

CHECK VALVE, CARTRIDGE DESIGN

M-SR INTRODUCTION

- 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)





M-SR

CHECK VALVE, CARTRIDGE DESIGN

ORDER CODE

M-SR					10		/		*
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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

ANGLE VALVE

KE

STRAIGHT-THROUGH VALVE

KD

CRACKING PRESSURE

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

COMPONENT SERIES 10 ... 19

(10 ... 19: UNCHANGED INSTALLATION
AND CONNECTION DIMENSIONS)

1X

ORICE IN CHANNEL B
(VERSION "KD" ONLY)

WITHOUT ORICE

NO CODE

CORE HOLE M4

800

ORICE Ø 1.0 MM

810

ORICE Ø 1.2 MM

812

SEAL MATERIAL (VERSION "KE" ONLY)

NBR SEALS

NO CODE

FKM SEALS

V

OBSERVE COMPATIBILITY OF SEALS
WITH HYDRAULIC FLUID USED.
(OTHER SEALS UPON REQUEST)

FURTHER DETAILS IN THE PLAIN TEXT

SYMBOLS



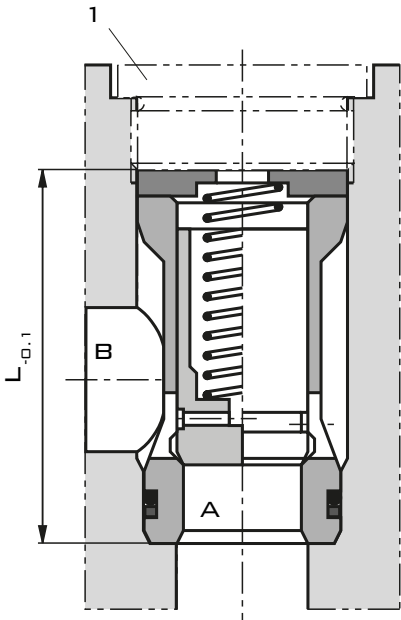
WITH SPRING



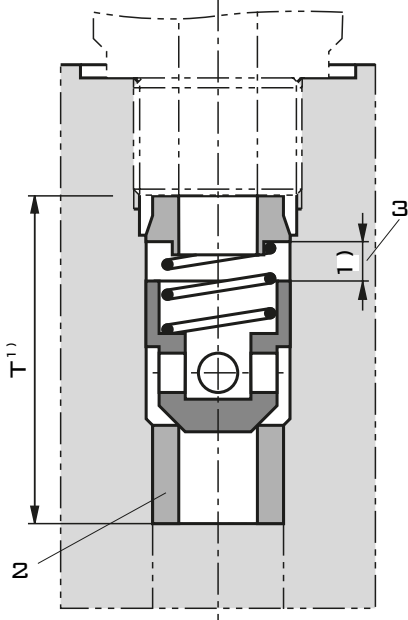
WITHOUT SPRING

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

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)						
MTTFD VALUE ACCORDING TO EN ISO 13849		YEARS	150 (FOR FURTHER DETAILS SEE DATA SHEET 90012 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

