

pneumatiek-hydrauliek



Drukbegrens en Reduceer ventielen Cartridge uitvoering

Robucon b.v.

Berrie 2

1724 BB Oudkarspel

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www.robucon.nl mail@robucon.nl

























Mechanical - Relief and Unloading

Relief direct acting poppet type

Symbol	Туре	Max. Pressure bar (psi)	Max. Flow I/min. (gpm)	Cavity	Data Sheet	Page
	VSAN-08A	up to 420 (6000)	3 (0.8)	CA-08A-2N	18318-01	41
	VS-5-CN	460 (6600)	1.5 (0.4)	Special 348	18318-19	37
P T 2						
	VS-5-CF	460 (6600)	1.5 (0.4)	Special 348	18318-20	39

Relief direct acting guided poppet type

Symbol	Туре	Max. Pressure bar (psi)	Max. Flow I/min. (gpm)	Cavity	Data Sheet	Page
F3	VSBN-08A	350 (5000)	20 (5)	CA-08A-2N	18318-04	43
	VSBN-10A	350 (5000)	50 (13)	CA-10A-2N	18318-05	47
	VSBG-10A	350 (5000)	50 (13)	CA-10A-2N	18318-06	55
	VSBN-08F	350 (5000)	20 (5)	Special CA-08F-2N	18318-18	45
2	VS-30	350 (5000)	30 (8)	Special 008	18318-23	49
	VS-80	250 (3600)	80 (21)	Special 009	18318-25	53

Relief direct acting guided poppet type hardened seat

Symbol	Туре	Max. Pressure bar (psi)	Max. Flow I/min. (gpm)	Cavity	Data Sheet	Page
P T 2	VS-30-NCF	420 (6000)	30 (8)	Special 008	18318-24	51

Relief direct acting poppet type differential area

Symbol	Туре	Max. Pressure bar (psi)	Max. Flow I/min. (gpm)	Cavity	Data Sheet	Page
2 0	VSDN-08A	350 (5000)	50 (13)	CA-08A-2N	18318-02	57
	VSDN-10A	350 (5000)	120 (32)	CA-10A-2N	18318-03	59
	VSD-350	210 (3000)	350 (93)	Special 004	18318-22	61

Relief bidirectional direct acting poppet type differential area

Symbol	Туре	Max. Pressure bar (psi)	Max. Flow I/min. (gpm)	Cavity	Data Sheet	Page
	VSNG-10A	240 (3500)	56 (15)	CA-10A-2N	18318-07	63

Mechanical - Relief and Unloading

Relief direct acting poppet type pressure compensated

Symbol	Туре	Max. Pressure bar (psi)	Max. Flow I/min. (gpm)	Cavity	Data Sheet	Page
P T 2	VS-30-CC	350 (5000)	30 (8)	Special 008	18318-26	65
∮ ii						

Relief pilot operated spool type

Symbol	Туре	Max. Pressure bar (psi)	Max. Flow I/min. (gpm)	Cavity	Data Sheet	Page
	VSPN-10A	420 (6000)	3-120 (1-32)	CA-10A-2N	18318-08	67
	VSPN-12A	420 (6000)	5-200 (1.3- 53)	CA-12A-2N	18318-09	69
	VSPN-16A	420 (6000)	8-300 (2-79)	CA-16A-2N	18318-10	71
· ———						

Relief pilot operated poppet type

Symbol	Туре	Max. Pressure bar (psi)	Max. Flow I/min. (gpm)	Cavity	Data Sheet	Page
1 2	VSPC-10A	350 (5000)	3-80 (1-21)	CA-10A-2N	18318-11	73
	MHDBV-16	420 (6000)	100 (26)	Special	64605	895
	MHDBV-22	420 (6000)	240 (63)	Special	64605	895
▼ ≶						

Pressure relief and anti-cavitation valve pilot operated

Symbol	Туре	Max. Pressure bar (psi)	Max. Flow I/min. (gpm)	Cavity	Data Sheet	Page
0 2	MHDBN-16	420 (6000)	100 (26)	Special	64602	903
	MHDBN-22	420 (6000)	240 (63)	Special	64602	903
	MHDBN-32	420 (6000)	400 (106)	Special	64602	903
▼						

Relief pilot operated spool type external drain

Symbol	Туре	Max. Pressure bar (psi)	Max. Flow I/min. (gpm)	Cavity	Data Sheet	Page
P	VSPY-10A	420 (6000)	3-120 (0.8- 32)	CA-10A-3N	18318-12	75
0 2	VSPY-12A	350 (5000)	5-200 (1.3- 53)	CA-12A-3C	18318-13	77
→ <u>Y</u> <u>③</u>						

Relief pilot operated spool type external pilot

Symbol	Туре	Max. Pressure bar (psi)	Max. Flow I/min. (gpm)	Cavity	Data Sheet	Page
P	VSPX-12A	350 (5000)	5-200 (1.3- 53)	CA-12A-3C	18318-14	79
1) \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \						

Mechanical - Relief and Unloading

Relief pilot operated spool type pressure compensated

Symbol	Туре	Max. Pressure bar (psi)	Max. Flow I/min. (gpm)	Cavity	Data Sheet	Page
P T 2	VSP-CC-150	420 (6000)	5-150 (1.3- 40)	Special 065	18318-27	81
>						

Priority unloading pilot operated

Symbol	Туре	Max. Pressure bar (psi)	Max. Flow I/min. (gpm)	Cavity	Data Sheet	Page
x (1)	VMSN-08A	350 (5000)	3 (1)	CA-08A-3N	18318-16	83
P T						
② <u>3</u>						
Ş						
x 3						
Р Т						
	VMSP-78	350 (5000)	5-30 (1.3-8)	Special 308	18318-17	85
Y (4)						

Mechanical - Pressure reducing and relieving

Pressure reducing and relieving direct acting spool type

Symbol	Туре	Max. Pressure bar (psi)	Max. Flow I/min. (gpm)	Cavity	Data Sheet	Page
Р []	VRPR-08A	350 (5000)	8 (2)	CA-08A-3N	18318-52	91
2 A	VRPR-10A	350 (5000)	30 (8)	CA-10A-3N	18318-53	93
(1) (3)	VRPR-07A	420 (6000)	5 (1.3)	Special CA-07A-3N	18318-59	61
\						

Pressure reducing and relieving direct acting spool damped type

Symbol	Туре	Max. Pressure bar (psi)	Max. Flow I/min. (gpm)	Cavity	Data Sheet	Page
3	MHDRDB	315 (4500)	11 (3)	Special	18111-04	915
1						

Pressure reducing and relieving direct acting spool damped type

Symbol	Туре	Max. Pressure bar (psi)	Max. Flow I/min. (gpm)	Cavity	Data Sheet	Page
P A	VRPR-10A-8	350 (5000)	20 (5)	CA-10A-3N	18318-54	97
	VRPR-07A-S	420 (6000)	5 (1.3)	Special CA-07A-3N	18318-60	95
(3)						

Mechanical - Pressure reducing and relieving

Pressure reducing pilot operated spool type

Symbol	Туре	Max. Pressure bar (psi)	Max. Flow I/min. (gpm)	Cavity	Data Sheet	Page
	VRPP-10A	350 (5000)	60 (16)	CA-10A-3N	18318-50	99
2 1	VRPP-12A	350 (5000)	100 (26)	CA-12A-3N	18318-51	101
▼ ×						
3						

Pressure reducing and relieving pilot operated spool type

Symbol	Туре	Max. Pressure bar (psi)	Max. Flow I/min. (gpm)	Cavity	Data Sheet	Page
P	VRPX-10A	350 (5000)	60 (16)	CA-10A-3N	18318-56	103
3 1						
T						

Pressure reducing and relieving with pilot controlled setting

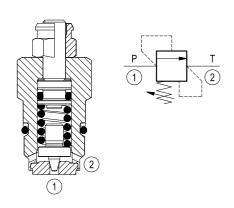
Symbol	Туре	Max. Pressure bar (psi)	Max. Flow I/min. (gpm)	Cavity	Data Sheet	Page
P 2 A	VRPE-10A	350 (5000)	20 (5)	CA-10A-3N	18318-58	105
3						
Pi.						

Relief, direct acting poppet type

Special cavity, 348

VS-5-CN

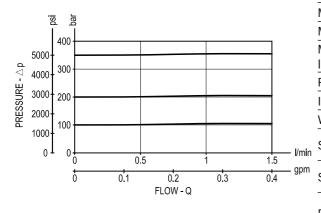
04.11.58 - X - 99 - Z



Description

Flow is blocked from 1 to 2 until pressure increases to meet the selected valve setting, lifting the poppet from its seat and allowing relief flow through 2 to tank. Pressure at 2 is additive to the relief setting of the valve. The cartridge is suitable only for pilot or thermal relief applications.

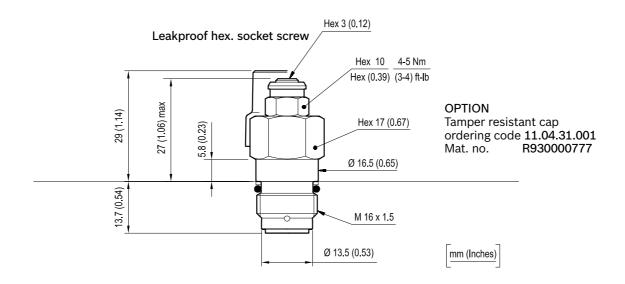
Performance



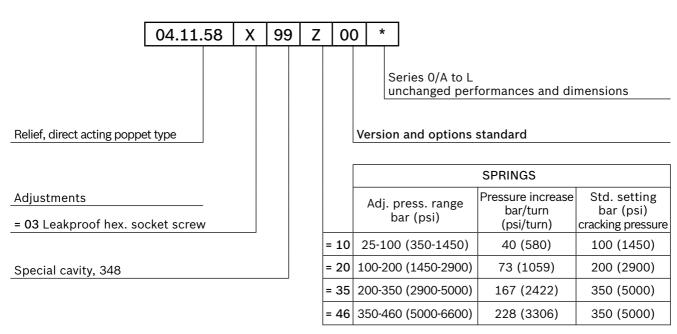
Max. operating pressu	ure bar (psi)	460 (6600)
Max. flow	I/min. (gpm)	
Max. internal leakage (*)	drops/min.	
Fluid temperature ra	nge °C (°F)	-30 to 100 (-22 to 212)
Installation torque	Nm (ft-lbs)	27-33 (20-24)
Weight	kg (lbs)	0.05 (0.11)
Special cavity		348 see data sheet RE 18325-75
Seal kit (**)		RG0348010520100 R930001669
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	a	See data sheet RE 18350-50

^(*) at 80% of pressure setting

^(**) Only external seals for 10 valves



Ordering code



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

Туре	Material number
04115803991000A	R901098796
041158039920000	R901113594
041158039935000	R901113597
041158039946000	R901098895

Туре	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

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RE 18318-20/09.09
Replaces: RE 00162-02/01.06

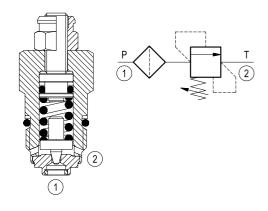
Relief, direct acting poppet type

Special cavity, 348

VS-5-CF

04.11.57 - X - 99 - Z

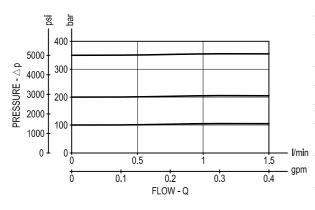




Description

Flow is blocked from 1 to 2 until pressure increases to meet the selected valve setting, lifting the poppet from its seat and allowing relief flow through 2 to tank. Pressure at 2 is additive to the relief setting of the valve. The cartridge is suitable only for pilot or thermal relief applications.

Performance



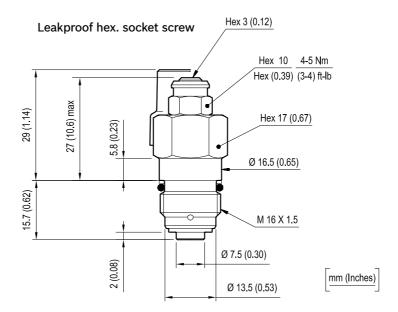
Technical data

	I
re bar (psi)	460 (6600)
/min. (gpm)	1.5 (0.4)
drops/min.	15
ige °C (°F)	-30 to 100 (-22 to 212)
Nm (ft-lbs)	27-33 (20-24)
kg (lbs)	0.05 (0.11)
	348 see data sheet RE 18325-75
code material no.	RG0348010520100 R930001669
	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
	Nominal value max. 10µm (NAS 8) ISO 4406 19/17/14
	No restrictions
	See data sheet RE 18350-50
	l/min. (gpm) drops/min. nge °C (°F) Nm (ft-lbs) kg (lbs) code

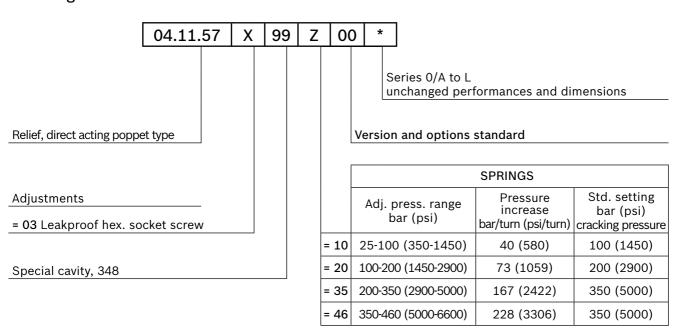
(*) at 80% of pressure setting

(**) Only external seals for 10 valves

OPTION
Tamper resistant cap
ordering code 11.04.31.001
Mat. no. R930000777



Ordering code



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

Туре	Material number
04115703991000A	R901099066
041157039920000	R901099072
041157039935000	R901099117
041157039946000	R901099135

Туре	Material number

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Rexroth **Bosch Group**

1/2 RE 18318-01/09.09 Replaces: RE 00162-02/01.06

Relief, direct acting poppet type

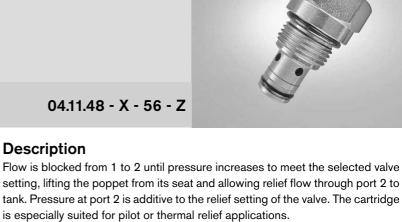
Common cavity, Size 08

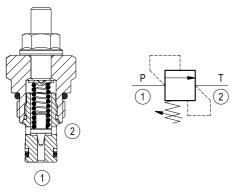
VSAN-08A

Performance

04.11.48 - X - 56 - Z

Description

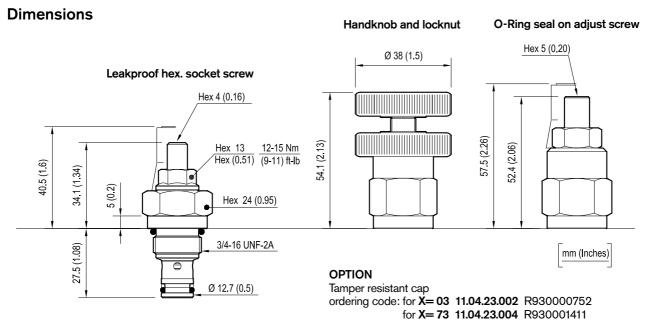




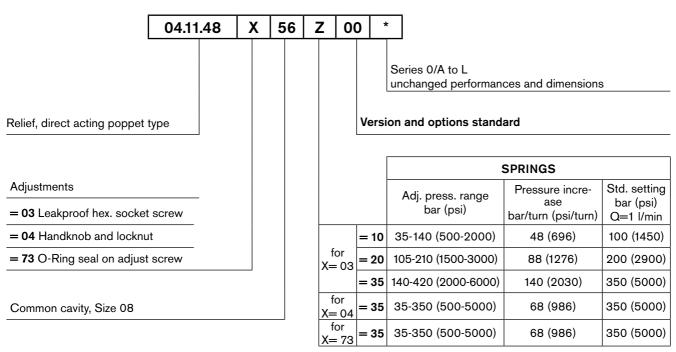
	· <u>ş</u>	a ja	į.						
PRESSURE - \triangle p	5000-	100							- I/min
		Ċ		0.2	0.4 DW - Q	2	0.6	3 + .8	. gpm

Max. operating pressure port 1 (P)	bar (psi)	350 (5000); for X=03 420 (6000)
Max. pressure admitted port 2 (T)	bar (psi)	140 (2000)
Max. flow	I/min. (gpm)	3 (0.8)
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)	0.14 (0.31)
Cavity		CA-08A-2N see data sheet RE 18325-70
Line bodies		See data sheet RE 18325-85
Seal kit (***)	code material no.	
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 general technical of	lata	See data sheet RE 18350-50

- (*) Max. to 80% of nominal setting
- (**) Standard version X=03 type
- (***) Only external seals for 10 valves



Ordering code



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

Туре	Material number
041148035610000	R901104094
041148035620000	R901104097
041148035635000	R901104099
041148045635000	R901104100
041148735635000	R901161970

Туре	Material number

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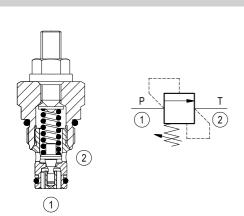
RE 18318-04/09.09
Replaces: RE 00162-02/01.06

Relief, direct acting guided poppet type

Common cavity, Size 08

VSBN-08A

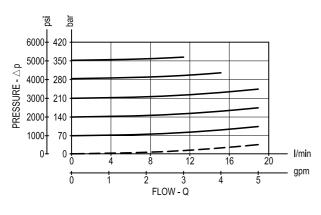
04.11.49 - X - 56 - Z



Description

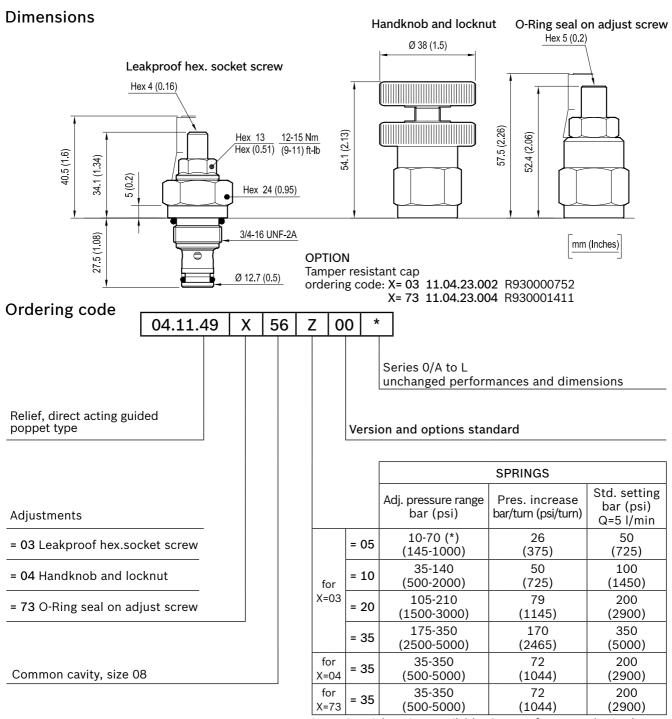
Flow is blocked from 1 to 2 until pressure increases to meet the selected valve setting, lifting the poppet from its seat and allowing relief flow through port 2 to tank. Pressure at port 2 is additive to the relief setting of the valve. The unique Bosch Rexroth Oil Control poppet design provides enhanced stability at all flows and pressures.

