6	38	38	36	39	44
Torque	int.*	4,7	6,1	8,2	11,9	19,5	23,7	29,8	37,8	45,6	58,3	56	59	57	64
[daNm]	peak**	6,7	8,6	10,7	14,3	22,4	27,5	36,5	43,8	55	68,5	85	85,4	78	82
Max. Output,	cont.	4,5	5,8	8,4	10,1	10,2	10,5	10	10,1	10	7,5	5,7	4,6	3,5	3,3
[kW]	int.*	6,1	7,8	11,6	12,2	12,5	12,8	12	12,1	12	12	9	7,8	7,2	5,6
Max. Pressure	cont.	100	100	120	140	140	140	140	140	140	110	90	70	60	55
Drop	int.*	140	140	155	175	175	175	175	175	175	175	140	115	90	80
[bar]	peak**	225	225	225	225	225	225	225	225	225	225	225	180	130	110
Max. Oil Flow	cont.	40	50	60	60	60	60	60	60	60	60	60	60	60	60
[l/min]	int.*	45	55	70	70	70	70	70	70	70	70	70	70	70	70
Max. Inlet	cont.	175	175	175	175	175	175	175	175	175	175	175	175	140	140
Pressure	int.*	200	200	200	200	200	200	200	200	200	200	200	200	175	175
[bar]	peak**	225	225	225	225	225	225	225	225	225	225	225	225	225	225
Max. Return Pressure	cont.	175	175	175	175	175	175	175	175	175	175	175	175	140	140
with Drain Line	int.*	200	200	200	200	200	200	200	200	200	200	200	200	175	175
[bar]	peak**	225	225	225	225	225	225	225	225	225	225	225	225	225	225
Max. Starting Pressure with Unloaded Shaft, [bar]		10	10	10	10	10	10	9	8	7	6	5	5	5	5
Min. Starting Torque	at max. press. drop cont.	3	4	5,4	7,8	13,2	16,6	20,7	28,2	33,5	33,6	34,4	34,5	36	41,5
[daNm]	at max. press. drop int.*	4,2	5,6	6,9	10	16,8	21	26,6	35,5	42,6	54,2	61,9	60,8	54	62
Min. Speed***, [RPM]		20	15	10	10	10	10	10	10	10	10	10	10	10	10
Weight, avg. [kg]	MP(F)	5,6	5,6	5,7	5,8	5,9	6,1	6,2	6,4	6,6	6,8	7,1	7,6	8,9	9,5
	MPQ(N)	5,0	5,0	5,1	5,2	5,3	5,5	5,6	5,8	6,0	6,2	6,5	6,8	8,3	9,0
	MP(F)(N)E	6,1	6,1	6,2	6,3	6,4	6,6	6,7	6,9	7,1	7,3	7,6	8,1	9,3	10
	MPW(N)	5,3	5,3	5,4	5,5	5,6	5,8	5,9	6,1	6,3	6,5	6,8	7,2	8,6	9,2
	MPQ(N)E	5,5	5,5	5,6	5,7	5,8	6,0	6,1	6,3	6,5	6,7	7,0	7,3	8,8	8,5

* Intermittent operation: the permissible values may occur for max. 10% of every minute.
** Peak load: the permissible values may occur for max. 1% of every minute.
*** For speeds of 10 RPM or lower, consult factory or your regional manager.
1. Intermittent speed and intermittent pressure drop must not occur simultaneously.
2. Recommended filtration is per ISO cleanliness code 20/16. A nominal filtration of 25 micron or better.
3. Recommended using a premium quality, anti-wear type mineral based hydraulic oil HLP(DIN51524) or HM (ISO 6743/4). If using synthetic fluids consult the factory for alternative seal materials.
4. Recommended minimum oil viscosity 13 mm^2/s at operating temperatures.
5. Recommended maximum system operating temperature is 82^0C.
6. To assure optimum motor life fill with fluid prior to loading and run at moderate load and speed for 10-15 minutes.

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SPECIFICATION DATA (continued)

Specification Data for MP... motors with CB, KB, OB and HB shafts.
(ø35 sealing diameter)

Type		MP													
		25	**32**	**40**	**50**	**80**	**100**	**125**	**160**	**200**	**250**	**315**	**400**	**500**	**630**
Displacement, [cm^3/rev.]		25	32	40	49,5	79,2	99	123,8	158,4	198	247,5	316,8	396	495	623,6
Max. Speed,	cont.	1600	1560	1500	1210	755	605	486	378	303	242	190	150	120	95
[RPM]	int.*	1800	1720	1750	1515	945	755	605	472	378	303	236	189	150	120
Max.	cont.	3,3	4,3	6,2	9,4	15,1	19,3	23,7	31,3	36,6	47	48,6	50	39	44
Torque	int.*	4,7	6,1	8,2	11,9	19,5	23,7	29,8	37,8	45,6	58,3	56	59	57	64
[daNm]	peak**	6,7	8,6	10,7	14,3	22,4	27,5	36,5	43,8	55	68,5	85	85,4	78	82
Max. Output,	cont.	4,5	5,8	8,4	10,1	10,2	10,5	10	10,1	9,5	9,5	7,6	6,2	3,5	3,3
[kW]	int.*	6,1	7,8	11,6	12,2	12,5	12,8	12	12,1	12,5	12	9	7,8	7,2	5,6
Max. Pressure	cont.	100	100	120	140	140	140	140	140	140	140	120	95	60	55
Drop	int.*	140	140	155	175	175	175	175	175	175	175	140	115	90	80
[bar]	peak**	225	225	225	225	225	225	225	225	225	225	225	180	130	110
Max. Oil Flow	cont.	40	50	60	60	60	60	60	60	60	60	60	60	60	60
[l/min]	int.*	45	55	70	70	70	70	70	70	70	70	70	70	70	70
Max. Inlet	cont.	175	175	175	175	175	175	175	175	175	175	175	175	140	140
Pressure	int.*	200	200	200	200	200	200	200	200	200	200	200	200	175	175
[bar]	peak**	225	225	225	225	225	225	225	225	225	225	225	225	225	225
Max. Return Pressure	cont.	175	175	175	175	175	175	175	175	175	175	175	175	140	140
with Drain Line	int.*	200	200	200	200	200	200	200	200	200	200	200	200	175	175
[bar]	peak**	225	225	225	225	225	225	225	225	225	225	225	225	225	225
Max. Starting Pressure with Unloaded Shaft, [bar]		10	10	10	10	10	10	9	8	7	6	5	5	5	5
Min. Starting Torque	at max. press. drop cont.	3	4	5,4	7,8	13,2	16,6	20,7	28,2	33,5	42,8	45,8	46,8	36	41,5
[daNm]	at max. press. drop int.*	4,2	5,6	6,9	10	16,8	21	26,6	35,5	42,6	54,2	61,9	60,8	54	62
Min. Speed***, [RPM]		20	15	10	10	10	10	10	10	10	10	10	10	10	10
Weight, avg. [kg]	MP(F)...B	5,6	5,6	5,7	5,9	6	6,2	6,3	6,5	6,7	6,9	7,2	7,7	9	9,6
	MP(F)E...B	6,1	6,1	6,2	6,4	6,5	6,7	6,8	6,9	7,2	7,4	7,7	8,2	9,4	10,1

* Intermittent operation: the permissible values may occur for max. 10% of every minute.
** Peak load: the permissible values may occur for max. 1% of every minute.
*** For speeds of 10 RPM or lower, consult factory or your regional manager.
1. Intermittent speed and intermittent pressure drop must not occur simultaneously.
2. Recommended filtration is per ISO cleanliness code 20/16. A nominal filtration of 25 micron or better.
3. Recommended using a premium quality, anti-wear type mineral based hydraulic oil HLP(DIN51524) or HM (ISO 6743/4). If using synthetic fluids consult the factory for alternative seal materials.
4. Recommended minimum oil viscosity 13 mm^2/s at operating temperatures.
5. Recommended maximum system operating temperature is 82^0C.
6. To assure optimum motor life fill with fluid prior to loading and run at moderate load and speed for 10-15 minutes.

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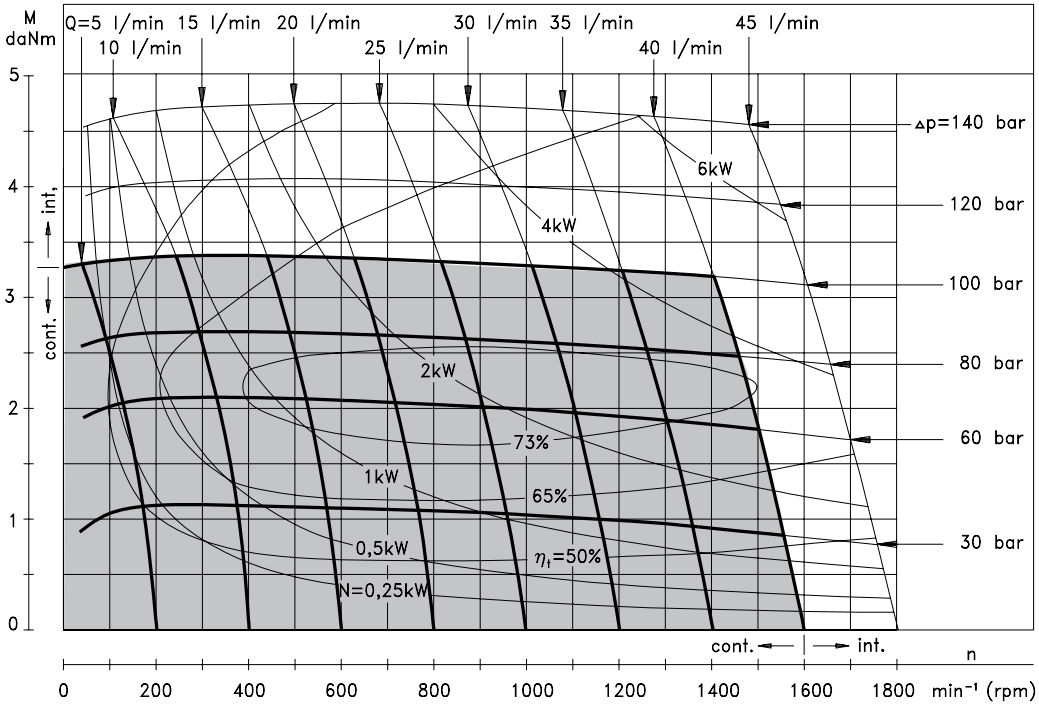
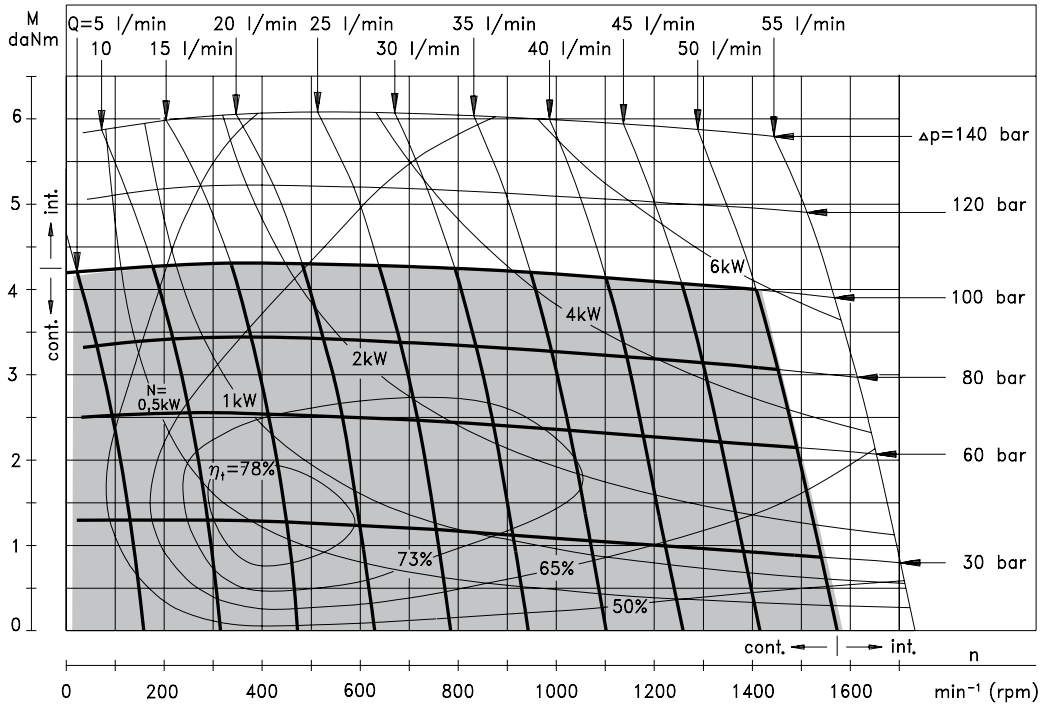
HYDRAULIK MASCHINEN TECHNIK

FUNCTION DIAGRAMS

MP 25



MP 32



The function diagrams data was collected at back pressure 5÷10 bar
and oil with viscosity of 32 mm²/s at 50° C.

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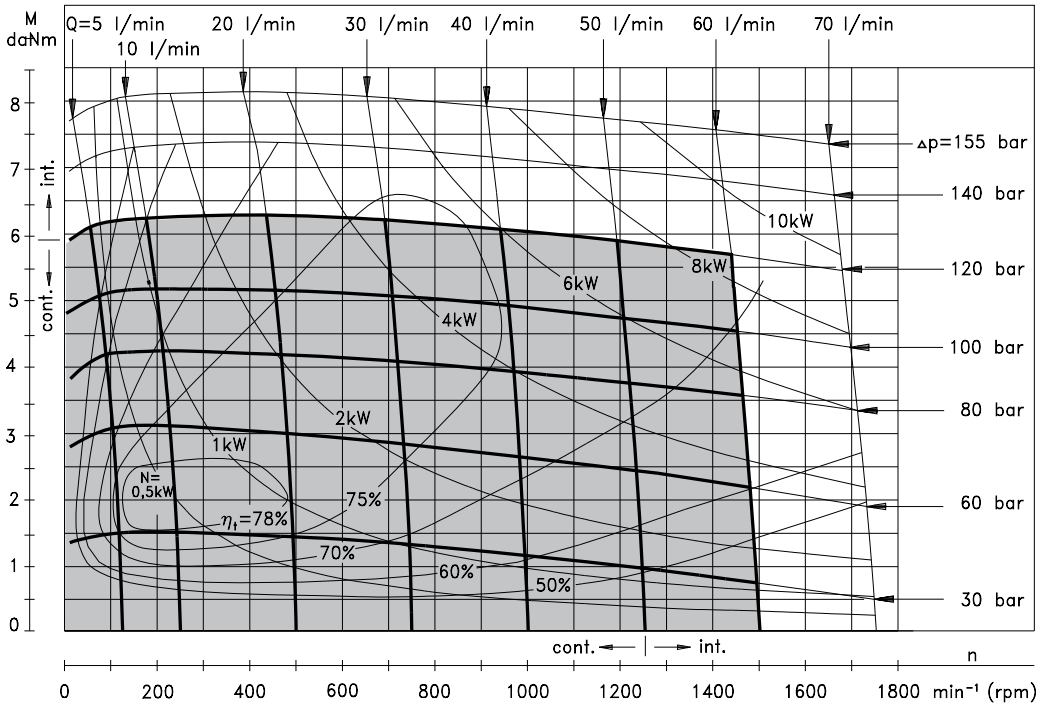
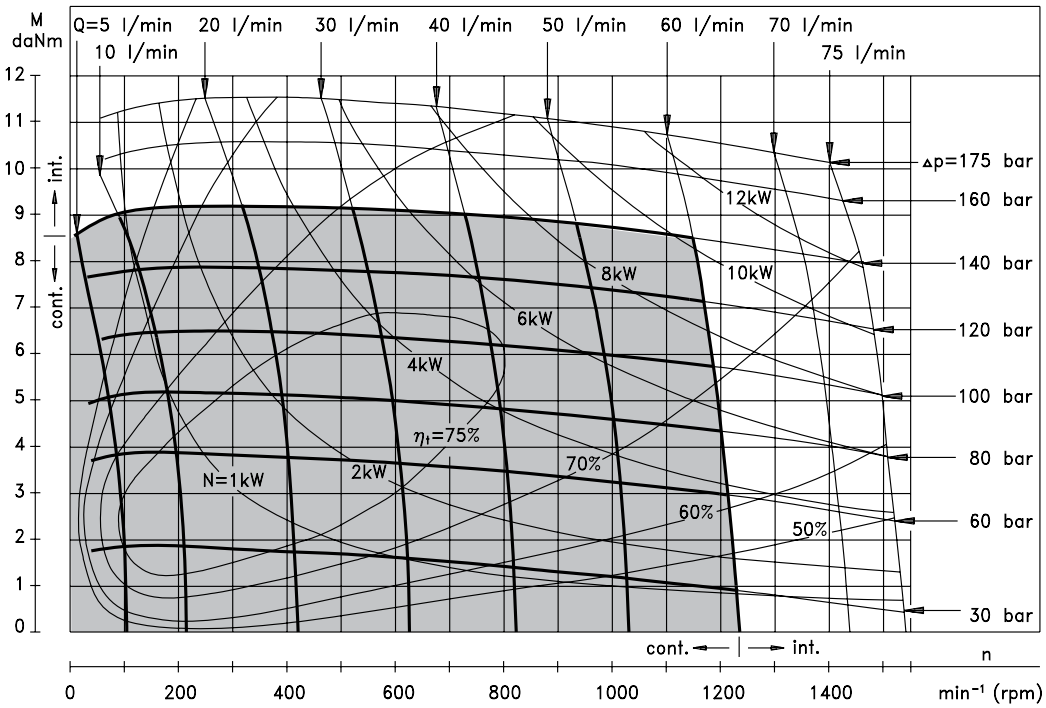
FUNCTION DIAGRAMS

MP 40



MP 50



The function diagrams data was collected at back pressure 5÷10 bar and oil with viscosity of 32 mm²/s at 50° C.

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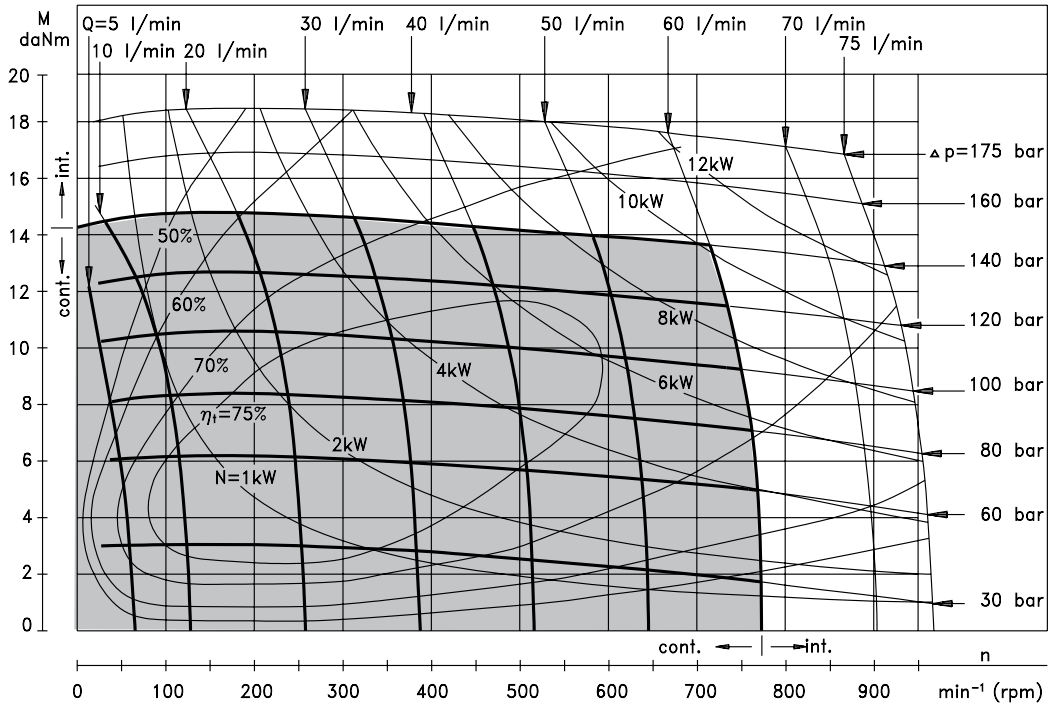
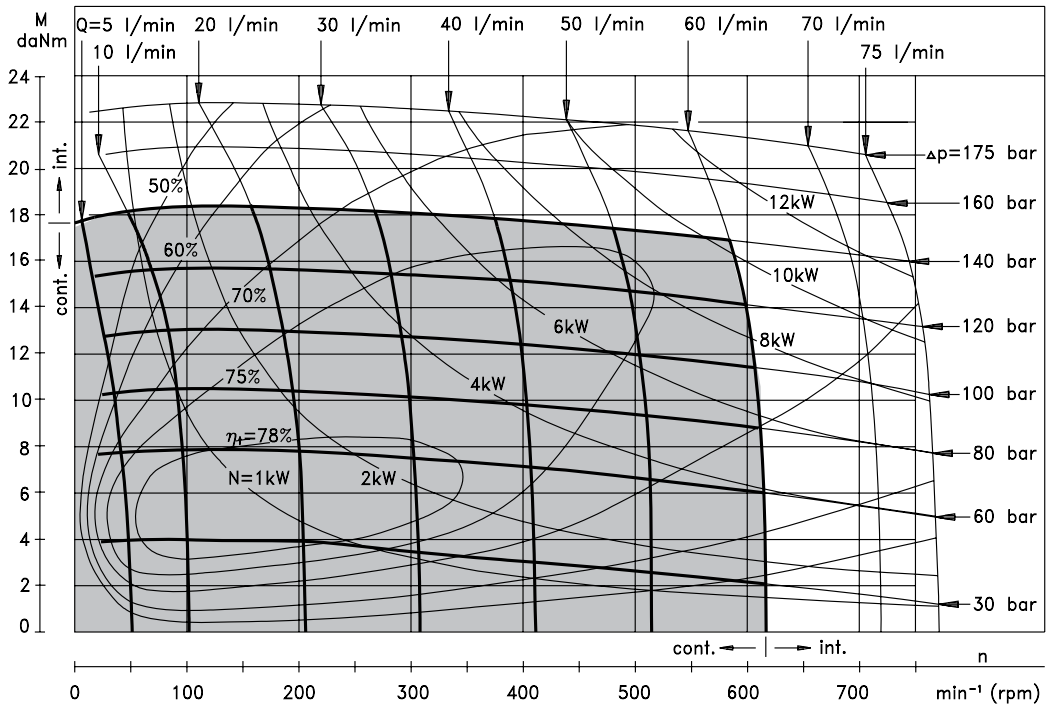
FUNCTION DIAGRAMS

MP 80



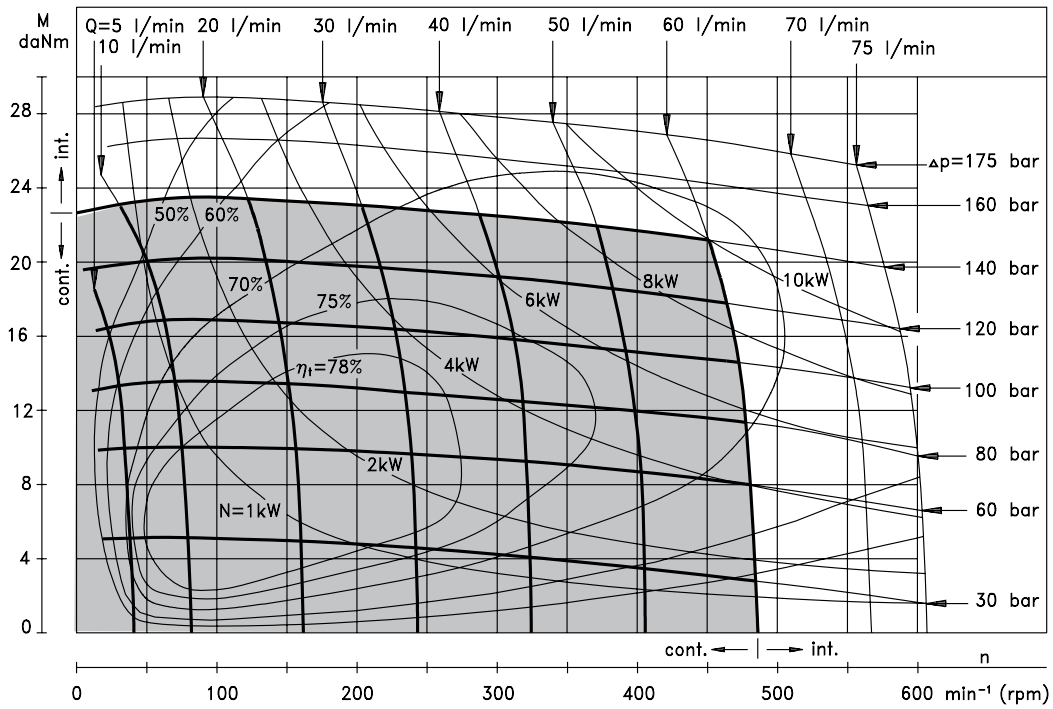
MP 100



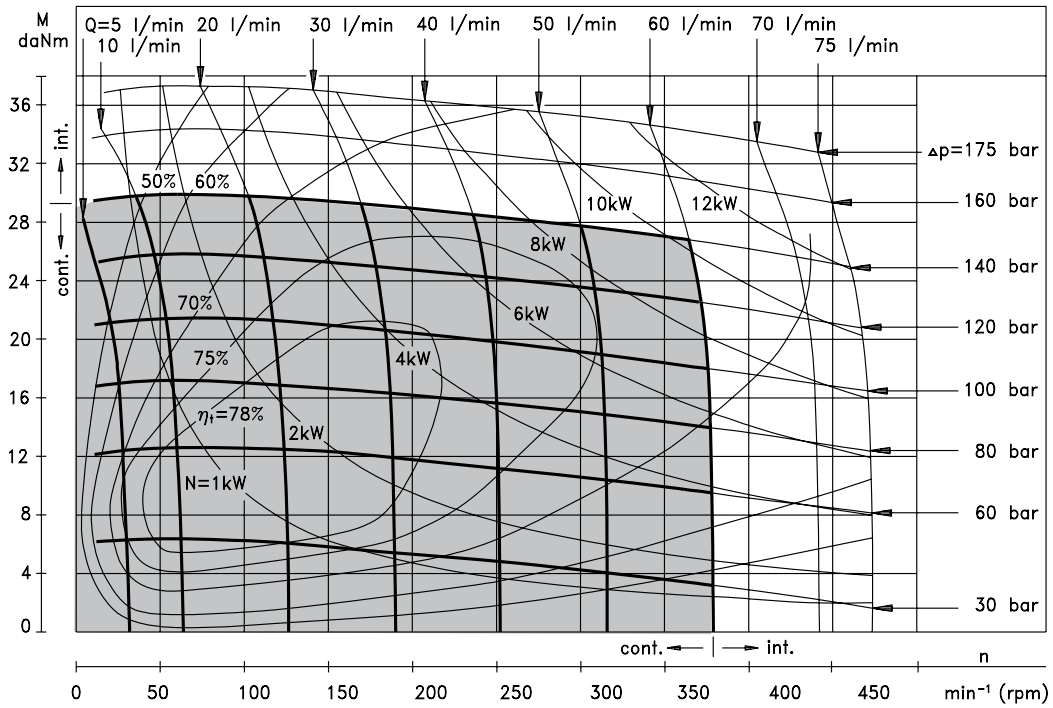
The function diagrams data was collected at back pressure 5÷10 bar and oil with viscosity of 32 mm²/s at 50° C.

FUNCTION DIAGRAMS

MP 125



MP 160



The function diagrams data was collected at back pressure 5÷10 bar and oil with viscosity of 32 mm²/s at 50° C.

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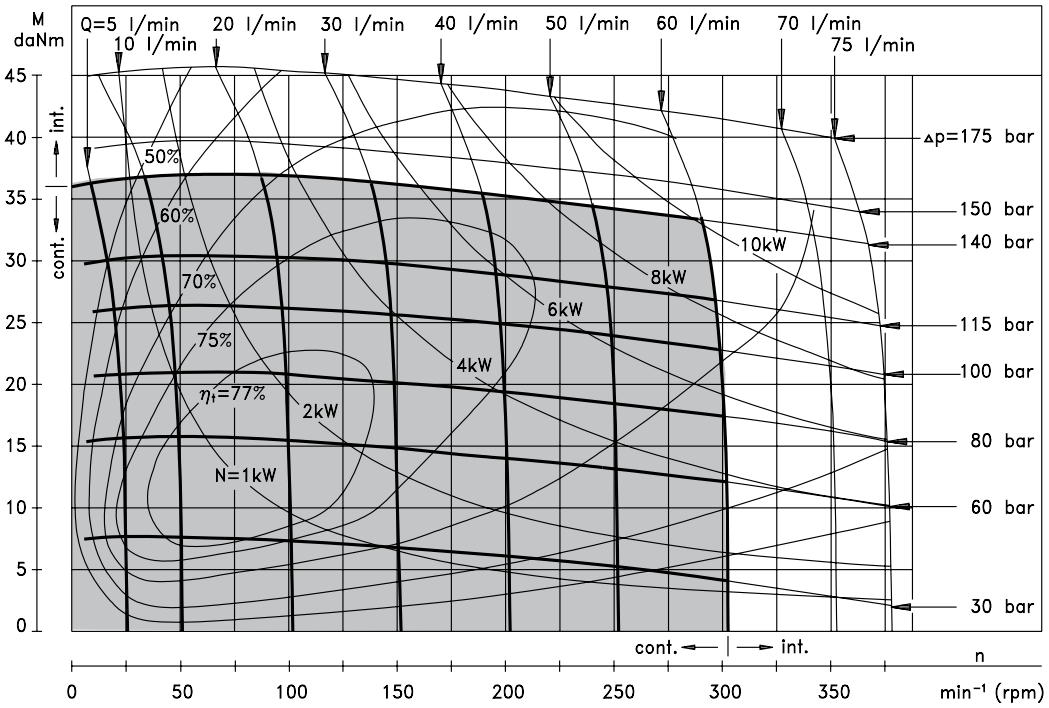
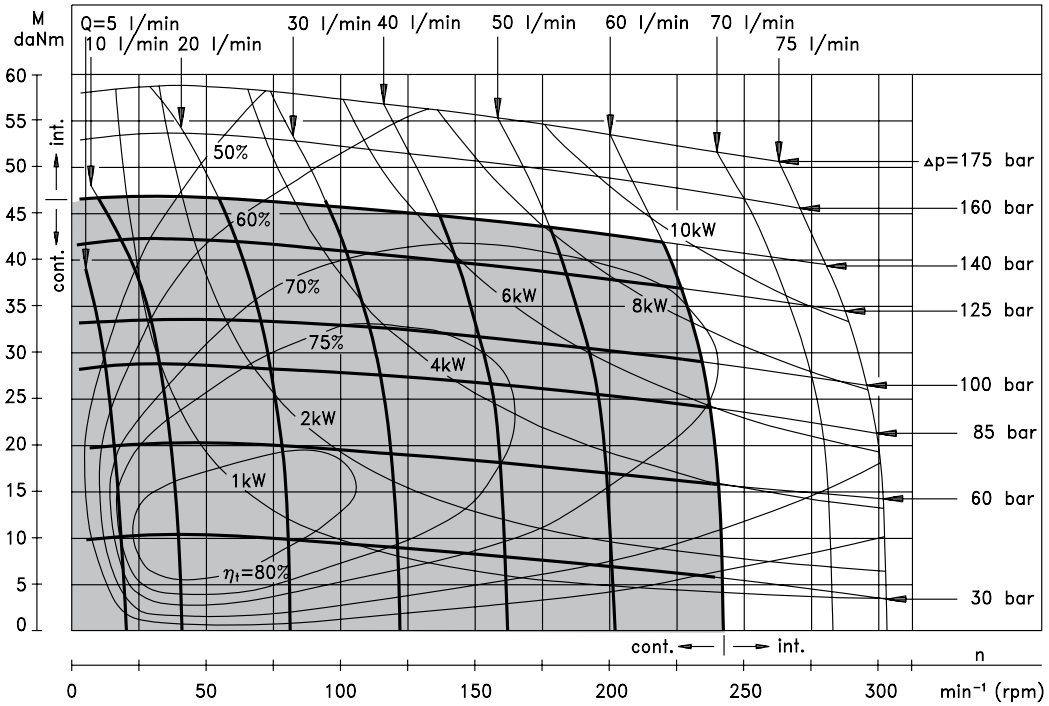
FUNCTION DIAGRAMS

MP 200



MP 250



The function diagrams data was collected at back pressure 5÷10 bar and oil with viscosity of 32 mm²/s at 50° C.

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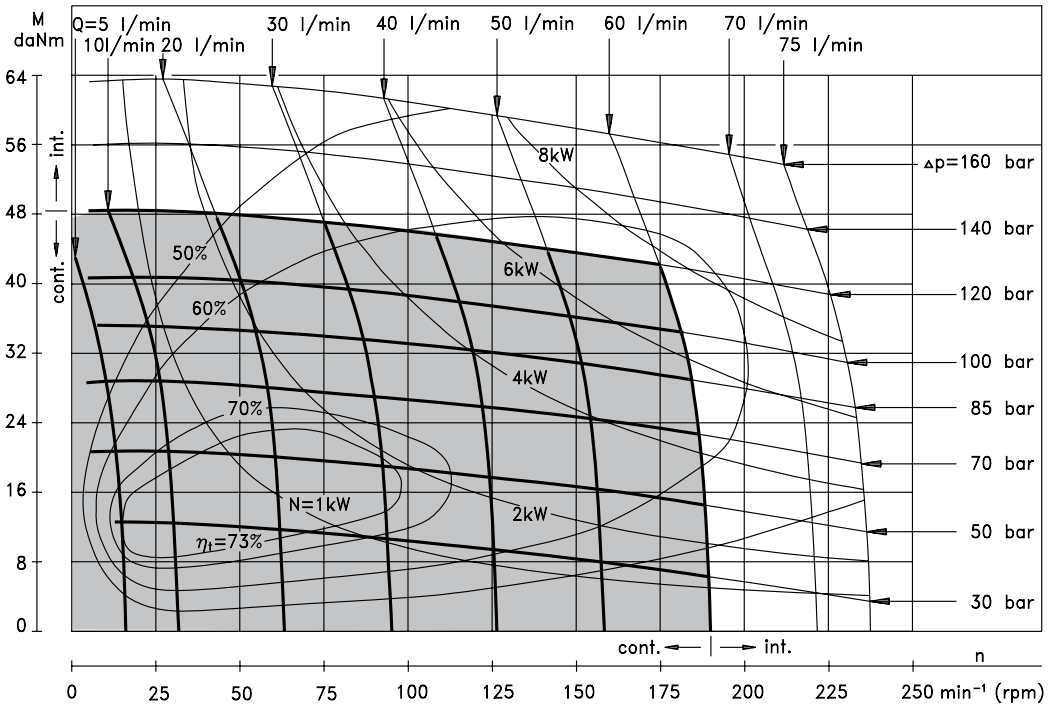
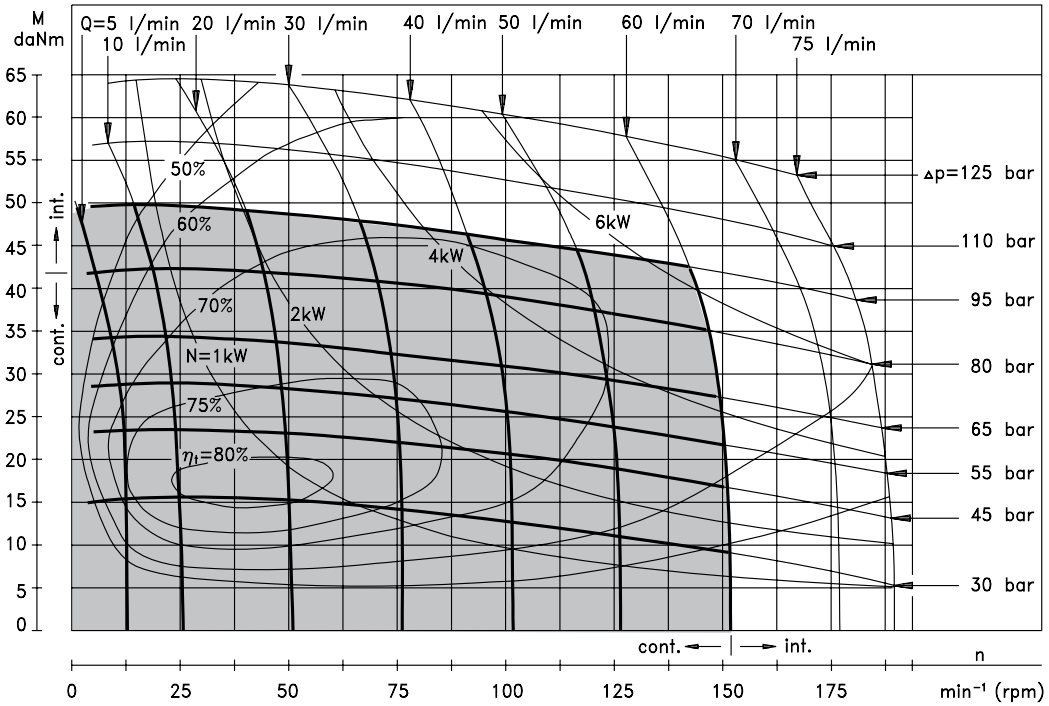
FUNCTION DIAGRAM

MP 315



MP 400



The function diagram data was collected at back pressure 5÷10 bar
and oil with viscosity of 32 mm²/s at 50° C.

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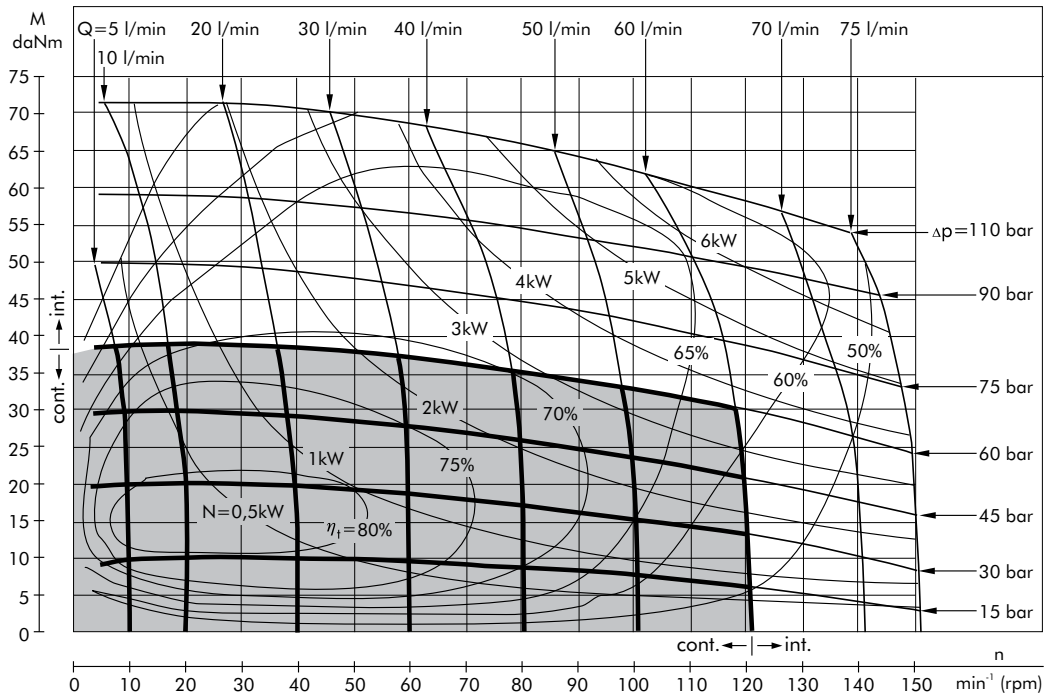
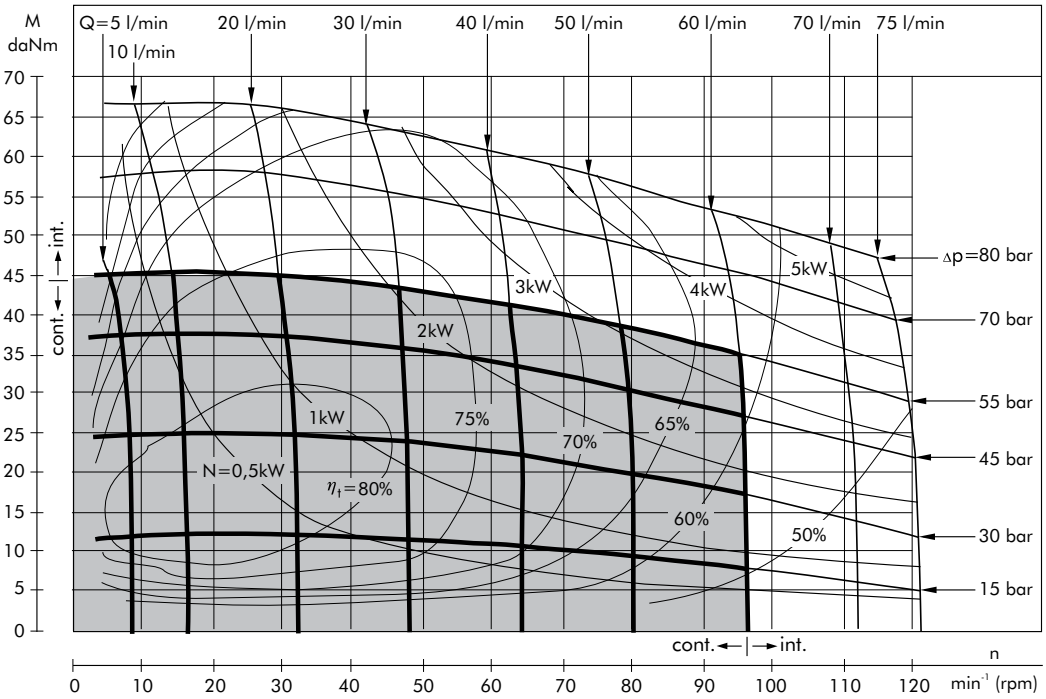
FUNCTION DIAGRAM

MP 500



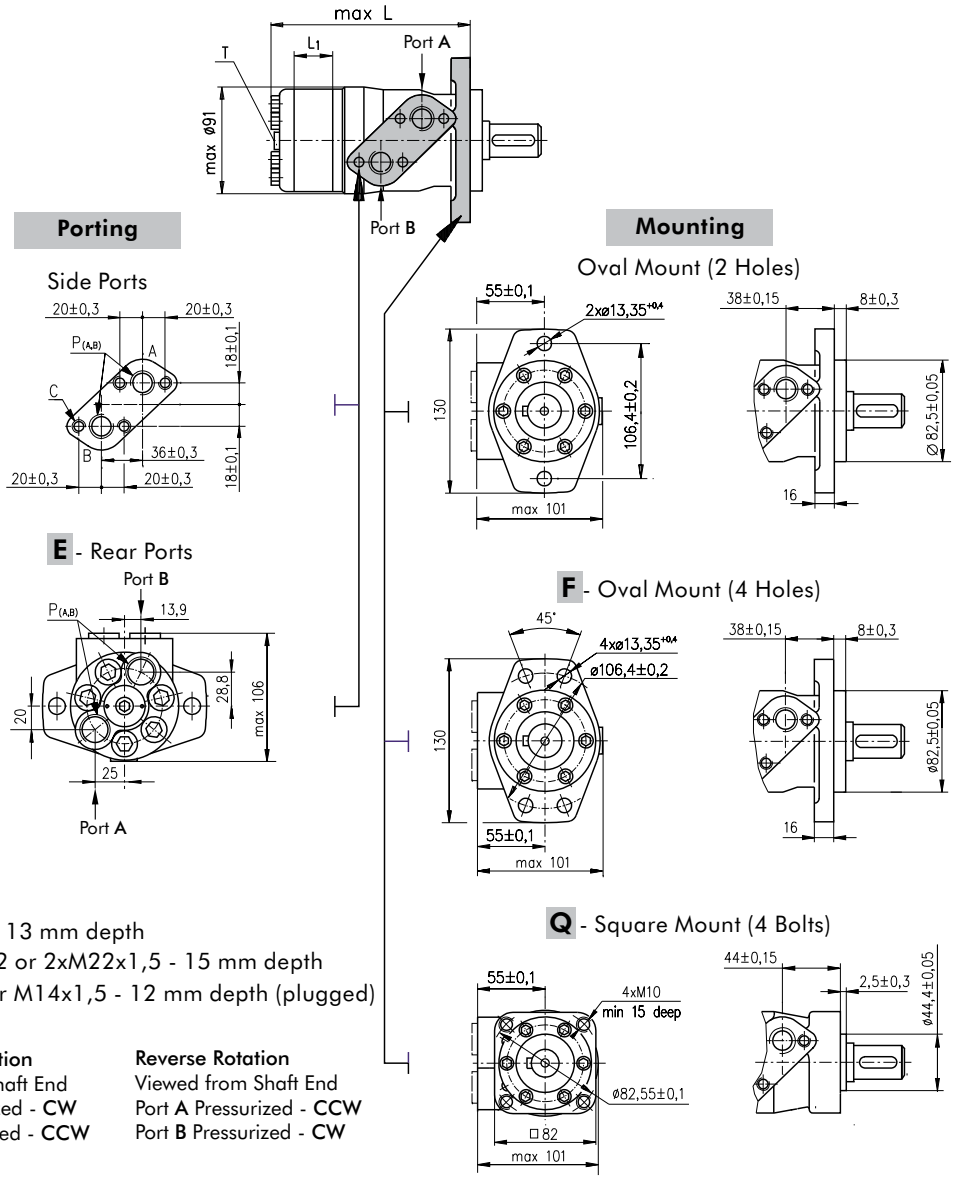
MP 630



The function diagram data was collected at back pressure 5÷10 bar
and oil with viscosity of 32 mm²/s at 50° C.

HYMATEC GMBH
HYDRAULIK MASCHINEN TECHNIK

DIMENSIONS AND MOUNTING DATA



C : 4xM8 - 13 mm depth
P$_{(A, B)}$: 2xG1/2 or 2xM22x1,5 - 15 mm depth
T : G1/4 or M14x1,5 - 12 mm depth (plugged)

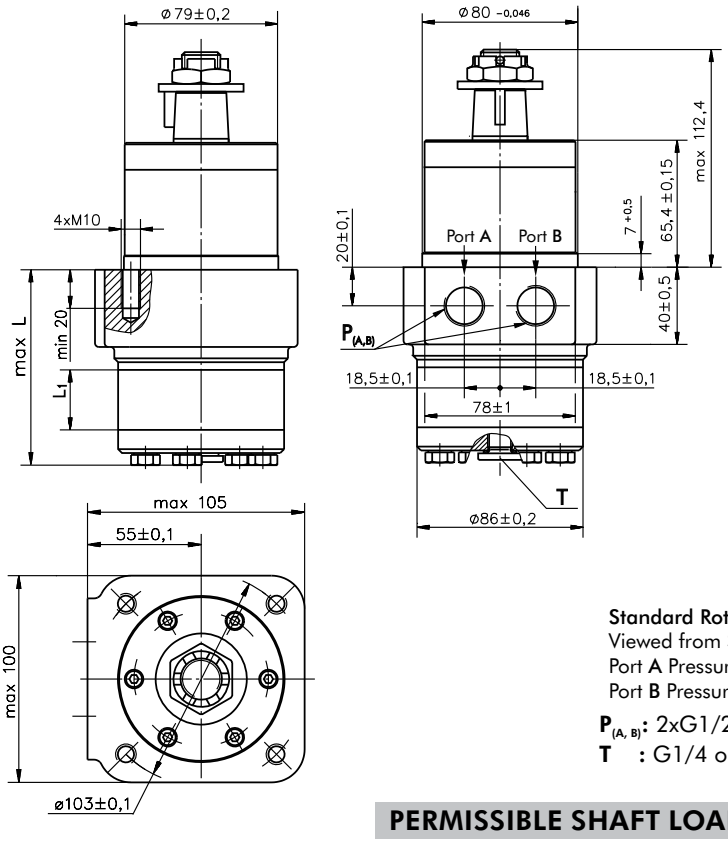
Standard Rotation
Viewed from Shaft End
Port **A** Pressurized - **CW**
Port **B** Pressurized - **CCW**

Reverse Rotation
Viewed from Shaft End
Port **A** Pressurized - **CCW**
Port **B** Pressurized - **CW**

Type	L, mm	Type	L, mm	Type	L, mm	Type	L, mm	L_1, mm
MP(F) 25	134,0	MPQ 25	140,5	MP(F)E 25	151,5	MPQE 25	158,0	5,20
MP(F) 32	135,0	MPQ 32	141,5	MP(F)E 32	152,5	MPQE 32	159,0	6,30
MP(F) 40	136,5	MPQ 40	142,5	MP(F)E 40	154,0	MPQE 40	160,0	7,40
MP(F) 50	135,5	MPQ 50	142,0	MP(F)E 50	153,0	MPQE 50	159,5	6,67
MP(F) 80	139,5	MPQ 80	146,0	MP(F)E 80	157,0	MPQE 80	163,0	10,67
MP(F) 100	142,0	MPQ 100	148,5	MP(F)E 100	160,0	MPQE 100	166,0	13,33
MP(F) 125	145,5	MPQ 125	152,0	MP(F)E 125	163,0	MPQE 125	169,5	16,67
MP(F) 160	150,0	MPQ 160	156,5	MP(F)E 160	168,0	MPQE 160	174,0	21,33
MP(F) 200	155,5	MPQ 200	162,0	MP(F)E 200	173,0	MPQE 200	179,5	26,67
MP(F) 250	162,0	MPQ 250	168,5	MP(F)E 250	180,0	MPQE 250	186,0	33,33
MP(F) 315	171,5	MPQ 315	178,0	MP(F)E 315	189,0	MPQE 315	195,5	42,67
MP(F) 400	182,0	MPQ 400	188,5	MP(F)E 400	200,0	MPQE 400	206,0	53,33
MP(F) 500	195,5	MPQ 500	202,0	MP(F)E 500	213,0	MPQE 500	219,5	66,63
MP(F) 630	213,0	MPQ 630	219,0	MP(F)E 630	230,5	MPQE 630	236,5	84,00

DIMENSIONS AND MOUNTING DATA - MPW

W - Wheel Mount



Type	L, mm	L_1, mm
MPW(N) 25	77,0	5,2
MPW(N) 32	78,0	6,3
MPW(N) 40	79,5	7,4
MPW(N) 50	78,5	6,67
MPW(N) 80	82,5	10,67
MPW(N) 100	85,0	13,33
MPW(N) 125	88,5	16,67
MPW(N) 160	93,0	21,33
MPW(N) 200	98,5	26,67
MPW(N) 250	105,0	33,33
MPW(N) 315	114,5	42,67
MPW(N) 400	125,0	53,33
MPW(N) 500	138,5	66,63
MPW(N) 630	156,0	84,0

Standard Rotation
Viewed from Shaft End
Port **A** Pressurized - **CW**
Port **B** Pressurized - **CCW**

Reverse Rotation
Viewed from Shaft End
Port **A** Pressurized - **CCW**
Port **B** Pressurized - **CW**

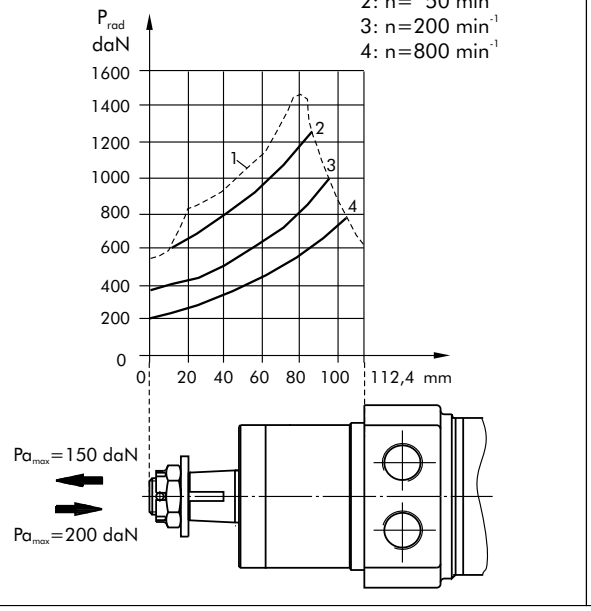
$P_{(A, B)}$: 2xG1/2 or 2xM22x1,5 - 15 mm depth
T : G1/4 or M14x1,5 - 12 mm depth (plugged)

PERMISSIBLE SHAFT LOADS

MPWN

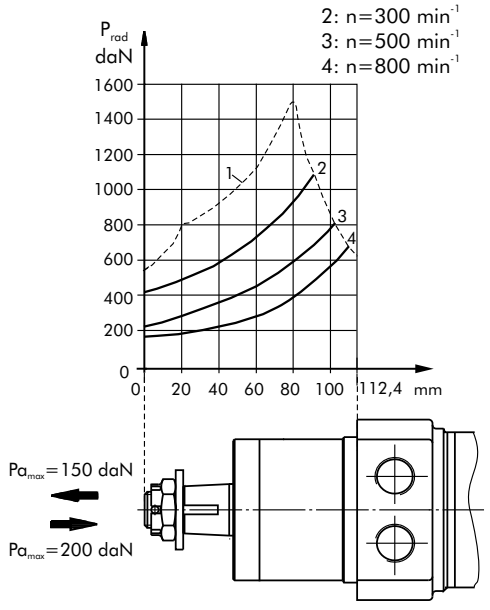
The curves apply to a B10 bearing life of 2000 hours.

1: Max. radial shaft load
2: n= 50 min^{-1}
3: n=200 min^{-1}
4: n=800 min^{-1}



MPW

1: Max. radial shaft load
2: n=300 min^{-1}
3: n=500 min^{-1}
4: n=800 min^{-1}



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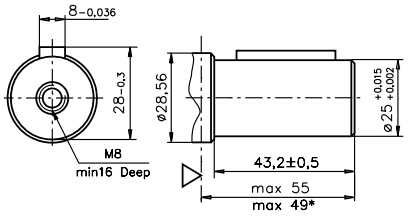
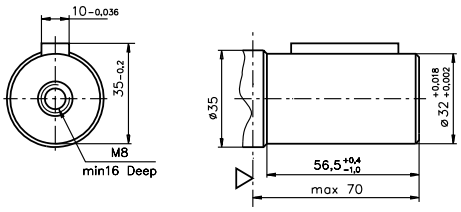
SHAFT EXTENSIONS FOR MP AND MR MOTORS

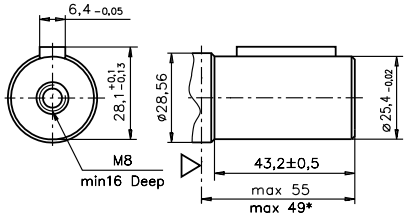
C - ø25 straight, Parallel key A8x7x32 DIN 6885
Max. Torque 34 daNm



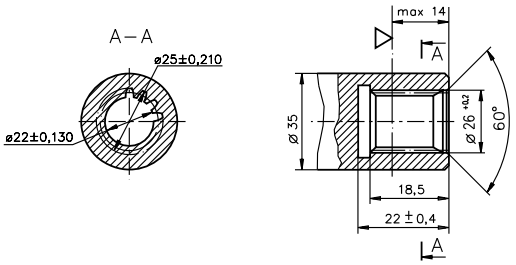
CB - ø32 straight, Parallel key A10x8x45 DIN 6885
Max. Torque 77 daNm



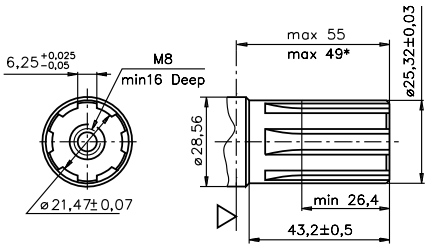
CO - ø1" straight, Parallel key ¼"x¼"x1¼" BS46
Max. Torque 34 daNm



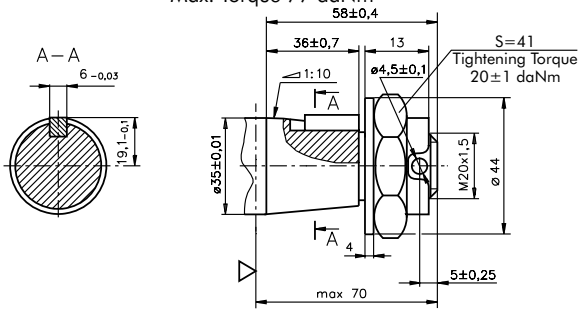
SB - splined A25x22xH10 DIN 5482
Max. Torque 34 daNm



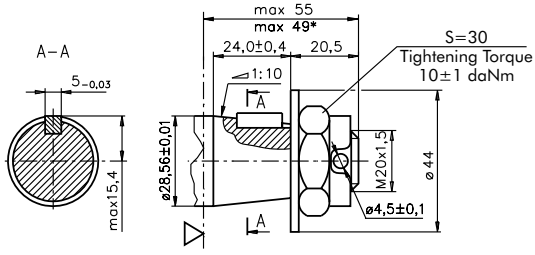
SH - splined, BS 2059 (SAE 6B)
Max. Torque 40 daNm



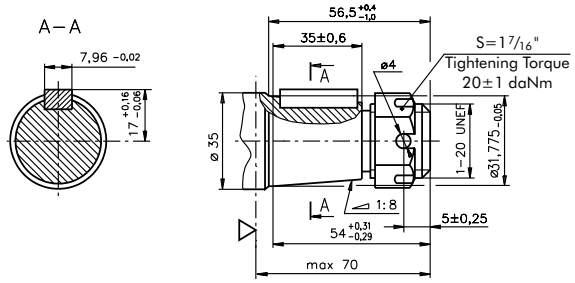
KB - tapered 1:10, Parallel key B6x6x20 DIN 6885
Max. Torque 77 daNm



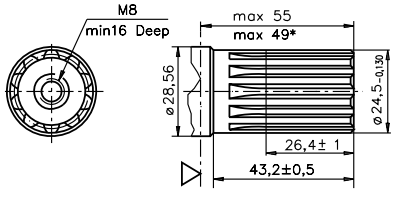
K - tapered 1:10, Parallel key B5x5x14 DIN 6885
Max. Torque 40 daNm



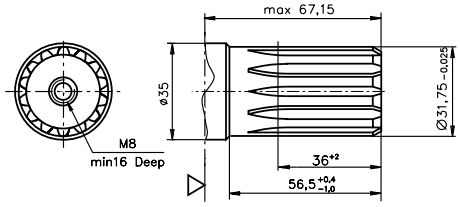
OB - tapered 1:8 SAEJ 501, Parallel key 5/16"x5/16"x1¼" BS46
Max. Torque 77 daNm



SA - splined, B25x22h9 DIN 5482
Max. Torque 40 daNm



HB - ø1¼" splined 14T, ANSI B92.1-1976 Norm
Max. Torque 77 daNm



▽ - Motor Mounting Surface

* - For Q-flange

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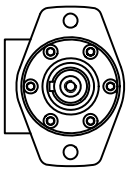
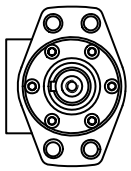
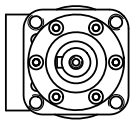
PERMISSIBLE SHAFT LOADS FOR MP AND MR MOTORS

The permissible radial shaft load P_{rad} depends on the speed (RPM) and distance (L) from the point of load to the mounting flange.

Mounting Flange			
Shaft Version	cylindrical - C, CO tapered - K, splined - SH	splined - HB cylindrical - CB	cylindrical - C, CO
Radial Shaft Load P^*_{rad}	$\frac{800}{n} \times \frac{25000}{95+L}$, daN	$\frac{800}{n} \times \frac{18750}{95+L}$, daN	$\frac{800}{n} \times \frac{25000}{101+L}$, daN

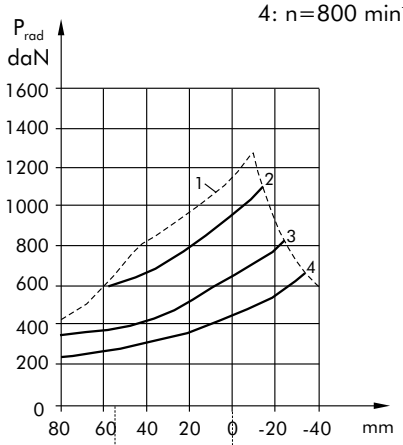
$n<200\ min^{-1}$; max $P_{rad}=800$ daN

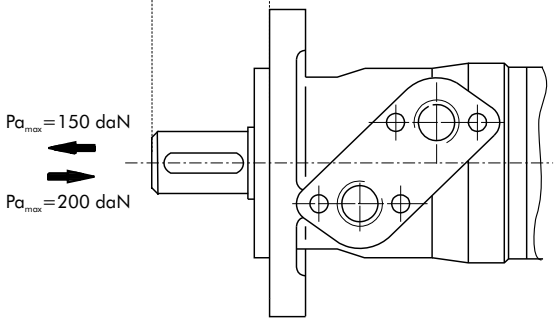
*$n\geq200\ min^{-1}$; $L<55$ mm

MPN and MRN

The curves apply to a B10 bearing life of 2000 hours.

