



VALVOLE DI PRESSIONE

M-SR

CHECK VALVE,
CARTRIDGE DESIGN

- ▶ Size 6 ... 30
- ▶ Component series 10
- ▶ Maximum operating pressure 420 bar
- ▶ Maximum flow 400 l/min

Features

- ▶ For installation in block designs
 - As angle valve
 - As straight-through valve
- ▶ Leakage-free blocking in one direction
- ▶ Various cracking pressures, optional (see ordering codes)



Ordering code

01	02	03	04	05	06	07	08
M-SR				10	/		*

01	Check valve, cartridge design	M-SR
02	Size 6 (not version "KE")	6
	Size 8	8
	Size 10	10
	Size 15	15
	Size 20	20
	Size 25	25
	Size 30	30

Unit design

03	Angle valve	KE
	Straight-through valve	KD

Cracking pressure (see characteristic curves on page 5 and 6)

04	0 bar, without spring (not version "KD")	00
	0.2 bar	02
	0.5 bar (standard)	05
	1.5 bar	15
	3.0 bar	30
	5.0 bar	50

05	Component series 10 ... 19 (10 ... 19: unchanged installation and connection dimensions)	1X
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Orifice in channel B (version "KD" only)

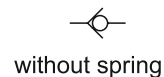
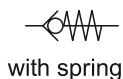
06	Without orifice	no code
	Core hole M4	B00
	Orifice Ø 1.0 mm	B10
	Orifice Ø 1.2 mm	B12

Seal material (version "KE" only)

07	NBR seals	no code
	FKM seals	V
	Observe compatibility of seals with hydraulic fluid used. (Other seals upon request)	

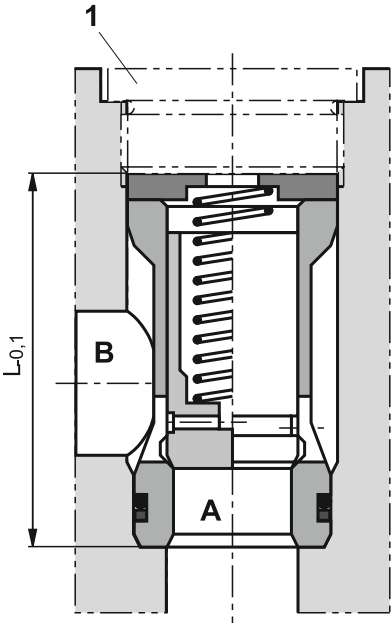
08	Further details in the plain text	
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Symbols

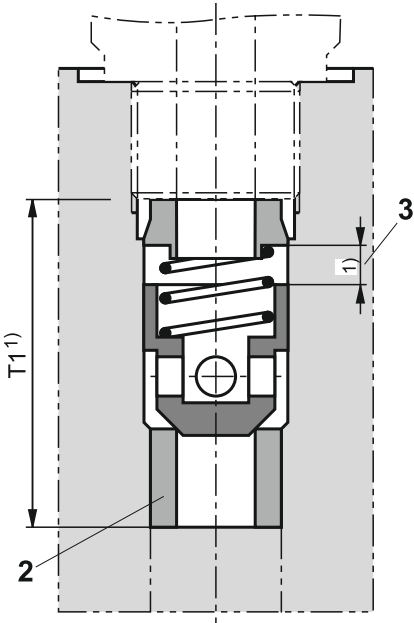


Sections

Angle valve "KE"



Straight-through valve "KD"



NG	L _{0,1}
8	36,3
10	39,3
15	45,8
20	55,3
25	74,3
30	83,3

- 1 Plug screws, separate order, see page 7 and 9
- 2 Seat shrink-fitted with -60 °C
- 3 Poppet stroke

¹⁾ For dimensions, see installation bores

Technical data

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

general									
Sizes	NG	6	8	10	15	20	25	30	
Weight	►Angle valve "KE"	kg	–	0.03	0.05	0.08	0.14	0.32	0.47
	►Straight-through valve "KD"	kg	0.05	0.05	0.05	0.1	0.2	0.25	0.3
Installation position	any								
Ambient temperature range	°C	–20 ... +80 (NBR seals) –20 ... +80 (FKM seals)							
MTTF _d value according to EN ISO 13849	Years	150 (for further details see data sheet 08012 and 90294)							

hydraulic	
Maximum operating pressure	bar 420
Cracking pressure	bar see characteristic curves on page 5 and 6
Maximum flow	l/min see characteristic curves on page 5 and 6
Hydraulic fluid	see table below
Hydraulic fluid temperature range	°C –30 ... +80 (for NBR seals) –20 ... +80 (for FKM seals)
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 ¹⁾