Performance



Max. operating pressure port 1 (P) bar (psi)	350 (5000)
Max. pressure admitted port 2 (T) bar (psi)	140 (2000)
Max. flow I/min. (gpm)	20 (5.3)
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)	0.09 (0.2)
Cavity	CA-08A-2N see data sheet RE 18325-70
	RG08A2010520100 R901101437
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 general technical data	See data sheet RE 18350-50
(4) 11	

- (*) Max. to 80% of nominal setting
- (**) Standard version X=03 type
- (***) Only external seals for 10 valves



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

(*) minimum pressure setting intended with Q=5 l/min (1.3 gpm)

Туре	Material number
041149035605000	R901113598
041149035610000	R901113599
041149035620000	R901097728
041149035635000	R901091914
041149045635000	R901113600

Туре	Material number
041149735635000	R901113601

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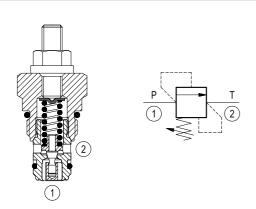
RE 18318-18/09.09 Replaces: RE 00162-02/01.06

Relief, direct acting guided poppet type

Special cavity

VSBN-08F

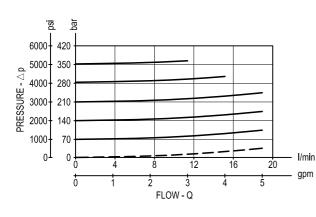
04.11.49 - X - 20 - Z



Description

Flow is blocked from 1 to 2 until pressure increases to meet the selected valve setting, lifting the poppet from its seat and allowing relief flow through port 2 to tank. Pressure at port 2 is additive to the relief setting of the valve. The unique Bosch Rexroth Oil Control poppet design provides enhanced stability at all flows and pressures.

Performance

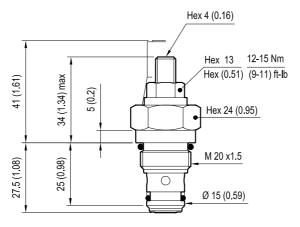


Max. operating pressure port 1 (P) bar (psi)	350 (5000)
Max. operating pressure port 2 (T) bar (psi)	140 (2000)
Max. flow I/min. (gp	m)	20 (5)
Max. internal leakage (*) drops/n	nin.	15
Fluid temperature range °C (°F)	-30 to 100 (-22 to 212)
Installation torque Nm (ft-l	bs)	27-30 (20-22)
Weight kg (I	bs)	0.14 (0.31)
Cavity		CA-08F-2N
Seal kit (**) co	ode no.	RG08F2010520100 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
(1)		

- (*) at 80% of pressure setting
- (**) Only external seals for 10 valves

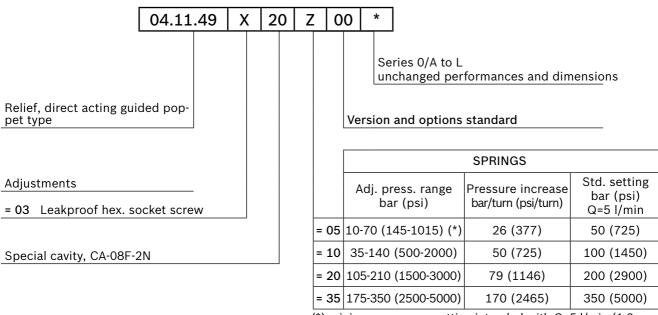
Leakproof hex. socket screw

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



mm (Inches)

Ordering code



(*) minimum pressure setting intended with Q=5 l/min (1.3 gpm)

Туре	Material number
041149032005000	R901126917
041149032010000	R901113602
041149032020000	R901113604
041149032035000	R901113605

Туре	Material number

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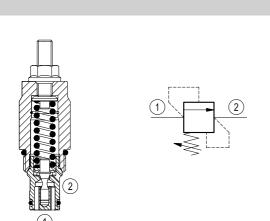
RE 18318-05/08.11 Replaces: RE 18318/09.09

Relief, direct acting guided poppet type

Common cavity, Size 10

VSBN-10A

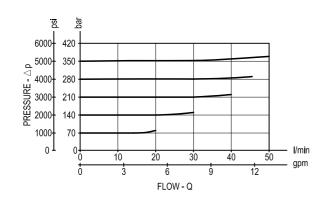
04.11.55 - X - 85 - Z



Description

Flow is blocked from 1 to 2 until pressure increases to meet the selected valve setting, lifting the poppet from its seat and allowing relief flow through port 2 to tank. Pressure at port 2 is additive to the relief setting of the valve. The unique Bosch Rexroth Oil Control poppet design provides enhanced stability at all flows and pressures.

Performance

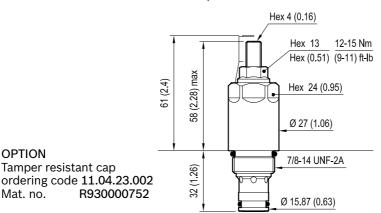


Max. operating pressure bar (psi) port 1 (P)	350 (5000)
Max. pressure admitted port 2 (T) bar (psi)	350 (5000)
Max. flow I/min. (gpm)	50 (13)
Max. internal leakage (*) drops/min.	15
Fluid temperature range °C (°F)	-30 to 100 (-22 to 212)
Installation torque Nm (ft-lbs)	41-47 (30-35)
Weight kg (lbs)	0.2 (0.44)
Cavity	CA-10A-2N see data sheet RE 18325-70
	RG10A2010530100 R901111366
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 general technical data	See data sheet RE 18350-50

^(*) Max. to 80% of nominal setting.

^(**) Only external seals for 10 valves

Leakproof hex. socket screw

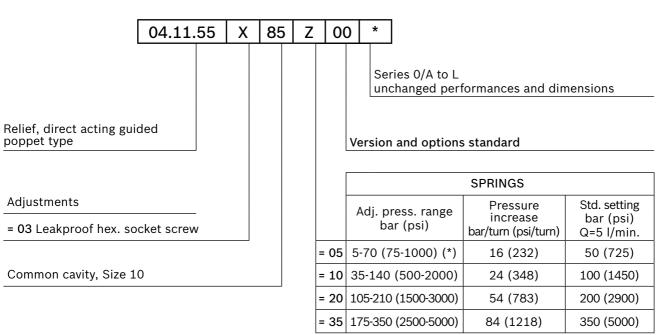


mm (Inches)

Ordering code

OPTION

Mat. no.



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

(*) minimum pressure setting intended with Q=5 l/min. (1.3 gpm)

Material number
R901191831
R901113609
R901113610
R901115702

Туре	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

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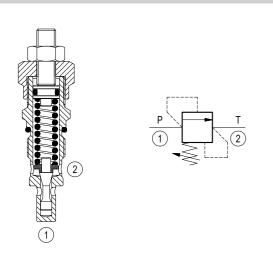
RE 18318-23/07.10
Replaces: RE 00162-02/01.06

Relief, direct acting guided poppet type

Special cavity, 008

VS-30

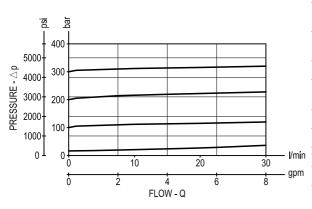
04.11.18 - X - 99 - Z



Description

Flow is blocked from 1 to 2 until pressure increases to meet the selected valve setting, lifting the poppet from its seat and allowing relief flow through 2 to tank. Pressure at 2 is additive to the relief setting of the valve. The unique Bosch Rexroth Oil Control poppet design provides enhanced stability at all flows and pressures.

Performance

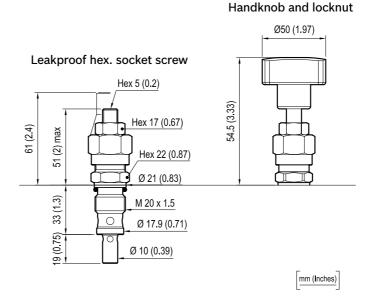


Max. operating pressu port 1 (P)	ure bar (psi)	350 (5000)
Max. pressure admitte port 2 (T)	ed bar (psi)	140 (2000)
Max. flow	/min. (gpm)	30 (8)
Max. internal leakage (*)	drops/min.	15
Fluid temperature ran	ige °C (°F)	-30 to 100 (-22 to 212)
Installation torque	Nm (ft-lbs)	45-50 (33-37)
Weight (**)	kg (lbs)	0.17 (0.38)
Special cavity		008 see data sheet RE 18325-75
Seal kit (***)	code material no.	RG0008010000100 R930001692
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

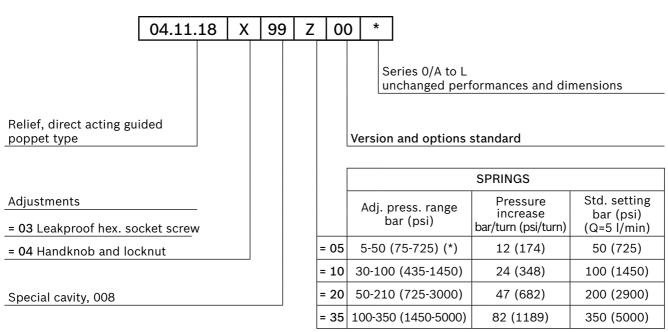
- (*) at 80% of pressure setting
- (**) Standard version 03 type
- (***) Only external seals for 10 valves

OPTION Tamper resistant cap ordering code 11.04.23.

ordering code 11.04.23.003 Mat. no. R930000754



Ordering code



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

(*) minimum pressure setting intended with Q=5 l/min (1.3 gpm)

Туре	Material number
041118039905000	R901113613
041118039910000	R901113614
041118039920000	R901226876
041118039935000	R901113617
041118049905000	R930000148

Туре	Material number
041118049910000	R930000149
041118049920000	R901127942
041118049935000	R930000151

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Rexroth Bosch Group

RE 18318-24/04.10
Replaces: RE 00162-02/01.06

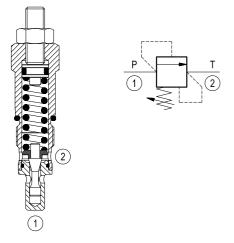
Relief, direct acting guided poppet type, hardened seat

Special cavity, 008

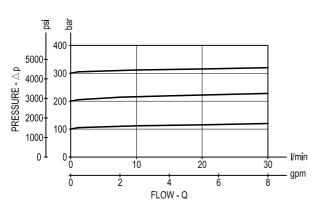
VS-30-NCF

04.11.18 - X - 09 - Z





Performance



Description

Flow is blocked from 1 to 2 until pressure increases to meet the selected valve setting, lifting the poppet from its seat and allowing relief flow through 2 to tank. Pressure at 2 is additive to the relief setting of the valve. The unique Bosch Rexroth Oil Control poppet design provides enhanced stability at all flows and pressures. A hardened seat is provided for increased durability in high-pressure, high-cycle applications.

Technical data

Max. operating pressure port 1 (P)	bar (psi)	420 (6000)
Max. operating pressure port 2 (T)	bar (psi)	140 (2000)
Max. flow I/mir	n. (gpm)	30 (8)
Max. internal leakage (*)	ps/min.	5
Fluid temperature range	°C (°F)	-30 to 100 (-22 to 212)
Installation torque Nm	(ft-lbs)	45-50 (33-37)
Weight	kg (lbs)	0.17 (0.38)
Special cavity		008, see data sheet RE 18325-75
Seal kit (**) mat	code erial no.	
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 900/ of procesure set	tin ~	

(*) at 80% of pressure setting

(**) Only external seals for 10 valves

Note: the pressure setting must be done after installation, because the spring cannot be compressed while the cartridge is out of the cavity. For the same reason the threaded adjuster must be fully released prior to unscrewing the cartridge from the cavity.

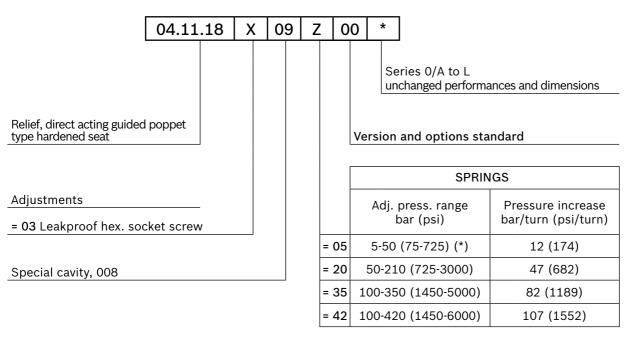
OPTION Tamper resistant cap ordering code 11.04.23.003 Mat. no. R930000754

Hex 5 (0.2) Hex 17 (0.67) Hex 22 (0.87) M 20 x 1.5 Ø 17.9 (0.71) Ø 10 (0.39)

Leakproof hex. socket screw

mm (Inches)

Ordering code



(*) minimum pressure setting intended with Q=5 l/min (1.3 gpm) **Note:** Special settings available. Contact factory authorized representative for ordering code

Туре	Material number
04111803090500A	R930000129
04111803092000D	R930000132
04111803093500C	R901144794
041118030942000	R930000134

Туре	Material number
-	

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1/2

RE 18318-25/05.10 Replaces: RE 00162-02/01.06

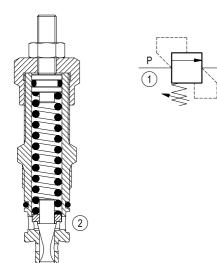
Relief, direct acting guided poppet type

Special cavity, 009

VS-80

04.11.05 - X - 99 - Z

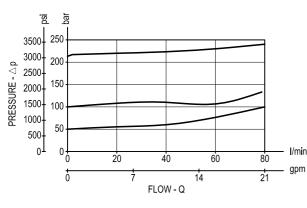




Description

Flow is blocked from 1 to 2 until pressure increases to meet the selected valve setting, lifting the poppet from its seat and allowing relief flow through 2 to tank. Pressure at 2 is additive to the relief setting of the valve. The unique Bosch Rexroth Oil Control poppet design provides enhanced stability at all flows and pressures.

Performance



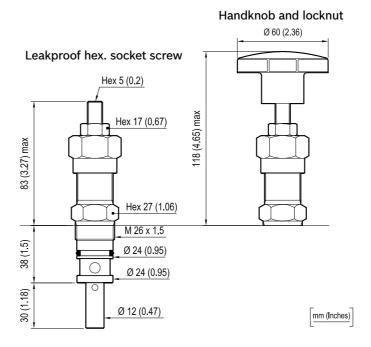
Technical data

Max. operating pressure port 1 (P)	ar (psi)	250 (3600)
Max. operating pressure port 2 (T)	ar (psi)	140 (2000)
Max. flow I/min.	(gpm)	80 (21)
Max. internal drop	s/min.	15
Fluid temperature range '	°C (°F)	-30 to 100 (-22 to 212)
Installation torque Nm	(ft-lbs)	83-92 (61-68)
Weight k	g (lbs)	0.35 (0.77)
Special cavity		009, see data sheet RE 18325-75
Seal kit (**) mate	code rial no.	RG0009010000100 R930001694
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
(1)		

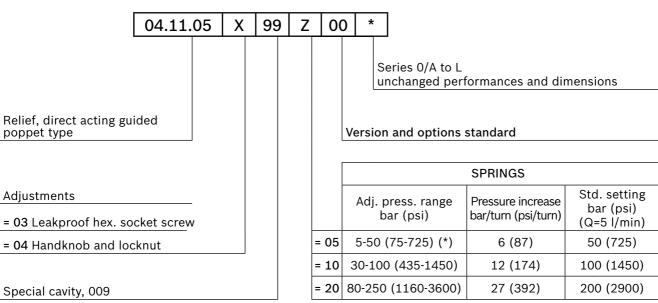
(*) at 80% of pressure setting

(**) Only external seals for 10 valves

OPTION Tamper resistant cap ordering code 11.04.23.003 Mat. no. R930000754



Ordering code



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

(*) minimum pressure setting intended with Q=5 l/min (1.3 gpm)

Туре	Material number
041105039905000	R930000117
041105039910000	R930000119
041105039920000	R901113620
041105049910000	R930000121
041105049920000	R930000122

Туре	Material number

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RE 18318-06/09.09
Replaces: RE 00162-02/01.06

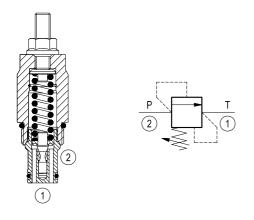
Relief, direct acting guided poppet type

Common cavity, Size 10

VSBG-10A

04.11.56 - X - 85 - Z

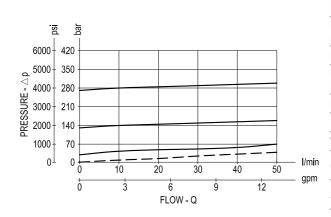




Description

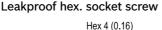
Flow is blocked from 2 to 1 until pressure increases to meet the selected valve setting, lifting the poppet from its seat and allowing relief flow through port 1 to tank. Pressure at port 1 is additive to the relief setting of the valve. The unique Bosch rexroth oil control poppet design provides enhanced stability at all flows and pressures.

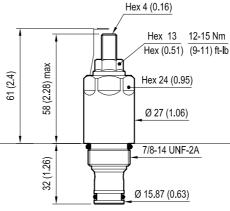
Performance



Max. operating pressure bar (psi) port 1 (P)	350 (5000)
Max. pressure admitted port 2 (T) bar (psi)	350 (5000)
Flow. range I/min. (gpm)	50 (13)
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-2N see data sheet RE 18325-70
	RG10A2010530100 R901111366
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 general technical data	See data sheet RE 18350-50

- (*) Max. to 80% of nominal setting
- (**) Only external seals for 10 valves



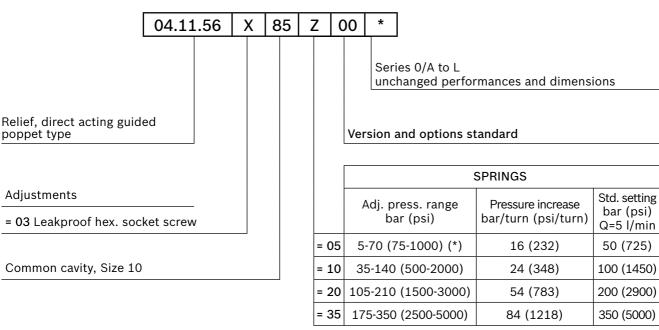


OPTION

Tamper resistant cap ordering code 11.04.23.002 Mat. no. R930000752

mm (Inches)

Ordering code



Note: Special settings available. Contact factory authorized representative for ordering code (*) minimum pressure setting intended with Q=5 l/min (1.3 gpm)

Material number
R901157894
R901113622
R901113624
R901113626

Туре	Material number

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Rexroth Bosch Group

RE 18318-02/09.09 1/2 Replaces: RE 00162-02/01.06

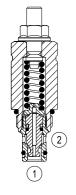
Relief, direct acting poppet type differential area

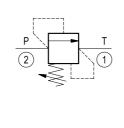
Common cavity, Size 08

VSDN-08A

04.15.22 - X - 56 - Z



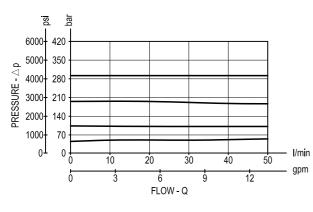




Description

Flow is blocked from 2 to 1 until pressure increases to meet the selected valve setting, lifting the poppet from its seat and allowing relief flow through port 1 to tank. Pressure at port 1 is additive to the relief setting of the valve. The unique Bosch Rexroth Oil Control poppet design provides enhanced stability at all flows and pressures.

