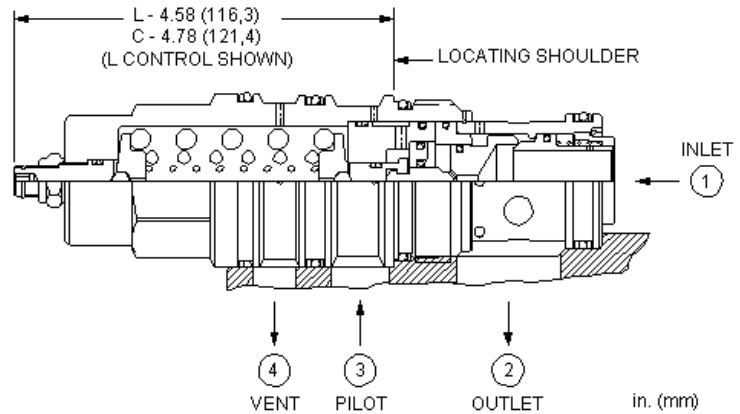
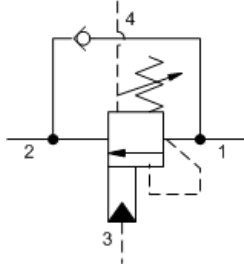


MODEL
CWIL

2:1 pilot ratio, vented counterbalance valve
CAPACITY: 480 L/min. | CAVITY: T-24A



CONFIGURATION

| | | |
|---------------|--------------------------|--|
| L | Control | Standard Screw Adjustment |
| G | Functional Setting Range | 2000 - 6000 psi (140 - 420 bar), 4000 psi (280 bar) Standard Setting |
| N | Seal Material | Buna-N |
| (none) | Material/Coating | Standard Material/Coating |

Vented 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. Backpressure at port 2 does not affect the valve setting because the spring chamber references the vent (port 4).

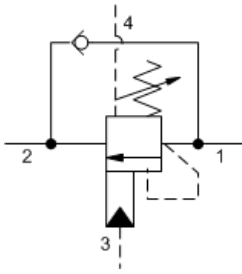
Other names for this valve include motion control valve and over center valve.

TECHNICAL DATA

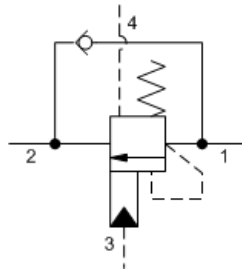
| | |
|---|---------------------------|
| Cavity | T-24A |
| Series | 4 |
| Capacity | 480 L/min. |
| Pilot Ratio | 2:1 |
| Maximum Recommended Load Pressure at Maximum Setting | 320 bar |
| Maximum Setting | 420 bar |
| Factory Pressure Settings Established at | 30 cc/min. |
| Maximum Valve Leakage at Reseat | 0,3 cc/min. |
| Check Cracking Pressure | 1,5 bar |
| Adjustment - Number of Counterclockwise Turns to Increase Setting | 5 |
| Operating Characteristic | Standard |
| Reseat | >85% of setting |
| Valve Hex Size | 41,3 mm |
| Valve Installation Torque | 475 - 508 Nm |
| Adjustment Screw Internal Hex Size | 4 mm |
| Locknut Hex Size | 15 mm |
| Locknut Torque | 9 - 10 Nm |
| Seal kit - Cartridge | Buna: 990-024-007 |
| Seal kit - Cartridge | Polyurethane: 990-024-002 |
| Seal kit - Cartridge | Viton: 990-024-006 |
| Model Weight | 1.59 kg. |

SYMBOLS

4-Port Vented



4-Port Vented, Non-adjustable

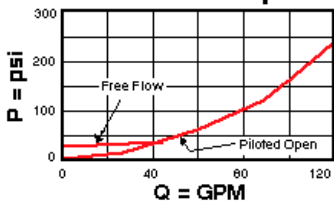


TECHNICAL FEATURES

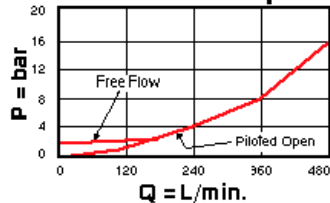
- Counterbalance valves should be set at least 1.3 times the maximum load induced pressure.
- Turn adjustment clockwise to decrease setting and release load.
- Full clockwise setting is 200 psi (14 bar).
- All 4-port counterbalance, load control, and pilot-to-open check cartridges are physically interchangeable (i.e. same flow path, same cavity for a given frame size).
- 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.
- Pressure at port 4 is added to the effective relief setting at a rate of 1 plus the pilot ratio times the pressure.
- Sun counterbalance cartridges can be installed directly into a cavity machined in an actuator housing for added protection and improved stiffness in the circuit.
- This valve has positive seals between all ports.
- With vented valves, a lower pilot ratio may be required to achieve machine stability compared to non-vented valves.
- 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

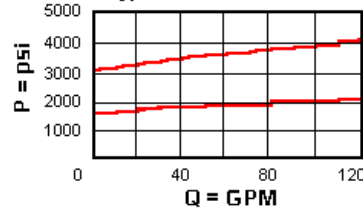
Free Flow and Piloted Open Pressure Drop



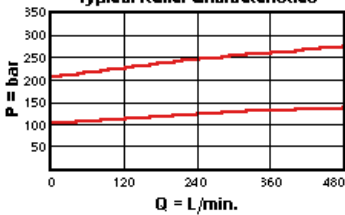
Free Flow and Piloted Open Pressure Drop



Typical Relief Characteristics



Typical Relief Characteristics



CONFIGURATION OPTIONS

CONTROL

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

FUNCTIONAL SETTING RANGE

| | | |
|------------------|---|--|
| Standard Options | F | 1000 - 2500 psi (70 - 175 bar), 2000 psi (140 bar) Standard Setting |
| | G | 2000 - 6000 psi (140 - 420 bar), 4000 psi (280 bar) Standard Setting |

SEAL MATERIAL

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

MATERIAL/COATING

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

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