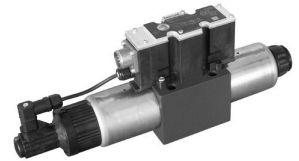


## 4/2 and 4/3 proportional directional valves, direct operated, with electrical position feedback, without/with integrated electronics (OBE)

1/8

### Type 4WRE and 4WREE



Size 6 and 10  
 Component series 2X  
 Maximum operating pressure 315 bar  
 Maximum flow: 80 l/min (size 6)  
 180 l/min (size 10)

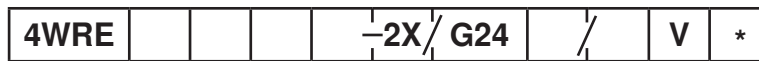
### Table of contents

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Ordering code
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### Features

<b>Page</b>	
1	– Direct operated proportional directional valve with electrical position feedback and integrated electronics (OBE) with type 4WREE
2	– Control of flow direction and size
3	– Operation by means of proportional solenoids with central thread and detachable coil
4 to 8	– For subplate mounting: Porting pattern according to ISO 4401
	– Spring-centered control spool
	– Control electronics
	• Type 4WREE: integrated electronics (OBE) with voltage or current input (A1 and/or F1)
	• Type 4WRE (4/3 version), separate order: - digital and analog amplifier in Euro-card format - analog amplifier in modular design
	• Type 4WRE...A (4/2 version), separate order: - analog amplifier in modular design

### Ordering code



Without integrated electronics (OBE)

= no code

With integrated electronics (OBE)

= E

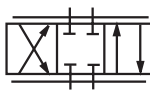
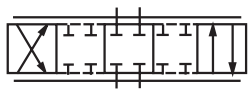
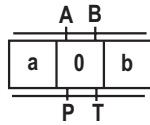
Size 6

= 6

Size 10

= 10

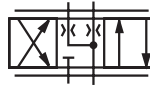
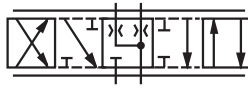
**Control spool symbols**



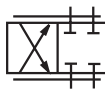
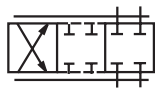
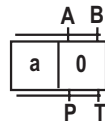
= E  
E1-



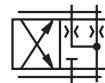
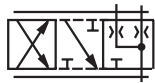
= V  
V1-



= W  
W1-



= EA



= WA

With symbol E1-, V1- and W1-:

P → A:  $q_{V \max}$       B → T:  $q_V/2$

P → B:  $q_V/2$       A → T:  $q_{V \max}$

**Notice:**

In the zero position, spools W and WA have a connection from A to T and B to T with approx. 3 % of the relevant nominal cross-section.

Further details in the plain text

**Seal material**

FKM seals <sup>1)</sup>

V =

**Electronic interface**

A1 = Command value ±10 V

F1 = Command value 4 to 20 mA

no code = Type 4WRE

**Electrical connection**

**Type 4WRE:**

K4 = Without mating connector, with connector according to DIN EN 175301-803

Mating connector (solenoid, position transducer), separate order, see page 8

**Type 4WREE:**

K31 = Without mating connector, with connector according to DIN EN 175201-804

Mating connector – separate order, see page 9

**Supply voltage**

G24 = Direct voltage 24 V

2X = 20 to 29  
(20 to 29: unchanged installation and connection dimensions)

**Rated flow at valve pressure differential  $\Delta p = 10$  bar**

**Size 6**

04 = 4 l/min

08 = 8 l/min

16 = 16 l/min

32 = 32 l/min

**Size 10**

25 = 25 l/min

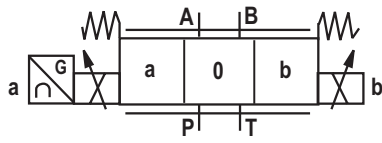
50 = 50 l/min

75 = 75 l/min

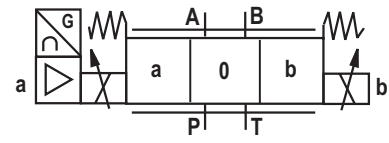
<sup>1)</sup> Design SO660 with NBR seals at the valve connection surface

## Symbols

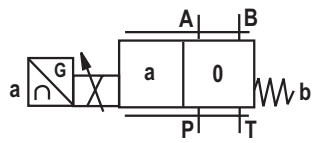
**Proportional directional valve without integrated electronics**  
 Type 4WRE...



