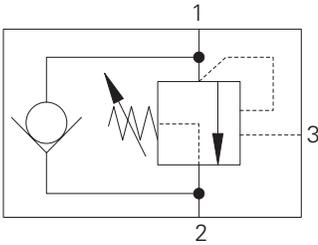
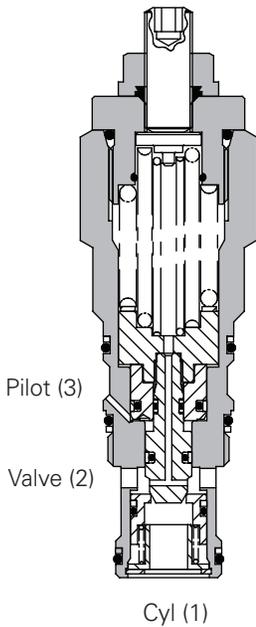


1SER90 - Overcenter Valve

Part balanced, pilot assisted relief with check
90 L/min (23 USgpm) • 270 bar (4000 psi)



Sectional View



Operation

The check section allows free flow into the actuator then holds and locks the load against movement. The pilot assisted relief valve section will give controlled movement when pilot pressure is applied. The relief section is normally set to open at a pressure at least 1.3 times the maximum load induced pressure but the pressure required to open the valve and allow movement

depends on the pilot ratio of the valve. For optimization of load control and energy usage, a choice of pilot ratios is available.

The pressure required to open the valve and start actuator movement can be calculated as follows:

$$\text{Pilot Pressure} = \frac{(\text{Relief Setting}) - (\text{Load Pressure})}{\text{Pilot Ratio}}$$

Features

Cartridge is economical and fits simple cavity. Allows quick, easy field service - reduces down time. Interchangeable with pilot check valve of a similar size.

Pilot Ratio

4:1 Best suited for applications where the load remains relatively constant.

Other ratios available on request.

Performance Data

Ratings and Specifications

Figures based on: Oil Temp = 40°C Viscosity = 32 cSt (150 SUS)

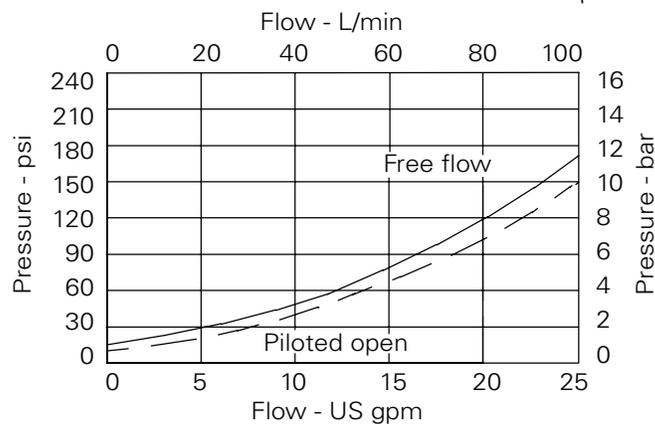
Rated flow	90 L/min (23 USgpm)
Max relief setting	350 bar (5000 psi)
Max load induced pressure:	270 bar (4000 psi)
Cartridge material	Working parts hardened and ground steel. External steel surfaces zinc plated.
Mounting position	Unrestricted
Cavity number	A20092-T2A
Torque cartridge into cavity	60 Nm (44 lbs ft)
Weight	0.42 kg (0.92 lbs)
Seal kit number	SK1093 (Nitrile) SK1093V (Viton [®])
Recommended filtration level	B55540/4 Class 18/13 (25 micron nominal)
Operating temperature	-30° to +90°C (-22° to +194°F)
Leakage	0.3 milliliters/min nominal (5 dpm)
Nominal viscosity range	5 to 500 cSt

Viton is a registered trademark of E.I. DuPont

Description

The 1SER series overcenter valve performs all duties of a regular overcenter but is able to relieve and stay open irrespective of downstream pressure. This enables the valve to operate when used with a closed center directional valve which has service line reliefs. The poppet is pressure balanced, preventing relief setting increase due to back pressure.