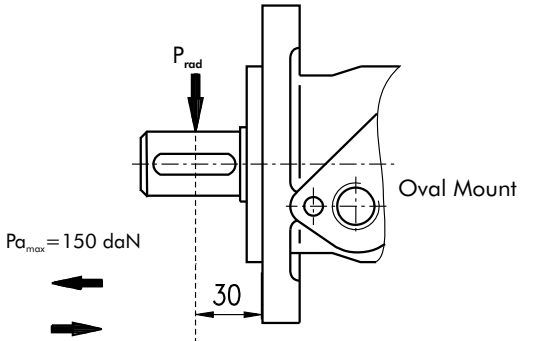
1: Max. radial shaft load
2: n= 50 min^{-1}
3: n=200 min^{-1}
4: n=800 min^{-1}

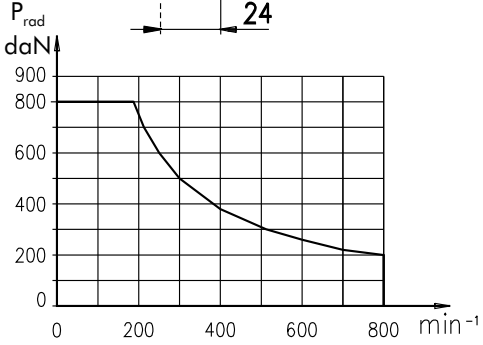




MP and MR

Radial Shaft Load P_{rad} for **C, CO** Shaft Extensions by L=30 (24) mm





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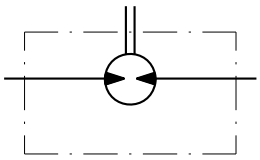
MAX. PERMISSIBLE SHAFT SEAL PRESSURE FOR MP AND MR MOTORS

MP/MR...U1 motors with high pressure seal and without drain connection:

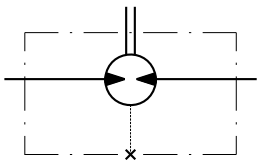
The shaft seal pressure equals the average of input pressure and return pressure.

$$P_{seal} = \frac{P_{input} + P_{return}}{2}$$



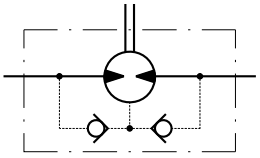
MP/MR...U motors with high pressure seal and drain connection:

The shaft seal pressure equals the pressure in the drain line.



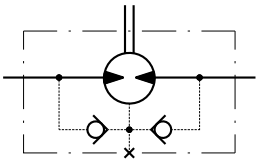
MP/MR...1 motors with low pressure seal or standard shaft seal and without drain connection:

The shaft seal pressure never exceeds the pressure in the return line.

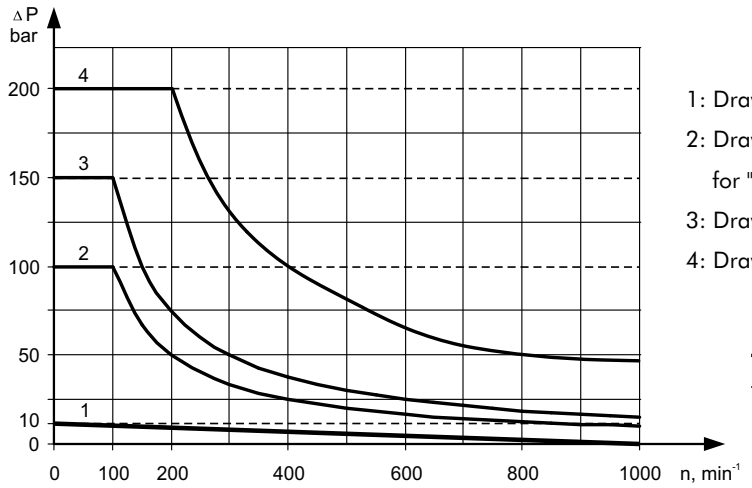


MP/MR... motors with low pressure seal or standard shaft seal and with drain connection:

The shaft seal pressure equals the pressure in the drain line.



Max. return pressure without drain line or max. pressure in the drain line



1: Drawing for Low Pressure Seal
2: Drawing for Standard Shaft Seal for "...B" shafts
3: Drawing for Standard Shaft Seal ("**D**" Seal)
4: Drawing for High Pressure Seal ("**U**" Seal)

——— - continuous operations
– – – – – - intermittent operations

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ORDER CODE

	1	2	3	4	5	6	7	8	9	10
M P										

Pos.1 - Mounting Flange

omit - Oval mount, two holes
F - Oval mount, four holes
Q - Square mount, four bolts
W - Wheel mount

Pos.2 - Option (needle bearings)

omit - none
N - with needle bearings

Pos.3 - Port type

omit - Side ports
E - Rear ports

Pos.4 - Displacement code

25*	- 25,0 [cm³/rev]
32*	- 32,0 [cm³/rev]
40*	- 40,0 [cm³/rev]
50	- 49,5 [cm³/rev]
80	- 79,2 [cm³/rev]
100	- 99,0 [cm³/rev]
125	- 123,8 [cm³/rev]
160	- 158,4 [cm³/rev]
200	- 198,0 [cm³/rev]
250	- 247,5 [cm³/rev]
315	- 316,8 [cm³/rev]
400	- 396,0 [cm³/rev]
500	- 495,0 [cm³/rev]
630	- 623,6 [cm³/rev]

Pos.5 - Shaft Extensions** (see page 24)

C	- ø25 straight, Parallel key A8x7x32 DIN6885
VC	- ø25 straight, Parallel key A8x7x32 DIN6885 with corrosion resistant bushing
CO	- ø1" straight, Parallel key ¼"x¼"x1¼" BS46
VCO	- ø1" straight, Parallel key ¼"x¼"x1¼" BS46 with corrosion resistant bushing
SH	- ø25,32 splined BS 2059 (SAE 6B)
VSH	- ø25,32 splined BS 2059 (SAE 6B) with corrosion resistant bushing
K	- ø28,56 tapered 1:10, Parallel key B5x5x14 DIN6885
SA	- ø24,5 splined B 25x22 DIN 5482
VSA	- ø24,5 splined B 25x22 DIN 5482 with corrosion resistant bushing
CB	- ø32 straight, Parallel key A10x8x45 DIN6885
KB	- ø35 tapered 1:10, Parallel key B6x6x20 DIN6885
SB	- splined A 25x22 DIN 5482
OB	- ø1¼" tapered1:8, Parallel key 5/16"x5/16"x1¼" BS46
HB	- ø1¼" splined 14T ANSI B92.1 - 1976

Pos.6 - Shaft Seal Version (see page 26)

omit - Low pressure shaft seal or Standard shaft seal for **"...B"** shaft
D - Standard shaft seal
U - High pressure shaft seal (without check valves)

Pos. 7 - Drain Port

omit - with drain port
1 - without drain port

Pos. 8 - Ports

omit - BSPP (ISO 228)
M - Metric (ISO 262)

Pos.9 - Special Features (see page 46)

Pos.10 - Design Series

omit - Factory specified

* Not with Low Pressure Seal
** The permissible output torque for shafts must not be exceeded!

NOTES: The following combinations are not allowed:
- **Q** flange with "**...B**" shafts;
- **W** flange with "**...B**" shafts, **U** option or **E** rear ports;
- **N** option with "**...B**" shafts, Low Pressure Seal or **U** option;
- "**...B**" shafts with **D** and **U** shaft seals.

The hydraulic motors are mangano-phosphatized as standard.

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Planetenrollermotor Serie MR

Bestellnr.	Typ	Code
080-030-01150	Planetenrollermotor 51,5ccm-W:Ø25-HD	MR50CD
080-030-01200	Planetenrollermotor 80,3ccm-W:Ø25-HD	MR80CD
080-030-01250	Planetenrollermotor 99,8ccm-W:Ø25-HD	MR100CD
080-030-01300	Planetenrollermotor 125,7ccm-W:Ø25-HD	MR125CD
080-030-01350	Planetenrollermotor 159,6ccm-W:Ø25-HD	MR160CD
080-030-01400	Planetenrollermotor 199,8ccm-W:Ø25-HD	MR200CD
080-030-01450	Planetenrollermotor 250,1ccm-W:Ø25-HD	MR250CD
080-030-01500	Planetenrollermotor 315,7ccm-W:Ø25-HD	MR315CD
080-030-01550	Planetenrollermotor 397ccm-W:Ø25-HD	MR400CD

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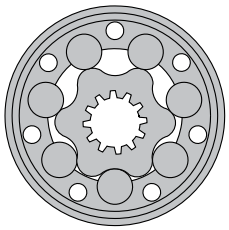
HYDRAULIC MOTORS MR

APPLICATION

- » Conveyors
- » Feeding mechanism of robots and manipulators
- » Metal working machines
- » Textile machines
- » Machines for agriculture
- » Food industries
- » Grass cutting machinery etc.



CONTENTS

OPTIONS

- » Model- Spool valve, roll-gerotor
- » Flange mount
- » Motor with needle bearing
- » Side and rear ports
- » Shafts- straight, splined and tapered
- » Shaft seal for high and low pressure
- » Metric and BSPP ports
- » Speed sensoring
- » Other special features

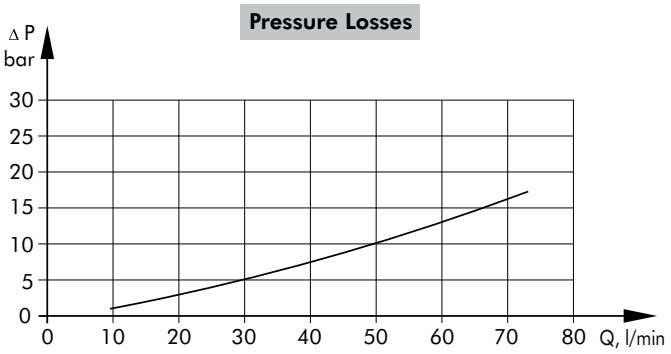
GENERAL

Displacement, [cm^3/rev.]	51,5÷397
Max. Speed, [RPM]	150÷775
Max. Torque, [daNm]	10,1÷61
Max. Output, [kW]	5÷13
Max. Pressure Drop, [bar]	70÷175
Max. Oil Flow, [l/min]	40÷60
Min. Speed, [RPM]	10
Pressure fluid	Mineral based- HLP(DIN 51524) or HM(ISO 6743/4)
Temperature range, [^oC]	-30÷90
Optimal Viscosity range, [mm^2/s]	20÷75
Filtration	ISO code 20/16 (Min. recommended fluid filtration of 25 micron)

Oil flow in drain line

Pressure drop (bar)	Viscosity (mm^2/s)	Oil flow in drain line (l/min)
100	20	2,5
	35	1,8
140	20	3,5
	35	2,8

Pressure Losses



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SPECIFICATION DATA

Specification Data for MR... motors with C, CO, SH, K and SA shafts.
(ø28,56 sealing diameter)

Type		MR								
		50	**80**	**100**	**125**	**160**	**200**	**250**	**315**	**400**
Displacement, [cm^3/rev.]		51,5	80,3	99,8	125,7	159,6	199,8	250,1	315,7	397
Max. Speed,	cont.	775	750	600	475	375	300	240	190	150
[RPM]	int.*	970	940	750	600	470	375	300	240	190
Max.	cont.	10	20	24	30	39	38,5	39	36	38
Torque	int.*	13	22	28	34	43	46	47	47	47
[daNm]	peak**	17	27	32	37	46	56	60	61	61
Max. Output,	cont.	7	12,5	13	12,5	11,5	9	8	5	4,8
[kW]	int.*	8,5	15	15	14,5	14	12	9,5	8	6,8
Max. Pressure	cont.	140	175	175	175	175	140	110	85	65
Drop	int.*	175	200	200	200	200	175	140	115	90
[bar]	peak**	225	225	225	225	225	225	200	150	115
Max. Oil Flow	cont.	40	60	60	60	60	60	60	60	60
[l/min]	int.*	50	75	75	75	75	75	75	75	75
Max. Inlet	cont.	175	175	175	175	175	175	175	175	175
Pressure	int.*	200	200	200	200	200	200	200	200	200
[bar]	peak**	225	225	225	225	225	225	225	225	225
Max. Return Pressure	cont.	175	175	175	175	175	175	175	175	175
with Drain Line	int.*	200	200	200	200	200	200	200	200	200
[bar]	peak**	225	225	225	225	225	225	225	225	225
Max. Starting Pressure with Unloaded Shaft, [bar]		10	10	10	9	7	5	4	3	3
Min. Starting Torque	at max. press. drop cont.	8	15	20	25	32	33	31	31,5	31,5
[daNm]	at max. press. drop int.*	10	17	23	28	37	40	48	50	50
Min. Speed***, [RPM]		10	10	10	10	10	10	10	10	10
Weight, avg. [kg]	MR(F)	6,8	6,9	7,2	7,3	7,5	8	8,4	9,1	9,8
For rear ports: +0,650 kg	MRQ(N)	6,2	6,3	6,6	6,8	7,0	7,2	7,8	8,6	9,3

* Intermittent operation: the permissible values may occur for max. 10% of every minute.
** Peak load: the permissible values may occur for max. 1% for every minute.
*** For speeds of 10 RPM or lower, consult factory or your regional manager.
1. Intermittent speed and intermittent pressure drop must not occur simultaneously!
2. Recommended filtration is per ISO cleanliness code 20/16. A nominal filtration of 25 micron or better.
3. Recommended using a premium quality, anti-wear type mineral based hydraulic oil HLP(DIN51524) or HM (ISO 6743/4). If using synthetic fluids consult the factory for alternative seal materials.
4. Recommended minimum oil viscosity 13 mm^2/s at operating temperatures.
5. Recommended maximum system operating temperature - 82°C.
6. To assure optimum motor life fill with fluid prior to loading and run at moderate load and speed for 10-15 min.

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SPECIFICATION DATA (continued)

Specification Data for MR... motors with CB, KB, OB and HB shafts.
(ø35 sealing diameter)

Type		MR								
		50	**80**	**100**	**125**	**160**	**200**	**250**	**315**	**400**
Displacement, [cm^3/rev.]		51,5	80,3	99,8	125,7	159,6	199,8	250,1	315,7	397
Max. Speed,	cont.	775	750	600	475	375	300	240	190	150
[RPM]	int.*	970	940	750	600	470	375	300	240	190
Max.	cont.	10	20	24	30	39	45	54	55	61
Torque	int.*	13	22	28	34	43	50	61	69	69
[daNm]	peak**	17	27	32	37	46	56	71	84	87
Max. Output,	cont.	7	12,5	13	12,5	11,5	11	10	9	7,8
[kW]	int.*	8,5	15	15	14,5	14	13	12	10	10,6
Max. Pressure	cont.	140	175	175	175	175	175	175	135	110
Drop	int.*	175	200	200	200	200	200	200	175	140
[bar]	peak**	225	225	225	225	225	225	225	210	175
Max. Oil Flow	cont.	40	60	60	60	60	60	60	60	60
[l/min]	int.*	50	75	75	75	75	75	75	75	75
Max. Inlet	cont.	175	175	175	175	175	175	175	175	175
Pressure	int.*	200	200	200	200	200	200	200	200	200
[bar]	peak**	225	225	225	225	225	225	225	225	225
Max. Return Pressure	cont.	175	175	175	175	175	175	175	175	175
with Drain Line	int.*	200	200	200	200	200	200	200	200	200
[bar]	peak**	225	225	225	225	225	225	225	225	225
Max. Starting Pressure with Unloaded Shaft, [bar]		10	10	10	9	7	5	4	3	3
Min. Starting Torque	at max. press. drop cont.	8	15	20	25	32	41	50	50	50
[daNm]	at max. press. drop int.*	10	17	23	28	37	46	55	66	61
Min. Speed***, [RPM]		10	10	10	10	10	10	10	10	10
Weight, avg. [kg] For rear ports:+0,650 kg	MR(F)	6,9	7	7,3	7,4	7,6	8,1	8,5	9,2	9,9

* Intermittent operation: the permissible values may occur for max. 10% of every minute.
** Peak load: the permissible values may occur for max. 1% for every minute.
*** For speeds of 10 RPM or lower, consult factory or your regional manager.
1. Intermittent speed and intermittent pressure drop must not occur simultaneously!
2. Recommended filtration is per ISO cleanliness code 20/16. A nominal filtration of 25 micron or better.
3. Recommended using a premium quality, anti-wear type mineral based hydraulic oil HLP(DIN51524) or HM (ISO 6743/4). If using synthetic fluids consult the factory for alternative seal materials.
4. Recommended minimum oil viscosity 13 mm^2/s at operating temperatures.
5. Recommended maximum system operating temperature - 82°C.
6. To assure optimum motor life fill with fluid prior to loading and run at moderate load and speed for 10-15 min.

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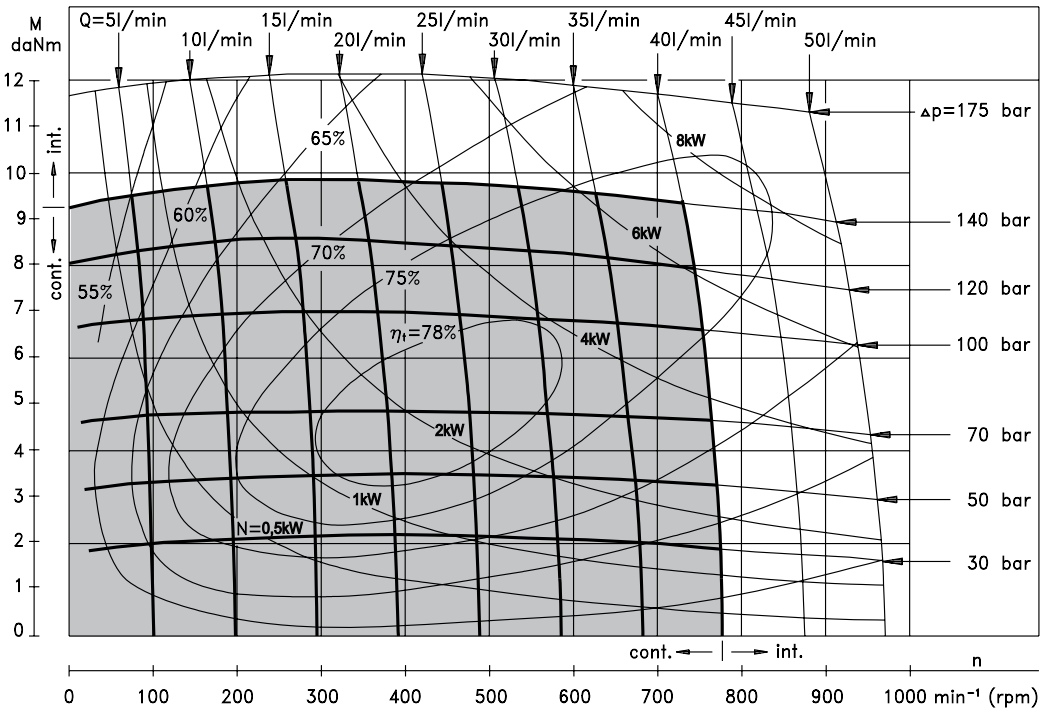
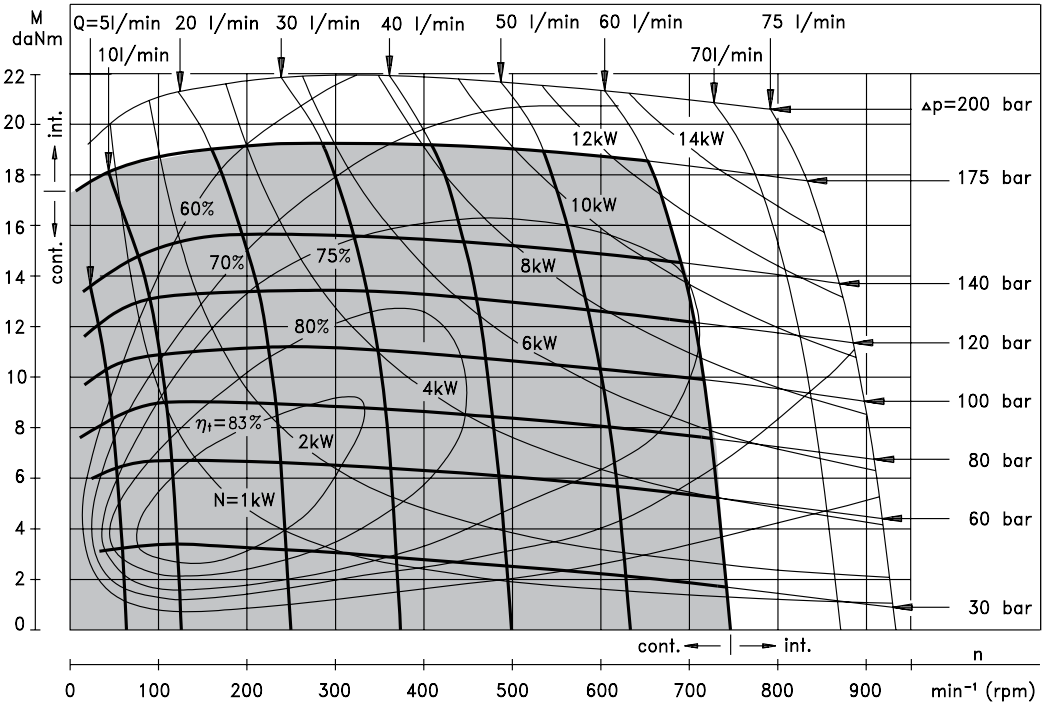
FUNCTION DIAGRAMS

MR 50



MR 80

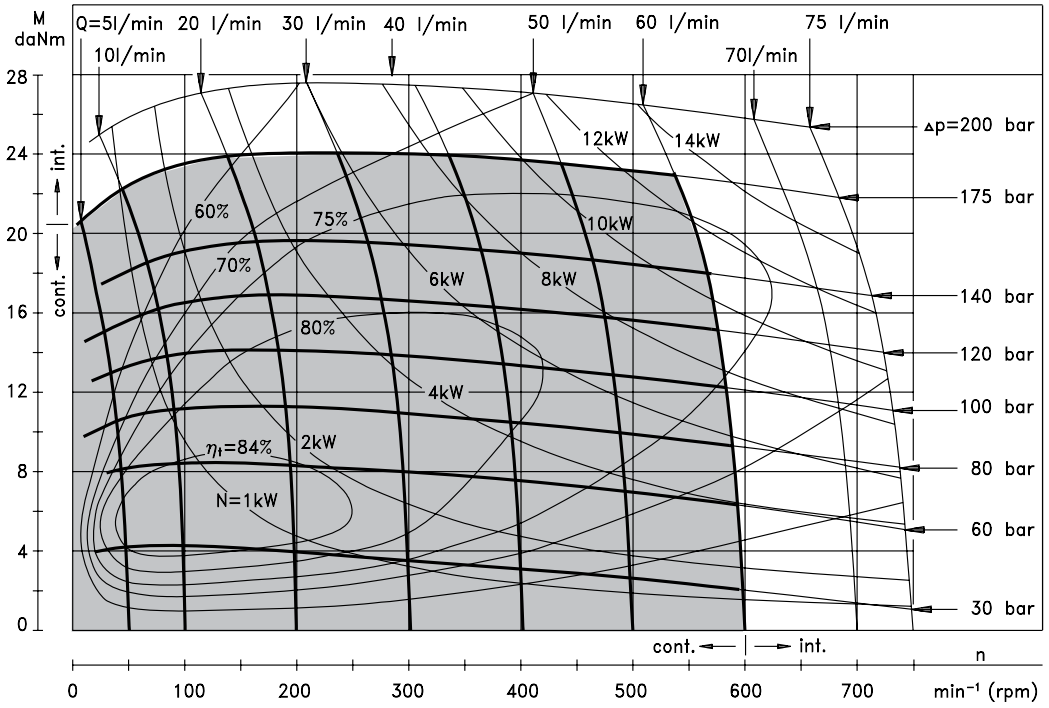


The function diagrams data was collected at back pressure 5÷10 bar and oil with viscosity of 32 mm²/s at 50° C.

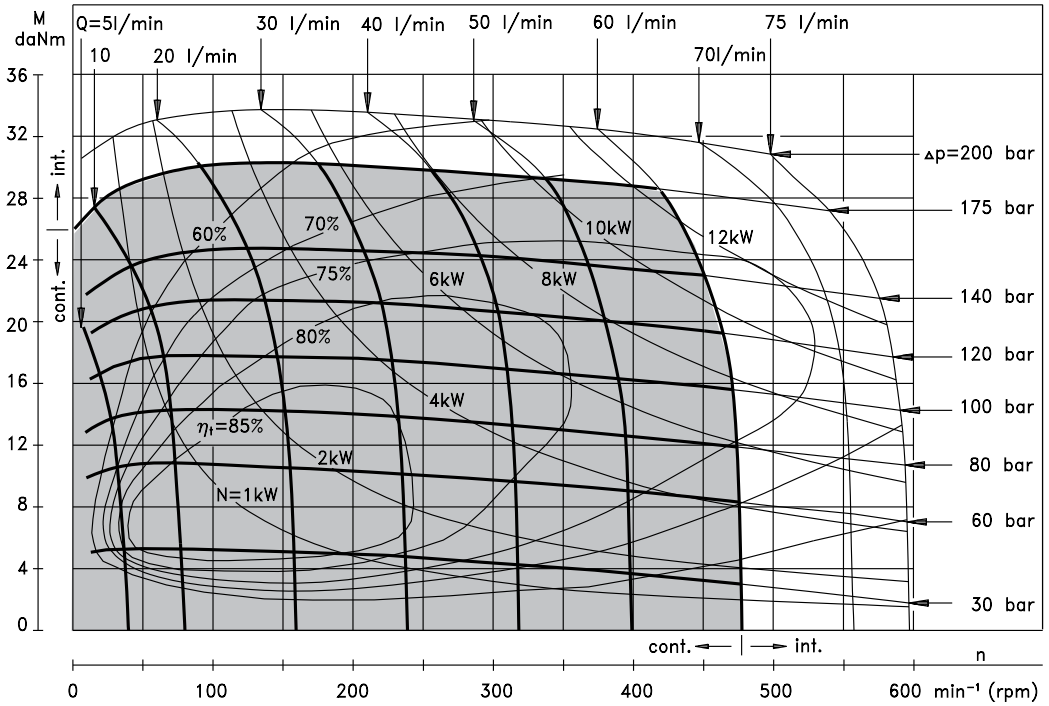
HYMATEC GMBH
HYDRAULIK MASCHINEN TECHNIK

FUNCTION DIAGRAMS

MR 100



MR 125

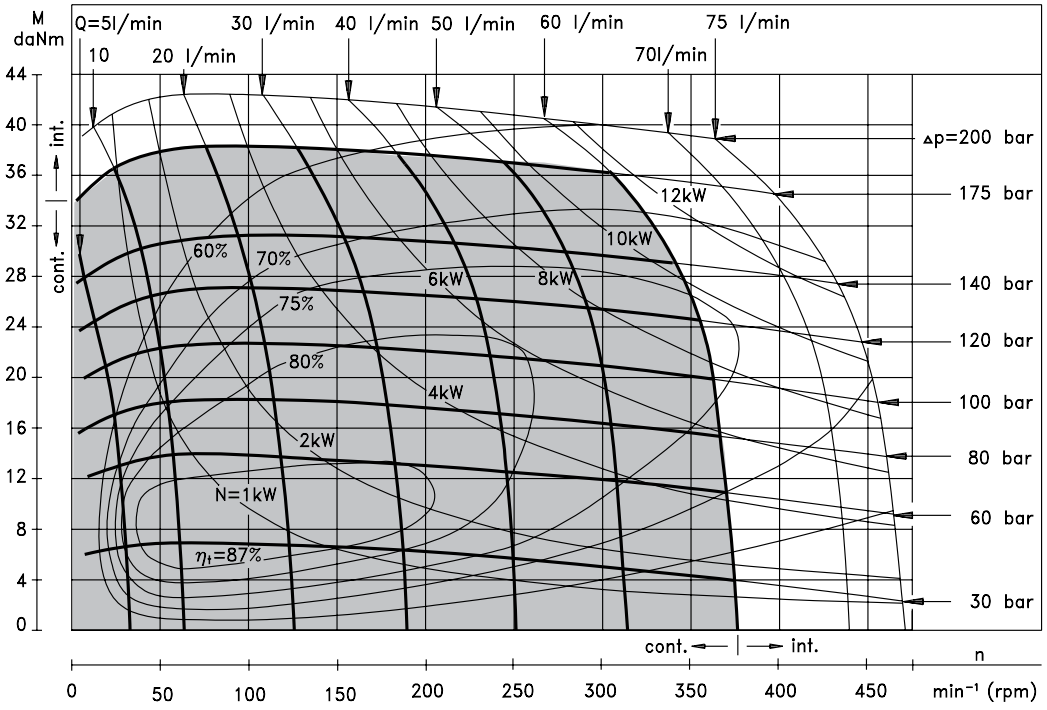


The function diagrams data was collected at back pressure 5÷10 bar and oil with viscosity of 32 mm²/s at 50° C.

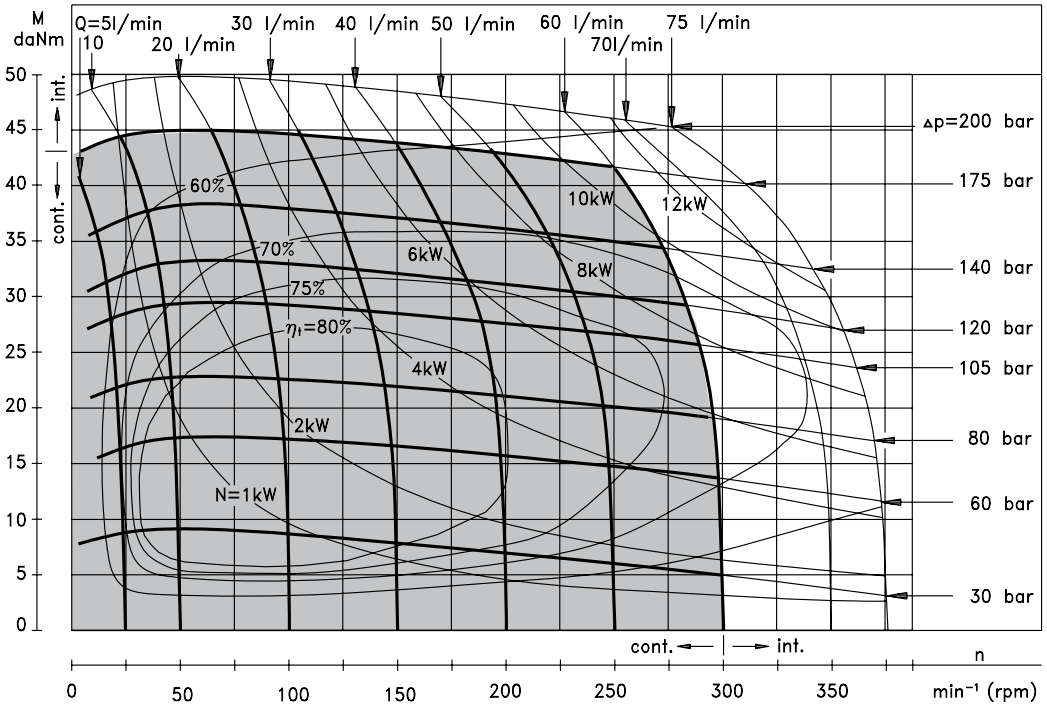
HYMATEC GMBH
HYDRAULIK MASCHINEN TECHNIK

FUNCTION DIAGRAMS

MR 160



MR 200

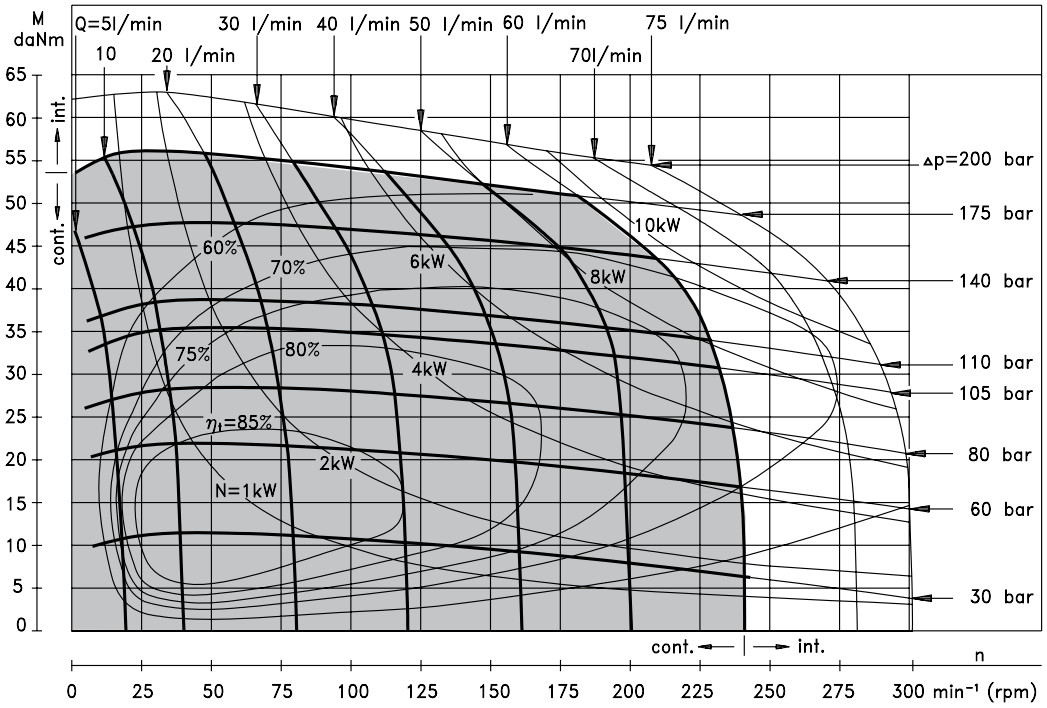


The function diagrams data was collected at back pressure 5÷10 bar and oil with viscosity of 32 mm²/s at 50° C.

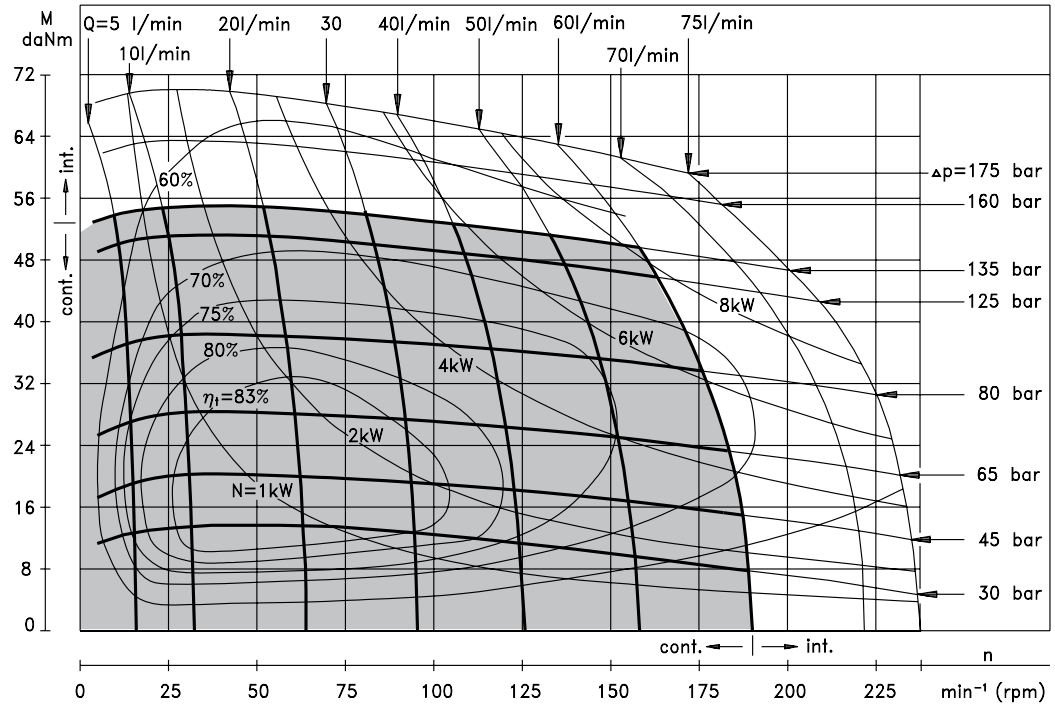
HYMATEC GMBH
HYDRAULIK MASCHINEN TECHNIK

FUNCTION DIAGRAMS

MR 250



MR 315

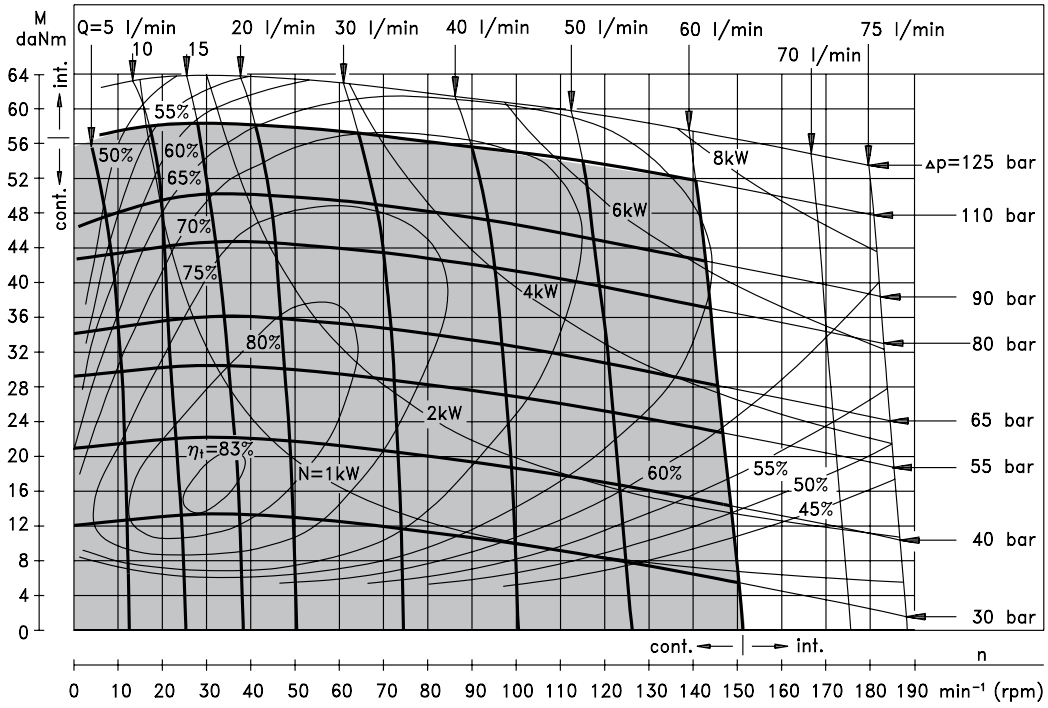


The function diagrams data was collected at back pressure 5÷10 bar
and oil with viscosity of 32 mm²/s at 50° C.

HYMATEC GMBH
HYDRAULIK MASCHINEN TECHNIK

FUNCTION DIAGRAM

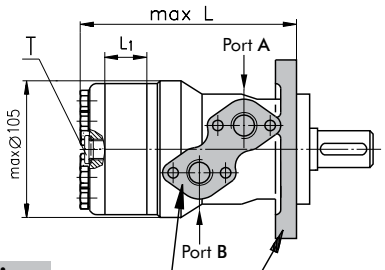
MR 400



The function diagram data was collected at back pressure 5÷10 bar
and oil with viscosity of 32 mm²/s at 50° C.

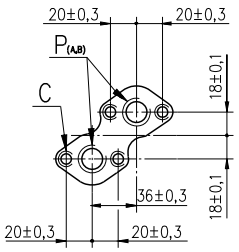
HYMATEC GMBH
HYDRAULIK MASCHINEN TECHNIK

DIMENSIONS AND MOUNTING DATA

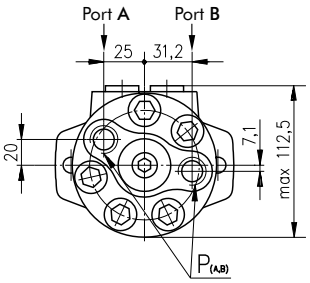


Porting

Side Ports

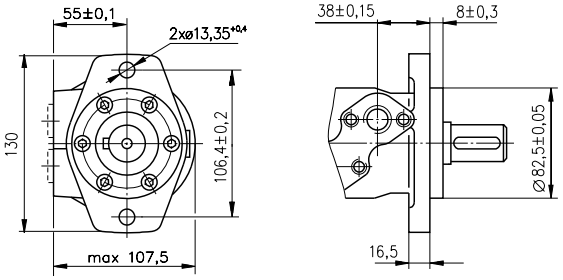


E Rear Ports

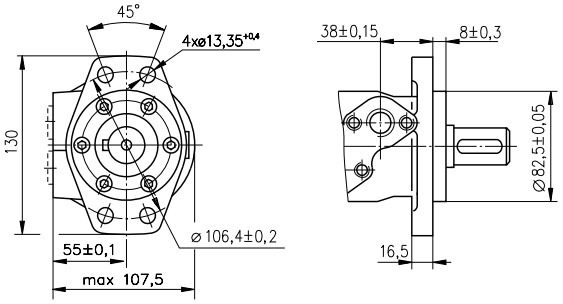


Mounting

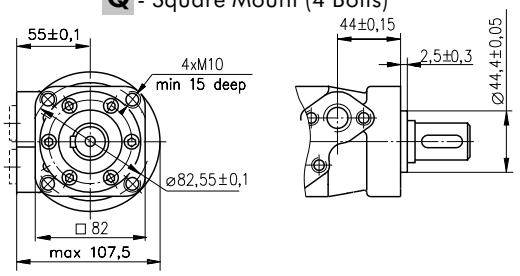
Oval Mount (2 Holes)



F - Oval Mount (4 Holes)



Q - Square Mount (4 Bolts)



C : 4xM8 - 13 mm depth
P$_{(A,B)}$: 2xG1/2 or 2xM22x1,5 - 15 mm depth
T : G1/4 or M14x1,5 - 12 mm depth (plugged)

Standard Rotation
Viewed from Shaft End
Port **A** Pressurized - **CW**
Port **B** Pressurized - **CCW**

Reverse Rotation
Viewed from Shaft End
Port **A** Pressurized - **CCW**
Port **B** Pressurized - **CW**

Type	L, mm	Type	L, mm	Type	L, mm	Type	L, mm	L_1, mm
MR(F) 50	138,0	MRQ 50	143,5	MR(F)E 50	157,5	MRQE 50	163,5	9,0
MR(F) 80	143,0	MRQ 80	148,5	MR(F)E 80	162,5	MRQE 80	168,5	14,0
MR(F) 100	146,0	MRQ 100	152,0	MR(F)E 100	165,5	MRQE 100	171,5	17,4
MR(F) 125	150,5	MRQ 125	156,5	MR(F)E 125	170,0	MRQE 125	176,0	21,8
MR(F) 160	156,5	MRQ 160	162,5	MR(F)E 160	176,0	MRQE 160	182,0	27,8
MR(F) 200	163,5	MRQ 200	169,5	MR(F)E 200	183,0	MRQE 200	189,0	34,8
MR(F) 250	172,0	MRQ 250	179,0	MR(F)E 250	192,0	MRQE 250	198,0	43,5
MR(F) 315	183,0	MRQ 315	189,0	MR(F)E 315	204,0	MRQE 315	210,0	54,8
MR(F) 400	198,0	MRQ 400	204,0	MR(F)E 400	218,0	MRQE 400	224,0	69,4

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ORDER CODE

	1	2	3	4	5	6	7	8	9	10
M R										

Pos.1 - Mounting Flange

omit - Oval mount, two holes
F - Oval mount, four holes
Q - Square mount, four bolts

Pos.2 - Option (needle bearings)

omit - none
N - with needle bearings

Pos.3 - Port type

omit - Side ports
E - Rear ports

Pos.4 - Displacement code

50 - 51,5 [cm³/rev]
80 - 80,3 [cm³/rev]
100 - 99,8 [cm³/rev]
125 - 125,7 [cm³/rev]
160 - 159,6 [cm³/rev]
200 - 199,8 [cm³/rev]
250 - 250,1 [cm³/rev]
315 - 315,7 [cm³/rev]
400 - 397,0 [cm³/rev]

Pos.5 - Shaft Extensions* (see page 24)

C - ø25 straight, Parallel key A8x7x32 DIN6885
VC - ø25 straight, Parallel key A8x7x32 DIN6885 with corrosion resistant bushing
CO - ø1" straight, Parallel key ¼"x¼"x1¼" BS46
VCO - ø1" straight, Parallel key ¼"x¼"x1¼" BS46 with corrosion resistant bushing
SH - ø25,32 splined BS 2059 (SAE 6B)
VSH - ø25,32 splined BS 2059 (SAE 6B) with corrosion resistant bushing
K - ø28,56 tapered 1:10, Parallel key B5x5x14 DIN6885
SA - ø24,5 splined B 25x22 DIN 5482
VSA - ø24,5 splined B 25x22 DIN 5482 with corrosion resistant bushing
CB - ø32 straight, Parallel key A10x8x45 DIN6885
KB - ø35 tapered 1:10, Parallel key B6x6x20 DIN6885
SB - splined A 25x22 DIN 5482
OB - ø1¼" tapered1:8, Parallel key 5/16"x5/16"x1¼" BS46
HB - ø1¼" splined 14T ANSI B92.1 - 1976

Pos. 6 - Shaft Seal Version (see page 26)

omit - Low pressure shaft seal or Standard shaft seal for **"...B"** shaft
D - Standard shaft seal
U - High pressure shaft seal (without check valves)

Pos. 7 - Drain Port

omit - with drain port
1 - without drain port

Pos. 8 - Ports

omit - BSPP (ISO 228)
M - Metric (ISO 262)

Pos. 9 - Special Features (see page 46)

Pos.10 - Design Series

omit - Factory specified

* The permissible output torque for shafts must not be exceeded!

NOTES: 1. The following combinations are not allowed:- **Q** flange with "**...B**" shafts;
- **N** option with "**...B**" shafts, Low Pressure Seal or **U** option;
- "**...B**" shafts with **D** and **U** shaft seals.

The hydraulic motors are mangano-phosphatized as standard.

Planetenrollermotor Serie MS

Bestellnr.	Typ	Code
080-040-01600	Planetenrollermotor 80,5ccm-W:Ø32	MS080C
080-040-01650	Planetenrollermotor 100ccm-W:Ø32	MS100C
080-040-01700	Planetenrollermotor 125,7ccm-W:Ø32	MS125C
080-040-01750	Planetenrollermotor 159,7ccm-W:Ø32	MS160C
080-040-01800	Planetenrollermotor 200ccm-W:Ø32	MS200C
080-040-01850	Planetenrollermotor 250ccm-W:Ø32	MS250C
080-040-01900	Planetenrollermotor 314,9ccm-W:Ø32	MS315C
080-040-01950	Planetenrollermotor 397ccm-W:Ø32	MS400C
080-040-02000	Planetenrollermotor 474,6ccm-W:Ø32	MS475C
080-040-02050	Planetenrollermotor 522,7ccm-W:Ø32	MS525C
080-040-02100	Planetenrollermotor 564,9ccm-W:Ø32	MS565C
080-040-02150	Planetenrollermotor 715ccm-W:Ø32	MS715C

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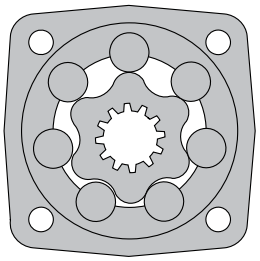
HYDRAULIC MOTORS MS

APPLICATION

» Conveyors
» Metal working machine
» Machines for agriculture
» Road building machines
» Mining machinery
» Food industries
» Special vehicles etc.



CONTENTS

OPTIONS

» Model- Disc valve, roll-gerotor
» Flange and wheel mount
» Short motor
» Motor with Drum Brake
» Tacho connection
» Speed sensoring
» Side and rear ports
» Shafts- straight, splined and tapered
» Metric and BSPP ports
» Other special features

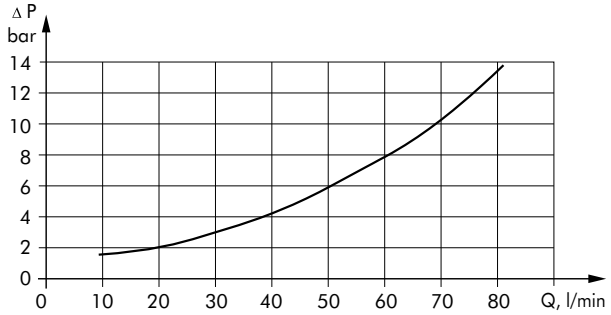
GENERAL

Displacement, [cm^3/rev.]	80,5÷564,9
Max. Speed, [RPM]	130÷810
Max. Torque, [daNm]	20÷58
Max. Output, [kW]	20÷6,9
Max. Pressure Drop, [bar]	100÷200
Max. Oil Flow, [l/min]	75
Min. Speed, [RPM]	5÷10
Permissible Shaft Loads, [daN]	P_a=500
Pressure fluid	Mineral based- HLP(DIN 51524) or HM(ISO 6743/4)
Temperature range, [°C]	-30÷90
Optimal Viscosity range, [mm^2/s]	20÷75
Filtration	ISO code 20/16 (Min. recommended fluid filtration of 25 micron)

Oil flow in drain line

Pressure drop (bar)	Viscosity (mm^2/s)	Oil flow in drain line (l/min)
140	20	1,5
	35	1
210	20	3
	35	2

Pressure Losses



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SPECIFICATION DATA

Type		MS 80	MS 100	MS 125	MS 160	MS 200
Displacement [cm³/rev.]		80,5	100	125,7	159,7	200
Max. Speed,	cont.	810	750	600	470	375
[RPM]	Int.*	1000	900	720	560	450
Max. Torque	cont.	20	29,2	37,4	46	46
[daNm]	Int.*	24	32	41	51,5	60
	peak**	26	32	41	51,5	65
Max. Output	cont.	16,4	19,5	20	15,5	14
[kW]	int.*	22	26	24	21,9	21
Max. Pressure Drop	cont.	175	205	205	205	160
[bar]	Int.*	210	225	225	225	210
	peak**	225	225	225	225	225
Max. Oil Flow	cont.	65	75	75	75	75
[l/min]	Int.*	80	90	90	90	90
Max. Inlet Pressure	cont.	210	210	210	210	210
[bar]	Int.*	250	250	250	250	250
	peak**	300	300	300	300	300
Max. Return Pressure	cont.	140	140	140	140	140
with Drain Line	Int.*	175	175	175	175	175
[bar]	peak**	210	210	210	210	210
Max. Starting Pressure with Unloaded Shaft, [bar]		12	10	10	8	8
Min. Starting Torque	at max. press. drop cont.	16,5	23,9	26	36,9	37,5
[daNm]	at max. press. drop Int.*	19,4	26,4	31	40,5	48,5
Min. Speed***, [RPM]		10	10	8	8	6
Weight, [kg]	MS(F)	9,9	10,1	10,4	10,8	11,2
	MSW	10,4	10,6	10,9	11,3	11,7
For Rear Ports	MSS	7,9	8,1	8,4	8,8	9,2
+0,4 kg	MSV	5,8	6	6,3	6,7	7,1
	MSQ	10,3	10,5	10,8	11,2	11,6
	MSB	16,9	17,1	17,4	17,8	18,2

* Intermittent operation: the permissible values may occur for max. 10% of every minute.
** Peak load: the permissible values may occur for max. 1% of every minute.
*** For speeds of 5 RPM lower than given, consult factory or your regional manager.

1) Intermittent speed and intermittent pressure must not occur simultaneously.
2) Recommended filtration is per ISO cleanliness code 20/16. A nominal filtration of 25 micron or better.
3) Recommend using a premium quality, anti-wear type mineral based hydraulic oil HLP(DIN51524) or HM (ISO 6743/4). If using synthetic fluids consult the factory for alternative seal materials.
4) Recommended minimum oil viscosity 13 mm²/s at operating temperatures.
5) Recommended maximum system operating temperature is 82°C.
6) To assure optimum motor life fill with fluid prior to loading and run at moderate load and speed for 10-15 minutes.

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SPECIFICATION DATA (continued)

Type		MS 250	MS 315	MS 400	MS 475	MS 525	MS 565
Displacement [cm³/rev.]		250	314,9	397	474,6	522,7	564,9
Max. Speed,	cont.	300	240	190	160	145	130
[RPM]	Int.*	360	290	230	190	175	160
Max. Torque	cont.	50	54	58	58	58	58
[daNm]	Int.*	63	63	69	68	69	69
	peak**	72	84	85	84	85	85
Max. Output	cont.	13,5	11,5	10	8,4	7,6	6,9
[kW]	int.*	21	13,5	13	11,3	10,4	9,6
Max. Pressure Drop	cont.	140	120	100	85	80	75
[bar]	Int.*	175	140	120	100	90	85
	peak**	200	185	140	115	105	100
Max. Oil Flow	cont.	75	75	75	75	75	75
[l/min]	Int.*	90	90	90	90	90	90
Max. Inlet Pressure	cont.	210	210	210	210	210	210
[bar]	Int.*	250	250	250	250	250	250
	peak**	300	300	300	300	300	300
Max. Return Pressure	cont.	140	140	140	140	140	140
with Drain Line	Int.*	175	175	175	175	175	175
[bar]	peak**	210	210	210	210	210	210
Max. Starting Pressure with Unloaded Shaft, [bar]		8	8	8	8	8	8
Min. Starting Torque	at max. press. drop cont.	40	51	54	47	47	47
[daNm]	at max. press. drop Int.*	50	65	63	55	55	55
Min. Speed***, [RPM]		6	5	5	5	5	5
Weight, [kg]	MS(F)	11,7	12,4	13,3	14,4	14,6	15
	MSW	12,2	12,9	13,8	14,6	15,1	15,5
For Rear Ports	MSS	9,7	10,4	11,3	12,1	12,6	13
+0,4 kg	MSV	7,6	8,3	9,2	10	10,5	10,9
	MSQ	12,1	12,8	13,7	14,5	15,0	15,4
	MSB	18,7	19,4	20,3	21,1	21,6	23

* Intermittent operation: the permissible values may occur for max. 10% of every minute.
** Peak load: the permissible values may occur for max. 1% of every minute.
*** For speeds of 5 RPM lower than given, consult factory or your regional manager.

1) Intermittent speed and intermittent pressure must not occur simultaneously.
2) Recommended filtration is per ISO cleanliness code 20/16. A nominal filtration of 25 micron or better.
3) Recommend using a premium quality, anti-wear type mineral based hydraulic oil HLP(DIN51524) or HM (ISO 6743/4). If using synthetic fluids consult the factory for alternative seal materials.
4) Recommended minimum oil viscosity 13 mm²/s at operating temperatures.
5) Recommended maximum system operating temperature is 82°C.
6) To assure optimum motor life fill with fluid prior to loading and run at moderate load and speed for 10-15 minutes.

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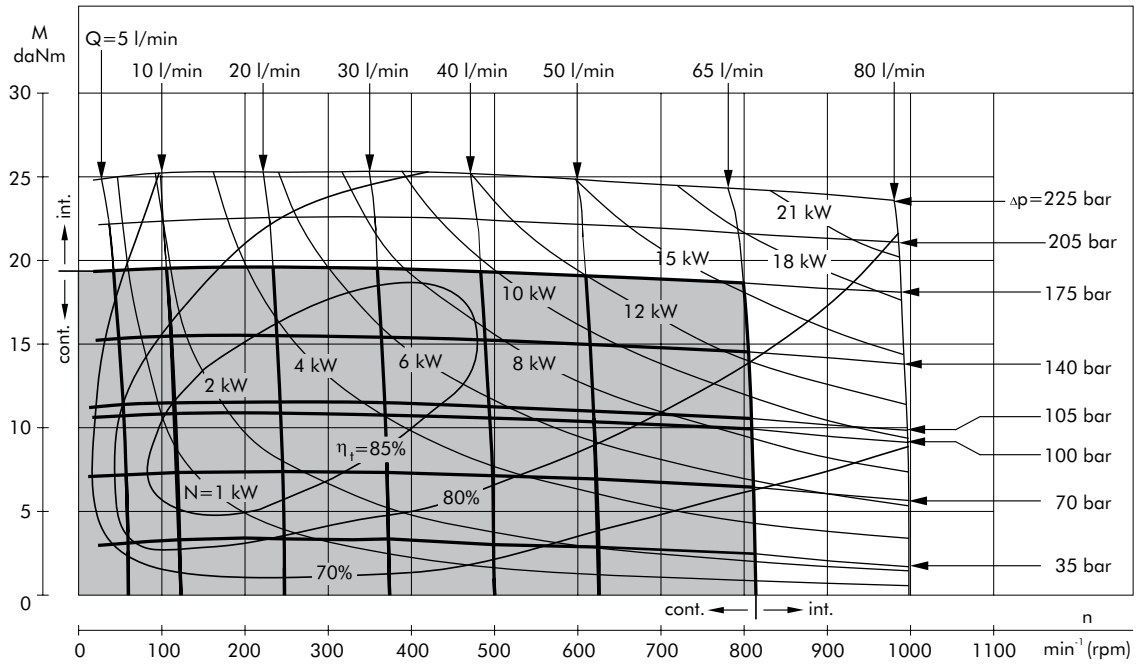
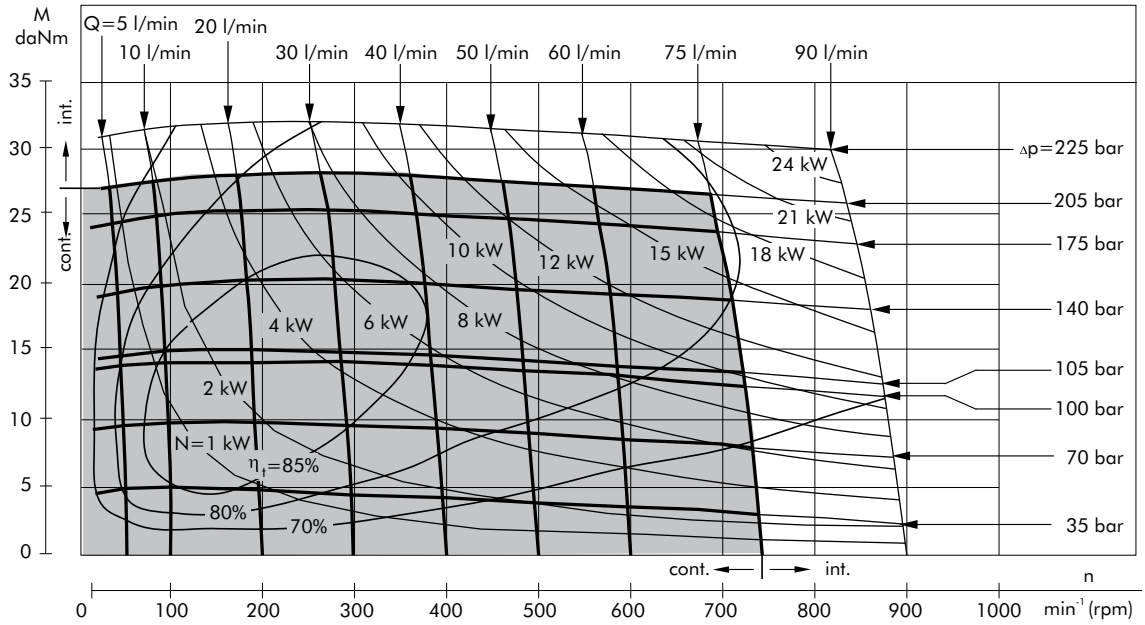
HYDRAULIK MASCHINEN TECHNIK

FUNCTION DIAGRAMS

MS 80



MS 100



The function diagrams data was collected at back pressure 5÷10 bar and oil with viscosity of 32 mm²/s at 50° C.

