



## Operating Manual

### Pressure switches 901 for the low pressure area with factory-set or adjustable pressure setting



- High reliability
- Adjustment by means of an adjustment knob possible
- DVGW approval
- Also for aggressive media



## Operating Manual

# Pressure switches 901 for the low pressure area with factory-set or adjustable pressure setting

### 1. Intended use

This pressure switch is intended for the monitoring of the over pressure, vacuum or differential pressure, in liquid and gaseous media - including hostile media. Two connection versions are available, these come

- ① with **tube connections** or
- ② with **threaded connections**. With its brass thread, this component is also suitable for gases as specified in the DVGW G 260/1.

The versions can either be adjustable or with factory set switching point.

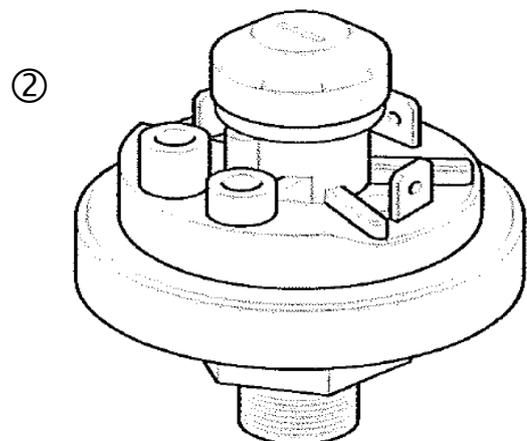
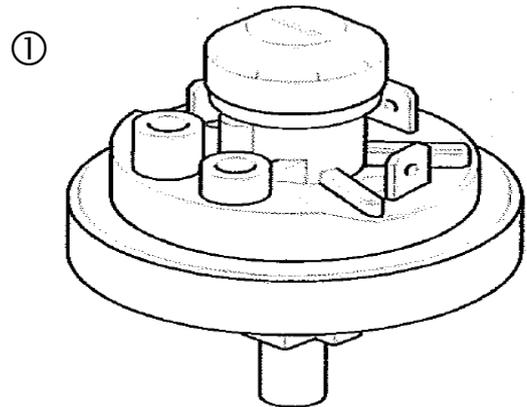
#### Warning!

The pressure switch is manufactured for the requirements of the user. It must therefore be used only for the application purpose intended by the manufacturer!

**Do not use the pressure switch for any other purpose** and comply with the maximum operating pressure agreed on ordering! Otherwise, the pressure switch may be damaged or function incorrectly!

#### Caution - Risk of accidents!

The technical data given in the data sheet are a part of these operating instructions. Keep both documents for future use with the pressure switch!





## Operating Manual

# Pressure switches 901 for the low pressure area with factory-set or adjustable pressure setting

### Warning!

The steps in this operating instruction assume prior specialist knowledge corresponding to a recognized qualification in gas and water installation work.

**Only carry out these steps yourself, if you have the relevant specialist knowledge!**

## 2. Assembly

**Firstly, check the pressure switch for any visible signs of damage to the housing or the connections.** If you see any damage, the pressure switch may not be entirely safe - in this case it should not be used!

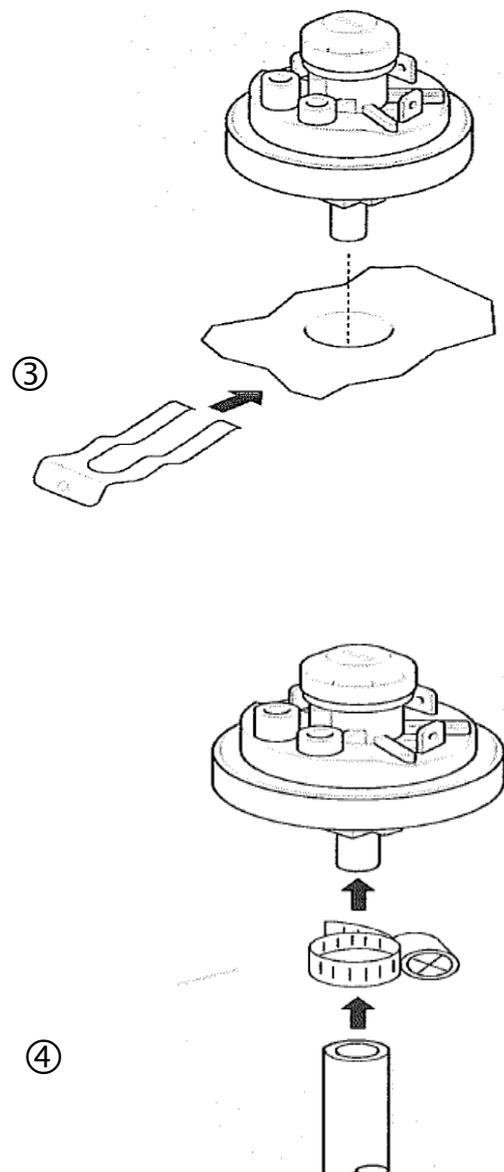
The **pressure hoses** must be suitable for the medium used and must permanently withstand the maximum expected temperatures and operating pressures.

