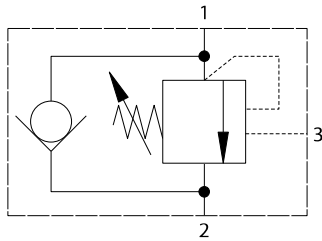


ICEH90 - High pressure overcenter valve

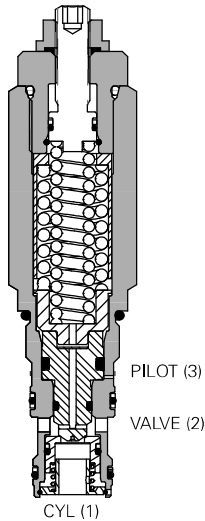
Pilot assisted relief with check
90 L/min (23 USgpm) • 350 bar (5000 psi)

www: www.salushydraulics.pl
e-mail: pl@salushydraulics.pl
shop/sklep: www.sklep.salushydraulics.pl

Eaton 1CEH90F43S4



Sectional view



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.

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. Dynamic seals on the internal moving parts to provide longer fatigue life.

Pilot ratio

4:1 Best suited for applications where load varies and machine structure can induce instability.

Performance data

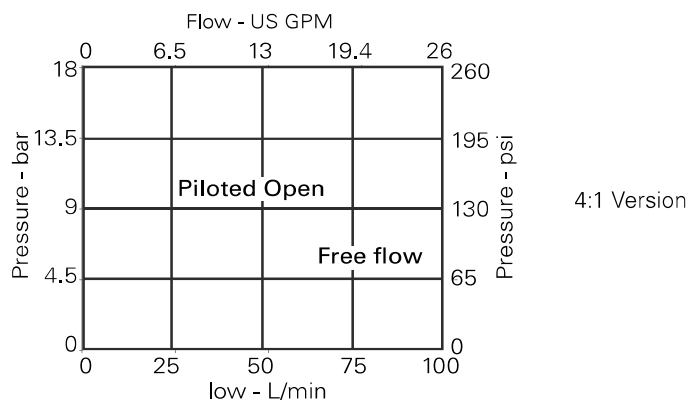
Ratings and specifications

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

Rated flow	90 L/min (23 USgpm)
Max relief setting	430 bar (6240 psi).
Max load Induced pressure	350 bar (5000 psi).
Cartridge material	Working parts hardened and ground steel. External surfaces zinc plated.
Standard housing materials	Steel. Add suffix "377" for steel option.
Mounting position	Unrestricted
Cavity number	A12336 (See Section M)
Torque cartridge into cavity	100-110 Nm (73-81 lbs ft)
Weight	1CEH90 0.6 kg (1.32 lbs) 1CEH95 1.66 kg (3.66 lbs) 1CEEH95 2.72 kg (6.00 lbs)
Seal kit number	9900927-000 (Nitrile) 9900928-000 (Viton®)
Recommended filtration level	BS5540/4 Class 18/13 (25 micron nominal)
Operating temperature	-30° to +90°C (-22° to +194°F)
Leakage	5 dpm @ 85% of Cracking
Nominal viscosity range	5 to 500 cSt

Viton is a registered trademark of E.I. DuPont.

Pressure drop

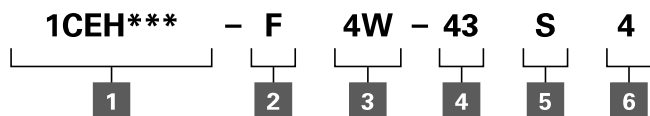


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

ICEH90 - High pressure overcenter valve

Pilot assisted relief with check
90 L/min (23 USgpm) • 350 bar (5000 psi)

Model code



1 Function

- 1CEH90 - Cartridge Only
- 1CEH95 - Cartridge and Body
- 1CEEH95 - Cartridges and Dual Body

2 Adjustment means

F - Screw Adjustment

3 Port sizes

Code	Port size	Housing number - body only	
		Steel single	Steel dual
4W	1/2" BSP Valve & Cyl Port 1/4" BSP Pilot Port	B13626	C13628
8T	1/2" SAE Valve & Cyl Port 1/4" SAE Pilot Port	B10922	C11561

4 Pressure range

Note: Code based on pressure in bar.