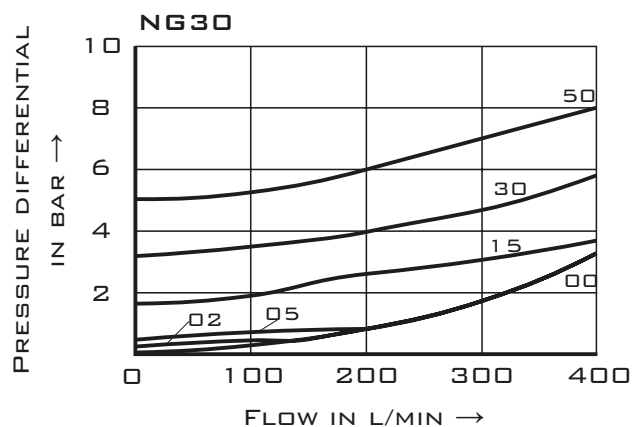
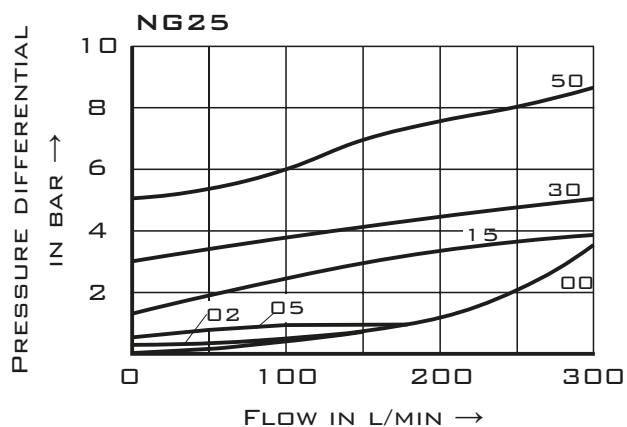
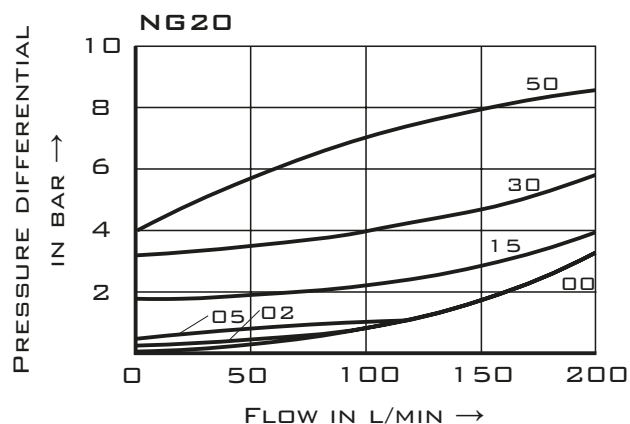
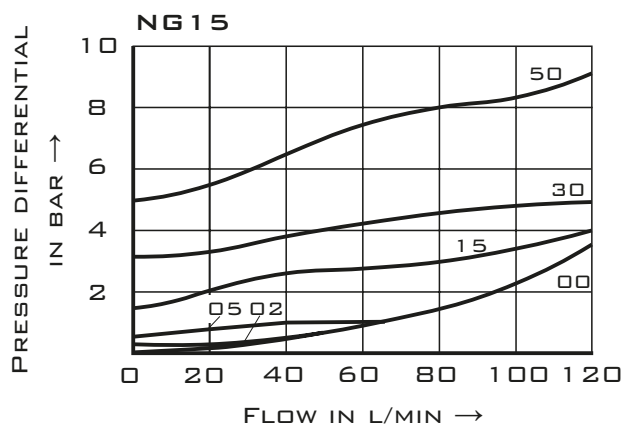
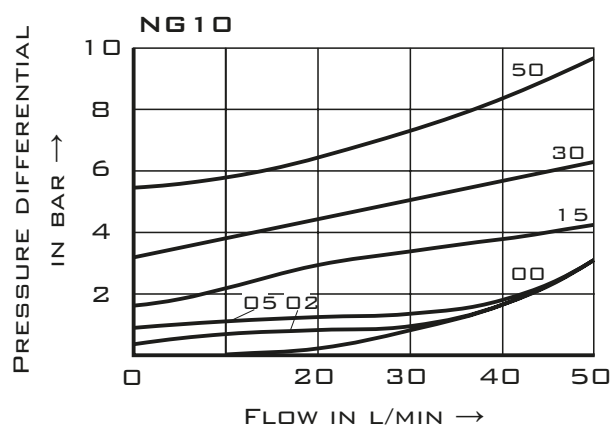
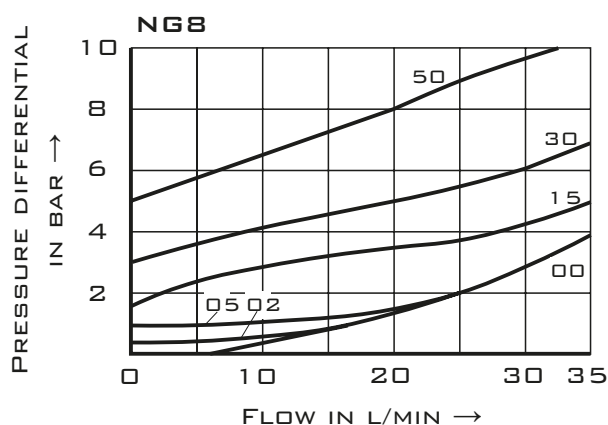
HYDRAULIC FLUID		CLASSIFICATION	SUITABLE SEALING MATERIAL	STANDARDS	DATA SHEET
MINERAL OILS		HL, HLP	NBR, FKM	DIN 51524	90220
BIO-DEGRADABLE	INSOLUBLE IN WATER	HETG	FKM	ISO 15380	90221
		HEES	FKM		
	SOLUBLE IN WATER	HEPG	FKM	ISO 15380	
FLAME-RESISTANT	WATER-FREE	HFDU (GLYCOL BASE)	FKM	ISO 15380	90223
		HFDU (ESTER BASE)	FKM		
	CONTAINING WATER	HFC (FUCHS HYDROTHERM 46M, PETROFER ULTRA SAFE 620)	NBR	ISO 12922	