Performance



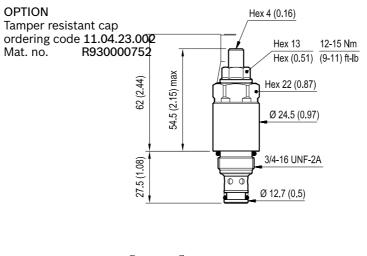
Technical data

Max. operating press port 2 (P)	sure bar (psi)	350 (5000)
Max. operating press port 1 (T)	sure bar (psi)	140 (2000)
Max. flow	I/min. (gpm)	50 (13)
Max. internal leakage (*)	drops/min.	15
Fluid temperature ra	nge °C (°F)	-30 to 100 (-22 to 212)
Installation torque	Nm (ft-lbs)	34-41 (25-30)
Weight	kg (lbs)	0.15 (0.33)
Common cavity		CA-08A-2N see data sheet RE 18325-70
Seal kit (**)	code material no.	RG08A2010520100 R901101437
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	a	See data sheet RE 18350-50

(*) at 80% of pressure setting

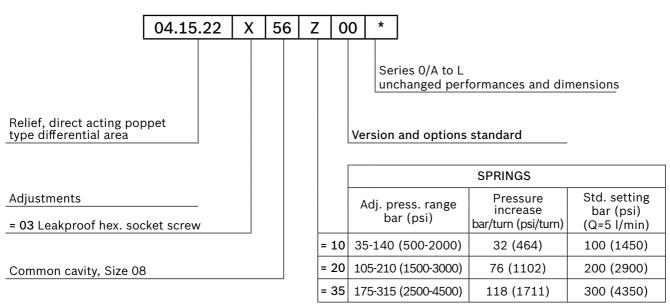
(**) Only external seals for 10 valves

Leakproof hex. socket screw



mm (Inches)

Ordering code



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

Type	Material number
041522035610000	R930005640
041522035620000	R930005641
041522035635000	R930005642

Туре	Material number

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RE 18318-03/01.10 1/2 Replaces: RE 00162-02/01.06

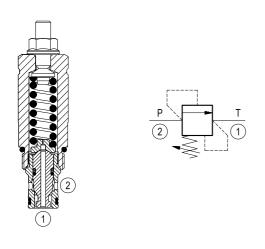
Relief, direct acting poppet type differential area

Common cavity, Size 10

VSDN-10A

04.15.23 - X - 85 - Z

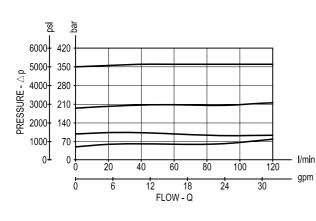




Description

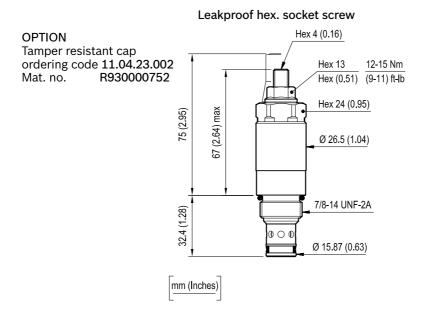
Flow is blocked from 2 to 1 until pressure increases to meet the selected valve setting, lifting the poppet from its seat and allowing relief flow through port 1 to tank. Pressure at port 1 is additive to the relief setting of the valve. The unique Bosch Rexroth Oil Control poppet design provides enhanced stability at all flows and pressures.

Performance

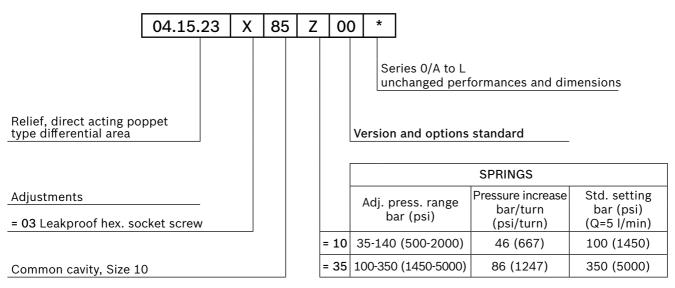


Max. operating pressure port 2 (P) bar (psi)	350 (5000)
Max. operating pressure port 1 (T) bar (psi)	140 (2000)
Max. flow I/min. (gpm)	120 (32)
Max. internal leakage (*) drops/min.	15
Fluid temperature range °C (°F)	-30 to 100 (-22 to 212)
Installation torque Nm (ft-lbs)	41-47 (30-35)
Weight kg (lbs)	0.2 (0.44)
Common cavity	CA-10A-2N see data sheet RE 18325-70
Seal kit (**) code material no.	
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 80% of cracking pressure
- (**) Only external seals for 10 valves



Ordering code



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

Туре	Material number
041523038510000	R930005643
041523038535000	R930005644

Туре	Material number
-	
-	

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Bosch Group

1/2 RE 18318-22/09.09 Replaces: RE 00162-02/01.06

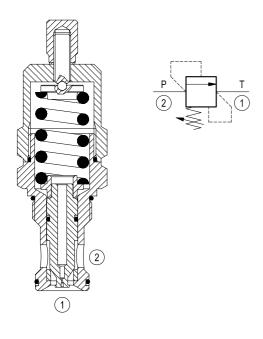
Relief, direct acting poppet type differential area

Special cavity, 004

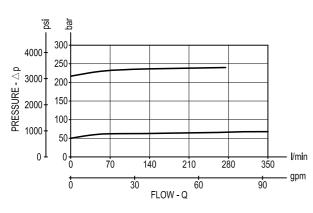
VSD-350

04.15.04 - X - 99 - Z





Performance



Description

Flow is blocked from 2 to 1 until pressure increases to meet the selected valve setting, lifting the poppet from its seat and allowing relief flow through 1 to tank. Pressure at 1 is additive to the relief setting of the valve. The combination of stable poppet design and hardened seat provide excellent response, hysteresis and leakage characteristics.

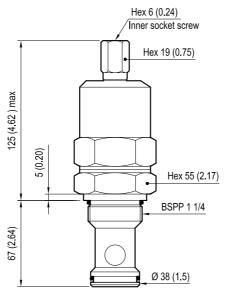
Technical data

Max. operating pressur port 2 (P)	e bar (psi)	210 (3000)
Max. pressure admitted port 1 (T)	bar (psi)	140 (2000)
Max. flow I/r	min. (gpm)	350 (93)
Max. internal leakage (*)	drops/min.	15
Fluid temperature range	e °C (°F)	-30 to 100 (-22 to 212)
Installation torque	Nm (ft-lbs)	245-264 (181-196)
Weight	kg (lbs)	1.5 (3.3)
Special cavity		004, see data sheet RE 18325-75
Seal kit (**)	code naterial no.	
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
(*) -+ 000/ -f	44!	•

(*) at 80% of pressure setting

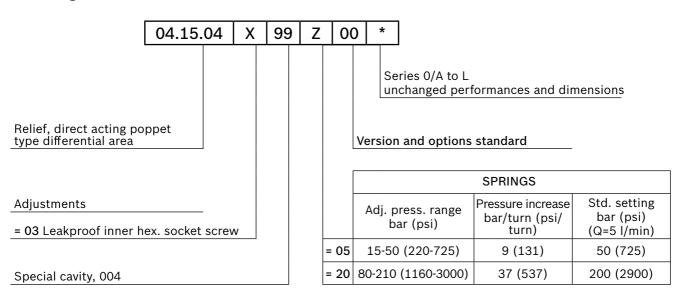
(**) Only external seals for 10 valves

Leakproof inner hex. socket screw



mm (Inches)

Ordering code



Туре	Material number
04150403990500A	R930000377
04150403992000A	R901113637

Type Material	number

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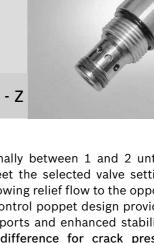
1/2 RE 18318-07/09.09 Replaces: RE 00162-02/01.06

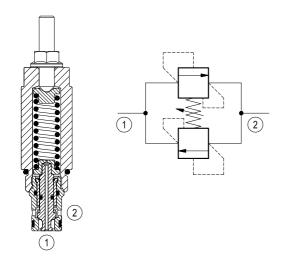
Relief, bi-directional direct acting poppet type differential area

Common cavity, Size 10

VSNG-10A

04.11.59 - X - 85 - Z

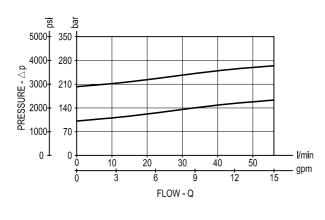




Description

Flow is blocked bi-directionally between 1 and 2 until pressure at either port increases to meet the selected valve setting, lifting the poppet from its seat and allowing relief flow to the opposite port. The unique Bosch Rexroth Oil Control poppet design provides consistent cracking pressures at both ports and enhanced stability at all flows and pressures. Maximum difference for crack pressure in both direction: 10 bar (145 psi)

Performance

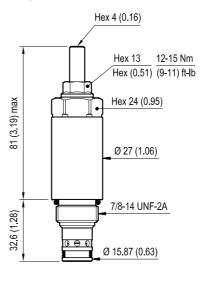


Max. operating pressure bar (psi) port 1 (P)	240 (3500)
$\begin{array}{ll} \text{Max. pressure admitted} & \text{bar (psi)} \end{array}$	240 (3500)
Max. flow I/min. (gpm)	56 (15)
Max. internal leakage (*) cm³/min. (cu.in./min.)	30 (1.8)
Fluid temperature range °C (°F)	-30 to 100 (-22 to 212)
Installation torque Nm (ft-lbs)	41-47 (30-35)
Weight kg (lbs)	0.25 (0.55)
Cavity	CA-10A-2N see data sheet RE 18325-70
Seal kit (**) code material no.	RG10A2010530100 R901111366
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 general technical data	See data sheet RE 18350-50
(+) 14 (000) (0000)	`

^(*) Measured at 200 bar (2900 psi)

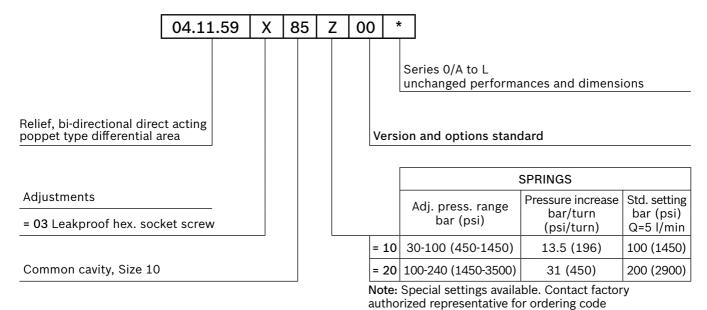
^(**) Only external seals for 10 valves

Leakproof hex. socket screw



mm (Inches)

Ordering code



Туре	Material number
041159038510000	R901109725
041159038520000	R901109726

Туре	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

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1/2

RE 18318-26/07.12

Replaces: RE 18318-26/09.09

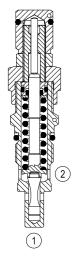
Relief, direct acting poppet type pressure compensated

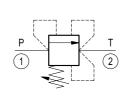
Special cavity, 008

VS-30-CC

04.11.27 - X - 99 - Z



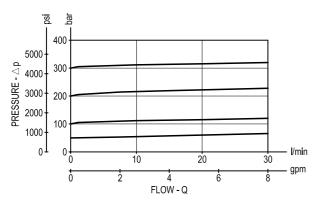




Description

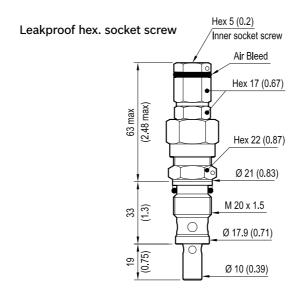
Flow is blocked from 1 to 2 until pressure increases to meet the selected valve setting, lifting the poppet from its seat and allowing relief flow through 2 to tank. The valve applies a balanced piston design allowing consistent relief operation at the valve setting independent of back-pressure at 2. The unique Bosch Rexroth Oil Control poppet design provides enhanced stability at all flows and pressures.

Performance



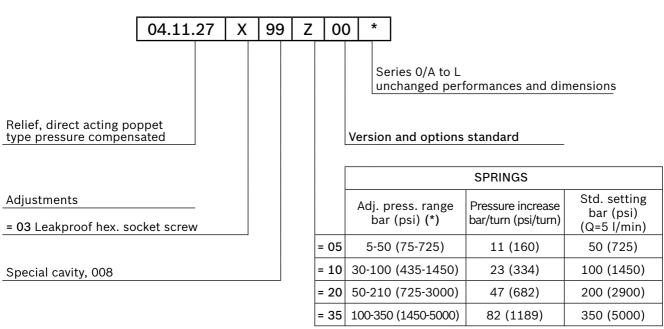
Max. operating pressure bar (psi)		350 (5000)
Max. flow	l/min. (gpm)	30 (8)
Max. internal leakage (*)	drops/min.	15
Fluid temperature ra	ange °C (°F)	-30 to 100 (-22 to 212)
Installation torque	Nm (ft-lbs)	46-51 (34-38)
Weight	kg (lbs)	0.17 (0.38)
Special cavity		008 see data sheet RE 18325-75
Seal kit (**)	code material no.	
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 80% of pressure setting
- (**) Only external seals for 10 valves



mm (Inches)

Ordering code



Note: Special settings available. Contact factory authorized representative for ordering code (*) minimum pressure setting intended with Q=5 l/min (1.3 gpm)

Туре	Material number
04112703990500D	R930006231
04112703991000D	R930006233
04112703992000D	R930006234
04112703993500D	R930006239

Туре	Material number

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1/2 RE 18318-08/09.09 Replaces: RE 00162-02/01.06

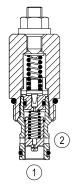
Relief, pilot operated spool type

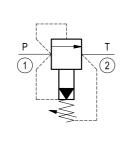
Common cavity, Size 10

VSPN-10A

04.12.08 - X - 85 - Z



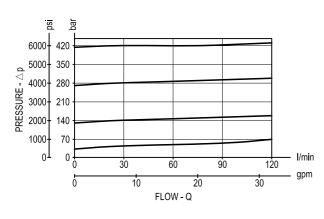




Description

Flow is blocked from 1 to 2 until pressure increases to meet the selected valve setting, lifting the conical, pilot-stage poppet from its seat. This action exhausts oil above the main-stage piston (spool type), allowing it to shift and provide relief flow through 2 to tank. Pressure at 2 is additive to the relief setting of the valve.

Performance



Max. operating pressure bar (psi) port 1 (P)	420 (6000)			
Max. pressure admitted port 2 (T) bar (psi)	350 (5000) for version 03 210 (3000) for version 04			
Flow range I/min. (gpm)	3-120 (1-32)			
Max. internal leakage (*) cm³/min. (cu.in./min.)	200 (12)			
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-2N see data sheet RE 18325-70			
	RG10A2010530100 R901111366			
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 general technical data	See data sheet RE 18350-50			
(*) Management at 200 km (2000 mail)				

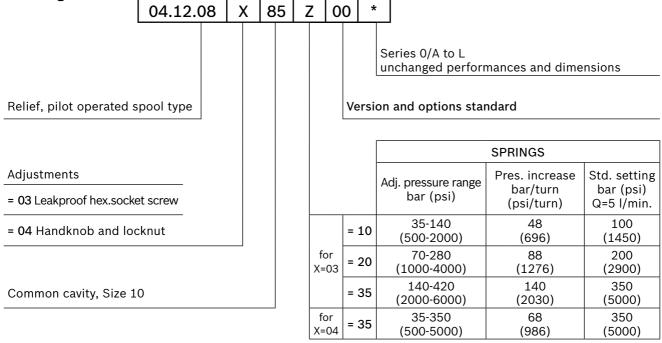
- (*) Measured at 200 bar (2900 psi)
- (**) Standard version X=03 type
- (***) Only external seals for 10 valves

Handknob and locknut

Dimensions

Ø38 (1.5) Leakproof hex. socket screw **OPTION** Hex 4 (0.16) Hex 13 12-15 Nm Tamper resistant cap ordering code 11.04.23.002 Hex (0.51) (9-11) ft-lb R930000752 Mat. no. 73.4 (2.89) 60 (2.36) Hex 24 (0.95) 48 (1.89) Hex 24 (0.95) 7/8-14 UNF-2A (1.26)32 Ø 15.87 (0.63) mm (Inches)

Ordering code



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

Туре	Material number
041208038510000	R901097726
041208038520000	R901097722
041208038535000	R901104103
041208048535000	R901104104

Туре	Material number

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RE 18318-09/11.11 Replaces: RE 18318-09/09.09

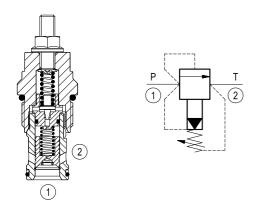
Relief, pilot operated spool type

Common cavity, Size 12

VSPN-12A

04.12.10 - X - 57 - Z

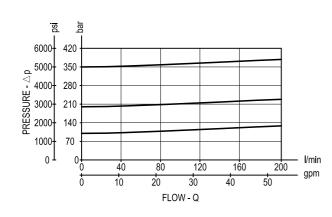




Description

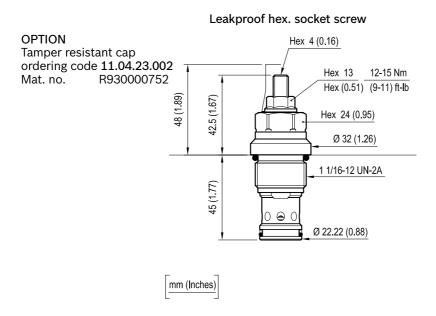
Flow is blocked from 1 to 2 until pressure increases to meet the selected valve setting, lifting the conical, pilot-stage poppet from its seat. This action exhausts oil above the main-stage piston (spool type), allowing it to shift and provide relief flow through 2 to tank. Pressure at 2 is additive to the relief setting of the valve.

Performance

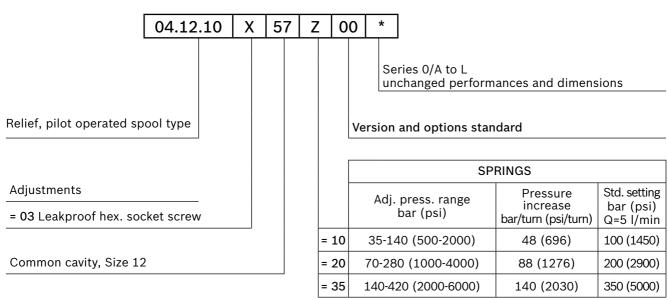


Max. operating pressure port 1 (P) bar (psi)	420 (6000)
Max. pressure admitted port 2 (T) bar (psi)	140 (2000)
Flow range I/min. (gpm)	5-200 (1.3-53)
Max. internal leakage (*) cm³/min. (cu.in./min.)	350 (21)
Fluid temperature range °C (°F)	-30 to 100 (-22 to 212)
Installation torque Nm (ft-lbs)	81-95 (60-70)
Weight kg (lbs)	0.2 (0.5)
Cavity	CA-12A-2N see data sheet RE 18325-70
Seal kit (**) code material no.	RG12A2010520100 R901111377
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 general technical data	See data sheet RE 18350-50
(*) Management at 200 hay (2000 no.	`

- (*) Measured at 200 bar (2900 psi)
- (**) Only external seals for 10 valves



Ordering code



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

Туре		Material number
0412100357	10000	R930000334
04121003572	20000	R930000335
04121003573	35000	R930000336

Туре	Material number

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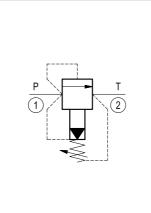
RE 18318-10/05.10 1/2 Replaces: RE 00162-02/01.06

Relief, pilot operated spool type

Common cavity, Size 16

VSPN-16A

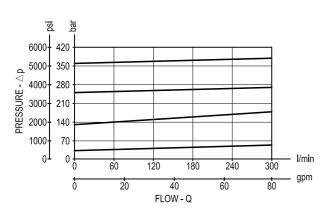
04.12.11 - X - 27 - Z



Description

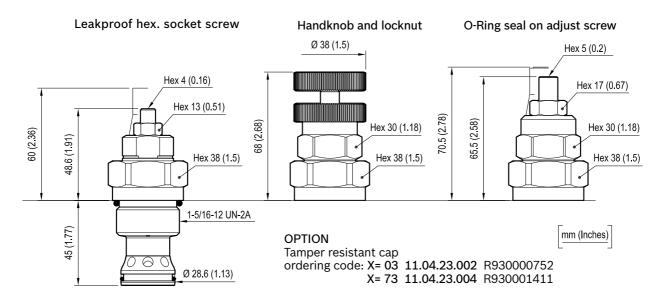
Flow is blocked from 1 to 2 until pressure increases to meet the selected valve setting, lifting the conical, pilot-stage poppet from its seat. This action exhausts oil above the main-stage piston (spool type), allowing it to shift and provide relief flow through 2 to tank. Pressure at 2 is additive to the relief setting of the valve. Pilot operation is protected from contamination by a filter screen at the bottom of the main piston.

