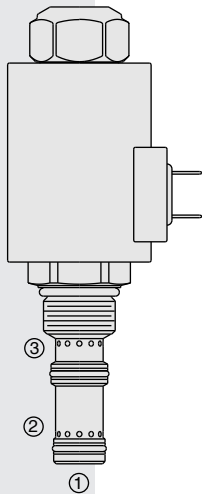


ELECTRO-PROPORTIONAL VALVES—FLOW CONTROL

ZL70-36 Proportional, Bi-Directional Flow Control,

U.S. Patent
6,116,263



DESCRIPTION

A solenoid-operated, electrically-variable, three-port, pressure-compensated, spool-type, normally closed when de-energized, proportional, bi-directional, priority-type flow control valve.

OPERATION

The ZL70-36 provides priority regulated flow from port 1 to port 3 with bypass at port 2; or regulated flow from port 3 to port 2 with port 1 blocked externally, typically with a check valve (see symbol drawing). Regulated flow is proportional to electric current applied to the solenoid.

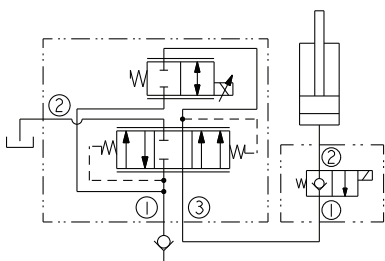
Application Notes: The ZL70-36 may be used for single-acting cylinder applications where lowering is provided by gravity force. The ZL 70-36 has no minimum load restrictions provided the load is enough to overcome cylinder friction and other frictions in the system. At low loads, the lowering speed can be slower than at heavier load if pressure drop is less than the compensation value of the valve.

The hydraulic circuit must include a check valve and a poppet-type solenoid valve (SV08-20 type) connected as shown on the circuit symbol and placed close to the ZL70-36 valve, if possible in the same manifold. See Application Guide.

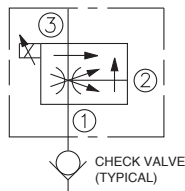
Operation of Manual Override: To Engage: Turn clockwise approximately 1 turn to reach start point. Continue another approximately 5 turns to full shift. To Disengage: Turn counterclockwise approximately 6 turns until positive stop is found.

SYMBOLS

USAS/ISO:



ABBREVIATED SYMBOL:



FEATURES

- Excellent linearity and hysteresis.
- Efficient wet armature construction.
- Hardened spool and cage for long life.
- Manual Override option.
- Optional coil voltages and terminations.

RATINGS

Maximum Operating Pressure: 240 bar (3500 psi)

Regulated Flow: 0–19 lpm (0–5.0 gpm); **Input Flow:** 0–25.5 lpm (0–6.5 gpm)

Internal Leakage: 0.38 lpm (0.10 gpm) maximum at zero current

Electrical: 2 standard voltage ratings

Coil Voltage	Threshold Current	Max. Control Current
12 VDC	300 ± 100 mA	1400 ± 100 mA
24 VDC	150 ± 50 mA	700 ± 50 mA

Temperature: -40 to 120°C with Buna N seals

Filtration: See page 9.010.1

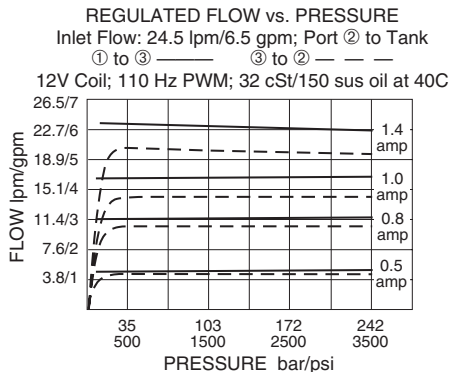
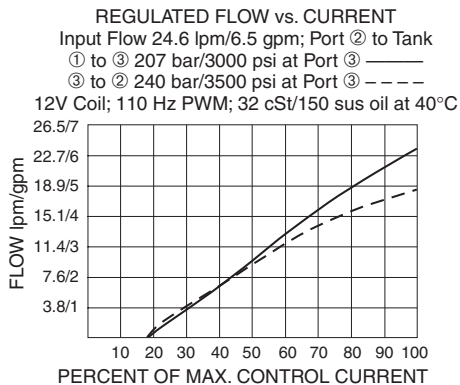
Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: No restrictions; See page 9.020.1.

