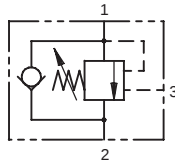




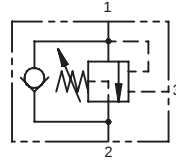
CETOP 03 OVERCENTRE STACKING SLICES

PILOT ASSISTED RELIEF WITH CHECK

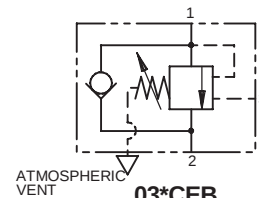
03*CE/ 03*CER/ 03*CEB



03*CE



03*CER



03*CEB

APPLICATION

Overcentre 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 overcentre valve will stop runaway in the event of hose burst and if open centre directional control valves are used, will allow thermal expansion relief of the hydraulic fluid.

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

The 1CER series overcentre valve performs all duties of a regular overcentre but is able to relieve and stay open irrespective of downstream pressure. This enables the valve to operate when used with a closed centre directional valve which has service line reliefs. The poppet is pressure balanced, preventing relief setting increase due to back pressure.--

In the 1CEB series pressure balanced overcentre relief setting is unaffected by back pressure, enabling the valve to stay open when the valve port pressure rises. This will allow the control of regenerative or meter out proportional systems.

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 optimisation 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 RATIOS

1CE30

2.5:1

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

5:1 (Std)

Best suited for applications where load varies and machine structure can induce instability

10:1

Best suited for applications where the load remains relatively constant.

1CER30

4:1

Best suited for applications where the load remains relatively constant.

Other ratios available upon request.

1CEB30

5:1

Best suited for systems where back pressure varies frequently and for re-regenerative systems.

SPECIFICATIONS

Figures based on: Oil Temp = 40°C Viscosity = 40 cSt

Rated Flow	30 litres/min (8 US GPM)
Max Setting	Max Load Induced Pressure: 270 bar (4000 psi) Relief Setting: 350 bar (5000 psi)
Cartridge Material	Working parts hardened and ground steel. External surfaces zinc plated
Body Material	Standard aluminium (up to 210 bar*) Add suffix '377' for steel option
Mounting Position	Unrestricted
Cavity Number	A6610 (See Section 17)
Torque Cartridge into Cavity	45 Nm (33 lbs ft)
Weight (inc Cartridges)	Single 0.62 kg (1.36 lbs) Dual 0.8 kg (1.76 lbs)
Seal Kit Number	SK395 (Nitrile) SK395V (Viton)
Recommended Filtration Level	BS5540/4 Class 18/13 (25 micron nominal)
Operating Temp	-20°C to +90°C
Leakage	0.3 millilitres/min nominal (5 dpm)
Nominal Viscosity Range	5 to 500 cSt

For pressure drop curves please see section 6 (cartridge only).

Integrated Hydraulics Ltd

Collins Road, Heathcote Ind. Est., Warwick, CV34 6TF, UK.
Tel: +44 (0) 1926 881171 Fax: +44 (0) 1926 315729
Website: www.integratedhydraulics.com

Integrated Hydraulics Inc

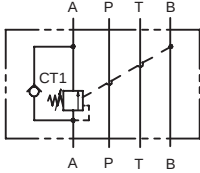
7047 Spinach Drive, Mentor, Ohio 44060, USA
Tel: (440) 974 3171 Fax: (440) 974 3170
Website: www.integratedhydraulics.com

COMPLETE VALVE

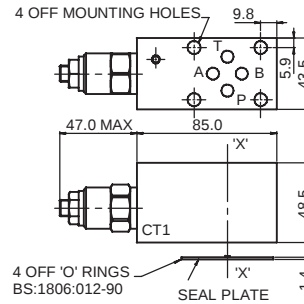
BASIC CODE: 03ACE* Overcentre in A, piloted from B

Sub-assembly part numbers

Aluminium
BXP9150-S



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

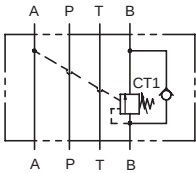


COMPLETE VALVE

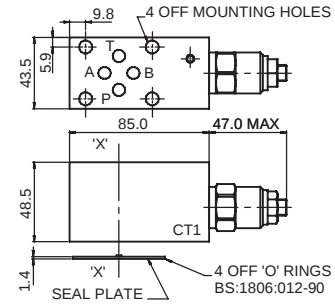
BASIC CODE: 03BCE* Overcentre in B, piloted from A

Sub-assembly part numbers

Aluminium
BXP9150-S



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

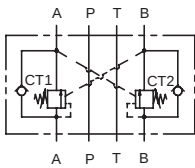


COMPLETE VALVE

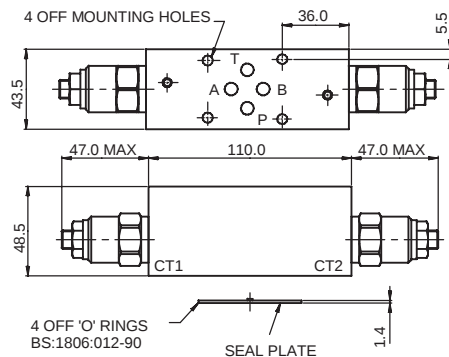
BASIC CODE: 03ABCE* Overcentre in A & B, cross piloted

Sub-assembly part numbers

Aluminium Steel
BXP9151-S BXP9151-S-377



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



FOR SEAL PLATE INFORMATION SEE PAGE 14-151

Where measurements are critical request certified drawings

ORDERING CODE EXAMPLE

Basic Code

03A = Overcentre in A
03B = Overcentre in B
03AB = Overcentre in A&B

Overcentre Valve

CE = 1CE30
CER = 1CER30
CEB = 1CEB30
(See Section 6)

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 $\pm 10\%$ tolerance.

Pressure Range @ 4.8 l/min

20 = (All pilot ratios) 70 - 225 bar. Std setting 100 bar (CE)
35 = (2.5:1, 4:1, 5:1) 70 - 350 bar. Std setting 210 bar (CE, CER)
35 = (10:1) 90 - 350 bar. Std setting 210 bar (CE)
35 = (5:1) 75 - 350 bar. Std setting 210 bar (CEB)
Other pressure ranges available on request

Body Material

Omit = Aluminium. (Up to 210 bar*)
377 = Steel.

Pilot Ratio

2.5:1 (03*CE)
4:1 (03*CER)
5:1 (03*CE/03*CEB)
10:1 (03*CE)

Seals

S = Nitrile (For use with most industrial hydraulic oils)
SV = Viton (For high temperature and most special fluid applications)

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

We reserve the right to change specifications without notice