Performance

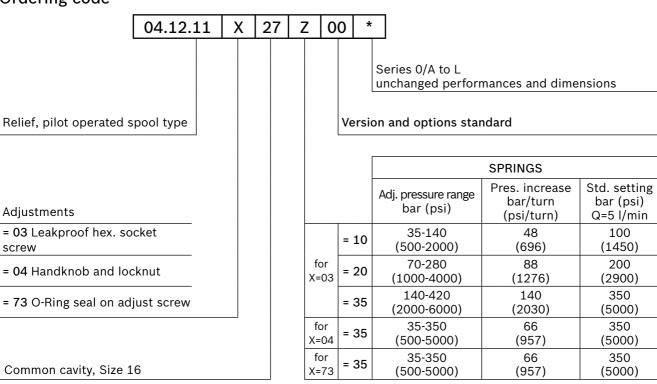


Max. operating pressure port 1 (P) bar (psi)	420 (6000)
Max. pressure admitted bar (psi)	140 (2000)
Flow range I/min. (gpm)	8-300 (2-79)
Max. internal leakage (*) cm³/min. (cu.in./min.)	350 (21)
Fluid temperature range °C (°F)	-30 to 100 (-22 to 212)
Installation torque Nm (ft-lbs)	108-122 (80-90)
Weight (**) kg (lbs)	0.45 (0.99)
Cavity	CA-16A-2N see data sheet RE 18325-70
	RG16A2010520100 R901111386
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 general technical data	See data sheet RE 18350-50

- (*) Measured at 200 bar (2900 psi)
- (**) Standard version X=03 type
- (***) Only external seals for 10 valves



Ordering code



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

Туре	Material number
041211032710000	R930001025
041211032720000	R930001026
041211032735000	R930001027
041211042735000	R930001024
041211732735000	R930001028

Material number

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RE 18318-11/03.10

1/2 Replaces: RE 18318-11/09.09

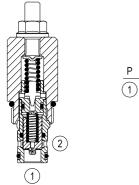
Relief, pilot operated poppet type

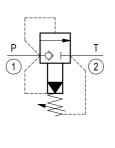
Common cavity, Size 10

VSPC-10A

04.12.09 - X - 85 - Z



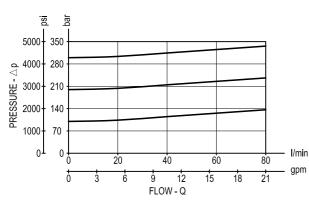




Description

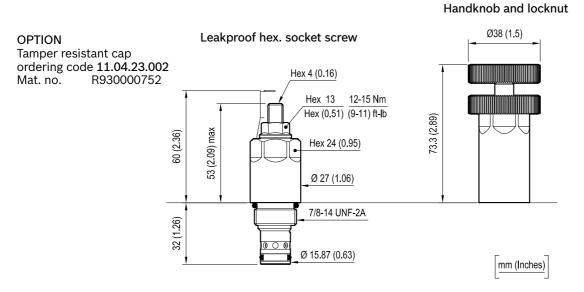
Flow is blocked from 1 to 2 until pressure increases to meet the selected valve setting, lifting the conical, pilot-stage poppet from its seat. This action exhausts oil above the main-stage poppet (lowleakage, seat type), allowing it to shift and provide relief flow through 2 to tank. Pressure at 2 is additive to the relief setting of the valve.

Performance



Max. operating pressure port 1 (P) bar (psi)	350 (5000)
Max. pressure admitted port 2 (T) bar (psi)	210 (3000)
Flow range I/min. (gpm)	3-80 (1-21)
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-2N see data sheet RE 18325-70
Seal kit (***) code material no.	
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 general technical data	See data sheet RE 18350-50

- (*) Max. to 80% of nominal setting
- (**) Standard version X=03 type
- (***) Only external seals for 10 valves



Ordering code

04.12.09 85 Z Χ 00 Series 0/A to L unchanged performances and dimensions Relief, pilot operated poppet Version and options standard type **SPRINGS** Adjustments Std. setting Adj. pressure Pres. increase range bar (psi) = 03 Leakproof hex.socket bar/turn (psi/turn) bar (psi) Q=5 l/min. screw 35-140 48 100 = 04 Handknob and locknut = 10 (500-2000)(696)(1450)for 70-280 88 200 = 20 X=03 (1000-4000)(1276)(2900)140-350 140 350 = 35 (2000-5000) (2000)(5000) for 35-350 68 350 = 35 Common cavity, Size 10 X=04 (500-5000)(986)(5000)

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

Туре	Material number
041209038510000	R901109728
041209038520000	R901109729
041209038535000	R901109730
041209048535000	R930005637

Туре	Material number

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1/2

RE 18318-12/05.10 Replaces: RE 18318-12/09.09

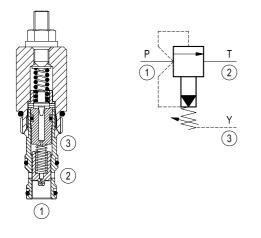
Relief, pilot operated spool type external drain

Common cavity, Size 10

VSPY-10A

04.13.05 - X - 85 - Z

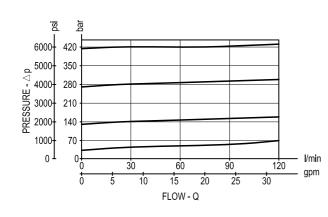




Description

Flow is blocked from 1 to 2 until pressure increases to meet the selected valve setting, lifting the conical, pilot-stage poppet from its seat. This action exhausts oil above the main-stage piston (spool type), allowing it to shift and provide relief flow through 2 to tank. The spring chamber is drained to tank at 3 allowing a consistent relief setting independent of back-pressure at 2.

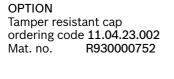
Performance

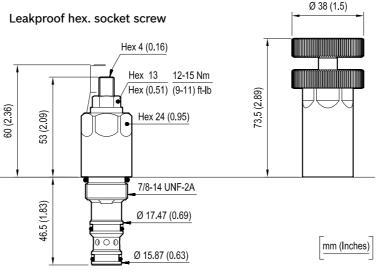


Max. operating pressure port 1 (P) and 2 (T) bar (psi)	420 (6000)
Max. pressure admitted port 3 (Y) bar (psi)	140 (2000)
Flow range I/min. (gpm)	3-120 (0.8-32)
Max. internal leakage (*) cm³/min. (cu.in./min.)	200 (12)
Fluid temperature range °C (°F)	-30 to 100 (-22 to 212)
Installation torque Nm (ft-lbs)	41-47 (30-35)
Weight kg (lbs)	0.21 (0.46)
Cavity	CA-10A-3N see data sheet RE 18325-70
Seal kit (**) code material no.	RG10A3010520100 R901111369
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 general technical data	See data sheet RE 18350-50
(+) • • • • • • • • • • • • • • • • • • •	

- (*) Measured at 200 bar (2900 psi)
- (**) Only external seals for 10 valves

Handknob and locknut





Ordering code

04.13.05 X 85 Z 00 Series 0/A to L unchanged performances and dimensions Relief, pilot operated poppet Version and options standard

type

= 03 Leakproof hex.socket screw

= 04 Handknob and locknut

Common	cavity	Siza	10
COILLION	Cavily.	JIZE	$\perp \cup$

		SPRINGS		
		Adj. pressure	Pres. increase	Std. setting
		range	bar/turn (psi/	bar (psi)
		bar (psi)	turn)	Q=5 l/min.
	= 10	35-140 (500-2000)	48 (696)	100 (1450)
for	= 20	70-280	88	200
X=03		(1000-4000)	(1276)	(2900)
	= 35	140-420 (2000-6090)	140 (2030)	350 (5000)
for	= 35	35-350	68	350
X=04		(500-5000)	(986)	(5000)

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

Туре	Material number
041305038510000	R901106472
041305038520000	R901097730
041305038535000	R901106473
041305048535000	R930005674

Туре	Material number

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Replaces: RE 00162-02/01.06

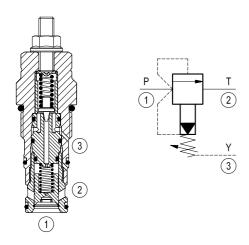
Relief, pilot operated spool type external drain

Common cavity, Size 12

VSPY-12A

04.13.07 - X - 57 - Z

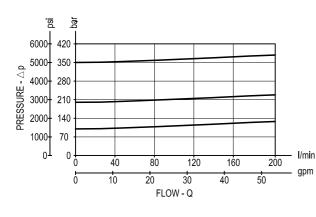




Description

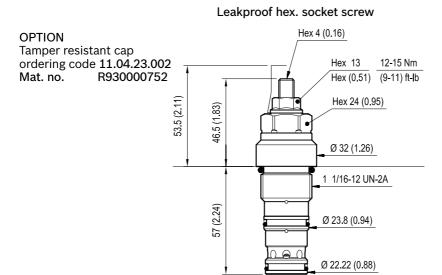
Flow is blocked from 1 to 2 until pressure increases to meet the selected valve setting, lifting the conical, pilot-stage poppet from its seat. This action exhausts oil above the main-stage piston (spool type), allowing it to shift and provide relief flow through 2 to tank. The spring chamber is drained to tank at 3 allowing a consistent relief setting independent of back-pressure at 2.

Performance



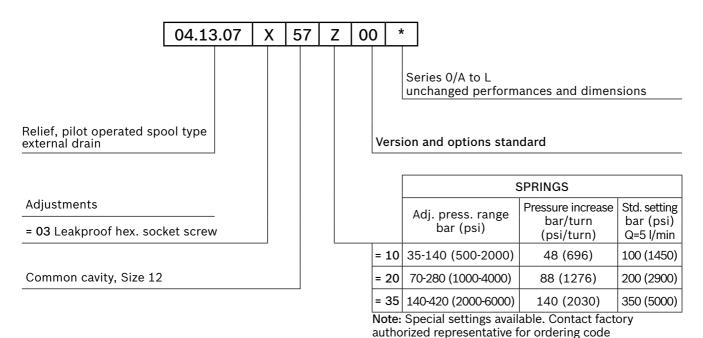
recinitear data	
Max. operating pressure port 1 (P) and 2 (T) bar (psi)	350 (5000)
Max. pressure admitted port 3 (Y) bar (psi)	140 (2000)
Flow. range I/min. (gpm)	5-200 (1.3-53)
Max. internal leakage (*) cm³/min. (cu.in./min.)	350 (21)
Fluid temperature range °C (°F)	-30 to 100 (-22 to 212)
Installation torque Nm (ft-lbs)	81-95 (60-70)
Weight kg (lbs)	0.3 (0.66)
Cavity	CA-12A-3C see data sheet RE 18325-70
Seal kit (**) code material no.	
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 general technical data	See data sheet RE 18350-50
	•

- (*) Measured at 200 bar (2900 psi)
- (**) Only external seals for 10 valves



(mm) Inches

Ordering code



Туре	Material number
041307035710000	R930000356
041307035720000	R930000357
041307035735000	R930000358

Туре	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

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RE 18318-14/09.09
Replaces: RE 00162-02/01.06

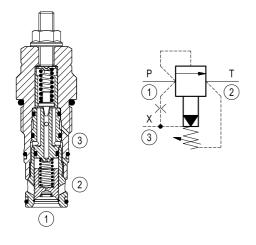
Relief, pilot operated spool type external pilot

Common cavity, Size 12

VSPX-12A

04.13.08 - X - 57 - Z

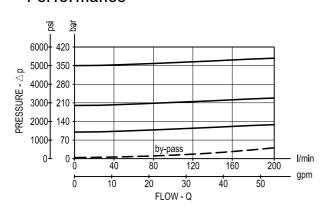




Description

Flow is blocked from 1 to 2 until pressure increases to meet the selected valve setting, lifting the conical, pilot-stage poppet from its seat. This action exhausts oil above the main-stage piston (spool type), allowing it to shift and provide relief flow through 2 to tank. Pressure at 2 is additive to the reliefsetting of the valve. With port 3 fully drained to tank, the minimum relief setting of 2 bar (30 psi) is attained. To use the remote control feature, pressure at 3 may be varied externally in control of the main relief setting up to the selected maximum spring adjustment.

Performance



Max. operating pressure port 1 (P) and 2 (T) bar (psi)	350 (5000)
$\begin{array}{ll} \text{Max. pressure admitted} & \text{bar (psi)} \\ \text{port 3 (X)} & \end{array}$	350 (5000)
Flow range I/min. (gpm)	5-200 (1.3-53)
Max. internal leakage (*) cm³/min. (cu.in./min.)	350 (21)
Fluid temperature range °C (°F)	-30 to 100 (-22 to 212)
Installation torque Nm (ft-lbs)	81-95 (60-70)
Weight kg (lbs)	0.3 (0.66)
Cavity	CA-12A-3C see data sheet RE 18325-70
	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 general technical data	See data sheet RE 18350-50

- (*) Measured at 200 bar (2900 psi)
- (**) Only external seals for 10 valves

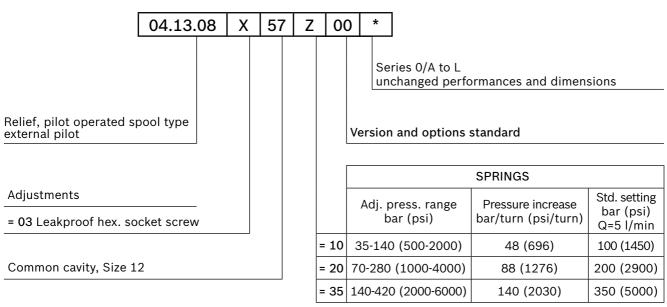
Leakproof hex. socket screw

Ø 22.22 (0.88)

OPTION Hex 4 (0.16) Tamper resistant cap ordering code 11.04.23.002 Hex 13 12-15 Nm R930000752 Mat. no Hex (0.51) (9-11) ft-lb 53 5 (2 11) Hex 24 (0.95) 46 5 (183) Ø 32 (1.26) 1 1/16-12 UN-2A 57 (2.24) Ø 23.8 (0.94)

mm (Inches)

Ordering code



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

Туре	Material number
041308035710000	R930000359
041308035720000	R930000360
041308035735000	R930000361
·	

Туре	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

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RE 18318-27/09.09
Replaces: RE 00162-02/01.06

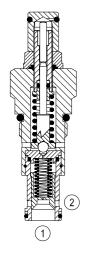
Relief, pilot operated spool type pressure compensated

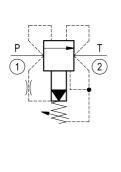
Special cavity, 065

VSP-CC-150

04.18.01 - X - 99 - Z



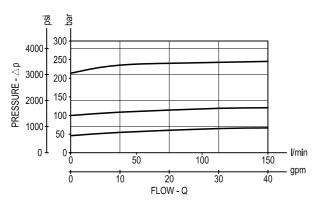




Description

Flow is blocked from 1 to 2 until pressure increases to meet the selected valve setting, lifting the pilot-stage ball check from its seat. This action exhausts oil above the main-stage piston (spool type), allowing it to shift and provide relief flow through 2 to tank. The valve applies a balanced piston design allowing consistent relief operation at the valve setting independent of back-pressure at 2.

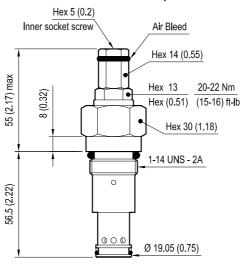
Performance



Max. operating pressure port 1 (P) bar (psi)		bar (psi)	420 (6000)
Max. pressure ad port 2 (T)	mitted	bar (psi)	140 (2000)
Flow range	l/mi	n. (gpm)	5-150 (1.3-40)
Max. internal leakage (*) cm³/min. (cu.in./min.)		u.in./min.)	100 (6)
Fluid temperature	e range	°C (°F)	-30 to 100 (-22 to 212)
Installation torqu	e Nn	n (ft-lbs)	121-133 (89-98)
Weight		kg (lbs)	0.28 (0.62)
Special cavity			065, see data sheet RE 18325-75
Seal kit (**) code material no.		code terial no.	
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
(*) Measured at 200 har (2900 psi)

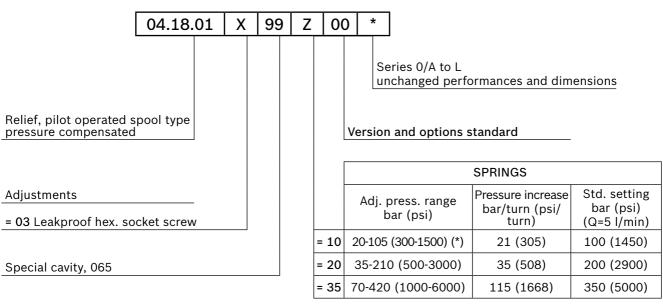
- (*) Measured at 200 bar (2900 psi)
- (**) Only external seals for 10 valves

Leakproof hex. socket screw



mm (Inches)

Ordering code



(*) minimum pressure setting intended with Q=5 l/min. (1.3 gpm)

Туре	Material number
041801039910000	R930000402
04180103992000A	R930000403
04180103993500A	R930000404
	-

Туре	Material number

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1/2

Replaces: RE 18318-16/09.09

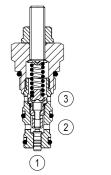
Priority unloading pilot operated

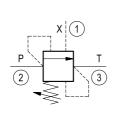
Common cavity, Size 08

VMSN-08A

04.75.21 - X - 56 - Z



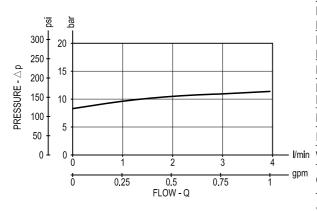




Description

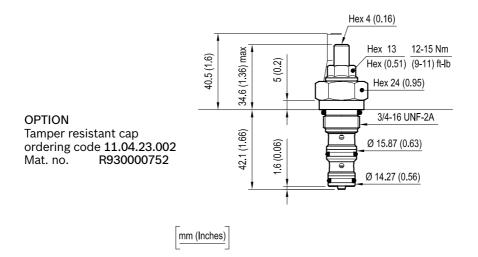
Flow is blocked from 2 to 3 until pressure increases to meet the selected valve setting, lifting the small, pilot-stage poppet from its seat. This action exhausts oil above the main-stage piston (spool type), allowing it to shift fully and unload flow from 2 through 3 with minimal pressure drop. Similarly, when remote pilot pressure at 1 exceeds the pressure setting, a secondary piston lifts the pilot-stage poppet from its seat, again exhausting fluid from 2 through 3.