Hydraulic fluid	Classification	Suitable sealing materials	Standards	Data sheet
Mineral oils	HL, HLP	NBR, FKM	DIN 51524	90220
Bio-degradable	►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)		
	►containing water	HFC (Fuchs Hydrotherm 46M, Petrofer Ultra Safe 620)	NBR	ISO 12922



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.).

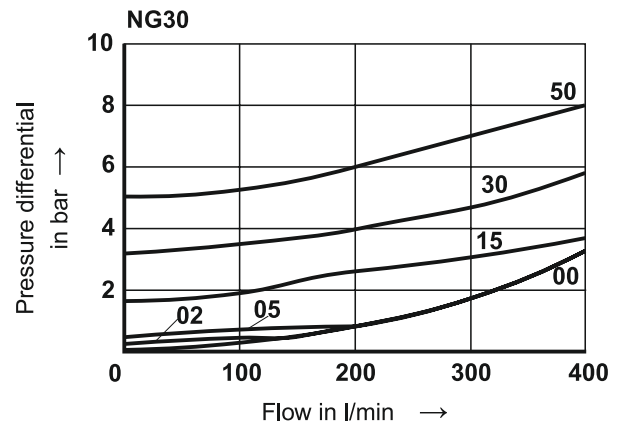
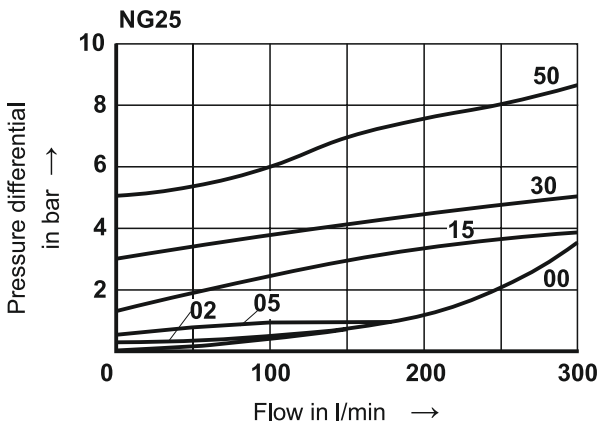
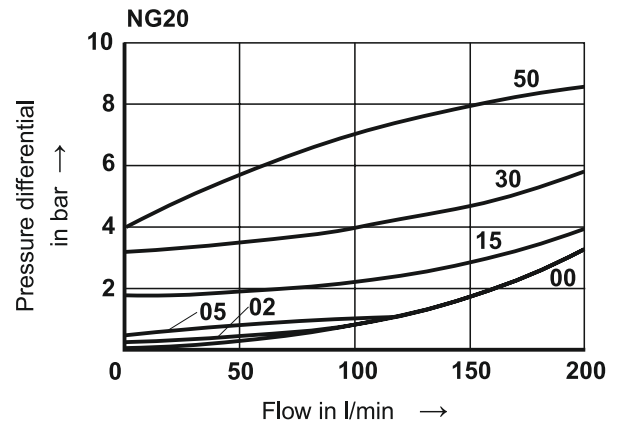
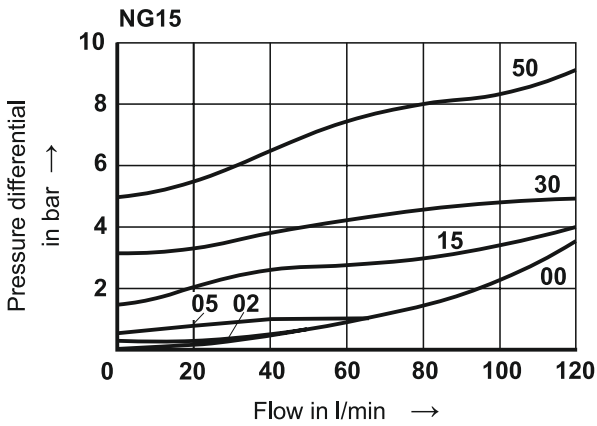
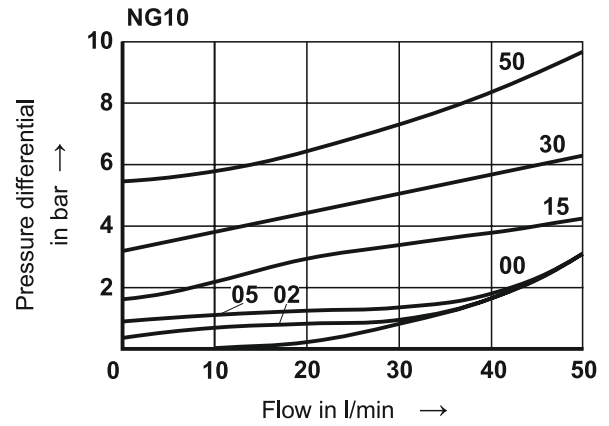
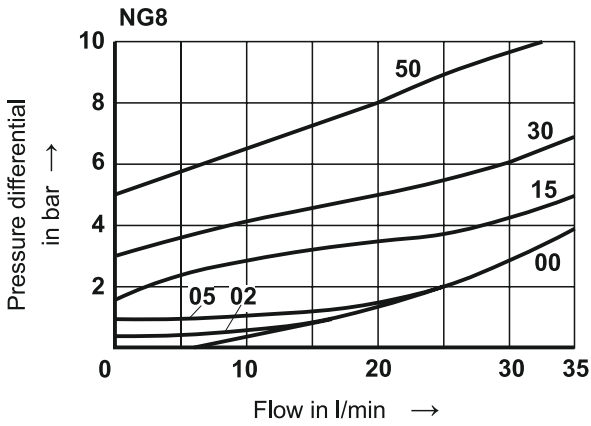
►Flame-resistant – containing water:

