robucon pneumatiek-hydrauliek

Rexroth
Bosch Group
Sales Partner

Remventielen
Balanceer ventielen
Cartridge uitvoering

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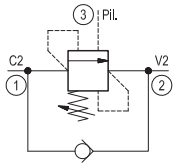
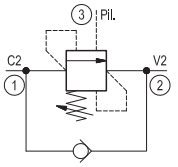
Mechanical - Counterbalance

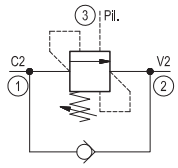
Standard guided poppet type

Symbol	Type	Max. Pressure bar (psi)	Max. Flow l/min. (gpm)	Cavity	Data Sheet	Page
	VBSN-08AA	350 (5000)	30 (8)	CA-08A-3C	18320-01	173

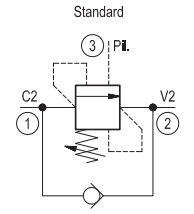
Standard guided poppet type counterclockwise adjustment

Symbol	Type	Max. Pressure bar (psi)	Max. Flow l/min. (gpm)	Cavity	Data Sheet	Page
	VBSN-08UU-RS	280 (4000)	30 (8)	T-11A	18320-16	175

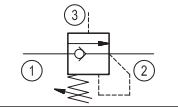
Standard poppet type differential area

Symbol	Type	Max. Pressure bar (psi)	Max. Flow l/min. (gpm)	Cavity	Data Sheet	Page
	VBSN-10A	350 (5000)	60 (16)	CA-10-3C	18320-02	177
	VBSN-12A	350 (5000)	120 (32)	CA-12A-3C	18320-03	181
	VBSN-16A	350 (5000)	200 (53)	CA-16A-3C	18320-04	185
	VBSN-20A	350 (5000)	320 (85)	CA-20A-3C	18320-05	189

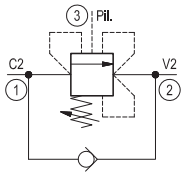
Standard poppet type differential area counterclockwise adjustment

Symbol	Type	Max. Pressure bar (psi)	Max. Flow l/min. (gpm)	Cavity	Data Sheet	Page
	VBSN-08U-RS	350 (5000)	60 (16)	T-11A	18320-17	179
	VBSN-12U-RS	350 (5000)	120 (32)	T-2A	18320-18	183
	VBSN-16U-RS	420 (6000)	240 (63)	T-17A	18320-19	187
	VBSN-25U-RS	350 (5000)	480 (127)	T-19A	18320-29	191

Standard poppet type zero differential area

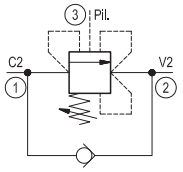
Symbol	Type	Max. Pressure bar (psi)	Max. Flow l/min. (gpm)	Cavity	Data Sheet	Page
	VBSZ-20A	350 (5000)	320 (85)	CA-20A-3C	18319-99	193

Relief compensated guided poppet type

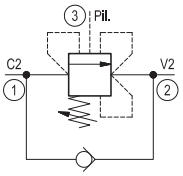
Symbol	Type	Max. Pressure bar (psi)	Max. Flow l/min. (gpm)	Cavity	Data Sheet	Page
	VBSP-08AA	350 (5000)	30 (8)	CA-08A-3C	18320-06	195

Mechanical - Counterbalance

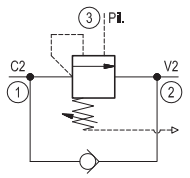
Relief compensated poppet type differential area

Symbol	Type	Max. Pressure bar (psi)	Max. Flow l/min. (gpm)	Cavity	Data Sheet	Page
	VBSP-10A	350 (5000)	60 (16)	CA-10A-3C	18320-07	197
	VBSP-12A	350 (5000)	120 (32)	CA-12A-3C	18320-08	201
	VBSP-16A	350 (5000)	200 (53)	CA-16A-3C	18320-09	205
	VBSP-20A	350 (5000)	320 (85)	CA-20A-3C	18320-10	209

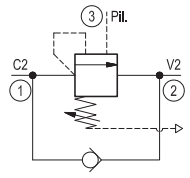
Relief compensated poppet type differential area counterclockwise adjustment

Symbol	Type	Max. Pressure bar (psi)	Max. Flow l/min. (gpm)	Cavity	Data Sheet	Page
	VBSP-08U-RS	350 (5000)	60 (16)	T-11A	18320-20	199
	VBSP-12U-RS	350 (5000)	120 (32)	T-2A	18320-21	203
	VBSP-16U-RS	420 (6000)	240 (63)	T-17A	18320-22	207
	VBSP-25U-RS	350 (5000)	480 (127)	T-19A	18320-30	211

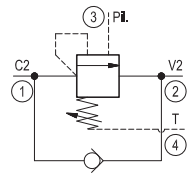
Vented guided poppet type

Symbol	Type	Max. Pressure bar (psi)	Max. Flow l/min. (gpm)	Cavity	Data Sheet	Page
	VBST-08AA	350 (5000)	30 (8)	CA-08A-3C	18320-11	213
	VBST-10A	350 (5000)	60 (16)	CA-10A-3C	18320-12	215
	VBST-12A	350 (5000)	120 (32)	CA-12A-3C	18320-13	219
	VBST-16A	350 (5000)	200 (53)	CA-16A-3C	18320-14	223
	VBST-20A	350 (5000)	320 (85)	CA-20A-3C	18320-15	227

Vented guided poppet type counterclockwise adjustment

Symbol	Type	Max. Pressure bar (psi)	Max. Flow l/min. (gpm)	Cavity	Data Sheet	Page
	VBST-08U-RS	350 (5000)	60 (16)	T-11A	18320-23	217
	VBST-12U-RS	350 (5000)	120 (32)	T-2A	18320-24	221
	VBST-16U-RS	350 (5000)	240 (63)	T-17A	18320-25	225

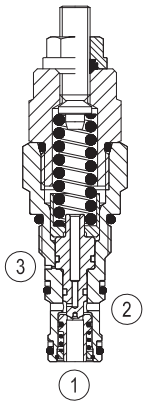
4 ports vented poppet type external drain counterclockwise adjustment

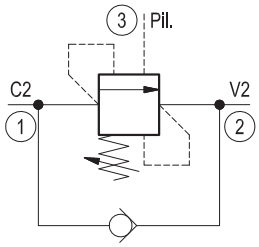
Symbol	Type	Max. Pressure bar (psi)	Max. Flow l/min. (gpm)	Cavity	Data Sheet	Page
	VBSY-08U-RS	350 (5000)	60 (16)	T-21A	18320-26	229
	VBSY-12U-RS	350 (5000)	120 (32)	T-22A	18320-27	231
	VBSY-16U-RS	350 (5000)	240 (63)	T-23A	18320-28	233

Counterbalance, standard guided poppet type

Common cavity, Size 08

VBSN-08AA 04.52.20 - X - 56 - Z

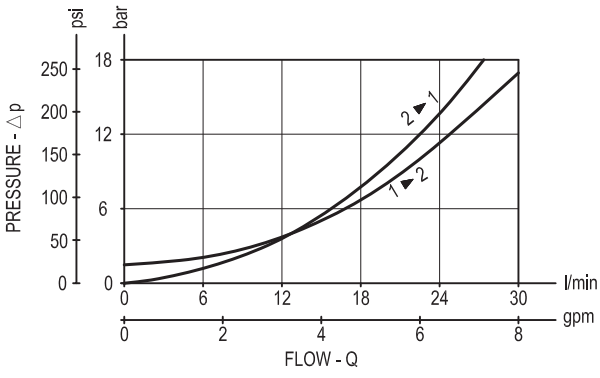




Description

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, relief function is activated and flow is relieved from 1 to 2. With pilot pressure at 3, thepressure 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.

Performance



Technical data

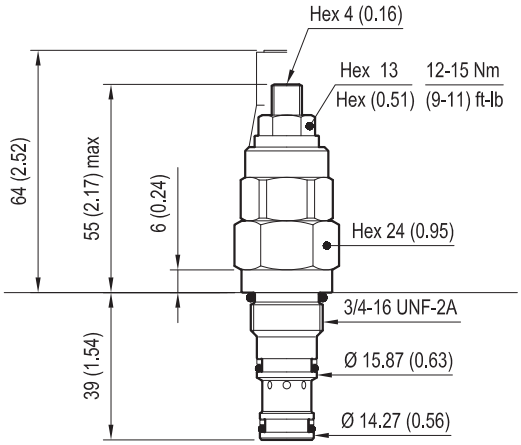
Max. operating pressure	bar (psi)	350 (5000)
Max. flow	l/min. (gpm)	30 (8)
Max. internal leakage (*)	drops/min.	15
Fluid temperature range	°C (°F)	-30 to 100 (-22 to 212)
Installation torque	Nm (ft-lbs)	34-41 (25-30)
Weight	kg (lbs)	0.18 (0.4)
Cavity		CA-08A-3C see data sheet RE 18325-70
Seal kit (**)	code material no.	RG08A9010520100 R901101592
Fluids		Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm^2/s (cSt)
Filtration		Nominal value max. 10µm (NAS 8) ISO 4406 19/17/14
Installation		No restrictions
Other Technical Data		See data sheet RE 18350-50

Pressure setting: at least 1.3 times the load induced pressure.

(*) At 70% of pressure setting

(**) Only external seals for 10 valves

Dimensions



OPTION
Tamper resistant cap
ordering code **11.04.23.002**
Mat. no. **R930000752**

mm (Inches)

Ordering code

04.52.20	X	56	Z	00	*

Series 0/A to L
unchanged performances and dimensions

Counterbalance,
standard guided poppet type

Version and options standard

Pilot ratio

= **03** 4:1

= **33** 4:1 With sealed pilot (for Z=20 only)

Common cavity, Size 08

	SPRINGS		
	Adj. press. range bar (psi)	Pressure increase bar/turn (psi/turn)	Std. setting bar (psi) Q=5 l/min
= **15**	70-150 (1000-2200)	72.5 (1051)	150 (2200)
= **20**	100-210 (1450-3000)	109 (1581)	200 (2900)
= **35**	200-350 (2900-5000)	137 (1987)	350 (5000)

Note: Special settings available. Contact factory authorized representative for ordering code

Type	Material number
045220035615000	R901161990
045220035620000	R901095960
045220035635000	R901095961
04522033562000A	R930006428

Type	Material number

Bosch Rexroth Oil Control S.p.A.
Via Leonardo da Vinci 5
P.O. Box no. 5
41015 Nonantola – Modena, Italy
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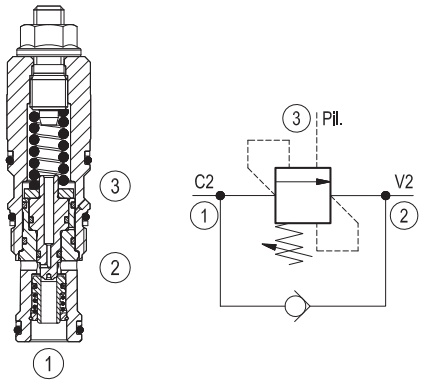
Fax +39 059 547 848
cartridges@oilcontrol.com
www.boschrexroth.com

Counterbalance, standard guided poppet type, counterclockwise adjustment

SUN cavity interchange, T-11A

VBSN-08UU-RS

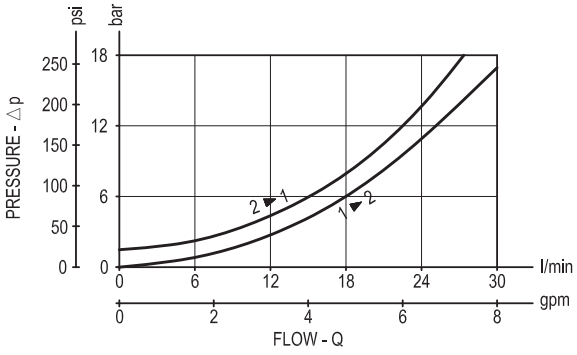
04.52.42 - X - 20 - Z



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 (turn counterclockwise to increase setting - turn clockwise to decrease setting), the direct-acting, 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.

Performance



Technical data

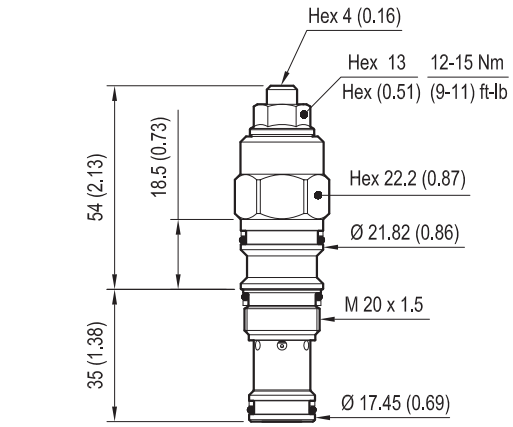
Max. operating pressure	bar (psi)	280 (4000)
Max. flow	l/min. (gpm)	30 (8)
Max. internal leakage (*)	drops/min.	15
Fluid temperature range	°C (°F)	-30 to 100 (-22 to 212)
Installation torque	Nm (ft-lbs)	40-50 (30-37)
Weight	kg (lbs)	0.18 (0.4)
Cavity		SUN T-11A
Seal kit (**)	code material no.	RG08U9020110100 R901193388
Fluids		Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm^2/s (cSt)
Filtration		Nominal value max. 10µm (NAS 8) ISO 4406 19/17/14
Installation		No restrictions
Other Technical Data		See data sheet RE 18350-50

Pressure setting: at least 1.3 times the load induced pressure.

(*) At 70% of pressure setting

(**) Only external seals for 10 valves

Dimensions



Turn adjustment clockwise to decrease setting and release load

mm (Inches)

Ordering code

04.52.42	X	20	Z	00	*

Series 0/A to L
unchanged performances and dimensions

Counterbalance, standard
guided poppet type,
counterclockwise adjustment

Version and options standard

	SPRINGS		
	Standard setting bar (psi)	Pres. increase bar/turn (psi/turn)	Cracking pressure bar (psi)
= 20	70-280 (1000-4000)	124 (1798)	210 (3000)

Pilot ratio

= 10 4:1

= 37 9:1

Note: Special settings available. Contact factory authorized representative for ordering code

SUN cavity interchange, SUN T-11A

Type	Material number
045242102020000	R930006107
045242372020000	R930006108

Type	Material number

Bosch Rexroth Oil Control S.p.A.
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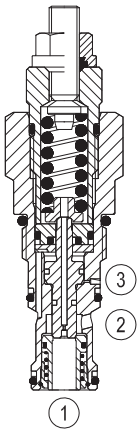
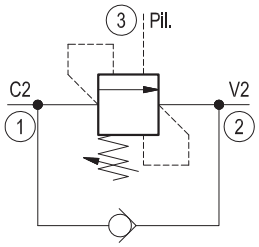
cartridges@oilcontrol.com
www.boschrexroth.com

Counterbalance, standard poppet type differential area

Common cavity, Size 10

VBSN-10A 04.52.31 - X - 85 - Z

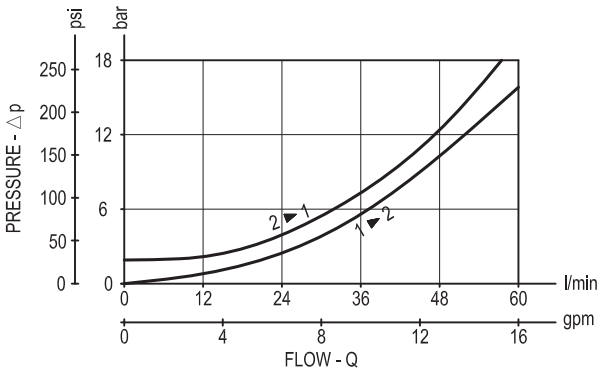




Description

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.

Performance



Technical data

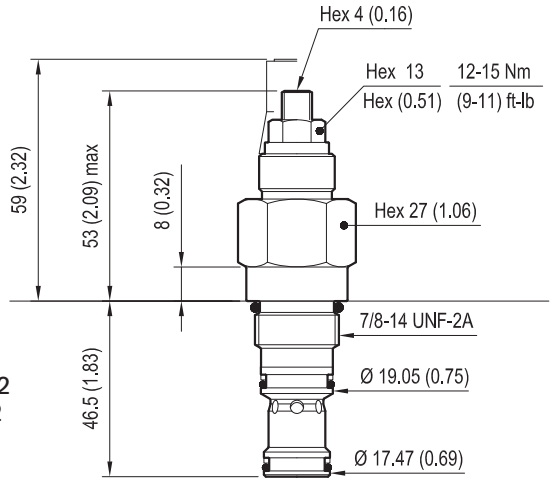
Max. operating pressure	bar (psi)	350 (5000)
Max. flow	l/min. (gpm)	60 (16)
Max. internal leakage (*)	drops/min.	15
Fluid temperature range	°C (°F)	-30 to 100 (-22 to 212)
Installation torque	Nm (ft-lbs)	41-47 (30-35)
Weight	kg (lbs)	0.2 (0.44)
Cavity		CA-10A-3C see data sheet RE 18325-70
Seal kit (**)	code material no.	RG10A9010520100 R901111367
Fluids		Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm^2/s (cSt)
Filtration		Nominal value max. 10µm (NAS 8) ISO 4406 19/17/14
Installation		No restrictions
Other Technical Data		See data sheet RE 18350-50

Pressure setting: at least 1.3 times the load induced pressure.