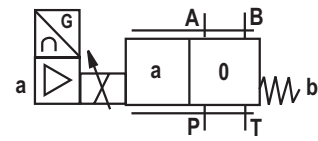
**Proportional directional valve with integrated electronics**  
 Type 4WREE...



Type 4WRE...A...

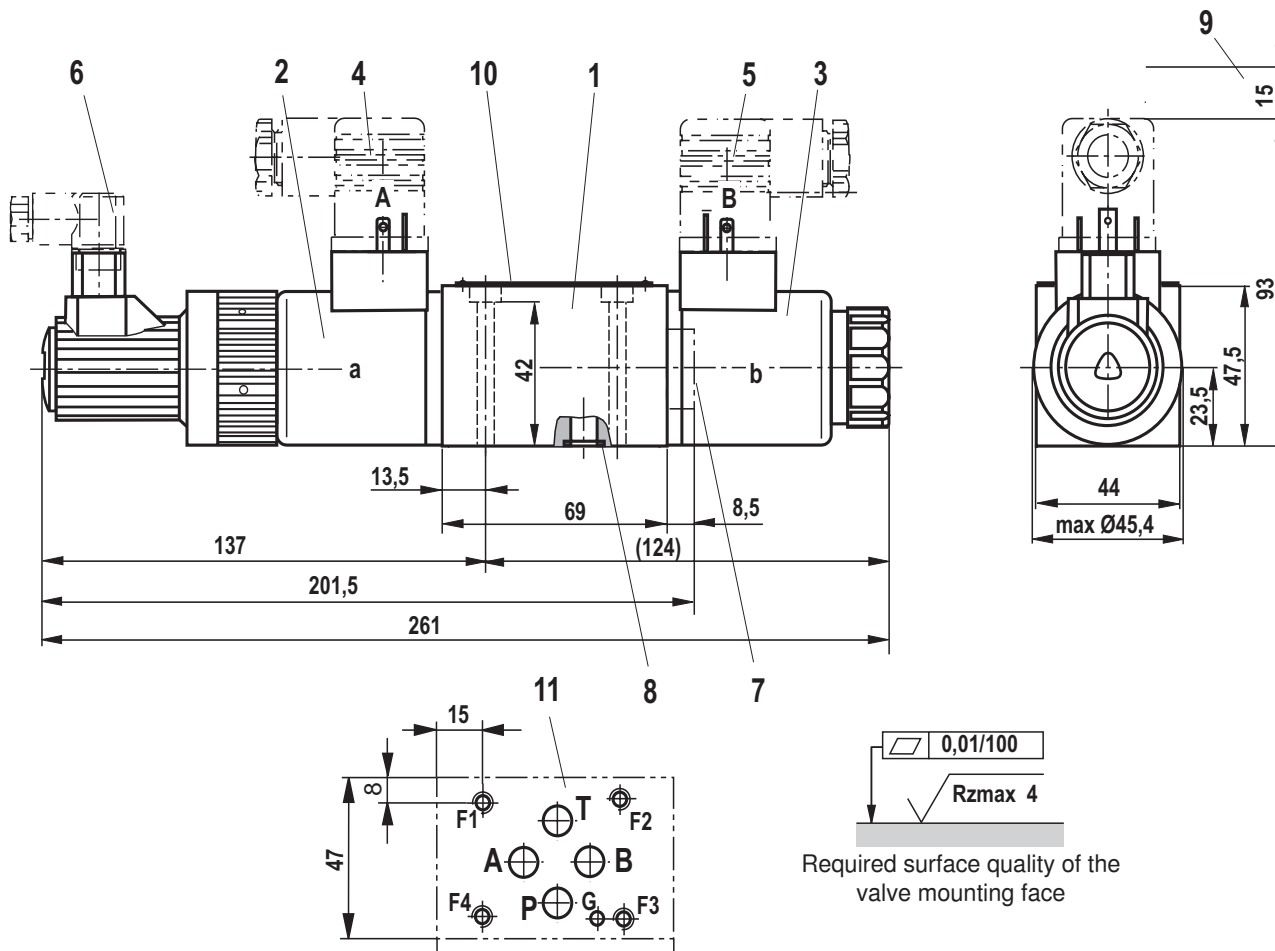


