# 3:1 pilot ratio, vented counterbalance valve

Capacity:
30 gpm (120 L/min.)

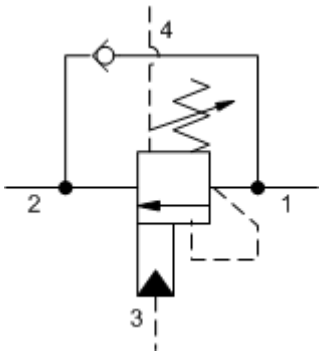
Functional Group:
Products : Cartridges : Counterbalance : 4-Port Vented : 3:1 Pilot Ratio

Model:
CWEA-LIN

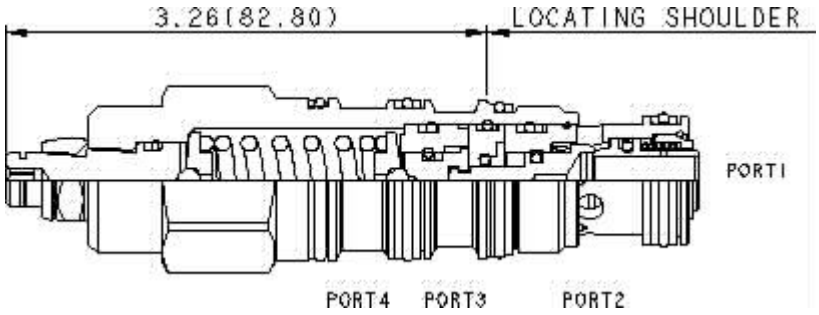
## Product Description

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.




Download



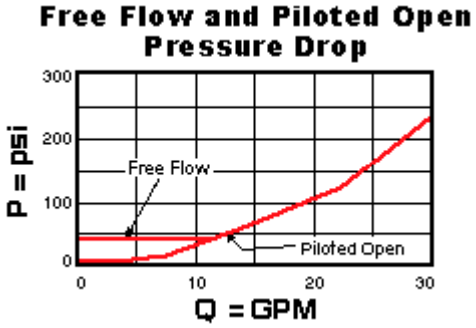

## Technical Features

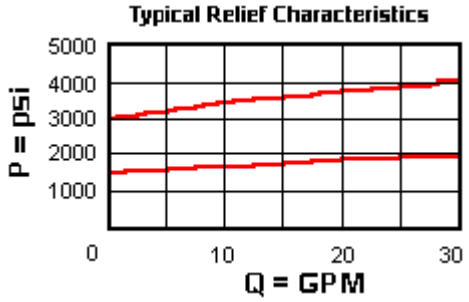
- Counterbalance valves should be set at least 1.3 times the maximum load induced pressure.
- Full clockwise setting is 0 psi (0 bar).
- Reseat exceeds 85% of set pressure when the valve is standard set. Settings lower than the standard set pressure may result in lower reseat percentages.
- This valve has positive seals between all ports.
- 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.
- Turn adjustment clockwise to decrease setting and release load.
- 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).
- Sun counterbalance cartridges can be installed directly into a cavity machined in an actuator housing for added protection and improved stiffness in the circuit.
- With vented valves, a lower pilot ratio may be required to achieve machine stability compared to non-vented valves.

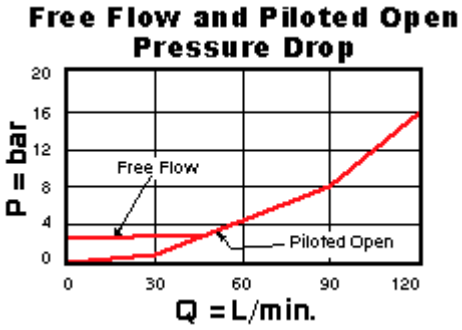
## Technical Data

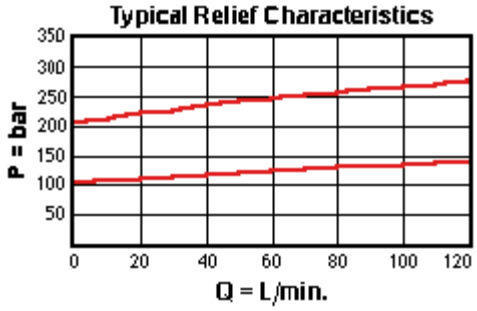
| | U.S. Units | Metric Units |
|---|---|---|
| Cavity | T-22A | |

| | | |
|---|---|---|
| Capacity | 30 gpm | 120 L/min. |
| Pilot Ratio | 3:1 | |
| 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 | 5 | |
| Factory Pressure Settings Established at | 2 in³/min. | 30 cc/min. |
| Maximum Valve Leakage at Reseat | 5 drops/min. | 0,4 cc/min. |
| Reverse Flow Check Cracking Pressure | 25 psi | 1,7 bar |
| Series (from Cavity) | Series 2 | |
| U.S. Patent # | 4,834,135 | |
| 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 Hex Socket 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 | .65 lb | 0,30 kg |
| Seal Kits | Buna: 990-022-007 | |
| Seal Kits | Viton: 990-022-006 | |




## CWEA-LIN

| Control | Functional Setting Range | External Material/Seal Material |
|---|---|---|
| | 400 - 1500 psi (30 - | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| L | Standard Screw Adjustment | +0.00 | I | 105 bar), 1000 psi (70 bar) Standard Setting | +0.00 | N | Buna-N +0.00 |

Customer specified setting stamped on hex $1.10

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