

2/2 directional seat valve, direct operated with solenoid actuation

RE 18136-12/10.11 1/10
Replaces: 06.08

Type KSDE (High Performance)

Component size 8
Component series B
Maximum operating pressure 500 bar
Maximum flow 5 l/min



H7077

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Features

- Direct operated directional seat valve with solenoid actuation, tight on both sides
- Mounting cavity R/T-8A
- Blocked connection tight in a leak-free form
- Safe switching also with longer standstill periods
- Wet-pin DC solenoids
- Rotatable solenoid coil

Information on available spare parts:
www.boschrexroth.com/spc

Ordering code (valve without coil) ¹⁾

	KSDE	8	B / H	V	*																							
Directional seat valve, direct operated, electrically operated	Further details in the plain text																											
Maximum operating pressure 500 bar = U																												
Maximum operating pressure 350 bar = R																												
Component size = 8																												
2 main ports																												
Symbols	"R" (350 bar)	"U" (500 bar)																										
			= N																									
			= P																									
			N0 = Without manual override N9 = With concealed manual override N11 = With screwable manual override (operation by knurled screw)																									
		<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2">Version</th> <th colspan="3">Symbol N</th> <th colspan="2">Symbol P</th> </tr> <tr> <th>N0</th> <th>N9</th> <th>N11</th> <th>N0</th> <th>N9</th> </tr> </thead> <tbody> <tr> <td>R (350 bar)</td> <td style="text-align: center;">X</td> <td style="text-align: center;">-</td> <td style="text-align: center;">X</td> <td style="text-align: center;">X</td> <td style="text-align: center;">X ²⁾</td> </tr> <tr> <td>U (500 bar)</td> <td style="text-align: center;">X</td> <td style="text-align: center;">-</td> <td style="text-align: center;">-</td> <td style="text-align: center;">X</td> <td style="text-align: center;">-</td> </tr> </tbody> </table>				Version	Symbol N			Symbol P		N0	N9	N11	N0	N9	R (350 bar)	X	-	X	X	X ²⁾	U (500 bar)	X	-	-	X	-
Version	Symbol N			Symbol P																								
	N0	N9	N11	N0	N9																							
R (350 bar)	X	-	X	X	X ²⁾																							
U (500 bar)	X	-	-	X	-																							
		H = High-performance and mounting cavity R/T-8A (see page 8)																										
		B = Component series																										

Valve types (without coil) ¹⁾

Operating pressure 350 bar			Operating pressure 500 bar		
Spool symbol	Type	Material no.	Spool symbol	Type	Material no.
N	KSDER8NB/HN0V	R901085000	N	KSDEU8NB/HN0V	R901085007
	KSDER8NB/HN11V	R901207100		P	KSDEU8PB/HN0V
P	KSDER8PB/HN0V	R901085005			
	KSDER8PB/HN9V	R901207098			

Available coils (separate order) ¹⁾

Direct voltage DC ⁴⁾	Material no. for coil with connector ³⁾		
	"K4"	"K40"	"C4"
	03pol (2+PE) DIN EN 175301-803	02pol K40 DT 04-2PA, company Deutsch	02pol C4/Z30 AMP Junior-Timer
12 V	R900991678	R900729189	R900315818
24 V	R900991121	R900729190	R900315819

¹⁾ Complete valves with mounted coil on request

²⁾ Screwable manual override "N10" (actuation by means of internal hexagon with lock nut), possible as separate order, Material no. **R901051231**; ordering code "**N9**"!

³⁾ Mating connectors (separate order), see data sheet 08006

⁴⁾ Other voltages upon request

Function, section, symbols

General

The 2/2 directional seat valves are direct operated, pressure-compensated cartridge valves. They basically comprises of screw-in section (1), solenoid (4) as well as closing element (3) and compression spring (2).

