

# Check valve, cartridge type

**RE 20380/03.11**  
Replaces: 11.10

1/8

## Type M-SR

Sizes 6 to 30  
 Component series 1X  
 Maximum operating pressure 315 bar  
 Maximum flow 400 l/min



H7004

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## Features

- For installation in manifold blocks
  - as angle valve
  - as straight valve
- Leak-free closure in one direction
- Various cracking pressures, optional (see ordering code)

Information on available spare parts:  
[www.boschrexroth.com/spc](http://www.boschrexroth.com/spc)

## Ordering code

<b>M-SR</b>	-	1X/	*	Further details in clear text
Check valve, cartridge design	= M-SR			
Size 6 (not as angle valve)	= 6			<b>Seal material</b> NBR seals <b>Important!</b> Observe compatibility of seals with hydraulic fluid used!
Size 8	= 8			
Size 10	= 10			
Size 15	= 15			
Size 20	= 20			
Size 25	= 25			
Size 30	= 30			
<b>Component design</b>				
Angle valve	= KE			<b>Cracking pressure</b> (see characteristic curves on pages 4 and 5) 00 = Without spring (not for straight valve) 02 = 05 = (Standard) 15 = 30 = 50 =
Straight valve	= KD			
				<b>1X =</b> Component series 10 to 19 (10 to 19: unchanged installation and connection dimensions)
				<b>No code =</b> NBR seals <b>V =</b> FKM seals (with angle valve only)

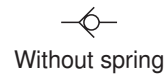
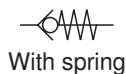
## Standard types

Type	Material number
M-SR 6 KD05-1X/	R900301889
M-SR 8 KE02-1X/	R900357438
M-SR 8 KE05-1X/	R900346083
M-SR 10 KE05-1X/	R900344549
M-SR 15 KE02-1X/	R900348943
M-SR 15 KE05-1X/	R900345372

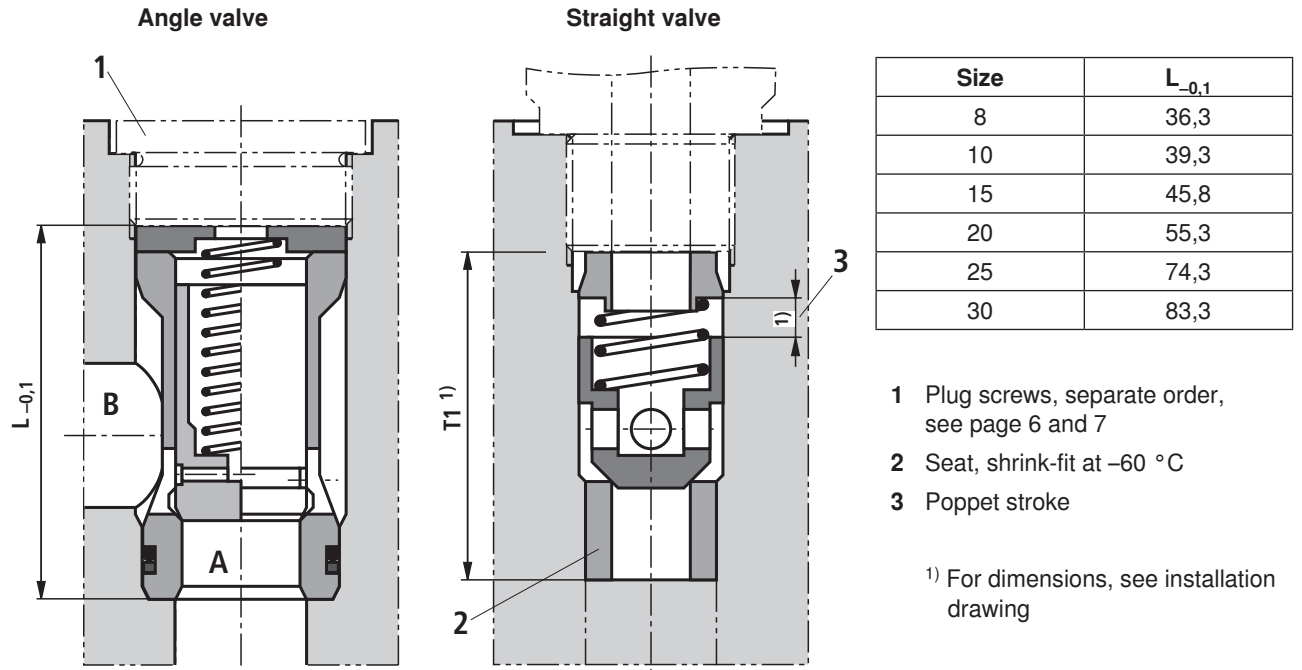
Type	Material number
M-SR 20 KE02-1X/	R900345744
M-SR 20 KE05-1X/	R900340979
M-SR 25 KE05-1X/	R900344778
M-SR 30 KE05-1X/	R900344919

