



Counterbalance Valves Technical Information

Atmospheric Vent

VCB06-CN

OPERATION

This counterbalance valve is a 6-size metric, 3-ported, externally piloted low leakage, cartridge style valve with atmospheric vent. The check section allows free flow from the directional valve (port 2) to the load (port 3), while normally blocking flow from port 3 to port 2. Reverse flow is blocked until pilot pressure is applied at port 1. When the pressure at port 3 rises above the pressure setting, the integral relief valve is activated and vents the area behind the pilot piston.



APPLICATIONS

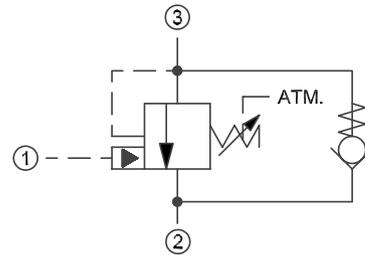
Atmospheric vented valves are applied when it is not practical to connect a separate vent line to the tank. Use a single counterbalance valve when the load is unidirectional, such as aerial lifts, cranes, or winches. In load holding applications, they are suitable as hose-break valves when installed near or within an actuator. Dual cartridges can be used for controlling loads bi-directionally in motor applications, or for cylinders going over center. Since this valve is piloted at port 1, no cross port drilling is required when dual cartridges are mounted nose to nose in an HIC.

SPECIFICATIONS

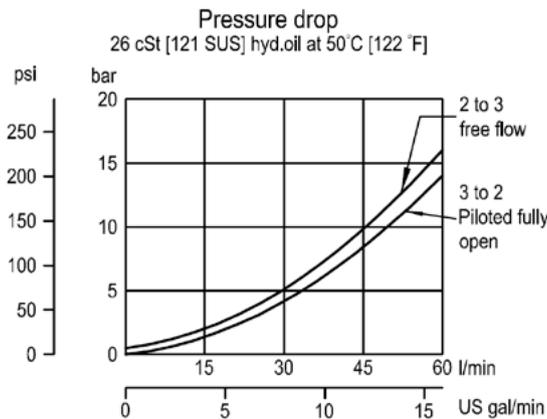
Rated pressure	350 bar [5075 psi]*
Rated flow at 22 bar (319 psi)	60 l/min [16 US gal/min]
Leakage	10 drops/min @ at 70% of crack pressure
Weight	0.29 kg [0.65 lb]
Pilot ratio	4.1:1, 7.1:1
Cavity	NCS06/3

* 350 bar with steel housing
210 bar with aluminum housing

SCHEMATIC



PERFORMANCE





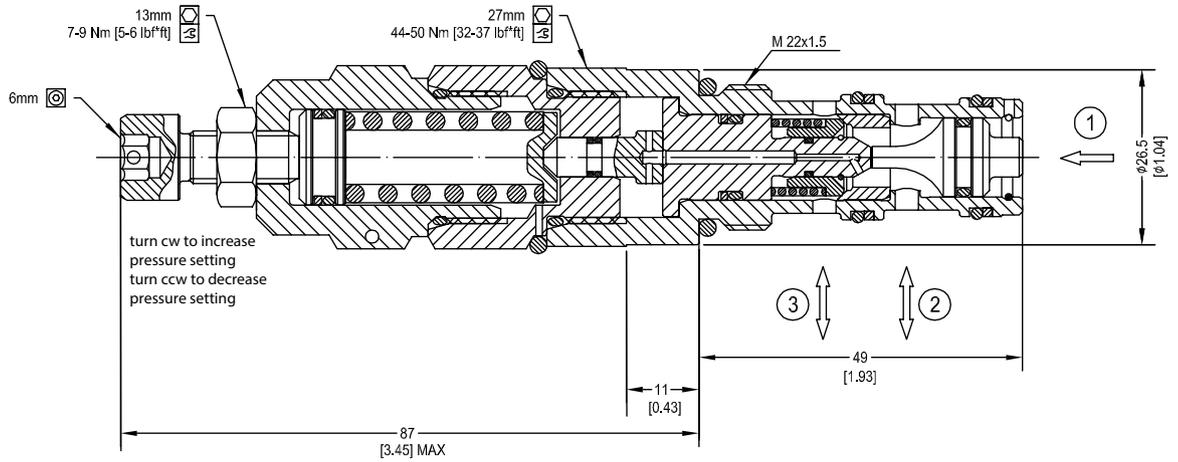
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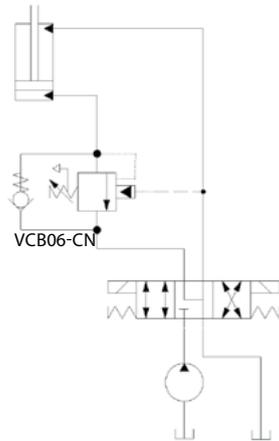
DIMENSIONS

mm [in]

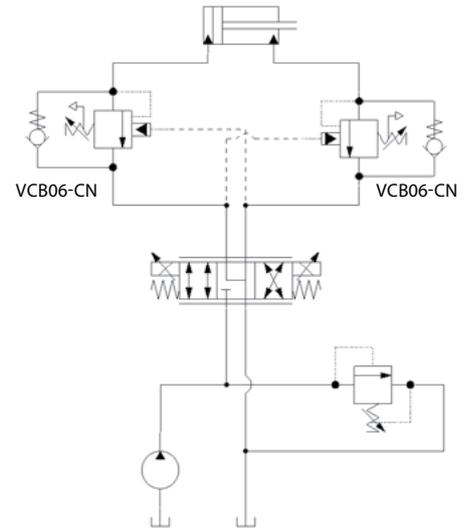


EXAMPLE CIRCUITS

Load Holding - Single Actuator



Counterbalance with Pressure Limiting



ORDERING INFORMATION

VCB06 - CN - 2 - A - 00 - B - XXX

VCB06-CN:
Counterbalance Valve, Pilot Port 1,
6 size (metric), internal adjustment,
atmospheric vent

Crack 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.)

Code	Pressure Range bar [psi]
1	25-140 [363-2030]
2	70 - 210 [1015-3045]
3	105 - 350 [1523-5075]

Code	Pilot Ratio
A	7:1:1
B	4:1:1

Code	Seal Material	Seal Kit
B	Buna-N	230000070
V	Viton	230000110

Housing & Ports	Housing Nomenclature
00: Cartridge Only	No Body
SE3B: AL, 3/8 BSP	NCS06-3-SE3B
SE4B: AL, 1/2 BSP	NCS06-3-SE4B
SE6S: AL, #6 SAE	NCS06-3-SE6S
SE6S: Steel, #6 SAE	NCS06-3-SE6S
SE8S: AL, #8 SAE	NCS06-3-SE8S