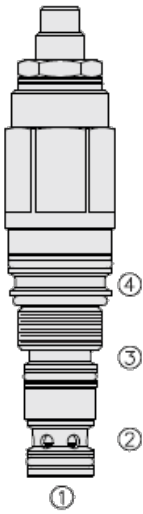




Overview



Description

The UPCV10-F41 is a screw in, cartridge style, internally piloted, pilot unloading valve with an internal check valve with fixed reload pressure ratio of 80% for use in accumulator type hydraulic systems

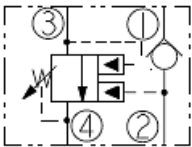
Operation

In its steady state, the UPCV10-F41 blocks flow from port 3 to port 4 and allows flow from port 1 to port 2. On attainment of a predetermined pressure at port 2 and 3, the spool shifts to allow free flow from port 3 to port 4, unloading the port 3 pilot. If pressure at port 2 drops to a level below the ratio established reload value, the valve will close, blocking flow from port 3 to port 4. The spring chamber is vented to port 4

Features

- Internal check valve
- Optional fixed reload pressure ratios.
- Hardened precision spool and cage for long life.
- Choice of seal options.

Symbol



Ratings

Pressure Ratings

Pressure rating	206.8 bar (3000 psi)	- Note: Port 1
	206.8 bar (3000 psi)	- Note: Port 2
	206.8 bar (3000 psi)	- Note: Port 3
	103.4 bar (1500 psi)	- Note: Port 4
Proof pressure	482.6 bar (7000 psi)	
Burst pressure	965.3 bar (14000 psi)	
Pressure setting	41.4 to 206.8 bar (600 to 3000 psi)	
Loading and unloading pressure ratio	Specified ratio $\pm 5\%$	

Flow Ratings

Flow rating	0.8 to 7.6 lpm (0.2 to 2 gpm)	- Note: Port 3 to 4
	1.9 lpm (0.5 gpm)	- Note: Factory recommendation
	45.4 lpm (12 gpm)	- Note: Port 1 to 2

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
	-54 to 107 °C (-65 to 225 °F)	- Note: With urethane seals
Storage temperature	-40 to 70 °C (-40 to 160 °F)	
Ambient temperature	-40 to 70 °C (-40 to 160 °F)	

Other Ratings

Corrosion protection	960 hr salt spray per astmb117
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Operating Parameters

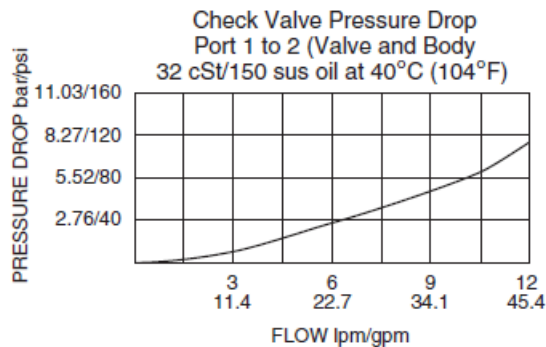
Fluids	Mineral based or synthetic with lubricating properties
Fluid viscosity range	7.4 to 420 cSt
Maximum operating contamination level	18/16/13 per ISO 4406



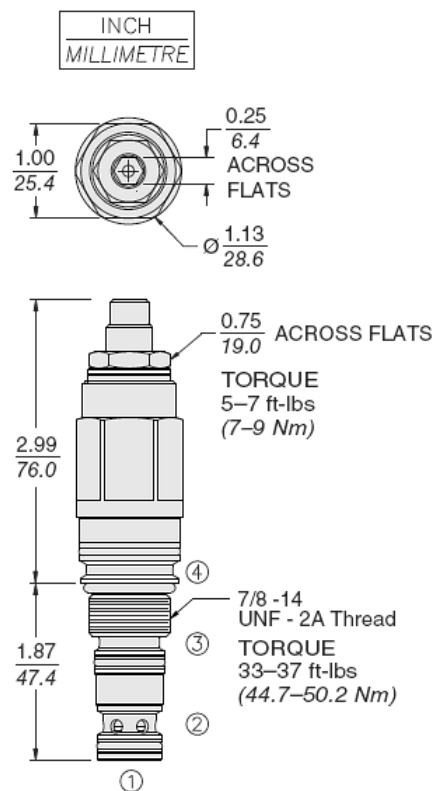
Properties

Unit weight	0.28 kg (0.61 lb)
Internal wetted surface area	251 cm ² (38.9 in ²)

Performance



Dimensions



Materials

Materials

Cartridge: Weight: 0.28 kg (0.61 lbs) Steel with hardened work surfaces. Zinc-plated exposed surfaces. Buna N O-rings and polyester elastomer back-ups standard.

Installation Specifications

Cavity	Hvc10-f4
Cartridge installation torque	44.7 to 50.2 N-m (33 to 37 ft-lb)
Orientation restriction	None



Accessories

Seal kit	SK10-F4N-BMM	- Note: Buna N
	SK10-F4V-BMM	- Note: Fluorocarbon
	SK10-F4P-BMM	- Note: Polyurethane
	SK10-F4U-BOO	- Note: Urethane
Housings		

Order Code

POSITION	CODE	DESCRIPTION
		UPCV10-F41F-H-J-NR/S
F		Adjustment Option
F	A	1/4" Hex Allen Head
H		Line Body
H	8HT	Ductile Iron SAE 8
J		Seal
J	N	Buna-N
J	V	Fluorocarbon
J	P	Polyurethane
J	U	PPDI Urethane
N		Ratio
N	80	80% Ratio
R		Spring
R	30	41.1 to 206.8 bar (600 to 3000 psi) Spring Range
S		Pressure Setting
S	MXXX	Spring Setting in XXX bar
S	XX	Spring Setting in XX psi (x 100)

