

Directional spool valves, direct operated,
with solenoid actuation

Type WE

RE 23340

Edition: 2019-05

Replaces: 2015-07



- ▶ Size 10
- ▶ Component series 5X
- ▶ Maximum operating pressure 350 bar [5076 psi]
- ▶ Maximum flow: 160 l/min [42.3 US gpm] – DC
120 l/min [31.7 US gpm] – AC

**Features**

- ▶ 4/3-, 4/2- or 3/2-way version
- ▶ Porting pattern according to ISO 4401-05-04-0-05 and NFPA T3.5.1 R2-2002 D05
- ▶ High-power solenoid, optionally rotatable by 90°
- ▶ Electrical connection as individual or central connection
- ▶ Cartridge optionally equipped with PWM connector (fast switching amplifier, energy reduction)
- ▶ Manual override, optional
- ▶ CE conformity according to the Low-Voltage Directive 2014/35/EU for electrical voltages > 50 VAC or > 75 VDC
- ▶ Solenoid coil as approved component with UR marking according to UL 906, edition 1982, optional
- ▶ Approval according to CSA C22.2 No. 139-13, optional

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Technical data

(for applications outside these values, please consult us!)

General				
Weight			Individual connection	Central connection
	▶ Valve with one solenoid	kg [lbs]	3.9 [8.6]	4.0 [8.8]
	▶ Valve with two solenoids	kg [lbs]	5.5 [12.1]	5.6 [12.3]
Installation position		any ¹⁾		
Ambient temperature range	▶ Standard version	°C [°F]	-20 ... +70 [-4 ... +158] (NBR seals) -15 ... +70 [+5 ... +158] (FKM seals)	
	▶ Version for HFC hydraulic fluid	°C [°F]	-20 ... +50 [-4 ... +122]	
	▶ Low-temperature version ²⁾	°C [°F]	-40 ... +50 [-40 ... +122]	
Storage temperature range		°C [°F]	+5 ... +40 [41 ... +104]	
MTTF _D values according to EN ISO 13849		Years	300 (for further details see data sheet 08012)	
Hydraulic				
Maximum operating pressure ²⁾	▶ Port A, B, P	bar [psi]	350 [5076]	
	▶ Port T ³⁾	bar [psi]	210 [3050]; Tank pressure (standard) With symbols A and B, port T must be used as leakage oil connection if the operating pressure exceeds the maximum admissible tank pressure.	
Maximum flow	▶ Direct voltage DC	l/min [US gpm]	160 [42.3]	
	▶ Alternating voltage AC	l/min [US gpm]	120 [31.7]	
Flow cross-section (spool position 0)	▶ Symbol Q	mm ²	approx. 6% of nominal cross-section	
	▶ Symbol W	mm ²	approx. 3% of nominal cross-section	
Hydraulic fluid		see table below		
Hydraulic fluid temperature range (at the valve working ports)		°C [°F]	-20 ... +80 [-4 ... +176] (NBR seals) -15 ... +80 [+5 ... +176] (FKM seals) -20 ... +50 [-4 ... +122] (HFC hydraulic fluid) -40 ... +50 [-40 ... +122] (low-temperature version)	
Viscosity range		mm ² /s [SUS]	2.8 ... 500 [35 ... 2320]	
Maximum admissible degree of contamination of the hydraulic fluid; cleanliness class according to ISO 4406 (c)		Class 20/18/15 ⁴⁾		

¹⁾ With suspended installation, higher sensitivity to contamination. Horizontal installation is recommended.

²⁾ For the use at low temperatures, see Project planning information on page 31.

³⁾ 160 bar with version "W120" and "W230".

⁴⁾ 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.

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

Performance limits: AC voltage – 230 V 50 Hz
 (measured with HLP46, $\vartheta_{oil} = 40 \pm 5 \text{ } ^\circ\text{C}$ [104 ± 9 °F])

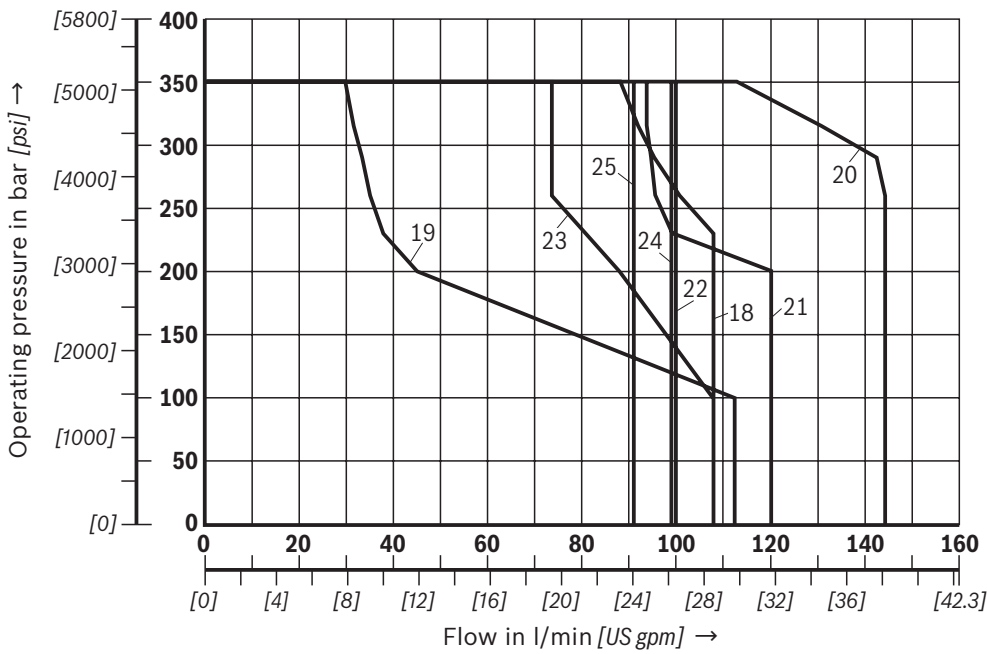
Notice:

