

LCBBB/LCBBC/LCBBB

Counterbalance Valve
Semi-Restrictive

DESCRIPTION

A cartridge-style semi-restrictive counterbalance valve

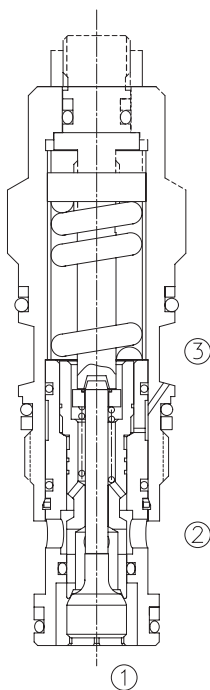
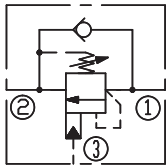
OPERATION

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.
- Full clockwise setting is less than 14 bar.
- 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 in³/min).

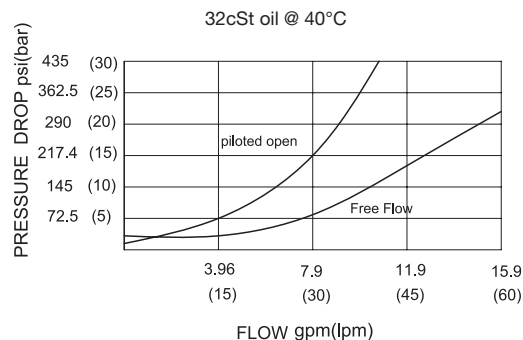
SYMBOL



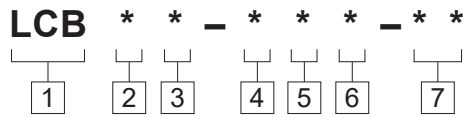
SPECIFICATIONS

Max. Setting	280 bar(LCBBB/LCBBC) 350 bar(LCBBB)
Max. Recommended Load Pressure at Max. Setting	215 bar(LCBBB/LCBBC) 270 bar(LCBBB)
Flow	See PRESSURE DROP VS.FLOW graph.
Internal Leakage	5 drops/min.
Pilot Ratio	(LCBBB) 1.5:1; (LCBBC) 3:1 (LCBBB) 4.5:1
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

- 2 Flow**
B=40L/min

- 3 Pilot Ratio**
B=1.5:1; C=3:1; D=4.5:1

- 4 Control**
L=Standard Screw Adjustment

- 5 Spring Ranges**

- 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

Spring Ranges LCBBB/LCBBB

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 LCBBB

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)

INSTALLATION DIMENSIONS

Unit=Millimeters

Number of Counter-clockwise Turns : 3.75 Turns