(*) At 70% of pressure setting

(**) Only external seals for 10 valves

Dimensions



OPTION
Tamper resistant cap
ordering code **11.04.23.002**
Mat. no. **R930000752**

mm (Inches)

Ordering code

04.52.31	X	85	Z	00	*

Series 0/A to L
unchanged performances and dimensions

Counterbalance, standard poppet type differential area

Version and options standard

Pilot ratio
= 03 3:1
= 10 8:1

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)

Note: Special settings available. Contact factory authorized representative for ordering code

Type	Material number
04523103852000A	R901096029
04523103853500A	R901096037
04523110852000A	R901096038
04523110853500A	R901096041

Type	Material number

Bosch Rexroth Oil Control S.p.A.
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Fax +39 059 547 848
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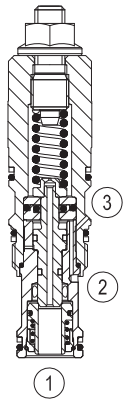
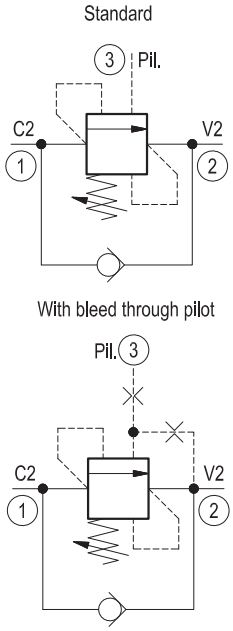
Counterbalance, standard poppet type, differential area, counterclockwise adjustment

SUN cavity interchange, T-11A

VBSN-08U-RS

04.52.43 - X - 20 - Z

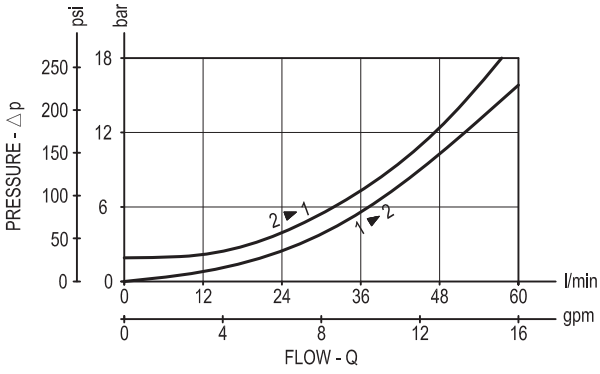




Description

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 (turn counterclockwise to increase setting - turn clockwise to decrease 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. Any back-pressure at 2 is additive to the pressure setting in all functions.

Performance



Technical data

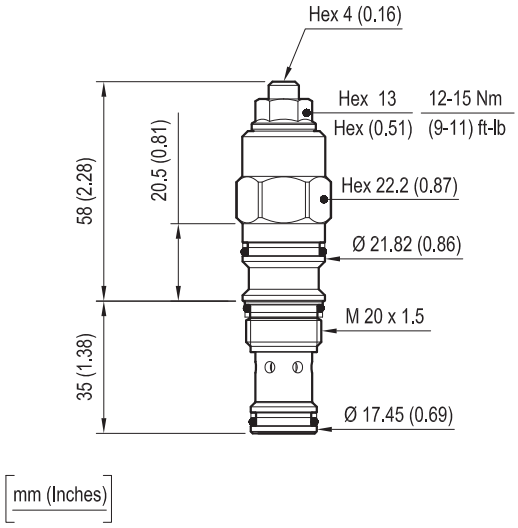
Max. operating pressure	bar (psi)	350 (5000)
Max. flow	l/min. (gpm)	60 (16)
Max. internal leakage (*)	drops/min.	15
Fluid temperature range	°C (°F)	-30 to 100 (-22 to 212)
Installation torque	Nm (ft-lbs)	40-50 (30-37)
Weight	kg (lbs)	0.19 (0.42)
Cavity		SUN T-11A
Seal kit (**)	code material no.	RG08U9020110100 R901193388
Fluids		Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm^2/s (cSt)
Filtration		Nominal value max. 10µm (NAS 8) ISO 4406 19/17/14
Installation		No restrictions
Other Technical Data		See data sheet RE 18350-50

Pressure setting: at least 1.3 times the load induced pressure.

(*) At 70% of pressure setting

(**) Only external seals for 10 valves

Dimensions



mm (Inches)

Turn adjustment clockwise to decrease setting and release load

Ordering code

04.52.43	X	20	Z	00	*

Series 0/A to L
unchanged performances and dimensions

Counterbalance, standard poppet type, differential area, counterclockwise adjustment

Version and options standard

Pilot ratio

= 03 3:1 standard version

= 10 8:1 standard version

= 31 1.5:1 with bleed through pilot

SUN cavity interchange, SUN T-11A

		SPRINGS		
		Standard setting bar (psi)	Pres. increase bar/turn (psi/turn)	Cracking pressure bar (psi)
for X=03	= 10	35-105 (500-1500)	26 (377)	70 (1000)
	= 20	70-210 (1000-3000)	106 (1537)	200 (2900)
	= 35	140-350 (2000-5000)	165 (2393)	350 (5000)
for X=10	= 20	70-210 (1000-3000)	40 (580)	200 (2900)
	= 35	140-350 (2000-5000)	70 (1015)	350 (5000)
for X=31	= 20	70-210 (1000-3000)	106 (1537)	200 (2900)
	= 35	140-350 (2000-5000)	165 (2393)	350 (5000)

Note: Special settings available. Contact factory authorized representative for ordering code

Type	Material number
045243032010000	R930006109
045243032020000	R930006110
045243032035000	R930006111
045243102020000	R930006112
045243102035000	R930006113

Type	Material number
045243312020000	R930006114
045243312035000	R930006115

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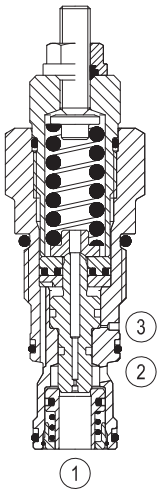
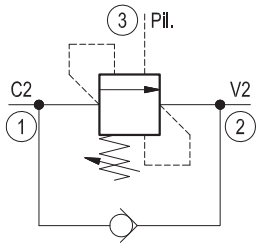
RE 18320-03/01.10 1/2
Replaces: RE 00162-02/01.06

Counterbalance, standard poppet type differential area

Common cavity, Size 12

VBSN-12A 04.52.28 - X - 57 - Z

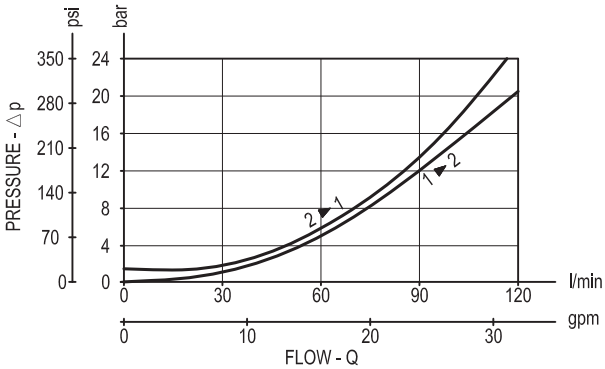




Description

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. Withpilot 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.

Performance



Technical data

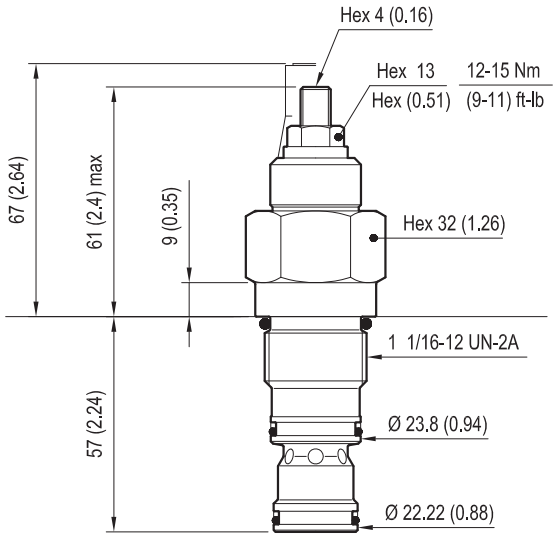
Max. operating pressure	bar (psi)	350 (5000)
Max. flow	l/min. (gpm)	120 (32)
Max. internal leakage (*)	drops/min.	15
Fluid temperature range	°C (°F)	-30 to 100 (-22 to 212)
Installation torque	Nm (ft-lbs)	81-95 (60-70)
Weight	kg (lbs)	0.39 (0.86)
Cavity		CA-12A-3C see data sheet RE 18325-70
Seal kit (**)	code material no.	RG12A9010520100 R901111379
Fluids		Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm^2/s (cSt)
Filtration		Nominal value max. 10µm (NAS 8) ISO 4406 19/17/14
Installation		No restrictions
Other Technical Data		See data sheet RE 18350-50

Pressure setting: at least 1.3 times the load induced pressure.

(*) At 70% of pressure setting

(**) Only external seals for 10 valves

Dimensions



OPTION
Tamper resistant cap
ordering code **11.04.23.002**
Mat. no. **R930000752**

mm (Inches)

Ordering code

04.52.28	X	57	Z	00	*

Series 0/A to L
unchanged performances and dimensions

Counterbalance, standard poppet type differential area

Version and options standard

Pilot ratio

= 03 4:1

= 10 8:1

Common cavity, Size 12

		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)	50 (725)	200 (2900)
	= 35	140-350 (2000-5000)	159 (2306)	350 (5000)
for X=10	= 20	70-210 (1000-3000)	42 (609)	200 (2900)
	= 35	140-350 (2000-5000)	67 (972)	350 (5000)

Note: Special settings available. Contact factory authorized representative for ordering code

Type	Material number
045228035720000	R901096043
045228035735000	R901096044
045228105720000	R901096045
045228105735000	R901096046

Type	Material number

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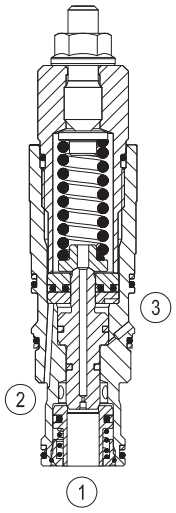
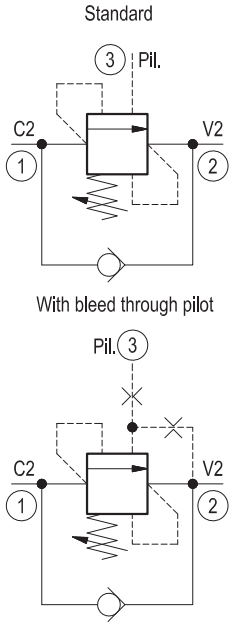
Counterbalance, standard poppet type, differential area, counterclockwise adjustment

SUN cavity interchange, T-2A

VBSN-12U-RS

04.52.44 - X - 86 - Z

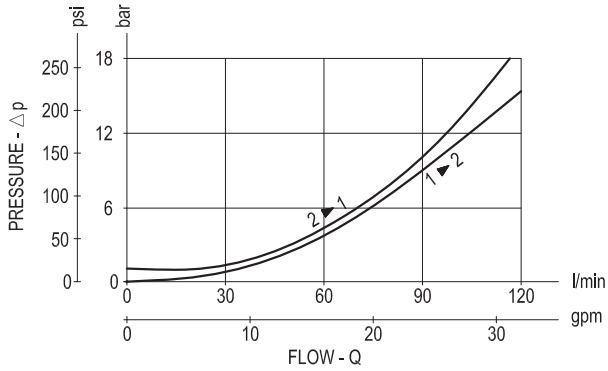




Description

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 (turn counterclockwise to increase setting - turn clockwise to decrease 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. Any back-pressure at 2 is additive to the pressure setting in all functions.

Performance



Technical data

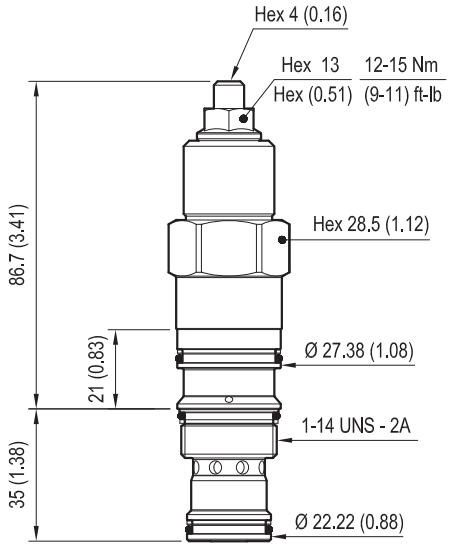
Max. operating pressure	bar (psi)	350 (5000)
Max. flow	l/min. (gpm)	120 (32)
Max. internal leakage (*)	drops/min.	15
Fluid temperature range	°C (°F)	-30 to 100 (-22 to 212)
Installation torque	Nm (ft-lbs)	60-70 (44-52)
Weight	kg (lbs)	0.37 (0.82)
Cavity		SUN T-2A
Seal kit (**)	code material no.	RG12U9020110100 R930005599
Fluids		Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm^2/s (cSt)
Filtration		Nominal value max. 10µm (NAS 8) ISO 4406 19/17/14
Installation		No restrictions
Other Technical Data		See data sheet RE 18350-50

Pressure setting: at least 1.3 times the load induced pressure.

(*) At 70% of pressure setting

(**) Only external seals for 10 valves

Dimensions



Turn adjustment clockwise to decrease setting and release load

mm (Inches)

Ordering code

04.52.44	X	86	Z	00	*

Series 0/A to L
unchanged performances and dimensions

Counterbalance, standard poppet type, differential area, counterclockwise adjustment

Version and options standard

Pilot ratio

= 03 4:1 standard version

= 10 8:1 standard version

= 42 2:1 with bleed through pilot

SUN cavity interchange, SUN T-2A

		SPRINGS		
		Standard setting bar (psi)	Pres. increase bar/turn (psi/turn)	Cracking pressure bar (psi)
for X=03	= 20	70-210 (1000-3000)	40 (580)	200 (2900)
	= 35	140-350 (2000-5000)	125 (1813)	350 (5000)
for X=10	= 20	70-210 (1000-3000)	53 (769)	200 (2900)
	= 35	140-350 (2000-5000)	79 (1146)	350 (5000)
for X=42	= 20	70-210 (1000-3000)	40 (580)	200 (2900)
	= 35	140-350 (2000-5000)	125 (1813)	350 (5000)

Note: Special settings available. Contact factory authorized representative for ordering code

Type	Material number
045244038620000	R930006116
045244038635000	R930006117
045244108620000	R930006118
045244108635000	R930006119
045244428620000	R930006120

Type	Material number
045244428635000	R930006121

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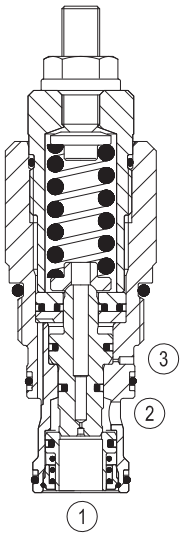
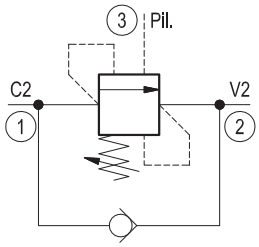
Counterbalance, standard poppet type differential area

Common cavity, Size 16

VBSN-16A 04.52.29 - X - 27 - Z

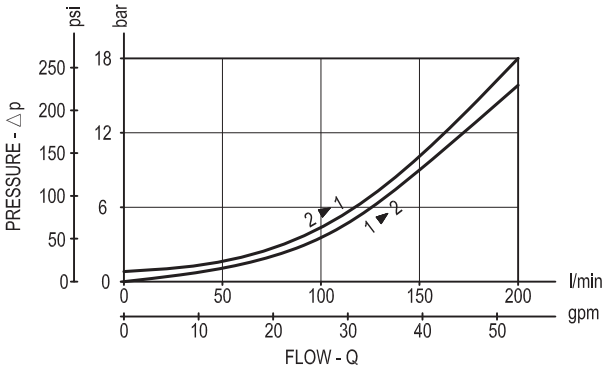




Description

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. Thespring chamber is drained to 2, and any back-pressure at 2 is additive to the pressure setting in all functions.

Performance



Technical data

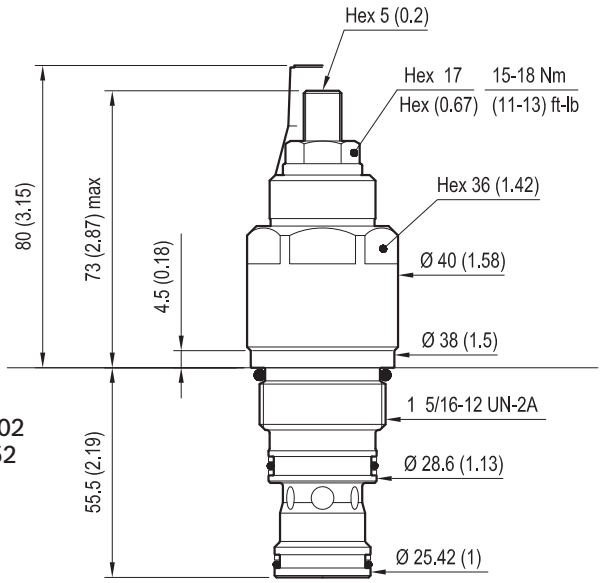
Max. operating pressure	bar (psi)	350 (5000)
Max. flow	l/min. (gpm)	200 (53)
Max. internal leakage (*)	drops/min.	15
Fluid temperature range	°C (°F)	-30 to 100 (-22 to 212)
Installation torque	Nm (ft-lbs)	108-122 (80-90)
Weight	kg (lbs)	0.82 (1.81)
Cavity		CA-16A-3C see data sheet RE 18325-70
Seal kit (**)	code material no.	RG16A9010530100 R930001200
Fluids		Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm^2/s (cSt)
Filtration		Nominal value max. 10µm (NAS 8) ISO 4406 19/17/14
Installation		No restrictions
Other Technical Data		See data sheet RE 18350-50

Pressure setting: at least 1.3 times the load induced pressure.

