

DATA SHEET - SERVICE MANUAL
APPLICATION

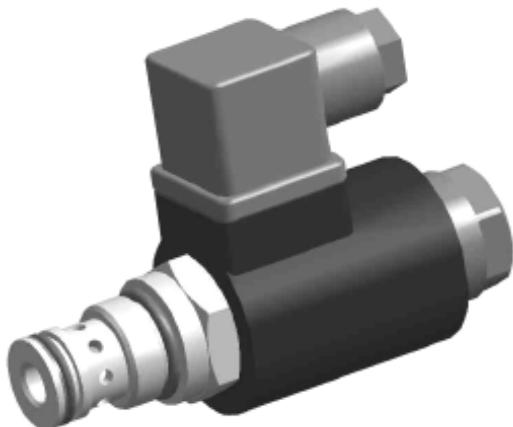
Directional cartridge valve type 2URED6... is intended for control direction of fluid flow, causing particular movement direction or stops a receiver (cylinder or hydraulic motor).

The directional valve is mounted by screwing in to a threaded cavity.

The product is complied with the regulations of directive 73/23/EWG, 93/68/EWG for the

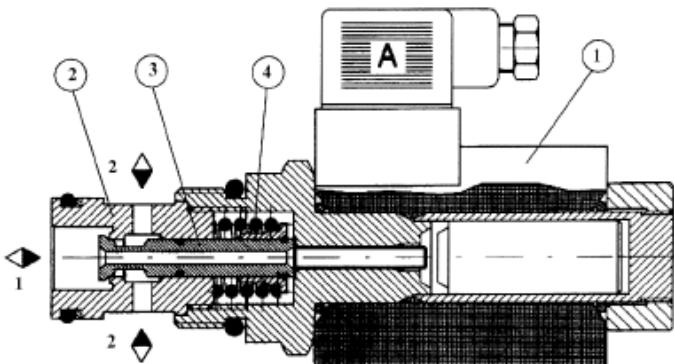
following voltages:

- 50 – 250 V for AC
- 75 – 250 V for DC


DESCRIPTION OF OPERATION
Version 2URED6 C5...

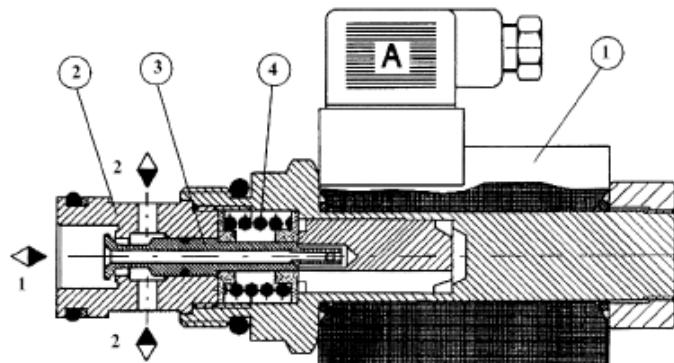
(hydraulic scheme - graphic symbol according to page 3)

The directional valve comprises of solenoid (1), sleeve (2), poppet (3) and spring (4). Flow opening or closing is obtained by changing position of the poppet (3) inside the sleeve (2). Flow opening occurs by supplying the solenoid with the voltage and moving the poppet (3). Cutting off supply voltage causes return of the poppet (3) to its starting position by means of the spring (4) and flow closing.

2URED6 C5 -12/2 M1 G24 NZ4

Version 2URED6 C1...

(hydraulic scheme - graphic symbol according to page 3)

The directional valve comprises of solenoid (1), sleeve (2), poppet (3) and spring (4). Flow opening or closing is obtained by changing position of the poppet (3) inside the sleeve (2). Flow closing occurs by supplying the solenoid with the voltage and moving the poppet (3). Cutting off supply voltage causes return of the poppet (3) to its starting position by means of the spring (4) and flow opening.

