

4.5:1 pilot ratio, restrictive counterbalance valve

Capacity:
5 gpm (20
L/min.)

Functional Group:

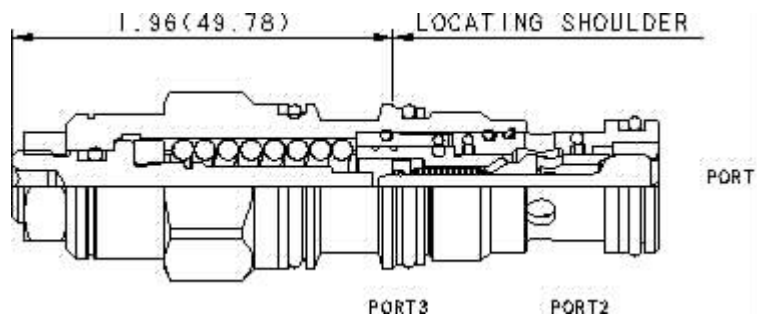
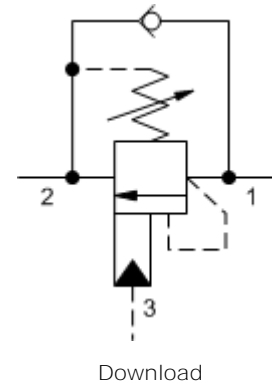
Products : Cartridges : Counterbalance : 3-Port Non-vented : Restrictive, 4.5:1
Pilot Ratio

Model:
CBBG-LJN

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.



Technical Features

- Counterbalance valves should be set at least 1.3 times the maximum load induced pressure.
- Restrictive valves have no relief capacity other than as a thermal relief.
- 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
- 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 has positive seals between all ports.
- 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).
- Stainless steel cartridge options P or W are intended for use within corrosive environments with all external components manufactured in stainless steel or titanium. Internal working components remain the same as the standard valves.
- Incorporates the Sun floating style construction to minimize the possibility of internal parts binding

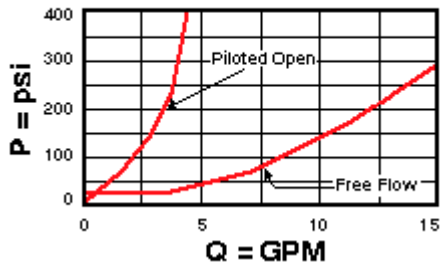
standard set pressure may result in lower reseal percentages.

due to excessive installation torque and/or cavity/cartridge machining variations.

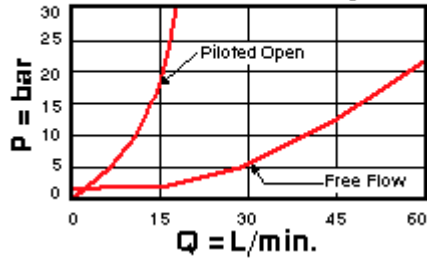
Technical Data

	U.S. Units	Metric Units
Cavity		T-11A
Capacity	5 gpm	20 L/min.
Pilot Ratio		4.5: 1
Maximum Recommended Load Pressure at Maximum Setting	3850 psi	270 bar
Maximum Setting	5000 psi	350 bar
Adjustment - Number of Counterclockwise Turns to Increase Setting		3.75
Factory Pressure Settings Established at	2 in ³ /min.	30 cc/min.
Maximum Valve Leakage at Reseat	5 drops/min.	0,4 cc/min.
Pilot Configuration		Sealed
Series (from Cavity)		Series 1
Reseat		>85% of Set Pressure
Valve Hex Size	7/8 in.	22,2 mm
Valve Installation Torque	30 - 35 lbf ft	45 - 50 Nm
Adjustment Screw Internal Hex Size	5/32 in.	4 mm
Adjustment Nut Hex Size	9/16 in.	15 mm
Adjustment Nut Torque	108 lbf in.	12 Nm
Model Weight	0.34 lb.	0.15 kg.
Seal Kits - Cartridge		Buna: 990-011-007
Seal Kits - Cartridge		Viton: 990-011-006

Free Flow and Piloted Open Pressure Drop



Free Flow and Piloted Open Pressure Drop



CBBG-LJN

Control

Functional Setting Range

External Material/Seal Material

L Standard Screw Adjustment

2000 - 5000 psi w/25 psi Check (140 - 350 bar w/1,7 bar Check), 3000 psi (210 bar) Standard Setting

+0.00

N Buna-N +0.00

If the material/seal is P, the control must be L or C

If the material/seal is W, the control must be L or C

Customer specified setting stamped on hex \$1.10

Related Models

CBBGX

- Explanation of Sun cartridge control options - US units.
- Explanation of Sun cartridge control options - metric units.



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