

Part number:

HYDROMA

HYDRAULICKÉ SYSTÉMY

**HIDROMA
SYSTEMS**

UKŁADY HYDRAULICZNE

HYDROMA

ГИДРАВЛИЧЕСКИЕ СИСТЕМЫ

BV



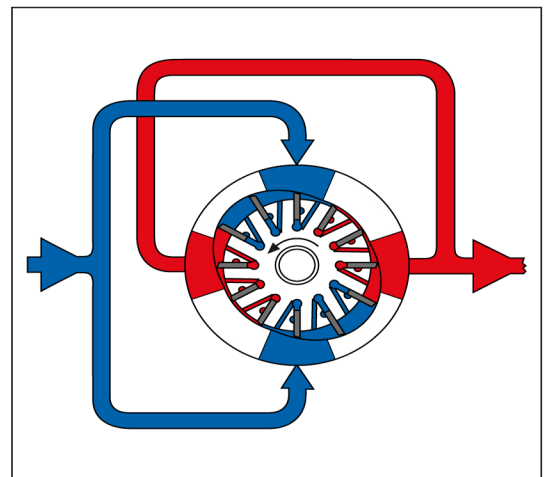
FIXED DISPLACEMENT HYDRAULIC VANE PUMPS “BV” SERIES

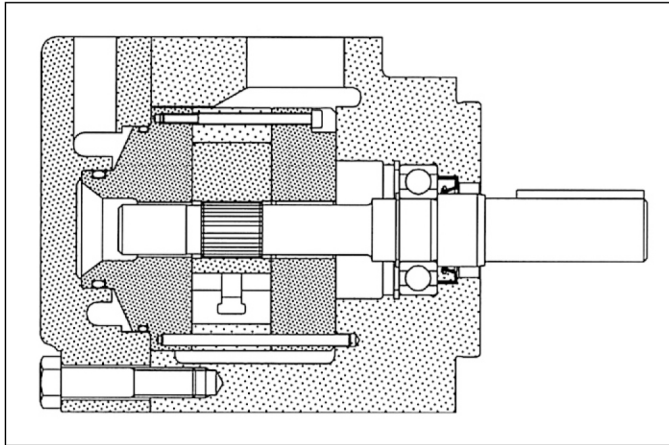
Versatility, power, compactness and low running costs are the main characteristics of B&C vane pumps. All the components subject to wear are contained in a cartridge unit that can be easily removed for inspection and/or replacement without disconnecting the pump from the circuit, drastically reducing 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 21 to 230 L/min at 1200 rpm) and six versions of double pump (from 68 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.





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 21 to 55 l/min (*from 5 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
V01-11	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: mineral oils, phosphate ester based fluids, water emulsions in oil, water-glycol fluids.

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

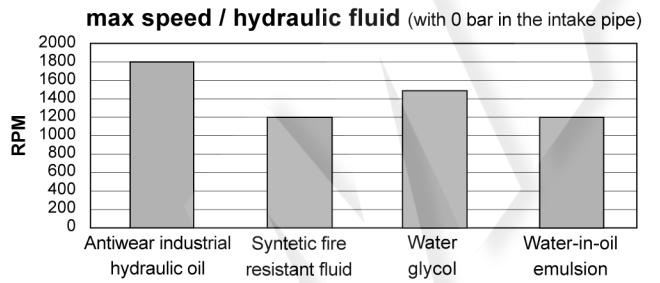
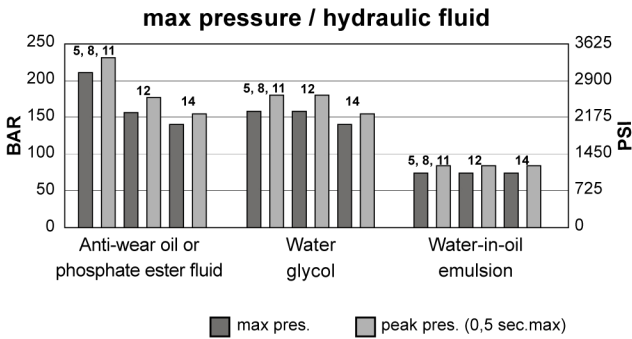
Filtration: for the inlet - 149 micron abs., for the return line - 25 micron abs. or better (*with synthetic fluids: for the return line - 10 micron abs. or better*).

