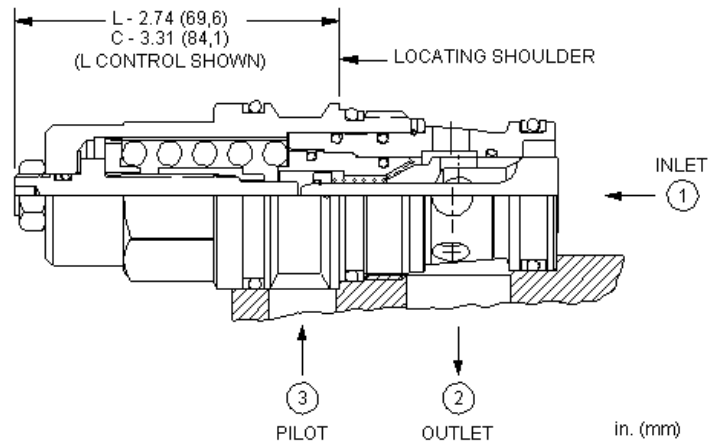
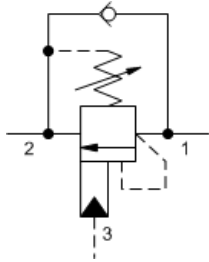


MODEL
CBFL

2.3:1 pilot ratio, semi-restrictive counterbalance valve
CAPACITY: 160 L/min. | **CAVITY:** T-17A



CONFIGURATION

| | | |
|---------------|--------------------------|---|
| L | Control | Standard Screw Adjustment |
| J | Functional Setting Range | 2000 - 5000 psi w/25 psi Check (140 - 350 bar w/1,7 bar Check), 3000 psi (210 bar) Standard Setting |
| N | Seal Material | Buna-N |
| (none) | Material/Coating | Standard 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.

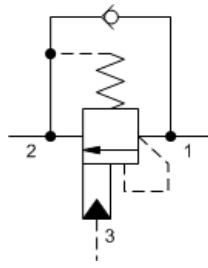
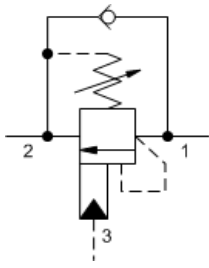
TECHNICAL DATA

| | |
|---|---------------------------|
| Cavity | T-17A |
| Series | 3 |
| Capacity | 160 L/min. |
| Pilot Ratio | 2.3:1 |
| Maximum Recommended Load Pressure at Maximum Setting | 270 bar |
| Maximum Setting | 350 bar |
| Factory Pressure Settings Established at | 30 cc/min. |
| Maximum Valve Leakage at Reseat | 0,3 cc/min. |
| Adjustment - Number of Counterclockwise Turns to Increase Setting | 3.75 |
| Operating Characteristic | Semi-restrictive |
| Reseat | >85% of setting |
| Valve Hex Size | 31,8 mm |
| Valve Installation Torque | 203 - 217 Nm |
| Adjustment Screw Internal Hex Size | 4 mm |
| Adjustment Locknut/Cap Hex Size | 15 mm |
| Adjustment Nut Torque | 9 - 10 Nm |
| Seal kit - Cartridge | Buna: 990-017-007 |
| Seal kit - Cartridge | Polyurethane: 990-017-002 |
| Seal kit - Cartridge | Viton: 990-017-006 |
| Model Weight | 0.62 kg. |

SYMBOLS

3-Port Non-vented

3-Port Non-vented, Fixed Setting

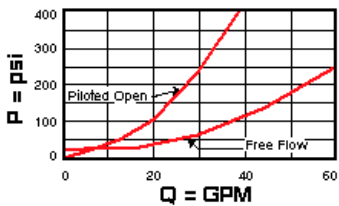


TECHNICAL FEATURES

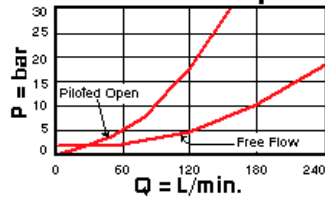
- Counterbalance valves should be set at least 1.3 times the maximum load induced pressure.
- Turn adjustment clockwise to decrease setting and release load.
- Full clockwise setting is less than 200 psi (14 bar).
- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the 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 reseal 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).
- 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

Free Flow and Piloted Open Pressure Drop



Free Flow and Piloted Open Pressure Drop



CONFIGURATION OPTIONS

CONTROL

| | | |
|-------------------------|----------|--------------------------------|
| Standard Options | C | Tamper Resistant - Factory Set |
| | L | Standard Screw Adjustment |

FUNCTIONAL SETTING RANGE

| | | |
|-------------------------|----------|---|
| Standard Options | C | 2000 - 5000 psi w/4 psi Check (140 - 350 bar w/0,3 bar Check), 3000 psi (210 bar) Standard Setting |
| | D | 1000 - 2500 psi w/4 psi Check (70 - 175 bar w/0,3 bar Check), 2000 psi (140 bar) Standard Setting |
| | J | 2000 - 5000 psi w/25 psi Check (140 - 350 bar w/1,7 bar Check), 3000 psi (210 bar) Standard Setting |
| | K | 1000 - 2500 psi w/25 psi Check (70 - 175 bar w/1,7 bar Check), 2000 psi (140 bar) Standard Setting |

SEAL MATERIAL

| | | |
|-------------------------|----------|--------|
| Standard Options | N | Buna-N |
| | V | Viton |

MATERIAL/COATING

| | | |
|-------------------------|------------|---------------------------|
| Standard Options | | Standard Material/Coating |
| | /LH | Mild Steel, Zinc-Nickel |

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