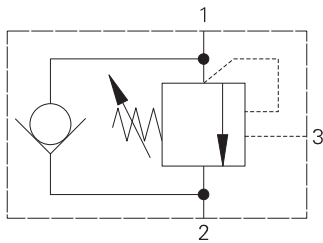
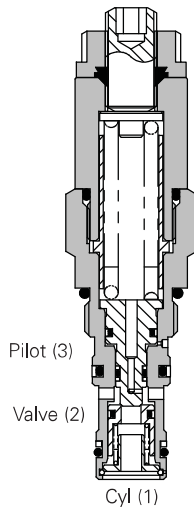


ICE20 - Overcenter valve

Pilot assisted relief with check
20 L/min (5 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

3:1 Best suited for extremely unstable applications such as long booms or flexible frameworks.

4.5:1 Best suited for applications where load varies and machine structure can induce instability.

8:1 Best suited for applications where the load remains relatively constant.

Performance data

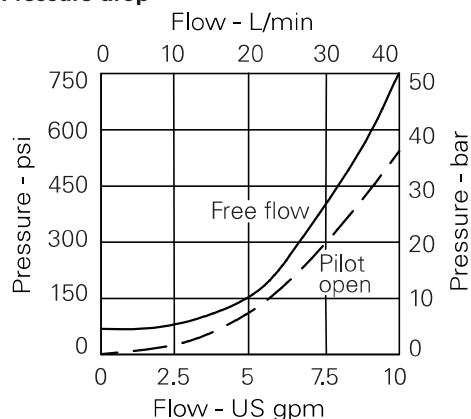
Ratings and specifications

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

Rated flow	20 L/min (5 USgpm)
Max relief pressure	350 bar (5000 psi)
Max load induced pressure	270 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	A22903 (See Section M)
Torque cartridge into cavity	40 Nm (30 lbs ft)
Weight	1CE20 0.16 kg (0.35 lbs) 1CE25 0.37 kg (0.82 lbs) 1CEE24 0.41 kg (0.89 lbs)
Seal kit number	SK1276 (Nitrile) SK1276V (Viton®)
Recommended filtration level	BS5540/4 Class 18/13 (25 micron nominal)
Operating temperature	-30°C 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.

Pressure drop



Description

Overcenter valves give static and dynamic control of loads by regulating the flow into and out of hydraulic actuators. When installed close to or within an actuator, the overcenter valve will stop runaway in the event of hose burst and if open center directional control valves are used, will allow thermal expansion relief of the hydraulic fluid.

The overcenter cartridge is ideal for mounting directly into a cavity machined in the body of the cylinder, motor or rotary actuator. The cartridge can also be mounted directly to the ports via a specifically machined body as part of a Hydraulic Integrated Circuit or single unit, or contained within one of our standard line bodies.

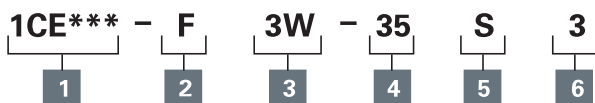
Single overcenter valves are normally used when the load is unidirectional, for example an aerial platform or crane and dual overcenter valves are used for controlling loads in both directional for motor applications or for cylinders going over center.

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

ICE20 - Overcenter valve

Pilot assisted relief with check
20 L/min (5 USgpm) • 270 bar (4000 psi)

Model code



1 Basic code

1CE20 - Cartridge Only
1CE25 - Cartridge and Body
1CEE24 - Cartridges and Dual Body