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

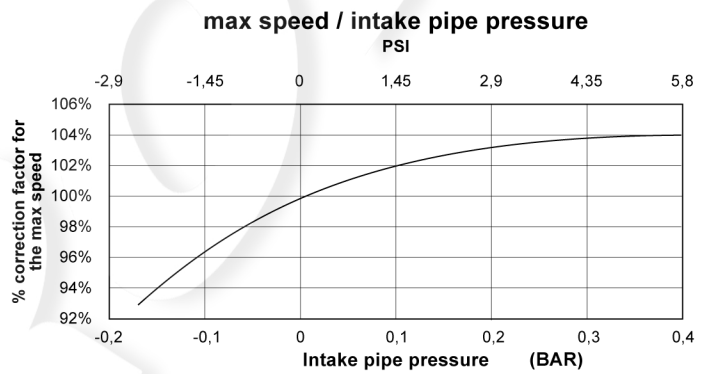
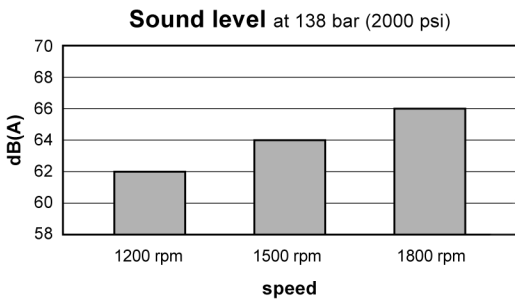
Operating temperature: with mineral oil -10°C +70°C (*+30°C to +60°C recommended*), with water based fluids +15°C to +50°C.

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

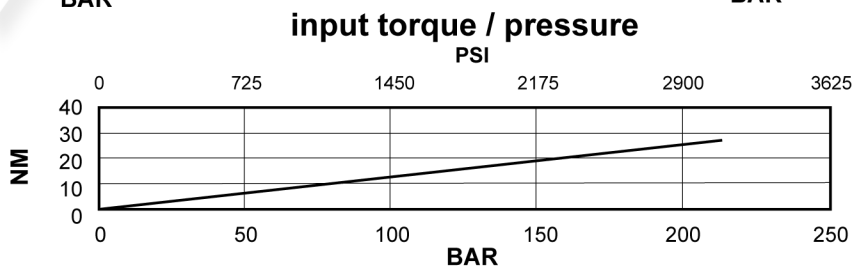
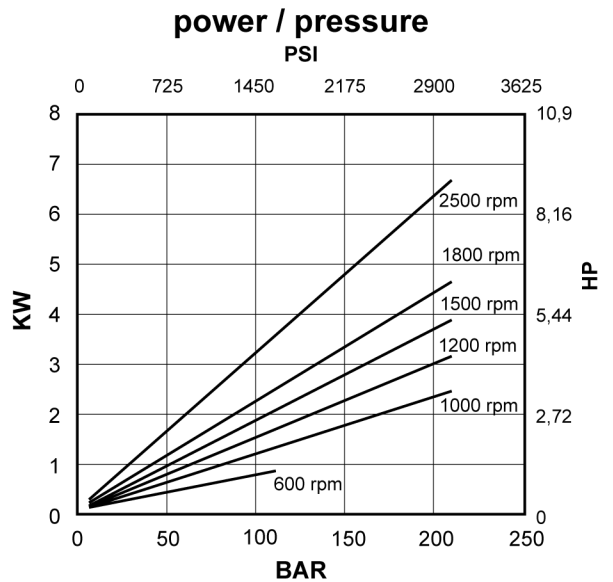
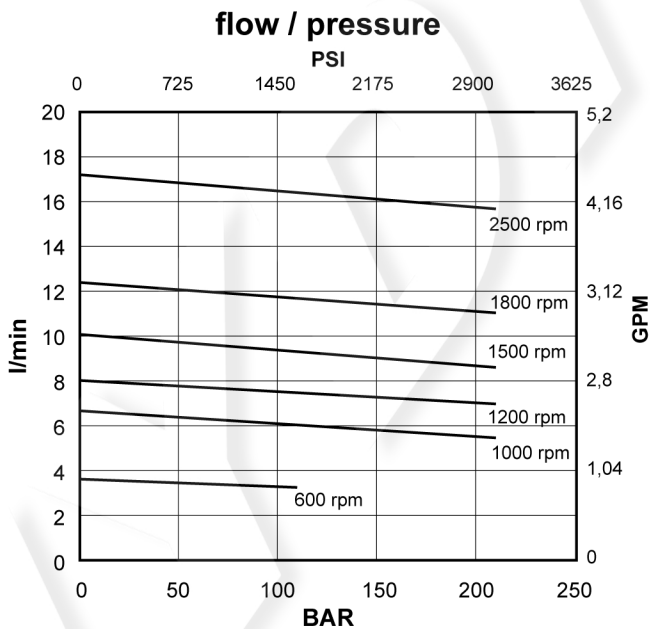
Main operating data



