

TECHNICAL CATALOGUE



FIXED DISPLACEMENT
HYDRAULIC VANE PUMPS
BV series



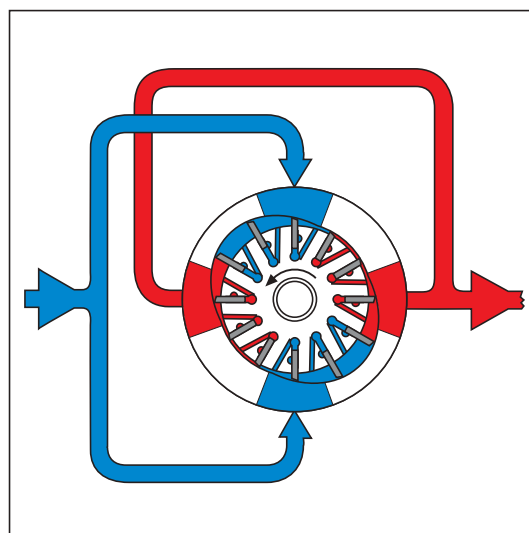
FIXED DISPLACEMENT HYDRAULIC VANE PUMPS “BV” SERIES

Versatility, power, compactness and low running costs are the main characteristics of B&C vane pumps. All the components subject to wear are contained in a cartridge unit that can be easily removed for inspection and/or replacement without disconnecting the pump from the circuit, drastically reducing expensive machine down time.

The cartridge contains a rotor, vanes and inserts, a cam ring and two covers. During operation the rotor is driven by a splined shaft coupled to the drive unit. As the rotation speed increases, centrifugal forces, in combination with the pressure generated behind the vanes, push the vanes outwards, where they follow the profile of the cam of the ring with a sufficient contact pressure to ensure adequate hydraulic sealing. The two opposed pumping chambers formed by the elliptical profile of the cam cancel out radial loads on the shaft bearings, thereby giving them extremely long lifetimes.

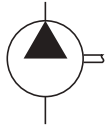
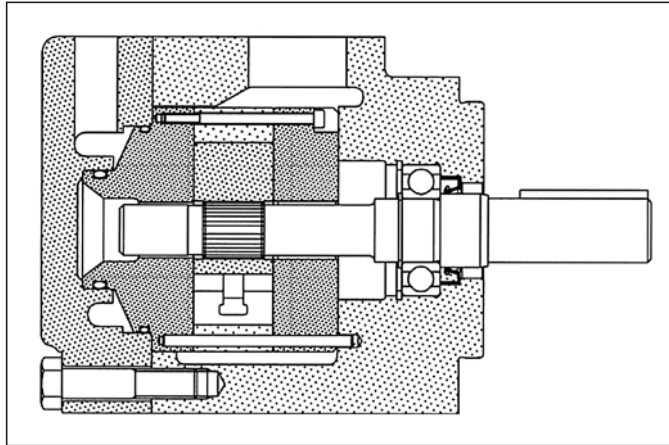
The versatility of the BV series pumps enables them to meet the requirements of the most varied industrial applications. In fact, as well as their proven high reliability and excellent volumetric efficiency in all working conditions, they operate with particularly low noise levels. This is made possible by the special profile of the cam ring and the use of a 12 vane rotor that reduces the amplitude of the supply pressure pulses, thereby reducing induced vibrations (see drawing).

The BV series is available in four versions of single pump (from 8 to 230 l/min at 1200 rpm) and six versions of double pump (from 55 to 370 l/min at 1200 rpm), with maximum powers of over 300 HP. The BV series pumps are extremely compact and are supplied with ISO norm mechanical couplings and SAE norm hydraulic fittings. This makes them very easy to install and guarantees their interchangeability with other similar pumps.



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General description

Fixed displacement vane pump, hydraulically balanced, with capacity determined by the type of cartridge used and the speed of rotation. The pump is available in six versions with capacities from 8 to 55 l/min (*from 2 to 14 gpm*) at 1200 rpm and 7 bar.

Technical characteristics

Cartridge model	Geometric displacement		Rated capacity at 1200 rpm 7 bar		Rated capacity at 1500 rpm 7 bar		Maximum pressure with mineral oil		Speed range rpm	
	cm ³ /g	(in ³ /r)	l/min	(gpm)	l/min	(gpm)	bar	(psi)	min	max
V01-02	7,2	(0.44)	8,3	(2)	10,4	(2.8)	210	(3050)	600	1800
V01-05	18,0	(1.10)	20,8	(5)	26,1	(6.9)	210	(3050)	600	1800
V01-08	27,4	(1.67)	31,8	(8)	39,4	(10.4)	210	(3050)	600	1800
V01-09	30,1	(1.83)	35,1	(9)	44,1	(11.7)	210	(3050)	600	1800
V01-11	36,4	(2.22)	42,4	(11)	52,6	(13.9)	210	(3050)	600	1800
V01-12	39,5	(2.41)	46,9	(12)	58,7	(15.5)	160	(2300)	600	1800
V01-14	45,9	(2.79)	54,9	(14)	69,6	(18.4)	140	(2030)	600	1800

Hydraulic fluids: antiwear high quality mineral oils or fire resistant fluid having same lubrication capacities of the mineral oil.

Viscosity range (*with mineral oil*): from 13 to 860 cSt. (*13 to 54 cSt. recommended*).

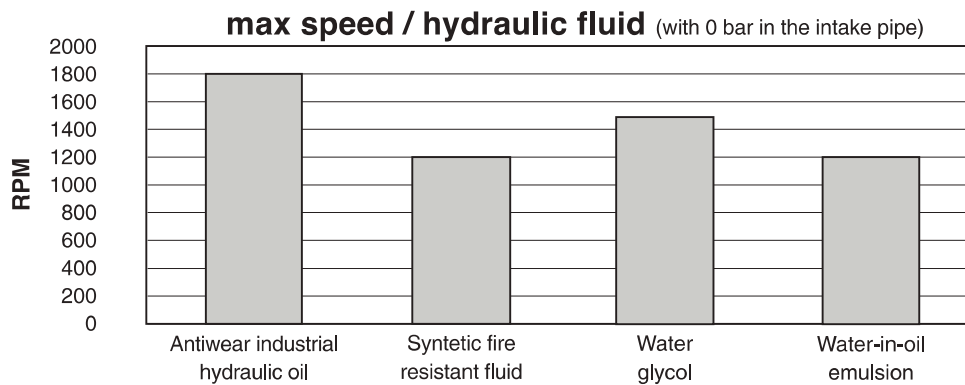
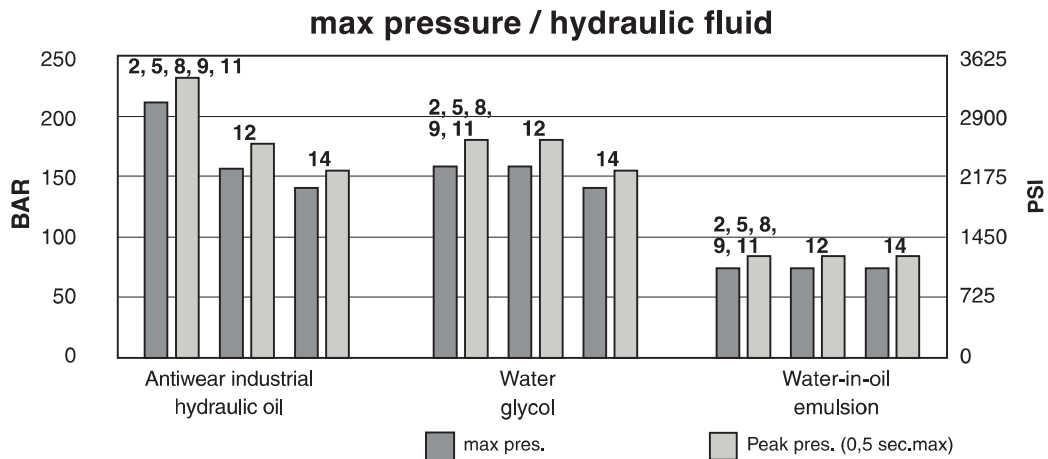
Filtration: for the inlet - 149 micron abs., for the return line - 25 micron abs. or better (*with synthetic fluids: for the return line - 10 micron abs. or better*).

Inlet pressure: (*with mineral oil*): from -0,17 to +1,4 bar (-2.5 to + 20 psi)

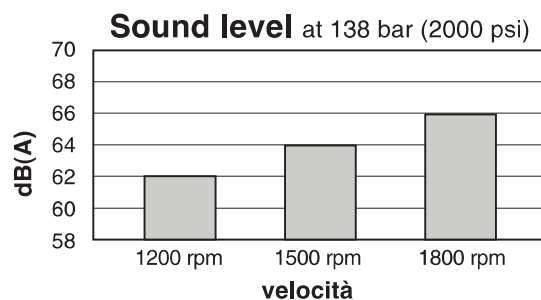
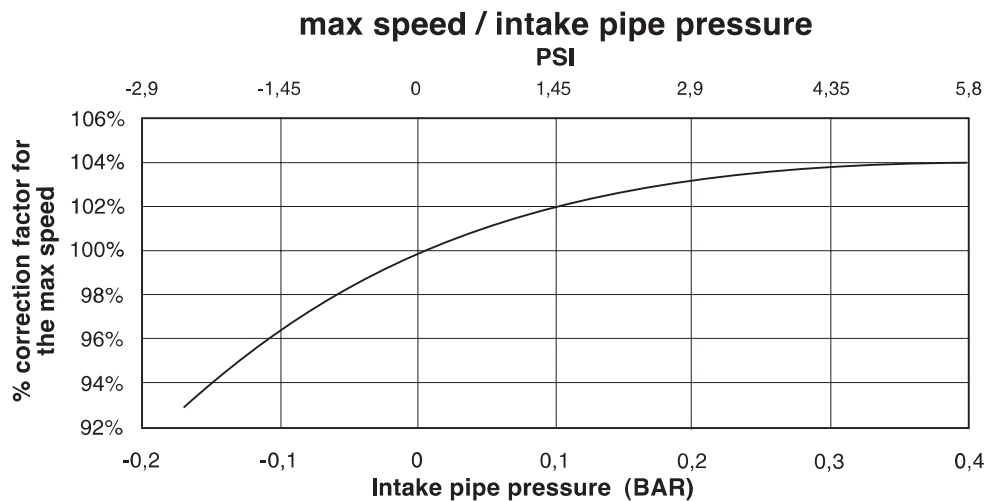
Operating temperature: with mineral oil -10°C +70°C (*+30°C to +60°C recommended*), with water based fluids +15°C to +50°C.

Drive: direct and coaxial by means of a flexible coupling.

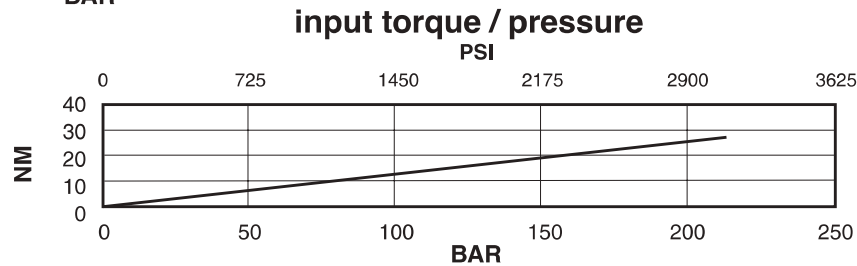
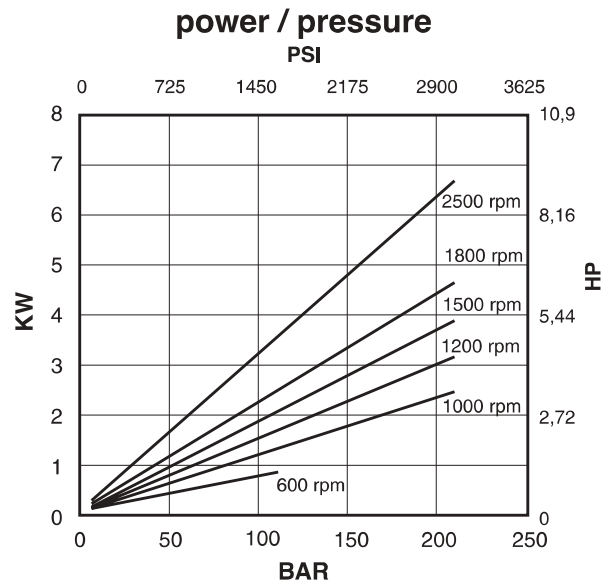
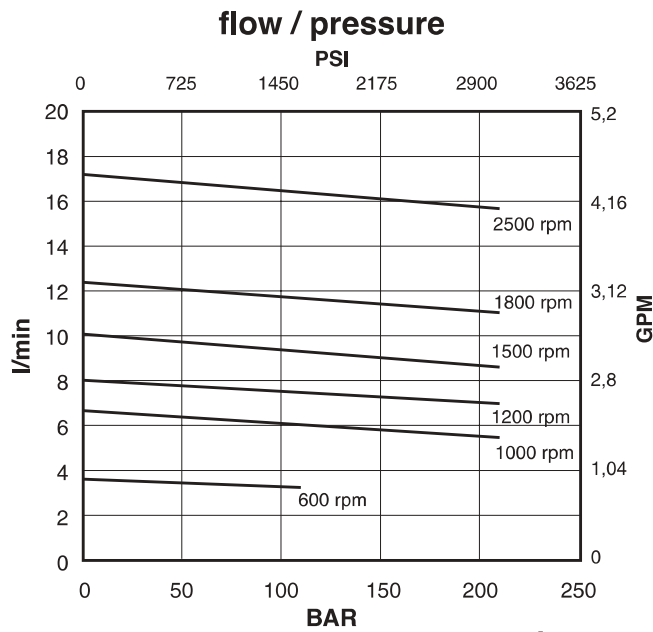
Main operating data



If the intake pressure is not zero bar, use the graph below to find the percentage correction factor to apply to the maximum speed

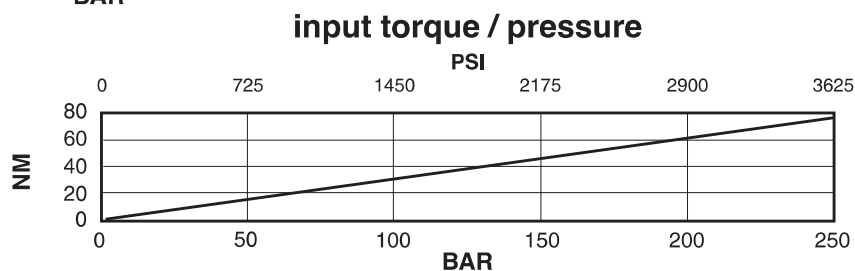
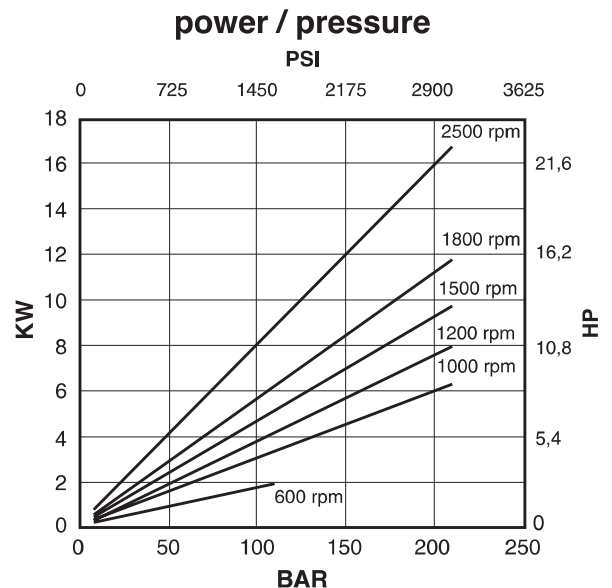
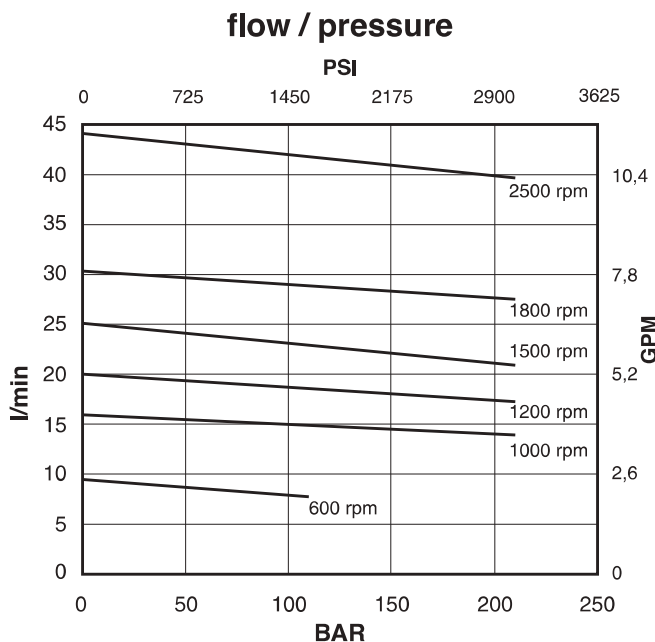


Cartridge V01-02



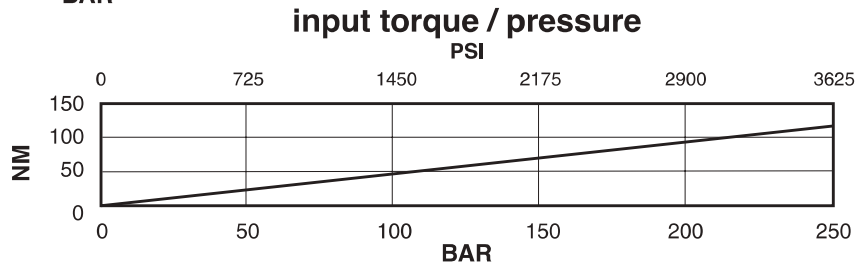
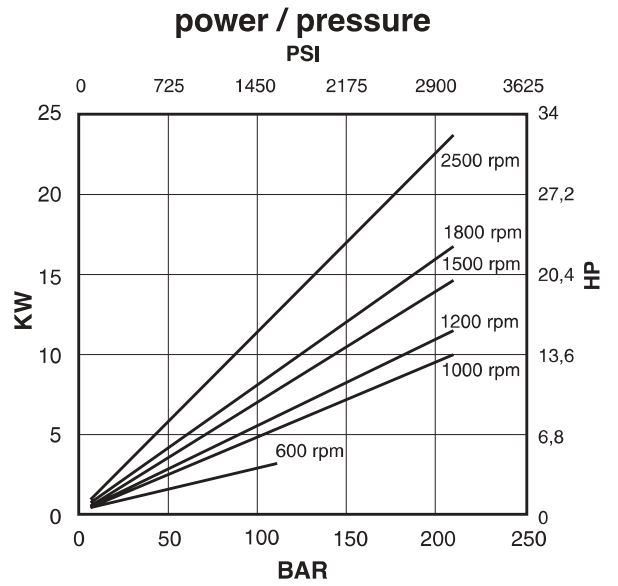
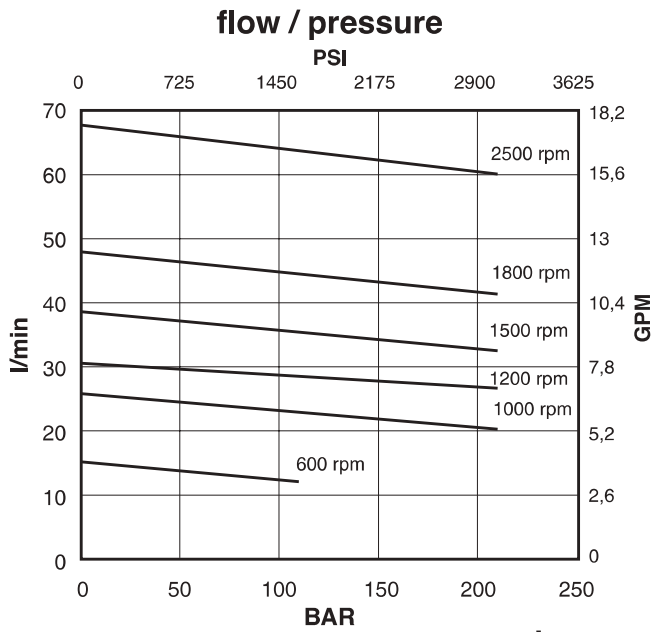
Oil viscosity: 25 c.St.(10W)
 Temperature: 45°C
 Inlet pressure: 0 BAR

Cartridge V01-05



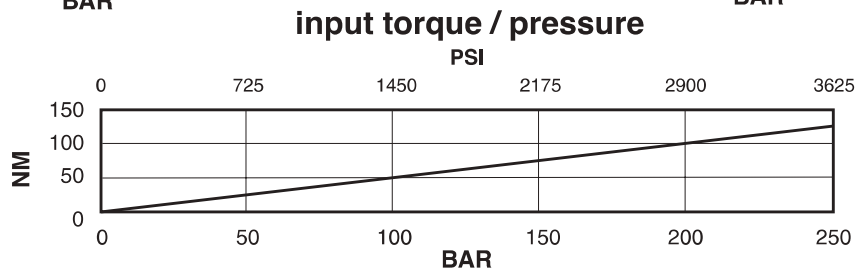
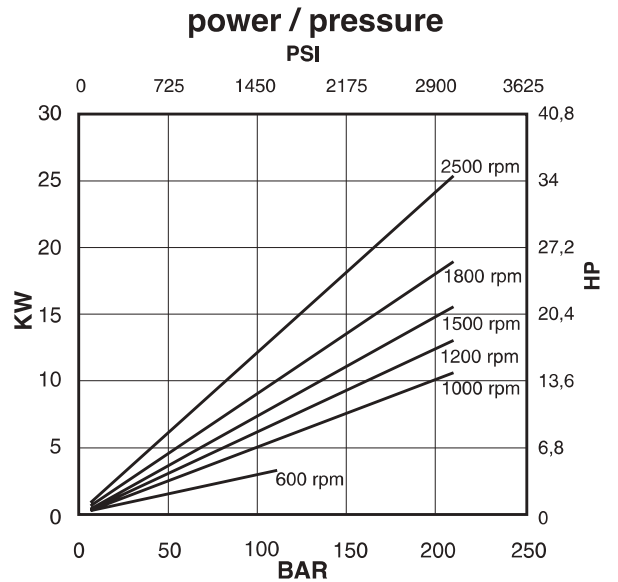
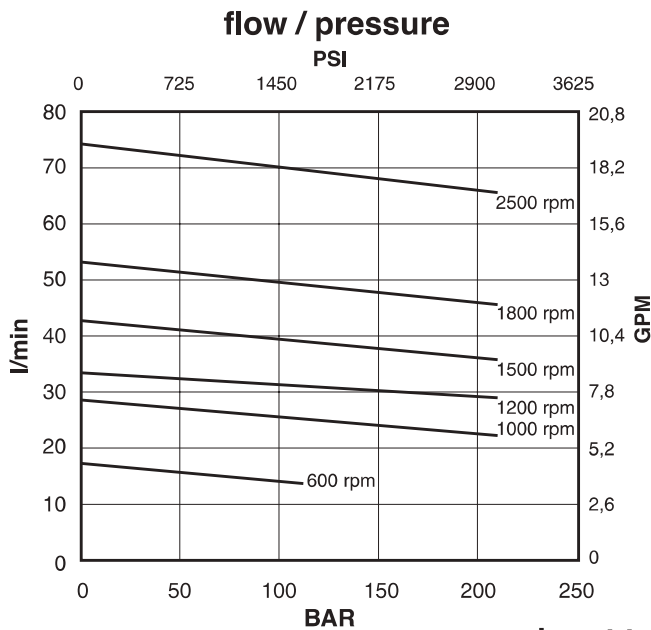
Oil viscosity: 25 c.St.(10W)
 Temperature: 45°C
 Inlet pressure: 0 BAR

Cartridge V01-08



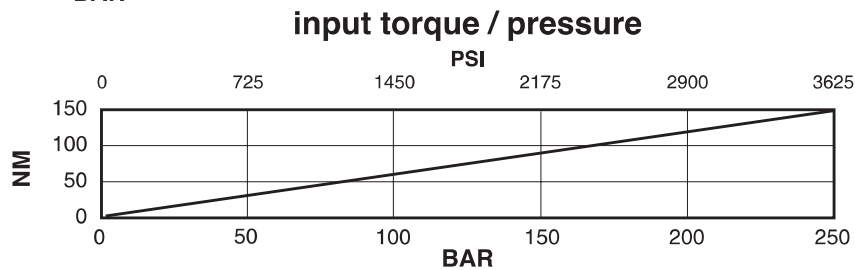
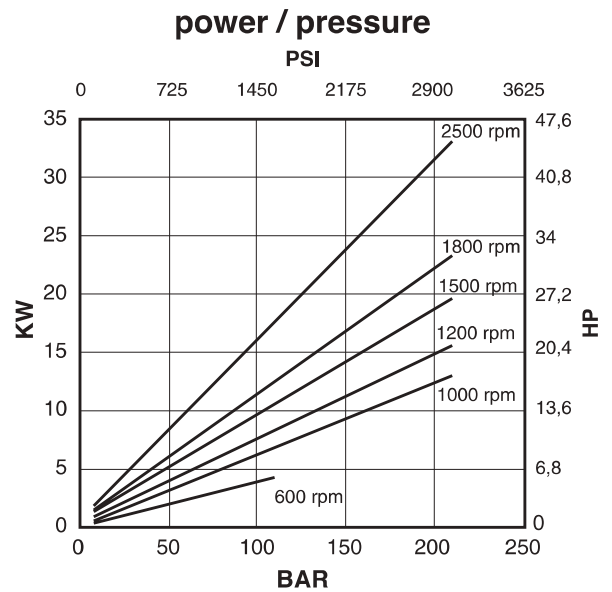
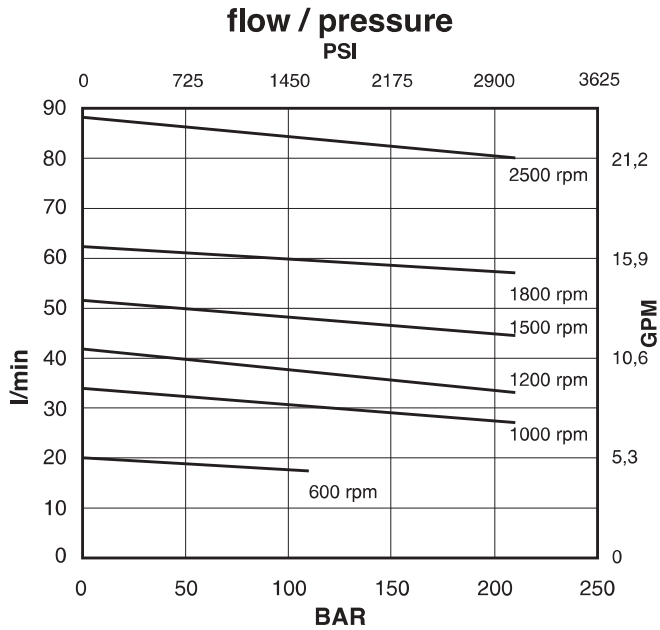
Oil viscosity: 25 c.St.(10W)
Temperature: 45°C
Inlet pressure: 0 BAR

Cartridge V01-09



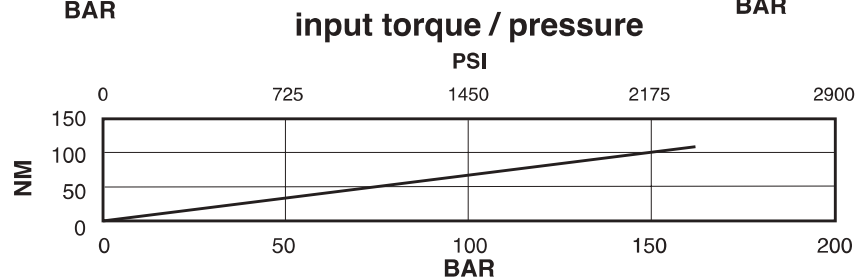
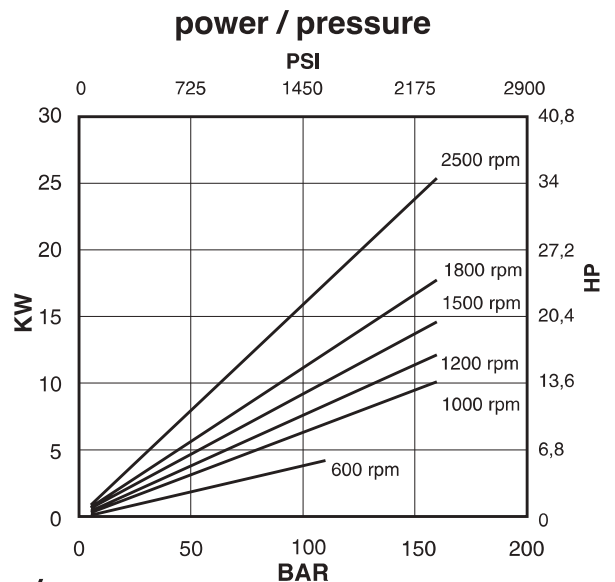
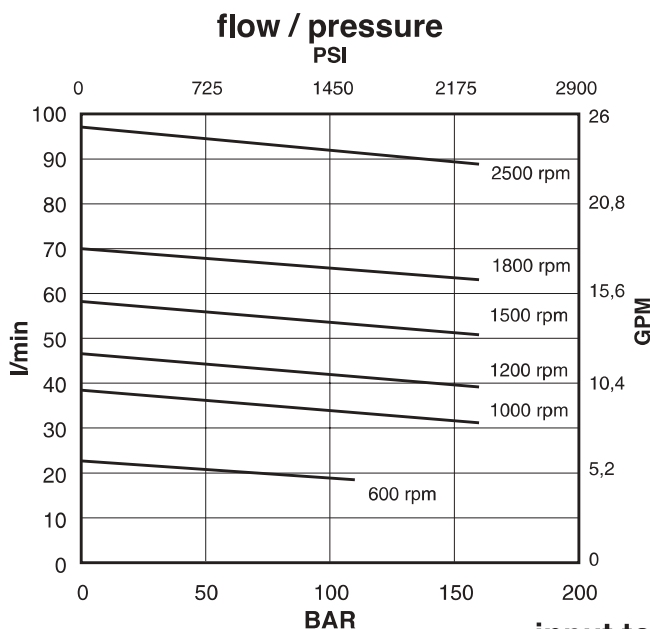
Oil viscosity: 25 c.St.(10W)
Temperature: 45°C
Inlet pressure: 0 BAR

Cartridge V01-11



Oil viscosity: 25 c.St.(10W)
Temperature: 45°C
Inlet pressure: 0 BAR

Cartridge V01-12



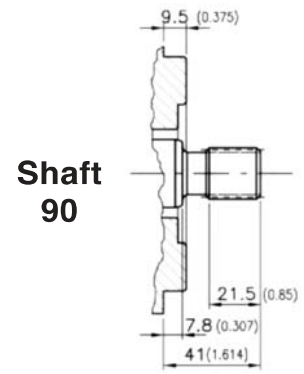
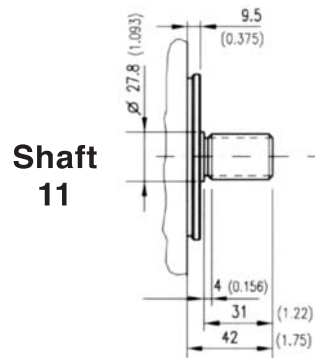
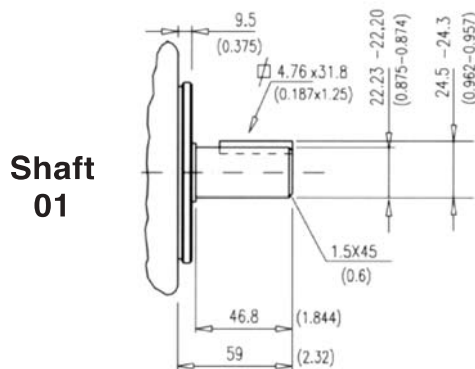
Oil viscosity: 25 c.St.(10W)
Temperature: 45°C
Inlet pressure: 0 BAR

Approx. weight: 12 Kg. (26 lbs.)

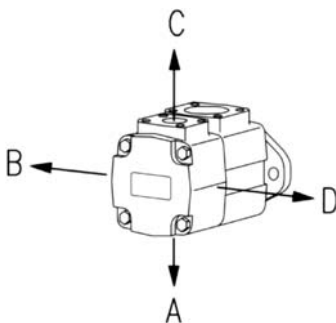
Model code breakdown

BV	01	G	*	*	*	*	*	(L)	*	(A)
Pump series	Pump type	Design							Seals (omit with standard seals and one shaft-seal in NBR) V = seals and shaft-seal in FPM (Viton®) D = standard seals and double shaft-seals in NBR F = seals and double shaft-seals in FPM (Viton®)	Mounting (omit if not required)
Cartridge type										
02 05 08 09 11 12 14										
Outlet port positions (outlet viewed from cover end)										
A = Outlet opposite end										
B = Outlet 90° CCW from inlet										
C = Outlet in line with inlet										
D = Outlet 90° CW from inlet										
			Rotation (viewed from shaft end) L = left hand rotation CCW (omit if CW)							
			Shaft end options 01 = Straight with key (standard) 11 = Splined 90 = Splined SAE B							

Shaft options mm (inches)



PORT ORIENTATIONS



Spline data

(shaft 11 and shaft 90)
Involute side fit (ASA B5.15)

Spline	
Pressure angle	30°
No. of teeth	13
Pitch	16/32
Major dia.	22.00 - 21.90 (0.866 - 0.862)
Pitch dia.	20.638 (0.8125)
Minor dia.	18.63 - 18.35 (0.733 - 0.722)
Wildhaber	11.67 - 11.70 (0.459 - 0.461)

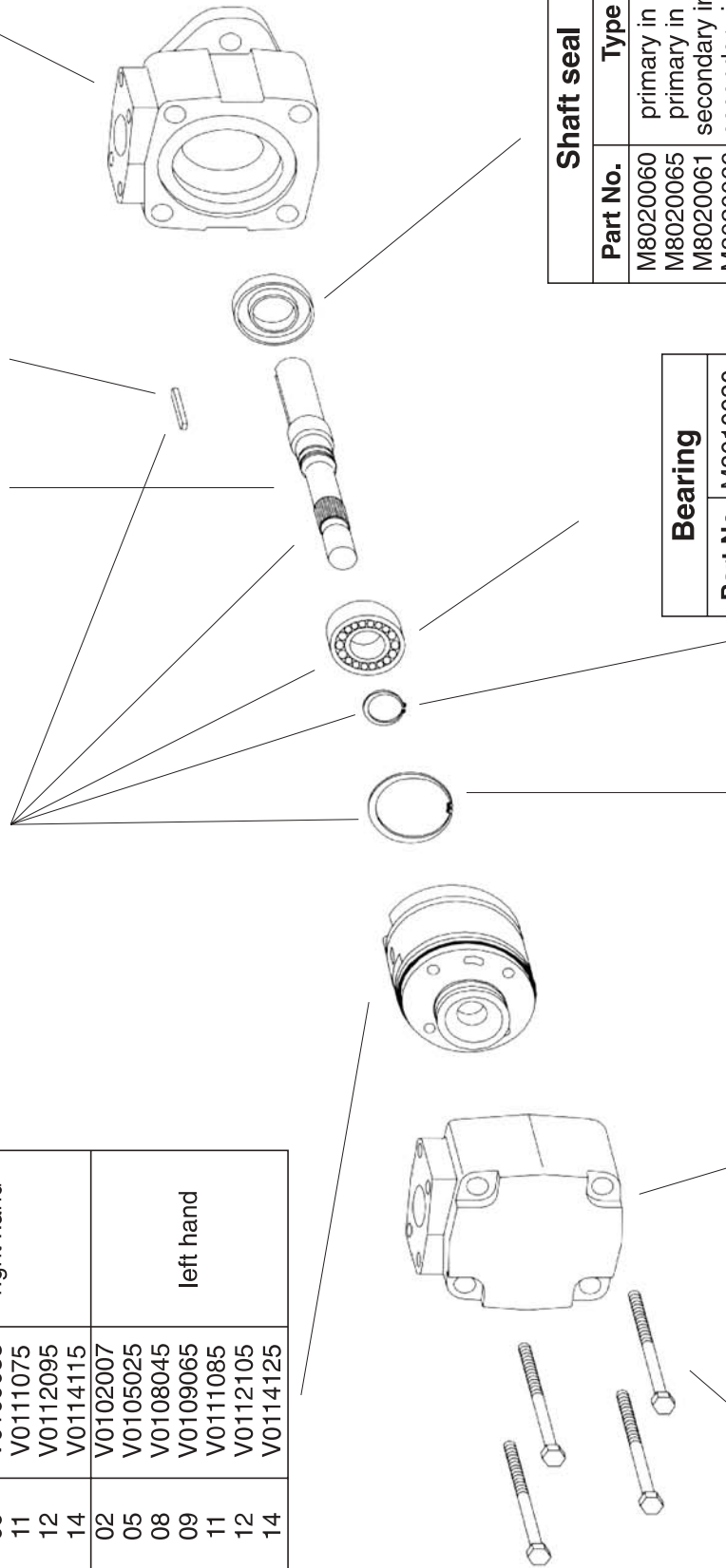
Id. codes of pump components

Cartridge		
Series	Model	Part No.
V01	02	V0102002
	05	V0105015
	08	V0108035
	09	V0109055
	11	V0111075
	12	V0112095
V01	14	V0114115
	02	V0102007
	05	V0105025
	08	V0108045
	09	V0109065
	11	V0111085
	12	V0112105
	14	V0114125

Shaft kit	
Model	Part No.
01	M8010601
11	M8010611
90	M8010690

Shaft	
Model	Part No.
01	K0101000
11	K0111000
90	K0190000

Body	
Part No.	M8010010



Shaft seal	
Part No.	Type
M8020060	primary in NBR
M8020065	primary in FPM
M8020061	secondary in NBR
M8020066	secondary in FPM

Bearing	
Part No.	M8010030

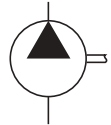
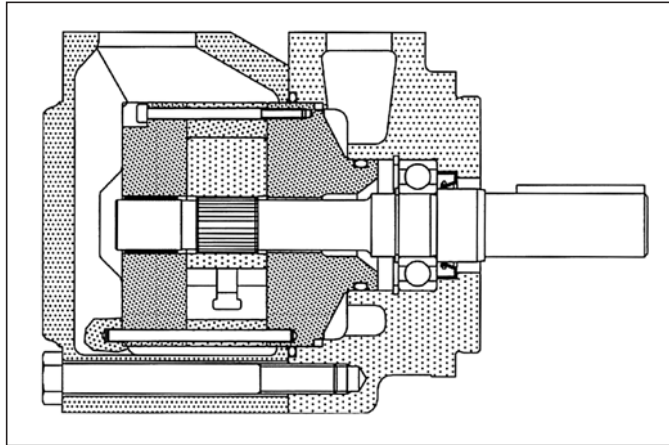
Seeger	
Part No.	M8010050

Seeger	
Part No.	M8010040

Cover	
Part No.	M8020120

Screw	
Part No.	M8020420
Torque to 70 Nm (625 lb. in.)	

Pump seal kit		
Part No.	Parts	Type
M8010500	seals + 1 shaft seal	NBR
M8010501	seals + 2 shaft seals	NBR
M8010503	seals + 1 shaft seal	FPM (Viton®)
M8010504	seals + 2 shaft seals	FPM (Viton®)



General description

Fixed displacement vane pump, hydraulically balanced, with capacity determined by the type of cartridge used and the speed of rotation. The pump is available in five versions with capacities from 47 to 79 l/min (*from 12 to 21 gpm*) at 1200 rpm and 7 bar.

Technical characteristics

Cartridge model	Geometric displacement		Rated capacity at 1200 rpm 7 bar		Rated capacity at 1500 rpm 7 bar		Maximum pressure with mineral oil		Speed range rpm	
	cm ³ /g	(in ³ /r)	l/min	(gpm)	l/min	(gpm)	bar	(psi)	min	max
V02-12	40,1	(2.45)	46,9	(12)	58,8	(15.5)	175	(2538)	600	1800
V02-14	45,4	(2.77)	52,7	(14)	65,7	(17.4)	175	(2538)	600	1800
V02-17	55,2	(3.37)	64,2	(17)	80,2	(21.2)	175	(2538)	600	1800
V02-19	60,0	(3.66)	71,0	(19)	88,7	(23.4)	175	(2538)	600	1800
V02-21	67,5	(4.12)	79,0	(21)	99,8	(26.4)	175	(2538)	600	1800

Hydraulic fluids: antiwear high quality mineral oils or fire resistant fluid having same lubrication capacities of the mineral oil.

Viscosity range (*with mineral oil*): from 13 to 860 cSt. (*13 to 54 cSt. recommended*).

Filtration: for the inlet - 149 micron abs., for the return line - 25 micron abs. or better (*with synthetic fluids: for the return line - 10 micron abs. or better*).

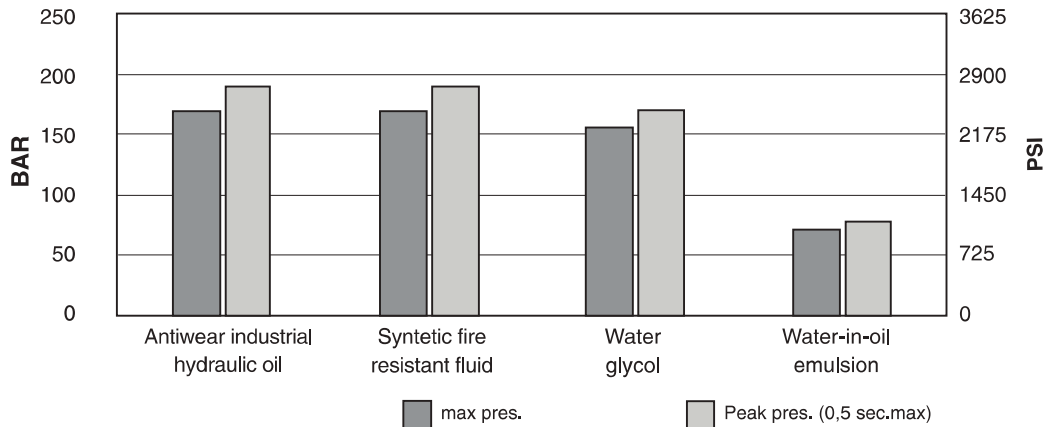
Inlet pressure: (*with mineral oil*): from -0,17 to +1,4 bar (-2.5 to + 20 psi)

Operating temperature: with mineral oil -10°C +70°C (+30°C to +60°C recommended), with water based fluids +15°C to +50°C.

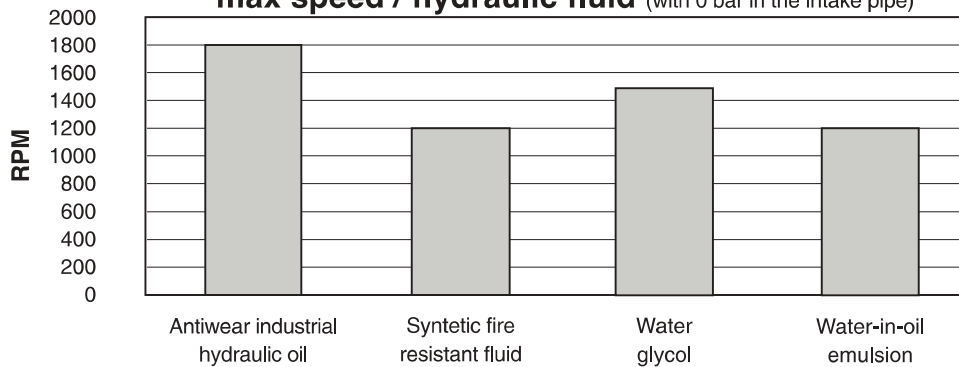
Drive: direct and coaxial by means of a flexible coupling.

Main operating data

max pressure / hydraulic fluid

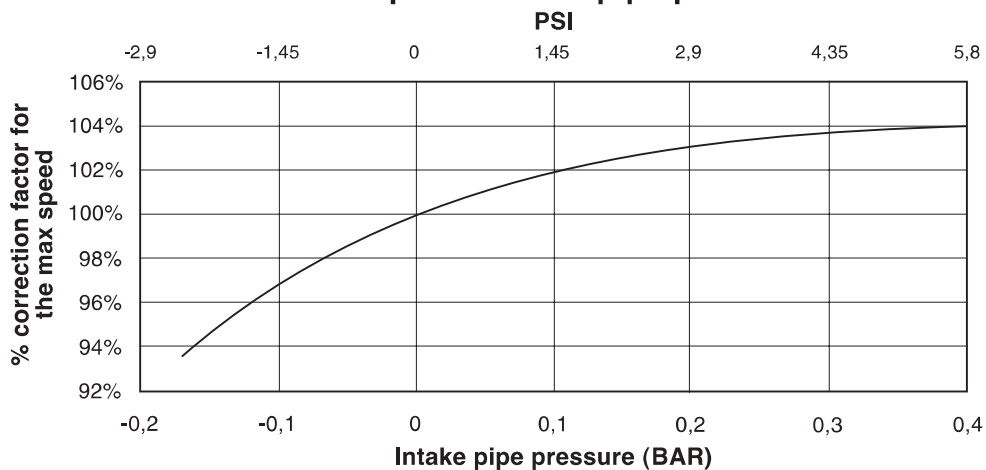


max speed / hydraulic fluid (with 0 bar in the intake pipe)

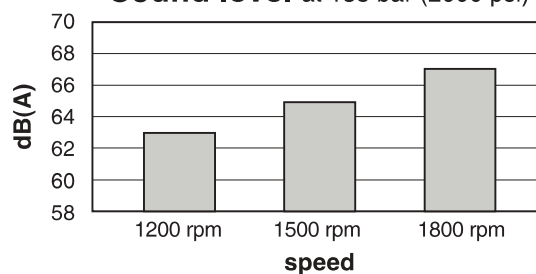


If the intake pressure is not zero bar, use the graph below to find the percentage correction factor to apply to the maximum speed

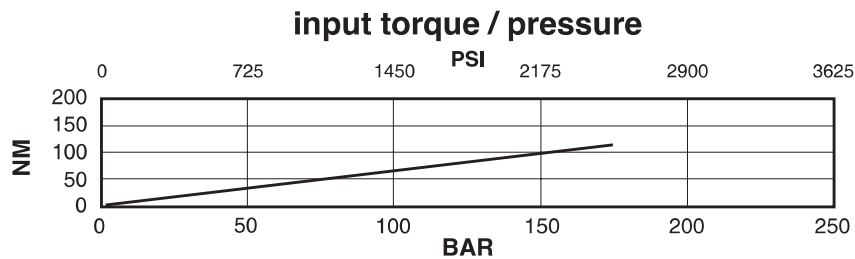
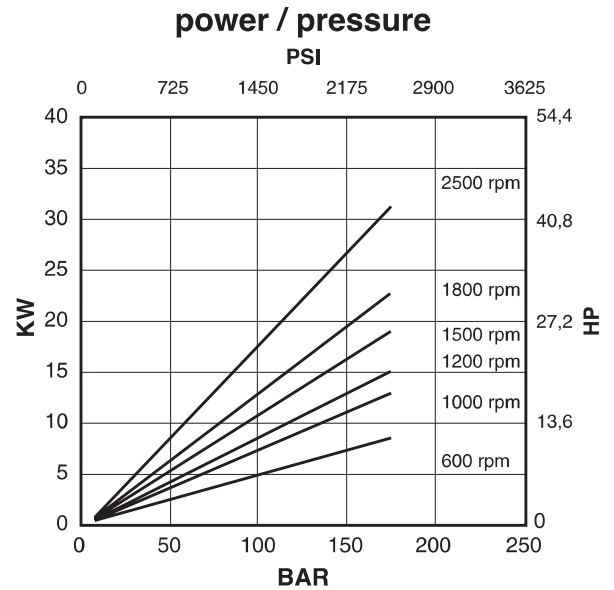
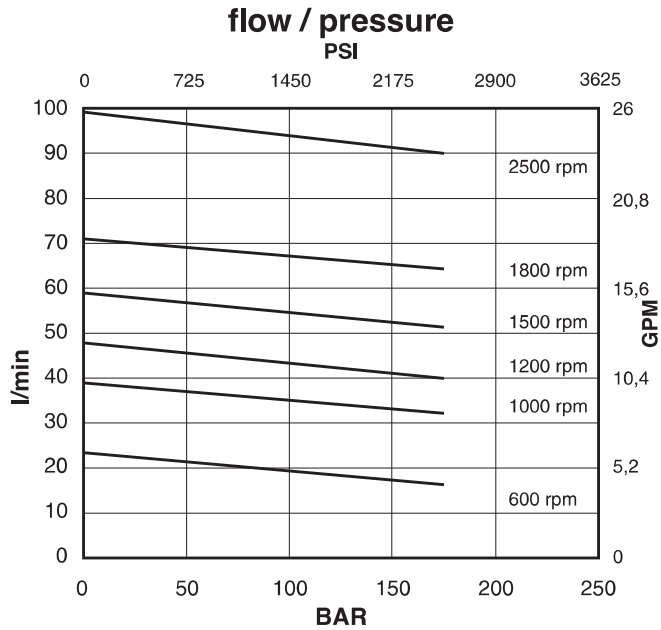
max speed / intake pipe pressure



Sound level at 138 bar (2000 psi)

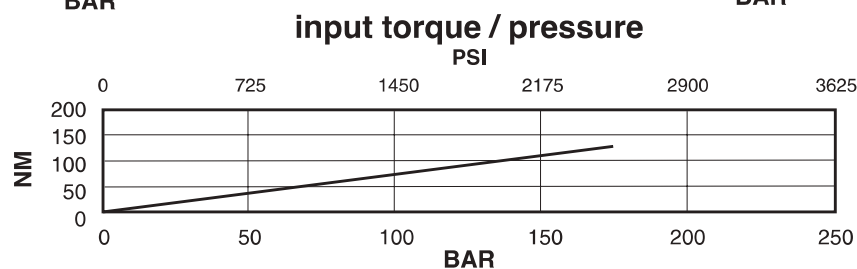
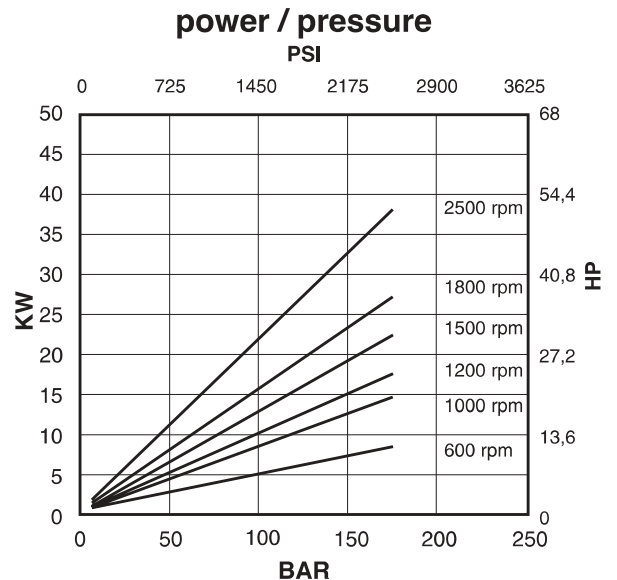
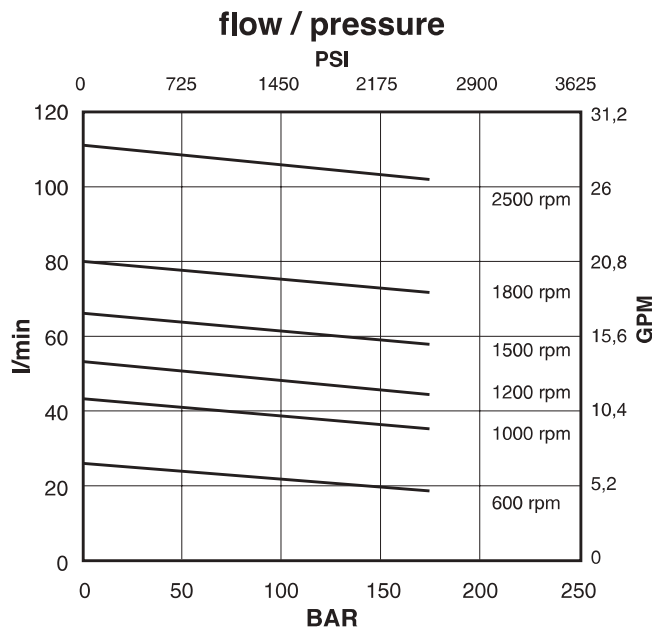


Cartridge V02-12



Oil viscosity: 25 c.St.(10W)
Temperature: 45°C
Inlet pressure: 0 BAR

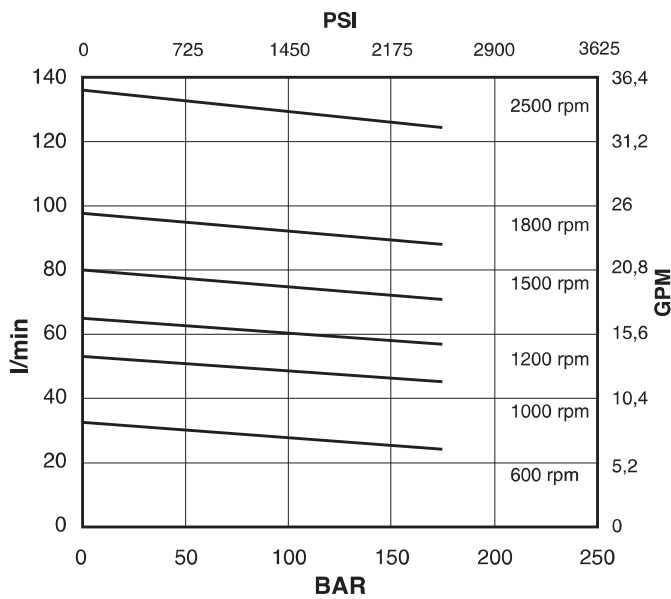
Cartridge V02-14



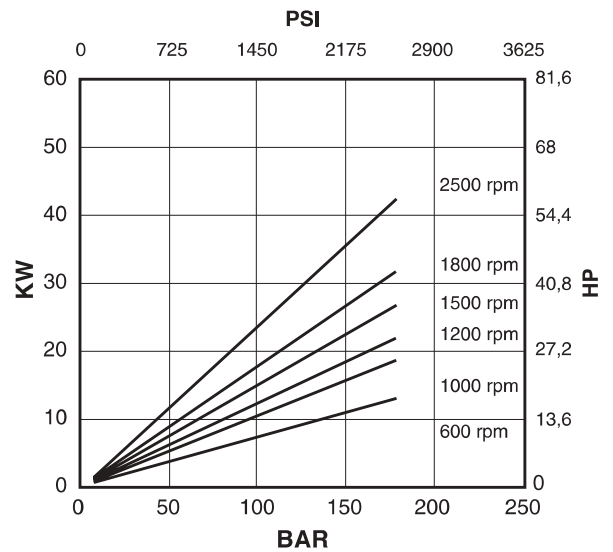
Oil viscosity: 25 c.St.(10W)
Temperature: 45°C
Inlet pressure: 0 BAR

Cartridge V02-17

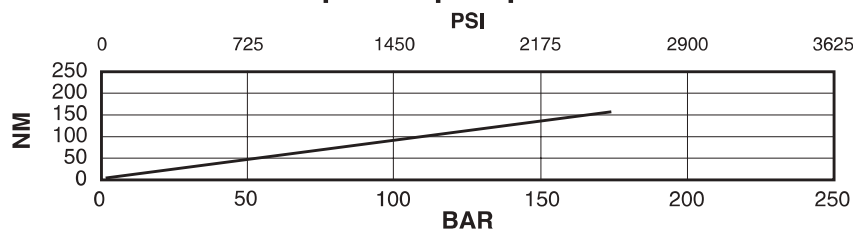
flow / pressure



power / pressure



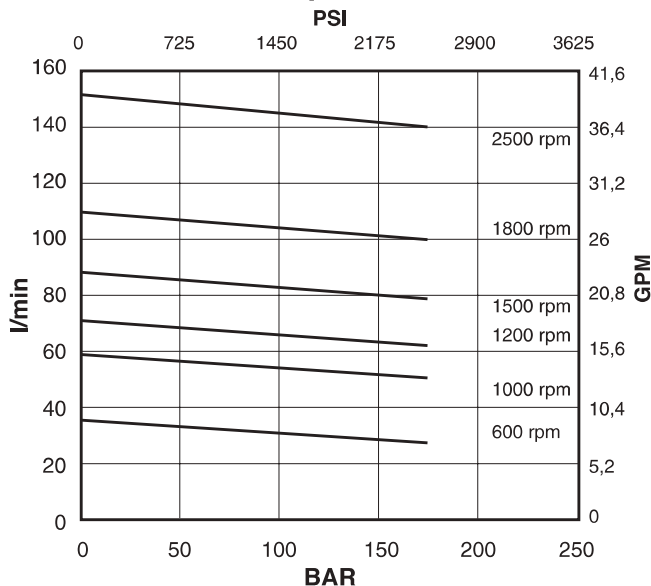
input torque / pressure



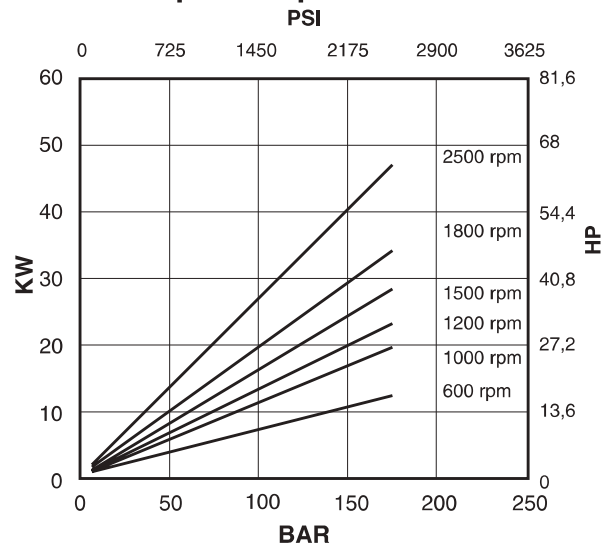
Oil viscosity: 25 c.St.(10W)
Temperature: 45°C
Inlet pressure: 0 BAR

Cartridge V02-19

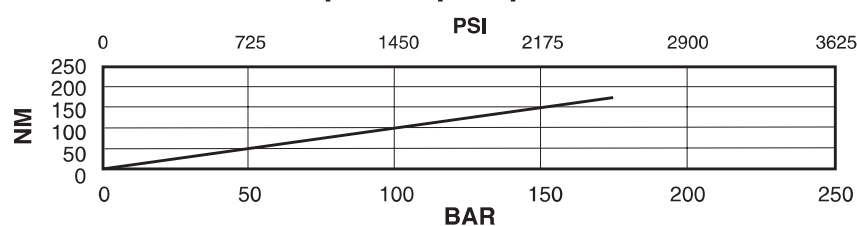
flow / pressure



power / pressure



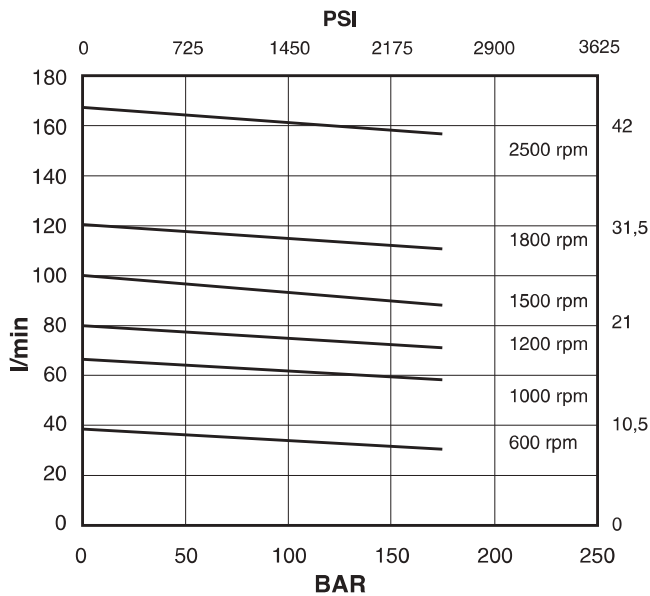
input torque / pressure



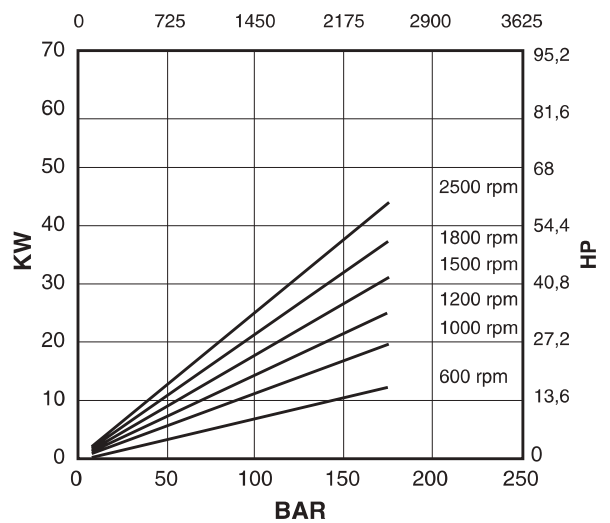
Oil viscosity: 25 c.St.(10W)
Temperature: 45°C
Inlet pressure: 0 BAR

Cartridge V02-21

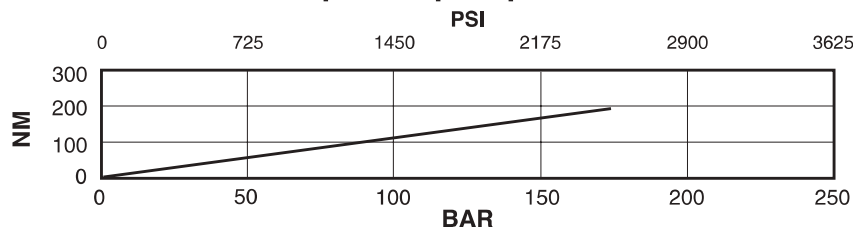
flow / pressure



power / pressure

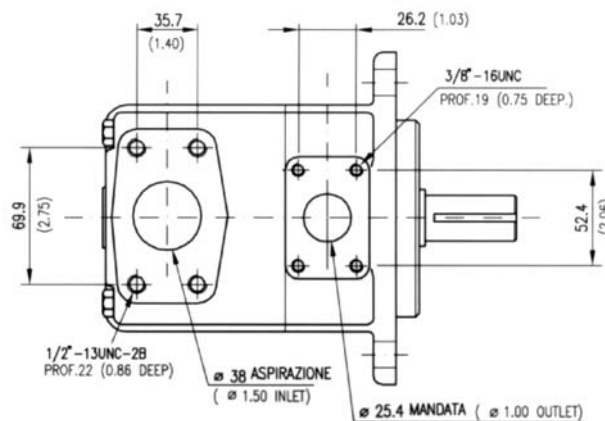
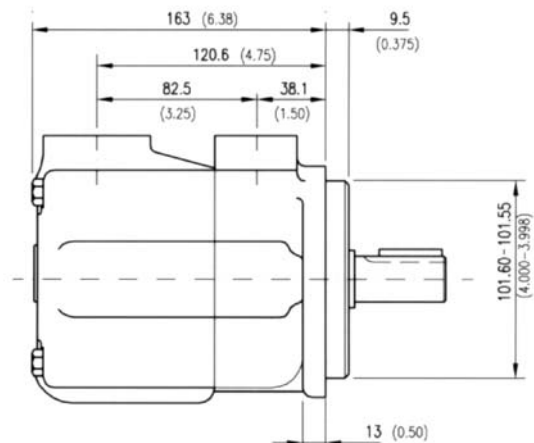
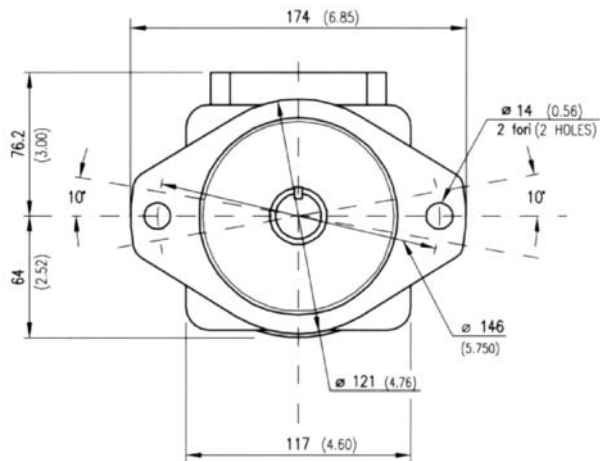


input torque / pressure



Oil viscosity: 25 c.St.(10W)
Temperature: 45°C
Inlet pressure: 0 BAR

Installation dimensions mm (inches)

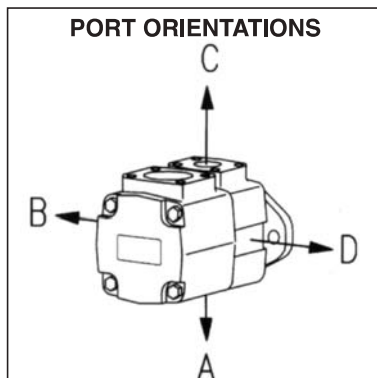
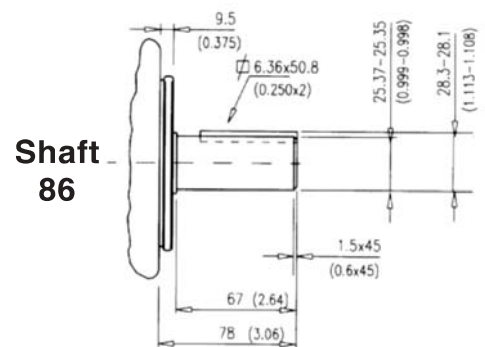
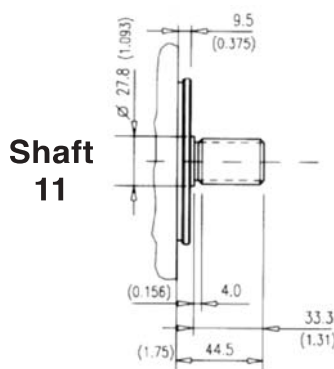
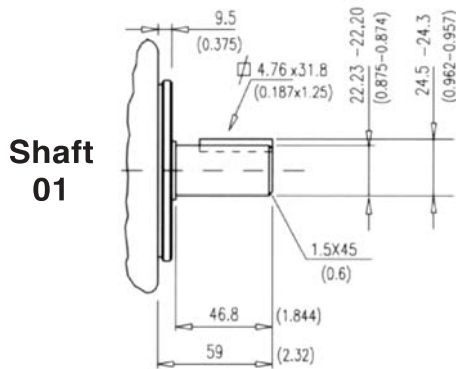


Approx. weight: 15 Kg. (33 lbs.)

