

Counterbalance, standard poppet type differential area Common cavity, Size 10

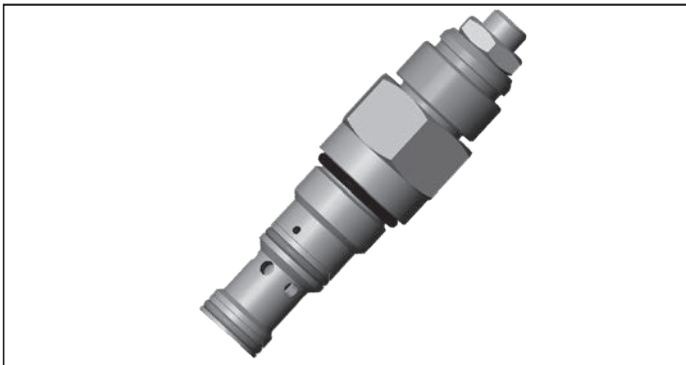
VBSN-10A

04.52.31 - X - 85 - Z

RE 18320-02

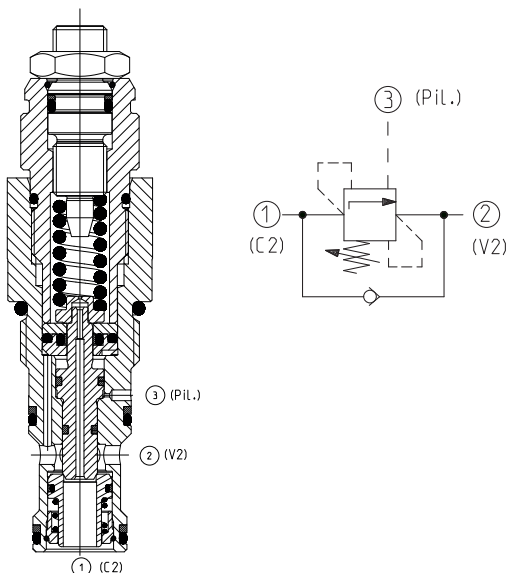
Edition: 07.2023

Replaces: 05.2022



Description

When pressure at 2 rises above the spring bias pressure, the check seat is pushed away from the piston and flow is allowed from 2 to 1. When load pressure at 1 rises above the pressure setting, the direct-acting, differential area relief function is activated and flow is relieved from 1 to 2. With pilot pressure at 3, the pressure setting is reduced in proportion to the stated ratio of the valve, until fully open with free-flow from 1 to 2. The spring chamber is drained to 2, and any back-pressure at 2 is additive to the pressure setting in all functions. Valve design prevents spring going solid and complete unscrewing during adjusting.



Technical data

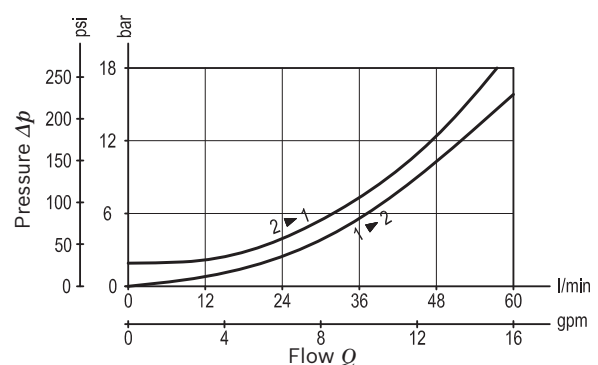
Max. operating pressure	350 bar (5000 psi)
Max. flow	60 l/min (16 gpm)
Max. internal leakage ¹⁾	15 drops/min.
Fluid temperature range	-30 to 100 °C (-22 to 212 °F)
Installation torque	41 - 47 Nm (30 - 35 ft-lbs)
Weight	0.2 kg (0.44 lbs)
MTTFD	150 years see RE 18350-51
Cavity	CA-10A-3C (see data sheet 18325-70)
Adjustment	according to ISO 4413 with sealed adjustment screw to prevent oil leakage during adjustment
Salt spray test	500h according to DIN EN ISO 9227:2017-07
Lines bodies and standard assemblies	Please refer to section "Hydraulic integrated circuit" or consult factory
Seal kit ²⁾	Code: RG10A9010520100 material no: R901111367
Fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
Recommended degree of fluid contamination	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/14
Installation position	No restrictions
Other Technical Data	See data sheet 18350-50

Pressure setting: at least 1.3 times the load induced pressure and maximum 1.5 times catalogue max nominal setting.

1) At 70% of pressure setting

2) Only external seals for 10 valves

Characteristic curve



Ordering code

04.52.31	X	85	Z	*	*
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Counterbalance,
standard poppet type, differential area

Series M to Z
unchanged performances and dimensions

00 Standard (Buna)
V0 Viton (FKM)

Pilot ratio

03 3:1

10 8:1

31 1.5:1

Without sealed pilot piston.

85 Common cavity, Size 10

		SPRINGS		
		Adj. press. range bar (psi)	Pressure increase bar/turn (psi/turn)	Std. setting bar (psi) Q=5 l/min
for X= 03	20	70-210 (1000-3000)	135 (1958)	200 (2900)
	35	140-350 (2000-5000)	196 (2842)	350 (5000)
for X= 10	20	70-210 (1000-3000)	52 (754)	200 (2900)
	35	140-350 (2000-5000)	89 (1291)	350 (5000)
for X= 31	35	140-350 (2000-5000)	89 (1291)	350 (5000)

Note: Special settings available with optional tamperproof cap.
Contact factory authorized representative for ordering code.

Preferred types

Type	Material number
04523131853500M	R930080592
04523103852000M	R930081264
04523103853500M	R930081266
04523110852000M	R930081267

Type	Material number
04523110853500M	R930081268

Dimensions

Technical drawing of the VBSN-10A counterbalance valve. The drawing shows a side view of the valve with various dimensions and hex specifications. The main body has a diameter of 17.47 mm (0.69 inches). The pilot port has a diameter of 19.05 mm (0.75 inches). The valve is threaded with 7/8-16 UNF-2A. The hex specifications are: Hex 5 (0.2), Hex 16 (0.63) (17 ft-lb), Hex 27 (1.06), and Hex 15 Nm (17 ft-lb). The overall height is 52.5 mm (2.08 inches) and the pilot port height is 51.5 mm (2.02 inches). The pilot port diameter is 8 mm (0.32 inches).

OPTION
Protection cap orange
Mat. no. R900168151

Tamper proof cap black
Mat. no. R930092782