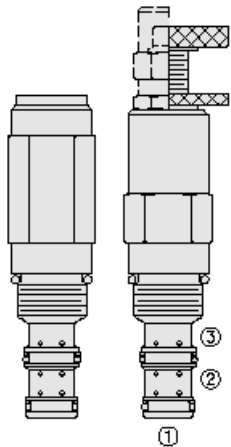




## Overview



### 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.

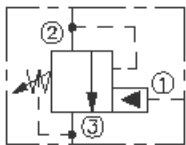
### Operation

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)	- <b>Note:</b> Port 2, port 3
	250 bar (3625 psi)	- <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)	- <b>Note:</b> With buna N seals
	-26 to 204 °C (-15 to 400 °F)	- <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

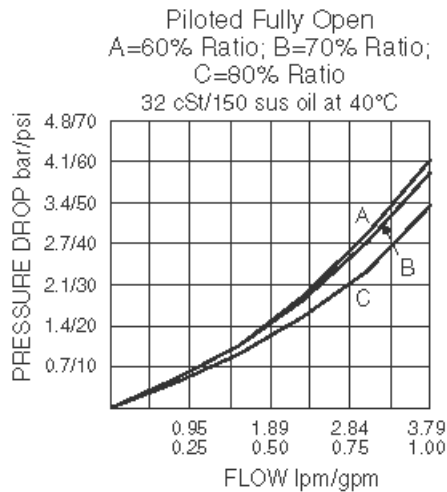
Fluids	Mineral based or synthetic hydraulic fluid with lubricating properties
Fluid viscosity range	7.4 to 420 cSt
Maximum operating contamination level	20/18/14 per ISO 4406



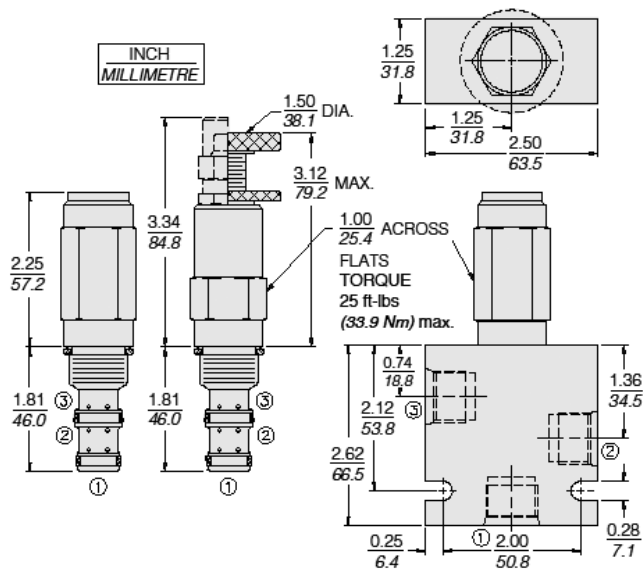
## Properties

Unit weight	0.27 kg (0.58 lb)	- 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 <sup>2</sup> (25.8 in <sup>2</sup> )	- Note: A b c l
	187 cm <sup>2</sup> (28.9 in <sup>2</sup> )	- Note: F h

## Performance



## Dimensions



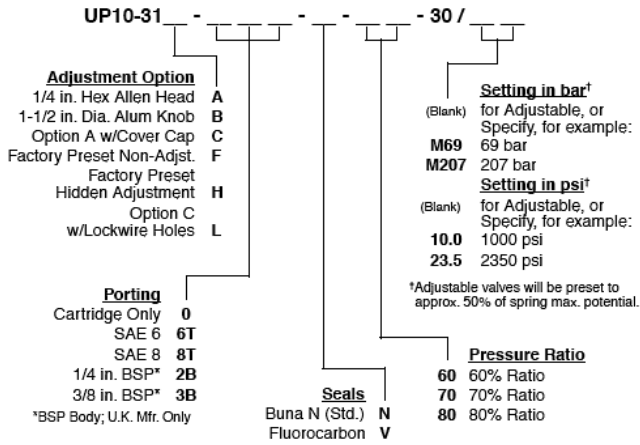
## Installation Specifications

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	- Note: 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)