



Counterbalance valves without 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 relief valve controls flow from port 1 to port 2.

CONFIGURATION

L Control	Standard Screw Adjustment
B Functional Setting Range	400 - 1500 psi w/4 psi Check (28 - 105 bar w/0,3 bar Check), 1000 psi (70 bar) Standard Setting
N Seal Material	Buna-N

TECHNICAL DATA

Pilot Ratio	Zero
Maximum Recommended Load Pressure at Maximum Setting	3075 psi
Maximum Setting	4000 psi
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at Reseat	5 drops/min.
Adjustment - Number of Counterclockwise Turns to Increase Setting	3.75
Reseat	>85% of setting
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990-202-007
Seal kit - Cartridge	Polyurethane: 990-002-002
Seal kit - Cartridge	Viton: 990-202-006

CONFIGURATION OPTIONS

Model Code Example: CCEALBN

CONTROL	(L) FUNCTIONAL SETTING RANGE (B)	SEAL MATERIAL (N)
L Standard Screw Adjustment C Tamper Resistant - Factory Set	B 400 - 1500 psi w/4 psi Check (28 - 105 bar w/0,3 bar Check), 1000 psi (70 bar) Standard Setting A 1000 - 4000 psi w/4 psi Check (70 - 280 bar w/0,3 bar Check), 3000 psi (210 bar) Standard Setting H 1000 - 4000 psi w/25 psi Check (70 - 280 bar w/1,7 bar Check), 3000 psi (210 bar) Standard Setting I 400 - 1500 psi w/25 psi Check (28 - 105 bar w/1,7 bar Check), 1000 psi (70 bar) Standard Setting	N Buna-N V Viton

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).
- These valves are modified versions of our pilot assisted counterbalance valves. The pilot assist area has been nullified internally. There is no connection to port 3.
- Backpressure at port 2 is directly additive to the relief setting of the valve.
- Lower pilot ratios (pilot gain) promote machine stability. This valve has a pilot ratio of zero. Stability is gained at the expense of efficiency.
- 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.
- 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