Function

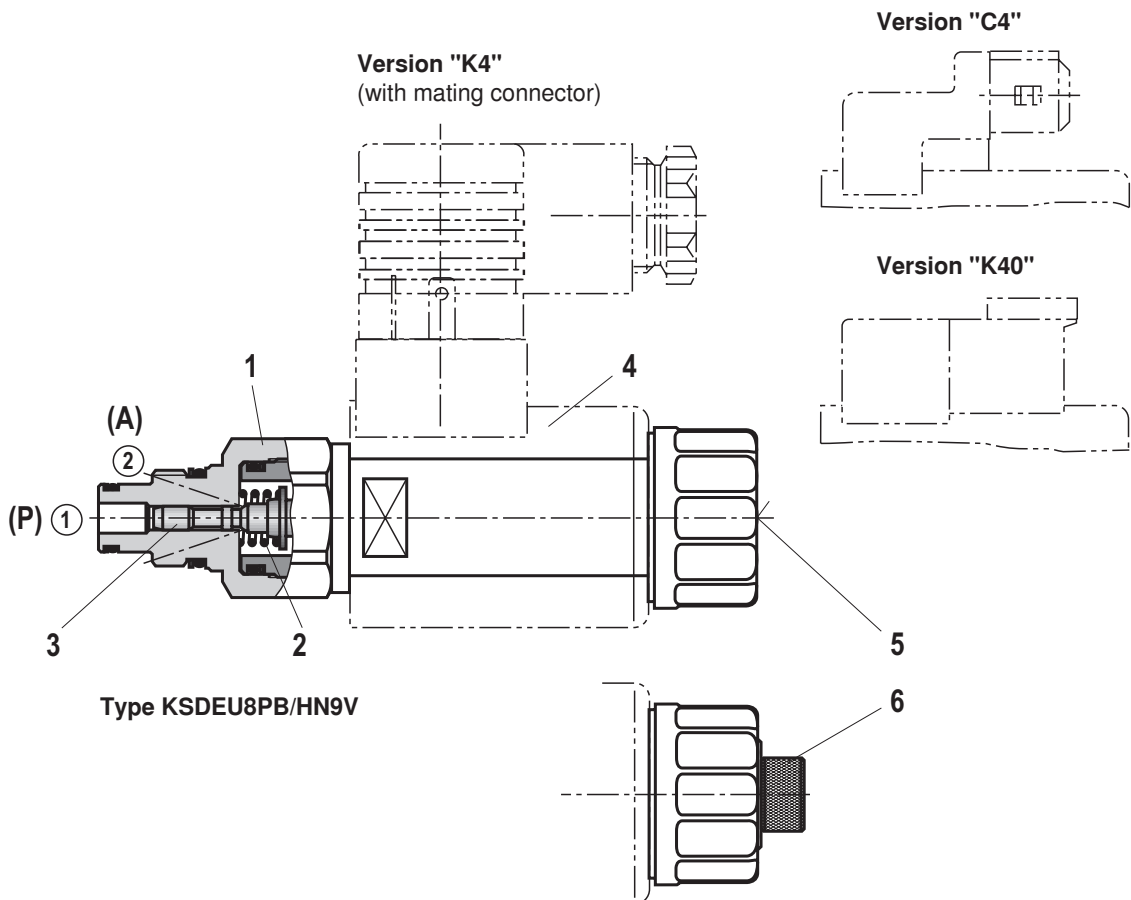
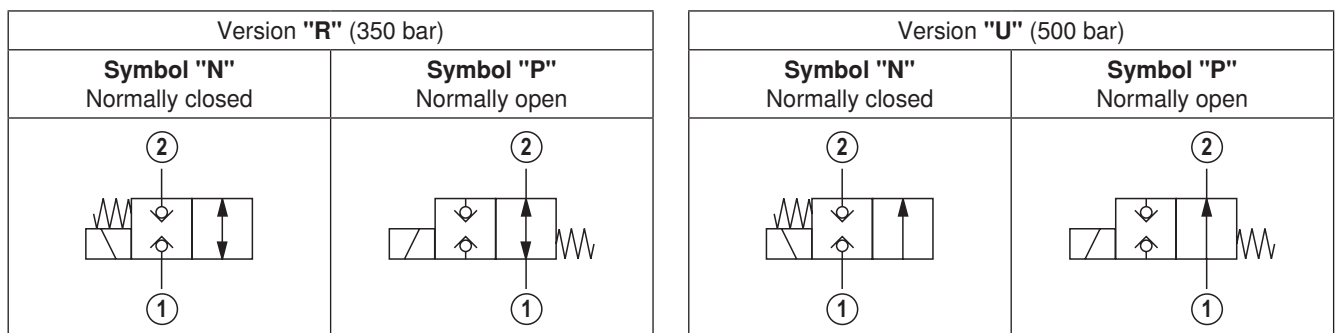
The initial position of the valve (normally open "P" or normally closed "N") is determined by the position of the closing element (3) and the arrangement of the compression spring (2). Due to the structural design, the 2/2 directional seat valves are always pressure-compensated in relation to the actuating forces. The main ports ① and ② can be loaded with an operating pressure of 350/500 bar (see page 4).