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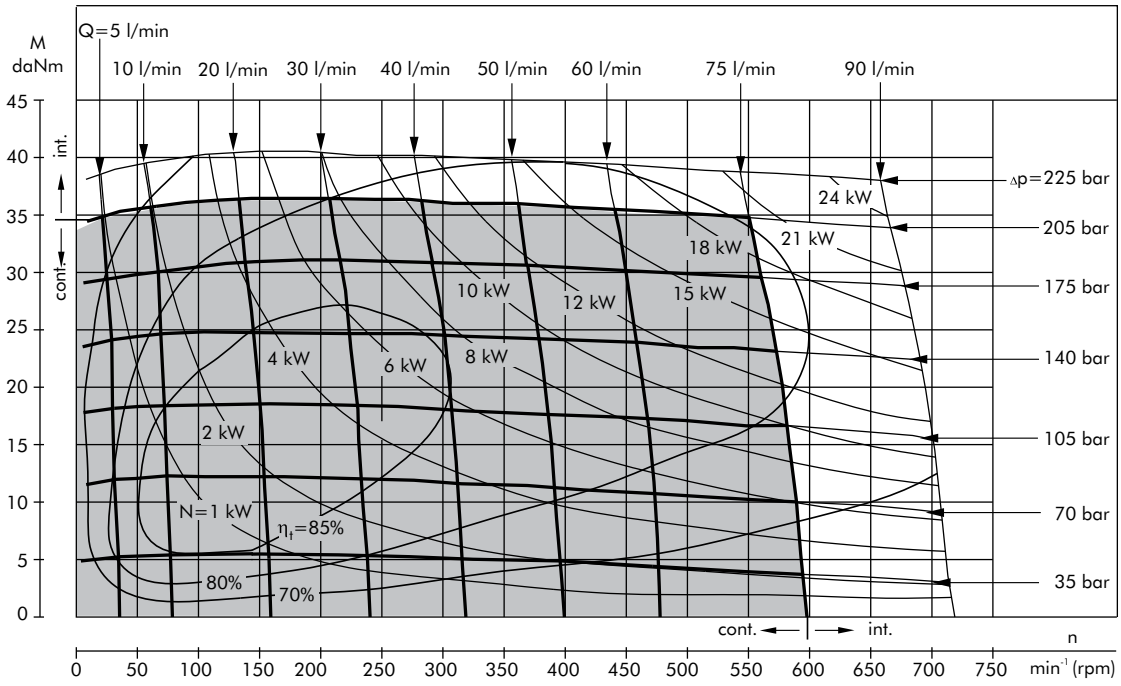
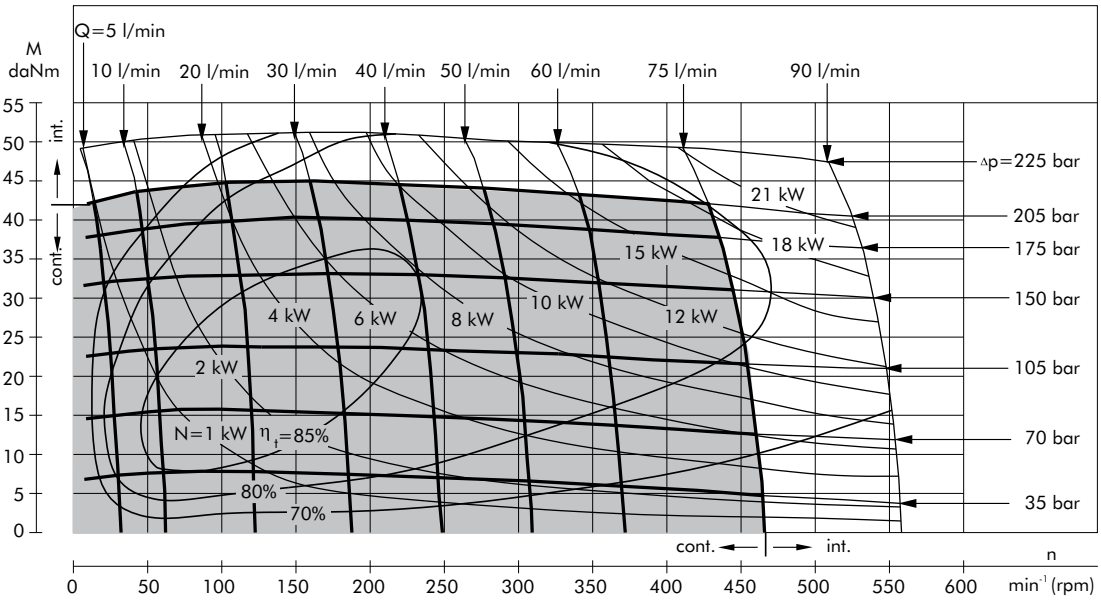
FUNCTION DIAGRAMS

MS 125



MS 160



The function diagrams data was collected at back pressure 5÷10 bar
and oil with viscosity of 32 mm²/s at 50° C.

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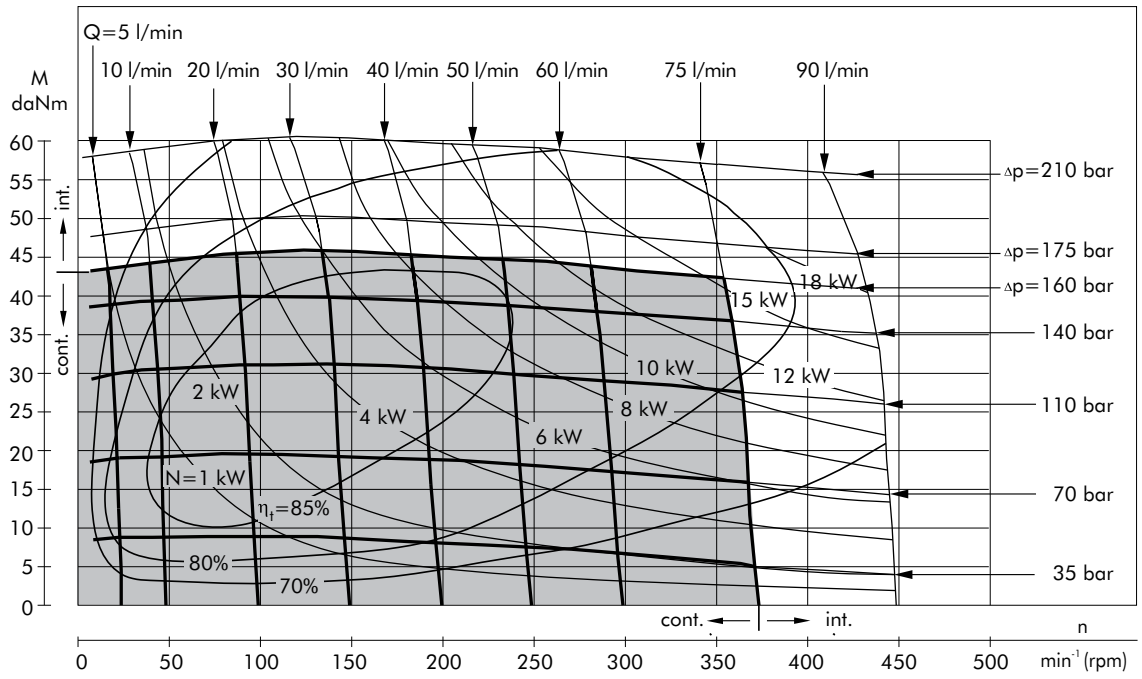
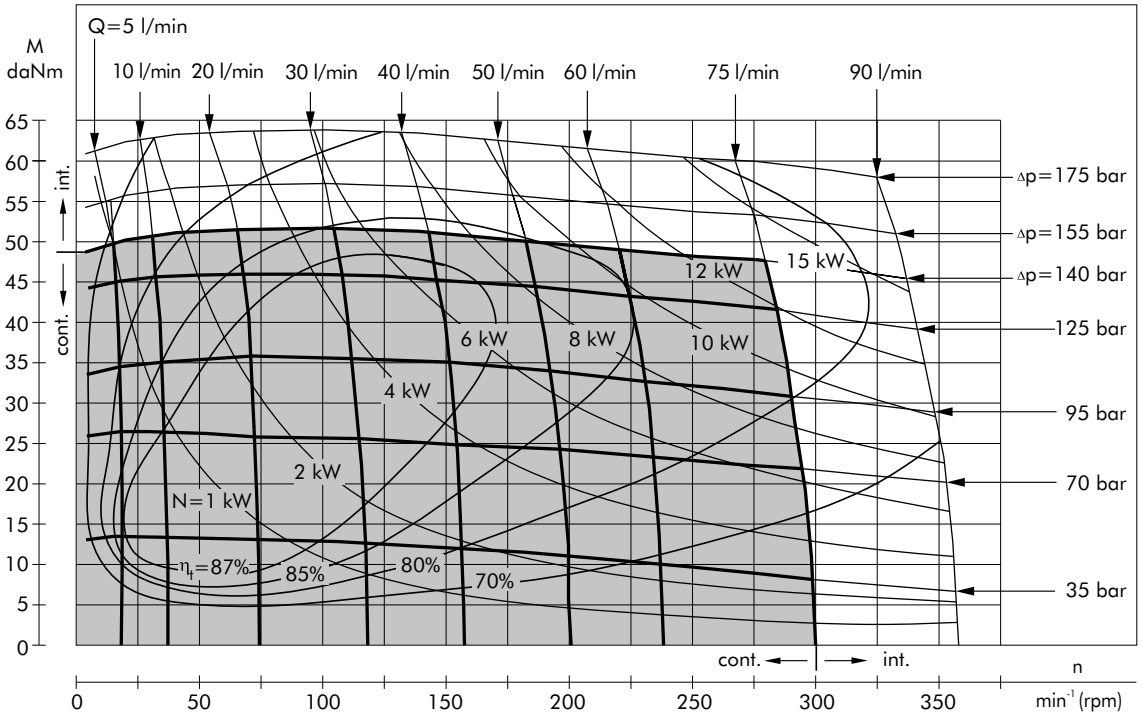
FUNCTION DIAGRAMS

MS 200



MS 250



The function diagrams data was collected at back pressure 5÷10 bar and oil with viscosity of 32 mm²/s at 50° C.

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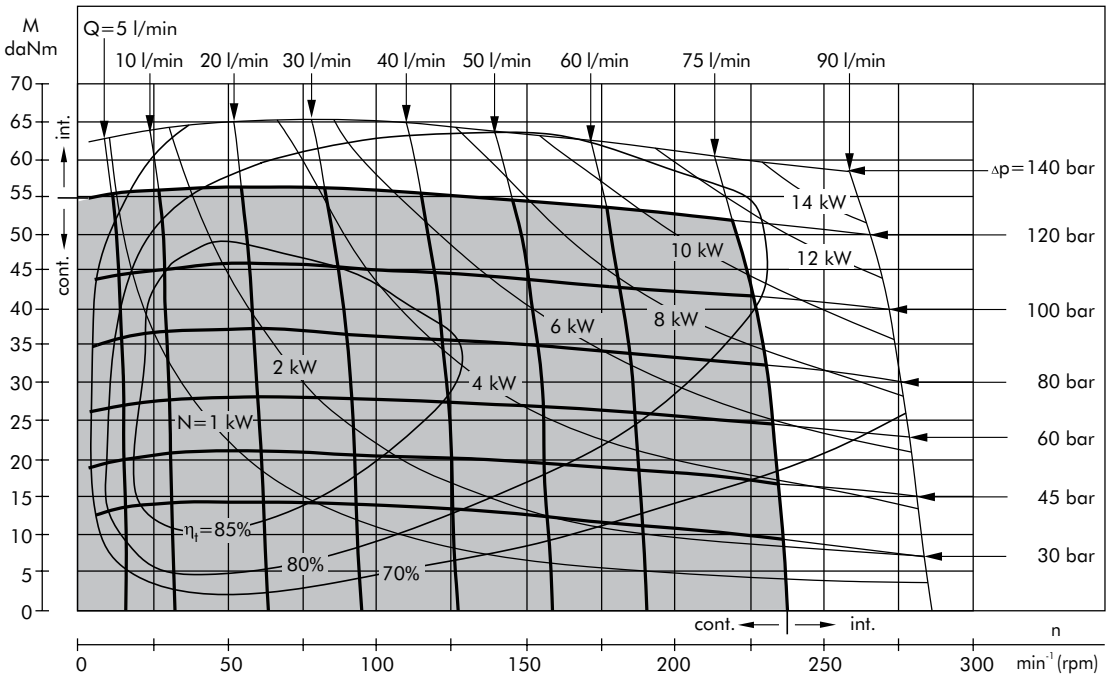
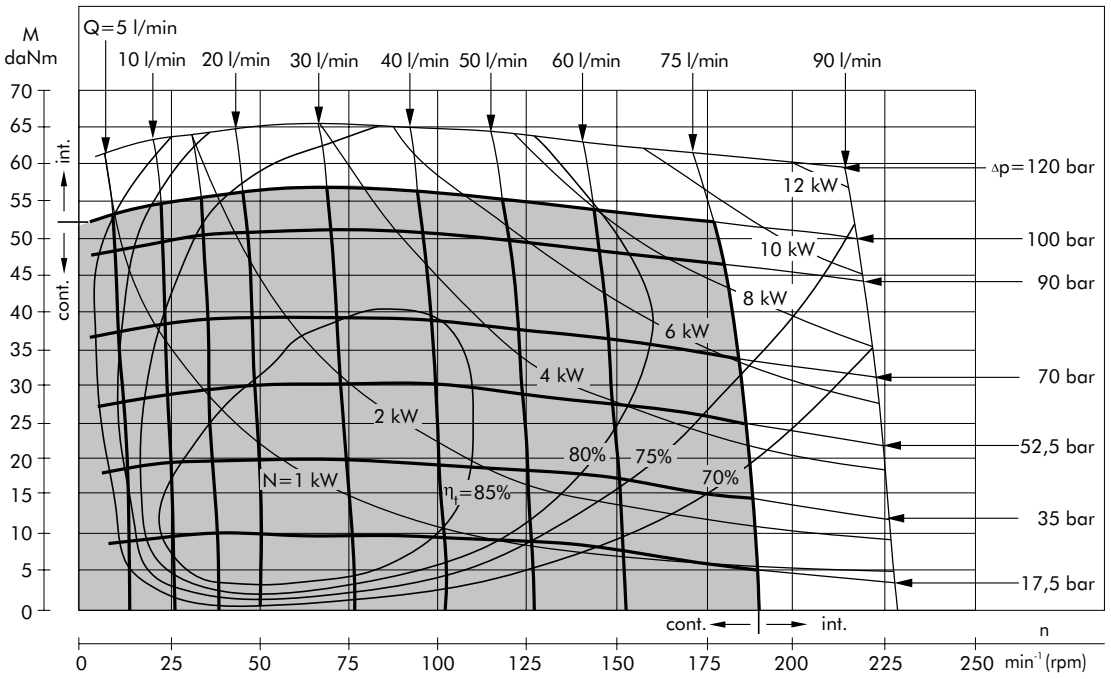
FUNCTION DIAGRAMS

MS 315



MS 400



The function diagrams data was collected at back pressure 5÷10 bar
and oil with viscosity of 32 mm²/s at 50° C.

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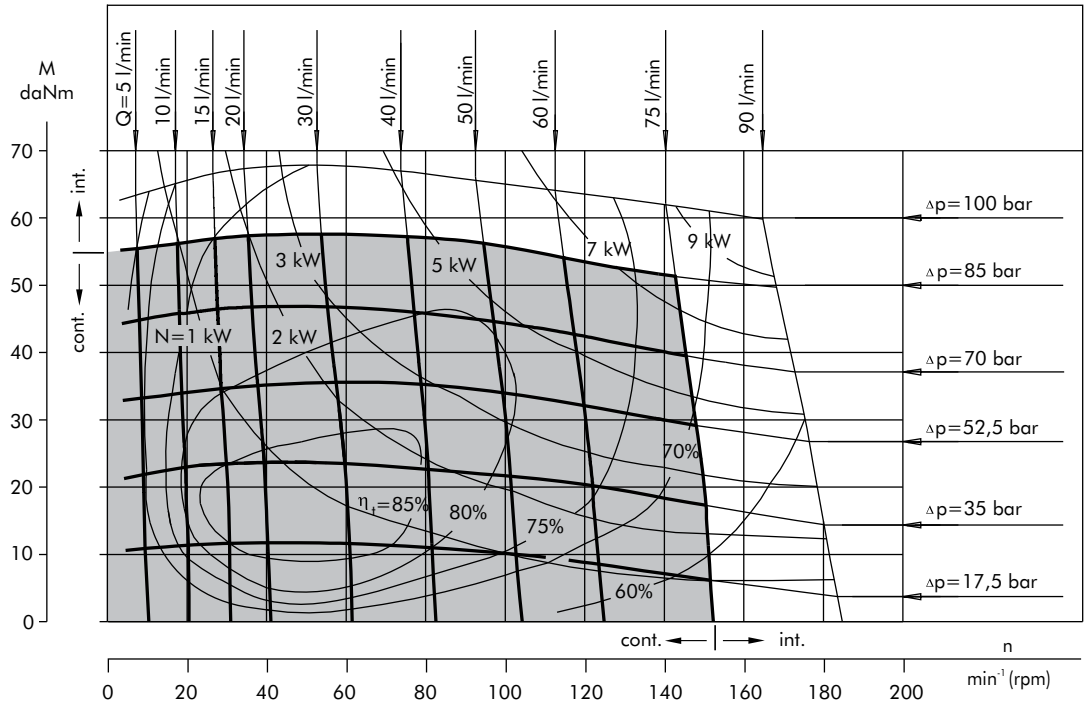
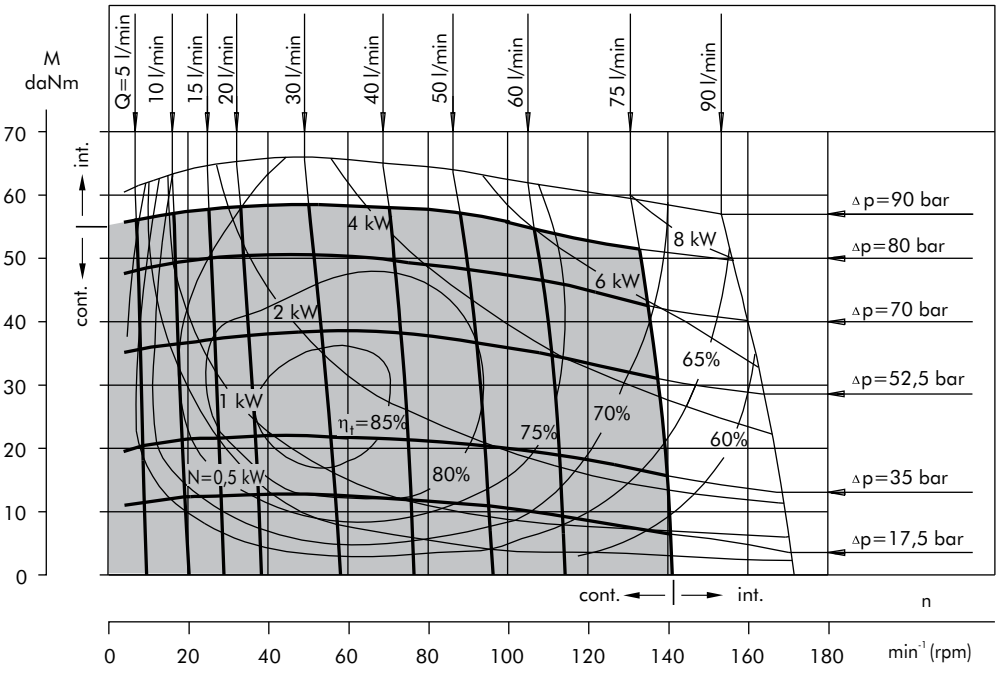
FUNCTION DIAGRAMS

MS 475



MS 525



The function diagrams data was collected at back pressure 5÷10 bar
and oil with viscosity of 32 mm²/s at 50° C.

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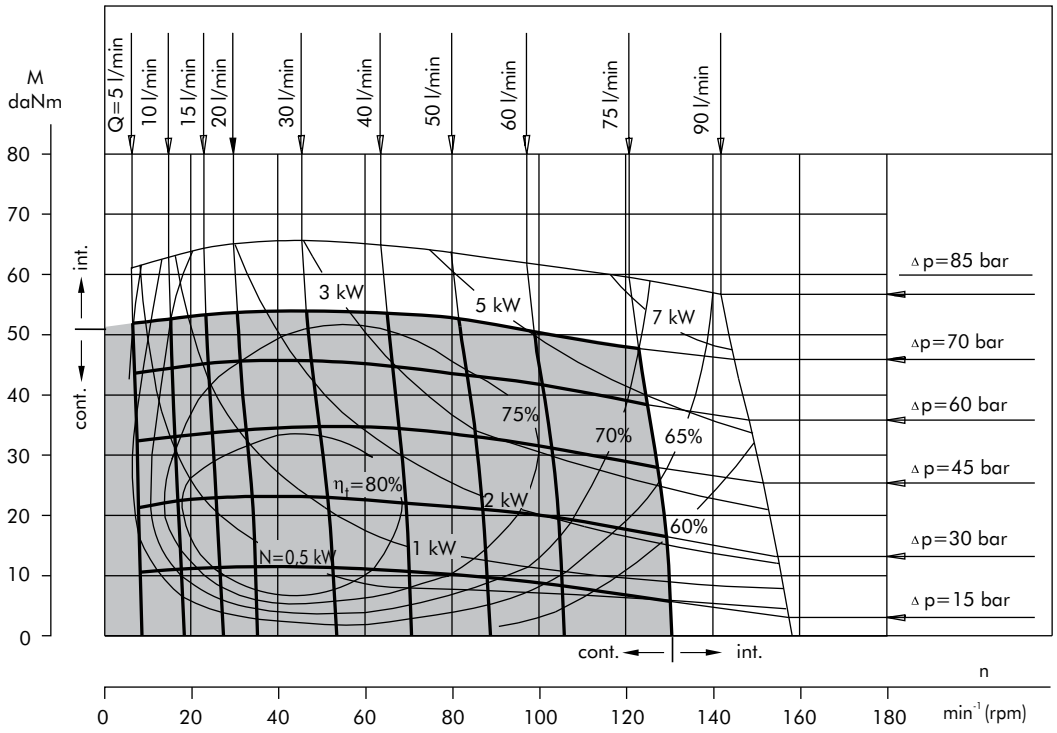
FUNCTION DIAGRAMS

MS 565



The function diagrams data was collected at back pressure 5÷10 bar
and oil with viscosity of 32 mm²/s at 50° C.

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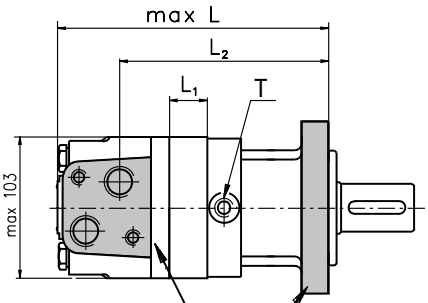
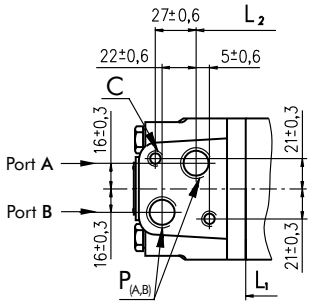
DIMENSIONS AND MOUNTING DATA



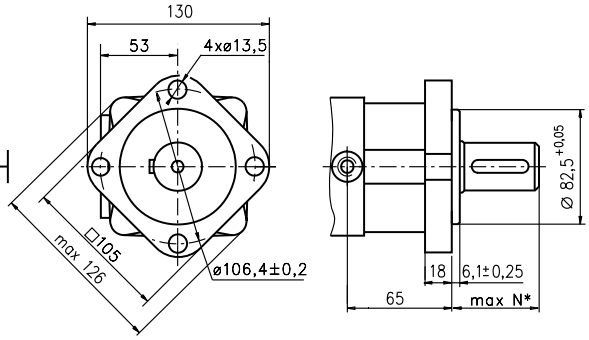
Porting

Side Ports

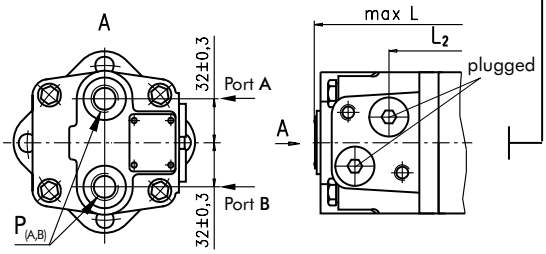


Mounting

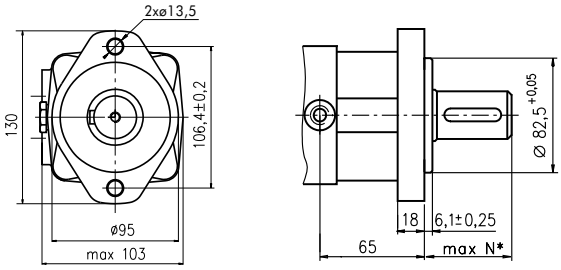
SAE A-4 Mount (4 Holes)



E Rear Ports



A SAE A-2 Mount (2 Holes)



*For **N** see page 17

C: 2xM10-12 mm depth
P$_{(A,B)}$: 2xG1/2 or 2xM22x1,5-15 mm depth
T: G ¼ or M14x1,5- 12 mm depth (plugged)

Type	L, mm	L_2, mm	Type	L, mm	L_1, mm
MS(A) 80	168	124	MS(A)E 80	173	14
MS(A) 100	171	129	MS(A)E 100	177	17,4
MS(A) 125	176	132	MS(A)E 125	181	21,8
MS(A) 160	182	138	MS(A)E 160	187	27,8
MS(A) 200	189	145	MS(A)E 200	194	34,8
MS(A) 250	197	154	MS(A)E 250	203	43,5
MS(A) 315	209	165	MS(A)E 315	214	54,8
MS(A) 400	223	179	MS(A)E 400	228	69,4
MS(A) 475	237	193	MS(A)E 475	242	82,6
MS(A) 525	229	185	MS(A)E 525	234	74,5
MS(A) 565	235	191	MS(A)E 565	240	80,2

Standard Rotation
Viewed from Shaft End
Port **A** Pressurized - **CW**
Port **B** Pressurized - **CCW**

Reverse Rotation
Viewed from Shaft End
Port **A** Pressurized - **CCW**
Port **B** Pressurized - **CW**

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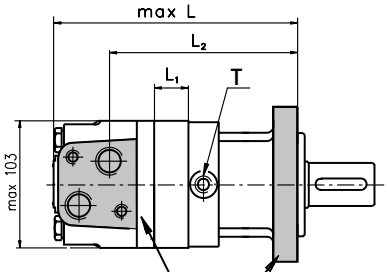
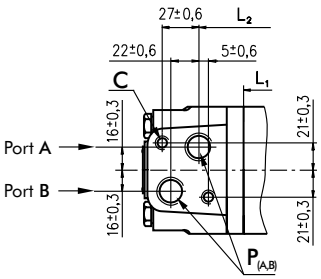
HYDRAULIK MASCHINEN TECHNIK

DIMENSIONS AND MOUNTING DATA

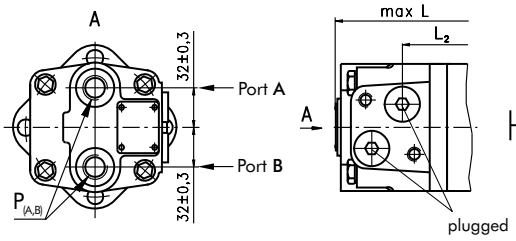


Porting

Side Ports

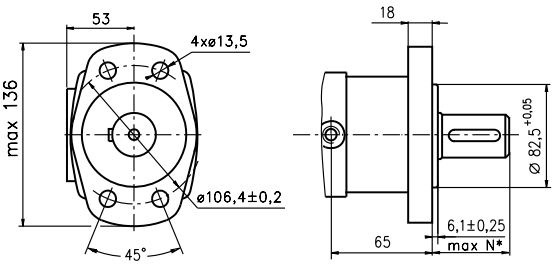


E Rear Ports

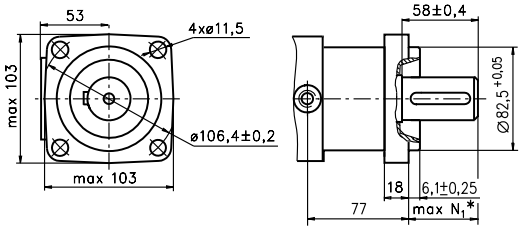


Mounting

F Magneto Mount (4 Holes)



Q Square Mount (4 Holes)



*For **N** and **N$_1$** see page 17

C: 2xM10-12 mm depth
$P_{(A,B)}$: 2xG1/2 or 2xM22x1,5-15 mm depth
T: G ¼ or M14x1,5- 12 mm depth (plugged)

Standard Rotation
Viewed from Shaft End
Port **A** Pressurized - **CW**
Port **B** Pressurized - **CCW**

Reverse Rotation
Viewed from Shaft End
Port **A** Pressurized - **CCW**
Port **B** Pressurized - **CW**

Type	L, mm	L_2, mm	Type	L, mm	L_2, mm	Type	L, mm	Type	L, mm	L_1, mm
MSF 80	168	124	MSQ 80	179	136	MSFE 80	173	MSQE 80	185	14
MSF 100	171	129	MSQ 100	183	140	MSFE 100	177	MSQE 100	189	17,4
MSF 125	176	132	MSQ 125	187	144	MSFE 125	181	MSQE 125	193	21,8
MSF 160	182	138	MSQ 160	193	150	MSFE 160	187	MSQE 160	199	27,8
MSF 200	189	145	MSQ 200	200	157	MSFE 200	194	MSQE 200	206	34,8
MSF 250	197	154	MSQ 250	209	166	MSFE 250	203	MSQE 250	215	43,5
MSF 315	209	165	MSQ 315	220	177	MSFE 315	214	MSQE 315	226	54,8
MSF 400	223	179	MSQ 400	235	192	MSFE 400	228	MSQE 400	241	69,4
MSF 475	237	193	MSQ 475	247	205	MSFE 475	242	MSQE 475	254	82,6
MSF 525	229	185	MSQ 525	240	197	MSFE 525	234	MSQE 525	246	74,5
MSF 565	235	191	MSQ 565	246	203	MSFE 565	240	MSQE 565	252	80,2

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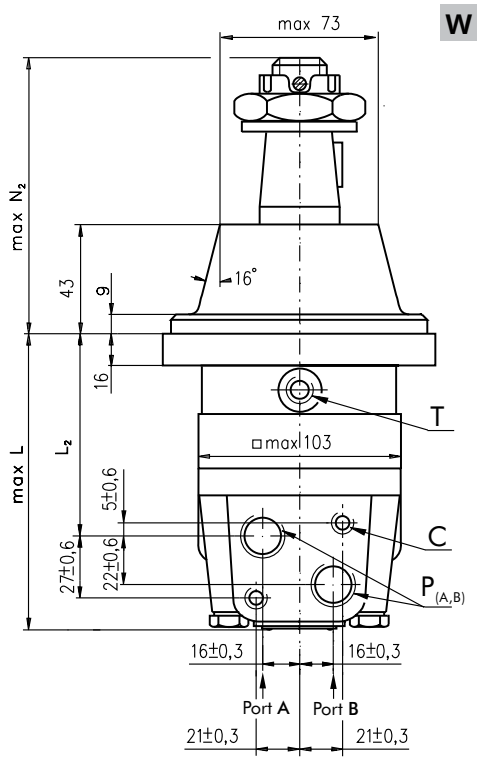
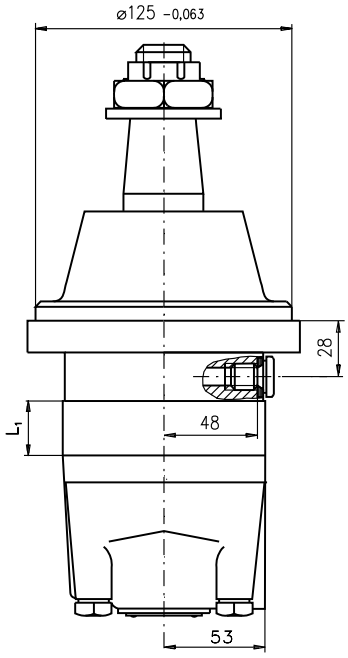
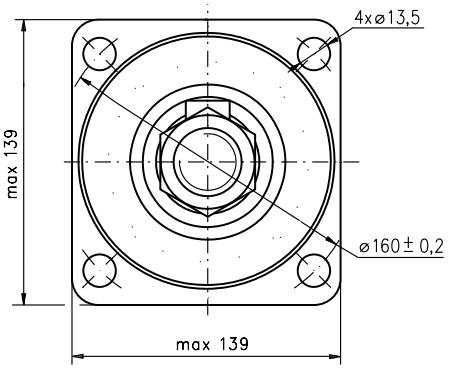
DIMENSIONS AND MOUNTING DATA -MSW

W Wheel Mount



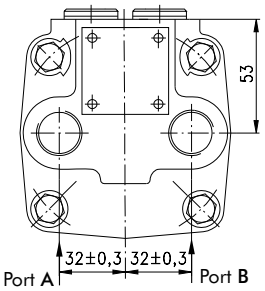


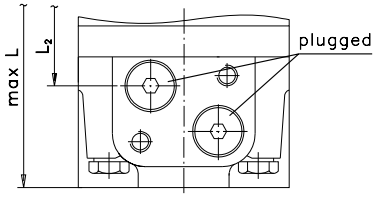
C: 2xM10-12 mm depth
$P_{(A,B)}$: 2xG1/2 or 2xM22x1,5-15 mm depth
T: G ¼ or M14x1,5 - 12 mm depth(plugged)



*For **N_2** see page 17

E Rear Port





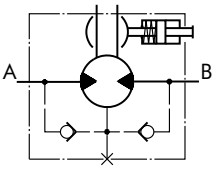
Standard Rotation
Viewed from Shaft End
Port **A** Pressurized - **CW**
Port **B** Pressurized - **CCW**

Reverse Rotation
Viewed from Shaft End
Port **A** Pressurized - **CCW**
Port **B** Pressurized - **CW**

Type	L, mm	L_1, mm	L_2, mm	Type	L, mm
MSW 80	129	14	87	MSWE 80	138
MSW100	133	17,4	91	MSWE 100	142
MSW 125	137	21,8	95	MSWE 125	146
MSW 160	143	27,8	101	MSWE 160	152
MSW 200	150	34,8	108	MSWE 200	159
MSW 250	159	43,5	117	MSWE 250	168
MSW 315	170	54,8	128	MSWE 315	179
MSW 400	184	69,4	143	MSWE 400	194
MSW 475	198	82,6	156	MSWE 475	207
MSW 525	190	74,5	148	MSWE 525	199
MSW 565	196	80,2	154	MSWE 565	205

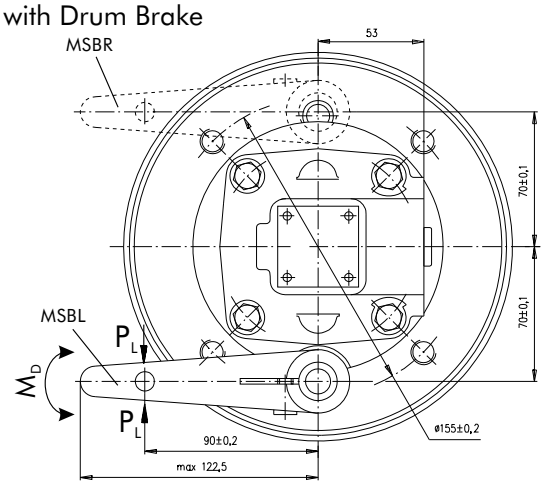
DIMENSIONS AND MOUNTING DATA -MSB

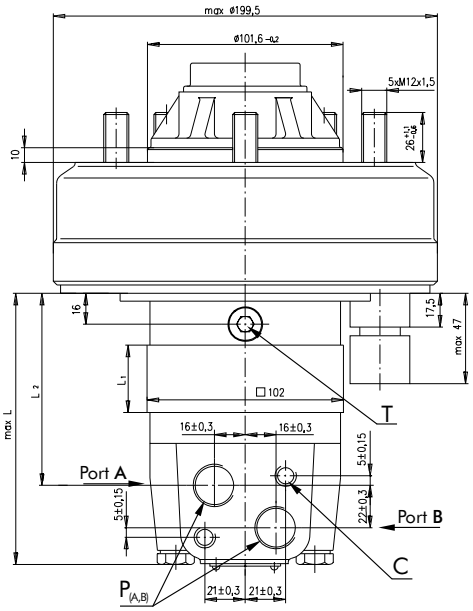
B Motor with Drum Brake

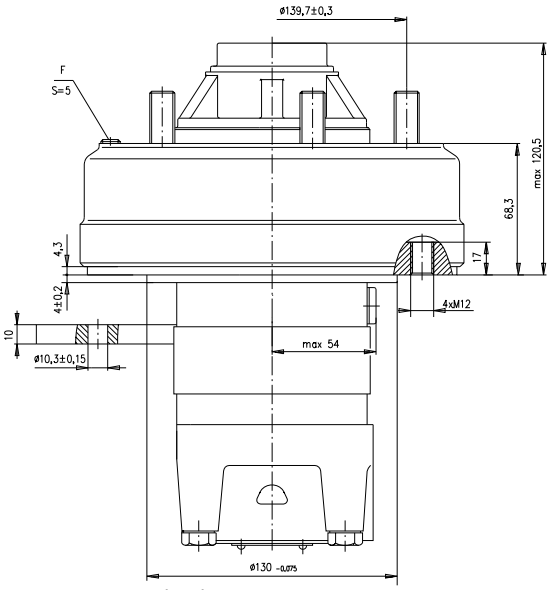


Actuating the brake level, the brake shaft is turned. The rectangular shape of the inner part of this shaft forces the brake pads to be pressed against the brake drum. This brakes the wheel or the winch drum.

Releasing the level, the springs pull it and the brake pads back to the initial position. The motor output shaft is released. Minimum angle adjustment is 10^0. It can be adjusted by dismounting the level. Depending on the application You can choose the actuating direction of the brake level. The rod connection actuating the brake should be capable of moving at last 25 mm from neutral to extreme position.

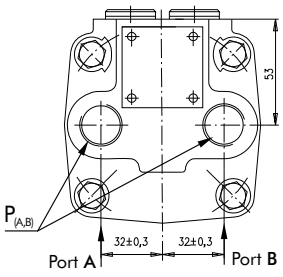






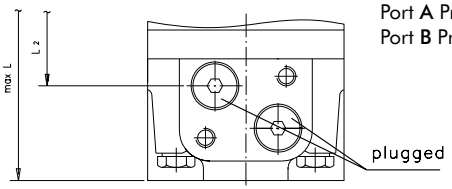
C: 2xM10-12 mm depth
F: Inspection hole for checking brake lining
T: G 1/4 or M14x1,5 - 12 mm depth (plugged)
$P_{(A,B)}$: 2xG1/2 or 2xM22x1,5-15 mm depth

E Rear Port



Standard Rotation
Viewed from Shaft End
Port **A** Pressurized - **CW**
Port **B** Pressurized - **CCW**

Reverse Rotation
Viewed from Shaft End
Port **A** Pressurized - **CCW**
Port **B** Pressurized - **CW**



Type	L, mm	L_1, mm	L_2, mm	Type	L, mm
MSB 80	119	14	74	MSBE 80	127
MSB100	122	17,4	77	MSBE 100	130
MSB 125	126	21,8	82	MSBE 125	134
MSB 160	132	27,8	88	MSBE 160	140
MSB 200	139	34,8	95	MSBE 200	147
MSB 250	148	43,5	110	MSBE 250	156
MSB 315	159	54,8	115	MSBE 315	167
MSB 400	174	69,4	130	MSBE 400	182
MSB 475	188	82,6	143	MSBE 475	196
MSB 525	180	74,5	135	MSBE 525	188
MSB 565	186	80,2	141	MSBE 565	192

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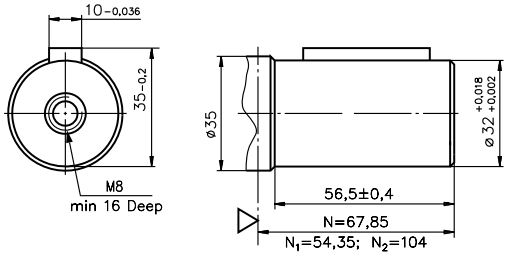
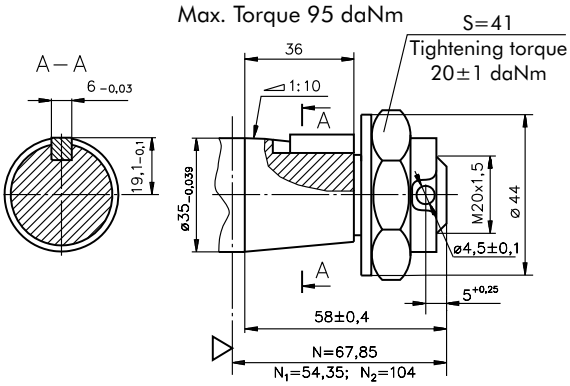
SHAFT EXTENSIONS

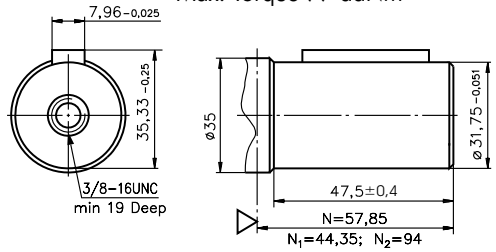
C - ø32 straight, Parallel key A10x8x45 DIN 6885
Max. Torque 77 daNm



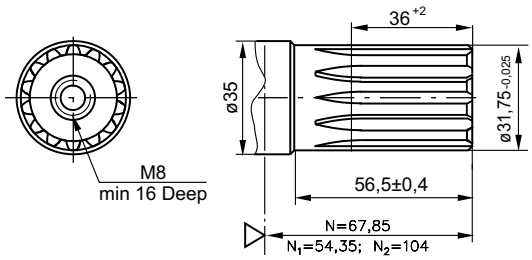
K - tapered 1:10, Parallel key B6x6x20 DIN 6885
Max. Torque 95 daNm



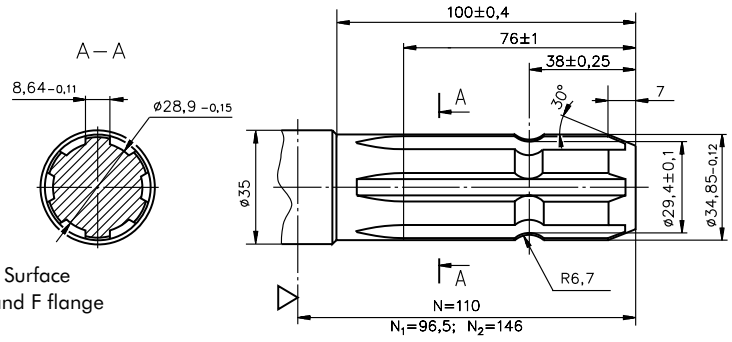
CO- ø1¼" straight, Parallel key 5/16"x 5/16"x 1¼"BS46
Max. Torque 77 daNm



SH - ø1¼" splined 14T, DP12/24 ANSI B92.1-1976
Max. Torque 95 daNm



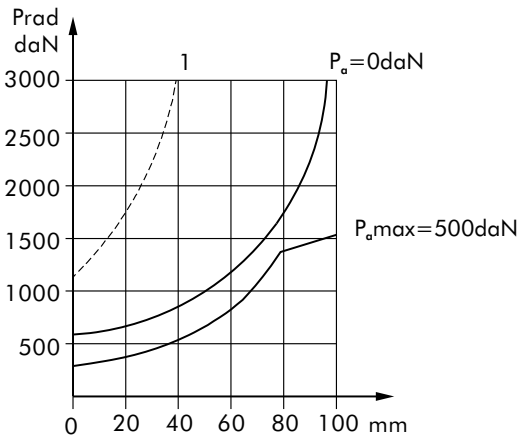
SL - ø34,85 p.t.o. DIN 9611 Form 1
Max. Torque 77 daNm

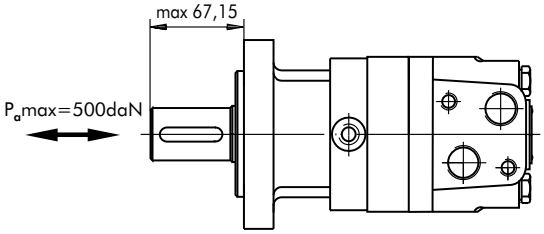


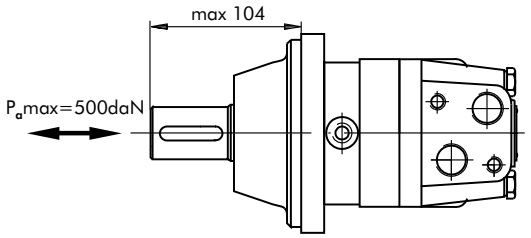
▽ - Motor Mounting Surface
N - for standart,A and F flange
N_1 - for Q flange
N_2 - for W flange

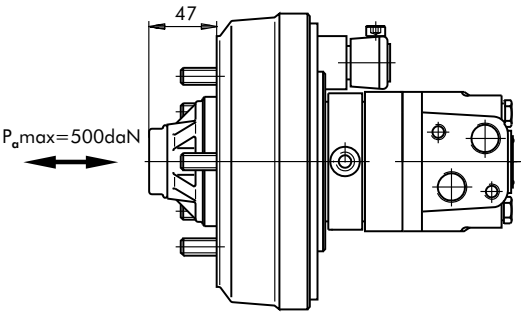
PERMISSIBLE SHAFT LOADS

The output shaft runs in tapered bearings that permit high axial and radial forces.
Curve "1" shows max. radial shaft load. Any shaft load exceeding the values quoted in the curve will seriously reduce motor life. The two other curves apply to a B10 bearing life of 3000 hours at 200 RPM.

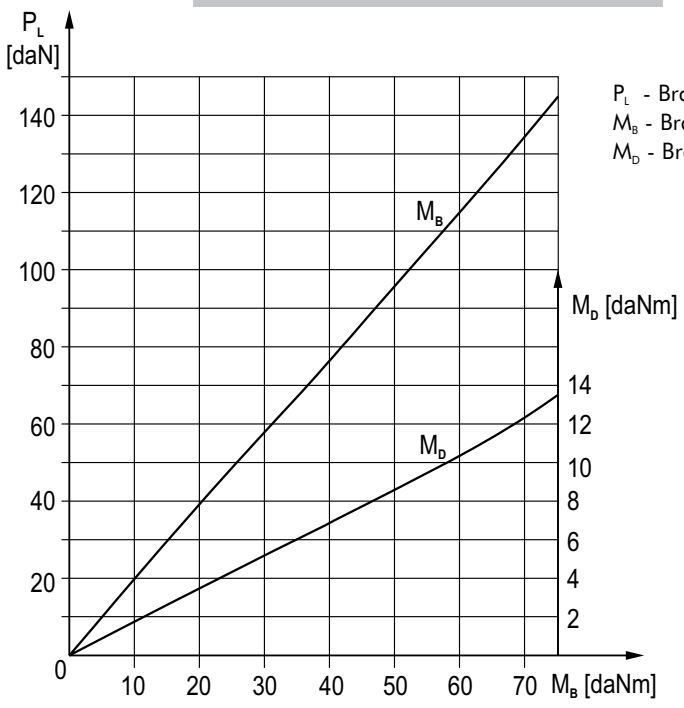








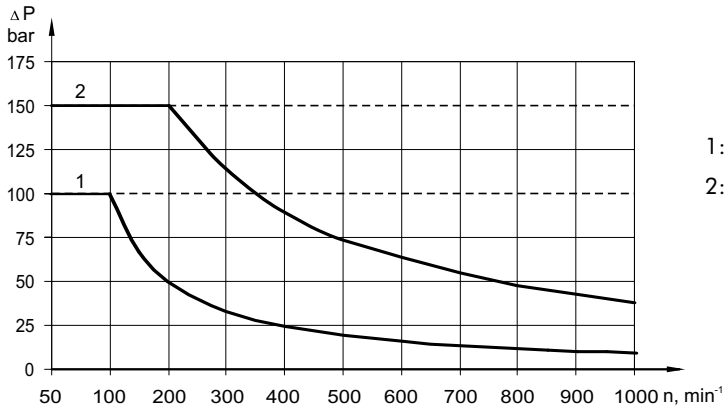
FUNCTION DIAGRAM MSB



P_L - Brake Lever Load
M_B - Brake Torque
M_D - Brake Lever Torque

MAX. PERMISSIBLE SHAFT SEAL PRESSURE

Max. return pressure without drain line or max. pressure in the drain line



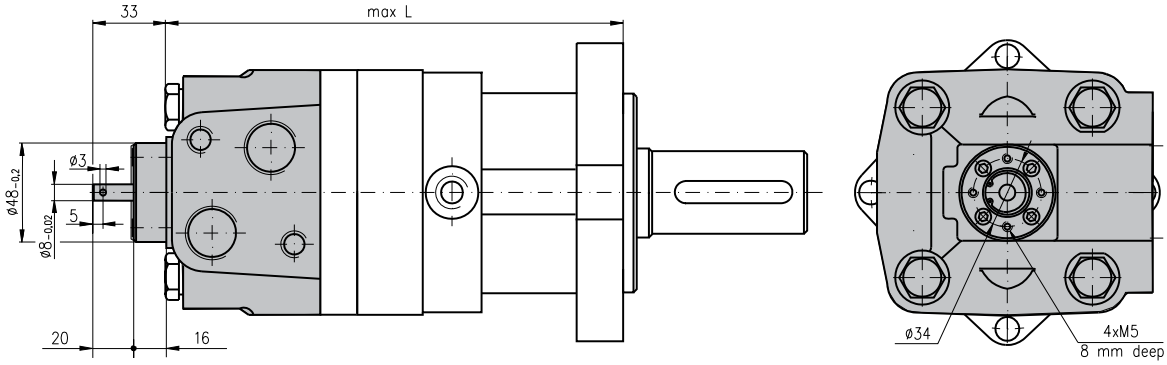
1: Drawing for Standard Shaft Seal

2: Drawing for High Pressure Seal ("**U**" Seal)

——— - continuous operations

- - - - - - intermittent operations

MOTORS WITH TACHO CONNECTION



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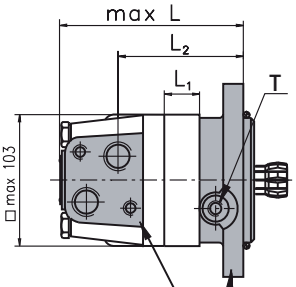
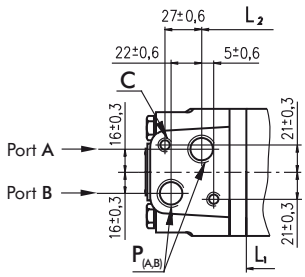
DIMENSIONS AND MOUNTING DATA - MSS, MSV and MSU

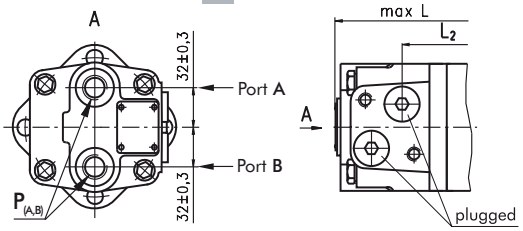


Porting

Side Ports

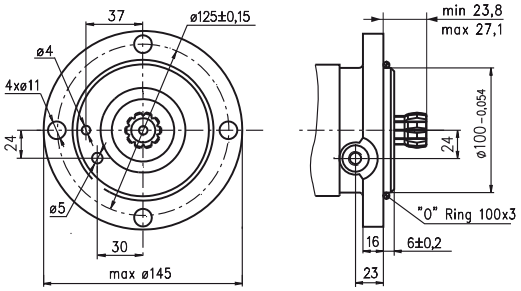


E Rear Ports

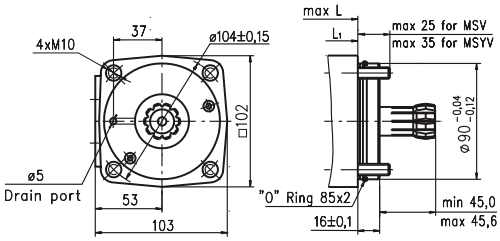


Mounting

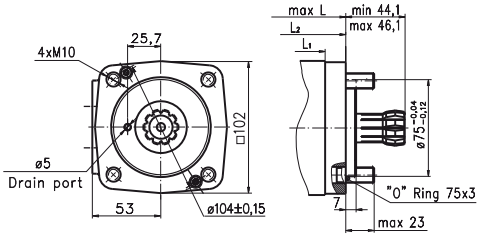
S Short Mount



V Very Short Mount



U Ultra Short Mount



C: 2xM10-12 mm depth
P$_{(A,B)}$: 2xG1/2 or 2xM22x1,5-15 mm depth
T: G ¼ or M14x1,5- 12 mm depth (plugged)

Standard Rotation
Viewed from Shaft End
Port **A** Pressurized - **CW**
Port **B** Pressurized - **CCW**

Reverse Rotation
Viewed from Shaft End
Port **A** Pressurized - **CCW**
Port **B** Pressurized - **CW**

Type	L, mm	L_2, mm	Type	L, mm	Type	L, mm	L_2, mm	Type	L, mm	Type	L, mm	L_2, mm	Type	L, mm	L_1, mm
MSS 80	125	83	MSSE 80	134	MSV 80	91	52	MSVE 80	97	MSU 80	105,5	63	MSUE 80	111,5	14
MSS 100	129	87	MSSE 100	138	MSV 100	94	55,5	MSVE 100	100	MSU 100	109	66,5	MSUE 100	115	17,4
MSS 125	133	90	MSSE 125	141	MSV 125	100	60	MSVE 125	105	MSU 125	113	71	MSUE 125	119	21,8
MSS 160	139	96	MSSE 160	147	MSV 160	106	66	MSVE 160	111	MSU 160	119	77	MSUE 160	125	27,8
MSS 200	146	103	MSSE 200	154	MSV 200	113	73	MSVE 200	118	MSU 200	126	84	MSUE 200	132	34,8
MSS 250	155	112	MSSE 250	163	MSV 250	121	81,5	MSVE 250	126	MSU 250	135	92,5	MSUE 250	141	43,5
MSS 315	166	123	MSSE 315	174	MSV 315	133	93	MSVE 315	138	MSU 315	146	104	MSUE 315	152	54,8
MSS 400	181	138	MSSE 400	189	MSV 400	147	108	MSVE 400	153	MSU 400	160	119	MSUE 400	167	69,4
MSS 475	194	152	MSSE 475	203	MSV 475	161	121	MSVE 475	166	MSU 475	174	132	MSUE 475	180	82,6
MSS 525	186	144	MSSE 525	195	MSV 525	153	113	MSVE 525	158	MSU 525	166	124	MSUE 525	172	74,5
MSS 565	192	150	MSSE 565	201	MSV 565	159	119	MSVE 565	164	MSU 565	172	130	MSUE 565	178	80,2

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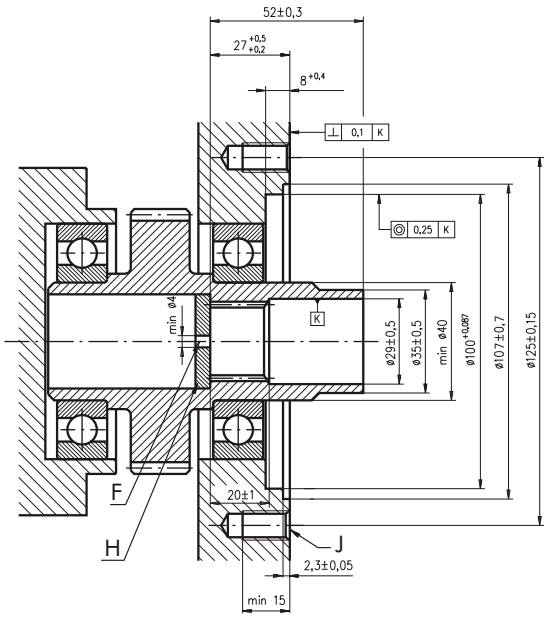
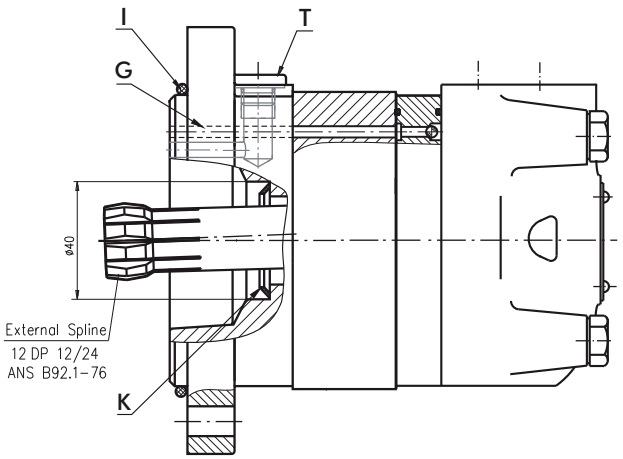
DIMENSIONS OF THE ATTACHED COMPONENT

For MSS

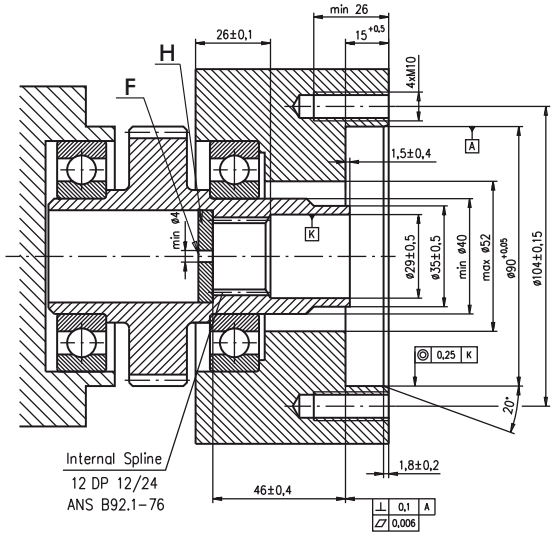


F: Oil circulation hole
H: Hardened stop plate
J: 4xM10-16 mm depth, 90°

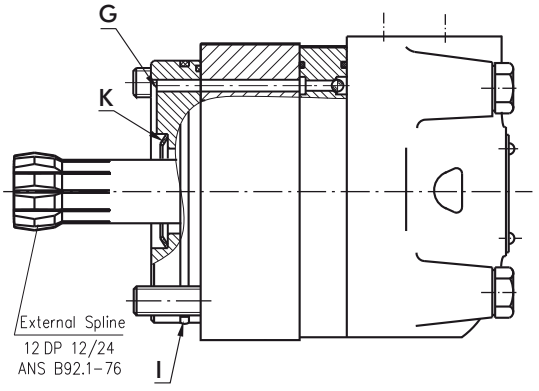


G: Internal drain channel
I : O- Ring 100x3mm
K: Conical seal ring
T: Drain connection G1/4 or M14x1,5

For MSV



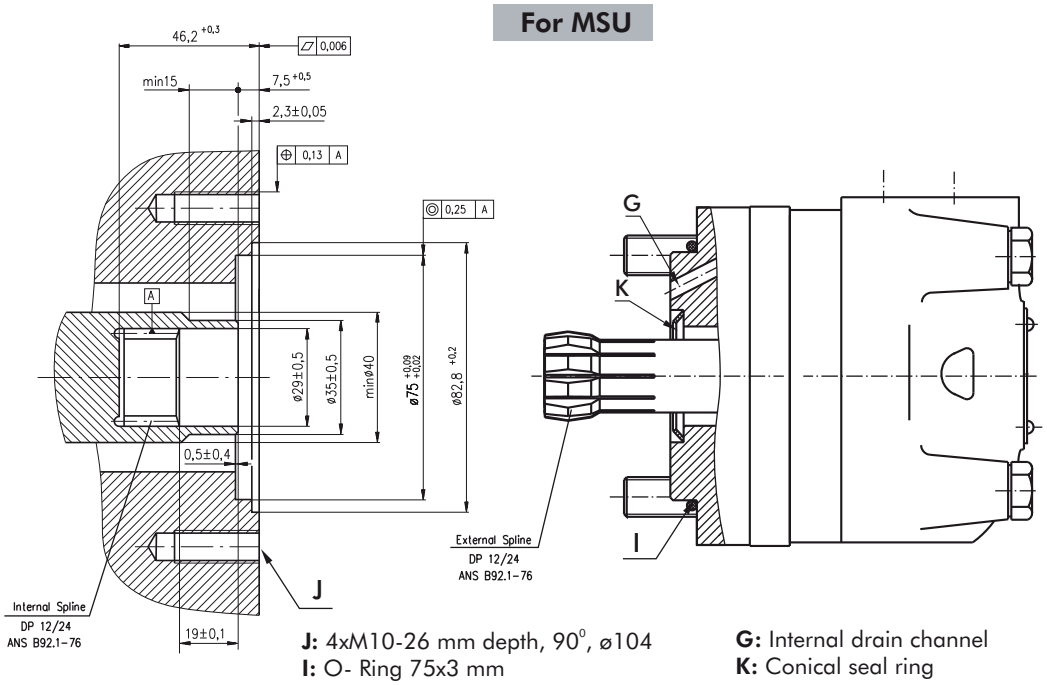
F: Oil circulation hole
H: Hardened stop plate



G: Internal drain channel
I: O- Ring 85x2 mm
K: Conical seal ring

DIMENSIONS OF THE ATTACHED COMPONENT(continued)

For MSU



J: 4xM10-26 mm depth, 90°, ø104
I: O- Ring 75x3 mm

G: Internal drain channel
K: Conical seal ring

DRAIN CONNECTION

A drain line ought to be used when pressure in the return line can exceed the permissible pressure. It can be connected:

- For MSS at the drain port of the motor;
- For MSV and MSU at the drain connection of the attached component. The maximum pressure in the drain line is limited by the attached component and its shaft seal.

