Check valve

Type S

RE 20378
Edition: 2017-10
Replaces: 2016-08

H8081

- 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

Contents

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

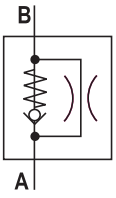
09	Pipe thread "G" according to ISO 228-1	**no code**
	Pipe thread "M" according to ISO 261	**/2**
	Pipe thread "UNF/UN" according to ANSI/ASME B 1.1	**/12**
	More thread designs upon request	

Symbols

Without spring

With spring

With piston bore/orifice



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

[1] Maximum operating pressures up to 1000 bar upon request.

[2] 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.

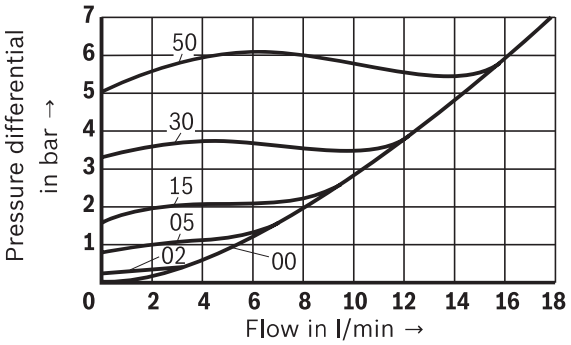
[3] Not for version "00"; Certificate "Assumed exclusion of faults according to EN ISO 13849-2:2012-10 tab. C4" available upon request.

[4] Small amounts of dissolved zinc may get into the hydraulic system during use.

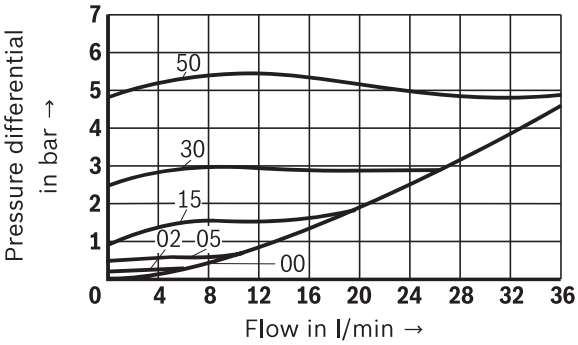
Characteristic curves
(measured with HLP46, ϑ_{oil} = 40 ±5 °C)