Attention!

Flow is only admissible in the direction of the arrow (see symbols)! With version "U" (operating pressure 500 bar), main port ① must be connected with pump connection P!

With symbol "P", the closing element (3) is pressed onto the seat by the solenoid (4), with symbol "N" by the compression spring (2). The flow is blocked in a leak-free form.

The manual override allows for the the switching of the valve without solenoid energization. It is available in concealed version "N9" (5) or in screwable version "N11" (6) (see page 2).




Technical data (For applications outside these parameters, please consult us!)**general**

Weight	– Valve	kg	0.30
	– Coil	kg	0.25
Installation position			Any
Ambient temperature range		°C	–40 to +110

hydraulic

Maximum operating pressure	– Version "U"	bar	500 (at all ports if $P \geq A$; for design reasons)
	– Version "R"	bar	350 (at all ports)
Maximum flow	– Version "U"	l/min	3 (see limits of performance page 6)
	– Version "R"	l/min	5 (see limits of performance page 6)
Hydraulic fluid			See table below
Hydraulic fluid temperature range		°C	–40 to +80
Viscosity range		mm ² /s	4 to 500
Maximum permitted degree of contamination of the hydraulic fluid - cleanliness class according to ISO 4406 (c)			Class 20/18/15 ¹⁾
Load cycles	– Version "R" (350 bar)		10 million
	– Version "U" (500 bar)		5 million

Hydraulic fluid	Classification	Suitable sealing materials	Standards
Mineral oils and related hydrocarbons	HL, HLP, HLPD, HVLP, HVLPD	FKM	DIN 51524
Environmentally compatible	– Insoluble in water	HETG	ISO 15380
		HEES	
	– Soluble in water	HEPG	ISO 15380
Flame-resistant	– Water-free	HFDU, HFDR	ISO 12922
	– Water-containing	HFAS	ISO 12922

<p> Important information on hydraulic fluids!</p> <ul style="list-style-type: none"> – For more information and data on the use of other hydraulic fluids refer to data sheet 90220 or contact us! – There may be limitations regarding the technical valve data (temperature, pressure range, service life, maintenance intervals, etc.)! – The flash point of the process and operating medium used must be 40 K higher than the maximum solenoid surface temperature. 	<ul style="list-style-type: none"> – Flame-resistant – water-containing: Maximum pressure differential per control edge 175 bar, otherwise, increased cavitation erosion! Tank pre-loading < 1 bar or > 20 % of the pressure differential. The pressure peaks should not exceed the maximum operating pressures! – Environmentally compatible: When using environmentally compatible hydraulic fluids that are simultaneously zinc-solving, zinc may accumulate in the medium (700 mg zinc per pole tube).
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¹⁾ The cleanliness classes specified for the components must be adhered to in hydraulic systems. Effective filtration prevents faults and at the same time increases the service life of the components.

For the selection of the filters see www.boschrexroth.com/filter.