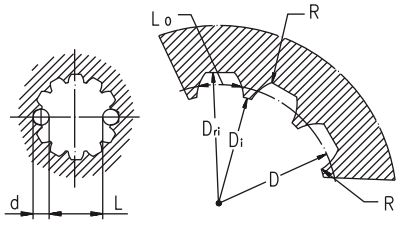
The drain line must be possible for oil to flow freely between motor and attached component and must be led to the tank. The maximum pressure in the drain line is limited by the attached component and its seal.

INTERNAL SPLINE DATA FOR THE ATTACHED COMPONENT

Standard ANS B92.1-1976, class 5
[m=2.1166; corrected x.m=+0,8]

Fillet Root Side Fit		mm
Number of Teeth	z	12
Diametral Pitch	DP	12/24
Pressure Angle		30°
Pitch Dia.	D	25,4
Major Dia.	Dri	$28,0_{-0,1}$
Minor Dia.	Di	$23,0^{+0,033}$
Space Width [Circular]	Lo	4,308±0,020
Fillet Radius	R	0,2
Max. Measurement between Pin	L	$17,62^{+0,15}$
Pin Dia.	d	4,835±0,001

Above are when hardened



Hardening Specification:
HV=750±50 on the surface
HV=560 at 0,7±0,2 mm case depth
Material 20 MoCr4 EN 10084 or better

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ORDER CODE

	1	2	3	4	5	6	7	8	9
M S									

Pos.1 - Mounting Flange

omit - SAE A-4 mount, four holes
A - SAE A-2 mount, two holes
F - Magneto mount, four holes
Q - Square mount, four holes
B - Motor with drum brake
S - Short mount
V - Very short mount
U - Ultra short mount
W - Wheel mount

Pos.2 - Port type

omit - Side ports
E - Rear ports

Pos.3 - Displacement code

80 - 80,5 [cm^3/rev]
100 - 100,0 [cm^3/rev]
125 - 125,7 [cm^3/rev]
160 - 159,7 [cm^3/rev]
200 - 200,0 [cm^3/rev]
250 - 250,0 [cm^3/rev]
315 - 314,9 [cm^3/rev]
400 - 397,0 [cm^3/rev]
475 - 474,6 [cm^3/rev]
525 - 522,7 [cm^3/rev]
565 - 564,9 [cm^3/rev]

Pos.4 - Shaft Extensions*

omit - for **B**, **S**, **U** and **V** mounting flange
C - ø32 straight, Parallel key A10x8x45 DIN6885
CO - ø1¼" straight, Parallel key $^5/_{16}$"x$^5/_{16}$"x1¼" BS46
K - ø35 tapered 1:10, Parallel key B6x6x20 DIN6885
SL - ø34,85 p.t.o. DIN 9611 Form 1
SH - ø1¼" splined 14T ANSI B92.1-1976

Pos. 5 - Shaft Seal Version (see page 19)

omit - Low pressure seal
U - High pressure seal

Pos. 6 - Ports

omit - BSPP (ISO 228)
M - Metric (ISO 262)

Pos. 7 - Actuating Direction**

/R - Right
/L - Left

Pos. 8 - Special Features (see page 65)

Pos. 9 - Design Series

omit - Factory specified

NOTES:
* The permissible output torque for shafts must not be exceeded!
** Only for MSB

The hydraulic motors are mangano-phosphatized as standard.

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Planetenrollermotor Serie MT

Bestellnr.	Typ	Code
080-050-02200	Planetenrollermotor 161,1ccm-W:Ø40	MT160C
080-050-02250	Planetenrollermotor 201,4ccm-W:Ø40	MT200C
080-050-02300	Planetenrollermotor 251,8ccm-W:Ø40	MT250C
080-050-02350	Planetenrollermotor 326,3ccm-W:Ø40	MT315C
080-050-02400	Planetenrollermotor 410,9ccm-W:Ø40	MT400C
080-050-02450	Planetenrollermotor 523,6ccm-W:Ø40	MT500C
080-050-02500	Planetenrollermotor 612,3ccm-W:Ø40	MT630C
080-050-02550	Planetenrollermotor 725ccm-W:Ø40	MT725C

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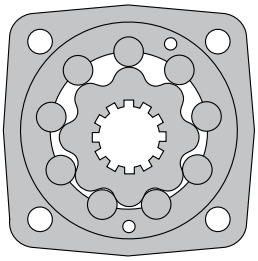
HYDRAULIC MOTORS MT

APPLICATION

- » Conveyors
- » Metal working machines
- » Machines for agriculture
- » Road building machines
- » Mining machinery
- » Food industries
- » Special vehicles
- » Plastic and rubber machinery etc.



CONTENTS

OPTIONS

- » Model- Disc valve, roll-gerotor
- » Flange with wheel mount
- » Short motor
- » Tacho connection
- » Speed sensoring
- » Side and rear ports
- » Shafts- straight, splined and tapered
- » Metric and BSPP ports
- » Other special features

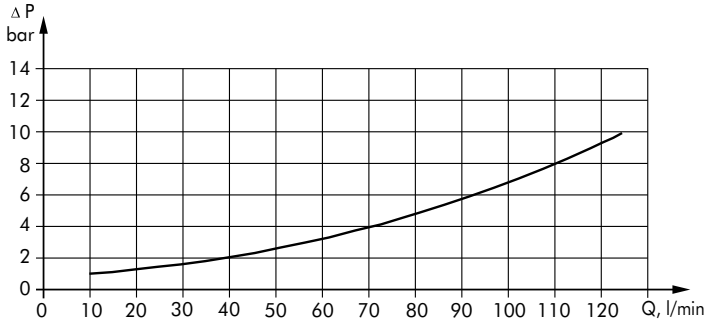
GENERAL

Displacement, [cm^3/rev.]	161,1÷725
Max. Speed, [RPM]	175÷625
Max. Torque, [daNm]	47÷125
Max. Output, [kW]	20,2÷33,5
Max. Pressure Drop, [bar]	115÷200
Max. Oil Flow, [l/min]	100÷125
Min. Speed, [RPM]	5÷10
Permissible Shaft Loads, [daN]	P_a=1000
Pressure fluid	Mineral based- HLP(DIN 51524) or HM(ISO 6743/4)
Temperature range, [°C]	-30÷90
Optimal Viscosity range, [mm^2/s]	20÷75
Filtration	ISO code 20/16 (Min. recommended fluid filtration of 25 micron)

Oil flow in drain line

Pressure drop (bar)	Viscosity (mm^2/s)	Oil flow in drain line (l/min)
140	20	2,5
	35	1,5
210	20	5
	35	3

Pressure Losses



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HYDRAULIK MASCHINEN TECHNIK

SPECIFICATION DATA

Type		MT 160	MT 200	MT 250	MT 315	MT 400	MT 500	MT 630	MT 725
Displacement [cm³/rev.]		161,1	201,4	251,8	326,3	410,9	523,6	631,2	724,3
Max. Speed,	cont.	625	625	500	380	305	240	197	164
[RPM]	Int.*	780	750	600	460	365	285	234	199
Max. Torque	cont.	47	59	73	95	108	122	138	153
[daNm]	Int.*	56	71	88	114	126	137	155	172
	peak**	66	82	102	133	144	160	180	200
Max. Output	cont.	26,5	33,5	33,5	33,5	30	26,5	24,3	20,2
[kW]	int.*	32	40	40	40	35	30	27,5	26,8
Max. Pressure Drop	cont.	200	200	200	200	180	160	140	120
[bar]	Int.*	240	240	240	240	210	180	160	140
	peak**	280	280	280	280	240	210	190	165
Max. Oil Flow	cont.	100	125	125	125	125	125	125	125
[l/min]	Int.*	125	150	150	150	150	150	151,4	151,4
Max. Inlet Pressure	cont.	210	210	210	210	210	210	210	210
[bar]	Int.*	250	250	250	250	250	250	250	250
	peak**	300	300	300	300	300	300	300	300
Max. Return Pressure	cont.	140	140	140	140	140	140	140	140
with Drain Line	Int.*	175	175	175	175	175	175	175	175
[bar]	peak**	210	210	210	210	210	210	210	210
Max. Starting Pressure with Unloaded Shaft, [bar]		10	10	10	10	10	10	10	10
Min. Starting Torque	at max. press. drop cont.	34	43	53	74	84	95	95	95
[daNm]	at max. press. drop Int.*	41	52	63	89	97	106	110	115
Min. Speed***, [RPM]		10	9	8	7	6	5	5	5
Weight, [kg]	MT	20	20,5	21	22	23	24	23,5	24,5
For Rear Ports	MTW	22	22,5	23	24	25	26	25,5	26,5
+0,45 kg	MTS	15	15,5	16	17	18	19	18,5	19,5
	MTV	11	11,5	12	13	14	15	14,5	15,5

* Intermittent operation: the permissible values may occur for max. 10% of every minute.
** Peak load: the permissible values may occur for max. 1% of every minute.
*** For speeds of 5 RPM lower than given, consult factory or your regional manager.

1) Intermittent speed and intermittent pressure must not occur simultaneously.
2) Recommended filtration is per ISO cleanliness code 20/16. A nominal filtration of 25 micron or better.
3) Recommend using a premium quality, anti-wear type mineral based hydraulic oil, HLP(DIN51524) or HM(ISO6743/4). If using synthetic fluids consult the factory for alternative seal materials.
4) Recommended minimum oil viscosity 13 mm²/s at 50°C.
5) Recommended maximum system operating temperature is 82°C.
6) To assure optimum motor life fill with fluid prior to loading and run at moderate load and speed for 10-15 minutes.

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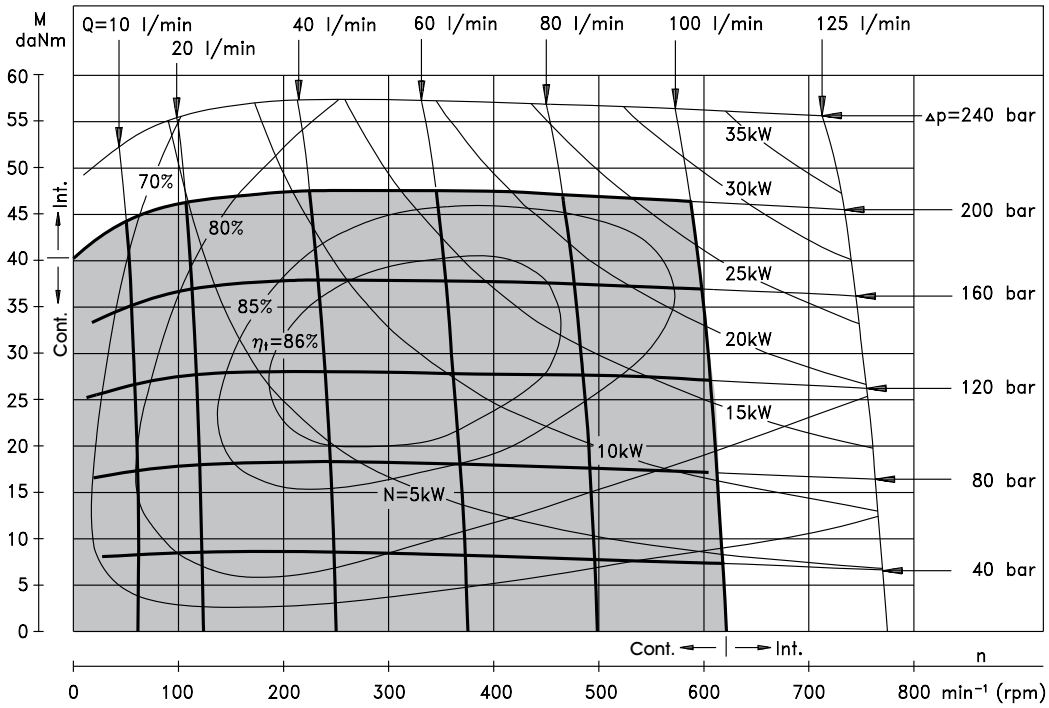
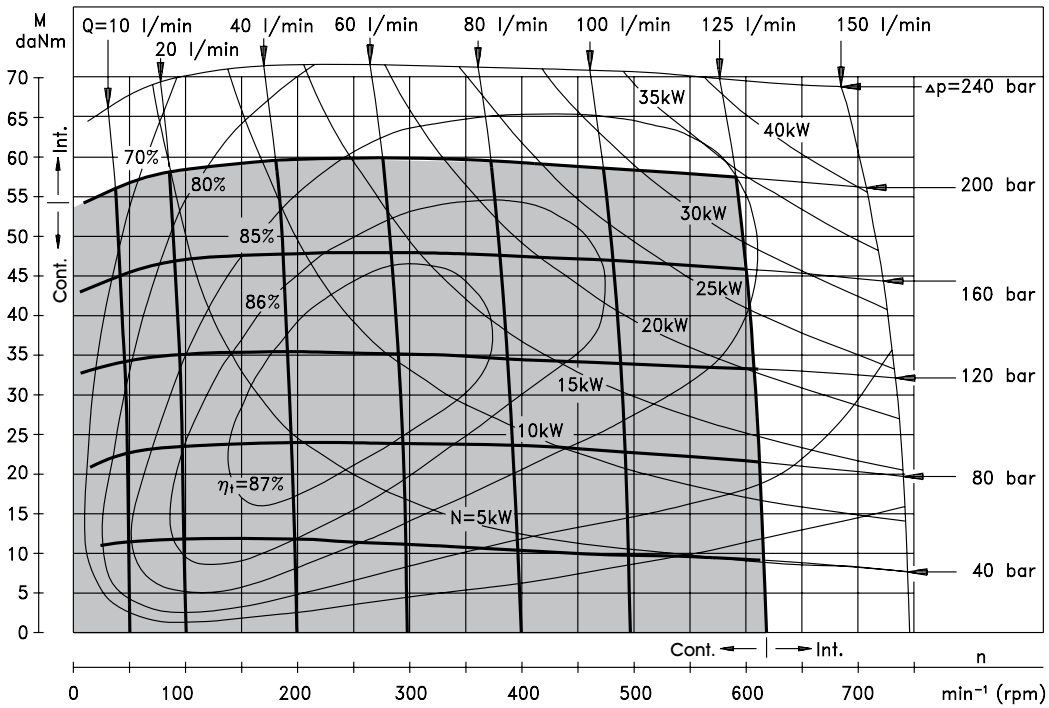
HYDRAULIK MASCHINEN TECHNIK

FUNCTION DIAGRAMS

MT 160



MT 200



The function diagrams data was collected at back pressure 5÷10 bar and oil with viscosity of 32 mm²/s at 50° C.

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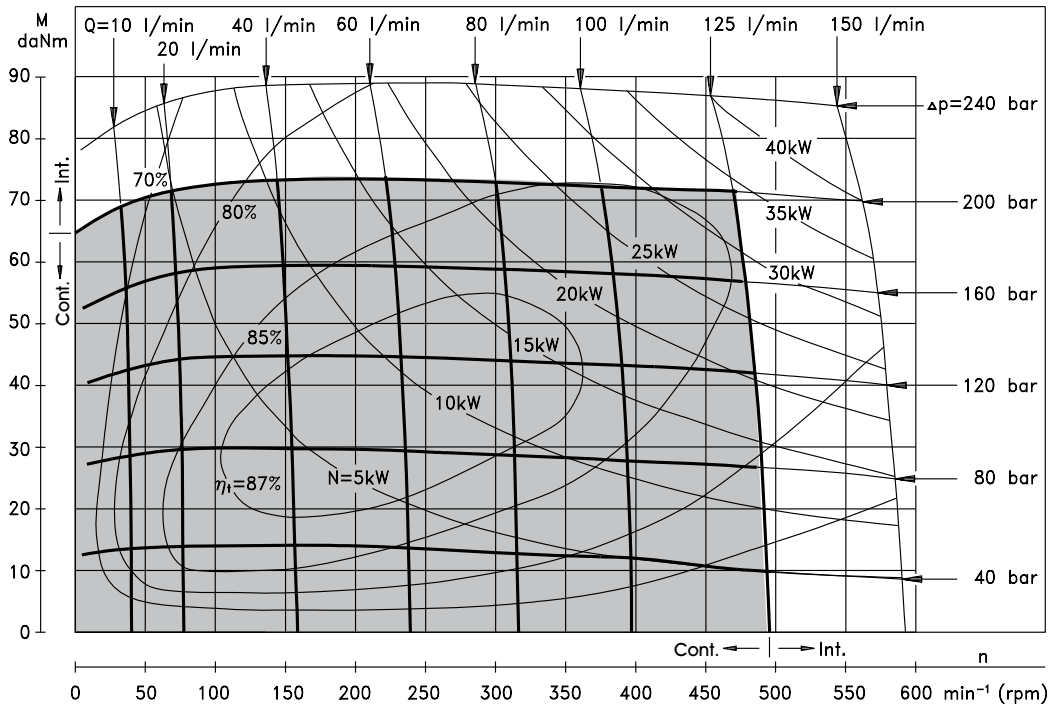
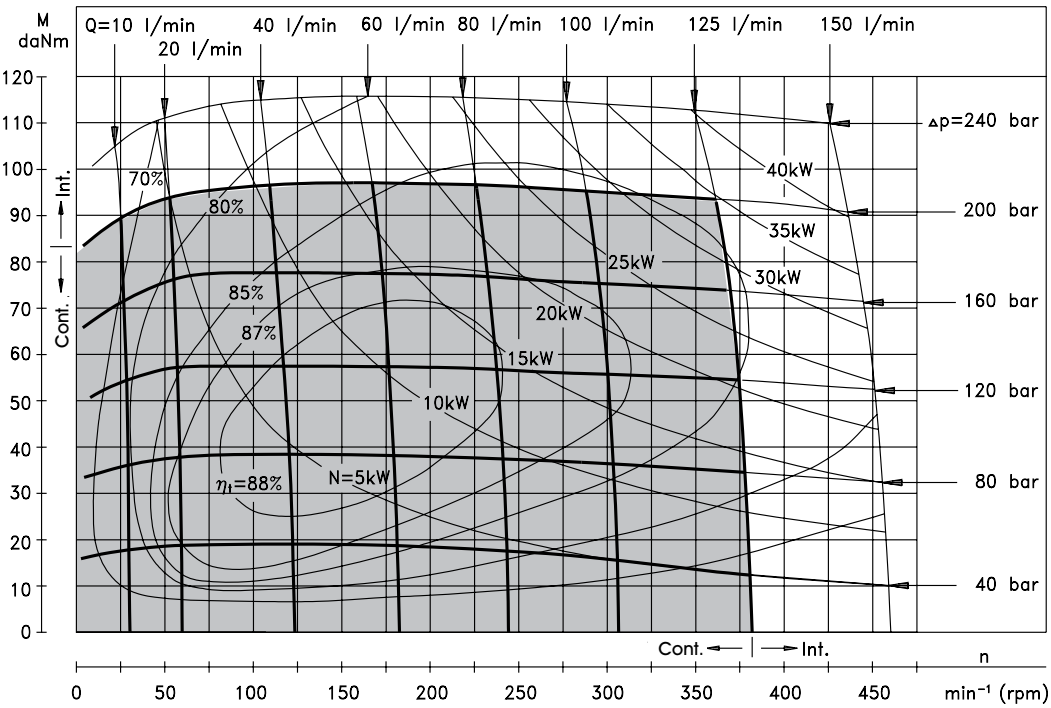
FUNCTION DIAGRAMS

MT 250



MT 315



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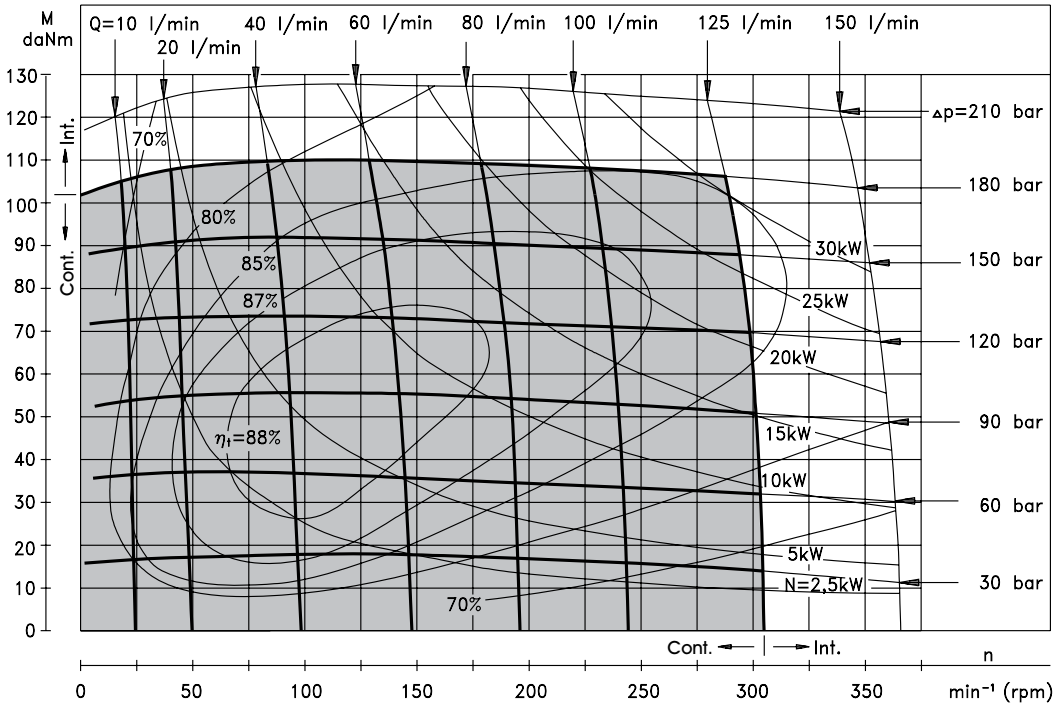
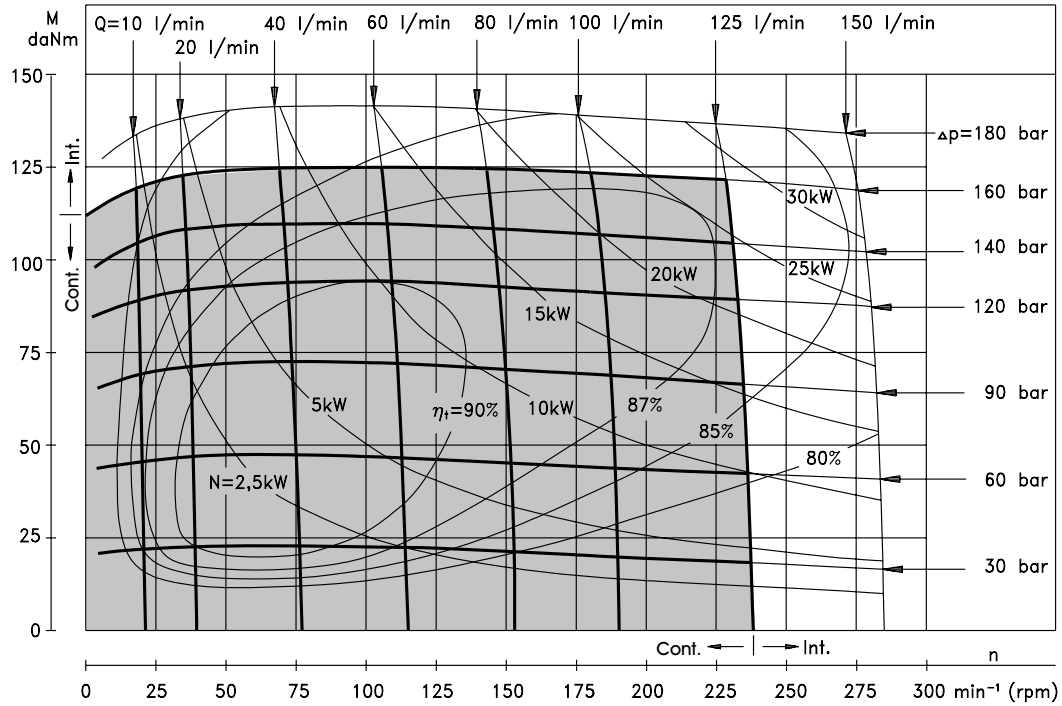
FUNCTION DIAGRAMS

MT 400



MT 500



The function diagrams data was collected at back pressure 5÷10 bar and oil with viscosity of 32 mm²/s at 50° C.

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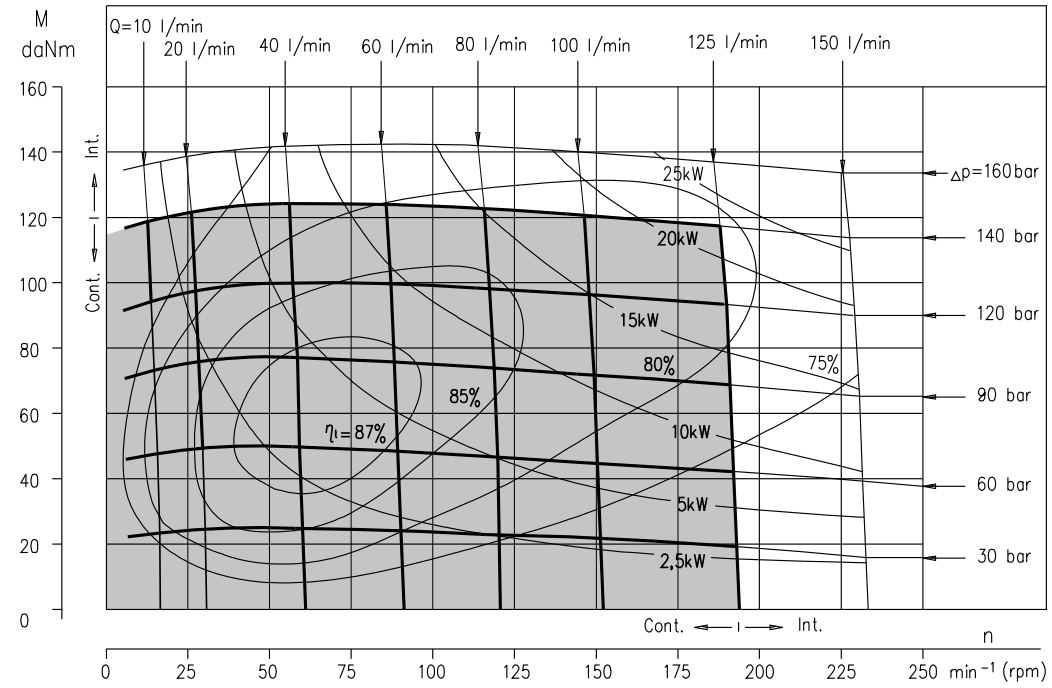
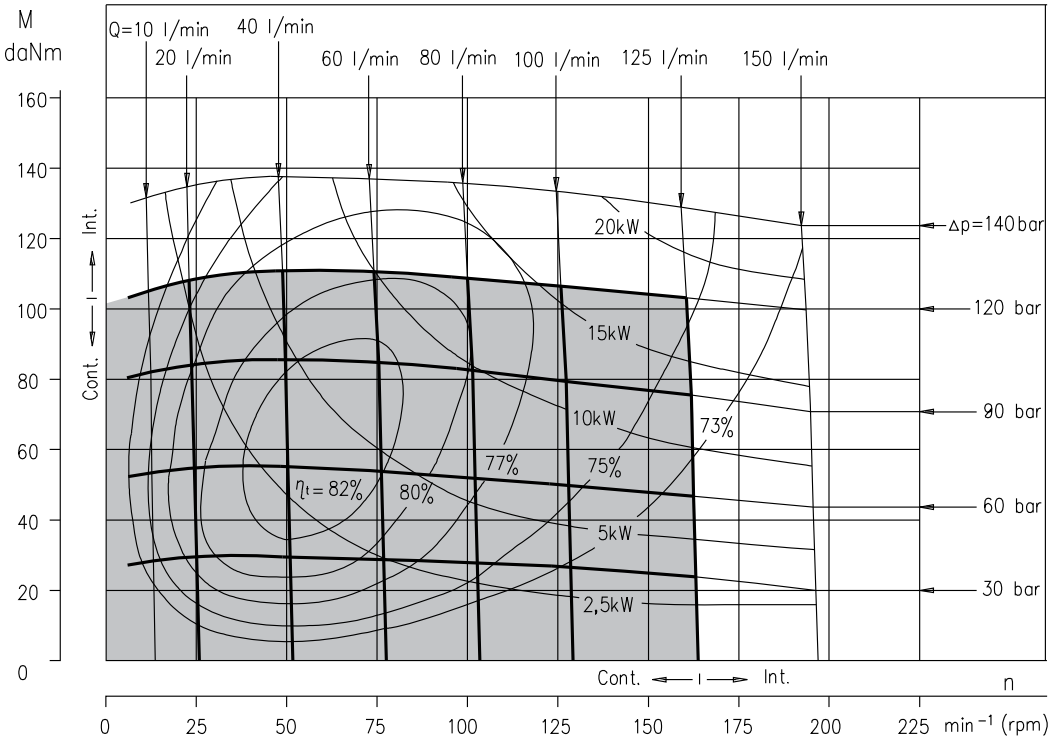
FUNCTION DIAGRAMS

MT 630



MT 725



The function diagrams data was collected at back pressure 5÷10 bar and oil with viscosity of 32 mm²/s at 50° C.

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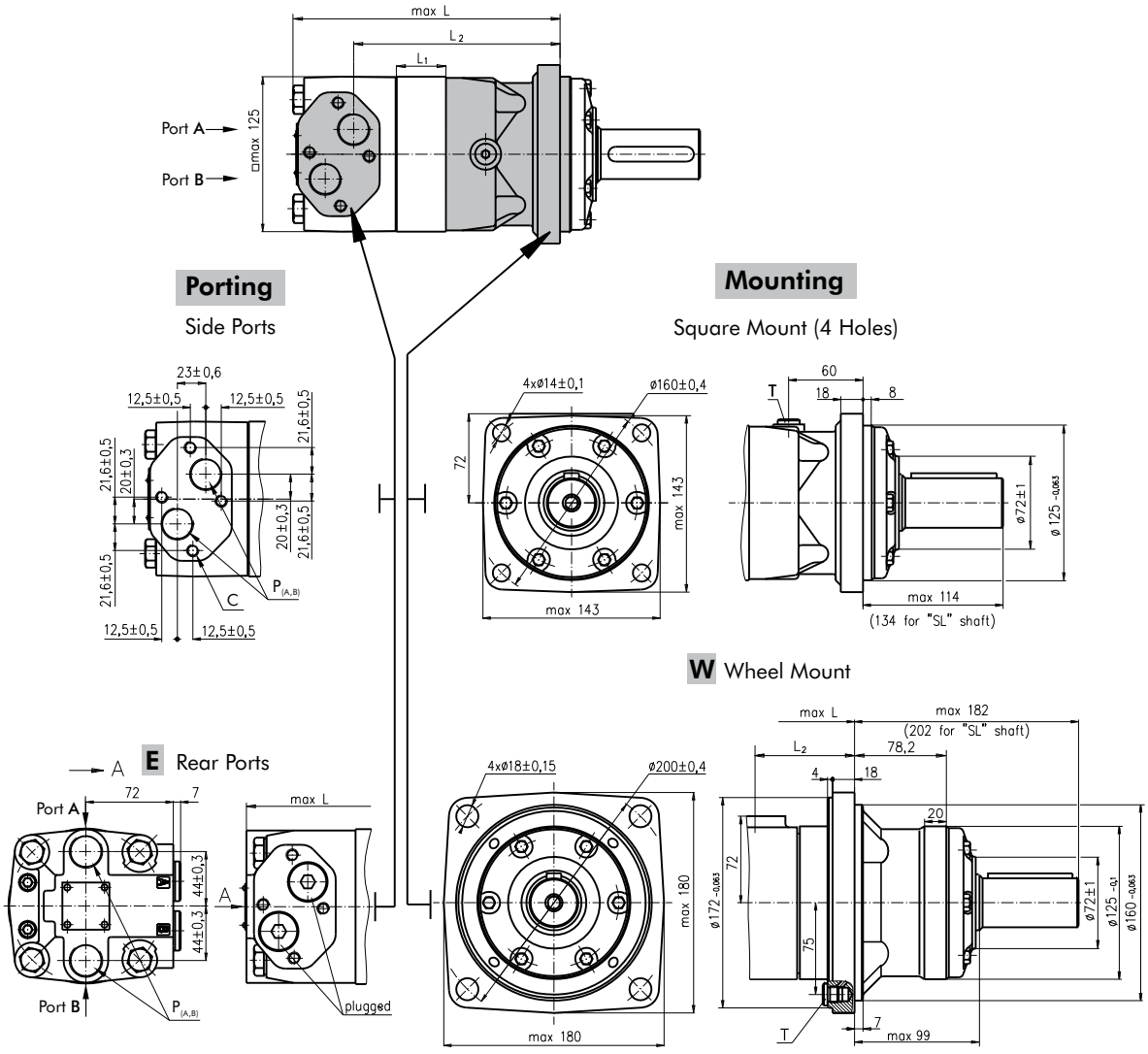
HYDRAULIK MASCHINEN TECHNIK

DIMENSIONS AND MOUNTING DATA



Standard Rotation
Viewed from Shaft End
Port **A** Pressurized - **CW**
Port **B** Pressurized - **CCW**

Reverse Rotation
Viewed from Shaft End
Port **A** Pressurized - **CCW**
Port **B** Pressurized - **CW**

C: 4xM10-10 mm depth
P(A,B): 2xG3/4 or 2xM27x2-17 mm depth
T: G 1/4 or M14x1,5 - 12 mm depth (plugged)

Type	L, mm	Type	L, mm	L_2, mm	Type	L, mm	Type	L, mm	L_2, mm	*L_1, mm
MT 160	190	MTE 160	200	140	MTW 160	123	MTWE 160	133	73	16,5
MT 200	195	MTE 200	205	145	MTW 200	128	MTWE 200	138	78	21,5
MT 250	201	MTE 250	211	151	MTW 250	134	MTWE 250	144	84	27,8
MT 315	211	MTE 315	221	161	MTW 315	144	MTWE 315	154	94	37,0
MT 400	221	MTE 400	231	171	MTW 400	154	MTWE 400	164	104	47,5
MT 500	235	MTE 500	245	185	MTW 500	168	MTWE 500	178	118	61,5
MT 630	231	MTE 630	241	181	MTW 630	164	MTWE 630	174	114	57,5
MT 725	240	MTE 725	250	190	MTW 725	173	MTWE 725	183	123	66,5

* The width of the roll-gerotor is 3,5 mm greater than L_1.

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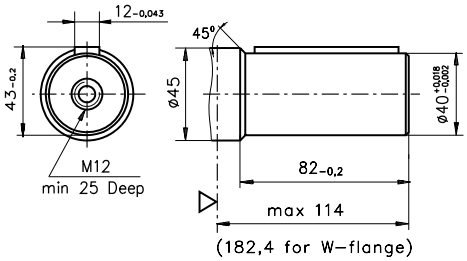
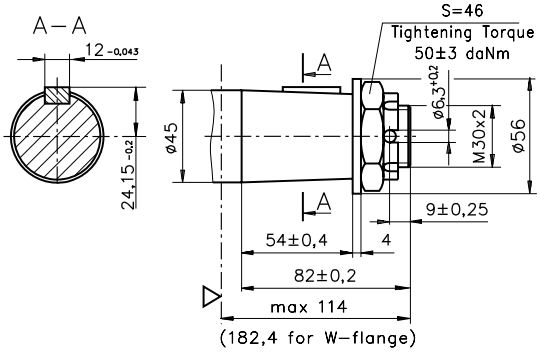
SHAFT EXTENSIONS

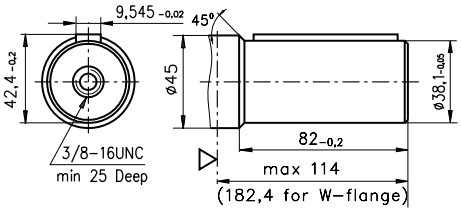
C -ø40 straight, Parallel key A12x8x70 DIN 6885
Max. Torque 132,8 daNm



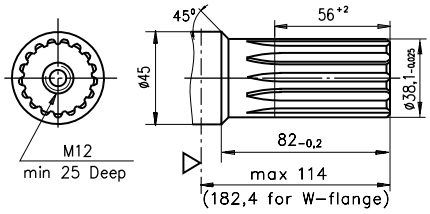
K -tapered 1:10, Parallel key B12x8x28 DIN 6885
Max. Torque 210,7 daNm



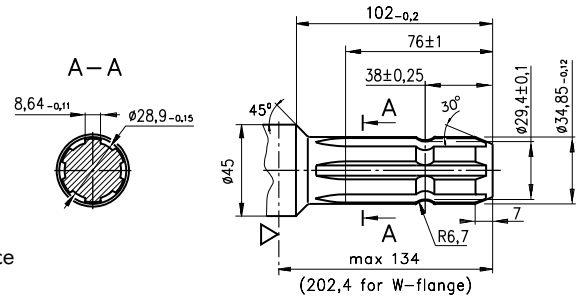
CO -ø1½" straight, Parallel key ⅜"x ⅜"x 2¼" BS46
Max. Torque 132,8 daNm



SH -ø1½" splined 17T, DP 12/24 ANSI B92.1-1976
Max. Torque 132,8 daNm



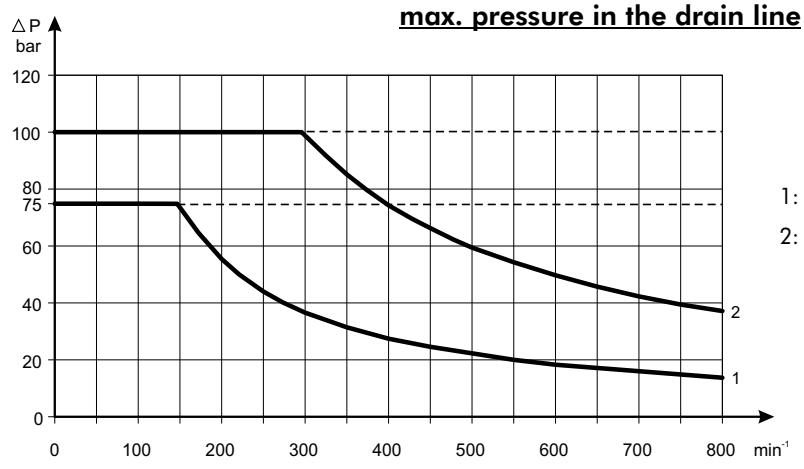
SL -ø34,85 p.t.o. DIN 9611 Form 1
Max. Torque 77 daNm



▽ - Motor Mounting Surface

MAX. PERMISSIBLE SHAFT SEAL PRESSURE for MT motors

Max. return pressure without drain line or max. pressure in the drain line



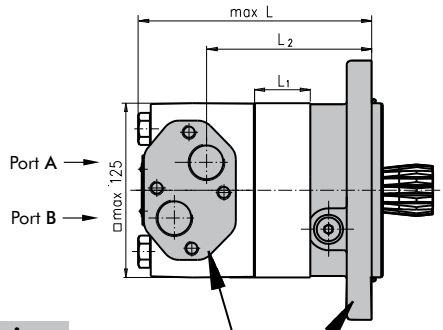
1: Drawing for Standard Shaft Seal

2: Drawing for High Pressure Seal ("**U**" Seal)

——— - continuous operations

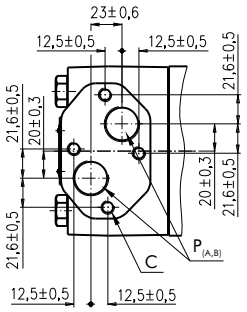
– – – – – - intermittent operations

DIMENSIONS AND MOUNTING DATA - MTS and MTV



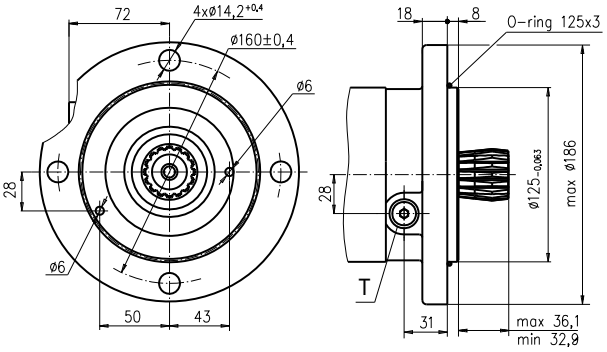
Porting

Side Ports

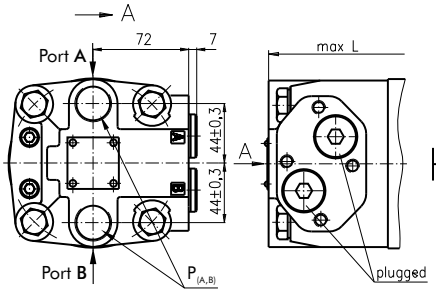


Mounting

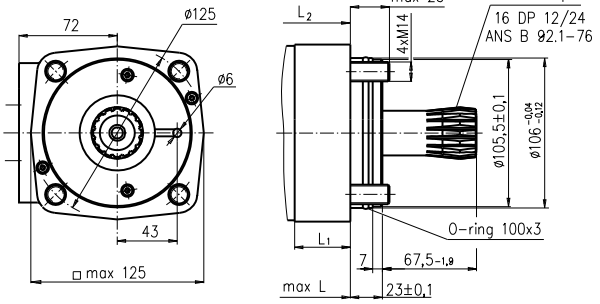
S - Short Mount



E Rear Ports



V - Very Short Mount



Standard Rotation
Viewed from Shaft End
Port **A** Pressurized - **CW**
Port **B** Pressurized - **CCW**

Reverse Rotation
Viewed from Shaft End
Port **A** Pressurized - **CCW**
Port **B** Pressurized - **CW**

C: 4xM10-10 mm depth
P$_{(A,B)}$: 2xG3/4 or 2xM27x2-17 mm depth
T: G ¼ or M14x1,5 - 12 mm depth (plugged)

Type	L, mm	Type	L, mm	L_2, mm	Type	L, mm	Type	L, mm	L_2, mm	*L_1, mm
MTS 160	146	MTSE 160	156	96	MTV 160	101	MTVE 160	111	51,5	16,5
MTS 200	151	MTSE 200	161	101	MTV 200	106	MTVE 200	116	56,5	21,5
MTS 250	157	MTSE 250	167	107	MTV 250	112	MTVE 250	122	62,8	27,8
MTS 315	166	MTSE 315	176	116	MTV 315	121	MTVE 315	131	72	37,0
MTS 400	177	MTSE 400	187	127	MTV 400	132	MTVE 400	142	82,5	47,5
MTS 500	191	MTSE 500	201	142	MTV 500	146	MTVE 500	156	96,5	61,5
MTS 630	187	MTSE 630	197	138	MTV 630	142	MTVE 630	152	92,5	57,5
MTS 725	196	MTSE 725	206	147	MTV 725	151	MTVE 725	161	101,5	66,5

* The width of the roll-gerotor is 3,5 mm greater than L_1.

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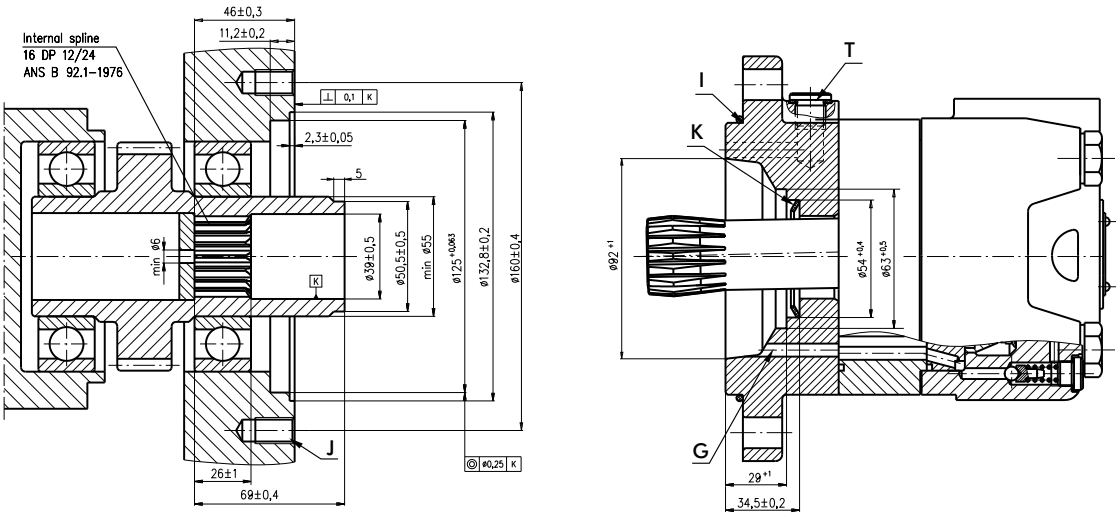
DIMENSIONS OF THE ATTACHED COMPONENT

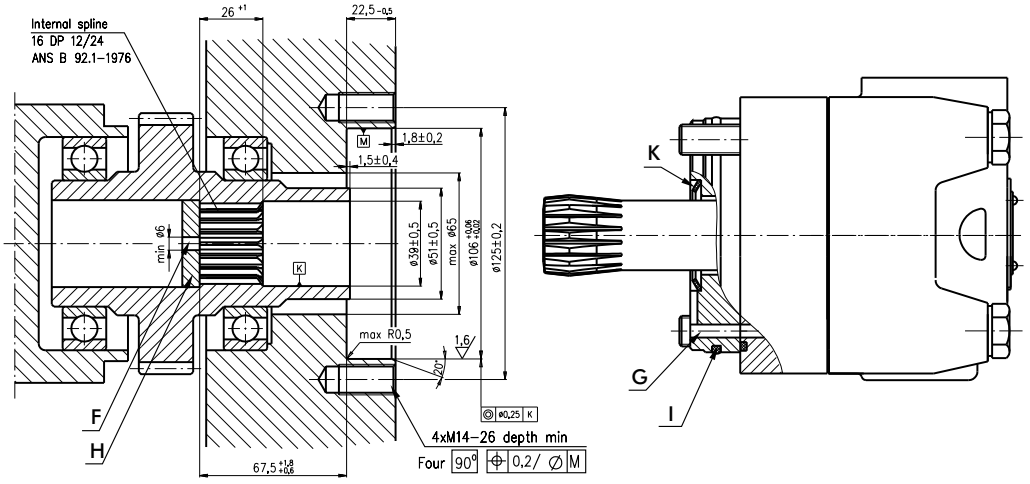
MTS



F: Oil circulation hole
G: Internal drain channel
H: Hardened stop plate

I: O- Ring 125x3mm
J: 4xM12-18 mm depth, 90°
K: Conical seal ring
T: Drain connection G1/4 or M14x1,5

MTV



F: Oil circulation hole
G: Internal drain channel
H: Hardened stop plate
I: O- Ring 100x3mm
K: Conical seal ring

DRAIN CONNECTION

A drain line ought to be used when pressure in the return line can exceed the permissible pressure. It can be connected:

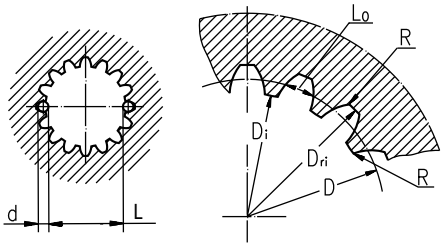
- For MTS at the drain port of the motor;
- For MTV at the drain connection of the attached component. The maximum pressure in the drain line is limited by the attached component and its shaft seal.

The drain line must be possible for oil to flow freely between motor and attached component and must be led to the tank. The maximum pressure in the drain line is limited by the attached component and its seal.

INTERNAL SPLINE DATA FOR THE ATTACHED COMPONENT

Standard ANS B92.1-1976, class 5
[m=2.1166; corrected x.m=+1,0]

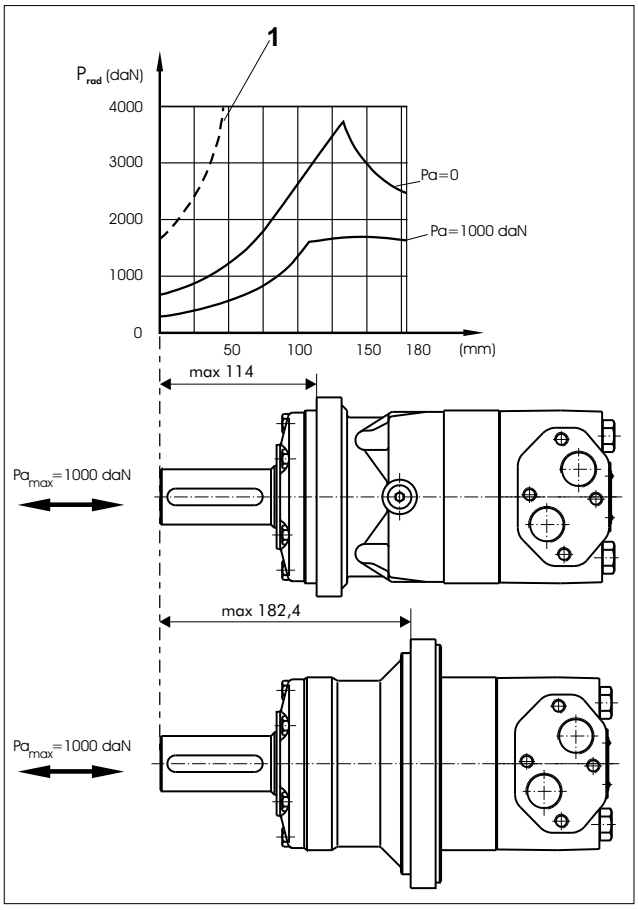
Fillet Root Side Fit		mm
Number of Teeth	z	16
Diametral Pitch	DP	12/24
Pressure Angle		30^{O}
Pitch Dia.	D	33,8656
Major Dia.	Dri	$38,4^{+0,4}$
Minor Dia.	Di	$32,15^{+0,04}$
Space Width [Circular]	Lo	4,516±0,037
Fillet Radius	R	0,5
Max. Measurement between Pin	L	$26,9^{+0,10}$
Pin Dia.	d	4,835±0,001



Hardening Specification:
HV=750±50 on the surface
HV=560 at 0,7±0,2 mm case depth
Material 20 MoCr4 EN 10084 or better

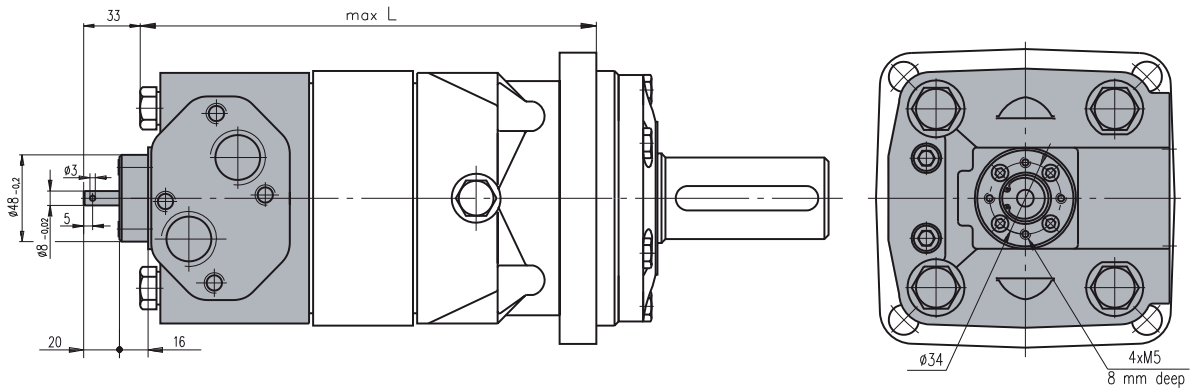
PERMISSIBLE SHAFT LOADS

The output shaft runs in tapered bearings that permit high axial and radial forces.
Curve "**1**" shows max. radial shaft load. Any shaft load exceeding the values quoted in the curve will seriously reduce motor life. The two other curves apply to a B10 bearing life of 3000 hours at 200 RPM.



HYMATEC GMBH
HYDRAULIK MASCHINEN TECHNIK

MOTORS WITH TACHO CONNECTION



ORDER CODE

	1	2	3	4	5	6	7	8
M T								

Pos.1 - Mounting Flange

omit - Square mount, four holes
S - Short mount
V - Very short mount
W - Wheel mount

Pos.2 - Port type

omit - Side ports
E - Rear ports

Pos.3 - Displacement code

160 - 161,1 [cm³/rev]
200 - 201,4 [cm³/rev]
250 - 251,8 [cm³/rev]
315 - 326,3 [cm³/rev]
400 - 410,9 [cm³/rev]
500 - 523,6 [cm³/rev]
630 - 631,2 [cm³/rev]
725 - 724,3 [cm³/rev]

Pos.4 - Shaft Extensions*

omit - for **S** and **V** mounting flange
C - ø40 straight, Parallel key A12x8x70 DIN6885
CO - ø1½ " straight, Parallel key $^{3}/_{8}$"x$^{3}/_{8}$"x2¼" BS46
K - ø45 tapered 1:10, Parallel key B12x8x28 DIN6885
SL - ø34,85 p.t.o. DIN 9611 Form 1
SH - ø1½" splined 17T ANS B92.1-1976

Pos.5 - Shaft Seal Version (see page 38)

omit - Low pressure seal
U - High pressure seal

Pos.6 - Ports

omit - BSPP (ISO 228)
M - Metric (ISO 262)

Pos.7 - Special Features (see page 65)

Pos.8 - Design Series

omit - Factory specified

NOTES:

* The permissible output torque for shafts must not be exceeded!

The hydraulic motors are mangano-phosphatized as standard.

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Lamellenbremse Serie LB

Bestellnr.	Typ	Code
080-300-01000	Lamellenbremse - Eing.Ø25-Ausg.Ø25 - 7daNm	LB-288-C-7-C
080-300-01050	Lamellenbremse - Eing.Ø25-Ausg.Ø25 - 14daNm	LB-288-C-14-C
080-300-01100	Lamellenbremse - Eing.Ø25-Ausg.Ø25 - 21daNm	LB-288-C-21-C
080-300-01150	Lamellenbremse - Eing.Ø25-Ausg.Ø25 - 32daNm	LB-288-C-32-C
080-300-01200	Lamellenbremse - Eing.Ø25-Ausg.Ø25 - 43daNm	LB-288-C-43-C
080-300-01250	Lamellenbremse - Eing.Ø25-Ausg.Ø25 - 63daNm	LB-288-C-63-C
080-300-01300	Lamellenbremse - Eing.Ø25-Ausg.Ø32 - 7daNm	LB-288-C-7-CB
080-300-01350	Lamellenbremse - Eing.Ø25-Ausg.Ø32 - 14daNm	LB-288-C-14-CB
080-300-01400	Lamellenbremse - Eing.Ø25-Ausg.Ø32 - 21daNm	LB-288-C-21-CB
080-300-01450	Lamellenbremse - Eing.Ø25-Ausg.Ø32 - 32daNm	LB-288-C-32-CB
080-300-01500	Lamellenbremse - Eing.Ø25-Ausg.Ø32 - 43daNm	LB-288-C-43-CB
080-300-01550	Lamellenbremse - Eing.Ø25-Ausg.Ø32 - 63daNm	LB-288-C-63-CB
080-300-01600	Lamellenbremse - Eing.Ø32-Ausg.Ø25 - 7daNm	LB-288-CB-7-C
080-300-01650	Lamellenbremse - Eing.Ø32-Ausg.Ø25 - 14daNm	LB-288-CB-14-C
080-300-01700	Lamellenbremse - Eing.Ø32-Ausg.Ø25 - 21daNm	LB-288-CB-21-C
080-300-01750	Lamellenbremse - Eing.Ø32-Ausg.Ø25 - 32daNm	LB-288-CB-32-C
080-300-01800	Lamellenbremse - Eing.Ø32-Ausg.Ø25 - 43daNm	LB-288-CB-43-C
080-300-01850	Lamellenbremse - Eing.Ø32-Ausg.Ø25 - 63daNm	LB-288-CB-63-C
080-300-01900	Lamellenbremse - Eing.Ø32-Ausg.Ø32 - 7daNm	LB-288-CB-7-CB
080-300-01950	Lamellenbremse - Eing.Ø32-Ausg.Ø32 - 14daNm	LB-288-CB-14-CB
080-300-02000	Lamellenbremse - Eing.Ø32-Ausg.Ø32 - 21daNm	LB-288-CB-21-CB
080-300-02050	Lamellenbremse - Eing.Ø32-Ausg.Ø32 - 32daNm	LB-288-CB-32-CB
080-300-02100	Lamellenbremse - Eing.Ø32-Ausg.Ø32 - 43daNm	LB-288-CB-43-CB
080-300-02150	Lamellenbremse - Eing.Ø32-Ausg.Ø32 - 63daNm	LB-288-CB-63-CB

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HYDRAULIC DISC BRAKES LB, LBS, LBV- Wet

APPLICATION

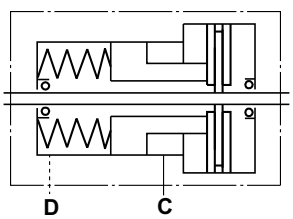
- » Heavy Duty machinery
- » Wheel drives
- » Material handling
- » Mining
- » Agriculture
- » Conveyors
- » Door openers and swing drives etc.

GENERAL

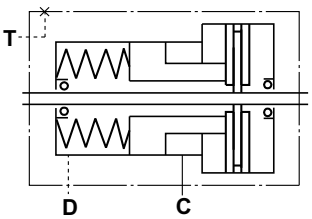
Fluid type	Mineral based- HLP(DIN 51524) or HM(ISO 6743/4)
Temperature range, °C	-30÷90
Viscosity range, mm^2/s	20÷75
Filtration	ISO code 20/16 (nominal filtration of 25 micron)
Maintenance	Changed after the first 50-100 h, then after every 500-1500 h.