CHARACTERISTIC CURVES

VERSION "KE"

(MEASURED WITH HLP46, η OIL = 40 ± 5 °C)

PRESSURE DIFFERENTIAL ΔP DEPENDENT ON THE FLOW Q V AT CRACKING PRESSURE

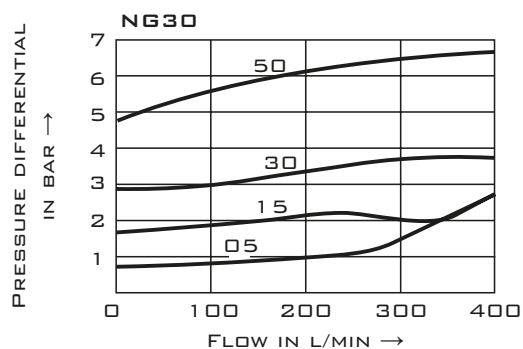
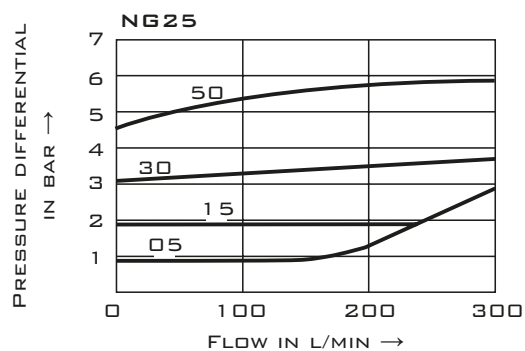
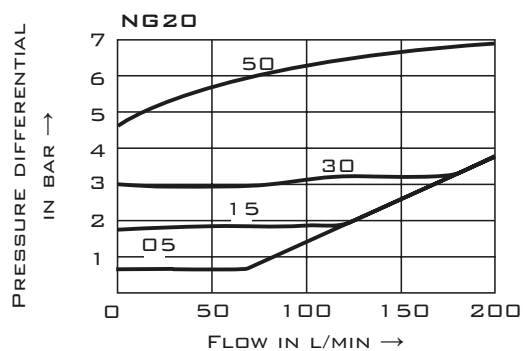
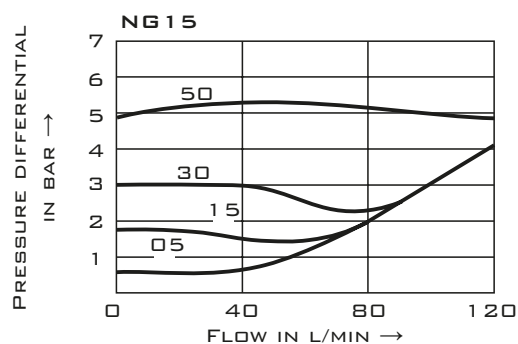
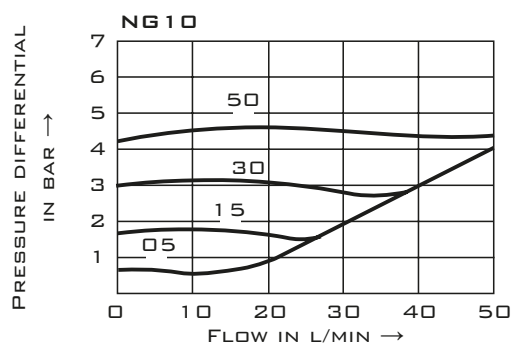
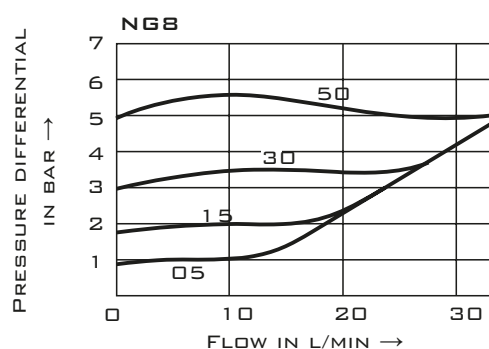
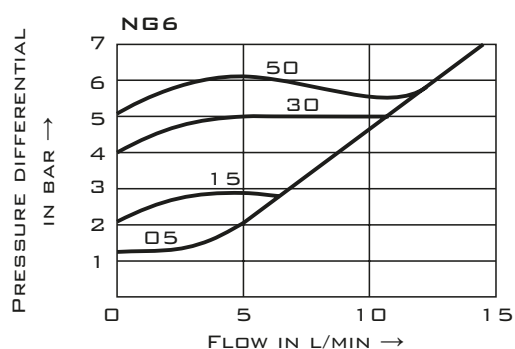


