



## Counterbalance Valves Technical Information

### Hydraulic Vent

### CB10-HV

#### OPERATION

CB10-HV : Counterbalance valve, 10-size, hydraulic vent.  
This valve is 3-ported, externally piloted and low leakage.  
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

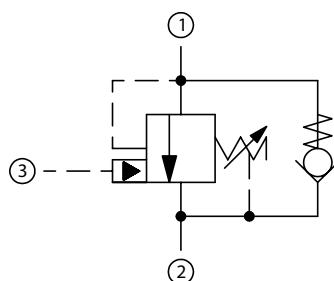
Single counterbalance valves are normally used when the load is unidirectional, such as aerial lifts, cranes, or winches. In load holding applications, they can be used as hose-break valves when installed near or within an actuator. Dual valves can be used for controlling loads bi-directionally in motor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

#### SPECIFICATIONS

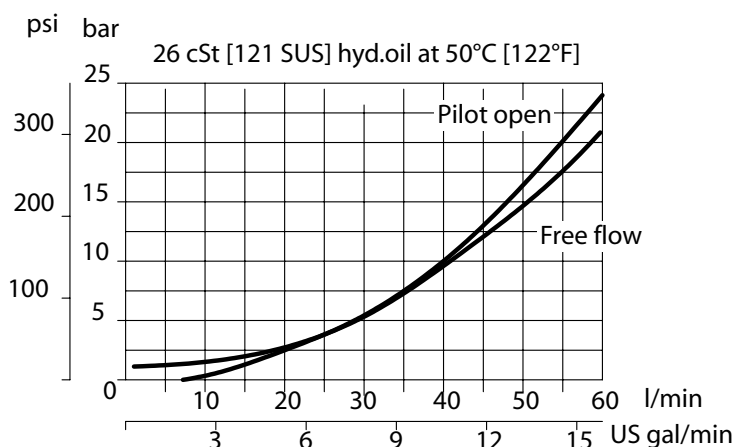
<b>Rated pressure</b>	350 bar [5075 psi]*
<b>Rated flow at 22 bar (319 psi)</b>	60 l/min [16 US gal/min]
<b>Leakage</b>	10 drops/min @ 70% of crack pressure
<b>Weight</b>	0.22 kg [0.47 lb]
<b>Pilot ratio</b>	3:1, 4.5:1, 10:1
<b>Cavity</b>	<b>SDC10-35</b>

\* 350 bar with steel housing  
210 bar with aluminum housing

#### SCHEMATIC



#### PERFORMANCE





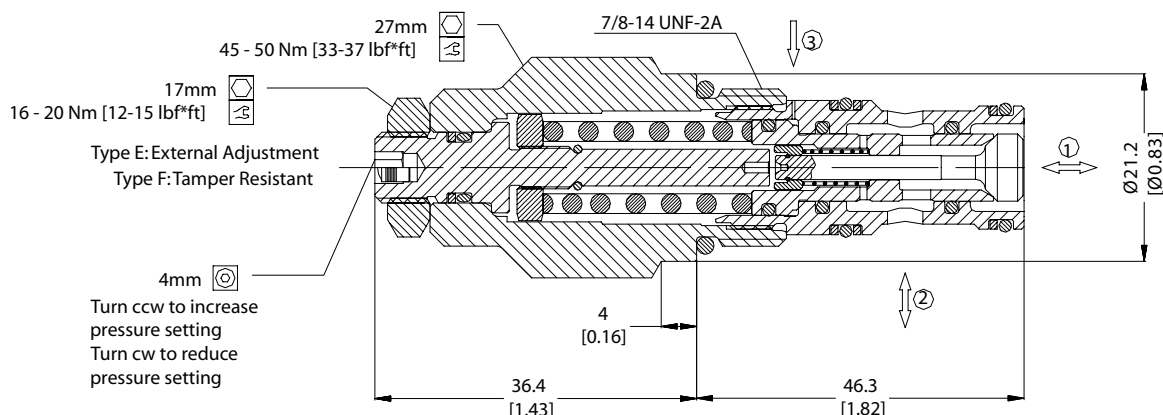
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## Hydraulic Vent

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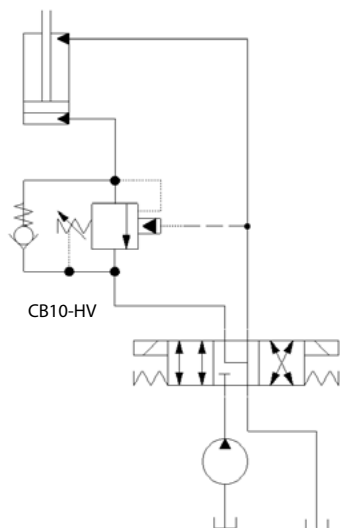
## DIMENSIONS

mm [in]

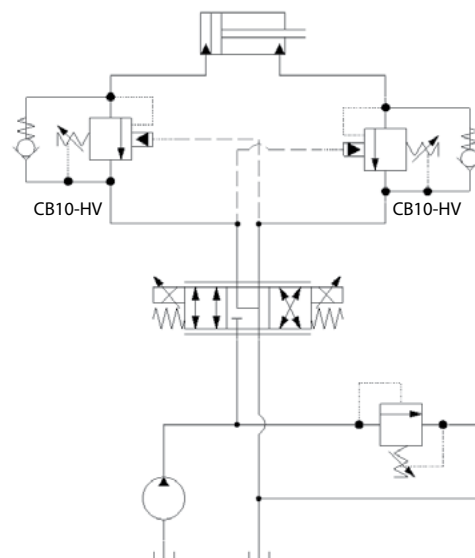


## EXAMPLE CIRCUITS

### Load Holding - Single Actuator



### Counterbalance-Double Actuator



## ORDERING INFORMATION

**CB10 - HV - 1 - A - 1 - E - XXX - B - 00**

CB10- HV:  
Counterbalance valve,  
10-size, hydraulic vent

Code	Pilot Ratio
A	3 to1
B	4.5 to 1
C	10 to 1

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

Pressure Range

Code	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]	55-180 [797-2610]	90-350 [1305-5075]
2	60-150 [870 - 2175]	75-240 [1087-3480]	
3	80-230 [1160 - 3334]	90-350 [1305-5075]	

Code	Seal	Seal Kit
B	Buna-N	230001020
V	Viton	354001519

Pressure Setting [in bar]  
XXX - No factory setting / no stamping

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

Adjustment type  
E external adjustment  
F tamper resistant

Body & Ports	Body Nomenclature
00 Cartridge Only	No Body
SE3B AL, 3/8 BSPP	SDC10-3S-SE3B
SE4B AL, 1/2 BSPP	SDC10-3S-SE4B
SES4B Steel, 1/2 BSPP	SDC10-3S-SES4B
SE4B AL, 1/2 BSPP	SDC10-3S-SE4B
6S AL, #6 SAE	SDC10-3S-6S
8S AL, #8 SAE	SDC10-3S-8S
S8S Steel, #8 SAE	SDC10-3S-S8S