CONTENTS

LB, LBS



LBV



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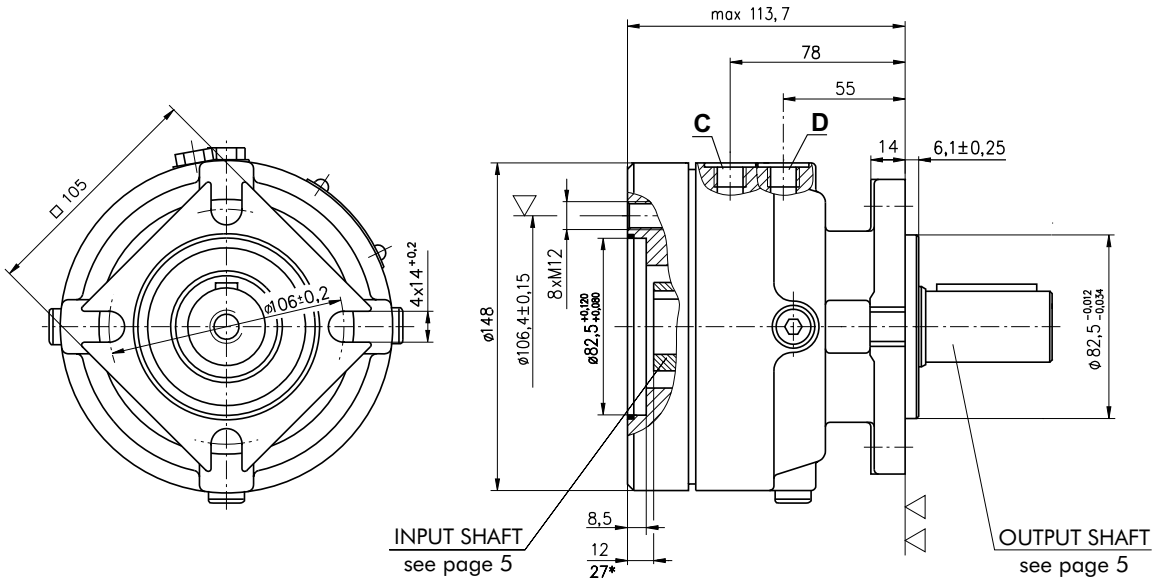
HYMATEC GMBH
HYDRAULIK MASCHINEN TECHNIK

HYDRAULIC DISC BRAKE FOR FLANGE ATTACHMENT TO MP, MR AND MS HYDRAULIC MOTORS

TYPE LB/288



C : Brake release Port - G¼, 9 mm depth

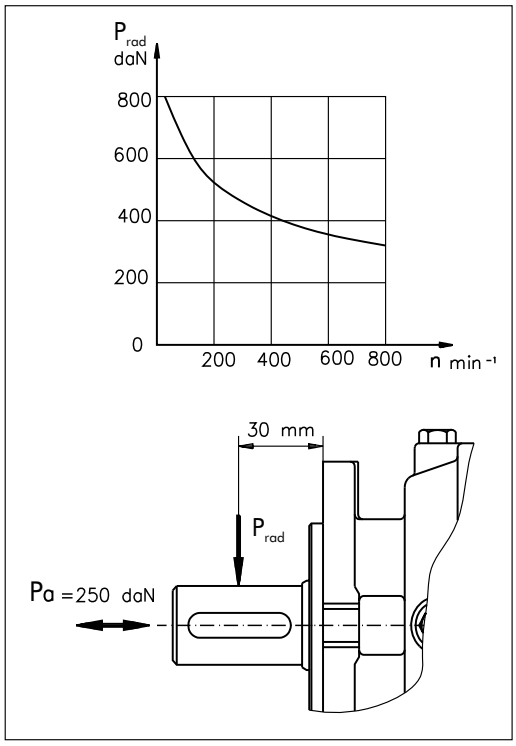
D : Drainage tap - G¼, 9 mm depth

▽- Place for attachment
(tightening torque for screw M12x30 - 8.8 DIN 912 - 7 daNm)

▽▽- Place for attachment

* - For Input Shaft Hole Versions **SH** and **SB**.

LOAD CURVE



SPECIFICATION DATA

Description **LB/288...**		7	14	21	32	43	63
*Min. Static Torque [daNm]		6-8	13-15	20-22	31-34	41-45	61-64
Opening Pressure [bar]	min	4-8	9-16	17-23			
	max	300					
Min. oil quantity for brake releasing [cm³]		7- 8					
Oil volume [cm³]		50 - 120					
Max. Pressure in drain space [bar]		0,5					
Weight [kg]		9					

*Static torque is obtained at working pressure - 0 bar.

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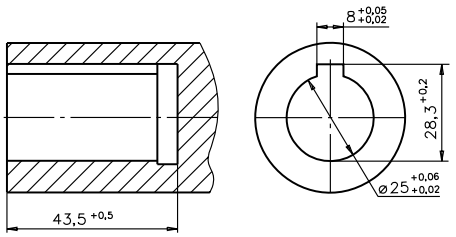
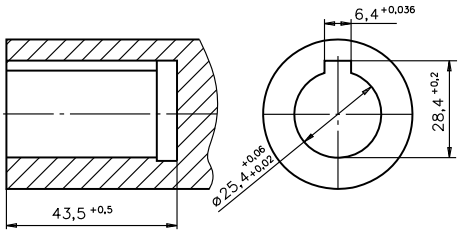
HYMATEC GMBH
HYDRAULIK MASCHINEN TECHNIK

INPUT SHAFT HOLES

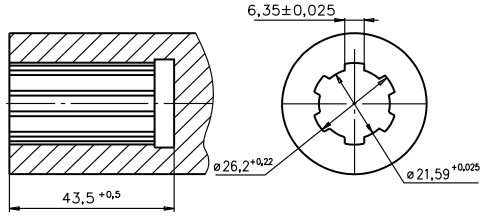
C



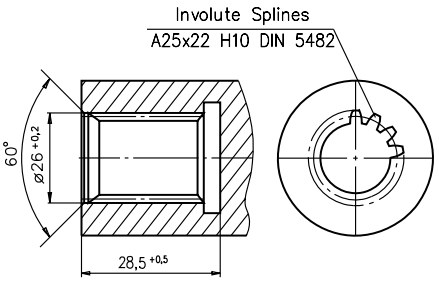
CO



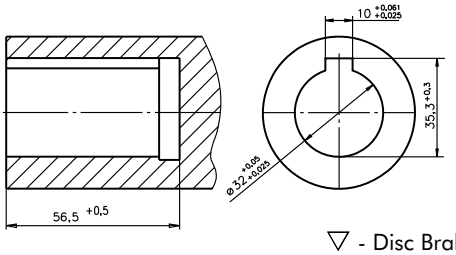
SH



SB



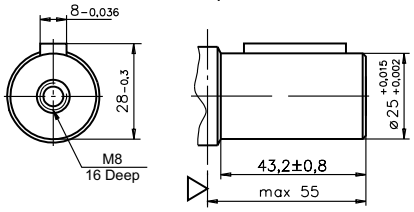
CB



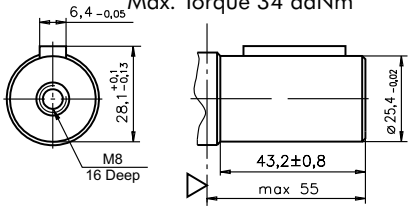
▽ - Disc Brake Mounting Surface

OUTPUT SHAFT EXTENSIONS

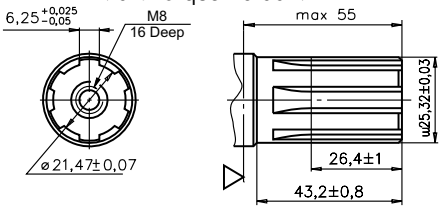
C - ø25 straight, Parallel key A8x7x32 DIN 6885
Max. Torque 34 daNm



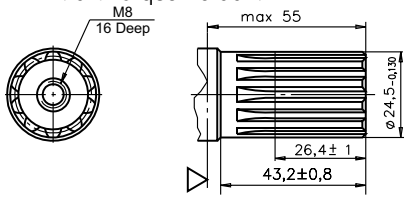
CO - ø1" straight Parallel key ¼"x¼"x1¼" BS46
Max. Torque 34 daNm



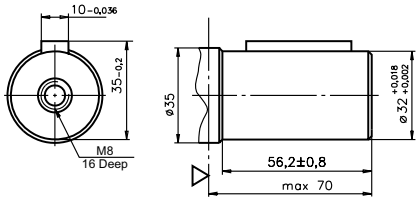
SH - splined BS 2059 (SAE 6B)
Max. Torque 40 daNm



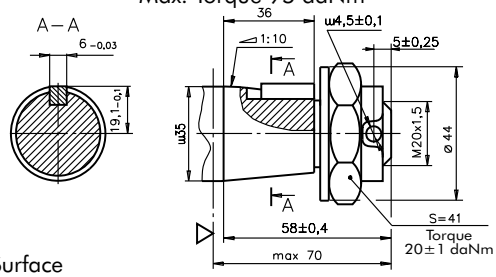
SA - splined B25x22 h9 DIN 5482
Max. Torque 40 daNm



CB - ø32 straight, Parallel key A10x8x45 DIN6885
Max. Torque 77 daNm



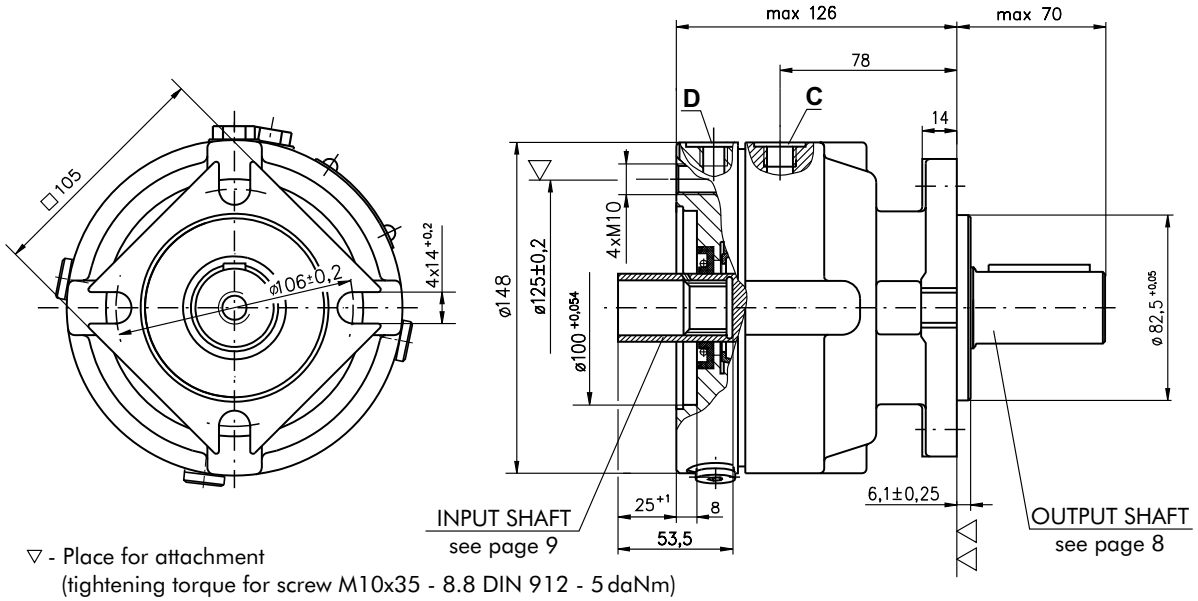
KB - tapered 1:10, Parallel key B6x6x20 DIN6885
Max. Torque 95 daNm



HYMATEC GMBH
HYDRAULIK MASCHINEN TECHNIK

HYDRAULIC DISC BRAKE FOR FLANGE ATTACHMENT TO MSS AND MSV HYDRAULIC MOTORS

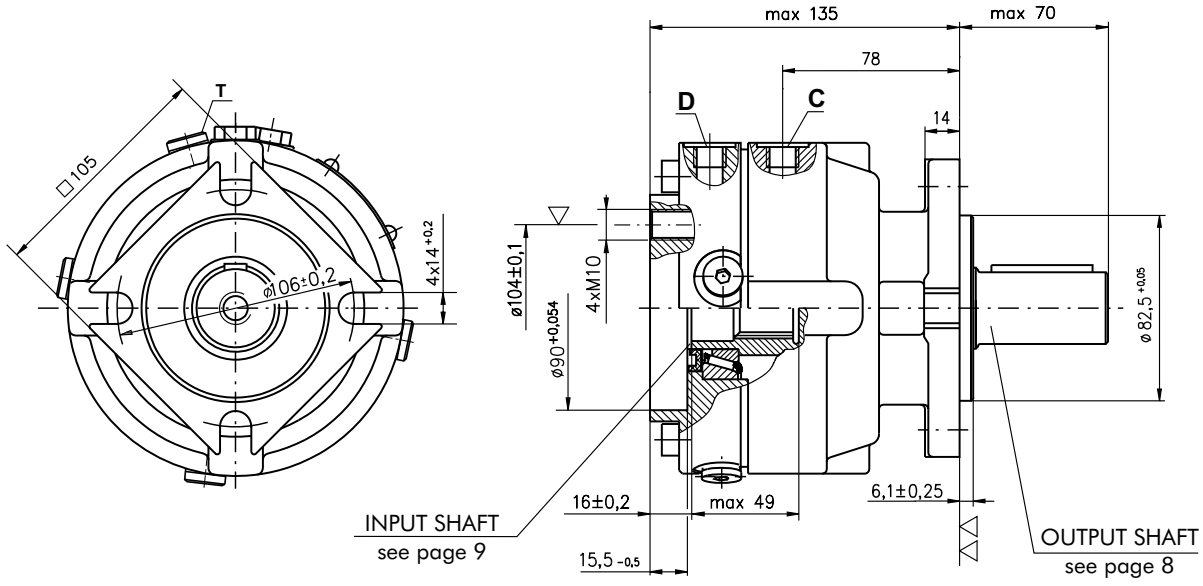
TYPE LBS/289



▽ - Place for attachment
(tightening torque for screw M10x35 - 8.8 DIN 912 - 5 daNm)

▽▽ - Place for attachment

TYPE LBV/289



▽ - Place for attachment
(tightening torque for screw M10 - 8.8 DIN 912 - 5 daNm)

▽▽ - Place for attachment

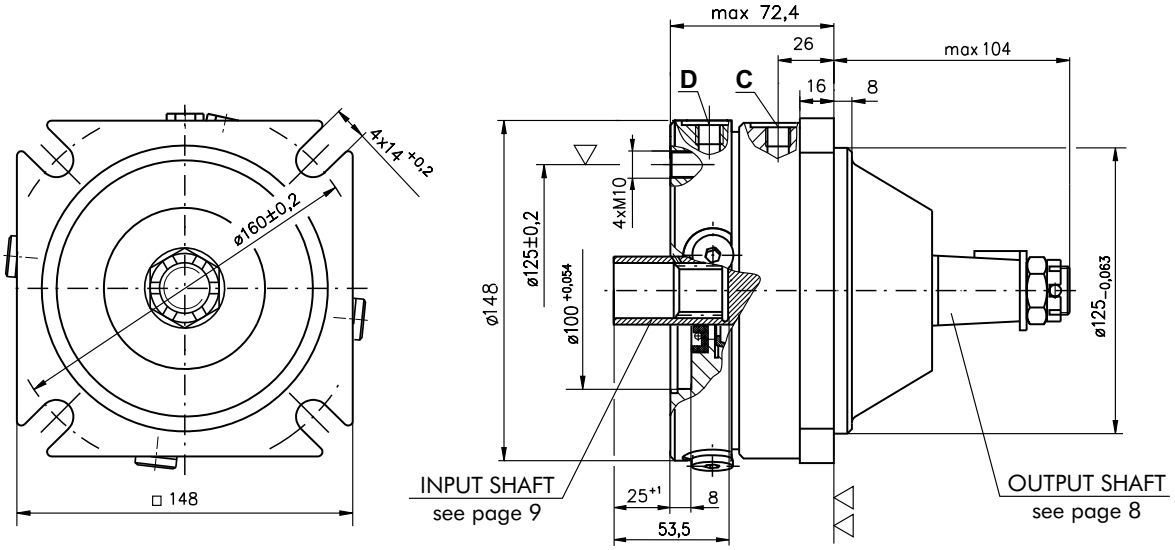
C : Brake release Port - G¼, 9 mm depth

D, T : Drainage tap - G¼, 9 mm depth

HYMATEC GMBH
HYDRAULIK MASCHINEN TECHNIK

HYDRAULIC DISC BRAKE FOR FLANGE ATTACHMENT TO MSS AND MSV HYDRAULIC MOTORS

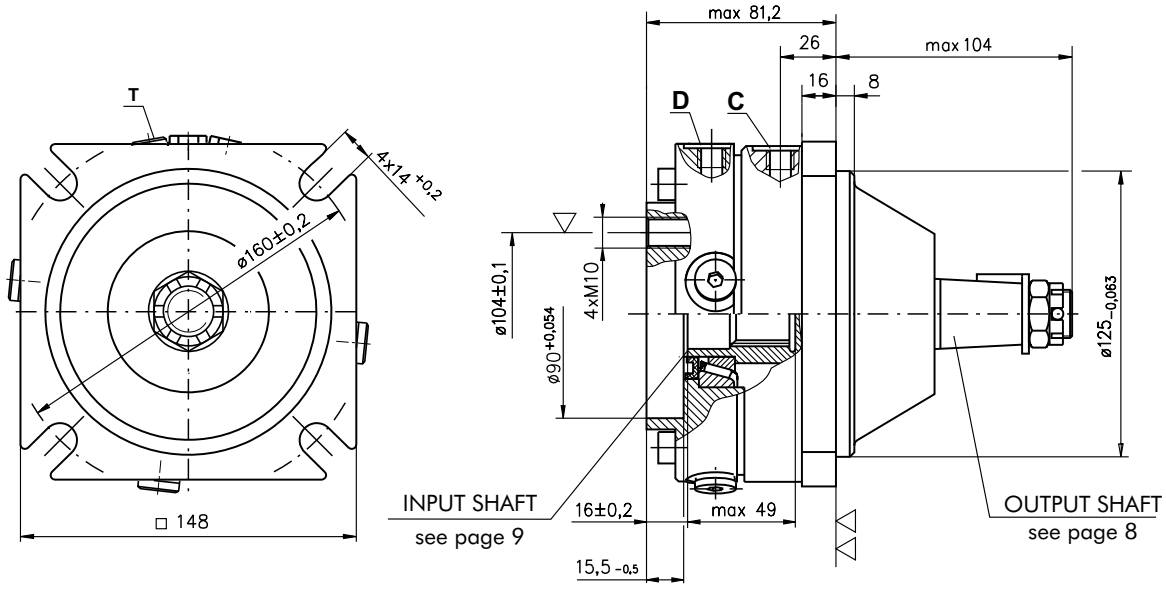
TYPE LBS/290



▽ - Place for attachment
(tightening torque for screw M10x35 - 8.8 DIN 912 - 5 daNm)

▽▽ - Place for attachment

TYPE LBV/290



▽ - Place for attachment
(tightening torque for screw M10 - 8.8 DIN 912 - 5 daNm)

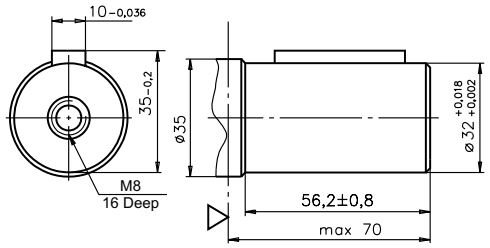
▽▽ - Place for attachment

C : Brake release Port - G¼, 9 mm depth

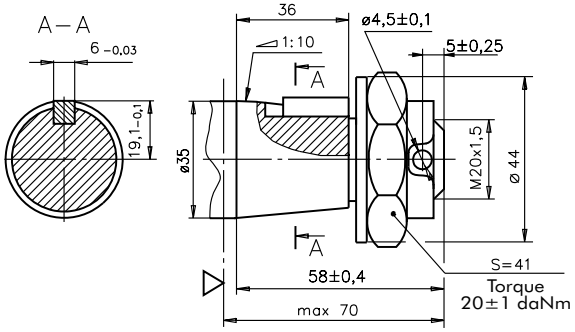
D, T : Drainage tap - G¼, 9 mm depth

OUTPUT SHAFT EXTENSIONS

CB - ø32 straight, Parallel key A10x8x45 DIN6885
Max. Torque 77 daNm



KB - tapered 1:10, Parallel key B6x6x20 DIN6885
Max. Torque 95 daNm



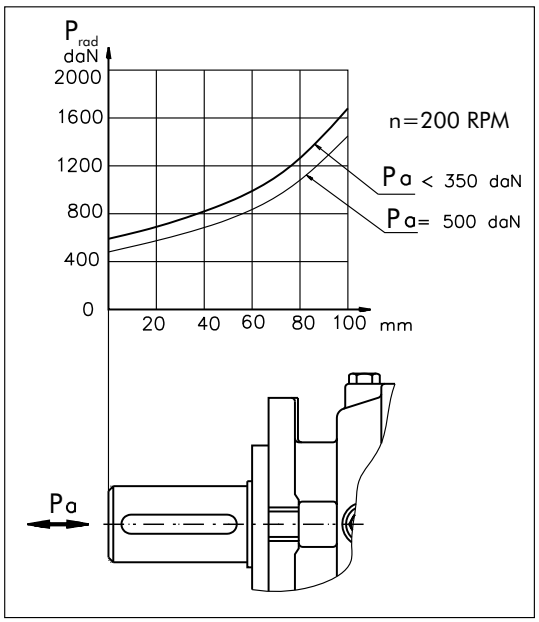
SPECIFICATION DATA

Description **LBS/289(290)** **LBV/289(290)**	21	32	43	63
*Min. Static Torque [daNm]	20-22	31-34	41-45	61-64
Opening Pressure min	17-23			
[bar] max	300			
Min. oil quantity for brake releasing [cm³]	7- 8			
Oil volume [cm³]	50 - 120			
Max. Pressure in drain space [bar]	5			
Weight .../289(290) [kg]	10(11)			

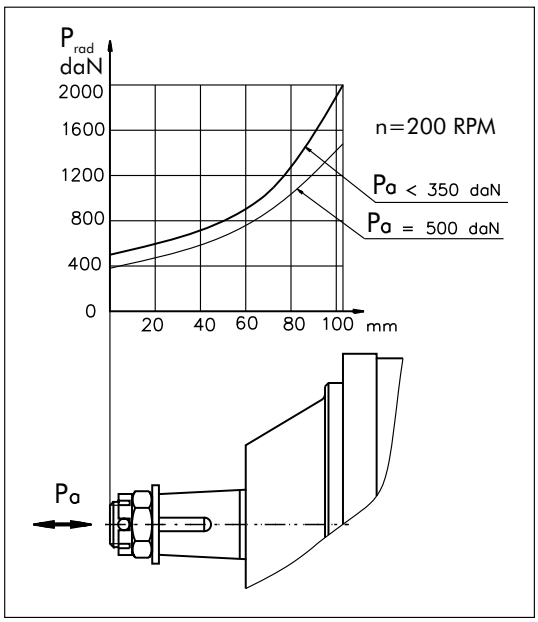
*Static torque is obtained at working pressure - 0 bar.

LOAD CURVE

LBS(V)/289



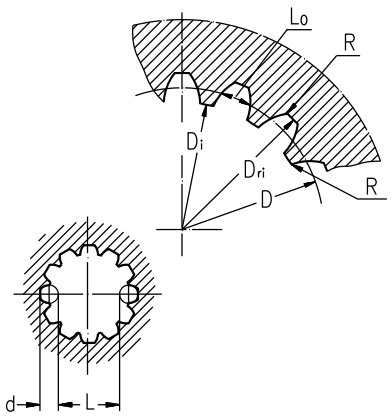
LBS(V)/290



INTERNAL SPLINE DATA FOR THE ATTACHED COMPONENT

Standard ANSI B92.1-1976, class 5
[m=2,1166]

Fillet Root Side Fit			LBS(V)/289 LBS(V)/290	LBS(V)/314 LBS(V)/315
Number of Teeth	z		12	16
Diametral Pitch	DP		12/24	12/24
Pressure Angle			30°	30°
Pitch Dia.	D	[mm]	25,4	33,8656
Major Dia.	Dri	[mm]	$28,0_{-0,1}$	$38,4^{+0,4}$
Minor Dia.	Di	[mm]	$23,0^{+0,033}$	$32,15^{+0,06}$
Space Width [Circular]	Lo	[mm]	4,308±0,020	4,516±0,037
Fillet Radius	R	[mm]	0,2	0,5
Max. Measurement between Pin	L	[mm]	$17,62^{+0,15}$	$26,9^{+0,10}$
Pin Dia.	d	[mm]	4,835±0,001	4,835±0,001
Corrected	x.m	[mm]	+0,8	+1,0



ORDER CODE - LB/288

	1		2	3	4	5
LB/288		**-**				

Pos.1 - Input Shaft Hole

C, **CO**, **SH**, **CB**, **SB**

Pos.2 - Static Torque code (See Specification data)

7, **14**, **21**, **32**, **43**, **63**

Pos.3 - Output Shaft Extensions*

C	- ø25 straight, Parallel key A8x7x32 DIN 6885
CO	- ø1" straight, Parallel key $^1/_4$"x$^1/_4$"x1$^1/_4$" BS46
SH	- ø25,32 splined BS 2059 (SAE 6B)
SA	- ø24,5 splined B25x22 DIN 5482
CB	- ø32 straight, Parallel key A10x8x45 DIN 6885
KB	- ø35 tapered 1:10, Parallel key B6x6x20 DIN6885

Pos.4 - Option (Paint)**

omit	- no Paint
P	- Painted
PC	- Corrosion Protected Paint

Pos.5 - Design Series

omit - Factory specified

ORDER CODE - LBS, LBV

	1		2		3	4	5	6
LB		**/**		**-**				

Pos.1 - Type

S	- Disc Brake for short motor **S**- MSS
V	- Disc Brake for very short motor **V**- MSV

Pos.2 - Designe code

289	- for MSS and MSV Motors
290	- for MSS and MSV Motors (Wheel Mount)

Pos.3 - Static Torque code (See Specification data)

21, 32, 43, 63

Pos.4 - Output Shaft Extensions*

CB	- ø32 straight, Parallel key A10x8x45 DIN 6885
KB	- ø35 tapered 1:10, Parallel key B6x6x20 DIN6885

Pos.5 - Option (Paint)**

omit	- no Paint
P	- Painted
PC	- Corrosion Protected Paint

Pos.6 - Design Series

omit - Factory specified

NOTES:

* The permissible output torque for shafts must be not exceeded! For Max. Torque values see data on page 5 and 8.
** The color is by customer's request.

The Disc Brakes are mangano-phosphatized as standard.

ATTENTION:
1. Hydraulic brake is delivered without oil (it is lubricated only).
2. In all brakes, friction discs and separators should be lubricated. Space is filled with 50 ÷ 120 cm^3 mineral oil HLP (DIN 51524) or HM (ISO 6743/4). For LB/288 fill oil after hydraulic motor assembly.

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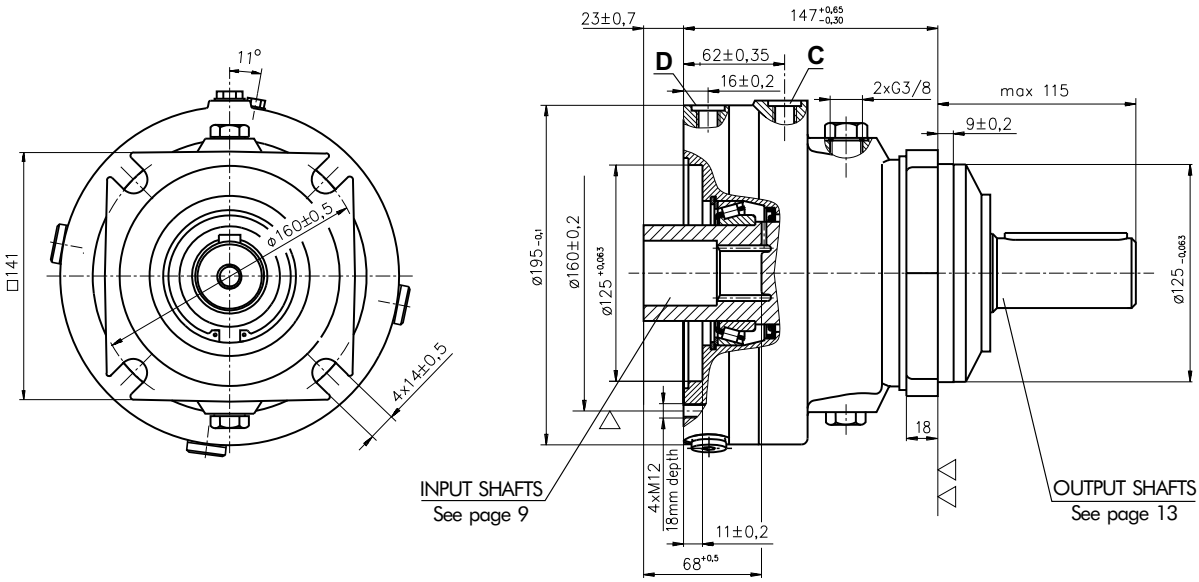
HYMATEC GMBH
HYDRAULIK MASCHINEN TECHNIK

HYDRAULIC DISC BRAKES
FOR FLANGE ATTACHMENT TO MTS AND MTV HYDRAULIC MOTORS

TYPE LBS/314



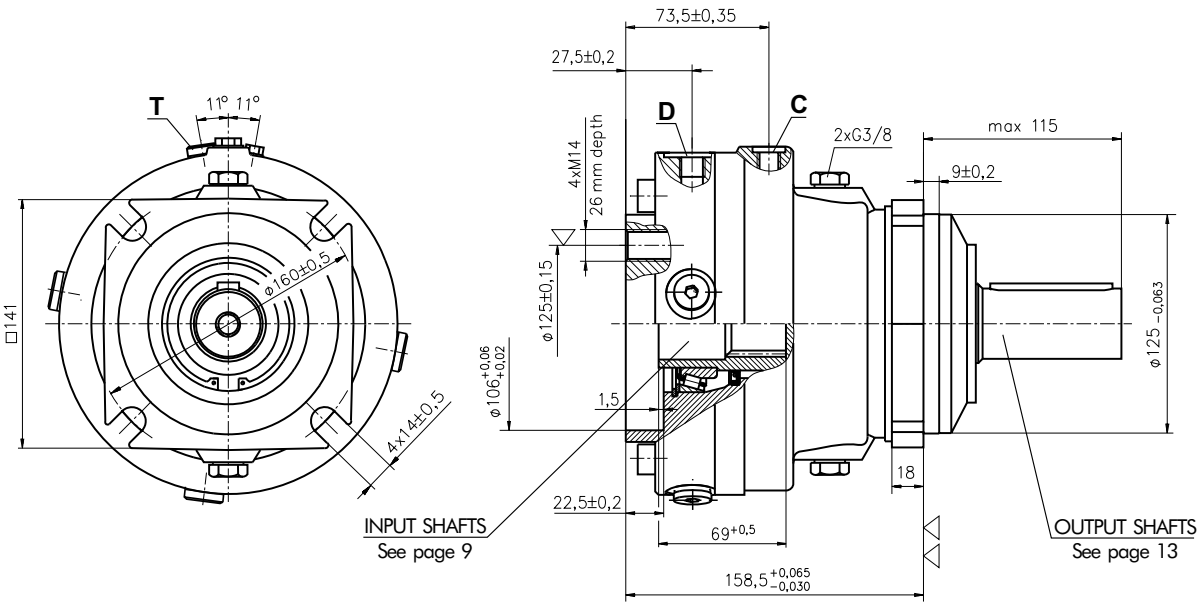
▽- Place for attachment
(tightening torque for screw M12x30 - 8.8 DIN 912 - 7 da Nm)

▽▽- Place for attachment

C : Brake release Port - G¼, 9 mm depth

D : Drainage tap - G¼, 9 mm depth

TYPE LBV/314



▽- Place for attachment
(tightening torque for screw M14 - 8.8 DIN 912 - 11,5 da Nm)

▽▽- Place for attachment

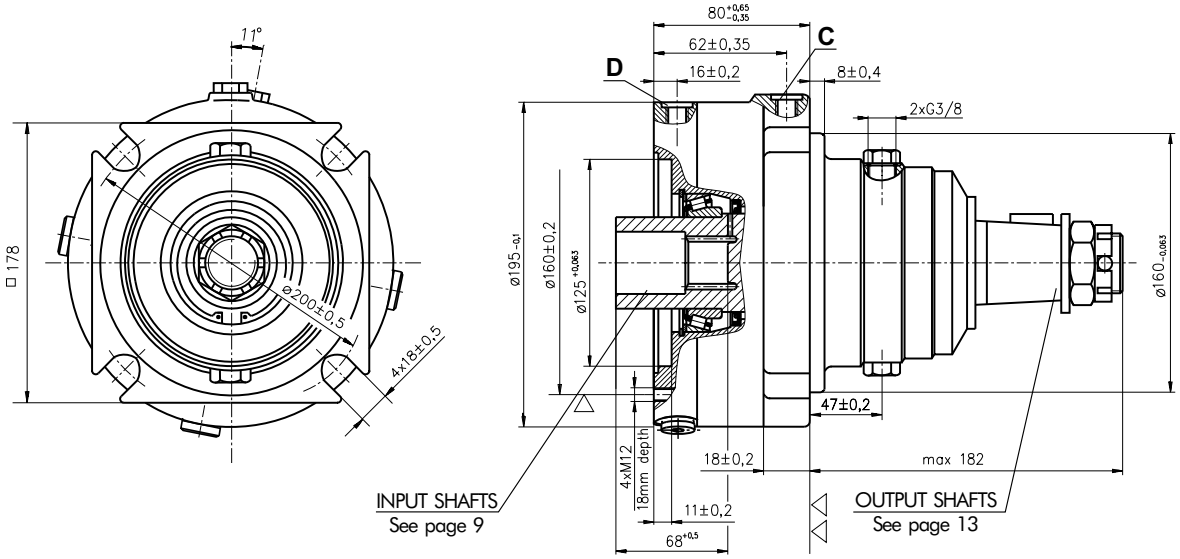
C : Brake release Port - G¼, 9 mm depth

D,T : Drainage tap - G¼, 9 mm depth

HYMATEC GMBH
HYDRAULIK MASCHINEN TECHNIK

HYDRAULIC DISC BRAKES
FOR FLANGE ATTACHMENT TO MTS AND MTV HYDRAULIC MOTORS

TYPE LBS/315



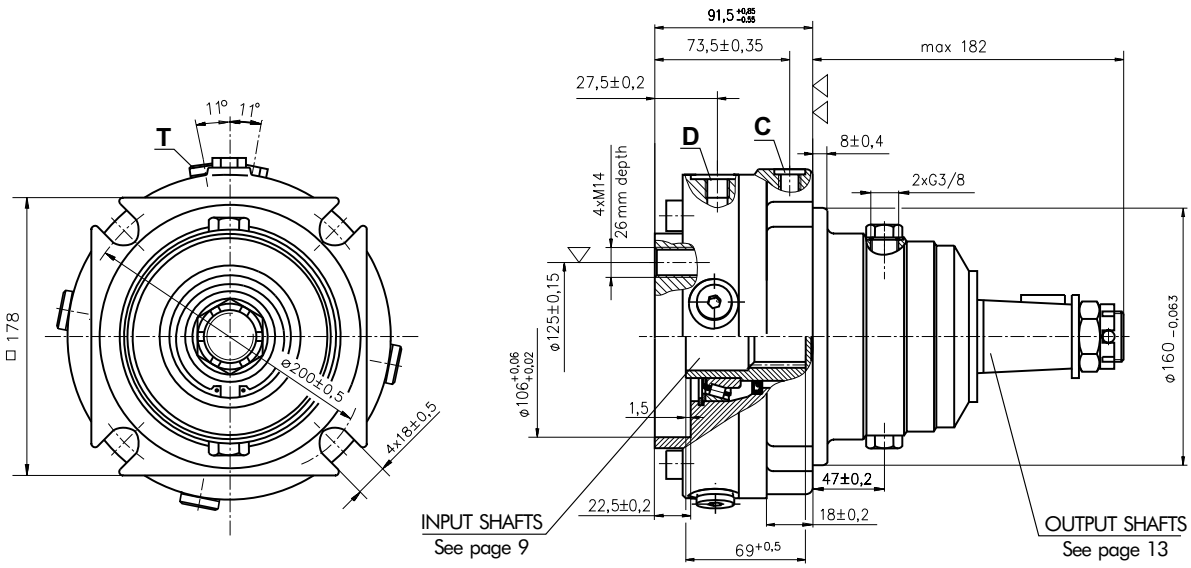
▽- Place for attachment
(tightening torque for screw M12x30 - 8.8 DIN 912 - 7 da Nm)

▽▽- Place for attachment

C : Brake release Port - G¼, 9 mm depth

D : Drainage tap - G¼, 9 mm depth

TYPE LBV/315



▽- Place for attachment
(tightening torque for screw M14 - 8.8 DIN 912 - 11,5 da Nm)

▽▽- Place for attachment

C : Brake release Port - G¼, 9 mm depth

D,T : Drainage tap - G¼, 9 mm depth

HYMATEC GMBH
HYDRAULIK MASCHINEN TECHNIK

HYDRAULIC DISC BRAKES
FOR FLANGE ATTACHMENT TO MTS AND MTV HYDRAULIC MOTORS

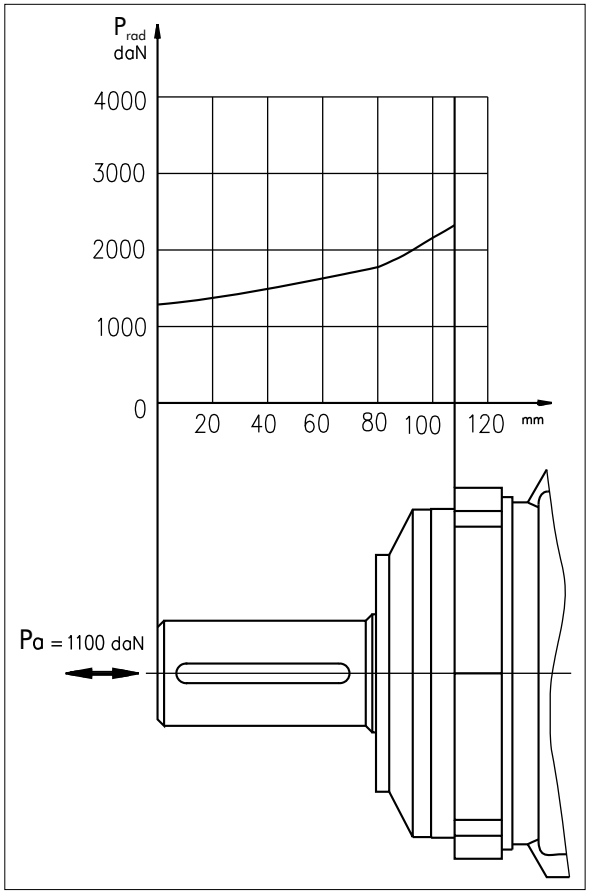
SPECIFICATION DATA

Description **LBS/314(315) LBV/314(315)**	21	29	43	65	85	110	130
*Min. Static Torque [daNm]	18-23	28-33	42-46	61-70	83-92	108-118	126-136
Opening Pressure min	4-5	6-7	9-10	13-15	18-20	23-25	27-29
[bar] max	300						
Min. oil quantity for brake releasing [cm³]	8- 9						
Oil volume [cm³]	150 - 300						
Max. Pressure in drain space [bar]	5						
Weight .../314(315) [kg]	24(25)						

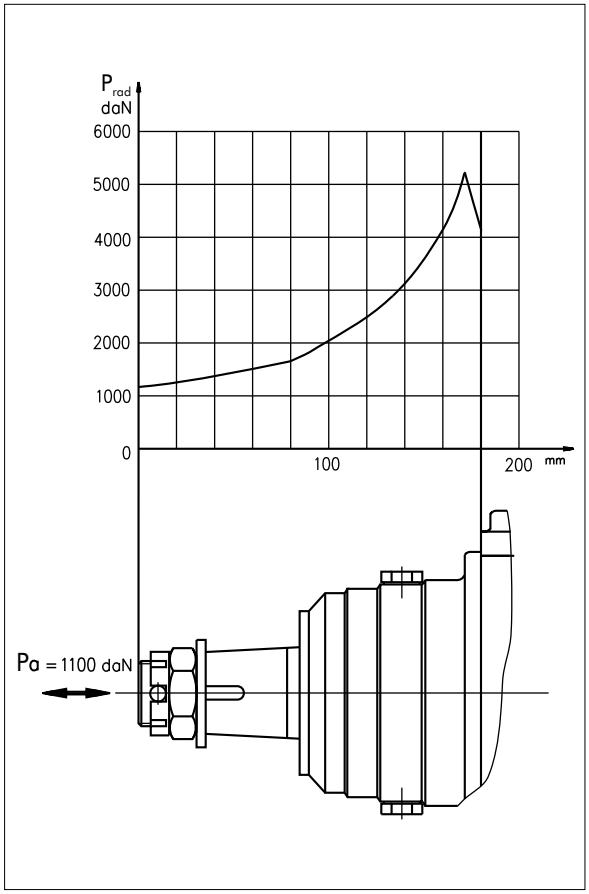
*Static torque is obtained at working pressure - 0 bar.

LOAD CURVE

LBS(V) ... /314



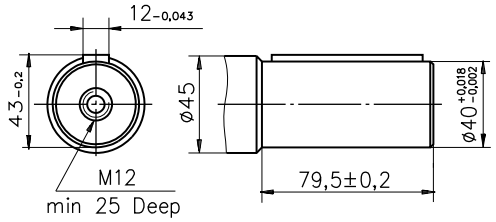
LBS(V) ... /315



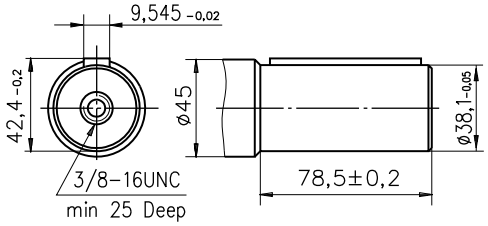
HYMATEC GMBH
HYDRAULIK MASCHINEN TECHNIK

OUTPUT SHAFT EXTENSIONS

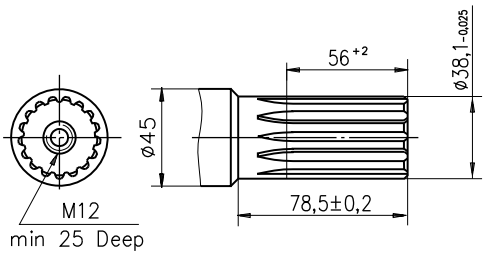
C - ø40 straight, Parallel key A12x8x70 DIN 6885
Max. Torque 132,8 daNm



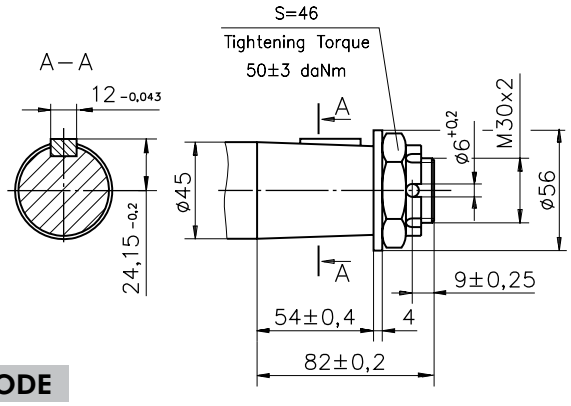
CO - ø1½" straight,Parallel key ⅜"x ⅜"x 2¼" BS46
Max. Torque 132,8 daNm



SH - ø1½" splined 17T, DP12/24 ANSI B92.1-1976
Max. Torque 132,8 daNm



K - tapered 1:10, Parallel key B12x8x28 DIN 6885
Max. Torque 210,7 daNm



ORDER CODE

1	2	3	4	5	6
LB		/		-				

Pos.1 - Type

S	- Disc Brake for short motor **S** - MTS
V	- Disc Brake for very short motor **V** - MTV

Pos.2 - Designe code

314	- for MTS and MTV Motors
315	- for MTS and MTV Motors (Wheel Mount)

Pos.3 - Static Torque code (See Specification data)

21, 29, 43, 65, 85, 110, 130

Pos. 4 - Output Shaft Extensions*

C	- ø40 straight, Parallel key A12x8x70 DIN 6885
CO	- ø1½" straight, Parallel key $^3/_8$"x$^3/_8$"x2$^1/_4$" BS46
SH	- ø1½" splined 17T, ANSI B92.1-1976
K	- ø45 tapered 1:10, Parallel key B12x8x28 DIN6885

Pos. 5 - Option (Paint)**

omit	- no Paint
P	- Painted
PC	- Corrosion Protected Paint

Pos. 6 - Design Series

omit - Factory specified

NOTES:
* The permissible output toruqe for shafts must be not exceeded!
** The color is by customer's request.
The Disc Brakes are mangano-phosphatized as standard.

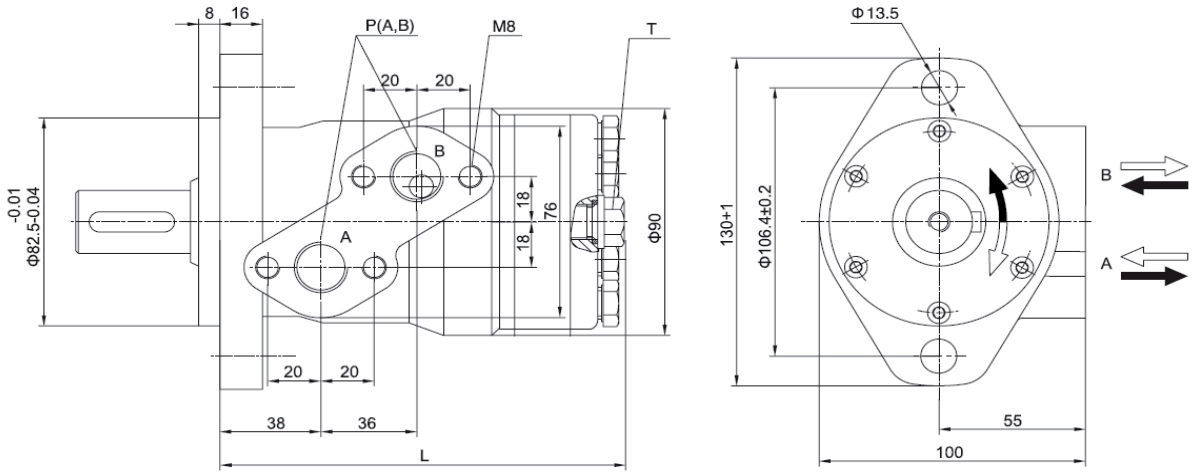
ATTENTION:
1. Hydraulic brake is delivered without oil (it is lubricated only).
2. In all brakes, friction discs and separators should be lubricated. Space is filled with 150 ÷ 300 cm^3 mineral oil HLP (DIN 51524) or HM (ISO 6743/4).

HYMATEC GMBH
HYDRAULIK MASCHINEN TECHNIK

Hydraulik-Gerotormotor

MAP...CD

- Ölanschlüsse A+B G1/2“
- Leckölanschluss T G1/4“
- Zweilochflansch Lochkreis 106,4
- Ausführung CD mit Hochdruckdichtung



Bestell-Nr.	Typ	Schluck-volumen ccm/U	max. Dreh-zahl U/min	max. Drehmo-ment daNm	max. Durch-fluss l/min	max. Druck-gefälle bar	max. Ein-gangs- u. Rücklaufdruck mit Leckölleitung in bar	max. Druck auf Wellendichtung (ohne Leckölleitung) oder max. Druck in Leckölleitung in bar				Ø Welle mm	L mm	Ge-wicht kg
								bei 0 - 100 U/min	bei 100 - 300 U/min	bei 300 - 600 U/min	bei > 600 U/min			
085-020-1500	MAP50CD	52,9	800	8,9	40	140	175	150	75	50	20	25	141	5,6
085-020-1550	MAP80CD	79,3	770	14,9	60	140	175	150	75	50	20	25	145	5,7
085-020-1600	MAP100CD	98,2	615	19,1	60	140	175	150	75	50	20	25	147	5,9
085-020-1650	MAP125CD	120,9	480	23,5	60	140	175	150	75	50	-	25	150	6,1
085-020-1700	MAP160CD	158,7	385	30,7	60	140	175	150	75	50	-	25	155	6,2
085-020-1750	MAP200CD	196,4	310	36,5	60	140	175	150	75	50	-	25	160	6,4
085-020-1800	MAP250CD	241,8	250	37,8	60	110	175	150	75	-	-	25	166	6,6
085-020-1850	MAP315CD	317,3	195	37,8	60	90	175	150	75	-	-	25	176	6,9
085-020-1900	MAP400CD	392,9	155	37,8	60	70	175	150	75	-	-	25	186	7,4

Passender Dichtsatz:

086-020-1000	Dichtsatz-MAP-Gerotormotoren	MAP-DISA

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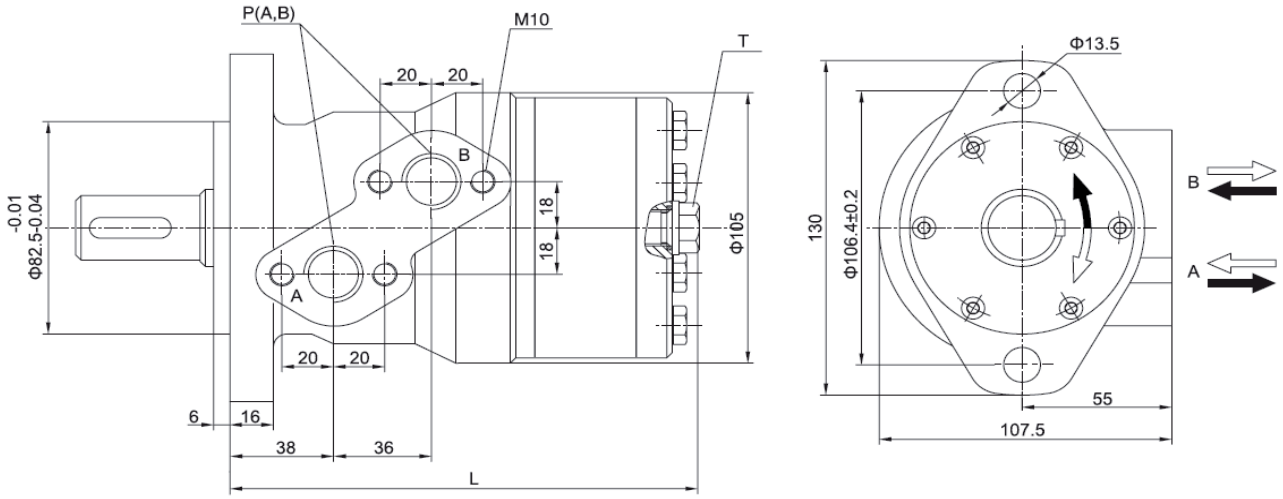
HYMATEC GMBH
HYDRAULIK MASCHINEN TECHNIK

Hydraulik-Gerollermotor

MAR...CD

- Ölanschlüsse A+B G1/2“
- Leckölanschluss T G1/4“
- Zweilochflansch Lochkreis 106,4
- Ausführung CD mit Hochdruckdichtung



Bestell-Nr.	Typ	Schluck-volumen ccm/U	max. Dreh-zahl U/min	max. Drehmo-ment daNm	max. Durch-fluss l/min	max. Druck-gefälle bar	max. Ein-gangs- u. Rücklaufdruck mit Leckölleitung in bar	max. Druck auf Wellendichtung (ohne Leckölleitung) oder max. Druck in Leckölleitung in bar				Ø Welle mm	L mm	Ge-wicht kg
								bei 0 - 100 U/min	bei 100 - 300 U/min	bei 300 - 600 U/min	bei > 600 U/min			
085-030-1500	MAR50CD	51,7	775	9,3	40	140	175	150	75	50	20	25	139	6,5
085-030-1550	MAR80CD	80,5	750	15,2	60	140	175	150	75	50	20	25	144	6,9
085-030-1600	MAR100CD	100,5	600	19,4	60	140	175	150	75	50	20	25	148	7,1
085-030-1650	MAR125CD	126,3	475	23,7	60	140	175	150	75	50	-	25	152	7,3
085-030-1700	MAR160CD	160,8	375	29,9	60	140	175	150	75	50	-	25	158	7,5
085-030-1750	MAR200CD	200,9	300	36,9	60	140	175	150	75	50	-	25	165	8,1
085-030-1800	MAR250CD	252,6	240	38,1	60	110	175	150	75	-	-	25	174	8,5
085-030-1850	MAR315CD	321,5	190	38,1	60	90	175	150	75	-	-	25	186	9,1
085-030-1900	MAR400CD	401,9	160	38,1	60	70	175	150	75	-	-	25	200	10,9

Passender Dichtsatz:

086-030-1000	Dichtsatz-MAR-Gerollermotoren	MAR-DISA

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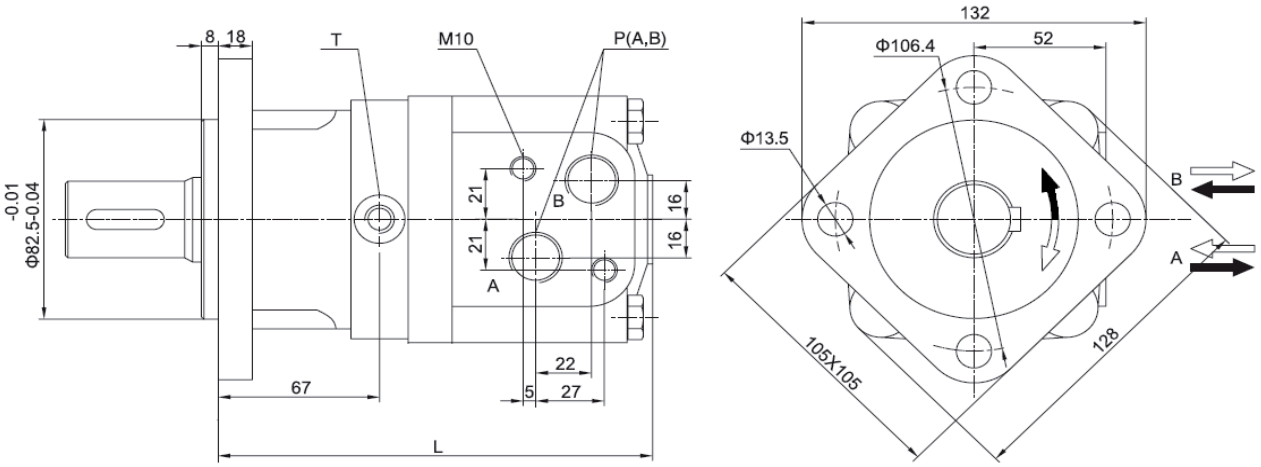
HYMATEC GMBH
HYDRAULIK MASCHINEN TECHNIK

Hydraulik-Gerollermotor

MAS...C

- Ölanschlüsse A+B G1/2“
- Leckölanschluss T G1/4“
- Vierlochflansch Lochkreis 106,4
- Ausführung C - Leckölleitung anschliessen!



Bestell-Nr.	Typ	Schluck-volumen ccm/U	max. Dreh-zahl U/min	max. Drehmo-ment daNm	max. Durch-fluss l/min	max. Druck-gefälle bar	max. Ein-gangs- u. Rücklaufdruck mit Leckölleitung in bar	max. Druck auf Wellendichtung (ohne Leckölleitung) oder max. Druck in Leckölleitung in bar			Ø Welle mm	L mm	Ge-wicht kg
								bei 0 - 100 U/min	bei 100 - 300 U/min	bei > 300 U/min			
085-040-1500	MAS80C	80,5	810	19,4	65	175	210	100	50	20	32	167	9,8
085-040-1550	MAS100C	100,5	750	24,2	75	175	210	100	50	20	32	170	10,0
085-040-1600	MAS125C	126,3	600	30,3	75	175	210	100	50	20	32	175	10,3
085-040-1650	MAS160C	160,8	470	35,8	75	160	210	100	50	20	32	181	10,7
085-040-1700	MAS200C	200,9	375	43,8	75	160	210	100	50	20	32	188	11,1
085-040-1750	MAS250C	252,6	300	44,1	75	125	210	100	50	-	32	197	11,6
085-040-1800	MAS315C	321,5	240	55,1	75	125	210	150	50	-	32	208	12,3
085-040-1850	MAS400C	401,9	180	56,2	75	100	210	100	50	-	32	222	13,1

Passender Dichtsatz:

086-040-1000	Dichtsatz-MAS-Gerollermotoren	MAS-DISA

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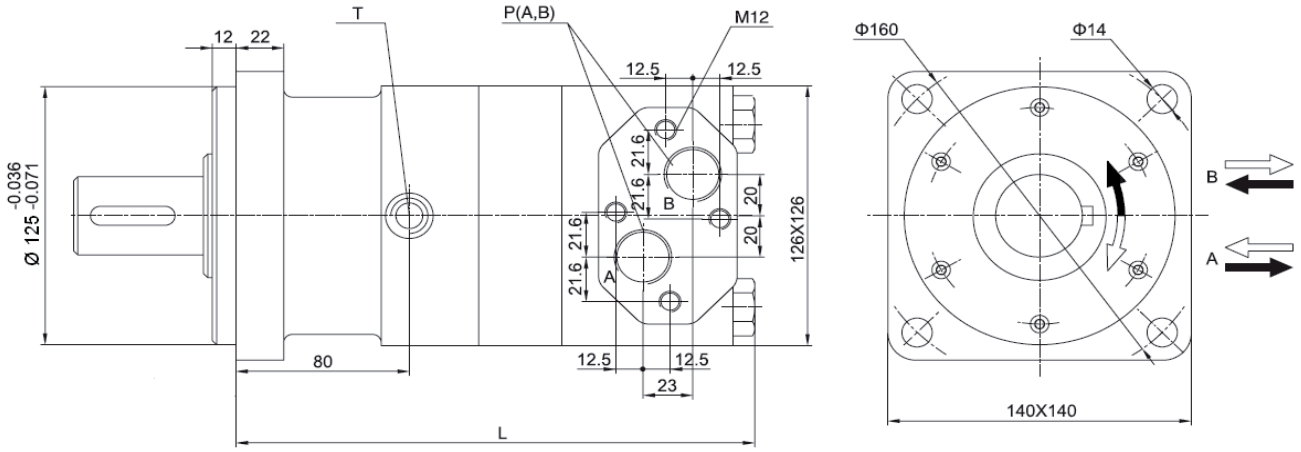
HYMATEC GMBH
HYDRAULIK MASCHINEN TECHNIK

Hydraulik-Gerollermotor

MAT...C

- Ölanschlüsse A+B G3/4“
- Leckölanschluss T G1/4“
- Vierlochflansch Lochkreis 160
- Ausführung C - Leckölleitung anschliessen!