Model code breakdown

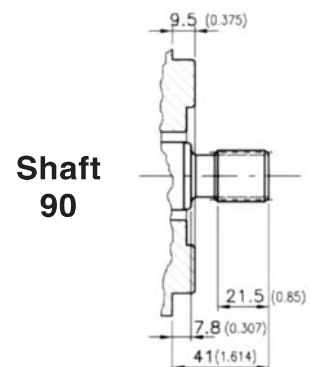
BV	02	G	*	*	*	*	*	(L)	*	(A)
Pump series		Design								Mounting (omit if not required)
Pump type									Seals (omit with standard seals and one shaft-seal in NBR) V = seals and shaft-seal in FPM (Viton®) D = standard seals and double shaft-seals in NBR F = seals and double shaft-seals in FPM (Viton®)	
Cartridge type										
12	14	17	19	21						
Outlet port positions (outlet viewed from cover end)										
A = Outlet opposite end B = Outlet 90° CCW from inlet C = Outlet in line with inlet D = Outlet 90° CW from inlet								Rotation (viewed from shaft end) L = left hand rotation CCW (omit if CW)		
								Shaft end options 01 = Straight with key (standard), 11 = Splined 86 = Heavy duty straight keyed, 90 = Splined SAE B		

Shaft options mm (inches)



Spline data
(shaft 11 and shaft 90)
Involute side fit (ASA B5.15)

Spline	
Pressure angle	30°
No. of teeth	13
Pitch	16/32
Major dia.	22.00 - 21.90 (0.866 - 0.862)
Pitch dia.	20.638 (0.8125)
Minor dia.	18.63 - 18.35 (0.733 - 0.722)
Wildhaber	11.67 - 11.70 (0.459 - 0.461)



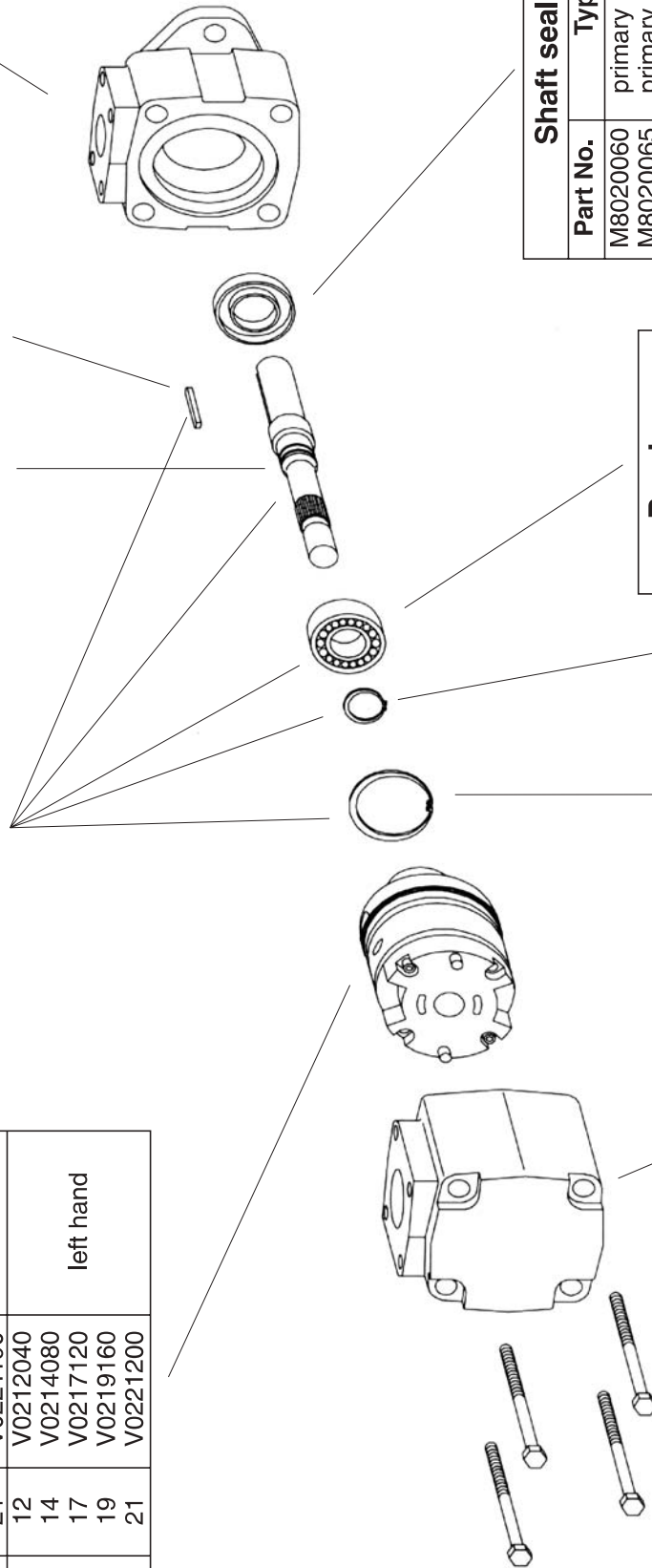
Id. codes of pump components

Cartridge		
Series	Model	Part No.
V02	12	V0212030
	14	V0214070
	17	V0217110
	19	V0219150
	21	V0221190
V02	12	V0212040
	14	V0214080
	17	V0217120
	19	V0219160
	21	V0221200
		Pump rotat.
		right hand
		left hand

Shaft kit	
Model	Part No.
01	M8020601
11	M8020611
86	M8020686
90	M8020690

Shaft		Key
Model	Part No.	Codice N°
01	K0201000	M8010100
11	K0211000	-
86	K0286000	M8028600
90	K0290000	-

Body	
Part No.	M8020010



Shaft seal	
Part No.	Type
M8020060	primary in NBR
M8020065	primary in FPM
M8020061	secondary in NBR
M8020066	secondary in FPM

Bearing	
Part No.	M8020030

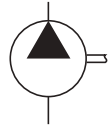
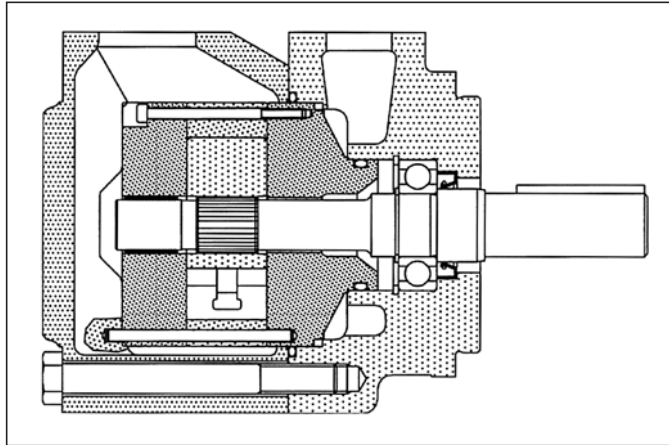
Seeger	
Part No.	M8020050

Seeger	
Part No.	M8020040

Cover	
Part No.	M8020020

Screw	
Part No.	M8020070
Torque to 102 Nm (910 lb. in.)	

Pump seal kit		
Part No.	Parts	Type
M8020500	seals + 1 shaft seal	NBR
M8020501	seals + 2 shaft seals	NBR
M8020503	seals + 1 shaft seal	FPM (Viton®)
M8020504	seals + 2 shaft seals	FPM (Viton®)



General description

Fixed displacement vane pump, hydraulically balanced, with capacity determined by the type of cartridge used and the speed of rotation. The pump is available in five versions with capacities from 80 to 140 l/min (*from 21 to 38 gpm*) at 1200 rpm and 7 bar.

Technical characteristics

Cartridge model	Geometric displacement		Rated capacity at 1200 rpm 7 bar		Rated capacity at 1500 rpm 7 bar		Maximum pressure with mineral oil		Speed range rpm	
	cm ³ /g	(in ³ /r)	l/min	(gpm)	l/min	(gpm)	bar	(psi)	min	max
V04-21	69,0	(4.2)	79,5	(21)	101,4	(26.8)	175	(2538)	600	1800
V04-25	81,6	(5)	94,0	(25)	120,1	(31.7)	175	(2538)	600	1800
V04-30	97,7	(6)	113,8	(30)	141,2	(37.3)	175	(2538)	600	1800
V04-35	112,7	(6.9)	131,6	(35)	167,2	(44.1)	175	(2538)	600	1800
V04-38	121,6	(7.4)	139,9	(38)	177,3	(46.8)	175	(2538)	600	1800

Hydraulic fluids: antiwear high quality mineral oils or fire resistant fluid having same lubrication capacities of the mineral oil.

Viscosity range (*with mineral oil*): from 13 to 860 cSt. (*13 to 54 cSt. recommended*).

Filtration: for the inlet - 149 micron abs., for the return line - 25 micron abs. or better (*with synthetic fluids: for the return line - 10 micron abs. or better*).

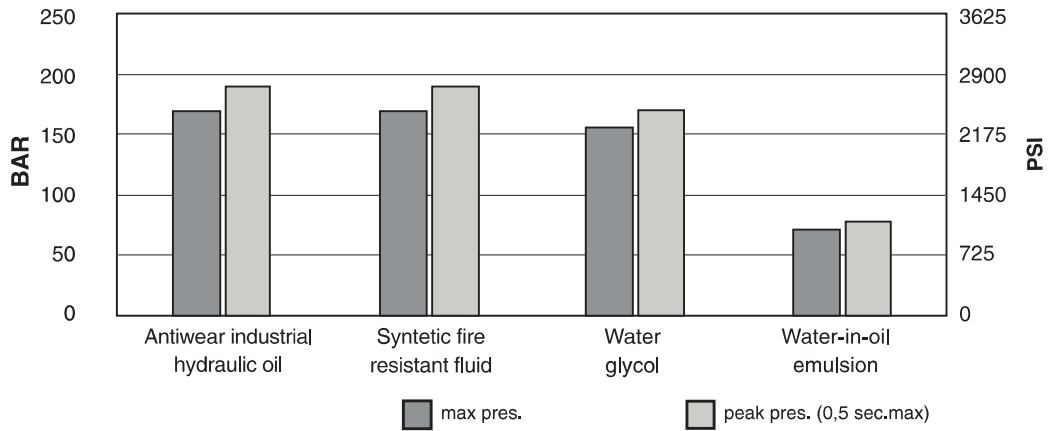
Inlet pressure: (*with mineral oil*): from -0,17 to +1,4 bar (-2.5 to + 20 psi)

Operating temperature: with mineral oil -10°C +70°C (*+30° C to +60° C recommended*), with water based fluids +15°C to +50°C.

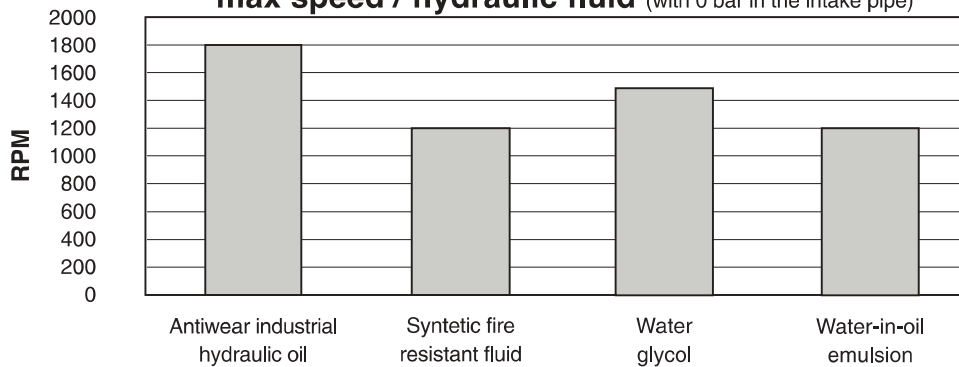
Drive: direct and coaxial by means of a flexible coupling.

Main operating data

max pressure / hydraulic fluid

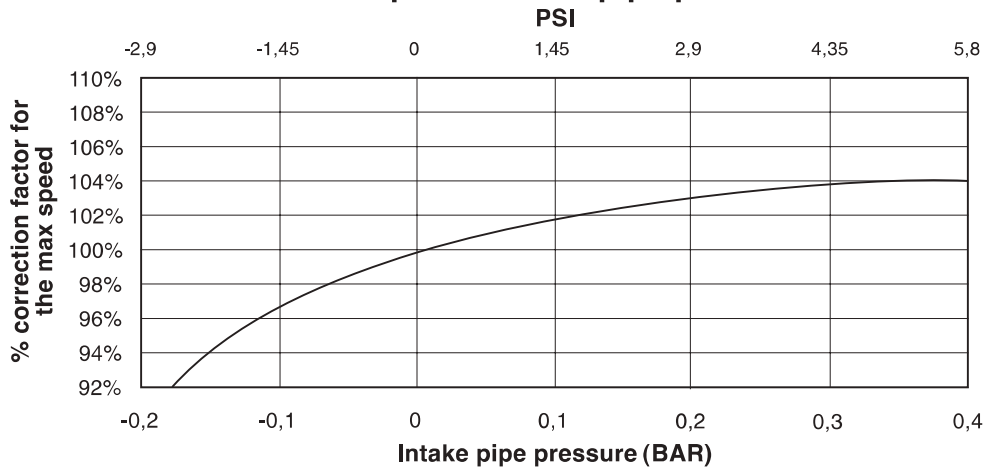


max speed / hydraulic fluid (with 0 bar in the intake pipe)

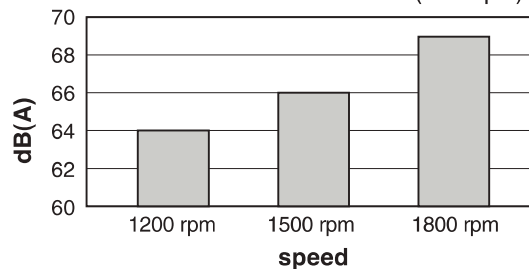


If the intake pressure is not zero bar, use the graph below to find the percentage correction factor to apply to the maximum speed

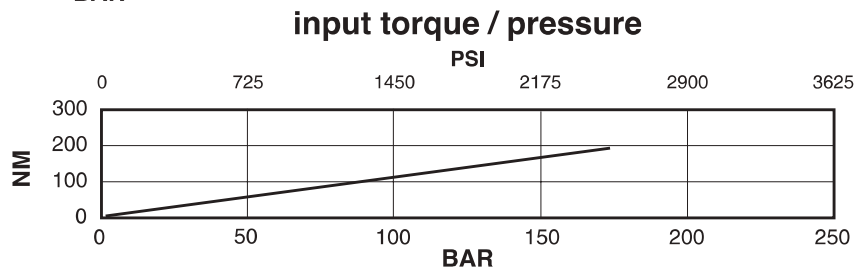
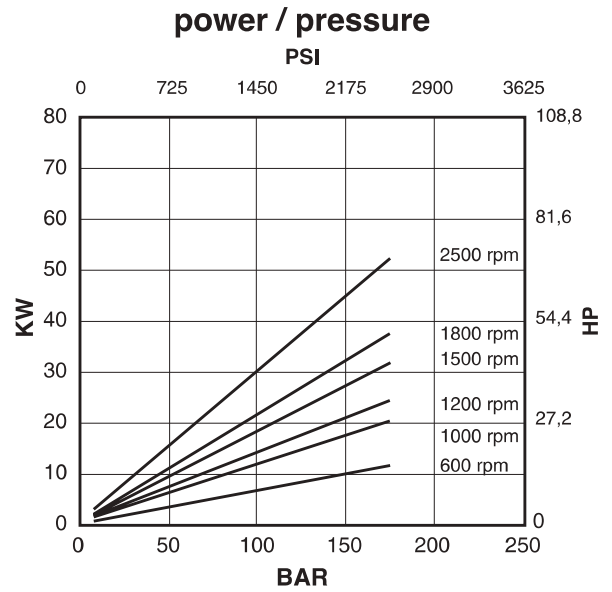
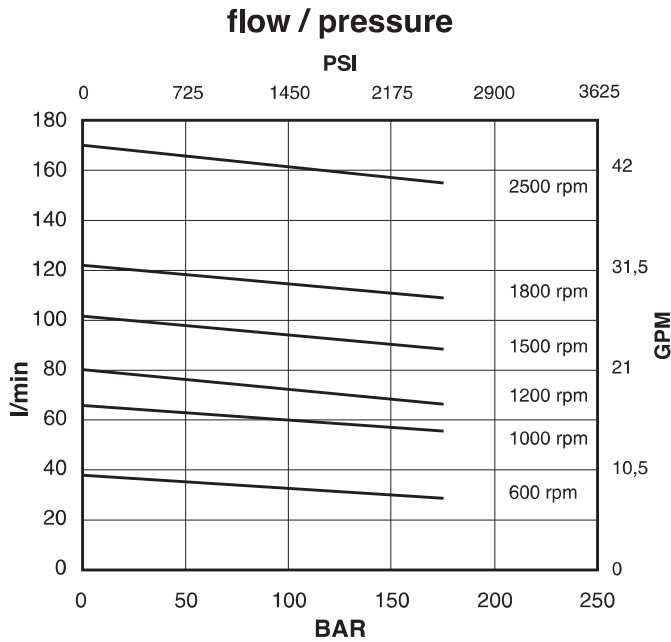
max speed / intake pipe pressure



Sound level at 138 bar (2000 psi)

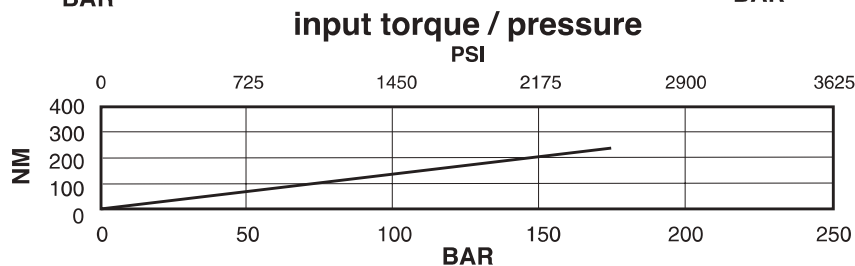
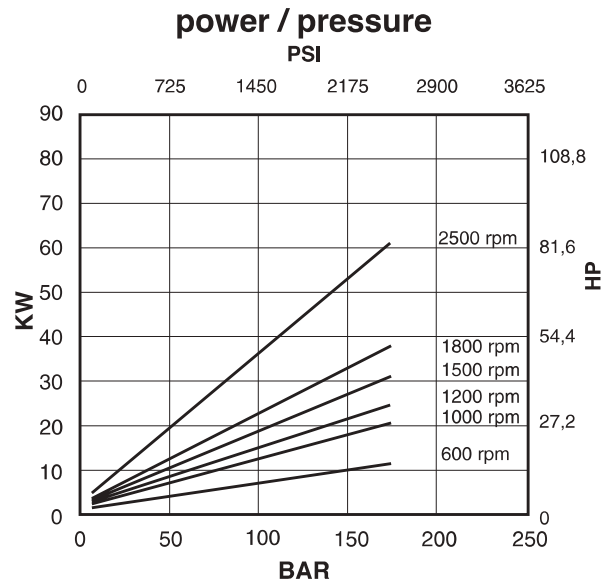
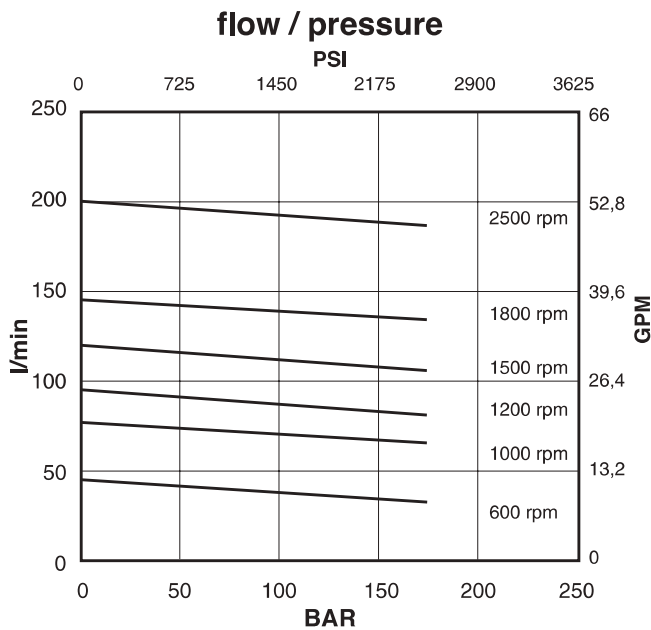


Cartridge V04-21



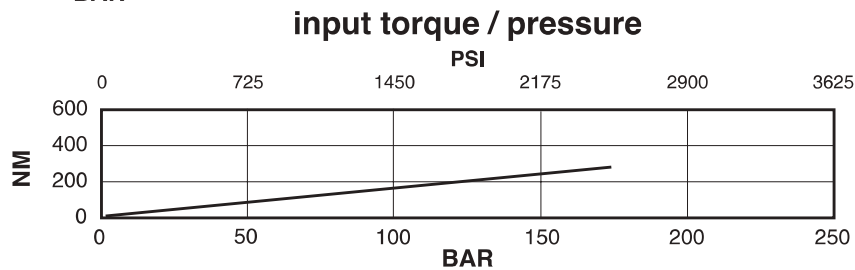
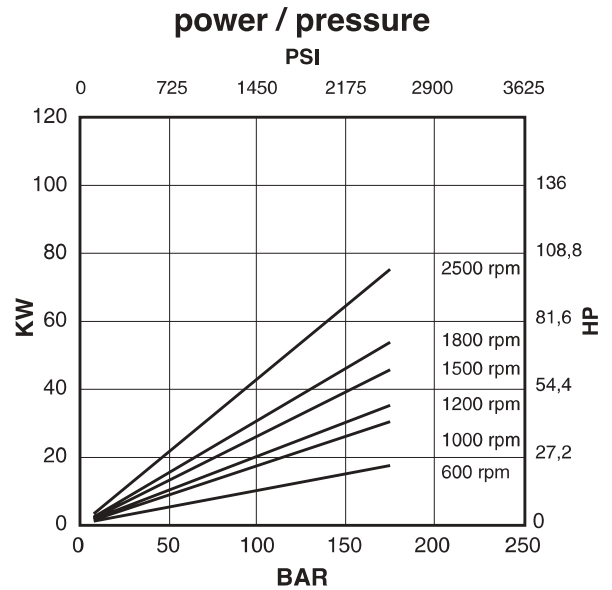
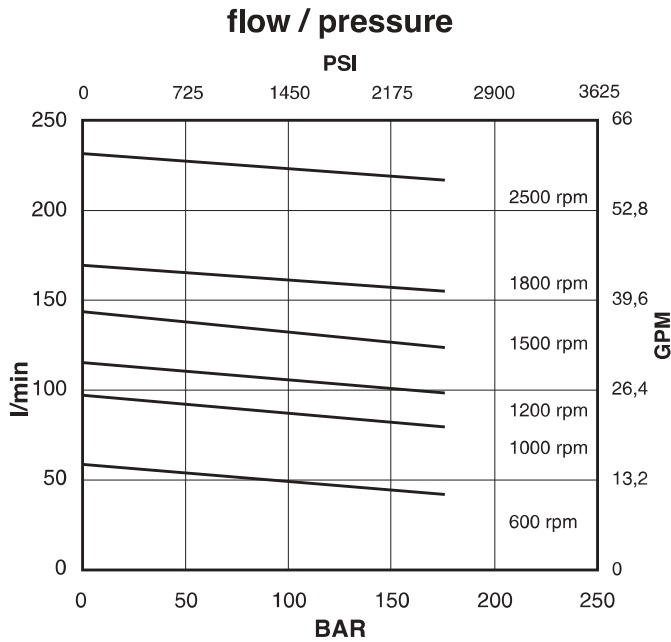
Oil viscosity: 25 c.St.(10W)
Temperature: 45°C
Inlet pressure: 0 BAR

Cartridge V04-25



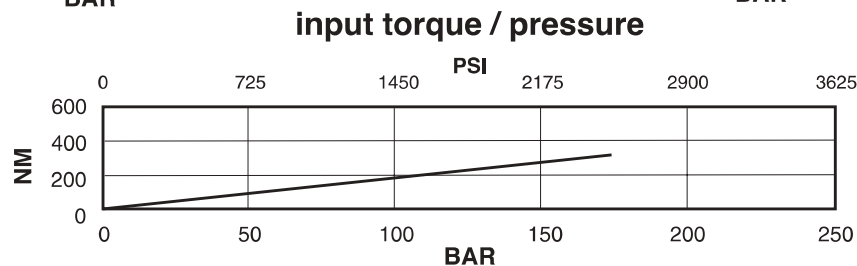
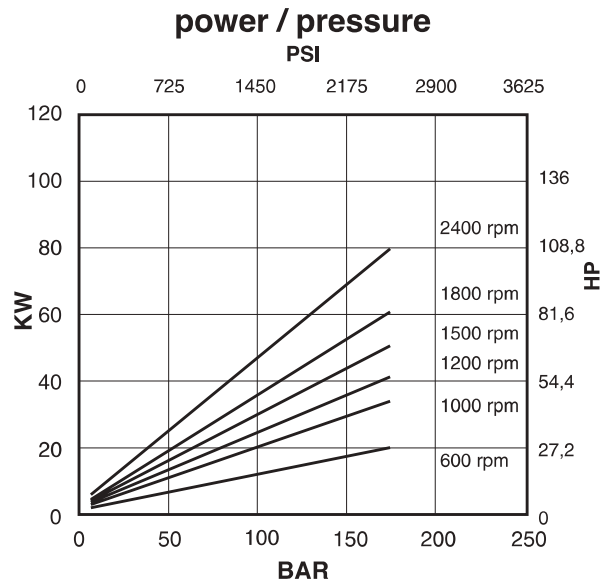
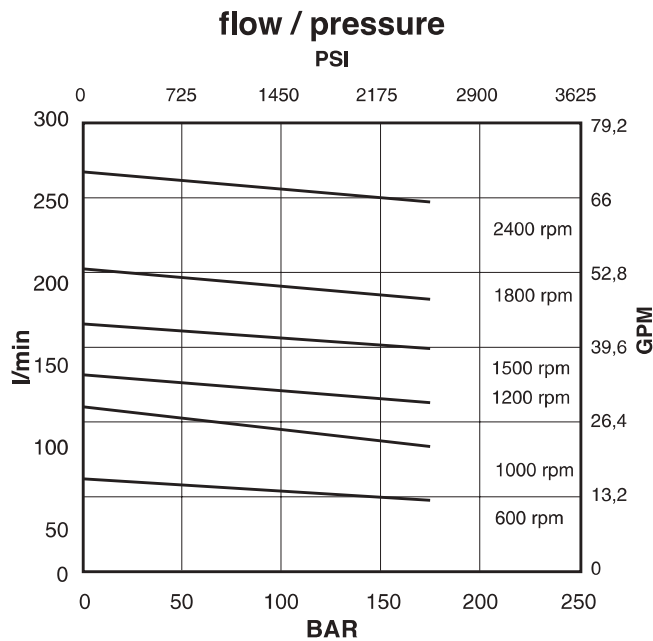
Oil viscosity: 25 c.St.(10W)
Temperature: 45°C
Inlet pressure: 0 BAR

Cartridge V04-30



Oil viscosity: 25 c.St.(10W)
Temperature: 45°C
Inlet pressure: 0 BAR

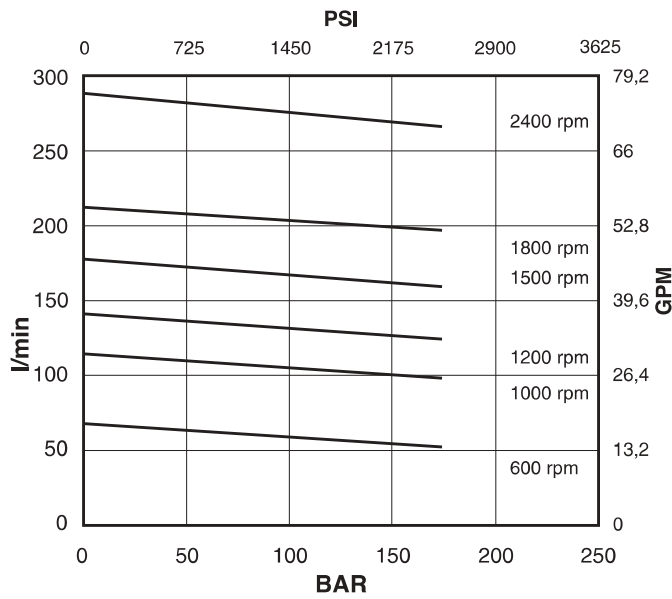
Cartridge V04-35



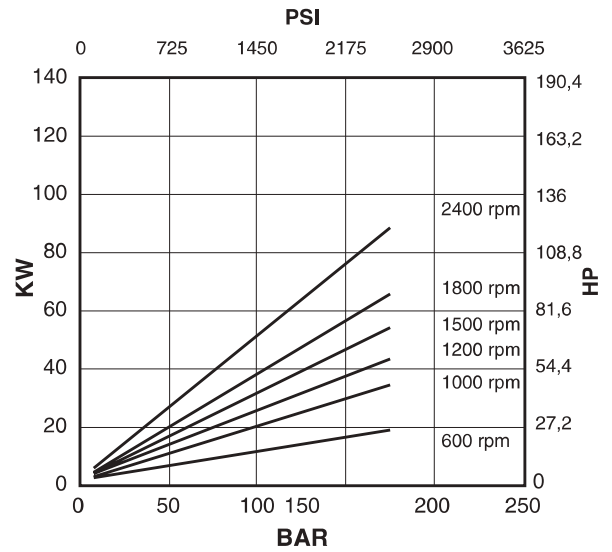
Oil viscosity: 25 c.St.(10W)
Temperature: 45°C
Inlet pressure: 0 BAR

Cartridge V04-38

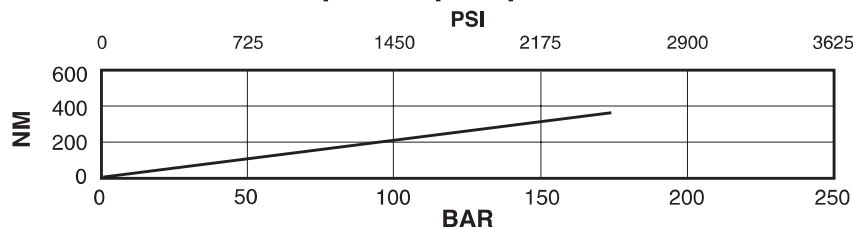
flow / pressure



power / pressure

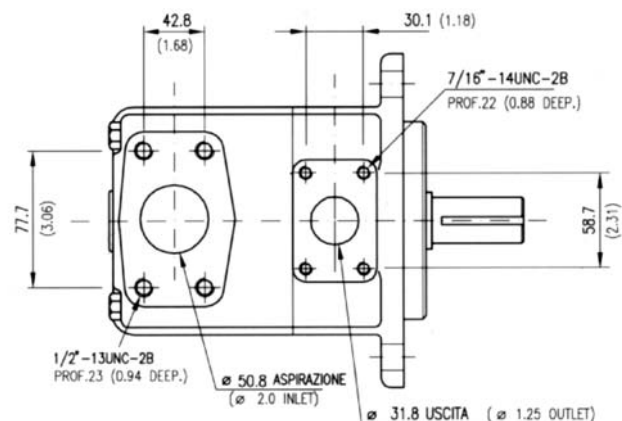
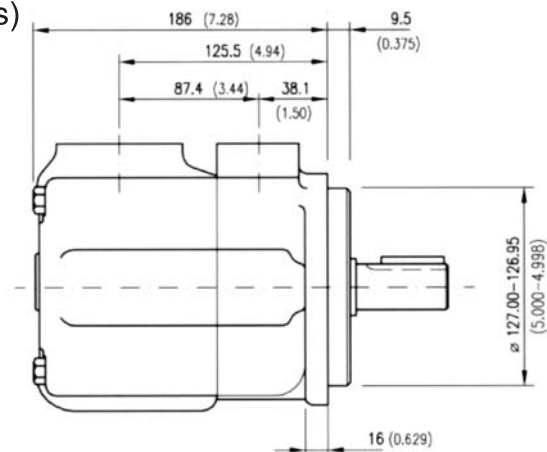
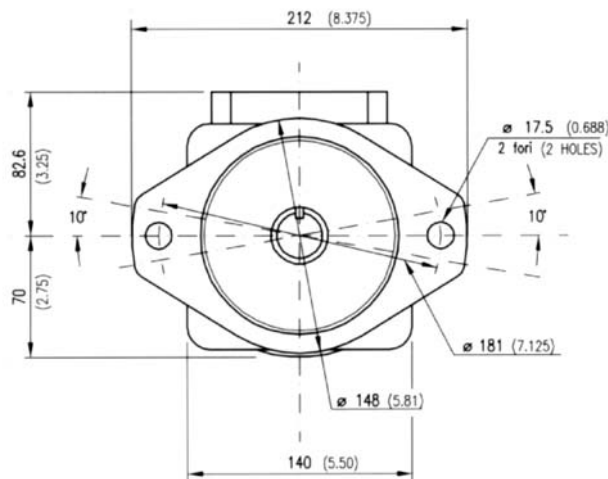


input torque / pressure



Oil viscosity: 25 c.St.(10W)
Temperature: 45°C
Inlet pressure: 0 BAR

Installation dimensions mm (inches)

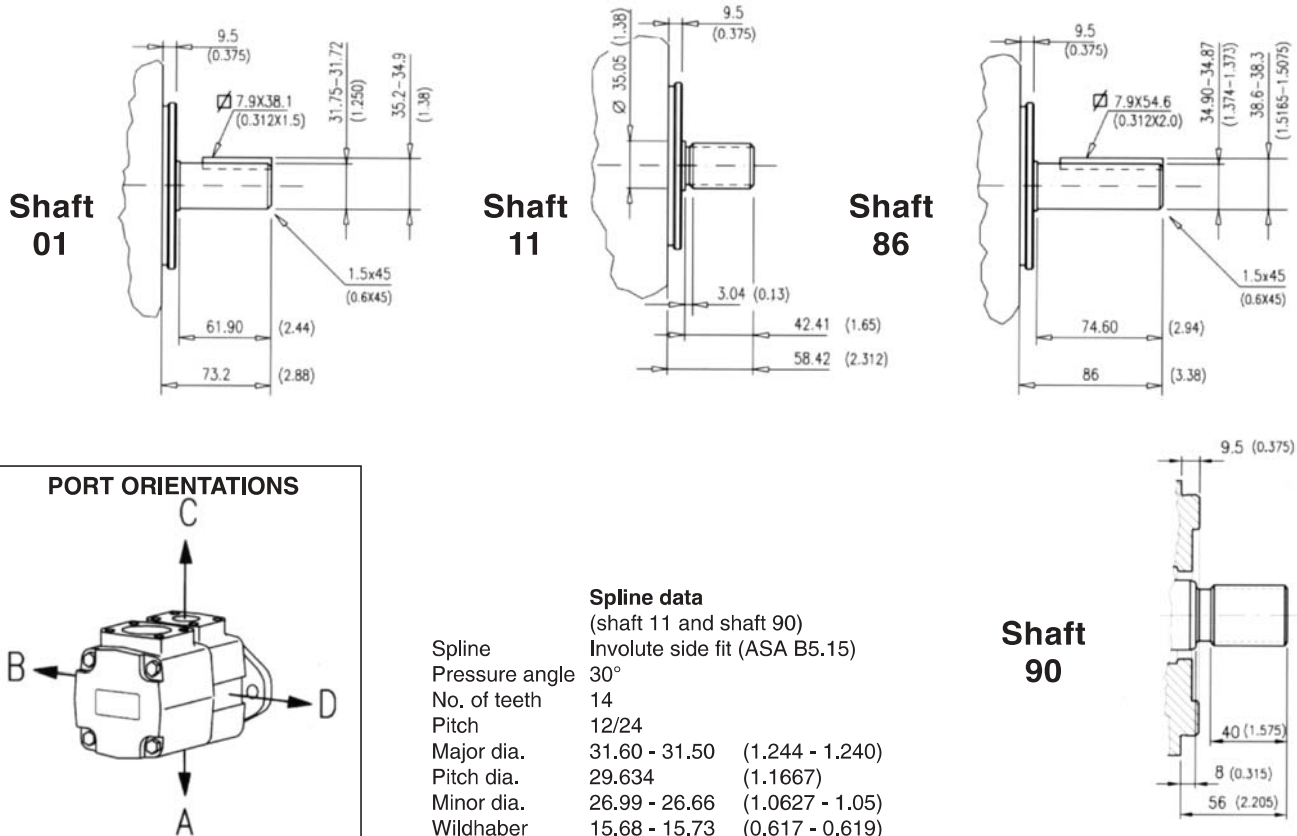


Approx. weight: 23 Kg. (50 lbs.)

Model code breakdown

BV	04	G	*	*	*	*	*	(L)	*	(A)
Pump series		Design							Mounting (omit if not required)	
Pump type									Seals (omit with standard seals and one shaft-seal in NBR) V = seals and shaft-seal in FPM (Viton®) D = standard seals and double shaft-seals in NBR F = seals and double shaft-seals in FPM (Viton®)	
Cartridge type									Rotation (viewed from shaft end) L = left hand rotation CCW (omit if CW)	
Outlet port positions (outlet viewed from cover end)									Shaft end options 01 = Straight with key (standard), 11 = Splined 86 = Heavy duty straight keyed, 90 = Splined SAE C	
21 25 30 35 38										
A = Outlet opposite end B = Outlet 90° CCW from inlet C = Outlet in line with inlet D = Outlet 90° CW from inlet										

Shaft options mm (inches)



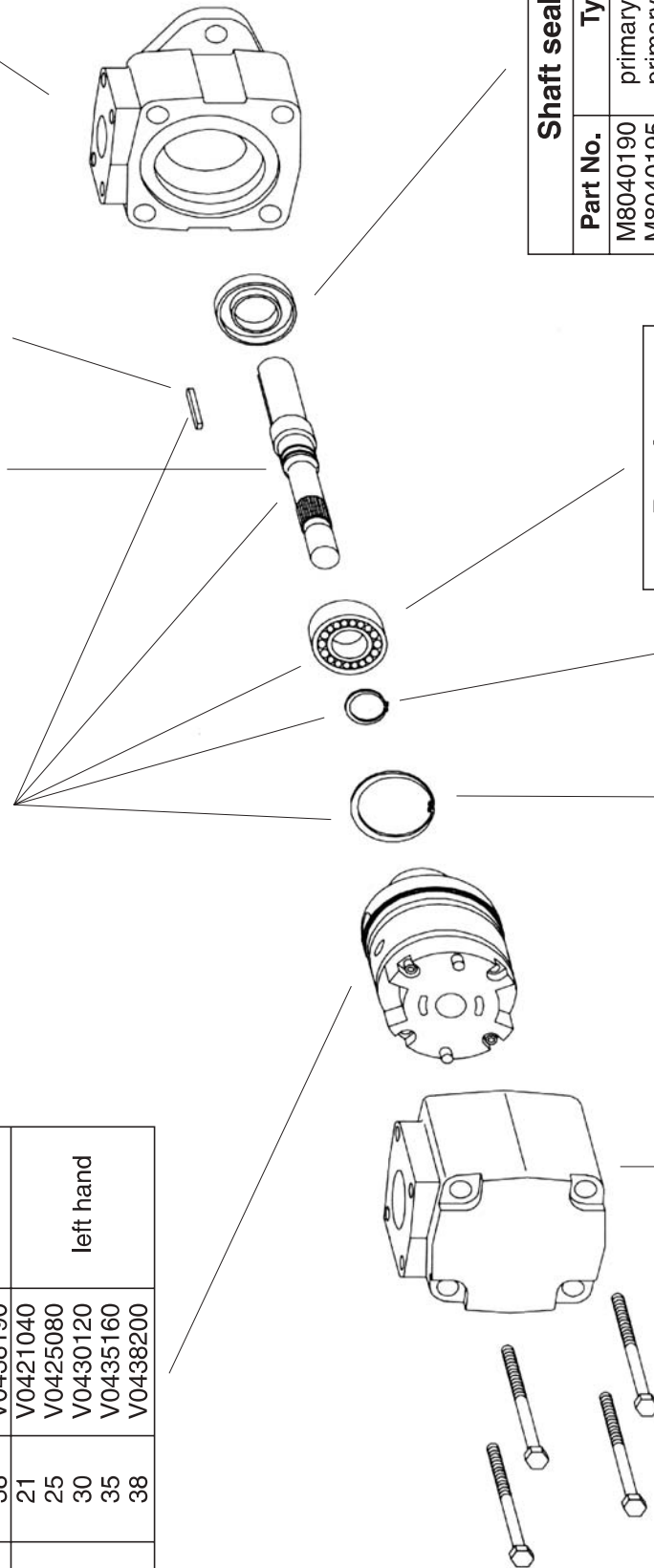
Id. codes of pump components

Cartridge			
Series	Model	Part No.	Pump rotat.
V04	21	V0421030	right hand
	25	V0425070	
	30	V0430110	
	35	V0435150	
	38	V0438190	
V04	21	V0421040	left hand
	25	V0425080	
	30	V0430120	
	35	V0435160	
	38	V0438200	

Shaft kit	
Model	Part No.
01	M8040601
11	M8040611
86	M8040686
90	M8040690

Shaft	
Model	Part No.
01	K0401000
11	K0411000
86	K0486000
90	K0490000

Body	
Part No.	M8040140



Shaft seal	
Part No.	Type
M8040190	primary in NBR
M8040195	primary in FPM
M8040191	secondary in NBR
M8040196	secondary in FPM

Bearing	
Part No.	M8040160

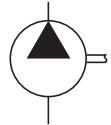
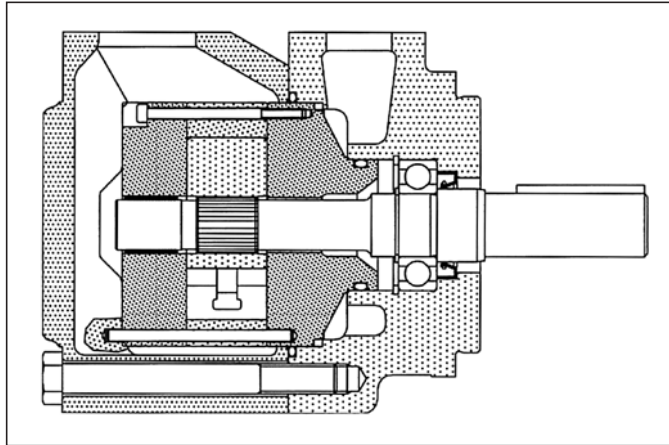
Seeger	
Part No.	M8040180

Seeger	
Part No.	M8040170

Cover	
Part No.	M8040150

Screw	
Part No.	M8040200
Torque to 225 Nm (2010 lb. in.)	

Pump seal kit		
Part No.	Parts	Type
M8040500	seals + 1 shaft seal	NBR
M8040501	seals + 2 shaft seals	NBR
M8040503	seals + 1 shaft seal	FPM (Viton®)
M8040504	seals + 2 shaft seals	FPM (Viton®)



General description

Fixed displacement vane pump, hydraulically balanced, with capacity determined by the type of cartridge used and the speed of rotation. The pump is available in five versions with capacities from 164 to 230 l/min (*from 42 to 60 gpm*) at 1200 rpm and 7 bar.

Technical characteristics

Cartridge model	Geometric displacement		Rated capacity at 1200 rpm 7 bar		Rated capacity at 1500 rpm 7 bar		Maximum pressure with mineral oil		Speed range rpm	
	cm ³ /g	(in ³ /r)	l/min	(gpm)	l/min	(gpm)	bar	(psi)	min	max
V05-42	138,6	(8.46)	164	(42)	203,4	(53.7)	175	(2538)	600	1800
V05-47	153,5	(9.4)	180	(47)	222,7	(58.8)	175	(2538)	600	1800
V05-50	162,2	(9.9)	189	(50)	234	(61.8)	175	(2538)	600	1800
V05-57	183,4	(11.2)	217	(57)	267	(71.2)	175	(2538)	600	1800
V05-60	193,4	(11.8)	230	(60)	285	(75.3)	175	(2538)	600	1800

Hydraulic fluids: antiwear high quality mineral oils or fire resistant fluid having same lubrication capacities of the mineral oil.

Viscosity range (*with mineral oil*): from 13 to 860 cSt. (*13 to 54 cSt. recommended*).

Filtration: for the inlet - 149 micron abs., for the return line - 25 micron abs. or better (*with synthetic fluids: for the return line - 10 micron abs. or better*).

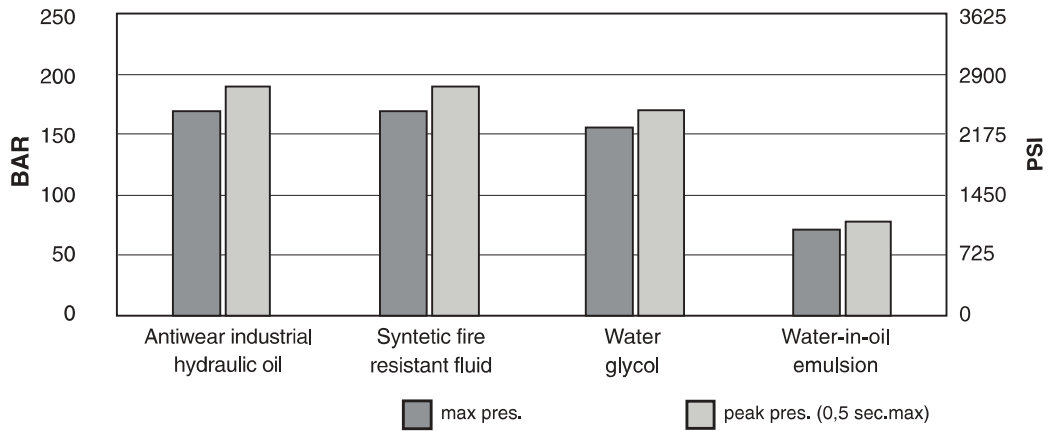
Inlet pressure: (*with mineral oil*): from -0,17 to +1,4 bar (-2.5 to + 20 psi)

Operating temperature: with mineral oil -10°C +70°C (*+30°C to +60°C recommended*), with water based fluids +15°C to +50°C.

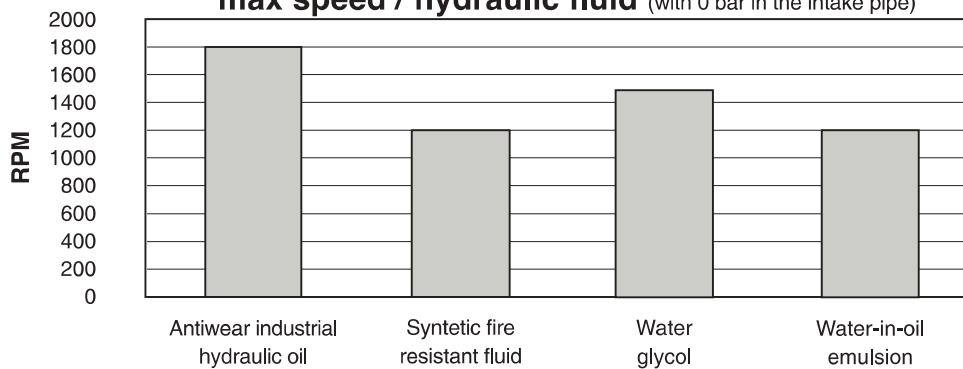
Drive: direct and coaxial by means of a flexible coupling.

