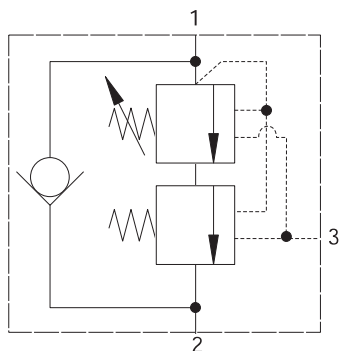


# ISEL140 - Overcenter valve

Counterbalanced pilot assisted relief with check  
140 L/min (37 USgpm) • 380 bar (5310 psi)



## Operation

The check section allows free flow and then locks the load against movement. The pilot assisted relief valve section will give controlled movement when pilot pressure is applied, maintaining a counterbalance pressure to prevent initial

pressure loss and therefore instability. The total pressure setting will normally be set at 1.3 times the load induced pressure. The counterbalance pressure reduces as the pilot pressure increases.

## Features

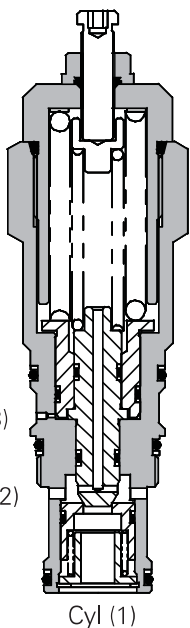
Cartridge is economical and fits simple cavity. Allows quick, easy field service - reduces down time. Interchangeable with pilot check valve of a similar size.

## Pilot ratio

Primary 6.1:1

Secondary 0.5:1

## Sectional view



## Performance data

### Ratings and specifications

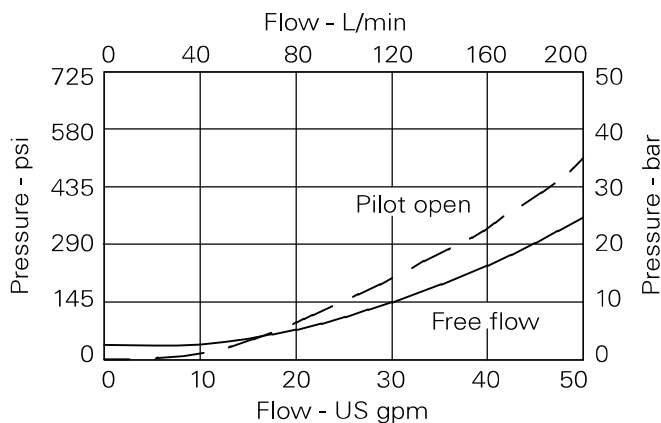
Figures based on: Oil Temp = 40°C Viscosity = 32 cSt (150 SUS)

|                              |  |
|------------------------------|--|
| Rated flow                   | 140 L/min (37 USgpm)   |
| Max setting                  | 380 bar (5310 psi)   |
| Cartridge material           | Working parts hardened and ground steel.<br>External steel surfaces zinc plated. |
| Mounting position            | Unrestricted   |
| Cavity number                | A20094-T17A  |
| Torque cartridge into cavity | 150 Nm (110 lbs ft)  |
| Weight                       | 1.2 kg (2.5 lbs)   |
| Seal kit number              | SK1116 (Nitrile) SK1116V (Viton®)  |
| Recommended filtration level | BS5540/4 Class 18/13 (25 micron nominal)   |
| Operation temperature        | -30° to +90°C (-22° to +194°F)   |
| Leakage                      | 0.3 milliliters/min nominal (5 dpm)  |
| Nominal viscosity range      | 5 to 500 cSt   |

## Description

The ISEL overcenter valve performs all duties of a regular overcenter but maintains a counterbalance pressure to provide dampening of cylinders when there is a rapid loss in stored pressure. This counterbalance pressure reduces as the pilot pressure increases. Typical applications include extension cylinders on telescopic handlers where it is important to have a smooth operation when retracting from full extension.

## Pressure drop



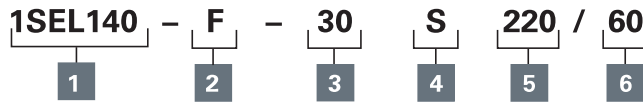
**Note:** This valve has been designed to eliminate instability from flexible boom applications or where the load induced pressure varies greatly. To get the best results, the settings should be adjusted for each application and then factory set for production quantities. Please contact our Technical Department for more information.

Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

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## Model code



### 1 Basic code

**ISEL140** - Cartridge and body

### 2 Adjustment means counterbalance setting

**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.

### 3 Pressure range 4.8 L/min

**Note:** Code based on pressure in bar.

**20** - 170-320 bar.  
Std setting 220 bar (160/60)

**30** - 230-380 bar.  
Std setting 280 bar (220/60)

**40** - 310-380 bar.  
Std setting 350 bar (290/60)

### 4 Seals

**S** - Nitrile (For use with most industrial hydraulic oils)

**SV** - Viton (For high temperature and most special fluid applications)

### 5 High pressure setting bar

(10 bar increments).  
150 to 350 bar (2175 to 5000 psi)

### 6 Counter balance setting bar

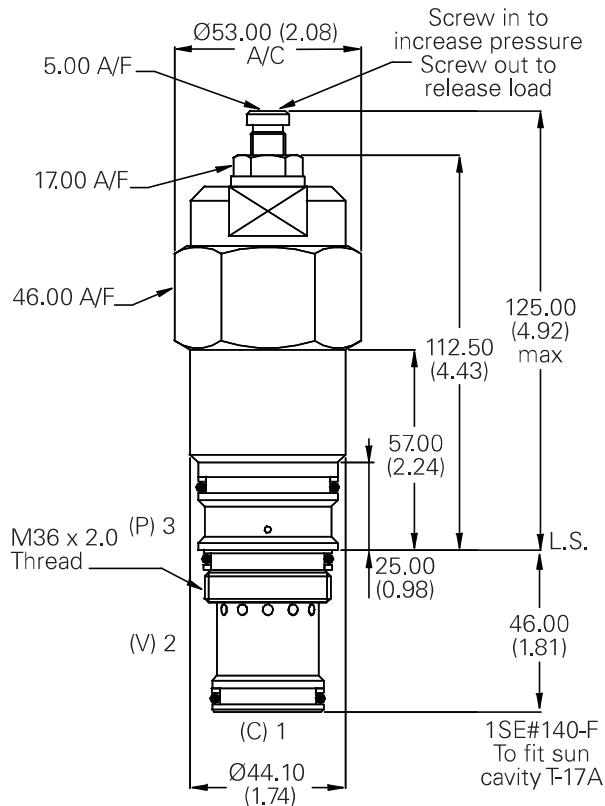
(10 bar increments).  
20 to 100 bar (300 to 1500 psi)

## Dimensions

mm (inch)

### Cartridge only

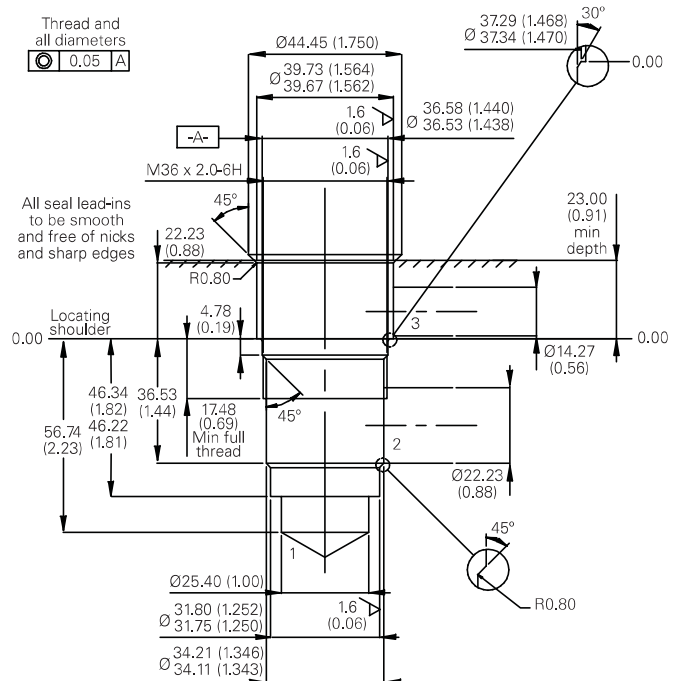
Basic Code  
ISEL140



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

### Cavity

Model A20094-T17A  
Form Drill TD-17A  
Form Reamer TR17A



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