

Directional Valve Size 04 WL 4.04

Installation dimensions ISO 4401 / DIN 24340 A4

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Functional description

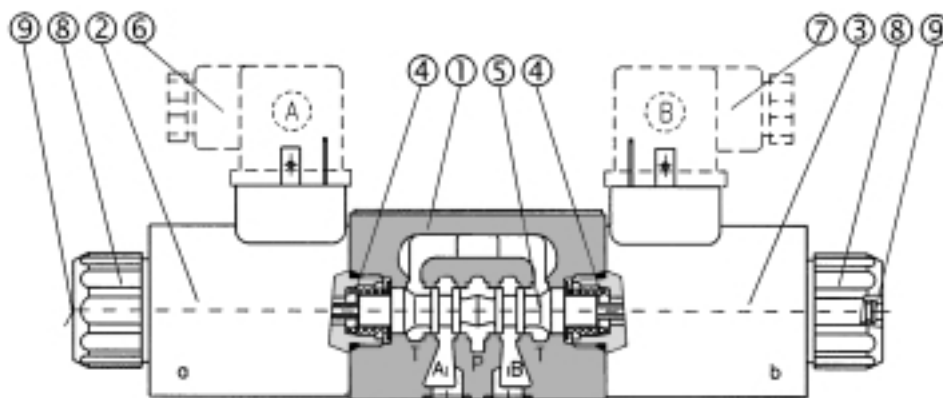
The directional control valves WL 4/04 consists of housing (1), a control spool (5) with two centering springs (4) and cylindrical operating solenoids (2, 3).

The three-position directional valves are fitted with two solenoids and two springs. Two-position directional valves have either one solenoid and one return spring or two solenoids and a detent assembly.

The operating solenoids are D.C. solenoids. For AC supply the solenoids are provided with a rectifier, which is integrated directly into the connector. The plug connectors (6, 7) can be turned by 90°. By loosening the fixing nut (8),

the solenoids can be turned arbitrarily in the range of 360°, or replaced. This enables the operating coils to be replaced without opening the pressure-tight spaces.

In the case of solenoid malfunction or power failure, the spool of the valve can be repositioned by manual override (9), provided the pressure in T-port does not exceed 25 bar. The basic surface treatment of the valve housing (1) is phosphate coated and the operating solenoids (2, 3) are zinc coated.



