

The Drive & Control Company

Rexroth
Bosch Group

Check valve

Type S

RE 20378

Edition: 2017-10

Replaces: 2016-08



- ▶ Size 6 ... 30
- ▶ Component series 1X
- ▶ Maximum operating pressure 450 bar
- ▶ Maximum flow 450 l/min

Features

- ▶ For threaded connection (screw-in thread)
- ▶ Leak-free blocking in one direction
- ▶ Various cracking pressures, optional

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RE 20378, edition: 2017-10, **Bosch Rexroth AG**

Knowledge is POWER – Motion Force Control is our Business

HYQUIP Limited New Brunswick Street Horwich Bolton Lancashire BL6 7JB UK

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Ordering code

01	02	03	04	05	06	07	08	09
S		A	-	1X	/	J		

01	Isolator valve	S
02	Size 6	6
	Size 8	8
	Size 10	10
	Size 15	15
	Size 20	20
	Size 25	25
	Size 30	30
03	Threaded connection	A

Cracking pressure (see characteristic curves page 4 and 5)

04	0 bar (without spring)	00
	0.2 bar	02
	0.5 bar (standard)	05
	1.5 bar	15
	3.0 bar	30
	5.0 bar	50
	8.0 bar (NG25 and 30 only)	80
05	Component series 10 ... 19 (10 ... 19: unchanged installation and connection dimensions)	1X
06	Maximum operating pressure 420 bar (NG25 and 30)	420
	Maximum operating pressure 450 bar (NG6 ... 20)	450

Corrosion resistance

07	Improved corrosion protection (240 h salt spray test according to EN ISO 9227)	J3
	High corrosion protection (720 h salt spray test according to EN ISO 9227)	J5

Piston bore (orifice in channel B)

08	Without piston bore	no code
	Thread M4; not fitted	B00
	Orifice Ø 1.0 mm	B10
	Orifice Ø 1.2 mm	B12
	Orifice Ø 1.5 mm	B15

Connection thread

09	Pipe thread "G" according to ISO 228-1	no code
	Pipe thread "M" according to ISO 261	/2
	Pipe thread "UNF/UN" according to ANSI/ASME B 1.1	/12
	More thread designs upon request	

Symbols

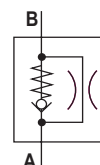
Without spring



With spring



With piston bore/orifice



Bosch Rexroth AG, RE 20378, edition: 2017-10

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Technical data

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

general								
Sizes	NG	6	8	10	15	20	25	30
Weight	kg	0.1	0.2	0.3	0.5	1.0	2.0	2.5
hydraulic								
Maximum operating pressure ¹⁾	► NG6 ... 20	bar	450					
	► NG25 and 30	bar	420					
Cracking pressure		bar	see characteristic curves page 4 and 5					
Maximum flow			see characteristic curves page 4 and 5					
Hydraulic fluid			see table below					
Hydraulic fluid temperature range		°C	-30 ... +80					
Viscosity range		mm ² /s	2.8 ... 500					
Maximum admissible degree of contamination of the hydraulic fluid cleanliness class according to ISO 4406 (c)			Class 20/18/15 ²⁾					
MTTF _D values according to EN ISO 13849		Years	150 (for further details see data sheet 08012) ³⁾					
Hydraulic fluid	Classification		Standards		Data sheet			
Mineral oils	HL, HLP, HLPD, HVLP, HVLPD		DIN 51524		90220			
Bio-degradable ⁴⁾	► insoluble in water	HETG	ISO 15380		90221			
		HEES						
	► soluble in water	HEPG	ISO 15380					
Flame-resistant	► water-free	HFDU (glycol base)	ISO 12922		90222			
		HFDU (ester base) ⁴⁾						
	► containing water ⁴⁾	HFC (Fuchs Hydrotherm 46M, Petrofer Ultra Safe 620)	ISO 12922		90223			



Important information on hydraulic fluids:

- For further information and data on the use of other hydraulic fluids, please refer to the data sheets above or contact us.
- There may be limitations regarding the technical valve data (temperature, pressure range, life cycle, maintenance intervals, etc.).
- The ignition temperature of the hydraulic fluid used must be 50 K higher than the maximum surface temperature.