Cavity: VC10-L3; See page 9.110.1; **Cavity Tool:** CT10-3X-XX; See page 8.600.1

Seal Kit: SK10-3X-MM; See page 8.650.1

PERFORMANCE

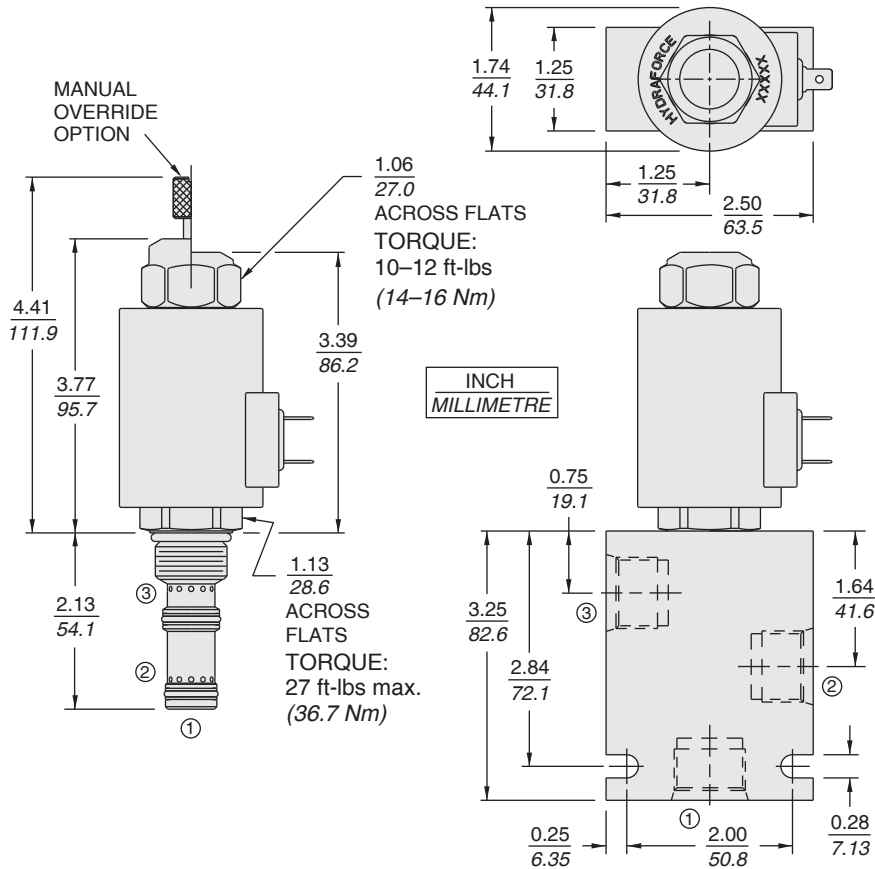


Recommended Electronic Controllers:
See page 2.001.1 or our Electronics catalog.

Normally Closed

ZL70-36

DIMENSIONS



MATERIALS

Cartridge: Weight: 0.32 kg. (0.7 lbs.)
Steel with hardened work surfaces.
Zinc-plated exposed surfaces.
Buna N O-rings and polyester elastomer back-ups standard.

Standard Ported Body: Weight: 0.59 kg. (1.3 lbs.) Anodized high-strength 6061 T6 aluminum alloy, rated to 207 bar (3000 psi). Ductile iron bodies available; dimensions may differ. See page 8.010.1

70-Size "D" Coil: Weight: 0.32 kg. (0.7 lbs.) Unitized thermoplastic encapsulated, Class H high temperature magnet-wire. See page 3.200.7.

70-Size "E" Coil: Weight: 0.41 kg. (0.9 lbs.) Fully encapsulated with rugged external metal shell. IP69K rated. See page 3.400.13.

TO ORDER

ZL70-36		-	-	-	-	-	-
Option(s)	None (Blank)						
Manual Override	M						
Porting							
Cartridge Only	0						
SAE 6	6T						
SAE 8	8T						
Seals							
Buna N (Std.)	N						
Fluorocarbon	V						
Terminations D-Coil							
DS	Dual Spades						
DG	DIN 43650						
DL	Leadwires (2)						
DL/W	Leads w/Weatherpak® Connectors						
Terminations E-Coil	IP69K Rated						
ER	Deutsch DT04-2P						
EY	Metri-Pack® 150						
	Coils with internal diode are available. Consult factory.						
Voltage							
0	Less Coil						
12	12 VDC						
24	24 VDC						