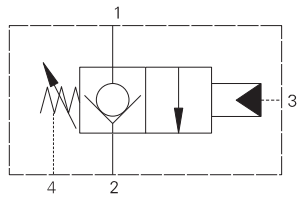
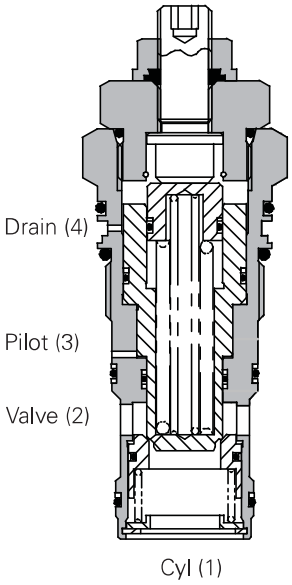
1CPBD300 - Overcenter valve

Zero differential with check
300 L/min (80 USgpm) • 400 bar (5800 psi)



Sectional view



Description

Zero differential overcenter valves give static and dynamic control of loads by supplying a restriction to flow related to the opening of the valve created by the pilot pressure.

The valve is used in conjunction with a remote pilot source to provide hose failure protection, load control and load holding functions.

If over-pressure or shock pressure protection is required then a separate relief valve should be used.

The drain line allows the valve to be used in corrosive atmospheres preventing the ingress of atmospheric contaminant.

Operation

The check section allows free flow into the actuator then holds and locks the load against movement. By the application of pilot pressure to the pilot port the poppet moves back against the main spring opening the cylinder port to the valve port. The metering characteristic of the valve is controlled by the rate of the spring, the seat angle and the pilot pressure applied.

Due to the balanced poppet design load induced pressure will not open the valve and once open valve port pressure will not increase the pilot pressure required to keep the valve open.

Features

The cartridge fits a simple cavity allowing quick, easy field service reducing down time. Hardened poppet and seat provide for long leak free performance.

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	400 bar (5800 psi)
Cartridge material	Working parts hardened and ground steel. External surfaces zinc plated.
Mounting position	Unrestricted
Cavity	A13098 (See Section M)
Torque cartridge into cavity	150 Nm (110 lbs ft)
Weight cartridge only	0.91 kg (2.00 lbs)
Seal kit	SK971 (Nitrile) SK971V (Viton®) SK971P (Polyurethane/Nitrile)
Filtration	BS5540/4 Class 18/13 (25 micron nominal)
Temperature range	-30° to +90°C (-22° to +194°F)
Internal leakage	4 milliliters/min nominal (60 dpm)
Nominal viscosity range	5 to 500 cSt
Bar per turn	5 bar

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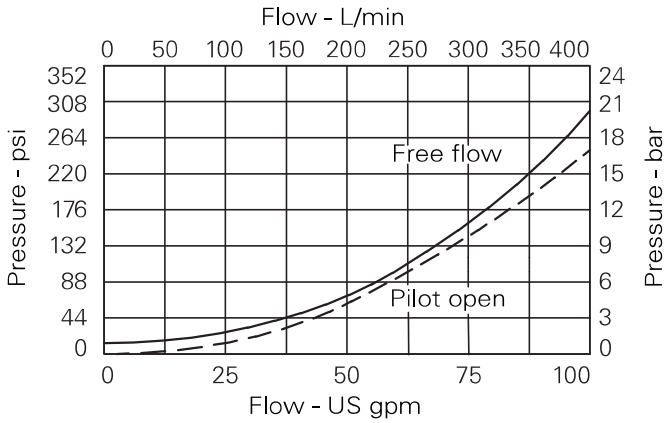
Pressure drop



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

Model code

1CPBD300	F	2	P
1	2	3	4

1 Function
1CEBD300 - Cartridge only

2 Adjustment
F - Screw adjustment

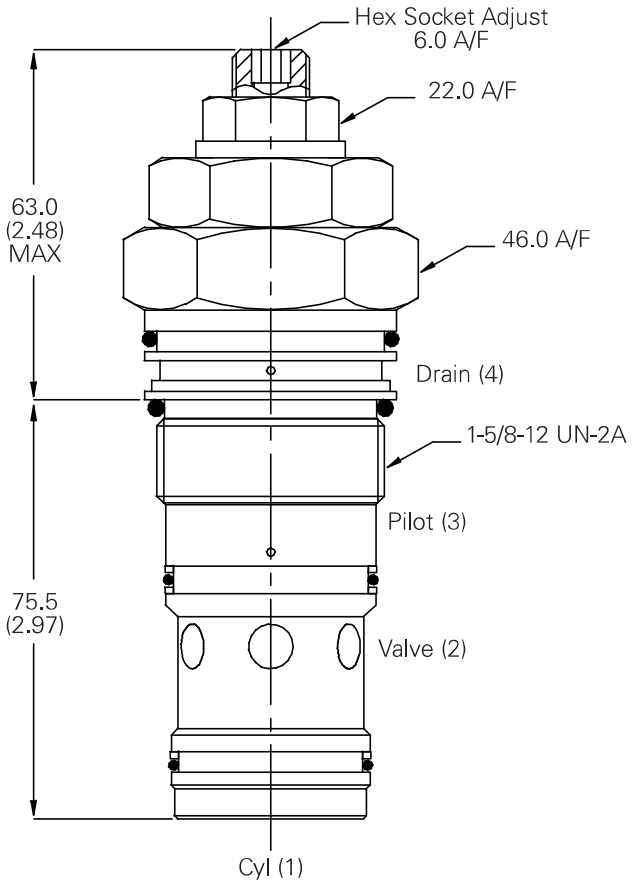
3 Pilot adjust range
Note: Code based on pressure in bar.
2 - 5-20 bar. Std setting 10 bar
Std setting made at 4.8 L/min

4 Seal material
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)

Dimensions

mm (inch)

Cartridge only
Basic Code
1CPBD300



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

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