2URED6 C1 -12/2 M1 G24 NZ4


TECHNICAL DATA

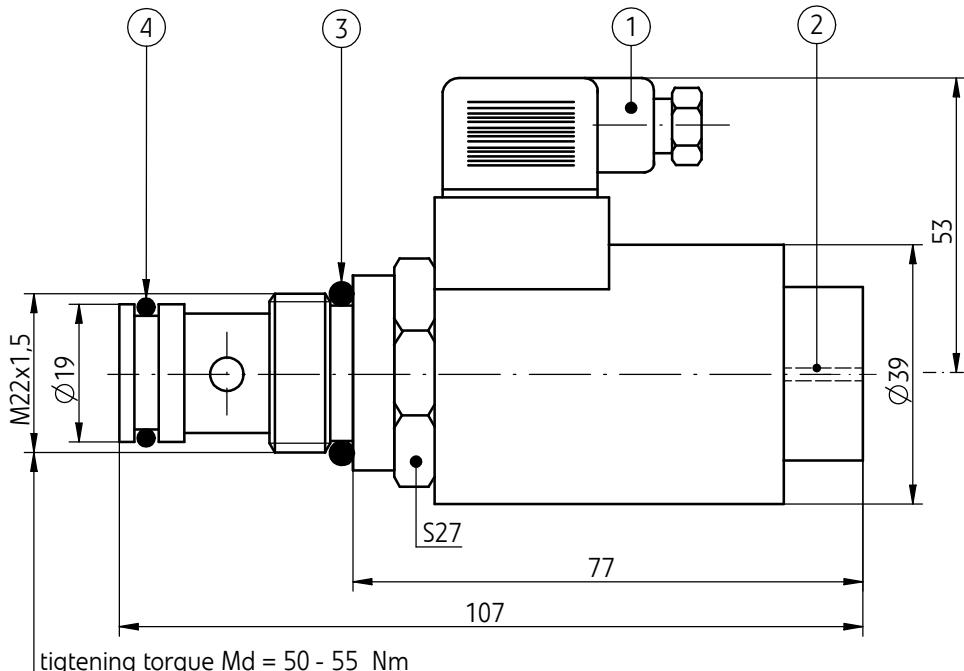
Hydraulic fluid	mineral oil	
Required filtration	up to 16 μm	
Recommended filtration	up to 10 μm	
Nominal fluid viscosity	37 mm^2/s at temperature 55 $^{\circ}\text{C}$	
Viscosity range	2,8 up to 380 mm^2/s	
Fluid temperature range (in a tank)	recommended	40 $^{\circ}\text{C}$ up to 55 $^{\circ}\text{C}$
	max	-20 $^{\circ}\text{C}$ up to +70 $^{\circ}\text{C}$
Ambient temperature range	- 20 $^{\circ}\text{C}$ up to +50 $^{\circ}\text{C}$	
Maximum operating pressure	line 1	2 1 MPa
	line 2	2 9 MPa
Solenoid power requirement	26 W	
Insulation	IP 65	
Weight	~ 0,32 kg	

ASSEMBLY AND APPLICATION REQUIREMENTS

- Only valve working properly and suitably installed may be connected to an electric system. Only skilled workers are allowed to connect and disconnect electric system.
- Ground connection (PE) must be connected with protective earth wire (PE PE) in supply system according to appropriate instructions.
- It is forbidden to apply directional valve if the supply cable in the gland of plug-in-connector is not properly tightened.
- It is forbidden to apply directional valve if the plug-in-connector is not properly tightened to the solenoid socket and is not secured by screwing bolt tightly.
- Due to heating solenoid coils, directional valves should be placed in order to eliminate the possibility of incidental touch while using, or, they should be equipped with the coil covers (in accordance with the European standards PN - EN ISO 13732-1 and PN - EN 982).

OVERALL AND CONNECTION DIMENSIONS

directional valve - standard versions 2URED6...-12/2M1...