Main operating data

max pressure / hydraulic fluid

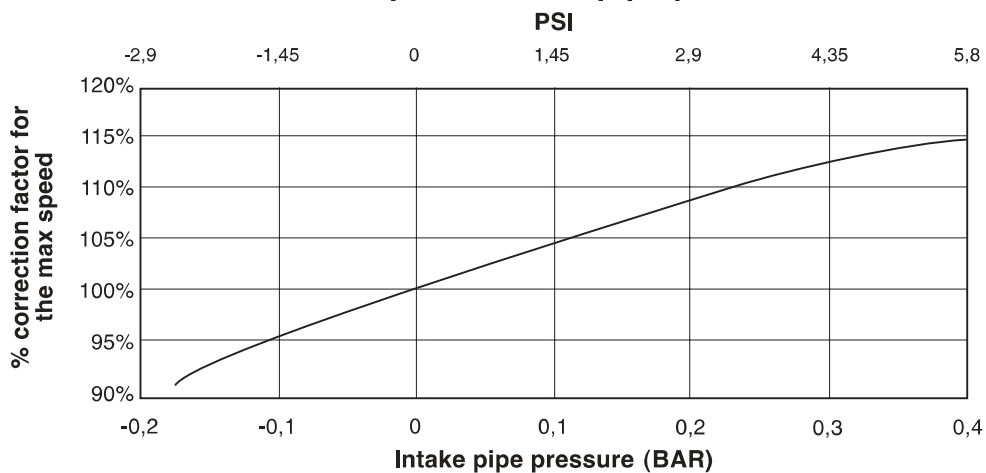


max speed / hydraulic fluid (with 0 bar in the intake pipe)

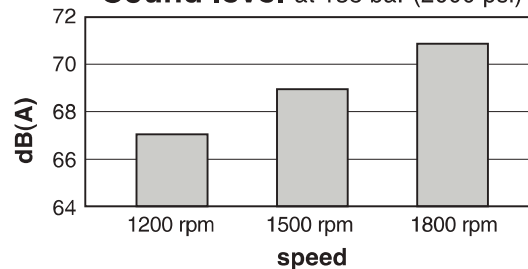


If the intake pressure is not zero bar, use the graph below to find the percentage correction factor to apply to the maximum speed

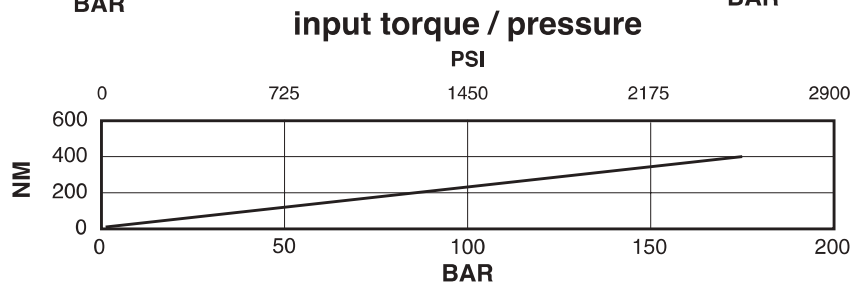
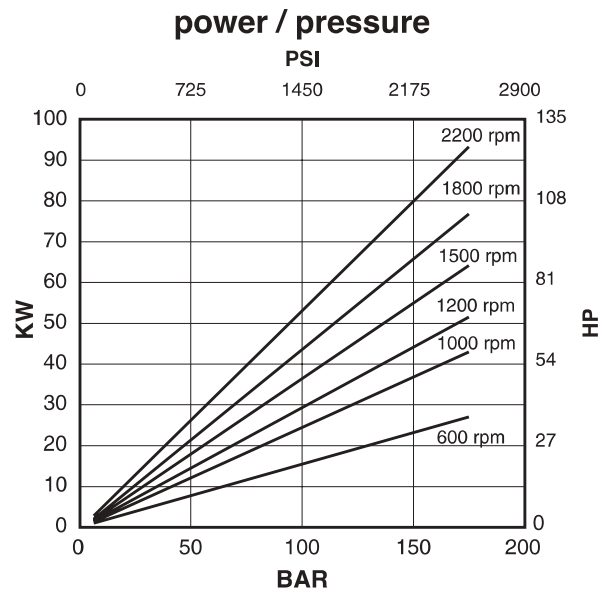
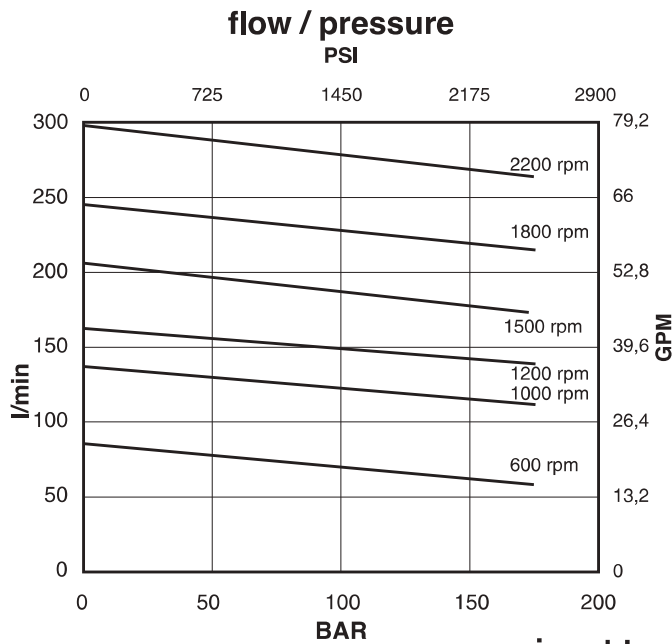
max speed / intake pipe pressure



Sound level at 138 bar (2000 psi)

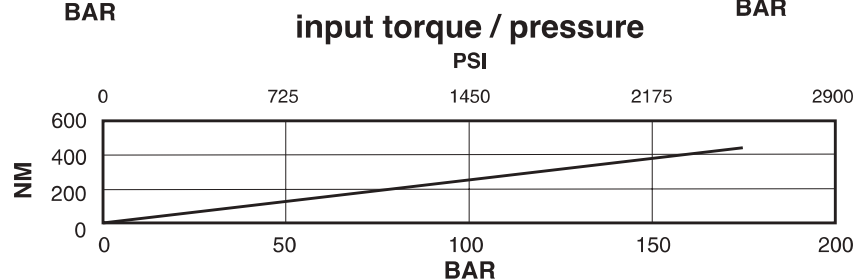
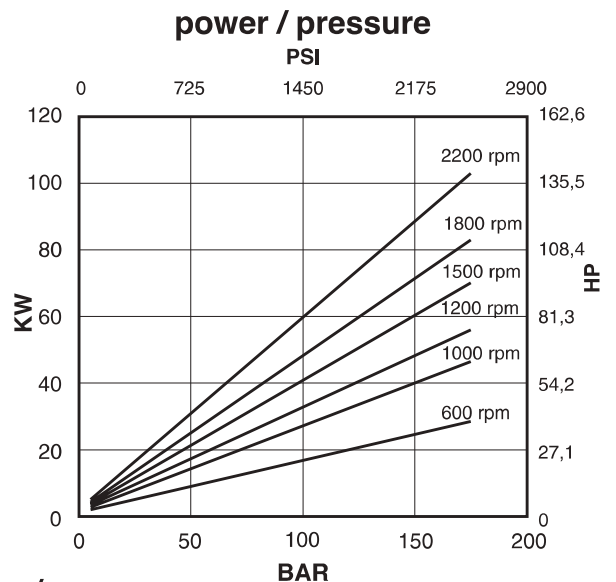
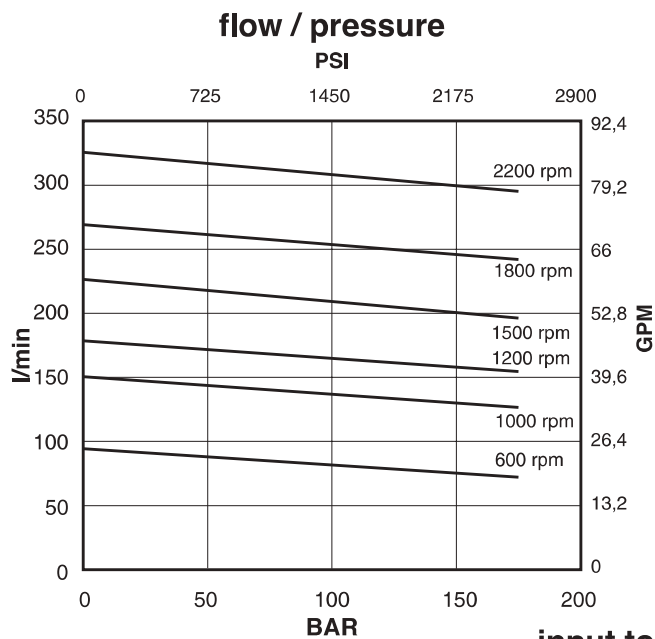


Cartridge V05-42



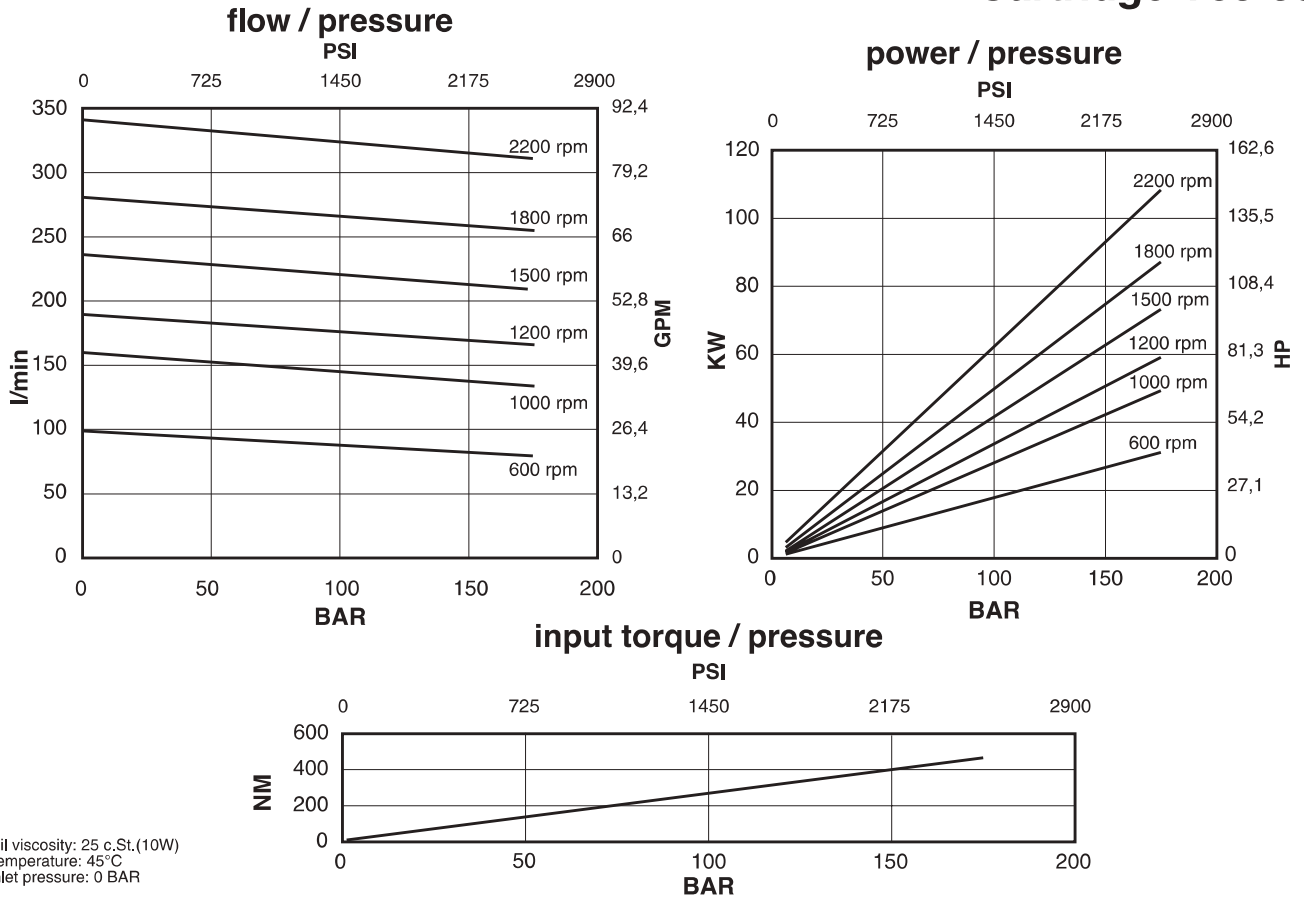
Oil viscosity: 25 c.St.(10W)
Temperature: 45°C
Inlet pressure: 0 BAR

Cartridge V05-47

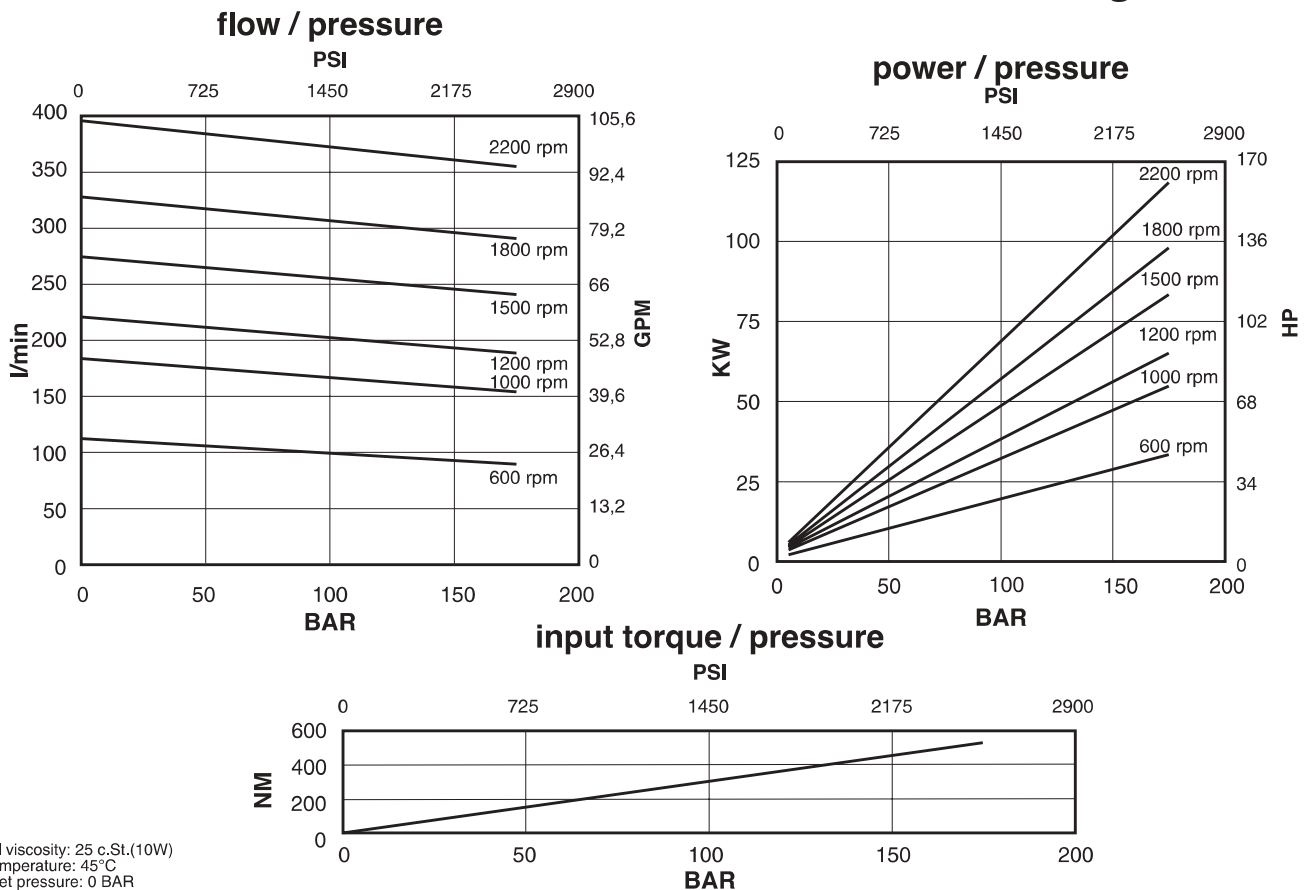


Oil viscosity: 25 c.St.(10W)
Temperature: 45°C
Inlet pressure: 0 BAR

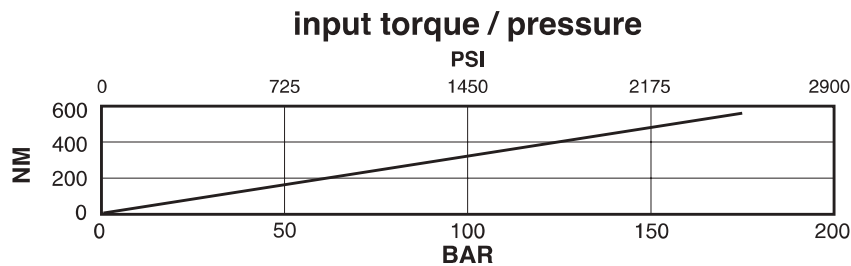
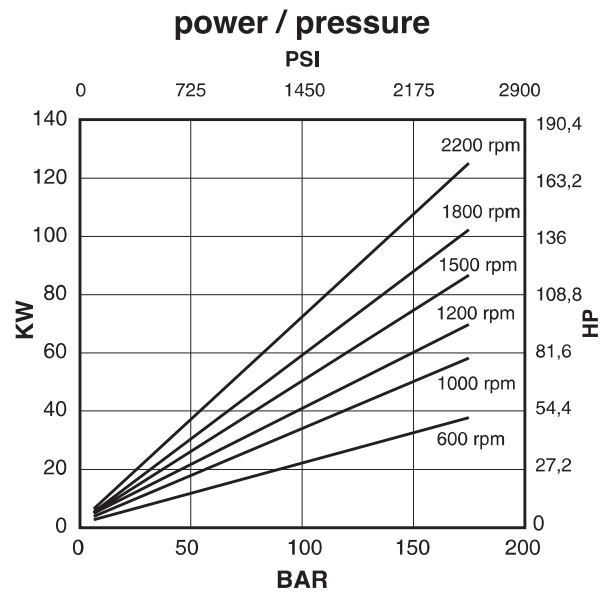
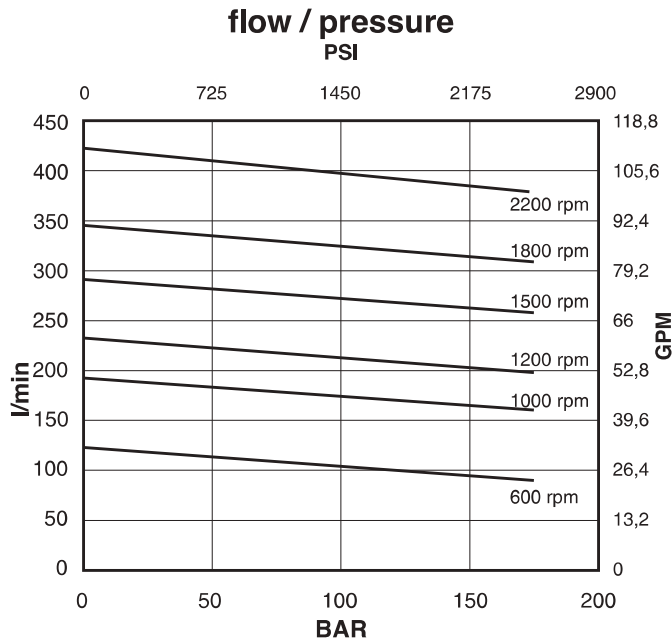
Cartridge V05-50



Cartridge V05-57

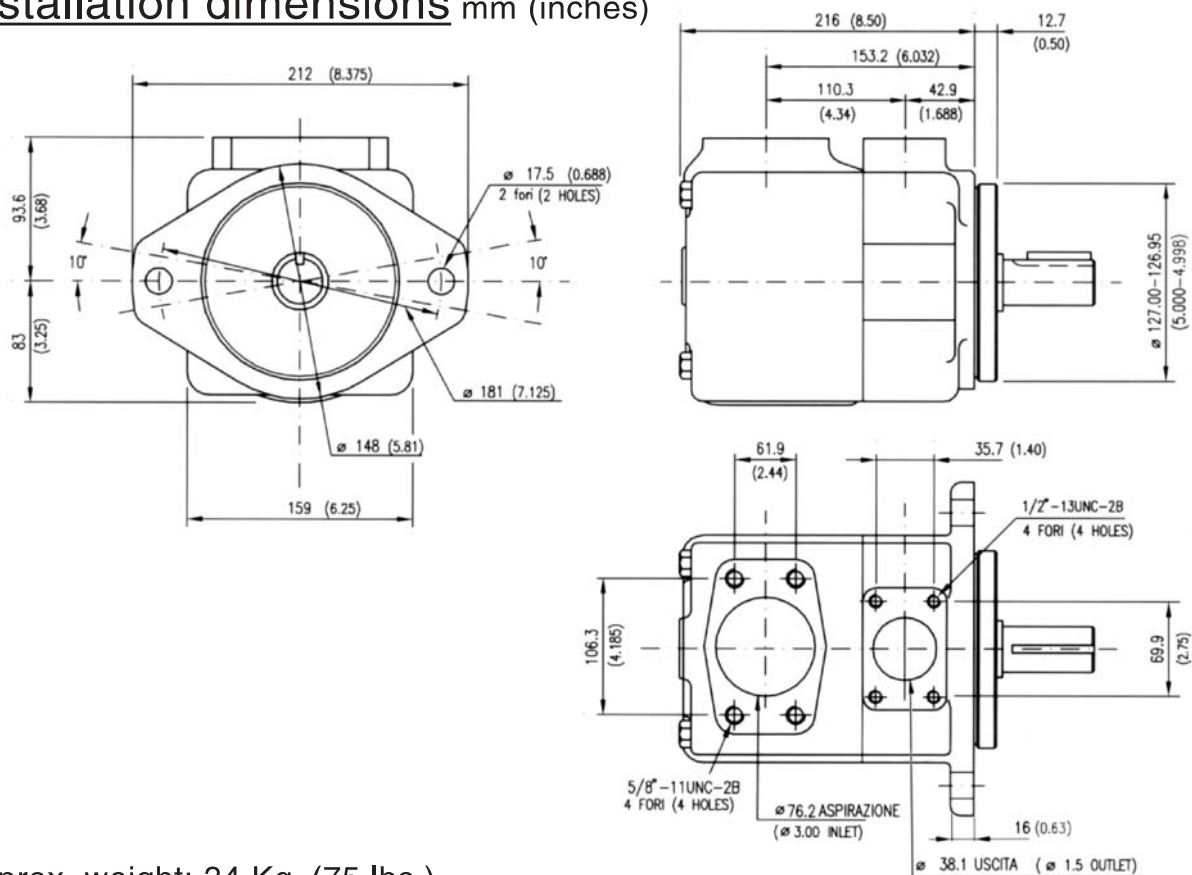


Cartridge V05-60



Oil viscosity: 25 c.St.(10W)
Temperature: 45°C
Inlet pressure: 0 BAR

Installation dimensions mm (inches)

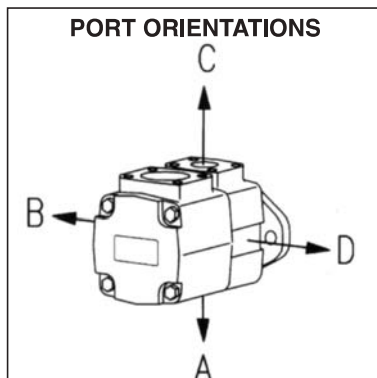
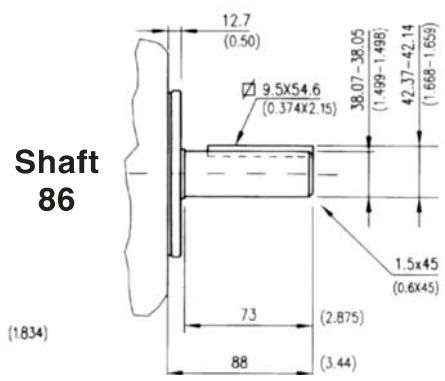
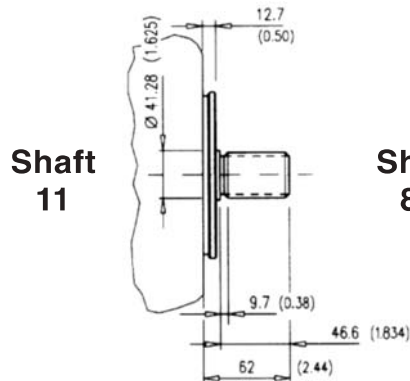
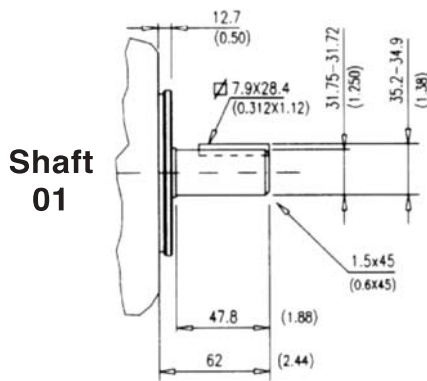


Approx. weight: 34 Kg. (75 lbs.)

Model code breakdown

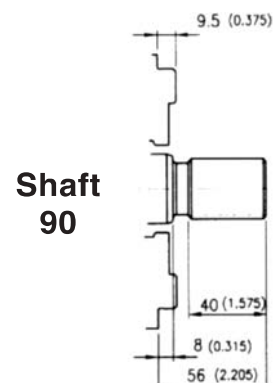
BV	05	G	*	*	*	*	(L)	*	(A)
Pump series		Design						Mounting (omit if not required)	
Pump type									Seals (omit with standard seals and one shaft-seal in NBR) V = seals and shaft-seal in FPM (Viton®) D = standard seals and double shaft-seals in NBR F = seals and double shaft-seals in FPM (Viton®)
Cartridge type									Rotation (viewed from shaft end) L = left hand rotation CCW (omit if CW)
42	47	50	57	60					
Outlet port positions (outlet viewed from cover end)									
A = Outlet opposite end B = Outlet 90° CCW from inlet C = Outlet in line with inlet D = Outlet 90° CW from inlet					Shaft end options 01 = Straight with key (standard), 11 = Splined 86 = Heavy duty straight keyed, 90 = Splined SAE C				

Shaft options mm (inches)



Spline data
(shaft 11 and shaft 90)

Involute side fit (ASA B5.15)	
Pressure angle	30°
No. of teeth	14
Pitch	12/24
Major dia.	31.60 - 31.50 (1.244 - 1.240)
Pitch dia.	29.634 (1.1667)
Minor dia.	26.99 - 26.66 (1.0627 - 1.05)
Wildhaber	15.68 - 15.73 (0.617 - 0.619)



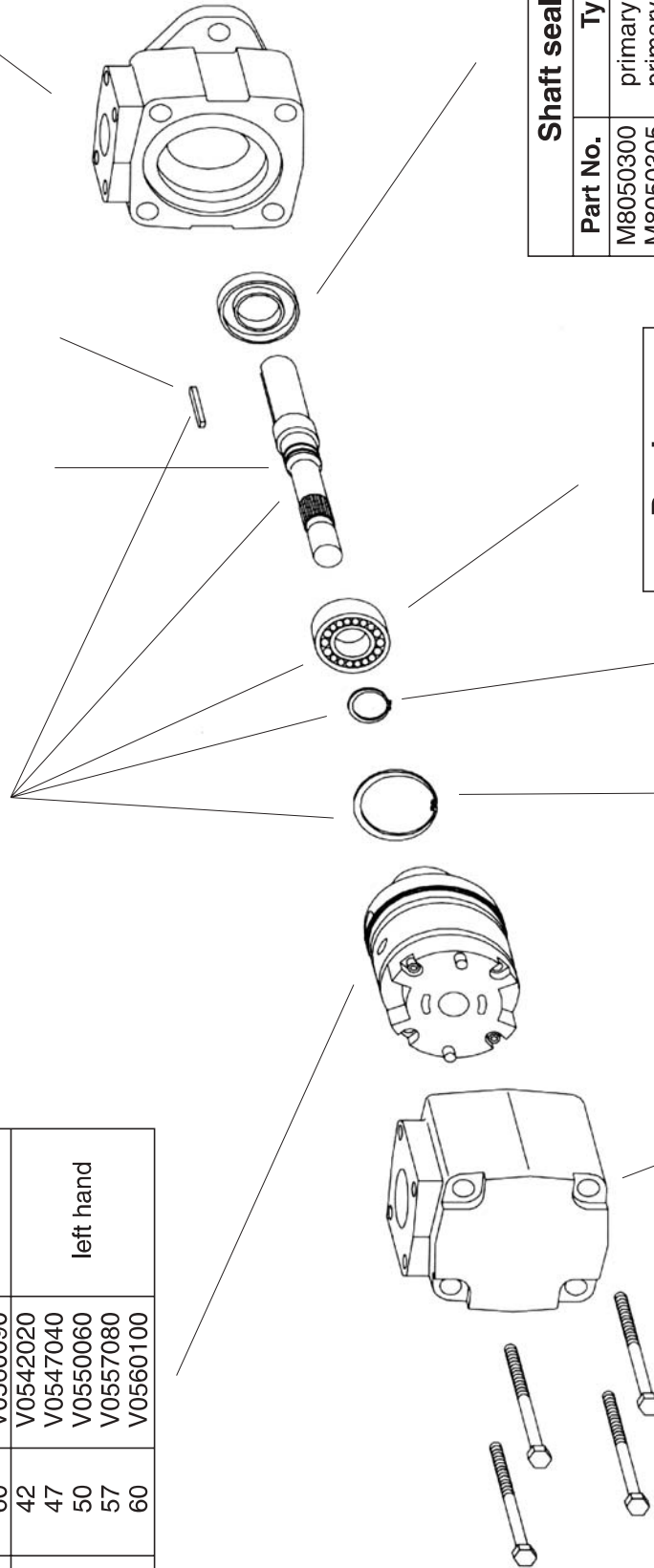
Id. codes of pump components

Cartridge			
Series	Model	Part No.	Pump rotat.
V05	42	V0542010	right hand
	47	V0547030	
	50	V0550050	
	57	V0557070	
	60	V0560090	
V05	42	V0542020	left hand
	47	V0547040	
	50	V0550060	
	57	V0557080	
	60	V0560100	

Shaft kit	
Model	Part No.
01	M8050601
11	M8050611
86	M8050686
90	M8050690

Shaft		Key	
Model	Part No.	Part No.	Part No.
01	K0501000	M8050100	
11	K0511000	-	
86	K0586000	M8058600	
90	K0590000	-	

Body	
Part No.	Part No.
	M8050250



Shaft seal	
Part No.	Type
M8050300	primary in NBR
M8050305	primary in FPM
M8050301	secondary in NBR
M8050306	secondary in FPM

Bearing	
Part No.	Part No.
	M8050270

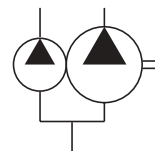
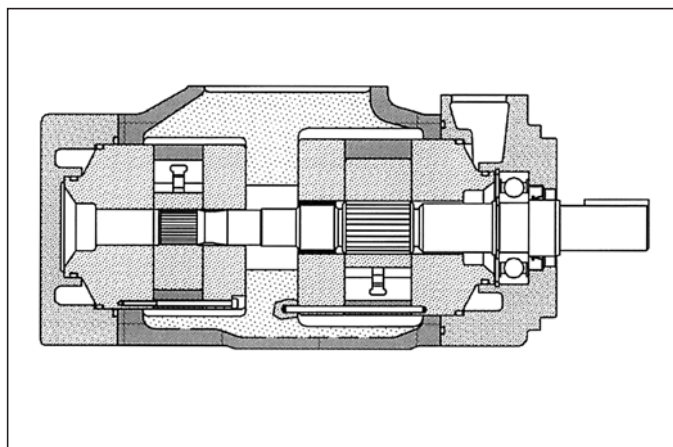
Seeger	
Part No.	Part No.
	M8050290

Seeger	
Part No.	Part No.
	M8050280

Cover	
Part No.	Part No.
	M8050260

Screw	
Part No.	Part No.
	M8050310
Torque to 398 Nm (3550 lb. in.)	

Pump seal kit		
Part No.	Parts	Type
M8050500	seals + 1 shaft seal	NBR
M8050501	seals + 2 shaft seals	NBR
M8050503	seals + 1 shaft seal	FPM (Viton®)
M8050504	seals + 2 shaft seals	FPM (Viton®)



General description

Fixed displacement vane pump, hydraulically balanced, with capacity determined by the cartridges used and the speed of rotation. The pump is available in several versions with rated capacities from 55 to 134 l/min (*from 14 to 35 gpm*) at 1200 rpm and 7 bar.

Technical characteristics

Cartridge model	Geometric displacement		Rated capacity at 1200 rpm 7 bar		Rated capacity at 1500 rpm 7 bar		Maximum pressure with mineral oil		Speed range rpm	
shaft end	cm ³ /g	(in ³ /r)	l/min	(gpm)	l/min	(gpm)	bar	(psi)	min	max
V02-12	40,1	(2.45)	46,9	(12)	58,8	(15.5)	175	(2538)	600	1800
V02-14	45,4	(2.77)	52,7	(14)	65,7	(17.4)	175	(2538)	600	1800
V02-17	55,2	(3.37)	64,2	(17)	80,2	(21.2)	175	(2538)	600	1800
V02-19	60,1	(3.66)	71,1	(19)	88,7	(23.4)	175	(2538)	600	1800
V02-21	67,5	(4.12)	79,3	(21)	99,8	(26.4)	175	(2538)	600	1800
cover end	cm ³ /g	(in ³ /r)	l/min	(gpm)	l/min	(gpm)	bar	(psi)	min	max
V01-02	7,2	(0.44)	8,3	(2)	10,4	(2.8)	210	(3050)	600	2700
V01-05	18,0	(1.10)	20,8	(5)	26,1	(6.9)	210	(3050)	600	2700
V01-08	27,4	(1.67)	31,8	(8)	39,4	(10.4)	210	(3050)	600	2700
V01-09	30,1	(1.83)	35,1	(9)	44,1	(11.7)	210	(3050)	600	2700
V01-11	36,4	(2.22)	42,4	(11)	52,6	(13.9)	210	(3050)	600	2700
V01-12	39,5	(2.41)	46,9	(12)	58,7	(15.5)	160	(2300)	600	2700
V01-14	45,9	(2.79)	54,9	(14)	69,6	(18.4)	140	(2030)	600	2700

Hydraulic fluids: antiwear high quality mineral oils or fire resistant fluid having same lubrication capacities of the mineral oil.

Viscosity range (*with mineral oil*): from 13 to 860 cSt. (*13 to 54 cSt. recommended*).

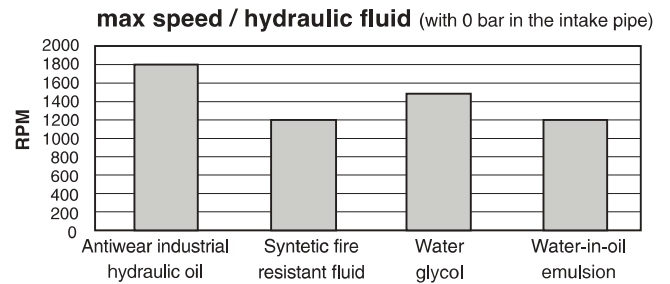
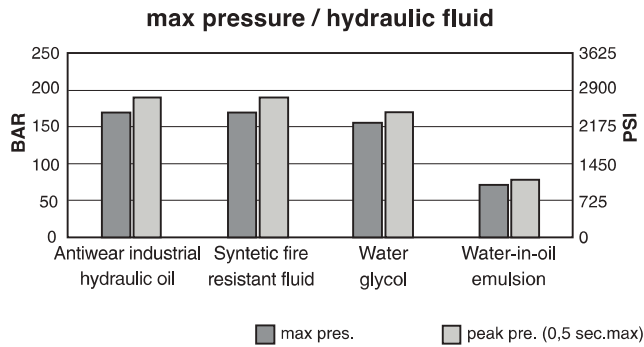
Filtration: for the inlet - 149 micron abs., for the return line - 25 micron abs. or better (*with synthetic fluids: for the return line - 10 micron abs. or better*).

Inlet pressure: (*with mineral oil*): from -0,17 to +1,4 bar (-2.5 to + 20 psi)

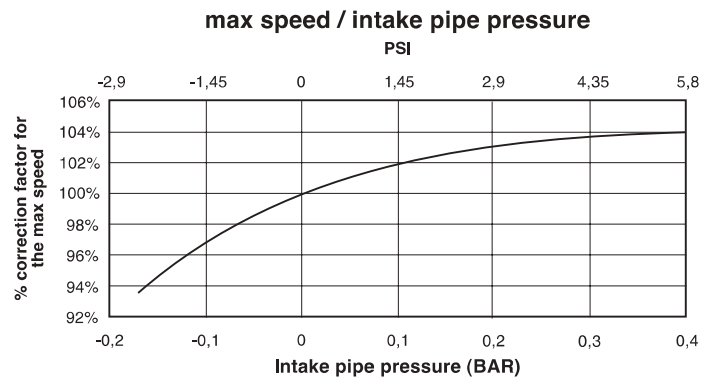
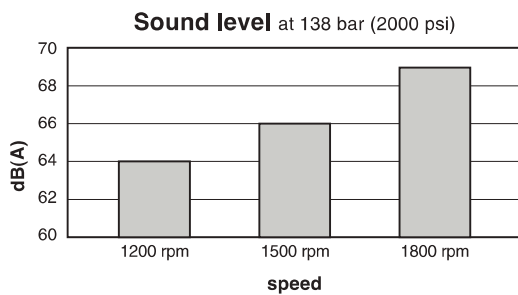
Operating temperature: with mineral oil -10°C +70°C (+30°C to +60°C recommended), with water based fluids +15°C to +50°C.

Drive: direct and coaxial by means of a flexible coupling.

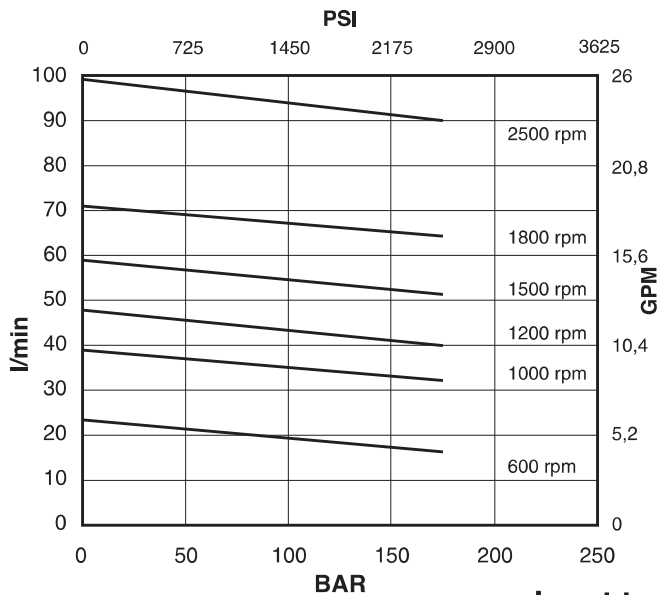
Main operating data



If the intake pressure is not zero bar, use the graph below to find the percentage correction factor to apply to the maximum speed

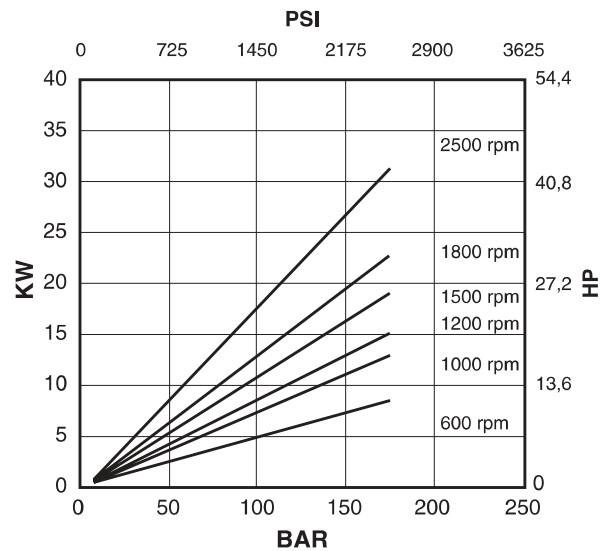


flow / pressure

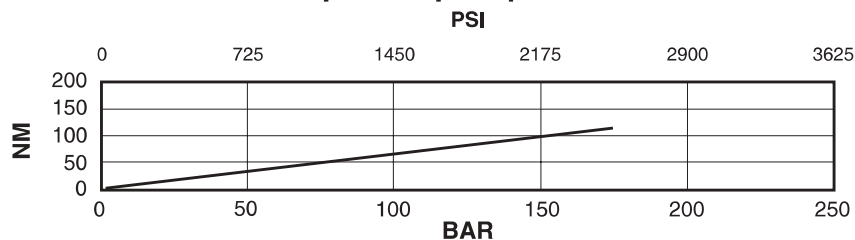


Shaft end cartridge V02-12

power / pressure

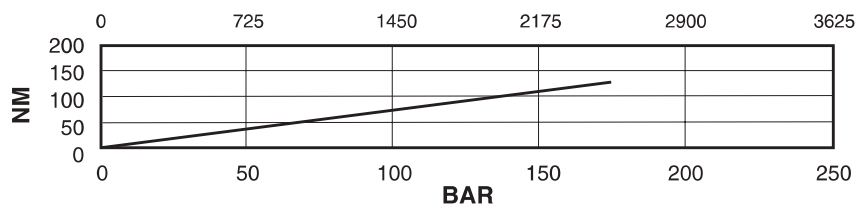
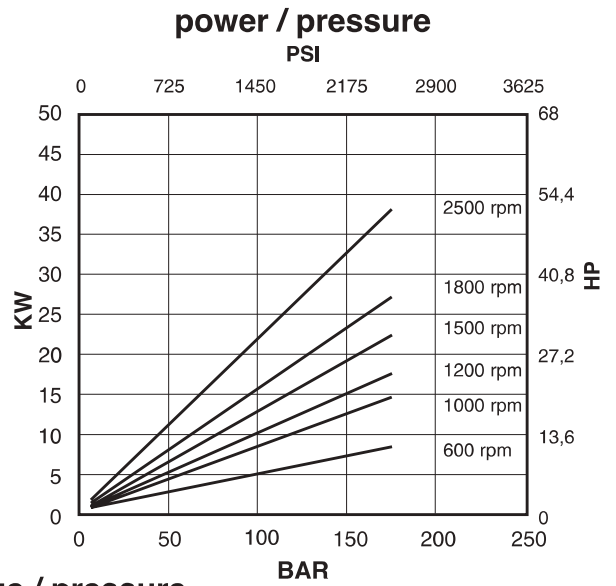
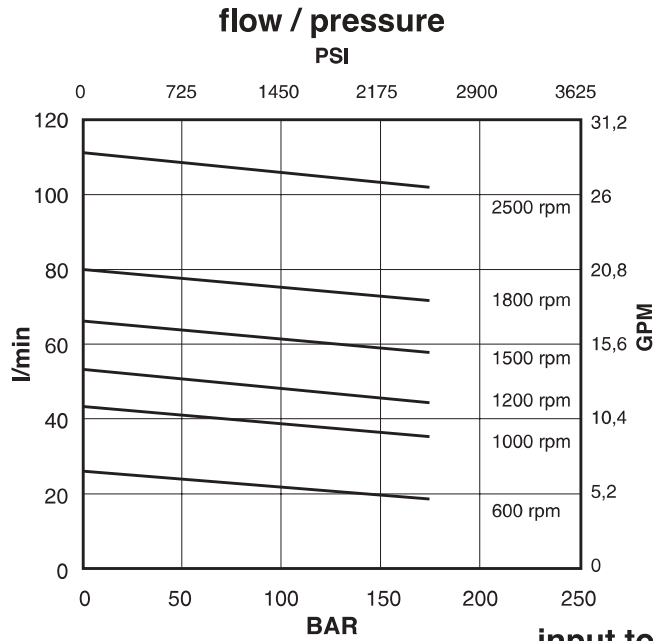


input torque / pressure



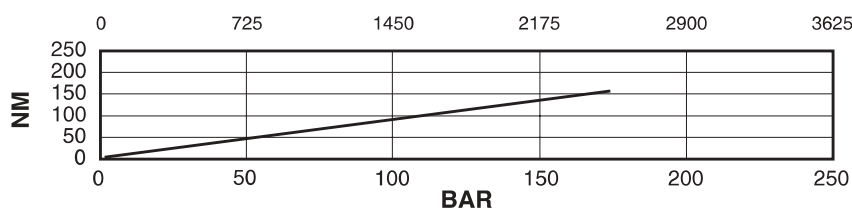
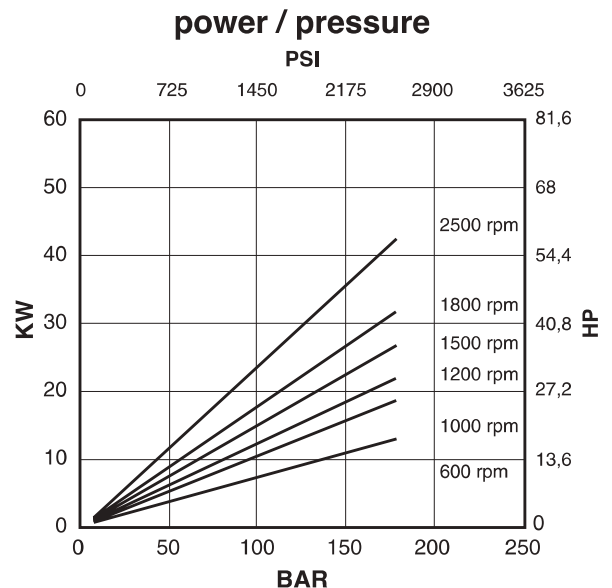
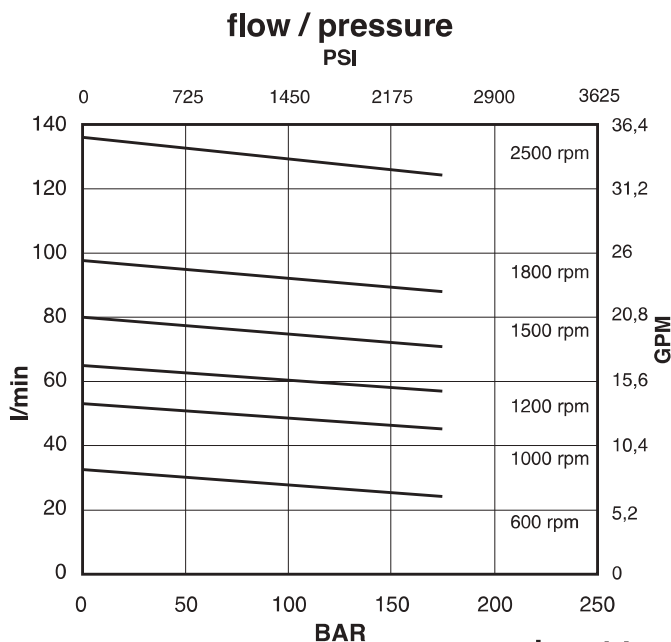
Oil viscosity: 25 c.St.(10W)
Temperature: 45°C
Inlet pressure: 0 BAR

Shaft end cartridge V02-14



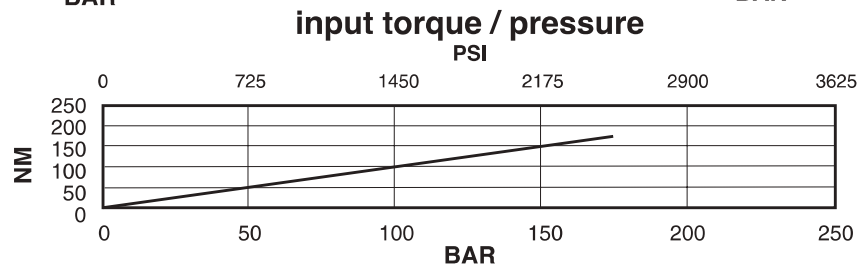
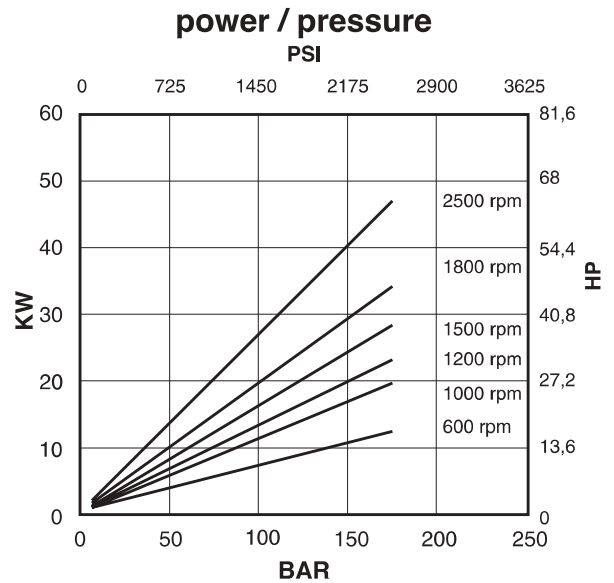
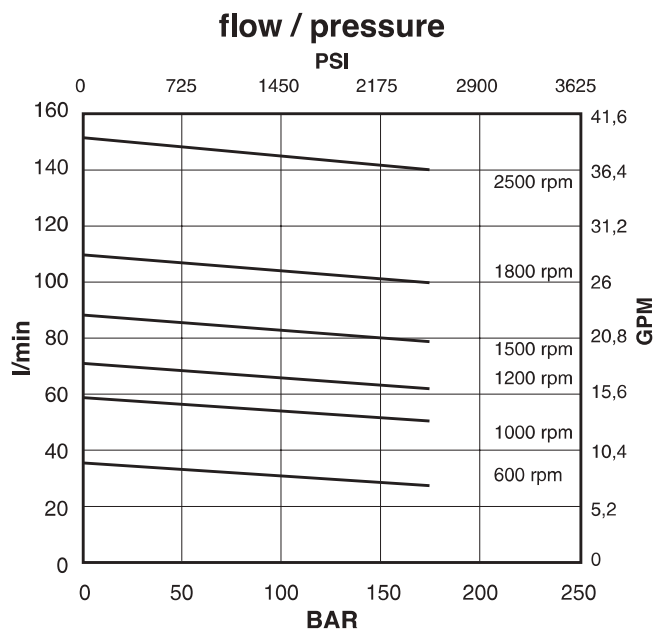
Oil viscosity: 25 c.St.(10W)
Temperature: 45°C
Inlet pressure: 0 BAR

Shaft end cartridge V02-17



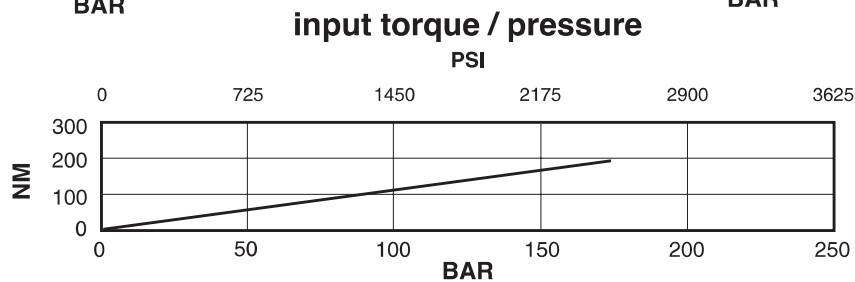
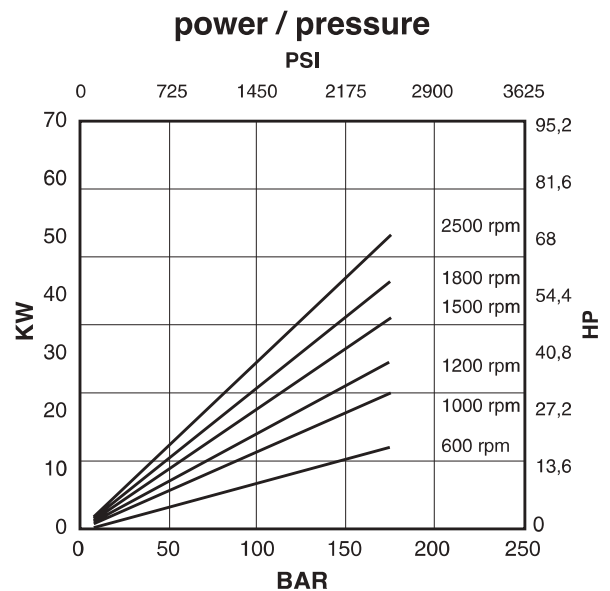
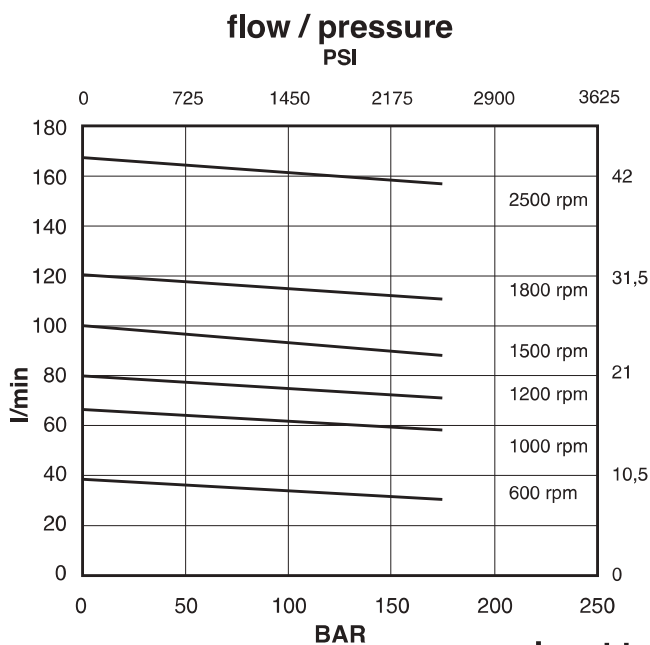
Oil viscosity: 25 c.St.(10W)
Temperature: 45°C
Inlet pressure: 0 BAR

Shaft end cartridge V02-19



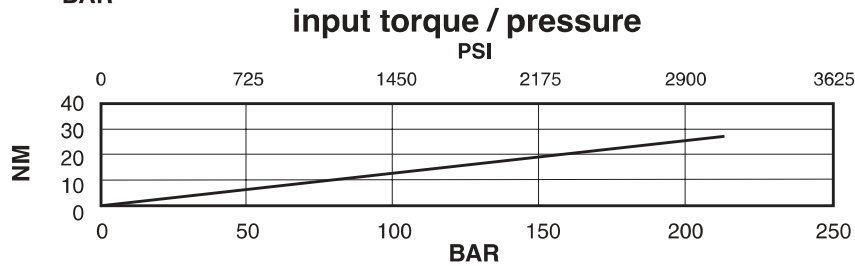
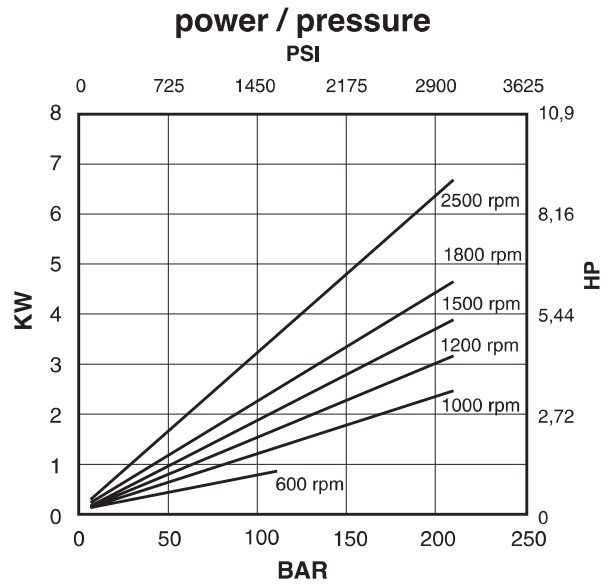
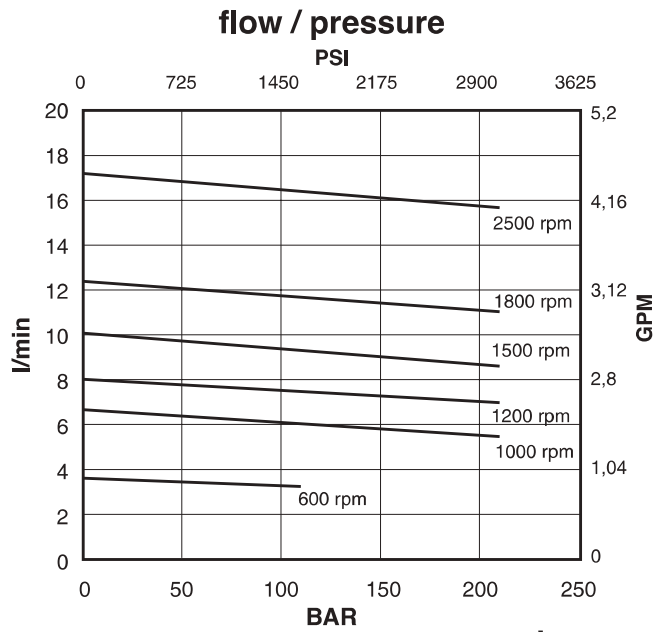
Oil viscosity: 25 c.St.(10W)
Temperature: 45°C
Inlet pressure: 0 BAR

Shaft end cartridge V02-21



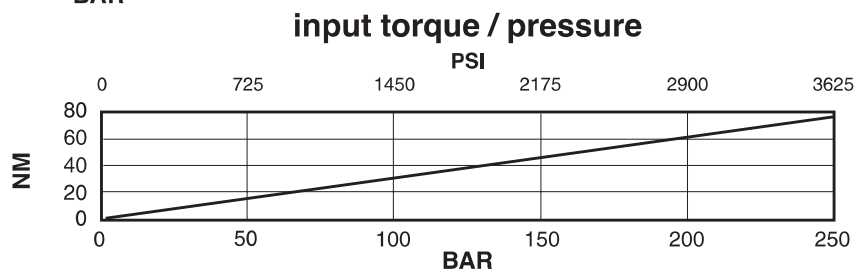
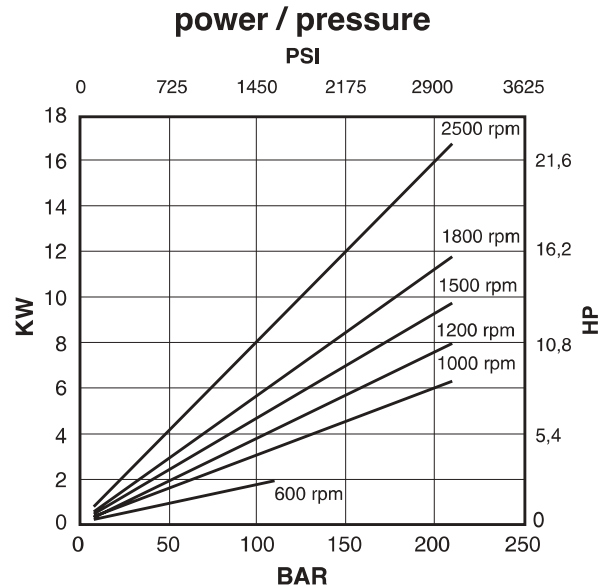
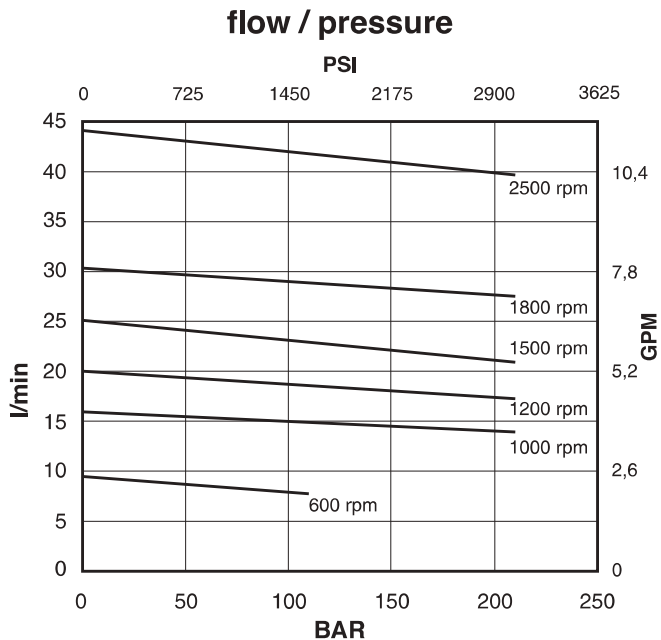
Oil viscosity: 25 c.St.(10W)
Temperature: 45°C
Inlet pressure: 0 BAR

Cartridge V01-02



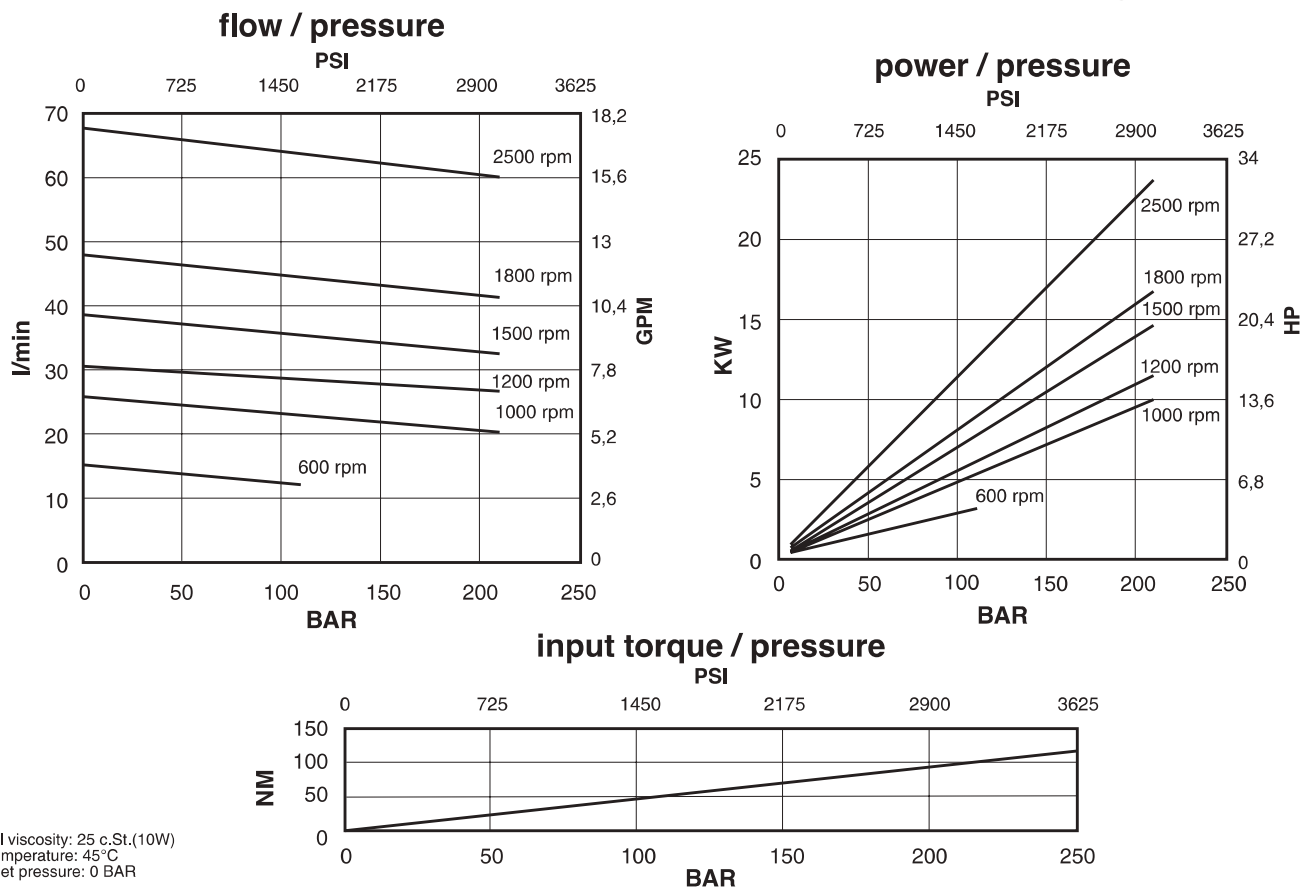
Oil viscosity: 25 c.St.(10W)
 Temperature: 45°C
 Inlet pressure: 0 BAR