► Flame-resistant – containing water:

- Life cycle as compared to operation with mineral oil HL, HLP 30 ... 100%
- Maximum hydraulic fluid temperature 60 °C

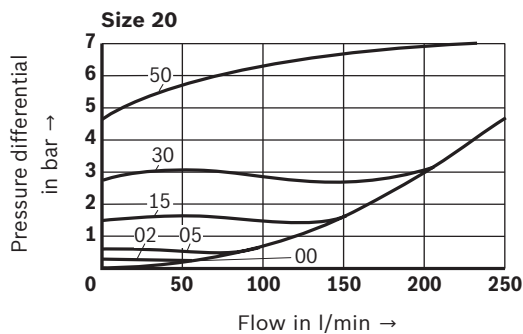
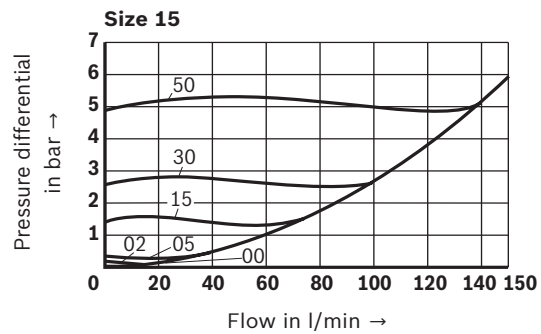
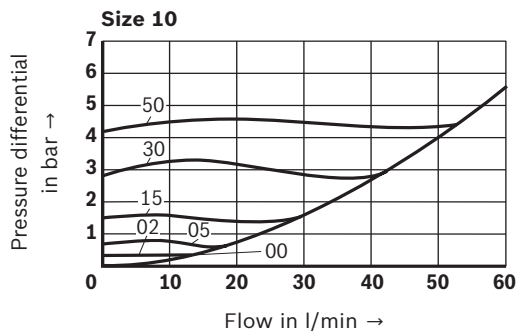
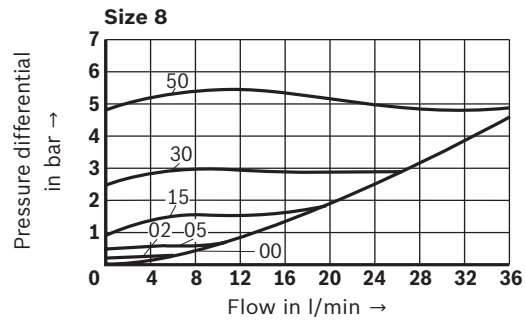
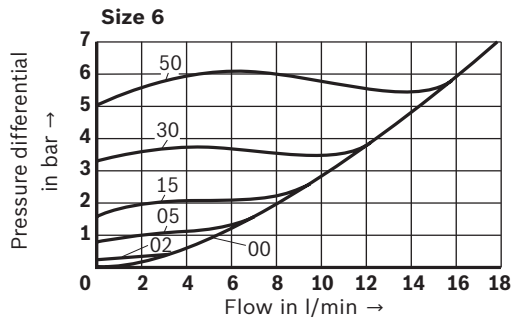
- Maximum operating pressures up to 1000 bar upon request.
- The cleanliness classes specified for the components must be adhered to in hydraulic systems. Effective filtration prevents faults and simultaneously increases the life cycle of the components.
For the selection of filters, see www.boschrexroth.com/filter.
- Not for version "00"; Certificate "Assumed exclusion of faults according to EN ISO 13849-2:2012-10 tab. C4" available upon request.
- Small amounts of dissolved zinc may get into the hydraulic system during use.

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Characteristic curves

(measured with HLP46, $\vartheta_{oil} = 40 \pm 5 \text{ }^{\circ}\text{C}$)

Δp - q_v characteristic curves at cracking pressure

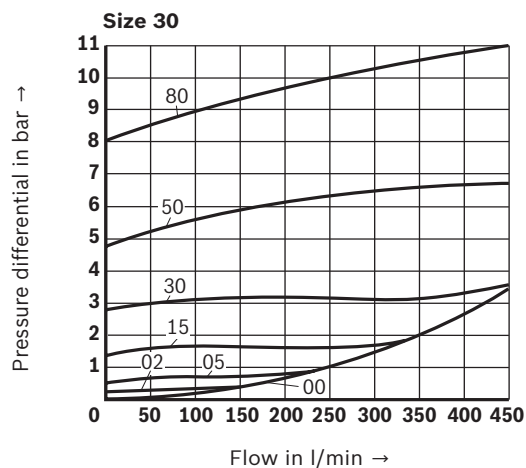
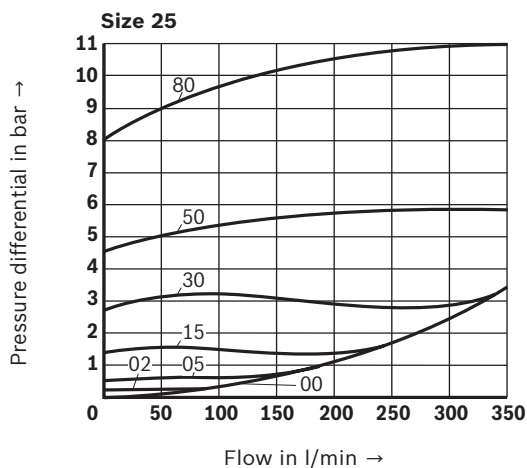