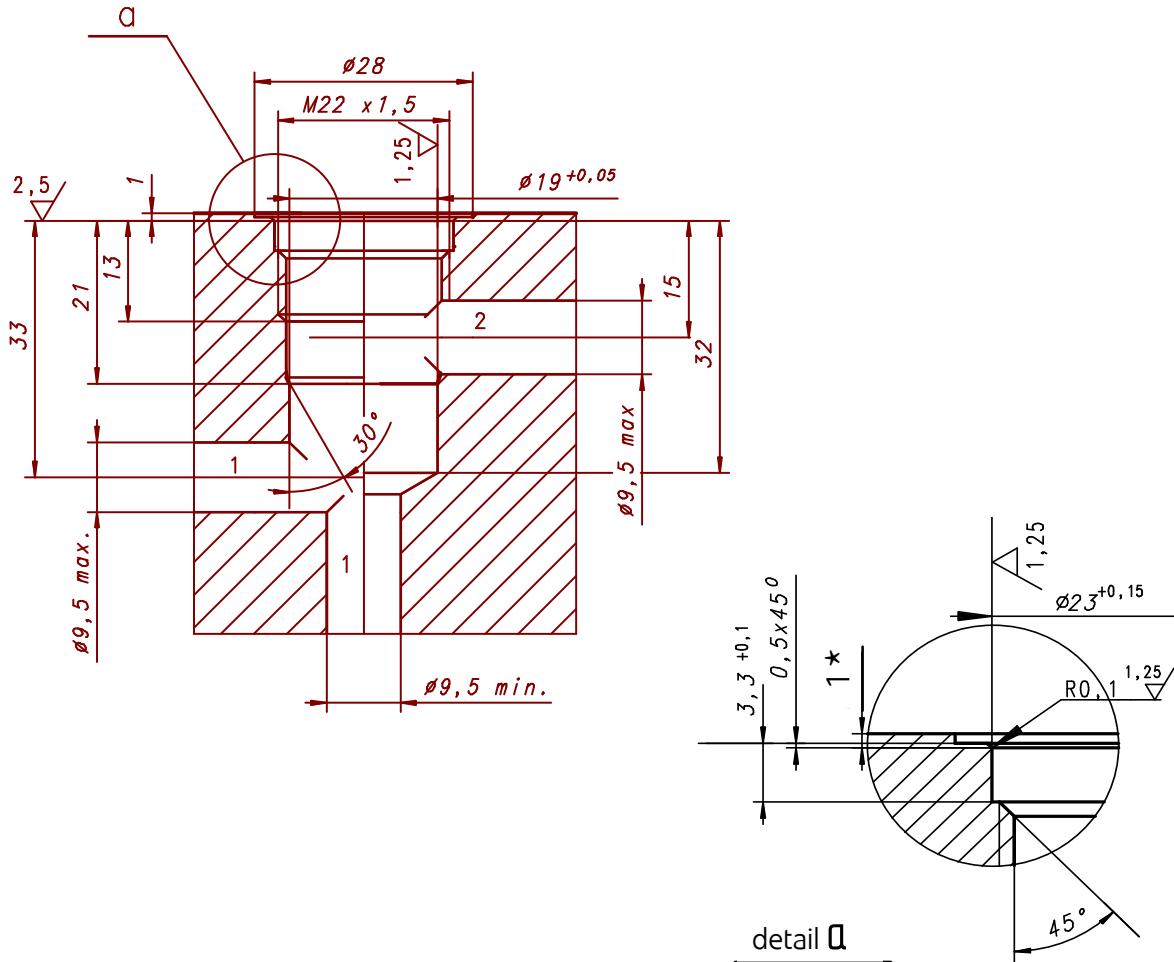
1 - Plug-in connector (type DIN 43650 / ISO 4400)
 2 - Manual override (applicable to version 2URED6C5...)
 3 - Sealing ring o-ring 18 x 2,6
 4 - Sealing ring o-ring 15,6 x 1,78

OVERALL AND CONNECTION DIMENSIONS

mounting cavity M 22 x 1,5

tightening torque **Md = 50 - 55 Nm**

◎ $\phi 0,025$ - applicable to all diameters of the main bore and chamfers

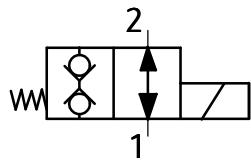


(*) - max depth of the deep hole 4,9 mm

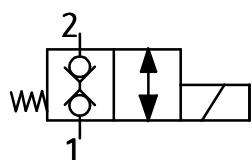
SCHEMES

Graphic symbols for directional valves

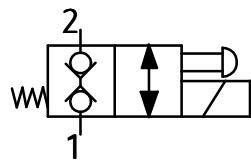
2URED6C1...



2URED6C5...



