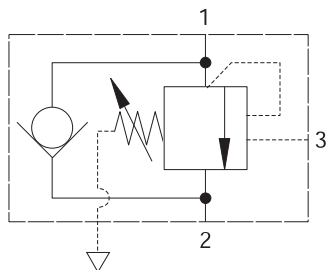
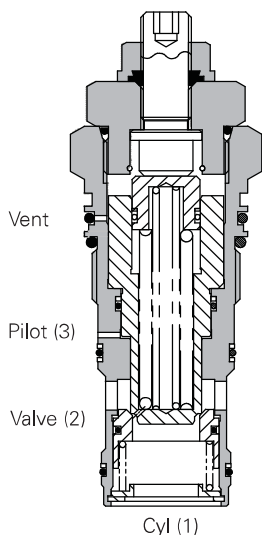


# ICEB300 - Overcenter valve

Fully balanced, pilot assisted  
300 L/min (80 USgpm) • 270 bar (4000 psi)



## Sectional view



## Description

Overcenter valves give static and dynamic control of loads by supplying a counterbalance pressure to the actuator. They prevent runaway in the event of hose burst and hold the load with minimal leakage.

The pressure balanced valve is unaffected by back pressure, allowing service line reliefs to operate and for the valve to be used in regenerative or proportional valve systems.

The overcenter valve should be mounted either into, onto or as close to the actuator as possible to give maximum protection.

Single overcenter valves control unidirectional loads such as in aerial platforms, cranes or winches and dual overcenters are suited to bi-directional motion such as wheel motor applications or 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.

## Pilot ratio

3:1 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

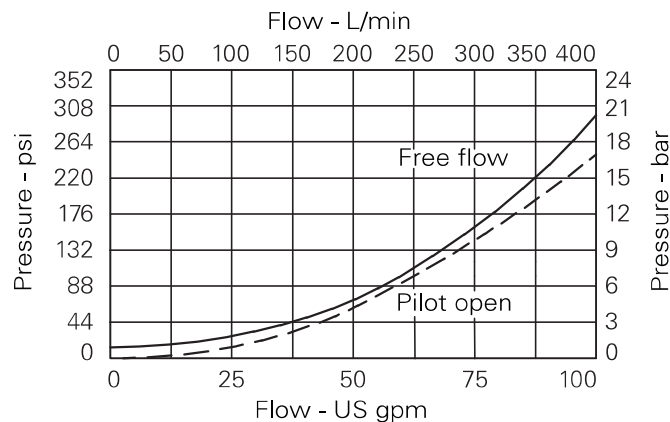
### Ratings and specifications

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

Rated flow	300 L/min (80 USgpm)	
Max working 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	Aluminium (up to 210 bar) Add suffix "377" for steel option	
Mounting position	Unrestricted	
Cavity	A6935 (See Section M)	
Torque cartridge into cavity	150 Nm (110 lbs ft)	
Weight cartridge only	1CE300	0.91 kg ( 2.00 lbs)
	1CE350	2.71 kg ( 5.96 lbs)
	1CEE350	5.42 kg (11.92 lbs)
Seal kit	SK686 (Nitrile) SK686V (Viton®)	
Filtration	BS5540/4 Class 18/13 (25 micron nominal)	
Temperature range	-30°C to +90°C (-22° to +194°F)	
Internal leakage	4 milliliters/min nominal (60 dpm)	
Nominal viscosity range	5 to 500 cSt	

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

## Pressure drop

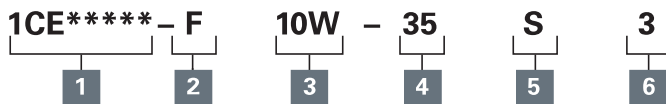


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

# ICEB300 - Overcenter valve

Fully balanced, pilot assisted  
300 L/min (80 USgpm) • 270 bar (4000 psi)

## Model code



### 1 Basic code

- 1CEB300 - Cartridge only
- 1CEB350 - Cartridge and Body
- 1CEEB350 - Cartridges and Body

### 2 Adjustment means

F - Screw adjustment

### 3 Port sizes

Code	Port size	Housing number - body only			
		Aluminium single	Steel single	Aluminium dual	Steel dual
10W	1 1/4" BSP Valve & Cyl Port 1/4" BSP Pilot Port	B6814	B8610	C8704	C8705
20T	1 1/4" SAE Valve & Cyl Port 1/4" SAE Pilot Port	B10630	B11474	C10811	C11564