(*) At 70% of pressure setting

(**) Only external seals for 10 valves

Dimensions



OPTION
Tamper resistant cap
ordering code **11.04.23.002**
Mat. no. **R930000752**

mm (Inches)

Ordering code

04.52.29	X	27	Z	00	*

Series 0/A to L
unchanged performances and dimensions

Counterbalance, standard
poppet type differential area

Version and options standard

Pilot ratio

= 03 4:1

= 10 8:1

Common cavity, Size 16

		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)	40 (580)	200 (2900)
	= 35	140-350 (2000-5000)	82 (1189)	350 (5000)
for X=10	= 20	70-210 (1000-3000)	39 (566)	200 (2900)
	= 40	140-420 (2000-6000)	85 (1233)	350 (5000)

Note: Special settings available. Contact factory authorized representative for ordering code

Type	Material number
045229032720000	R901096047
045229032735000	R901096048
045229102720000	R930000797
045229102740000	R901096049

Type	Material number

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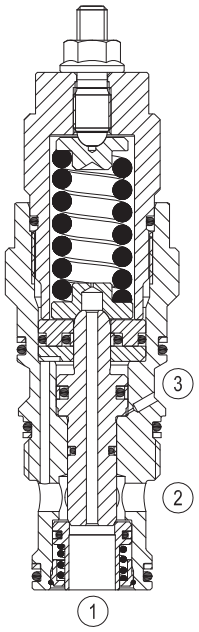
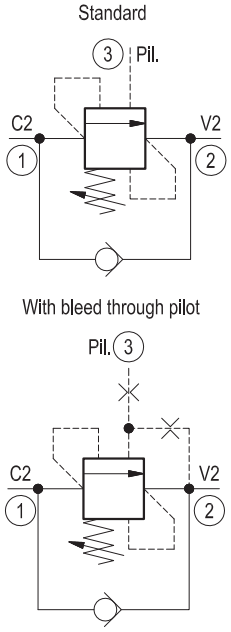
RE 18320-19/01.10 1/2
Replaces: RE 00162-02/01.06

Counterbalance, standard poppet type, differential area, counterclockwise adjustment

SUN cavity interchange, T-17A

VBSN-16U-RS 04.52.45 - X - 47 - Z

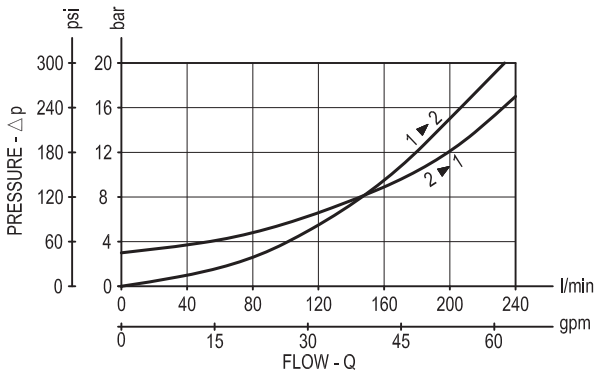




Description

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 (turn counterclockwise to increase setting - turn clockwise to decrease 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. Any back-pressure at 2 is additive to the pressure setting in all functions.

Performance



Technical data

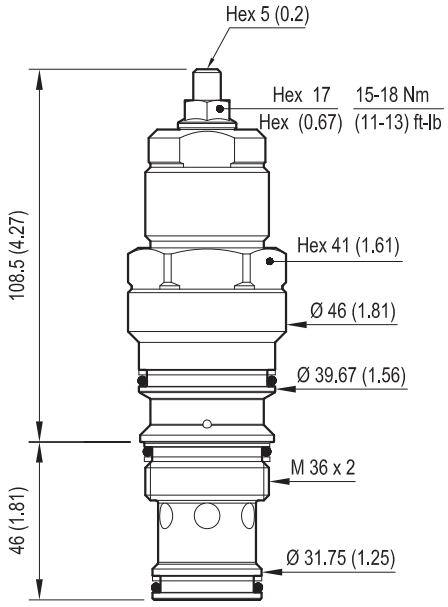
Max. operating pressure	bar (psi)	420 (6000)
Max. flow	l/min. (gpm)	240 (63)
Max. internal leakage (*)	drops/min.	15
Fluid temperature range	°C (°F)	-30 to 100 (-22 to 212)
Installation torque	Nm (ft-lbs)	200-215 (148-159)
Weight	kg (lbs)	0.8 (1.76)
Cavity		SUN T-17A
Seal kit (**)	code material no.	RG16U9020110100 R930000995
Fluids		Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm^2/s (cSt)
Filtration		Nominal value max. 10µm (NAS 8) ISO 4406 19/17/14
Installation		No restrictions
Other Technical Data		See data sheet RE 18350-50

Pressure setting: at least 1.3 times the load induced pressure.

(*) At 70% of pressure setting

(**) Only external seals for 10 valves

Dimensions



Turn adjustment clockwise to decrease setting and release load

mm (Inches)

Ordering code

04.52.45	X	47	Z	00	*

Series 0/A to L
unchanged performances and dimensions

Counterbalance, standard poppet type, differential area, counterclockwise adjustment

Version and options standard

Pilot ratio

= 03 4:1 standard version

= 10 8:1 standard version

= 42 2:1 with bleed through pilot

SUN cavity interchange, SUN T-17A

		SPRINGS		
		Standard setting bar (psi)	Pres. increase bar/turn (psi/turn)	Cracking pressure bar (psi)
for X=03	= 20	70-280 (1000-4000)	80 (1160)	200 (2900)
	= 40	200-420 (2900-6000)	118 (1711)	350 (5000)
for X=10	= 20	70-280 (1000-4000)	49 (711)	200 (2900)
	= 40	200-420 (2900-6000)	77 (1117)	350 (5000)
for X=42	= 20	70-280 (1000-4000)	80 (1160)	200 (2900)
	= 40	200-420 (2900-6000)	118 (1711)	350 (5000)

Note: Special settings available. Contact factory authorized representative for ordering code

Type	Material number
045245034720000	R930000051
045245034740000	R930000052
045245104720000	R930000053
045245104740000	R930000054
045245424720000	R930000055

Type	Material number
045245424740000	R930000056

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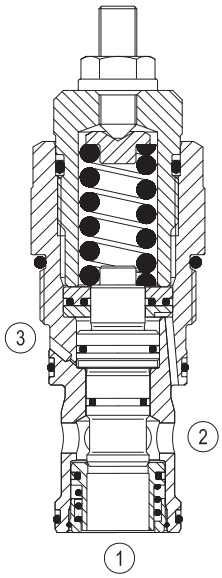
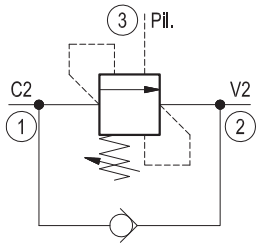
Counterbalance, standard poppet type differential area

Common cavity, Size 20

VBSN-20A 04.52.25 - X - 58 - Z

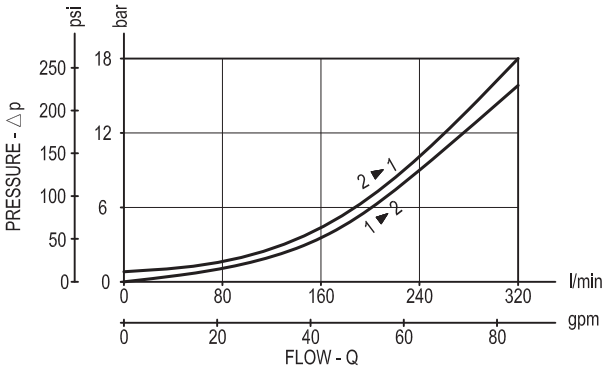




Description

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.

Performance



Technical data

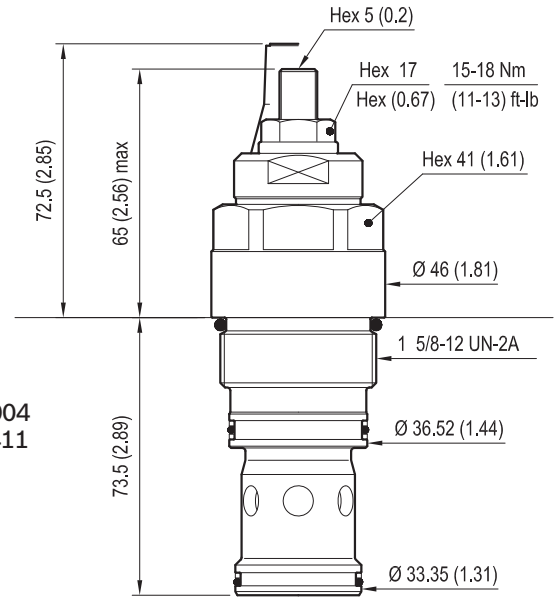
Max. operating pressure	bar (psi)	350 (5000)
Max. flow	l/min. (gpm)	320 (85)
Max. internal leakage (*)	drops/min.	15
Fluid temperature range	°C (°F)	-30 to 100 (-22 to 212)
Installation torque	Nm (ft-lbs)	128-149 (95-110)
Weight	kg (lbs)	1.12 (2.5)
Cavity		CA-20A-3C see data sheet RE 18325-70
Seal kit (**)	code material no.	RG20A9010530100 R901111397
Fluids		Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm^2/s (cSt)
Filtration		Nominal value max. 10µm (NAS 8) ISO 4406 19/17/14
Installation		No restrictions
Other Technical Data		See data sheet RE 18350-50

Pressure setting: at least 1.3 times the load induced pressure.

(*) At 70% of pressure setting

(**) Only external seals for 10 valves

Dimensions



OPTION
Tamper resistant cap
ordering code **11.04.23.004**
Mat. no. **R930001411**

mm (Inches)

Ordering code

04.52.25	X	58	Z	00	*

Series 0/A to L
unchanged performances and dimensions

Counterbalance, standard poppet type differential area

Version and options standard

Pilot ratio

= 03 4:1

= 10 8:1

Common cavity, Size 20

		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)	70 (1015)	200 (2900)
	= 35	140-350 (2000-5000)	108 (1566)	350 (5000)
for X=10	= 20	70-210 (1000-3000)	70 (1015)	200 (2900)
	= 40	140-420 (2000-6000)	135 (1958)	350 (5000)

Note: Special settings available. Contact factory authorized representative for ordering code

Type	Material number
045225035820000	R901096052
045225035835000	R901096053
045225105820000	R930000852
045225105840000	R901096057

Type	Material number

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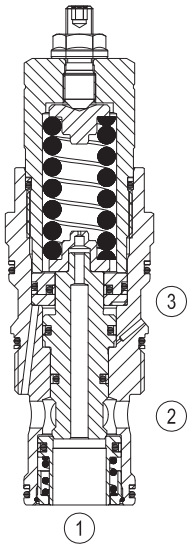
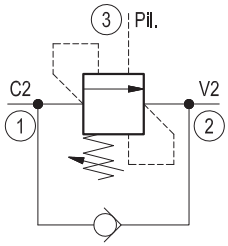
Counterbalance, standard poppet type, differential area, counterclockwise adjustment

SUN cavity interchange, T-19A

VBSN-25U-RS 04.52.46 - X - 50 - Z

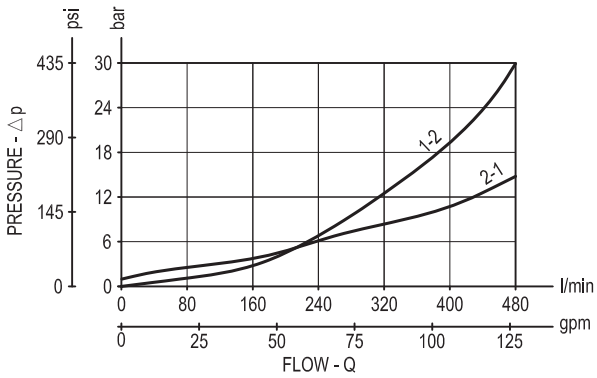




Description

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 (turn counterclockwise to increase setting - turn clockwise to decrease 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. Any back-pressure at 2 is additive to the pressure setting in all functions.

Performance



Technical data

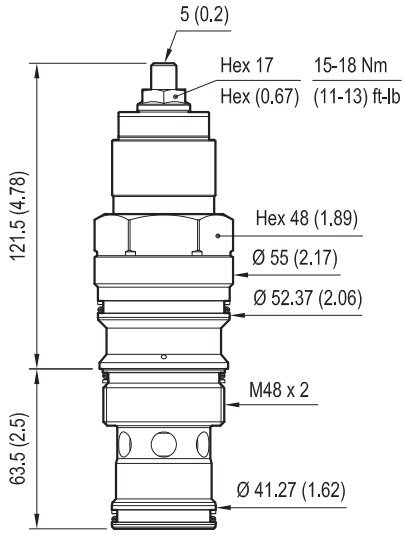
Max. operating pressure	bar (psi)	350 (5000)
Max. flow	l/min. (gpm)	480 (127)
Max. internal leakage (*)	drops/min.	15
Fluid temperature range	°C (°F)	-30 to 100 (-22 to 212)
Installation torque	Nm (ft-lbs)	475-500 (352-370)
Weight	kg (lbs)	1.7 (3.7)
Cavity		SUN T-19A
Seal kit (**)	code material no.	RG25U9020110100 R930006268
Fluids		Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm^2/s (cSt)
Filtration		Nominal value max. 10µm (NAS 8) ISO 4406 19/17/14
Installation		No restrictions
Other Technical Data		See data sheet RE 18350-50

Pressure setting: at least 1.3 times the load induced pressure.

(*) At 70% of pressure setting

(**) Only external seals for 10 valves

Dimensions



Turn adjustment clockwise to decrease setting and release load

mm (Inches)

Ordering code

04.52.46	X	50	Z	00	*

Series 0/A to L
unchanged performances and dimensions

Counterbalance, standard poppet type, differential area, counterclockwise adjustment

Version and options standard

Pilot ratio

= 25 5:1 standard version

		SPRINGS		
		Standard setting bar (psi)	Presure increase bar/turn (psi/turn)	Cracking pressure bar (psi)
for X=25	= 35	70-350 (1000-5000)	99 (1436)	350 (5000)

Note: Special settings available. Contact factory authorized representative for ordering code

SUN cavity interchange, T-19A

Type	Material number
045246255035000	R930006253

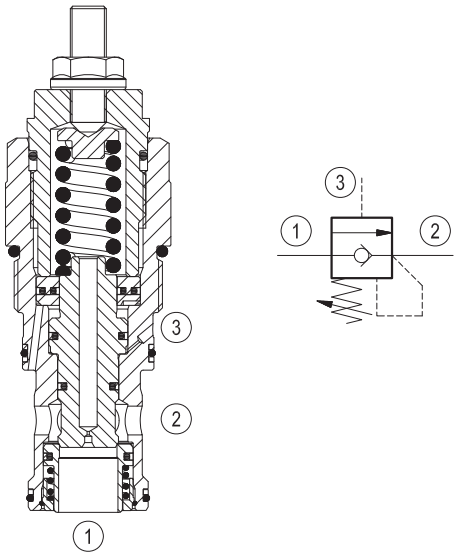
Type	Material number

Bosch Rexroth Oil Control S.p.A.
Via Leonardo da Vinci 5
P.O. Box no. 5
41015 Nonantola – Modena, Italy
Tel. +39 05 98 87 611
Fax +39 05 95 47 848
cartridges@oilcontrol.com
www.boschrexroth.com

Counterbalance, standard poppet type zero differential area

Common cavity, Size 20

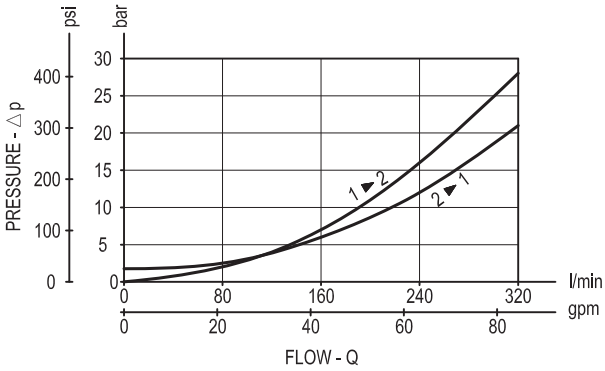
VBSZ-20A 04.52.41 - X - 58 - Z



Description

When pressure at 2 rises above the check spring bias pressure, the seat is pushed away from the piston and flow is allowed from 2 to 1. Reverse flow is locked, unless the pilot pressure at 3 rises above the piston spring bias pressure (adjustable). Any back-pressure at 2 is additive to the pressure setting.