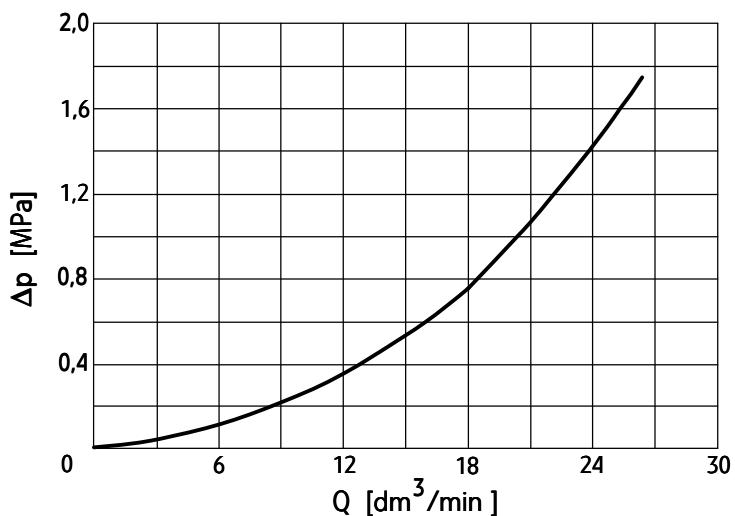
2URED6C5.../...N...



PERFORMANCE CURVES

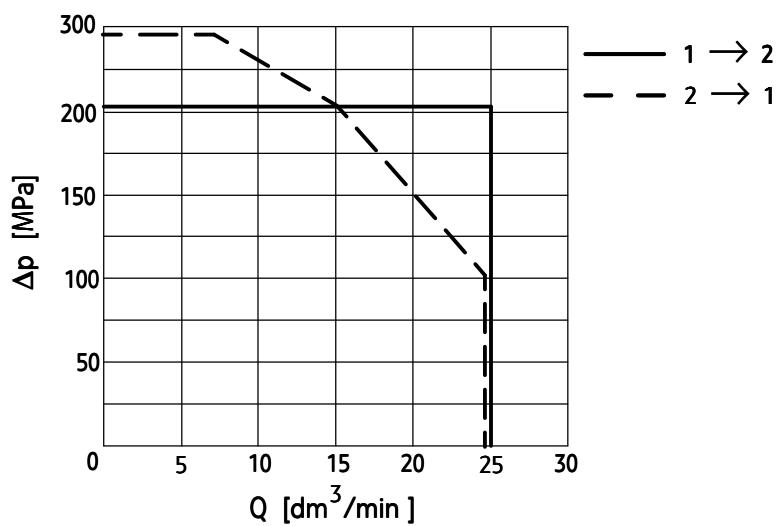
measured at viscosity $\nu = 41 \text{ mm}^2/\text{s}$ and temperature $t = 50^\circ\text{C}$

Flow resistance characteristic curves

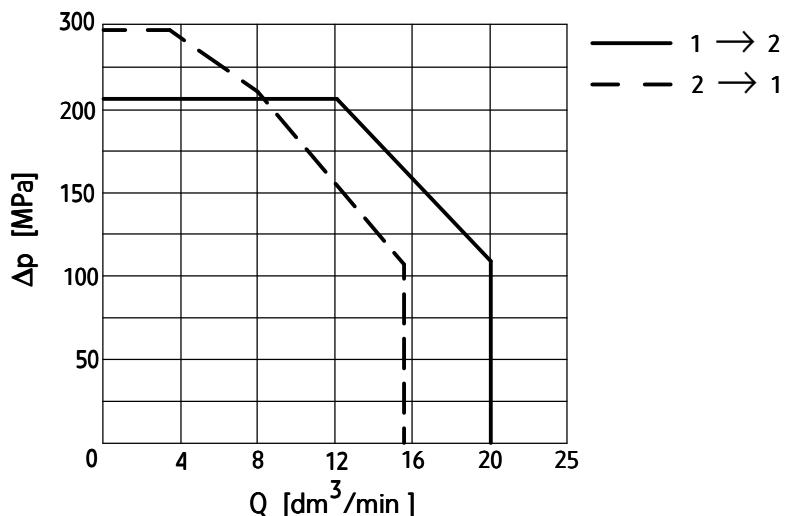


Flow limits characteristic curves

version 2URED6C5...



version 2URED6C1...