- 00 Cracking pressure 0 bar (without spring)
- 02 Cracking pressure 0.2 bar
- 05 Cracking pressure 0.5 bar (standard)
- 15 Cracking pressure 1.5 bar
- 30 Cracking pressure 3.0 bar
- 50 Cracking pressure 5.0 bar

Characteristic curves

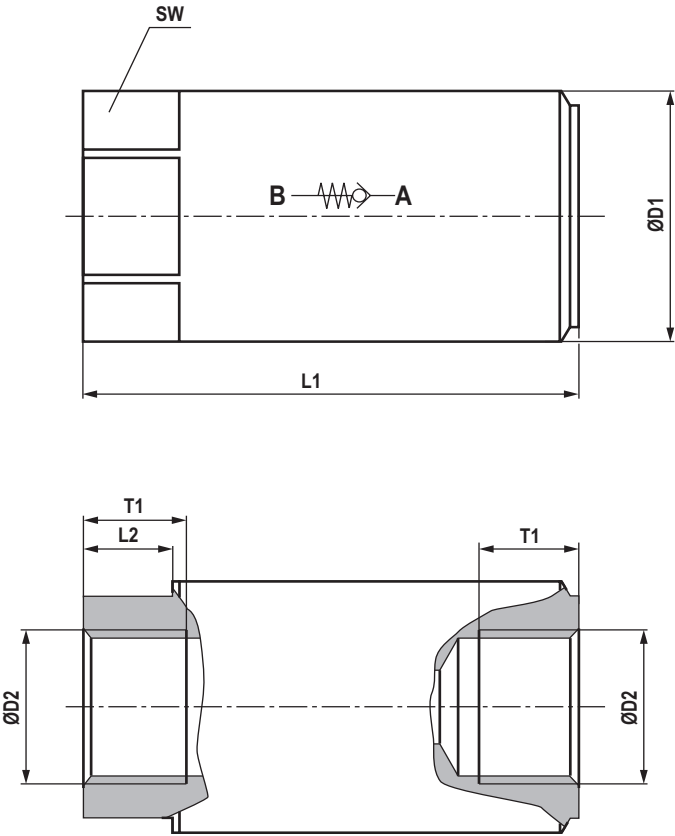
(measured with HLP46, $\vartheta_{oil} = 40 \pm 5 \text{ }^{\circ}\text{C}$)

Δp - q_v characteristic curves at cracking pressure



- 00 Cracking pressure 0 bar (without spring)
- 02 Cracking pressure 0.2 bar
- 05 Cracking pressure 0.5 bar (standard)
- 15 Cracking pressure 1.5 bar
- 30 Cracking pressure 3.0 bar
- 50 Cracking pressure 5.0 bar
- 80 Cracking pressure 8.0 bar

Dimensions
(dimensions in mm)



		Size							
		6	8	10	15	20	25	30	
ØD1		22.5	28	34	34	42	52	68	74.5
D2	"G"	G1/4	G3/8	–	G1/2	G3/4	G1	G1 1/4	G1 1/2
	"M"	M14 x 1.5	M18 x 1.5	–	M22 x 1.5	M27 x 2	M33 x 2	M42 x 2	M48 x 2
L1	"UNF/UN"	–	–	3/4-16 UNF	3/4-16 UNF	1 1/6-12 UN	1 5/16-12 UN	1 5/8-12 UN	1 7/8-12 UN
	"G"	58	58	–	72	88	98	120	132
L2	"M"	58	58	–	72	88	98	120	132
	"UNF/UN"	–	–	66	72	92	105	120	132
L1 1)		–	–	–	–	–	–	160 1)	168 1)
L2		10.5	11.5	13	13	15.5	19	25	28
T1	"G"	13	13	–	15	18	19	22	22.5
	"M"	12	12	–	14	16	18	20	22
SW	"UNF/UN"	–	–	15	15	20	20	20	20
		19	24	30	30	36	46	60	65

1) Version "...A80..."

Further information

- ▶ Hydraulic fluids on mineral oil basis
- ▶ Environmentally compatible hydraulic fluids
- ▶ Flame-resistant, water-free hydraulic fluids
- ▶ Flame-resistant hydraulic fluids - containing water (HFAE, HFAS, HFB, HFC)
- ▶ Reliability characteristics according to EN ISO 13849
- ▶ Hydraulic valves for industrial applications
- ▶ Selection of filters
- ▶ Information on available spare parts

Data sheet 90220
Data sheet 90221
Data sheet 90222
Data sheet 90223
Data sheet 08012