

# LCBCA/LCBCG/LCBCH

Counterbalance Valve  
Standard

## DESCRIPTION

A cartridge-style standard capacity counterbalance valve

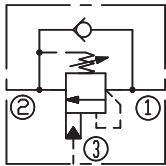
## OPERATION

Counterbalance valves with pilot assist are meant for control on overrunning load. The check valve allows free flow from port ② to 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.

## FEATURES

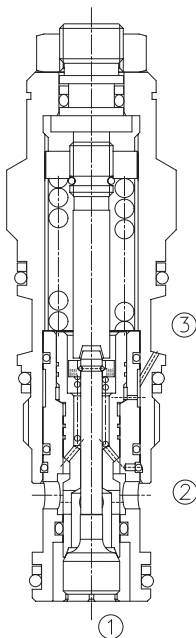
- Counterbalance valves should be set at least 1.3 times the maximum load induced pressure.
- Backpressure at port ② adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure.
- Reseat exceeds 85% of set pressure when the valve is standard set. Setting lower than the standard set pressure may result in lower reseal percentages.
- Factory pressure setting established at 30cc/min(2 in<sup>3</sup>/min).

## SYMBOL

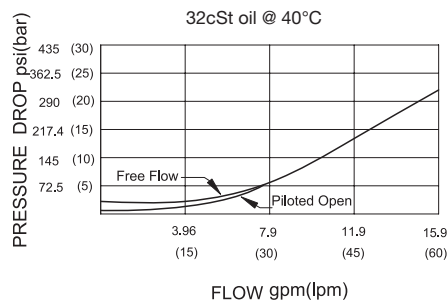


## SPECIFICATIONS

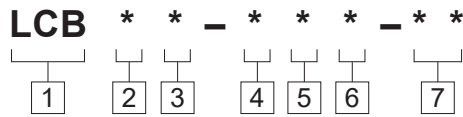
Max. Setting	280 bar (LCBCA) 350 bar (LCBCG/LCBCH)
Max. Recommended Load Pressure at Max. Setting	215bar(LCBCA) 270bar(LCBCG/LCBCH)
Flow	See PRESSURE DROP VS.FLOW graph.
Internal Leakage	5 drops/min.
Pilot Ratio	(LCBCA) 3: 1; (LCBCG) 4.5: 1;(LCBCH) 10: 1
Temperature	-40°F to +250°F(-40°C to +120°C)
Filtration	See page N-1
Fluids	Mineral-based fluids with viscosities of 7.4 to 420 cSt.
Cavity	SUN T-11A, See page M-6
Housing Material	6061-T6 aluminum alloy rated to 207bar, Steel & Ductile iron rated to 350bar



## PRESSURE DROP VS.FLOW



## TO ORDER



- 1 Function**  
LCB=Counterbalance Cartridge Valve

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- 2 Flow**  
C=60L/min

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- 3 Pilot Ratio**  
A=3:1; G=4.5:1; H=10:1

- 4 Control**  
L=Standard Screw Adjustment

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- 5 Spring Ranges**

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- 6 Seal Kits**  
N=Buna N  
V= Viton

- 7 Port Size**  
Omit=None  
6T=SAE6      3G=G 3/8  
8T=SAE8      4G=G 1/2

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- ※ See page K-17 – K-22 for detail of housing
- ※ Other port sizes are available

**Spring Ranges LCBCA:**  
 H=1000-4000psi(70-280bar)  
 Preset:3000psi(210bar)(Check:1.7bar)  
 I=400-1500psi(28-105bar)  
 Preset:1000psi(70bar)(Check:1.7bar)  
 A=1000-4000psi(70-280bar)  
 Preset:3000psi(210bar)(Check:0.3bar)  
 B=400-1500psi(28-105bar)  
 Preset:1000psi(70bar)(Check:0.3bar)

**Spring Ranges LCBCG:**  
 J=2000-5000psi(140-350bar)  
 Preset:3000psi(210bar)(Check:1.7bar)  
 K=1000-2500psi(70-175bar)  
 Preset:2000psi(140bar)(Check:1.7bar)  
 C=2000-5000psi(140-350bar)  
 Preset:3000psi(210bar)(Check:0.3bar)  
 D=1000-2500psi(70-175bar)  
 Preset:2000psi(140bar)(Check:0.3bar)

**Spring Ranges LC BCH:**  
 C=2000-5000psi(140-350bar)  
 Preset:3000psi(210bar)(Check:0.3bar)  
 D=1000-2500psi(70-175bar)  
 Preset:2000psi(140bar)(Check:0.3bar)  
 J=2000-5000psi(140-350bar)  
 Preset:3000psi(210bar)(Check:1.7bar)  
 K=1000-2500psi(70-175bar)  
 Preset:2000psi(140bar)(Check:1.7bar)



## INSTALLATION DIMENSIONS

Unit=Millimeters

Number of Counter-clockwise Turns: 3.75 Turns