CHARACTERISTIC CURVES

VERSION "KD"

(MEASURED WITH HLP46, OIL = 40 ± 5 °C)

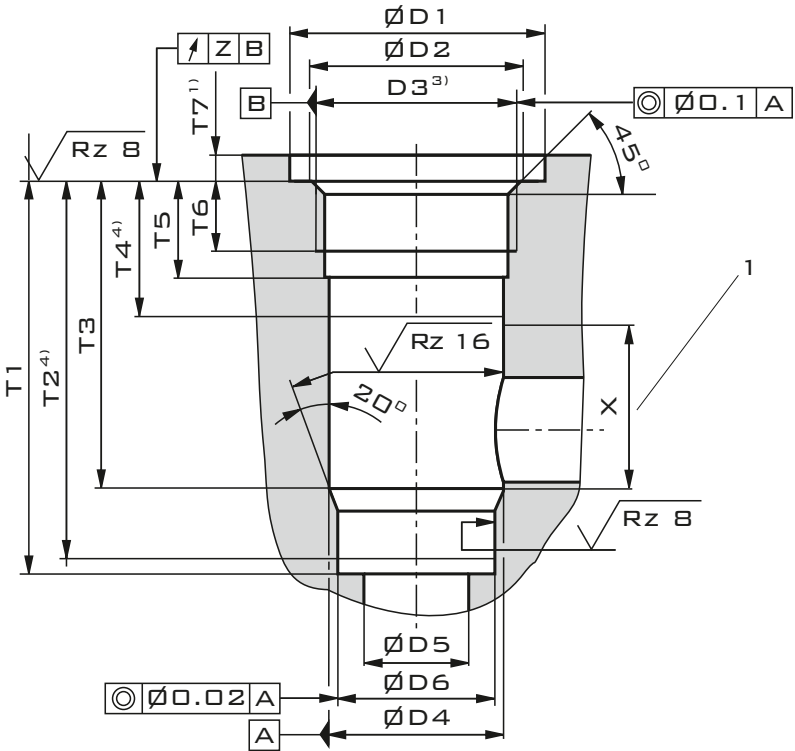
PRESSURE DIFFERENTIAL ΔP DEPENDENT ON THE FLOW Q V AT CRACKING PRESSURE



INSTALLATION BORE

ANGLE VALVE "KE" FOR PLUG SCREW ACC. TO ZN 10001 (DIMENSIONS IN MM)

- 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 INSTALLATION BORE: ANGLE VALVE "KE" FOR PLUG SCREW ACC. TO ZN 10001 RECOMMENDED.
- 3) PIPE THREAD "G..." ACCORDING TO ISO 228/1
- 4) DEPTH OF FIT