Cartridge V01-05

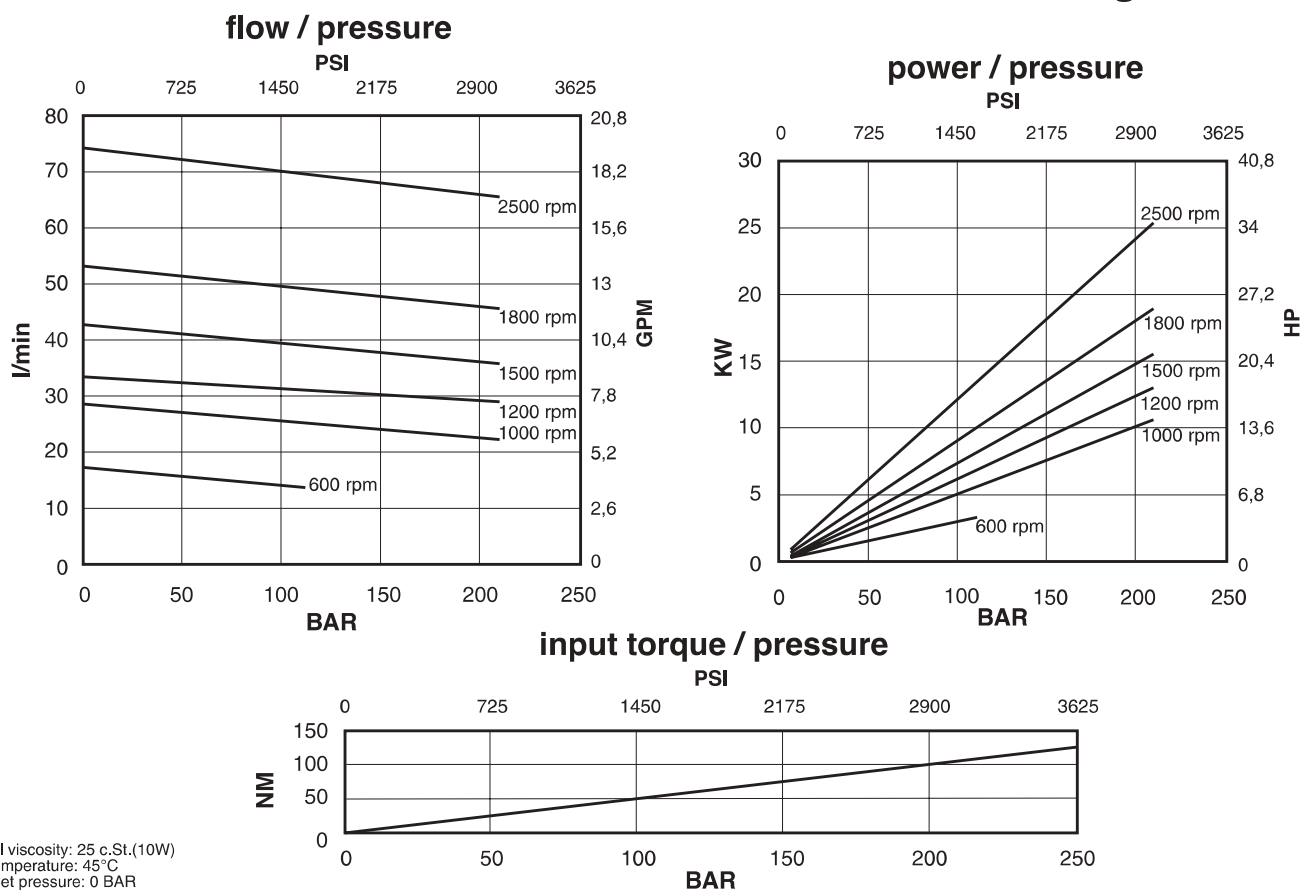


Oil viscosity: 25 c.St.(10W)
 Temperature: 45°C
 Inlet pressure: 0 BAR

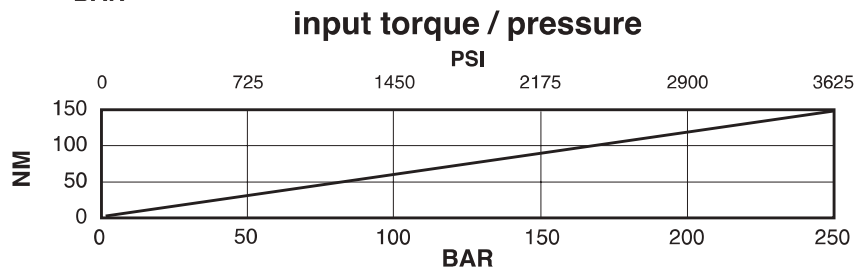
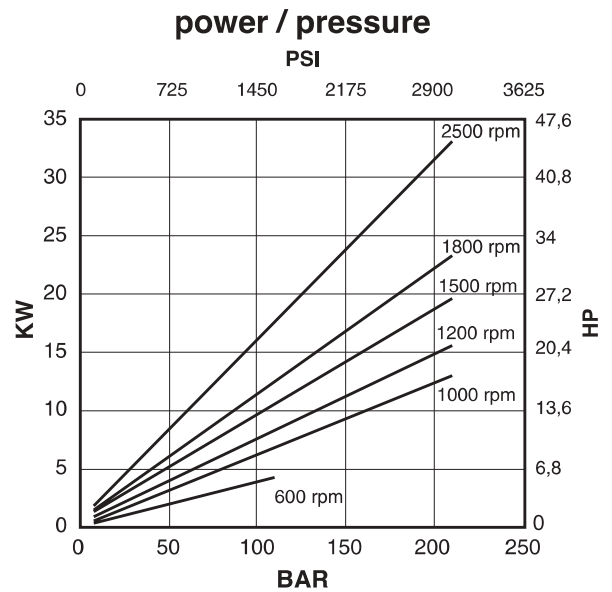
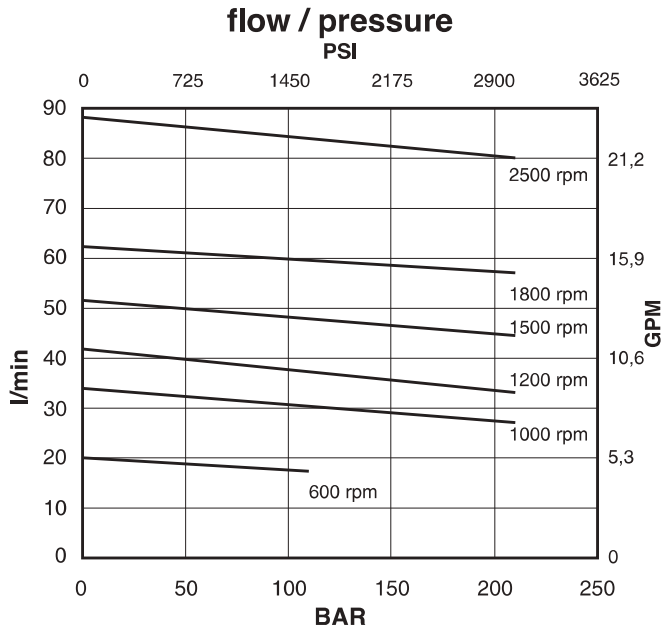
Cartridge V01-08



Cartridge V01-09

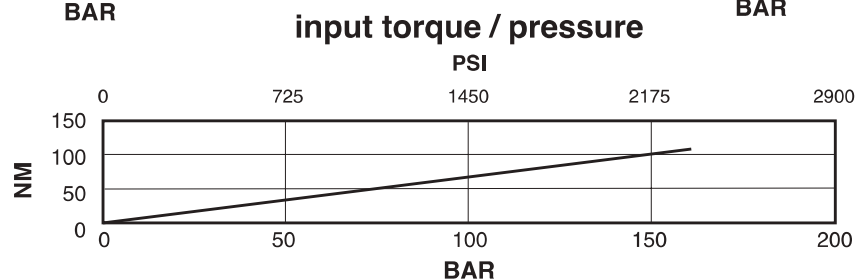
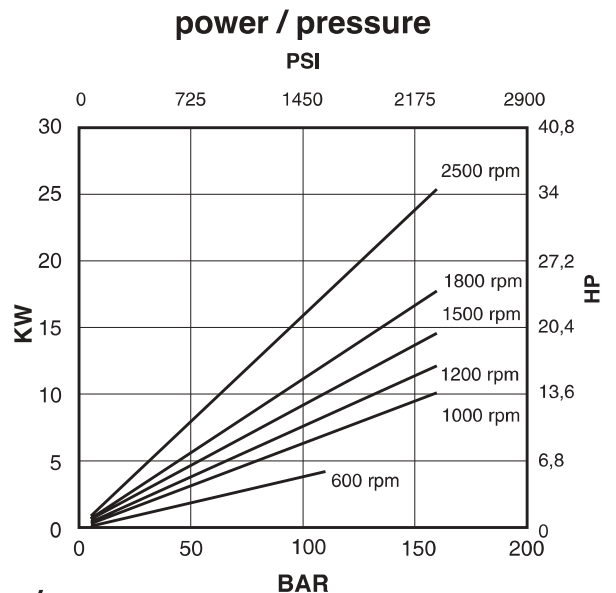
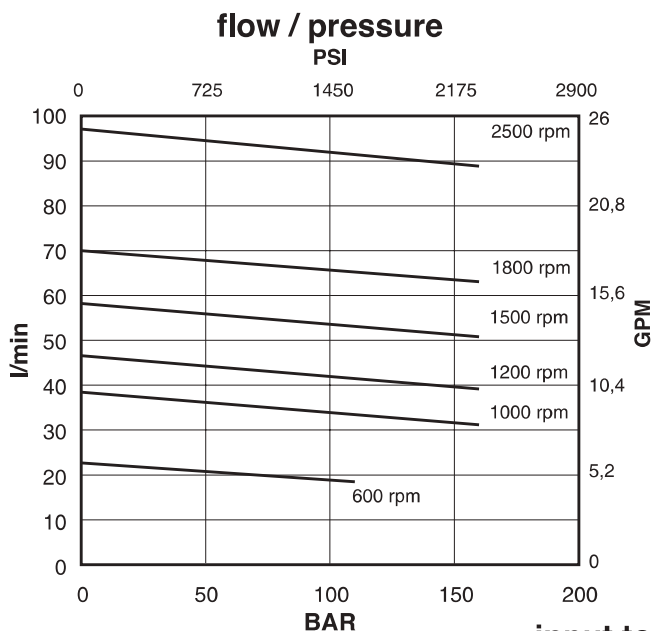


Cover end cartridge V01-11



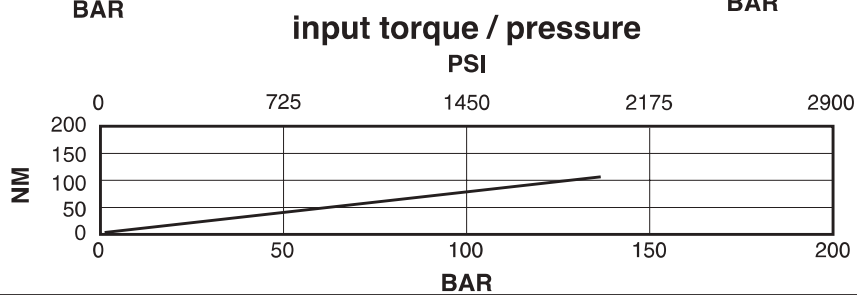
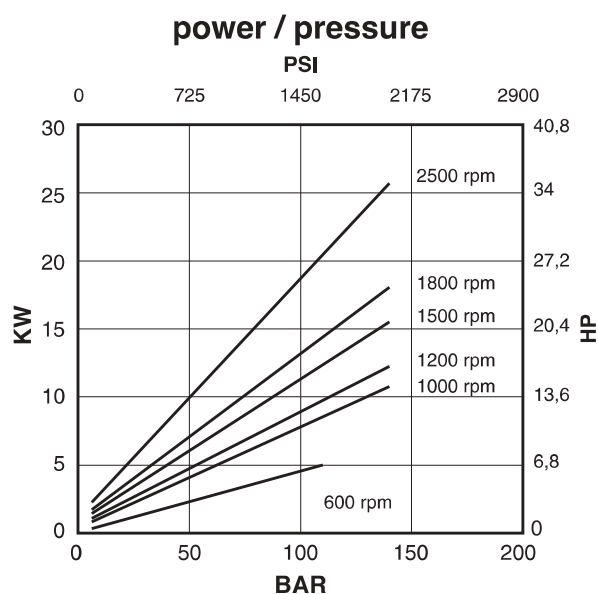
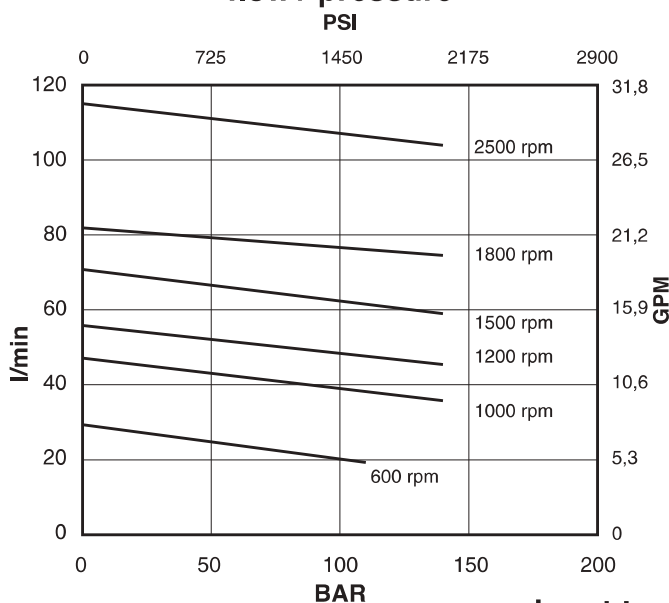
Oil viscosity: 25 c.St.(10W)
Temperature: 45°C
Inlet pressure: 0 BAR

Cover end cartridge V01-12



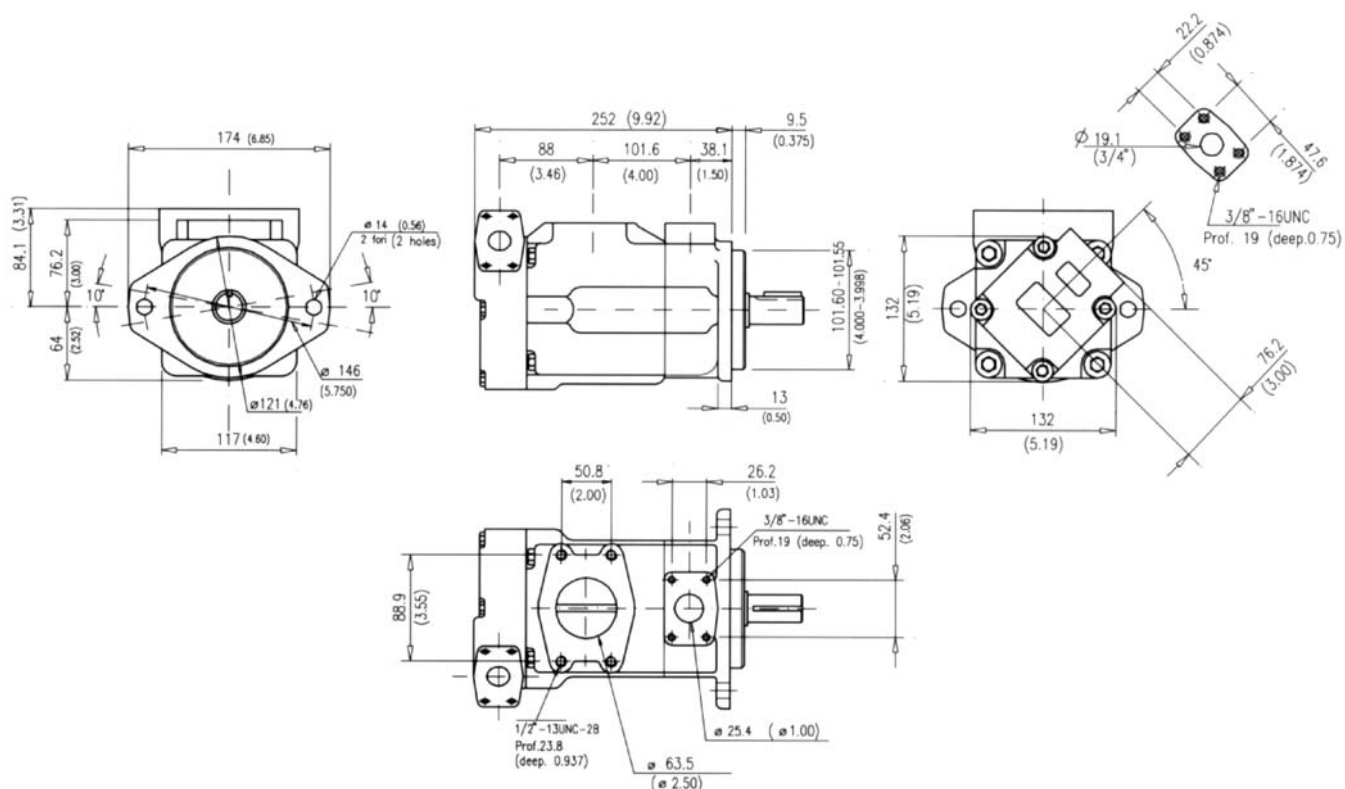
Oil viscosity: 25 c.St.(10W)
Temperature: 45°C
Inlet pressure: 0 BAR

flow / pressure



Oil viscosity: 25 c.St.(10W)
Temperature: 45°C
Inlet pressure: 0 BAR

Installation dimensions mm (inches)



Approx. weight: 20,5 Kg. (45 lbs.)

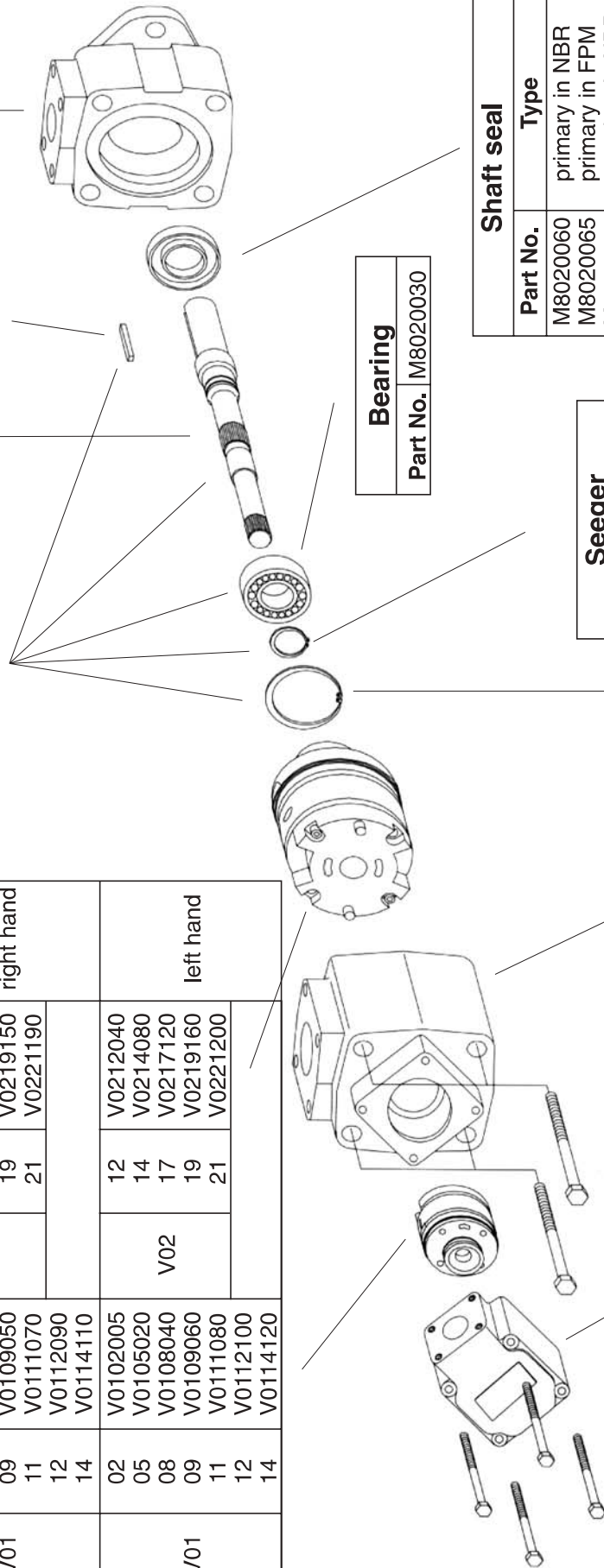
Id. codes of pump components

Cartridges					
cover end			shaft end		Pump rotation
Series	Model	Part No.	Series	Model	
V01	02	V0102000	V02	12	V0212030
	05	V0105010		14	V0214070
	08	V0108030		17	V0217110
	09	V0109050		19	V0219150
	11	V0111070		21	V0221190
V01	12	V0112090	V02		
	14	V0114110			
	02	V0102005		12	V0212040
	05	V0105020		14	V0214080
	08	V0108040		17	V0217120
V01	09	V0109060	V02	19	V0219160
	11	V0111080		21	V0221200
	12	V0112100			
	14	V0114120			

Shaft kit	
Model	Part No.
01	M8210601
11	M8210611
86	M8210686
90	M8210690

Shaft	
Model	Part No.
01	K2101000
11	K2111000
86	K2186000
90	K2190000

Body	
Part No.	M8020010



Bearing	
Part No.	M8020030

Shaft seal	
Part No.	Type
M8020060	primary in NBR
M8020065	primary in FPM
M8020061	secondary in NBR
M8020066	secondary in FPM

Seeger	
Part No.	M8020050

Inlet body	
Part No.	M8020110

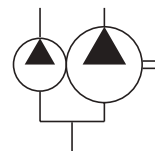
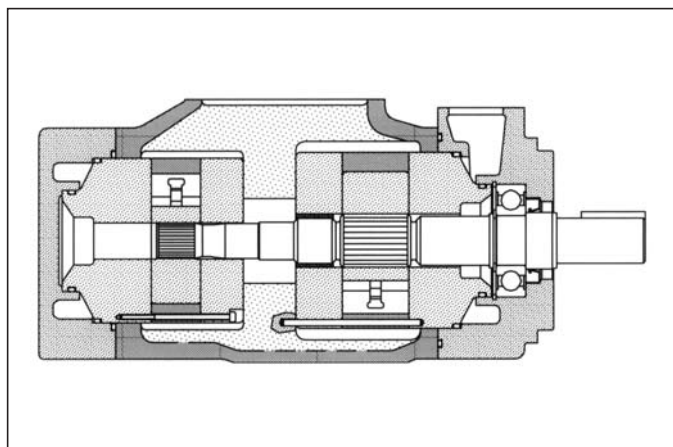
Cover	
Part No.	M8020120

Screw	
Part No.	M8020420
Torque to 70 Nm (624 lb. in.)	

Screw	
Part No.	M8020130
Torque to 102 Nm (910 lb. in.)	

Seeger	
Part No.	M8020040

Pump seal kit		
Part No.	Parts	Type
M8210500	seals + 1 shaft seal	NBR
M8210501	seals + 2 shaft seals	NBR
M8210503	seals + 1 shaft seal	FPM (Viton®)
M8210504	seals + 2 shaft seals	FPM (Viton®)



General description

Fixed displacement vane pump, hydraulically balanced, with capacity determined by the cartridges used and the speed of rotation. The pump is available in several versions with rated capacities from 87 to 195 l/min (from 23 to 52 gpm) at 1200 rpm and 7 bar.

Technical characteristics

Cartridge model	Geometric displacement		Rated capacity at 1200 rpm 7 bar		Rated capacity at 1500 rpm 7 bar		Maximum pressure with mineral oil		Speed range rpm	
shaft end	cm ³ /g	(in ³ /r)	l/min	(gpm)	l/min	(gpm)	bar	(psi)	min	max
V04-21	69,0	(4.2)	79,5	(21)	101,4	(26.8)	175	(2538)	600	1800
V04-25	81,6	(5)	94,0	(25)	120,1	(31.7)	175	(2538)	600	1800
V04-30	97,7	(6)	113,8	(30)	141,2	(37.3)	175	(2538)	600	1800
V04-35	112,7	(6.9)	131,6	(35)	167,2	(44.1)	175	(2538)	600	1800
V04-38	121,6	(7.4)	139,9	(38)	177,3	(46.8)	175	(2538)	600	1800
cover end	cm ³ /g	(in ³ /r)	l/min	(gpm)	l/min	(gpm)	bar	(psi)	min	max
V01-02	7,2	(0.44)	8,3	(2)	10,4	(2.8)	210	(3050)	600	2700
V01-05	18,0	(1.10)	20,8	(5)	26,1	(6.9)	210	(3050)	600	2700
V01-08	27,4	(1.67)	31,8	(8)	39,4	(10.4)	210	(3050)	600	2700
V01-09	30,1	(1.83)	35,1	(9)	44,1	(11.7)	210	(3050)	600	2700
V01-11	36,4	(2.22)	42,4	(11)	52,6	(13.9)	210	(3050)	600	2700
V01-12	39,5	(2.41)	46,9	(12)	58,7	(15.5)	160	(2300)	600	2700
V01-14	45,9	(2.79)	54,9	(14)	69,6	(18.4)	140	(2030)	600	2700

Hydraulic fluids: antiwear high quality mineral oils or fire resistant fluid having same lubrication capacities of the mineral oil.

Viscosity range (with mineral oil): from 13 to 860 cSt. (13 to 54 cSt. recommended).

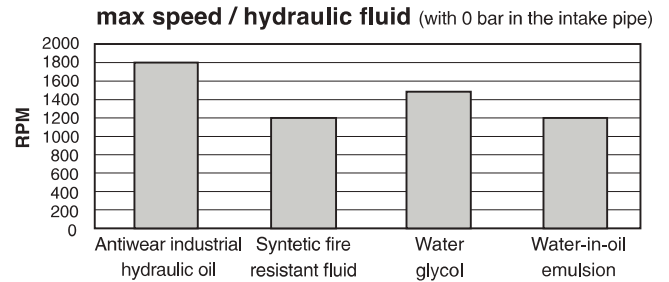
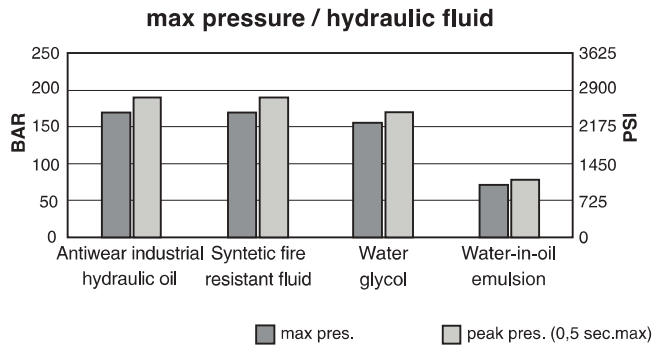
Filtration: for the inlet - 149 micron abs., for the return line - 25 micron abs. or better (with synthetic fluids: for the return line - 10 micron abs. or better).

Inlet pressure: (with mineral oil): from -0,17 to +1,4 bar (-2.5 to + 20 psi)

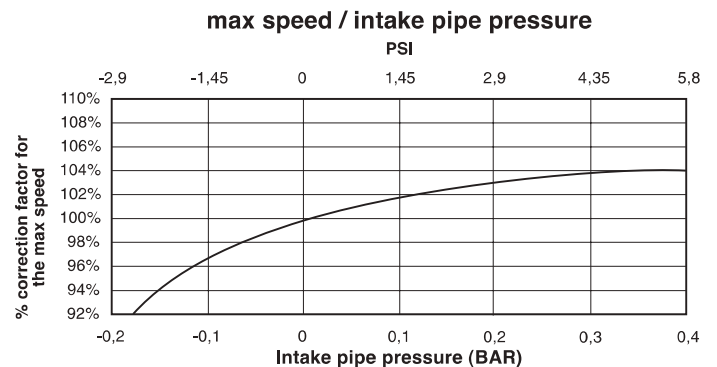
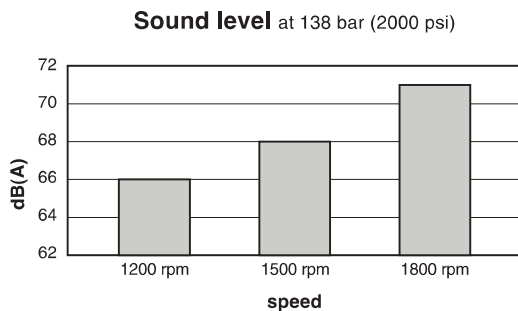
Operating temperature: with mineral oil -10°C +70°C (+30°C to +60°C recommended), with water based fluids +15°C to +50°C.

Drive: direct and coaxial by means of a flexible coupling.

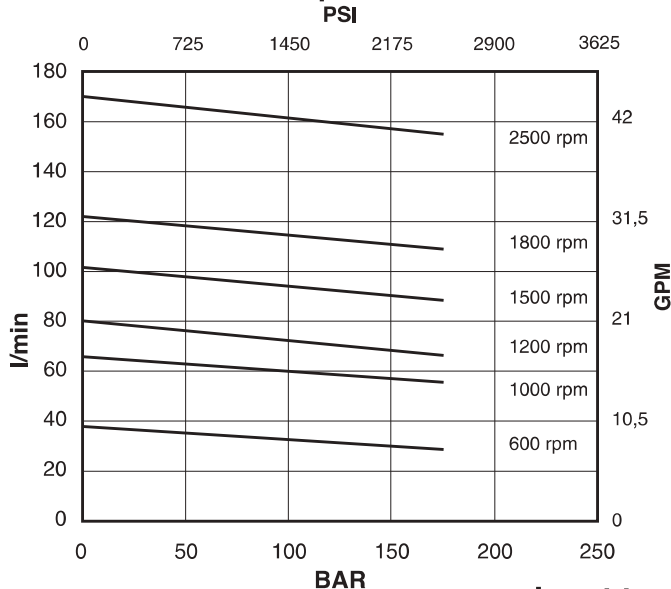
Main operating data



If the intake pressure is not zero bar, use the graph below to find the percentage correction factor to apply to the maximum speed

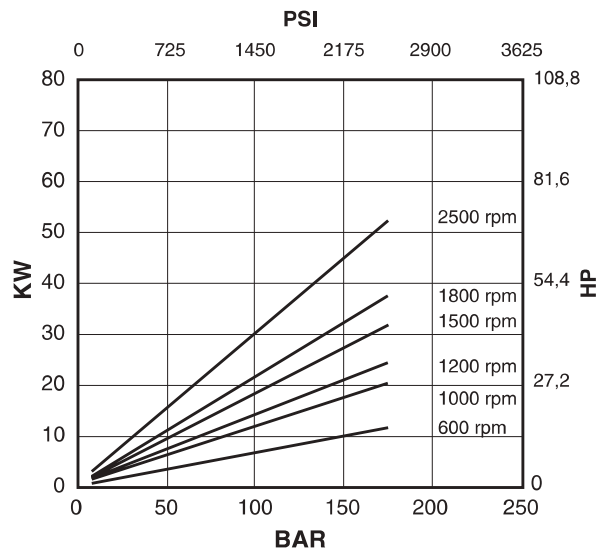


flow / pressure

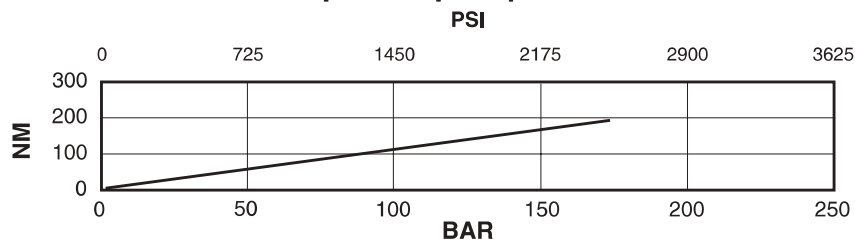


Shaft end cartridge V04-21

power / pressure

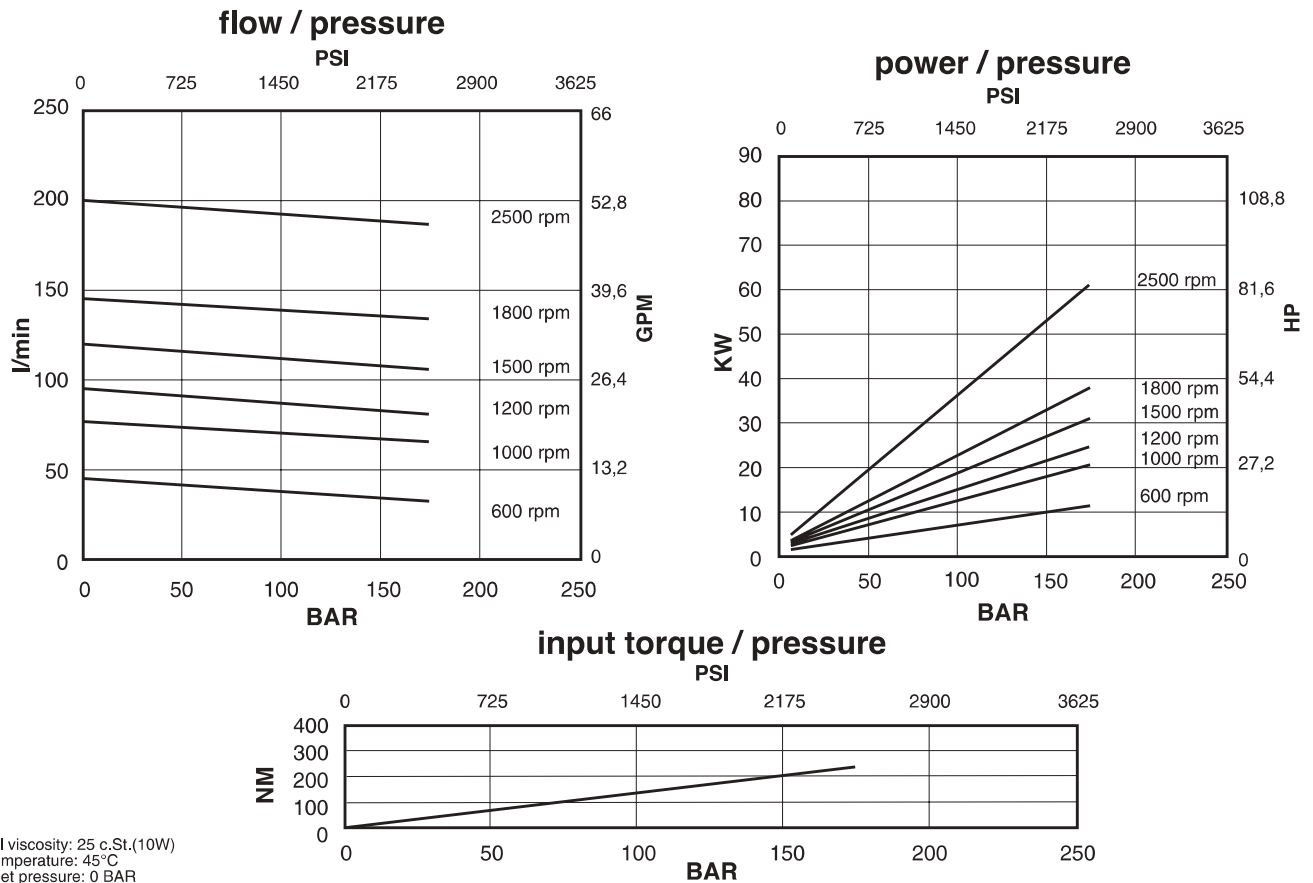


input torque / pressure

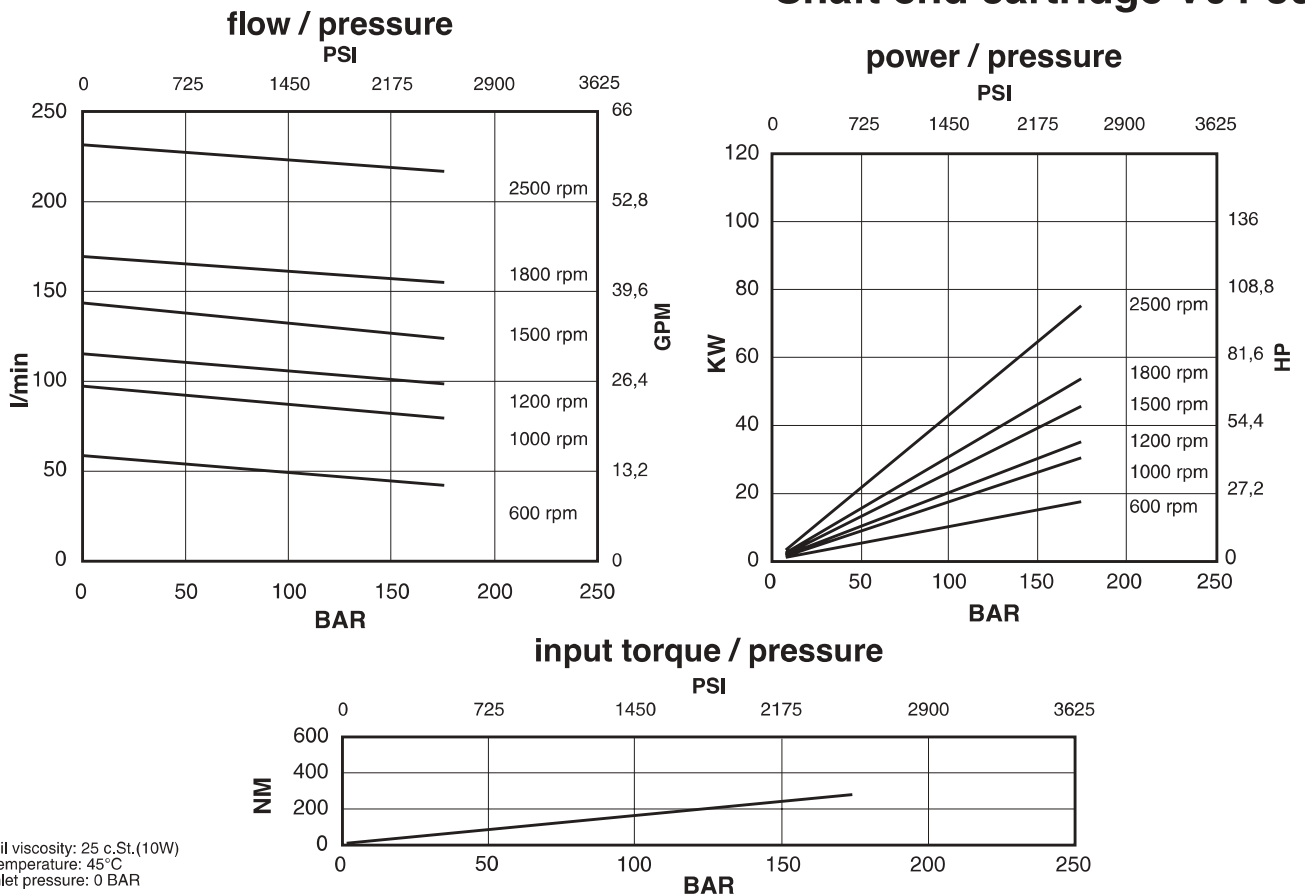


Oil viscosity: 25 c.St.(10W)
Temperature: 45°C
Inlet pressure: 0 BAR

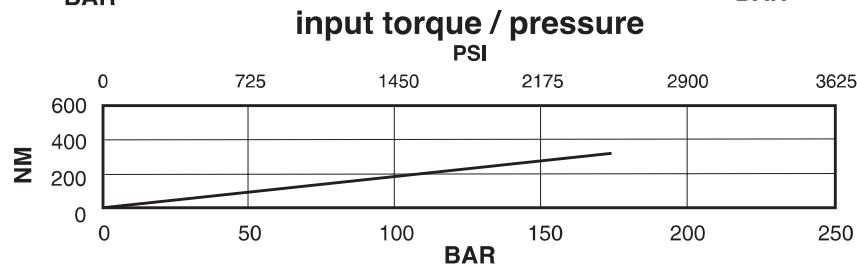
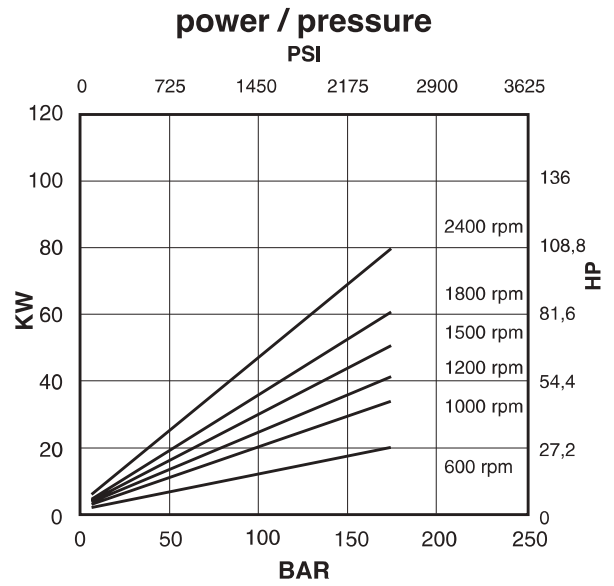
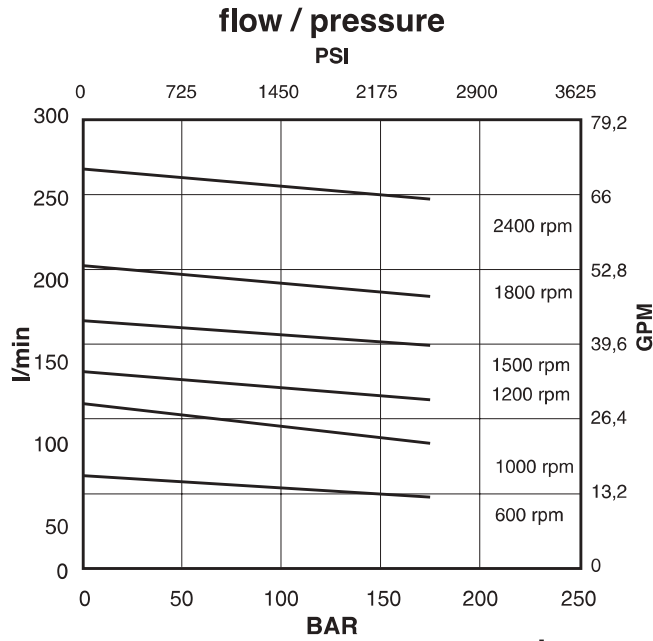
Shaft end cartridge V04-25



Shaft end cartridge V04-30

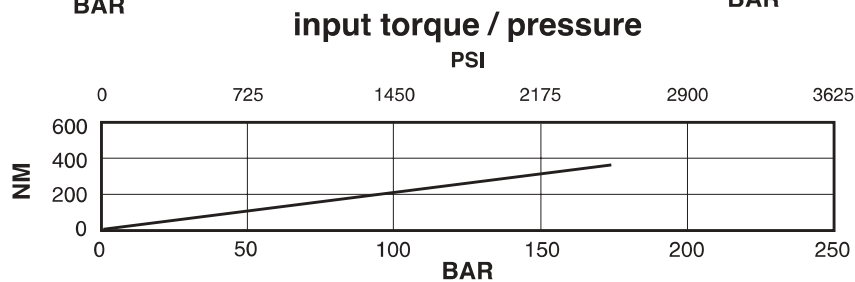
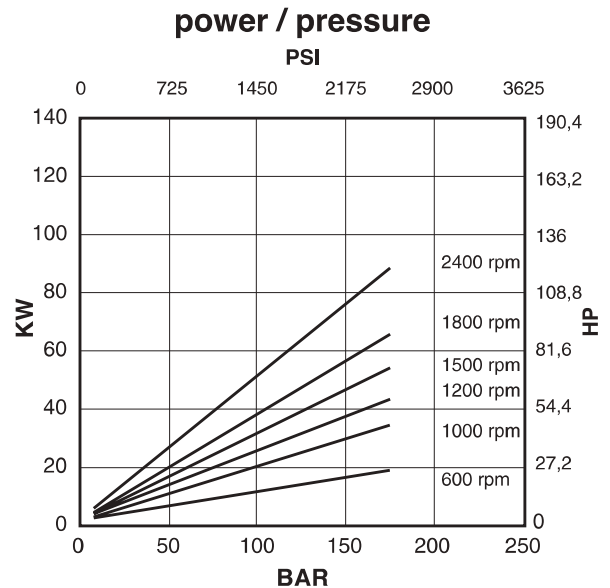
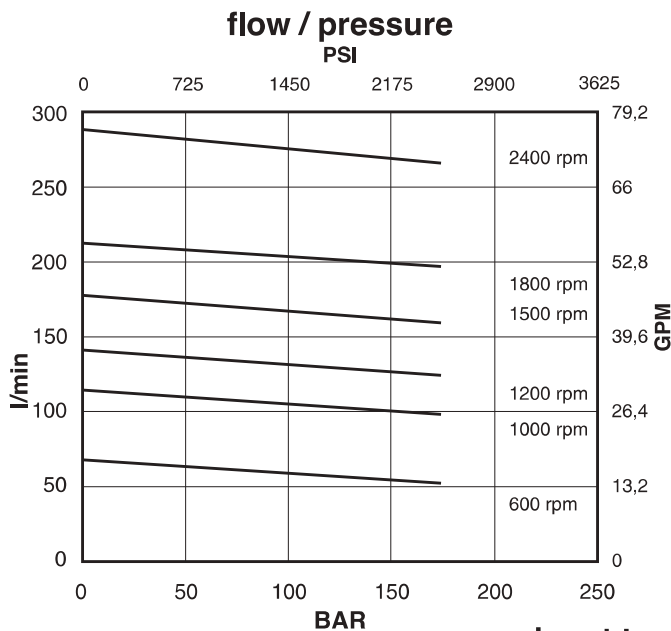


Shaft end cartridge V04-35



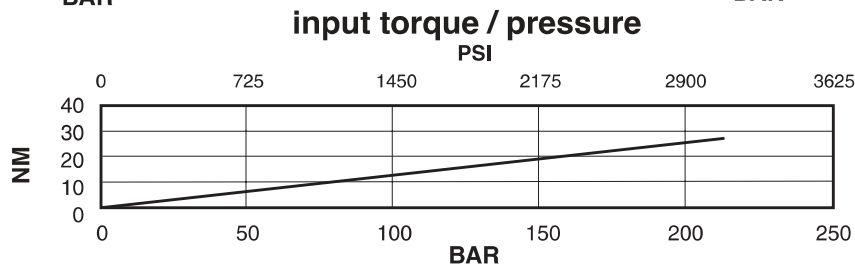
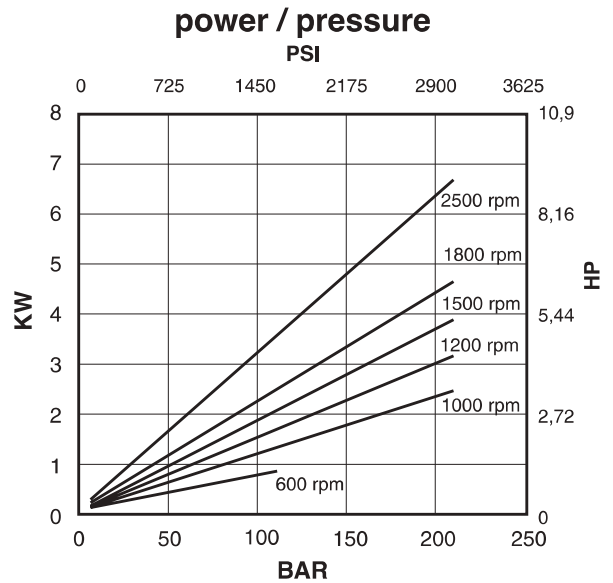
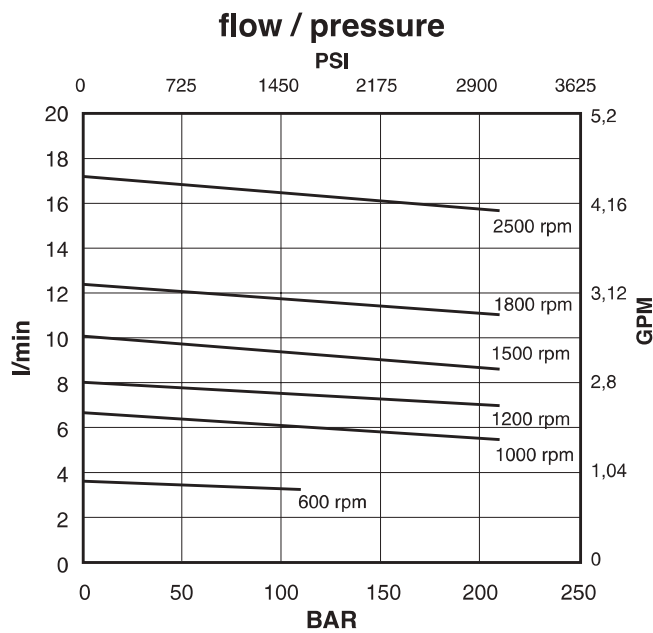
Oil viscosity: 25 c.St.(10W)
Temperature: 45°C
Inlet pressure: 0 BAR

Shaft end cartridge V04-38



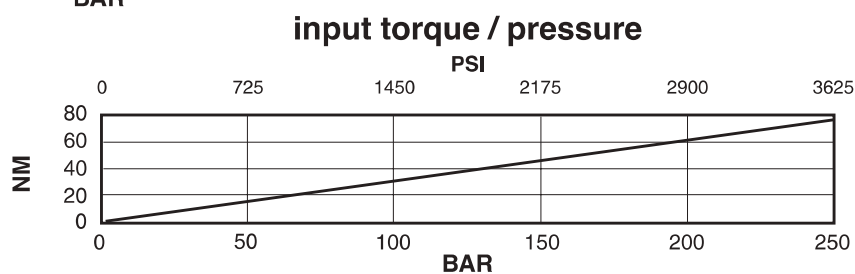
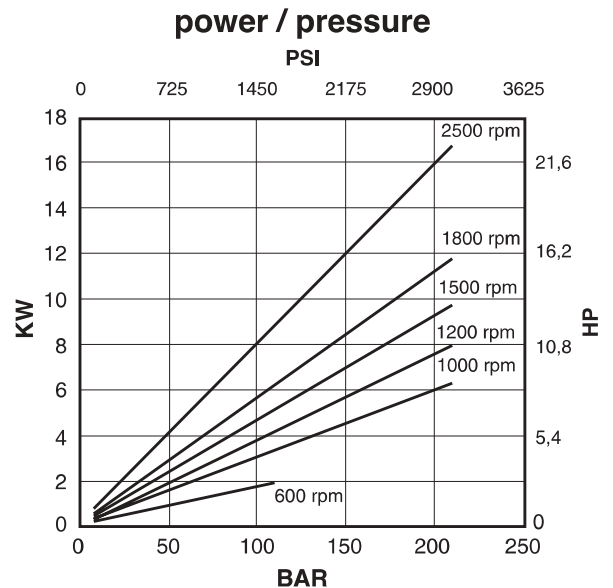
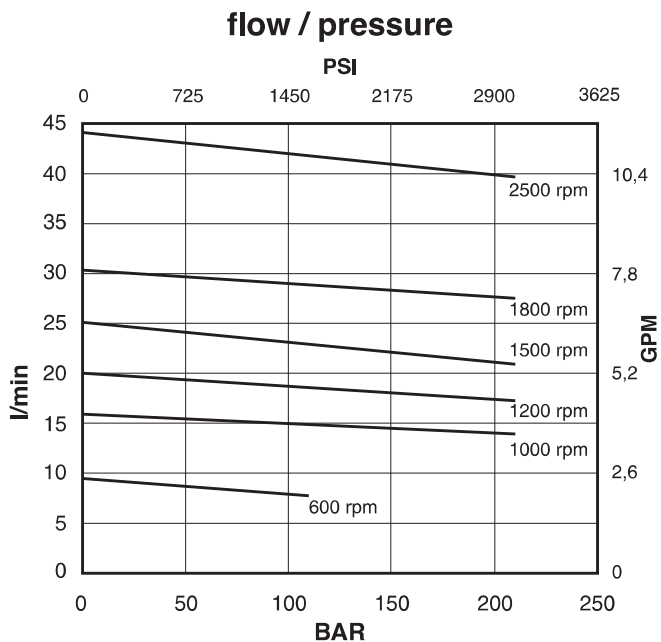
Oil viscosity: 25 c.St.(10W)
Temperature: 45°C
Inlet pressure: 0 BAR

Cartridge V01-02



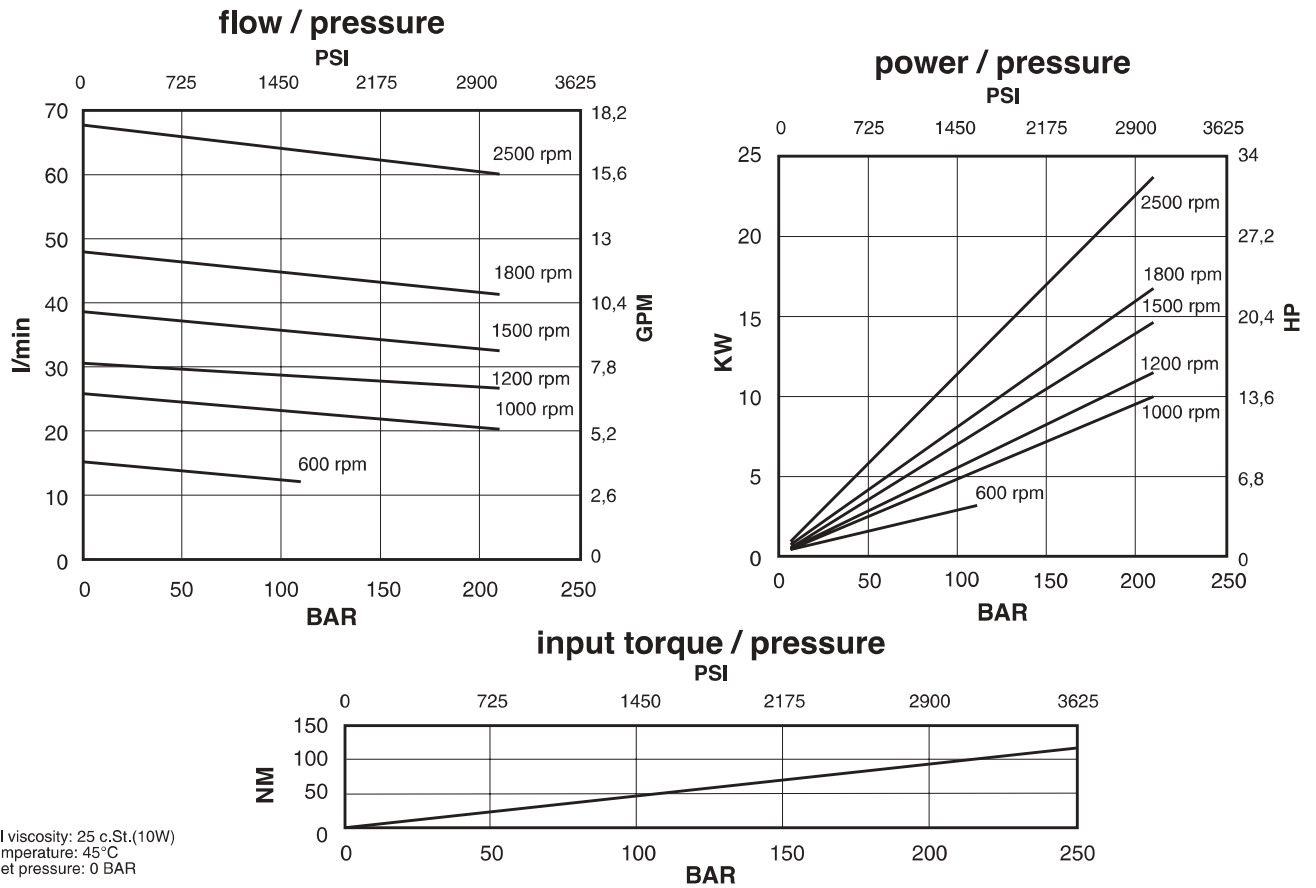
Oil viscosity: 25 c.St.(10W)
 Temperature: 45°C
 Inlet pressure: 0 BAR

Cartridge V01-05

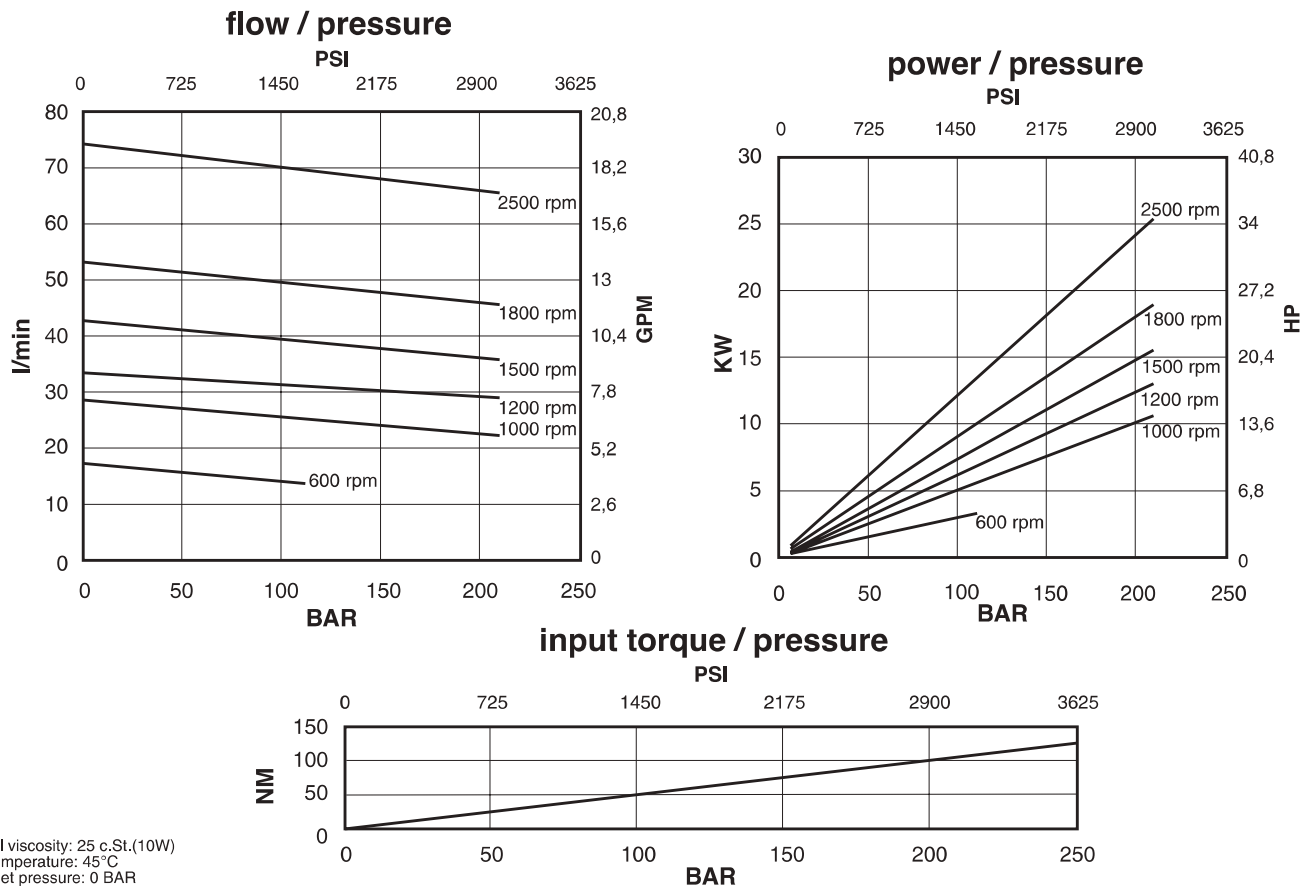


Oil viscosity: 25 c.St.(10W)
 Temperature: 45°C
 Inlet pressure: 0 BAR

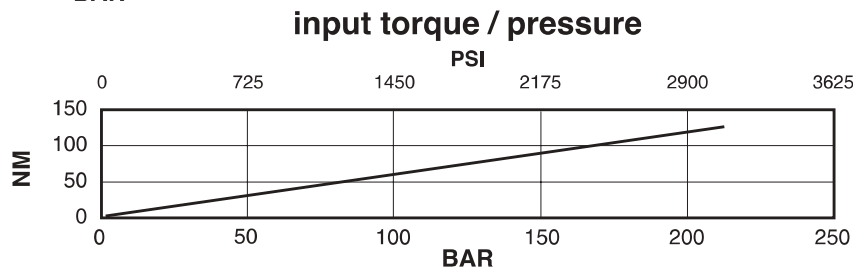
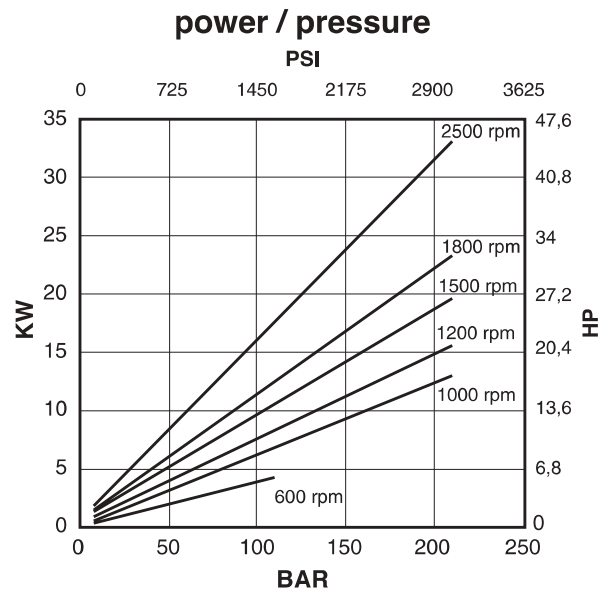
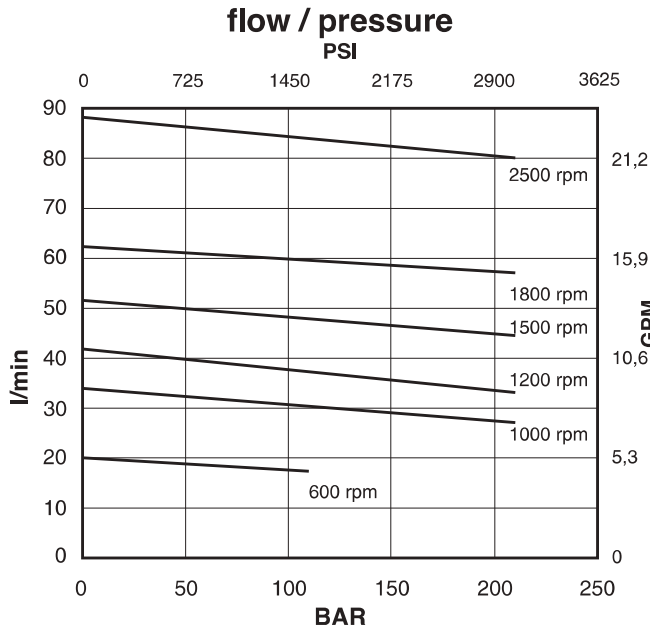
Cartridge V01-08