Type 4WREE...A...



## Unit dimensions: Type 4WRE (dimensions in mm)

Size 6



0,01/100  
Rzmax 4

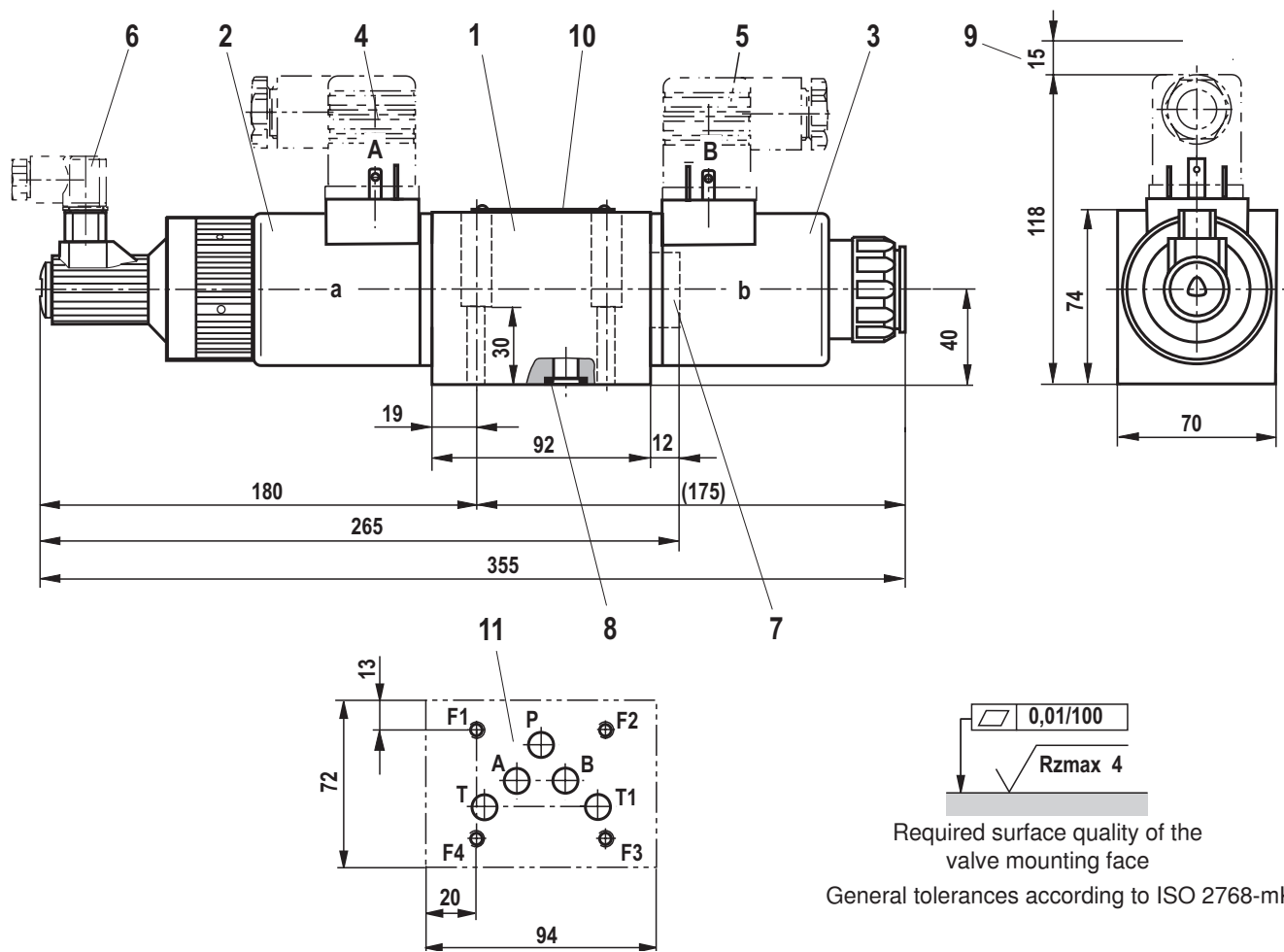
Required surface quality of the valve mounting face