Technical data (For applications outside these parameters, please consult us!)**electric**

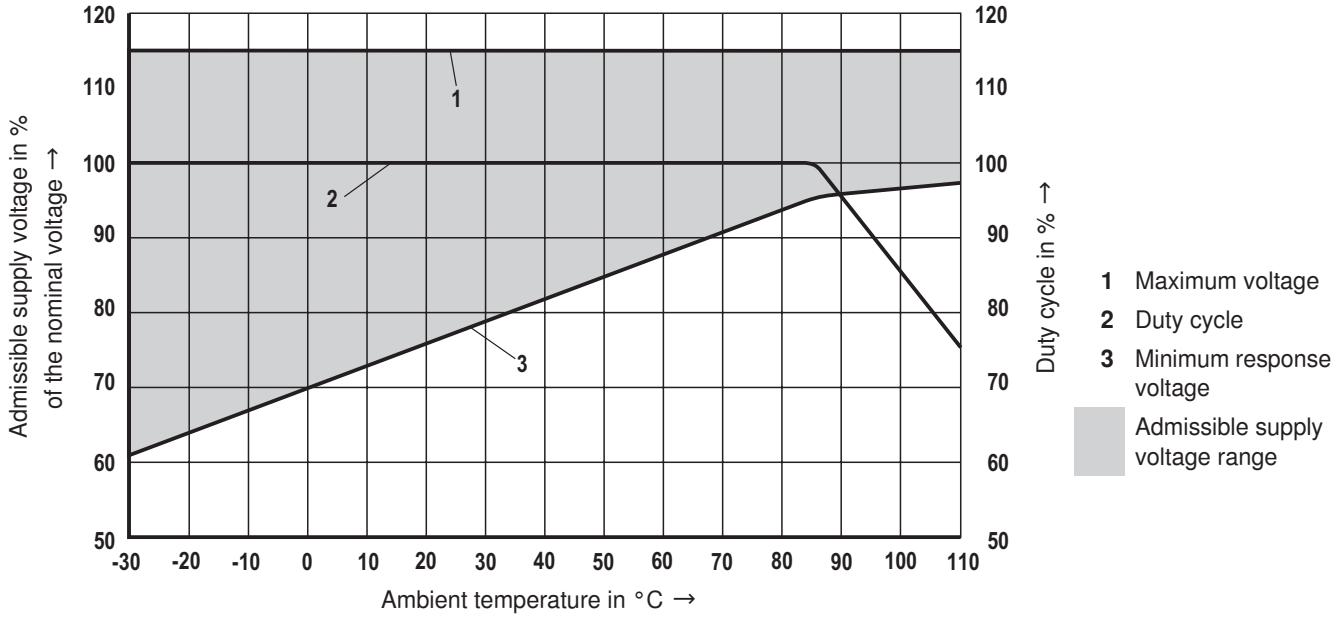
Voltage type		Direct voltage
Supply voltage ²⁾	V	12 DC; 24 DC
Voltage tolerance against ambient temperature		See characteristic curves page 6
Power consumption	W	22
Duty cycle	%	See characteristic curves page 6
Maximum coil temperature ³⁾	°C	150
Switching time according to ISO 6403 (solenoid horizontal)	- ON (1 → 2)	ms ≤ 80
	- OFF (2 → 1)	ms ≤ 80
Maximum switching frequency	- Version "R"	1/h 9000
	- Version "U"	1/h 3600
Type of protection according to VDE 0470-1 (DIN EN 60529) DIN 40050-9	- Version "K4"	IP 65 with mating connector mounted and locked
	- Version "C4"	IP 66 with mating connector mounted and locked IP 69K with Rexroth mating connector (Material no. R901022127)
	- Version "K40"	IP 69K with mating connector mounted and locked