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

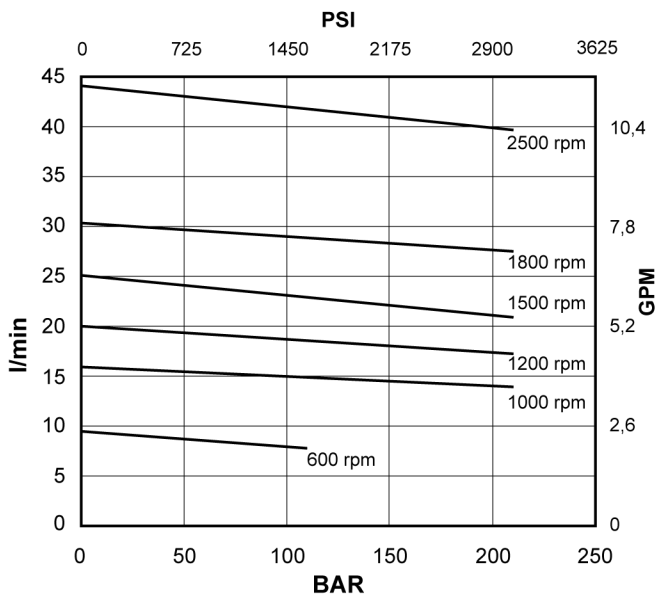


Oil viscosity: 25 c.St.(10W)
 Temperature: 45°C
 Inlet pressure: 0 BAR

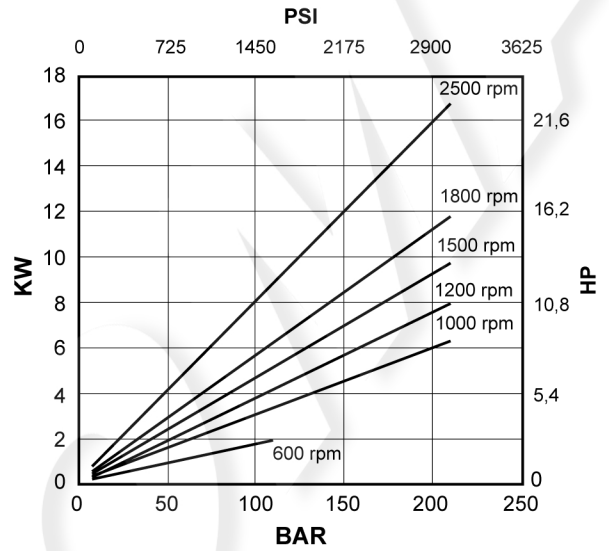
single pump BV01

Cartridge V01-05

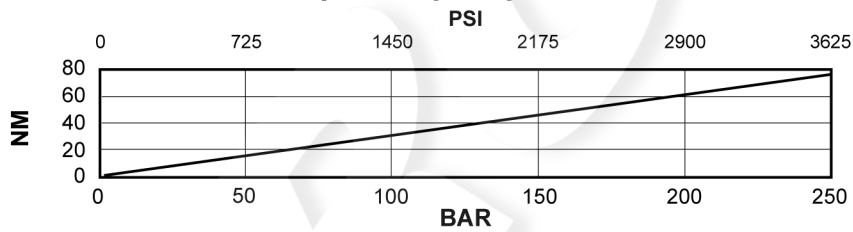
flow / pressure



power / pressure



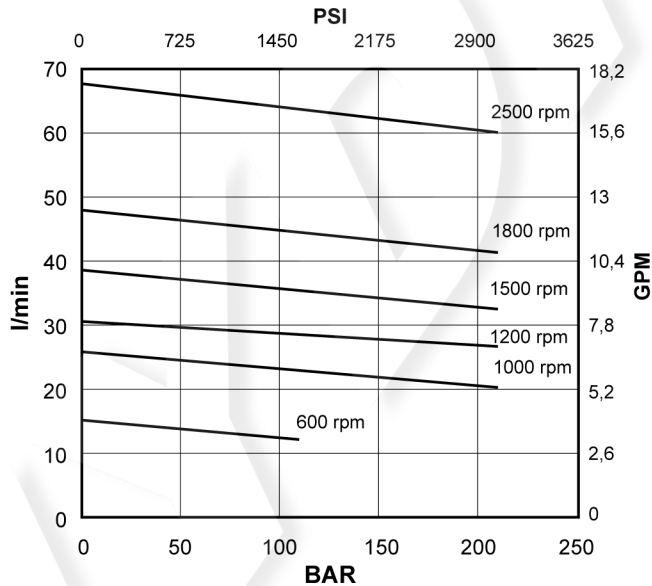
input torque / pressure



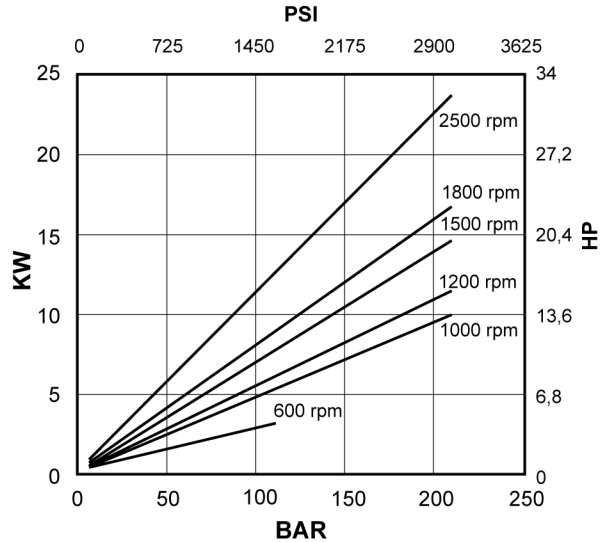
Oil viscosity: 25 c.St.(10W)
Temperature: 45°C
Inlet pressure: 0 BAR