**Further standard types and components can be found in the EPS (standard price list).**

## Symbols



## Sections



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

### General

Sizes	Size	6	8	10	15	20	25	30	
Weight	- Angle valve	kg	-	0.03	0.05	0.08	0.14	0.32	0.47
	- Straight valve	kg	0.05	0.05	0.05	0.1	0.2	0.25	0.3
Installation orientation		Optional							
Ambient temperature range	$^{\circ}\text{C}$	-20 to +80 (NBR seals) -20 to +80 (FKM seals)							

### Hydraulic

Maximum operating pressure	bar	315
Cracking pressure	bar	See characteristic curves on pages 4 and 5
Maximum flow	l/min	See characteristic curves on pages 4 and 5
Hydraulic fluid		Mineral oil (HL, HLP) to DIN 51524 <sup>1)</sup> ; fast bio-degradable hydraulic fluids to VDMA 24568 (see also data sheet 90221); HETG (rape seed oil) <sup>1)</sup> ; HEPG (polyglycols) <sup>2)</sup> ; HEES (synthetic esters) <sup>2)</sup> ; other hydraulic fluids on enquiry
Hydraulic fluid temperature range	$^{\circ}\text{C}$	-30 to +80 (for NBR seals) -20 to +80 (for FKM seals)
Viscosity range	$\text{mm}^2/\text{s}$	2.8 to 500
Max. permissible degree of contamination of the hydraulic fluid - cleanliness class to ISO 4406 (c)		Class 20/18/15 <sup>3)</sup>