²⁾ Other voltages upon request

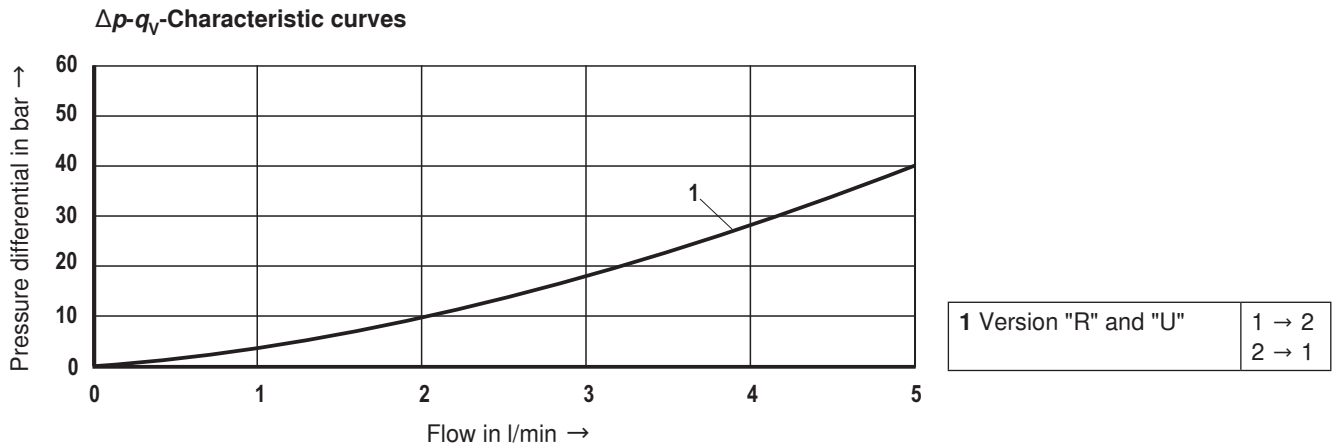
³⁾ Due to the temperatures occurring at the surfaces of the solenoid coils, the standards ISO 13732-1 and EN 982 need to be adhered to!

With the electrical connection "K4", the protective earthing conductor (PE \perp) must be connected correctly.

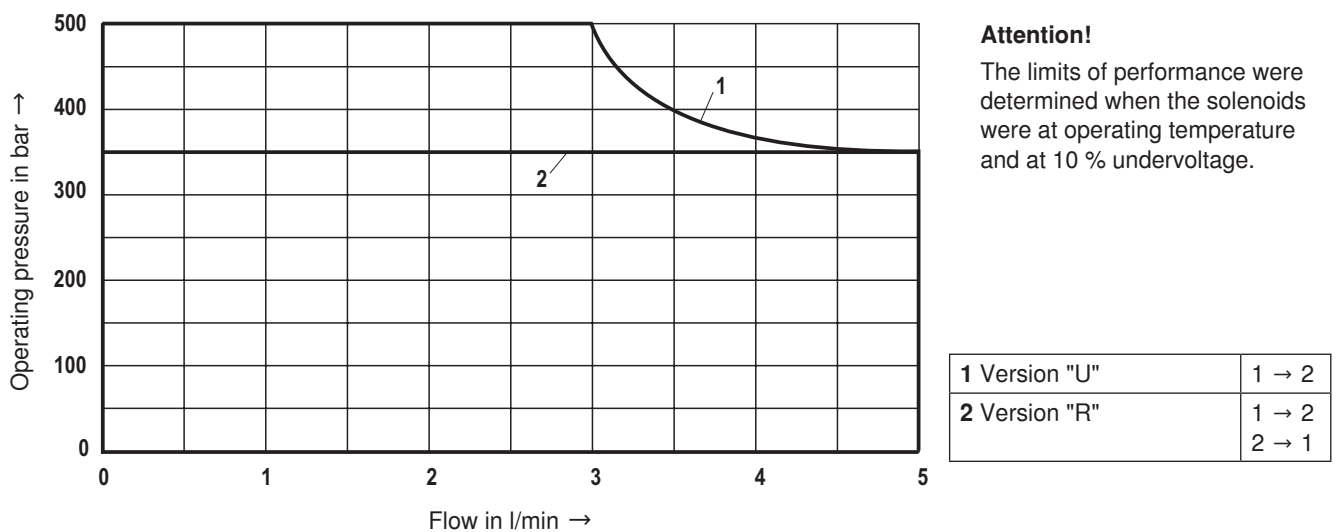
Voltage tolerance against ambient temperature; duty cycle