Cartridge V01-08

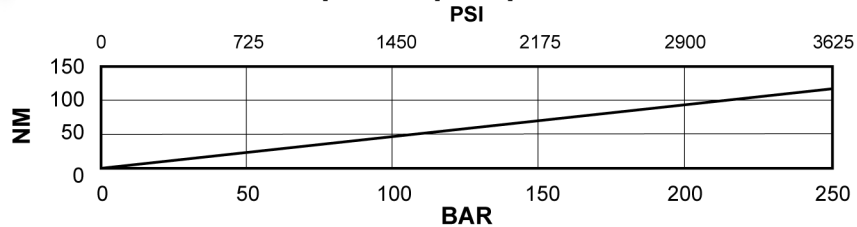
flow / pressure



power / pressure



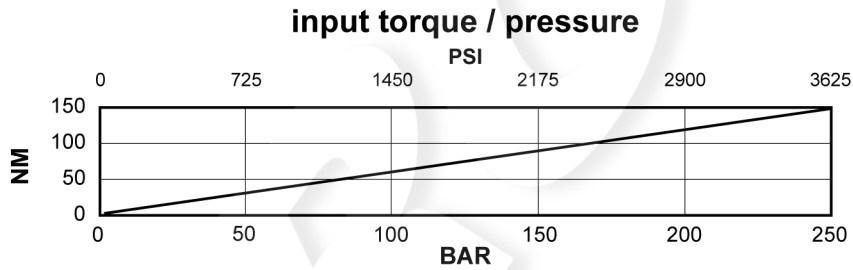
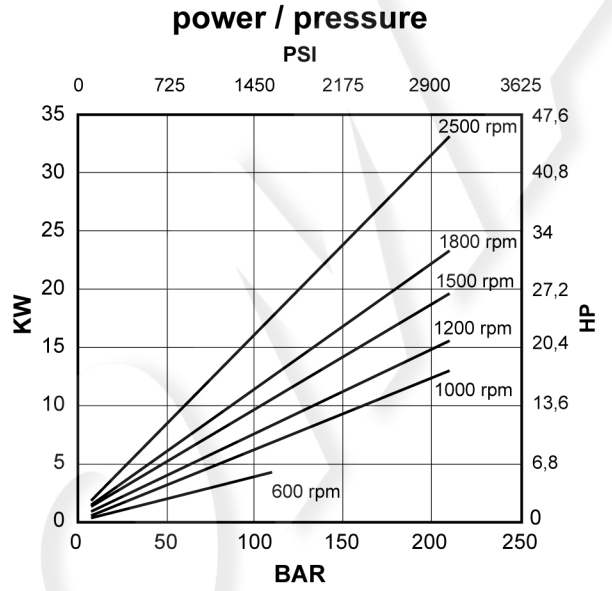
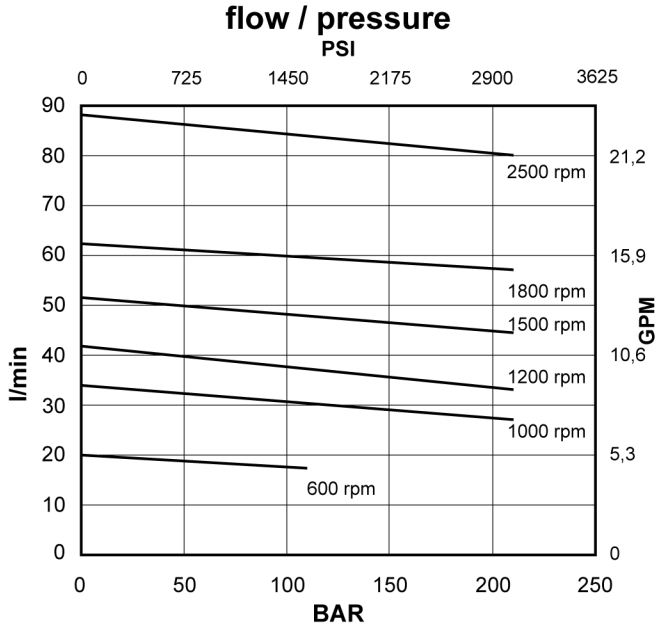
input torque / pressure