<sup>1)</sup> Suitable for NBR and FKM seals

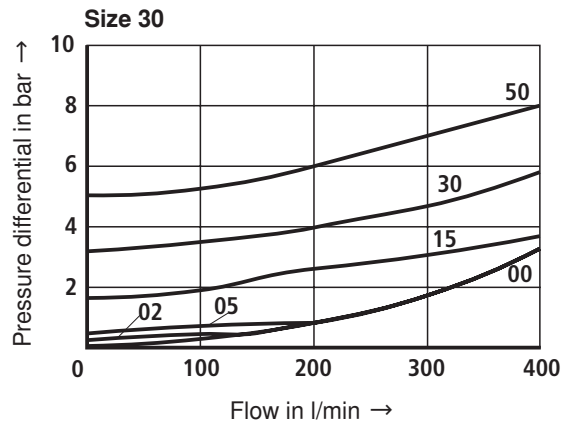
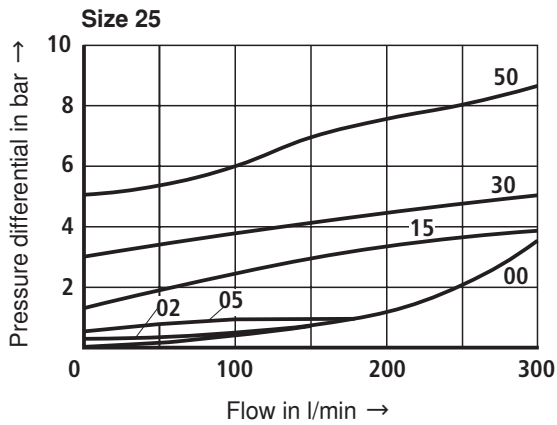
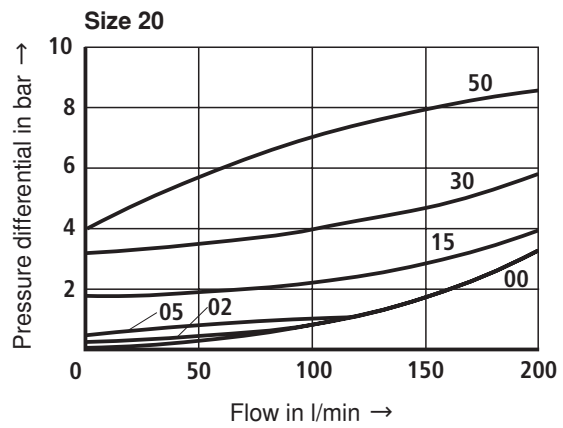
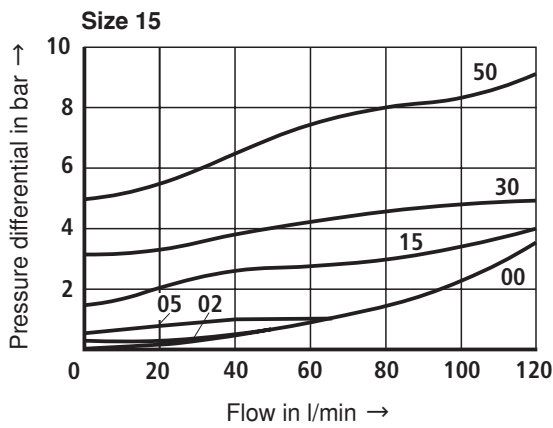
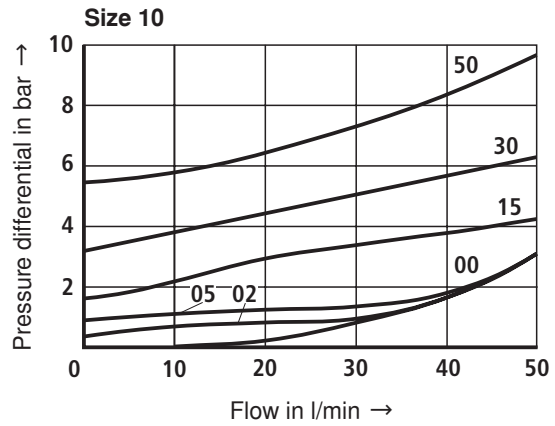
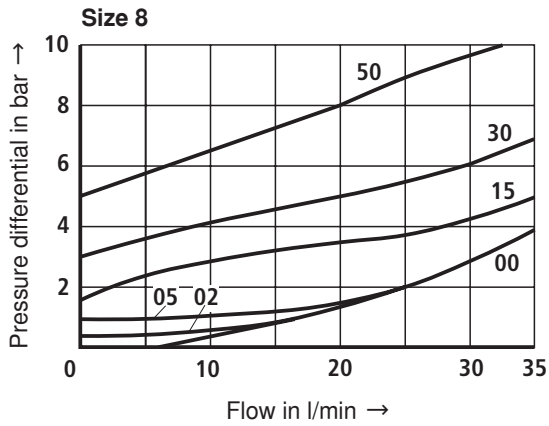
<sup>2)</sup> Suitable only for FKM seals

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

For the selection of the filters see [www.boschrexroth.com/filter](http://www.boschrexroth.com/filter).

