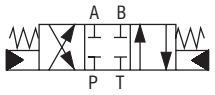
4/2 and 4/3 Directional Control Valve, Hydraulically Operated

RPH2-06

Size 06 (D03) • Q_{max} 80 l/min (21 GPM) • p_{max} 350 bar (5100 PSI)

Symbol



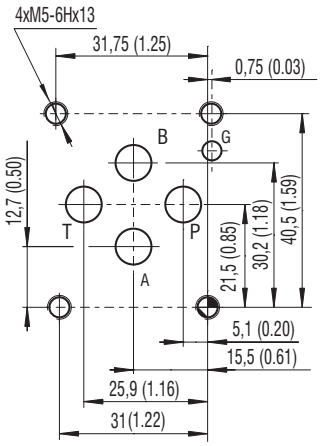
Technical Features

- Direct acting directional control valve, hydraulically operated with subplate mounting interface acc. to ISO 4401, DIN 24340 (CETOP 03)
- High transmitted hydraulic power up to 350 bar with optimized design to minimize pressure drop
- Five chamber housing design with reduced hydraulic power dependence on fluid viscosity
- Actuating section can be rotated in 90° increments for flexible installation
- Wide range of interchangeable spools available
- Connection for hydraulic operation M10 x 1, G1/8 and 7/16-20 UNF-2B (SAE-4)
- In the standard version, the valve housing is phosphated for basic surface corrosion protection and as preparation for painting. Steel parts are zinc-coated for 240 h salt spray protection acc. to ISO 9227
- Enhanced surface protection for mobile sector available for the valve housing and steel parts (ISO 9227, 520 h salt spray)

Functional Description

These hydraulically operated directional control valves are used mainly to control start, stop and direction of fluid. The valves consist of a housing, a control spool with two centering springs, and the actuating section. The actuating section consists of the hydraulic actuation cylinder. The directional control valves are manufactured as two or three position valves (see table with functional symbols).

ISO 4401-03-02-0-05



Ports P, A, B, T max ∅7.5 mm (0.29 in)

Technical Data

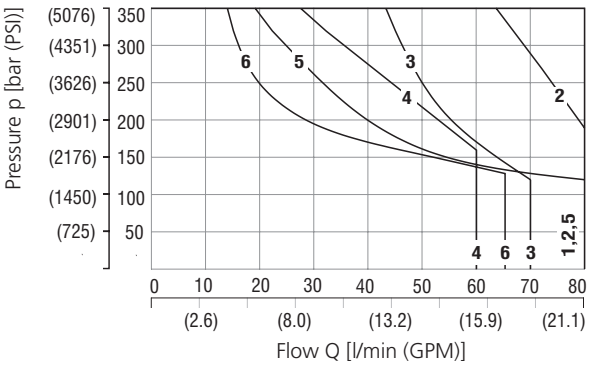
Valve size			06 (D03)
Max. flow		l/min (GPM)	80 (21.1)
Max. operating pressure P, A, B		bar (PSI)	350 (5080)
Max. operating pressure at port T		bar (PSI)	130 (1890)
Min. pilot pressure at max.power of the valve		bar (PSI)	30 (440) + p(T)*
Max. pilot pressure		bar (PSI)	160 (2320)
Pilot volume		cm³ (cu.in)	0.5 (0.03)
Fluid temperature range (NBR)		°C (°F)	-30 ... +100 (-22 ... +212)
Fluid temperature range (FPM)		°C (°F)	-20 ... +120 (-4 ... +248)
Weight	valve with 1 actuator	kg (lbs)	1.6 (3.53)
	valve with 2 actuators		2.7 (5.70)
		Datasheet	Type
General information		GI_0060	Products and operating conditions
Mounting interface		SMT_0019	Size 06
Spare parts		SP_8010	

*The operating pressure, needed for spool moving depends on the hydraulic power of the valve (on the flow and the system pressure), spool type and the pressure in the T-channel. The operating pressure can take value from a minimum value of several bar up to permitted maximum value of 160 bar. Increasing pressure in the T-channel increases the needed oper. pressure in ratio 1:1. To reach surly the basic position of the spool, the actuating section should be relieved without pressure.

