



Overview

UP10-31A-0-N-80-30

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Description

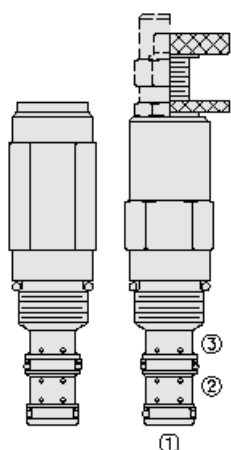
The UP10-31 is a screw in, cartridge style, remote sequence, pilot unloading valve, with optional fixed unload/reload pressure ratios of 60%, 70% or 80% for use in accumulator type hydraulic systems

Operation

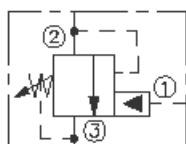
In its steady state, the UP10-31 blocks flow from port 2 to port 3. On attainment of a predetermined pressure at port 1, the spool shifts to allow flow from port 2 to port 3. Since the spring chamber is vented at port 3, back pressure at port 3 will directly (1:1) effect the valve setting. If pressure at port 1 drops to a level below the ratio established reload value, the valve will close, blocking flow from port 2 to port 3

Features

- Adjustments cannot be backed out of the valve.
- Adjustments prohibit springs from going solid.
- Optional spring ranges to 207 bar (3000 psi).
- Hardened spool and cage for long life.
- Industry-common size.



Symbol



Ratings

Pressure Ratings

Pressure rating	207 bar (3000 psi)	- Note: Port 2, port 3
	250 bar (3625 psi)	- Note: Port 1
Loading and unloading pressure ratio	At	
	1 gpm	
	3000 psi	
Pressure setting	69 to 207 bar (1000 to 3000 psi)	

Flow Ratings

Flow rating	3.8 lpm (1 gpm)	
Maximum internal leakage	0.1 ml/min (2 drops/min)	- Note: From port 1 to 2 at max pressure

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
Storage temperature	-40 to 70 °C (-40 to 160 °F)	
Ambient temperature	-40 to 70 °C (-40 to 160 °F)	

Operating Parameters

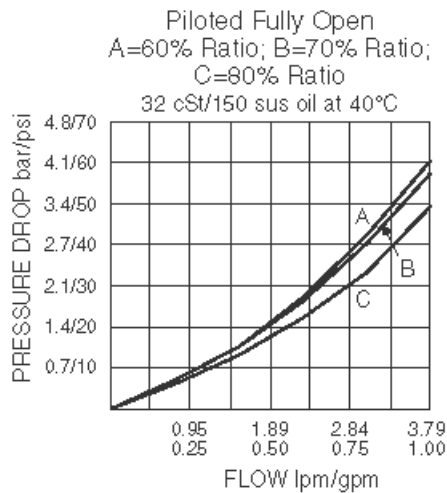
Fluids	Mineral based or synthetic hydraulic fluid with lubricating properties
Fluid viscosity range	7.4 to 420 cSt
Maximum operating contamination level	20/18/14 per ISO 4406

Properties

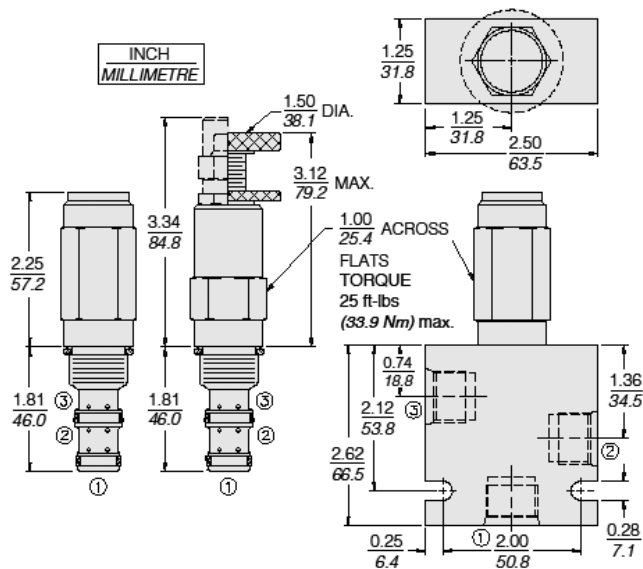
Unit weight	0.27 kg (0.58 lb)	- Note: A
	0.29 kg (0.64 lb)	- Note: B
	0.31 kg (0.68 lb)	- Note: C
	0.26 kg (0.57 lb)	- Note: F
	0.26 kg (0.56 lb)	- Note: H
	0.31 kg (0.68 lb)	- Note: L
Internal wetted surface area	166 cm ² (25.8 in ²)	- Note: A b c l
	187 cm ² (28.9 in ²)	- Note: F h