Performance

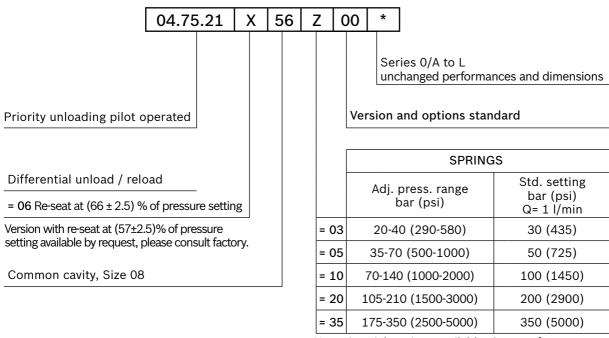


Max. operating pressure bar (ps	si) 350 (5000)
Max. pressure admitted bar (ps	si) 50 (750)
Max. flow I/min. (gpn	n) 3 (1)
Max. internal leakage (*) drops/mi	n. 15
Fluid temperature range °C (°	F) -30 to 100 (-22 to 212)
Installation torque Nm (ft-lb:	s) 34-41 (25-30)
Weight kg (lb:	s) 0.14 (0.31)
Cavity	CA-08A-3N see data sheet RE 18325-70
Seal kit (**) coc material n	. •
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 general technical data	See data sheet RE 18350-50
	-

- (*) at 80% of pressure setting
- (**) Only external seals for 10 valves



Ordering code



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

Туре	Material number
047521065603000	R901109763
047521065605000	R901109764
047521065610000	R901109765
047521065620000	R901109766
047521065635000	R901109767

Туре	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

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RE 18318-17/06.10 1/2 Replaces: RE 00162-02/01.06

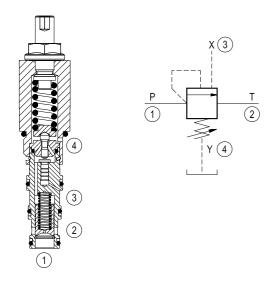
Priority unloading pilot operated

Special cavity, 308

VMSP-78

04.75.10 - X - 99 - Z

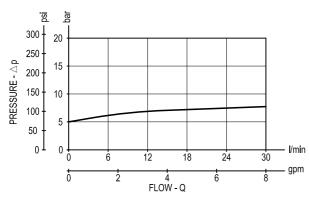




Description

Flow is blocked from 1 to 2 until pressure increases to meet the selected valve setting, lifting the small, pilot-stage poppet from its seat. This action exhausts oil above the main-stage piston (spool type), allowing it to shift fully and unload flow from 1 through 2 with minimal pressure drop. Similarly, when remote pilot pressure at 3 exceeds the pressure setting, a secondary piston lifts the pilot-stage poppet from its seat, again exhausting fluid from 1 through 2. The spring chamber is drained to tank at 4. Any pressure at 4 will be additive to the valve setting.

Performance

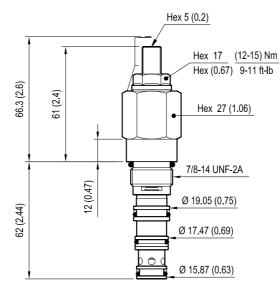


Technical data

roommour data	
Max. operating pressure bar (psi)	350 (5000)
Max. pressure admitted port 2 bar (psi)	210 (3000)
Flow range I/min. (gpm)	5-30 (1.3-8)
Max. internal leakage (*) cm³/min. (cu.in./min.)	25 (1.5)
Fluid temperature range °C (°F)	-30 to 100 (-22 to 212)
Installation torque Nm (ft-lbs)	41-47 (30-35)
Weight kg (lbs)	0.28 (0.62)
Special cavity	308 see data sheet RE 18325-75
Seal kit (**) code material no.	
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 general technical data	See data sheet RE 18350-50
(*) M	1

- (*) Measured at 200 bar (2900 psi)
- (**) Only external seals for 10 valves

Setting is performed pressurizing "X" port.

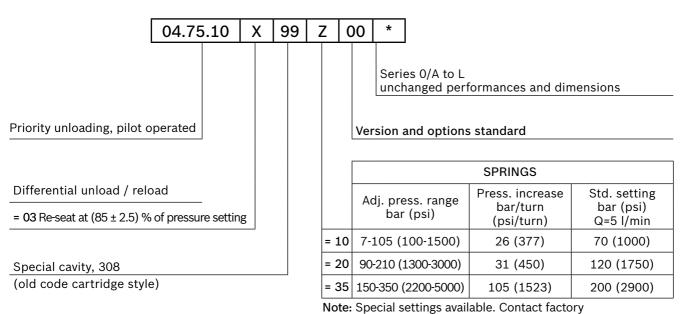


OPTION
Tamper resistant cap
ordering code 11.04.23.004
Mat. no. R930001411

mm (Inches)

authorized representative for ordering code

Ordering code



Туре	Material number
04751003991000D	R930005772
04751003992000D	R930005779
04751003993500C	R930005780

Type	Material number

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Mechanical Cartridge Valves

Pressure reducing and relieving

Designation	Description	Cavity	Code	Data sheet	Pages
Pressure reducing and relieving, direct acting spool type	VRPR-07A	Special	049508X99Z	RE 18318-59	89
Pressure reducing and relieving, direct acting spool type	VRPR-08A	Size 08	0495118356Z	RE 18318-52	91
Pressure reducing and relieving, direct acting spool type	VRPR-10A	Size 10	049504X85Z	RE 18318-53	93
Pressure reducing and relieving, direct acting spool, damped type	VRPR-07A-S	Special	049509X99Z	RE 18318-60	95
Pressure reducing and relieving, direct acting spool, damped type	VRPR-10A-8	Size 10	0495098385Z	RE 18318-54	97
Pressure reducing, pilot operated spool type	VRPP-10A	Size 10	049306X85Z	RE 18318-50	99
Pressure reducing, pilot operated spool type	VRPP-12A	Size 12	049308X57Z	RE 18318-51	101
Pressure reducing and relieving, pilot operated spool type	VRPX-10A	Size 10	049307X85Z	RE 18318-56	103
Pressure reducing and relieving, with pilot controlled setting	VRPE-10A	Size 10	049507X85Z	RE 18318-58	105

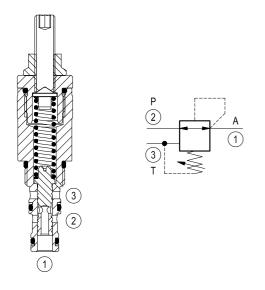
RE 18318-59/07.12 Replaces: RE 18318-59/01.10

Pressure reducing and relieving, direct acting spool type

Special cavity

VRPR-07A

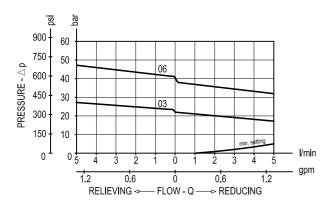
04.95.08 - X - 99 - Z



Description

Initially, flow passes freely from 2 to 1. When the pressure at 1 exceeds the pressure setting, the valve acts to restrict input flow at 2. This increases the pressure drop through the valve and maintains consistent pressure at 1. The spring chamber is drained at 3 to prevent a build-up of back-pressure against the spool. Additionally, if pressure at 1 rises above the pressure setting, flow is relieved to 3 until the setting is re-attained.

Performance



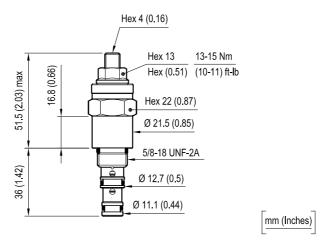
Technical data

Max. operating pressure port 2 (P) bar (p	osi) 420 (6000)	
Max. pressure admitted port 1 (A) bar (p	osi) 70 (1000)	
Max. flow I/min. (gp	m) 5 (1.3)	
Max. internal leakage (*) cm³/min. (cu.in./mi	in.) 50 (3)	
Fluid temperature range °C (°F) -30 to 100 (-22 to 212)	
Installation torque Nm (ft-lk	os) 24-27 (18-20)	
Weight kg (Ik	os) 0.14 (0.31)	
Special cavity	CA-07A-3N see data sheet RE 18325-75	
Seal kit (**) co material r	de RG07A3010520100 no. R930001701	
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 general technical data	See data sheet RE 18350-50	
(*) 1 - 3 to 80% of pressure setting		

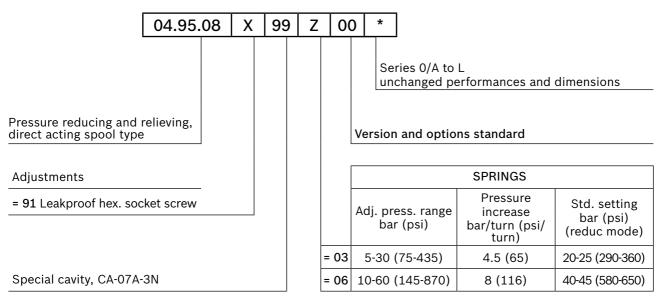
(*) 1 - 3 to 80% of pressure setting

(**) Only external seals for 10 valves

Leakproof hex. socket screw



Ordering code



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

Туре	Material number
049508919903000	R930006721
049508919906000	R930006722

Туре	Material number
-	

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1/2

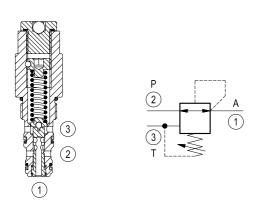
RE 18318-52/07.12 Replaces: RE 18318-52/09.09

Pressure reducing and relieving, direct acting spool type

Common cavity, Size 08

VRPR-08A

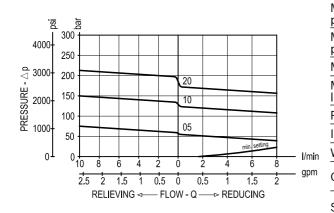
04.95.11.83.56 - Z



Description

Initially, flow passes freely from 2 to 1. When the pressure at ${\bf 1}$ exceeds the pressure setting, the valve acts to restrict input flow at 2. This increases the pressure drop through the valve and maintains consistent pressure at 1. The spring chamber is drained at 3 to prevent a build-up of back-pressure against the spool. Additionally, if pressure at 1 rises above the pressure setting, flow is relieved to 3 until the setting is re-attained.

Performance

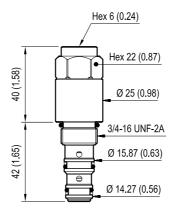


Technical data

Max. operating pressure bar (psi)	350 (5000)	
Max. pressure admitted bar (psi)	210 (3000)	
Max. flow I/min. (gpm)	8 (2)	
Max. internal leakage (*) cm³/min. (cu.in./min.)	100 (6)	
Fluid temperature range °C (°F)	-30 to 100 (-22 to 212)	
Installation torque Nm (ft-lbs)	34-41 (25-30)	
Weight kg (lbs)	0.2 (0.44)	
Cavity	CA-08A-3N see data sheet RE 18325-70	
Seal kit (**) code material no.	RG08A3010520100 R930000861	
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 general technical data	See data sheet RE 18350-50	

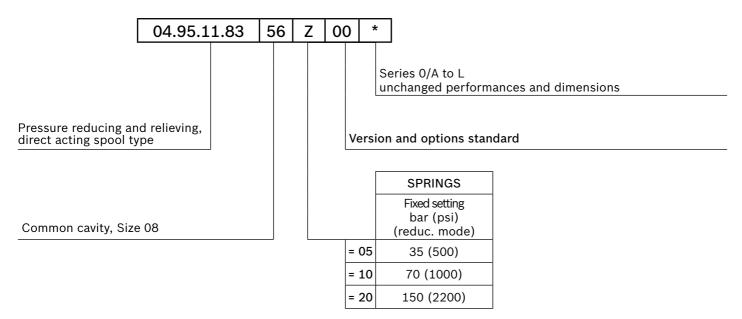
(*) 1 - 3 to 80% of pressure setting

(**) Only external seals for 10 valves



mm (Inches)

Ordering code



Further settings available on request

Туре	Material number
04951183560500A	R930006735
04951183561000A	R930006736
04951183562000A	R930006737

Туре	Material number
-	

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RE 18318-53/09.09 Replaces: RE 00162-02/01.06

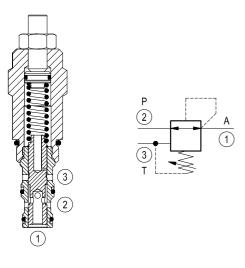
Pressure reducing and relieving, direct acting spool type

Common cavity, Size 10

VRPR-10A

04.95.04 - X - 85 - Z

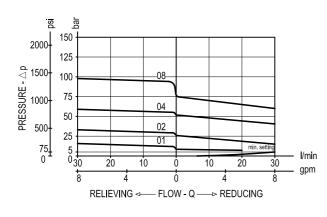




Description

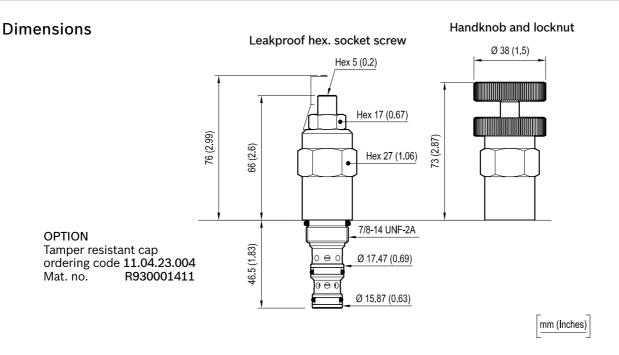
Initially, flow passes freely from 2 to 1. When the pressure at 1 exceeds the pressure setting, the valve acts to restrict input flow at 2. This increases the pressure drop through the valve and maintains consistent pressure at 1. The spring chamber is drained at 3 to prevent a build-up of back-pressure against the spool. Additionally, if pressure at 1 rises above the pressure setting, flow is relieved to 3 until the setting is re-attained.

Performance

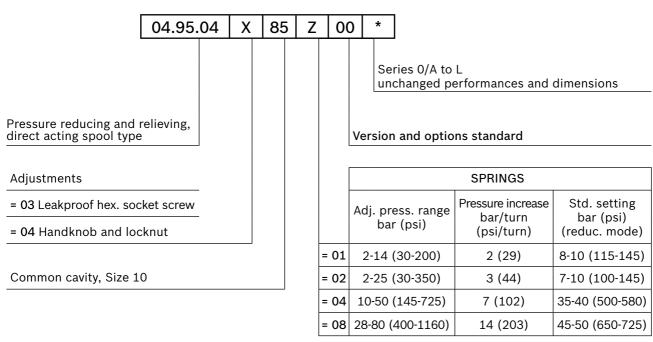


Max. operating pressure bar (psi) port 2 (P)	350 (5000) 210 (3000) for version Z=01
Max. pressure admitted port 1 (A) bar (psi)	105 (1500)
Max. flow I/min. (gpm)	30 (8)
Max. internal leakage (*) cm³/min. (cu.in./min.)	50 (3)
Fluid temperature range °C (°F)	-30 to 100 (-22 to 212)
Installation torque Nm (ft-lbs)	41-47 (30-35)
Weight (**) kg (lbs)	0.26 (0.57)
Cavity	CA-10A-3N see data sheet RE 18325-70
Seal kit (***) code material no.	RG10A3010520100 R901111369
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 general technical data	See data sheet RE 18350-50
(*) 1 2 to 900/ of procesure cotting	~

- (*) 1 3 to 80% of pressure setting
- (**) Standard version X=03 type
- (***) Only external seals for 10 valves



Ordering code



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

Туре	Material number
04950403850100A	R901104066
04950403850200A	R901109740
04950403850400A	R901102333
04950403850800A	R901109742
049504048501000	R901109743

Туре	Material number
04950404850200A	R901109744
04950404850400A	R901109745
04950404850800A	R901109747

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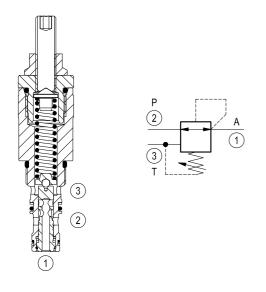
RE 18318-60/07.12 Replaces: RE 18318-60/05.10

Pressure reducing and relieving, direct acting spool damped type

Special cavity

VRPR-07A-S

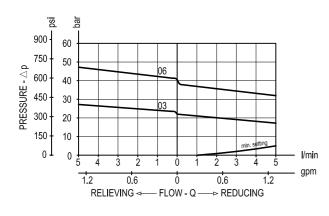
04.95.09 - X - 99 - Z



Description

Initially, flow passes freely from 2 to 1. When the pressure at 1 exceeds the pressure setting, the valve acts to restrict input flow at 2. This increases the pressure drop through the valve and maintains consistent pressure at 1. The spring chamber is drained at 3 to prevent a build-up of backpressure against the spool. Additionally, if pressure at 1 rises above the pressure setting, flow is relieved to 3 until the setting is re-attained. VRPR-07A-S is equipped with a damped type spool especially designed for demanding applications.

Performance



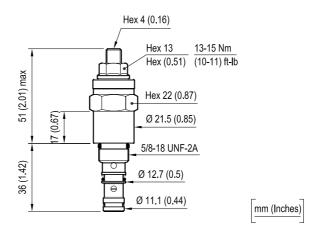
Technical data

Max. operating pressure bar (p	si) 420 (6000)
Max. pressure admitted bar (p	osi) 70 (1000)
Max. flow I/min. (gpr	m) 5 (1.3)
Max. internal leakage (*) cm³/min. (cu.in./mi	n.) 50 (3)
Fluid temperature range °C (°	PF) -30 to 100 (-22 to 212)
Installation torque Nm (ft-lb	os) 24-27 (18-20)
Weight kg (lb	os) 0.14 (0.31)
Special cavity	CA-07A-3N see data sheet RE 18325-75
Seal kit (**) co material r	de RG07A3010520101 no. R930006361
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 general technical data	See data sheet RE 18350-50
(4) 4 0 4 0004 5	

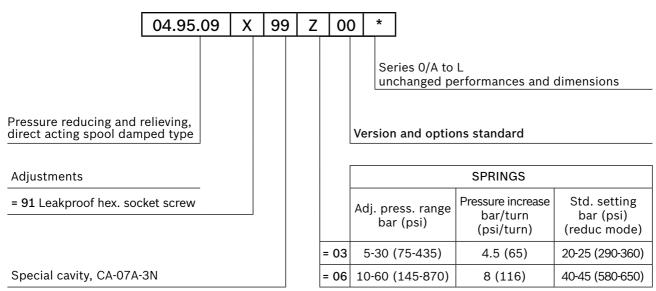
(*) 1 - 3 to 80% of pressure setting

(**) Only external seals for 10 valves

Leakproof hex. socket screw



Ordering code



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

Туре	Material number
049509919903000	R930006724
049509919906000	R930006725

Туре	Material number

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1/2

RE 18318-54/07.12 Replaces: RE 18318-54/09.10

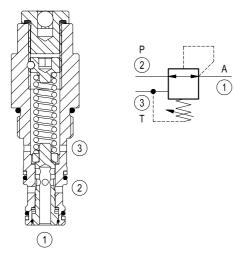
Pressure reducing and relieving, direct acting spool damped type

Common cavity, Size 10

VRPR-10A-8

04.95.09.83.85 - Z

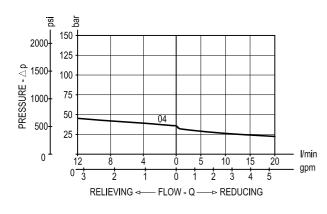




Description

Initially, flow passes freely from 2 to 1. When the pressure at ${\bf 1}$ exceeds the pressure setting, the valve acts to restrict input flow at 2. This increases the pressure drop through the valve and maintains consistent pressure at 1. The spring chamber is drained at 3 to prevent a build-up of back-pressure against the spool. Additionally, if pressure at 1 rises above the pressure setting, flow is relieved to 3 until the setting is re-attained. Compared to VRPR-10A it allows a smoother dynamic and lower flow rate.

