



Counterbalance Valves Technical Information

Hydraulic Vent

CB20-HV

OPERATION

CB20-HV : Counterbalance valve, 20-size, hydraulic vent. This is a 3-ported, externally piloted, cartridge style, low leakage unit. The check section allows free flow from the directional valve (port 2) to the load (port 1), while normally blocking flow from port 1 to port 2. Reverse flow is blocked until pilot pressure is applied at port 3. When the load pressure at port 1 rises above the pressure setting, the integral relief valve is activated and pressure is relieved from port 1 to port 2.



APPLICATIONS

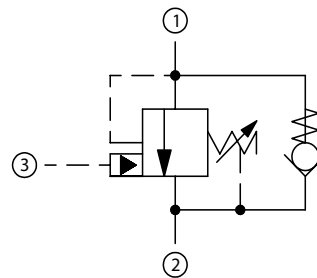
Single counterbalance valves are normally used when the load is unidirectional, such as aerial lifts, cranes, or winches. In load holding applications, they can be used as hose-break valves when installed near or within an actuator. Dual valves can be used for controlling loads bi-directionally in motor applications, or for cylinders going over center.

SPECIFICATIONS

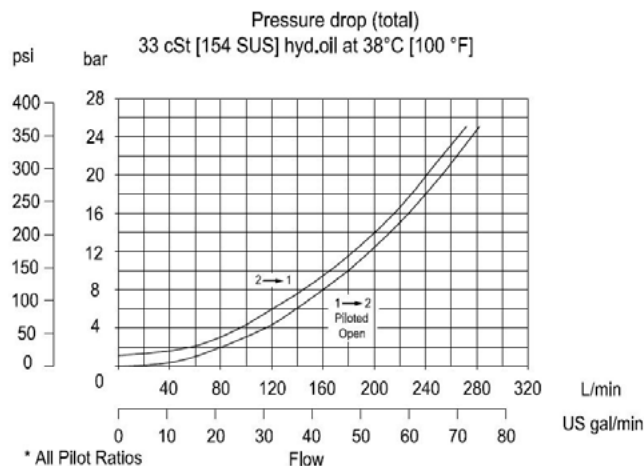
Rated pressure	345 bar [5000 psi]*
Rated flow at 22 bar (319 psi)	266 l/min [70 US gal/min]
Leakage	10 drops/min @ 70% of crack pressure
Weight	1.22 kg [2.69 lb]
Pilot ratio	3:1, 4.5:1, 10:1
Cavity	CP20-3S

