LCBIG/LCBIH

Counterbalance Valve
Standard

DESCRIPTION

A cartridge-style standard capacity counterbalance valve
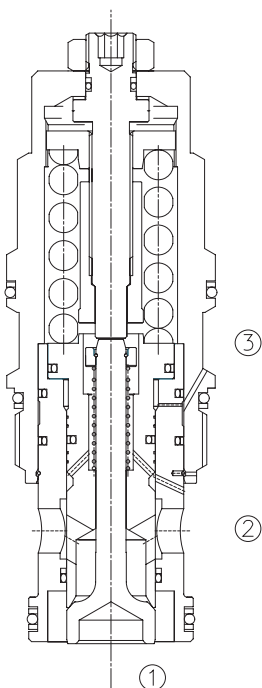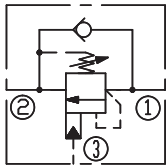
SYMBOL

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 reseat percentages.
• Factory pressure setting established at 30cc/min(2 in^3/min).
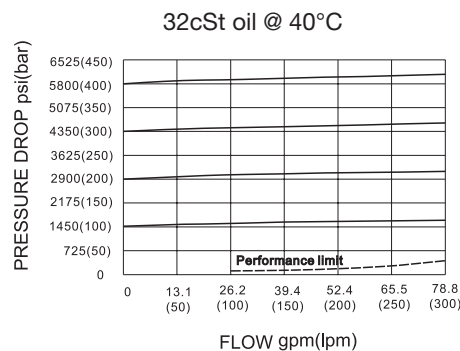
SPECIFICATIONS

Max. Setting	350 bar
Max. Recommended Load Pressure at Max. Setting	270 bar
Flow	See PRESSURE DROP VS.FLOW graph.
Internal Leakage	5 drops/min.
Pilot Ratio	(LCBIG)4.5:1; (LCBIH)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-19A, See page M-9
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** | 5 | **Spring Ranges** | 7 | **Port Size** |

1 **Function**
LCB=Counterbalance Cartridge Valve

2 **Flow**
I=480L/min

3 **Pilot Ratio**
G=4.5:1
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
16T=SAE16
20T=SAE20
8G=G 1

※See page K-15 for detail of
　housing
※Other port sizes are available

G

INSTALLATION DIMENSIONS

Unit=Millimeters

Number of Counter-clockwise Turns：3.75 Turns

5.5mm HEX
ALLEN HEAD
Turn adjustment clockwise to
decrease setting and release load

(19.1)HEX
Adjustment Nut Torque Max. 35Nm

(41.3)HEX
TORQUE
465-500Nm

③

LOCATING SHOULDER

②

88.9

63.5

①