Performance

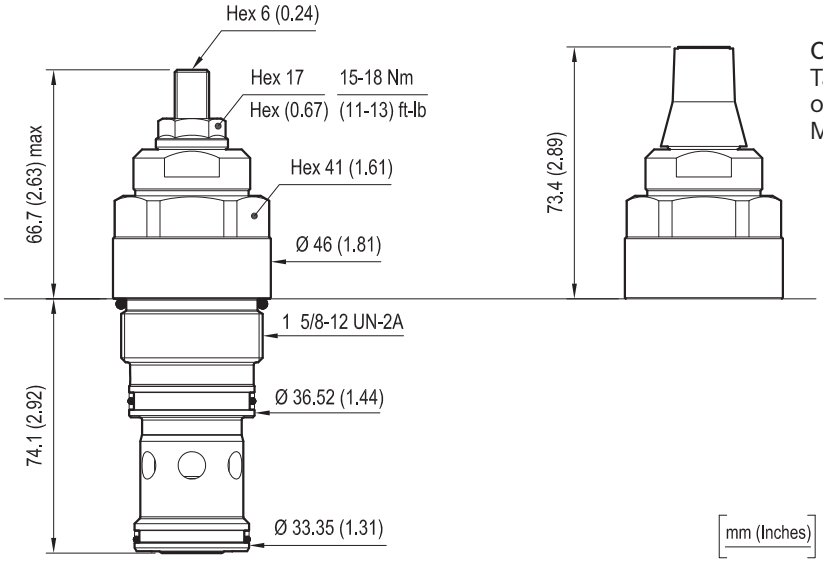


Technical data

Max. operating pressure	bar (psi)	350 (5000)
Max. flow	l/min. (gpm)	320 (85)
Max. internal leakage (*)	drops/min.	15
Fluid temperature range	°C (°F)	-30 to 100 (-22 to 212)
Installation torque	Nm (ft-lbs)	128-149 (95-110)
Weight	kg (lbs)	1.12 (2.5)
Cavity		CA-20A-3C see data sheet RE 18325-70
Seal kit	code material no.	RG20A9010530100 R901111397
Fluids		Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm^2/s (cSt)
Filtration		Nominal value max. 10µm (NAS 8) ISO 4406 19/17/14
Installation		No restrictions
Other Technical Data		See data sheet RE 18350-50

(*) At 70% of pressure setting

Dimensions



OPTION
Tamper resistant cap
ordering code **11.04.23.004**
Mat. no. **R930001411**

Ordering code

04.54.41	X	58	Z	00	*

Series 0/A to L
unchanged performances and dimensions

Counterbalance, standard
poppet type zero differential area

Version and options standard

O-Ring on pilot piston

= 27 With O-Ring

Common cavity, Size 20

	SPRINGS		
	Adj. press. range bar (psi)	Pressure increase bar/turn (psi/turn)	Cracking pressure bar (psi)
= 20	10-30 (145-450)	10 (145)	15 (220)

Type	Material number
045241275820000	R930000844

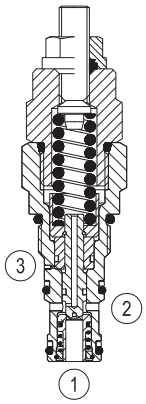
Type	Material number

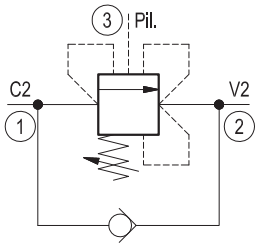
Bosch Rexroth Oil Control S.p.A.
Via Leonardo da Vinci 5
P.O. Box no. 5
41015 Nonantola – Modena, Italy
Tel. +39 059 887 611
Fax +39 059 547 848
cartridges@oilcontrol.com
www.boschrexroth.com

Counterbalance, relief compensated guided poppet type

Common cavity, Size 08

VBSP-08AA 04.54.04 - X - 56 - Z

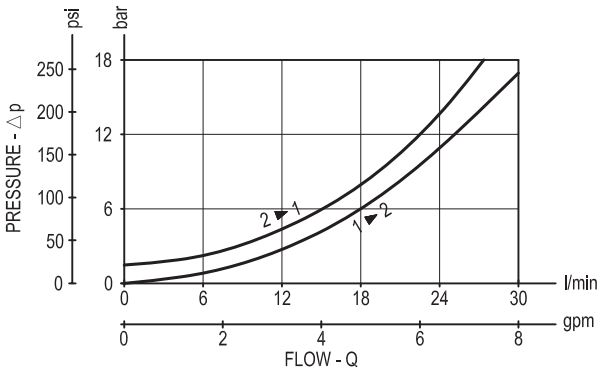




Description

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, relief function is activated and flow is relieved from 1 to 2. With pilot pressure at 3, thepressure 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. The valve applies a balanced piston design allowing relief operation at the valve setting independent of back-pressureat 2.However, the piloted opening of the valve remains subject to additive pressure at port 2.

Performance



Technical data

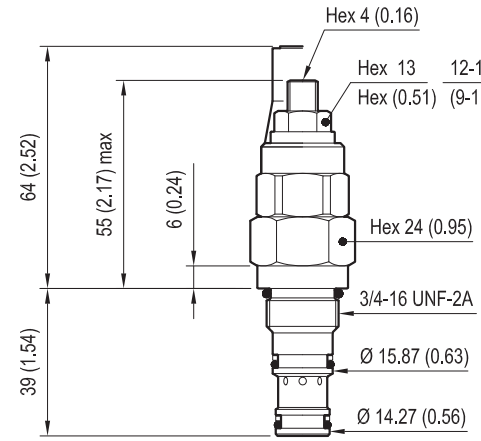
Max. operating pressure	bar (psi)	350 (5000)
Max. flow	l/min. (gpm)	30 (8)
Max. internal leakage (*)	drops/min.	15
Fluid temperature range	°C (°F)	-30 to 100 (-22 to 212)
Installation torque	Nm (ft-lbs)	34-41 (25-30)
Weight	kg (lbs)	0.18 (0.4)
Cavity		CA-08A-3C see data sheet RE 18325-70
Seal kit (**)	code material no.	RG08A9010520100 R901101592
Fluids		Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm^2/s (cSt)
Filtration		Nominal value max. 10µm (NAS 8) ISO 4406 19/17/14
Installation		No restrictions
Other Technical Data		See data sheet RE 18350-50

Pressure setting: at least 1.3 times the load induced pressure.

(*) At 70% of pressure setting

(**) Only external seals for 10 valves

Dimensions



mm (Inches)

OPTION
Tamper resistant cap
ordering code **11.04.23.002**
Mat. no. **R930000752**

Ordering code

04.54.04	X	56	Z	00	*

Series 0/A to L
unchanged performances and dimensions

Counterbalance, relief
compensated guided poppet type

Version and options standard

Pilot ratio

= 03 4:1

Common cavity, Size 08

	SPRINGS		
	Adj. press. range bar (psi)	Pressure increase bar/turn (psi/turn)	Std. setting bar (psi) Q=5 l/min
= 20	100-210 (1450-3000)	109 (1581)	200 (2900)
= 35	200-350 (2900-5000)	137 (1987)	350 (5000)

Note: Special settings available. Contact factory authorized representative for ordering code

Type	Material number
045404035620000	R901096058
045404035635000	R901096059

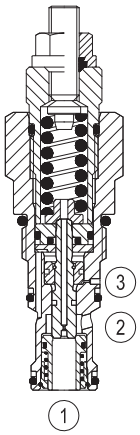
Type	Material number

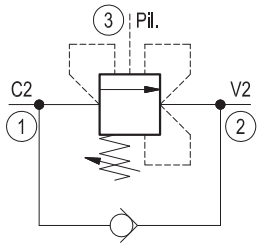
Bosch Rexroth Oil Control S.p.A.
Via Leonardo da Vinci 5
P.O. Box no. 5
41015 Nonantola – Modena, Italy
Tel. +39 059 887 611
Fax +39 059 547 848
cartridges@oilcontrol.com
www.boschrexroth.com

Counterbalance, relief compensated poppet type differential area

Common cavity, Size 10

VBSP-10A 04.54.09 - X - 85 - Z

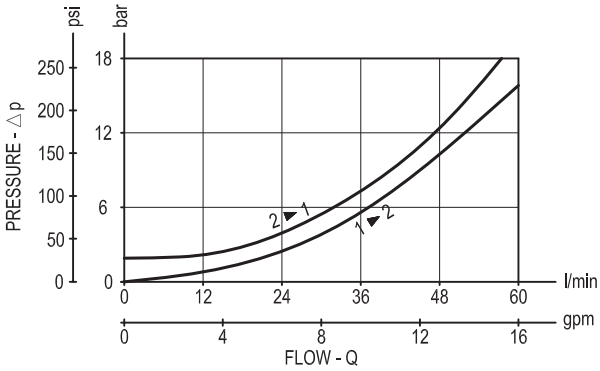




Description

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. Withpilot 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. The valve applies a balanced piston design allowing relief operation at the valve settingindependentofback-pressure at 2. However, the piloted opening of the valve remains subject to additive pressure at port 2.

Performance



Technical data

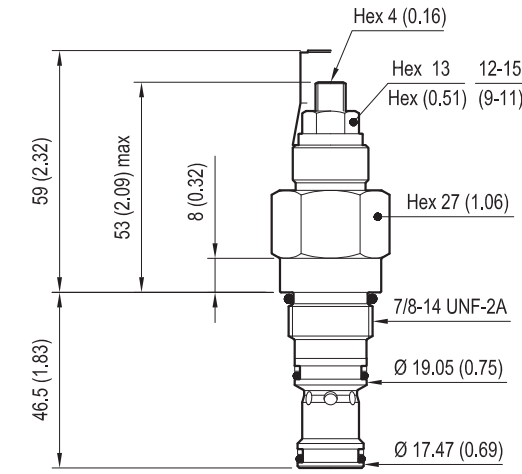
Max. operating pressure	bar (psi)	350 (5000)
Max. flow	l/min. (gpm)	60 (16)
Max. internal leakage (*)	drops/min.	15
Fluid temperature range	°C (°F)	-30 to 100 (-22 to 212)
Installation torque	Nm (ft-lbs)	41-47 (30-35)
Weight	kg (lbs)	0.2 (0.44)
Cavity		CA-10A-3C see data sheet RE 18325-70
Seal kit (**)	code material no.	RG10A9010520100 R901111367
Fluids		Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm^2/s (cSt)
Filtration		Nominal value max. 10µm (NAS 8) ISO 4406 19/17/14
Installation		No restrictions
Other Technical Data		See data sheet RE 18350-50

Pressure setting: at least 1.3 times the load induced pressure.

(*) At 70% of pressure setting

(**) Only external seals for 10 valves

Dimensions



OPTION
Tamper resistant cap
ordering code **11.04.23.002**
Mat. no. **R930000752**

mm (Inches)

Ordering code

04.54.09	X	85	Z	00	*

Series 0/A to L
unchanged performances and dimensions

Counterbalance, relief compensated
poppet type differential area

Version and options standard

Pilot ratio

= 03 3:1

Common cavity, Size 10

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

Note: Special settings available. Contact factory authorized representative for ordering code

Type	Material number
04540903852000A	R901096060
04540903853500A	R901096062

Type	Material number

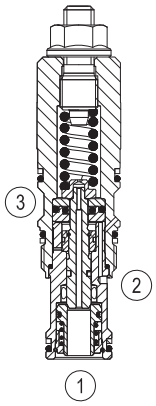
Bosch Rexroth Oil Control S.p.A.
Via Leonardo da Vinci 5
P.O. Box no. 5
41015 Nonantola – Modena, Italy
Tel. +39 059 887 611
Fax +39 059 547 848
cartridges@oilcontrol.com
www.boschrexroth.com

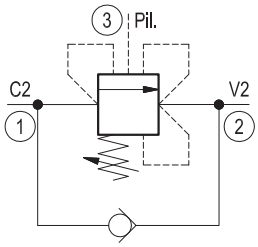
Counterbalance, relief compensated poppet type differential area, counterclockwise adjustment

SUN cavity interchange, T-11A

VBSP-08U-RS

04.54.15 - X - 20 - Z

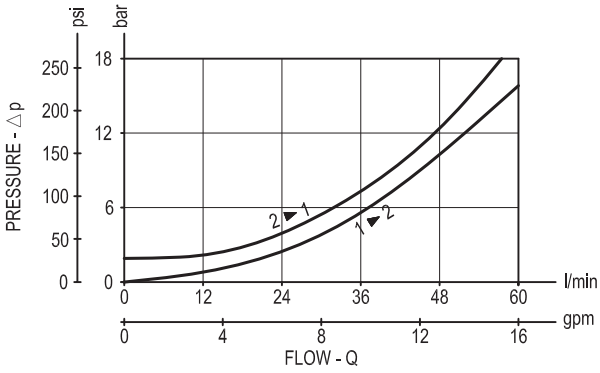




Description

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 (turn counterclockwise to increase setting - turn clockwise to decrease 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 valve applies a balanced piston design allowing relief operation at the valve setting independent of back-pressure at 2. However, the piloted opening of the valve remains subject to additive pressure at port 2.

Performance



Technical data

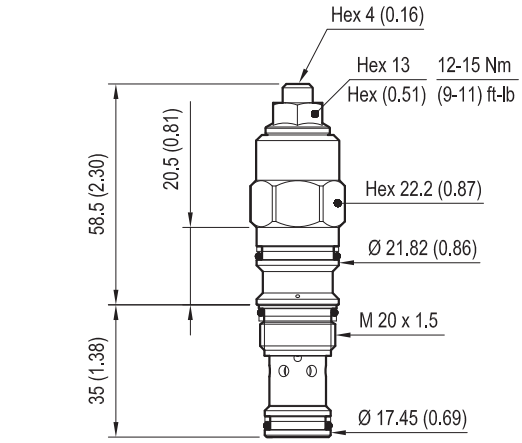
Max. operating pressure	bar (psi)	350 (5000)
Max. flow	l/min. (gpm)	60 (16)
Max. internal leakage (*)	drops/min.	15
Fluid temperature range	°C (°F)	-30 to 100 (-22 to 212)
Installation torque	Nm (ft-lbs)	40-50 (30-37)
Weight	kg (lbs)	0.19 (0.42)
Cavity		SUN T-11A
Seal kit (**)	code material no.	RG08U9020110100 R901193388
Fluids		Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm^2/s (cSt)
Filtration		Nominal value max. 10µm (NAS 8) ISO 4406 19/17/14
Installation		No restrictions
Other Technical Data		See data sheet RE 18350-50

Pressure setting: at least 1.3 times the load induced pressure.

(*) At 70% of pressure setting

(**) Only external seals for 10 valves

Dimensions



Turn adjustment clockwise to decrease setting and release load

Ordering code

04.54.15	X	20	Z	00	*

Series 0/A to L
unchanged performances and dimensions

Counterbalance, relief compensated poppet type differential area, counterclockwise adjustment

Version and options standard

Pilot ratio

= 03 3:1

SUN cavity interchange, T-11A

	SPRINGS		
	Adj. press. range bar (psi)	Pressure increase bar/turn (psi/turn)	Cracking pressure bar (psi)
= 20	70-210 (1000-3000)	106 (1537)	200 (2900)
= 35	140-350 (2000-5000)	165 (2393)	350 (5000)

Note: Special settings available. Contact factory authorized representative for ordering code

Type	Material number
045415032020000	R930006122
045415032035000	R930006123

Type	Material number

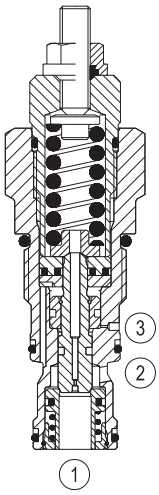
Bosch Rexroth Oil Control S.p.A.
Via Leonardo da Vinci 5
P.O. Box no. 5
41015 Nonantola – Modena, Italy
Tel. +39 05 98 87 611
Fax +39 05 95 47 848
cartridges@oilcontrol.com
www.boschrexroth.com

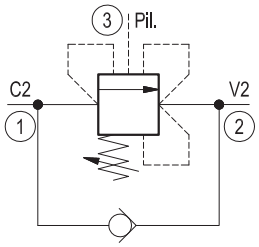
Counterbalance, relief compensated poppet type differential area

Common cavity, Size 12

VBSP-12A

04.54.08 - X - 57 - Z

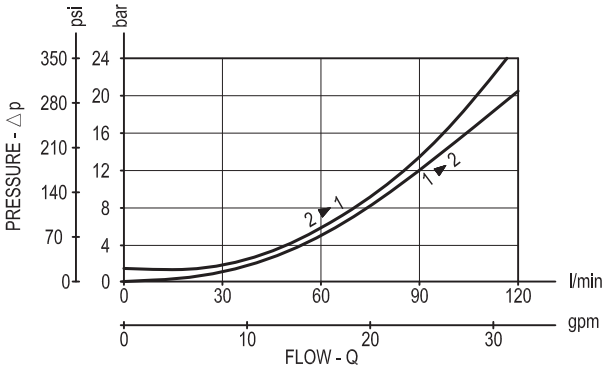




Description

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 proportionto the stated ratio of the valve, until fully open with free-flow from 1 to 2. The spring chamber is drained to 2. The valve applies a balanced piston design allowing relief operation at the valve setting independent ofback-pressure at 2. However, the piloted opening of the valve remains subject to additive pressure at port 2.

Performance



Technical data

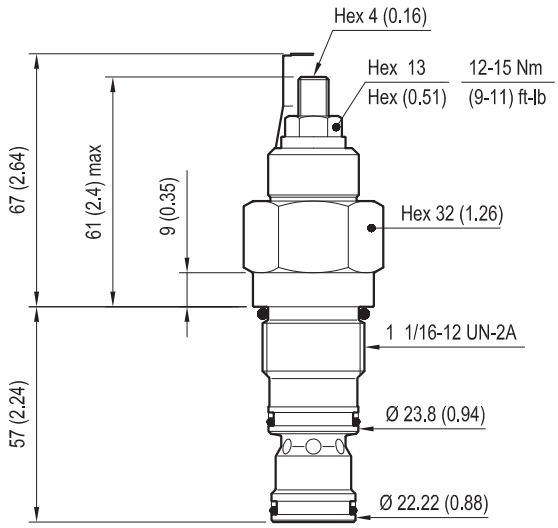
Max. operating pressure	bar (psi)	350 (5000)
Max. flow	l/min. (gpm)	120 (32)
Max. internal leakage (*)	drops/min.	15
Fluid temperature range	°C (°F)	-30 to 100 (-22 to 212)
Installation torque	Nm (ft-lbs)	81-95 (60-70)
Weight	kg (lbs)	0.39 (0.86)
Cavity		CA-12A-3C see data sheet RE 18325-70
Seal kit (**)	code material no.	RG12A9010520100 R901111379
Fluids		Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm^2/s (cSt)
Filtration		Nominal value max. 10µm (NAS 8) ISO 4406 19/17/14
Installation		No restrictions
Other Technical Data		See data sheet RE 18350-50

Pressure setting: at least 1.3 times the load induced pressure.