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

¹⁾ 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.

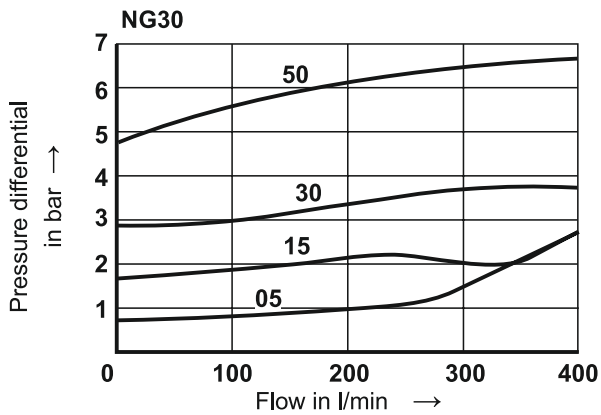
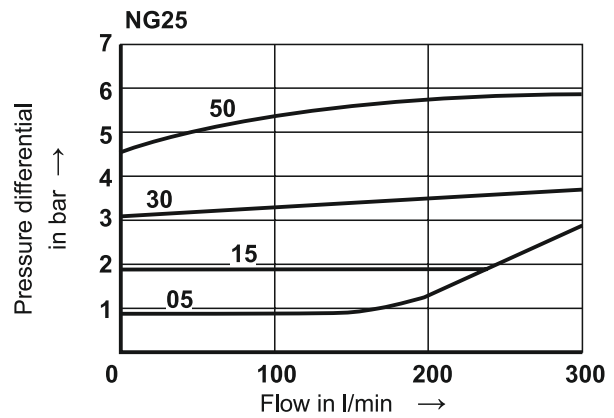
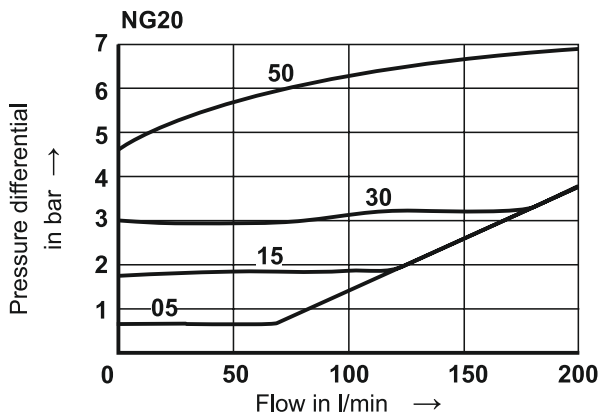