HOW TO ORDER

2	URED	6	+	/	2	M1			Z4		★	
Number of service ports 2-way directional valve			= 2									
Nominal size (NS) NS6			= 6									
Type of the poppet (schemes according to page 3) poppet C1 poppet C5			= C1 = C5									
Series number (10-19) - connection and installation dimensions unchanged = 1X series 12			= 12									
Number of working positions 2-way directional valve			= 2									
Mounting cavity M22 x 1,5 cavity			= M1									
Supply voltage for solenoids 12V DC 24V DC 110V AC 50Hz (plug-in-connector with rectifier) 230V AC 50Hz (plug-in-connector with rectifier)			= G12 = G24 = W110R = W230R									
Manual override (applicable only for version 2URED6C5...) solenoids without manual override			= no designation									
solenoids with manual override			= N									
Electrical connection plug-in-connector ISO 4400 type without LED			= Z4									
Sealing NBR (for fluids on mineral oil base) FKM (for fluids on phosphate ester base)			= no designation = V									
Further requirements in clear text (to be agreed with the manufacturer)												

NOTES:

The directional valve should be ordered according to the above coding.

The symbols in bold are preferred versions in short delivery time.

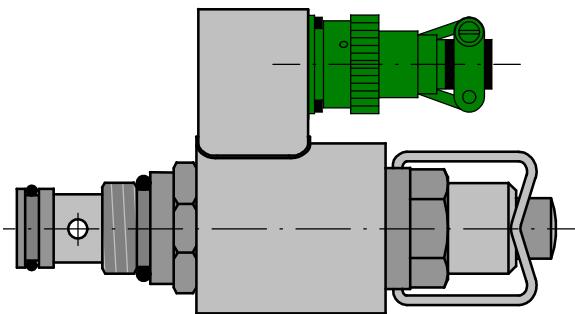
Coding example: 2URED6 C5-12/2 M1 G24 N Z4

Military execution - special version

M-2URED6C5-12/2M1G24NZ4

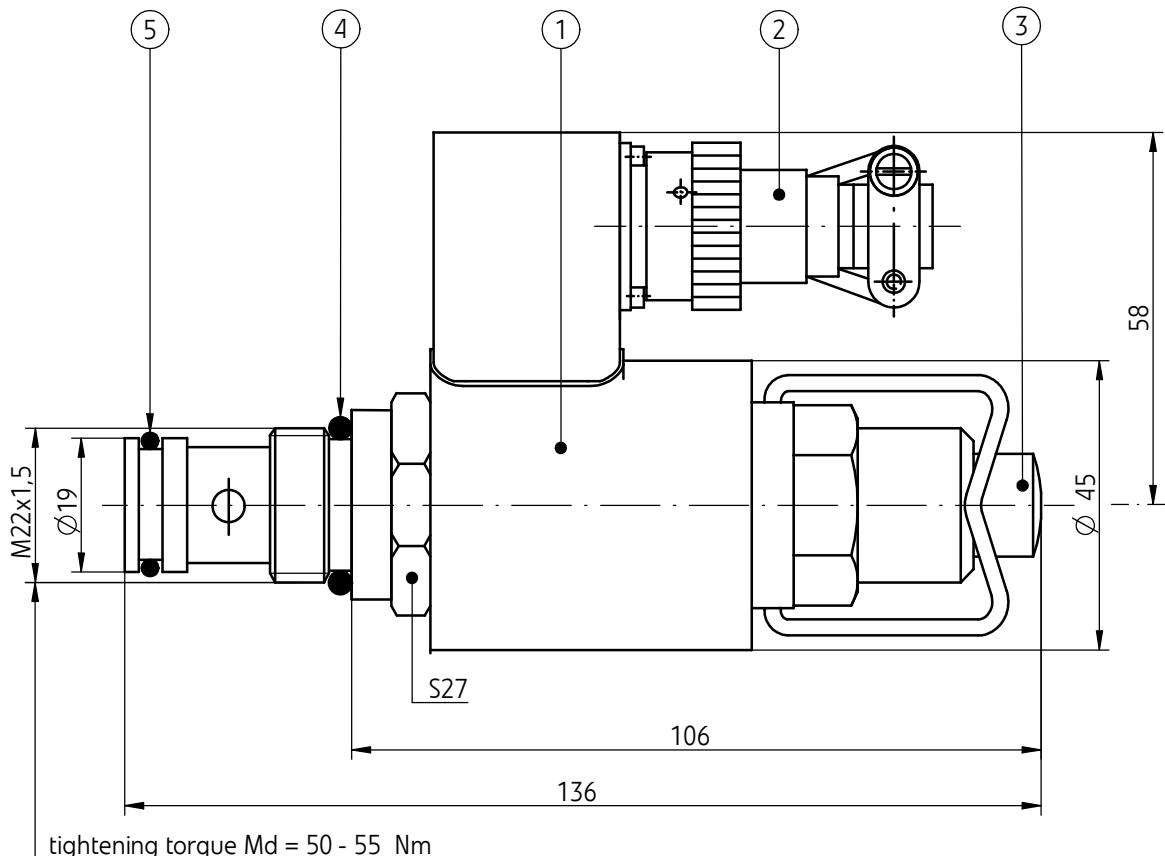
APPLICATION, DESCRIPTION OF OPERATION, TECHNICAL DATA, SCHEMES, PERFORMANCE CURVES, MOUNTING CAVITY