Bestell-Nr.	Typ	Schluck-volumen ccm/U	max. Dreh-zahl U/min	max. Drehmo-ment daNm	max. Durch-fluss l/min	max. Druck-gefälle bar	max. Ein-gangs- u. Rücklaufdruck mit Leckölleitung in bar	max. Druck auf Wellendichtung (ohne Leckölleitung) oder max. Druck in Leckölleitung in bar			Ø Welle mm	L mm	Ge-wicht kg
								bei 0 - 100 U/min	bei 100 - 300 U/min	bei > 300 U/min			
085-050-1500	MAT160C	158,8	625	45,2	100	200	210	75	40	20	40	210	20,3
085-050-1550	MAT200C	200,8	625	56,1	125	200	210	75	40	20	40	215	20,8
085-050-1600	MAT250C	252,2	500	71,1	125	200	210	75	40	20	40	220	21,4
085-050-1650	MAT315C	317,5	380	90,2	125	200	210	75	40	20	40	227	22,4
085-050-1700	MAT400C	401,6	305	100,8	125	180	210	75	40	20	40	236	23,0
085-050-1750	MAT500C	535,3	240	112,1	125	160	210	75	40	-	40	255	24,0

Passender Dichtsatz:

086-050-1000	Dichtsatz-MAT-Gerollermotoren	MAT-DISA

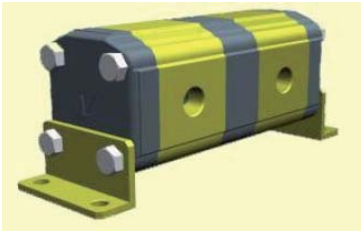
Hymatec-GmbH – Hebbelstraße 22 94315 Straubing
Tel.: 09421/1887797 – Fax: 09421/1887799 – Email: info@hymatec-gmbh.de – www.hymatec-gmbh.de

HYMATEC GMBH
HYDRAULIK MASCHINEN TECHNIK

Zahnradmengenteiler KV

– Baugröße 2 –

KV 2 DF



Bestellnr.	Typ	Code
020-050-01000	KV2DF/4x2	9D0241
020-050-01050	KV2DF/6x2	9D0243
020-050-01100	KV2DF/9x2	9D0245
020-050-01150	KV2DF/11x2	9D0247
020-050-01200	KV2DF/14x2	9D0249
020-050-01250	KV2DF/17x2	9D0251
020-050-01300	KV2DF/19x2	9D0253
020-050-01350	KV2DF/22x2	9D0255
020-050-01400	KV2DF/26x2	9D0257
020-050-01450	KV2DF/30x2	9D0259
020-050-01500	KV2DF/34x2	9D0261
020-050-01550	KV2DF/40x2	9D0263
020-050-01600	KV2DF/4x3	9D0341
020-050-01650	KV2DF/6x3	9D0343
020-050-01700	KV2DF/9x3	9D0345
020-050-01750	KV2DF/11x3	9D0347
020-050-01800	KV2DF/14x3	9D0349
020-050-01850	KV2DF/17x3	9D0351
020-050-01900	KV2DF/19x3	9D0353
020-050-01950	KV2DF/22x3	9D0355
020-050-02000	KV2DF/26x3	9D0357
020-050-02050	KV2DF/30x3	9D0359
020-050-02100	KV2DF/34x3	9D0361
020-050-02150	KV2DF/40x3	9D0363
020-050-02200	KV2DF/4x4	9D0441
020-050-02250	KV2DF/6x4	9D0443
020-050-02300	KV2DF/9x4	9D0445
020-050-02350	KV2DF/11x4	9D0447
020-050-02400	KV2DF/14x4	9D0449
020-050-02450	KV2DF/17x4	9D0451
020-050-02500	KV2DF/19x4	9D0453
020-050-02550	KV2DF/22x4	9D0455
020-050-02600	KV2DF/26x4	9D0457
020-050-02650	KV2DF/30x4	9D0459
020-050-02700	KV2DF/34x4	9D0461
020-050-02750	KV2DF/40x4	9D0463
020-050-02800	KV2DF/4x5	9D0541
020-050-02850	KV2DF/6x5	9D0543
020-050-02900	KV2DF/9x5	9D0545
020-050-02950	KV2DF/11x5	9D0547
020-050-03000	KV2DF/14x5	9D0549
020-050-03050	KV2DF/17x5	9D0551
020-050-03100	KV2DF/19x5	9D0553
020-050-03150	KV2DF/22x5	9D0555
020-050-03200	KV2DF/26x5	9D0557

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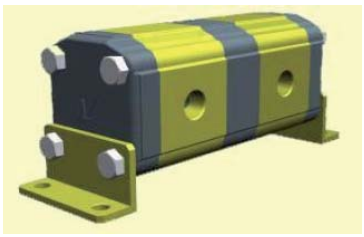
Zahnradmengenteiler KV

– Baugröße 2 –

KV 2 DF



Bestellnr.	Typ	Code
020-050-03250	KV2DF/30x5	9D0559
020-050-03300	KV2DF/34x5	9D0561
020-050-03350	KV2DF/40x5	9D0563
020-050-03400	KV2DF/4x6	9D0641
020-050-03450	KV2DF/6x6	9D0643
020-050-03500	KV2DF/9x6	9D0645
020-050-03550	KV2DF/11x6	9D0647
020-050-03600	KV2DF/14x6	9D0649
020-050-03650	KV2DF/17x6	9D0651
020-050-03700	KV2DF/19x6	9D0653
020-050-03750	KV2DF/22x6	9D0655
020-050-03800	KV2DF/26x6	9D0657
020-050-03850	KV2DF/30x6	9D0659
020-050-03900	KV2DF/34x6	9D0661
020-050-03950	KV2DF/40x6	9D0663

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MENGENTEILER

Vivoil Oleodinamica Vivolo, Via Larga 15/8L 40138 Bologna Italy tel.+39 051 534834 - fax. +39 051 530032

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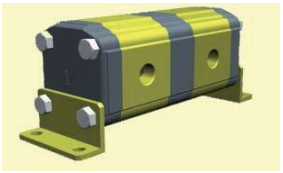
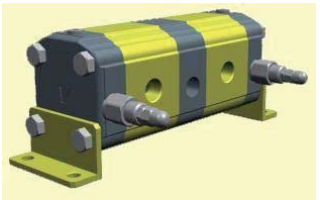
KV-2DF

MENGENTEILER



KV-2DFV

MENGENTEILER MIT PHASENAUSGLEICHSVENTILEN



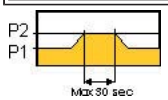
KV-2DF+2M

MENGENTEILER MIT MOTOR

KV-2DFV+2M

MENGENTEILER MIT VENTILEN UND MOTOR

TYP	Hubraum cm3/Umdr.	Durchfluß eines Elements l/min.			Drehzahl der Zahnräder Umdr. /min			D P (*)	Druck Max bar		Masse kg
		Min.	Empfohlen	Max	Min	Empfohlen	Max	bar	P1	P2	
KV-2DF 2DFV /4	4.2	4.8	7.6	10	1200	1800	2500	50	210	260	2.200
KV-2DF 2DFV /6	6	7.2	10.8	15	1200	1800	2500	50	210	260	2.300
KV-2DF 2DFV /9	8.4	10.8	15.1	22.5	1200	1800	2500	50	210	260	2.400
KV-2DF 2DFV /11	10.8	13.2	19.4	27.5	1200	1800	2500	50	210	260	2.500
KV-2DF 2DFV /14	14.4	16.8	25.9	35	1200	1800	2500	40	200	240	2.700
KV-2DF 2DFV /17	16.8	20.4	30.2	42.5	1200	1800	2500	40	200	240	2.800
KV-2DF 2DFV /19	19.2	22.8	34.6	47.5	1200	1800	2500	40	190	230	2.900
KV-2DF 2DFV /22	22.8	26.4	41	55	1200	1800	2500	40	180	220	3.050
KV-2DF 2DFV /26	25.2	31.2	45.4	65	1200	1800	2500	40	160	200	3.150
KV-2DF 2DFV /30	30	36	54	75	1200	1800	2500	30	160	190	3.400
KV-2DF 2DFV /34	34.2	40.8	61.6	85	1200	1800	2500	30	140	170	3.600
KV-2DF 2DFV /40	39.6	48	71.3	100	1200	1800	2500	30	130	160	3.800
(*) Maximaler Druckunterschied zwischen den einzelnen Sektionen											



P1 = Betriebsdruck
P2 = Spitzendruck

Die Fehlerquote im Mengenteiler zwischen zwei Elementen beträgt <= 3%

Unter Berücksichtigung der Tabellenwerte und der unten angegebenen Daten
Raumtemperatur: -10°c ÷ +60°c
Öltemperatur: +30°c ÷ +60°c
Hydrauliköl auf Mineralbasis Hlp, Hv (DIN 51524)
Ölviskosität 20 ÷ 40 cSt
Ölfilterung 10 ÷ 25 µ

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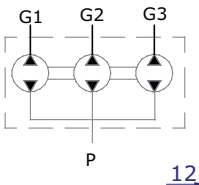
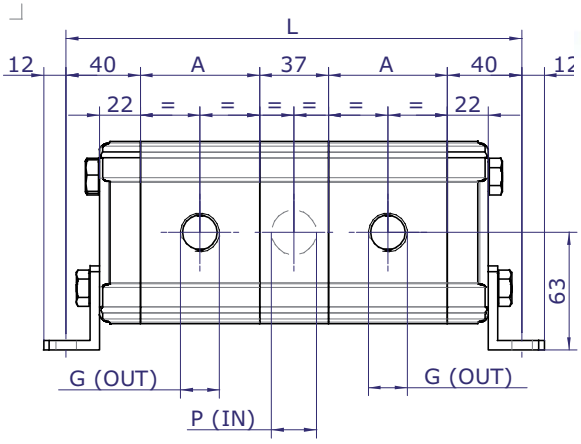
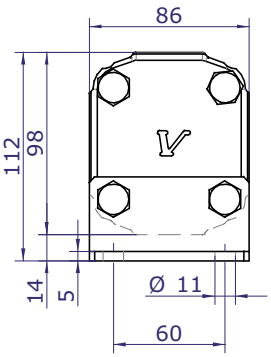
VIVOIL OLEODINAMICA VIVOLO Via Larga 15/8L 40138 Bologna Italy tel +39 051 534834 fax +39 051 530032



KV-2DF





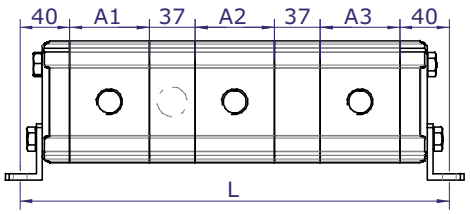
TIPO/Type	A	G (OUT)
KV-2DF/4	47	1/2" BSPP
KV-2DF/6	50	1/2" BSPP
KV-2DF/9	54	1/2" BSPP
KV-2DF/11	58	1/2" BSPP
KV-2DF/14	64	1/2" BSPP
KV-2DF/17	68	1/2" BSPP
KV-2DF/19	72	1/2" BSPP
KV-2DF/22	78	1/2" BSPP
KV-2DF/26	82	3/4" BSPP
KV-2DF/30	90	3/4" BSPP
KV-2DF/34	97	3/4" BSPP
KV-2DF/40	106	3/4" BSPP

P (N x IN) BSPP

TIPO *Type*	NUMERO DI ELEMENTI CHE COMPONGONO IL DIVISORE *QUANTITY OF ELEMENTS COMPOSING THE DIVIDER*														
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
2DF / 4	1 x 1/2"	1 x 1/2"	1 x 3/4"	1 x 3/4"	1 x 3/4"	2 x 1/2"	2 x 3/4"	2 x 3/4"	2 x 3/4"	2 x 3/4"	2 x 3/4"	3 x 3/4"	3 x 3/4"	3 x 3/4"	3 x 3/4"
2DF / 6	1 x 1/2"	1 x 3/4"	1 x 3/4"	1 x 3/4"	1 x 3/4"	2 x 1/2"	2 x 3/4"	2 x 3/4"	2 x 3/4"	2 x 3/4"	2 x 3/4"	3 x 3/4"	3 x 3/4"	3 x 3/4"	3 x 3/4"
2DF / 9	1 x 3/4"	1 x 3/4"	1 x 3/4"	1 x 3/4"	1 x 3/4"	2 x 3/4"	2 x 3/4"	2 x 3/4"	2 x 3/4"	2 x 3/4"	2 x 3/4"	3 x 3/4"	3 x 3/4"	3 x 3/4"	3 x 3/4"
2DF / 11	1 x 3/4"	1 x 3/4"	1 x 3/4"	1 x 1"	1 x 1"	2 x 3/4"	2 x 3/4"	2 x 3/4"	2 x 3/4"	2 x 3/4"	2 x 3/4"	3 x 3/4"	3 x 3/4"	3 x 3/4"	3 x 3/4"
2DF / 14	1 x 3/4"	1 x 3/4"	1 x 3/4"	1 x 1"	1 x 1"	2 x 3/4"	2 x 3/4"	2 x 3/4"	2 x 3/4"	2 x 3/4"	2 x 3/4"	3 x 3/4"	3 x 3/4"	3 x 3/4"	3 x 3/4"
2DF / 17	1 x 3/4"	1 x 3/4"	1 x 3/4"	1 x 1"	1 x 1"	2 x 3/4"	2 x 3/4"	2 x 3/4"	2 x 3/4"	2 x 3/4"	2 x 3/4"	3 x 3/4"	3 x 3/4"	3 x 3/4"	3 x 3/4"
2DF / 19	1 x 3/4"	1 x 1"	1 x 1"	1 x 1"	1 x 1"	2 x 3/4"	2 x 3/4"	2 x 1"	2 x 1"	2 x 1"	2 x 1"	3 x 1"	3 x 1"	3 x 1"	3 x 1"
2DF / 22	1 x 3/4"	1 x 1"	1 x 1"	1 x 1"	2 x 1"	2 x 1"	2 x 1"	2 x 1"	2 x 1"	2 x 1"	2 x 1"	3 x 1"	3 x 1"	3 x 1"	3 x 1"
2DF / 26	1 x 1"	1 x 1"	1 x 1"	2 x 1"	2 x 1"	2 x 1"	2 x 1"	2 x 1"	2 x 1"	2 x 1"	2 x 1"	3 x 1"	3 x 1"	3 x 1"	3 x 1"
2DF / 30	1 x 1"	1 x 1"	2 x 1"	2 x 1"	2 x 1"	2 x 1"	2 x 1"	2 x 1"	2 x 1"	2 x 1"	2 x 1"	3 x 1"	3 x 1"	3 x 1"	3 x 1"
2DF / 34	1 x 1"	1 x 1"	2 x 1"	2 x 1"	2 x 1"	2 x 1"	2 x 1"	2 x 1"	2 x 1"	2 x 1"	2 x 1"	3 x 1"	3 x 1"	3 x 1"	3 x 1"
2DF / 40	1 x 1"	1 x 1"	2 x 1"	2 x 1"	2 x 1"	2 x 1"	2 x 1"	2 x 1"	2 x 1"	2 x 1"	2 x 1"	3 x 1"	3 x 1"	3 x 1"	3 x 1"

L = (n-1) x 37 + 80 + A1 + A2 + A3 +.....+An

n = Numero di elementi del Divisore
n = Number of elements making up Divider



ESEMPIO:
Per ottenere la lunghezza totale (L) di un divisore a tre elementi (n=3), di TIPO KV-2DF/22 x 3
L = (n-1) x 37 + 80 + A1 + A2 + A3 = (3-1) x 37 + 80 + 78 + 78 + 78 = 388 mm

EXAMPLE:
To obtain the total length (L) of a three-element divider (n=3), the element being, TYPE KV-2DF/22 x 3
L = (n-1) x 37 + 80 + A1 + A2 + A3 = (3-1) x 37 + 80 + 78 + 78 + 78 = 388 mm

file: scheda-KV2DF Foglio: 1-1 Data: 13/06/2000

020-050-DF

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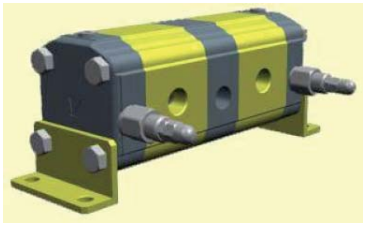
Zahnradmengenteiler KV

– Baugröße 2 –

KV 2 DFV



Bestellnr.	Typ	Code
020-050-07000	KV2DFV/4x2 EAV 70-210 bar	9V024102
020-050-07050	KV2DFV/6x2 EAV 70-210 bar	9V024302
020-050-07100	KV2DFV/9x2 EAV 70-210 bar	9V024502
020-050-07150	KV2DFV/11x2 EAV 70-210 bar	9V024702
020-050-07200	KV2DFV/14x2 EAV 70-210 bar	9V024902
020-050-07250	KV2DFV/17x2 EAV 70-210 bar	9V025102
020-050-07300	KV2DFV/19x2 EAV 70-210 bar	9V025302
020-050-07350	KV2DFV/22x2 EAV 70-210 bar	9V025502
020-050-07400	KV2DFV/26x2 EAV 70-210 bar	9V025702
020-050-07450	KV2DFV/30x2 EAV 70-210 bar	9V025902
020-050-07500	KV2DFV/34x2 EAV 70-210 bar	9V026102
020-050-07550	KV2DFV/40x2 EAV 70-210 bar	9V026302
020-050-07600	KV2DFV/4x3 EAV 70-210 bar	9V034102
020-050-07650	KV2DFV/6x3 EAV 70-210 bar	9V034302
020-050-07700	KV2DFV/9x3 EAV 70-210 bar	9V034502
020-050-07750	KV2DFV/11x3 EAV 70-210 bar	9V034702
020-050-07800	KV2DFV/14x3 EAV 70-210 bar	9V034902
020-050-07850	KV2DFV/17x3 EAV 70-210 bar	9V035102
020-050-07900	KV2DFV/19x3 EAV 70-210 bar	9V035302
020-050-07950	KV2DFV/22x3 EAV 70-210 bar	9V035502
020-050-08000	KV2DFV/26x3 EAV 70-210 bar	9V035702
020-050-08050	KV2DFV/30x3 EAV 70-210 bar	9V035902
020-050-08100	KV2DFV/34x3 EAV 70-210 bar	9V036102
020-050-08150	KV2DFV/40x3 EAV 70-210 bar	9V036302
020-050-08200	KV2DFV/4x4 EAV 70-210 bar	9V044102
020-050-08250	KV2DFV/6x4 EAV 70-210 bar	9V044302
020-050-08300	KV2DFV/9x4 EAV 70-210 bar	9V044502
020-050-08350	KV2DFV/11x4 EAV 70-210 bar	9V044702
020-050-08400	KV2DFV/14x4 EAV 70-210 bar	9V044902
020-050-08450	KV2DFV/17x4 EAV 70-210 bar	9V045102
020-050-08500	KV2DFV/19x4 EAV 70-210 bar	9V045302
020-050-08550	KV2DFV/22x4 EAV 70-210 bar	9V045502
020-050-08600	KV2DFV/26x4 EAV 70-210 bar	9V045702
020-050-08650	KV2DFV/30x4 EAV 70-210 bar	9V045902
020-050-08700	KV2DFV/34x4 EAV 70-210 bar	9V046102
020-050-08750	KV2DFV/40x4 EAV 70-210 bar	9V046302
020-050-08800	KV2DFV/4x5 EAV 70-210 bar	9V054102
020-050-08850	KV2DFV/6x5 EAV 70-210 bar	9V054302
020-050-08900	KV2DFV/9x5 EAV 70-210 bar	9V054502
020-050-08950	KV2DFV/11x5 EAV 70-210 bar	9V054702
020-050-09000	KV2DFV/14x5 EAV 70-210 bar	9V054902
020-050-09050	KV2DFV/17x5 EAV 70-210 bar	9V055102
020-050-09100	KV2DFV/19x5 EAV 70-210 bar	9V055302
020-050-09150	KV2DFV/22x5 EAV 70-210 bar	9V055502
020-050-09200	KV2DFV/26x5 EAV 70-210 bar	9V055702

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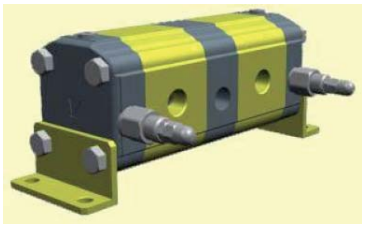
Zahnradmengenteiler KV

– Baugröße 2 –

KV 2 DF



Bestellnr.	Typ	Code
020-050-09250	KV2DFV/30x5 EAV 70-210 bar	9V055902
020-050-09300	KV2DFV/34x5 EAV 70-210 bar	9V056102
020-050-09350	KV2DFV/40x5 EAV 70-210 bar	9V056302
020-050-09400	KV2DFV/4x6 EAV 70-210 bar	9V064102
020-050-09450	KV2DFV/6x6 EAV 70-210 bar	9V064302
020-050-09500	KV2DFV/9x6 EAV 70-210 bar	9V064502
020-050-09550	KV2DFV/11x6 EAV 70-210 bar	9V064702
020-050-09600	KV2DFV/14x6 EAV 70-210 bar	9V064902
020-050-09650	KV2DFV/17x6 EAV 70-210 bar	9V065102
020-050-09700	KV2DFV/19x6 EAV 70-210 bar	9V065302
020-050-09750	KV2DFV/22x6 EAV 70-210 bar	9V065502
020-050-09800	KV2DFV/26x6 EAV 70-210 bar	9V065702
020-050-09850	KV2DFV/30x6 EAV 70-210 bar	9V065902
020-050-09900	KV2DFV/34x6 EAV 70-210 bar	9V066102
020-050-09950	KV2DFV/40x6 EAV 70-210 bar	9V066302

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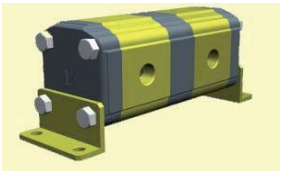
[Index] [Kapitel] [KV-0] [KV-1] [KV-2] [Seite 4] [Seite 5] [Seite 6] [Seite 7] [Seite 8] [Seite 9]

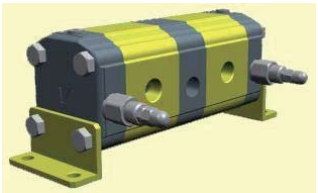
KV-2DF

MENGENTEILER



KV-2DFV

MENGENTEILER MIT PHASENAUSGLEICHSVENTILEN



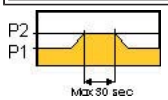
KV-2DF+2M

MENGENTEILER MIT MOTOR

KV-2DFV+2M

MENGENTEILER MIT VENTILEN UND MOTOR

TYP	Hubraum cm3/Umdr.	Durchfluß eines Elements l/min.			Drehzahl der Zahnräder Umdr. /min			D P (*)	Druck Max bar		Masse kg
		Min.	Empfohlen	Max	Min	Empfohlen	Max	bar	P1	P2	
KV-2DF 2DFV /4	4.2	4.8	7.6	10	1200	1800	2500	50	210	260	2.200
KV-2DF 2DFV /6	6	7.2	10.8	15	1200	1800	2500	50	210	260	2.300
KV-2DF 2DFV /9	8.4	10.8	15.1	22.5	1200	1800	2500	50	210	260	2.400
KV-2DF 2DFV /11	10.8	13.2	19.4	27.5	1200	1800	2500	50	210	260	2.500
KV-2DF 2DFV /14	14.4	16.8	25.9	35	1200	1800	2500	40	200	240	2.700
KV-2DF 2DFV /17	16.8	20.4	30.2	42.5	1200	1800	2500	40	200	240	2.800
KV-2DF 2DFV /19	19.2	22.8	34.6	47.5	1200	1800	2500	40	190	230	2.900
KV-2DF 2DFV /22	22.8	26.4	41	55	1200	1800	2500	40	180	220	3.050
KV-2DF 2DFV /26	25.2	31.2	45.4	65	1200	1800	2500	40	160	200	3.150
KV-2DF 2DFV /30	30	36	54	75	1200	1800	2500	30	160	190	3.400
KV-2DF 2DFV /34	34.2	40.8	61.6	85	1200	1800	2500	30	140	170	3.600
KV-2DF 2DFV /40	39.6	48	71.3	100	1200	1800	2500	30	130	160	3.800
(*) Maximaler Druckunterschied zwischen den einzelnen Sektionen											



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Öltemperatur: +30°c ÷ +60°c
Hydrauliköl auf Mineralbasis Hlp, Hv (DIN 51524)
Ölviskosität 20 ÷ 40 cSt
Ölfilterung 10 ÷ 25 µ

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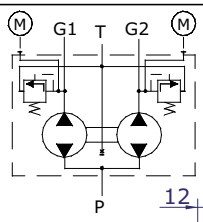
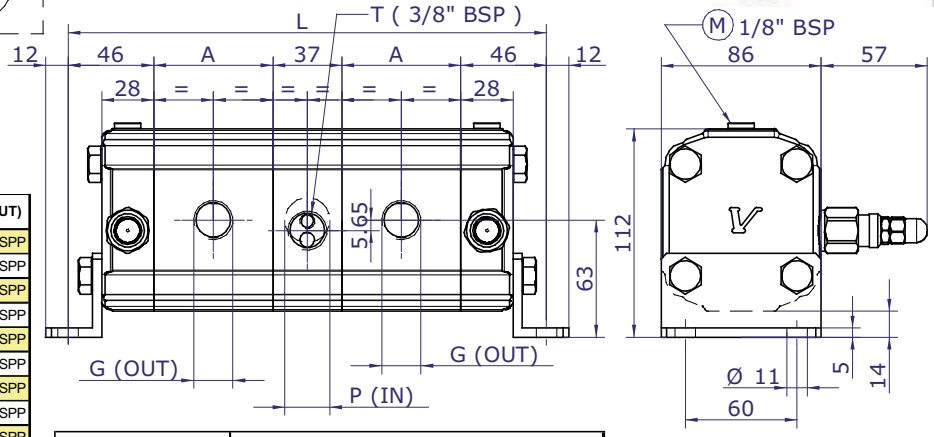


KV-2DFV



TIPO/Type	A	G (OUT)
KV-2DF/4	47	1/2" BSPP
KV-2DF/6	50	1/2" BSPP
KV-2DF/9	54	1/2" BSPP
KV-2DF/11	58	1/2" BSPP
KV-2DF/14	64	1/2" BSPP
KV-2DF/17	68	1/2" BSPP
KV-2DF/19	72	1/2" BSPP
KV-2DF/22	78	1/2" BSPP
KV-2DF/26	82	3/4" BSPP
KV-2DF/30	90	3/4" BSPP
KV-2DF/34	97	3/4" BSPP
KV-2DF/40	106	3/4" BSPP

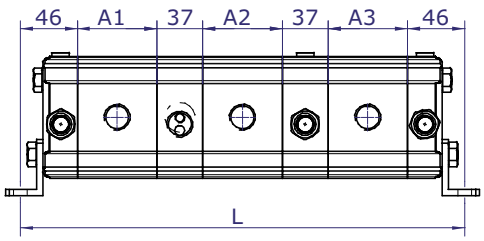
TIPO DI VALVOLA *VALVE TYPE*	CAMPO DI TARATURA/*SETTING RANGE*		
	CODE 01	CODE 02	CODE 03
VM 50 DIF	10 ÷ 105 bar	70 ÷ 210 bar	140 ÷ 350 bar

P (N x IN) BSPP

TIPO *Type*	NUMERO DI ELEMENTI CHE COMPONGONO IL DIVISORE *QUANTITY OF ELEMENTS COMPOSING THE DIVIDER*														
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
2DF / 4	1 x 1/2"	1 x 1/2"	1 x 3/4"	1 x 3/4"	1 x 3/4"	2 x 1/2"	2 x 3/4"	2 x 3/4"	2 x 3/4"	2 x 3/4"	2 x 3/4"	3 x 3/4"	3 x 3/4"	3 x 3/4"	3 x 3/4"
2DF / 6	1 x 1/2"	1 x 3/4"	1 x 3/4"	1 x 3/4"	1 x 3/4"	2 x 1/2"	2 x 3/4"	2 x 3/4"	2 x 3/4"	2 x 3/4"	2 x 3/4"	3 x 3/4"	3 x 3/4"	3 x 3/4"	3 x 3/4"
2DF / 9	1 x 3/4"	1 x 3/4"	1 x 3/4"	1 x 3/4"	1 x 3/4"	2 x 3/4"	2 x 3/4"	2 x 3/4"	2 x 3/4"	2 x 3/4"	2 x 3/4"	3 x 3/4"	3 x 3/4"	3 x 3/4"	3 x 3/4"
2DF / 11	1 x 3/4"	1 x 3/4"	1 x 3/4"	1 x 1"	1 x 1"	2 x 3/4"	2 x 3/4"	2 x 3/4"	2 x 3/4"	2 x 3/4"	2 x 3/4"	3 x 3/4"	3 x 3/4"	3 x 3/4"	3 x 3/4"
2DF / 14	1 x 3/4"	1 x 3/4"	1 x 3/4"	1 x 1"	1 x 1"	2 x 3/4"	2 x 3/4"	2 x 3/4"	2 x 3/4"	2 x 3/4"	2 x 3/4"	3 x 3/4"	3 x 3/4"	3 x 3/4"	3 x 3/4"
2DF / 17	1 x 3/4"	1 x 3/4"	1 x 3/4"	1 x 1"	1 x 1"	2 x 3/4"	2 x 3/4"	2 x 3/4"	2 x 3/4"	2 x 3/4"	2 x 3/4"	3 x 3/4"	3 x 3/4"	3 x 3/4"	3 x 3/4"
2DF / 19	1 x 3/4"	1 x 1"	1 x 1"	1 x 1"	1 x 1"	2 x 3/4"	2 x 3/4"	2 x 1"	2 x 1"	2 x 1"	2 x 1"	3 x 1"	3 x 1"	3 x 1"	3 x 1"
2DF / 22	1 x 3/4"	1 x 1"	1 x 1"	1 x 1"	2 x 1"	2 x 1"	2 x 1"	2 x 1"	2 x 1"	2 x 1"	2 x 1"	3 x 1"	3 x 1"	3 x 1"	3 x 1"
2DF / 26	1 x 1"	1 x 1"	1 x 1"	2 x 1"	2 x 1"	2 x 1"	2 x 1"	2 x 1"	2 x 1"	2 x 1"	2 x 1"	3 x 1"	3 x 1"	3 x 1"	3 x 1"
2DF / 30	1 x 1"	1 x 1"	2 x 1"	2 x 1"	2 x 1"	2 x 1"	2 x 1"	2 x 1"	2 x 1"	2 x 1"	2 x 1"	3 x 1"	3 x 1"	3 x 1"	3 x 1"
2DF / 34	1 x 1"	1 x 1"	2 x 1"	2 x 1"	2 x 1"	2 x 1"	2 x 1"	2 x 1"	2 x 1"	2 x 1"	2 x 1"	3 x 1"	3 x 1"	3 x 1"	3 x 1"
2DF / 40	1 x 1"	1 x 1"	2 x 1"	2 x 1"	2 x 1"	2 x 1"	2 x 1"	2 x 1"	2 x 1"	2 x 1"	2 x 1"	3 x 1"	3 x 1"	3 x 1"	3 x 1"

L = (n-1) x 37 + 92 + A1 + A2 + A3 +.....+ An

n = Numero di elementi del Divisore
n = Number of elements making up Divider



ESEMPIO:
Per ottenere la lunghezza totale (L) di un divisore a tre elementi (n=3), di TIPO KV-2DFV/9 x 3
L = (n-1) x 37 + 97+ A1 + A2 + A3 = (3-1) x 37 + 97 + 54 + 54 + 54 = 333 mm

EXAMPLE:
To obtain the total length (L) of a three-element divider (n=3), the element being TYPE KV-2DFV/9 x 3
L = (n-1) x 37 + 97+ A1 + A2 + A3 = (3-1) x 37 + 97 + 54 + 54 + 54 = 333 mm

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Zahnradmengenteiler RV

– Baugröße 0 –

Serie RV ohne Ventile

Bestellnr.	Typ	Code
021-005-1000	RV-0D/0,17x2	9RD0201
021-005-1050	RV-0D/0,25x2	9RD0202
021-005-1100	RV-0D/0,45x2	9RD0204
021-005-1150	RV-0D/0,57x2	9RD0205
021-005-1200	RV-0D/0,76x2	9RD0206
021-005-1250	RV-0D/0,98x2	9RD0207
021-005-1300	RV-0D/1,27x2	9RD0209
021-005-1350	RV-0D/1,52x2	9RD0211
021-005-1400	RV-0D/2,30x2	9RD0213
021-005-1450	RV-0D/0,17x3	9RD0301
021-005-1500	RV-0D/0,25x3	9RD0302
021-005-1550	RV-0D/0,45x3	9RD0304
021-005-1600	RV-0D/0,57x3	9RD0305
021-005-1650	RV-0D/0,76x3	9RD0306
021-005-1700	RV-0D/0,98x3	9RD0307
021-005-1750	RV-0D/1,27x3	9RD0309
021-005-1800	RV-0D/1,52x3	9RD0311
021-005-1850	RV-0D/2,30x3	9RD0313
021-005-1900	RV-0D/0,17x4	9RD0401
021-005-1950	RV-0D/0,25x4	9RD0402
021-005-2000	RV-0D/0,45x4	9RD0404
021-005-2050	RV-0D/0,57x4	9RD0405
021-005-2100	RV-0D/0,76x4	9RD0406
021-005-2150	RV-0D/0,98x4	9RD0407
021-005-2200	RV-0D/1,27x4	9RD0409
021-005-2250	RV-0D/1,52x4	9RD0411
021-005-2300	RV-0D/2,30x4	9RD0413
021-005-2350	RV-0D/0,17x5	9RD0501
021-005-2400	RV-0D/0,25x5	9RD0502
021-005-2450	RV-0D/0,45x5	9RD0504
021-005-2500	RV-0D/0,57x5	9RD0505
021-005-2550	RV-0D/0,76x5	9RD0506
021-005-2600	RV-0D/0,98x5	9RD0507
021-005-2650	RV-0D/1,27x5	9RD0509
021-005-2700	RV-0D/1,52x5	9RD0511
021-005-2750	RV-0D/2,30x5	9RD0513
021-005-2800	RV-0D/0,17x6	9RD0601
021-005-2850	RV-0D/0,25x6	9RD0602
021-005-2900	RV-0D/0,45x6	9RD0604
021-005-2950	RV-0D/0,57x6	9RD0605
021-005-3000	RV-0D/0,76x6	9RD0606
021-005-3050	RV-0D/0,98x6	9RD0607
021-005-3100	RV-0D/1,27x6	9RD0609
021-005-3150	RV-0D/1,52x6	9RD0611
021-005-3200	RV-0D/2,30x6	9RD0613

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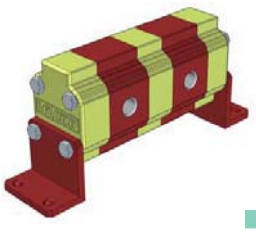
ViVOiL BOLOGNA - ITALY

FLOW DIVIDERS "RV SERIES"

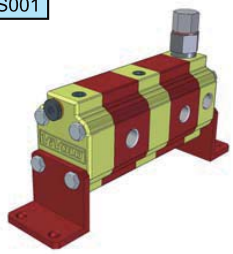
GROUP "0"

RIF. RD001



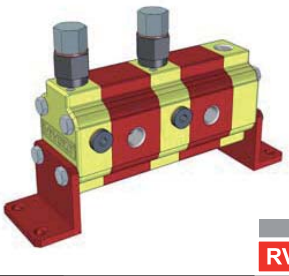
RV-0D

RIF. RS001



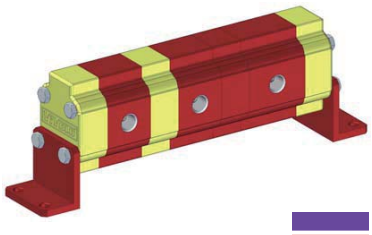
RV-0S

RIF. RV001



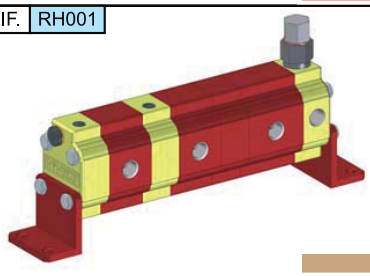
RV-0V

RIF. RG001



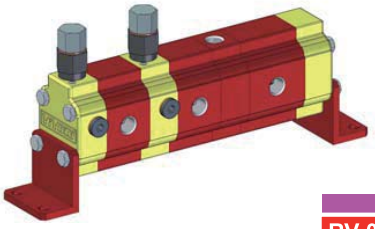
RV-0G

RIF. RH001



RV-0H

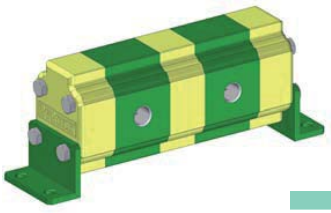
RIF. RN001



RV-0N

GROUP "1"

RIF. RD101

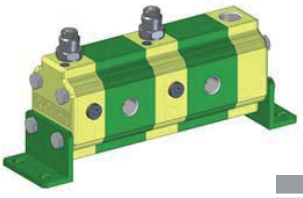


RV-1D

RIF. RS101

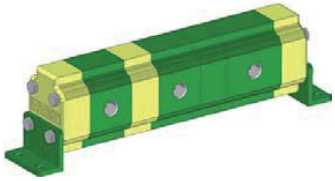
RV-1S

RIF. RV101



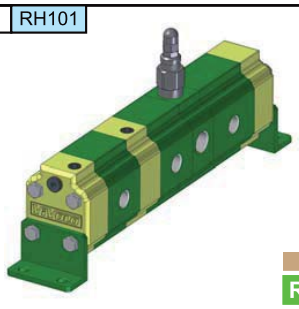
RV-1V

RIF. RG101



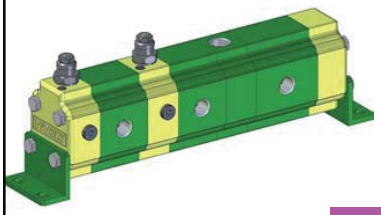
RV-1G

RIF. RH101



RV-1H

RIF. RN101



RV-1N

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INTRODUCTION RV-0 RV-1

A flow divider is made up of two or more modular elements (sections) with gears mechanically linked by an internal shaft that causes them to turn at the same speed.
Unlike multiple pumps, in which the input power is mechanical (shaft connected to a motor), in a flow divider the input power is of a fluid-mechanical nature, i.e. a flow of oil under pressure parallelly supplies the modular elements, which are in turn connected to the hydraulic circuits serving the users.

The portion of flow utilized by each element is solely determined by its nominal flow rate. Therefore, unlike standard static dividers with variable ports, the flow dividers do not cause dissipation and are also much more precise.
The use of flow dividers in a system reduces the number of pumps necessary as well as the associated individual mechanical power takeoffs and complex mechanical couplers (with greater losses).
Leaving aside small losses for the time being, at any given moment the total input power is equal to the sum of the powers supplied by all elements making up the flow divider.

Therefore, if in an interval of time the power required by a hydraulic circuit is equal to zero (inactive drained circuit), the power supplied by the element feeding that circuit becomes available for the other elements, which may use it in their own circuits, also operating at higher pressures than the intake pressure.

Most frequent applications of flow dividers

Supply of two or more independent hydraulic circuits by means of a single pump, with an overall flow rate equal to the sum of the flow rates.

Examples of this kind of application:
- lifting platforms and bridges;
- hydraulic bending presses and shearing machines;
- hoisting of freight containers;
- lubrication systems;
- hydraulic opening / closing of gates;
- automatic hydraulically-driven machines;
- actuation of formwork for construction;
- wood processing machinery;
- conveyance of trolleys driven by hydraulic cylinders or motors;
- equipment for the food industry;
- military installations.

Pressure amplifiers.
When in a hydraulic system one user requires a much higher operating or peak pressure than all the others, it is more convenient to supply it by means of a flow divider than to upgrade the whole system to work with higher pressure.
With a two-element flow divider flow may be discharged from the outlet of one element so that the pressure in the other will become much higher than that of the pump supplying the system.

Examples of this kind of application:
- presses with rapid approach
- machine tools

Constructive features

FLOW DIVIDER BODY FLANGE AND COVER	Extruded alloy Serie 7000, heat treated and anodised	Rp=345 N/mm2 (Yield Strength) Rm=382 N/mm2 (Breaking Strength)
GEAR BUSH BEARINGS	Special Heat Treated tin alloy with excellent mechanical features and high anti-friction capacity. Self-lubricating bushes DU	Rp=350 N/mm2 (Yield Strength) Rm=390 N/mm2 (Breaking Strength)
GEARS	Steel UNI 7846	Rs=980 N/mm2 (Yield Strength) Rm=1270÷1570 N/mm2 (Breaking Strength)
SEALS	A 727 Acrolonitrile Standard F 975 Viton FKM	90 Shore, resistenza termica 120°C 80 Shore, resistenza termica 200°C

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VERSION DESCRIPTION

RV-D FLOW DIVIDER

This is the flow divider standard version, it simply divide the incoming flow without allowing the phase correction

RV-S FLOW DIVIDER with single phase correction valve

This version has just one phase correction valve for all the elements, it can obviously divide the flow and allow the phase correction, but only in the direction of flow division.

RV-V FLOW DIVIDER with phase correction and anticavitation valves

In this version the flow divider has one phase correction and anticavitation valve for each element, this allow a flow correction in both direction (flow division and flow unification). In addition it can adjust the relief pressure to a different value for each element.

RV-G FLOW DIVIDER + MOTOR

The RV-G typology is the motorized version of the RV-D divider.
It has a motor conneted to the flow divider elements. This solution is important when the incoming and/or outgoing pressure is below the minimum pressure required to start. Giving flow to the motor, help the flow divider rotation start. Typical use: plants with single effects hydraulic jack.

RV-H FLOW DIVIDER with single phase correction valve + MOTOR

This is the motorized version of the RV-S divider.
The motor has the same funcion that is described for the RV-G divider.

RV-N FLOW DIVIDER with phase correction and anticavitation valve + MOTOR

This is the motorized version of the RV-V divider.
The motor has the same funcion that is described for the RV-G divider.

The flow division error is lower than ± 1.5% with a pressure difference between one element and another until 30 Bars. For bigger differences we can approximate an error increase of 1 % for each 10 additional bars.

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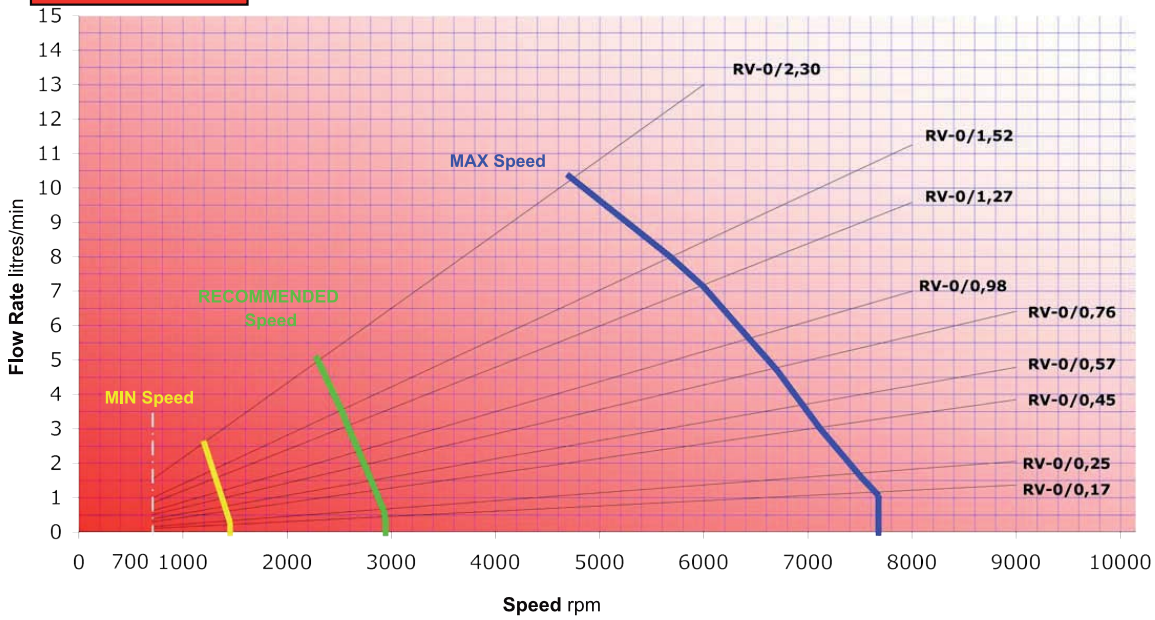
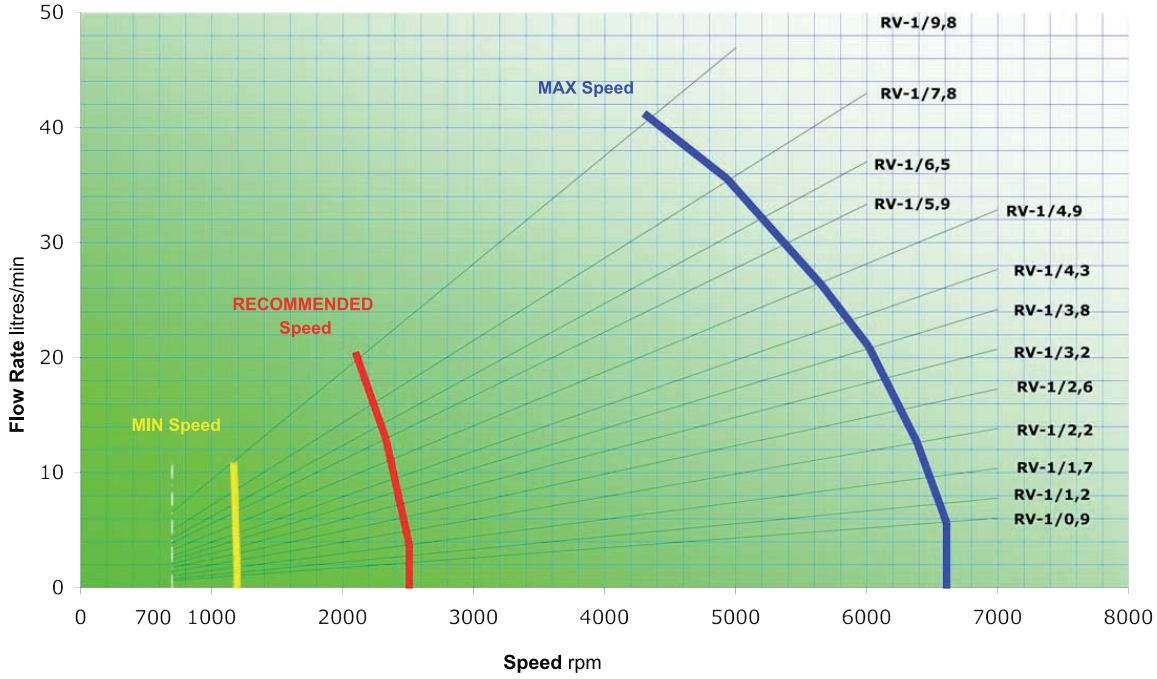
CHARACTERISTIC CURVES RV-0 RV-1

RV-0



RV-1



NOTE: the flow divider can work even below the minimum speed, but it's efficiency will be lower
the flow divider can work even over the maximum speed, but it will increase the noise and loss of load

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FLOW DIVIDER "RV" Series Swallow Line — RV-0D

Flow divider (Standard Version)

Code:

9RD	NN	CC

9RD	Flow Divider Typology
NN	Number of elements
CC	Displacement Code

Example: Flow divider with two elements (same displacement):
RV-0D / 0,57 x 2

9RD	02	05

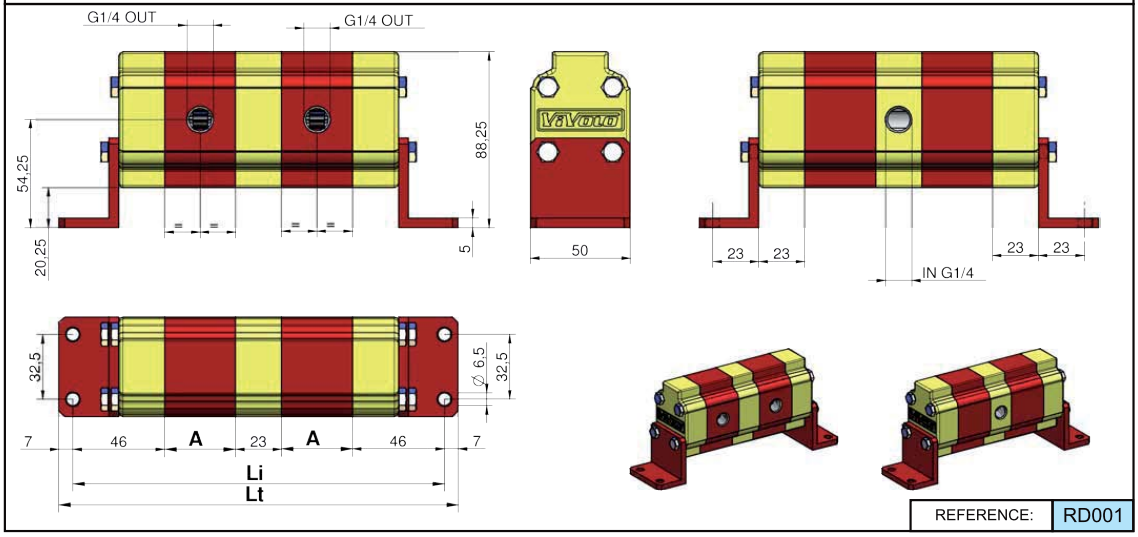
Example: Flow Divider with 4 elements (with different displacement - max 7):
RV-0D / 0,57+0,76+0,98+1,52

9RD	04	05	06	07	11

NOTE: to define codes for flow dividers with more than 7 different displacement, please contact our sales department.

Table: 1

Displacem. Cm³/rev	CC Code	Max Pressure bar	One element flow rate l/min MIN	RECOMMENDED	MAX
0,17	01	210	0,2	0,4	1,2
0,25	02	210	0,3	0,7	1,8
0,45	04	210	0,6	1,2	3
0.57	05	210	0,8	1,5	3,8
0,76	06	210	1	2	4,8
0,98	07	210	1,2	2,3	5,6
1,27	09	210	1,5	3	7,2
1,52	11	210	1,9	3,5	8
2,30	13	210	2,6	5	10,3



REFERENCE: RD001

Table: 2

Li = Distance between fixing hole centres (single displacement flow divider)

Cm³/giro	A	Number of elements 2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
0,17	**29,3**	174,8	227,7	280,6	333,5	386,4	439,3	492,5	545,1	598	650,9	703,8	756,7	809,6	862,5	915,4
0,25	**29,9**	178	232,5	287	341,5	396	450,5	505	559,5	614	668,5	723	777,5	832	886,5	941
0,45	**31,5**	180	235,5	291	346,5	402	457,5	513	568,5	624	679,5	735	790,5	846	901,5	957
0,76	**34**	183	240	297	354	411	468	525	582	639	696	753	810	867	924	981
0,98	**35,5**	186	244,5	303	361,5	420	478,5	537	595,5	654	712,5	771	829,5	888	946,5	1005
1,27	**38**	191	252	313	374	435	496	557	618	679	740	801	862	923	984	1045
1,52	**40**	195	258	321	384	447	510	573	636	699	762	825	888	951	1014	1077
2,30	**46**	207	276	345	414	483	552	621	690	759	828	897	966	1035	1104	1173

Table: 3 in this table the number of inlets in function of the number of elements are indicated.

Number of elements	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
"IN" Number of inlets	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8

021-005-D

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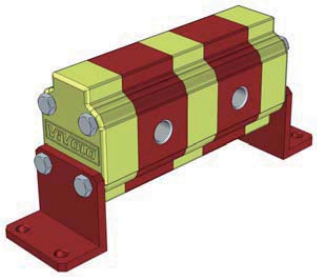
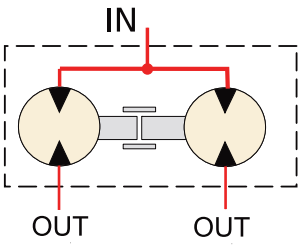
FLOW DIVIDER "RV" Series Swallow Line — RV-0D

Flow divider (Standard Version)

INTERNAL DRAIN





In **table 1** the functioning range of single flow divider elements is indicated.
The higher is the feeding capacity (q), the higher is the precision of flow division, but in opposition there are losses of loading and higher noise. Therefore we suggest to feed the elements with capacities equal or a few superior to the ones indicated in the column "**RECOMMENDED**".
Remember to verify the capacities even in phase of flow reunion.
The pressures indicated are to be considered as maximum of functioning, the flow divider is able to bear peaks of pressure 20% superior.

How to calculate the "Li" and "Lt" measures of flow dividers:

From **table 2** it is possible to obtain the "Li" measure for flow dividers up to 16 elements with equal displacements; for flow dividers with different elements or with more than 16 elements the "Li" and "Lt" measure have to be calculated by the following formula:

Li = [(n-1) x 23] + 92+ (A1 + A2 + A3 +…….)

92 = 46 + 46
n = Number of elements of flow divider
A1... An = heights of elements of flow divider

Lt = Li + 14

14 = 7+ 7

EXAMPLE: To obtain the measures **Li** and **Lt** of a flow divider with three elements (n=3), **RV-0D 0,98 + 0,76 +1,27**

Distance between fixing hole centres — **Li** = [(3-1) x 23] + 92 + 35,5 + 34 + 38 =245,5 mm

Total Lenght — **Lt** = 245,5 + 14 = 259,5

In **table 3** the number of inlets in fuction of the number of elements are indicated.
For flow dividers with many inlets, as they are all communicating it is even possible to use only one of them, by plugging the other ones. We suggest to make full us at least of **1** inlet every **15** l/min capacity.

To obtain errors of division **inferior to 3%** there must be no difference of pressure between the elements superior to **30 bar**. To obtain high precisions the respect of the following parametres is also important:

- Enviroment temperature: -10°c ÷ +60°c — Oil temperature: +30°c ÷ +60°c
- Hydraulic oil based on hlp, hv (din 51524) minerals — Oil Viscosity 20 ÷ 40 cSt
- Oil filtering 10 ÷ 25 µ

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Zahnradmengenteiler RV...S

– Baugröße 0 –

Serie RV...S mit zentralem Endlagenausgleich

Bestellnr.	Typ	Code
021-005-5600	RV-0S/0,17x2 EAV 70-315 bar	9RS02E01
021-005-5650	RV-0S/0,25x2 EAV 70-315 bar	9RS02E02
021-005-5700	RV-0S/0,45x2 EAV 70-315 bar	9RS02E04
021-005-5750	RV-0S/0,57x2 EAV 70-315 bar	9RS02E05
021-005-5800	RV-0S/0,76x2 EAV 70-315 bar	9RS02E06
021-005-5850	RV-0S/0,98x2 EAV 70-315 bar	9RS02E07
021-005-5900	RV-0S/1,27x2 EAV 70-315 bar	9RS02E09
021-005-5950	RV-0S/1,52x2 EAV 70-315 bar	9RS02E11
021-005-6000	RV-0S/2,30x2 EAV 70-315 bar	9RS02E13
021-005-6050	RV-0S/0,17x3 EAV 70-315 bar	9RS03E01
021-005-6100	RV-0S/0,25x3 EAV 70-315 bar	9RS03E02
021-005-6150	RV-0S/0,45x3 EAV 70-315 bar	9RS03E04
021-005-6200	RV-0S/0,57x3 EAV 70-315 bar	9RS03E05
021-005-6250	RV-0S/0,76x3 EAV 70-315 bar	9RS03E06
021-005-6300	RV-0S/0,98x3 EAV 70-315 bar	9RS03E07
021-005-6350	RV-0S/1,27x3 EAV 70-315 bar	9RS03E09
021-005-6400	RV-0S/1,52x3 EAV 70-315 bar	9RS03E11
021-005-6450	RV-0S/2,30x3 EAV 70-315 bar	9RS03E13
021-005-6500	RV-0S/0,17x4 EAV 70-315 bar	9RS04E01
021-005-6550	RV-0S/0,25x4 EAV 70-315 bar	9RS04E02
021-005-6600	RV-0S/0,45x4 EAV 70-315 bar	9RS04E04
021-005-6650	RV-0S/0,57x4 EAV 70-315 bar	9RS04E05
021-005-6700	RV-0S/0,76x4 EAV 70-315 bar	9RS04E06
021-005-6750	RV-0S/0,98x4 EAV 70-315 bar	9RS04E07
021-005-6800	RV-0S/1,27x4 EAV 70-315 bar	9RS04E09
021-005-6850	RV-0S/1,52x4 EAV 70-315 bar	9RS04E11
021-005-6900	RV-0S/2,30x4 EAV 70-315 bar	9RS04E13
021-005-6950	RV-0S/0,17x5 EAV 70-315 bar	9RS05E01
021-005-7000	RV-0S/0,25x5 EAV 70-315 bar	9RS05E02
021-005-7050	RV-0S/0,45x5 EAV 70-315 bar	9RS05E04
021-005-7100	RV-0S/0,57x5 EAV 70-315 bar	9RS05E05
021-005-7150	RV-0S/0,76x5 EAV 70-315 bar	9RS05E06
021-005-7200	RV-0S/0,98x5 EAV 70-315 bar	9RS05E07
021-005-7250	RV-0S/1,27x5 EAV 70-315 bar	9RS05E09
021-005-7300	RV-0S/1,52x5 EAV 70-315 bar	9RS05E11
021-005-7350	RV-0S/2,30x5 EAV 70-315 bar	9RS05E13
021-005-7400	RV-0S/0,17x6 EAV 70-315 bar	9RS06E01
021-005-7450	RV-0S/0,25x6 EAV 70-315 bar	9RS06E02
021-005-7500	RV-0S/0,45x6 EAV 70-315 bar	9RS06E04
021-005-7550	RV-0S/0,57x6 EAV 70-315 bar	9RS06E05
021-005-7600	RV-0S/0,76x6 EAV 70-315 bar	9RS06E06
021-005-7650	RV-0S/0,98x6 EAV 70-315 bar	9RS06E07
021-005-7700	RV-0S/1,27x6 EAV 70-315 bar	9RS06E09
021-005-7750	RV-0S/1,52x6 EAV 70-315 bar	9RS06E11
021-005-7800	RV-0S/2,30x6 EAV 70-315 bar	9RS06E13

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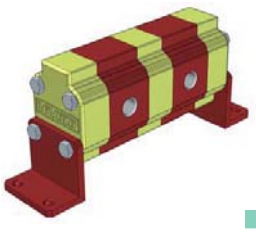
ViVOiL BOLOGNA - ITALY

FLOW DIVIDERS "RV SERIES"

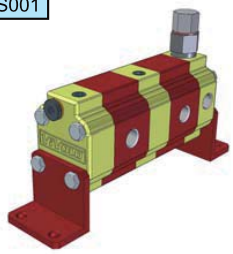
GROUP "0"

RIF. RD001



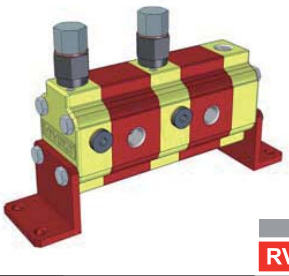
RV-0D

RIF. RS001



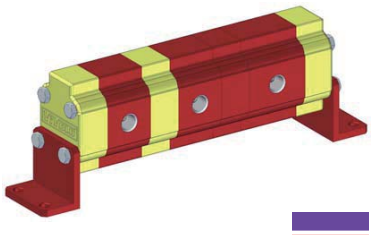
RV-0S

RIF. RV001



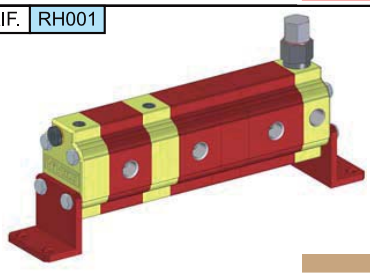
RV-0V

RIF. RG001



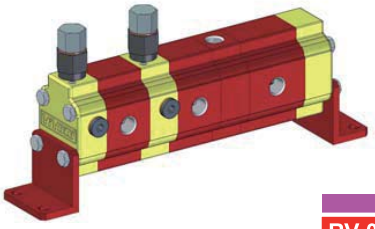
RV-0G

RIF. RH001



RV-0H

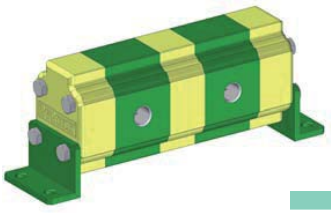
RIF. RN001



RV-0N

GROUP "1"

RIF. RD101

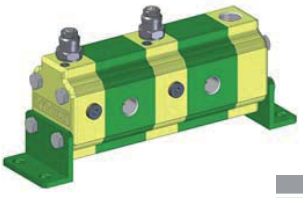


RV-1D

RIF. RS101

RV-1S

RIF. RV101



RV-1V

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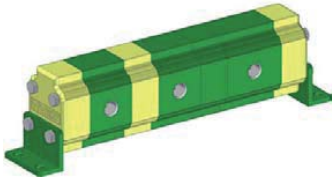

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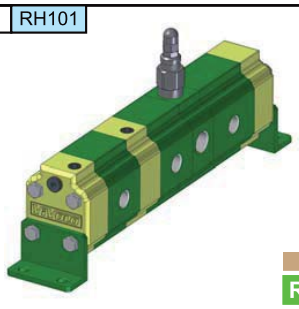

RV-1H

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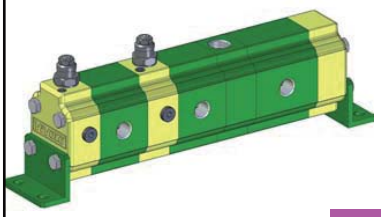

RV-1N

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INTRODUCTION

RV-0 RV-1

A flow divider is made up of two or more modular elements (sections) with gears mechanically linked by an internal shaft that causes them to turn at the same speed.
Unlike multiple pumps, in which the input power is mechanical (shaft connected to a motor), in a flow divider the input power is of a fluid-mechanical nature, i.e. a flow of oil under pressure parallelly supplies the modular elements, which are in turn connected to the hydraulic circuits serving the users.

The portion of flow utilized by each element is solely determined by its nominal flow rate. Therefore, unlike standard static dividers with variable ports, the flow dividers do not cause dissipation and are also much more precise.
The use of flow dividers in a system reduces the number of pumps necessary as well as the associated individual mechanical power takeoffs and complex mechanical couplers (with greater losses).
Leaving aside small losses for the time being, at any given moment the total input power is equal to the sum of the powers supplied by all elements making up the flow divider.

Therefore, if in an interval of time the power required by a hydraulic circuit is equal to zero (inactive drained circuit), the power supplied by the element feeding that circuit becomes available for the other elements, which may use it in their own circuits, also operating at higher pressures than the intake pressure.