(*) At 70% of pressure setting

(**) Only external seals for 10 valves

Dimensions



OPTION
Tamper resistant cap
ordering code **11.04.23.002**
Mat. no. **R930000752**

mm (Inches)

Ordering code

04.54.08	X	57	Z	00	*

Series 0/A to L
unchanged performances and dimensions

Counterbalance, relief compensated poppet type differential area

Version and options standard

Pilot ratio

= 03 4:1

Common cavity, Size 12

	SPRINGS		
	Adj. press. range bar (psi)	Pressure increase bar/turn (psi/turn)	Std. setting bar (psi) Q=5 l/min
= 20	70-210 (1000-3000)	50 (725)	200 (2900)
= 35	140-350 (2000-5000)	159 (2306)	350 (5000)

Note: Special settings available. Contact factory authorized representative for ordering code

Type	Material number
045408035720000	R901096063
045408035735000	R901096064

Type	Material number

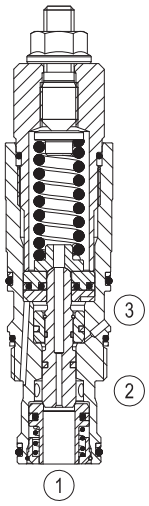
Bosch Rexroth Oil Control S.p.A.
Via Leonardo da Vinci 5
P.O. Box no. 5
41015 Nonantola – Modena, Italy
Tel. +39 059 887 611
Fax +39 059 547 848
cartridges@oilcontrol.com
www.boschrexroth.com

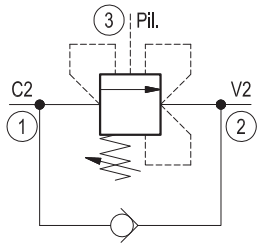
Counterbalance, relief compensated poppet type differential area, counterclockwise adjustment

SUN cavity interchange, T-2A

VBSP-12U-RS

04.54.16 - X - 86 - Z

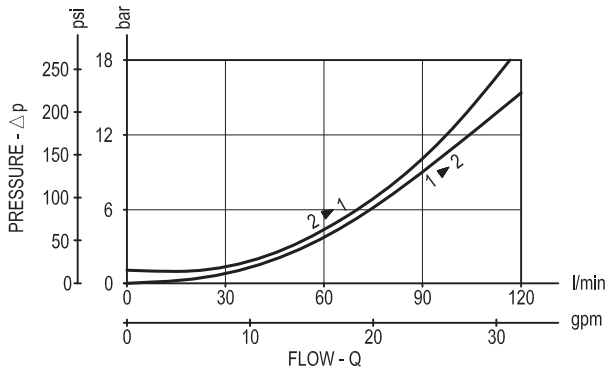




Description

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 (turn counterclockwise to increase setting - turn clockwise to decrease 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 valve applies a balanced piston design allowing relief operation at the valve setting independent of back-pressure at 2. However, the piloted opening of the valve remains subject to additive pressure at port 2.

Performance



Technical data

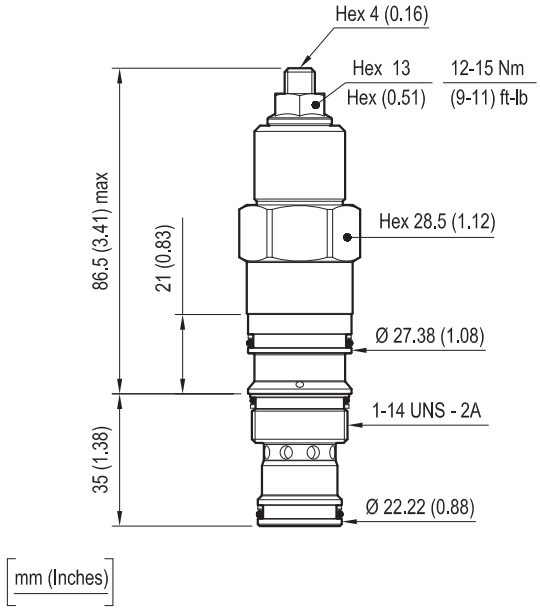
Max. operating pressure	bar (psi)	350 (5000)
Max. flow	l/min. (gpm)	120 (32)
Max. internal leakage (*)	drops/min.	15
Fluid temperature range	°C (°F)	-30 to 100 (-22 to 212)
Installation torque	Nm (ft-lbs)	60-70 (44-52)
Weight	kg (lbs)	0.37 (0.82)
Cavity		SUN T-2A
Seal kit (**)	code material no.	RG12U9020110100 R930005599
Fluids		Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm^2/s (cSt)
Filtration		Nominal value max. 10µm (NAS 8) ISO 4406 19/17/14
Installation		No restrictions
Other Technical Data		See data sheet RE 18350-50

Pressure setting: at least 1.3 times the load induced pressure.

(*) At 70% of pressure setting

(**) Only external seals for 10 valves

Dimensions



Turn adjustment clockwise to decrease setting and release load

Ordering code

04.54.16	X	86	Z	00	*

Counterbalance, relief compensated poppet type differential area counterclockwise adjustment

Pilot ratio

= 03 4:1

SUN cavity interchange, T-2A

Series 0/A to L
unchanged performances and dimensions

Version and options standard

	SPRINGS		
	Adj. press. range bar (psi)	Pressure increase bar/turn (psi/turn)	Cracking pressure bar (psi)
= 20	70-210 (1000-3000)	40 (580)	200 (2900)
= 35	140-350 (2000-5000)	125 (1813)	350 (5000)

Note: Special settings available. Contact factory authorized representative for ordering code

Type	Material number
045416038620000	R930006124
045416038635000	R930006125

Type	Material number

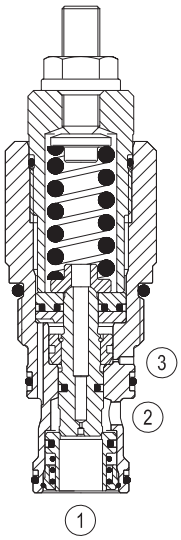
Bosch Rexroth Oil Control S.p.A.
Via Leonardo da Vinci 5
P.O. Box no. 5
41015 Nonantola – Modena, Italy
Tel. +39 05 98 87 611
Fax +39 05 95 47 848
cartridges@oilcontrol.com
www.boschrexroth.com

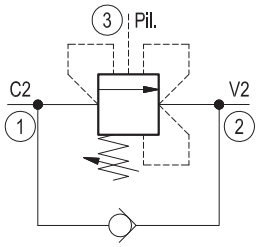
RE 18320-09/01.10 1/2
Replaces: RE 00162-02/01.06

Counterbalance, relief compensated poppet type differential area

Common cavity, Size 16

VBSP-16A 04.54.10 - X - 27 - Z

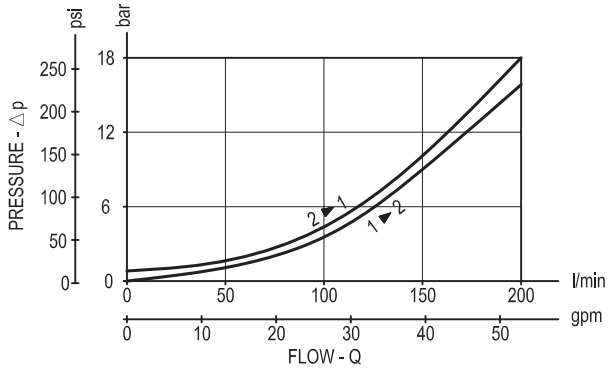




Description

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 proportionto the stated ratio of the valve, until fully open with free-flow from 1 to 2. The spring chamber is drained to 2. The valve applies a balanced piston design allowing relief operation at the valve setting independent ofback-pressure at 2. However, the piloted opening of the valve remains subject to additive pressure at port 2.

Performance



Technical data

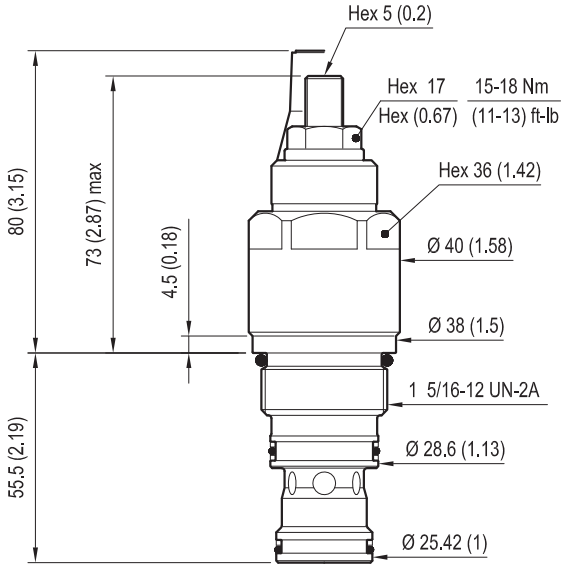
Max. operating pressure	bar (psi)	350 (5000)
Max. flow	l/min. (gpm)	200 (53)
Max. internal leakage (*)	drops/min.	15
Fluid temperature range	°C (°F)	-30 to 100 (-22 to 212)
Installation torque	Nm (ft-lbs)	108-122 (80-90)
Weight	kg (lbs)	0.82 (1.81)
Cavity		CA-16A-3C see data sheet RE 18325-70
Seal kit (**)	code material no.	RG16A9010530100 R930001200
Fluids		Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm^2/s (cSt)
Filtration		Nominal value max. 10µm (NAS 8) ISO 4406 19/17/14
Installation		No restrictions
Other Technical Data		See data sheet RE 18350-50

Pressure setting: at least 1.3 times the load induced pressure.

(*) At 70% of pressure setting

(**) Only external seals for 10 valves

Dimensions



OPTION
Tamper resistant cap
ordering code **11.04.23.004**
Mat. no. **R930001411**

mm (Inches)

Ordering code

04.54.10	X	27	Z	00	*

Series 0/A to L
unchanged performances and dimensions

Counterbalance, relief compensated poppet type differential area

Version and options standard

Pilot ratio

= 03 4:1

Common cavity, Size 16

	SPRINGS		
	Adj. press. range bar (psi)	Pressure increase bar/turn (psi/ turn)	Std. setting bar (psi) Q=5 l/min
= 20	70-210 (1000-3000)	70 (1015)	200 (2900)
= 35	140-350 (2000-5000)	108 (1566)	350 (5000)

Note: Special settings available. Contact factory authorized representative for ordering code

Type	Material number
045410032720000	R901109804
045410032735000	R901109805

Type	Material number

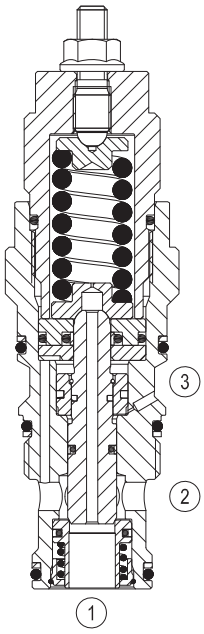
Bosch Rexroth Oil Control S.p.A.
Via Leonardo da Vinci 5
P.O. Box no. 5
41015 Nonantola – Modena, Italy
Tel. +39 059 887 611
Fax +39 059 547 848
cartridges@oilcontrol.com
www.boschrexroth.com

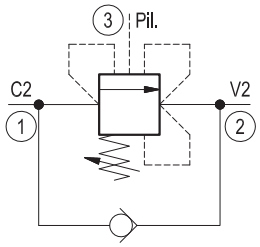
Counterbalance, relief compensated poppet type differential area, counterclockwise adjustment

SUN cavity interchange, T-17A

VBSP-16U-RS

04.54.17 - X - 47 - Z

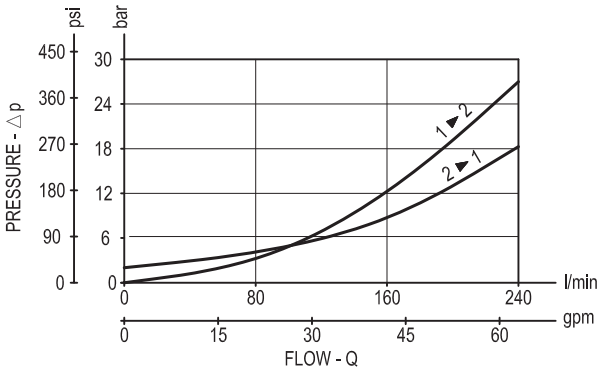




Description

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 (turn counterclockwise to increase setting - turn clockwise to decrease 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 valve applies a balanced piston design allowing relief operation at the valve setting independent of back-pressure at 2. However, the piloted opening of the valve remains subject to additive pressure at port 2.

Performance



Technical data

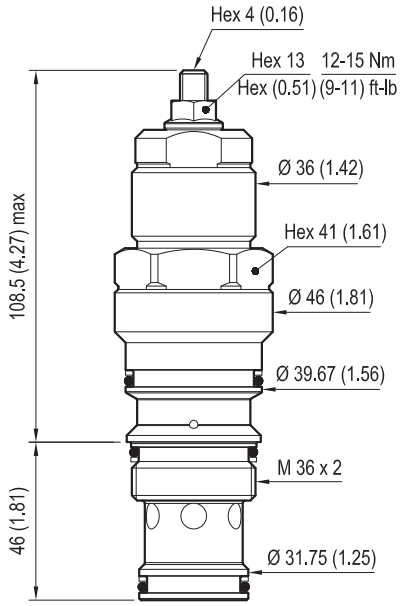
Max. operating pressure	bar (psi)	420 (6000)
Max. flow	l/min. (gpm)	240 (63)
Max. internal leakage (*)	drops/min.	15
Fluid temperature range	°C (°F)	-30 to 100 (-22 to 212)
Installation torque	Nm (ft-lbs)	200-215 (147-159)
Weight	kg (lbs)	0.8 (1.76)
Cavity		SUN T-17A
Seal kit (**)	code material no.	RG16U9020110100 R930000995
Fluids		Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm^2/s (cSt)
Filtration		Nominal value max. 10µm (NAS 8) ISO 4406 19/17/14
Installation		No restrictions
Other Technical Data		See data sheet RE 18350-50

Pressure setting: at least 1.3 times the load induced pressure.

(*) At 70% of pressure setting

(**) Only external seals for 10 valves

Dimensions



Turn adjustment clockwise to decrease setting and release load

mm (Inches)

Ordering code

04.54.17	X	47	Z	00	*

Series 0/A to L
unchanged performances and dimensions

Counterbalance, relief compensated poppet type differential area, counterclockwise adjustment

Version and options standard

Pilot ratio

= 03 4:1

SUN cavity interchange, T-17A

	SPRINGS		
	Adj. press. range bar (psi)	Pressure increase bar/turn (psi/turn)	Cracking pressure bar (psi)
= 20	70-280 (1000-4000)	80 (1160)	200 (2900)
= 40	200-420 (2900-6000)	118 (1711)	350 (5000)

Note: Special settings available. Contact factory authorized representative for ordering code

Type	Material number
045417034720000	R930000059
045417034740000	R930000060

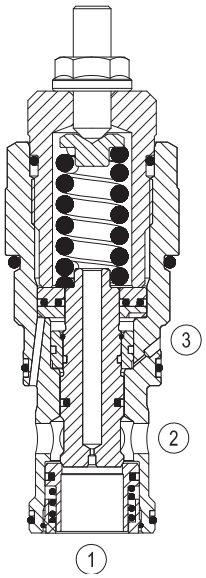
Type	Material number

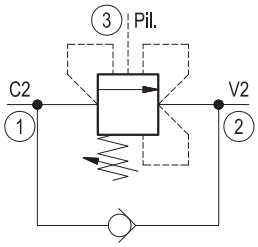
Bosch Rexroth Oil Control S.p.A.
Via Leonardo da Vinci 5
P.O. Box no. 5
41015 Nonantola – Modena, Italy
Tel. +39 05 98 87 611
Fax +39 05 95 47 848
cartridges@oilcontrol.com
www.boschrexroth.com

Counterbalance, relief compensated poppet type differential area

Common cavity, Size 20

VBSP-20A 04.54.13 - X - 58 - Z

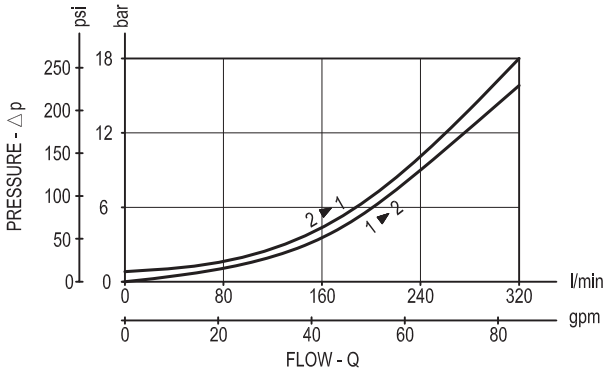




Description

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 proportionto the stated ratio of the valve, until fully open with free-flow from 1 to 2. The spring chamber is drained to 2. The valve applies a balanced piston design allowing relief operation at the valve setting independent ofback-pressure at 2. However, the piloted opening of the valve remains subject to additive pressure at port 2.

Performance



Technical data

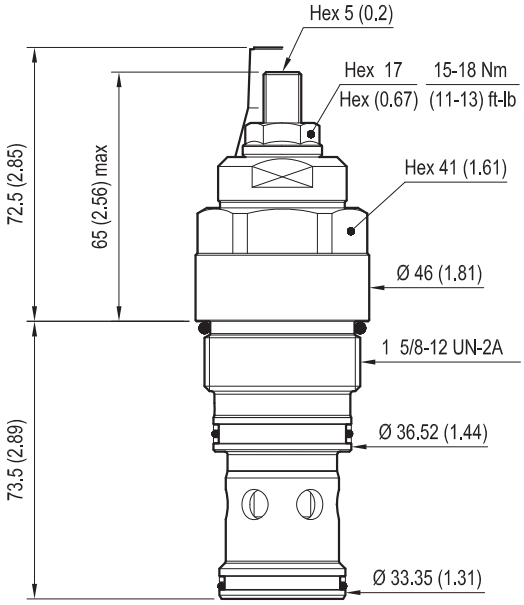
Max. operating pressure	bar (psi)	350 (5000)
Max. flow	l/min. (gpm)	320 (85)
Max. internal leakage (*)	drops/min.	15
Fluid temperature range	°C (°F)	-30 to 100 (-22 to 212)
Installation torque	Nm (ft-lbs)	128-149 (95-110)
Weight	kg (lbs)	1.12 (2.5)
Cavity		CA-20A-3C see data sheet RE 18325-70
Seal kit (**)	code material no.	RG20A9010530100 R901111397
Fluids		Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm^2/s (cSt)
Filtration		Nominal value max. 10µm (NAS 8) ISO 4406 19/17/14
Installation		No restrictions
Other Technical Data		See data sheet RE 18350-50

Pressure setting: at least 1.3 times the load induced pressure.