like in standard version - according to pages 1 do 4.



OVERALL AND CONNECTION DIMENSIONS

directional valve - version 2URED6C5-12/2M1G24NZ4



- 1 - Solenoid with plug-in socket type **MS3112E12-3P**
(producer SOURIAU)
- 2 - Plug-in connector type **MS3116E12-3S**
(producer SOURIAU)
- 3 - Manual override
- 4 - Sealing ring **o-ring 18 x 2,6**
- 5 - Sealing ring **o-ring 15,6 x 1,78**

HOW TO ORDER

M	—	2	URED	6	C5	—	/	2	M1			N	Z4	
Military execution wersja specjalna		= M												
Number of service ports 2-way directional valve			= 2											
Nominal size (NS) NS6				= 6										
Type of the poppet (schemes according to page 3) poppet C5					= C5									
Series number (10-19) - connection and installation dimensions unchanged series 12						= 1X								= 12
Number of working positions 2-way directional valve							= 2							
Mounting cavity M22 x 1,5 cavity								= M1						
Supply voltage for solenoids 12V DC 24V DC 110V AC 50Hz (plug-in-connector with rectifier) 230V AC 50Hz (plug-in-connector with rectifier)									= G12					= G24
														= W110R
														= W230R
Manual override solenoids with manual override									= N					
Electrical connection military execution - plug-in-connector ISO 4400 type MS3112E- 12-3P (SOURIAU)														= Z4
Sealing NBR (for fluids on mineral oil base) FKM (for fluids on phosphate ester base)														= no designation
														= V

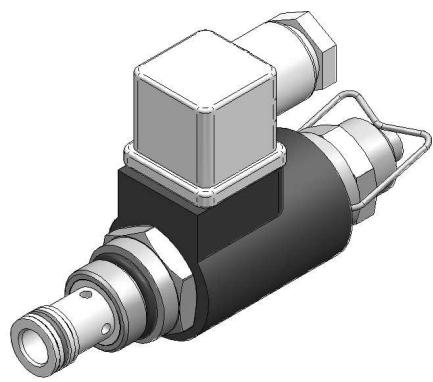
NOTES:

The directional valve should be ordered according to the above coding.
Coding example: M - 2URED6 C5 -12/2 M1 G24 N Z4