2 Adjustment means

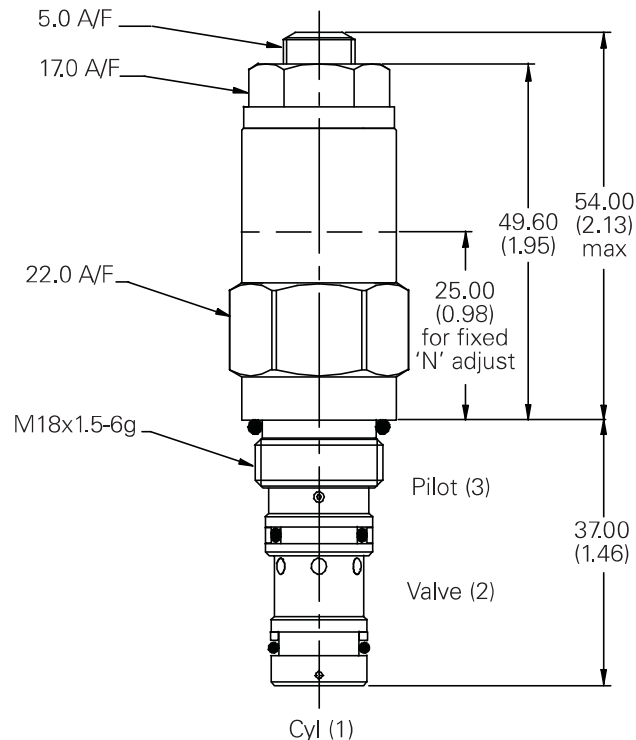
F - Screw Adjustment
N - Fixed - State pressure setting required.
For fixed versions add setting in 10 bar increments to end of part number. Subject to a ±10% tolerance.

Dimensions

mm (inch)

Cartridge only

Basic Code
1CE20



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

3 Port sizes

Code	Port size	Housing number - body only			
		Aluminum single	Steel single	Aluminum dual	Steel dual
3W	3/8" BSP Valve & Cyl Port. 1/4" BSP Pilot Port	B24255	B24254	B24261	B24260
6T	3/8" SAE Valve & Cyl Port. 1/4" SAE Pilot Port	B24257	B24256	B24264	B24263

4 Pressure range @ 4.8 L/min

Note: Code based on pressure in bar.

20 - 100-230 bar.
Std setting 140 bar

35 - 200-350 bar.
Std setting 210 bar

Std setting made at 4.8 L/min
Other pressure ranges available on request

5 Seals

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

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

6 Pilot ratio

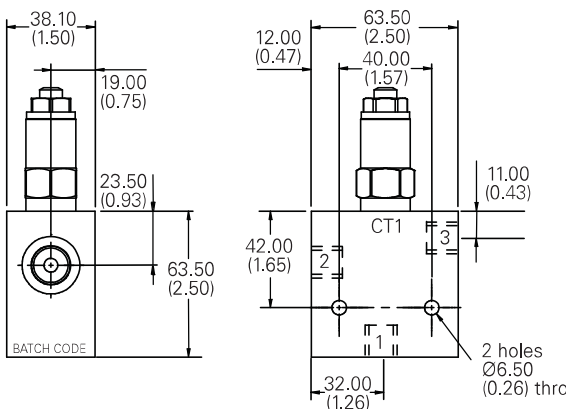
3 - 3:1

4 - 4.5:1

8 - 8:1

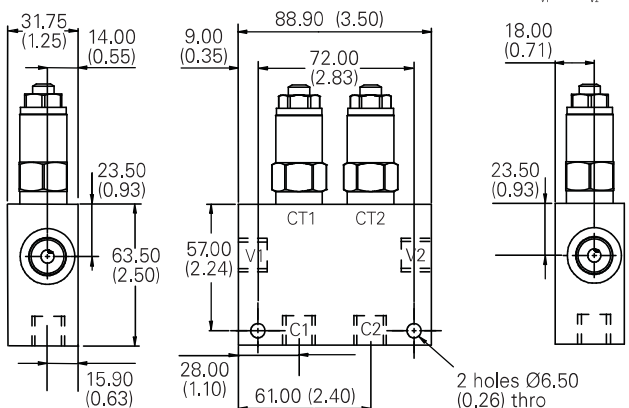
Single valve

3/8" Ports
Basic Code 1CE25



Dual valve

3/8" Ports
Basic Code 1CEE24 (Internally Cross Piloted)



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