Δp-q_V characteristic curves at cracking pressure

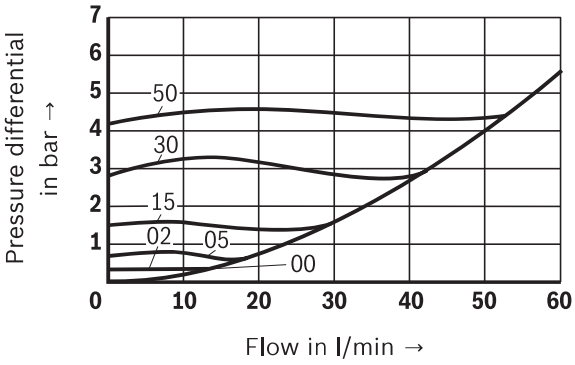
Size 6



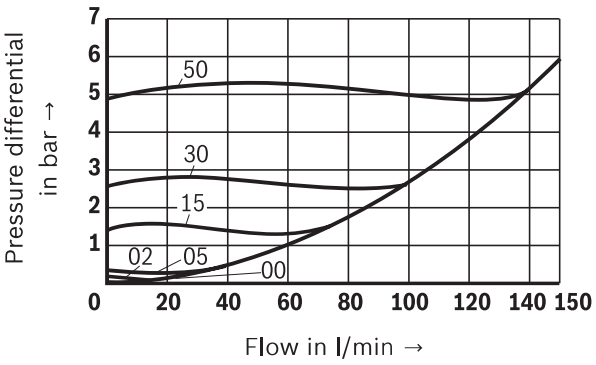
Size 8



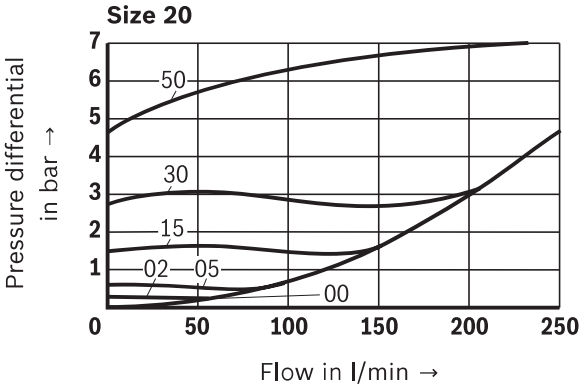
Size 10



Size 15



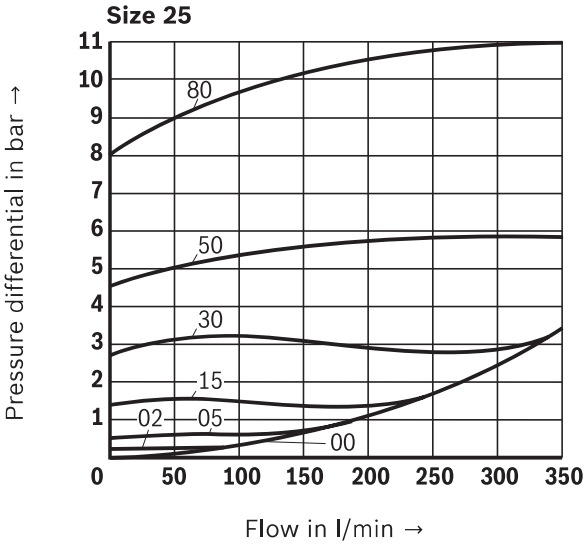
Size 20

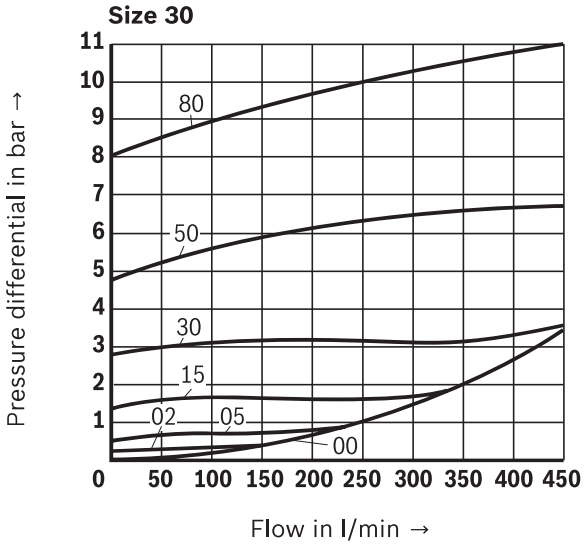


00 Cracking pressure 0 bar (without spring)
02 Cracking pressure 0.2 bar
05 Cracking pressure 0.5 bar (standard)
15 Cracking pressure 1.5 bar
30 Cracking pressure 3.0 bar
50 Cracking pressure 5.0 bar

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

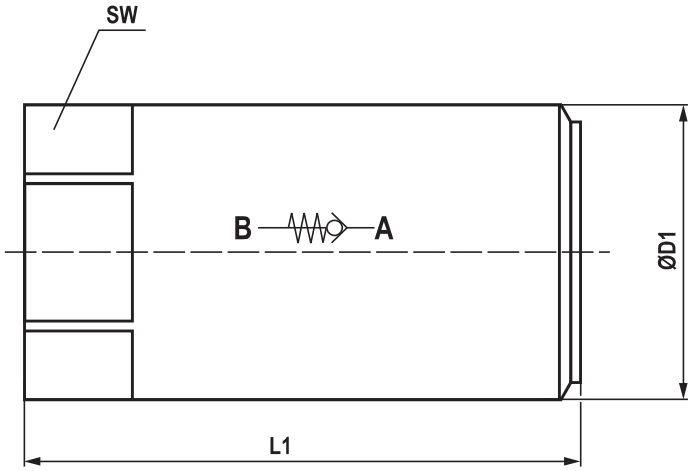
Δp-q_V characteristic curves at cracking pressure

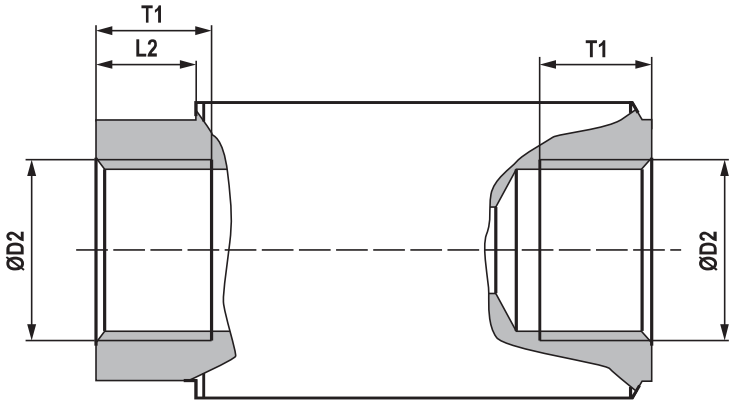




00 Cracking pressure 0 bar (without spring)
02 Cracking pressure 0.2 bar
05 Cracking pressure 0.5 bar (standard)
15 Cracking pressure 1.5 bar
30 Cracking pressure 3.0 bar
50 Cracking pressure 5.0 bar
80 Cracking pressure 8.0 bar

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
	"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
L1	"G"	58	58	–	72	88	98	120	132
	"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
	"UNF/UN"	–	–	15	15	20	20	20	20
SW		19	24	30	30	36	46	60	65

[1] Version **"...A80..."**

Further information

▶ Hydraulic fluids on mineral oil basis	Data sheet 90220
▶ Environmentally compatible hydraulic fluids	Data sheet 90221
▶ Flame-resistant, water-free hydraulic fluids	Data sheet 90222
▶ Flame-resistant hydraulic fluids - containing water (HFAE, HFAS, HFB, HFC)	Data sheet 90223
▶ Reliability characteristics according to EN ISO 13849	Data sheet 08012
▶ Hydraulic valves for industrial applications	Operating instructions 07600-B
▶ Selection of filters	www.boschrexroth.com/filter
▶ Information on available spare parts	www.boschrexroth.com/spc

Notes

Bosch Rexroth AG
Industrial Hydraulics
Zum Eisengießer 1
97816 Lohr am Main, Germany
Phone +49 (0) 93 52 / 40 30 20
my.support@boschrexroth.de
www.boschrexroth.de

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