Military execution - special version
2URED6C5-12/2U1...NZ4 - SO 495

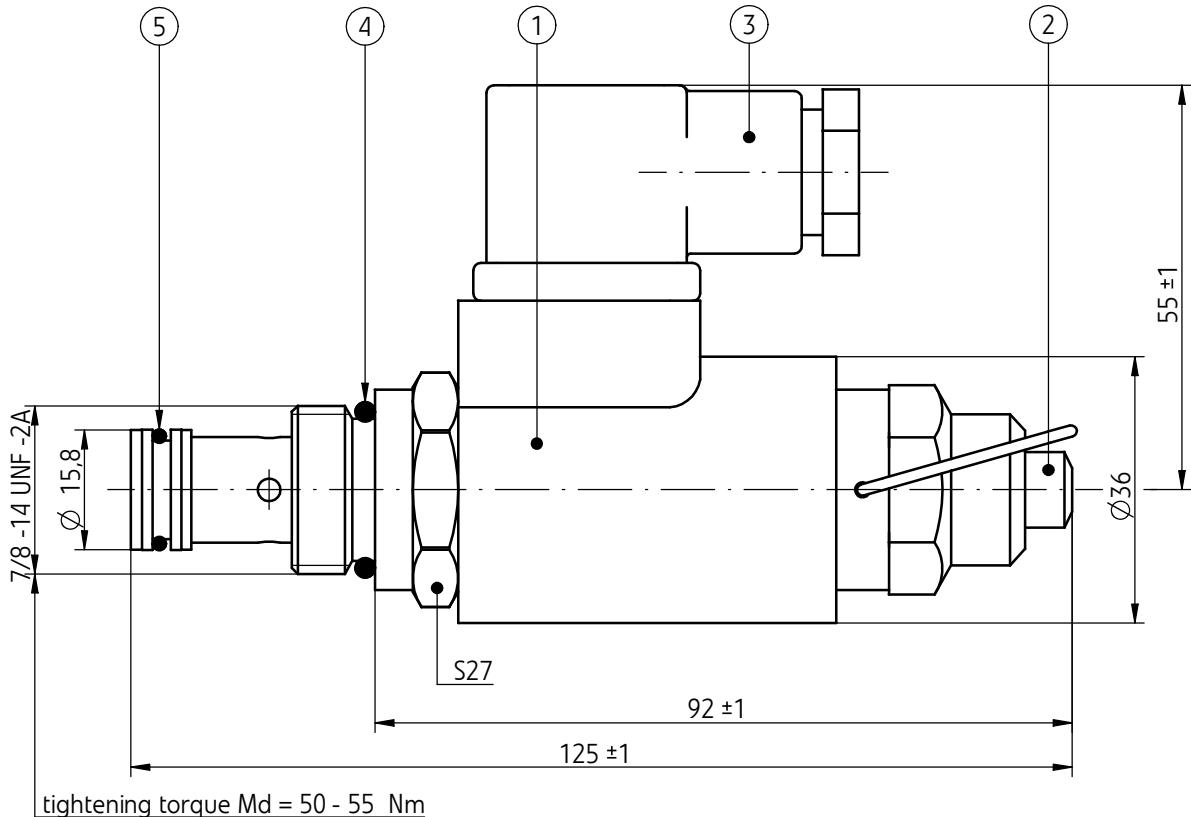
**APPLICATION, DESCRIPTION OF OPERATION,
 TECHNICAL DATA, SCHEMES, PERFORMANCE
 CURVES**

like in standard version - according to pages 1 do 4.