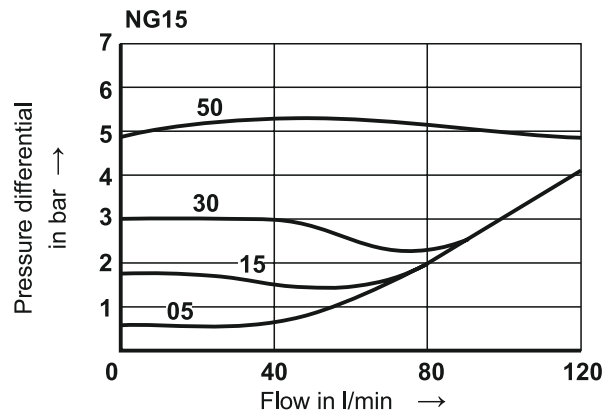
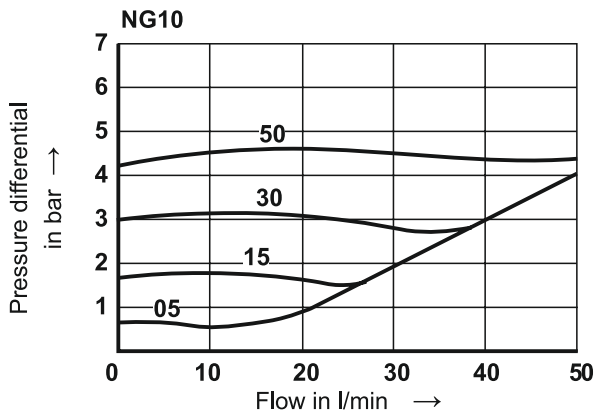
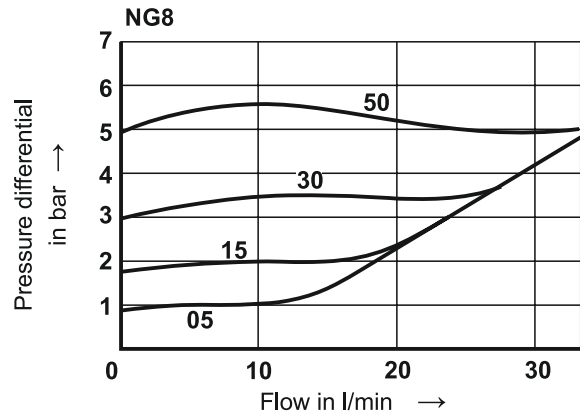
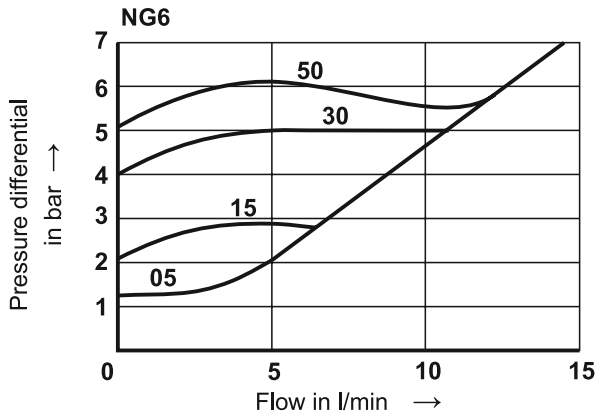
Characteristic curves: Version "KE"
 (measured with HLP46, $\vartheta_{oil} = 40 \pm 5 \text{ } ^\circ\text{C}$)