### 4 Pressure Range @4.8 L/min

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

**35** - 70-350 bar.  
Std setting 210 bar

Std setting made at 4.8 L/min

### 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 - (Standard)

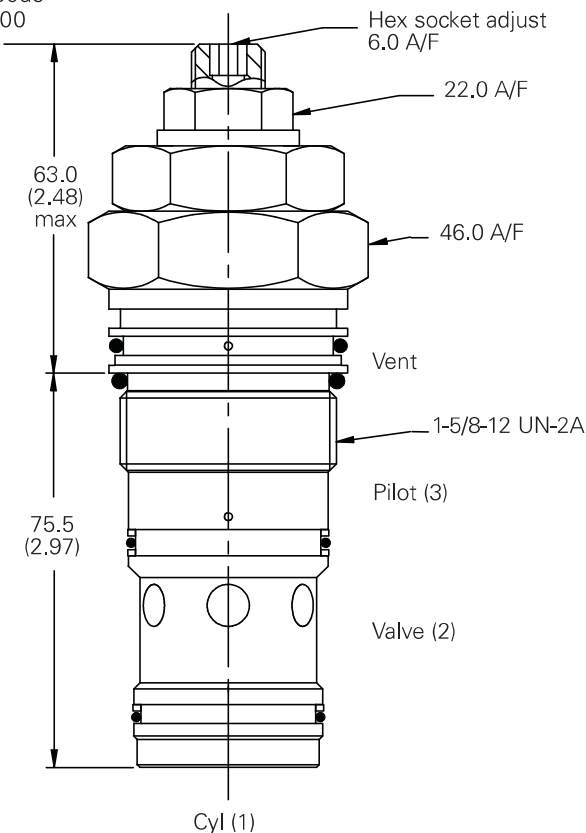
**8** - 8:1

## Dimensions

mm (inch)

### Cartridge only

Basic Code  
1CEB300

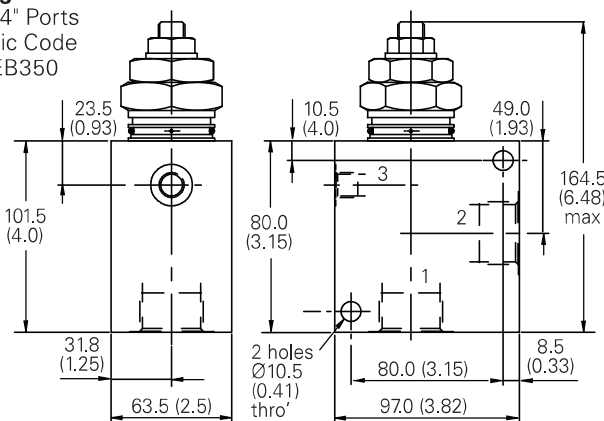


**Note:** Tightening torque of "F" adjuster locknut - 20 to 25 Nm.

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

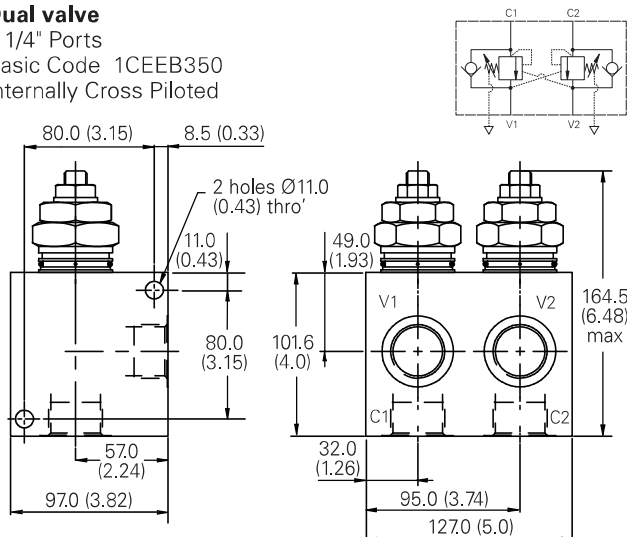
### Single valve

1 1/4" Ports  
Basic Code  
1CEB350



### Dual valve

1 1/4" Ports  
Basic Code 1CEEB350  
Internally Cross Piloted



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