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

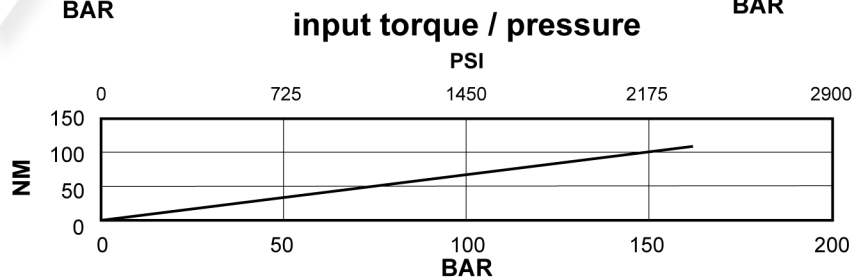
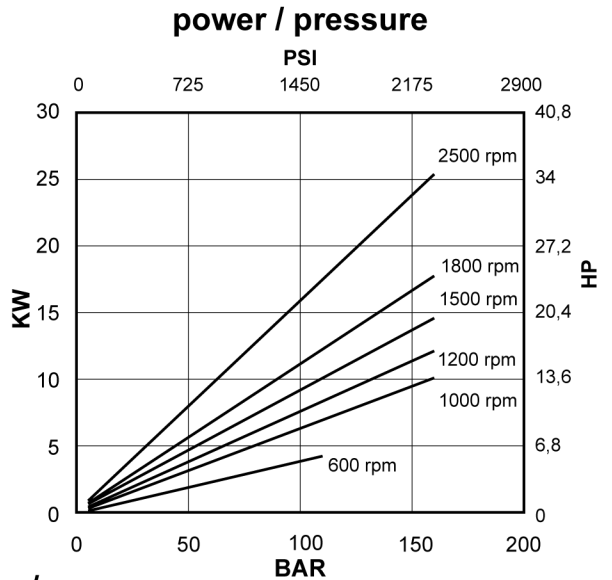
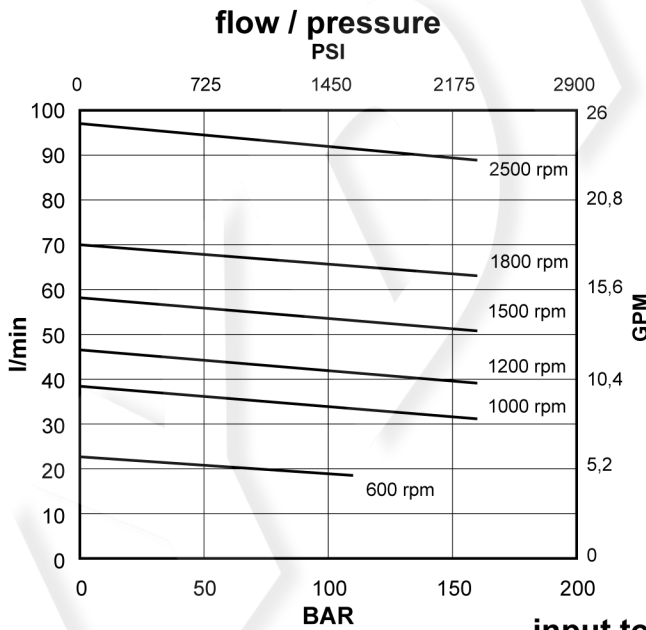
single pump BV01