Cartridge V01-09

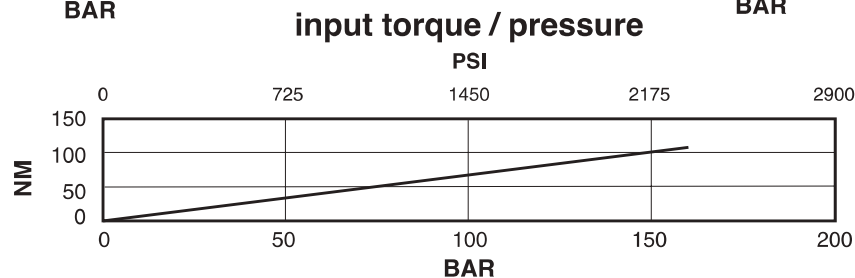
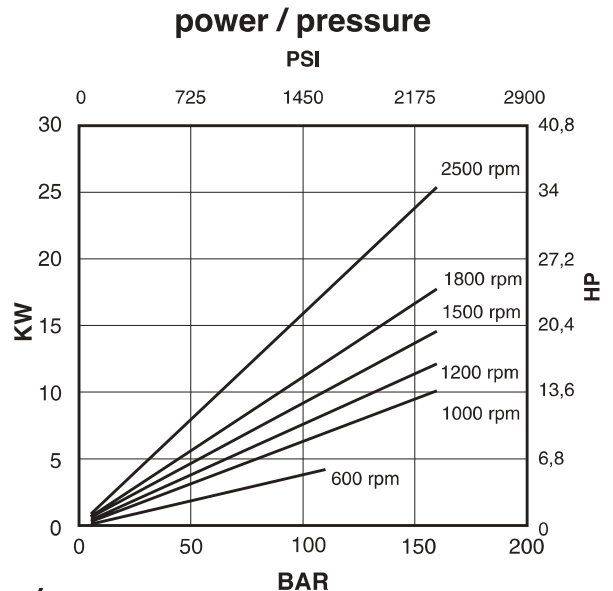
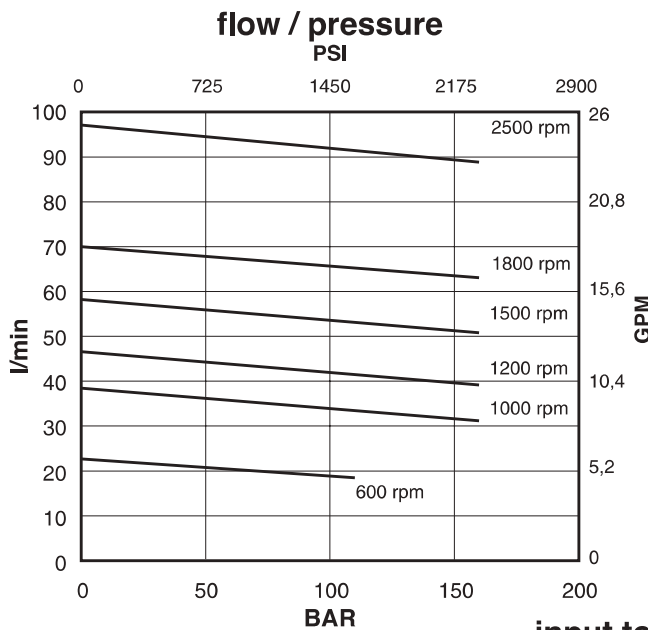


Cover end cartridge V01-11



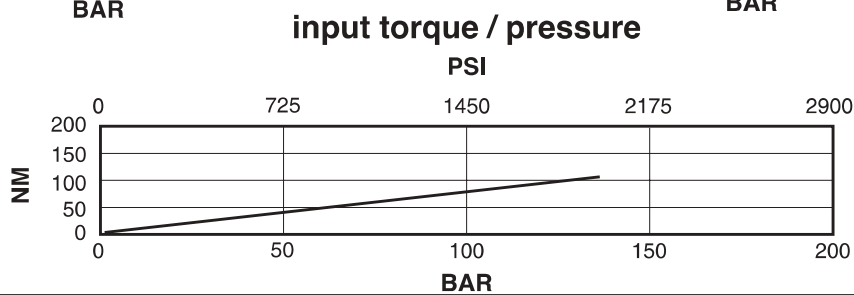
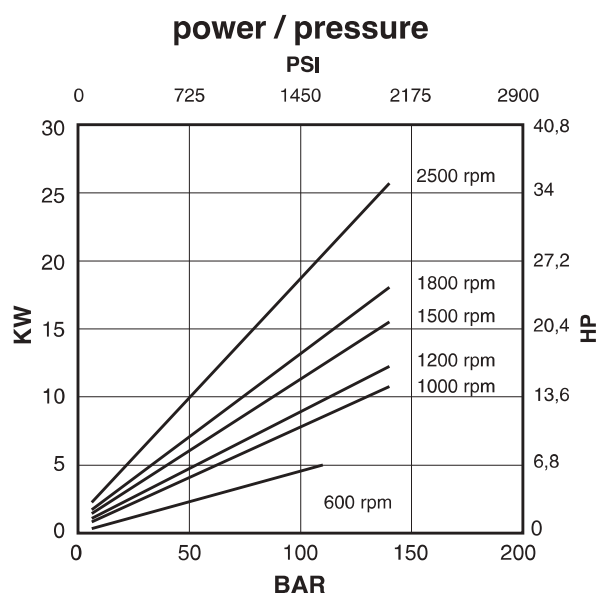
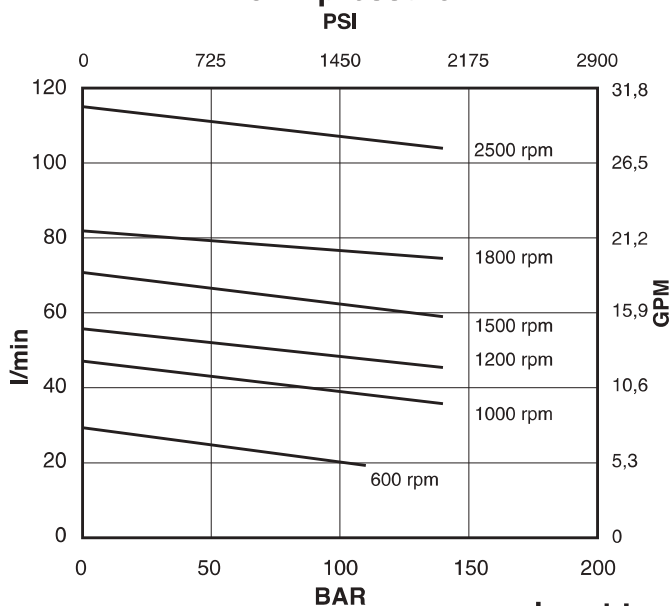
Oil viscosity: 25 c.St.(10W)
Temperature: 45°C
Inlet pressure: 0 BAR

Cover end cartridge V01-12



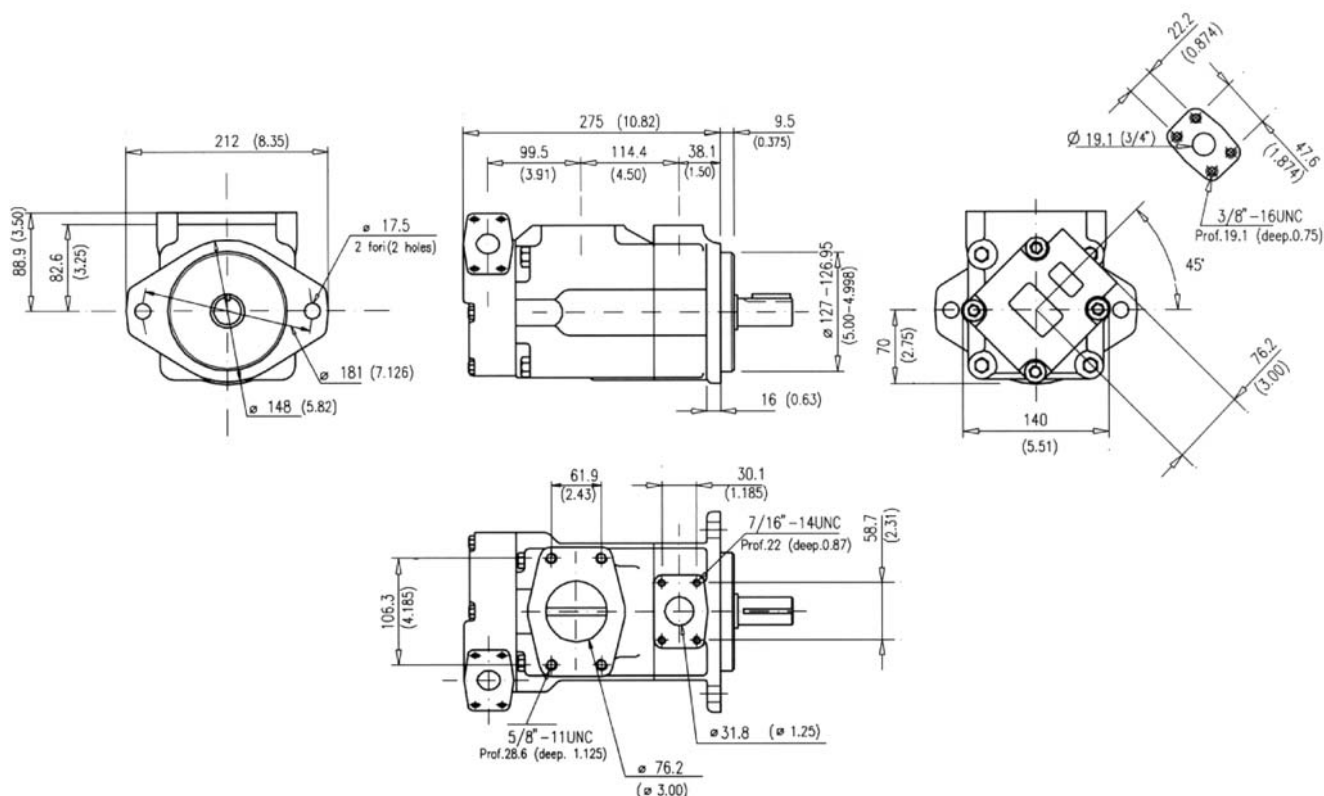
Oil viscosity: 25 c.St.(10W)
Temperature: 45°C
Inlet pressure: 0 BAR

flow / pressure



Oil viscosity: 25 c.St.(10W)
Temperature: 45°C
Inlet pressure: 0 BAR

Installation dimensions mm (inches)

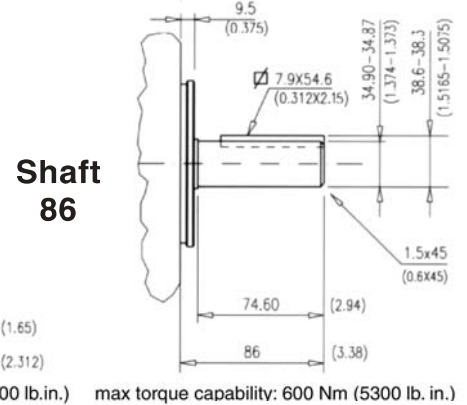
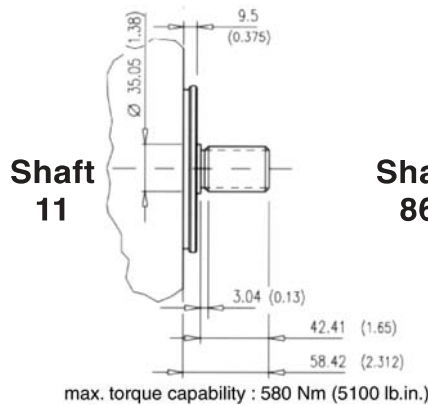
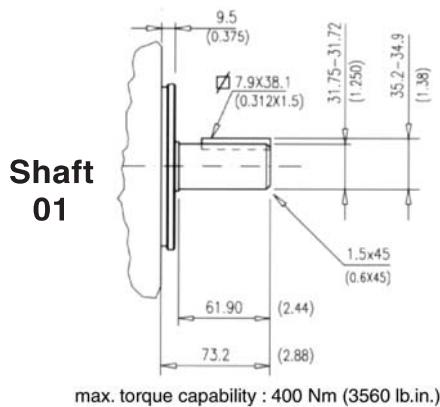


Approx. weight: 34 Kg. (75 lbs.)

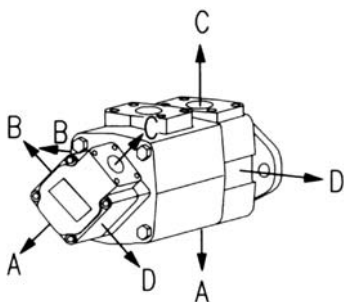
Model code breakdown

BV	41	G	**	**	*	*	**	(L)	*	(A)
Pump series		Design								Mounting (omit if not required)
Pump type										
Cartridge types										
-shaft end	21	25	30	35	38					
-cover end	02	05	08	09	11	12	14			
Body outlet port positions (outlet viewed from cover end)										
A = Outlet opposite end										
B = Outlet 90° CCW from inlet										
C = Outlet in line with inlet										
D = Outlet 90° CW from inlet										
Cover outlet port positions (outlet viewed from cover end)										
A = Outlet 135° CCW from inlet										
B = Outlet 45° CCW from inlet										
C = Outlet 45° CW from inlet										
D = Outlet 135° CW from inlet										
Seals (omit with standard seals and one shaft-seal in NBR) V = seals and shaft-seal in FPM (Viton®) D = standard seals and double shaft-seals in NBR F = seals and double shaft-seals in FPM (Viton®)										
Rotation (viewed from shaft end) L = left hand rotation CCW (omit if CW)										
Shaft end options 01 = Straight with key (standard), 11 = Splined 86 = Heavy duty straight keyed, 90 = Splined SAE C										

Shaft options mm (inches)

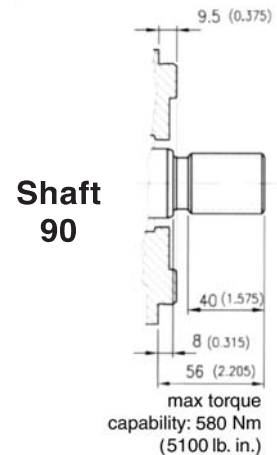


PORT ORIENTATIONS



Spline data
(shaft 11 and shaft 90)
Involute side fit (ASA B5.15)

Pressure angle	30°
No. of teeth	14
Pitch	12/24
Major dia.	31.60 - 31.50 (1.244 - 1.240)
Pitch dia.	29.634 (1.1667)
Minor dia.	26.99 - 26.66 (1.0627 - 1.05)
Wildhaber	15.68 - 15.73 (0.617 - 0.619)



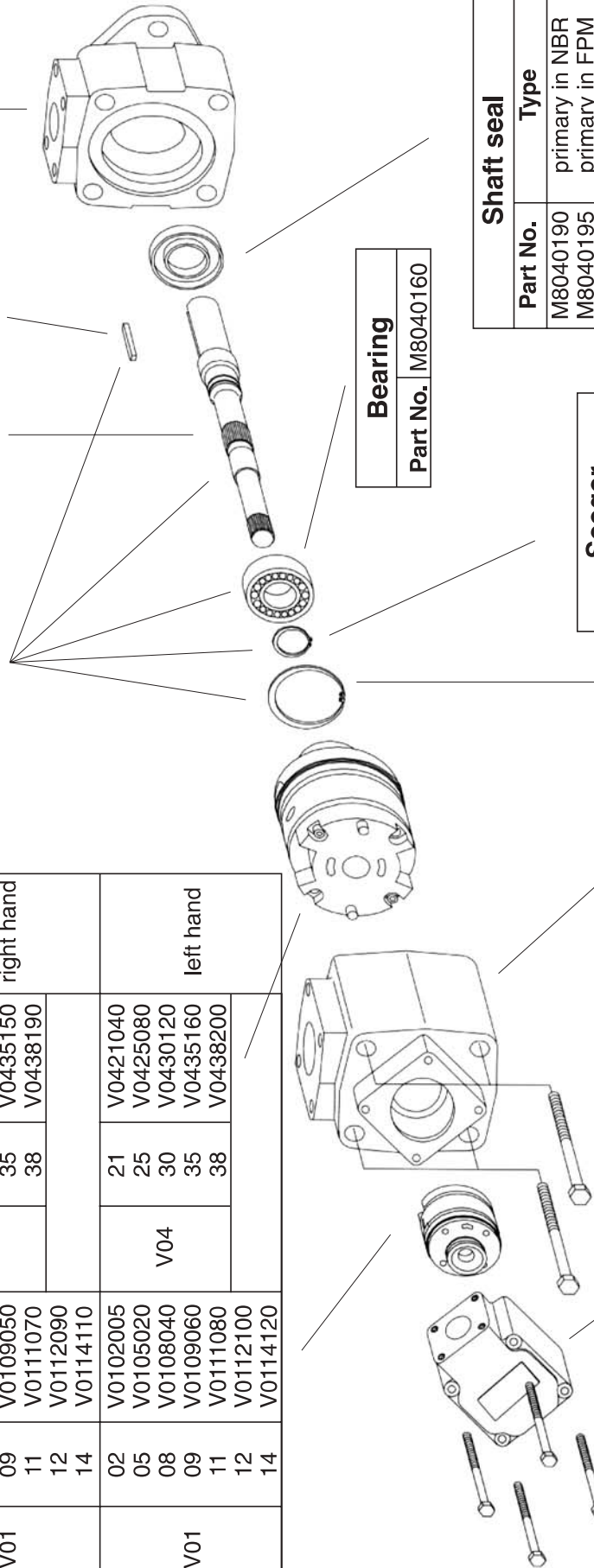
Id. codes of pump components

Cartridges					
cover end			shaft end		Pump rotation
Series	Model	Part No.	Series	Model	
V01	02	V0102000	V04	21	V0421030
	05	V0105010		25	V0425070
	08	V0108030		30	V0430110
	09	V0109050		35	V0435150
	11	V0111070		38	V0438190
V01	12	V0112090			
	14	V0114110			
	02	V0102005	V04	21	V0421040
	05	V0105020		25	V0425080
	08	V0108040		30	V0430120
	09	V0109060		35	V0435160
	11	V0111080		38	V0438200
V01	12	V0112100			
	14	V0114120			

Shaft kit	
Model	Part No.
01	M8410601
11	M8410611
86	M8410686
90	M8410690

Shaft	
Model	Part No.
01	K4101000
11	K4111000
86	K4186000
90	K4190000

Body	
Part No.	M8040140



Bearing	
Part No.	M8040160

Shaft seal	
Part No.	Type
M8040190	primary in NBR
M8040195	primary in FPM
M8040191	secondary in NBR
M8040196	secondary in FPM

Seeger	
Part No.	M8040180

Inlet body	
Part No.	M8040430

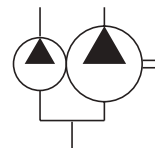
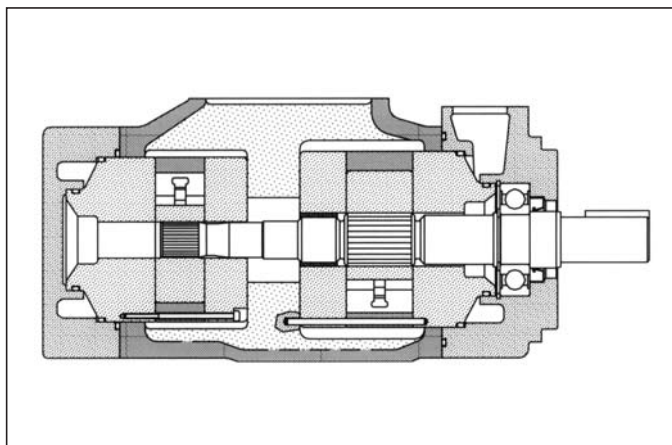
Cover	
Part No.	M8020120

Pump seal kit		
Part No.	Parts	Type
M8410500	seals + 1 shaft seal	NBR
M8410501	seals + 2 shaft seals	NBR
M8410503	seals + 1 shaft seal	FPM (Viton®)
M8410504	seals + 2 shaft seals	FPM (Viton®)

Screw	
Part No.	M8040210
Torque to 225 Nm (2010 lb. in.)	

Screw	
Part No.	M8020420
Torque to 70 Nm (624 lb. in.)	

Seeger	
Part No.	M8040170



General description

Fixed displacement vane pump, hydraulically balanced, with capacity determined by the cartridges used and the speed of rotation. The pump is available in several versions with rated capacities from 127 to 219 l/min (from 33 to 59 gpm) at 1200 rpm and 7 bar.

Technical characteristics

Cartridge model	Geometric displacement		Rated capacity at 1200 rpm 7 bar		Rated capacity at 1500 rpm 7 bar		Maximum pressure with mineral oil		Speed range rpm	
shaft end	cm ³ /g	(in ³ /r)	l/min	(gpm)	l/min	(gpm)	bar	(psi)	min	max
V04-21	69,0	(4.2)	79,5	(21)	101,4	(26.8)	175	(2538)	600	1800
V04-25	81,6	(5)	94,0	(25)	120,1	(31.7)	175	(2538)	600	1800
V04-30	97,7	(6)	113,8	(30)	141,2	(37.3)	175	(2538)	600	1800
V04-35	112,7	(6.9)	131,6	(35)	167,2	(44.1)	175	(2538)	600	1800
V04-38	121,6	(7.4)	139,9	(38)	177,3	(46.8)	175	(2538)	600	1800
cover end	cm ³ /g	(in ³ /r)	l/min	(gpm)	l/min	(gpm)	bar	(psi)	min	max
V02-12	40,1	(2.45)	46,9	(12)	58,8	(15.5)	175	(2538)	600	1800
V02-14	45,4	(2.77)	52,7	(14)	65,7	(17.4)	175	(2538)	600	1800
V02-17	55,2	(3.37)	64,2	(17)	80,2	(21.2)	175	(2538)	600	1800
V02-19	60,0	(3.66)	71,0	(19)	88,7	(23.4)	175	(2538)	600	1800
V02-21	67,5	(4.12)	79,0	(21)	99,8	(26.4)	175	(2538)	600	1800

Hydraulic fluids: antiwear high quality mineral oils or fire resistant fluid having same lubrication capacities of the mineral oil.

Viscosity range (with mineral oil): from 13 to 860 cSt. (13 to 54 cSt. recommended).

Filtration: for the inlet - 149 micron abs., for the return line - 25 micron abs. or better (with synthetic fluids: for the return line - 10 micron abs. or better).

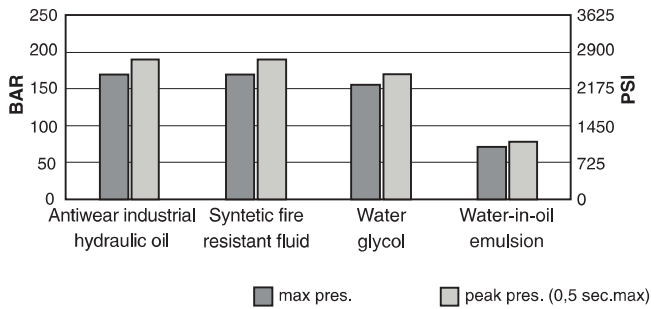
Inlet pressure: (with mineral oil): from -0,17 to +1,4 bar (-2.5 to + 20 psi)

Operating temperature: with mineral oil -10°C +70°C (+30°C to +60°C recommended), with water based fluids +15°C to +50°C.

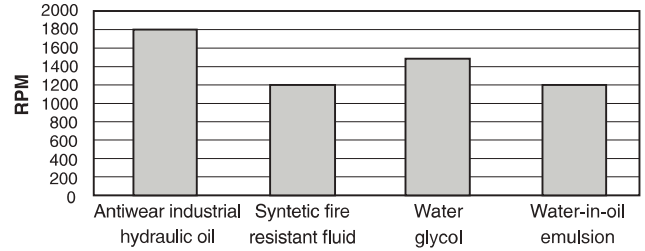
Drive: direct and coaxial by means of a flexible coupling.

Main operating data

max pressure / hydraulic fluid

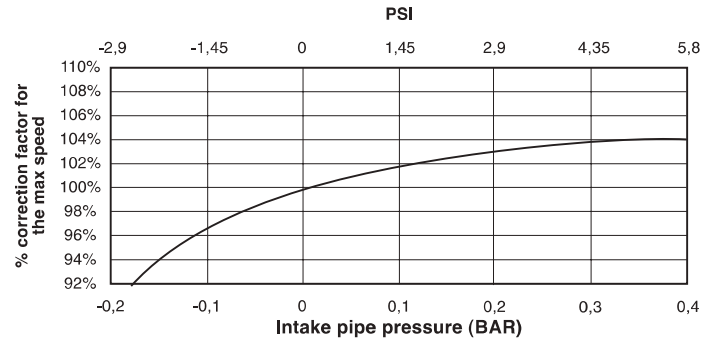


max speed / hydraulic fluid (with 0 bar in the intake pipe)

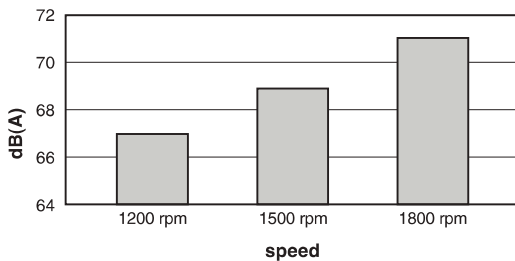


If the intake pressure is not zero bar, use the graph below to find the percentage correction factor to apply to the maximum speed

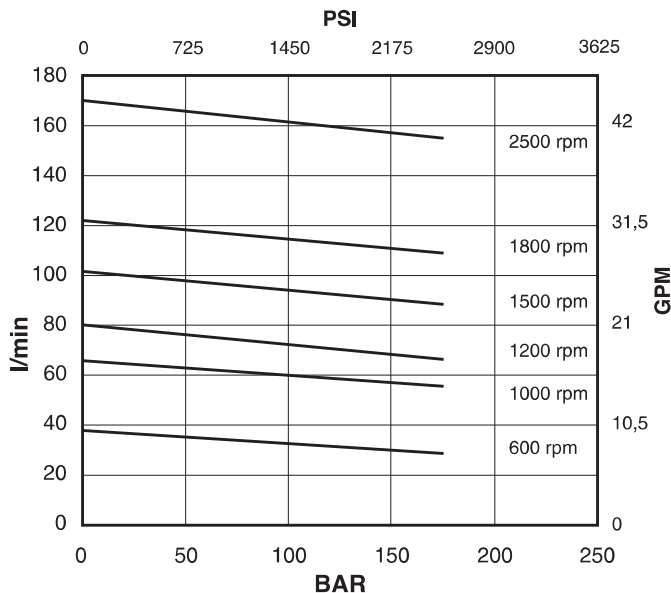
max speed / intake pipe pressure



Sound level at 138 bar (2000 psi)

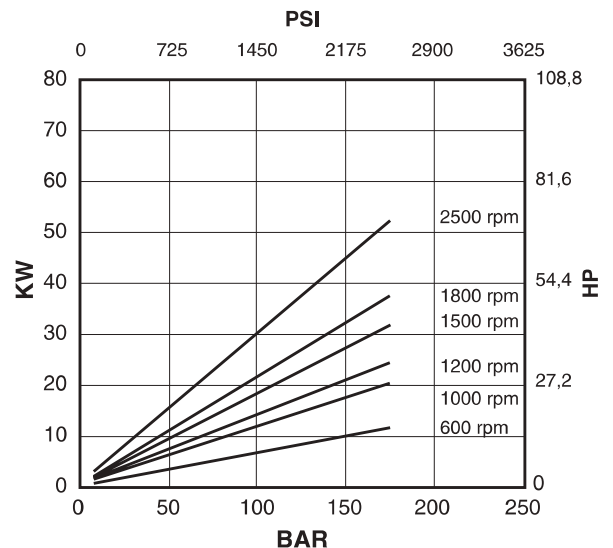


flow / pressure

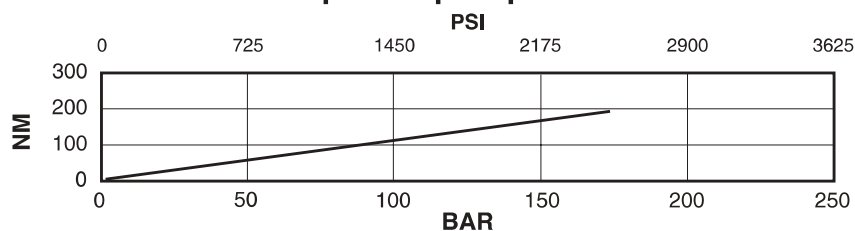


Shaft end cartridge V04-21

power / pressure

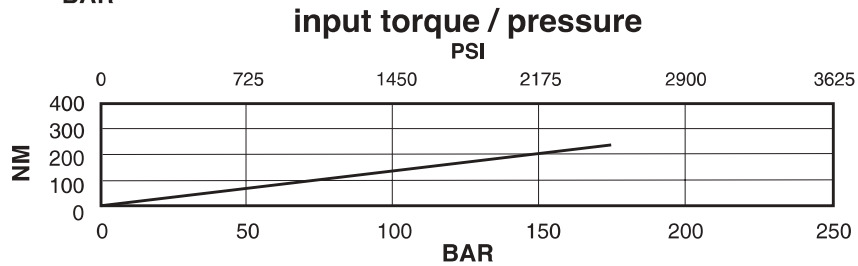
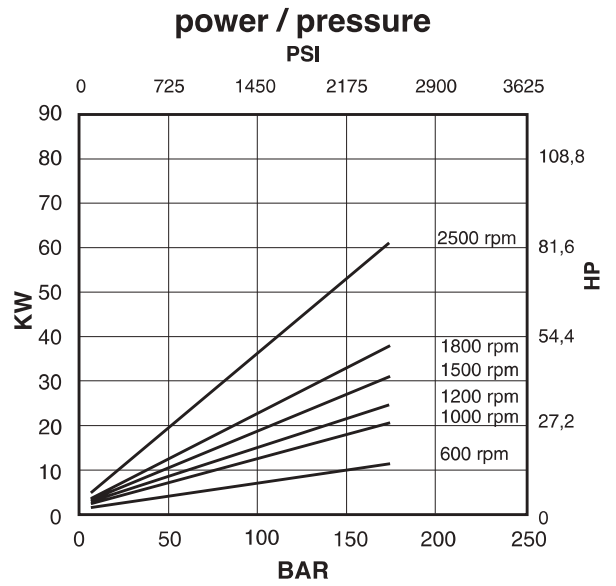
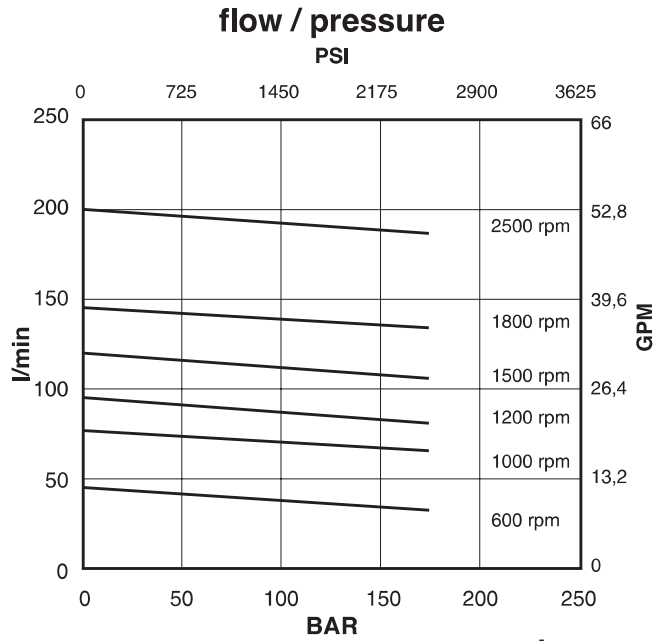


input torque / pressure



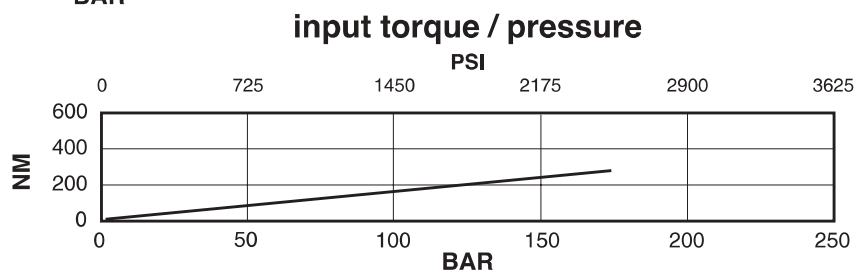
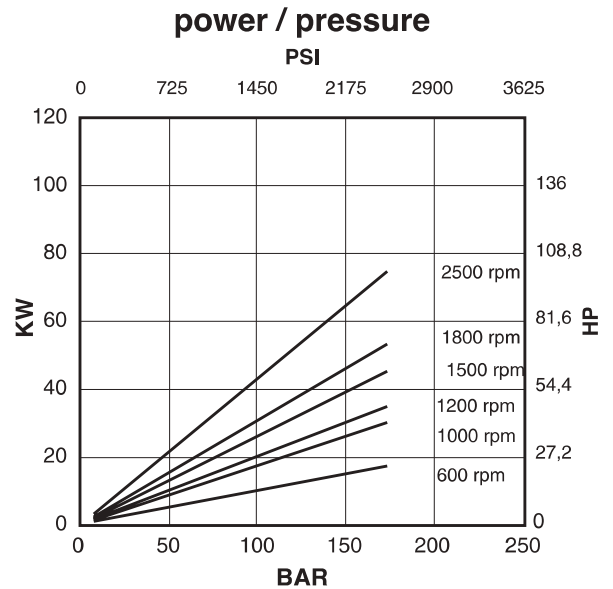
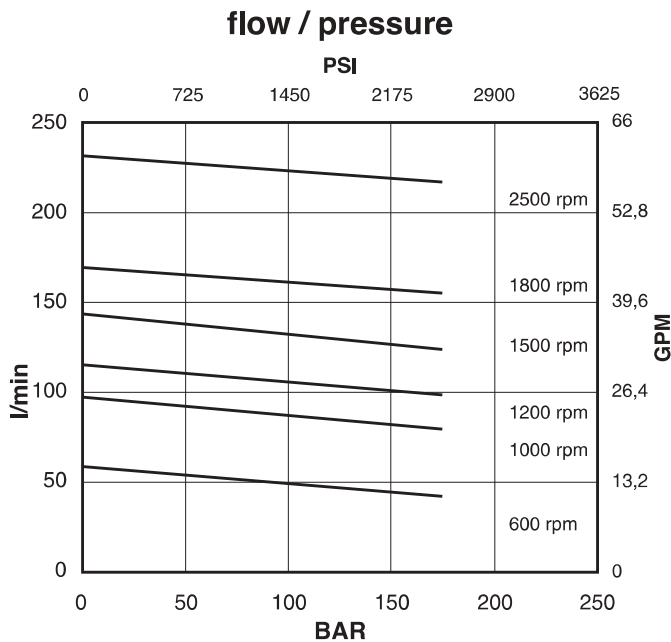
Oil viscosity: 25 c.St.(10W)
Temperature: 45°C
Inlet pressure: 0 BAR

Shaft end cartridge V04-25



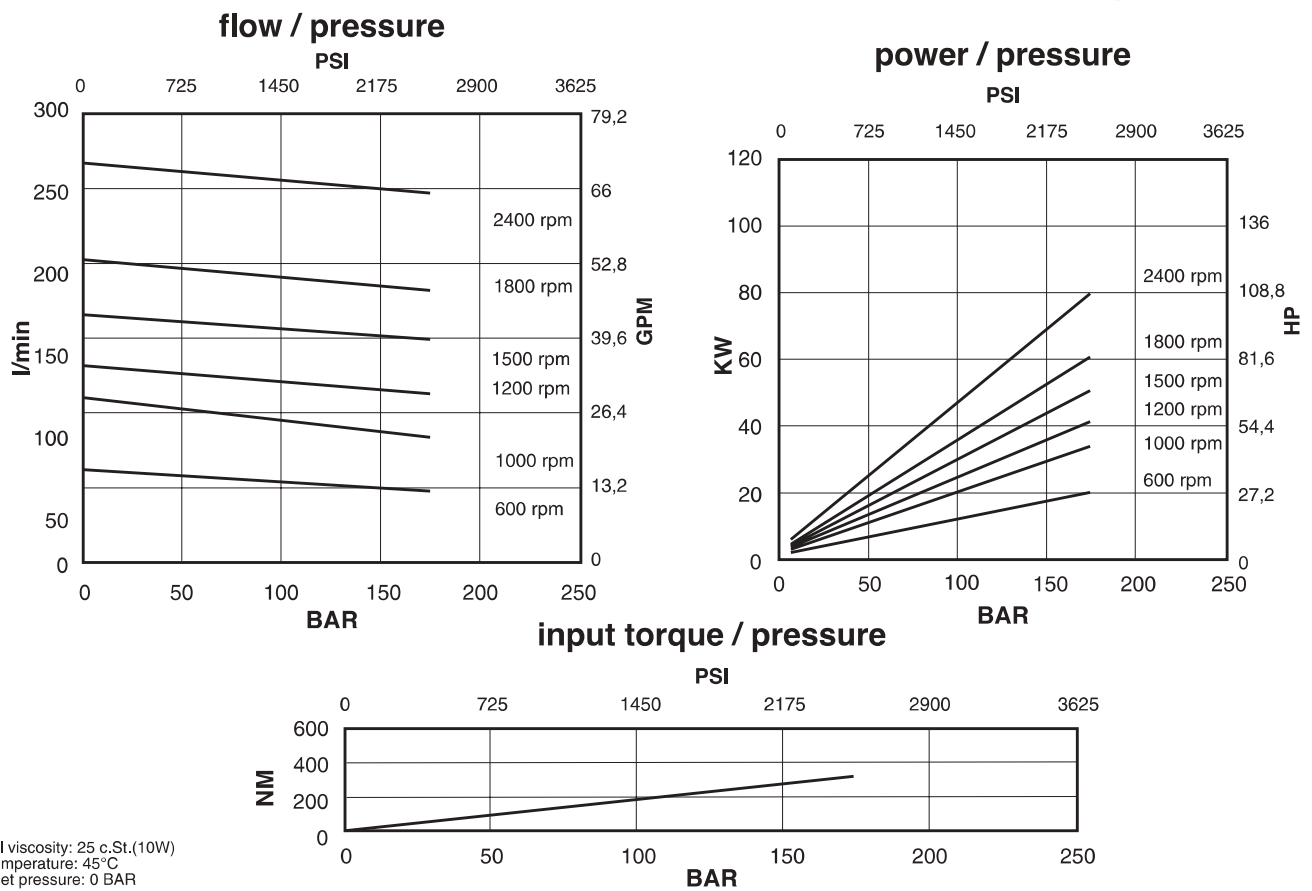
Oil viscosity: 25 c.St.(10W)
Temperature: 45°C
Inlet pressure: 0 BAR

Shaft end cartridge V04-30

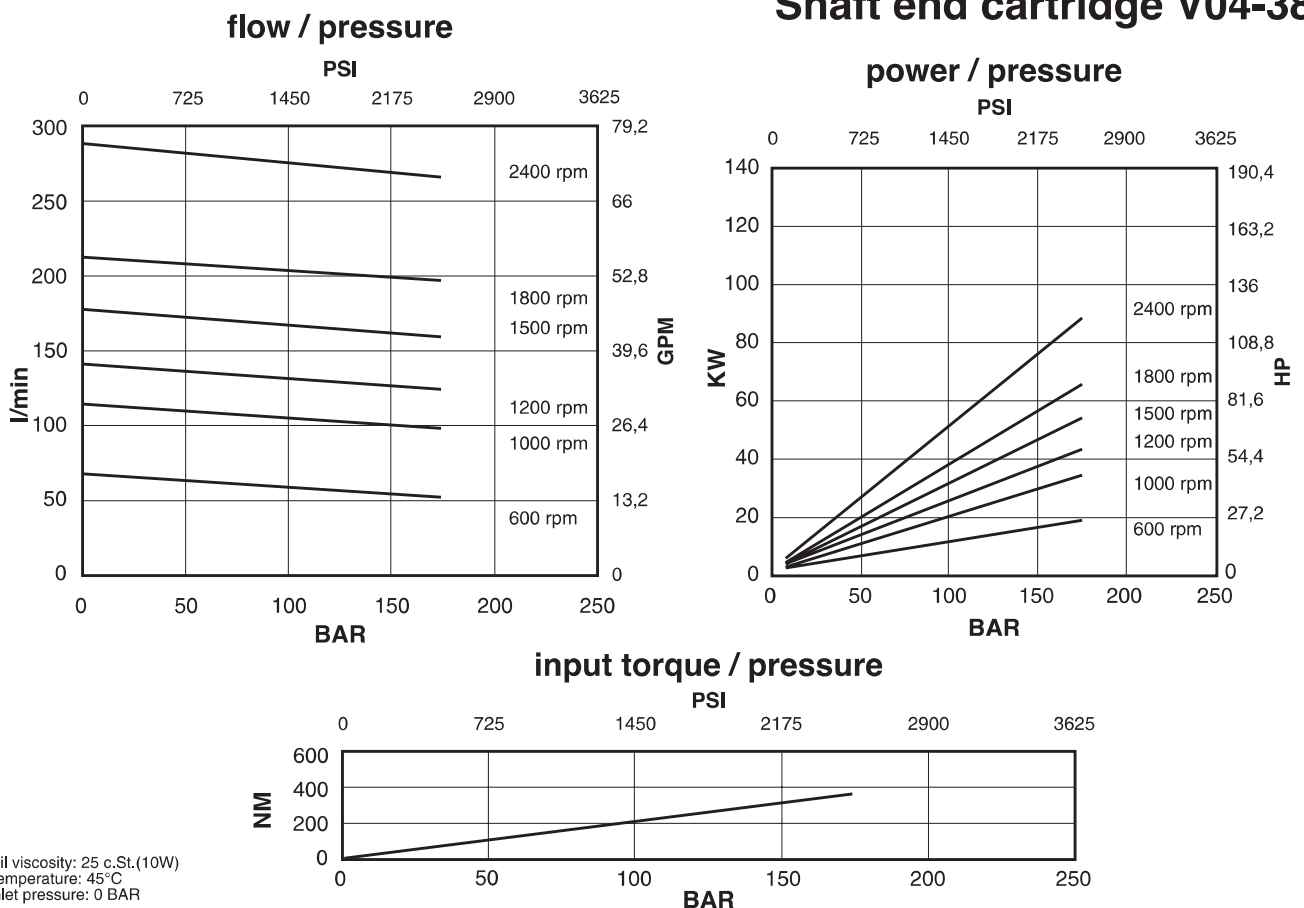


Oil viscosity: 25 c.St.(10W)
Temperature: 45°C
Inlet pressure: 0 BAR

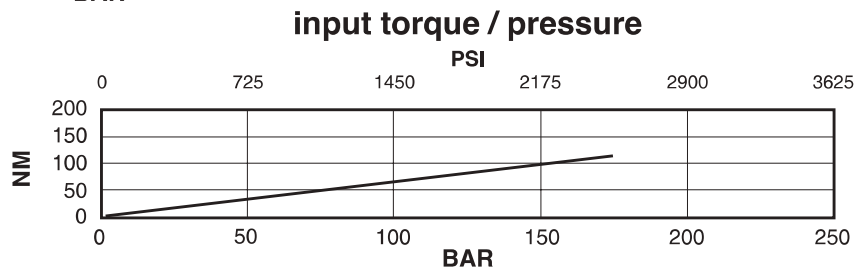
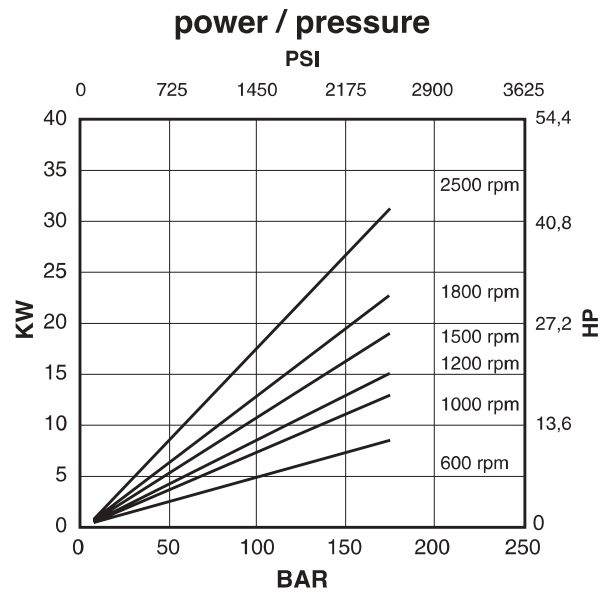
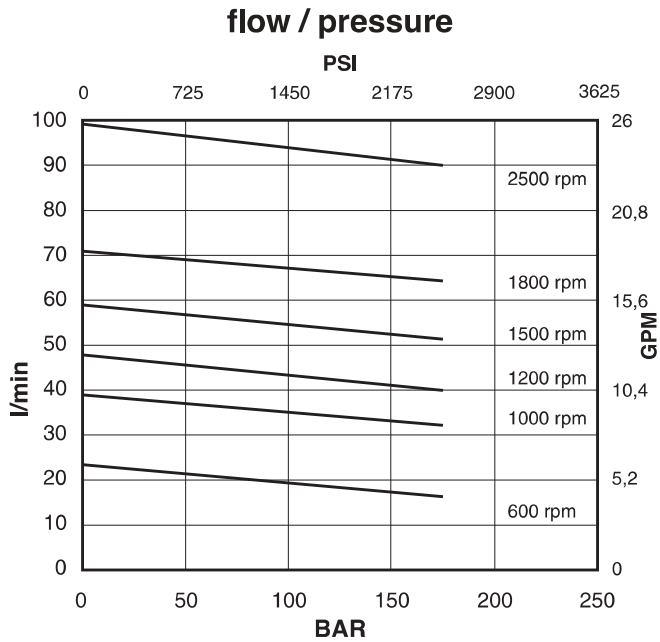
Shaft end cartridge V04-35



Shaft end cartridge V04-38

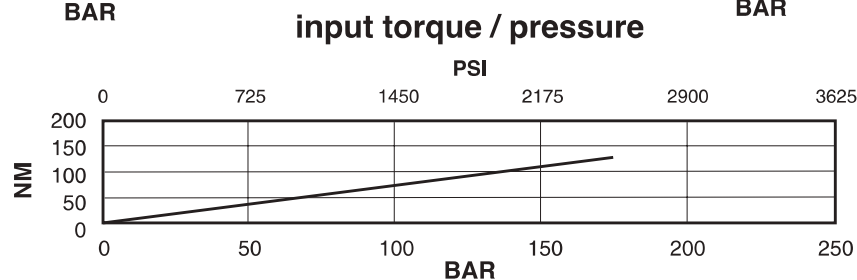
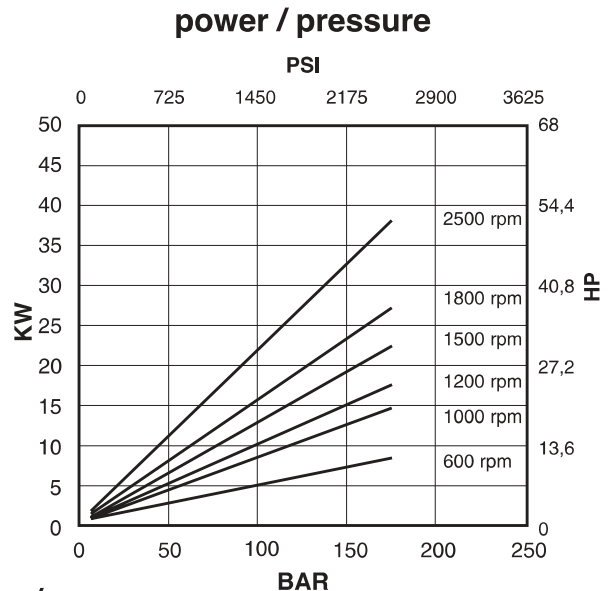
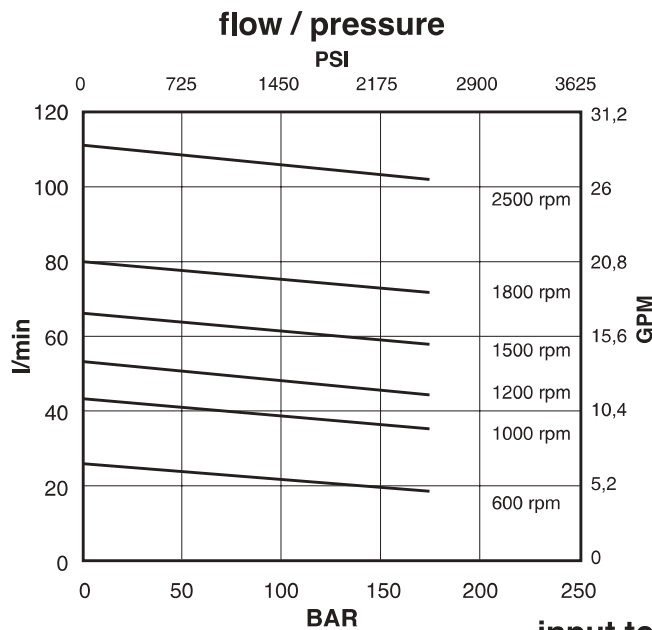


Cover end cartridge V02-12



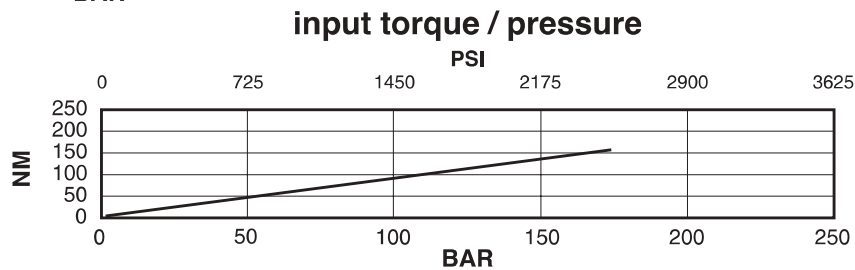
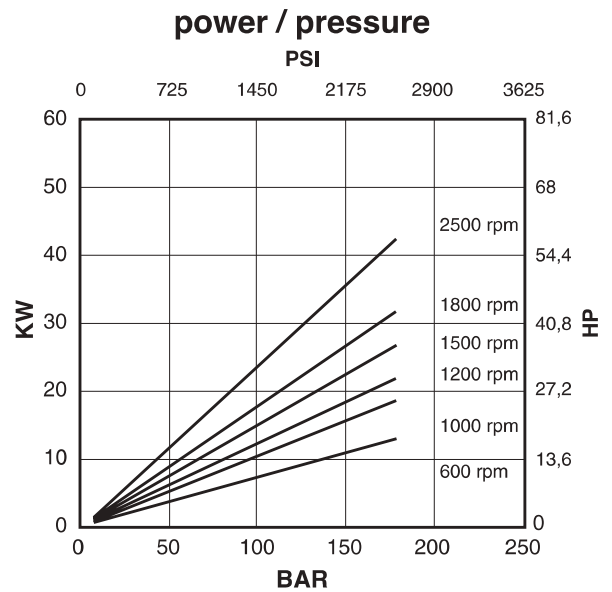
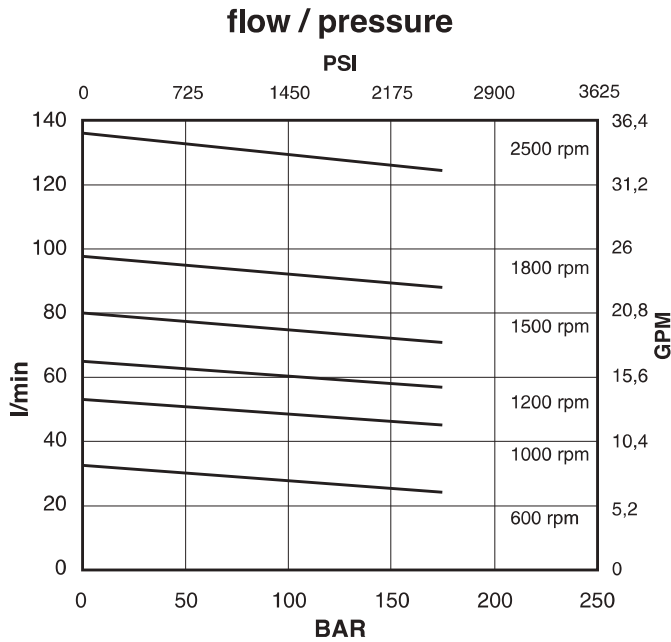
Oil viscosity: 25 c.St.(10W)
 Temperature: 45°C
 Inlet pressure: 0 BAR

Cover end cartridge V02-14



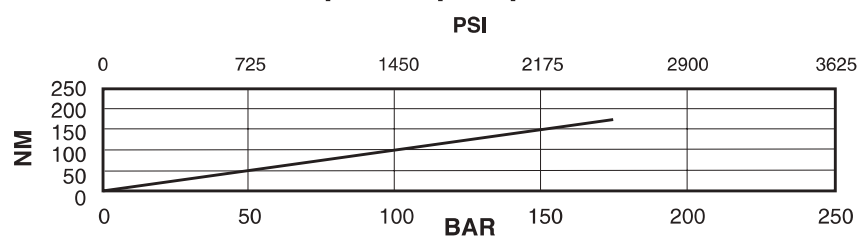
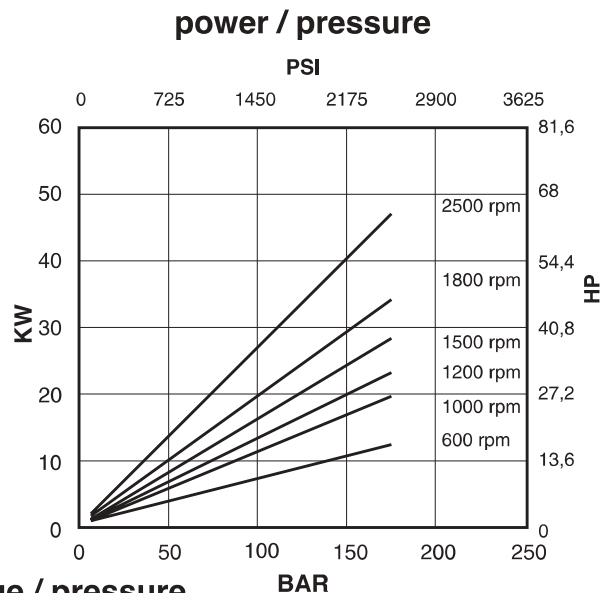
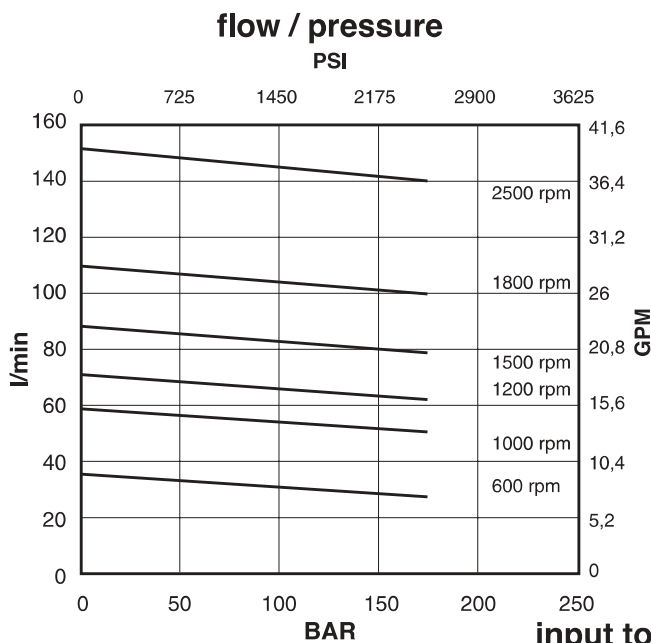
Oil viscosity: 25 c.St.(10W)
 Temperature: 45°C
 Inlet pressure: 0 BAR

Cover end cartridge V02-17



Oil viscosity: 25 c.St.(10W)
 Temperature: 45°C
 Inlet pressure: 0 BAR

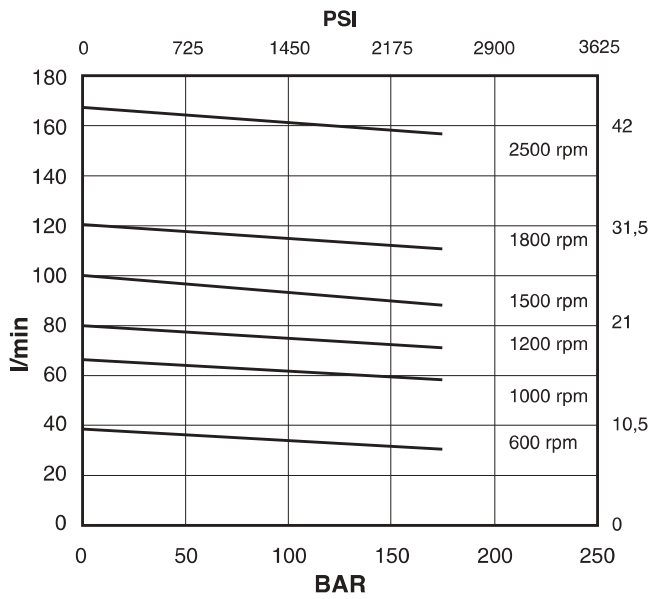
Cover end cartridge V02-19



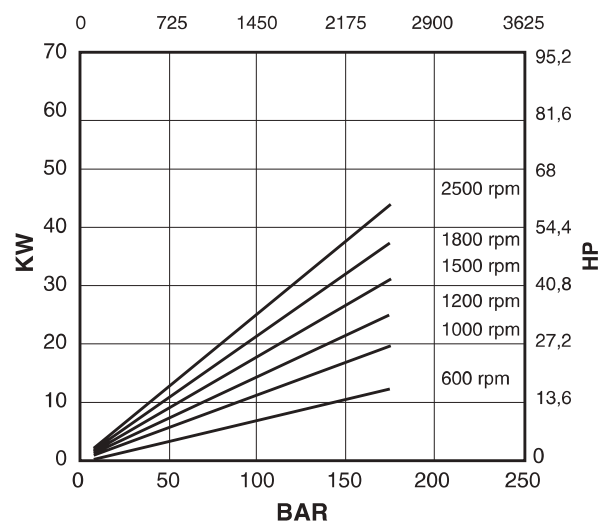
Oil viscosity: 25 c.St.(10W)
 Temperature: 45°C
 Inlet pressure: 0 BAR

Cover end cartridge V02-21

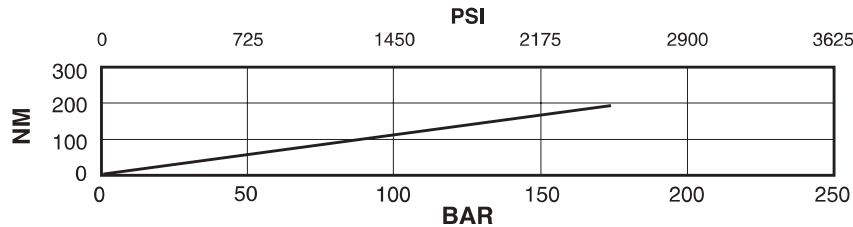
flow / pressure



power / pressure

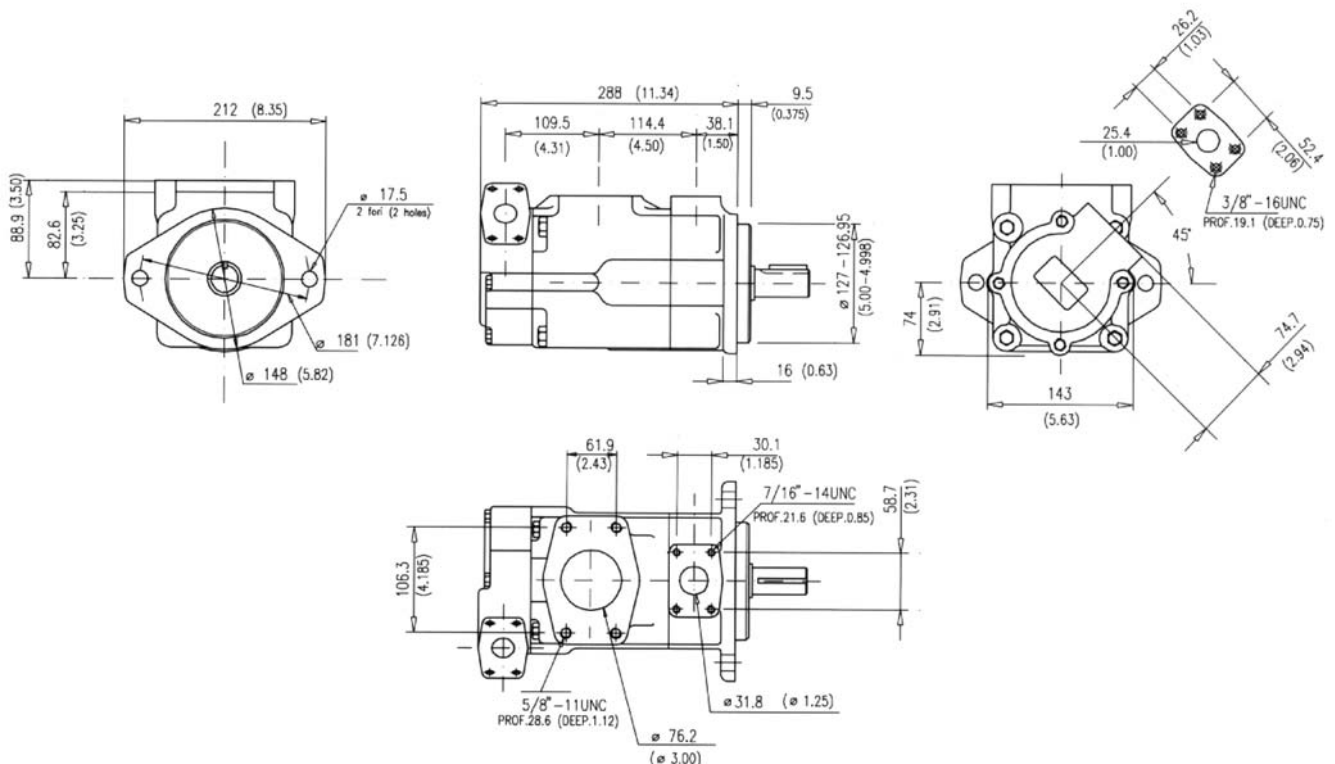


input torque / pressure



Oil viscosity: 25 c.St.(10W)
Temperature: 45°C
Inlet pressure: 0 BAR

Installation dimensions mm (inches)

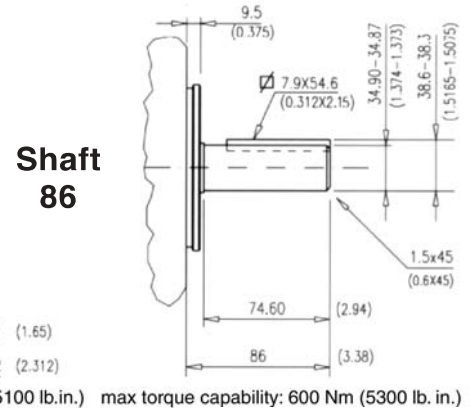
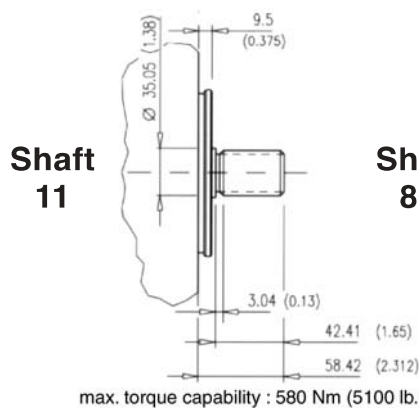
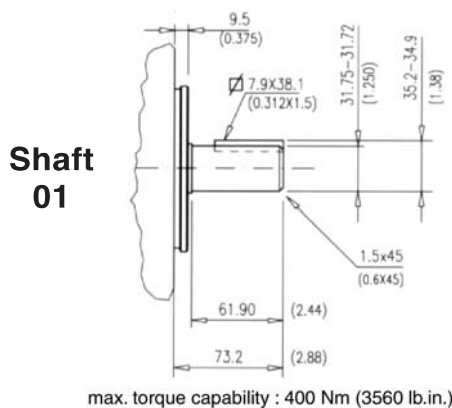


Approx. weight: 34,5 Kg. (76 lbs.)

