

# VPWS-6

## Proportional directional control valve



# FESTO

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Instructions | Assembly, Installation

8183861


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Translation of the original assembly instructions

Keep for reference

## 1 Other Applicable Documents

 All documents for the product are available at [www.festo.com/sp](http://www.festo.com/sp)

## 2 Safety

### 2.1 Safety Instructions

- Switch off the power supply before carrying out any assembly work.
- Switch off the media supply before carrying out any assembly work.
- Only mount product on components that are in a safe condition.
- Only use the product in its original condition without unauthorised modifications.
- The product must not be used if the product is dirty or damaged as a result of damaged packaging.
- Assembly and installation by qualified personnel only.

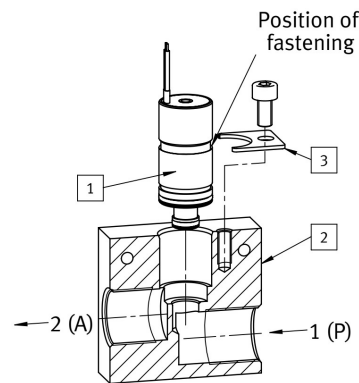
### 2.2 Intended Use

The valves are solenoid valves and are used as intended to release, block or proportionally change the flow rate of a suitable medium.

### 2.3 Predictable Misuse

- The product may not be used outside the limits of the product defined by the technical data.
- The product must not be used in a potentially explosive atmosphere.
- Aggressive media such as acids or bases must not be used. Furthermore, only media that are expressly approved may be used.
- The operator must ensure that the valves described in these instructions with all their technical data including service life are suitable for the intended application. Otherwise, the valve must not or no longer be used.
- It is important to ensure that there is no confusion between the valve variants. The variant of the valve can be distinguished by the marking applied to the valve. The variants of the valve are not interchangeable due to technical differences.
- The operator is required to take appropriate safety precautions to prevent damage to property or personal injury in the event of a valve failure.

## 3 Scope of Delivery



The marking on the valve specifies the product variant.

- 1 Proportional directional control valve (1x)  
VPWS-6 (part of delivery scope)
- 2 Manifold block  
VABS-P4-20S-G38 (not included in delivery scope)
- 3 Fastening (without M4 screw)  
VAME-P4-PC15-P-P10 (not included in delivery scope)

## 4 Assembly



### Warning!

#### Risk of injury due to crushing!

Carefully insert the valve into the device to avoid crushing the skin.

Observe the installation geometry for the valve; this can be requested from the manufacturer. Ensure sufficient strength and media compatibility of the receptacle and sufficient strength of the fixing screw. Only use approved oils or greases as assembly aids.

Ensure correct connection of the media-carrying lines (flow direction). Particles entering the valve during assembly or operation may adversely affect the function, service life and leak tightness of the product. Insert a suitable filter unit.

1. Carefully press valve 1 into the provided opening of the manifold block 2 / customer-specific plate.  
At the same time, perform a slightly twisting motion. Observe the maximum axial force of 100 N.  
Note:  
A higher axial force during assembly can lead to functional failure of the valve, as the characteristic setting of the valve stroke is changed. The reason for this is that the two halves of the housing are pressed together.
2. Place the fastening 3 flush at the side in the specified position on the valve 1 and tighten the fastening screw with the specified tightening torque (torque depends on the screw used).
3. Secure the fixing screw against loosening.

## 5 Electrical Installation



### Warning

#### Risk of injury due to voltage!

- Electrical connection must be established or disconnected only by qualified personnel and in a de-energised state.
- The maximum specified voltage must not be exceeded.
- Damaged or defective connecting cables must not be used.
- Integrate suitable protective circuits to avoid overvoltages caused by inductive switch-off peaks.

## 6 Commissioning



### Warning

#### Risk of injury due to valve parts being ejected with high kinetic energy.

- Do not exert any forces on the valve other than those permitted for installation.
- Make sure that you have installed the correct valve variant.
- The maximum specified operating pressure must not be exceeded.

It is recommended to increase the pressure slowly during commissioning. Check the tightness of the connections.

Pressure pulses may cause the valve to open briefly even without an actuation signal.

Excessive pressure may have a permanent negative effect on the function, service life and tightness of the product.



### Warning

#### Danger due to uncontrolled medium leakage!

- Do not exert any forces on the valve other than those permitted for installation.
- Make sure that you have installed the correct valve variant.
- The maximum specified operating pressure must not be exceeded.



### Warning

#### Fire hazard with medium oxygen and oxygen-enriched air.

- The specified maximum operating pressure and the maximum ambient and medium temperature must not be exceeded.
- Make sure that you have installed the correct valve variant.
- Do not exceed the permissible current range for oxygen.



### Warning

#### Risk of burns/fire during continuous operation due to hot device surface!

- Keep the device away from easily flammable substances and media and do not touch it with bare hands.
- After removing the control signal, do not touch the device surface until the valve has cooled down completely.

## 7 Technical Data

VPWS-6		
Housing material	Stainless steel	
Sealing material	FKM	
Installation position	Any	
Medium	Air, oxygen, inert gases	
Note on medium	Oiled operation not possible Maximum particle size 10 µm	
Degree of protection	IP60	
Note on protection class	In assembled condition IP65 with suitable connector	
Pneumatic connection 1	Cartridge 7.5 mm	
Pneumatic connection 2	Cartridge 15 mm	
Electrical connection	Cable Open end 2-wire	
Operating pressure	8074537 8074538	0 – 3 bar <sub>g</sub> 0 – 7 bar <sub>g</sub>
Ambient temperature	+5 ... +50 °C	
Medium temperature	+5 ... +50 °C	
Storage temperature	-40 ... +80 °C	
Permissible current range (100% duty cycle)		
without flow	Medium air	Oxygen
at 20°C ambient temperature	≤ 180 mA	≤ 150 mA
at 50°C ambient temperature	≤ 150 mA	≤ 120 mA
with flow rate (≥ 30 l/min @ I <sub>max</sub> )		
at 20 °C ambient temperature	≤ 225 mA	≤ 225 mA
at 50 °C ambient temperature	≤ 225 mA	≤ 225 mA
Coil resistance	60.5 Ω	
Nominal el. power consumption	3 W	