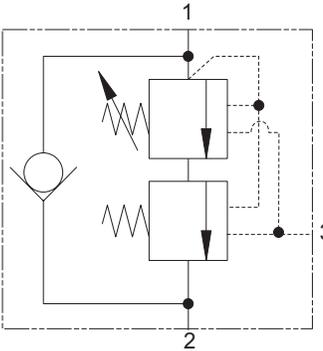


1CEL90 - Overcenter Valve

Counterbalance, pilot assisted relief with check
 90 L/min (23 USgpm) • 280 bar (4000 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

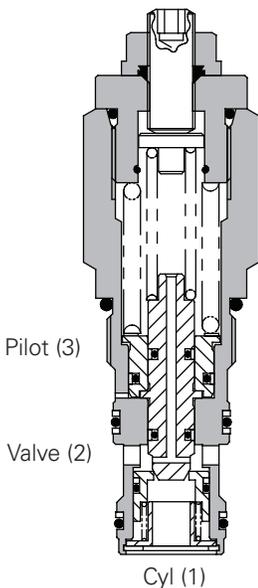
Cartridge is economical and fits simple cavity. Allows quick, easy field service - reduces down time. Interchangeable with pilot check valve of a similar size.

Pilot Ratio

Primary 5.6:1

Secondary 0.7:1

Sectional View



Performance Data

Ratings and Specifications

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

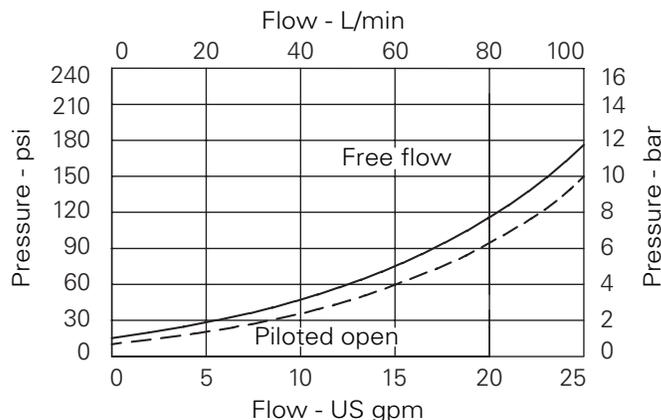
| | |
|------------------------------|---|
| Rated flow | 90 L/min (23 USgpm) |
| Maximum setting | 380 bar (5510 psi) |
| Max load induced pressure | 280 bar (4000 psi) |
| Cartridge material | Working parts hardened and ground steel. External surfaces zinc plated. |
| Standard housing material | Aluminum (up to 210 bar). Add suffix "377" for steel option. |
| Mounting position | Unrestricted |
| Cavity number | A12336 (See Section M) |
| Torque cartridge into cavity | 60 Nm (44 ft. lbs.) |
| Weight | 1CEL90 0.29 kg (0.63 lbs.) 1CEL95 1.35 kg (2.97 lbs.) 1CEEL95 2.10 kg (4.62 lbs.) |
| Seal kit number | SK633 (Nitrile) SK633V (Viton) |
| Recommended filtration level | BS5540/4 Class 18/13 (25 micron nominal) |
| Operating temperature | -30° C to +90° C (-22° to +194°F) |
| Internal 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 1CEL 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

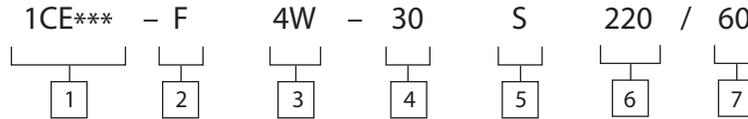


Note: This valve has been designed to eliminate instability from flexible boom applications or where the load induced pressure varies greatly. To get the best results, the settings should be adjusted for each application and then factory set for production quantities. Please contact our Technical Department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

1CEL90 - Overcenter Valve

Counterbalance, pilot assisted relief with check
90 L/min (23 USgpm) • 280 bar (4000 psi)

