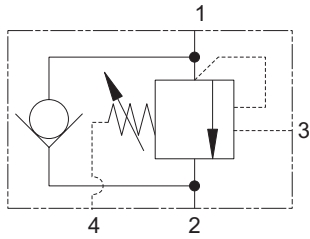


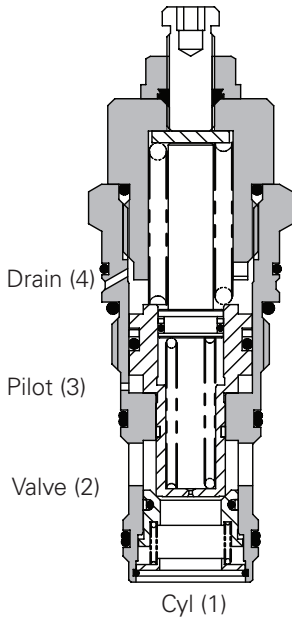
# 1CEBD120 - Overcenter Valve

Fully balanced, pilot assisted relief with check

180 L/min (47 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 will stop runaway in the event of hose burst and hold the load with minimal leakage.

The pressure balanced overcenter relief setting is unaffected by back pressure, enabling the valve to stay open when the valve port pressure rises. This will allow service line reliefs to work normally and will also allow the control of regenerative or proportional systems. The drain line allows the valve to be used in corrosive atmospheres preventing the ingress of atmospheric contaminant.

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.

## Pilot Ratio

3:1 (standard) Best suited for applications where load varies and machine structure can induce instability.

8:1 & 12:1 Best suited for applications where the load remains relatively constant.

22:1 Specifically designed for Boom Loc applications.

## Performance Data

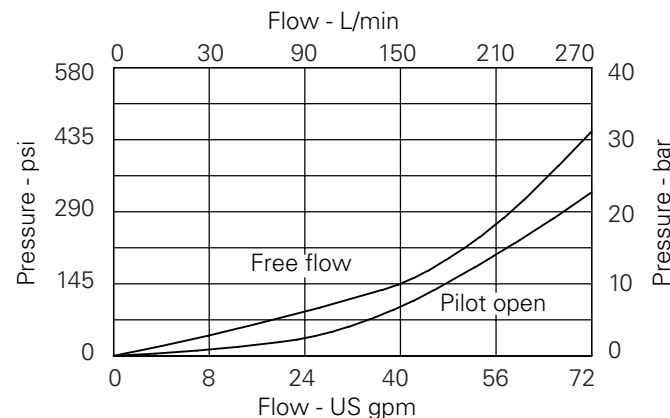
### Ratings and Specifications

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

Rated flow	180 L/min (47 USgpm)
Max relief setting	400 bar (5800 psi)
Max load induced pressure	270 bar (4000 psi)
Cartridge material	Working parts hardened and ground steel. External surfaces electroless nickel plated.
Mounting position	Unrestricted
Cavity number	A6726 (See Section M)
Torque cartridge into cavity	100 Nm (74 lbs ft)
Weight	0.59 kg (1.30 lbs)
Seal kit number	SK830 (Nitrile) SK830V (Viton) SK830P (Polyurethane/Nitrile)
Recommended filtration level	B55540/4 Class 18/13 (25 micron nominal)
Operating temperature	-30°C to +90°C (-22° to +194°F)
Leakage	0.3 milliliters/min max (5 dpm)
Nominal viscosity range	5 to 500 cSt
Bar per turn	65 bar

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## Pressure Drop

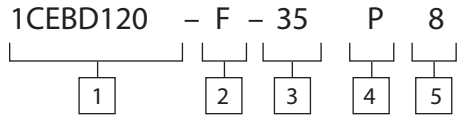


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

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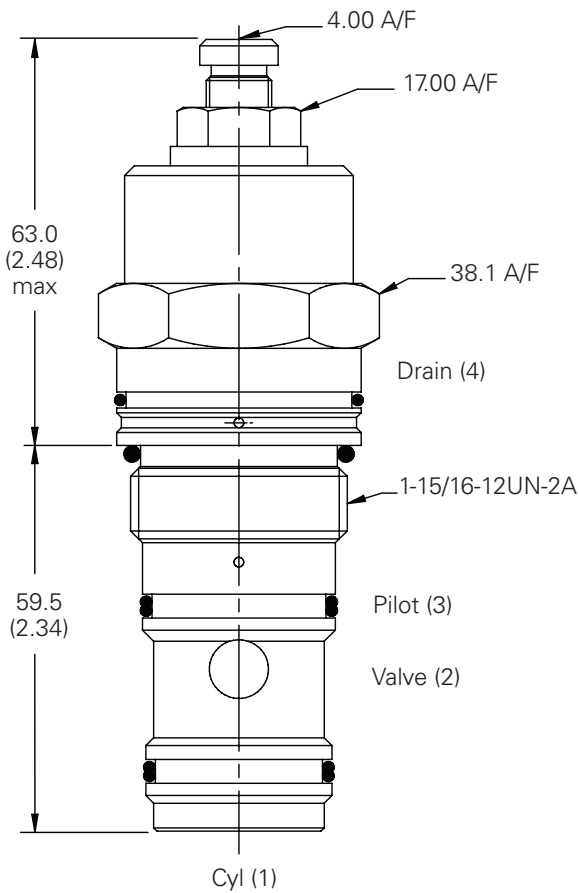
## Model Code



<b>1</b> Function 1CEBD120 - Cartridge only	<b>3</b> Pressure Range @ 4.8 l/min Note: Code based on pressure in bar. 35 - (3:1, 8:1 and 22:1): 70-350 bar Std setting 350 bar 40 - (12:1): 70-400 bar. Std setting 350 bar Std setting made at 4.8 L/min	<b>5</b> Seals S - Nitrile (For use with most industrial hydraulic oils) SV - Viton (For high temperature and most special fluid applications) P - Polyurethane/Nitrile (For arduous applications)	<b>6</b> Pilot Ratio 3 - 3:1 8 - 8:1 12 - 12:1 22 - 22:1
<b>2</b> Adjustment Means F - Screw adjustment			

## Dimensions

mm (inch)  
Cartridge Only  
Basic Code  
1CEBD120



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