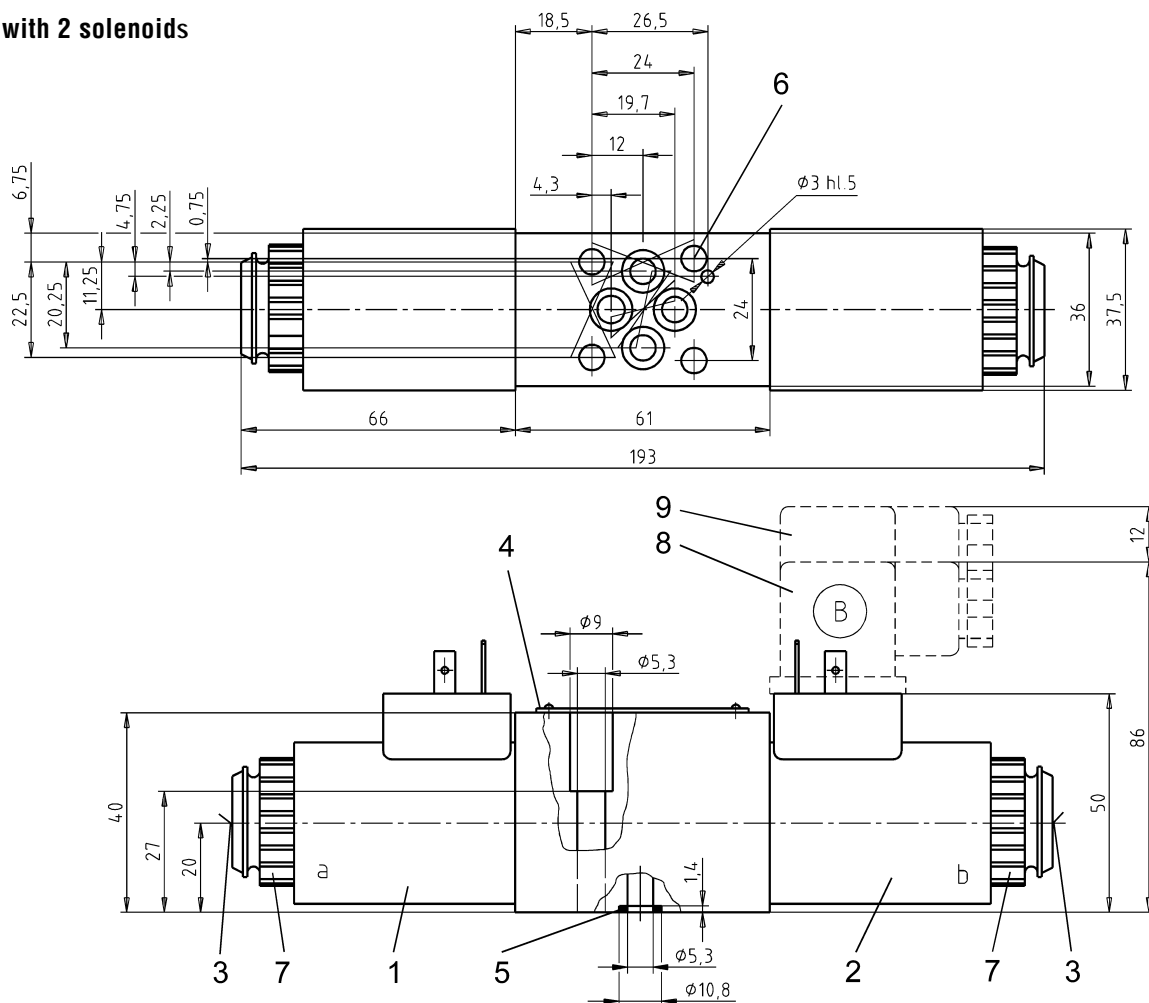
Technical data

Nominal size	4	Permissible rated voltage variation	DC: ± 10 % AC: ± 10 %
Maximum flow	see p-Q characteristics	Max. switching frequency	15000 1/h
Max. operating pressure at ports P, A, B	320 bar	Switching time, on; at U_n and viscosity 32 mm ² /s	DC: 30 ... 50 ms AC: 30 ... 50 ms
Max. operating pressure at ports T	100 bar	Switching time, off; at viscosity 32 mm ² /s	DC: 10 ... 100 ms AC: 30 ... 50 ms
Pressure losses	see p-Q characteristics	Duty cycle	100 %
Hydraulic fluid	Hydraulic oils of DIN 51 254/25 Other hydraulic fluids on request	Service cycle	10 ⁷
Fluid temperature range (NBR)	-30 ... +80 °C	Enclosure type to DIN 40 050	IP 65
Ambient temperature range	... +50 °C	Weight-valve with 1 Solenoid 2 Solenoid	0.9 kg 1.25 kg
Viscosity range	20 ... 400 mm ² /s	Mounting position	optional
Maximum degree of fluid contamination	Class 18/15 to ISO 4406. Therefore we recommend a filter with a retention rate $\beta_{10} \geq 75$		

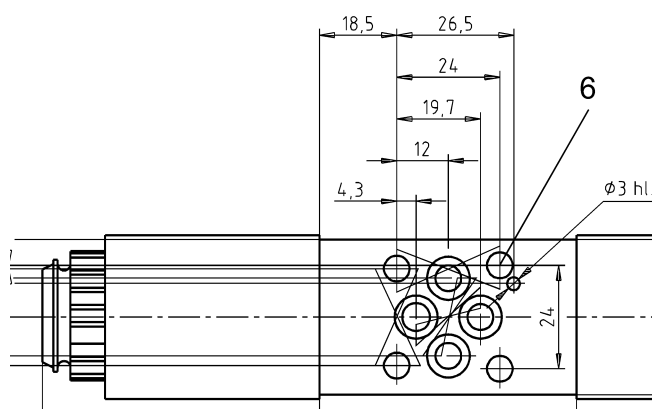
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Valve dimensions (Dimensions in mm)

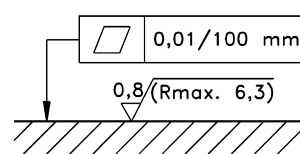
Version with 2 solenoids



Version with 1 solenoid a



- 1 Solenoid a
- 2 Solenoid b
- 3 Manual override
- 4 Name plate
- 5 Square ring 7.65 x 1.68 (4 pcs) included in delivery
- 6 4 mounting holes
- 7 Fastening nut of the solenoid
- 8 Connector plug to DIN 43650
- 9 Distance required to remove plug