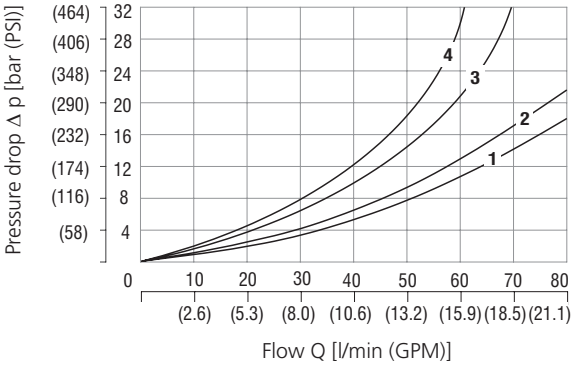
Characteristics measured at ν = 32 mm²/s (156 SUS)

Operating limits

Operating limits for max. hydraulic power with min. piloting pressure



Pressure drop related to flow rate



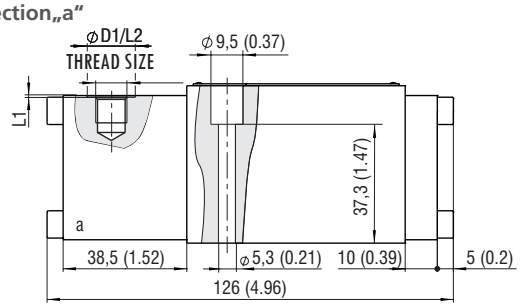
H11	1	J15	3	C51	1	A51	5
H51	1	R11	4	Z11	2	Y11	6
C11	1	X11	4	Z51	2	Y51	6

	P-A	P-B	A-T	B-T	P-T		P-A	P-B	A-T	B-T	P-T
Z11, R11, X11, J15	1	1	2	2		C51	3			4	2
C11	3	3	3	4	2	Z51		1	2		
H11, H51	1	1	1	1	2	A51	1	1			
Y11	1	1	1	1		Y51		1	1		

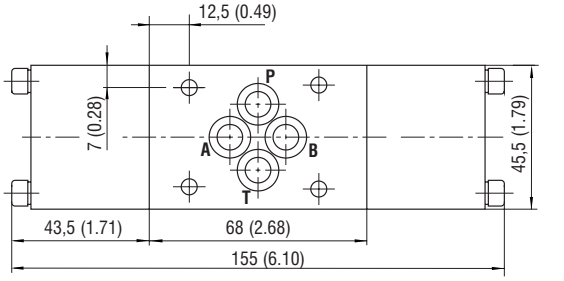
For operating limits under conditions and flow directions other than shown contact our technical support. Admissible operating limits may be considerably lower with only one direction of flow (A or B plugged, or without flow.)

Dimension in millimeters (inches)

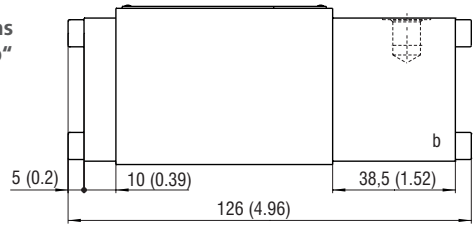
Valve with two positions one actuating section„a“

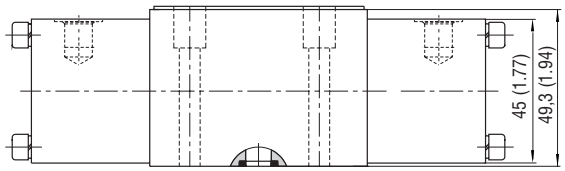


Valve with three positions two actuating sections

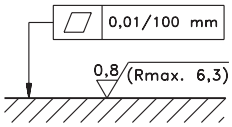


Valve with two positions one actuating section„b“



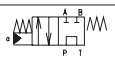
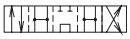
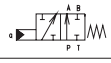
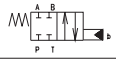


Thread size	∅ D1	L1	L2
M10 x 1, G1/8	15.5 (0.61)	1 (0.04)	8 (0.32)
7/16-20 UNF-2B, SAE-4	21 (0.83)	0.8 (0.03)	14 (0.55)



Required surface quality of the counterpart

Spool Symbols

Type	Symbol	Interposition	Type	Symbol	Interposition
Z11			C51		
C11			H51		
H11			Y51		
Y11			Y11		
L21			H11		
R11			X11		
A51			Z11		
Z51			J15		

Ordering Code

RPH2-06 ☐ ☐ / ☐ - 1 ☐ - ☐

4/2 and 4/3 directional control valve, hydraulically operated

Valve size

Number of valve positions
two positions **2**
three positions **3**

Spool symbols
see the table „Spool Symbols“

Connection for hydraulic operation
1 M10 x 1
2 G1/8
3 7/16-20 UNF-2B, SAE-4

Model

Seals
No designation NBR
V FPM (Viton)

Surface treatment
No designation standard
A zinc-coated (ZnCr-3), ISO 9227 (240 h)
B zinc-coated (ZnNi), ISO 9227 (520 h)

Mounting bolts M5 x 45 DIN 912-10.9 or studs must be orderer separately see Spare Parts datasheet HA 8010.
Tightening torque is 8.9 Nm (6.56 lbf.ft).
Besides the commonly used valve versions shown other special models are available.
Contact our technical support for their identification, feasibility and operating limits.