Performance

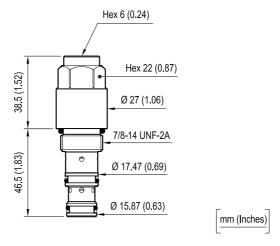


Technical data

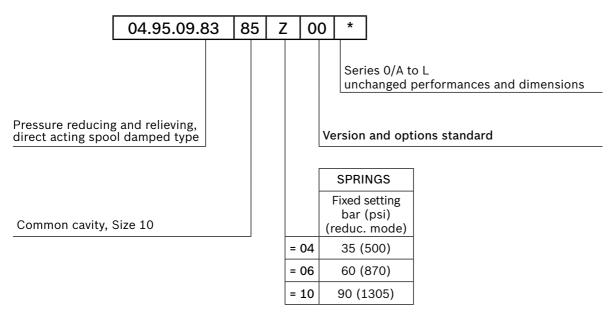
Max. operating pressure bar (psi) port 2 (P)	350 (5000)
Max. pressure admitted port 1 (A) bar (psi)	50 (725)
Max. flow I/min. (gpm)	20 (5)
Max. internal leakage (*) cm³/min. (cu.in./min.)	130 (8)
Fluid temperature range °C (°F)	-30 to 100 (-22 to 212)
Installation torque Nm (ft-lbs)	41-47 (30-35)
Weight kg (lbs)	0.3 (0.6)
Cavity	CA-10A-3N see data sheet RE 18325-70
Seal kit (**) code material no.	RG10A3010520100 R901111369
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 general technical data	See data sheet RE 18350-50
· · · · · · · · · · · · · · · · · · ·	·

(*) 1 - 3 to 80% of pressure setting

(**) Only external seals for 10 valves



Ordering code



Further settings available on request

Туре	Material number
04950983850400A	R930006738
04950983850600A	R930006739
04950983851000A	R930006740

lype	Material number

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RE 18318-50/04.10 Replaces: RE 18318-50/09.09

1/2

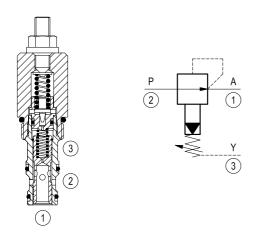
Pressure reducing, pilot operated spool type

Common cavity, Size 10

VRPP-10A

04.93.06 - X - 85 - Z

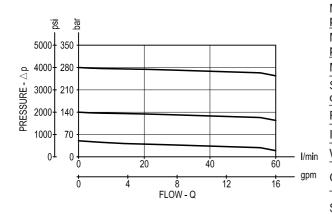




Description

Initially, flow passes freely from 2 to 1. When the pressure at ${\bf 1}$ exceeds the pressure setting, the valve acts to restrict input flow at 2. This increases the pressure drop through the valve and maintains consistent pressure at 1. The spring chamber is drained at 3 to prevent a build-up of back-pressure against the spool.

Performance



Technical data

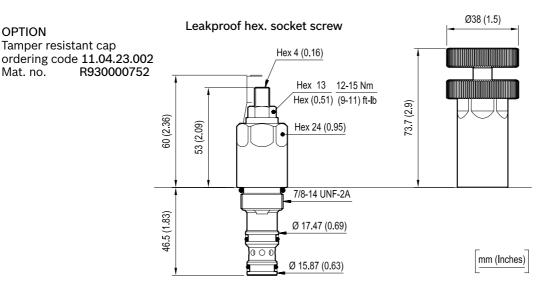
Max. operating pressure bar (p	si) 350 (5000)
Max. pressure admitted bar (p. port 1 (A)	si) 280 (4000)
Max. flow I/min. (gpr	m) 60 (16)
Standard internal pilot orifice diameter	m 0.6
Fluid temperature range °C (°	F) -30 to 100 (-22 to 212)
Installation torque Nm (ft-lb	s) 41-47 (30-35)
Weight kg (lb	s) 0.21 (0.46)
Cavity	CA-10A-3N see data sheet RE 18325-70
Seal kit (*) coo material n	•
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 general technical data	See data sheet RE 18350-50

(*) Only external seals for 10 valves

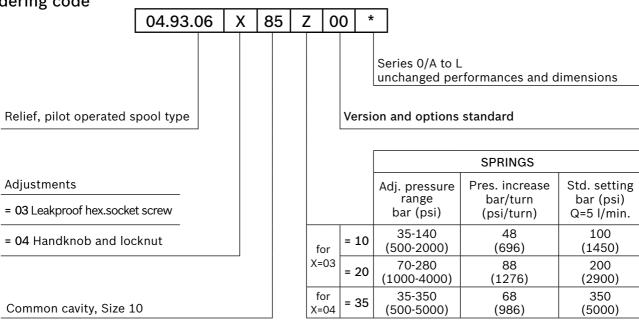
OPTION

Mat. no.

Handknob and locknut



Ordering code



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

Туре	Material number
049306038510000	R901104112
049306038520000	R901104113
049306048535000	R930005676
·	

Туре	Material number

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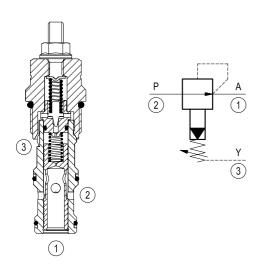
RE 18318-51/09.09
Replaces: RE 00162-02/01.06

Pressure reducing, pilot operated spool type

Common cavity, Size 12

VRPP-12A

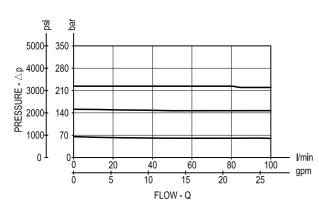
04.93.08 - X - 57 - Z



Description

Initially, flow passes freely from 2 to 1. When the pressure at 1 exceeds the pressure setting, the valve acts to restrict input flow at 2. This increases the pressure drop through the valve and maintains consistent pressure at 1. The spring chamber is drained at 3 to prevent a build-up of back-pressure against the spool.

Performance



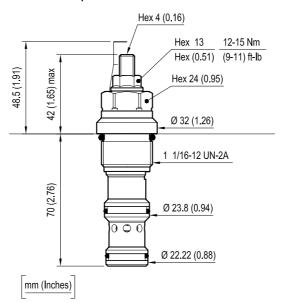
Technical data

Max. operating pressure bar (psi)	350 (5000)
Max. pressure admitted bar (psi)	280 (4000)
Max. flow I/min. (gpm)	100 (26)
Standard internal pilot mm orifice diameter	0.6
Fluid temperature range °C (°F)	-30 to 100 (-22 to 212)
Installation torque Nm (ft-lbs)	81-95 (60-70)
Weight kg (lbs)	0.4 (0.88)
Cavity	CA-12A-3N see data sheet RE 18325-70
Seal kit (*) code material no.	
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 general technical data	See data sheet RE 18350-50
(1) 0 1	•

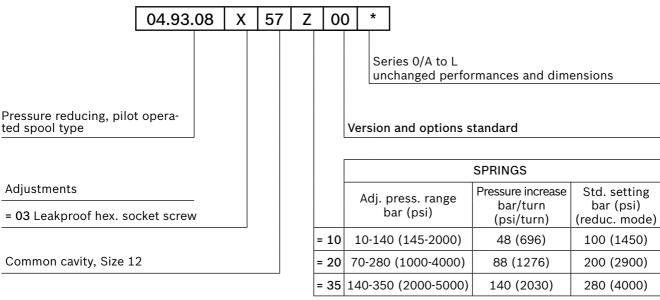
(*) Only external seals for 10 valves

OPTION Tamper resistant cap ordering code 11.04.23.002 R930000752

Leakproof hex. socket screw



Ordering code



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

Туре	Material number
049308035710000	R901109737
049308035720000	R901109738
049308035735000	R901109739

Туре	Material number

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1/2

RE 18318-56/07.12 Replaces: RE 18318-56/03.10

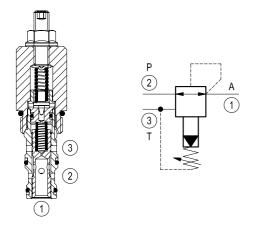
Pressure reducing and relieving, pilot operated spool type

Common cavity, Size 10

VRPX-10A

04.93.07 - X - 85 - Z

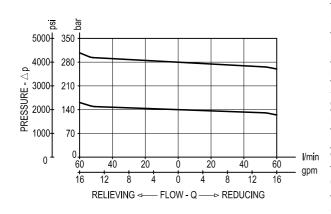




Description

Initially, flow passes freely from 2 to 1. When the pressure at 1 exceeds the pressure setting, the conical poppet in the upper, pilot stage is lifted from its seat. This allows the main-stage piston to shift, restricting input flow at 2. This increases the pressure drop through the valve and maintains consistent pressure at 1. The spring chamber is drained at 3 to prevent a build-up of back-pressure against the spool. Additionally, if pressure at 1 rises above the pressure setting, flow is relieved to 3 until the setting is re-attained.

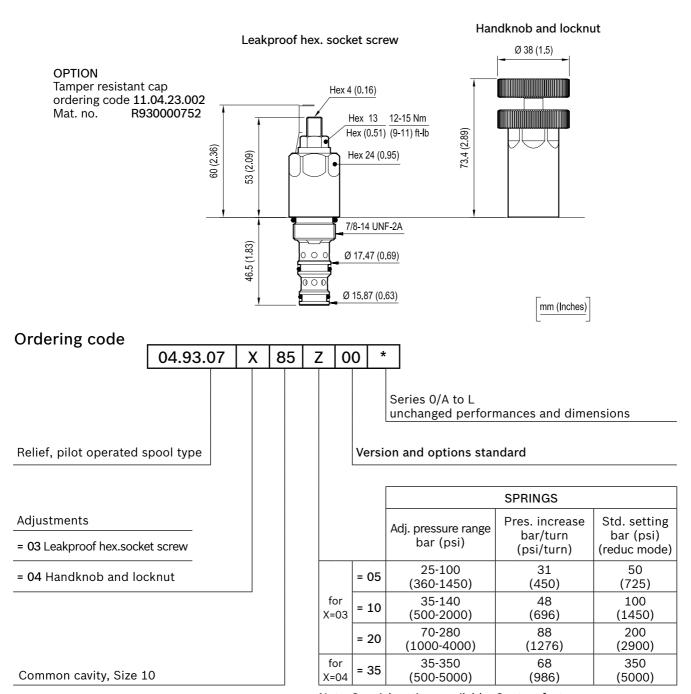
Performance



Max. operating pressure bar (psi) port 2 (P)	350 (5000)
Max. pressure admitted port 1 (A) bar (psi)	280 (4000)
Max. flow I/min. (gpm)	60 (16)
Standard internal pilot orifice diameter mm	0.6
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-3N see data sheet RE 18325-70
	RG10A3010520100 R901111369
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 general technical data	See data sheet RE 18350-50

- (*) Only external seals for 10 valves
- (**) Standard version X=03 type

Dimensions



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

Туре	Material number
049307038505000	R930006982
049307038510000	R901104118
049307038520000	R901106468
049307048535000	R930005596

Туре	Material number					

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Subject to change.

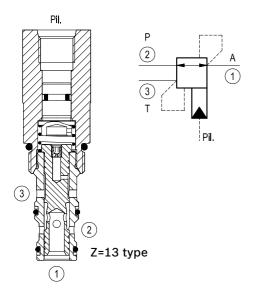
RE 18318-58/01.10
Replaces: RE 00162-02/01.06

Pressure reducing and relieving, with pilot controlled setting

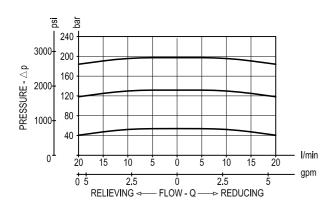
Common cavity, Size 10

VRPE-10A

04.95.07 - X - 85 - Z



Performance



Description

When a minimum pilot pressure is applied to port PIL, flow passes from 2 to 1. When the pressure at 1 exceeds the pressure setting (defined by pilot pressure times pilot ratio), the valve acts to restrict flow at 2. This increases the pressure drop through the valve and maintains consistent pressure at 1. Additionally, if pressure at 1 rises above the pressure setting, flow is relieved to 3 until the setting is re-attained.

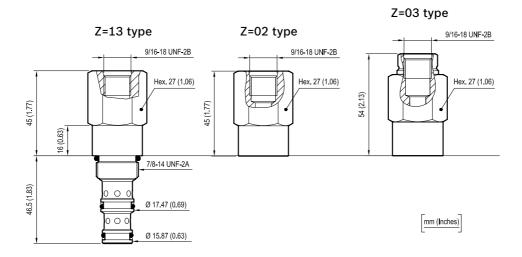
Technical data

Max. operating pressure bar (psi)	350 (5000)		
Max. pilot pressure bar (psi)	175 (2500) for Z=02 and Z=03 250 (3600) for Z=13		
Max. flow I/min. (gpm)	20 (5)		
Max. internal leakage (*) cm³/min. (cu.in./min.)	50 (3)		
Fluid temperature range °C (°F)	-30 to 100 (-22 to 212)		
Installation torque Nm (ft-lbs)	41-47 (30-35)		
Weight kg (lbs)	0.28 (0.62)		
Cavity	CA-10A-3N see data sheet RE 18325-70		
Seal kit (**) code material no.			
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 general technical data	See data sheet RE 18350-50		
(*) 1 2 at 000/ af massaums satting	-		

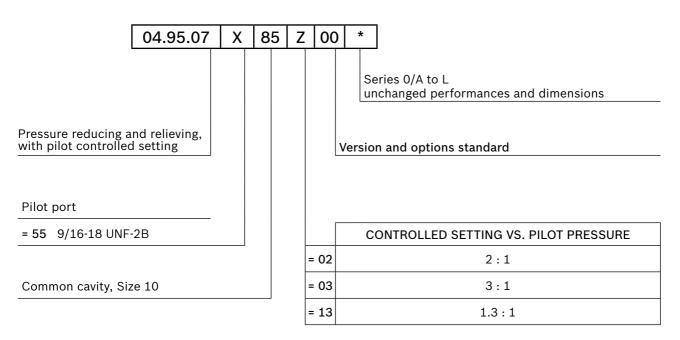
^{(*) 1-3} at 80% of pressure setting

(**) Only external seals for 10 valves

Dimensions



Ordering code



Туре	Material number
049507558502000	R930001183
049507558503000	R930001184
049507558513000	R930001185

Туре	Material number					

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Subject to change.

Rexroth Bosch Group

Pressure relief valve, pilot operated

RE 64605/03.09

1/8

Type MHDBV (high-performance)

Sizes 16 and 22 Component series 3X Maximum operating pressure 420 bar Maximum flow 240 l/min



Table of contents

Contents Page Features Ordering code 2 2 Standard types Function, section, symbol 3 4 Technical data Characteristic curves 5 Unit dimensions, sections 6 Mounting cavities 7 Available individual components

Features

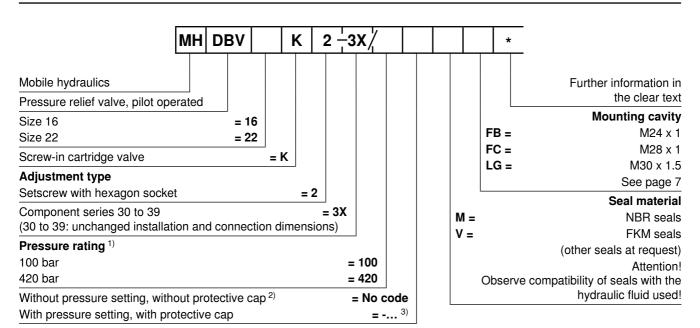
- Cartridge valve

- For mobile applications

- Pressure ratings from 100 to 420 bar

Information on available spare parts: www.boschrexroth.com/spc

Ordering code



- 1) The values refer to the screw-in cartridge valve. When installing the valve into a housing, make sure that the set pressure of the screw-in cartridge valves does not exceed the potentially lower value of the housing!
- ²⁾ Protective cap separately available, material no. **R900168151**
- ³⁾ Example: Set to 300 bar: ...420**-300**... (Pressure setting with $q_{Vmax} = 10 \text{ l/min}$)

Attention!

Factory-set valves are secured by means of a protective cap. In case of subsequent adjustment, the warranty will forfeit!

Standard types

Туре	Material number	Mounting cavity (see page 7)	Characteristic curve (see page 5)
MHDBV 16 K2-3X/100MFB	R901188456	FB	D1
MHDBV 16 K2-3X/420MFB	R901188404	FB	D1
MHDBV 22 K2-3X/100MFC	R901188510	FC	D2
MHDBV 22 K2-3X/420MFC	R901188506	FC	D2

Function, section, symbol

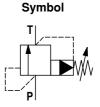
The pressure valve type MHDBV is a pilot operated pressure relief valve for installation in block constructions. It is used for limiting the system pressure. The system pressure is set via the adjustment element (4).

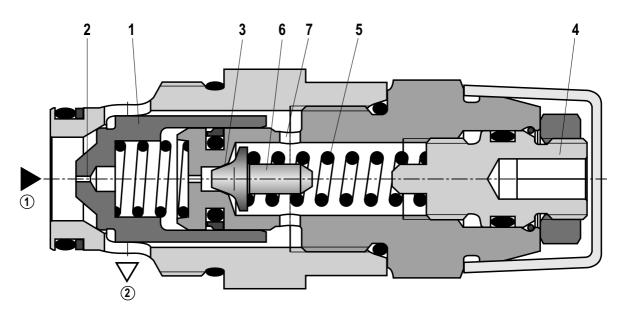
Pressure relief function

In its initial position, the valve is closed. The pressure in the main port ① acts on the spool (1). Simultaneously, the pressure is - via the orifice (2) - applied to the spring-loaded side of the spool (1) and to the pilot poppet (6). If the pressure in the main port ① exceeds the value set at the spring (5), the pilot poppet opens (6). Via the orifice (3) and the channel (7), the hydraulic fluid from the spring-loaded side of the spool flows into the main port ②. The pressure drop created in this way moves the spool (1) and thus opens the connection of the main port ① to ② while maintaining the pressure set at the spring (5). The pilot oil is returned internally via the channel (7) to the main port ②.

Mote!

- The maximum operating pressure is the sum of the set pressure and backpressure at main port ②.
- The pilot operated pressure valves are almost leak-free, according to their design.





Type MHDBV...