Pressure differential Δp dependent on the flow q_v at cracking pressure

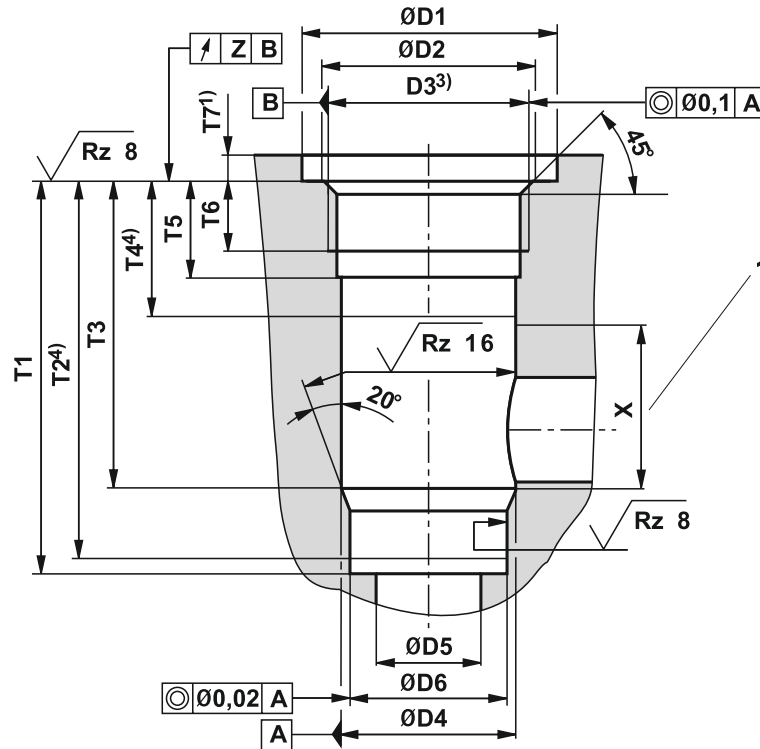


Characteristic curves: Version "KD"
 (measured with HLP46, $\vartheta_{oil} = 40 \pm 5 \text{ }^\circ\text{C}$)

Pressure differential Δp dependent on the flow q_v at cracking pressure



Installation bore: Angle valve "KE"
(dimensions in mm)



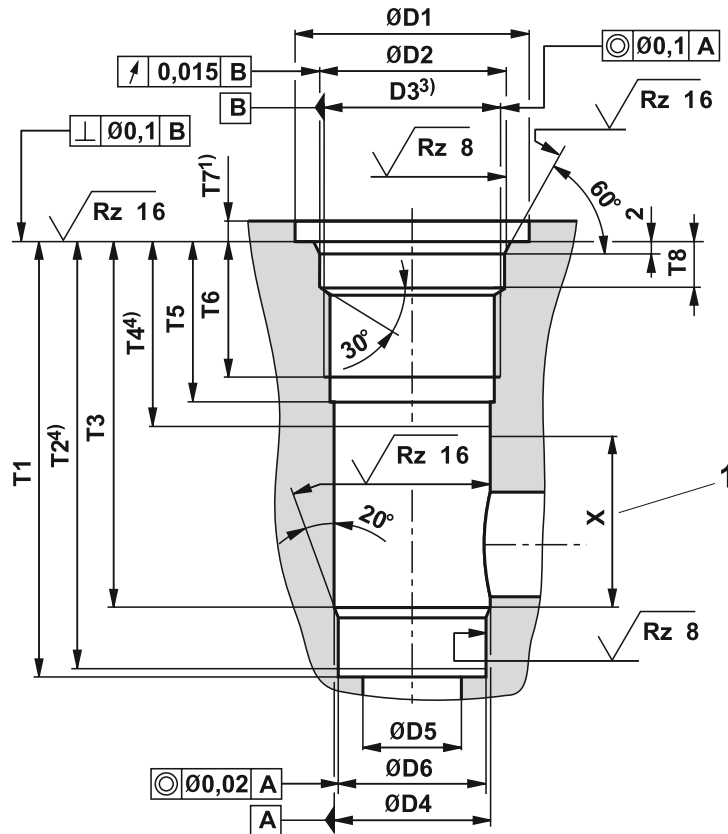
1 Range for outlet bore

NG	Plug screws – Material no. ²⁾			p_N in bar	ØD1	ØD2	D3	ØD4H8	ØD5	ØD6H7
	NBR	FKM	$M_A \pm 10\%$ in Nm							
8			55	420	23	17.1	G3/8 ³⁾	14	8	13
10			80	420	28	21.4	G1/2 ³⁾	18	10	17
15			135	420	33	26.8	G3/4 ³⁾	24	15	22
20			225	420	41	33.8	G1 ³⁾	30	20	28
25			360	250	51	42.5	G1 1/4 ³⁾	38	25	36
30			400	250	56	48.5	G1 1/2 ³⁾	44	30	42

