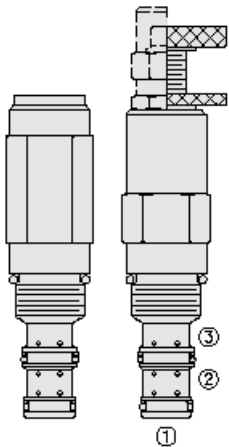




## Overview



### 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.

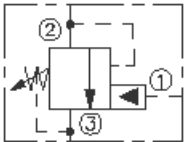
### Operation

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) 250 bar (3625 psi)	- <b>Note:</b> Port 2, port 3 - <b>Note:</b> 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)	- <b>Note:</b> From port 1 to 2 at max pressure

### Temperature Ratings

Operating fluid temperature	-40 to 100 °C (-40 to 212 °F) -26 to 204 °C (-15 to 400 °F)	- <b>Note:</b> With buna N seals - <b>Note:</b> With fluorocarbon seals
Storage temperature	-40 to 70 °C (-40 to 160 °F)	
Ambient temperature	-40 to 70 °C (-40 to 160 °F)	

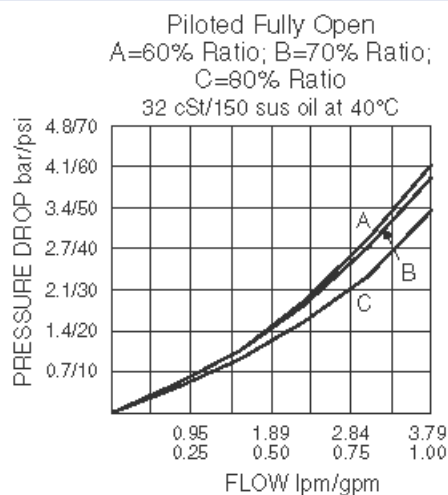
## Operating Parameters

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

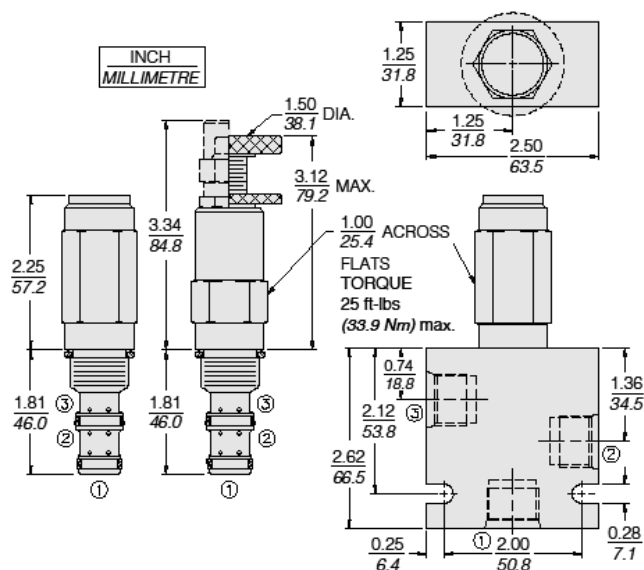
## Properties

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

## Performance



## Dimensions



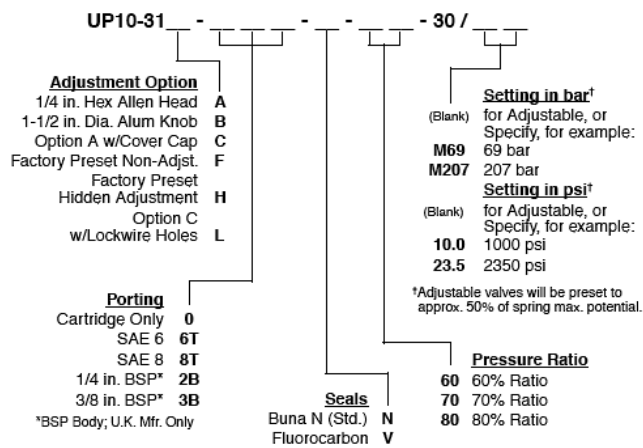
## Installation Specifications

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	- <b>Note:</b> X = seal option
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## Order Code



## Model Options

### UP10-31F-H-J-NR/S

#### F Adjustment Option

CODE	DESCRIPTION
A	1/4" Hex Allen Head
B	1-1/2" Diameter Aluminum Knob with Aluminum Lock Knob
C	1/4" Hex Allen Head with Cover Cap
F	Factory Preset Non-Adjustable
H	Factory Preset Hidden Adjustment
L	1/4" Hex Allen Head with Cover Cap and Lockwire Holes

#### H Line Body

CODE	DESCRIPTION
0	No Body
6T	Aluminum SAE 6
8T	Aluminum SAE 8
6TD	Ductile Iron SAE 6
8TD	Ductile Iron SAE 8
3B	Aluminum BSPP 3/8" (3)
3BD	Ductile Iron BSPP 3/8" (3)

#### J Seal

CODE	DESCRIPTION
N	Buna-N
V	Fluorocarbon
P	Polyurethane
U	PPDI Urethane

#### N Ratio

CODE	DESCRIPTION
60	60% Ratio
70	70% Ratio
80	80% Ratio

#### R Spring

CODE	DESCRIPTION
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CODE	DESCRIPTION
30	68.9 to 206.8 bar (1000 to 3000 psi) Spring Range

**S Setting**

CODE	DESCRIPTION
MXXX	Spring Setting in XXX bar
XX	Spring Setting in XX psi (x 100)