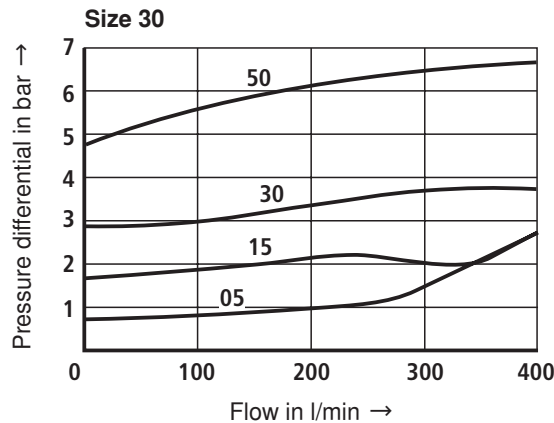
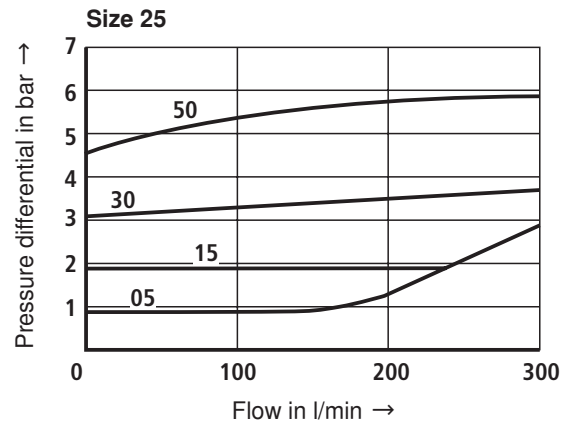
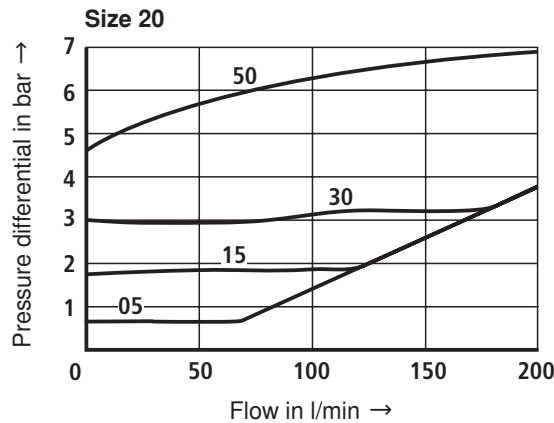
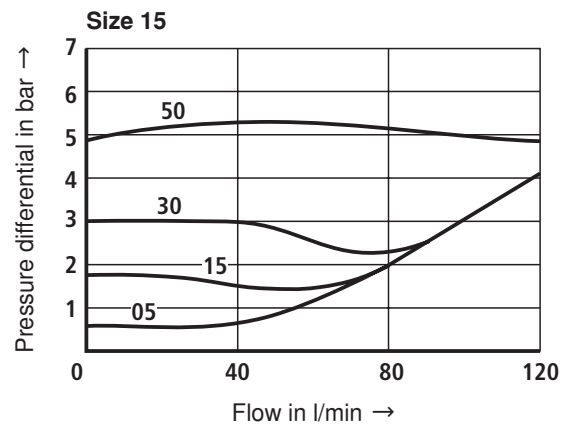
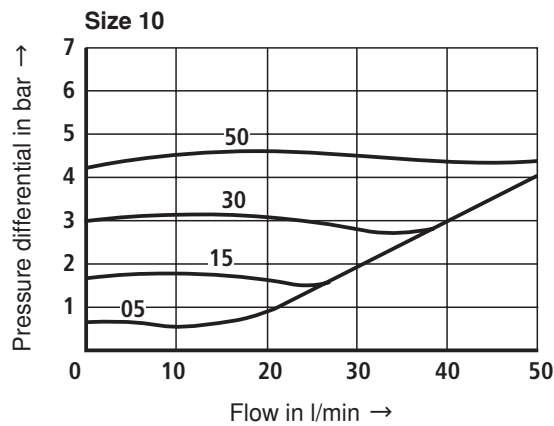
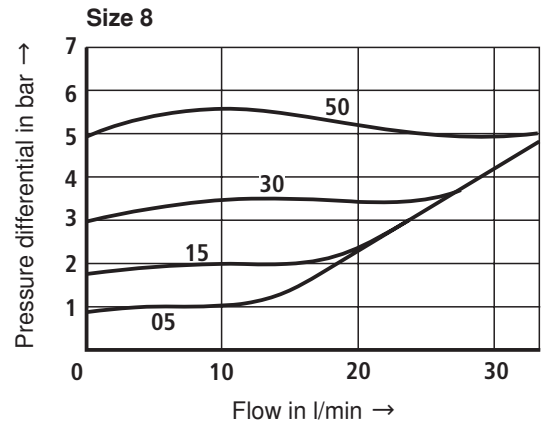
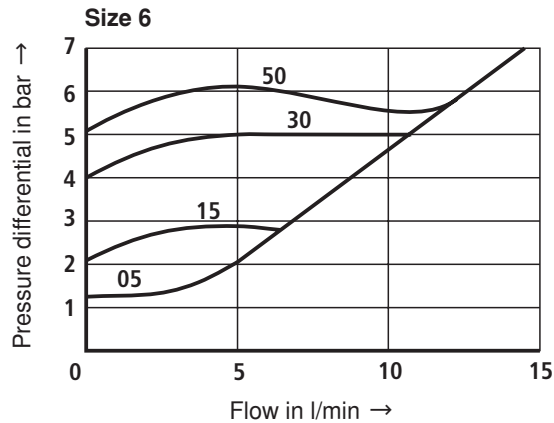
## Characteristic curves (measured with HLP46, $\vartheta_{oil} = 40 \text{ }^{\circ}\text{C} \pm 5 \text{ }^{\circ}\text{C}$ ) – angle valve

