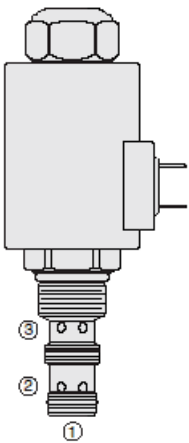




Overview



Description

ZL70-30 is a solenoid operated, pressure compensated, spool type, normally closed, proportional bi-directional flow control valve.

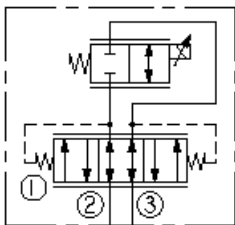
Operation

The valve provides regulated flow in both directions, from port 2 to port 3 or from port 3 to port 2. Port 1 should be blocked. Regulated flow is proportional to electric current applied to solenoid. The valve is intended for use in mineral based or synthetic fluids with lubricated properties. D:5.2 m:5.2 1.06 [26,9] across flats 1.13 [28,7] across flats 7/8-14 unf-2a thread do not use with e-coil outline aluminum body shown.

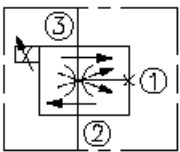
Features

- Choice of two regulated flow ranges.
- Excellent linearity and hysteresis characteristics.
- Hardened spool and cage for long life.
- Optional coil voltages and terminations.
- Efficient wet-armature construction.
- Manual Override option.

Symbol



ABBREVIATED:



Ratings

Pressure Ratings

Pressure rating	241 bar (3500 psi)	- Note: Inlet (port 1)
	207 bar (3000 psi)	- Note: Regulated (port 3)
	207 bar (3000 psi)	- Note: Bypass (port 2)
Proof pressure	689 bar (10000 psi)	
Burst pressure	1103 bar (16000 psi)	

Flow Ratings

Flow rating	0 to 20.1 lpm (0 to 5.3 gpm)	- Note: Flow range A
	0 to 9.8 lpm (0 to 2.6 gpm)	- Note: Flow range b
Maximum internal leakage	0.38 lpm (0.1 gpm)	- Note: Max at 0 current
Hysteresis flow	lpm (gpm)	- Note: Maximum

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	18/16/13 per ISO 4406

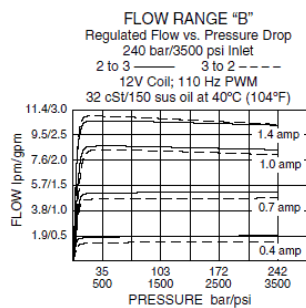
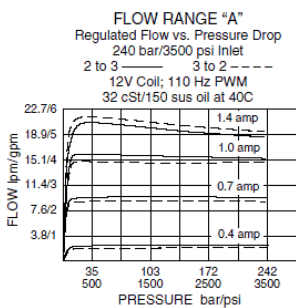
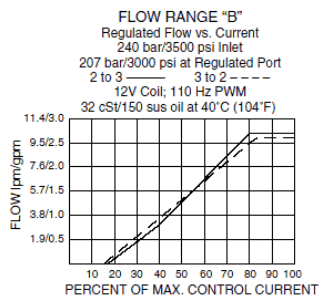
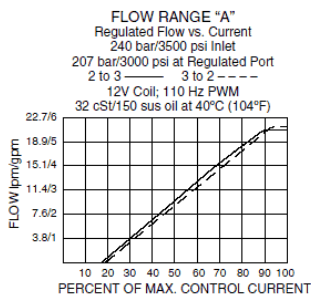
Properties

Unit weight	0.32 kg (0.70 lb)	- Note: ZL70-30X
	0.37 kg (0.81 lb)	- Note: ZL70-30XM
	0.45 kg (1.00 lb)	- Note: ZL70-30XG
Internal wetted surface area	209.6 cm ² (32.5 in ²)	- Note: ZI7030x
	212.8 cm ² (33.0 in ²)	- Note: ZI7030xm zI7030xg