- 1 Valve housing
- 2 Proportional solenoid "a" with inductive position transducer
- 3 Proportional solenoid "b"
- 4 Mating connector "A", color gray, separate order – see page 8
- 5 Mating connector "B", color black, separate order – see page 8
- 6 Mating connector for inductive position transducer, separate order – see page 8
- 7 Plug screw for valve with one solenoid (2 spool positions, version **EA** or **WA**)
- 8 Identical seal rings for ports A, B, P, and T
- 9 Space required to remove the mating connector
- 10 Name plate
- 11 Machined valve mounting face, porting pattern according to ISO 4401-03-02-0-05 (**with** locating hole)  
Deviating from the standard:
  - without locating hole "G"
  - Ports P, A, B and T with  $\varnothing$  8 mm



## Unit dimensions: Type 4WRE (dimensions in mm)

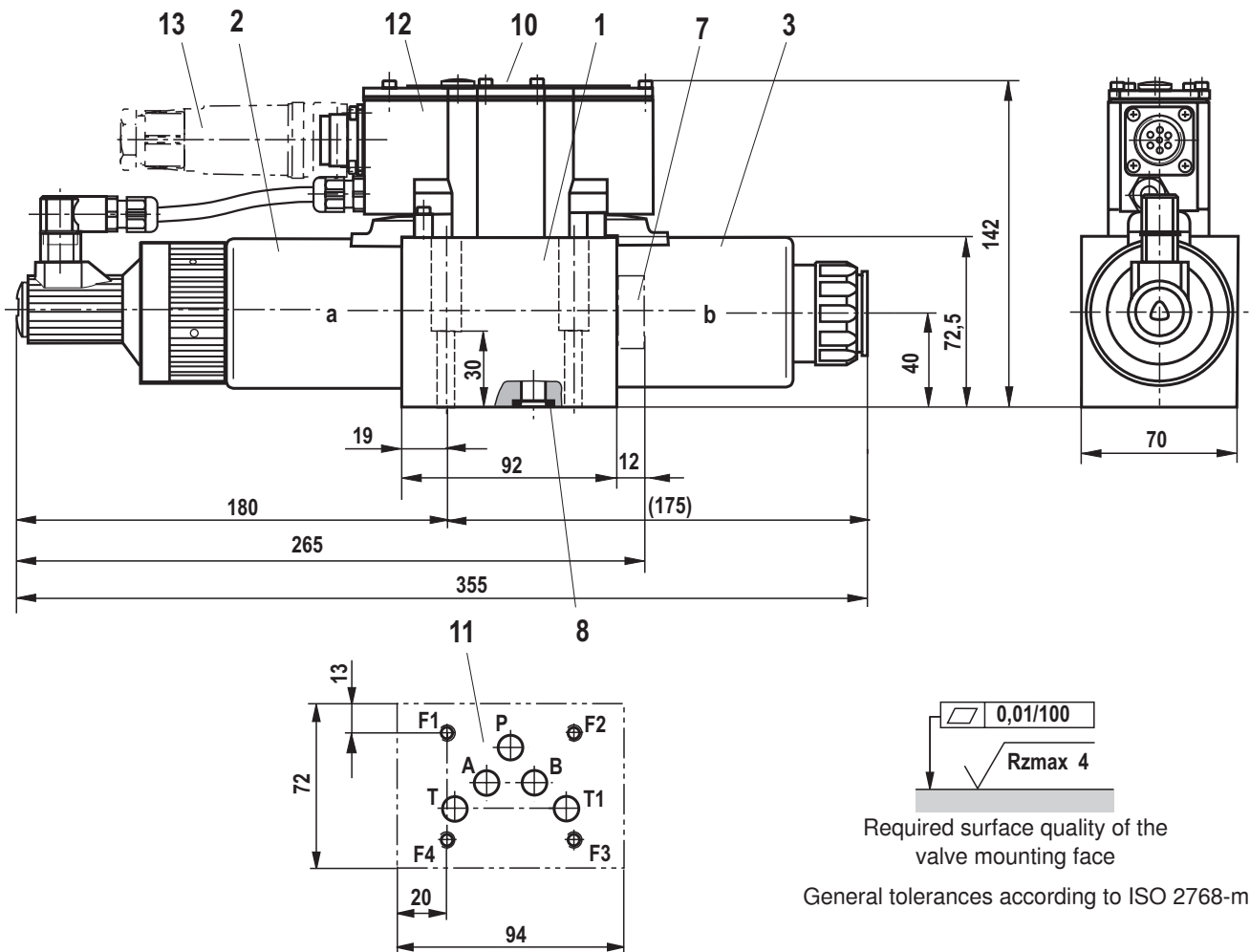
Size 10



- 1 Valve housing
- 2 Proportional solenoid "a" with inductive position transducer
- 3 Proportional solenoid "b"
- 4 Mating connector "A", color gray, separate order – see page 8
- 5 Mating connector "B", color black, separate order – see page 8
- 6 Mating connector for inductive position transducer, separate order – see page 8
- 7 Plug screw for valve with one solenoid (2 spool positions, version **EA** or **WA**)
- 8 Identical seal rings for ports A, B, P, T and T1
- 9 Space required to remove the mating connector