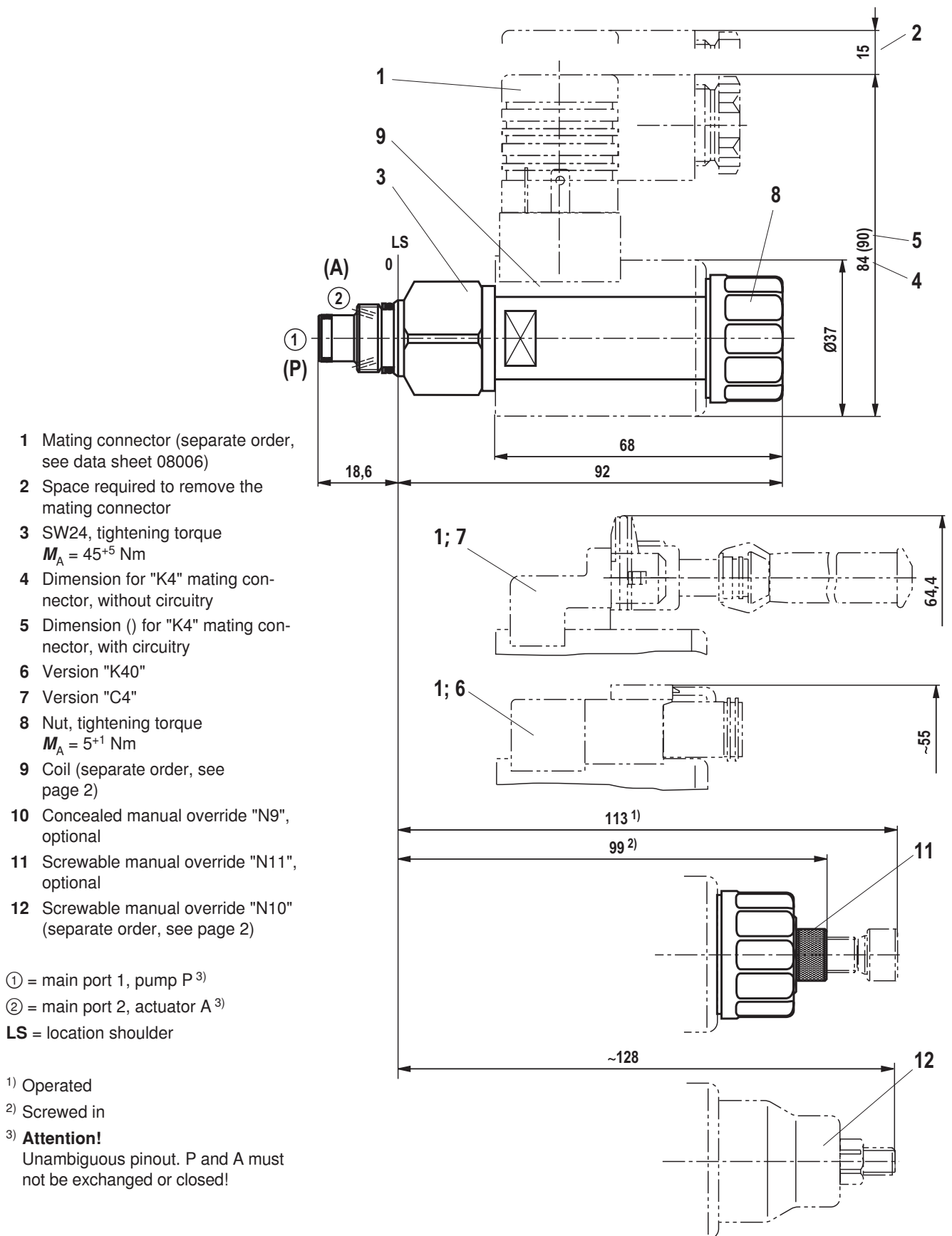
Characteristic curves (measured with HLP46, $\vartheta_{oil} = 40\text{ °C} \pm 5\text{ °C}$ and 24 V coil)