Required surface finish of interface

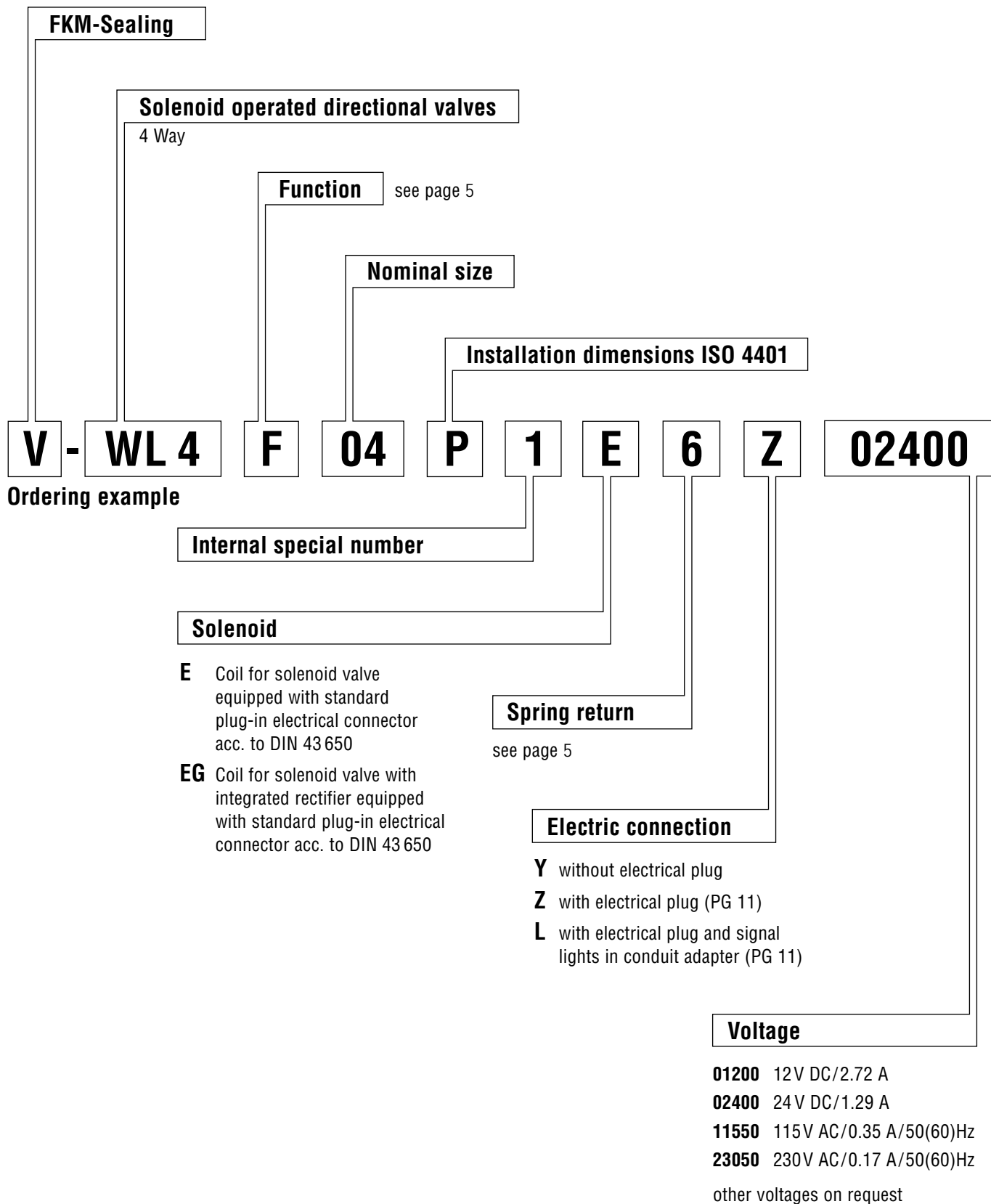
Functional symbols

Function	Spring return	Symbols	Function	Spring return	Symbols	Function	Spring return	Symbols
F ...6			AP...0*			F ...1		
EN...6**			AN...0**			BP...1*		
SE...6			U ...0			BN...1**		
KF...6			KF...0			EN...1**		
SF...6			SF...0			SE...1		
AE...6			EN...0**			F ...4		
HF...6			F ...0			AF...1		
FV...6			F ...8			HE...1		
HE...6			SE...0			F ...31		
AF...6			AE...0			AE...1		
			AF...0			HF...1		
			HF...0			SF...1		

*.P \triangle Overlap (positive)
 **.P \triangle Overlap (negative)

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Ordering code



Overview of our complete program

Transfer pumps

Transfer pumps for lubricating oil supply equipment, low pressure filling and feed systems, dosing and mixing systems.

Flow measurement

Gear and turbine flow meters and electronics for volume and flow metering technology in hydraulics, processing and laquering technology.

Mobile hydraulics

Single and multistage high pressure gear pumps, hydraulic motors and valves for construction machinery, vehicle-mounted machines.

Industrial hydraulics

Cetop directional control and proportional valves, hydraulic cylinders, pressure, quantity and stop valves for pipe and slab construction, hydraulic accessories for industrial hydraulics (mobile and stationary use).



WL4.04/e/04.05