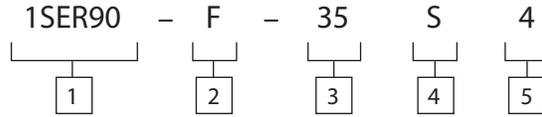
Pressure Drop



1SER90 - Overcenter Valve

Part balanced, pilot assisted relief with check
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Model Code

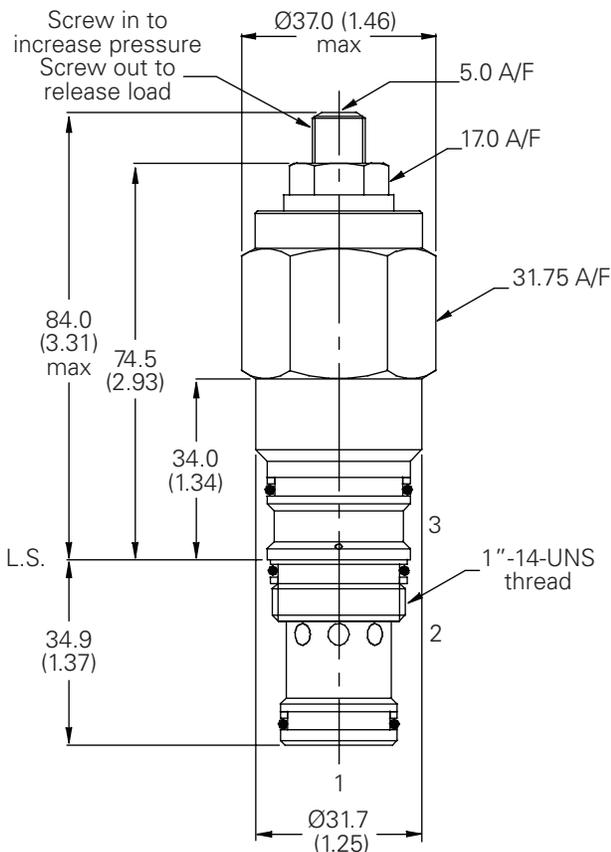


1 Function 1SER30	3 Pressure Range @ 4.8 L/min Note: Code based on pressure in bar. 20 - 70-225 bar Std setting 100 bar 35 - 70-350 bar Std setting 210 bar Std setting made at 4.8 L/min	4 Seals S - Nitrile (For use with most industrial hydraulic oils) SV - Viton (For high temperature and most special fluid applications)	5 Pilot Ratio 4 - 4:1 Other ratios available upon request
2 Adjustment Means F - Screw Adjustment N - Fixed - State pressure setting required For fixed versions add setting in 10 bar increments to end of part number. Subject to a ±10% tolerance.			

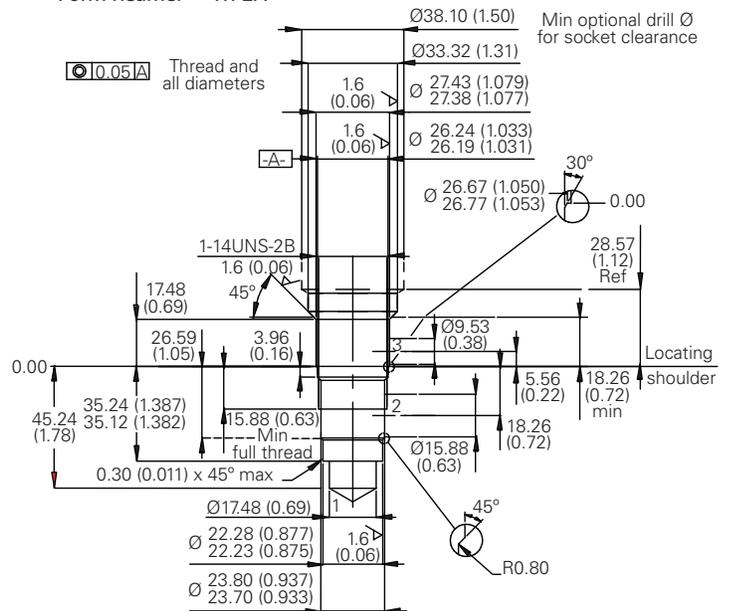
Dimensions

mm (inch)

Cartridge Only
 Basic Code
 1SER90



Cavity
 Model A20092-T2A
 Form Drill TD-2A
 Form Reamer TR-2A



Note: Tightening torque of "F" adjuster locknut - 20 to 25 Nm.