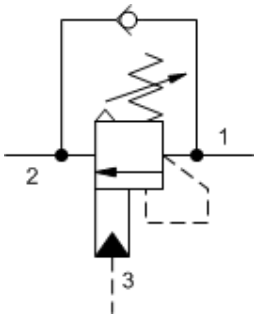
MODEL
CAEA

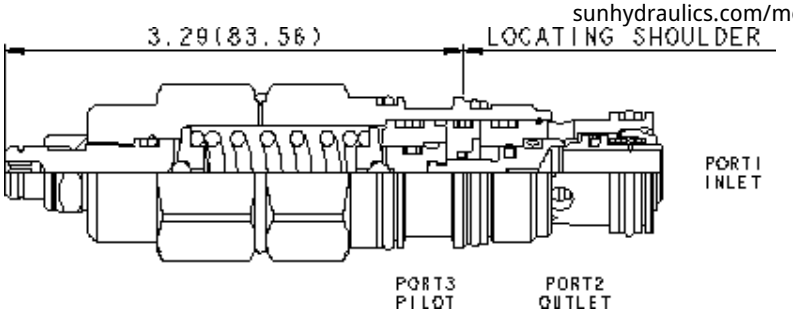
# 3:1 pilot ratio, vented counterbalance valve - atmospherically referenced

## SERIES 2 / CAPACITY: 120 L/min. / CAVITY: T-2A

sunhydraulics.com/model/CAEA




3-Port Atmospherically Referenced




Atmospherically 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 is atmospherically referenced.

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

## CONFIGURATION

| | | |
|---|---|---|
| **L** | Control | Standard Screw Adjustment |
| **I** | Functional Setting Range | 400 - 1500 psi (28 - 105 bar), 1000 psi (70 bar) Standard Setting |
| **N** | Seal Material | Buna-N |
| **(none)** | Material/Coating | |

## TECHNICAL DATA

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

| | |
|---|---|
| Cavity | T-2A |
| Series | 2 |
| Capacity | 120 L/min. |
| Pilot Ratio | 3:1 |
| Maximum Recommended Load Pressure at Maximum Setting | 215 bar |
| Maximum Setting | 280 bar |
| Factory Pressure Settings Established at | 30 cc/min. |
| Maximum Valve Leakage at Reseat | 0,3 cc/min. |
| Check Cracking Pressure | 1,7 bar |
| Adjustment - No. of CCW Turns from Min. to Max. Setting | 5 |
| Operating Characteristic | Standard |
| Reseat | >85% of setting |
| Valve Hex Size | 28,6 mm |
| Valve Installation Torque | 61 - 68 Nm |
| Adjustment Screw Internal Hex Size | 4 mm |
| Locknut Hex Size | 15 mm |
| Locknut Torque | 9 - 10 Nm |
| Seal kit - Cartridge | Buna: 990302007 |
| Seal kit - Cartridge | Viton: 990302006 |
| Model Weight | 0.36 kg. |

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## CONFIGURATION OPTIONS

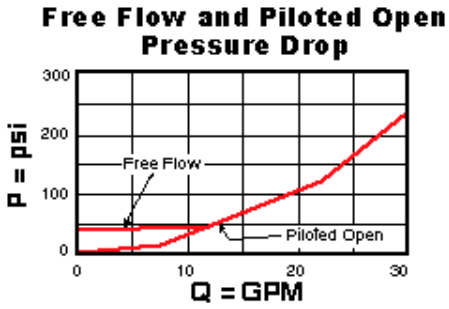
**Model Code Example: CAEALIN**

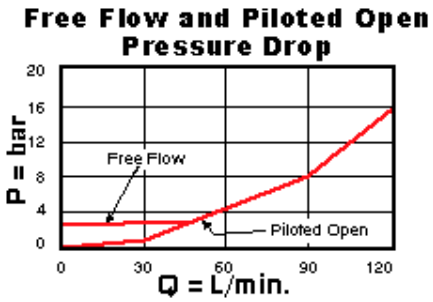
| CONTROL (L) | FUNCTIONAL SETTING RANGE (I) | SEAL MATERIAL (N) | MATERIAL/COATING |
|---|---|---|---|
| **L** Standard Screw Adjustment | **I** 400 - 1500 psi (28 - 105 bar), 1000 psi (70 bar) Standard Setting | **N** Buna-N | Standard Material/Coating |
| **C** Tamper Resistant - Factory Set | **H** 1000 - 4000 psi (70 - 280 bar), 3000 psi (210 bar) Standard Setting | **V** Viton | **/AP** Stainless Steel, Passivated |
| | | | **/LH** Mild Steel, Zinc-Nickel |

## 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).
- Approximately 1 drop (0,07 cc) of fluid will pass from the pilot area to the vented spring chamber every 4000 cycles.
- 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.
- 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.
- Three-port vented valves are atmospherically referenced and considered problem solvers for existing circuits using non-vented valves. Over time, the vented valves may leak externally or allow moisture into the spring chamber. Four-port vented counterbalance valves are recommended for new applications.
- 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




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