Pressure differential  $\Delta p$  in dependence upon flow  $q_v$  at cracking pressure

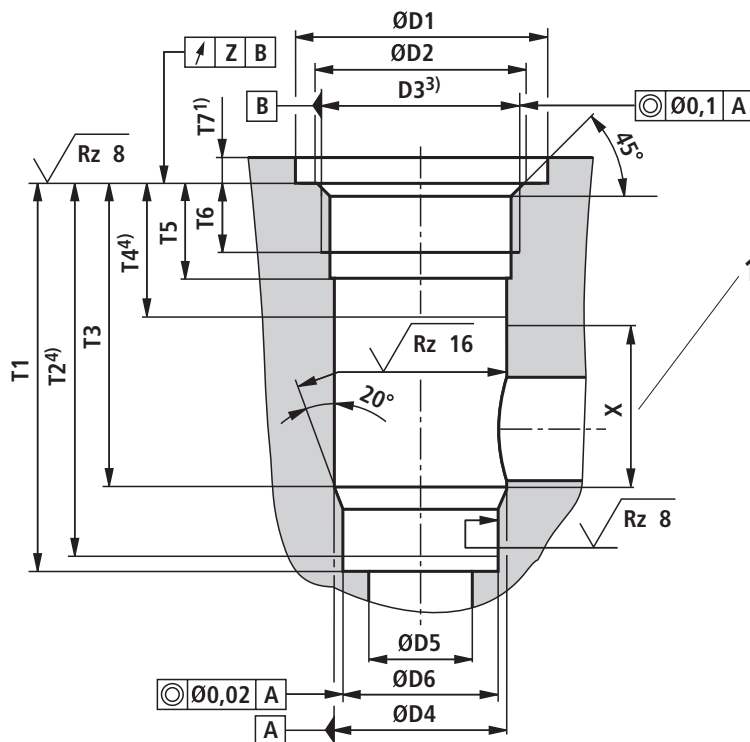


**Characteristic curves** (measured with HLP46,  $\vartheta_{oil} = 40 \text{ }^\circ\text{C} \pm 5 \text{ }^\circ\text{C}$ ) – straight valve

Pressure differential  $\Delta p$  in dependence upon flow  $q_v$  at cracking pressure



