2:1 pilot ratio, standard capacity counterbalance valve

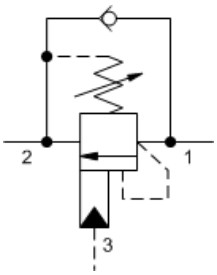
Capacity:
30 gpm (120 L/min.)

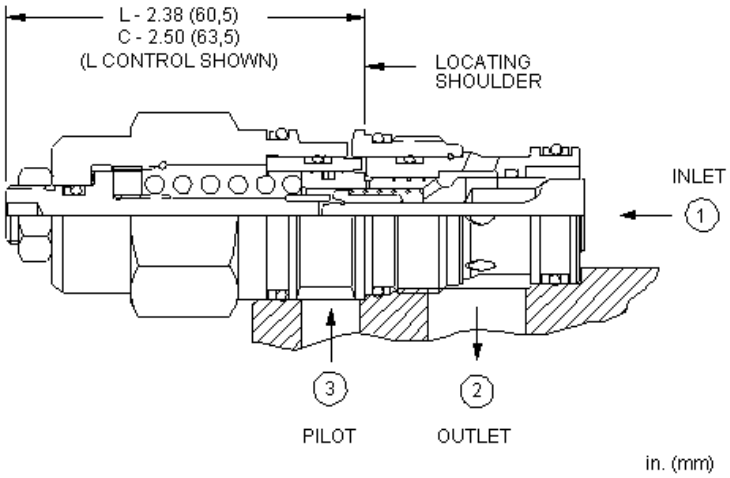
Model:
CBEY

Product Description

Counterbalance valves with pilot assist are meant to control an overrunning load. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio.

Other names for this valve include motion control valve and over center valve.





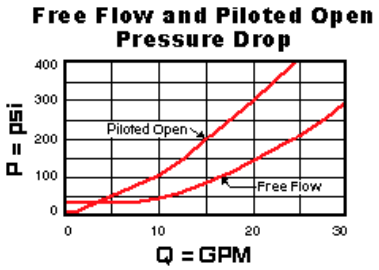
in. (mm)

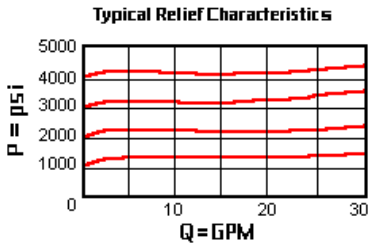
Technical Features

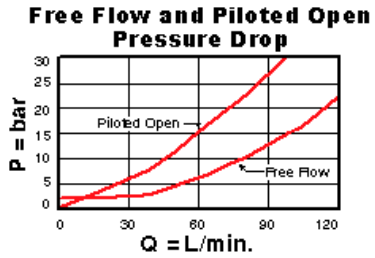
- Counterbalance valves should be set at least 1.3 times the maximum load induced pressure.
- Turn adjustment clockwise to decrease setting and release load.
- Full clockwise setting is less than 200 psi (14 bar).
- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure.
- Reseat exceeds 85% of set pressure when the valve is standard set. Settings lower than the standard set pressure may result in lower reseat percentages.
- Sun counterbalance cartridges can be installed directly into a cavity machined in an actuator housing for added protection and improved stiffness in the circuit.
- Two check valve cracking pressures are available. Use the 25 psi (1,7 bar) check unless actuator cavitation is a concern.
- This valve uses orifices to lower the pilot ratio and therefore will pass up to 40 in^3/min./1000 psi (0,7 L/min./70 bar) between port 2 and port 3. This is a consideration in master-slave circuits and in the leak testing of valve-cylinder assemblies.
- All 3-port counterbalance, load control, and pilot-to-open check cartridges are physically interchangeable (i.e. same flow path, same cavity for a given frame size).
- Incorporates the Sun floating style construction to minimize the possibility of internal parts binding due to excessive installation torque and/or cavity/cartridge machining variations.

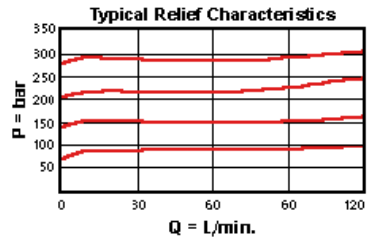
Technical Data

	U.S. Units	Metric Units
Cavity	T-2A	
Capacity	30 gpm	120 L/min.
Pilot Ratio	2:1	
Maximum Recommended Load Pressure at Maximum Setting	3075 psi	215 bar
Maximum Setting	4000 psi	280 bar
Adjustment - Number of Counterclockwise Turns to Increase Setting	3.75	
Factory Pressure Settings Established at	2 in³/min.	30 cc/min.
Maximum Valve Leakage at Reseat	5 drops/min.	0,3 cc/min.
Series (from Cavity)	Series 2	
Reseat	>85% of Set Pressure	
Valve Hex Size	1 1/8 in.	28,6 mm
Valve Installation Torque	45 - 50 lbf ft	60 - 70 Nm
Adjustment Screw Internal Hex Size	5/32 in.	4 mm
Adjustment Locknut/Cap Hex Size	9/16 in.	15 mm
Adjustment Nut Torque	80 - 90 lbf in.	9 - 10 Nm
Seal Kits - Cartridge	Buna: 990-202-007	
Seal Kits - Cartridge	Viton: 990-202-006	
Model Weight	0.63 lb.	0.29 kg.









CBEY-LHN

Control

Standard Options

C* Tamper Resistant - Factory Set

L Standard Screw Adjustment

Functional Setting Range

Standard Options

A 1000 - 4000 psi w/4 psi Check (70 - 280 bar w/0,3 bar Check), 3000 psi (210 bar) Standard Setting

B 400 - 1500 psi w/4 psi Check (28 - 105 bar w/0,3 bar Check), 1000 psi (70 bar) Standard Setting

H 1000 - 4000 psi w/25 psi Check (70 - 280 bar w/1,7 bar Check), 3000 psi (210 bar) Standard Setting

Seal Material

Standard Options

N Buna-N

V Viton

Material/Coating Modifier

Preferred Options

No modifier (standard material with no special coating)

Special Options

/AP Stainless Steel, Passivated

Control:C

Control:L

Our stainless product line is growing! If you are interested in a stainless option for this model which is not shown please contact Sun.

Additional Options

Control

R* Lockwired Screw Adjustment

Functional Setting Range

Seal Material

When the modifier is /AP, the control must be C or L

* Special Setting required, specify at time of order
Customer specified setting stamped on hex.