(*) At 70% of pressure setting

(**) Only external seals for 10 valves

Dimensions



OPTION
Tamper resistant cap
ordering code **11.04.23.004**
Mat. no. **R930001411**

mm (Inches)

Ordering code

04.54.13	X	58	Z	00	*

Series 0/A to L
unchanged performances and dimensions

Counterbalance, relief compensated poppet type differential area

Version and options standard

Pilot ratio

= 03 4:1

Common cavity, Size 20

	SPRINGS		
	Adj. press. range bar (psi)	Pressure increase bar/turn (psi/turn)	Std. setting bar (psi) Q=5 l/min
= 20	70-210 (1000-3000)	70 (1015)	200 (2900)
= 35	140-350 (2000-5000)	108 (1566)	350 (5000)

Note: Special settings available. Contact factory authorized representative for ordering code

Type	Material number
045413035820000	R901099735
045413035835000	R901099795

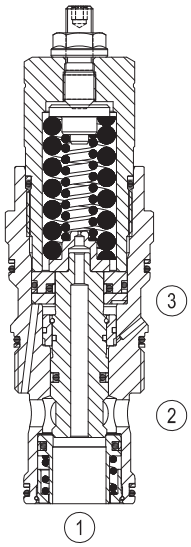
Type	Material number

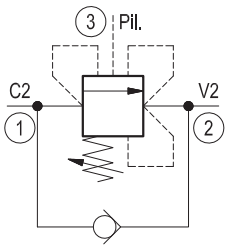
Bosch Rexroth Oil Control S.p.A.
Via Leonardo da Vinci 5
P.O. Box no. 5
41015 Nonantola – Modena, Italy
Tel. +39 059 887 611
Fax +39 059 547 848
cartridges@oilcontrol.com
www.boschrexroth.com

Counterbalance, relief compensated poppet type differential area, counterclockwise adjustment

SUN cavity interchange, T-19A

VBSP-25U-RS 04.54.18 - X - 50 - Z

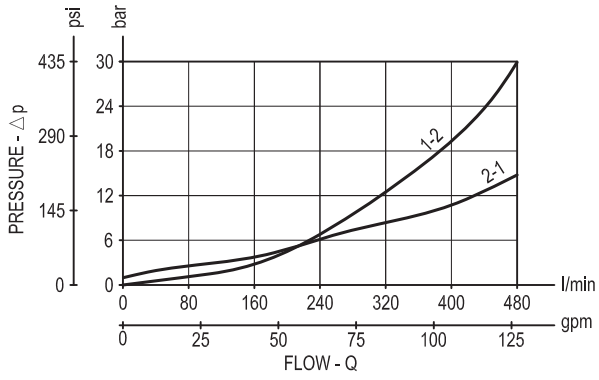




Description

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 (turn counterclockwise to increase setting - turn clockwise to decrease 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 valve applies a balanced piston design allowing relief operation at the valve setting independent of back-pressure at 2. However, the piloted opening of the valve remains subject to additive pressure at port 2.

Performance



Technical data

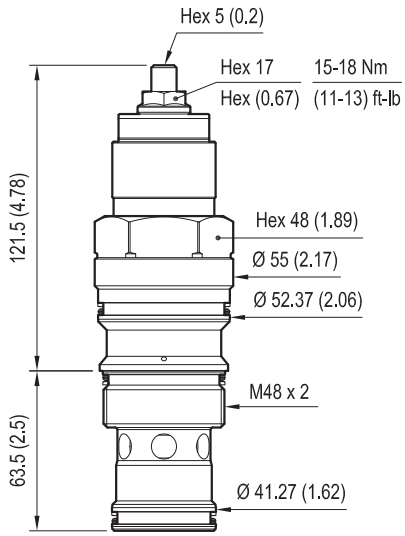
Max. operating pressure	bar (psi)	350 (5000)
Max. flow	l/min. (gpm)	480 (127)
Max. internal leakage (*)	drops/min.	15
Fluid temperature range	°C (°F)	-30 to 100 (-22 to 212)
Installation torque	Nm (ft-lbs)	475-500 (352-370)
Weight	kg (lbs)	1.7 (3.7)
Cavity		SUN T-19A
Seal kit (**)	code material no.	RG25U9020110100 R930006268
Fluids		Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm^2/s (cSt)
Filtration		Nominal value max. 10µm (NAS 8) ISO 4406 19/17/14
Installation		No restrictions
Other Technical Data		See data sheet RE 18350-50

Pressure setting: at least 1.3 times the load induced pressure.

(*) At 70% of pressure setting

(**) Only external seals for 10 valves

Dimensions



Turn adjustment clockwise to decrease setting and release load

mm (Inches)

Ordering code

04.54.18	X	50	Z	00	*

Series 0/A to L
unchanged performances and dimensions

Counterbalance, relief compensated
poppet type differential area,
counterclockwise adjustment

Version and options standard

Pilot ratio

= 25 5:1

SUN cavity interchange, T-19A

	SPRINGS		
	Adj. press. range bar (psi)	Pressure increase bar/turn (psi/turn)	Cracking pressure bar (psi)
= 42	200-420 (2900-6000)	118 (1711)	350 (5000)

Note: Special settings available. Contact factory authorized representative for ordering code

Type	Material number
045418255042000	R930006255

Type	Material number

Bosch Rexroth Oil Control S.p.A.
Via Leonardo da Vinci 5
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41015 Nonantola – Modena, Italy
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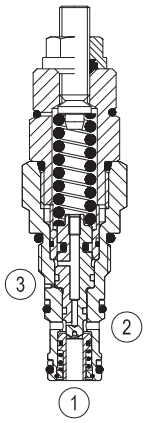
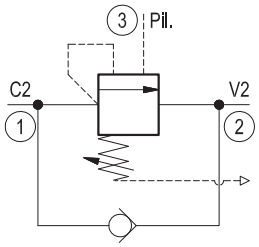
cartridges@oilcontrol.com
www.boschrexroth.com

Counterbalance, vented guided poppet type

Common cavity, Size 08

VBST-08AA 04.59.08 - X - 56 - Z

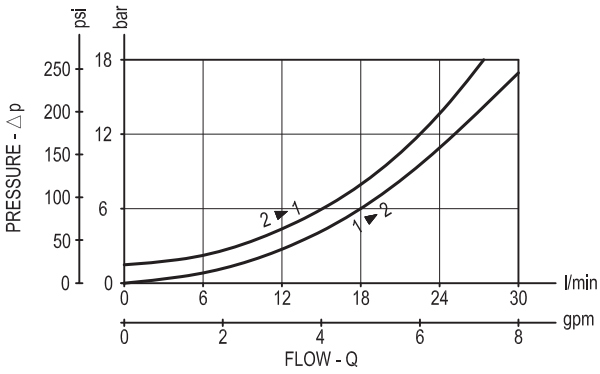




Description

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, 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 vented to atmosphere allowing operation of all functions independent of back-pressure at 2.

Performance



Technical data

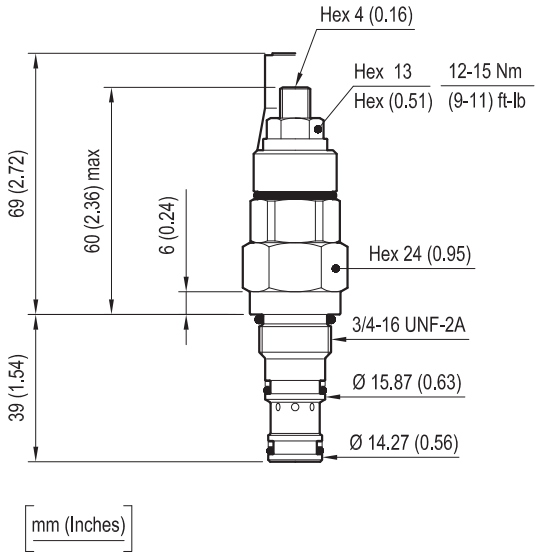
Max. operating pressure	bar (psi)	350 (5000)
Max. flow	l/min. (gpm)	30 (8)
Max. internal leakage (*)	drops/min.	15
Fluid temperature range	°C (°F)	-30 to 100 (-22 to 212)
Installation torque	Nm (ft-lbs)	34-41 (25-30)
Weight	kg (lbs)	0.19 (0.42)
Cavity		CA-08A-3C see data sheet RE 18325-70
Seal kit (**)	code material no.	RG08A9010520100 R901101592
Fluids		Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm^2/s (cSt)
Filtration		Nominal value max. 10µm (NAS 8) ISO 4406 19/17/14
Installation		No restrictions
Other Technical Data		See data sheet RE 18350-50

Pressure setting: at least 1.3 times the load induced pressure.

(*) At 70% of pressure setting

(**) Only external seals for 10 valves

Dimensions



OPTION
Tamper resistant cap
ordering code **11.04.23.002**
Mat. no. **R930000752**

Ordering code

04.59.08	X	56	Z	00	*

Series 0/A to L
unchanged performances and dimensions

Counterbalance, vented guided poppet type

Version and options standard

Pilot ratio

= 03 4:1

Common cavity, Size 08

	SPRINGS		
	Adj. press. range bar (psi)	Pressure increase bar/turn (psi/turn)	Std. setting bar (psi) Q=5 l/min
= 20	100-210 (1450-3000)	109 (1581)	200 (2900)
= 35	200-350 (2900-5000)	137 (1987)	350 (5000)

Note: Special settings available. Contact factory authorized representative for ordering code

Type	Material number
04590803562000B	R901096065
04590803563500B	R901096066

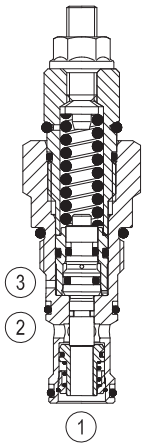
Type	Material number

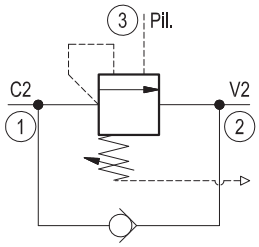
Bosch Rexroth Oil Control S.p.A.
Via Leonardo da Vinci 5
P.O. Box no. 5
41015 Nonantola – Modena, Italy
Tel. +39 059 887 611
Fax +39 059 547 848
cartridges@oilcontrol.com
www.boschrexroth.com

Counterbalance, vented guided poppet type

Common cavity, Size 10

VBST-10A **04.59.16 - X - 85 - Z**

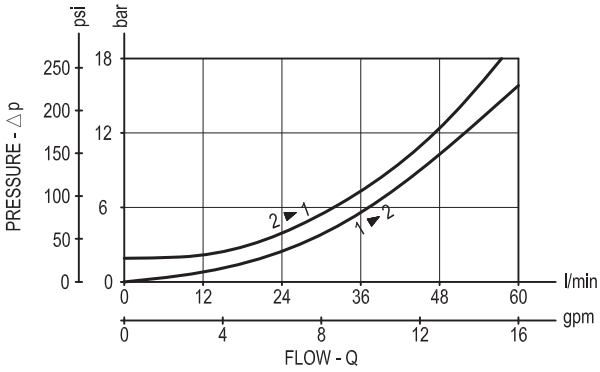




Description

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, relief function is activated and flow is relieved from 1 to 2. With pilot pressure at 3, thepressure 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 vented to atmosphere allowing operation of all functions independent of back-pressure at 2.

Performance



Technical data

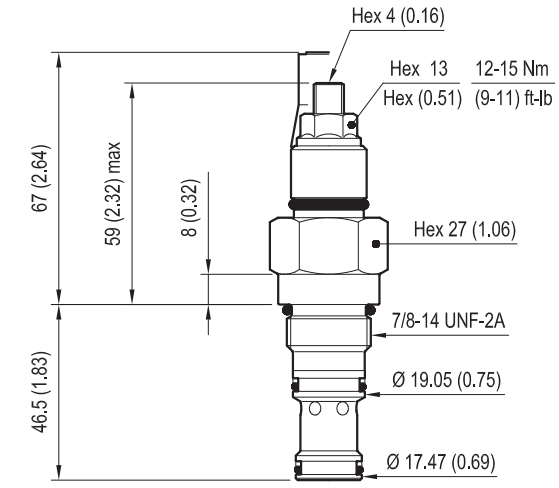
Max. operating pressure	bar (psi)	350 (5000)
Max. flow	l/min. (gpm)	60 (16)
Max. internal leakage (*)	drops/min.	15
Fluid temperature range	°C (°F)	-30 to 100 (-22 to 212)
Installation torque	Nm (ft-lbs)	41-47 (30-35)
Weight	kg (lbs)	0.21 (0.46)
Cavity		CA-10A-3C see data sheet RE 18325-70
Seal kit (**)	code material no.	RG10A9010520100 R901111367
Fluids		Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm^2/s (cSt)
Filtration		Nominal value max. 10µm (NAS 8) ISO 4406 19/17/14
Installation		No restrictions
Other Technical Data		See data sheet RE 18350-50

Pressure setting: at least 1.3 times the load induced pressure.

(*) At 70% of pressure setting

(**) Only external seals for 10 valves

Dimensions



mm (Inches)

OPTION
Tamper resistant cap
ordering code **11.04.23.002**
Mat. no. **R930000752**

Ordering code

04.59.16	X	85	Z	00	*

Series 0/A to L
unchanged performances and dimensions

Counterbalance, vented guided poppet type

Version and options standard

Pilot ratio

= 03 3:1

Common cavity, Size 10

	SPRINGS		
	Adj. press. range bar (psi)	Pressure increase bar/turn (psi/turn)	Std. setting bar (psi) Q=5 l/min
= 20	70-210 (1000-3000)	95 (1378)	200 (2900)
= 35	140-350 (2000-5000)	129 (1871)	350 (5000)

Note: Special settings available. Contact factory authorized representative for ordering code

Type	Material number
045916038520000	R901096067
045916038535000	R901096068

Type	Material number

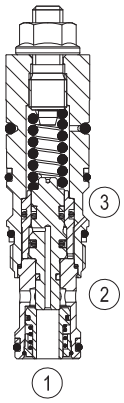
Bosch Rexroth Oil Control S.p.A.
Via Leonardo da Vinci 5
P.O. Box no. 5
41015 Nonantola – Modena, Italy
Tel. +39 059 887 611
Fax +39 059 547 848
cartridges@oilcontrol.com
www.boschrexroth.com

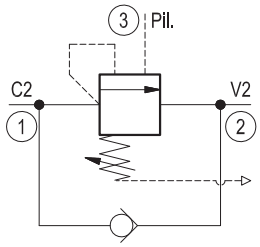
Counterbalance, vented guided poppet type, counterclockwise adjustment

SUN cavity interchange, T-11A

VBST-08U-RS

04.59.29 - X - 20 - Z

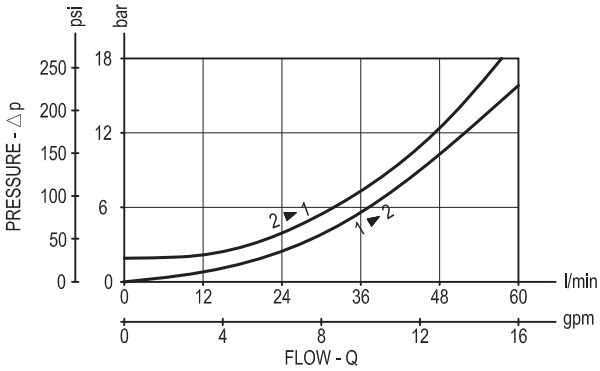




Description

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 (turn counterclockwise to increase setting - turn clockwise to decrease setting), the direct-acting, 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 vented to atmosphere allowing operation of all functions independent of back-pressure at 2.

Performance



Technical data

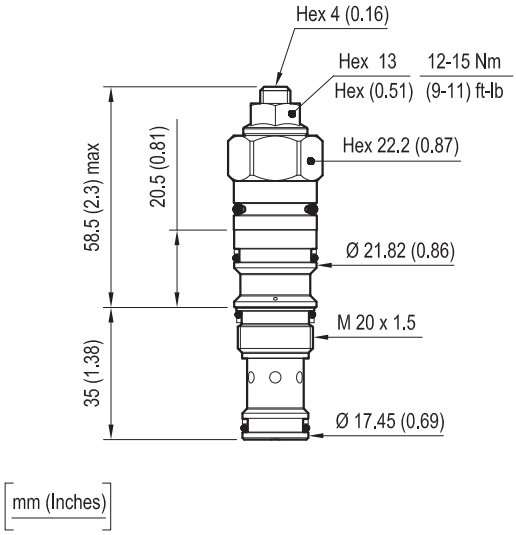
Max. operating pressure	bar (psi)	350 (5000)
Max. flow	l/min. (gpm)	60 (16)
Max. internal leakage (*)	drops/min.	15
Fluid temperature range	°C (°F)	-30 to 100 (-22 to 212)
Installation torque	Nm (ft-lbs)	40-50 (30-37)
Weight	kg (lbs)	0.19 (0.42)
Cavity		SUN T-11A
Seal kit (**)	code material no.	RG08U9020110100 R901193388
Fluids		Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm^2/s (cSt)
Filtration		Nominal value max. 10µm (NAS 8) ISO 4406 19/17/14
Installation		No restrictions
Other Technical Data		See data sheet RE 18350-50

Pressure setting: at least 1.3 times the load induced pressure.