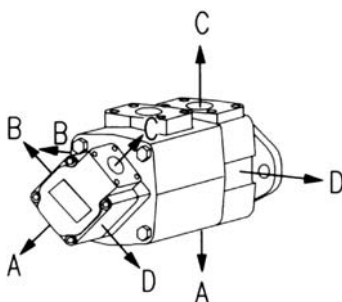
Model code breakdown

BV	42	G	**	**	*	*	**	(L)	*	(A)
Pump series		Design								Mounting (omit if not required)
Pump type										
Cartridge types										
-shaft end	21	25	30	35	38					
-cover end	12	14	17	19	21					
Body outlet port positions (outlet viewed from cover end)										
A = Outlet opposite end										
B = Outlet 90° CCW from inlet										
C = Outlet in line with inlet										
D = Outlet 90° CW from inlet										
Cover outlet port positions (outlet viewed from cover end)										
A = Outlet 135° CCW from inlet										
B = Outlet 45° CCW from inlet										
C = Outlet 45° CW from inlet										
D = Outlet 135° CW from inlet										
Seals (omit with standard seals and one shaft-seal in NBR) V = seals and shaft-seal in FPM (Viton®) D = standard seals and double shaft-seals in NBR F = seals and double shaft-seals in FPM (Viton®)										
Rotation (viewed from shaft end) L = left hand rotation CCW (omit if CW)										
Shaft end options 01 = Straight with key (standard), 11 = Splined 86 = Heavy duty straight keyed, 90 = Splined SAE C										

Shaft options mm (inches)



PORT ORIENTATIONS

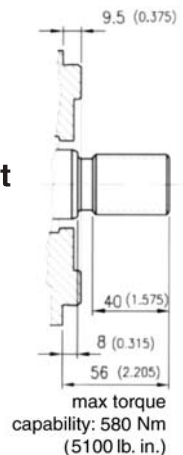


Spline data

(shaft 11 and shaft 90)
Involute side fit (ASA B5.15)

Spline	
Pressure angle	30°
No. of teeth	14
Pitch	12/24
Major dia.	31.60 - 31.50 (1.244 - 1.240)
Pitch dia.	29.634 (1.1667)
Minor dia.	26.99 - 26.66 (1.0627 - 1.05)
Wildhaber	15.68 - 15.73 (0.617 - 0.619)

Shaft 90



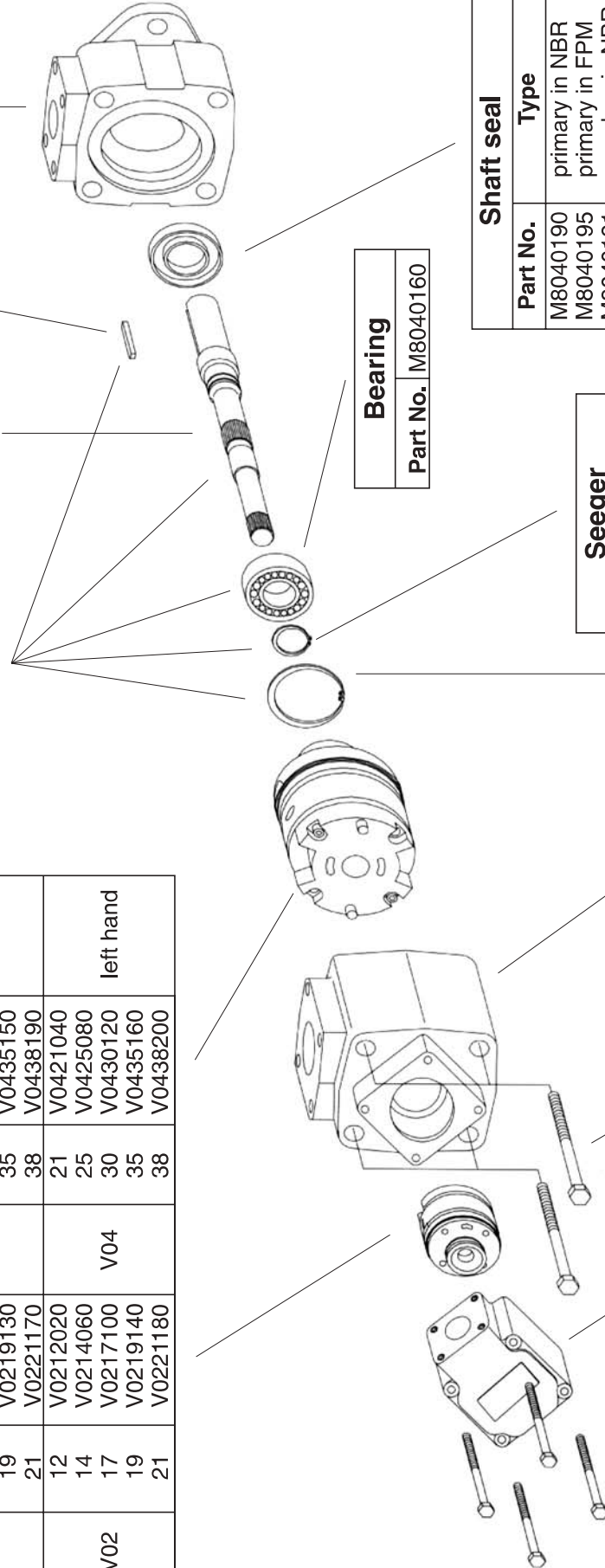
Id. codes of pump components

Cartridges					
cover end			shaft end		Pump rotation
Series	Model	Part No.	Series	Model	
V02	12	V0212010	V04	21	V0421030
	14	V0214050		25	V0425070
	17	V0217090		30	V0430110
	19	V0219130		35	V0435150
	21	V0221170		38	V0438190
V02	12	V0212020	V04	21	V0421040
	14	V0214060		25	V0425080
	17	V0217100		30	V0430120
	19	V0219140		35	V0435160
	21	V0221180		38	V0438200

Shaft kit	
Model	Part No.
01	M8420601
11	M8420611
86	M8420686
90	M8420690

Shaft	
Model	Part No.
01	K4201000
11	K4211000
86	K4286000
90	K4290000

Body	
Part No.	M8040140



Bearing	
Part No.	M8040160

Shaft seal	
Part No.	Type
M8040190	primary in NBR
M8040195	primary in FPM
M8040191	secondary in NBR
M8040196	secondary in FPM

Seeger	
Part No.	M8040180

Intel body	
Part No.	M8040240

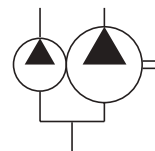
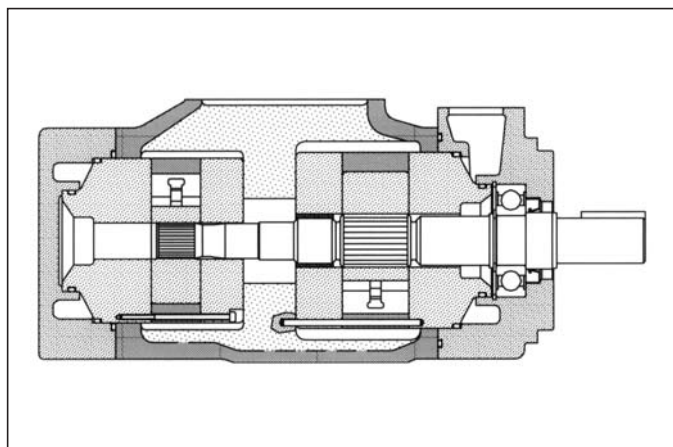
Cover	
Part No.	M8050350

Pump seal kit		
Part No.	Parts	Type
M8420500	seals + 1 shaft seal	NBR
M8420501	seals + 2 shaft seals	NBR
M8420503	seals + 1 shaft seal	FPM (Viton®)
M8420504	seals + 2 shaft seals	FPM (Viton®)

Screw	
Part No.	M8040220
Torque to 225 Nm (2010 lb. in.)	

Screw	
Part No.	M8040230
Torque to 102 Nm (910 lb. in.)	

Seeger	
Part No.	M8040170



General description

Fixed displacement vane pump, hydraulically balanced, with capacity determined by the cartridges used and the speed of rotation. The pump is available in several versions with rated capacities from 172 to 285 l/min (from 44 to 74 gpm) at 1200 rpm and 7 bar.

Technical characteristics

Cartridge model	Geometric displacement		Rated capacity at 1200 rpm 7 bar		Rated capacity at 1500 rpm 7 bar		Maximum pressure awith mineral oil		Speed range rpm	
shaft end	cm ³ /g	(in ³ /r)	l/min	(gpm)	l/min	(gpm)	bar	(psi)	min	max
V05-42	138,6	(8.46)	164	(42)	203,4	(53.7)	175	(2538)	600	1800
V05-47	153,5	(9.4)	180	(47)	222,7	(58.8)	175	(2538)	600	1800
V05-50	162,2	(9.9)	189	(50)	234	(61.8)	175	(2538)	600	1800
V05-57	183,4	(11.2)	217	(57)	267	(71.2)	175	(2538)	600	1800
V05-60	193,4	(11.8)	230	(60)	285	(75.3)	175	(2538)	600	1800
cover end	cm ³ /g	(in ³ /r)	l/min	(gpm)	l/min	(gpm)	bar	(psi)	min	max
V01-02	7,2	(0.44)	8,3	(2)	10,4	(2.8)	210	(3050)	600	2700
V01-05	18,0	(1.10)	20,8	(5)	26,1	(6.9)	210	(3050)	600	2700
V01-08	27,4	(1.67)	31,8	(8)	39,4	(10.4)	210	(3050)	600	2700
V01-09	30,1	(1.83)	35,1	(9)	44,1	(11.7)	210	(3050)	600	2700
V01-11	36,4	(2.22)	42,4	(11)	52,6	(13.9)	210	(3050)	600	2700
V01-12	39,5	(2.41)	46,9	(12)	58,7	(15.5)	160	(2300)	600	2700
V01-14	45,9	(2.79)	54,9	(14)	69,6	(18.4)	140	(2030)	600	2700

Hydraulic fluids: antiwear high quality mineral oils or fire resistant fluid having same lubrication capacities of the mineral oil.

Viscosity range (with mineral oil): from 13 to 860 cSt. (13 to 54 cSt. recommended).

Filtration: for the inlet - 149 micron abs., for the return line - 25 micron abs. or better (with synthetic fluids: for the return line - 10 micron abs. or better).

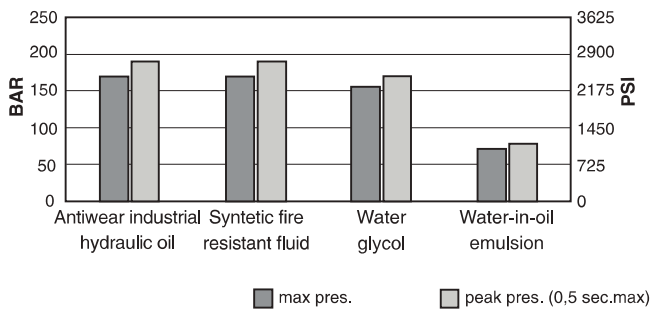
Inlet pressure: (with mineral oil): from -0,17 to +1,4 bar (-2.5 to + 20 psi)

Operating temperature: with mineral oil -10°C +70°C (+30°C to +60°C recommended), with water based fluids +15°C to +50°C.

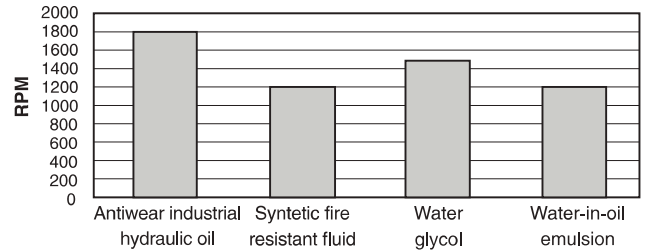
Drive: direct and coaxial by means of a flexible coupling.

Main operating data

max pressure / hydraulic fluid

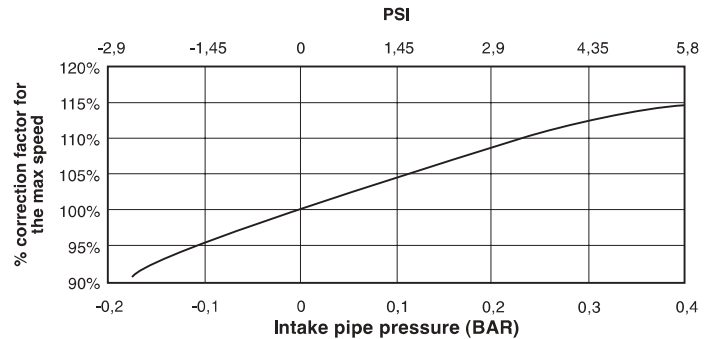


max speed / hydraulic fluid (with 0 bar in the intake pipe)

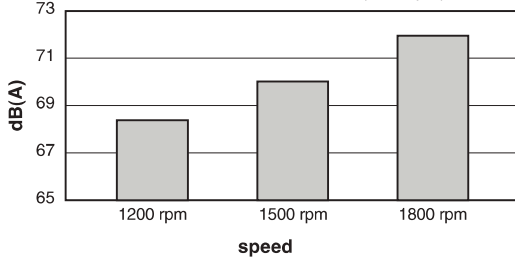


If the intake pressure is not zero bar, use the graph below to find the percentage correction factor to apply to the maximum speed

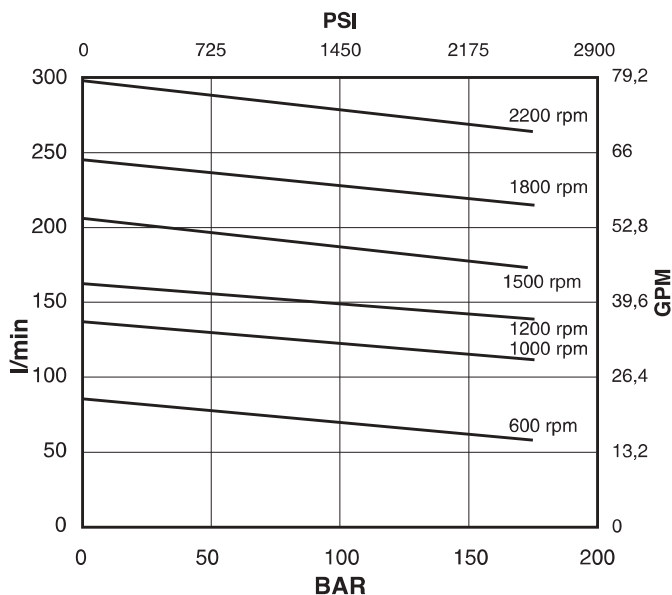
max speed / intake pipe pressure



Sound level at 138 bar (2000 psi)

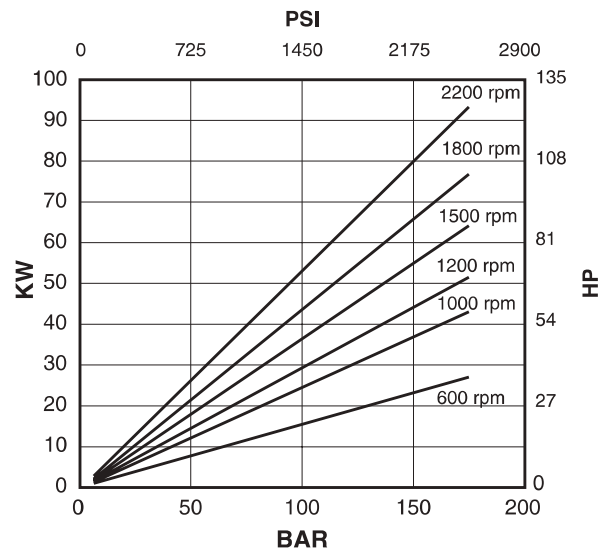


flow / pressure

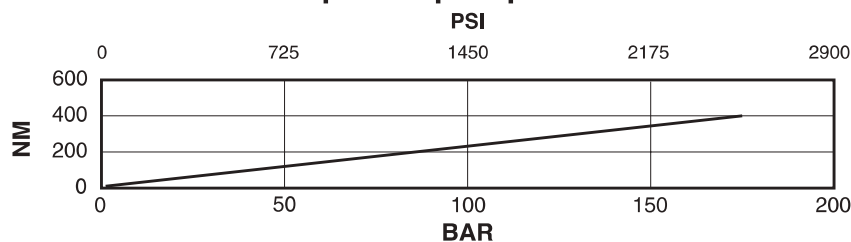


Shaft end cartridge V05-42

power / pressure

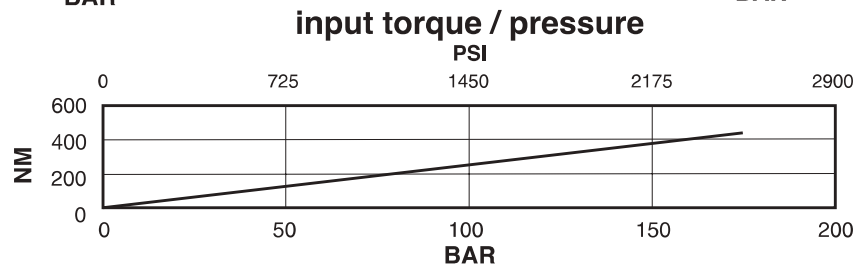
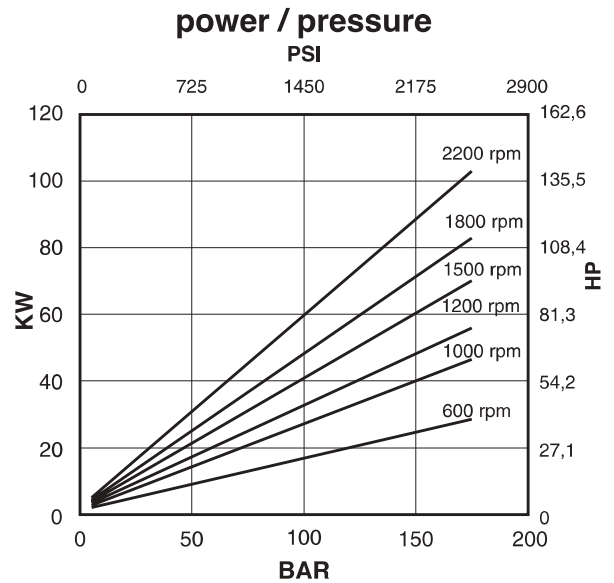
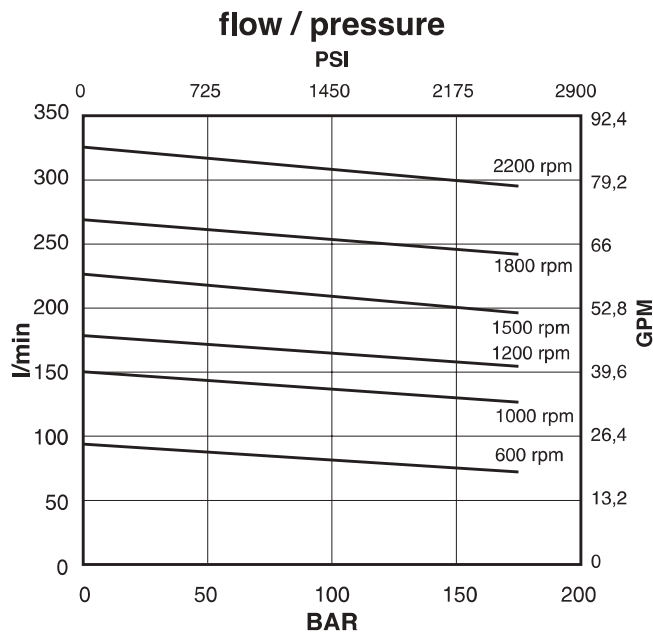


input torque / pressure



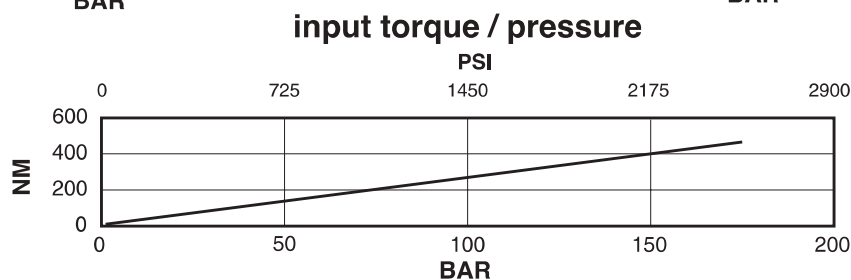
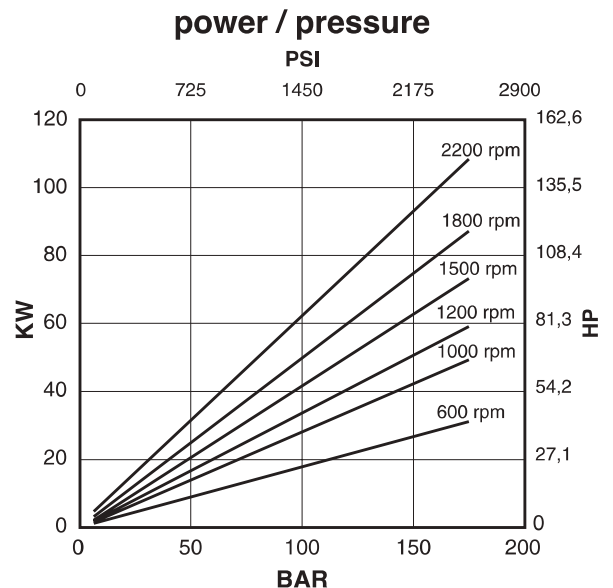
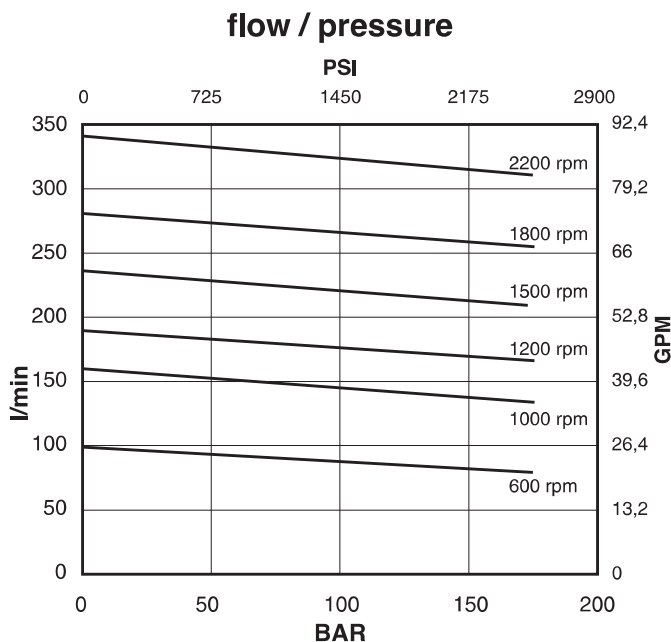
Oil viscosity: 25 c.St.(10W)
Temperature: 45°C
Inlet pressure: 0 BAR

Shaft end cartridge V05-47



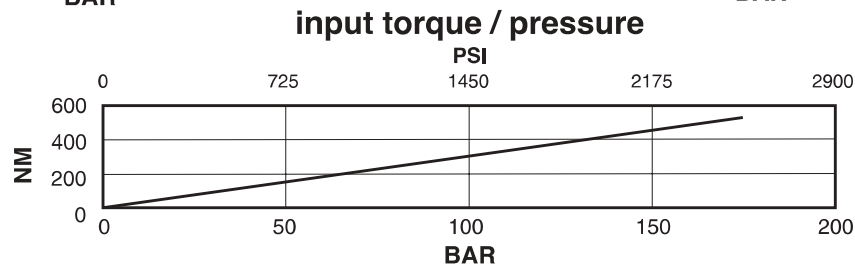
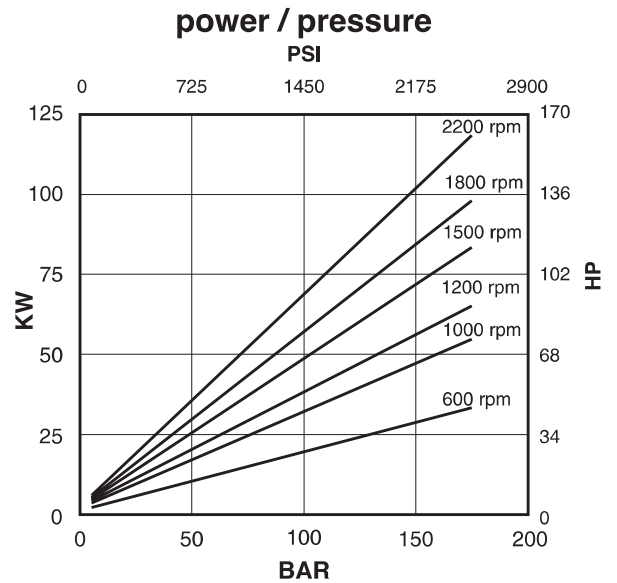
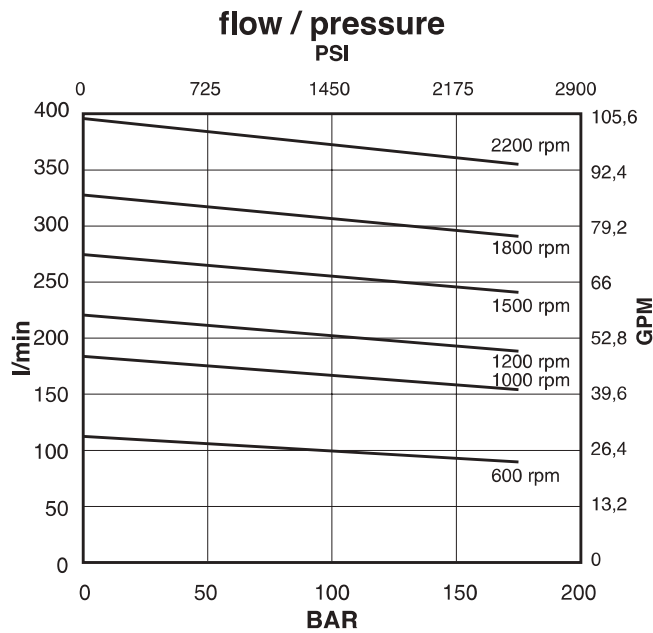
Oil viscosity: 25 c.St.(10W)
Temperature: 45°C
Inlet pressure: 0 BAR

Shaft end cartridge V05-50



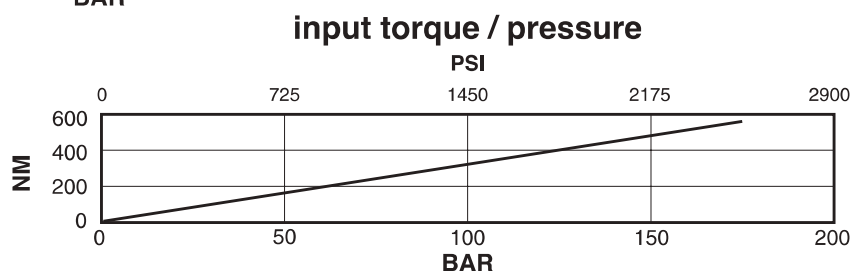
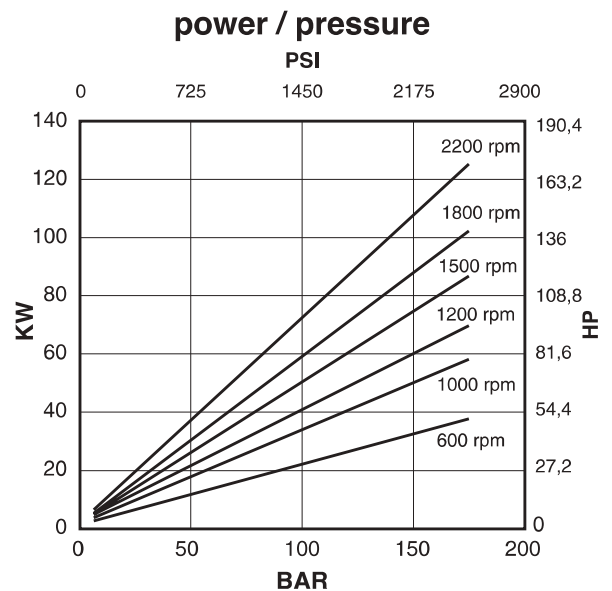
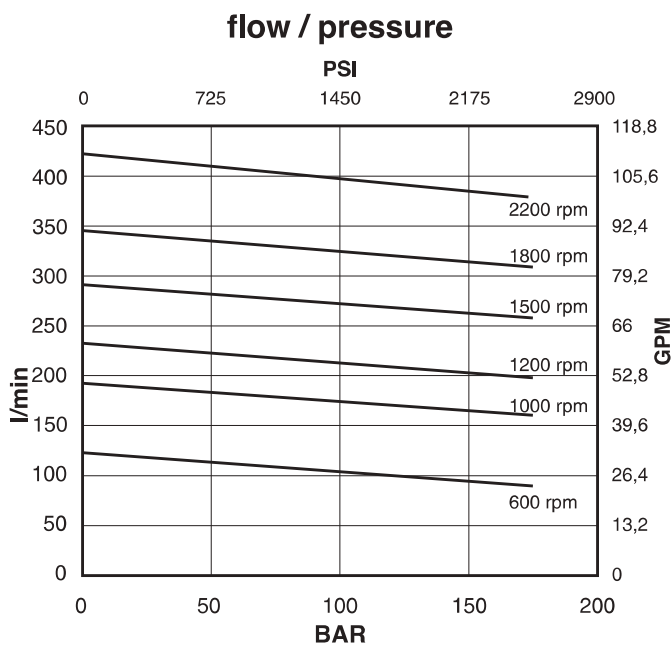
Oil viscosity: 25 c.St.(10W)
Temperature: 45°C
Inlet pressure: 0 BAR

Shaft end cartridge V05-57



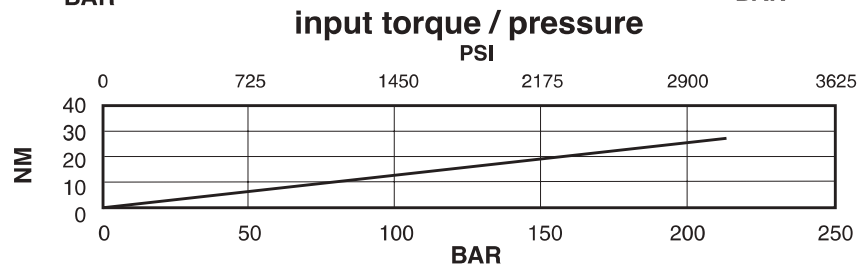
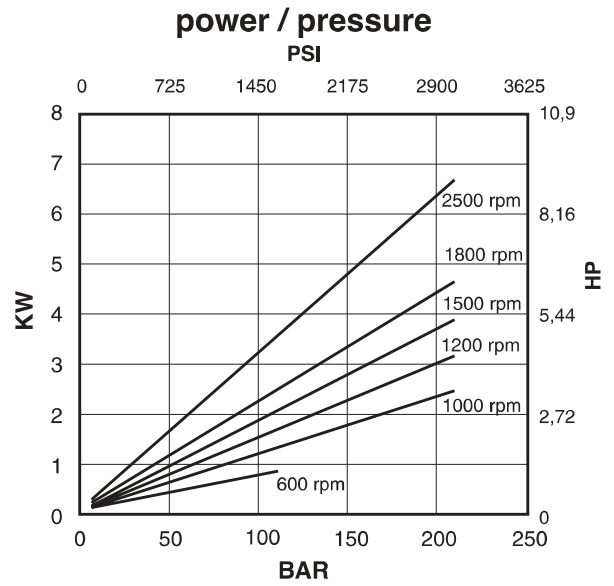
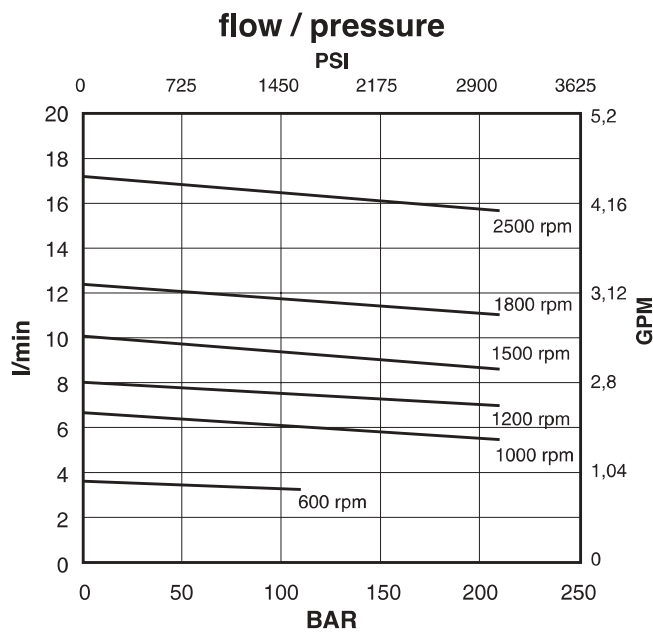
Oil viscosity: 25 c.St.(10W)
Temperature: 45°C
Inlet pressure: 0 BAR

Shaft end cartridge V05-60



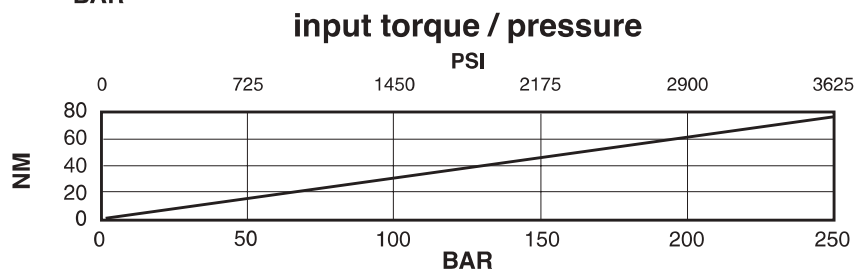
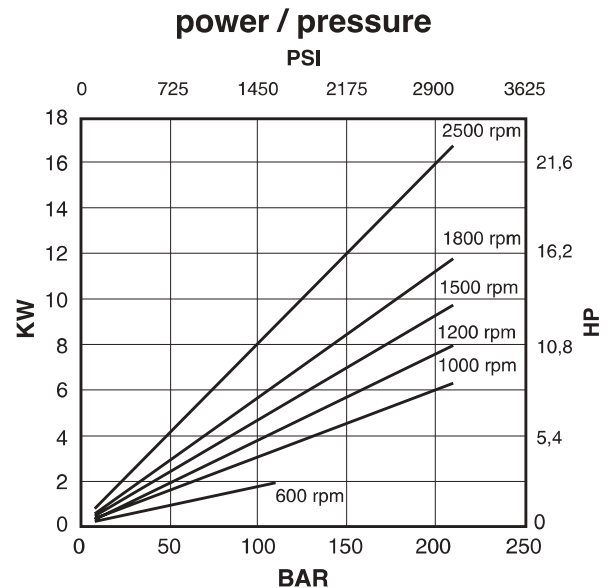
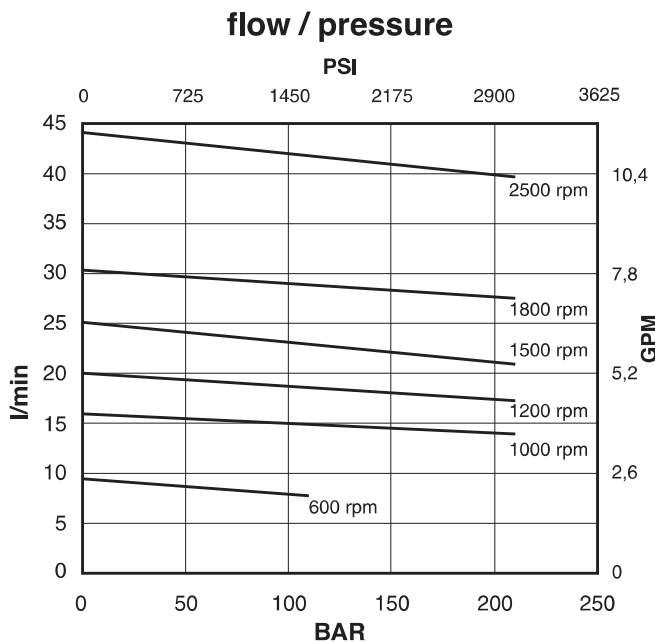
Oil viscosity: 25 c.St.(10W)
Temperature: 45°C
Inlet pressure: 0 BAR

Cartridge V01-02



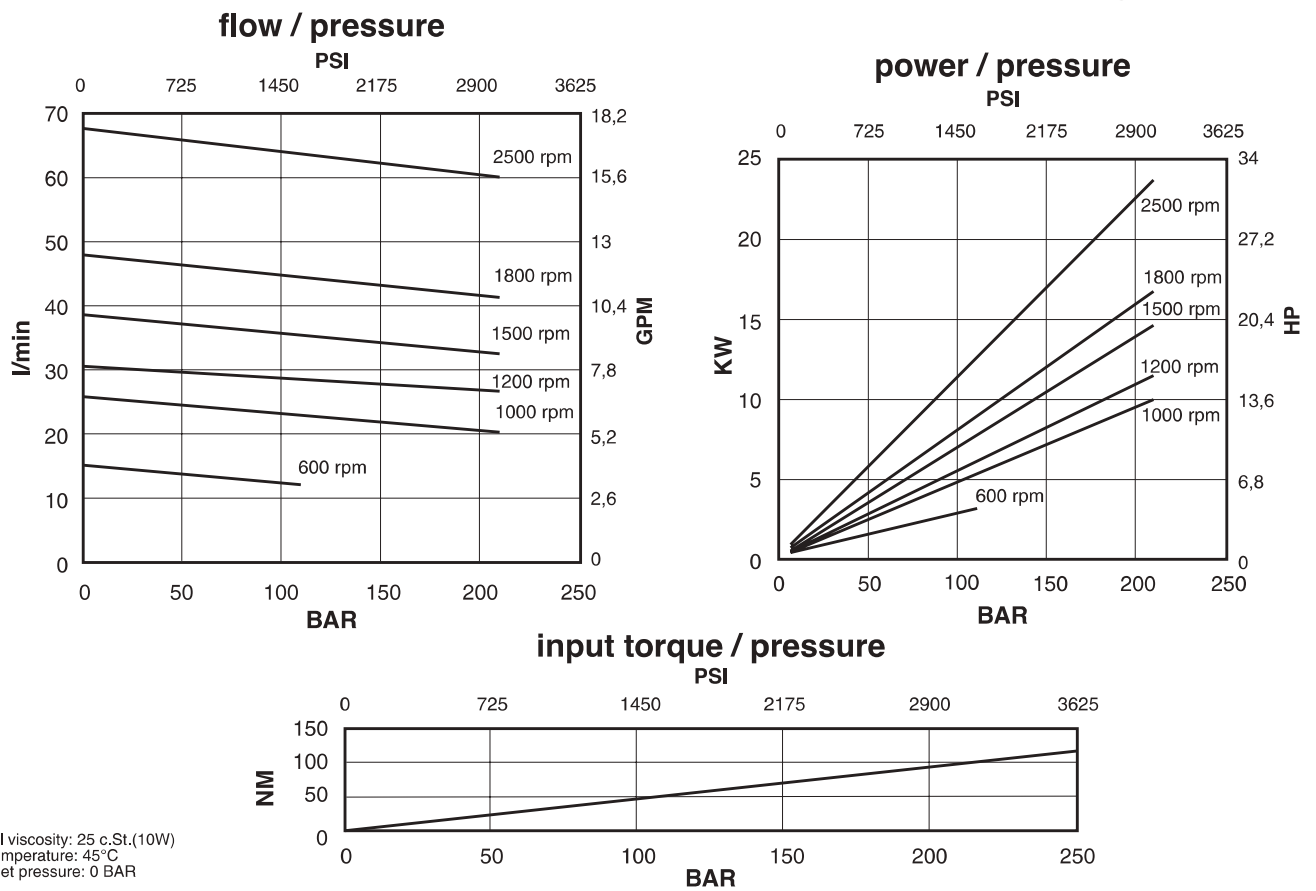
Oil viscosity: 25 c.St.(10W)
 Temperature: 45°C
 Inlet pressure: 0 BAR

Cartridge V01-05

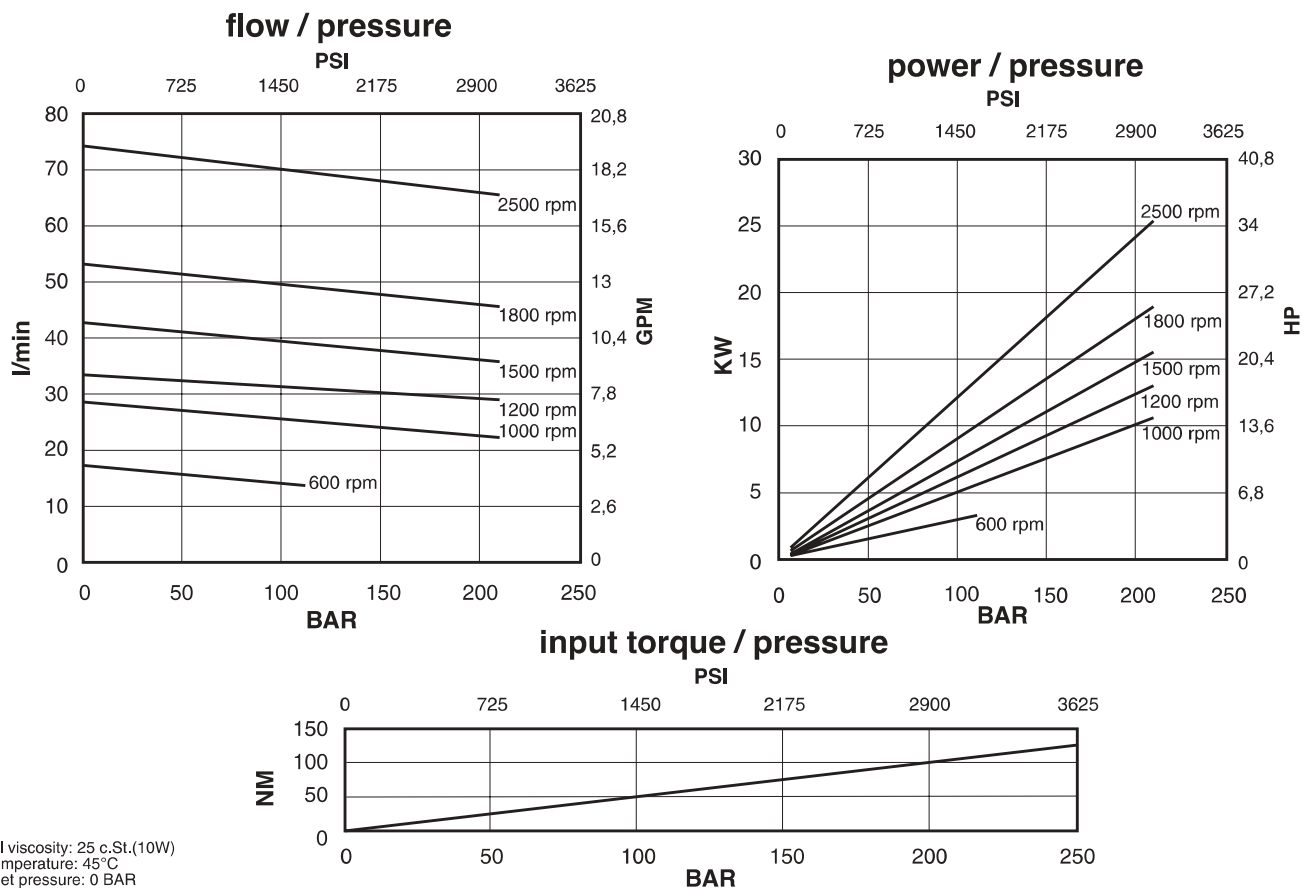


Oil viscosity: 25 c.St.(10W)
 Temperature: 45°C
 Inlet pressure: 0 BAR

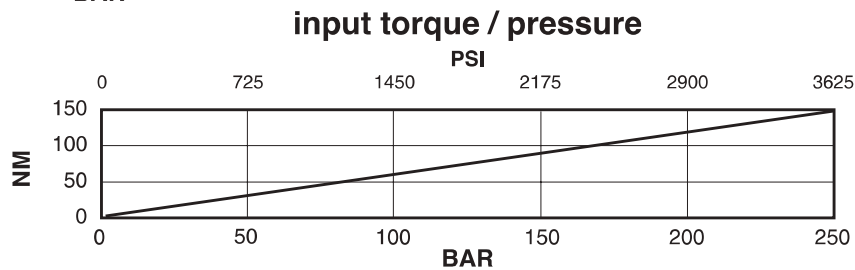
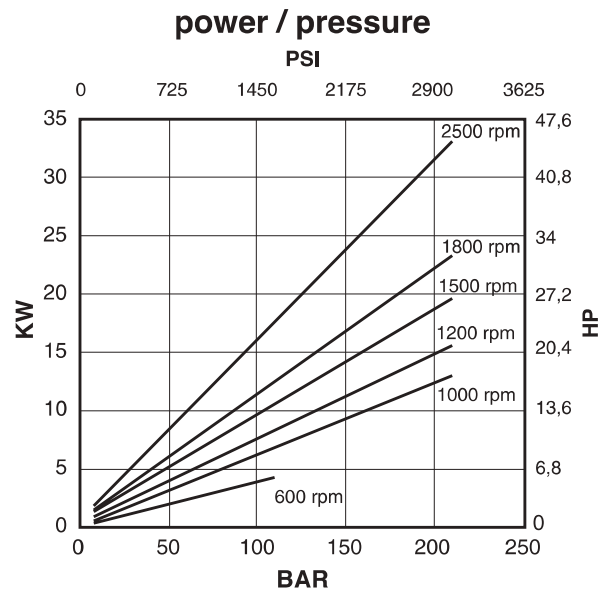
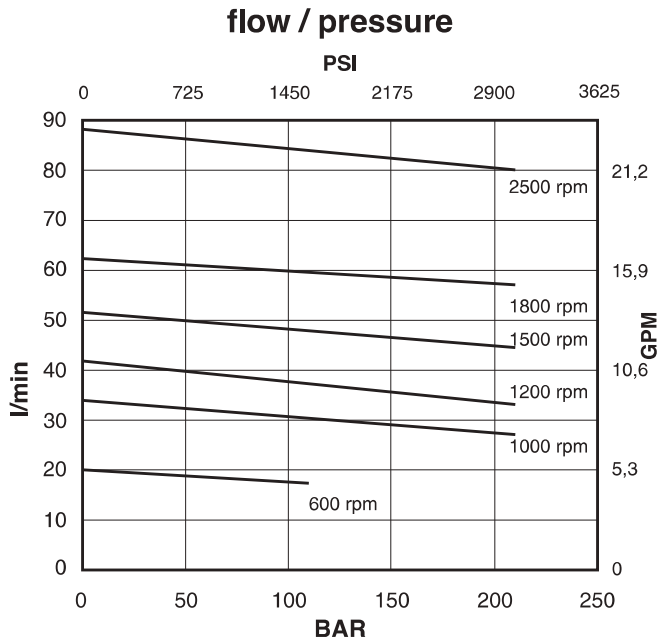
Cartridge V01-08



Cartridge V01-09

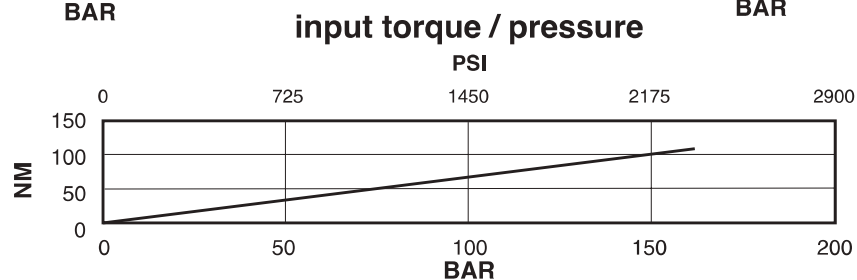
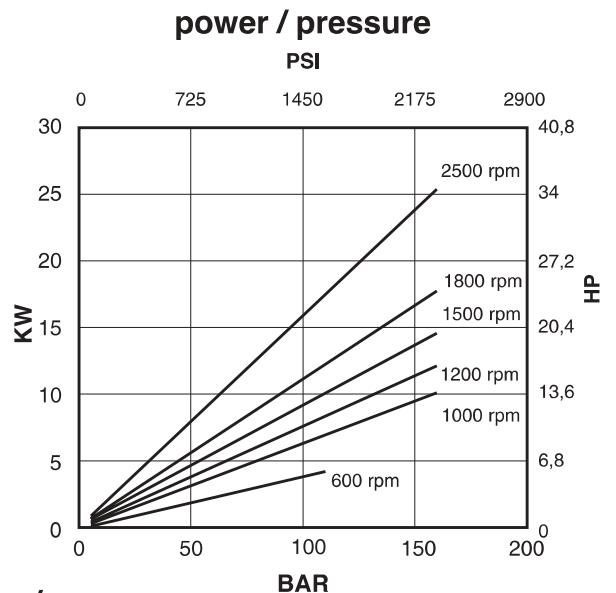
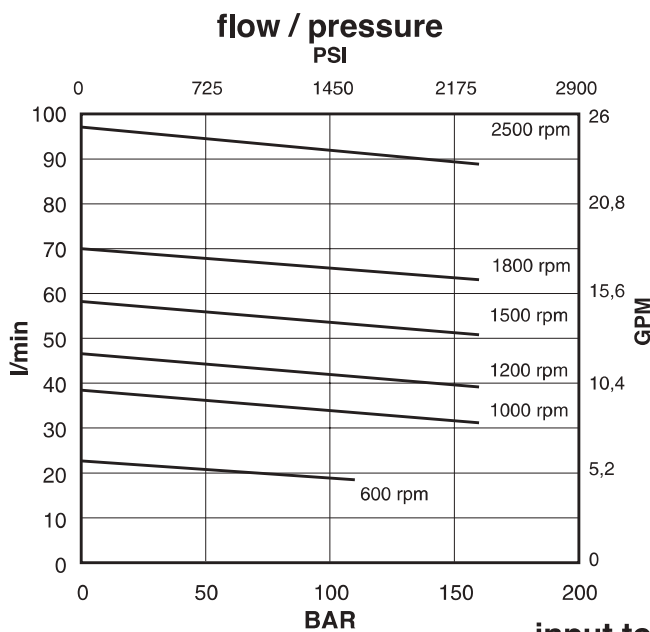


Cover end cartridge V01-11



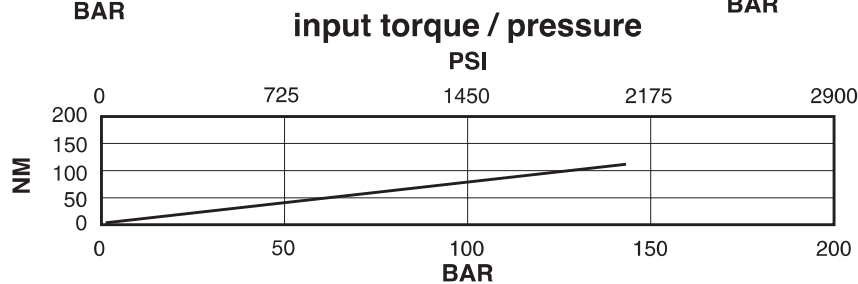
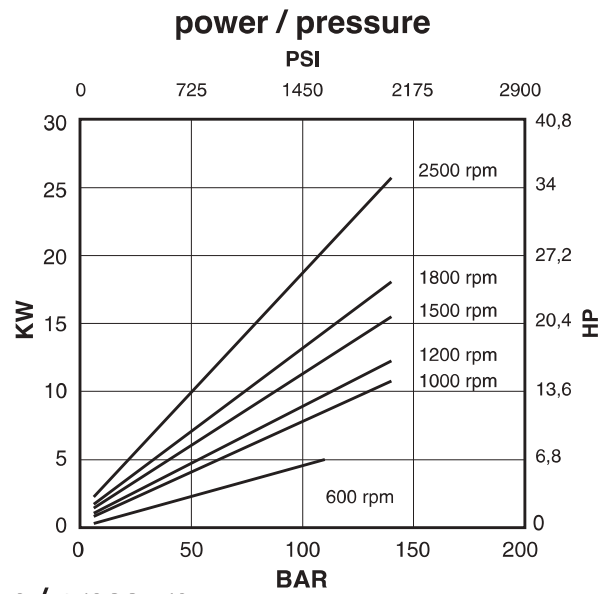
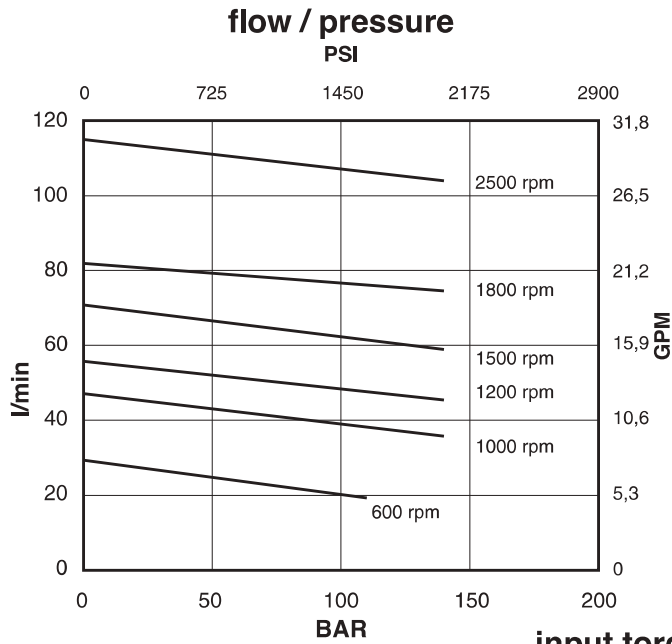
Oil viscosity: 25 c.St.(10W)
 Temperature: 45°C
 Inlet pressure: 0 BAR

Cover end cartridge V01-12



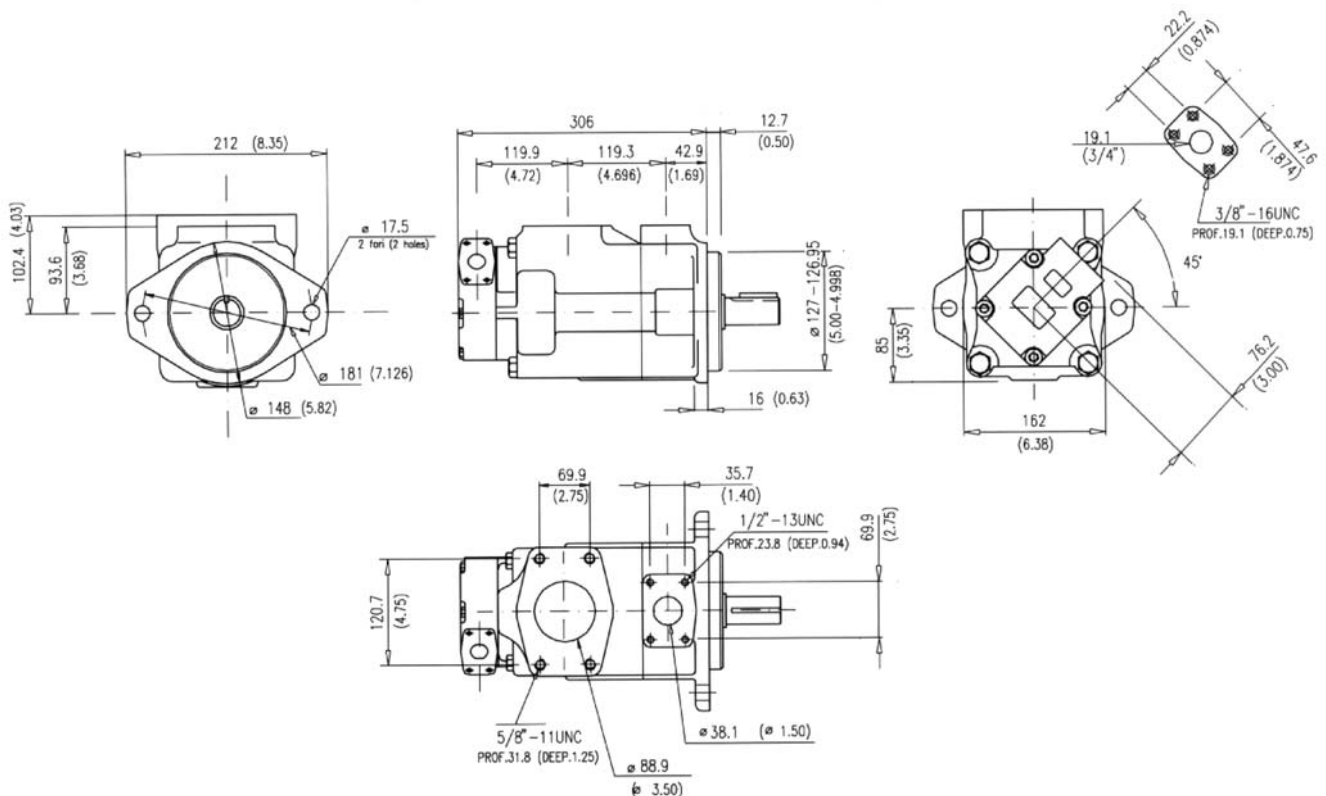
Oil viscosity: 25 c.St.(10W)
 Temperature: 45°C
 Inlet pressure: 0 BAR

Cover end cartridge V01-14



Oil viscosity: 25 c.St.(10W)
Temperature: 45°C
Inlet pressure: 0 BAR

Installation dimensions mm (inches)



Approx. weight: 43 Kg. (95 lbs.)