NG	T1 ^{+0.1}	T2	T3	T4	T5	T6	T7 ^{+0.5}	T8 ^{+0.2}	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

- 1) Dimensions for countersinking the screw head. For lower installation of the installation kit, dimension T7 has to be extended accordingly.
- 2) Separate order. Oiling of plug screws prior to installation is recommended.
- 3) Pipe thread "G..." according to ISO 228/1
- 4) Depth of fit

Installation bore: Angle valve "KE" for plug screw acc. to RN 143.28 – up to 315 bar
(dimensions in mm)



1 Range for outlet bore

NG	Plug screws – Material no. ²⁾			p_N in bar	ØD1	ØD2H8	D3	ØD4H8	ØD5	ØD6H7
	NBR	FKM	$M_A \pm 10\%$ in Nm							
25			300	315	56+0.5	44	M42 x 1.5 ³⁾	38	25	36
30			325	315	62+0.5	50	M48 x 1.5 ³⁾	44	30	42

NG	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	–

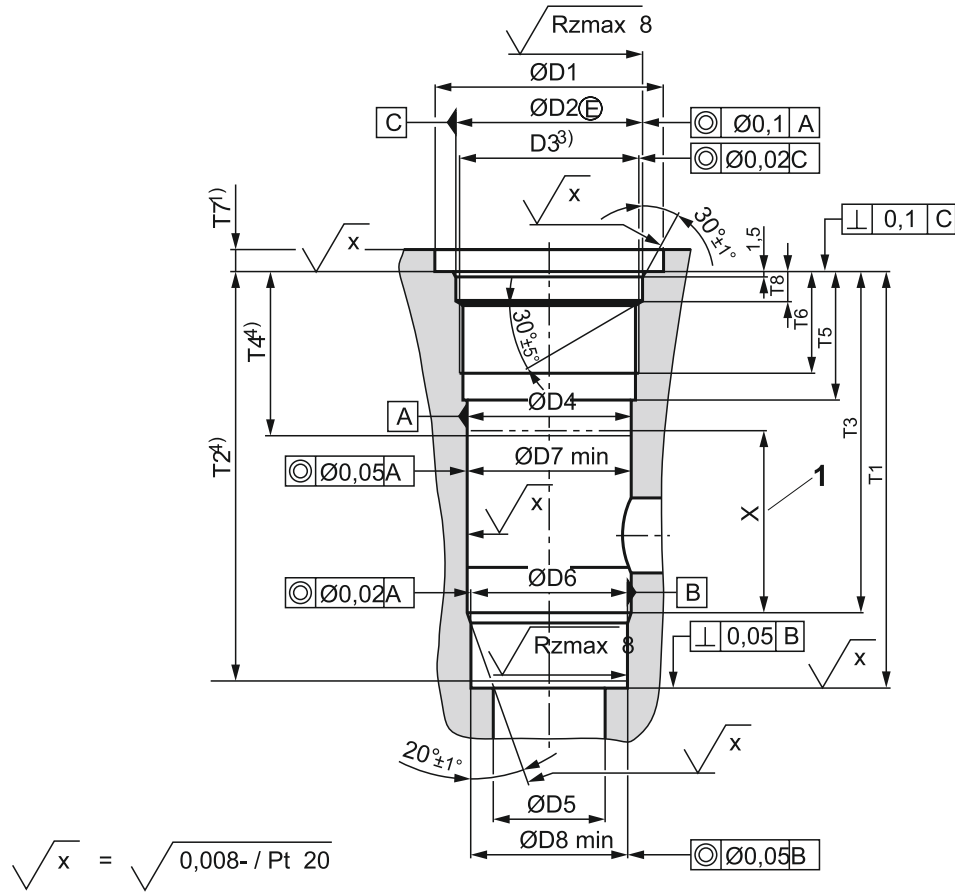
1) Dimensions for countersinking the screw head. For lower installation of the installation kit, dimension T7 has to be extended accordingly.