OVERALL AND CONNECTION DIMENSIONS

directional valve - version 2URED6C5-12/2U1...NZ4 - SO 495



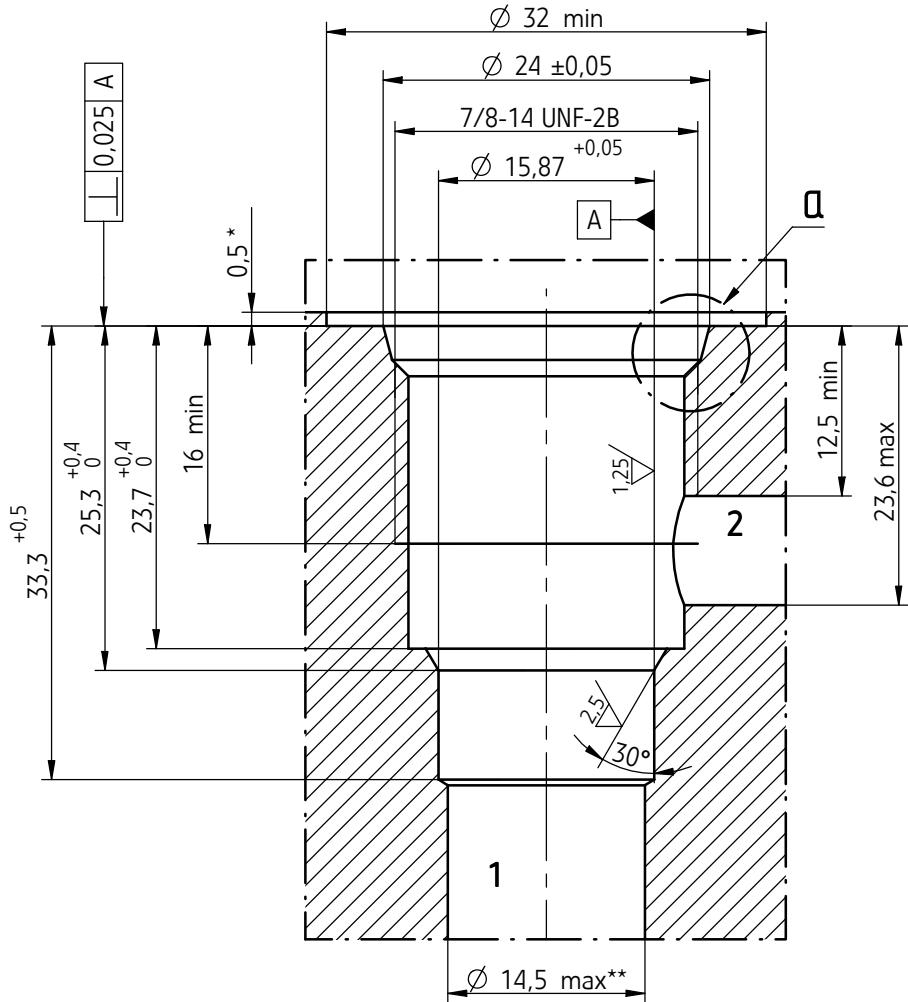
- 1 - Solenoid with swinging clamp of manual override
- 2 - Manual override
- 3 - Plug-in connector type (DIN 43650/ISO 4400)
- 4 - Sealing ring o-ring 18 x 2,6
- 5 - Sealing ring o-ring 12,42 x 1,78

OVERALL AND CONNECTION DIMENSIONS

mounting cavity 7/8 -14 UNF -2B (size U-06-2)

tightening torque $M_d = 50 - 55 \text{ Nm}$

 $\phi 0,025$ - applicable to all diameters of the main bore and chamfers

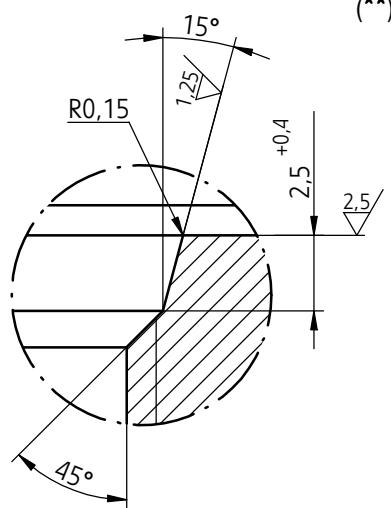


NOTES:

detail A

(*) - Maximum depth of the spotface according to valve overall dimensions

(**) - Diameter of borings 1, 2 situated between limiting dimensions - min $\phi 6,5$.



HOW TO ORDER

2 URED 6 C5 / 2 M1 N Z4 - SO 495

Number of service ports

2-way directional valve = 2

Nominal size (NS)

NS6 = 6

Type of the poppet (schemes according to page 3)
poppet C5 = C5

Series number

(10-19) - connection and installation dimensions unchanged = 1X
series 12 = 12

Number of working positions

2-way directional valve = 2

Mounting cavity

7/8 -14 UNF-2B = U1

Supply voltage for solenoids

12V DC	= G12
24V DC	= G24
110V AC 50Hz (plug-in-connector with rectifier)	= W110R
230V AC 50Hz (plug-in-connector with rectifier)	= W230R

Manual override

solenoids with manual override = N

Electrical connection

plug-in-connector DIN 43650-A/ISO 4400 without LED = Z4

Sealing

NBR (for fluids on mineral oil base)	= no designation
FKM (for fluids on phosphate ester base)	= V

Lockable manual override

Swinging clamp of manual override = SO 495

NOTES:

The directional valve should be ordered according to the above coding.

Coding example: 2URED6 C5 -12/2 U1 G24 N Z4 - SO 495

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