(*) At 70% of pressure setting

(**) Only external seals for 10 valves

Dimensions



Turn adjustment clockwise to decrease setting and release load

Ordering code

04.59.29	X	20	Z	00	*

Series 0/A to L
unchanged performances and dimensions

Counterbalance, vented guided poppet type, counterclockwise adjustment

Version and options standard

Pilot ratio

= 03 3:1

SUN cavity interchange, T-11A

	SPRINGS		
	Adj. press. range bar (psi)	Pressure increase bar/turn (psi/turn)	Cracking pressure bar (psi)
= 15	25-175 (350-2500)	70 (1015)	175 (2500)
= 20	70-280 (1000-4000)	109 (1581)	280 (4000)

Note: Special settings available. Contact factory authorized representative for ordering code

Type	Material number
045929032015000	R930006129
045929032020000	R930006130

Type	Material number

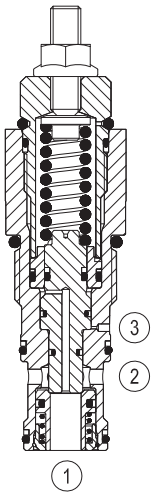
Bosch Rexroth Oil Control S.p.A.
Via Leonardo da Vinci 5
P.O. Box no. 5
41015 Nonantola – Modena, Italy
Tel. +39 05 98 87 611
Fax +39 05 95 47 848
cartridges@oilcontrol.com
www.boschrexroth.com

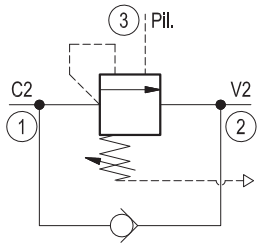
RE 18320-13/01.10 1/2
Replaces: RE 00162-02/01.06

Counterbalance, vented guided poppet type

Common cavity, Size 12

VBST-12A 04.59.26 - X - 57 - Z

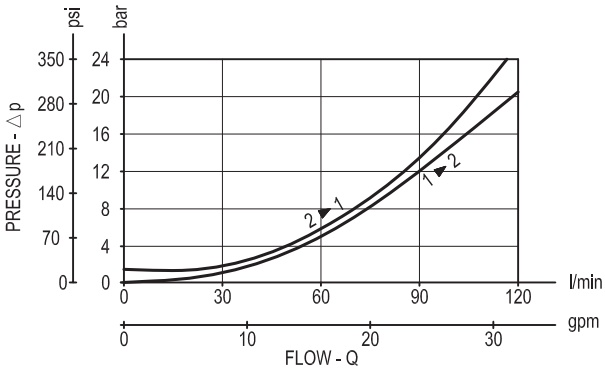




Description

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, relief function is activated and flow is relieved from 1 to 2. With pilot pressure at 3, thepressure 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 vented to atmosphere allowing operation of all functions independent of back-pressure at 2.

Performance



Technical data

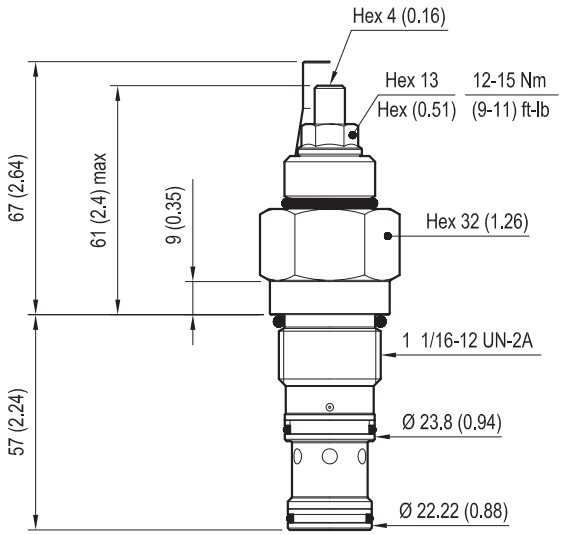
Max. operating pressure	bar (psi)	350 (5000)
Max. flow	l/min. (gpm)	120 (32)
Max. internal leakage (*)	drops/min.	15
Fluid temperature range	°C (°F)	-30 to 100 (-22 to 212)
Installation torque	Nm (ft-lbs)	81-95 (60-70)
Weight	kg (lbs)	0.39 (0.86)
Cavity		CA-12A-3C see data sheet RE 18325-70
Seal kit (**)	code material no.	RG12A9010520100 R901111379
Fluids		Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm^2/s (cSt)
Filtration		Nominal value max. 10µm (NAS 8) ISO 4406 19/17/14
Installation		No restrictions
Other Technical Data		See data sheet RE 18350-50

Pressure setting: at least 1.3 times the load induced pressure.

(*) At 70% of pressure setting

(**) Only external seals for 10 valves

Dimensions



OPTION
Tamper resistant cap
ordering code **11.04.23.002**
Mat. no. **R930000752**

mm (Inches)

Ordering code

04.59.26	X	57	Z	00	*

Series 0/A to L
unchanged performances and dimensions

Counterbalance, vented guided poppet type

Version and options standard

Pilot ratio

= 03 4:1

Common cavity, Size 12

	SPRINGS		
	Adj. press. range bar (psi)	Pressure increase bar/turn (psi/turn)	Std. setting bar (psi) Q=5 l/min
= 20	70-210 (1000-3000)	50 (725)	200 (2900)
= 35	140-350 (2000-5000)	159 (2306)	350 (5000)

Note: Special settings available. Contact factory authorized representative for ordering code

Type	Material number
045926035720000	R901109818
045926035735000	R901109819

Type	Material number

Bosch Rexroth Oil Control S.p.A.
Via Leonardo da Vinci 5
P.O. Box no. 5
41015 Nonantola – Modena, Italy
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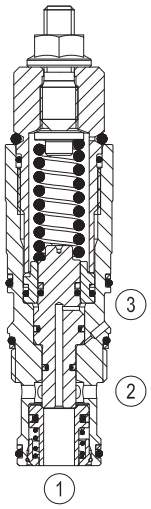
Fax +39 059 547 848
cartridges@oilcontrol.com
www.boschrexroth.com

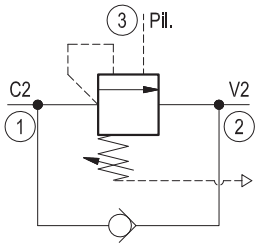
Counterbalance, vented guided poppet type, counterclockwise adjustment

SUN cavity interchange, T-2A

VBST-12U-RS

04.59.30 - X - 86 - Z

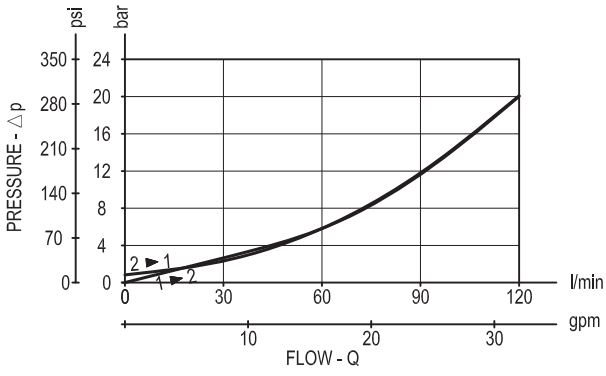




Description

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 (turn counterclockwise to increase setting - turn clockwise to decrease setting), the direct-acting, 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 vented to atmosphere allowing operation of all functions independent of back-pressure at 2.

Performance



Technical data

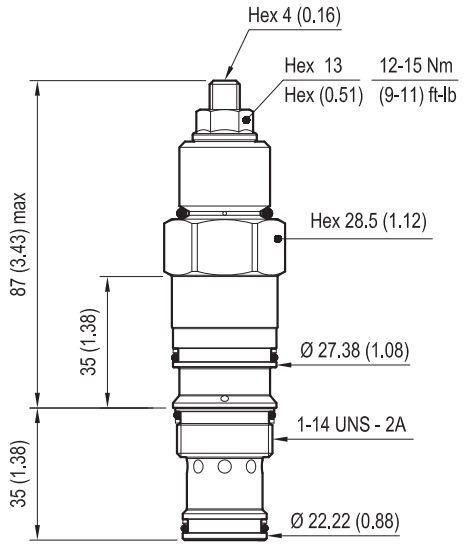
Max. operating pressure	bar (psi)	350 (5000)
Max. flow	l/min. (gpm)	120 (32)
Max. internal leakage (*)	drops/min.	15
Fluid temperature range	°C (°F)	-30 to 100 (-22 to 212)
Installation torque	Nm (ft-lbs)	60-70 (45-50)
Weight	kg (lbs)	0.4 (0.88)
Cavity		SUN T-2A
Seal kit (**)	code material no.	RG12U9020110100 R930005599
Fluids		Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm^2/s (cSt)
Filtration		Nominal value max. 10µm (NAS 8) ISO 4406 19/17/14
Installation		No restrictions
Other Technical Data		See data sheet RE 18350-50

Pressure setting: at least 1.3 times the load induced pressure.

(*) At 70% of pressure setting

(**) Only external seals for 10 valves

Dimensions



Turn adjustment clockwise to decrease setting and release load

mm (Inches)

Ordering code

04.59.30	X	86	Z	00	*

Series 0/A to L
unchanged performances and dimensions

Counterbalance, vented guided poppet type, counterclockwise adjustment

Version and options standard

Pilot ratio

= 03 4:1

SUN cavity interchange, T-2A

	SPRINGS		
	Adj. press. range bar (psi)	Pressure increase bar/turn (psi/turn)	Cracking pressure bar (psi)
= 20	70-210 (1000-3000)	39 (566)	200 (2900)
= 35	140-350 (2000-5000)	123 (1784)	350 (5000)

Note: Special settings available. Contact factory authorized representative for ordering code

Type	Material number
045930038620000	R930006131
045930038635000	R930006132

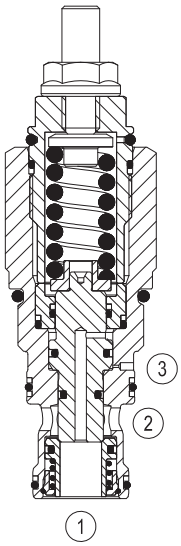
Type	Material number

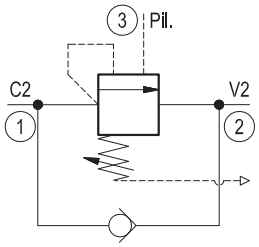
Bosch Rexroth Oil Control S.p.A.
Via Leonardo da Vinci 5
P.O. Box no. 5
41015 Nonantola – Modena, Italy
Tel. +39 05 98 87 611
Fax +39 05 95 47 848
cartridges@oilcontrol.com
www.boschrexroth.com

Counterbalance, vented guided poppet type

Common cavity, Size 16

VBST-16A 04.59.27 - X - 27 - Z

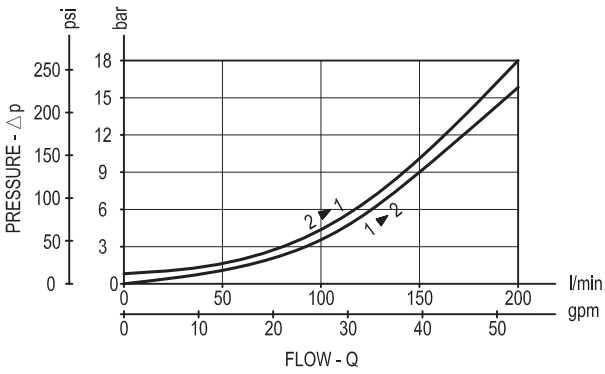




Description

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, 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 vented to atmosphere allowing operation of all functions independent of back-pressure at 2.

Performance



Technical data

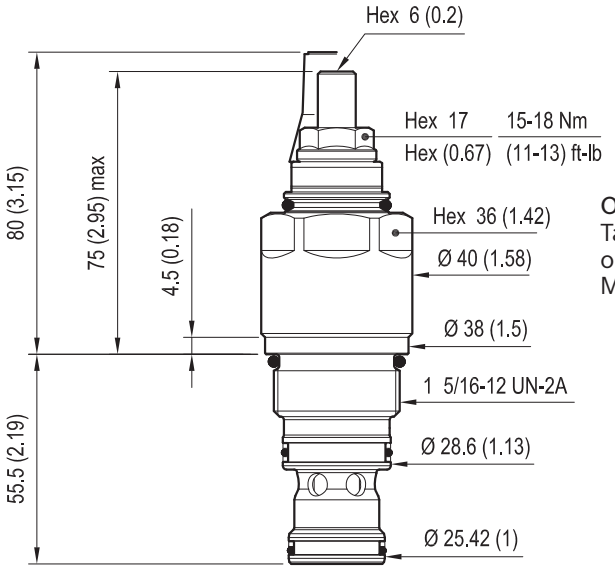
Max. operating pressure	bar (psi)	350 (5000)
Max. flow	l/min. (gpm)	200 (53)
Max. internal leakage (*)	drops/min.	15
Fluid temperature range	°C (°F)	-30 to 100 (-22 to 212)
Installation torque	Nm (ft-lbs)	108-122 (80-90)
Weight	kg (lbs)	0.55 (1.21)
Cavity		CA-16A-3C see data sheet RE 18325-70
Seal kit (**)	code material no.	RG16A9010530100 R930001200
Fluids		Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm^2/s (cSt)
Filtration		Nominal value max. 10µm (NAS 8) ISO 4406 19/17/14
Installation		No restrictions
Other Technical Data		See data sheet RE 18350-50

Pressure setting: at least 1.3 times the load induced pressure.

(*) At 70% of pressure setting

(**) Only external seals for 10 valves

Dimensions



OPTION
Tamper resistant cap
ordering code **11.04.23.004**
Mat. no. **R930001411**

mm (Inches)

Ordering code

04.59.27	X	27	Z	00	*

Series 0/A to L
unchanged performances and dimensions

Counterbalance, vented guided poppet type

Version and options standard

Pilot ratio

= 03 4:1

Common cavity, Size 16

	SPRINGS		
	Adj. press. range bar (psi)	Pressure increase bar/turn (psi/ turn)	Std. setting bar (psi) Q=5 l/min
= 35	140-350 (2000-5000)	83.5 (1210)	350 (5000)

Note: Special settings available. Contact factory authorized representative for ordering code

Type	Material number
045927032735000	R901162012

Type	Material number

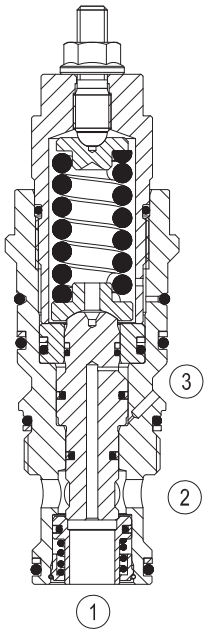
Bosch Rexroth Oil Control S.p.A.
Via Leonardo da Vinci 5
P.O. Box no. 5
41015 Nonantola – Modena, Italy
Tel. +39 059 887 611
Fax +39 059 547 848
cartridges@oilcontrol.com
www.boschrexroth.com

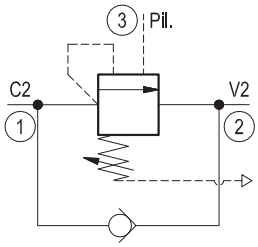
Counterbalance, vented guided poppet type, counterclockwise adjustment

SUN cavity interchange, T-17A

VBST-16U-RS

04.59.31 - X - 47 - Z

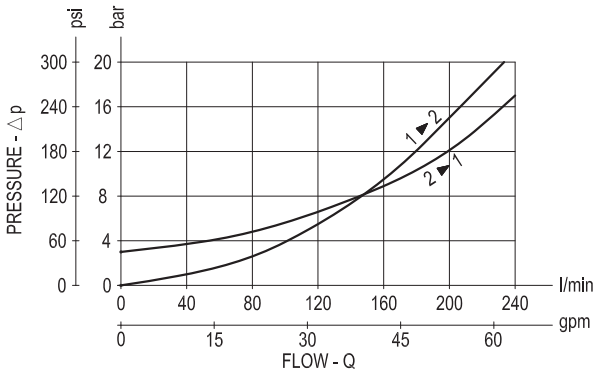




Description

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 (turn counterclockwise to increase setting - turn clockwise to decrease setting), the direct-acting, 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 vented to atmosphere allowing operation of all functions independent of back-pressure at 2.

Performance



Technical data

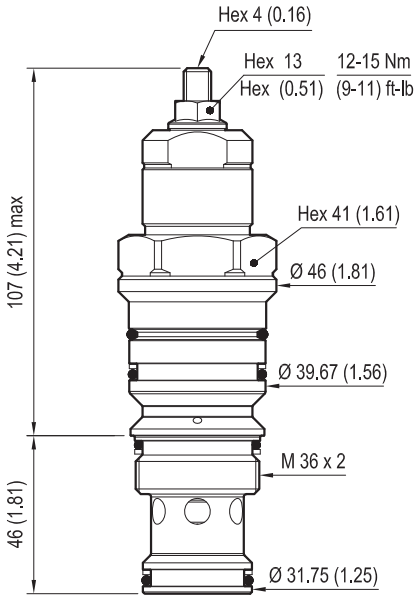
Max. operating pressure	bar (psi)	350 (5000)
Max. flow	l/min. (gpm)	240 (63)
Max. internal leakage (*)	drops/min.	15
Fluid temperature range	°C (°F)	-30 to 100 (-22 to 212)
Installation torque	Nm (ft-lbs)	200-215 (148-159)
Weight	kg (lbs)	0.8 (1.76)
Cavity		SUN T-17A
Seal kit (**)	code material no.	RG16U9020110100 R930000995
Fluids		Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm^2/s (cSt)
Filtration		Nominal value max. 10µm (NAS 8) ISO 4406 19/17/14
Installation		No restrictions
Other Technical Data		See data sheet RE 18350-50

Pressure setting: at least 1.3 times the load induced pressure.

