

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

VBSN-10A

04.52.31 - X - 85 - Z

**RE 18320-02**

Edition: 01.2021

Replaces: 06.2019



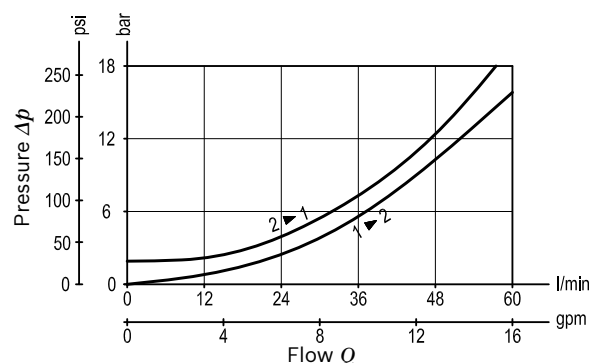
**Technical data**

Max. operating pressure	350 bar (5000 psi)
Max. flow	60 l/min (16 gpm)
Max. internal leakage <sup>1)</sup>	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 <sup>2)</sup>	Code: RG10A9010520100 material no: R901111367
Fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm <sup>2</sup> /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.

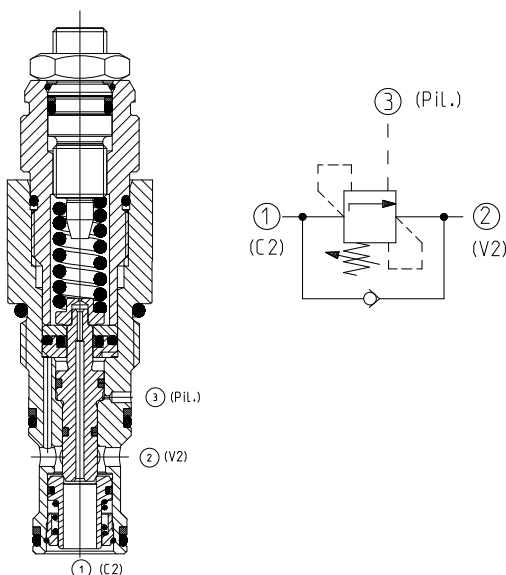
- 1) At 70% of pressure setting
- 2) Only external seals for 10 valves

**Characteristic curve**



**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.



**Ordering code**

<b>04.52.31</b>	<b>X</b>	<b>85</b>	<b>Z</b>	<b>*</b>	<b>*</b>
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Counterbalance,  
standard poppet type, differential area

Pilot ratio

**03** 3:1

**10** 8:1

**31** 1.5:1

Without sealed pilot piston.

**85** Common cavity, Size 10

Series M to Z  
unchanged performances and dimensions

**00** Standard (Buna)  
**V0** Viton (FKM)

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

**OPTION 1**  
Protection cap orange  
Mat. no. R900168151

**OPTION 2**  
Tamperproof cap red (without  
Rexroth logo)  
Mat. no. R93xxxxxxx

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