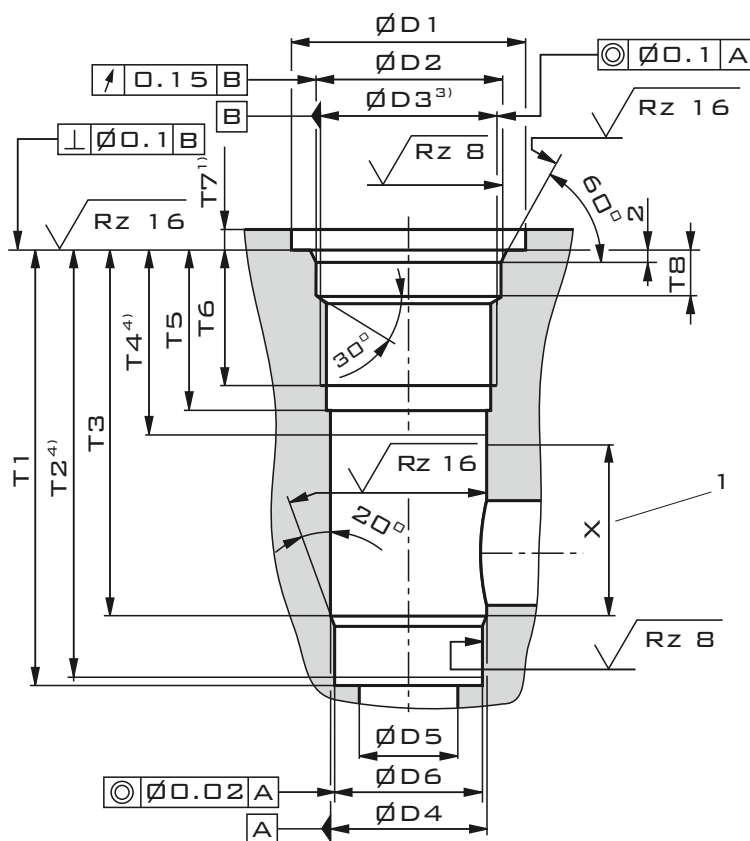
1 RANGE FOR OUTLET BORE

NG	PLUG SCREWS – MATERIAL NO			PN IN BAR	ØD1	ØD2	ØD3	ØD4H8	ØD5	ØD6H7
	NBR	FKM	M _A ±10% IN NM							
8	R913011602	R913011610	55	420	23	17.1	G3/8	14	8	13
10	R913011603	R913011611	80	420	28	21.4	G1/2	18	10	17
15	R913011604	R913011612	135	420	33	26.8	G3/4	24	15	22
20	R913011605	R913011613	225	420	41	33.9	G1	30	20	28
25	R913011606	R913011614	360	250	51	42.5	G1 1/4	38	25	36
30	R913011607	R913011615	400	250	56	48.5	G1 1/2	44	30	42

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

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			PN IN BAR	ØD1	ØD2H8	ØD3	ØD4H8	ØD5	ØD6H7
	NBR	FKM	M _A ±10% IN NM							
25	R900323609	R900301957	300	315	56±0.5	44	M42x1.5	38	25	36
30	R900323610	R900301958	325	315	62±0.5	50	M48x1.5	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.

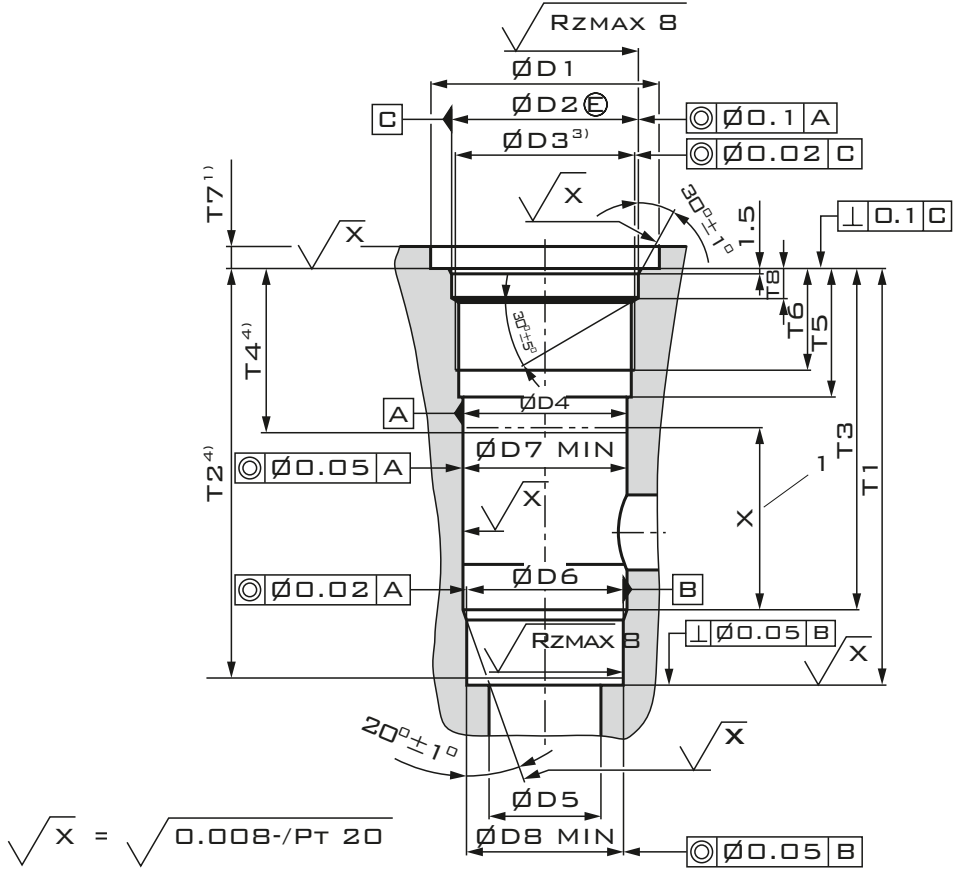
2) SEPARATE ORDER, TO BE REPLACED IN CASE OF MAINTENANCE.