- 10 Name plate
- 11 Machined valve contact surface, porting pattern according to ISO 4401-05-04-0-05 differing from the standard: Connection T1  $\varnothing$  11.2 mm

## Unit dimensions: Type 4WREE (dimensions in mm)

size 10



- 1 Valve housing
- 2 Proportional solenoid "a" with inductive position transducer
- 3 Proportional solenoid "b"
- 7 Plug screw for valve with one solenoid  
(2 spool positions, version **EA** or **WA**)
- 8 Identical seal rings for ports A, B, P, T and T1
- 10 Name plate
- 11 Machined valve contact surface,  
porting pattern according to ISO 4401-05-04-0-05 differ-  
ing from the standard: Connection T1  $\varnothing$  11.2 mm
- 12 Integrated electronics (OBE)
- 13 Mating connector,  
separate order – see page 9

## Unit dimensions

Hexagon socket head cap screws		Material number
Size 6	4x ISO 4762 - M5 x 50 - 10.9-flZn-240h-L Tightening torque $M_A = 7 \text{ Nm} \pm 10 \%$ or 4x ISO 4762 - M5 x 50 - 10.9 Tightening torque $M_A = 8.9 \text{ Nm} \pm 10 \%$	R913000064
Size 10	4x ISO 4762 - M6 x 40 - 10.9-flZn-240h-L Tightening torque $M_A = 12.5 \text{ Nm} \pm 10 \%$ or 4x ISO 4762 - M6 x 40 - 10.9 Tightening torque $M_A = 15.5 \text{ Nm} \pm 10 \%$	R913000058

**Notice:** This tightening torque of the hexagon socket head cap screws refers to the maximum operating pressure!

Subplates	Data sheet
Size 6	45052
Size 10	45054