Cartridge V01-11



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

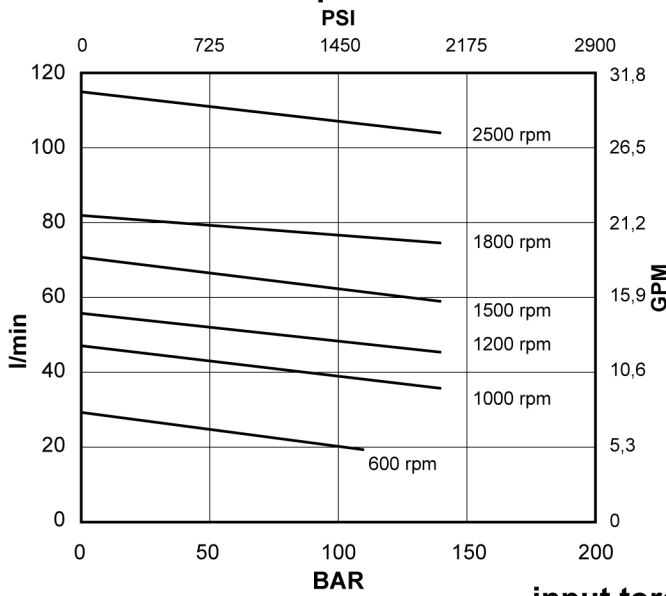
Cartridge V01-12



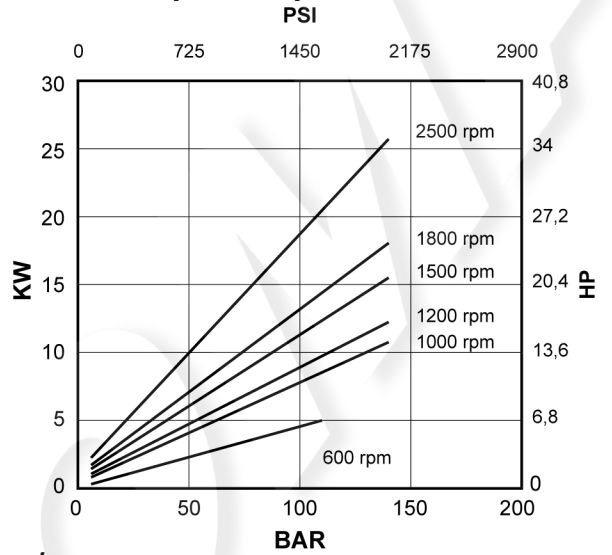
Oil viscosity: 25 c.St.(10W)
 Temperature: 45°C
 Inlet pressure: 0 BAR