* 345 bar with steel housing
210 bar with aluminum housing

SCHEMATIC



PERFORMANCE



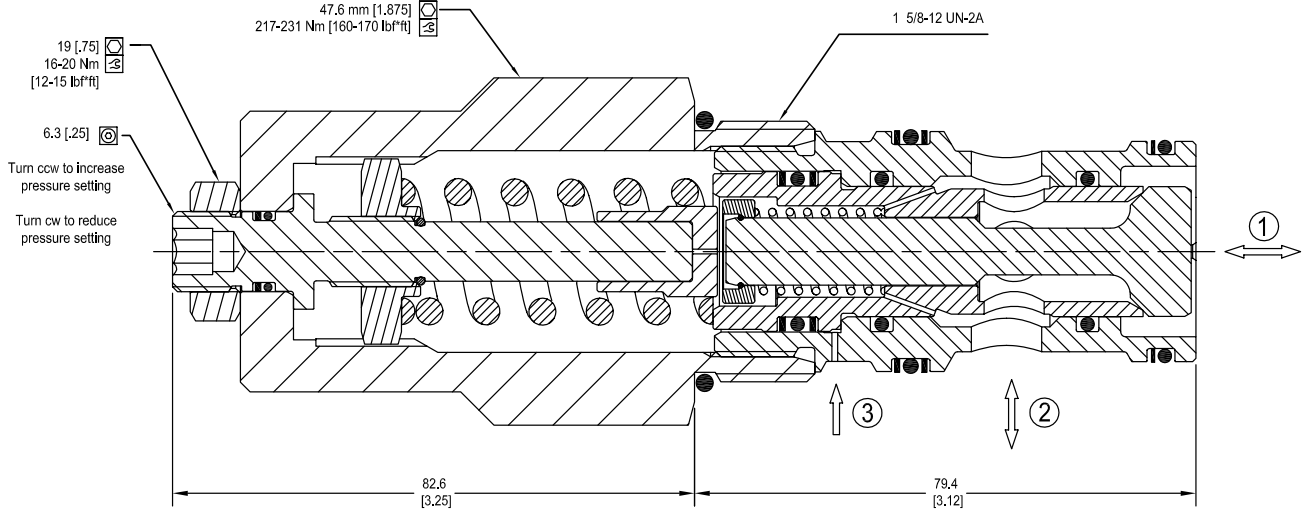


Counterbalance Valves Technical Information

Hydraulic Vent CB20-HV

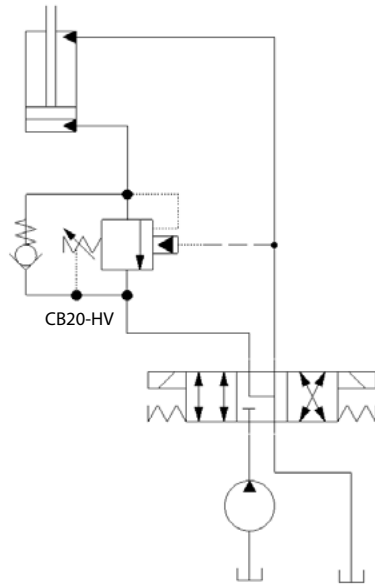
DIMENSIONS

mm [in]

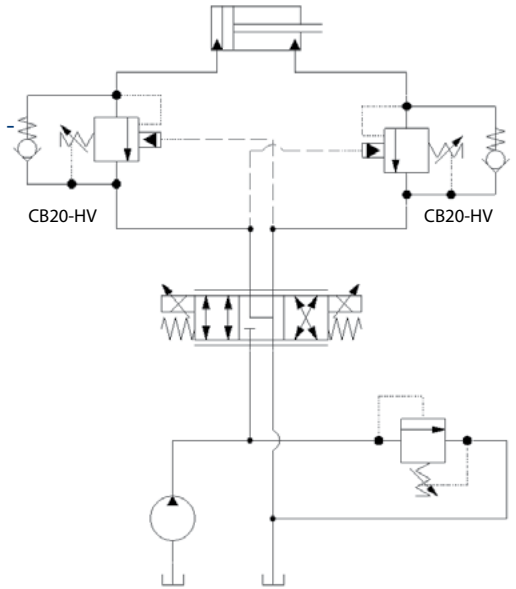


EXAMPLE CIRCUITS

Load Holding - Single Actuator



Load Holding - Double Actuator



ORDERING INFORMATION

CB20 - HV - 1 - A - 1 - E - XXX - B - 00

CB20-HV:
Counterbalance valve,
20-size, hydraulic vent

Code	Pilot Ratio
A	3 to 1
B	4.5 to 1
C	10 to 1

1: Check crack pressure in bar
1 bar [14.5 psi]

Code	Seal	Seal Kit
B	Buna-N	120380
V	Viton	120381

Pressure Setting in bar
XXX - Std. setting with no stamping

For customer specified settings, enter value in bar (Example 70 bar = 70; 125 bar = 125, etc.)

Adjustment type
E external adjustment

Code	Pressure Range		
	Pilot Ratio A (3:1) bar [psi]	Pilot Ratio B (4.5:1) bar [psi]	Pilot Ratio C (10:1) bar [psi]
1	35-110 [507-1595] Std. Setting 70 [1015]	35-140 [507-2030] Std. Setting 100 [1450]	70-345 [1015-5000] Std. Setting 170 [2465]
2	100-210 [1450-3045] Std. Setting 170 [2465]	100-345 [1450-5000] Std. Setting 200 [2900]	

Body & Ports	Body Nomenclature
00 Cartridge Only	No Body
8B AL, 1 BSP	CP20-3S-8B/2B
S8B Steel, 1 BSP	CP20-3S-S8B/2B
10B AL, 1-1/4 BSP	CP20-3S-10B/2B
S10B Steel, 1-1/4 BSP	CP20-3S-S10B/2B
16S AL, #16 SAE	CP20-3S-16S/4S
S16S Steel, #16 SAE	CP20-3S-S16S/4S
20S AL, #20 SAE	CP20-3S-20S/4S
S20S Steel, #20 SAE	CP20-3S-S20S/4S