Most frequent applications of flow dividers

Supply of two or more independent hydraulic circuits by means of a single pump, with an overall flow rate equal to the sum of the flow rates.

Examples of this kind of application:
- lifting platforms and bridges;
- hydraulic bending presses and shearing machines;
- hoisting of freight containers;
- lubrication systems;
- hydraulic opening / closing of gates;
- automatic hydraulically-driven machines;
- actuation of formwork for construction;
- wood processing machinery;
- conveyance of trolleys driven by hydraulic cylinders or motors;
- equipment for the food industry;
- military installations.

Pressure amplifiers.
When in a hydraulic system one user requires a much higher operating or peak pressure than all the others, it is more convenient to supply it by means of a flow divider than to upgrade the whole system to work with higher pressure.
With a two-element flow divider flow may be discharged from the outlet of one element so that the pressure in the other will become much higher than that of the pump supplying the system.

Examples of this kind of application:
- presses with rapid approach
- machine tools

Constructive features

FLOW DIVIDER BODY FLANGE AND COVER	Extruded alloy Serie 7000, heat treated and anodised	Rp=345 N/mm2 (Yield Strength) Rm=382 N/mm2 (Breaking Strength)
GEAR BUSH BEARINGS	Special Heat Treated tin alloy with excellent mechanical features and high anti-friction capacity. Self-lubricating bushes DU	Rp=350 N/mm2 (Yield Strength) Rm=390 N/mm2 (Breaking Strength)
GEARS	Steel UNI 7846	Rs=980 N/mm2 (Yield Strength) Rm=1270÷1570 N/mm2 (Breaking Strength)
SEALS	A 727 Acrolonitrile Standard F 975 Viton FKM	90 Shore, resistenza termica 120°C 80 Shore, resistenza termica 200°C

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ViVOIL BOLOGNA - ITALY

INTRODUCTION

RV-0 | RV-1

VERSION DESCRIPTION

RV-D FLOW DIVIDER

This is the flow divider standard version, it simply divide the incoming flow without allowing the phase correction

RV-S FLOW DIVIDER with single phase correction valve

This version has just one phase correction valve for all the elements, it can obviously divide the flow and allow the phase correction, but only in the direction of flow division.

RV-V FLOW DIVIDER with phase correction and anticavitation valves

In this version the flow divider has one phase correction and anticavitation valve for each element, this allow a flow correction in both direction (flow division and flow unification). In addition it can adjust the relief pressure to a different value for each element.

RV-G FLOW DIVIDER + MOTOR

The RV-G typology is the motorized version of the RV-D divider.
It has a motor conneted to the flow divider elements. This solution is important when the incoming and/or outgoing pressure is below the minimum pressure required to start. Giving flow to the motor, help the flow divider rotation start. Typical use: plants with single effects hydraulic jack.

RV-H FLOW DIVIDER with single phase correction valve + MOTOR

This is the motorized version of the RV-S divider.
The motor has the same funcion that is described for the RV-G divider.

RV-N FLOW DIVIDER with phase correction and anticavitation valve + MOTOR

This is the motorized version of the RV-V divider.
The motor has the same funcion that is described for the RV-G divider.

The flow division error is lower than ± 1.5% with a pressure difference between one element and another until 30 Bars. For bigger differences we can approximate an error increase of 1 % for each 10 additional bars.

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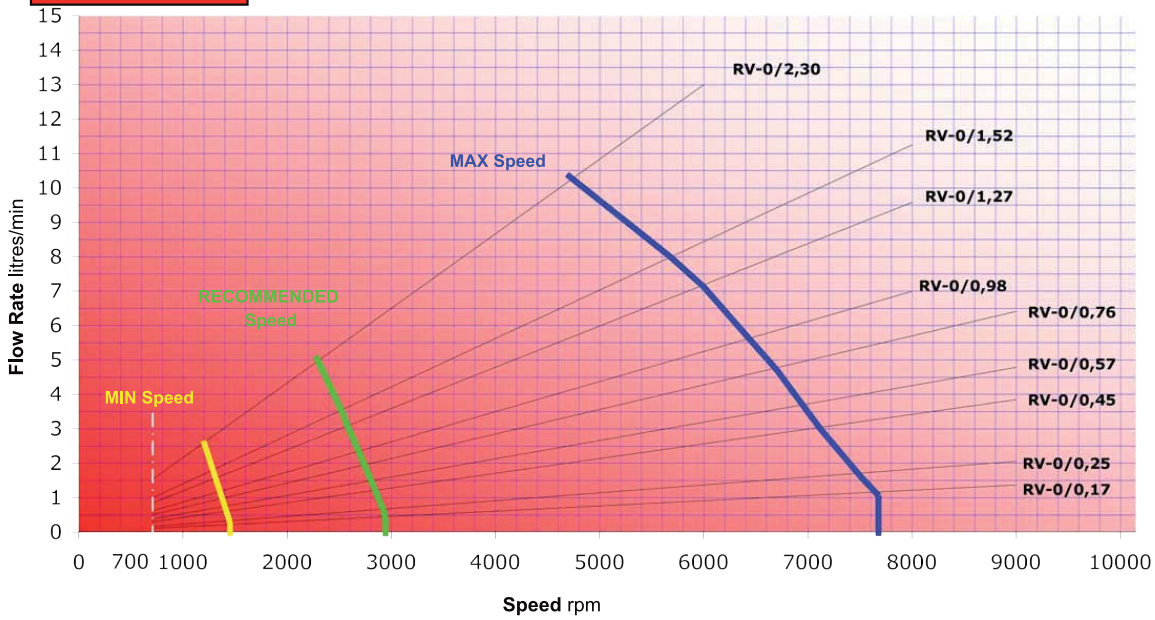
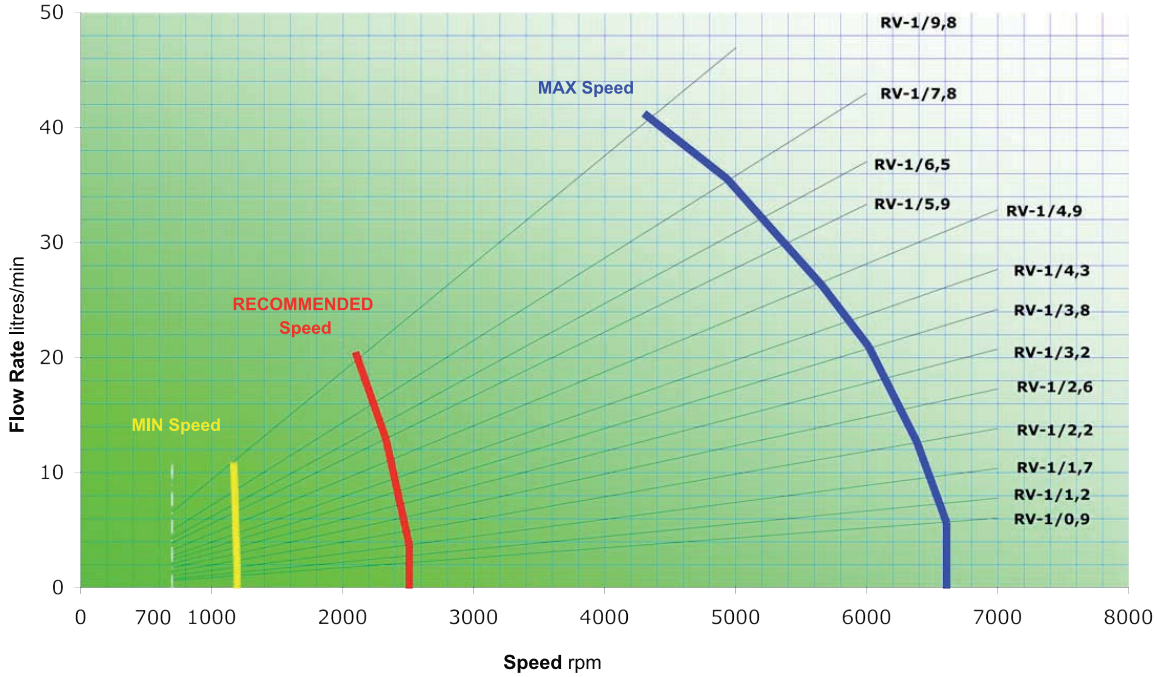
CHARACTERISTIC CURVES RV-0 RV-1

RV-0



RV-1



NOTE: the flow divider can work even below the minimum speed, but it's efficiency will be lower
the flow divider can work even over the maximum speed, but it will increase the noise and loss of load

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FLOW DIVIDER "RV" Series Swallow Line — RV-0H

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Flow divider with **single phase correction valve** common to all the elements and MOTOR

Code:

9RN	NN	M	O	CC	CC

9RN	Flow Divider Typology
NN	Number of flow divider elements
M	Code of setting range of the valves
O	Number of motor elements
CC	Motor Displacement Code
CC	Flow Divider Displacement Code

TABLE "M"	
D	20 ÷ 140 bar
E	70÷ 315 bar

Example: Flow divider with two elements (same displacement) and Motor
RV-0H / 0,76 x 2 with valve 20 ÷ 140 bar + 1 Motor 1.52

9RH	02	D	1	11	06

Example: Flow Divider 4 elements (different displacement - max 6) and Motor:
RV-0H / 2.30+0,57+0,76+0,45 with valve 70 ÷ 315 bar + 1 Motor 2.30

9RH	03	E	1	13	05	06	04

NOTE: to define codes for flow dividers with more than 6 different displacement, please contact our sales department.

Table: 1

Displacem.	CC	Max Pressure bar	One element flow rate l/min		
Cm³/rev	Code		MIN	RECOMMENDED	MAX
0,17	01	210	0,2	0,4	1,2
0,25	02	210	0,3	0,7	1,8
0,45	04	210	0,6	1,2	3
0.57	05	210	0,8	1,5	3,8
0,76	06	210	1	2	4,8
0,98	07	210	1,2	2,3	5,6
1,27	09	210	1,5	3	7,2
1,52	11	210	1,9	3,5	8
2,30	13	210	2,6	5	10,3

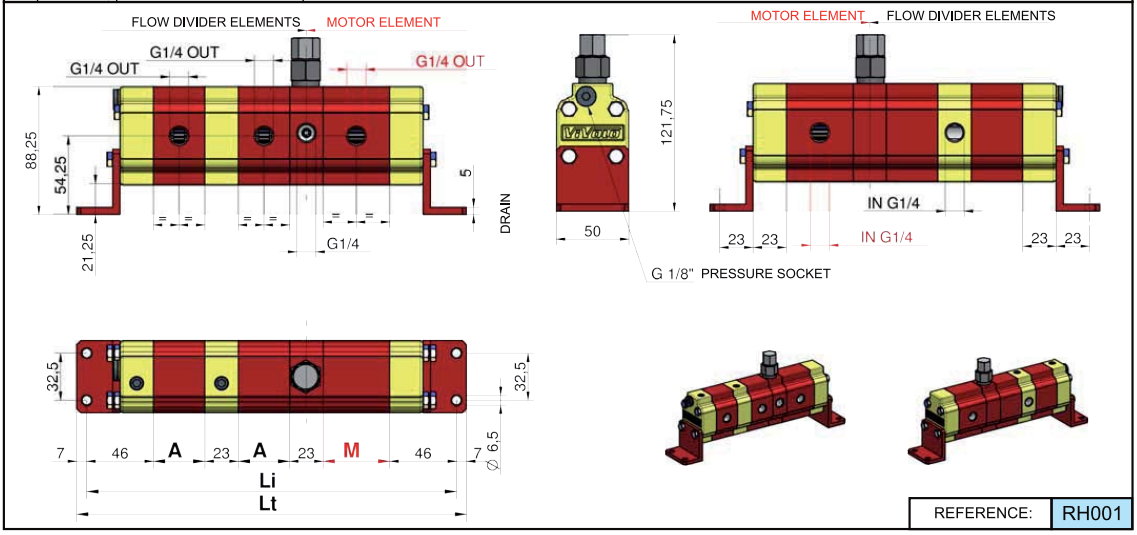

Table: 2

Li = Distance between fixing hole centres (single displacement flow divider)

Cm³/rev	A-M	Number of elements														
		2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
0,17	**29,3**	174,8	227,7	280,6	333,5	386,4	439,3	492,5	545,1	598	650,9	703,8	756,7	809,6	862,5	915,4
0,25	**29,9**	178	232,5	287	341,5	396	450,5	505	559,5	614	668,5	723	777,5	832	886,5	941
0,45	**31,5**	180	235,5	291	346,5	402	457,5	513	568,5	624	679,5	735	790,5	846	901,5	957
0,76	**34**	183	240	297	354	411	468	525	582	639	696	753	810	867	924	981
0,98	**35,5**	186	244,5	303	361,5	420	478,5	537	595,5	654	712,5	771	829,5	888	946,5	1005
1,27	**38**	191	252	313	374	435	496	557	618	679	740	801	862	923	984	1045
1,52	**40**	195	258	321	384	447	510	573	636	699	762	825	888	951	1014	1077
2,30	**46**	207	276	345	414	483	552	621	690	759	828	897	966	1035	1104	1173

Table: 3 in this table the number of inlets in function of the number of elements are indicated.

Number of elements	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
"IN" Number of inlets	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8

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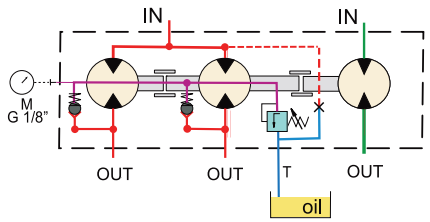
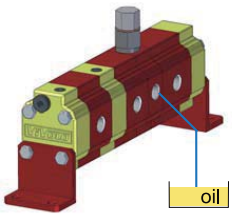
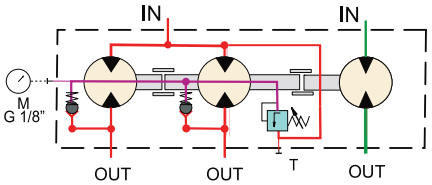
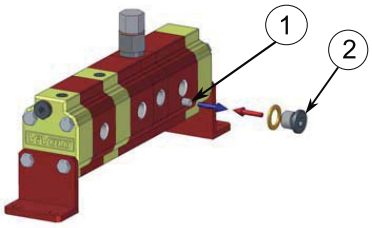
FLOW DIVIDER "RV" Series Swallow Line — RV-0H

Flow divider with **single phase correction valve** common to all the elements

EXTERNAL DRAIN *STANDARD SETUP*	INTERNAL DRAIN
Connect the drain port (T) to the tank	To predispose the divider to the internal drain, execute following operations: 1. remove the M6 dowel inside the drain port 2. with a 1/4 G plug, plug the drain port (T)
 	 

In **table 1** the functining range of single flow divider elements is indicated.
The higher is the feeding capacity (q), the higher is the precision of the flow division, but in opposition there are losses of loading and higher noise. Therefore we suggest to feed the elements with capacities equal or a few superior to the ones indicated in the column **"RECOMMENDED"**.
Remember to verify the capacities even in phase of flow reunion.
The pressure indicated are to be considered as maximum of functioning, the flow divider is able to bear peaks of pressure 20 % superior.

How to calculate the "Li" and "Lt" measures of flow dividers:

From **table 2** it is possible to obtain the "Li" measure for flow dividers up to 16 elements with equal displacements; for flow dividers with different elements or with more than 16 elements the "Li" and "Lt" measure have to be calculated by the following formula:

Li = [(n-1) x 23] + 92+ (A1 + A2 + A3 +…….)

92 = 46 + 46

n = Number of elements of flow divider

A1... An = heights of elements of flow divider

Lt = Li + 14

14 = 7+ 7

EXAMPLE: To obtain the measures **Li** and **Lt** of a flow divider with three elements (n=3), **RV-0H 0,98 x 2 + 1 Motor 2.30**

Distance between fixing hole centres — **Li** = [(3-1) x 23] + 92 + 35,5 + 35,5 + 46 =255 mm

Total Lenght — **Lt** = 255 + 14 = 269 mm

In **table 3** the number of inlets in fuction of the number of elements are indicated.
For flow dividers with many inlets, as they are all communicating it is even possible to use only one of them, by plugging the other ones. We suggest to make full us at least of **1** inlet every **15** l/min capacity.

To obtain errors of division **inferior to 3%** there must be no difference of pressure between the elements superior to **30 bar**. To obtain high precisions the respect of the following parametres is also important:

- Enviroment temperature: -10°c ÷ +60°c — Oil temperature: +30°c ÷ +60°c
- Hydraulic oil based on hlp, hv (din 51524) minerals — Oil Viscosity 20 ÷ 40 cSt
- Oil filtering 10 ÷ 25 µ

021-005-S

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Zahnradmengenteiler RV...V

– Baugröße 0 –

Serie RV...V mit Endlagenausgleich in jeder Sektion und Nachsaugventilen

Bestellnr.	Typ	Code
021-005-12500	RV-0V/0,17x2 EAV 70-350 bar	9RV02C01
021-005-12550	RV-0V/0,25x2 EAV 70-350 bar	9RV02C02
021-005-12600	RV-0V/0,45x2 EAV 70-350 bar	9RV02C04
021-005-12650	RV-0V/0,57x2 EAV 70-350 bar	9RV02C05
021-005-12700	RV-0V/0,76x2 EAV 70-350 bar	9RV02C06
021-005-12750	RV-0V/0,98x2 EAV 70-350 bar	9RV02C07
021-005-12800	RV-0V/1,27x2 EAV 70-350 bar	9RV02C09
021-005-12850	RV-0V/1,52x2 EAV 70-350 bar	9RV02C11
021-005-12900	RV-0V/2,30x2 EAV 70-350 bar	9RV02C13
021-005-12950	RV-0V/0,17x3 EAV 70-350 bar	9RV03C01
021-005-13000	RV-0V/0,25x3 EAV 70-350 bar	9RV03C02
021-005-13050	RV-0V/0,45x3 EAV 70-350 bar	9RV03C04
021-005-13100	RV-0V/0,57x3 EAV 70-350 bar	9RV03C05
021-005-13150	RV-0V/0,76x3 EAV 70-350 bar	9RV03C06
021-005-13200	RV-0V/0,98x3 EAV 70-350 bar	9RV03C07
021-005-13250	RV-0V/1,27x3 EAV 70-350 bar	9RV03C09
021-005-13300	RV-0V/1,52x3 EAV 70-350 bar	9RV03C11
021-005-13350	RV-0V/2,30x3 EAV 70-350 bar	9RV03C13
021-005-13400	RV-0V/0,17x4 EAV 70-350 bar	9RV04C01
021-005-13450	RV-0V/0,25x4 EAV 70-350 bar	9RV04C02
021-005-13500	RV-0V/0,45x4 EAV 70-350 bar	9RV04C04
021-005-13550	RV-0V/0,57x4 EAV 70-350 bar	9RV04C05
021-005-13600	RV-0V/0,76x4 EAV 70-350 bar	9RV04C06
021-005-13650	RV-0V/0,98x4 EAV 70-350 bar	9RV04C07
021-005-13700	RV-0V/1,27x4 EAV 70-350 bar	9RV04C09
021-005-13750	RV-0V/1,52x4 EAV 70-350 bar	9RV04C11
021-005-13800	RV-0V/2,30x4 EAV 70-350 bar	9RV04C13
021-005-13850	RV-0V/0,17x5 EAV 70-350 bar	9RV05C01
021-005-13900	RV-0V/0,25x5 EAV 70-350 bar	9RV05C02
021-005-13950	RV-0V/0,45x5 EAV 70-350 bar	9RV05C04
021-005-14000	RV-0V/0,57x5 EAV 70-350 bar	9RV05C05
021-005-14050	RV-0V/0,76x5 EAV 70-350 bar	9RV05C06
021-005-14100	RV-0V/0,98x5 EAV 70-350 bar	9RV05C07
021-005-14150	RV-0V/1,27x5 EAV 70-350 bar	9RV05C09
021-005-14200	RV-0V/1,52x5 EAV 70-350 bar	9RV05C11
021-005-14250	RV-0V/2,30x5 EAV 70-350 bar	9RV05C13
021-005-14300	RV-0V/0,17x6 EAV 70-350 bar	9RV06C01
021-005-14350	RV-0V/0,25x6 EAV 70-350 bar	9RV06C02
021-005-14400	RV-0V/0,45x6 EAV 70-350 bar	9RV06C04
021-005-14450	RV-0V/0,57x6 EAV 70-350 bar	9RV06C05
021-005-14500	RV-0V/0,76x6 EAV 70-350 bar	9RV06C06
021-005-14550	RV-0V/0,98x6 EAV 70-350 bar	9RV06C07
021-005-14600	RV-0V/1,27x6 EAV 70-350 bar	9RV06C09
021-005-14650	RV-0V/1,52x6 EAV 70-350 bar	9RV06C11
021-005-14700	RV-0V/2,30x6 EAV 70-350 bar	9RV06C13

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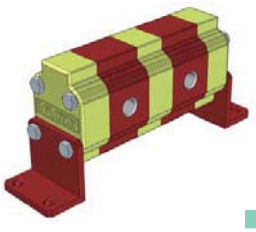
HYDRAULIK MASCHINEN TECHNIK

ViVOIL BOLOGNA - ITALY

FLOW DIVIDERS "RV SERIES"

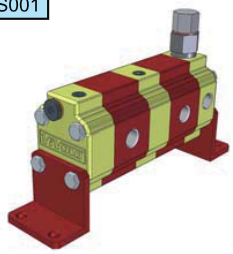
GROUP "0"

RIF. RD001



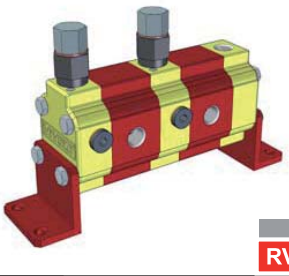
RV-0D

RIF. RS001



RV-0S

RIF. RV001



RV-0V

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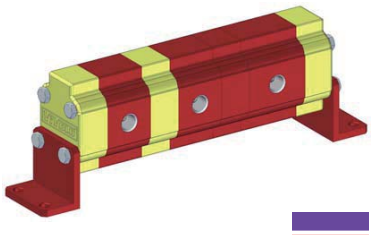
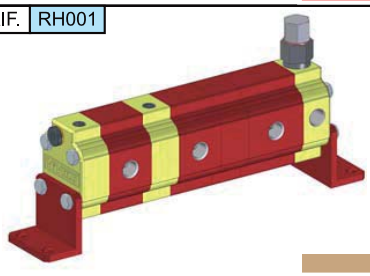


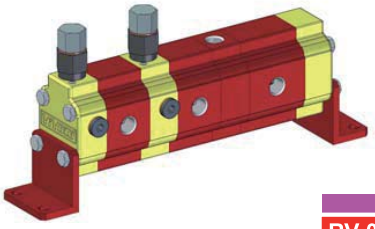
RV-0G

RIF. RH001



RV-0H

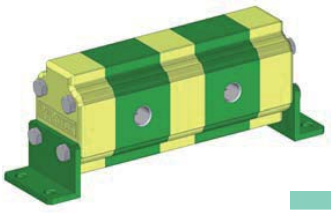
RIF. RN001



RV-0N

GROUP "1"

RIF. RD101

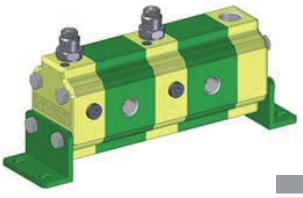


RV-1D

RIF. RS101

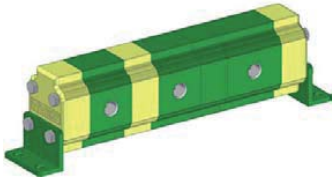
RV-1S

RIF. RV101



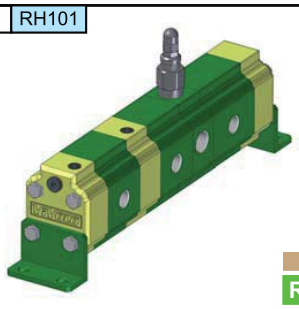
RV-1V

RIF. RG101



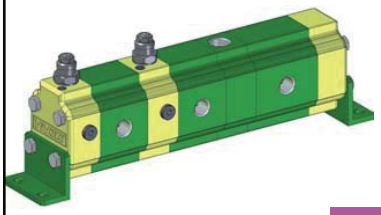
RV-1G

RIF. RH101



RV-1H

RIF. RN101



RV-1N

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VIVOLO BOLOGNA - ITALY

INTRODUCTION RV-0 RV-1

A flow divider is made up of two or more modular elements (sections) with gears mechanically linked by an internal shaft that causes them to turn at the same speed.
Unlike multiple pumps, in which the input power is mechanical (shaft connected to a motor), in a flow divider the input power is of a fluid-mechanical nature, i.e. a flow of oil under pressure parallelly supplies the modular elements, which are in turn connected to the hydraulic circuits serving the users.

The portion of flow utilized by each element is solely determined by its nominal flow rate. Therefore, unlike standard static dividers with variable ports, the flow dividers do not cause dissipation and are also much more precise.
The use of flow dividers in a system reduces the number of pumps necessary as well as the associated individual mechanical power takeoffs and complex mechanical couplers (with greater losses).
Leaving aside small losses for the time being, at any given moment the total input power is equal to the sum of the powers supplied by all elements making up the flow divider.

Therefore, if in an interval of time the power required by a hydraulic circuit is equal to zero (inactive drained circuit), the power supplied by the element feeding that circuit becomes available for the other elements, which may use it in their own circuits, also operating at higher pressures than the intake pressure.

Most frequent applications of flow dividers

Supply of two or more independent hydraulic circuits by means of a single pump, with an overall flow rate equal to the sum of the flow rates.

Examples of this kind of application:
- lifting platforms and bridges;
- hydraulic bending presses and shearing machines;
- hoisting of freight containers;
- lubrication systems;
- hydraulic opening / closing of gates;
- automatic hydraulically-driven machines;
- actuation of formwork for construction;
- wood processing machinery;
- conveyance of trolleys driven by hydraulic cylinders or motors;
- equipment for the food industry;
- military installations.

Pressure amplifiers.
When in a hydraulic system one user requires a much higher operating or peak pressure than all the others, it is more convenient to supply it by means of a flow divider than to upgrade the whole system to work with higher pressure.
With a two-element flow divider flow may be discharged from the outlet of one element so that the pressure in the other will become much higher than that of the pump supplying the system.

Examples of this kind of application:
- presses with rapid approach
- machine tools

Constructive features

FLOW DIVIDER BODY FLANGE AND COVER	Extruded alloy Serie 7000, heat treated and anodised	Rp=345 N/mm2 (Yield Strength) Rm=382 N/mm2 (Breaking Strength)
GEAR BUSH BEARINGS	Special Heat Treated tin alloy with excellent mechanical features and high anti-friction capacity. Self-lubricating bushes DU	Rp=350 N/mm2 (Yield Strength) Rm=390 N/mm2 (Breaking Strength)
GEARS	Steel UNI 7846	Rs=980 N/mm2 (Yield Strength) Rm=1270÷1570 N/mm2 (Breaking Strength)
SEALS	A 727 Acrolonitrile Standard F 975 Viton FKM	90 Shore, resistenza termica 120°C 80 Shore, resistenza termica 200°C

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ViVOIL BOLOGNA - ITALY

INTRODUCTION

RV-0 | RV-1

VERSION DESCRIPTION

RV-D FLOW DIVIDER

This is the flow divider standard version, it simply divide the incoming flow without allowing the phase correction

RV-S FLOW DIVIDER with single phase correction valve

This version has just one phase correction valve for all the elements, it can obviously divide the flow and allow the phase correction, but only in the direction of flow division.

RV-V FLOW DIVIDER with phase correction and anticavitation valves

In this version the flow divider has one phase correction and anticavitation valve for each element, this allow a flow correction in both direction (flow division and flow unification). In addition it can adjust the relief pressure to a different value for each element.

RV-G FLOW DIVIDER + MOTOR

The RV-G typology is the motorized version of the RV-D divider.
It has a motor conneted to the flow divider elements. This solution is important when the incoming and/or outgoing pressure is below the minimum pressure required to start. Giving flow to the motor, help the flow divider rotation start. Typical use: plants with single effects hydraulic jack.

RV-H FLOW DIVIDER with single phase correction valve + MOTOR

This is the motorized version of the RV-S divider.
The motor has the same funcion that is described for the RV-G divider.

RV-N FLOW DIVIDER with phase correction and anticavitation valve + MOTOR

This is the motorized version of the RV-V divider.
The motor has the same funcion that is described for the RV-G divider.

The flow division error is lower than ± 1.5% with a pressure difference between one element and another until 30 Bars. For bigger differences we can approximate an error increase of 1 % for each 10 additional bars.

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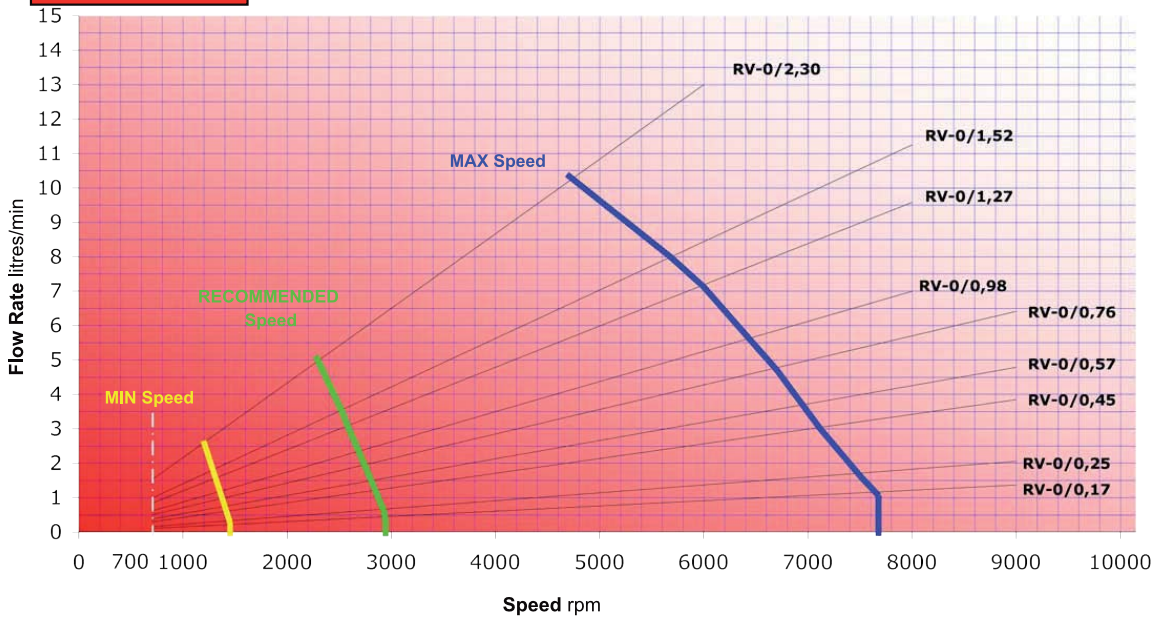
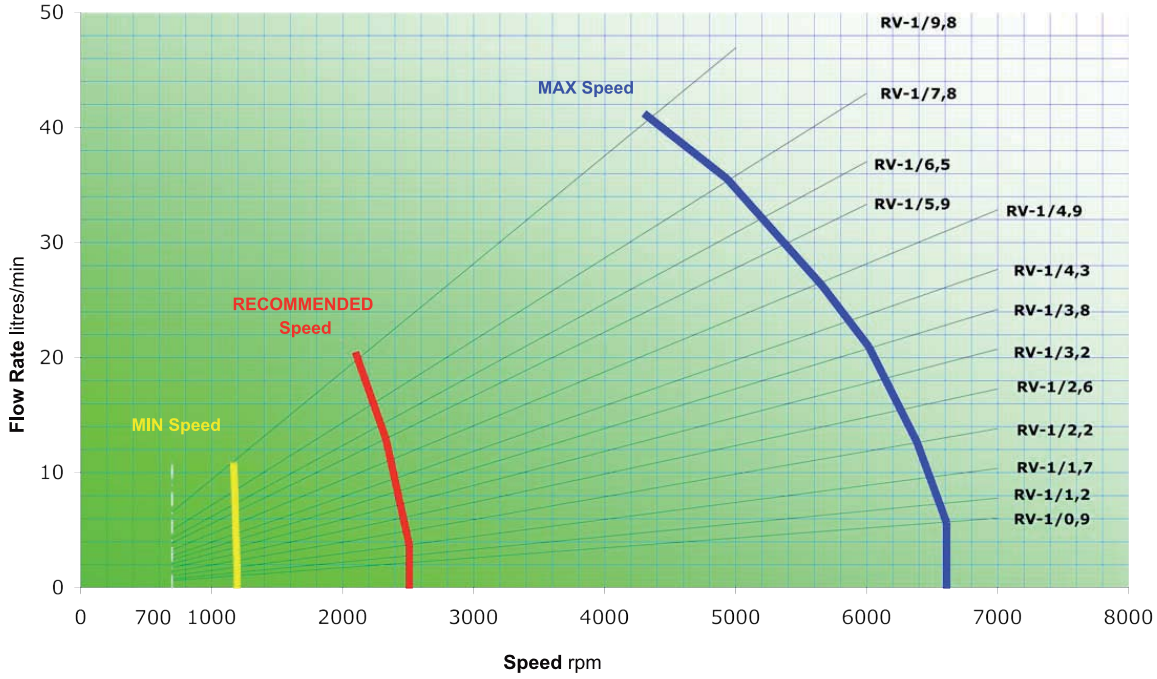
VIVOLO BOLOGNA - ITALY

CHARACTERISTIC CURVES RV-0 RV-1

RV-0



RV-1



NOTE: the flow divider can work even below the minimum speed, but it's efficiency will be lower
the flow divider can work even over the maximum speed, but it will increase the noise and loss of load

021-005-V

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FLOW DIVIDER "RV" Series Swallow Line — RV-0V

ViVOIL BOLOGNA - ITALY

Flow divider with independent **phase correction and anticavitation** valves for each element

Code:

9RV	NN	M	CC

9RV	Flow Divider Typology
NN	Number of elements
M	Code of setting range of the valves
CC	Displacement Code

TABLE "M"	
A	7÷ 70 bar
B	35÷ 175 bar
C	70÷ 350 bar

Example: Flow divider with two elements (same displacement)
RV-0V / 0,57 x 2 with valve 7 ÷ 70 bar

9RV	02	A	05

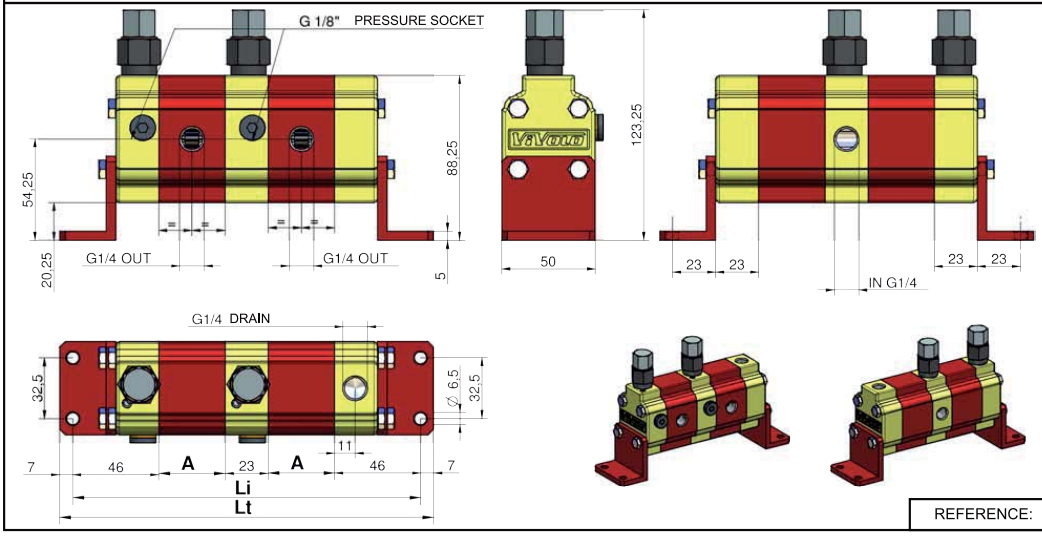
Example: Flow Divider with 4 elements (with different displacement - max 7):
RV-0V / 0,57+0,76+0,98+1,52 with valve 35 ÷ 175 bar

9RV	04	B	05	06	07	11

NOTE: to define codes for flow dividers with more than 7 different displacement, please contact our sales department.

Table: 1

Displacem.	CC	Max Pressure bar	One element flow rate l/min		
Cm³/rev	Code		MIN	RECOMMENDED	MAX
0,17	01	210	0,2	0,4	1,2
0,25	02	210	0,3	0,7	1,8
0,45	04	210	0,6	1,2	3
0.57	05	210	0,8	1,5	3,8
0,76	06	210	1	2	4,8
0,98	07	210	1,2	2,3	5,6
1,27	09	210	1,5	3	7,2
1,52	11	210	1,9	3,5	8
2,30	13	210	2,6	5	10,3



REFERENCE: RV001

Table: 2

Cm³/rev	A
0,17	**29,3**
0,25	**29,9**
0,45	**31,5**
0,76	**34**
0,98	**35,5**
1,27	**38**
1,52	**40**
2,30	**46**

Li = Distance between fixing hole centres (single displacement flow divider)

Number of elements														
2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
174,8	227,7	280,6	333,5	386,4	439,3	492,5	545,1	598	650,9	703,8	756,7	809,6	862,5	915,4
178	232,5	287	341,5	396	450,5	505	559,5	614	668,5	723	777,5	832	886,5	941
180	235,5	291	346,5	402	457,5	513	568,5	624	679,5	735	790,5	846	901,5	957
183	240	297	354	411	468	525	582	639	696	753	810	867	924	981
186	244,5	303	361,5	420	478,5	537	595,5	654	712,5	771	829,5	888	946,5	1005
191	252	313	374	435	496	557	618	679	740	801	862	923	984	1045
195	258	321	384	447	510	573	636	699	762	825	888	951	1014	1077
207	276	345	414	483	552	621	690	759	828	897	966	1035	1104	1173

Table: 3 in this table the number of inlets in function of the number of elements are indicated.

Number of elements	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
"IN" Number of inlets	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8

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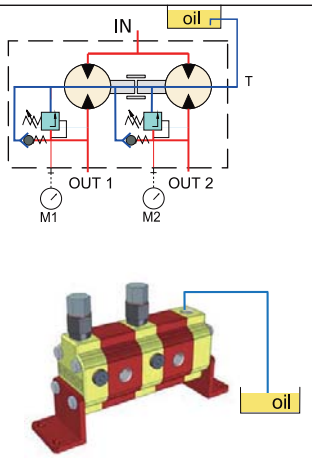
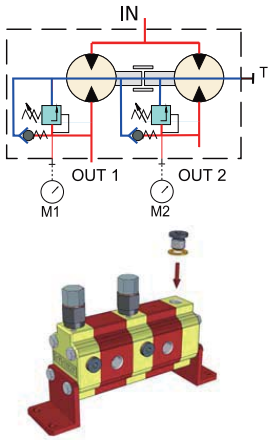
FLOW DIVIDER "RV" Series Swallow Line — RV-0V

ViVOLO BOLOGNA - ITALY

Flow divider with independent **phase correction and anticavitation** valves for each element

EXTERNAL DRAIN *STANDARD SETUP*	INTERNAL DRAIN
For the correct functioning of the flow divider, it has to be installed *under the oil level*. The drain tube has to pick up under the oil level and it has not to aspire air.	To predispose the divider to the internal drain, plug the 1/4 G drain port (T) **Note**: with this configuration the function of anticavitation valves is annulled
	

In **table 1** the functining range of single flow divider elements is indicated.
The higher is the feeding capacity (q), the higher is the precision of the flow division, but in opposition there are losses of loading and higher noise. Therefore we suggest to feed the elements with capacities equal or a few superior to the ones indicated in the column **"RECOMMENDED"**.
Remember to verify the capacities even in phase of flow reunion.
The pressure indicated are to be considered as maximum of functioning, the flow divider is able to bear peaks of pressure 20 % superior.

How to calculate the "Li" and "Lt" measures of flow dividers:

From **table 2** it is possible to obtain the "Li" measure for flow dividers up to 16 elements with equal displacements; for flow dividers with different elements or with more than 16 elements the "Li" and "Lt" measure have to be calculated by the following formula:

Li = [(n-1) x 23] + 92+ (A1 + A2 + A3 +…….)

92 = 46 + 46

n = Number of elements of flow divider

A1... An = heights of elements of flow divider

Lt = Li + 14

14 = 7+ 7

EXAMPLE: To obtain the measures **Li** and **Lt** of a flow divider with three elements (n=3), **RV-0V 0,98 + 0,76 +1,27**

Distance between fixing hole centres — **Li** = [(3-1) x 23] + 92 + 35,5 + 34 + 38 =245,5 mm

Total Lenght — **Lt** = 245,5 + 14 = 259,5

In **table 3** the number of inlets in fuction of the number of elements are indicated.
For flow dividers with many inlets, as they are all communicating it is even possible to use only one of them, by plugging the other ones. We suggest to make full us at least of **1** inlet every **15** l/min capacity.

To obtain errors of division **inferior to 3%** there must be no difference of pressure between the elements superior to **30 bar**. To obtain high precisions the respect of the following parametres is also important:

- Enviroment temperature: -10°c ÷ +60°c — Oil temperature: +30°c ÷ +60°c
- Hydraulic oil based on hlp, hv (din 51524) minerals — Oil Viscosity 20 ÷ 40 cSt
- Oil filtering 10 ÷ 25 µ

021-005-V

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Zahnradmengenteiler RV

– Baugröße 1 –

Serie RV ohne Ventile

Bestellnr.	Typ	Code
021-010-01000	RV-1D/0,9x2	9RD0216
021-010-01050	RV-1D/1,2x2	9RD0217
021-010-01100	RV-1D/1,7x2	9RD0218
021-010-01150	RV-1D/2,2x2	9RD0220
021-010-01200	RV-1D/2,6x2	9RD0221
021-010-01250	RV-1D/3,2x2	9RD0223
021-010-01300	RV-1D/3,8x2	9RD0225
021-010-01350	RV-1D/4,3x2	9RD0227
021-010-01400	RV-1D/4,9x2	9RD0229
021-010-01450	RV-1D/5,9x2	9RD0231
021-010-01500	RV-1D/6,5x2	9RD0232
021-010-01550	RV-1D/7,8x2	9RD0234
021-010-01600	RV-1D/9,8x2	9RD0236
021-010-01650	RV-1D/0,9x3	9RD0316
021-010-01700	RV-1D/1,2x3	9RD0317
021-010-01750	RV-1D/1,7x3	9RD0318
021-010-01800	RV-1D/2,2x3	9RD0320
021-010-01850	RV-1D/2,6x3	9RD0321
021-010-01900	RV-1D/3,2x3	9RD0323
021-010-01950	RV-1D/3,8x3	9RD0325
021-010-02000	RV-1D/4,3x3	9RD0327
021-010-02050	RV-1D/4,9x3	9RD0329
021-010-02100	RV-1D/5,9x3	9RD0331
021-010-02150	RV-1D/6,5x3	9RD0332
021-010-02200	RV-1D/7,8x3	9RD0334
021-010-02250	RV-1D/9,8x3	9RD0336
021-010-02300	RV-1D/0,9x4	9RD0416
021-010-02350	RV-1D/1,2x4	9RD0417
021-010-02400	RV-1D/1,7x4	9RD0418
021-010-02450	RV-1D/2,2x4	9RD0420
021-010-02500	RV-1D/2,6x4	9RD0421
021-010-02550	RV-1D/3,2x4	9RD0423
021-010-02600	RV-1D/3,8x4	9RD0425
021-010-02650	RV-1D/4,3x4	9RD0427
021-010-02700	RV-1D/4,9x4	9RD0429
021-010-02750	RV-1D/5,9x4	9RD0431
021-010-02800	RV-1D/6,5x4	9RD0432
021-010-02850	RV-1D/7,8x4	9RD0434
021-010-02900	RV-1D/9,8x4	9RD0436
021-010-02950	RV-1D/0,9x5	9RD0516
021-010-03000	RV-1D/1,2x5	9RD0517
021-010-03050	RV-1D/1,7x5	9RD0518
021-010-03100	RV-1D/2,2x5	9RD0520
021-010-03150	RV-1D/2,6x5	9RD0521

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Zahnradmengenteiler RV

– Baugröße 1 –

Serie RV ohne Ventile

Bestellnr.	Typ	Code
021-010-03200	RV-1D/3,2x5	9RD0523
021-010-03250	RV-1D/3,8x5	9RD0525
021-010-03300	RV-1D/4,3x5	9RD0527
021-010-03350	RV-1D/4,9x5	9RD0529
021-010-03400	RV-1D/5,9x5	9RD0531
021-010-03450	RV-1D/6,5x5	9RD0532
021-010-03500	RV-1D/7,8x5	9RD0534
021-010-03550	RV-1D/9,8x5	9RD0536
021-010-03600	RV-1D/0,9x6	9RD0616
021-010-03650	RV-1D/1,2x6	9RD0617
021-010-03700	RV-1D/1,7x6	9RD0618
021-010-03750	RV-1D/2,2x6	9RD0620
021-010-03800	RV-1D/2,6x6	9RD0621
021-010-03850	RV-1D/3,2x6	9RD0623
021-010-03900	RV-1D/3,8x6	9RD0625
021-010-03950	RV-1D/4,3x6	9RD0627
021-010-04000	RV-1D/4,9x6	9RD0629
021-010-04050	RV-1D/5,9x6	9RD0631
021-010-04100	RV-1D/6,5x6	9RD0632
021-010-04150	RV-1D/7,8x6	9RD0634
021-010-04200	RV-1D/9,8x6	9RD0636

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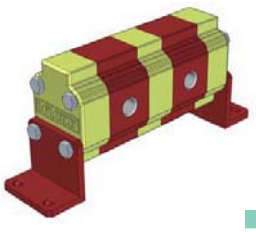
ViVOiL BOLOGNA - ITALY

FLOW DIVIDERS "RV SERIES"

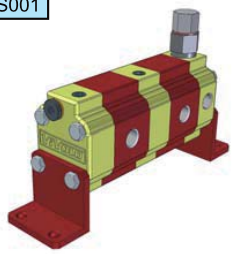
GROUP "0"

RIF. RD001



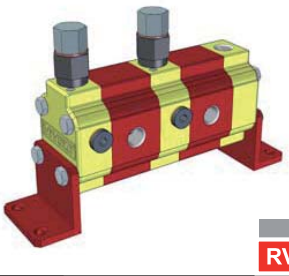
RV-0D

RIF. RS001



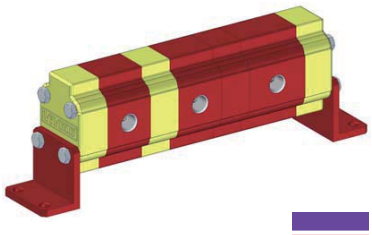
RV-0S

RIF. RV001



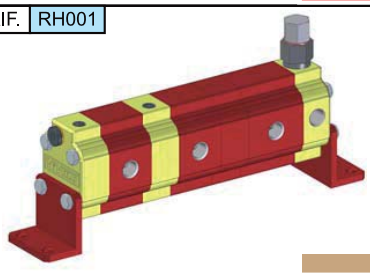
RV-0V

RIF. RG001



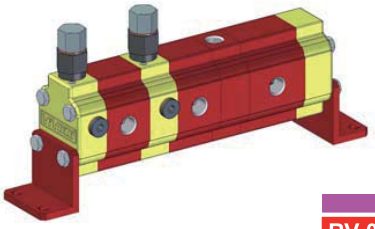
RV-0G

RIF. RH001



RV-0H

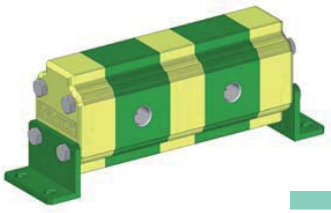
RIF. RN001



RV-0N

GROUP "1"

RIF. RD101

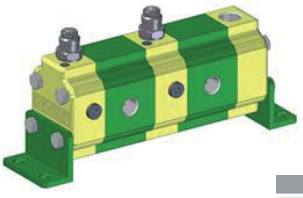


RV-1D

RIF. RS101

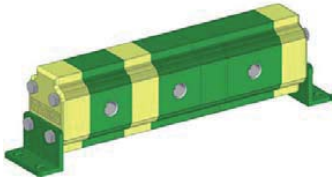
RV-1S

RIF. RV101



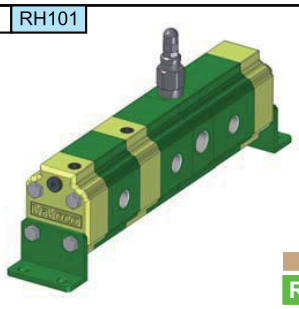
RV-1V

RIF. RG101



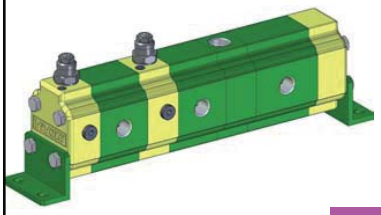
RV-1G

RIF. RH101



RV-1H

RIF. RN101



RV-1N

021-010-D

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INTRODUCTION

RV-0 RV-1

A flow divider is made up of two or more modular elements (sections) with gears mechanically linked by an internal shaft that causes them to turn at the same speed.
Unlike multiple pumps, in which the input power is mechanical (shaft connected to a motor), in a flow divider the input power is of a fluid-mechanical nature, i.e. a flow of oil under pressure parallelly supplies the modular elements, which are in turn connected to the hydraulic circuits serving the users.

The portion of flow utilized by each element is solely determined by its nominal flow rate. Therefore, unlike standard static dividers with variable ports, the flow dividers do not cause dissipation and are also much more precise.
The use of flow dividers in a system reduces the number of pumps necessary as well as the associated individual mechanical power takeoffs and complex mechanical couplers (with greater losses).
Leaving aside small losses for the time being, at any given moment the total input power is equal to the sum of the powers supplied by all elements making up the flow divider.

Therefore, if in an interval of time the power required by a hydraulic circuit is equal to zero (inactive drained circuit), the power supplied by the element feeding that circuit becomes available for the other elements, which may use it in their own circuits, also operating at higher pressures than the intake pressure.

Most frequent applications of flow dividers

Supply of two or more independent hydraulic circuits by means of a single pump, with an overall flow rate equal to the sum of the flow rates.

Examples of this kind of application:
- lifting platforms and bridges;
- hydraulic bending presses and shearing machines;
- hoisting of freight containers;
- lubrication systems;
- hydraulic opening / closing of gates;
- automatic hydraulically-driven machines;
- actuation of formwork for construction;
- wood processing machinery;
- conveyance of trolleys driven by hydraulic cylinders or motors;
- equipment for the food industry;
- military installations.

Pressure amplifiers.
When in a hydraulic system one user requires a much higher operating or peak pressure than all the others, it is more convenient to supply it by means of a flow divider than to upgrade the whole system to work with higher pressure.
With a two-element flow divider flow may be discharged from the outlet of one element so that the pressure in the other will become much higher than that of the pump supplying the system.

Examples of this kind of application:
- presses with rapid approach
- machine tools

Constructive features

FLOW DIVIDER BODY FLANGE AND COVER	Extruded alloy Serie 7000, heat treated and anodised	Rp=345 N/mm2 (Yield Strength) Rm=382 N/mm2 (Breaking Strength)
GEAR BUSH BEARINGS	Special Heat Treated tin alloy with excellent mechanical features and high anti-friction capacity. Self-lubricating bushes DU	Rp=350 N/mm2 (Yield Strength) Rm=390 N/mm2 (Breaking Strength)
GEARS	Steel UNI 7846	Rs=980 N/mm2 (Yield Strength) Rm=1270÷1570 N/mm2 (Breaking Strength)
SEALS	A 727 Acrolonitrile Standard F 975 Viton FKM	90 Shore, resistenza termica 120°C 80 Shore, resistenza termica 200°C

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ViVOIL BOLOGNA - ITALY

INTRODUCTION

RV-0 | RV-1

VERSION DESCRIPTION

RV-D FLOW DIVIDER

This is the flow divider standard version, it simply divide the incoming flow without allowing the phase correction

RV-S FLOW DIVIDER with single phase correction valve

This version has just one phase correction valve for all the elements, it can obviously divide the flow and allow the phase correction, but only in the direction of flow division.

RV-V FLOW DIVIDER with phase correction and anticavitation valves

In this version the flow divider has one phase correction and anticavitation valve for each element, this allow a flow correction in both direction (flow division and flow unification). In addition it can adjust the relief pressure to a different value for each element.

RV-G FLOW DIVIDER + MOTOR

The RV-G typology is the motorized version of the RV-D divider.
It has a motor conneted to the flow divider elements. This solution is important when the incoming and/or outgoing pressure is below the minimum pressure required to start. Giving flow to the motor, help the flow divider rotation start. Typical use: plants with single effects hydraulic jack.

RV-H FLOW DIVIDER with single phase correction valve + MOTOR

This is the motorized version of the RV-S divider.
The motor has the same funcion that is described for the RV-G divider.

RV-N FLOW DIVIDER with phase correction and anticavitation valve + MOTOR

This is the motorized version of the RV-V divider.
The motor has the same funcion that is described for the RV-G divider.

The flow division error is lower than ± 1.5% with a pressure difference between one element and another until 30 Bars. For bigger differences we can approximate an error increase of 1 % for each 10 additional bars.

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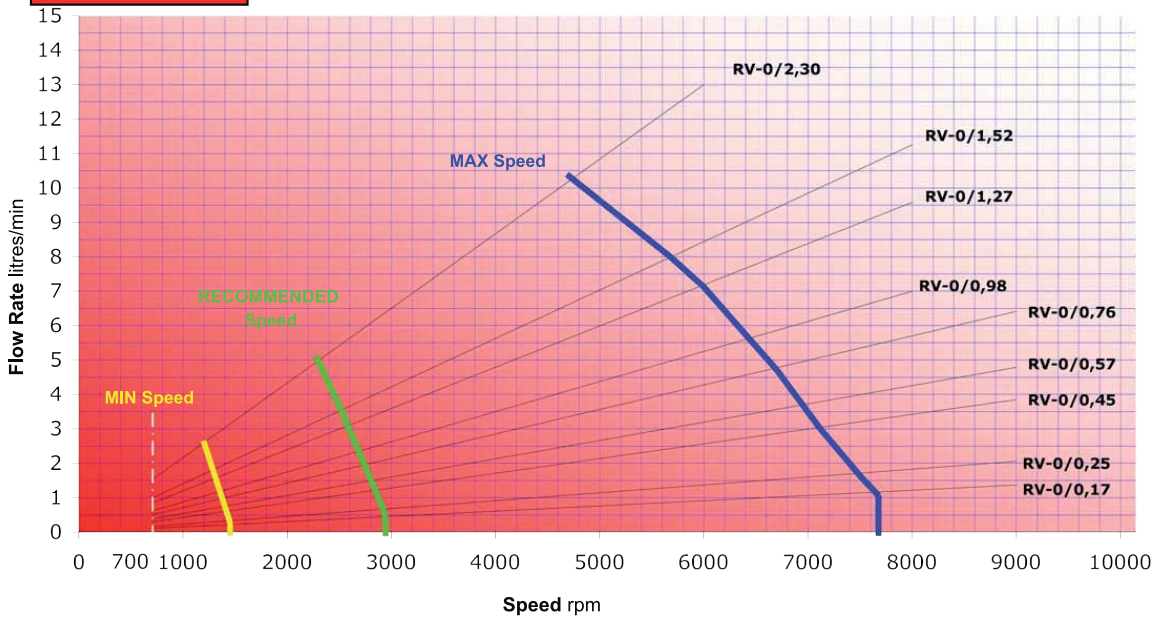
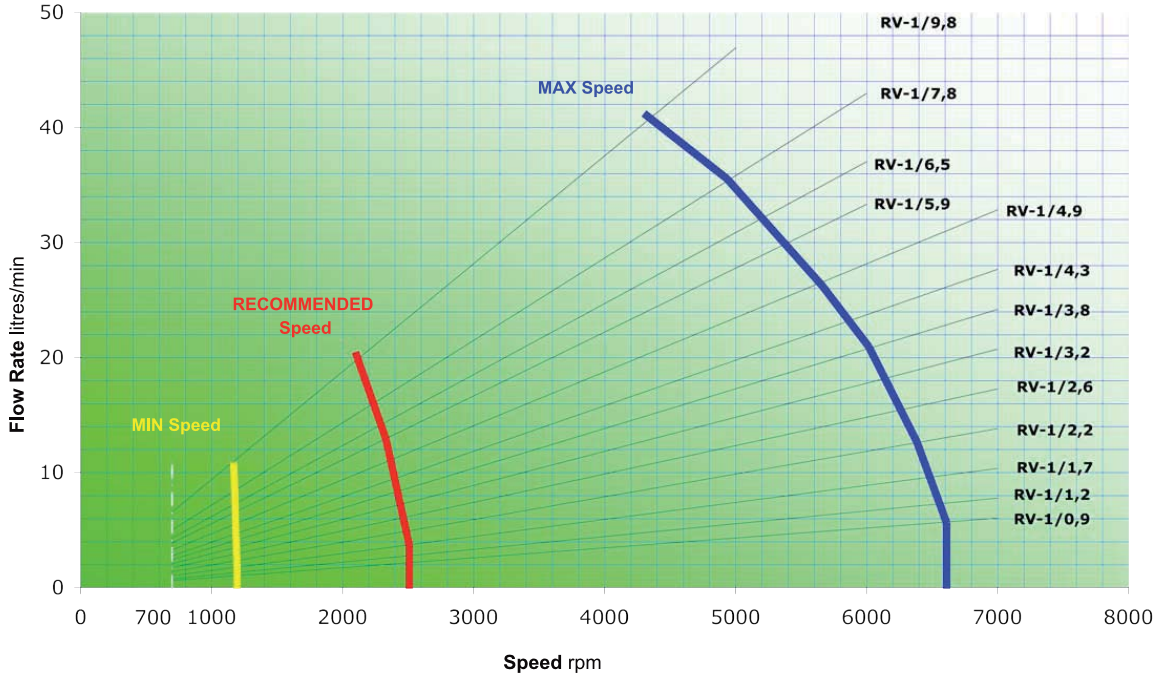
CHARACTERISTIC CURVES RV-0 RV-1

RV-0



RV-1



NOTE: the flow divider can work even below the minimum speed, but it's efficiency will be lower
the flow divider can work even over the maximum speed, but it will increase the noise and loss of load

021-010-D

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FLOW DIVIDER "RV" Series Swallow Line — RV-1D

Flow divider (Standard Version)

Code:

9RD	NN	CC

9RD	Flow Divider Typology
NN	Number of elements
CC	Displacement Code

Example: Flow divider with two elements (same displacement)
RV-1D / 3.8 x 2

9RD	02	25

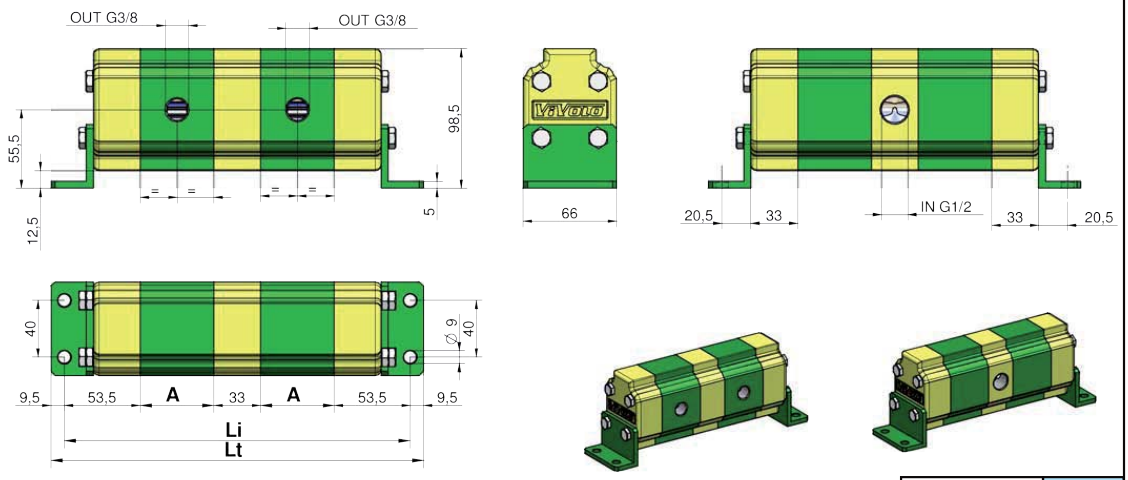
Example: Flow Divider with 4 elements (with different displacement - max 7):
RV-1D / 3,8+4,9+4,9+6,5

9RD	04	25	29	29	32

NOTE: to define codes for flow dividers with more than 7 different displacement, please contact our sales department.