The specified performance limits are valid for operation with two directions of flow (e.g. from P to A and simultaneous return flow from B to T).
 Due to the flow forces acting within the valves, the admissible performance limit may be considerably lower

with only one direction of flow (e.g. from P to A while port B is blocked)!

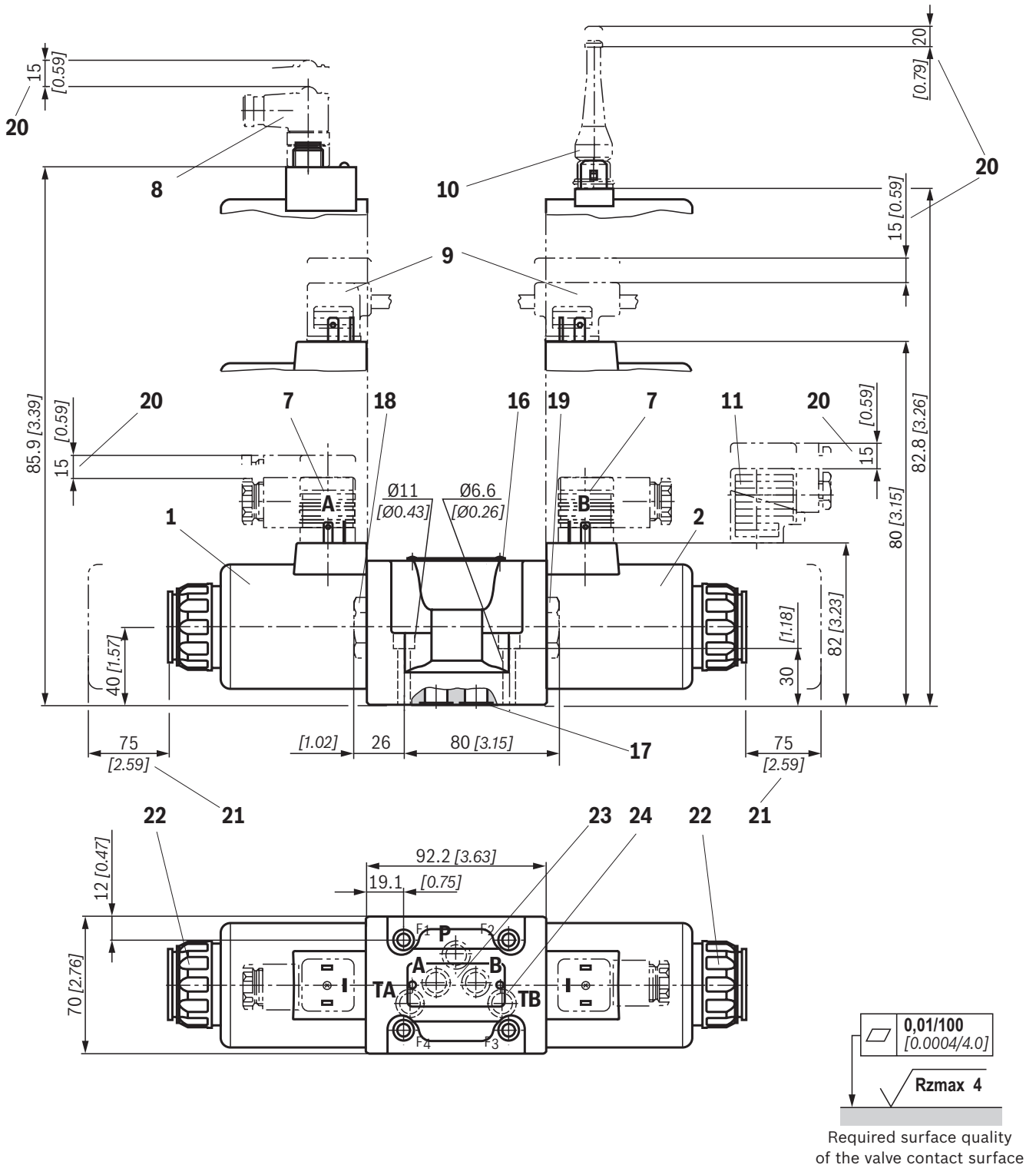
In such use cases, please consult us!