- \bigcirc = Main port 1 (P)
- 2 = Main port 2 (T)

Technical data (For applications outside these parameters, please consult us!)

general	
Weight kg	See page 6
Installation position	Any
Ambient temperature range °C	-20 to +80 (NBR seals) -20 to +80 (FKM seals)
Surface protection	The valve doesn't have any surface protection. Surface protection is to be ensured by painting the components and/or the whole assembly (e.g. valve with housing).

hydraulic

Maximum operating	- Main port ① (P)	bar	100; 420		
pressure	- Main port ② (T)	bar	50		
Maximum flow		l/min	See characteristic curves on page 5		
Hydraulic fluid			Mineral oil (HL, HLP) according to DIN 51524 ¹⁾ ; Quickly biodegradable hydraulic fluids according to VDMA 24568 (also see RE 90221); HETG (rape seed oil) ¹⁾ ; HEPG (polyglycols) ²⁾ ; HEES (synthetic esters) ²⁾ ; other hydraulic fluids upon request		
Hydraulic fluid temperature range °C			-30 to +80 (NBR seals) -20 to +80 (FKM seals)		
Viscosity range mm ² /s		mm²/s	10 to 380		
Max. admissible degree of contamination of the hydraulic fluid - cleanliness class according to ISO 4406 (c)			Class 20/18/15 ³⁾		
Load cycles			2 mio		

¹⁾ Suitable for NBR and FKM seals

- 2) Only suitable for FKM seals
- 3) The cleanliness classes specified for the components must be complied with in hydraulic systems. Efficient filtration prevents malfunctions and simultaneously increases the service life of the components.

For the filter selection, see data sheets RE 50070, RE 50076, RE 50081, RE 50086, RE 50087 and RE 50088.

Mote!

The technical data was determined at a viscosity of v = 41 mm²/s (HLP46, ϑ_{Oil} = 40 °C ±5 °C).

The minimum cracking pressure lies over 0.5 bar. Thus, a supply pressure \geq 4 bar is recommended.

The following documentation must be observed: RE 64020-B1 "Hydraulic valves for mobile applications"

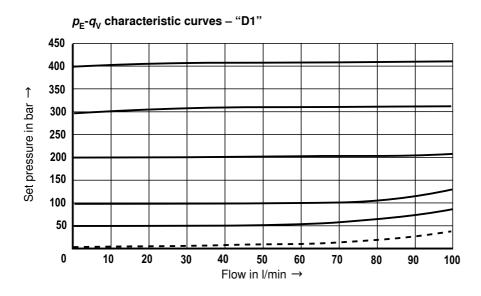
Attention!

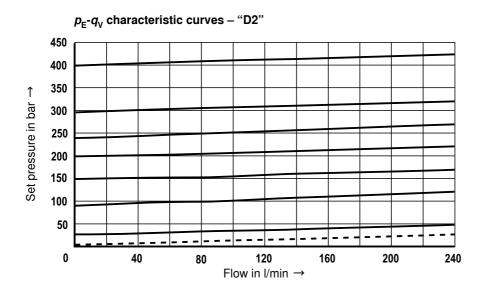
Under conditions of use at an operating pressure of < 30 bar and a flow of < 30 l/min, valves with another design are to be selected from our valve program.

The maximum operating pressure is the sum of the set pressure and backpressure!

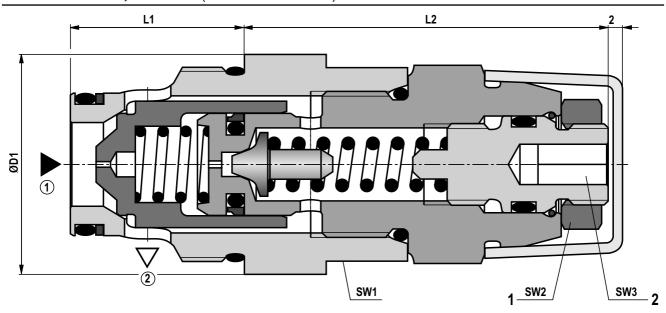
5

Characteristic curves (measured with HLP46, ϑ_{Oil} = 40 °C ± 5 °C)

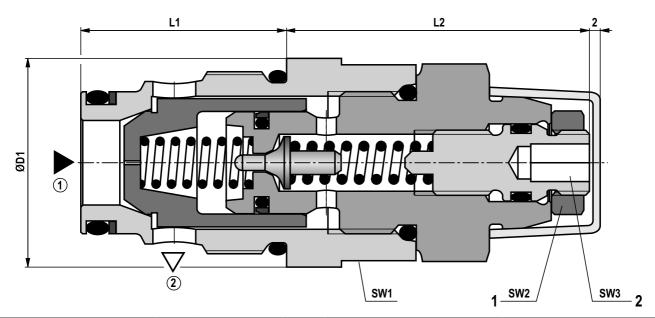




Unit dimensions, sections (dimensions in mm)



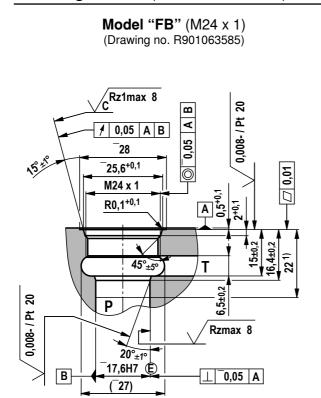
				Width across flats		Tightening to	orque in Nm 1)	Weight	
Туре	ØD1	L1	L2	SW1	SW2	SW3	SW1	SW2	in kg
MHDBV 16 K2-3X/100MFB	27.3	21.5	45.0	24	16	5	90	15	0.18
MHDBV 16 K2-3X/420MFB	27.3	21.5	45.0	30	16	5	90	15	0.18

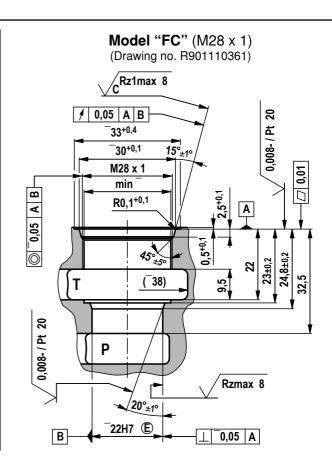


			Width across flats		Tightening to	orque in Nm 1)	Weight		
Туре	ØD1	L1	L2	SW1	SW2	SW3	SW1	SW2	in kg
MHDBV 22 K2-3X/100MFC	32.0	31.5	46.4	30	16	5	100	15	0.24
MHDBV 22 K2-3X/420MFC	32.0	31.5	46.4	30	16	5	100	15	0.24

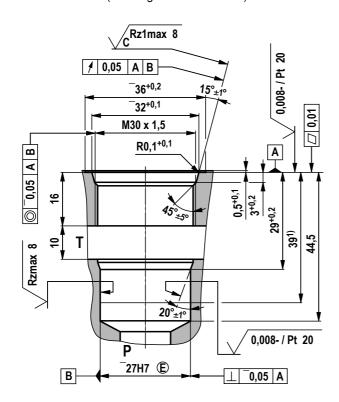
- 1 Lock nut
- 2 Hexagon socket
- 1 = Main port 1 (P)
- ② = Main port 2 (T)

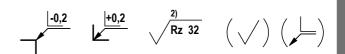
¹⁾ Friction coefficients, tightening torques and preload forces interact with each other. The friction coefficients are influenced by surface microstructure, material pairing, etc. It is thus recommended to check the screwing behavior with original components and basic application conditions.





Model "LG" (M30 x 1.5) (Drawing no. R901110408)



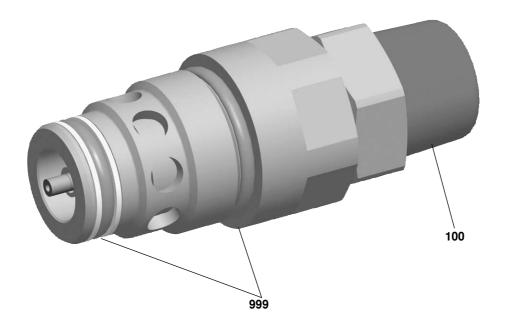


- 1) Depth of fit
- 2) Visual inspection

All seal ring insertion chamfers are rounded and free from burrs

Workpiece edges	DIN ISO 13715
Form and position tolerance	DIN EN ISO 1101
General tolerances	DIN 1685/1686 GTB16
General tolerances for chip- producing processes	DIN ISO 2768-mk
Tolerance	DIN ISO 8015
Surface quality	DIN EN ISO 1302

Available individual components



Item	Designation	Seal material	Material no.
100	Protective cap separately available	_	R900168151
999	Seal kit of the valve for mounting cavity "FB"	FKM	R961003378
999	Seal kit of the valve for mounting cavity "FC"	FKM	R961003380
999	Seal kit of the valve for mounting cavity "LG"	FKM	R961003397

Seal kits with NBR seals upon request.

Bosch Rexroth AG Hydraulics Zum Eisengießer 1 97816 Lohr am Main, Germany Phone +49 (0) 93 52 / 18-0 documentation@boschrexroth.de www.boschrexroth.de © This document, as well as the data, specifications and other information set forth in it, are the exclusive property of Bosch Rexroth AG. It may not be reproduced or given to third parties without its consent. The data specified above only serve to describe the product. No statements concerning a certain condition or suitability for a certain application can be derived from our information. The information given does not release the user from the obligation of own judgment and verification. It must be remembered that our products are subject to a natural process of wear and aging.

Rexroth Bosch Group

Pressure relief and feed valve, pilot operated

RE 64602/09.11 Replaces: 03.09

1/12

Type MHDBN (High Performance)

Size 16 to 32 Component series 3X Maximum operating pressure 420 bar Maximum flow 400 l/min



Table of contents

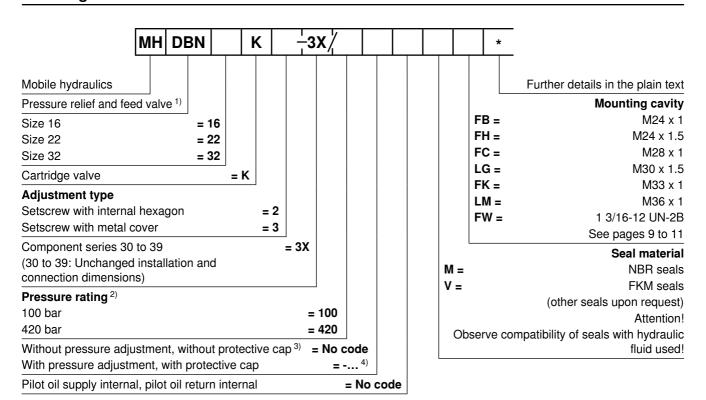
Contents Page Features Ordering code Preferred types 3 Symbol 3 4 Function, sections Technical data 5 Characteristic curves 6, 7 Unit dimensions, sections 8 Mounting cavities 9 to 11 Available individual components 12

Features

- Cartridge valve
- For mobile applications
- Pressure ratings from 100 to 420 bar
 - Versatile applications for pressure relief and feed functions

Information on available spare parts: www.boschrexroth.com/spc

Ordering code



- ¹⁾ Minimum cracking pressure see characteristic curves page 7 ("E1" "E3").
- 2) The values refer to the cartridge valve. In case of installation into a housing, it has to be made sure that the setting pressure of the cartridge valve does not exceed the value of the housing that might be lower!
- ³⁾ Protective cap separately available, Material no. **R900168151**
- $^{4)}$ Example: Set to 300 bar: ...420**-300**... (Pressure adjustment with \textbf{q}_{Vmax} = 10 l/min)

Attention!

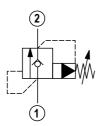
Factory-set valves are protected by means of a protective cap. In the case of subsequent re-adjustment, the warranty will become void!

Preferred types

Туре	Material number	Mounting cavity (see page 9 to 11)	Characteristic curve (see page 6 and 7)
MHDBN 16 K2-3X/100VFB	R901161659	FB	D1 / E1
MHDBN 16 K2-3X/100VFH	R901161672	FH	D1 / E1
MHDBN 16 K2-3X/420VFB	R901161947	FB	D1 / E1
MHDBN 16 K2-3X/420VFH	R901162185	FH	D1 / E1
MHDBN 22 K2-3X/100MFW	R901162201	FW	D2 / E2
MHDBN 22 K2-3X/100VFC	R901162202	FC	D2 / E2
MHDBN 22 K2-3X/420VFC	R901162378	FC	D2 / E2
MHDBN 22 K2-3X/420VLG	R901162524	LG	D2 / E2
MHDBN 32 K2-3X/100VFK	R901162658	FK	D3 / E3
MHDBN 32 K2-3X/420VFK	R901162717	FK	D3 / E3
MHDBN 32 K2-3X/420VLM	R901162838	LM	D3 / E3

Symbol

Pilot oil supply internal, pilot oil return internal version "No code"



- \bigcirc = main port 1 (P)
- ② = main port 2 (T)

Function, sections

The pressure valve type MHDBN is a pilot operated pressure relief valve for installation in block designs. It is used for system pressure limitation. The system pressure can be set via the adjustment spindle (4).

Pressure relief function

In the initial position, the valve is closed. The pressure in main port ① acts on the spool (1). At the same time, the pressure is applied to the spring-loaded side of the spool (1) via nozzle (2) and to the pilot poppet (6). If the pressure in main port ① exceeds the value set at spring (5), the pilot poppet (6) opens. Hydraulic fluid flows from the spring-loaded side of the spool (1) via nozzle (3) and channel (7) into the main port ②. The resulting pressure drop moves the spool (1) and thus opens the connection from main port ① to ② while maintaining the pressure set at spring (5). The pilot oil return is implemented internally via channel (7) into the main port ②.

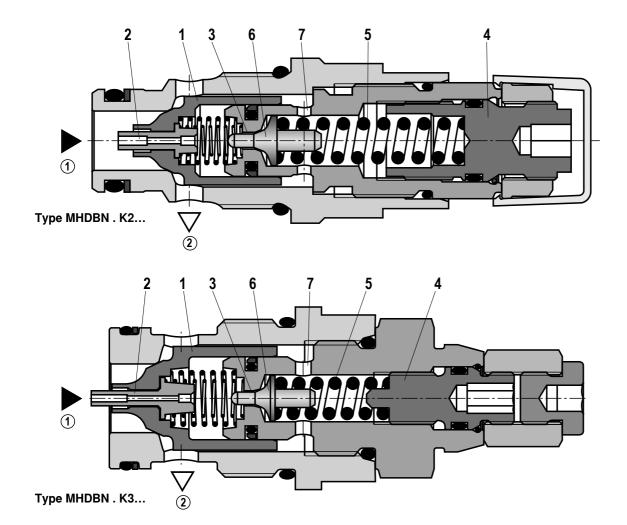
Feed function

The feed function makes up for lacking oil volumes caused, for example, by leakage when pressure valves respond or in the case of leading loads.

If the pressure at main port 1 is lower than the one at main port 2, the spool 1 will be moved to the right. Hydraulic fluid flows from main port 2 to main port 1.

Motice!

- The maximum operating pressure is added up from the setting pressure and counter pressure at main port ②.
- The pilot operated pressure valves are virtually leakage oilfree according to their construction.



^{(2) =} main port 2 (T)

Technical data (For applications outside these parameters, please consult us!)

general			
Weight		See page 8	
Installation position			Any
Ambient temperature r	ange	°C	-20 to +80 (NBR seals) -20 to +80 (FKM seals)
Surface protection		Without – surface protection has to be ensured by painting the components or the whole assembly (e. g. valve with housing).	
hydraulic			
Maximum operat-	– Main port ① (P)	bar	100; 420
ing pressure	– Main port ② (T)	bar	50
Maximum flow		l/min	See characteristic curves on page 6 and 7
Hydraulic fluid			See table below
Hydraulic fluid temperature range °C			-30 to +80 (NBR seals) -20 to +80 (FKM seals)
Viscosity range		10 to 380	
Maximum permissible degree of contamination of the hydraulic fluid - cleanliness class according to ISO 4406 (c)			Class 20/18/15 1)
Load cycles			2 million

Hydraulic fluid		Classification	Suitable sealing materials	Standards
Mineral oils and related hydrocarbons		HL, HLP, HLPD, HVLP, HVLPD	NBR, FKM	DIN 51524
		. HEES NBR, FKM		100 15000
Environmentally compatible	 Insoluble in water 	HEPR	FKM	ISO 15380
Compatible	- Soluble in water	HEPG	FKM	ISO 15380
	- Water-free	HFDU, HFDR	FKM	ISO 12922
Flame-resistant	- Containing water	HFAS	NBR, FKM	100 10000
		HFC	NBR	ISO 12922

Important notices on hydraulic fluids!

- For more information and data on the use of other hydraulic fluids refer to data sheet 90220 or contact us!
- There may be limitations regarding the technical valve data (temperature, pressure range, service life, maintenance intervals, etc.)!
- The flash point of the process and operating medium used must be 40 K higher than the maximum solenoid surface temperature.
- Flame-resistant containing water: Maximum pressure differential per control edge 175 bar; otherwise, increased cavitation erosion!
 - Tank pre-loading < 1 bar or > 20 % of the pressure differential. The pressure peaks should not exceed the maximum operating pressures!
- Environmentally compatible: When using environmentally compatible hydraulic fluids that are simultaneously zinc-solving, zinc may accumulate in the medium (700 mg zinc per pole tube).

For selecting the filters, see www.boschrexroth.com/filter.

Attention!

Under operating conditions with an operating pressure of < 30 bar and a flow of < 30 l/min, valves of another design are to be selected from our valve program.

The maximum operating pressure is added up from the setting pressure and counter pressure!

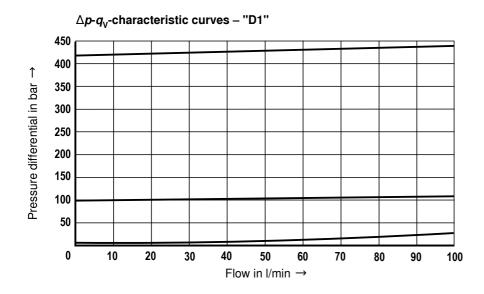
■ Notice!

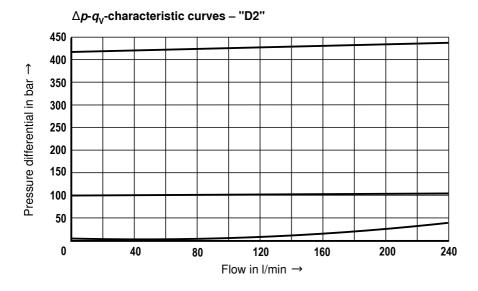
The technical data was determined at a viscosity of v = 41 mm²/s (HLP46, ϑ_{oii} = 40 ± 5 °C).

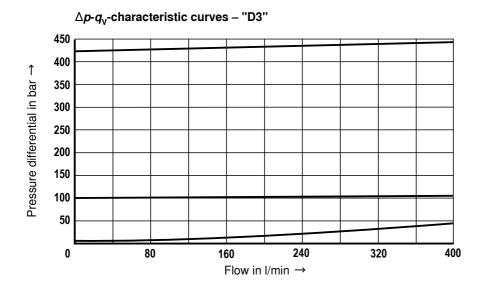
Minimum cracking pressure see characteristic curves page 7. Data sheet 64020-B1 "Hydraulic valves for mobile applications" is to be observed!

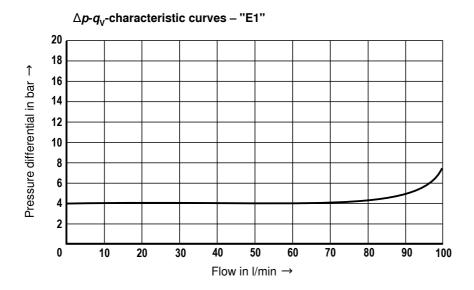
¹⁾ The cleanliness classes specified for the components must be adhered to in hydraulic systems. Effective filtration prevents faults and at the same time increases the service life of the components.