3) METRIC ISO FINE THREAD ACCORDING TO DIN 13

4) DEPTH OF FIT

INSTALLATION BORE

ANGLE VALVE "KE" FOR PLUG SCREWS ACC. TO RN 143.28 – UP TO 420 BAR
(DIMENSIONS IN MM)



1 RANGE FOR OUTLET BORE

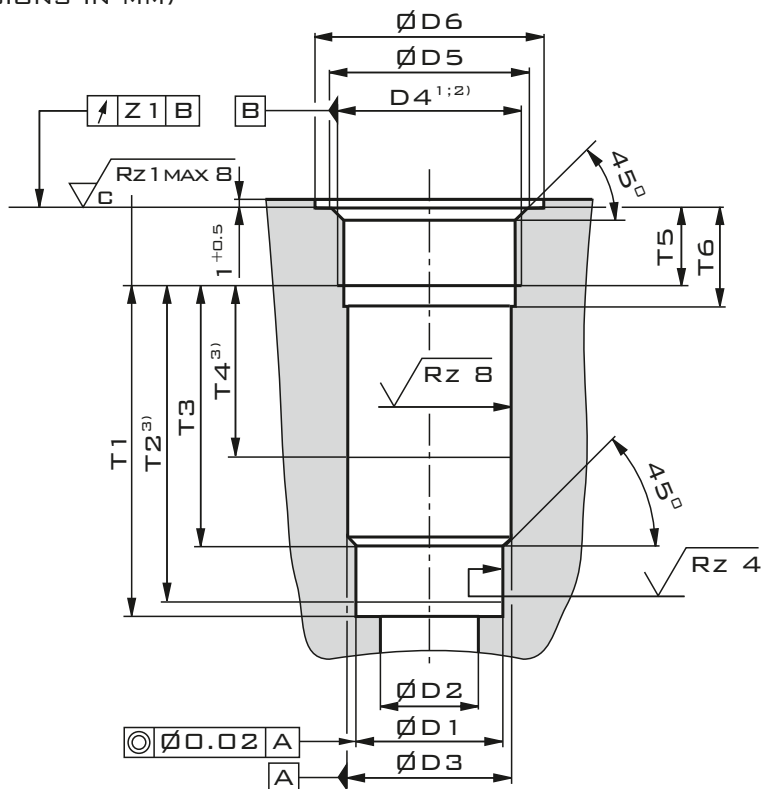
NG	PLUG SCREWS – MATERIAL NO			PN IN BAR	ØD1	ØD2H8	ØD3	ØD4H8	ØD5	ØD6H7	ØD7	ØD8
	NBR	FKM	M _A ±10% IN NM									
25	R901465279	R901465283	300	420	51+0.5	44	M42x2	38	25	36	37.58	35.58
30	R901465276	R901465270	325	420	61+0.5	50	M48x2	44	30	42	43.58	41.58

NG	T1 ^{+0.1}	T3	T2MIN	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)



- 1) PIPE THREAD "G..." ACCORDING TO ISO 228/1
- 2) METRIC ISO FINE THREAD ACCORDING TO DIN 13
- 3) DEPTH OF FIT

1 RANGE FOR OUTLET BORE

NG	ØD1 H7	ØD2	ØD3 H8	D4 ¹⁾	ØD5 ± 0.1 ¹⁾	D4 ²⁾	ØD5 ± 0.1 ²⁾	ØD6
6	10	6	11	G 1/4	13.6	M 14 x 1.5	14.4	25
8	13	8	14	G 3/8	17.1	M 18 x 1.5	18.4	28
10	17	10	18	G 1/2	21.4	M 22 x 1.5	22.4	34
15	22	15	24	G 3/4	26.8	M 27 x 2	27.4	42
20	28	20	30	G 1	33.8	M 33 x 2	33.5	47
25	36	25	38	G 1 1/4	42.5	M 42 x 2	42.5	58
30	42	30	44	G 1 1/2	48.5	M 48 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