Performance



Dimensions



Materials

Cartridge: Weight: 0.27 kg. (0.60 lbs.); Steel with hardened work surfaces. Zinc-plated exposed surfaces; Buna N O-rings and polyester elastomer back-ups standard. Anodized aluminum knobs and caps.

Standard Ported Body: Weight: 0.36 kg. (0.80 lbs.); Anodized high-strength 6061 T6 aluminum alloy, rated to 207 bar (3000 psi); Ductile iron bodies available; dimensions may differ.

Adjustment Option Details: See [adjustment options](#)

Installation Specifications

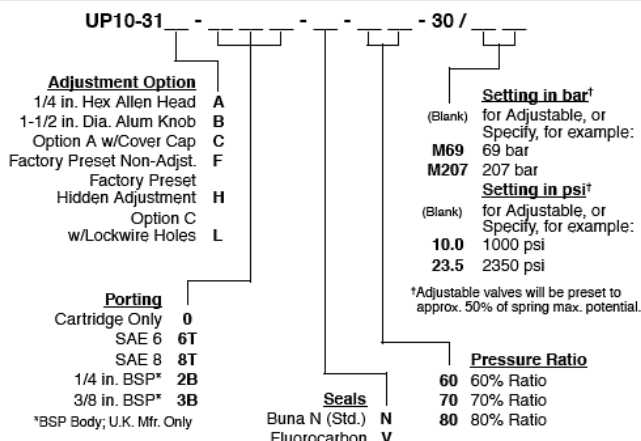
Cavity	VC10-3
Cartridge installation torque	34 to 37 N-m (25 to 27 ft-lb)
Plug torque	34 to 37 N-m (25 to 27 ft-lb)
Orientation restriction	None

Accessories

Seal kit	SK10-3X-BM	- Note: X = seal option
Housings		



Order Code



POSITION	CODE	DESCRIPTION
		UP10-31F-H-J-NR/S
F		Adjustment Option
F	A	1/4" Hex Allen Head
F	B	1-1/2" Diameter Aluminum Knob with Aluminum Lock Knob
F	C	1/4" Hex Allen Head with Cover Cap
F	F	Factory Preset Non-Adjustable
F	H	Factory Preset Hidden Adjustment
F	L	1/4" Hex Allen Head with Cover Cap and Lockwire Holes
H		Line Body
H	0	No Body
H	6T	Aluminum SAE 6
H	8T	Aluminum SAE 8
H	6TD	Ductile Iron SAE 6
H	8TD	Ductile Iron SAE 8
H	3B	Aluminum BSPP 3/8" (3)
H	3BD	Ductile Iron BSPP 3/8" (3)
J		Seal
J	N	Buna-N
J	V	Fluorocarbon
J	P	Polyurethane
J	U	PPDI Urethane
N		Ratio
N	60	60% Ratio
N	70	70% Ratio
N	80	80% Ratio
R		Spring
R	30	68.9 to 206.8 bar (1000 to 3000 psi) Spring Range
S		Setting
S	MXXX	Spring Setting in XXX bar
S	XX	Spring Setting in XX psi (x 100)