



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. The LoadAdaptive™ counterbalance valve has a higher pilot ratio when the load-induced pressure is less than the setting of the valve (is not moving yet) and when the moving load is a positive load (not overrunning). See P1-P3 diagrams under "Performance Curves." The P1 (Y axis) vs P3 (X axis) curves show the effective setting P1 of the valve for different flows depending on pilot pressure P3. [Click Here for LoadAdaptive Technical Tip](https://www.sunhydraulics.com/sites/default/files/media_library/tech_resources/TT_US_LAandLM.pdf) Other names for this valve include motion control valve and over-center valve.

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

Pilot Ratio	3:1
Adaptive Pilot Ratio	See Performance Curves
Maximum Recommended Load Pressure at Maximum Setting	3075 psi
Maximum Setting	4000 psi
Adjustment - No. of CCW Turns from Min. to Max. Setting	3.75
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at Reseat	5 drops/min.
Reseat	>85% of setting
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990-011-007
Seal kit - Cartridge	Polyurethane: 990-011-002
Seal kit - Cartridge	Viton: 990-011-006

NOTES: • U.S. Patent #9,850,919

CONFIGURATION OPTIONS

Model Code Example: CEBCLHN

CONTROL	(L)	ADJUSTMENT RANGE	(H)	SEAL MATERIAL	(N)	MATERIAL/COATING
L Standard Screw Adjustment		H 1500 - 4000 psi w/ 25 psi check (105 - 280 bar w/ 1,7 bar Check), 3000 psi (210 bar) Standard Setting		N Buna-N		Standard Material/Coating
C Tamper Resistant - Factory Set		A 1500 - 4000 psi w/ 4 psi check (105 - 280 bar w/ 0,3 bar Check), 3000 psi (210 bar) Standard Setting		V Viton		/LH Mild Steel, Zinc-Nickel