## Mounting cavity: Angle valve for plug screw to RN 143.21 (dimensions in mm)



1 Area for drain bore

Size	Plug screws <sup>2)</sup> Material no.	$p_N$ in bar	ØD1	ØD2	D3	ØD4H8	ØD5	ØD6H7
8	R900002423	315	23	17.1	G3/8 <sup>3)</sup>	14	8	13
10	R900002422	315	28	21.4	G1/2 <sup>3)</sup>	18	10	17
15	R900012091	315	33	26.8	G3/4 <sup>3)</sup>	24	15	22
20	R900002424	315	41	33.8	G1 <sup>3)</sup>	30	20	28
25	R900012411	250	51	42.5	G1 1/4 <sup>3)</sup>	38	25	36
30	R900012412	250	56	48.5	G1 1/2 <sup>3)</sup>	44	30	42

Size	T1 <sup>+0.1</sup>	T2	T3	T4	T5	T6	T7 <sup>+0.5</sup>	T8 <sup>+0.2</sup>	X	Z
8	48.5	47.5	38.5	20	15	12	6	–	18	0.05
10	53.5	52.5	43.5	24	18	14	6	–	19	0.05
15	62	60.5	50	26	20.5	16	6	–	24	0.05
20	71.5	70	56.5	26	20.5	16	7	–	30	0.05
25	90.5	88	72.5	28	22	16	7	–	43	0.1
30	99.5	96.5	79.5	31	22	16	7	–	48	0.1

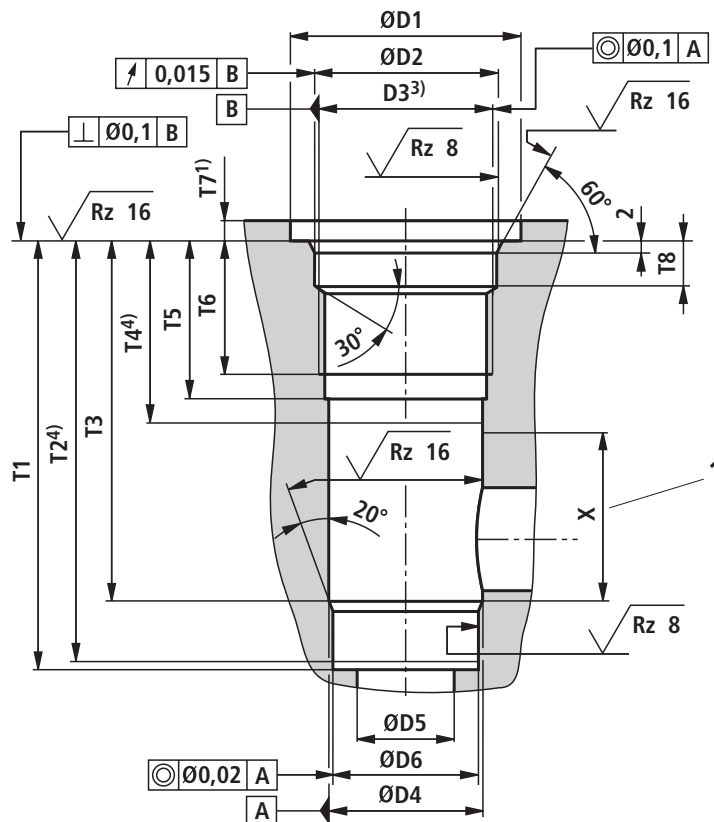
<sup>1)</sup> Dimension for countersinking the screw head. When installing the cartridge more deeply, extend dimension T7 accordingly.

<sup>2)</sup> Order separately, with NBR seal

<sup>3)</sup> Pipe thread "G..." to ISO 228/1

<sup>4)</sup> Depth of fit

## Mounting cavity: Angle valve for plug screw to RN 143.28 (dimensions in mm)



1 Area for drain bore

Size	Plug screws <sup>2)</sup> Material no.	$P_N$ in bar	$\varnothing D1$	$\varnothing D2H8$	$D3$	$\varnothing D4H8$	$\varnothing D5$	$\varnothing D6H7$
25	R900323609	315	$56^{+0.5}$	44	M42 x 1.5 <sup>3)</sup>	38	25	36
30	R900323610	315	$62^{+0.5}$	50	M48 x 1.5 <sup>3)</sup>	44	30	42