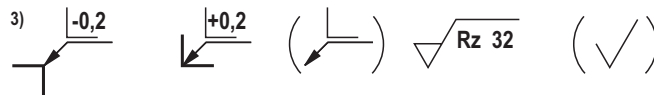
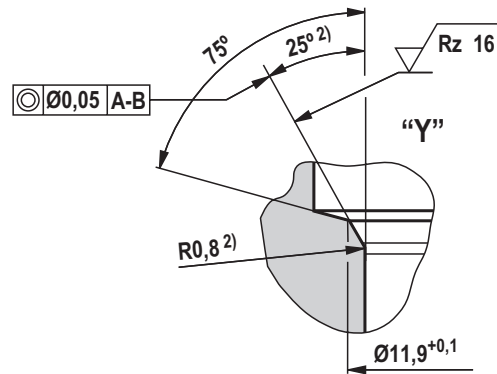
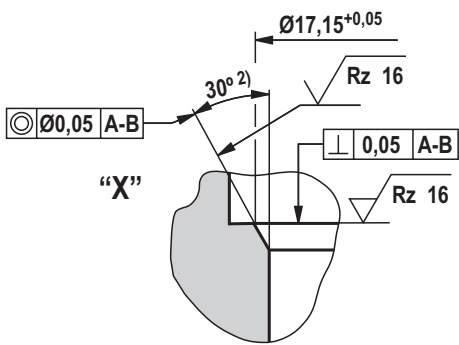
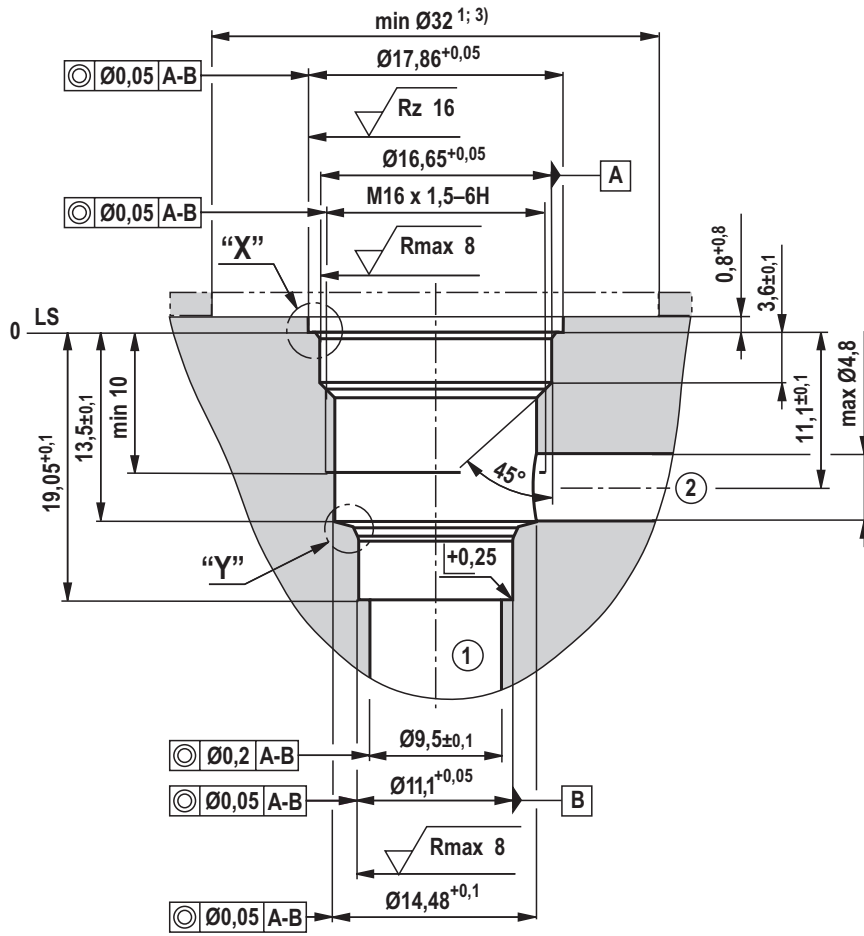
Limits of performance (measured with HLP46, $\vartheta_{oil} = 40\text{ °C} \pm 5\text{ °C}$ and 24 V coil)



Unit dimensions (dimensions in mm)



