

# LCBAH

Counterbalance Valve  
Ultra-Restrictive

## DESCRIPTION

A cartridge-style ultra-restrictive counterbalance valve

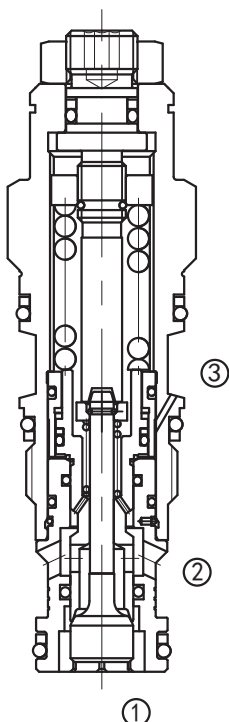
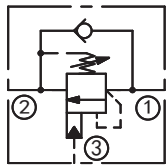
## OPERATION

Counterbalance valves with pilot assist are meant to control an 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.
- Restrictive valves have no relief capacity other than as a thermal relief.
- 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).

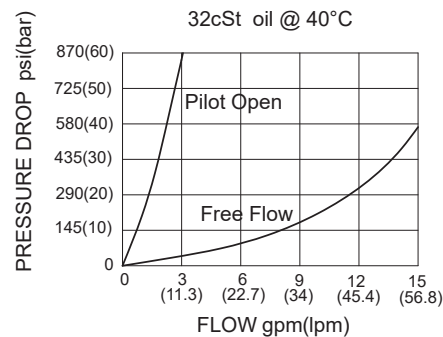
## SYMBOL



## SPECIFICATIONS

Max. Setting	350bar
Max. Recommended Load Pressure at Max. Setting	270bar
Flow	See PRESSURE DROP VS.FLOW graph.
Internal Leakage	5 drops/min.
Pilot Rate	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

LCB \* \* - \* \* \* - \* \*

1 2 3 4 5 6 7

**1 Function**  
LCB=Counterbalance Cartridge Valve

**2 Flow**  
A=10L/min

**3 Pilot Ratio**  
H=10:1

**4 Control**  
L= Standard Screw Adjustment

**5 Spring Ranges**  
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)

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

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

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

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## INSTALLATION DIMENSIONS

Unit=Millimeters

Number of Counter-clockwise Turns: 3.75 Turns