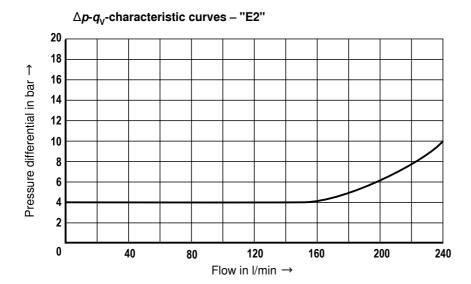
Characteristic curves (measured with HLP46, ϑ_{oil} = 40 ± 5 °C)

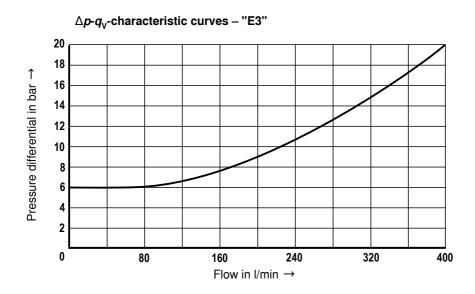




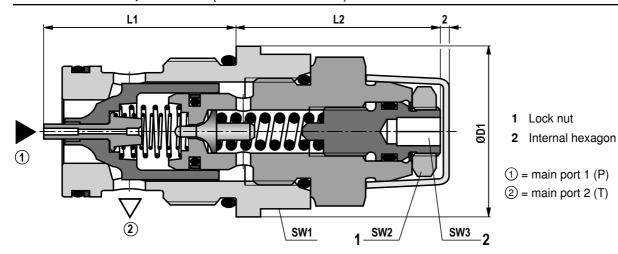




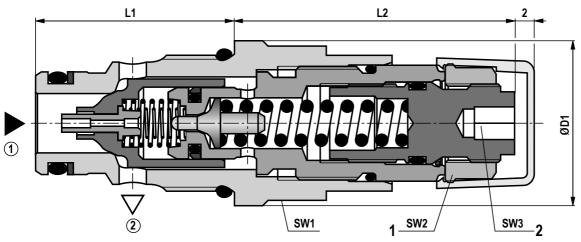




Unit dimensions, sections (dimensions in mm)



				W	rench s	ize	Tightening to	orque in Nm 1)	Weight
Туре	ØD1	L1	L2	SW1	SW2	SW3	SW1	SW2	in kg
MHDBN 16 K2-3X/100VFB	27.3	24.3	45.0	24	16	5	90	15	0.17
MHDBN 16 K2-3X/420VFB	27.3	24.3	45.0	24	16	5	90	15	0.18
MHDBN 22 K2-3X/100MFW	34.0	33.7	41.8	32	16	5	100	15	0.30
MHDBN 22 K2-3X/100VFC	32.0	34.7	46.4	30	16	5	100	15	0.28
MHDBN 22 K2-3X/420VFC	32.0	34.7	46.4	30	16	5	100	15	0.28
MHDBN 32 K2-3X/100VFK	37.0	40.9	46.1	34	16	5	150	15	0.40
MHDBN 32 K2-3X/420VFK	37.0	40.9	46.1	34	16	5	150	15	0.40



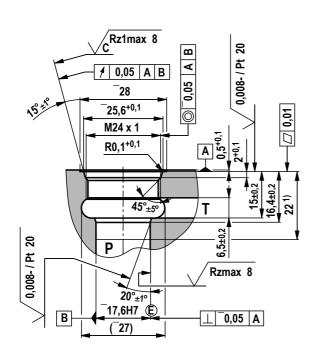
				W	rench s	ize	Tightening to	orque in Nm 1)	Weight
Туре	ØD1	L1	L2	SW1	SW2	SW3	SW1	SW2	in kg
MHDBN 16 K2-3X/100VFH	29.0	35.0	46.8	24	17	5	100	20	0.21
MHDBN 16 K2-3X/420VFH	29.0	35.0	46.8	24	17	5	100	20	0.21
MHDBN 22 K2-3X/420VLG	34.5	38.5	49.2	30	17	5	100	20	0.25
MHDBN 32 K2-3X/420VLM	41.0	47.4	46.0	36	17	5	150	20	0.45

¹⁾ Friction coefficients, tightening torques, and preload forces interact with each other. The friction coefficients are influenced by surface microstructure, material pairing etc.

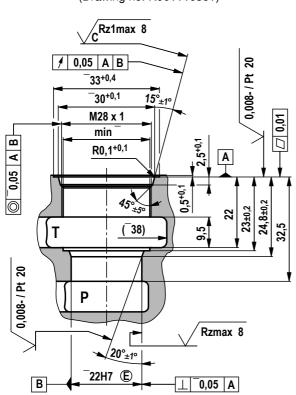
Thus, we recommend checking the mounting characteristics with genuine parts and boundary conditions.

RE 64602/09.11 | MHDBN

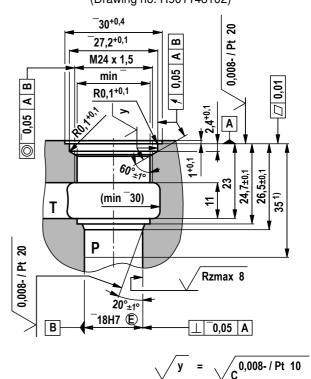
Version "FB" (M24 x 1) (Drawing no. R901063585)

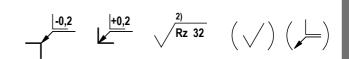


Version "FC" (M28 x 1) (Drawing no. R901110361)



Version "FH" (M24 x 1.5) (Drawing no. R901148102)



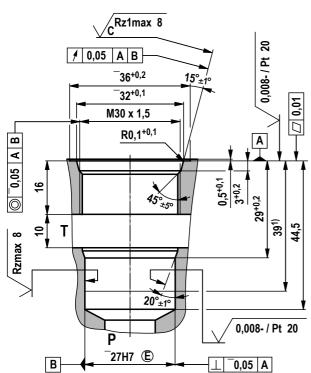


- 1) Depth of fit
- 2) Visual inspection

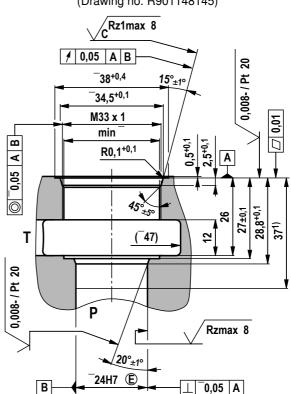
All seal ring insertion faces are rounded and free of burrs

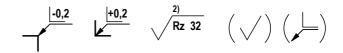
Workpiece edges	DIN ISO 13715
Form and position tolerance	DIN EN ISO 1101
General tolerances	DIN 1685/1686 GTB16
General tolerance for metal- cutting procedures	DIN ISO 2768-mk
Tolerance	DIN ISO 8015
Surface condition	DIN EN ISO 1302

Version "LG" (M30 x 1.5) (Drawing no. R901110408)



Version "FK" (M33 x 1) (Drawing no. R901148145)





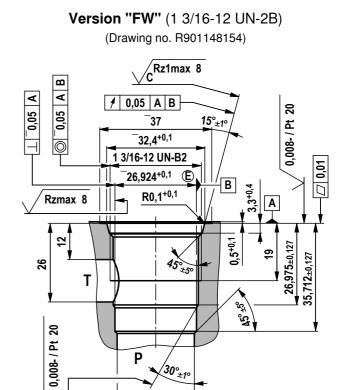
¹⁾ Depth of fit

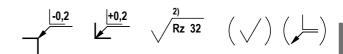
All seal ring insertion faces are rounded and free of burrs

Workpiece edges	DIN ISO 13715
Form and position tolerance	DIN EN ISO 1101
General tolerances	DIN 1685/1686 GTB16
General tolerance for metal- cutting procedures	DIN ISO 2768-mk
Tolerance	DIN ISO 8015
Surface condition	DIN EN ISO 1302

²⁾ Visual inspection

Version "LM" (M36 x 1.5) (Drawing no. R901148162) Rz1max 8 Ø Ø0,05 A 1 0,05 A B 0,008-/Pt 20 Ø43^{+0,4} 15°±1 Ø38,2^{+0,1} M36 x 1,5 min Ø R0,1^{+0,1} 183 45°±5° 324) **44** T 20 0,008- / Pt Rzmax 8 Ø33^{+0,3} **E** В ___ Ø0,05 A





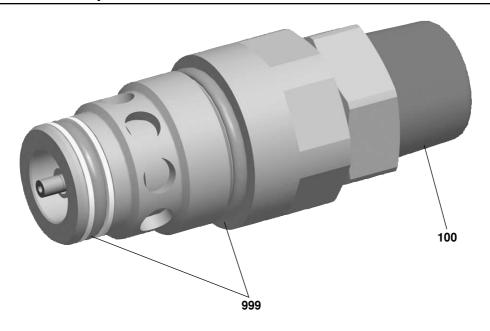
⁻25,5

- 1) Depth of fit
- 2) Visual inspection
- 3) Minimum dimension
- 4) Maximum dimension

All seal ring insertion faces are rounded and free of burrs

Workpiece edges	DIN ISO 13715
Form and position tolerance	DIN EN ISO 1101
General tolerances	DIN 1685/1686 GTB16
General tolerance for metal- cutting procedures	DIN ISO 2768-mk
Tolerance	DIN ISO 8015
Surface condition	DIN EN ISO 1302

Available individual components



Item	Denomination	Seal material	Material no.
100	Protective cap separately available	-	R900168151
999	Seal kit of the valve for mounting cavity "FB"	FKM	R961003378
999	Seal kit of the valve for mounting cavity "FC"	FKM	R961003380
999	Seal kit of the valve for mounting cavity "FH"	FKM	R961003387
999	Seal kit of the valve for mounting cavity "FK"	FKM	R961003389
999	Seal kit of the valve for mounting cavity "FW"	FKM	R961003748
999	Seal kit of the valve for mounting cavity "LG"	FKM	R961003397
999	Seal kit of the valve for mounting cavity "LM"	FKM	R961003398

Seal kits with NBR seals upon request.

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Rexroth Bosch Group

3-way pressure reducing valve, direct operated

RE 18111-04/10.10

Replaces: 05.09

1/8

Type MHDRDB (Standard Performance)

Size 4 Component series 1X Maximum operating pressure 420 bar Maximum flow 15 l/min



Table of contents

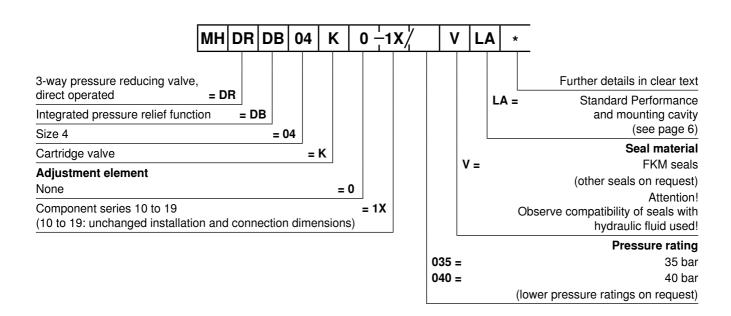
Contents Page Features Ordering code 2 2 Standard types Function, section, symbol 3 Technical data 5 Characteristic curves Unit dimensions 6 Mounting cavity 7 Available individual components

Features

- Cartridge valve
- Mounting cavity R/LA
- 2 pressure ratings, optional (35 and 40 bar)
 - Versatile use for pressure reducing functions with leakage oil drain to channel T
 - Integrated pressure relief function

Information on available spare parts: www.boschrexroth.com/spc

Ordering code



Standard types

Pressure rating	Туре	Material number
35 bar	MHDRDB 04 K0-1X/035VLA	R900641606
40 bar	MHDRDB 04 K0-1X/040VLA	R900751628

Function, section, symbol

General

Direct operated 3-way pressure reducing valves of type MHDRDB are used to reduce a system pressure. They basically consist of control spool (1), compression spring (2) and spring plate (3).

Pressure reducing function

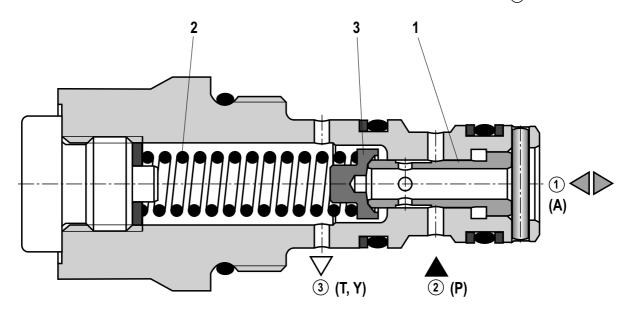
In the starting position the valve is closed. Hydraulic fluid flows from main port $\@ifnexthick{?}{@}$ to $\@ifnexthick{?}{@}$. When the pressure in main port $\@ifnexthick{?}{@}$ increases to the value preset on compression spring (2), the connection from $\@ifnexthick{?}{@}$ to $\@ifnexthick{?}{@}$ is closed. A further increase in the system pressure (main port $\@ifnexthick{?}{@}$) has no longer an influence on the pressure in main port $\@ifnexthick{?}{@}$ (pressure-holding function). Pressure losses in main port $\@ifnexthick{?}{@}$ (actuator) are compensated for by the valve.

Pressure relief function

When the pressure in main port ① exceeds the set value, control spool (1) is shifted against compression spring (2) and main port ① is connected to ③. An undesirable increase in pressure in main port ① is additionally prevented by lifting spring plate (3) off the control spool (1).

The pressure in main port ① increases in dependence on the inlet pressure and flow (see characteristic curves on page 5).

Symbol (1)



- \bigcirc = main port 1 (A)
- 2 = main port 2 (P)
- 3 = main port 3 (T, Y)

Technical data (for applications outside these parameters, please consult us!)

General		
Weight	kg	0.17
Installation position		Optional
Ambient temperature range	°C	-20 to +80
Surface protection		The valves are not provided with any surface protection. Surface protection must be ensured by paint-coating of the components or the entire assembly (e.g. valve with housing).
Hydraulic		
Maximum operating pressure – main port ② (P)	bar	420
Maximum control pressure 1, 2) – main port ① (A)	bar	35, 40
Maximum tank pressure 1) – main port ③ (T, Y)	bar	30
Maximum flow	l/min	15
Hydraulic fluid		Mineral oil (HL, HLP) to DIN 51524; fast bio-de- gradable hydraulic fluids to VDMT 24568 (see also RE 90221); HETG (rape seed oil); HEPG (polygly- cols); HEES (synthetic esters); other hydraulic fluids on request
Hydraulic fluid temperature range	°C	-20 to +80
Viscosity range	mm²/s	10 to 800
Permissible max. degree of contamination of the hydraulic fluid - cleanliness class to ISO 4406 (c)		Class 20/18/15 3)
Load cycles		2 million

¹⁾ The tank pressure (main port ③) adds to the set control pressure (main port ①).

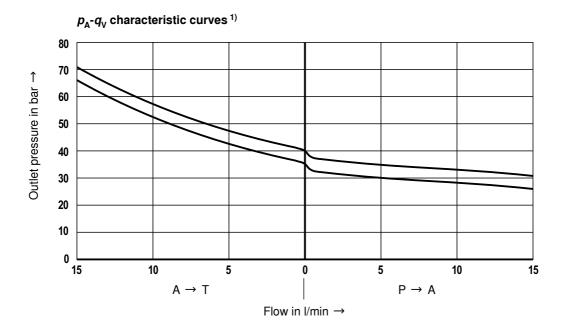
For the selection of the filters see www.boschrexroth.com/filter.

²⁾ The control pressure is checked and adjusted with zero flow.

³⁾ The cleanliness class stated for the components must be adhered too in hydraulic systems. Effective filtration prevents faults from occurring and at the same time increases the component service life.

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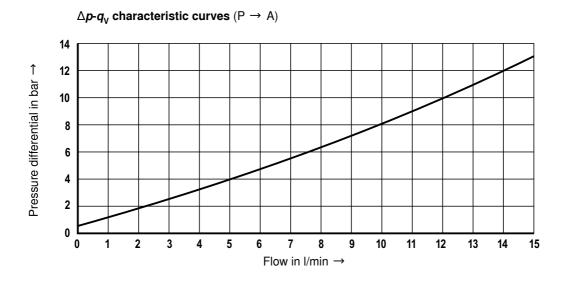
Characteristic curves (measured with HLP46, $\vartheta_{oil} = 40 \pm 5 \text{ °C}$)



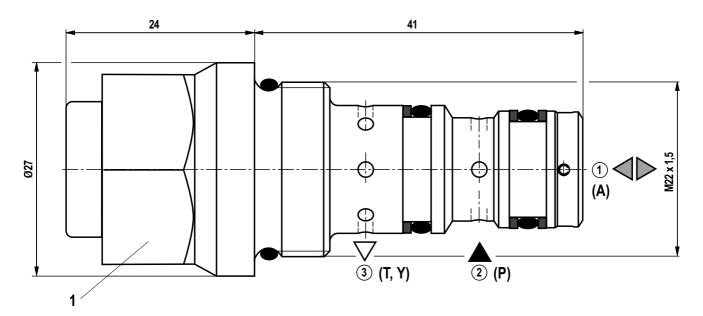
¹⁾ The characteristic curves for the pressure relief function are valid at an outlet pressure of 0 bar within the entire flow range!

Mote!

Beginning of the pressure relief function at approx. +10% above the pressure rating.



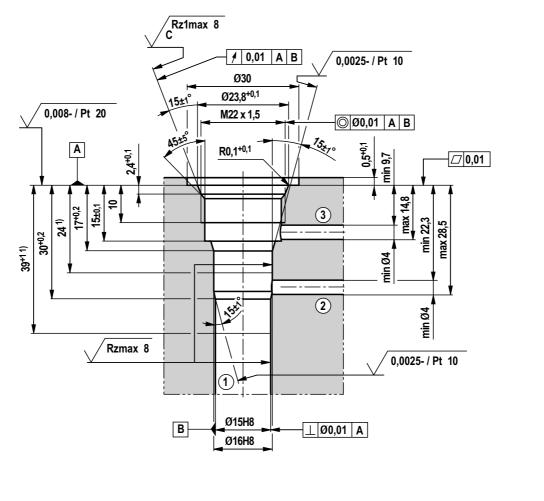
Unit dimensions (dimensions in mm)

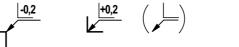


1 Hexagon 24 A/F, tightening torque $M_T = 60 \pm 5 \text{ Nm}$

Screw-in hole see page 7.

Mounting cavity R/LA: 3 main ports, thread M22 x 1.5 (dimensions in mm)





- ① = main port 1 (A)
- ② = main port 2 (P)
- 3 = main port 3 (T, Y)

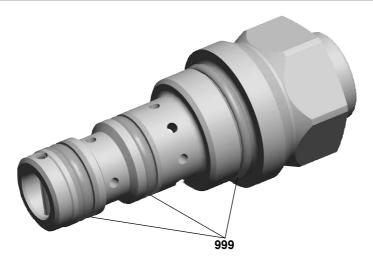
Standards:

Workpiece edges	DIN ISO 13715
Form and position tolerance	DIN EN ISO 1101
General tolerances for chip-producing processes	DIN ISO 2768-mK
Tolerance	DIN ISO 8015
Surface quality	DIN EN ISO 1302

Rz 32

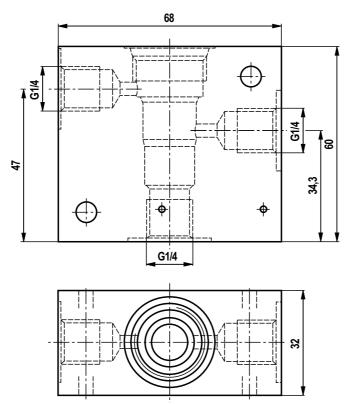
¹⁾ Depth of fit

Available individual components



Item	Designation	Material no.
999	Valve seal kit	R900870592
	Housing FTDRE 4 G10/01 G1/4, M22X1.5 (see below) 1)	R900862813

¹⁾ Maximum operating pressure 350 bar



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