Electrical Parameters

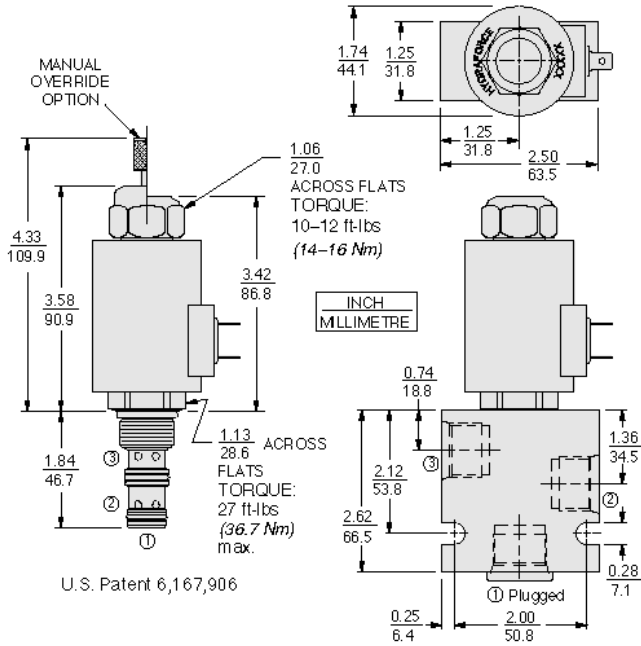
Maximum control current	1400 ±100 mA	- Note: 12 V 70 Series D-coil
	700 ±50 mA	- Note: 24 V 70 Series D-coil
	1400 ±100 mA	- Note: 12 V 70 Series E-coil
	700 ±50 mA	- Note: 24 V 70 Series E-coil
Threshold current	250 ±100 mA	- Note: 12 V 70 Series D-coil
	125 ±50 mA	- Note: 24 V 70 Series D-coil
	250 ±100 mA	- Note: 12 V 70 Series E-coil
	125 ±50 mA	- Note: 24 V 70 Series E-coil
Valve inductance	200 mH	- Note: 12 V 70 Series D-coil
	600 mH	- Note: 24 V 70 Series D-coil
	240 mH	- Note: 12 V 70-Series E-coil
	700 mH	- Note: 24 V 70-Series E-coil
Dither PWM frequency	100 to 250 Hz	

Performance





Dimensions



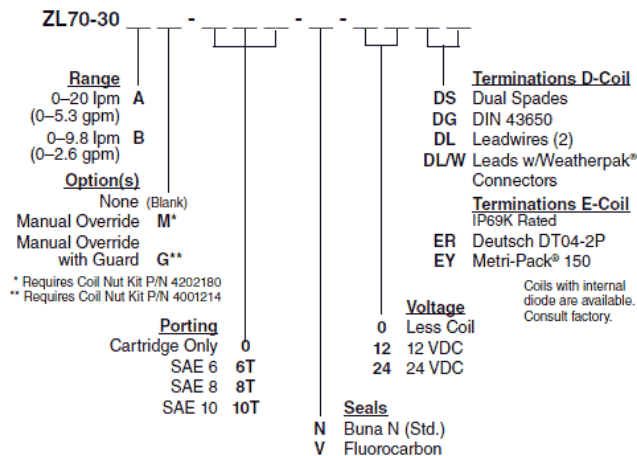
Installation Specifications

Cavity	VC10-3
Cartridge installation torque	34 to 37 N-m (25 to 27 ft-lb)
Coil nut torque	14 to 16 N-m (10 to 12 ft-lb)
Cover cap torque	7 to 9 N-m (5 to 7 ft-lb)
Orientation restriction	None

Accessories

Seal kit SK10-3X-MM - **Note:** X = seal option

Order Code



Model Options

ZL70-30DE-H-J-L

D Flow Range

CODE	DESCRIPTION
A	0 to 21.1 lpm (0 to 5.3 gpm) Flow Range
B	0 to 9.8 lpm (0 to 2.6 gpm) Flow Range

E Manual Override



CODE	DESCRIPTION
BLANK	NONE
G	Variable Position Override, Red Knurled Knob with Cover Cap
M	Variable Position Override, Red Knurled Knob

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

L Coil

CODE	DESCRIPTION
0	No Coil
12DG	12 VDC, D-Coil, DIN 43650
12DL	12 VDC, D-Coil, Dual Lead Wires
12DL/W	12 VDC, D-Coil, Dual Lead Wires with Weatherpak
12DS	12 VDC, D-Coil, Dual Spade
12ER	12 VDC, E-Coil, Deutsch
12EY	12 VDC, E-Coil, Metri-Pack 150
24DG	24 VDC, D-Coil, DIN 43650
24DL	24 VDC, D-Coil, Dual Lead Wires
24DS	24 VDC, D-Coil, Dual Spade
24ER	24 VDC, E-Coil, Deutsch