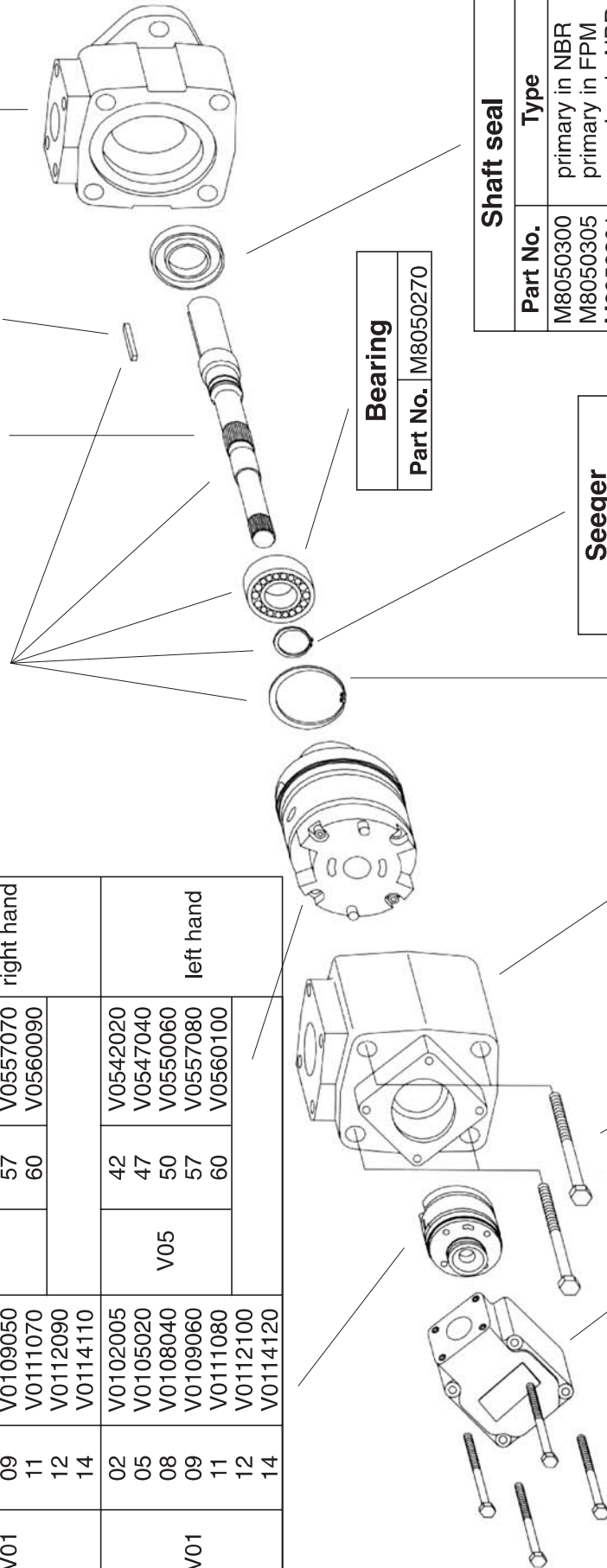
Id. codes of pump components

Cartridges					
cover end		shaft end		Pump rotation	
Series	Model	Part No.	Series	Model	Part No.
V01	02	V0102000	V05	42	V0542010
	05	V0105010		47	V0547030
	08	V0108030		50	V0550050
	09	V0109050		57	V0557070
	11	V0111070		60	V0560090
	12	V0112090			
V01	14	V0114110	V05	42	V0542020
	02	V0102005		47	V0547040
	05	V0105020		50	V0550060
	08	V0108040		57	V0557080
	09	V0109060		60	V0560100
	11	V0111080			
	12	V0112100			
	14	V0114120			

Shaft kit	
Model	Part No.
01	M8510601
11	M8510611
86	M8510686
90	M8510690

Shaft	
Model	Part No.
01	K5101000
11	K5111000
86	K5186000
90	K5190000

Body	
Part No.	M8050250



Bearing	
Part No.	M8050270

Shaft seal	
Part No.	Type
M8050300	primary in NBR
M8050305	primary in FPM
M8050301	secondary in NBR
M8050306	secondary in FPM

Seeger	
Part No.	M8050290

Inlet body	
Part No.	M8050390

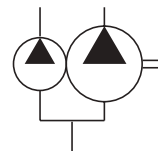
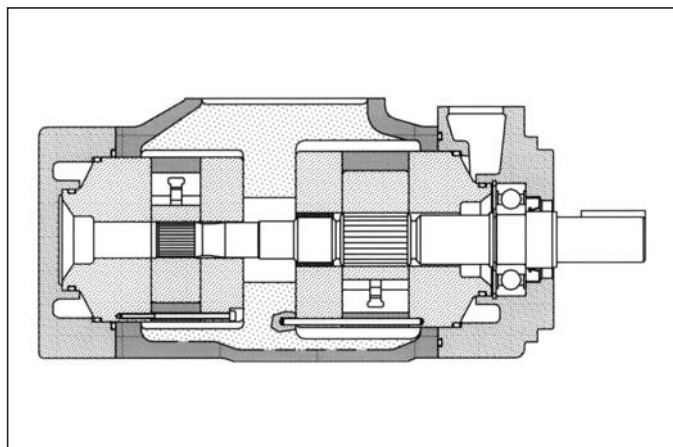
Cover	
Part No.	M8020120

Pump seal kit		
Part No.	Parts	Type
M8510500	seals + 1 shaft seal	NBR
M8510501	seals + 2 shaft seals	NBR
M8510503	seals + 1 shaft seal	FPM (Viton®)
M8510504	seals + 2 shaft seals	FPM (Viton®)

Seeger	
Part No.	M8050280

Screw	
Part No.	M8050320
Torque to 398 Nm (3550 lb. in.)	

Screw	
Part No.	M8020420
Torque to 70 Nm (624 lb. in.)	



General description

Fixed displacement vane pump, hydraulically balanced, with capacity determined by the cartridges used and the speed of rotation. The pump is available in several versions with rated capacities from 211 to 309 l/min (from 54 to 81 gpm) at 1200 rpm and 7 bar.

Technical characteristics

Cartridge model	Geometric displacement		Rated capacity at 1200 rpm 7 bar		Rated capacity at 1500 rpm 7 bar		Maximum pressure with mineral oil		Speed range rpm	
shaft end	cm ³ /g	(in ³ /r)	l/min	(gpm)	l/min	(gpm)	bar	(psi)	min	max
V05-42	138,6	(8.46)	164	(42)	203,4	(53.7)	175	(2538)	600	1800
V05-47	153,5	(9.4)	180	(47)	222,7	(58.8)	175	(2538)	600	1800
V05-50	162,2	(9.9)	189	(50)	234	(61.8)	175	(2538)	600	1800
V05-57	183,4	(11.2)	217	(57)	267	(71.2)	175	(2538)	600	1800
V05-60	193,4	(11.8)	230	(60)	285	(75.3)	175	(2538)	600	1800
cover end	cm ³ /g	(in ³ /r)	l/min	(gpm)	l/min	(gpm)	bar	(psi)	min	max
V02-12	40,1	(2.45)	46,9	(12)	58,8	(15.5)	175	(2538)	600	1800
V02-14	45,4	(2.77)	52,7	(14)	65,7	(17.4)	175	(2538)	600	1800
V02-17	55,2	(3.37)	64,2	(17)	80,2	(21.2)	175	(2538)	600	1800
V02-19	60,0	(3.66)	71,0	(19)	88,7	(23.4)	175	(2538)	600	1800
V02-21	67,5	(4.12)	79,0	(21)	99,8	(26.4)	175	(2538)	600	1800

Hydraulic fluids: antiwear high quality mineral oils or fire resistant fluid having same lubrication capacities of the mineral oil.

Viscosity range (with mineral oil): from 13 to 860 cSt. (13 to 54 cSt. recommended).

Filtration: for the inlet - 149 micron abs., for the return line - 25 micron abs. or better (with synthetic fluids: for the return line - 10 micron abs. or better).

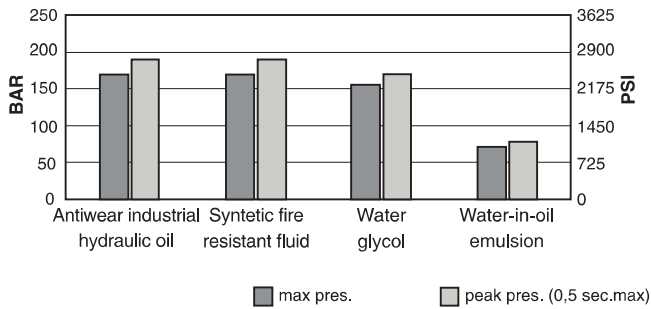
Inlet pressure: (with mineral oil): from -0,17 to +1,4 bar (-2.5 to + 20 psi)

Operating temperature: with mineral oil -10°C +70°C (+30°C to +60°C recommended), with water based fluids +15°C to +50°C.

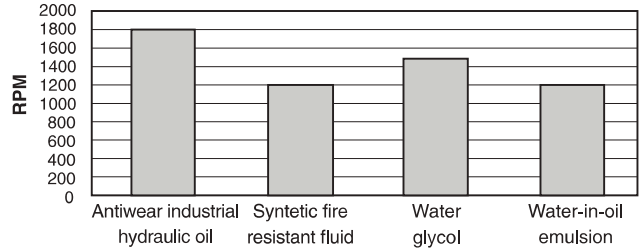
Drive: direct and coaxial by means of a flexible coupling.

Main operating data

max pressure / hydraulic fluid

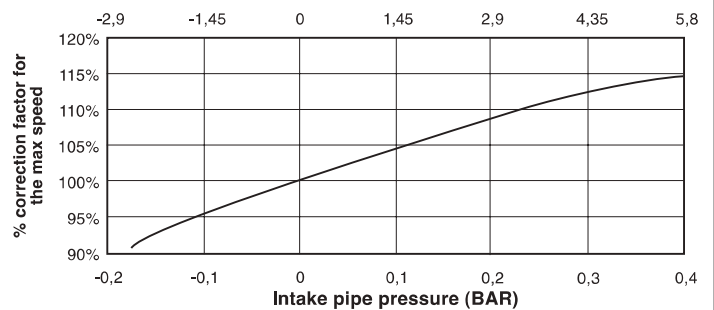


max speed / hydraulic fluid (with 0 bar in the intake pipe)

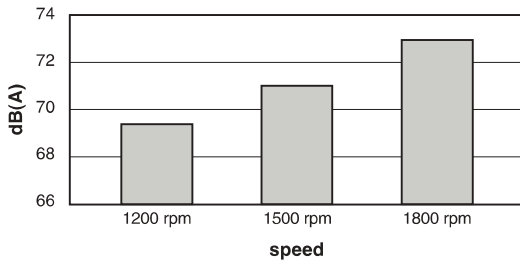


If the intake pressure is not zero bar, use the graph below to find the percentage correction factor to apply to the maximum speed

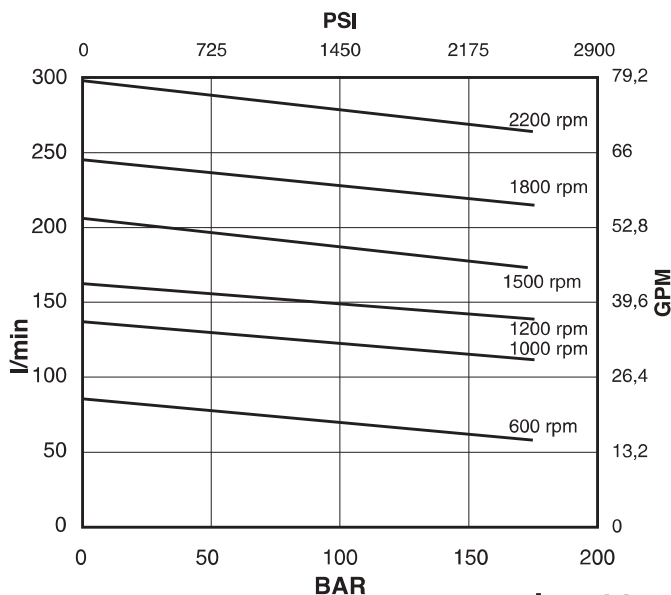
max speed / intake pipe pressure



Sound level at 138 bar (2000 psi)

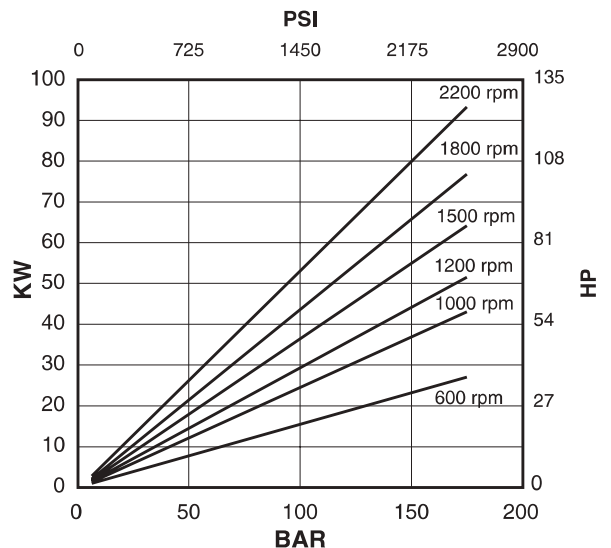


flow / pressure

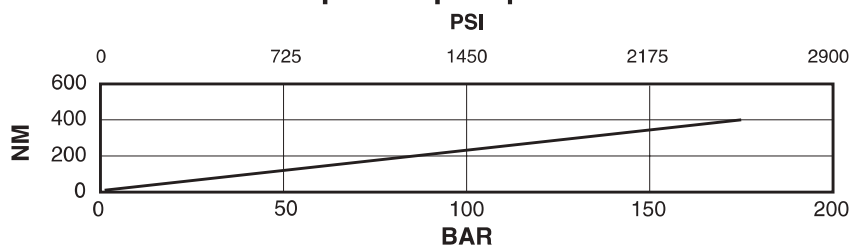


Shaft end cartridge V05-42

power / pressure

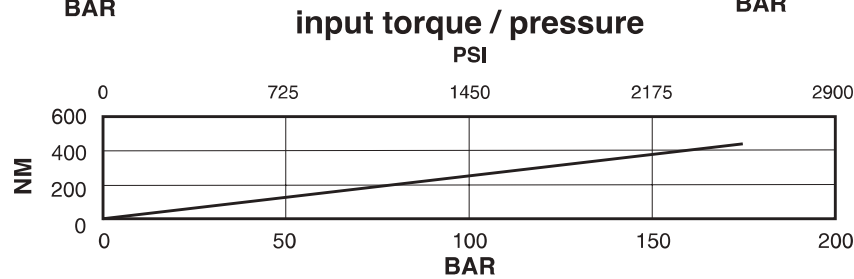
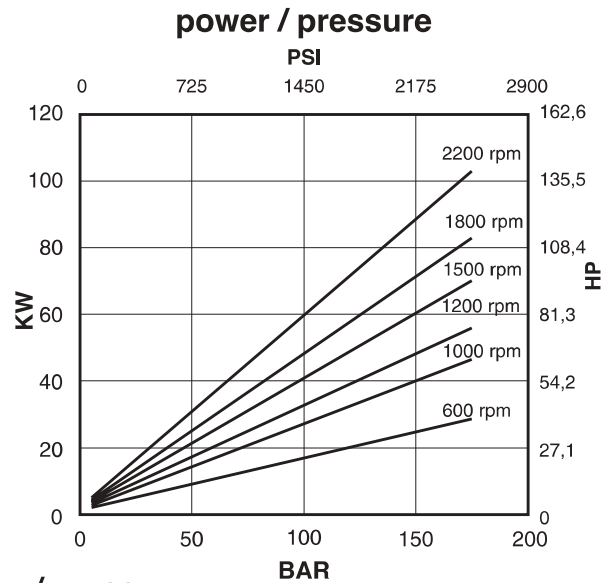
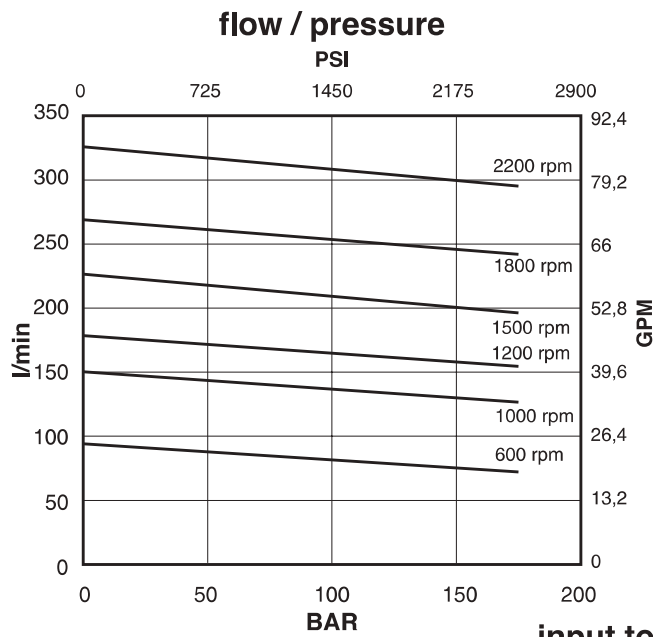


input torque / pressure



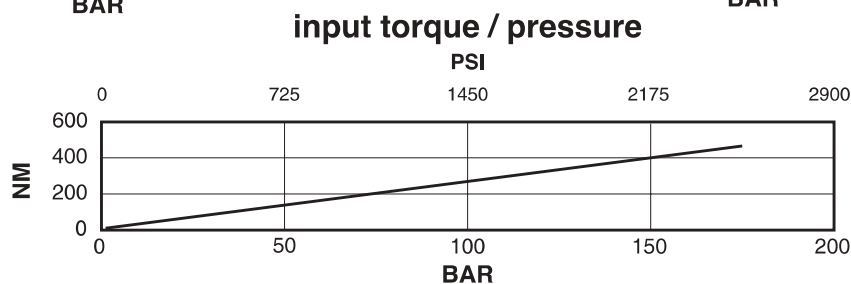
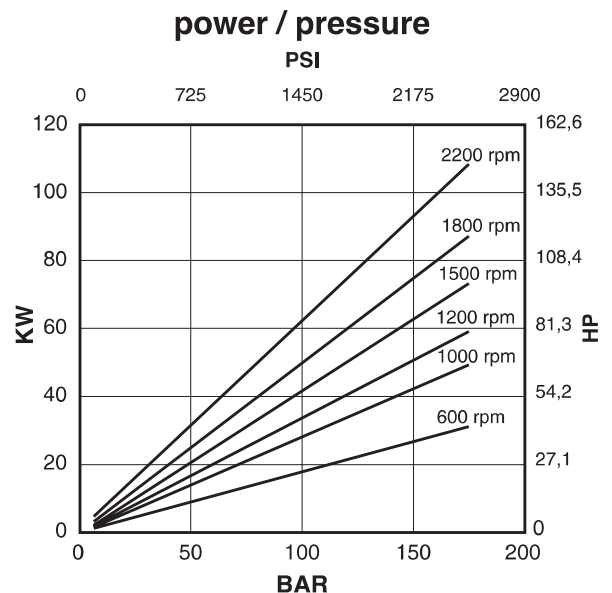
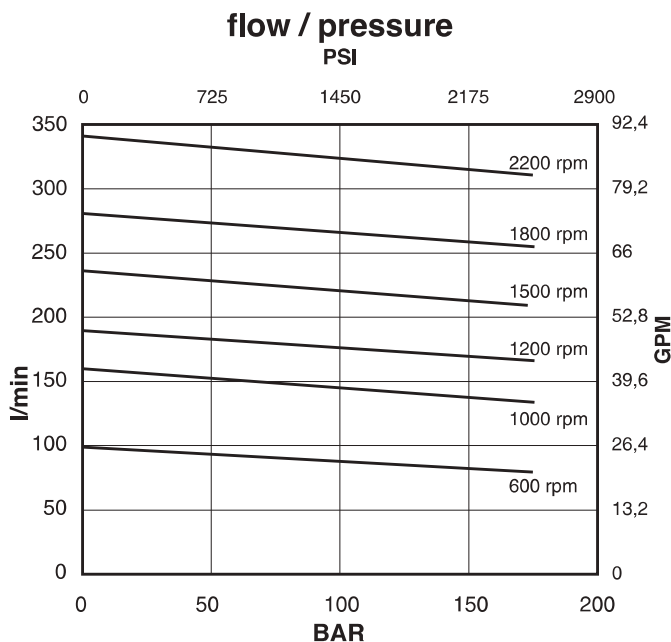
Oil viscosity: 25 c.St.(10W)
Temperature: 45°C
Inlet pressure: 0 BAR

Shaft end cartridge V05-47



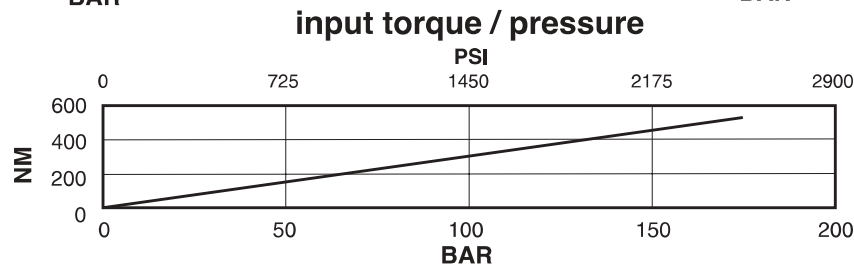
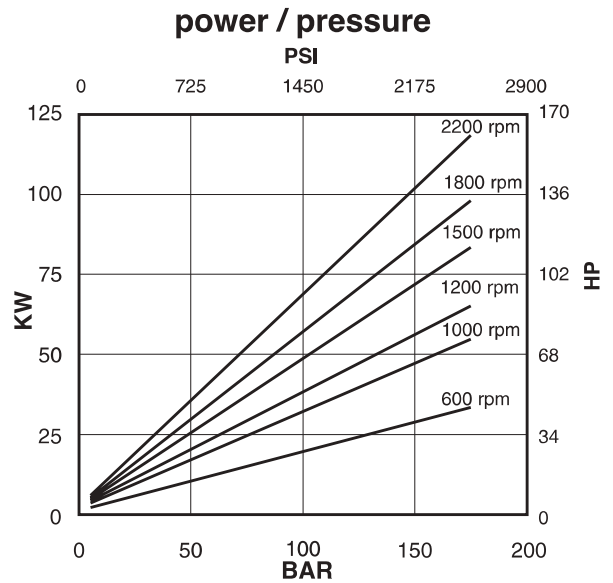
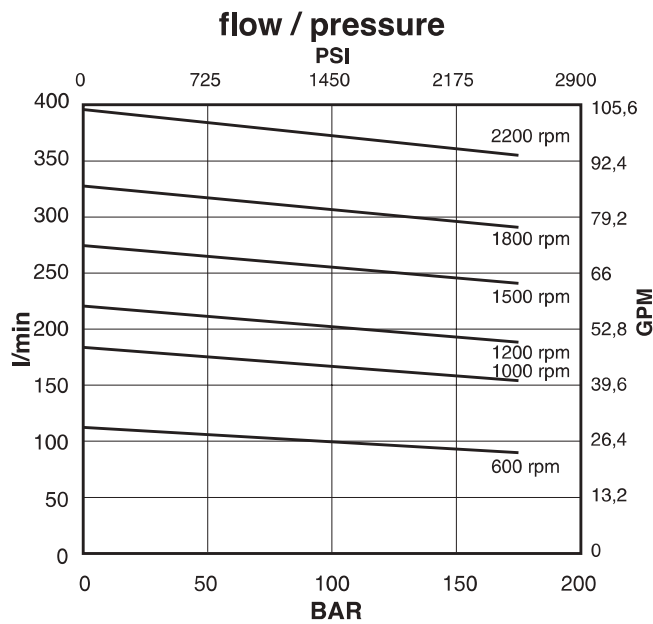
Oil viscosity: 25 c.St.(10W)
Temperature: 45°C
Inlet pressure: 0 BAR

Shaft end cartridge V05-50



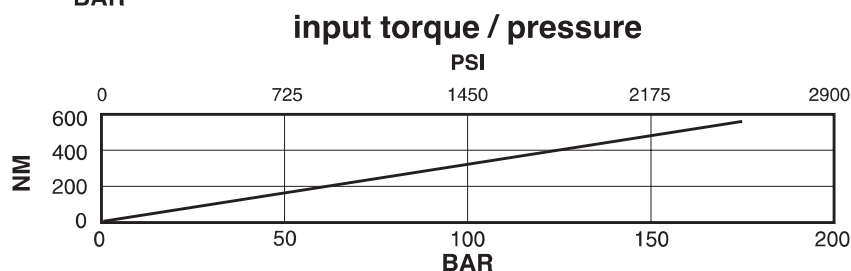
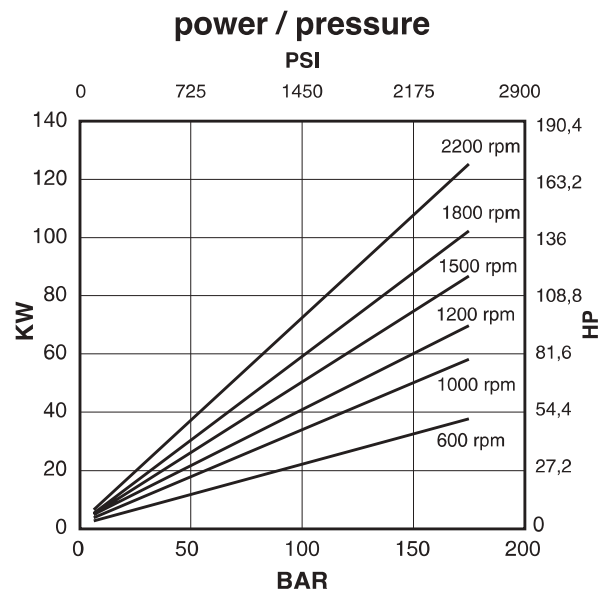
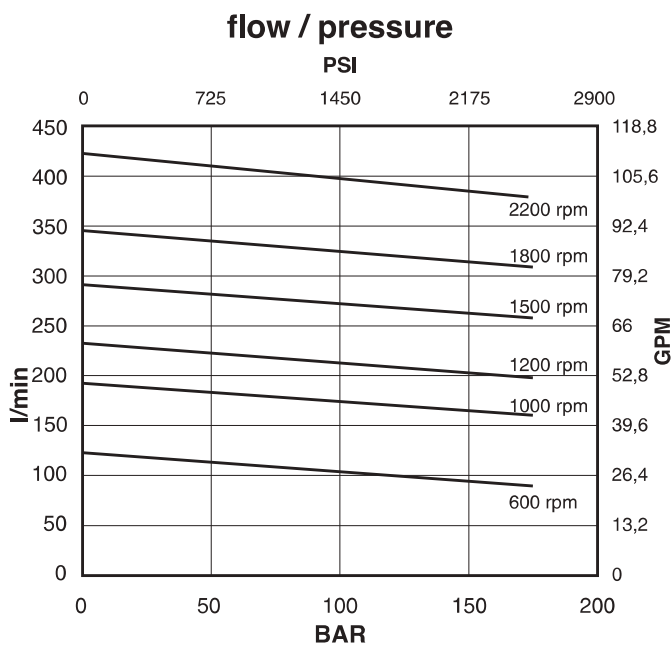
Oil viscosity: 25 c.St.(10W)
Temperature: 45°C
Inlet pressure: 0 BAR

Shaft end cartridge V05-57



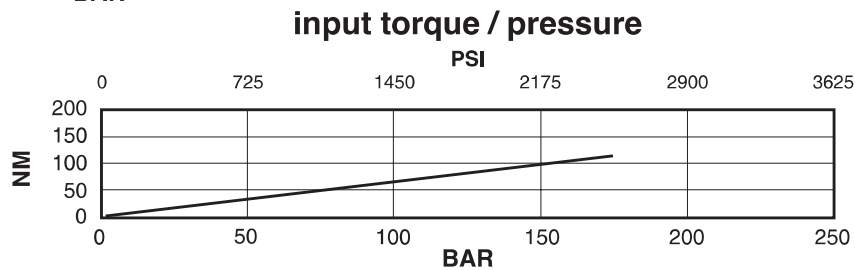
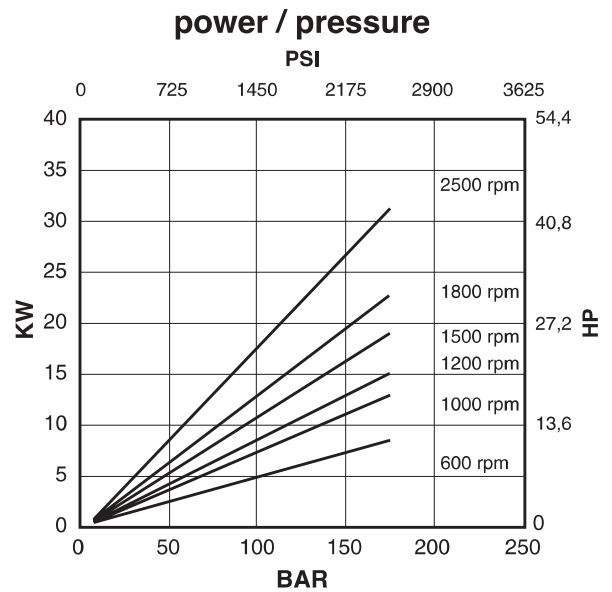
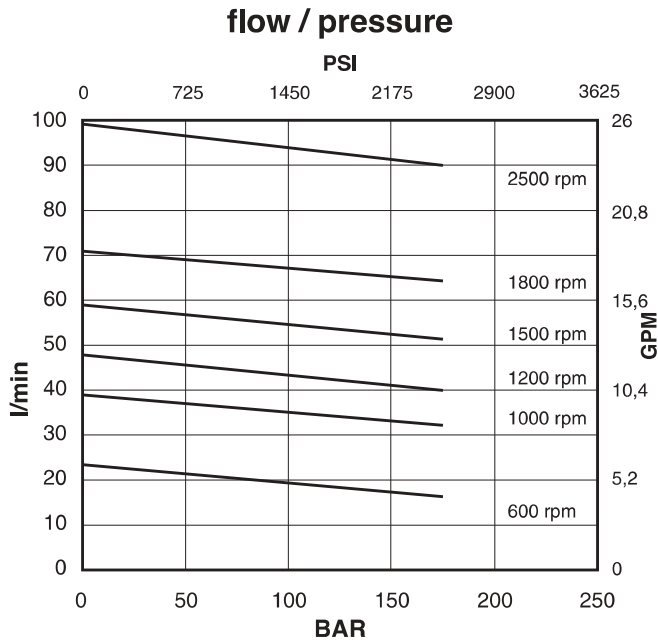
Oil viscosity: 25 c.St.(10W)
Temperature: 45°C
Inlet pressure: 0 BAR

Shaft end cartridge V05-60



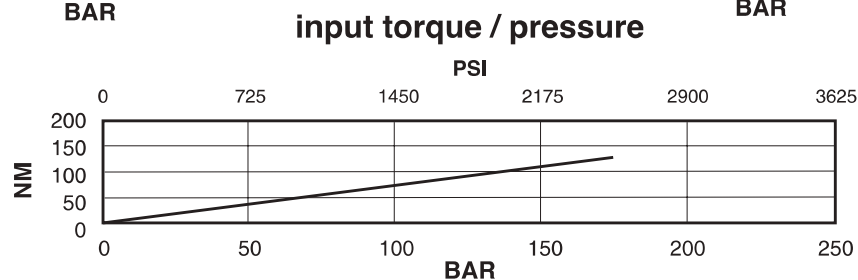
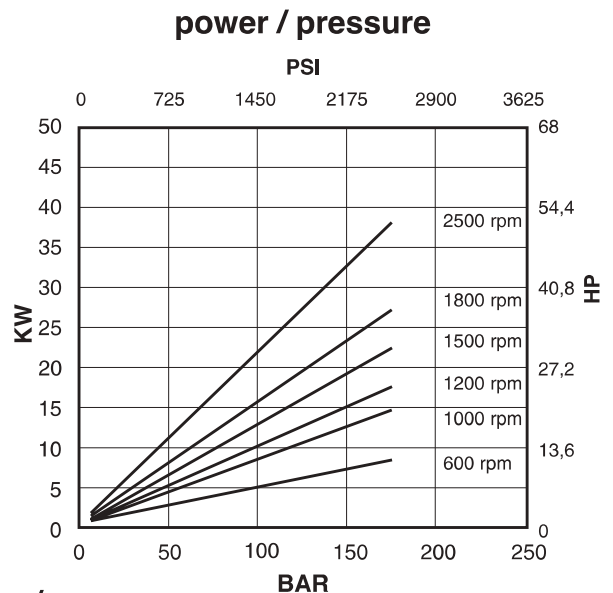
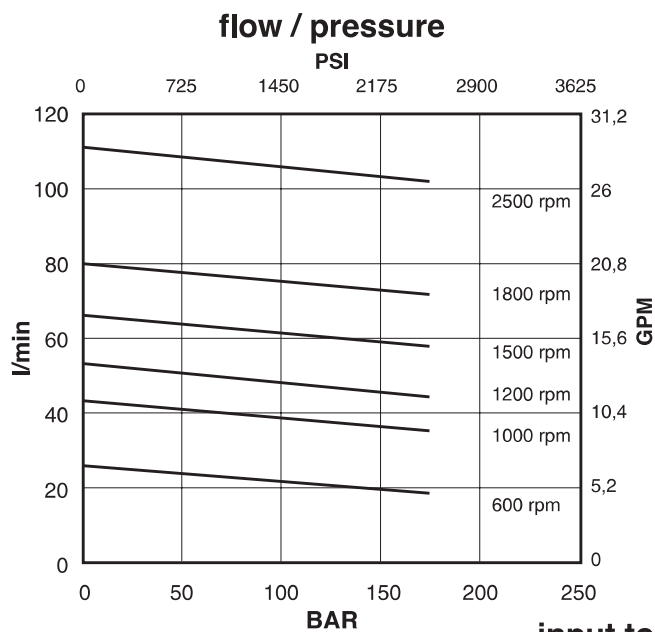
Oil viscosity: 25 c.St.(10W)
Temperature: 45°C
Inlet pressure: 0 BAR

Cover end cartridge V02-12



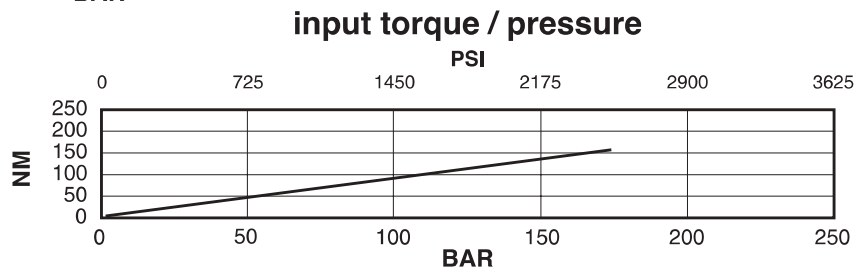
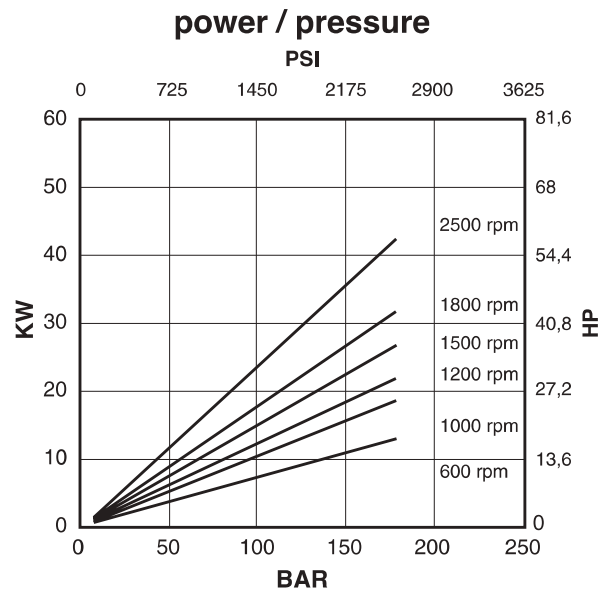
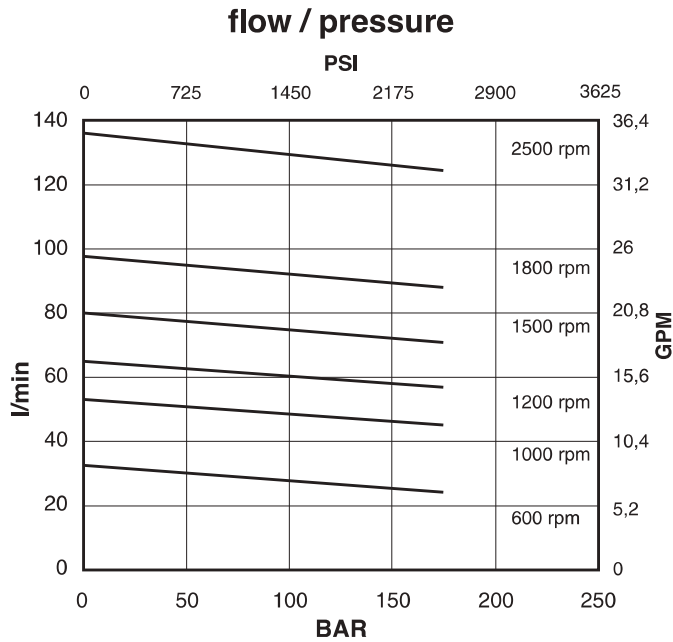
Oil viscosity: 25 c.St.(10W)
Temperature: 45°C
Inlet pressure: 0 BAR

Cover end cartridge V02-14



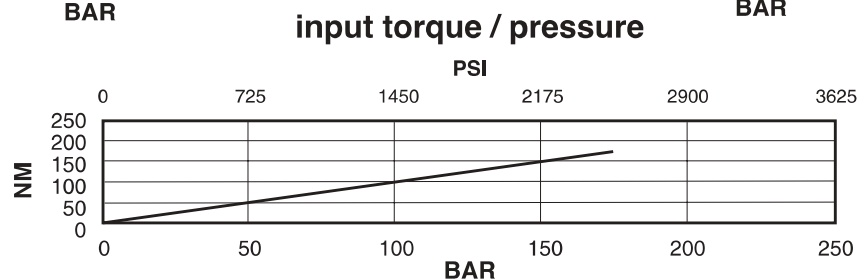
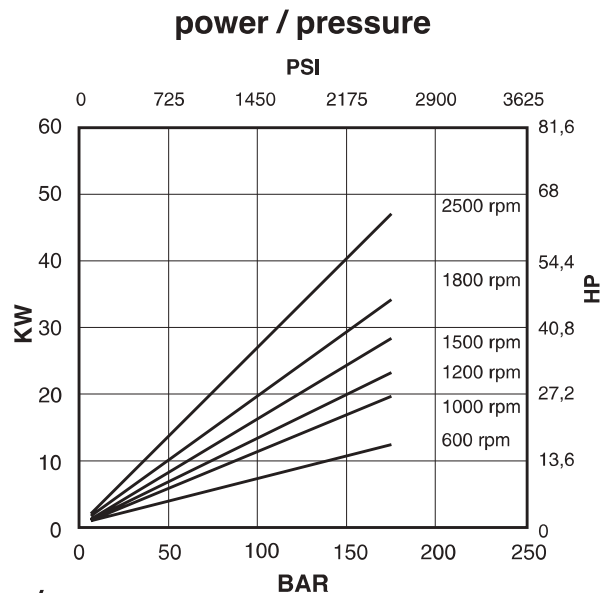
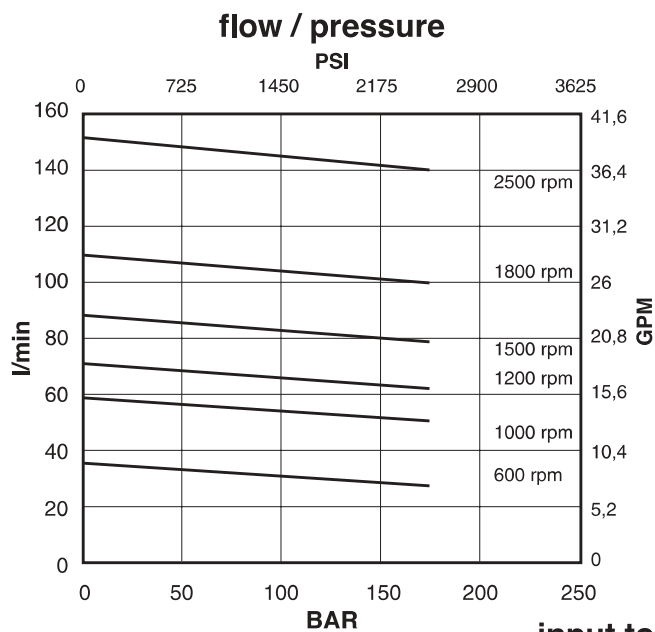
Oil viscosity: 25 c.St.(10W)
Temperature: 45°C
Inlet pressure: 0 BAR

Cover end cartridge V02-17



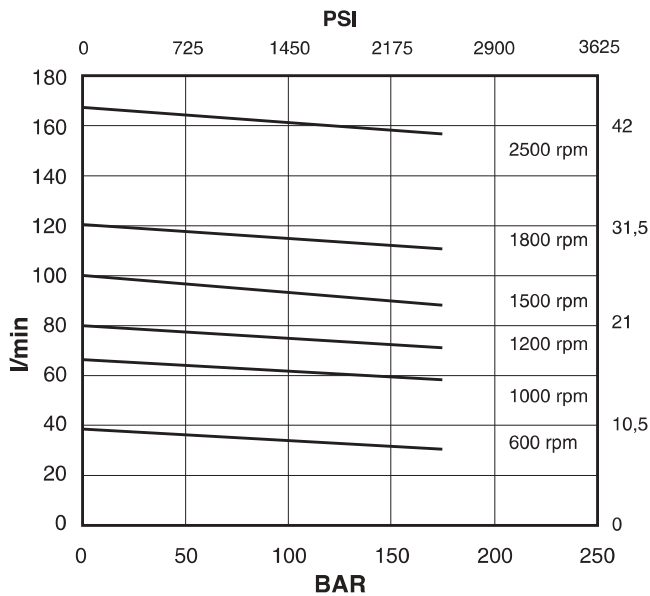
Oil viscosity: 25 c.St.(10W)
Temperature: 45°C
Inlet pressure: 0 BAR

Cover end cartridge V02-19



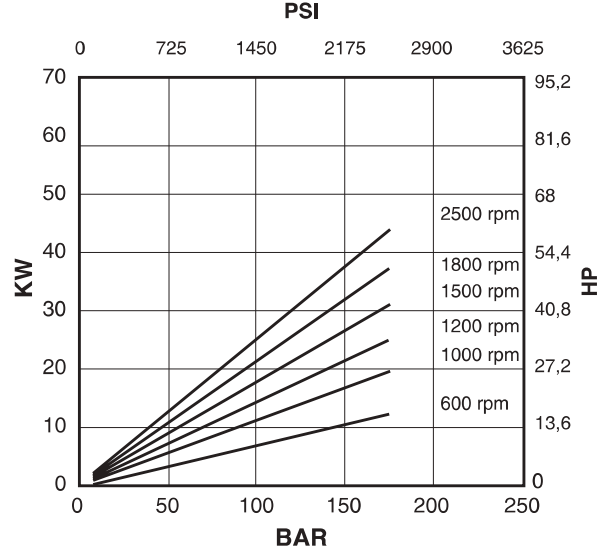
Oil viscosity: 25 c.St.(10W)
Temperature: 45°C
Inlet pressure: 0 BAR

flow / pressure

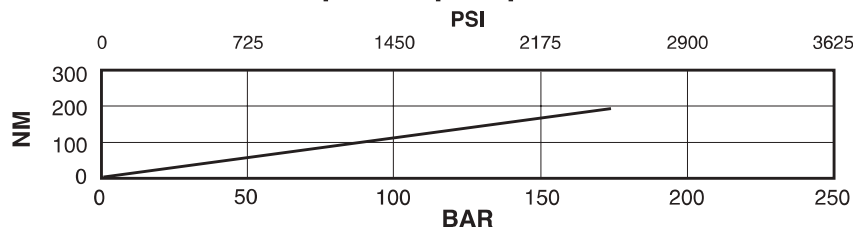


Cover end cartridge V02-21

power / pressure

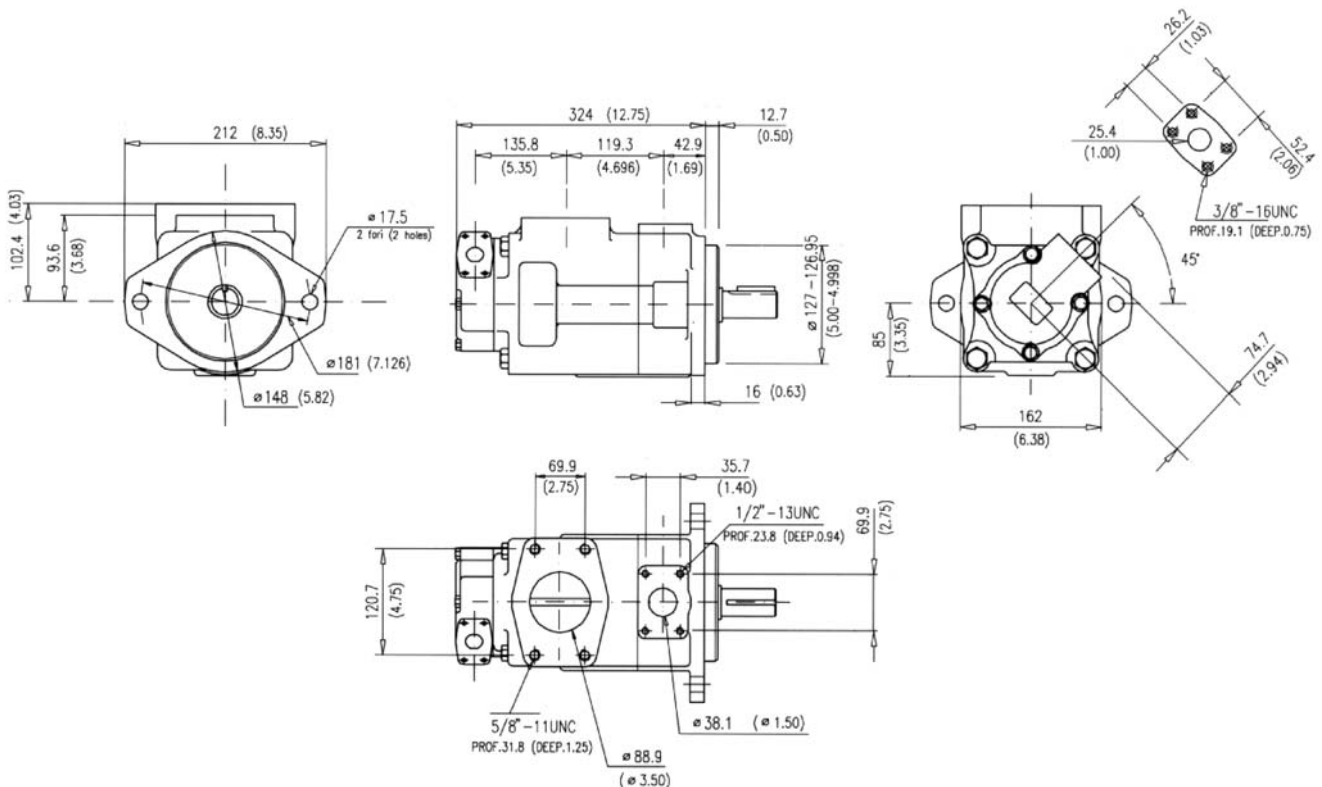


input torque / pressure



Oil viscosity: 25 c.St.(10W)
Temperature: 45°C
Inlet pressure: 0 BAR

Installation dimensions mm (inches)



Approx. weight: 46 Kg. (101 lbs.)

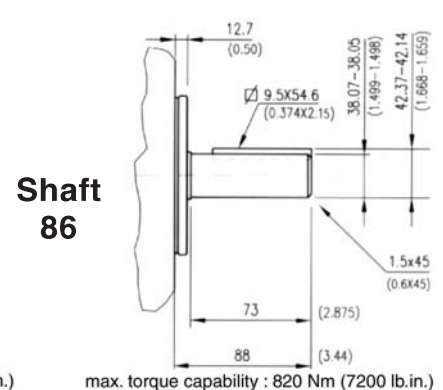
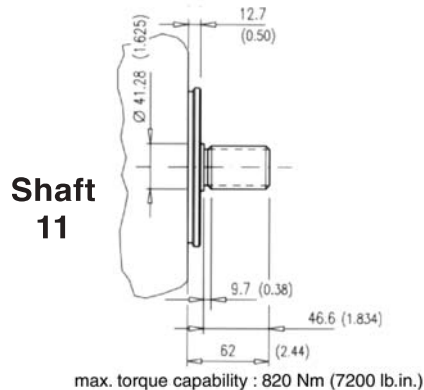
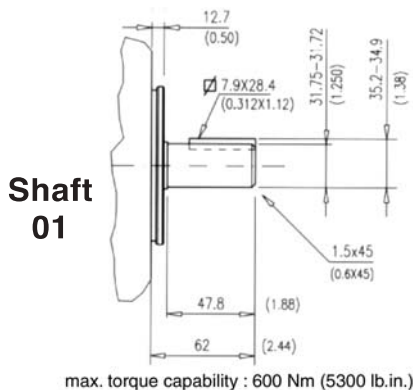
Model code breakdown

BV	52	G	**	**	*	*	**	(L)	*	(A)
Pump series	Pump type	Design	Cartridge types	Cartridge types	Cartridge types	Cartridge types	Cartridge types	Rotation	Seals	Mounting
			-shaft end 42 47 50 57 60					(viewed from shaft end)	(omit with standard seals and one shaft-seal in NBR)	(omit if not required)
			-cover end 12 14 17 19 21					L = left hand rotation CCW (omit if CW)	V = seals and shaft-seal in FPM (Viton®)	
			Body outlet port positions (outlet viewed from cover end)						D = standard seals and double shaft-seals in NBR	
			A = Outlet opposite end						F = seals and double shaft-seals in FPM (Viton®)	
			B = Outlet 90° CCW from inlet							
			C = Outlet in line with inlet							
			D = Outlet 90° CW from inlet							
			Cover outlet port positions (outlet viewed from cover end)							
			A = Outlet 135° CCW from inlet							
			B = Outlet 45° CCW from inlet							
			C = Outlet 45° CW from inlet							
			D = Outlet 135° CW from inlet							

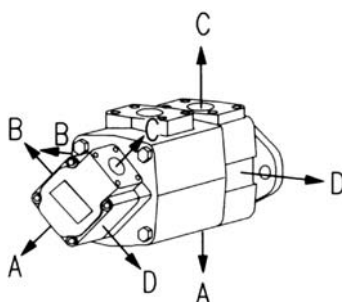
Shaft end options

01 = Straight with key (standard), **11** = Splined
86 = Heavy duty straight keyed, **90** = Splined SAE C

Shaft options mm (inches)

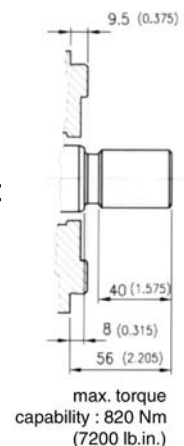


PORT ORIENTATIONS



Spline	Spline data	
Pressure angle	(shaft 11 and shaft 90)	
No. of teeth	Involute side fit (ASA B5.15)	
Pitch	30°	
Major dia.	14	
Pitch dia.	12/24	
Minor dia.	31.60 - 31.50	(1.244 - 1.240)
Wildhaber	29.634	(1.1667)
	26.99 - 26.66	(1.0627 - 1.05)
	15.68 - 15.73	(0.617 - 0.619)

Shaft 90



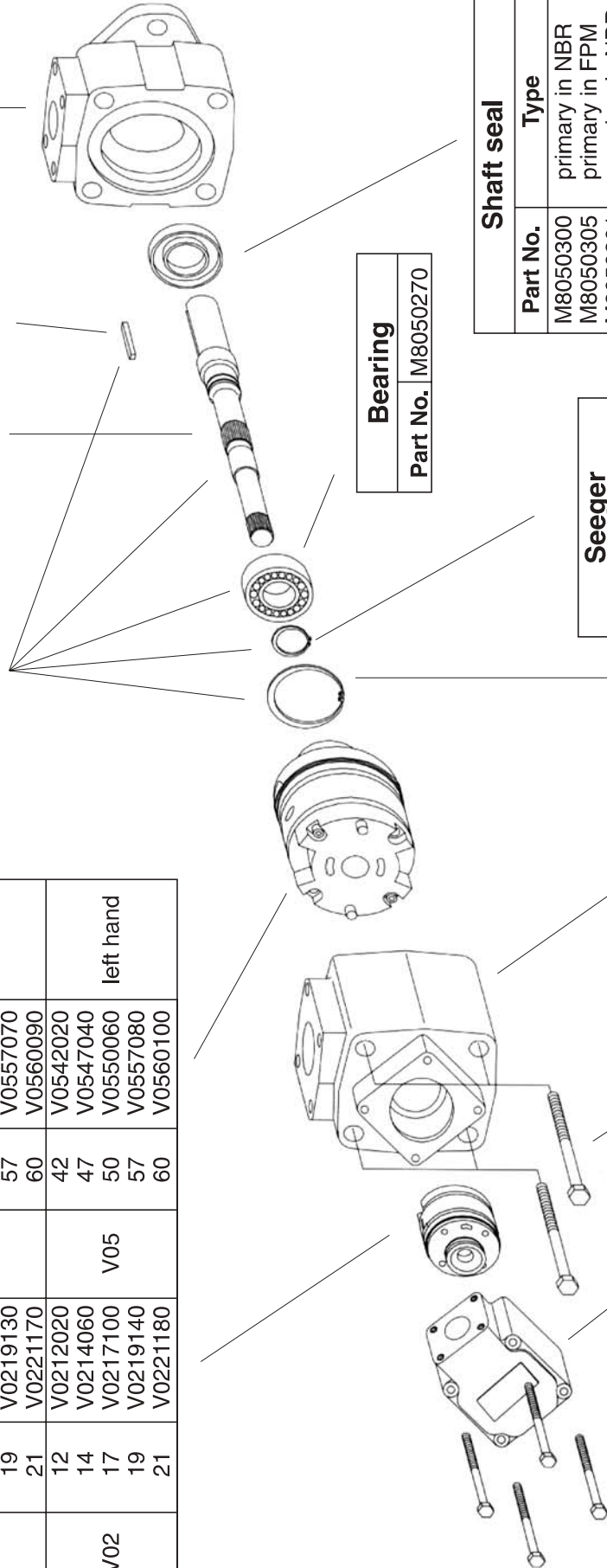
Id. codes of pump components

Cartridges					
cover end			shaft end		Pump rotation
Series	Model	Part No.	Series	Model	
V02	12	V0212010	V05	42	V0542010
	14	V0214050		47	V0547030
	17	V0217090		50	V0550050
	19	V0219130		57	V0557070
	21	V0221170		60	V0560090
V02	12	V0212020	V05	42	V0542020
	14	V0214060		47	V0547040
	17	V0217100		50	V0550060
	19	V0219140		57	V0557080
	21	V0221180		60	V0560100

Shaft kit	
Model	Part No.
01	M8520601
11	M8520611
86	M8520686
90	M8520690

Shaft	
Model	Part No.
01	K5201000
11	K5211000
86	K5286000
90	K5290000

Body	
Part No.	M8050250



Bearing	
Part No.	M8050270

Shaft seal	
Part No.	Type
M8050300	primary in NBR
M8050305	primary in FPM
M8050301	secondary in NBR
M8050306	secondary in FPM

Seeger	
Part No.	M8050290

Inlet body	
Part No.	M8050400

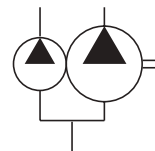
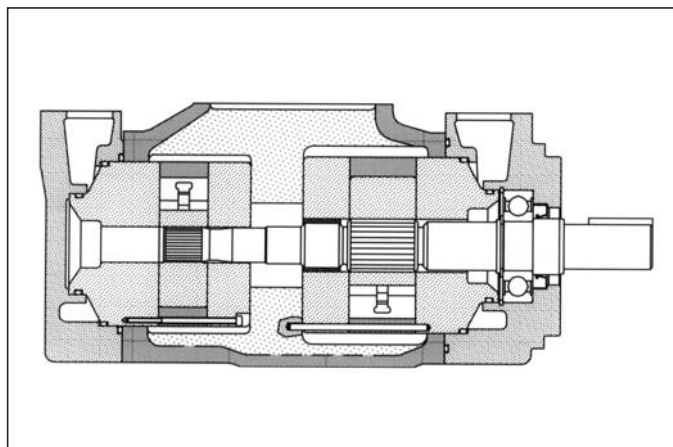
Cover	
Part No.	M8050350

Pump seal kit		
Part No.	Parts	Type
M8520500	seals + 1 shaft seal	NBR
M8520501	seals + 2 shaft seals	NBR
M8520503	seals + 1 shaft seal	FPM (Viton®)
M8520504	seals + 2 shaft seals	FPM (Viton®)

Seeger	
Part No.	M8050280

Screw	
Part No.	M8050330
Torque to 398 Nm (3550 lb. in.)	

Screw	
Part No.	M8040230
Torque to 102 Nm (910 lb. in.)	



General description

Fixed displacement vane pump, hydraulically balanced, with capacity determined by the cartridges used and the speed of rotation. The pump is available in several versions with rated capacities from 244 to 370 l/min (from 63 to 98 gpm) at 1200 rpm and 7 bar.

Technical characteristics

Cartridge model	Geometric displacement		Rated capacity at 1200 rpm 7 bar		Rated capacity at 1500 rpm 7 bar		Maximum pressure with mineral oil		Speed range rpm	
shaft end	cm ³ /g	(in ³ /r)	l/min	(gpm)	l/min	(gpm)	bar	(psi)	min	max
V05-42	138,6	(8.46)	164	(42)	203,4	(53.7)	175	(2538)	600	1800
V05-47	153,5	(9.4)	180	(47)	222,7	(58.8)	175	(2538)	600	1800
V05-50	162,2	(9.9)	189	(50)	234	(61.8)	175	(2538)	600	1800
V05-57	183,4	(11.2)	217	(57)	267	(71.2)	175	(2538)	600	1800
V05-60	193,4	(11.8)	230	(60)	285	(75.3)	175	(2538)	600	1800
cover end	cm ³ /g	(in ³ /r)	l/min	(gpm)	l/min	(gpm)	bar	(psi)	min	max
V04-21	69,0	(4.2)	79,5	(21)	101,4	(26.8)	175	(2538)	600	1800
V04-25	81,6	(5)	94,0	(25)	120,1	(31.7)	175	(2538)	600	1800
V04-30	97,7	(6)	113,8	(30)	141,2	(37.3)	175	(2538)	600	1800
V04-35	112,7	(6.9)	131,6	(35)	167,2	(44.1)	175	(2538)	600	1800
V04-38	121,6	(7.4)	139,9	(38)	177,3	(46.8)	175	(2538)	600	1800

Hydraulic fluids: antiwear high quality mineral oils or fire resistant fluid having same lubrication capacities of the mineral oil.