2) Separate order, to be replaced in case of maintenance.

3) Metric ISO fine thread according to DIN 13

4) Depth of fit

Installation bore: Angle valve "KE"
(dimensions in mm)



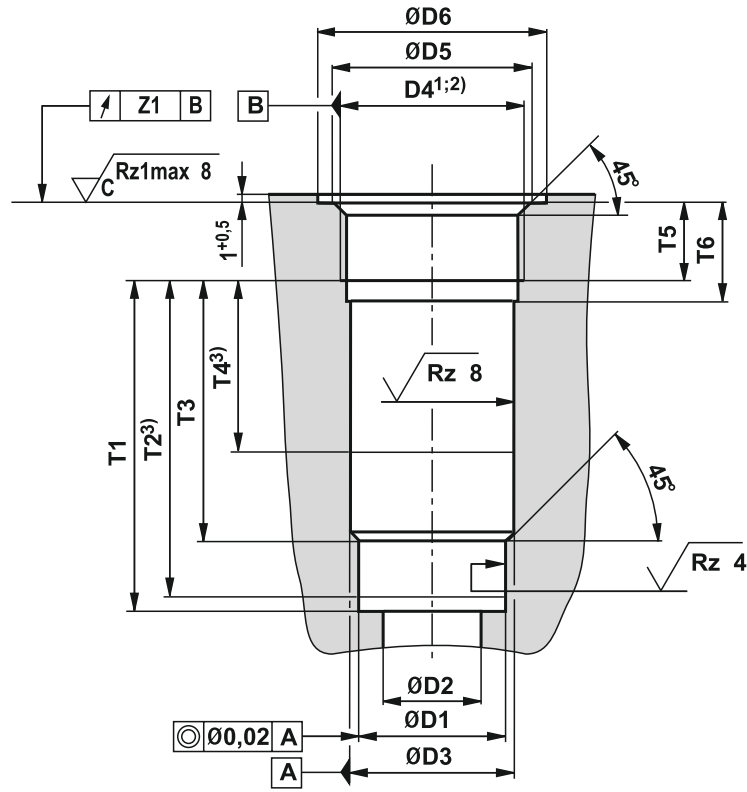
1 Range for outlet bore

NG	Plug screws – Material no. ²⁾			p_N in bar	ØD1	ØD2H8	D3	ØD4H8	ØD5	ØD6H7	ØD7	ØD8
	NBR	FKM	$M_A \pm 10\%$ in Nm									
25			300	420	51+0.5	44	M42x2	38	25	36	37.58	35.58
30			325	420	61+0.5	50	M48x2	44	30	42	43.58	41.58

NG	T1 ^{+0.1}	T3	T2 min	T4 min	T5	T6	T7 ^{+0.5}	T8 ^{+0.2}	X
25	101.5	93.5	100	40	34	27	6	7.8	43
30	110.5	90.5	108.5	43	34	27	6	7.8	48

- 1) Dimensions for countersinking the screw head. For lower installation of the installation kit, dimension T7 has to be extended accordingly.
- 2) Separate order, to be replaced in case of maintenance.
- 3) Metric ISO fine thread according to DIN 13
- 4) Depth of fit

Installation bore: Straight-through valve "KD"
(dimensions in mm)



NG	ØD1H7	ØD2	ØD3H8	$\text{D4}^{1)}$	$\text{ØD5}\pm 0.1^{1)}$	$\text{D4}^{2)}$	$\text{ØD5}\pm 0.1^{2)}$	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

NG	$T1_{-0.1}$	$T2$	$T3$	$T4$	$T5$	$T6$	$Z1$	Poppet stroke
6	29.8	27.8	21.8	19	12	16	0.1	4
8	32.8	30.8	22.8	18	12	16	0.1	4
10	38.8	36.8	28.8	21	14	19	0.1	4
15	48.4	46.4	36.4	27	16	21	0.2	5
20	59	57	44	29	18	24	0.2	5
25	73	71	55	39	20	26	0.2	7
30	83	81	63	42	22	28	0.2	7

- 1) Pipe thread "G..." according to ISO 228/1
- 2) Metric ISO fine thread according to DIN 13
- 3) Depth of fit