Model Code



1 Function
1CEL90 - Cartridge Only
1CEL95 - Cartridge and Body
1CEEL95 - Cartridges and Dual 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 Port Sizes

| Code | Port Size | Housing Number - Body Only | | | |
|------|---|----------------------------|------------------------|----------------|------------|
| | | Aluminium Single | Steel Aluminium Single | Aluminium Dual | Steel Dual |
| 4W | 1/2" BSP Valve & Cyl Port 1/4" BSP Pilot Port | B13625 | B13626 | C13627 | C13628 |
| 8T | 1/2" SAE Valve & Cyl Port 1/4" SAE Pilot Port | B10806 | B10922 | C10807 | C11561 |

4 Pressure range bar @ 4.8 L/min
Note: Code based on pressure in bar.

20 - 170-350 Standard
220 (160/60)
30 - 210-380
Standard 280 (220/60).
Standard setting made at 4.8 L/min

5 Seals
S - Nitrile (for use with most industrial hydraulic coils)
SV - Viton (for high temperature and most special fluid applications)

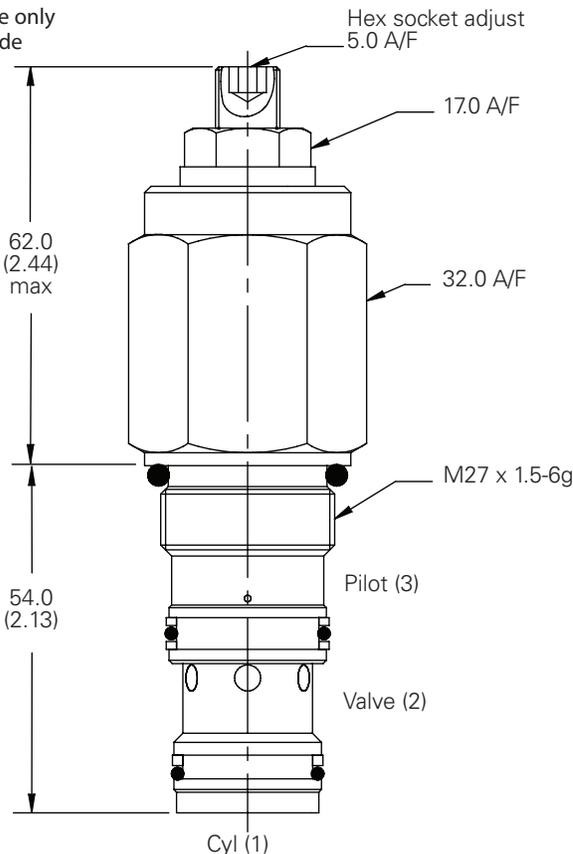
6 High Pressure Setting Bar
(10 bar increments)
150 to 230 bar (2175 to 3335 psi)

7 Counterbalance Setting Bar
(10 bar increments)
20 to 170 bar (300 tp 250 psi)

Dimensions

mm (inch)

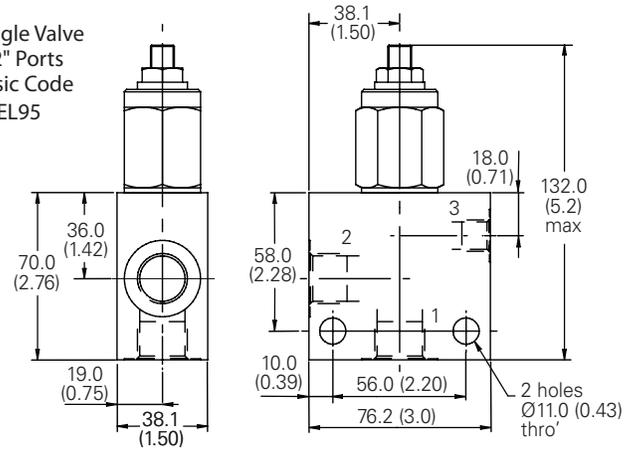
Cartridge only
Basic Code
1CEL90



Note: For applications above 210 bar, please consult our technical department or use the steel body option.

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

Single Valve
1/2" Ports
Basic Code
1CEL95



Dual Valve
1/2" Ports
Basic Code 1CEEL95
Internally Cross Piloted