Table: 1

Displacem.	CC	Max Pressure	One element flow rate l/min		
Cm^3/rev	Code	bar	MIN	RECOMMENDED	MAX
0,9	16	220	1	2	6
1,2	17	220	1,5	3	7
1,7	18	220	2	4	9
2,2	20	220	2,5	5	13
2,6	21	220	3	6	15,5
3,2	23	220	3,5	7,5	18
3,8	25	220	4	8,5	21
4,3	27	220	4,5	9,5	23
4,9	29	220	5,5	11	27
5,9	31	220	6,5	13	30
6,5	32	220	7,5	14	32
7,8	34	210	8,5	16	35,5
9,8	36	200	11	20	41



REFERENCE: RD101

Table: 2

Li = Distance between fixing hole centres (single displacement flow divider)

Cm^3/rev	A	Number of elements														
		2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
0,9	**41,5**	223	297,5	372	446,5	521	595,5	670	744,5	819	893,5	968	1042,5	1117	1191,5	1266
1,2	**42,5**	225	300,5	376	451,5	527	602,5	678	753,5	829	904,5	980	1055,5	1131	1206,5	1282
1,7	**44**	228	305	382	459	536	613	690	767	844	921	998	1075	1152	1229	1306
2,2	**46**	232	311	390	469	548	627	706	785	864	943	1022	1101	1180	1259	1338
2,6	**48**	236	317	398	479	560	641	722	803	884	965	1046	1127	1208	1289	1370
3,2	**50**	240	323	406	489	572	655	738	821	904	987	1070	1153	1236	1319	1402
3,8	**52**	244	329	414	499	584	669	754	839	924	1009	1094	1179	1264	1349	1434
4,3	**54**	248	335	422	509	596	683	770	857	944	1031	1118	1205	1292	1379	1466
4,9	**57**	254	344	434	524	614	704	794	884	974	1064	1154	1244	1334	1424	1514
5,9	**60,5**	261	354,5	448	541,5	635	728,5	822	915,5	1009	1103	1196	1289,5	1383	1476,5	1570
6,5	**63**	266	362	458	554	650	746	842	938	1034	1130	1226	1322	1418	1514	1610
7,8	**67**	274	374	474	574	674	774	874	974	1074	1174	1274	1374	1474	1574	1674
9,8	**76**	292	401	510	619	728	837	946	1055	1164	1273	1382	1491	1600	1709	1818

Table: 3 in this table the number of inlets in function of the number of elements are indicated.

Number of elements	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
"IN" Number of inlets	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8

021-010-D

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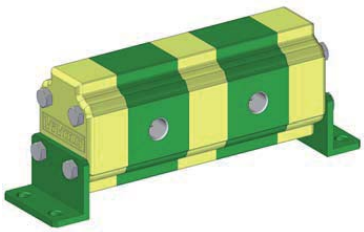
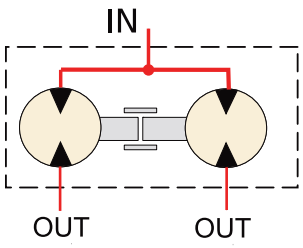
FLOW DIVIDER "RV" Series Swallow Line

RV-1D

Flow divider (Standard Version)

INTERNAL DRAIN





In **table 1** the functining range of single flow divider elements is indicated.
The higher is the feeding capacity (q), the higher is the precision of the flow division, but in opposition there are losses of loading and higher noise. Therefore we suggest to feed the elements with capacities equal or a few superior to the ones indicated in the column **"RECOMMENDED"**.
Remember to verify the capacities even in phase of flow reunion.
The pressure indicated are to be considered as maximum of functioning, the flow divider is able to bear peaks of pressure 20 % superior.

How to calculate the "Li" and "Lt" measures of flow dividers:

From **table 2** it is possible to obtain the "Li" measure for flow dividers up to 16 elements with equal displacements; for flow dividers with different elements or with more than 16 elements the "Li" and "Lt" measure have to be calculated by the following formula:

Li = [(n-1) x 33] + 107 + (A1 + A2 + A3 +.....)

107 = 53,5 + 53,5

n = Number of elements of flow divider

A1... An = heights of elements of flow divider

Lt = Li + 19

19 = 9,5 + 9,5

EXAMPLE: To obtain the measures **Li** and **Lt** of a flow divider with three elements (n=3), **RV-1D 4.3 + 2,2 +0,9**

Distance between fixing hole centres — **Li** = [(3-1) x 33] + 107 + 54 + 46 + 41,5 =314,5 mm

Total Lenght — **Lt** = 314,5 + 19 = 333,5

In **table 3** the number of inlets in fuction of the number of elements are indicated.
For flow dividers with many inlets, as they are all communicating it is even possible to use only one of them, by plugging the other ones. We suggest to make full us at least of **1** inlet every **40** l/min capacity.

To obtain errors of division **inferior to 3%** there must be no difference of pressure between the elements superior to **30 bar**. To obtain high precisions the respect of the following parametres is also important:

- Enviroment temperature: -10°c ÷ +60°c — Oil temperature: +30°c ÷ +60°c
- Hydraulic oil based on hlp, hv (din 51524) minerals — Oil Viscosity 20 ÷ 40 cSt
- Oil filtering 10 ÷ 25 µ

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Zahnradmengenteiler RV...S

– Baugröße 1 –

Serie RV...S mit zentralem Endlagenausgleich

Bestellnr.	Typ	Code
021-010-07500	RV-1S/0,9x2 EAV 70-210 bar	9RS02D16
021-010-07550	RV-1S/1,2x2 EAV 70-210 bar	9RS02D17
021-010-07600	RV-1S/1,7x2 EAV 70-210 bar	9RS02D18
021-010-07650	RV-1S/2,2x2 EAV 70-210 bar	9RS02D20
021-010-07700	RV-1S/2,6x2 EAV 70-210 bar	9RS02D21
021-010-07750	RV-1S/3,2x2 EAV 70-210 bar	9RS02D23
021-010-07800	RV-1S/3,8x2 EAV 70-210 bar	9RS02D25
021-010-07850	RV-1S/4,3x2 EAV 70-210 bar	9RS02D27
021-010-07900	RV-1S/4,9x2 EAV 70-210 bar	9RS02D29
021-010-07950	RV-1S/5,9x2 EAV 70-210 bar	9RS02D31
021-010-08000	RV-1S/6,5x2 EAV 70-210 bar	9RS02D32
021-010-08050	RV-1S/7,8x2 EAV 70-210 bar	9RS02D34
021-010-08100	RV-1S/9,8x2 EAV 70-210 bar	9RS02D36
021-010-08150	RV-1S/0,9x3 EAV 70-210 bar	9RS03D16
021-010-08200	RV-1S/1,2x3 EAV 70-210 bar	9RS03D17
021-010-08250	RV-1S/1,7x3 EAV 70-210 bar	9RS03D18
021-010-08300	RV-1S/2,2x3 EAV 70-210 bar	9RS03D20
021-010-08350	RV-1S/2,6x3 EAV 70-210 bar	9RS03D21
021-010-08400	RV-1S/3,2x3 EAV 70-210 bar	9RS03D23
021-010-08450	RV-1S/3,8x3 EAV 70-210 bar	9RS03D25
021-010-08500	RV-1S/4,3x3 EAV 70-210 bar	9RS03D27
021-010-08550	RV-1S/4,9x3 EAV 70-210 bar	9RS03D29
021-010-08600	RV-1S/5,9x3 EAV 70-210 bar	9RS03D31
021-010-08650	RV-1S/6,5x3 EAV 70-210 bar	9RS03D32
021-010-08700	RV-1S/7,8x3 EAV 70-210 bar	9RS03D34
021-010-08750	RV-1S/9,8x3 EAV 70-210 bar	9RS03D36
021-010-08800	RV-1S/0,9x4 EAV 70-210 bar	9RS04D16
021-010-08850	RV-1S/1,2x4 EAV 70-210 bar	9RS04D17
021-010-08900	RV-1S/1,7x4 EAV 70-210 bar	9RS04D18
021-010-08950	RV-1S/2,2x4 EAV 70-210 bar	9RS04D20
021-010-09000	RV-1S/2,6x4 EAV 70-210 bar	9RS04D21
021-010-09050	RV-1S/3,2x4 EAV 70-210 bar	9RS04D23
021-010-09100	RV-1S/3,8x4 EAV 70-210 bar	9RS04D25
021-010-09150	RV-1S/4,3x4 EAV 70-210 bar	9RS04D27
021-010-09200	RV-1S/4,9x4 EAV 70-210 bar	9RS04D29
021-010-09250	RV-1S/5,9x4 EAV 70-210 bar	9RS04D31
021-010-09300	RV-1S/6,5x4 EAV 70-210 bar	9RS04D32
021-010-09350	RV-1S/7,8x4 EAV 70-210 bar	9RS04D34
021-010-09400	RV-1S/9,8x4 EAV 70-210 bar	9RS04D36
021-010-09450	RV-1S/0,9x5 EAV 70-210 bar	9RS05D16
021-010-09500	RV-1S/1,2x5 EAV 70-210 bar	9RS05D17
021-010-09550	RV-1S/1,7x5 EAV 70-210 bar	9RS05D18
021-010-09600	RV-1S/2,2x5 EAV 70-210 bar	9RS05D20
021-010-09650	RV-1S/2,6x5 EAV 70-210 bar	9RS05D21

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Zahnradmengenteiler RV...S

– Baugröße 1 –

Serie RV...S mit zentralem Endlagenausgleich

Bestellnr.	Typ	Code
021-010-09700	RV-1S/3,2x5 EAV 70-210 bar	9RS05D23
021-010-09750	RV-1S/3,8x5 EAV 70-210 bar	9RS05D25
021-010-09800	RV-1S/4,3x5 EAV 70-210 bar	9RS05D27
021-010-09850	RV-1S/4,9x5 EAV 70-210 bar	9RS05D29
021-010-09900	RV-1S/5,9x5 EAV 70-210 bar	9RS05D31
021-010-09950	RV-1S/6,5x5 EAV 70-210 bar	9RS05D32
021-010-10000	RV-1S/7,8x5 EAV 70-210 bar	9RS05D34
021-010-10050	RV-1S/9,8x5 EAV 70-210 bar	9RS05D36
021-010-10100	RV-1S/0,9x6 EAV 70-210 bar	9RS06D16
021-010-10150	RV-1S/1,2x6 EAV 70-210 bar	9RS06D17
021-010-10200	RV-1S/1,7x6 EAV 70-210 bar	9RS06D18
021-010-10250	RV-1S/2,2x6 EAV 70-210 bar	9RS06D20
021-010-10300	RV-1S/2,6x6 EAV 70-210 bar	9RS06D21
021-010-10350	RV-1S/3,2x6 EAV 70-210 bar	9RS06D23
021-010-10400	RV-1S/3,8x6 EAV 70-210 bar	9RS06D25
021-010-10450	RV-1S/4,3x6 EAV 70-210 bar	9RS06D27
021-010-10500	RV-1S/4,9x6 EAV 70-210 bar	9RS06D29
021-010-10550	RV-1S/5,9x6 EAV 70-210 bar	9RS06D31
021-010-10600	RV-1S/6,5x6 EAV 70-210 bar	9RS06D32
021-010-10650	RV-1S/7,8x6 EAV 70-210 bar	9RS06D34
021-010-10700	RV-1S/9,8x6 EAV 70-210 bar	9RS06D36

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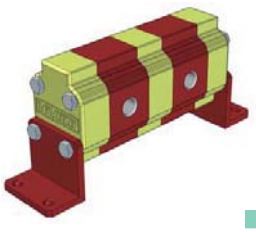
FLOW DIVIDERS "RV SERIES"

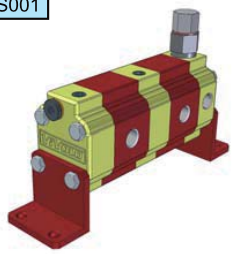
GROUP "0"

RIF. RD001



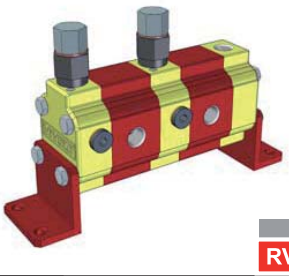
RV-0D

RIF. RS001



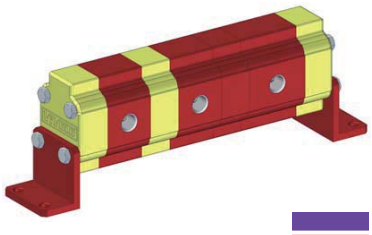
RV-0S

RIF. RV001



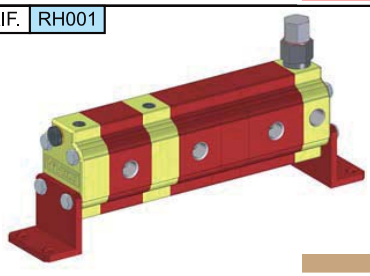
RV-0V

RIF. RG001



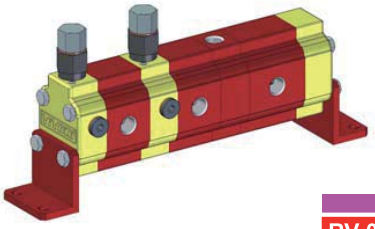
RV-0G

RIF. RH001



RV-0H

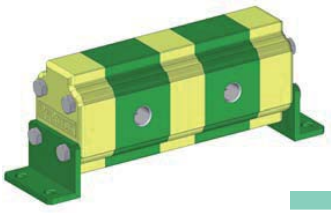
RIF. RN001



RV-0N

GROUP "1"

RIF. RD101

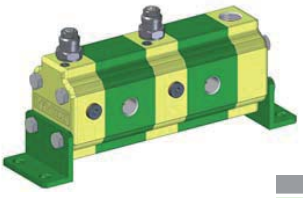


RV-1D

RIF. RS101

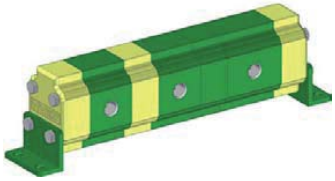
RV-1S

RIF. RV101



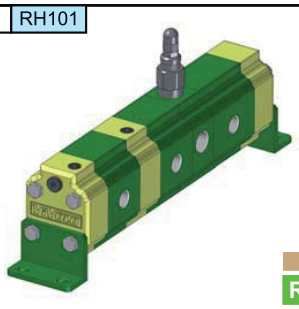
RV-1V

RIF. RG101



RV-1G

RIF. RH101



RV-1H

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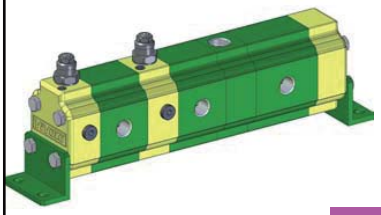

RV-1N

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ViVOLO BOLOGNA - ITALY

INTRODUCTION

RV-0 RV-1

A flow divider is made up of two or more modular elements (sections) with gears mechanically linked by an internal shaft that causes them to turn at the same speed.
Unlike multiple pumps, in which the input power is mechanical (shaft connected to a motor), in a flow divider the input power is of a fluid-mechanical nature, i.e. a flow of oil under pressure parallelly supplies the modular elements, which are in turn connected to the hydraulic circuits serving the users.

The portion of flow utilized by each element is solely determined by its nominal flow rate. Therefore, unlike standard static dividers with variable ports, the flow dividers do not cause dissipation and are also much more precise.
The use of flow dividers in a system reduces the number of pumps necessary as well as the associated individual mechanical power takeoffs and complex mechanical couplers (with greater losses).
Leaving aside small losses for the time being, at any given moment the total input power is equal to the sum of the powers supplied by all elements making up the flow divider.

Therefore, if in an interval of time the power required by a hydraulic circuit is equal to zero (inactive drained circuit), the power supplied by the element feeding that circuit becomes available for the other elements, which may use it in their own circuits, also operating at higher pressures than the intake pressure.

Most frequent applications of flow dividers

Supply of two or more independent hydraulic circuits by means of a single pump, with an overall flow rate equal to the sum of the flow rates.

Examples of this kind of application:
- lifting platforms and bridges;
- hydraulic bending presses and shearing machines;
- hoisting of freight containers;
- lubrication systems;
- hydraulic opening / closing of gates;
- automatic hydraulically-driven machines;
- actuation of formwork for construction;
- wood processing machinery;
- conveyance of trolleys driven by hydraulic cylinders or motors;
- equipment for the food industry;
- military installations.

Pressure amplifiers.
When in a hydraulic system one user requires a much higher operating or peak pressure than all the others, it is more convenient to supply it by means of a flow divider than to upgrade the whole system to work with higher pressure.
With a two-element flow divider flow may be discharged from the outlet of one element so that the pressure in the other will become much higher than that of the pump supplying the system.

Examples of this kind of application:
- presses with rapid approach
- machine tools

Constructive features

FLOW DIVIDER BODY FLANGE AND COVER	Extruded alloy Serie 7000, heat treated and anodised	Rp=345 N/mm2 (Yield Strength) Rm=382 N/mm2 (Breaking Strength)
GEAR BUSH BEARINGS	Special Heat Treated tin alloy with excellent mechanical features and high anti-friction capacity. Self-lubricating bushes DU	Rp=350 N/mm2 (Yield Strength) Rm=390 N/mm2 (Breaking Strength)
GEARS	Steel UNI 7846	Rs=980 N/mm2 (Yield Strength) Rm=1270÷1570 N/mm2 (Breaking Strength)
SEALS	A 727 Acrolonitrile Standard F 975 Viton FKM	90 Shore, resistenza termica 120°C 80 Shore, resistenza termica 200°C

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ViVOIL BOLOGNA - ITALY

INTRODUCTION

RV-0 | RV-1

VERSION DESCRIPTION

RV-D FLOW DIVIDER

This is the flow divider standard version, it simply divide the incoming flow without allowing the phase correction

RV-S FLOW DIVIDER with single phase correction valve

This version has just one phase correction valve for all the elements, it can obviously divide the flow and allow the phase correction, but only in the direction of flow division.

RV-V FLOW DIVIDER with phase correction and anticavitation valves

In this version the flow divider has one phase correction and anticavitation valve for each element, this allow a flow correction in both direction (flow division and flow unification). In addition it can adjust the relief pressure to a different value for each element.

RV-G FLOW DIVIDER + MOTOR

The RV-G typology is the motorized version of the RV-D divider.
It has a motor conneted to the flow divider elements. This solution is important when the incoming and/or outgoing pressure is below the minimum pressure required to start. Giving flow to the motor, help the flow divider rotation start. Typical use: plants with single effects hydraulic jack.

RV-H FLOW DIVIDER with single phase correction valve + MOTOR

This is the motorized version of the RV-S divider.
The motor has the same funcion that is described for the RV-G divider.

RV-N FLOW DIVIDER with phase correction and anticavitation valve + MOTOR

This is the motorized version of the RV-V divider.
The motor has the same funcion that is described for the RV-G divider.

The flow division error is lower than ± 1.5% with a pressure difference between one element and another until 30 Bars. For bigger differences we can approximate an error increase of 1 % for each 10 additional bars.

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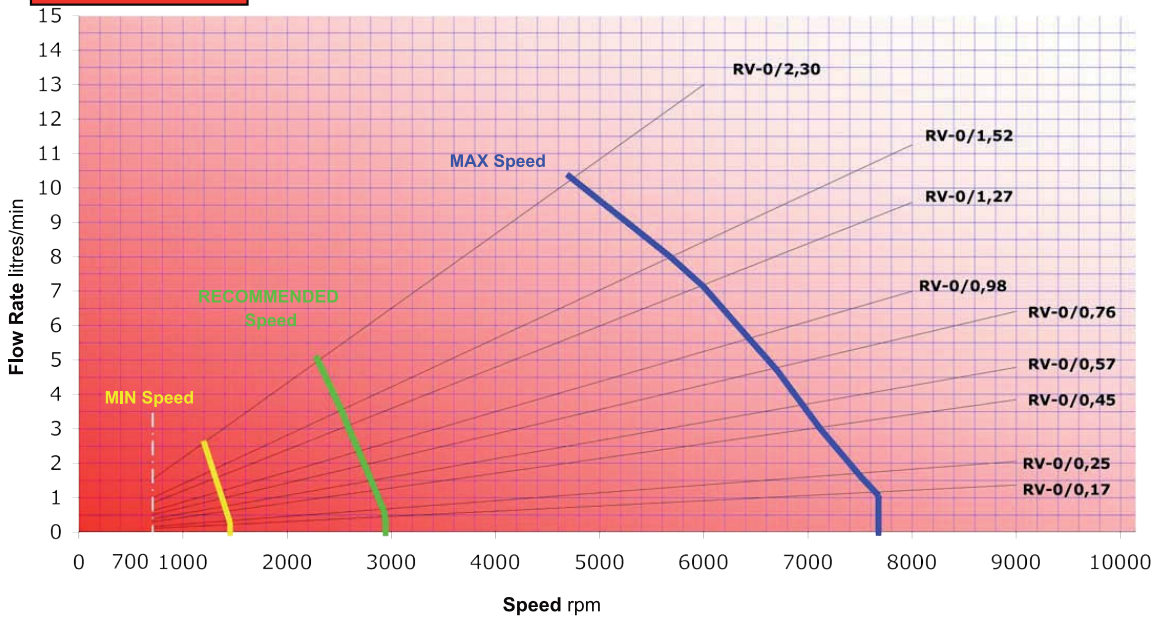
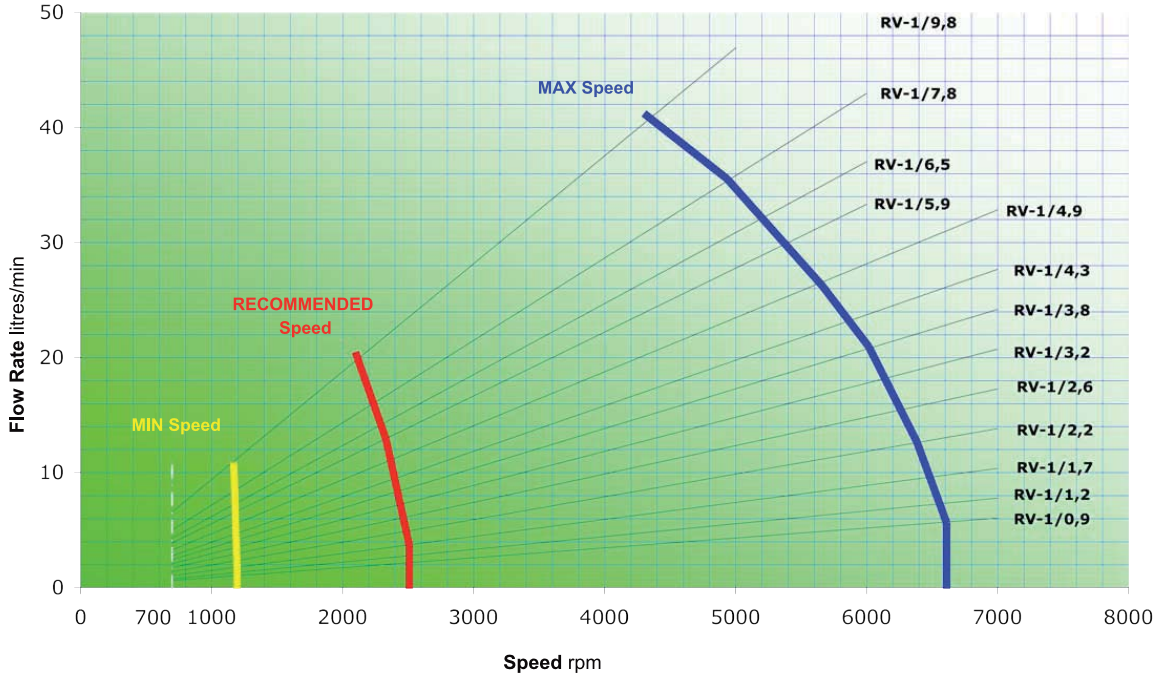
CHARACTERISTIC CURVES RV-0 RV-1

RV-0



RV-1



NOTE: the flow divider can work even below the minimum speed, but it's efficiency will be lower
the flow divider can work even over the maximum speed, but it will increase the noise and loss of load

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FLOW DIVIDER "RV" Series Swallow Line — RV-1S

ViVOIL BOLOGNA - ITALY

Flow divider with **single phase correction valve** common to all the elements

Code:

9RS	NN	M	CC

9RD	Flow Divider Typology
NN	Number of elements
M	Code of setting range of the valves
CC	Displacement Code

TABLE "M"	
C	10 ÷ 105 bar
D	70÷ 210 bar
E	140 ÷ 350 bar

Example: Flow divider with two elements (same displacement)
RV-1S / 3,8 x 2 with valve 10 ÷ 105 bar

9RS	02	C	25

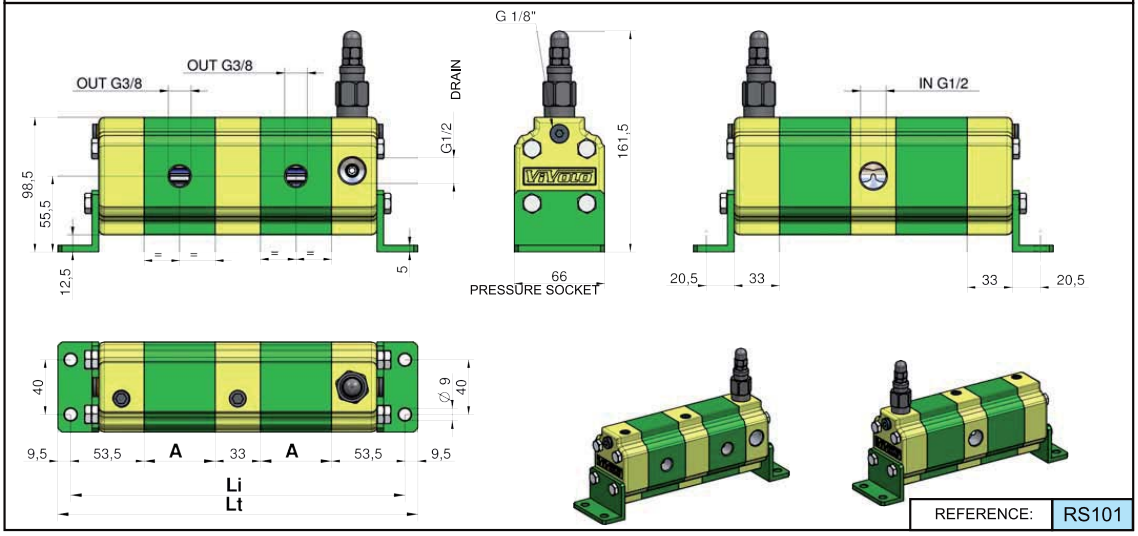
Example: Flow Divider with 4 elements (with different displacement - max 7):
RV-1S / 3,8+4,9+4,9+6,5 with valve 70 ÷ 210 bar

9RS	04	D	25	29	29	32

NOTE: to define codes for flow dividers with more than 7 different displacement, please contact our sales department.

Table: 1

Displacem. Cm³/rev	CC Code	Max Pressure bar	One element flow rate l/min MIN	RECOMMENDED	MAX
0,9	16	220	1	2	6
1,2	17	220	1,5	3	7
1,7	18	220	2	4	9
2,2	20	220	2,5	5	13
2,6	21	220	3	6	15,5
3,2	23	220	3,5	7,5	18
3,8	25	220	4	8,5	21
4,3	27	220	4,5	9,5	23
4,9	29	220	5,5	11	27
5,9	31	220	6,5	13	30
6,5	32	220	7,5	14	32
7,8	34	210	8,5	16	35,5
9,8	36	200	11	20	41



REFERENCE: RS101

Table: 2

Li = Distance between fixing hole centres (single displacement flow divider)

Cm³/rev	A	Number of elements 2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
0,9	**41,5**	223	297,5	372	446,5	521	595,5	670	744,5	819	893,5	968	1042,5	1117	1191,5	1266
1,2	**42,5**	225	300,5	376	451,5	527	602,5	678	753,5	829	904,5	980	1055,5	1131	1206,5	1282
1,7	**44**	228	305	382	459	536	613	690	767	844	921	998	1075	1152	1229	1306
2,2	**46**	232	311	390	469	548	627	706	785	864	943	1022	1101	1180	1259	1338
2,6	**48**	236	317	398	479	560	641	722	803	884	965	1046	1127	1208	1289	1370
3,2	**50**	240	323	406	489	572	655	738	821	904	987	1070	1153	1236	1319	1402
3,8	**52**	244	329	414	499	584	669	754	839	924	1009	1094	1179	1264	1349	1434
4,3	**54**	248	335	422	509	596	683	770	857	944	1031	1118	1205	1292	1379	1466
4,9	**57**	254	344	434	524	614	704	794	884	974	1064	1154	1244	1334	1424	1514
5,9	**60,5**	261	354,5	448	541,5	635	728,5	822	915,5	1009	1103	1196	1289,5	1383	1476,5	1570
6,5	**63**	266	362	458	554	650	746	842	938	1034	1130	1226	1322	1418	1514	1610
7,8	**67**	274	374	474	574	674	774	874	974	1074	1174	1274	1374	1474	1574	1674
9,8	**76**	292	401	510	619	728	837	946	1055	1164	1273	1382	1491	1600	1709	1818

Table: 3 in this table the number of inlets in function of the number of elements are indicated.

Number of elements	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
"IN" Number of inlets	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8

021-010-S

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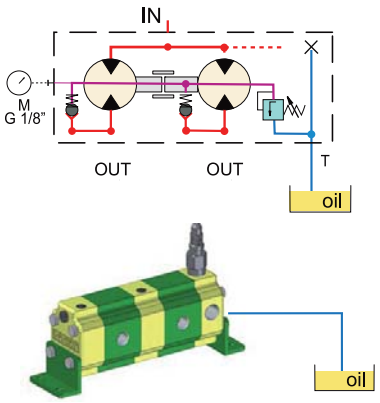
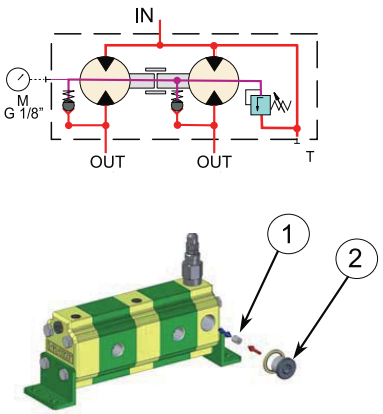
FLOW DIVIDER "RV" Series Swallow Line — RV-1S

Flow divider with **single phase correction valve** common to all the elements

EXTERNAL DRAIN *STANDARD SETUP*	INTERNAL DRAIN
Connect the drain port (T) to the tank	To predispose the divider to the internal drain, execute following operations: 1. remove the G 1/8 dowel inside the drain port 2. with a 1/2 G plug, plug the drain port (T)
	

In **table 1** the functining range of single flow divider elements is indicated.
The higher is the feeding capacity (q), the higher is the precision of the flow division, but in opposition there are losses of loading and higher noise. Therefore we suggest to feed the elements with capacities equal or a few superior to the ones indicated in the column **"RECOMMENDED"**.
Remember to verify the capacities even in phase of flow reunion.
The pressure indicated are to be considered as maximum of functioning, the flow divider is able to bear peaks of pressure 20 % superior.

How to calculate the "Li" and "Lt" measures of flow dividers:

From **table 2** it is possible to obtain the "Li" measure for flow dividers up to 16 elements with equal displacements; for flow dividers with different elements or with more than 16 elements the "Li" and "Lt" measure have to be calculated by the following formula:

Li = [(n-1) x 33] + 107 + (A1 + A2 + A3 +.....)

107 = 53,5 + 53,5
n = Number of elements of flow divider
A1... An = heights of elements of flow divider

Lt = Li + 19

19 = 9,5 + 9,5

EXAMPLE: To obtain the measures **Li** and **Lt** of a flow divider with three elements (n=3), **RV-1S 4.3 + 2,2 +0,9**

Distance between fixing hole centres — **Li** = [(3-1) x 33] + 107 + 54 + 46 + 41,5 =314,5 mm

Total Lenght — **Lt** = 314,5 + 19 = 333,5

In **table 3** the number of inlets in fuction of the number of elements are indicated.
For flow dividers with many inlets, as they are all communicating it is even possible to use only one of them, by plugging the other ones. We suggest to make full us at least of **1** inlet every **40** l/min capacity.

To obtain errors of division **inferior to 3%** there must be no difference of pressure between the elements superior to **30 bar**. To obtain high precisions the respect of the following parametres is also important:

- Enviroment temperature: -10°c ÷ +60°c — Oil temperature: +30°c ÷ +60°c
- Hydraulic oil based on hlp, hv (din 51524) minerals — Oil Viscosity 20 ÷ 40 cSt
- Oil filtering 10 ÷ 25 µ

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Zahnradmengenteiler RV...V

– Baugröße 1 –

Serie RV...V mit Endlagenausgleich in jeder Sektion und Nachsaugventilen

Bestellnr.	Typ	Code
021-010-14000	RV-1V/0,9x2 EAV 7-210 bar	9RV02A16
021-010-14050	RV-1V/1,2x2 EAV 7-210 bar	9RV02A17
021-010-14100	RV-1V/1,7x2 EAV 7-210 bar	9RV02A18
021-010-14150	RV-1V/2,2x2 EAV 7-210 bar	9RV02A20
021-010-14200	RV-1V/2,6x2 EAV 7-210 bar	9RV02A21
021-010-14250	RV-1V/3,2x2 EAV 7-210 bar	9RV02A23
021-010-14300	RV-1V/3,8x2 EAV 7-210 bar	9RV02A25
021-010-14350	RV-1V/4,3x2 EAV 7-210 bar	9RV02A27
021-010-14400	RV-1V/4,9x2 EAV 7-210 bar	9RV02A29
021-010-14450	RV-1V/5,9x2 EAV 7-210 bar	9RV02A31
021-010-14500	RV-1V/6,5x2 EAV 7-210 bar	9RV02A32
021-010-14550	RV-1V/7,8x2 EAV 7-210 bar	9RV02A34
021-010-14600	RV-1V/9,8x2 EAV 7-210 bar	9RV02A36
021-010-14650	RV-1V/0,9x3 EAV 7-210 bar	9RV03A16
021-010-14700	RV-1V/1,2x3 EAV 7-210 bar	9RV03A17
021-010-14750	RV-1V/1,7x3 EAV 7-210 bar	9RV03A18
021-010-14800	RV-1V/2,2x3 EAV 7-210 bar	9RV03A20
021-010-14850	RV-1V/2,6x3 EAV 7-210 bar	9RV03A21
021-010-14900	RV-1V/3,2x3 EAV 7-210 bar	9RV03A23
021-010-14950	RV-1V/3,8x3 EAV 7-210 bar	9RV03A25
021-010-15000	RV-1V/4,3x3 EAV 7-210 bar	9RV03A27
021-010-15050	RV-1V/4,9x3 EAV 7-210 bar	9RV03A29
021-010-15100	RV-1V/5,9x3 EAV 7-210 bar	9RV03A31
021-010-15150	RV-1V/6,5x3 EAV 7-210 bar	9RV03A32
021-010-15200	RV-1V/7,8x3 EAV 7-210 bar	9RV03A34
021-010-15250	RV-1V/9,8x3 EAV 7-210 bar	9RV03A36
021-010-15300	RV-1V/0,9x4 EAV 7-210 bar	9RV04A16
021-010-15350	RV-1V/1,2x4 EAV 7-210 bar	9RV04A17
021-010-15400	RV-1V/1,7x4 EAV 7-210 bar	9RV04A18
021-010-15450	RV-1V/2,2x4 EAV 7-210 bar	9RV04A20
021-010-15500	RV-1V/2,6x4 EAV 7-210 bar	9RV04A21
021-010-15550	RV-1V/3,2x4 EAV 7-210 bar	9RV04A23
021-010-15600	RV-1V/3,8x4 EAV 7-210 bar	9RV04A25
021-010-15650	RV-1V/4,3x4 EAV 7-210 bar	9RV04A27
021-010-15700	RV-1V/4,9x4 EAV 7-210 bar	9RV04A29
021-010-15750	RV-1V/5,9x4 EAV 7-210 bar	9RV04A31
021-010-15800	RV-1V/6,5x4 EAV 7-210 bar	9RV04A32
021-010-15850	RV-1V/7,8x4 EAV 7-210 bar	9RV04A34
021-010-15900	RV-1V/9,8x4 EAV 7-210 bar	9RV04A36
021-010-15950	RV-1V/0,9x5 EAV 7-210 bar	9RV05A16
021-010-16000	RV-1V/1,2x5 EAV 7-210 bar	9RV05A17
021-010-16050	RV-1V/1,7x5 EAV 7-210 bar	9RV05A18
021-010-16100	RV-1V/2,2x5 EAV 7-210 bar	9RV05A20
021-010-16150	RV-1V/2,6x5 EAV 7-210 bar	9RV05A21
021-010-16200	RV-1V/3,2x5 EAV 7-210 bar	9RV05A23

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Zahnradmengenteiler RV...V

– Baugröße 1 –

Serie RV...V mit Endlagenausgleich in jeder Sektion und Nachsaugventilen

Bestellnr.	Typ	Code
021-010-16250	RV-1V/3,8x5 EAV 7-210 bar	9RV05A25
021-010-16300	RV-1V/4,3x5 EAV 7-210 bar	9RV05A27
021-010-16350	RV-1V/4,9x5 EAV 7-210 bar	9RV05A29
021-010-16400	RV-1V/5,9x5 EAV 7-210 bar	9RV05A31
021-010-16450	RV-1V/6,5x5 EAV 7-210 bar	9RV05A32
021-010-16500	RV-1V/7,8x5 EAV 7-210 bar	9RV05A34
021-010-16550	RV-1V/9,8x5 EAV 7-210 bar	9RV05A36
021-010-16600	RV-1V/0,9x6 EAV 7-210 bar	9RV06A16
021-010-16650	RV-1V/1,2x6 EAV 7-210 bar	9RV06A17
021-010-16700	RV-1V/1,7x6 EAV 7-210 bar	9RV06A18
021-010-16750	RV-1V/2,2x6 EAV 7-210 bar	9RV06A20
021-010-16800	RV-1V/2,6x6 EAV 7-210 bar	9RV06A21
021-010-16850	RV-1V/3,2x6 EAV 7-210 bar	9RV06A23
021-010-16900	RV-1V/3,8x6 EAV 7-210 bar	9RV06A25
021-010-16950	RV-1V/4,3x6 EAV 7-210 bar	9RV06A27
021-010-17000	RV-1V/4,9x6 EAV 7-210 bar	9RV06A29
021-010-17050	RV-1V/5,9x6 EAV 7-210 bar	9RV06A31
021-010-17100	RV-1V/6,5x6 EAV 7-210 bar	9RV06A32
021-010-17150	RV-1V/7,8x6 EAV 7-210 bar	9RV06A34
021-010-17200	RV-1V/9,8x6 EAV 7-210 bar	9RV06A36

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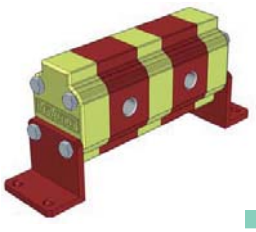
FLOW DIVIDERS "RV SERIES"

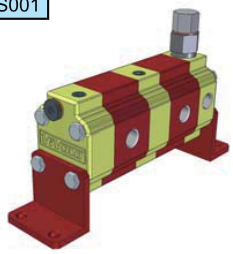
GROUP "0"

RIF. RD001



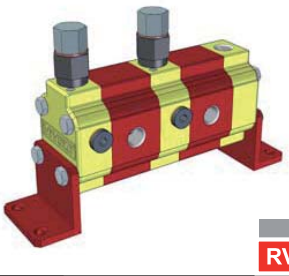
RV-0D

RIF. RS001



RV-0S

RIF. RV001



RV-0V

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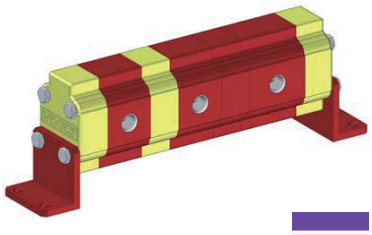

RV-0G

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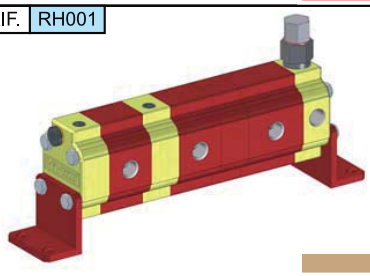
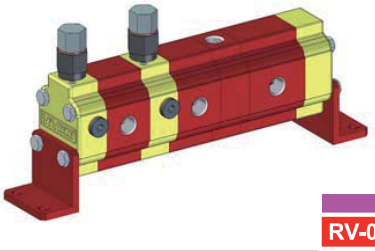


RV-0H

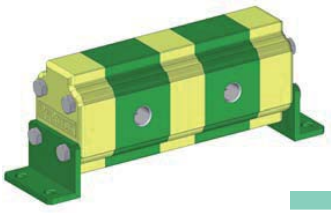
RIF. RN001



RV-0N

GROUP "1"

RIF. RD101

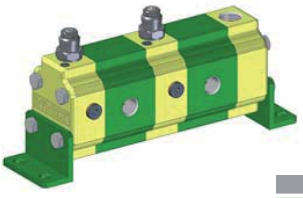


RV-1D

RIF. RS101

RV-1S

RIF. RV101



RV-1V

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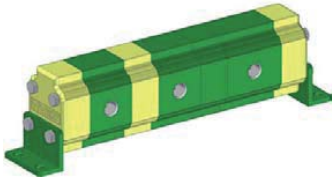

RV-1G

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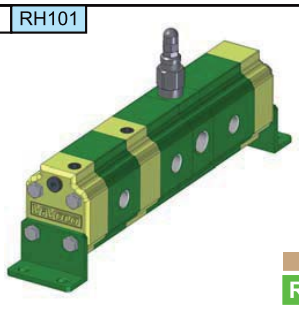

RV-1H

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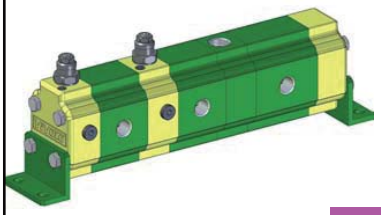

RV-1N

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INTRODUCTION

RV-0 RV-1

A flow divider is made up of two or more modular elements (sections) with gears mechanically linked by an internal shaft that causes them to turn at the same speed.
Unlike multiple pumps, in which the input power is mechanical (shaft connected to a motor), in a flow divider the input power is of a fluid-mechanical nature, i.e. a flow of oil under pressure parallelly supplies the modular elements, which are in turn connected to the hydraulic circuits serving the users.

The portion of flow utilized by each element is solely determined by its nominal flow rate. Therefore, unlike standard static dividers with variable ports, the flow dividers do not cause dissipation and are also much more precise.
The use of flow dividers in a system reduces the number of pumps necessary as well as the associated individual mechanical power takeoffs and complex mechanical couplers (with greater losses).
Leaving aside small losses for the time being, at any given moment the total input power is equal to the sum of the powers supplied by all elements making up the flow divider.

Therefore, if in an interval of time the power required by a hydraulic circuit is equal to zero (inactive drained circuit), the power supplied by the element feeding that circuit becomes available for the other elements, which may use it in their own circuits, also operating at higher pressures than the intake pressure.

Most frequent applications of flow dividers

Supply of two or more independent hydraulic circuits by means of a single pump, with an overall flow rate equal to the sum of the flow rates.

Examples of this kind of application:
- lifting platforms and bridges;
- hydraulic bending presses and shearing machines;
- hoisting of freight containers;
- lubrication systems;
- hydraulic opening / closing of gates;
- automatic hydraulically-driven machines;
- actuation of formwork for construction;
- wood processing machinery;
- conveyance of trolleys driven by hydraulic cylinders or motors;
- equipment for the food industry;
- military installations.

Pressure amplifiers.
When in a hydraulic system one user requires a much higher operating or peak pressure than all the others, it is more convenient to supply it by means of a flow divider than to upgrade the whole system to work with higher pressure.
With a two-element flow divider flow may be discharged from the outlet of one element so that the pressure in the other will become much higher than that of the pump supplying the system.

Examples of this kind of application:
- presses with rapid approach
- machine tools

Constructive features

FLOW DIVIDER BODY FLANGE AND COVER	Extruded alloy Serie 7000, heat treated and anodised	Rp=345 N/mm2 (Yield Strength) Rm=382 N/mm2 (Breaking Strength)
GEAR BUSH BEARINGS	Special Heat Treated tin alloy with excellent mechanical features and high anti-friction capacity. Self-lubricating bushes DU	Rp=350 N/mm2 (Yield Strength) Rm=390 N/mm2 (Breaking Strength)
GEARS	Steel UNI 7846	Rs=980 N/mm2 (Yield Strength) Rm=1270÷1570 N/mm2 (Breaking Strength)
SEALS	A 727 Acrolonitrile Standard F 975 Viton FKM	90 Shore, resistenza termica 120°C 80 Shore, resistenza termica 200°C

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INTRODUCTION

RV-0 | RV-1

VERSION DESCRIPTION

RV-D FLOW DIVIDER

This is the flow divider standard version, it simply divide the incoming flow without allowing the phase correction

RV-S FLOW DIVIDER with single phase correction valve

This version has just one phase correction valve for all the elements, it can obviously divide the flow and allow the phase correction, but only in the direction of flow division.

RV-V FLOW DIVIDER with phase correction and anticavitation valves

In this version the flow divider has one phase correction and anticavitation valve for each element, this allow a flow correction in both direction (flow division and flow unification). In addition it can adjust the relief pressure to a different value for each element.

RV-G FLOW DIVIDER + MOTOR

The RV-G typology is the motorized version of the RV-D divider.
It has a motor conneted to the flow divider elements. This solution is important when the incoming and/or outgoing pressure is below the minimum pressure required to start. Giving flow to the motor, help the flow divider rotation start. Typical use: plants with single effects hydraulic jack.

RV-H FLOW DIVIDER with single phase correction valve + MOTOR

This is the motorized version of the RV-S divider.
The motor has the same funcion that is described for the RV-G divider.

RV-N FLOW DIVIDER with phase correction and anticavitation valve + MOTOR

This is the motorized version of the RV-V divider.
The motor has the same funcion that is described for the RV-G divider.

The flow division error is lower than ± 1.5% with a pressure difference between one element and another until 30 Bars. For bigger differences we can approximate an error increase of 1 % for each 10 additional bars.

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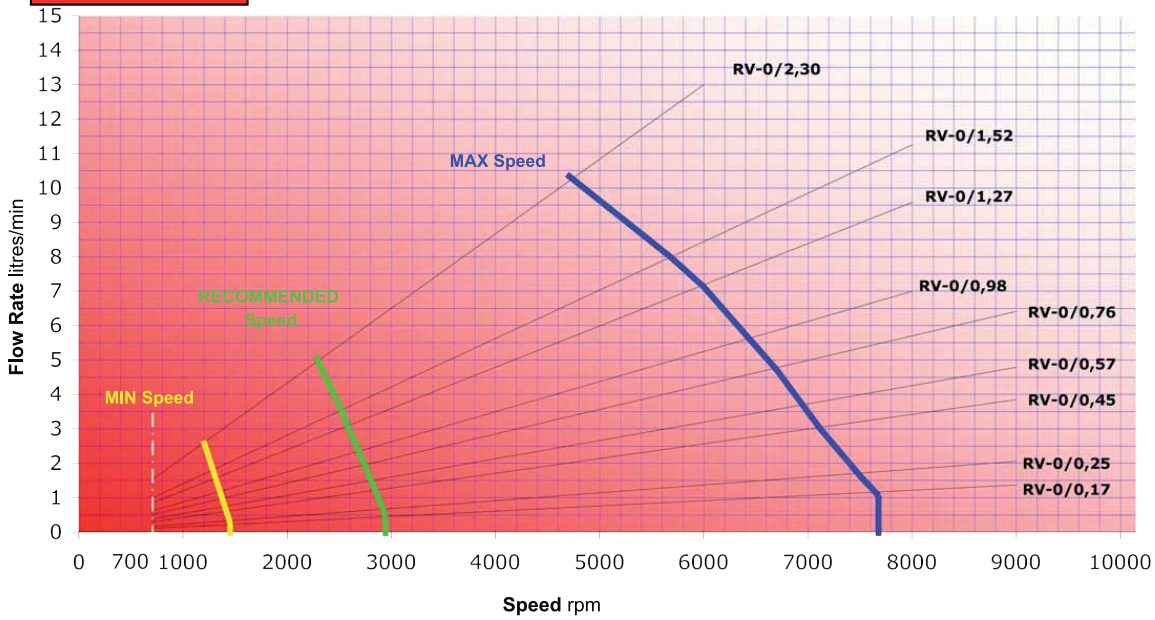
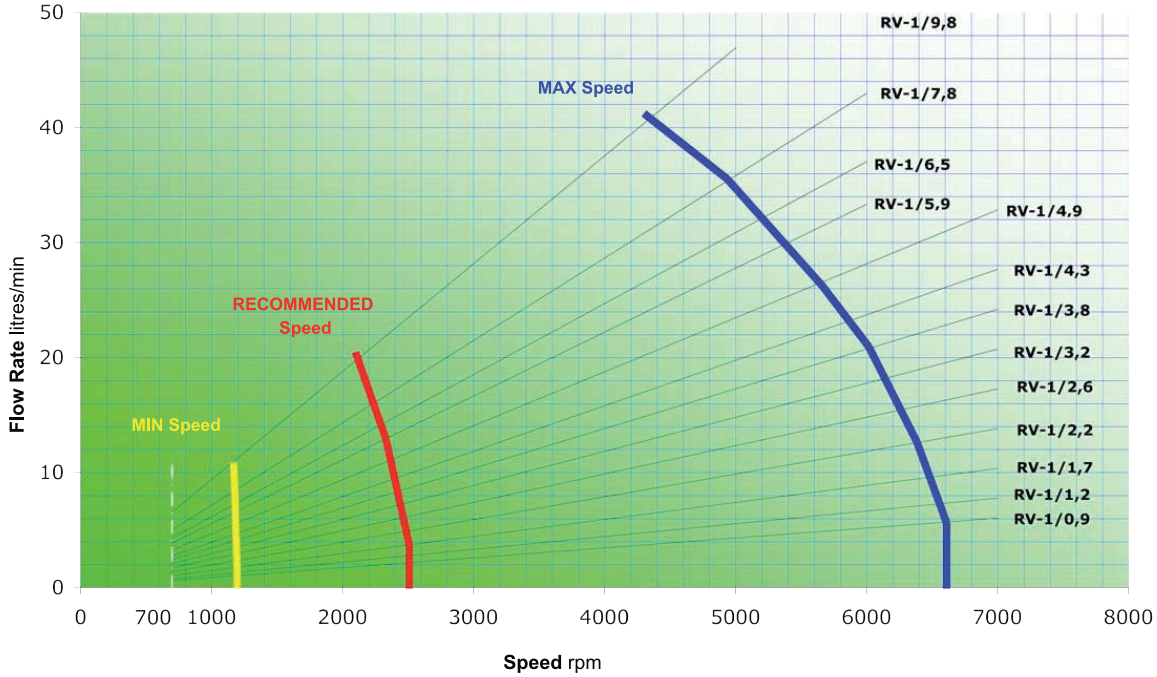
CHARACTERISTIC CURVES RV-0 RV-1

RV-0



RV-1



NOTE: the flow divider can work even below the minimum speed, but it's efficiency will be lower
the flow divider can work even over the maximum speed, but it will increase the noise and loss of load

021-010-V

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FLOW DIVIDER "RV" Series Swallow Line — RV-1V

ViVOiL BOLOGNA - ITALY

Flow divider with independent **phase correction and anticavitation** valves for each element

Code:

9RV	NN	M	CC

9RV	Flow Divider Typology
NN	Number of elements
M	Code of setting range of the valves
CC	Displacement Code

TABLE "M"	
A	7÷ 210 bar
B	105÷ 420 bar

Example: Flow divider with two elements (same displacement)
RV-1V / 3,8 x 2 with valve 7 ÷ 210 bar

9RV	02	A	25

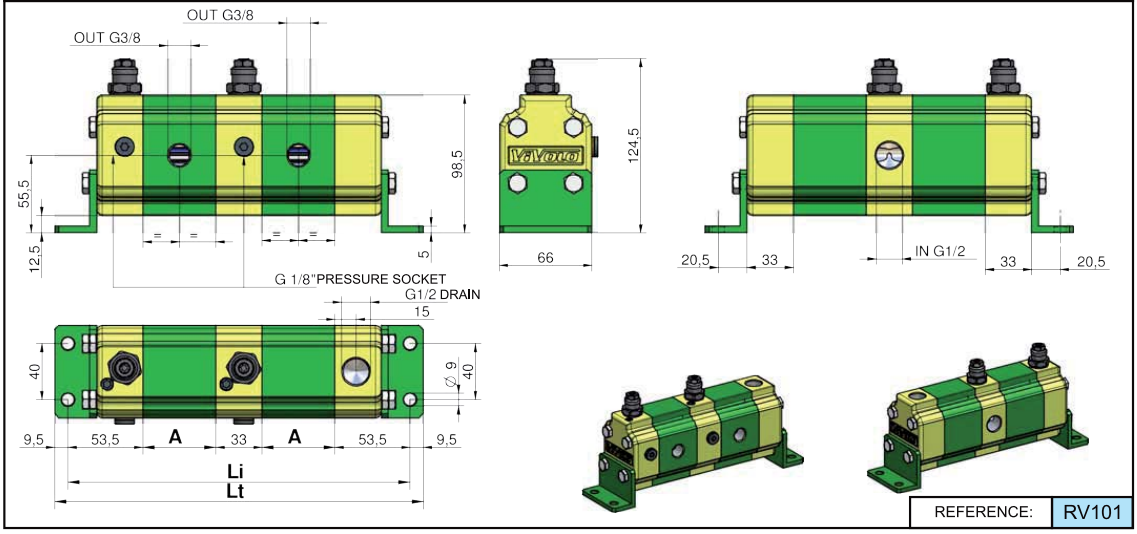
Example: Flow Divider with 4 elements (with different displacement - max 7):
RV-1V /3,8+4,9+4,9+6,5 with valve 105 ÷ 420 bar

9RV	04	B	25	29	29	32

NOTE: to define codes for flow dividers with more than 7 different displacement, please contact our sales department.

Table: 1

Displacem.	CC	Max Pressure bar	One element flow rate l/min		
Cm³/rev	Code		MIN	RECOMMENDED	MAX
0,9	16	220	1	2	6
1,2	17	220	1,5	3	7
1,7	18	220	2	4	9
2,2	20	220	2,5	5	13
2,6	21	220	3	6	15,5
3,2	23	220	3,5	7,5	18
3,8	25	220	4	8,5	21
4,3	27	220	4,5	9,5	23
4,9	29	220	5,5	11	27
5,9	31	220	6,5	13	30
6,5	32	220	7,5	14	32
7,8	34	210	8,5	16	35,5
9,8	36	200	11	20	41



REFERENCE: RV101

Table: 2

Li = Distance between fixing hole centres (single displacement flow divider)

Cm³/rev	A	Number of elements														
		2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
0,9	**41,5**	223	297,5	372	446,5	521	595,5	670	744,5	819	893,5	968	1042,5	1117	1191,5	1266
1,2	**42,5**	225	300,5	376	451,5	527	602,5	678	753,5	829	904,5	980	1055,5	1131	1206,5	1282
1,7	**44**	228	305	382	459	536	613	690	767	844	921	998	1075	1152	1229	1306
2,2	**46**	232	311	390	469	548	627	706	785	864	943	1022	1101	1180	1259	1338
2,6	**48**	236	317	398	479	560	641	722	803	884	965	1046	1127	1208	1289	1370
3,2	**50**	240	323	406	489	572	655	738	821	904	987	1070	1153	1236	1319	1402
3,8	**52**	244	329	414	499	584	669	754	839	924	1009	1094	1179	1264	1349	1434
4,3	**54**	248	335	422	509	596	683	770	857	944	1031	1118	1205	1292	1379	1466
4,9	**57**	254	344	434	524	614	704	794	884	974	1064	1154	1244	1334	1424	1514
5,9	**60,5**	261	354,5	448	541,5	635	728,5	822	915,5	1009	1103	1196	1289,5	1383	1476,5	1570
6,5	**63**	266	362	458	554	650	746	842	938	1034	1130	1226	1322	1418	1514	1610
7,8	**67**	274	374	474	574	674	774	874	974	1074	1174	1274	1374	1474	1574	1674
9,8	**76**	292	401	510	619	728	837	946	1055	1164	1273	1382	1491	1600	1709	1818

Table: 3 in this table the number of inlets in function of the number of elements are indicated.

Number of elements	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
"IN" Number of inlets	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8

021-010-V

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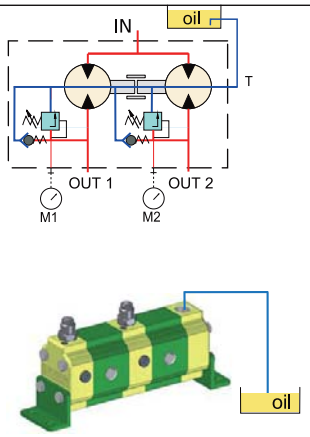
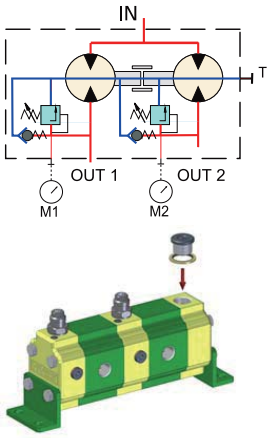
FLOW DIVIDER "RV" Series Swallow Line — RV-1V

Flow divider with independent **phase correction and anticavitation** valves for each element

EXTERNAL DRAIN *STANDARD SETUP*	INTERNAL DRAIN
For the correct functioning of the flow divider, it has to be installed *under the oil level*. The drain tube has to pick up under the oil level and it has not to aspire air.	To predispose the divider to the internal drain, plug the 1/2 G drain port (T) **Note**: with this configuration the function of anticavitation valves is annulled
	

In **table 1** the functining range of single flow divider elements is indicated.
The higher is the feeding capacity (q), the higher is the precision of the flow division, but in opposition there are losses of loading and higher noise. Therefore we suggest to feed the elements with capacities equal or a few superior to the ones indicated in the column **"RECOMMENDED"**.
Remember to verify the capacities even in phase of flow reunion.
The pressure indicated are to be considered as maximum of functioning, the flow divider is able to bear peaks of pressure 20 % superior.

How to calculate the "Li" and "Lt" measures of flow dividers:

From **table 2** it is possible to obtain the "Li" measure for flow dividers up to 16 elements with equal displacements; for flow dividers with different elements or with more than 16 elements the "Li" and "Lt" measure have to be calculated by the following formula:

Li = [(n-1) x 33] + 107 + (A1 + A2 + A3 +…….)

107 = 53,5 + 53,5
n = Number of elements of flow divider
A1... An = heights of elements of flow divider

Lt = Li + 19

19 = 9,5 + 9,5

EXAMPLE: To obtain the measures **Li** and **Lt** of a flow divider with three elements (n=3), **RV-1V 4.3 + 2,2 +0,9**

Distance between fixing hole centres	**Li** = [(3-1) x 33] + 107 + 54 + 46 + 41,5 =314,5 mm
Total Lenght	**Lt** = 314,5 + 19 = 333,5

In **table 3** the number of inlets in fuction of the number of elements are indicated.
For flow dividers with many inlets, as they are all communicating it is even possible to use only one of them, by plugging the other ones. We suggest to make full us at least of **1** inlet every **40** l/min capacity.

To obtain errors of division **inferior to 3%** there must be no difference of pressure between the elements superior to **30 bar**. To obtain high precisions the respect of the following parametres is also important:

- Enviroment temperature: -10°c ÷ +60°c — Oil temperature: +30°c ÷ +60°c
- Hydraulic oil based on hlp, hv (din 51524) minerals — Oil Viscosity 20 ÷ 40 cSt
- Oil filtering 10 ÷ 25 µ

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