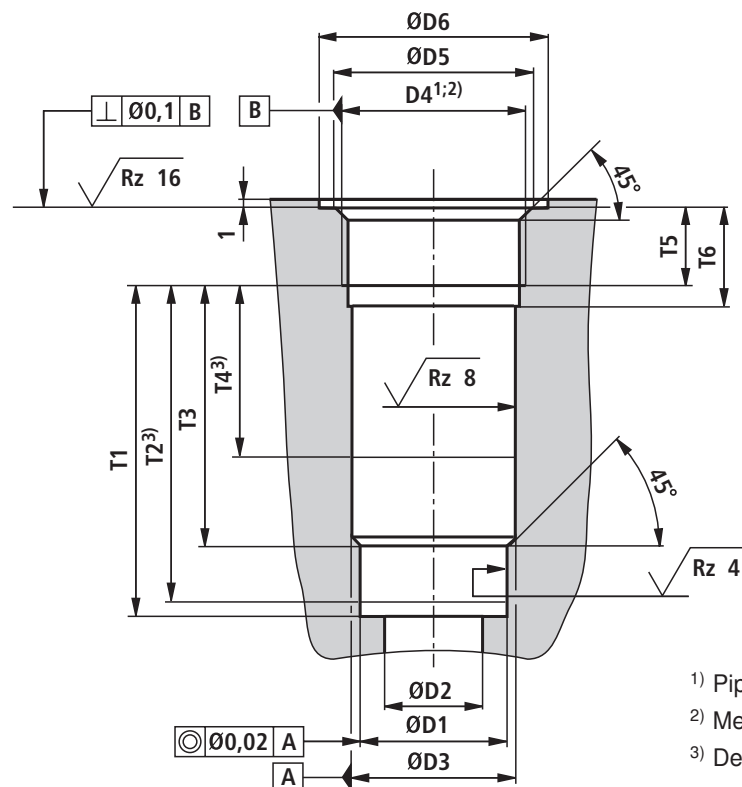
Size	$T1^{+0.1}$	T2	T3	T4	T5	T6	$T7^{+0.5}$	$T8^{+0.2}$	X	Z
25	106.5	104	88.5	45	39	33	5	12	43	-
30	115.5	112.5	95.5	48	39	33	5	12	48	-

<sup>1)</sup> Dimension for countersinking the screw head. When installing the cartridge more deeply, extend dimension T7 accordingly.

<sup>2)</sup> Order separately, with NBR seal

<sup>3)</sup> Metric ISO fine thread to DIN 13

<sup>4)</sup> Depth of fit

**Mounting cavity: Straight valve (dimensions in mm)**

1) Pipe thread "G..." to ISO 228/1

2) Metric ISO fine thread to DIN 13

3) Depth of fit

Size	ØD1H7	ØD2	ØD3H8	D4 <sup>1)</sup>	ØD5±0.1 <sup>1)</sup>	D4 <sup>2)</sup>	ØD5±0.1 <sup>2)</sup>	ØD6
6	10	6	11	G1/4	13.6	M14 x 1.5	14.4	25
8	13	8	14	G3/8	17.1	M18 x 1.5	18.4	28
10	17	10	18	G1/2	21.4	M22 x 1.5	22.4	34
15	22	15	24	G3/4	26.8	M27 x 2	27.4	42
20	28	20	30	G1	33.8	M33 x 2	33.5	47
25	36	25	38	G1 1/4	42.5	M42 x 2	42.5	58
30	42	30	44	G1 1/2	48.5	M48 x 2	48.5	65

Size	T1 <sub>-0.1</sub>	T2	T3	T4	T5	T6	Z	Poppet stroke
6	29.8	27.8	21.8	19	12	16	0.05	4
8	32.8	30.8	22.8	18	12	16	0.05	4
10	38.8	36.8	28.8	21	14	19	0.05	4
15	48.4	46.4	36.4	27	16	21	0.05	5
20	59	57	44	29	18	24	0.05	5
25	73	71	55	39	20	26	0.1	7
30	83	81	63	42	22	28	0.1	7