43 - (4:1) 275 - 430 bar.
Std setting 350 bar

Std setting made at 1 L/min

Note: Contact CSR for special pressure setting requirement

5 Seals

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

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

6 Pilot Ratio

4 - 4:1

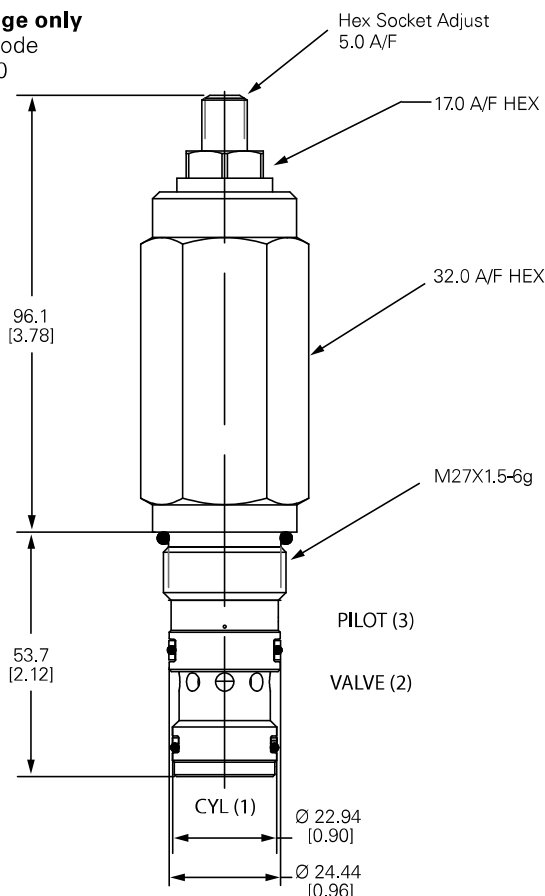
Other ratios available upon request

Dimensions

mm (inch)

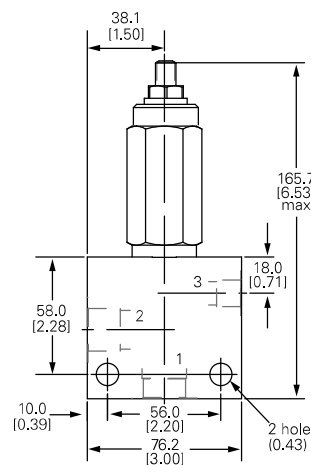
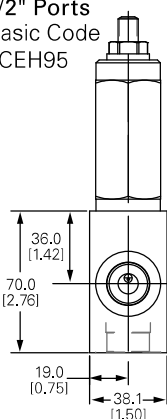
Cartridge only

Basic Code
1CEH90



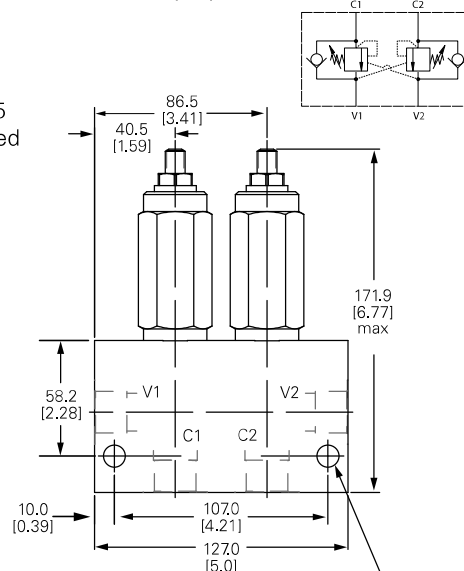
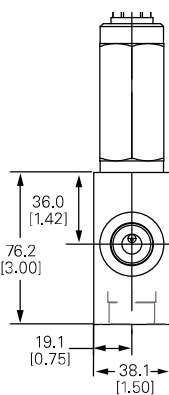
Single valve

1/2" Ports
Basic Code
1CEH95



Dual valve

1/2" Ports
Basic Code 1CEEH95
Internally Cross Piloted



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