(*) At 70% of pressure setting

(**) Only external seals for 10 valves

Dimensions



Turn adjustment clockwise to decrease setting and release load

mm (Inches)

Ordering code

04.59.31	X	47	Z	00	*

Series 0/A to L
unchanged performances and dimensions

Counterbalance, vented guided poppet type, counterclockwise adjustment

Version and options standard

Pilot ratio

= 03 3:1

SUN cavity interchange, T-17A

	SPRINGS		
	Adj. press. range bar (psi)	Pressure increase bar/turn (psi/turn)	Cracking pressure bar (psi)
= 20	70-250 (1000-3600)	70 (1015)	200 (2900)
= 40	200-350 (2900-5000)	105 (1523)	350 (5000)

Note: Special settings available. Contact factory authorized representative for ordering code

Type	Material number
045931034720000	R930000061
045931034740000	R930000063

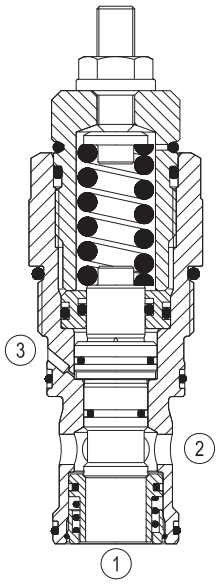
Type	Material number

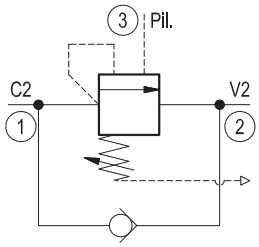
Bosch Rexroth Oil Control S.p.A.
Via Leonardo da Vinci 5
P.O. Box no. 5
41015 Nonantola – Modena, Italy
Tel. +39 05 98 87 611
Fax +39 05 95 47 848
cartridges@oilcontrol.com
www.boschrexroth.com

Counterbalance, vented guided poppet type

Common cavity, Size 20

VBST-20A 04.59.18 - X - 58 - Z

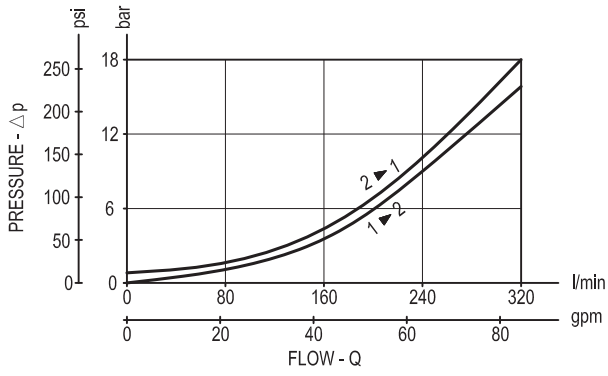




Description

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, relief function is activated and flow is relieved from 1 to 2. With pilot pressure at 3, thepressure 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 vented to atmosphere allowing operation of all functions independent of back-pressure at 2.

Performance



Technical data

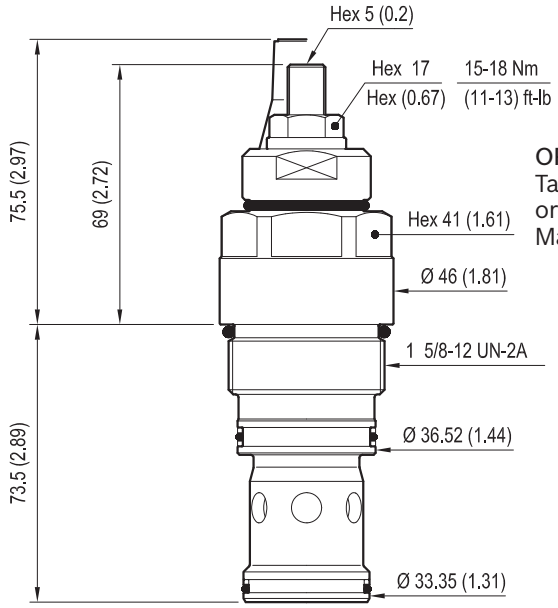
Max. operating pressure	bar (psi)	350 (5000)
Max. flow	l/min. (gpm)	320 (85)
Max. internal leakage (*)	drops/min.	15
Fluid temperature range	°C (°F)	-30 to 100 (-22 to 212)
Installation torque	Nm (ft-lbs)	128-149 (95-110)
Weight	kg (lbs)	1.12 (2.5)
Cavity		CA-20A-3C see data sheet RE 18325-70
Seal kit (**)	code material no.	RG20A9010530100 R901111397
Fluids		Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm^2/s (cSt)
Filtration		Nominal value max. 10µm (NAS 8) ISO 4406 19/17/14
Installation		No restrictions
Other Technical Data		See data sheet RE 18350-50

Pressure setting: at least 1.3 times the load induced pressure.

(*) At 70% of pressure setting

(**) Only external seals for 10 valves

Dimensions



OPTION
Tamper resistant cap
ordering code **11.04.23.004**
Mat. no. **R930001411**

mm (Inches)

Ordering code

04.59.18	X	58	Z	00	*

Series 0/A to L
unchanged performances and dimensions

Counterbalance, vented guided poppet type

Version and options standard

Pilot ratio

= 03 4:1

Common cavity, Size 20

	SPRINGS		
	Adj. press. range bar (psi)	Pressure increase bar/turn (psi/turn)	Std. setting bar (psi) Q=5 l/min
= 20	70-210 (1000-3000)	95 (1378)	200 (2900)
= 35	140-350 (2000-5000)	129 (1871)	350 (5000)

Note: Special settings available. Contact factory authorized representative for ordering code

Type	Material number
045918035820000	R901096069
045918035835000	R901096070

Type	Material number

Bosch Rexroth Oil Control S.p.A.
Via Leonardo da Vinci 5
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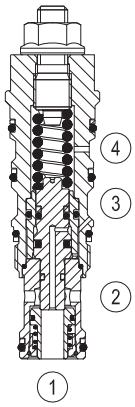
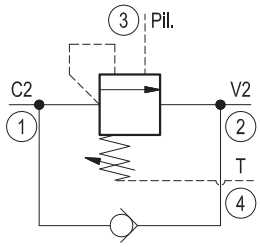
RE 18320-26/01.10 1/2
Replaces: RE 00162-02/01.06

Counterbalance, 4 port vented poppet type external drain, counterclockwise adjustment

SUN cavity interchange, T-21A

VBSY-08U-RS 04.59.32 - X - 20 - Z

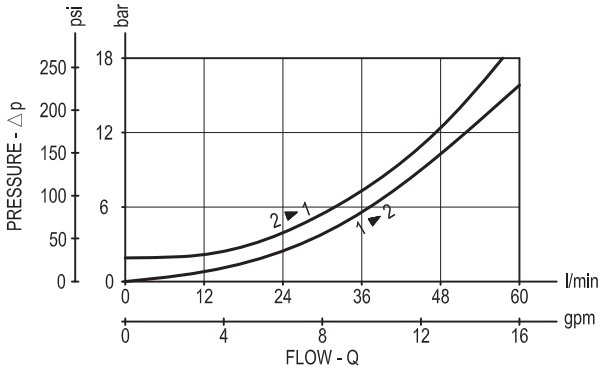




Description

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 (turn counterclockwise to increase setting - turn clockwise to decrease setting), the direct-acting, 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 vented to 4, allowing operation of all functions independent of back-pressure at 2. Any back-pressure at 4 is additive to the pressure setting in all functions.

Performance



Technical data

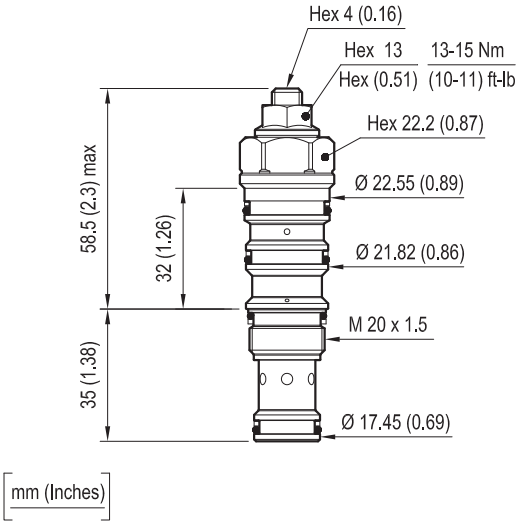
Max. operating pressure	bar (psi)	350 (5000)
Max. flow	l/min. (gpm)	60 (16)
Max. internal leakage	drops/min.	15
Fluid temperature range	°C (°F)	-30 to 100 (-22 to 212)
Installation torque	Nm (ft-lbs)	40-50 (30-37)
Weight	kg (lbs)	0.19 (0.42)
Cavity		SUN T-21A
Seal kit (**)	code material no.	RG08U4020110100 R930001201
Fluids		Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm^2/s (cSt)
Filtration		Nominal value max. 10µm (NAS 8) ISO 4406 19/17/14
Installation		No restrictions
Other Technical Data		See data sheet RE 18350-50

Pressure setting: at least 1.3 times the load induced pressure.

(*) At 70% of pressure setting

(**) Only external seals for 10 valves

Dimensions



Turn adjustment clockwise to decrease setting and release load

Ordering code

04.59.32	X	20	Z	00	*

Series 0/A to L
unchanged performances and dimensions

Counterbalance, 4 port vented poppet type external drain, counterclockwise adjustment

Version and options standard

Pilot ratio

= 03 3:1

SUN cavity interchange, T-21A

	SPRINGS		
	Adj. press. range bar (psi)	Pressure increase bar/turn (psi/turn)	Cracking pressure bar (psi)
= 15	25-175 (350-2500)	70 (1015)	175 (2500)
= 20	70-280 (1000-4000)	109 (1581)	280 (4000)

Note: Special settings available. Contact factory authorized representative for ordering code

Type	Material number
045932032015000	R930006133
045932032020000	R930006134

Type	Material number

Bosch Rexroth Oil Control S.p.A.
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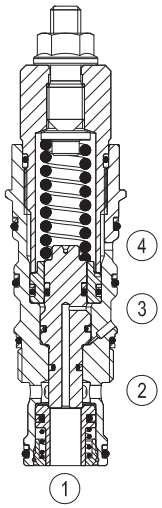
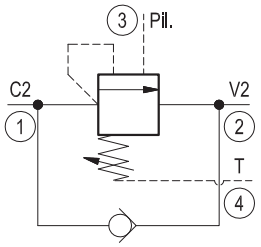
Counterbalance, 4 port vented poppet type external drain, counterclockwise adjustment

SUN cavity interchange, T-22A

VBSY-12U-RS

04.59.33 - X - 86 - Z

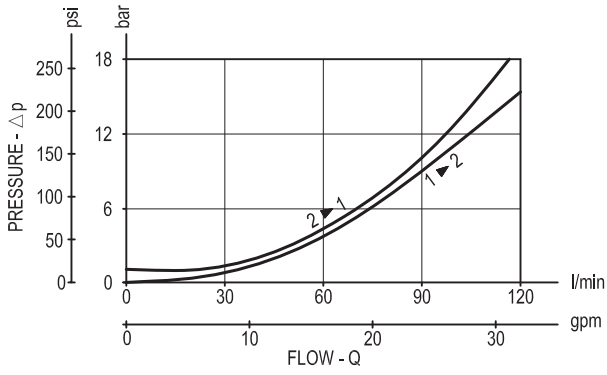




Description

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 (turn counterclockwise to increase setting - turn clockwise to decrease setting), the direct-acting, 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 vented to 4, allowing operation of all functions independent of back-pressure at 2. Any back-pressure at 4 is additive to the pressure setting in all functions.

Performance



Technical data

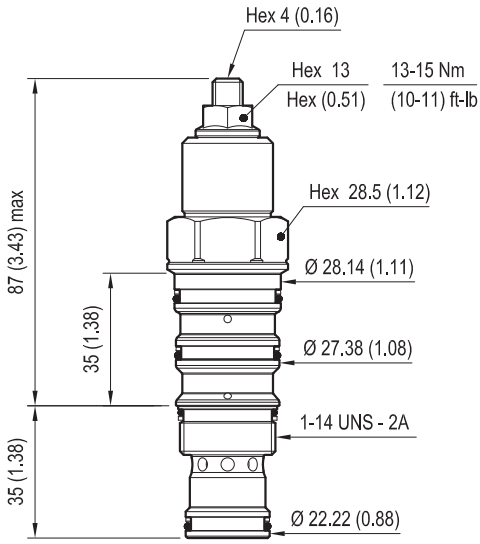
Max. operating pressure	bar (psi)	350 (5000)
Max. flow	l/min. (gpm)	120 (32)
Max. internal leakage (*)	drops/min.	15
Fluid temperature range	°C (°F)	-30 to 100 (-22 to 212)
Installation torque	Nm (ft-lbs)	60-70 (44-52)
Weight	kg (lbs)	0.37 (0.82)
Cavity		SUN T-22A
Seal kit (**)	code material no.	RG12U4020110100 R930001204
Fluids		Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm^2/s (cSt)
Filtration		Nominal value max. 10µm (NAS 8) ISO 4406 19/17/14
Installation		No restrictions
Other Technical Data		See data sheet RE 18350-50

Pressure setting: at least 1.3 times the load induced pressure.

(*) At 70% of pressure setting

(**) Only external seals for 10 valves

Dimensions



Turn adjustment clockwise to decrease setting and release load

mm (Inches)

Ordering code

04.59.33	X	86	Z	00	*

Series 0/A to L
unchanged performances and dimensions

Counterbalance, 4 port vented poppet type external drain, counterclockwise adjustment

Version and options standard

Pilot ratio

= 03 4:1

SUN cavity interchange, T-22A

	SPRINGS		
	Adj. press. range bar (psi)	Pressure increase bar/turn (psi/turn)	Cracking pressure bar (psi)
= 20	70-210 (1000-3000)	39 (566)	200 (2900)
= 35	140-350 (2000-5000)	123 (1784)	350 (5000)

Note: Special settings available. Contact factory authorized representative for ordering code

Type	Material number
045933038620000	R930006135
045933038635000	R930006136

Type	Material number

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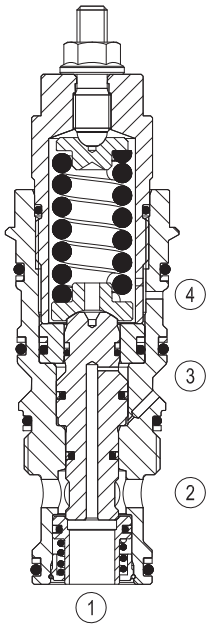
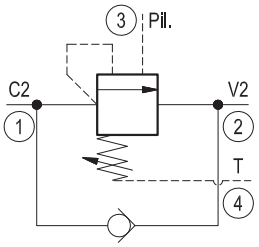
Counterbalance, 4 port vented poppet type external drain, counterclockwise adjustment

SUN cavity interchange, T-23A

VBSY-16U-RS

04.59.34 - X - 47 - Z

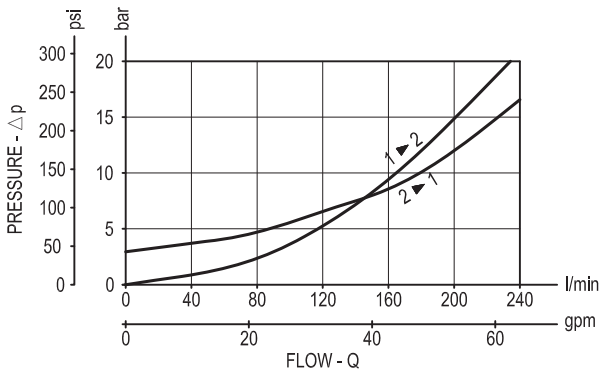




Description

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 (turn counterclockwise to increase setting - turn clockwise to decrease setting), the direct-acting, 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 vented to 4, allowing operation of all functions independent of back-pressure at 2. Any back-pressure at 4 is additive to the pressure setting in all functions.

Performance



Technical data

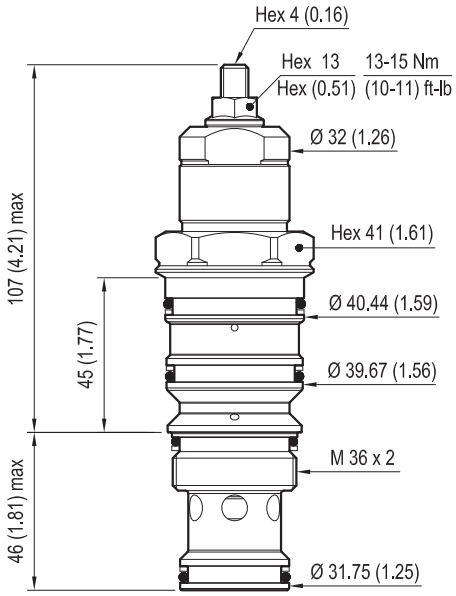
Max. operating pressure	bar (psi)	350 (5000)
Max. flow	l/min. (gpm)	240 (63)
Max. internal leakage (*)	drops/min.	15
Fluid temperature range	°C (°F)	-30 to 100 (-22 to 212)
Installation torque	Nm (ft-lbs)	200-215 (148-159)
Weight	kg (lbs)	0.8 (1.76)
Cavity		SUN T-23A
Seal kit (**)	code material no.	RG16U4020110100 R930000994
Fluids		Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm^2/s (cSt)
Filtration		Nominal value max. 10µm (NAS 8) ISO 4406 19/17/14
Installation		No restrictions
Other Technical Data		See data sheet RE 18350-50

Pressure setting: at least 1.3 times the load induced pressure.

(*) At 70% of pressure setting

(**) Only external seals for 10 valves

Dimensions



Turn adjustment clockwise to decrease setting and release load

mm (Inches)

Ordering code

04.59.34	X	47	Z	00	*

Series 0/A to L
unchanged performances and dimensions

Counterbalance, 4 port vented poppet type external drain, counterclockwise adjustment

Version and options standard

Pilot ratio

= 03 3:1

SUN cavity interchange, T-23A

	SPRINGS		
	Adj. press. range bar (psi)	Pressure increase bar/turn (psi/turn)	Cracking pressure bar (psi)
= 20	70-250 (1000-3600)	70 (1015)	200 (2900)
= 40	200-350 (2900-5000)	105 (1523)	350 (5000)

Note: Special settings available. Contact factory authorized representative for ordering code

Type	Material number
045934034720000	R930000067
045934034740000	R930000069

Type	Material number

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