Cartridge V01-14

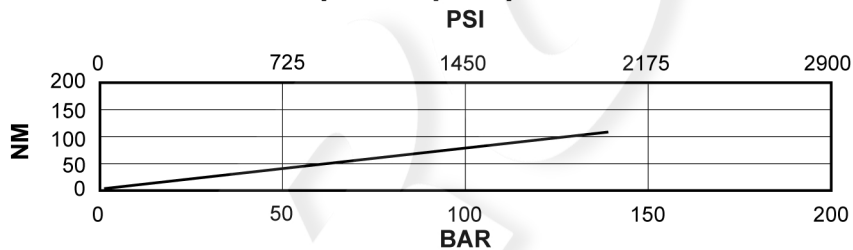
flow / pressure



power / pressure

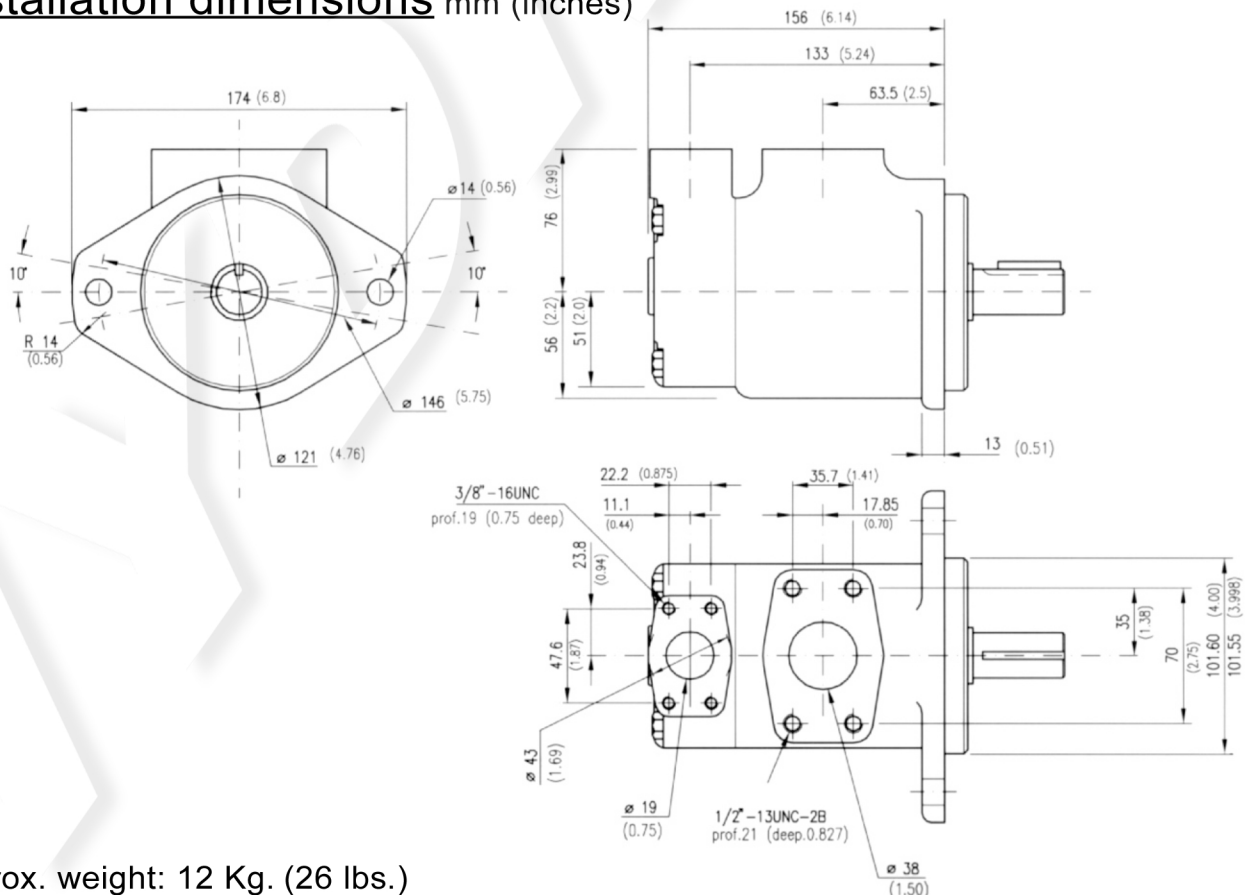


input torque / pressure



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

Installation dimensions mm (inches)



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

Model code breakdown

BV 01 G * * * * (L) * (A)

Pump series

Design

Pump type

Mounting
(omit if not required)

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

