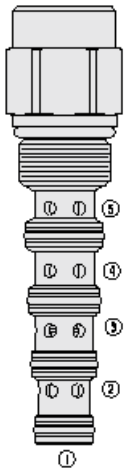




Overview



Description

The PD10-51 is a screw-in, cartridge style, pilot operated, spool-type hydraulic directional valve

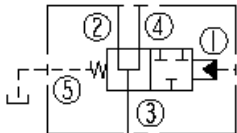
Operation

In the neutral position flow is allowed between ports 2, 3 and 4. On remote pilot signal at port 1 the valve's spool shifts to block all ports. The spring chamber is vented to the tank through port 5. The vented spring chamber allows the valve to be fully pressurized at ports 1, 2, 3 and 4 without affecting required pilot pressure. Pressure at port 5 will affect required pilot pressure

Features

- Hardened spool and cage for long life.
- 150 and 250 psi bias springs available.

Symbol



Ratings

Pressure Ratings

Pressure rating 241 bar (3500 psi)

Flow Ratings

Maximum internal leakage 164 ml/min (10 in³/min) - **Note:** At zero leakage from port 1 to 2 and from port 4 to 5 with sealed spool 241 bar (3500 psi)

Temperature Ratings

Operating fluid temperature	-40 to 100 °C (-40 to 212 °F)	- Note: With buna N seals
	-26 to 204 °C (-15 to 400 °F)	- Note: With fluorocarbon seals
	-54 to 107 °C (-65 to 225 °F)	- Note: With polyurethane seals
Storage temperature	-40 to 70 °C (-40 to 160 °F)	
Ambient temperature	-40 to 90 °C (-40 to 196 °F)	

Operating Parameters

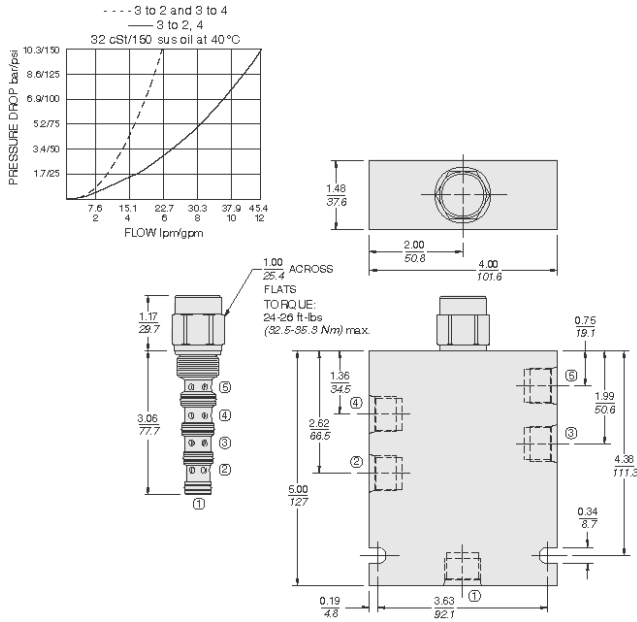
Fluids	Mineral based or synthetic hydraulic fluid with lubricating properties
Fluid viscosity range	7.4 to 420 cSt
Maximum operating contamination level	20/18/14 per ISO 4406

Properties

Unit weight	0.21 kg (0.46 lb)
Internal wetted surface area	210 cm ² (32.6 in ²)



Performance



Materials

Materials

Cartridge: Weight: 0.23 kg (0.5 lb); Steel with hardened work surfaces. Zinc-plated exposed surfaces; Buna N O-rings and polyester elastomer back-ups standard.

Standard Ported Body: Weight: 0.41 kg (0.85 lb); Anodized high-strength 6061 T6 aluminum alloy, rated to 207 bar (3000 psi). Ductile iron bodies available; dimensions may differ.

Installation Specifications

Cavity	VC10-5
Cartridge installation torque	32.5 to 35.3 N-m (24 to 26 ft-lb)
Orientation restriction	None
Note	Ns, VS and PS seal option require 230 psi [15,9 bar] bias spring

Accessories

Seal kit	SK10-5X-MMMM	- Note: X = seal option
Housings		



Order Code

POSITION	CODE	DESCRIPTION
		PD10-51-H-J-R
H		Line Body
H	0	No Body
H	6T	Aluminum SAE 6
H	8T	Aluminum SAE 8
J		Seal
J	N	Buna-N
J	NS	Buna-N with a Sealed Spool
J	V	Fluorocarbon
J	VS	Fluorocarbon with a Sealed Spool
J	P	Polyurethane
J	PS	Polyurethane with a Sealed Spool
J	U	PPDI Urethane
J	US	PPDI Urethane with a Sealed Spool
R		Spring
R	150	150 psi Bias Spring
R	230	230 psi Bias Spring

ORDERING INFORMATION:
PD10-51-X-XX-XXX

BASE MODEL NUMBER

PORTING

CARTRIDGE ONLY - 0

SEAL OPTION

BUNA N - N

FLUOROCARBON - V

POLYURETHANE - P

BUNA N - NS

FLUOROCARBON - VS

POLYURETHANE - PS

BIAS SPRING VALUE

150 - 150 psi
[10,3 bar]

230 - 230 psi
[15,9 bar]

SEALD SPOOL BETWEEN
PORTS 1 & 2 AND 4 & 5

NOTE: NS, VS AND PS SEAL OPTION REQUIRE
230 psi [15,9 bar] BIAS SPRING.