The performance limits were determined when the solenoids were at operating temperature, at 10% undervoltage and without tank preloading.



Characteristic curve	Symbol
18	GA
19	G73
20	YES
21	JB
22	LB
23	MA, MB
24	U
25	W

Dimensions: DC voltage – individual connection
(dimensions in mm [inch])



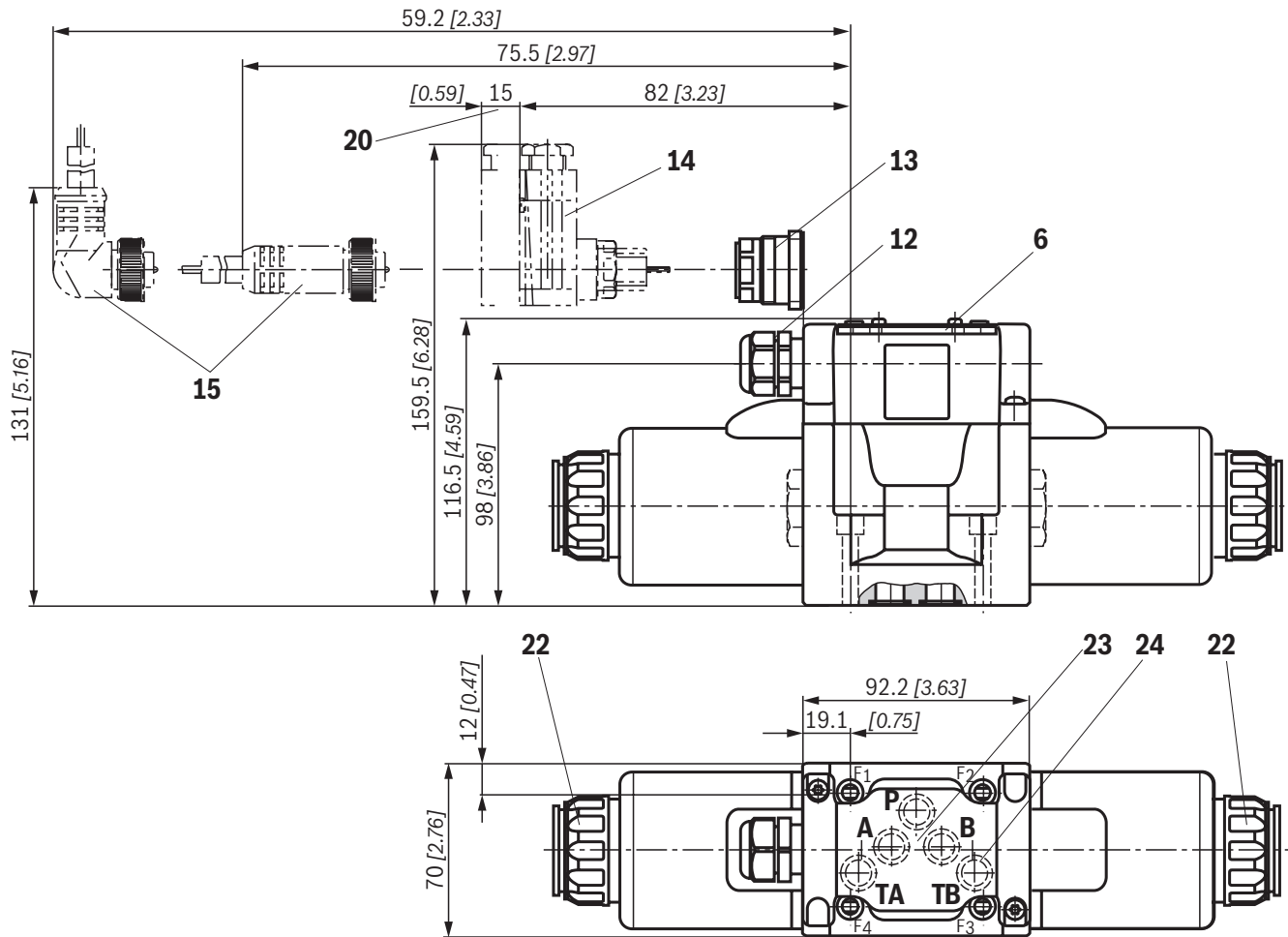
Notice:

- ▶ Deviating from ISO 4401, port T is called TA and port T1 is called TB in this data sheet.
- ▶ The dimensions are nominal dimensions which are subject to tolerances.

Dimensions for manual overrides see page 25.

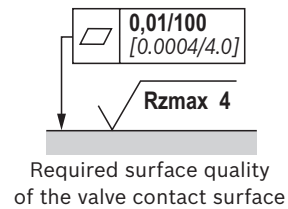
Item explanations, valve mounting screws and subplates see page 27.

Dimensions: Direct voltage – central connection
(dimensions in mm [inch])



Dimensions for manual overrides see page 25.

Item explanations, valve mounting screws and subplates see page 27.



Notice:

The dimensions are nominal dimensions which are subject to tolerances.