02 05 08 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

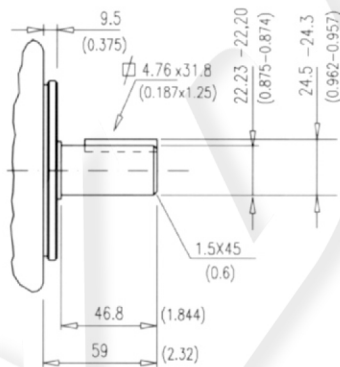
01 = Straight with key (standard)

11 = Splined

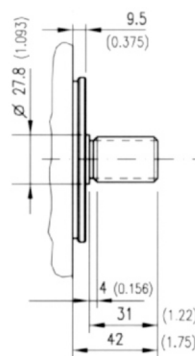
90 = Splined SAE B

Shaft options mm (inches)

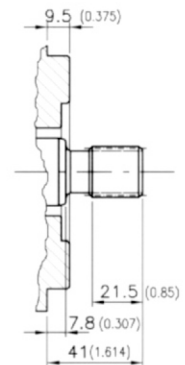
Shaft 01



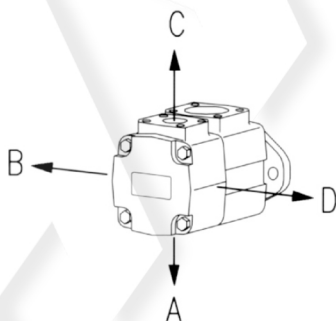
Shaft 11



Shaft 90



PORT ORIENTATIONS



Spline data

(shaft 11 and shaft 90)

Involute side fit (ASA B5.15)

Spline	Involute side fit (ASA B5.15)	
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)