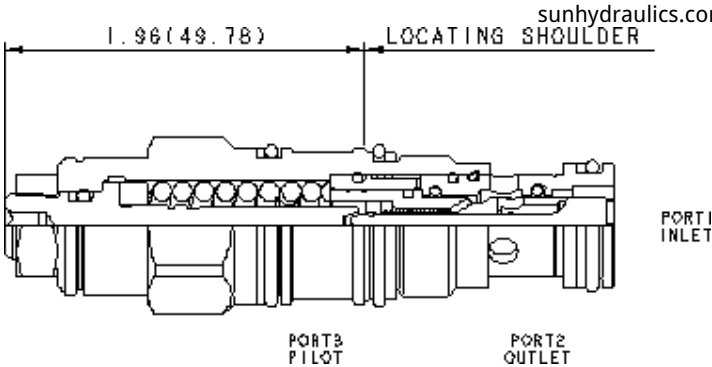


3-Port Non-vented



CONFIGURATION

|                         |                          |                                                                                                     |
|-------------------------|--------------------------|-----------------------------------------------------------------------------------------------------|
| L                       | Control                  | Standard Screw Adjustment                                                                           |
| C                       | Functional Setting Range | 2000 - 5000 psi w/4 psi Check (140 - 350 bar w/ 0,3 bar Check), 3000 psi (210 bar) Standard Setting |
| N                       | Seal Material            | Buna-N                                                                                              |
| (none) Material/Coating |                          |                                                                                                     |

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 DATA

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

|                                                         |                         |
|---------------------------------------------------------|-------------------------|
| Cavity                                                  | T-11A                   |
| Series                                                  | 1                       |
| Capacity                                                | 5 gpm                   |
| Pilot Ratio                                             | 4.5:1                   |
| Maximum Recommended Load Pressure at Maximum Setting    | 3850 psi                |
| Maximum Setting                                         | 5000 psi                |
| Pilot Configuration                                     | Sealed                  |
| Factory Pressure Settings Established at                | 2 in³/min.              |
| Maximum Valve Leakage at Reseat                         | 5 drops/min.            |
| Adjustment - No. of CCW Turns from Min. to Max. Setting | 3.75                    |
| Operating Characteristic                                | Restrictive             |
| Reseat                                                  | >85% of setting         |
| Valve Hex Size                                          | 7/8 in.                 |
| Valve Installation Torque                               | 30 - 35 lbf ft          |
| Adjustment Screw Internal Hex Size                      | 5/32 in.                |
| Locknut Hex Size                                        | 9/16 in.                |
| Locknut Torque                                          | 80 - 90 lbf in.         |
| Seal kit - Cartridge                                    | Buna: 990011007         |
| Seal kit - Cartridge                                    | Polyurethane: 990011002 |
| Seal kit - Cartridge                                    | Viton: 990011006        |
| Model Weight                                            | 0.35 lb.                |

CONFIGURATION OPTIONS

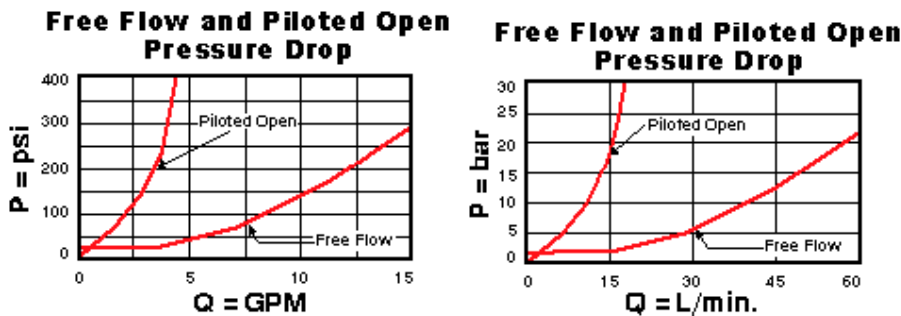
Model Code Example: CBBGLCN

| CONTROL                                                         | (L) FUNCTIONAL SETTING RANGE (C)                                                                                                                                                                                                                                                                                                                                                                                                                                                 | SEAL MATERIAL       | (N) MATERIAL/COATING                                                                        |
|-----------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|---------------------------------------------------------------------------------------------|
| L Standard Screw Adjustment<br>C Tamper Resistant - Factory Set | C 2000 - 5000 psi w/4 psi Check<br>(140 - 350 bar w/ 0,3 bar Check),<br>3000 psi (210 bar) Standard<br>Setting<br><br>D 1000 - 2500 psi w/4 psi Check<br>(70 - 175 bar w/ 0,3 bar Check),<br>2000 psi (140 bar) Standard<br>Setting<br><br>J 2000 - 5000 psi w/25 psi Check<br>(140 - 350 bar w/ 1,7 bar Check),<br>3000 psi (210 bar) Standard<br>Setting<br><br>K 1000 - 2500 psi w/25 psi Check<br>(70 - 175 bar w/ 1,7 bar Check),<br>2000 psi (140 bar) Standard<br>Setting | N Buna-N<br>V Viton | Standard Material/Coating<br>/AP Stainless Steel, Passivated<br>/LH Mild Steel, Zinc-Nickel |

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 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 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).
- Corrosion-resistant cartridge valves are intended for use in corrosive environments and are identified by the model code suffix /AP for external stainless steel components, or /LH for external zinc-nickel plated components. See the CONFIGURATION section for all options. For further details, please see the Materials of Construction page located under TECH RESOURCES.
- 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.

PERFORMANCE CURVES



RELATED MODELS

- [CBBGX](#) Fixed setting, 4.5:1 pilot ratio, restrictive counterbalance valve