Mounting cavity R/T-8A; 2 main ports; thread M16 x 1.5 (dimensions in mm)



1) Deviating from T-8A

2) All seal ring insertion faces are rounded and free of burrs

3) With counterbore

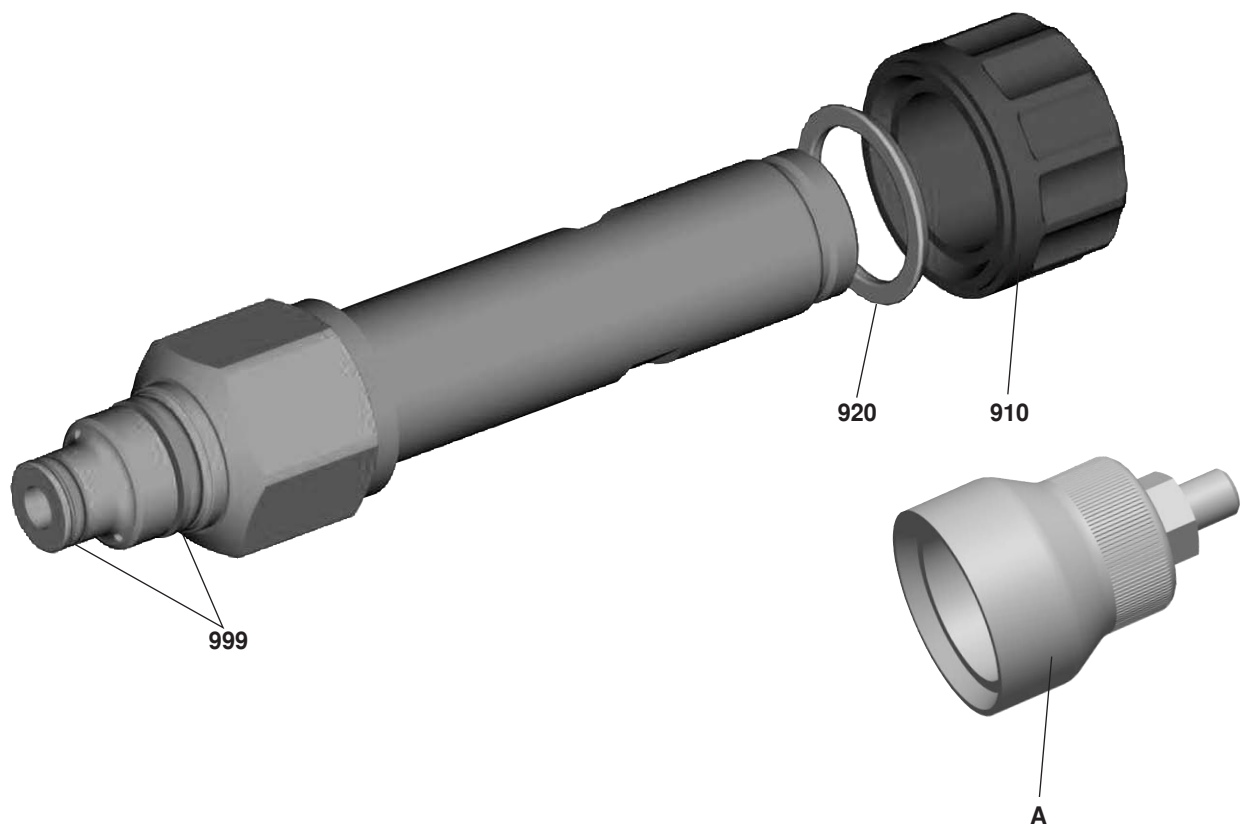
① = main port 1

② = main port 2

LS = location shoulder

Tolerance for all angles $\pm 0.5^\circ$

Available individual components



Item	Denomination	Material no.
910	Nut	R900991453
920	O-ring for pole tube	R900004280
999	Seal kit of the valve	R961003237
A	Manual override "N10" ¹⁾	R901051231

Coils, separate order, see page 2

¹⁾ Only with ordering code "N9", see page 2

Notes

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