Viscosity range (with mineral oil): from 13 to 860 cSt. (13 to 54 cSt. recommended).

Filtration: for the inlet - 149 micron abs., for the return line - 25 micron abs. or better (with synthetic fluids: for the return line - 10 micron abs. or better).

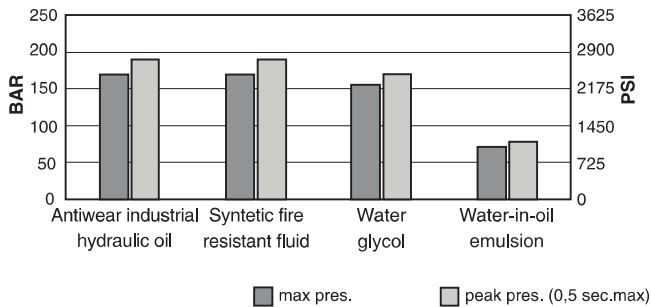
Inlet pressure: (with mineral oil): from -0,17 to +1,4 bar (-2.5 to + 20 psi)

Operating temperature: with mineral oil -10°C +70°C (+30°C to +60°C recommended), with water based fluids +15°C to +50°C.

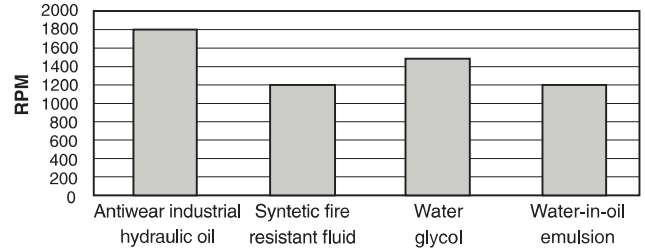
Drive: direct and coaxial by means of a flexible coupling.

Main operating data

max pressure / hydraulic fluid

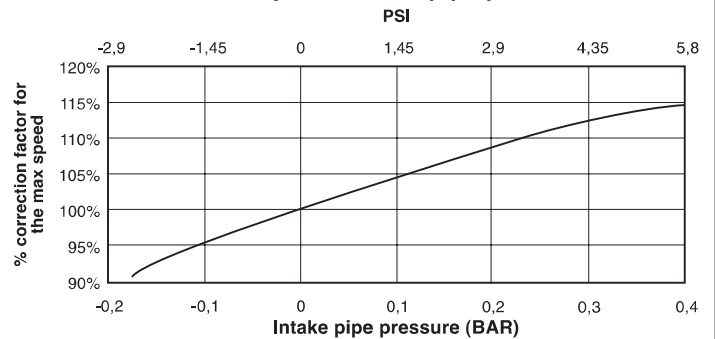


max speed / hydraulic fluid (with 0 bar in the intake pipe)

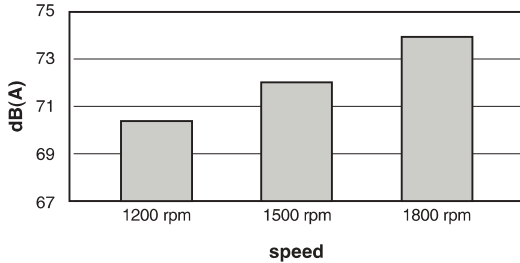


If the intake pressure is not zero bar, use the graph below to find the percentage correction factor to apply to the maximum speed

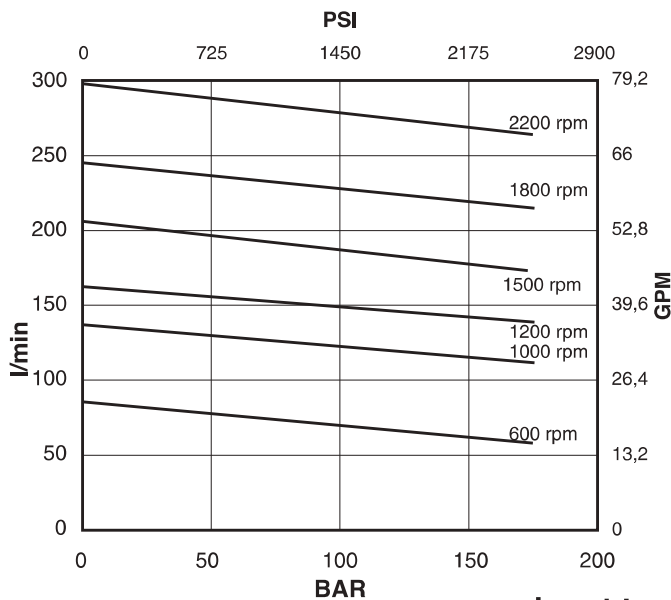
max speed / intake pipe pressure



Sound level at 138 bar (2000 psi)

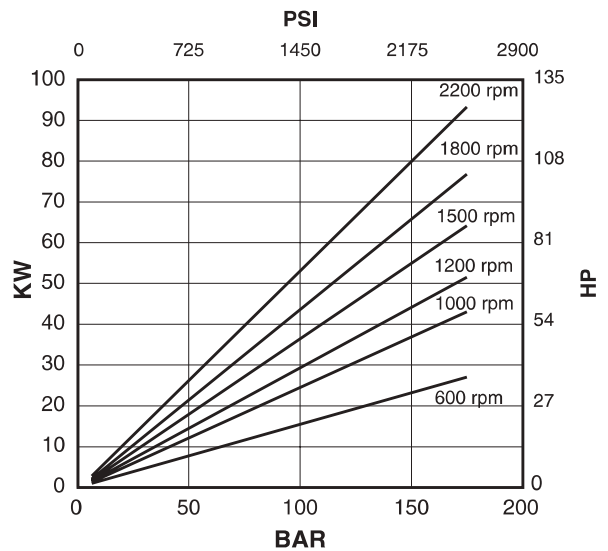


flow / pressure

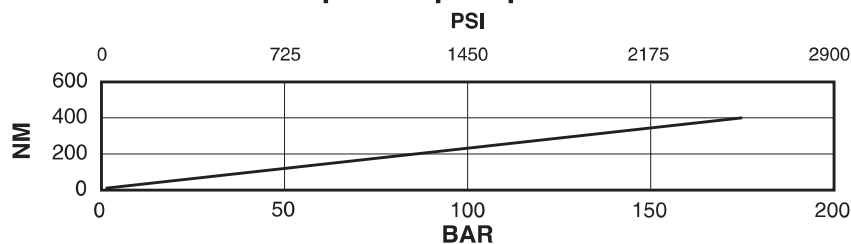


Shaft end cartridge V05-42

power / pressure

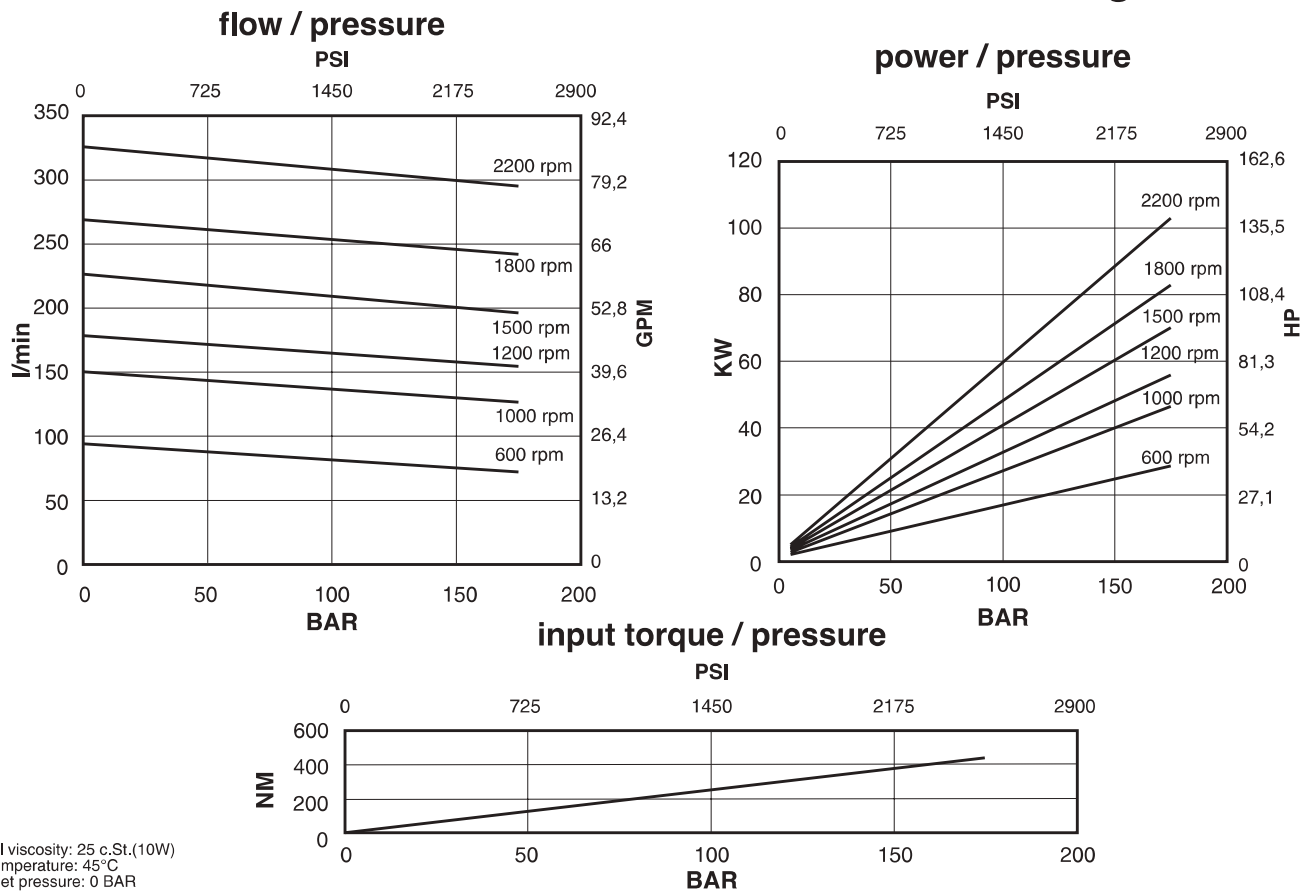


input torque / pressure

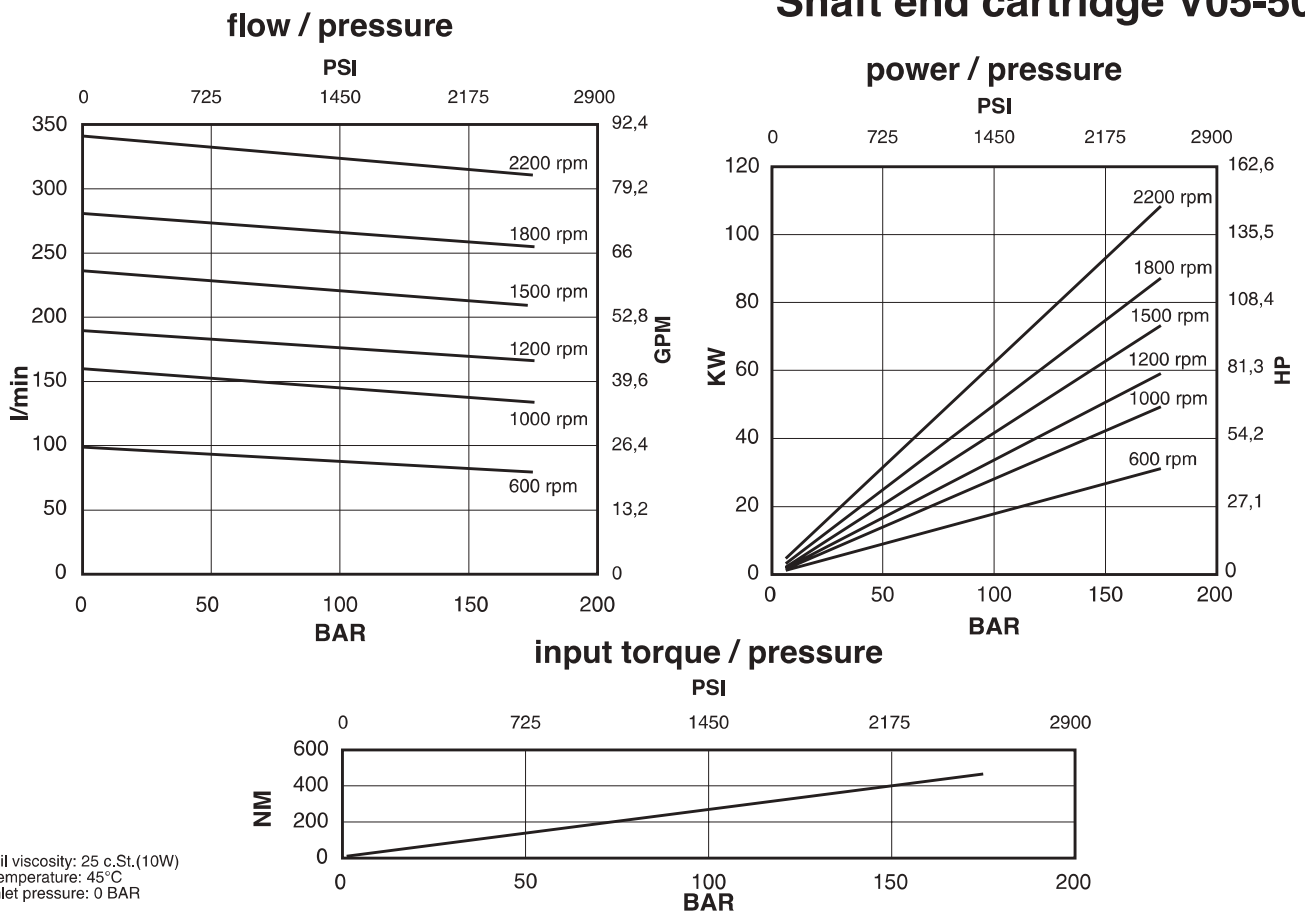


Oil viscosity: 25 c.St.(10W)
Temperature: 45°C
Inlet pressure: 0 BAR

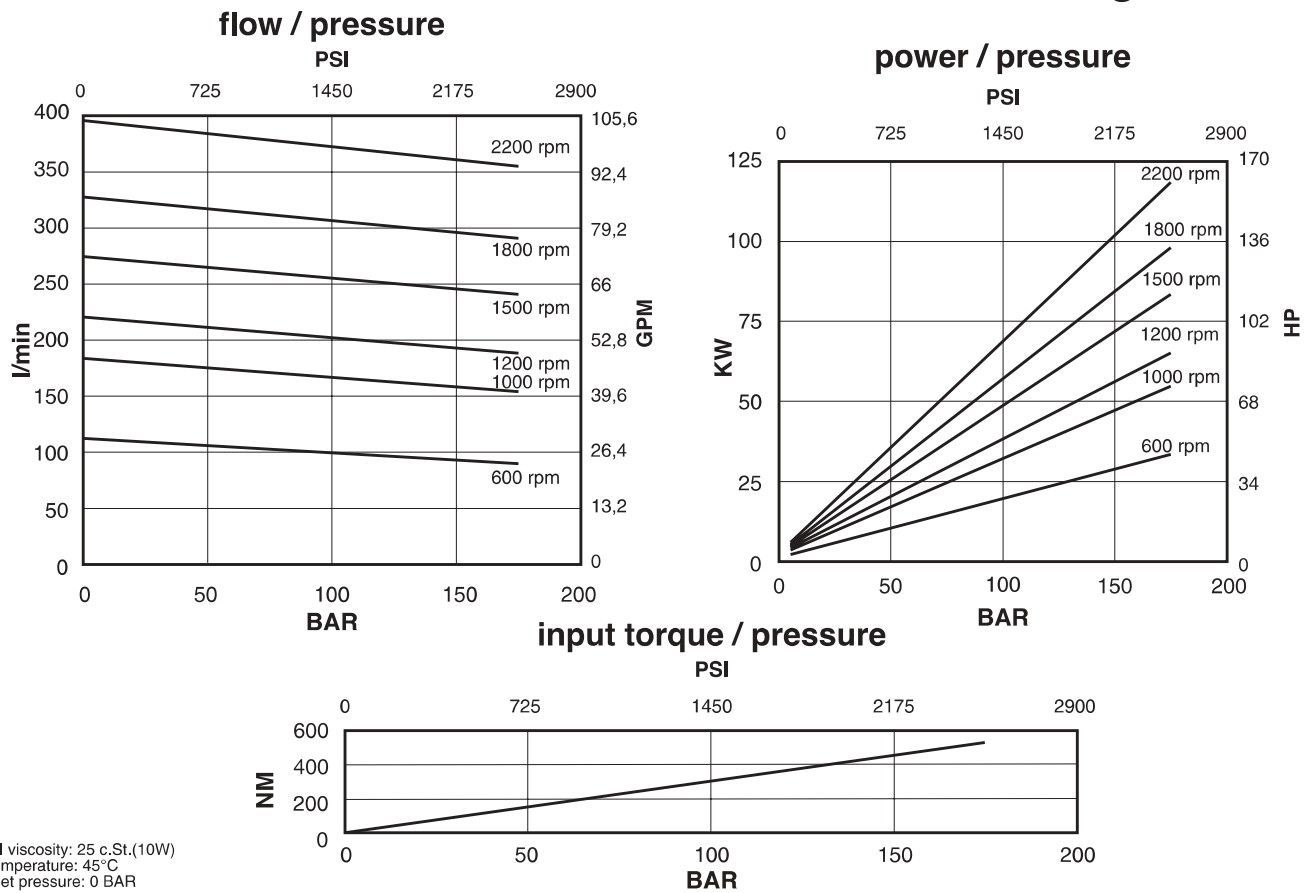
Shaft end cartridge V05-47



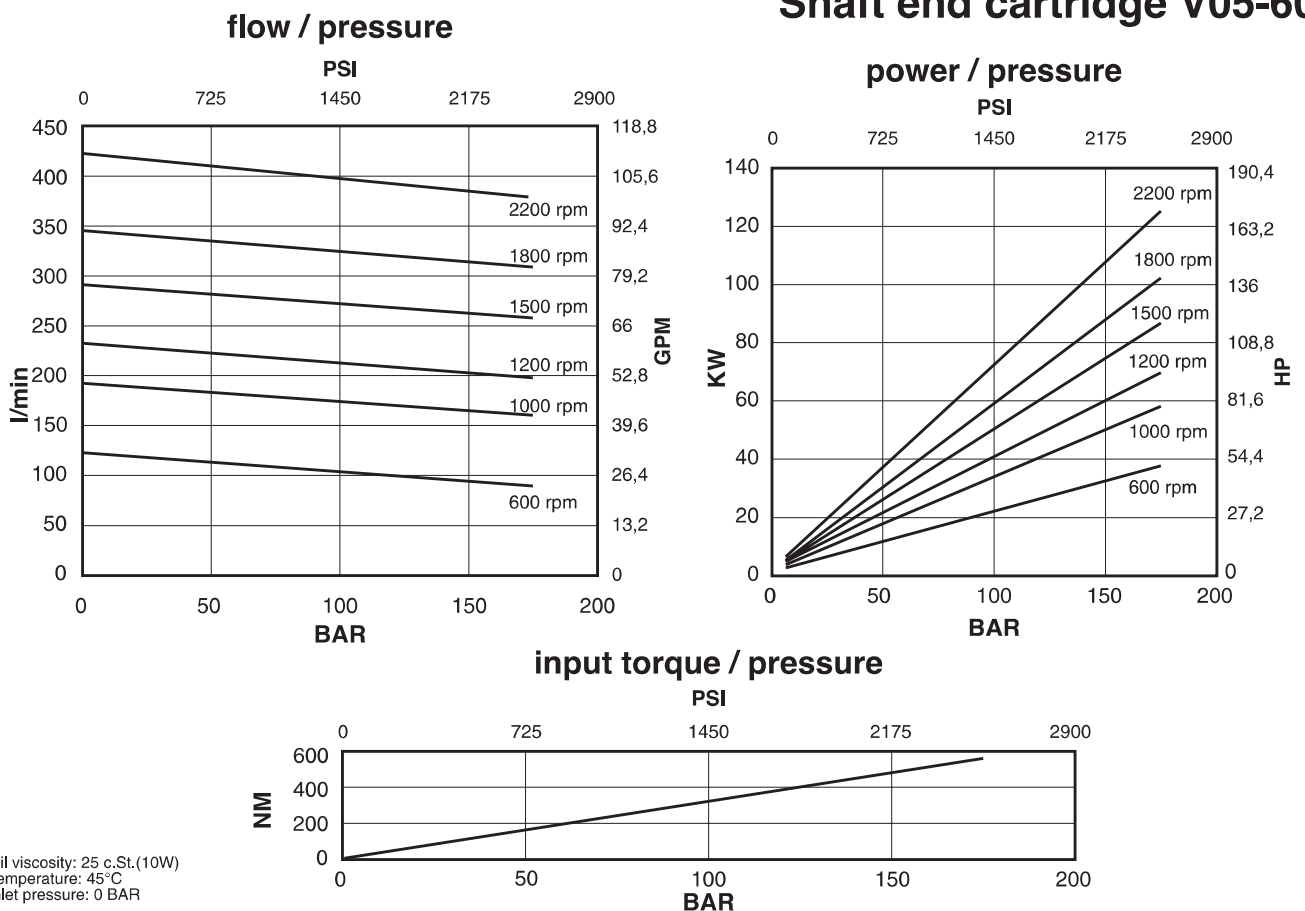
Shaft end cartridge V05-50



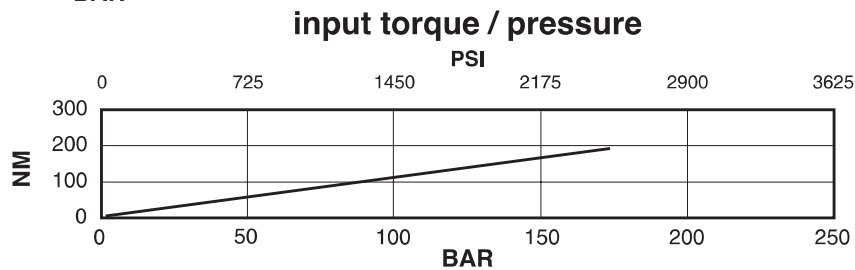
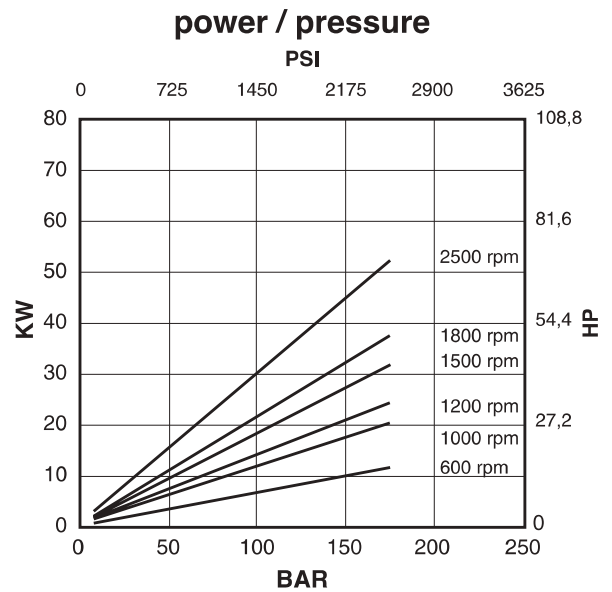
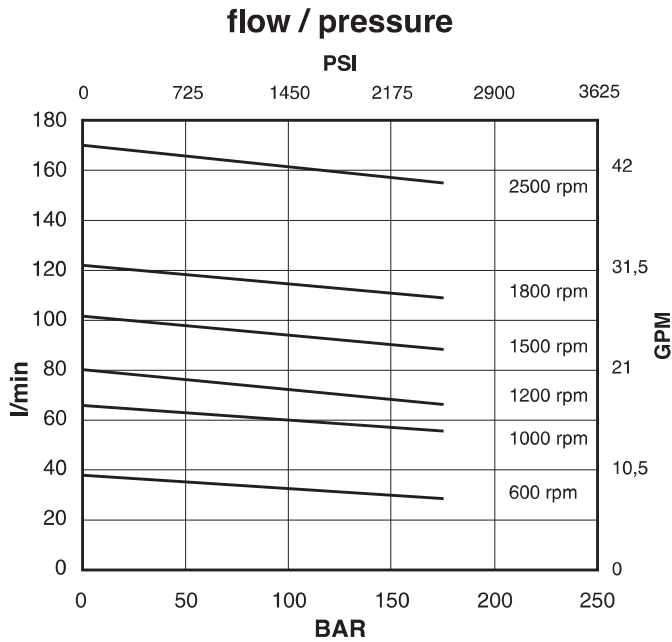
Shaft end cartridge V05-57



Shaft end cartridge V05-60

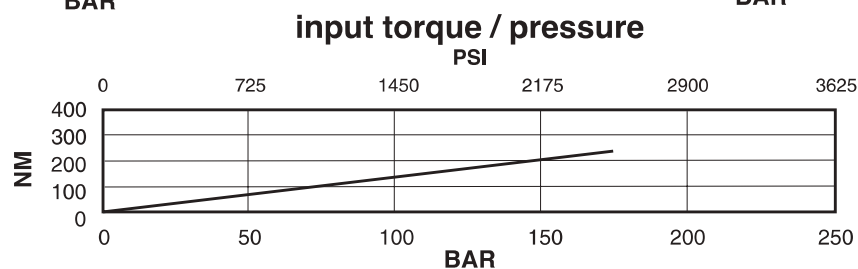
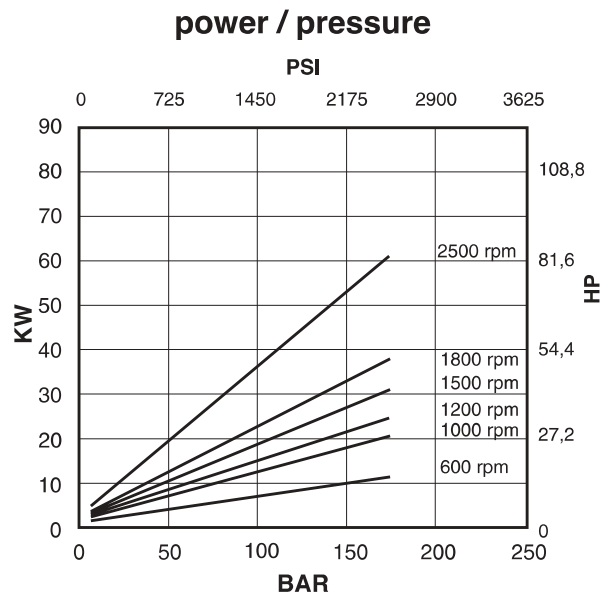
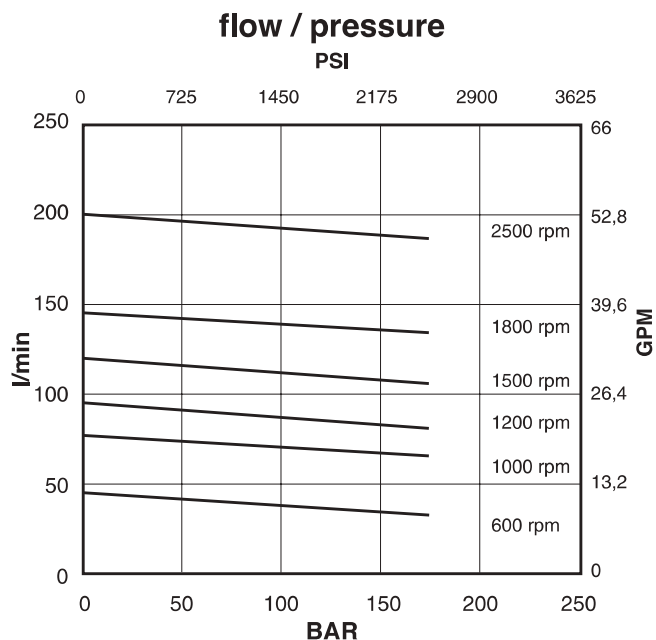


Cover end cartridge V04-21



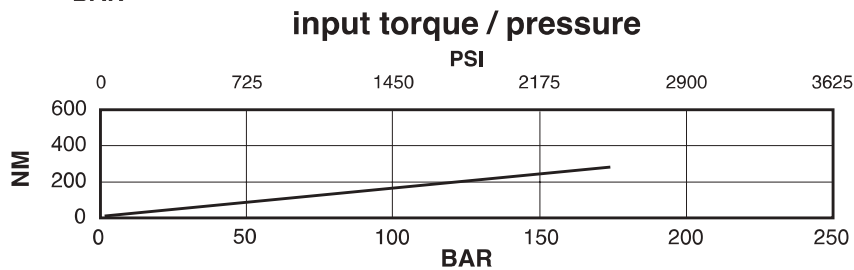
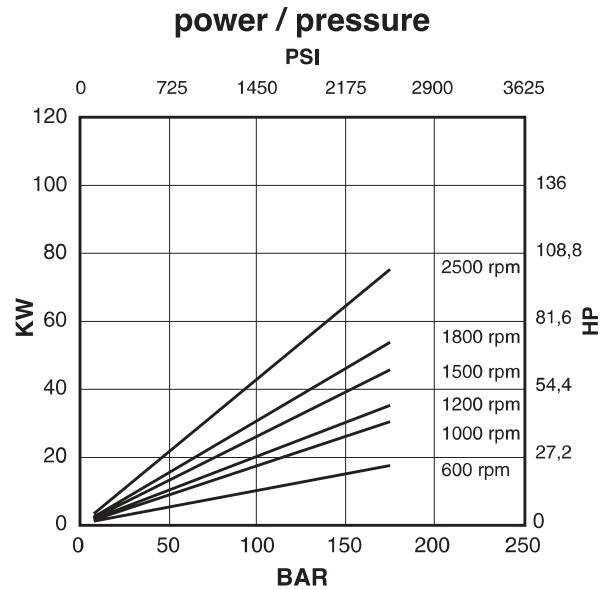
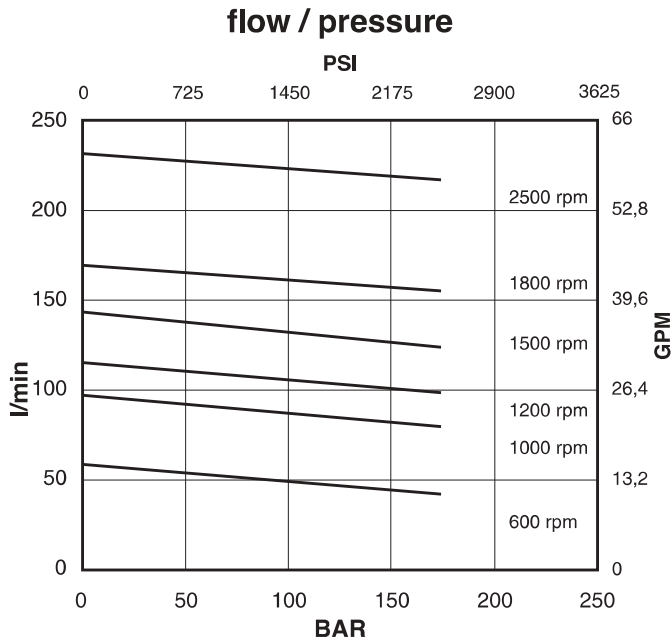
Oil viscosity: 25 c.St.(10W)
Temperature: 45°C
Inlet pressure: 0 BAR

Cover end cartridge V04-25



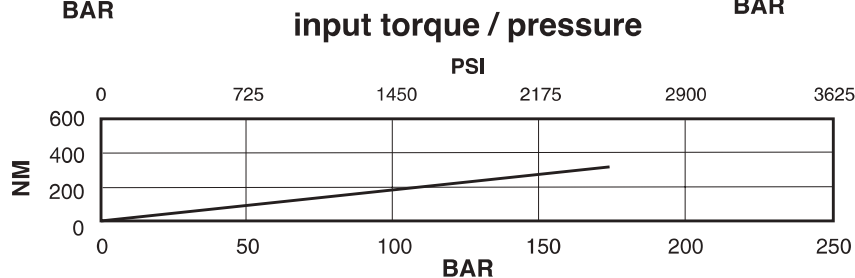
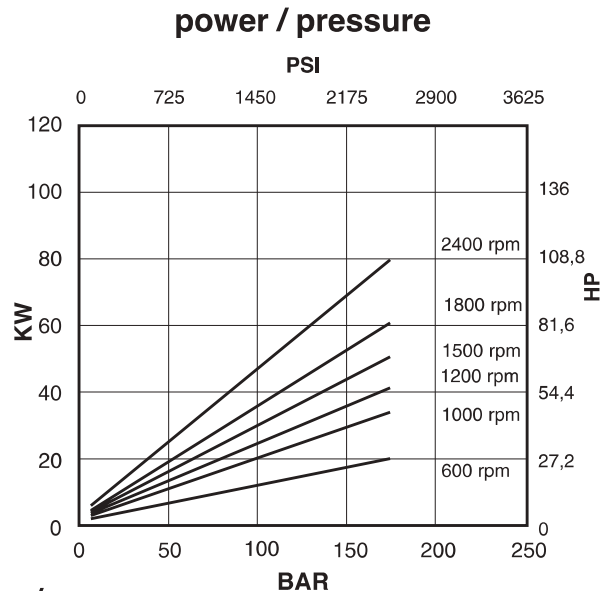
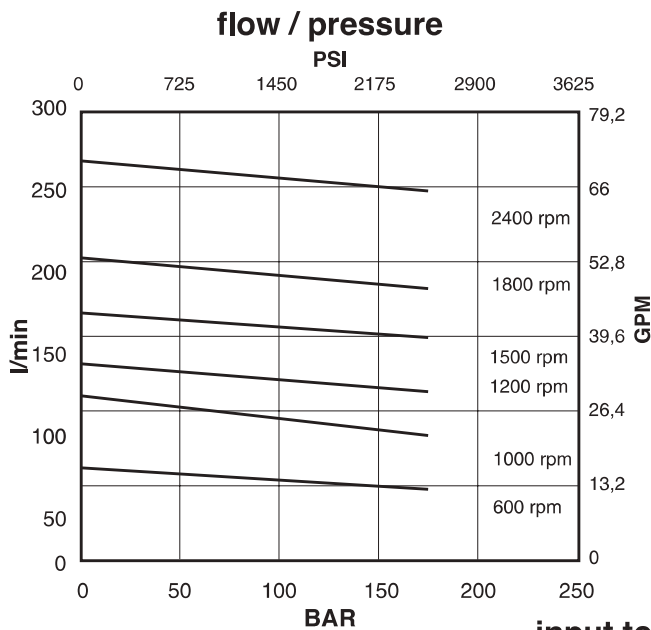
Oil viscosity: 25 c.St.(10W)
Temperature: 45°C
Inlet pressure: 0 BAR

Cover end cartridge V04-30



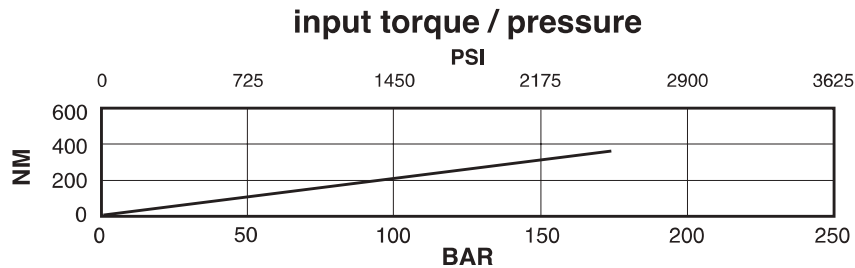
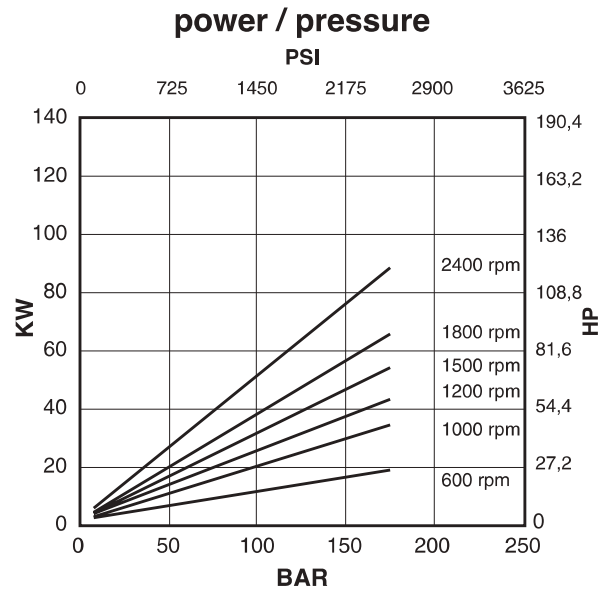
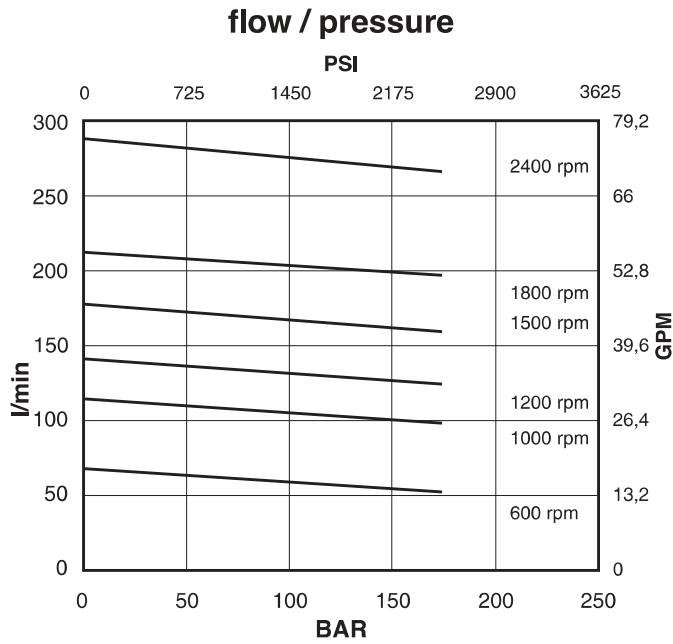
Oil viscosity: 25 c.St.(10W)
Temperature: 45°C
Inlet pressure: 0 BAR

Cover end cartridge V04-35



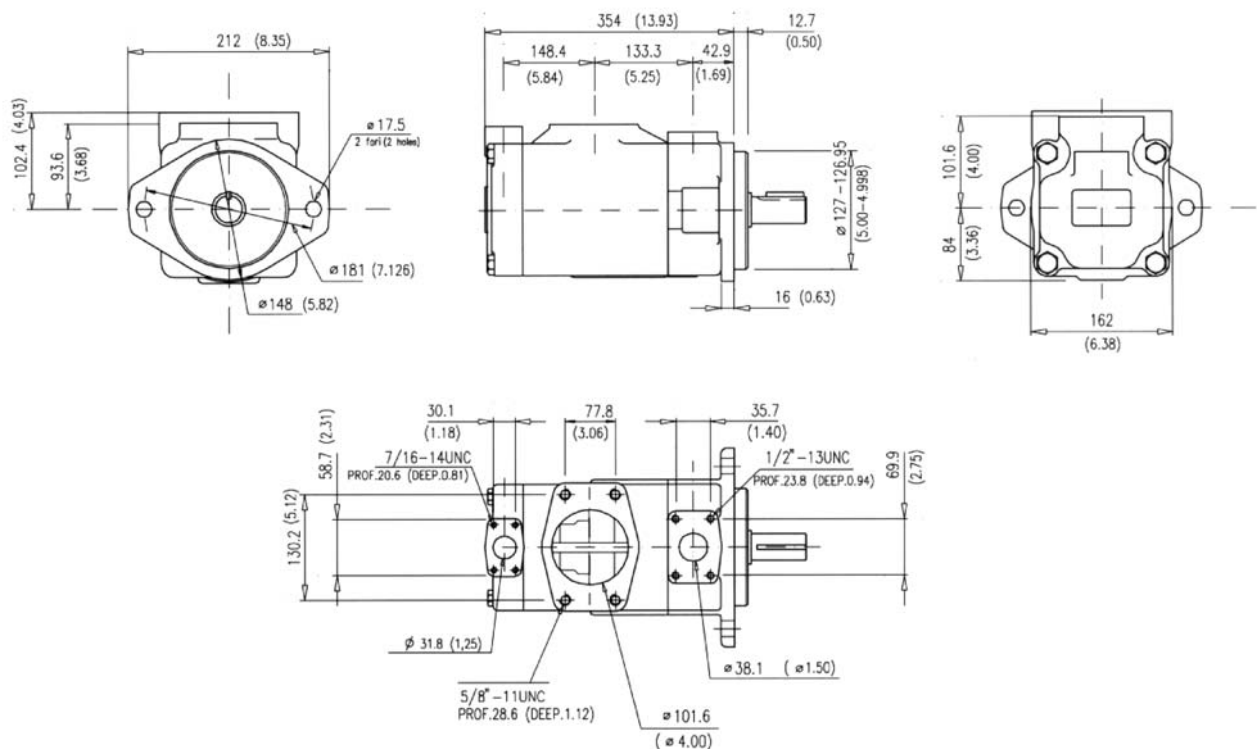
Oil viscosity: 25 c.St.(10W)
Temperature: 45°C
Inlet pressure: 0 BAR

Cover end cartridge V04-38



Oil viscosity: 25 c.St.(10W)
 Temperature: 45°C
 Inlet pressure: 0 BAR

Installation dimensions mm (inches)

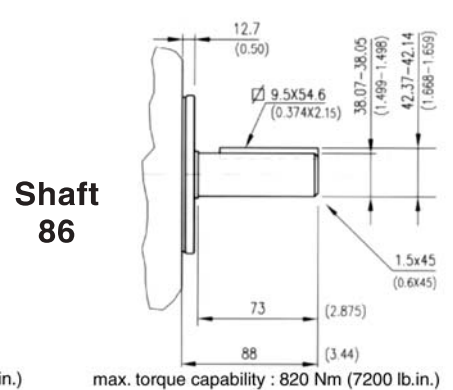
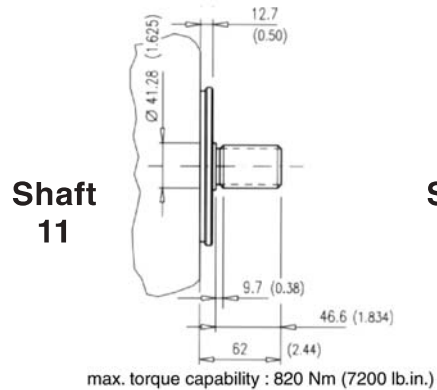
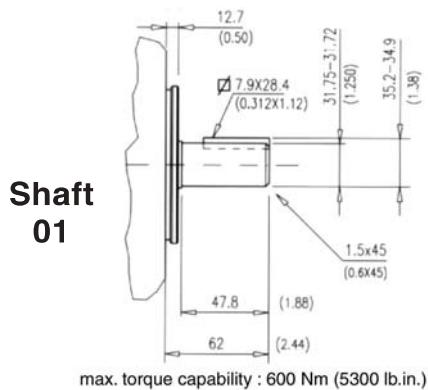


Approx. weight: 54 Kg. (118 lbs.)

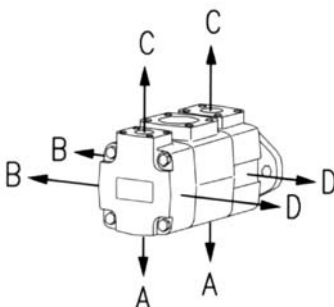
Model code breakdown

BV	54	G	**	**	*	*	**	(L)	*	(A)
Pump series		Design								Mounting (omit if not required)
Pump type										
Cartridge types										
-shaft end	42	47	50	57	60					
-cover end	21	25	30	35	38					
Body outlet port positions (outlet viewed from cover end)										
A = Outlet opposite end										
B = Outlet 90° CCW from inlet										
C = Outlet in line with inlet										
D = Outlet 90° CW from inlet										
Cover outlet port positions (outlet viewed from cover end)										
A = Outlet opposite end										
B = Outlet 90° CCW from inlet										
C = Outlet in line with inlet										
D = Outlet 90° CW from inlet										
								Rotation (viewed from shaft end) L = left hand rotation CCW (omit if CW)		
								Shaft end options 01 = Straight with key (standard), 11 = Splined 86 = Heavy duty straight keyed, 90 = Splined SAE C		

Shaft options mm (inches)

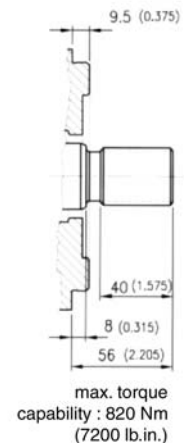


PORT ORIENTATIONS



Spline	Spline data	
Pressure angle	(shaft 11 and shaft 90)	
No. of teeth	Involute side fit (ASA B5.15)	
Pitch	30°	
Major dia.	14	
Pitch dia.	12/24	
Minor dia.	31.60 - 31.50	(1.244 - 1.240)
Wildhaber	29.634	(1.1667)
	26.99 - 26.66	(1.0627 - 1.05)
	15.68 - 15.73	(0.617 - 0.619)

Shaft 90

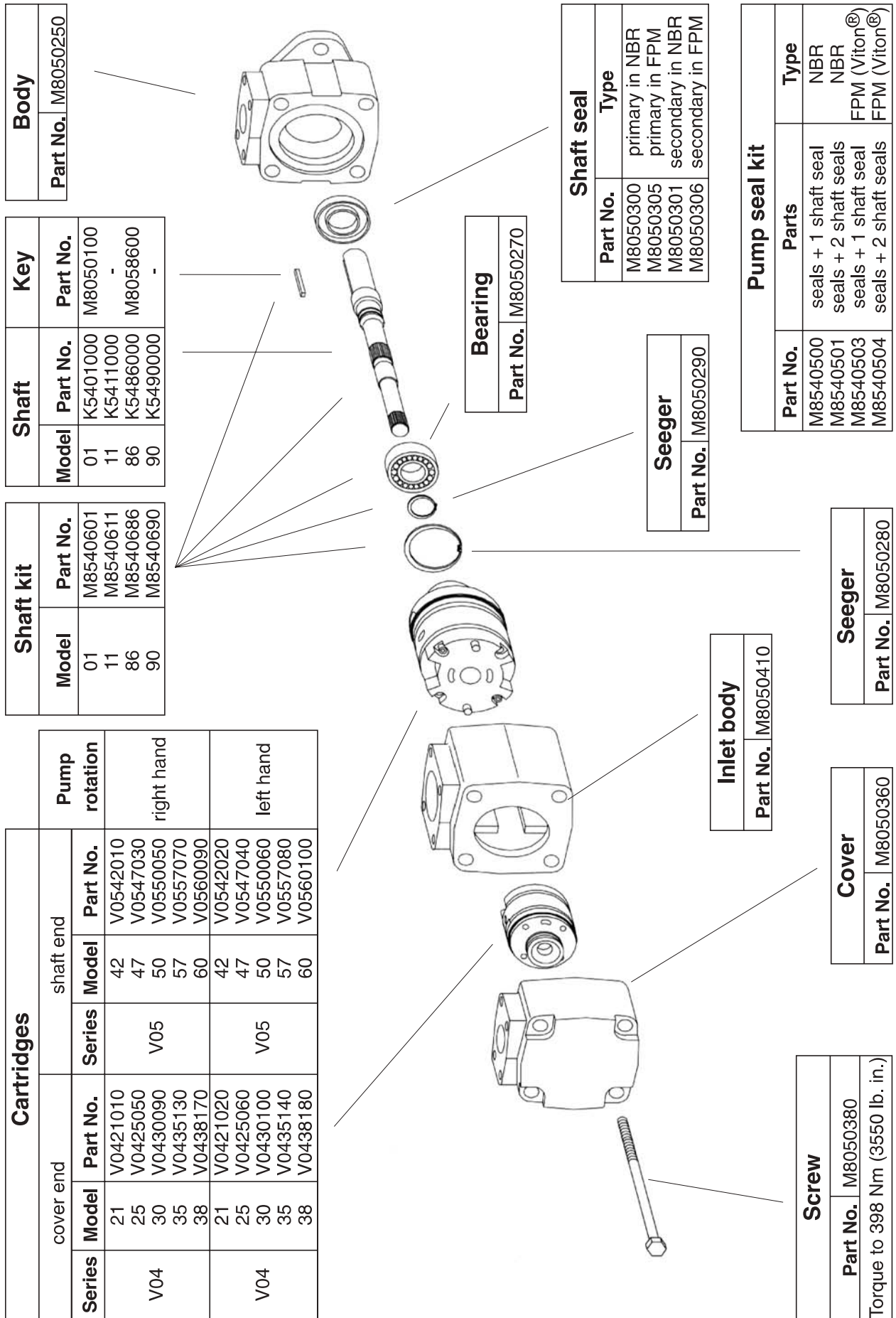


Cartridges					
cover end			shaft end		Pump rotation
Series	Model	Part No.	Series	Model	
V04	21	V0421010	V05	42	V0542010
	25	V0425050		47	V0547030
	30	V0430090		50	V0550050
	35	V0435130		57	V0557070
	38	V0438170		60	V0560090
V04	21	V0421020	V05	42	V0542020
	25	V0425060		47	V0547040
	30	V0430100		50	V0550060
	35	V0435140		57	V0557080
	38	V0438180		60	V0560100

Shaft kit	
Model	Part No.
01	M8540601
11	M8540611
86	M8540686
90	M8540690

Shaft	
Model	Part No.
01	K5401000
11	K5411000
86	K5486000
90	K5490000

Body	
Part No.	M8050250



Shaft seal	
Part No.	Type
M8050300	primary in NBR
M8050305	primary in FPM
M8050301	secondary in NBR
M8050306	secondary in FPM

Seeger	
Part No.	M8050290

Inlet body	
Part No.	M8050410

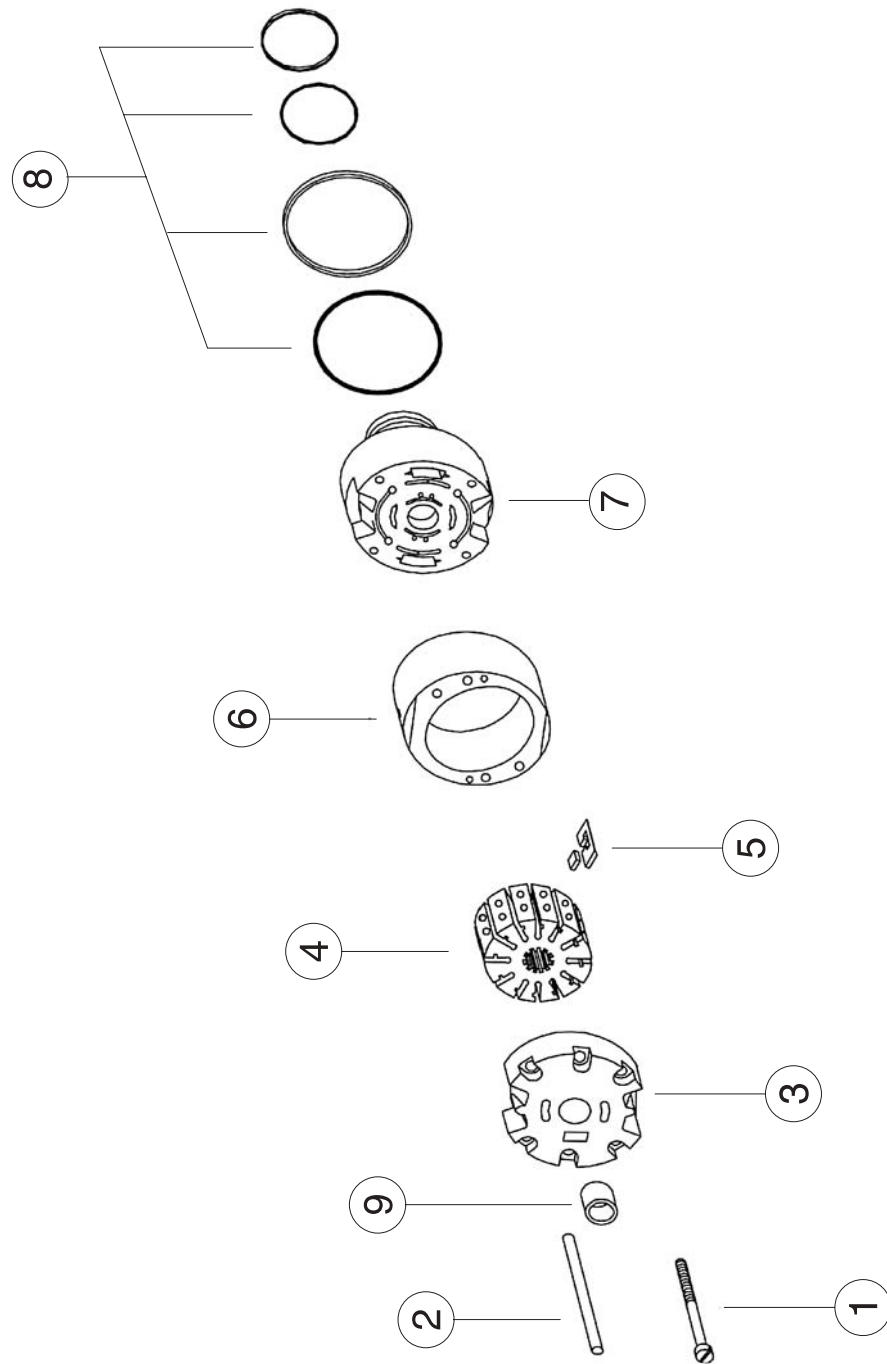
Seeger	
Part No.	M8050280

Cover	
Part No.	M8050360

Screw	
Part No.	M8050380
Torque to 398 Nm (3550 lb. in.)	

Pump seal kit		
Part No.	Parts	Type
M8540500	seals + 1 shaft seal	NBR
M8540501	seals + 2 shaft seals	NBR
M8540503	seals + 1 shaft seal	FPM (Viton®)
M8540504	seals + 2 shaft seals	FPM (Viton®)

Id. codes of cartridge kit components



Cartridge	1	2	3	4	5	6	7	8	9
Series Model	Screw	Pin	Inlet support plate	Rotor	Vane and insert kit (12+12 pcs.)	Ring	Outlet support plate	Seal kit (4 pcs.)	Bushing (*)
V01	02		L6209200	L6209300	L6209100	L7209002			
	05		L6209200	L6209300	L6209100	L7209005			
	08		L6209200	L6209300	L6209100	L7209008			
	09		L6209200	L6209300	L6209100	L7209009	L6200100	L6201100 L6202100 (FPM)	L6200600
	11	L6200900	L6200800	L6200300	L6201200	L7201011			
	12	3,6 Nm	L6200200	L6200300	L6201200	L7201012			
	14	(32 lb. in.)	L6200200	L6200300	L6201200	L7201014			
V02	12					L6251012			
	14					L6251014			
	17	L6250900	L6250800	L6250300	L6251200	L6251017	L6250100	L6251100 L6252100 (FPM)	L7250600
	19	5,5 Nm				L6251019			
	21	(49 lb. in.)				L6251021			
V04	21					L6351021			
	25					L6351025			
	30	L6350900	L6350800	L6350300	L6351200	L6351030	L6350100	L6351100 L6352100 (FPM)	L7350600
	35	12,6 Nm				L6351035			
	38	(112 lb.in)				L6351038			
V05	42					L6451042			
	47					L6451047			
	50	L6450900	L6450800	L6450300	L6451200	L6451050	L6450100	L6451100 L6452100 (FPM)	L7450600
	57	12,6 Nm				L6451057			
	60	(112 lb.in)				L6451060			

(*) Note: The cover end cartridge of the double pump is without bushing.

Operating instructions

Maximum speed: the maximum speeds given in this catalogue are valid for an atmospheric pressure of 1 bar (14.7 psi) and with ambient temperature in the range of +30°C to +50°C. Higher speeds than those given cause a reduction in the volumetric efficiency, due to cavitation phenomena in the inlet area inside the pump. Sustained excess speed causes a rapid deterioration of the internal components reducing the lifetime of the cartridge.

Minimum speed: In general, the min. speed for all pumps is 600 rpm. However, it is possible to operate at lower speeds with certain pump configurations and with appropriate operating temperatures.

Inlet pressure: the inlet pressure, measured at the inlet port, should remain within the prescribed limits. Note that pressures lower than minimum limit cause cavitation and pressures above the maximum limit cause abnormal loads on the shaft and the bearings. In both cases this causes a significant reduction in the lifetime of the cartridge.

Maximum outlet pressure: the maximum outlet pressure is different for each type of fluid used as can be seen from the corresponding diagrams. With optimal temperature and filtration conditions a pressure peak of +10% is permissible for a maximum time of 0.5 sec.

Mounting and drive connections: consider the following indications when preparing the installation drawings for the system:

- the pump is designed to operate with keyed shaft coupled axially and by means of a flexible coupling to the drive;
- the clearance between the keyed shaft and the corresponding sleeve coupling has to be between 0.004 and 0.030 mm;
- avoid axial and radial loads on the shaft;
- the mounting flange has to be perpendicular to the drive shaft, with a maximum error of 0.18 mm every 100 mm;
- when mounting onto a gearbox, or other component without a flexible coupling, it is advisable to order pumps with splined shaft. In this case the clearance between splines has to be between 0.013 and 0.051 mm on the pitch diameter.

Hydraulic circuit: always install a pressure relief valve on the supply line to prevent the pressure from exceeding the allowed maximum. Normally, it is set in accordance with the weakest component in the system. (In the case where it is the pump, set the valve to a pressure 15% higher than the maximum pressure rating of the pump.) Inlet line tubing should have a section equal to or greater than that of the inlet port of the pump. It is advisable to keep the tube connecting the pump to the reservoir as short possible. Particular care has to be taken with the inlet line which has to be hermetically sealed to avoid entraining air into the circuit; this varies the characteristics of the hydraulic fluid causing the operating parts to become damaged.

Filtration: the inlet line filter must have a flow rate capacity that is higher than that of the pump at its maximum operating speed. The filtration requirements for individual models are given in this catalogue. The use of a filter by-pass is recommended for cold starts and should the filter become clogged. Proper maintenance of the filter element is essential for the correct operation of the entire system. In normal conditions replace the filter element after the first 50 hours of operation. Subsequently, replace it at least every 500 hours. Regarding the filter on the return line, the same general conditions apply as for the inlet line and it should be positioned in an accessible location for ease of maintenance.

Tank: if possible, the reservoir should be positioned above the pump. Otherwise, ensure that the minimum level of the fluid contained in it is higher than the pump inlet line opening. It is important to avoid draining the inlet line with the pump at standstill. The opening of the return line into the reservoir must remain below the minimum level of the fluid in the reservoir. It must not be positioned too close to the opening of the inlet line to avoid the possibility of any air bubbles passing into the inlet line. Baffles inside the reservoir may be useful in avoiding the problem. Rapid temperature changes can cause condensation on the underside of the lid of the reservoir with the formation of droplets of water that can fall into the oil. To avoid this problem it is recommended that the lid should have small vents so that the air space in the reservoir is ventilated. The vents have to be screened, though, to prevent the entry of dust or the sudden expulsion of fluid.

Start-up: use the following procedure when the pump is started-up for the first time:

- completely fill the pump and the inlet line with fluid;
 - start the engine for approximately one second a number of times at regular intervals of approximately 2 or 3 seconds until the noise level reduces, thereby confirming that it has been primed;
 - with a manometer check to ensure that the outlet pressure increases slightly;
 - once the pump has been primed, maintain low pressure levels activating all parts of the circuit a number of times until air bubbles disappear completely from the return line to the reservoir.
- This procedure should be carefully as any residual air inside the pump can quickly cause the rotor to seize.

Cold starting: when starting the pump, especially with low ambient temperatures, operate with moderate speed and pressure until the average temperature in the entire circuit is within the given limits.

The information provided in this catalogue is subject to change without notice



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