### Mounting position

The pressure switch should be fitted vertically, so that ...

- any condensation produced by gaseous media can run off,
- any residues produced by liquid media do not remain in the pressure switch.

The mounting position does not have a measurable influence on the switching accuracy.





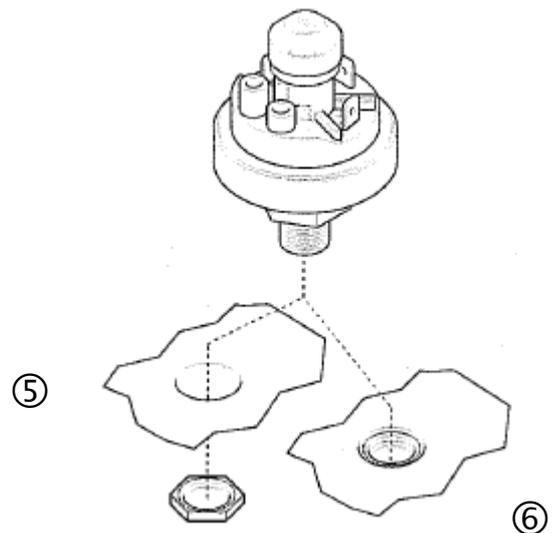
## Operating Manual

### Pressure switches 901 for the low pressure area with factory-set or adjustable pressure setting

#### a) Tube connections

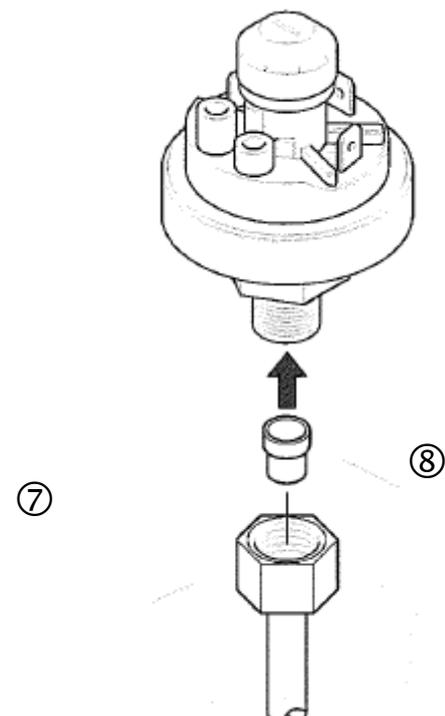
- ③ Attach pressure switches with tube connections using the **clamps** supplied, either directly to the housing or with one of the mounting brackets which can be supplied as an accessory
- ④ Attach the **pressure hose** to the connecting neck.

**Warning!** You must secure the connection using a **hose clip**. The hose can **fall off**, if the connection is loosened by pressure or temperature influences, or through ageing! **Risk of accidents!!**



#### b) Threaded connections

- ⑤ Attach pressure switches with screw necks using a **union nut**, either directly to the housing or with one of the mounting brackets which can be supplied as an accessory.
- ⑥ You can also screw the pressure switch directly into a suitable **threaded hole**, e.g. into a tank wall or a valve block.
- ⑦ Using a **screw connection**, you can also attach the pressure switch to a rigid pressure pipe.
- ⑧ The **crimp seal** must be replaced each time the joint is loosened. Otherwise, the tightness cannot be guaranteed!



**Warning!** You must use a seal on the threaded connector which is suitable for the **medium being used**, and it must be checked for any defects before connection !



## Operating Manual

### Pressure switches 901 for the low pressure area with factory-set or adjustable pressure setting

#### 3. Electrical connection

**Warning! Make sure that there is no current in the connection cables before starting work on any electrical connections! Otherwise, this might endanger life due to electric shock!**

##### a) Cable installation

Use a connection cable with a sheath diameter of .

⑨ **5 mm** for the protection cap 6329, so that tightness is guaranteed for the **IP 44** protection rating..

⑩ **7 mm** for the protection cap 6347, so that the tightness is guaranteed for the **IP 54** protection rating.

With this protective cap you must first carry out the cable before you connect the wires.

##### b) The switch...

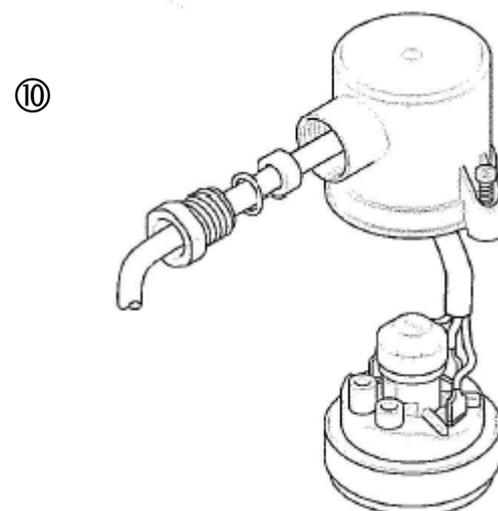
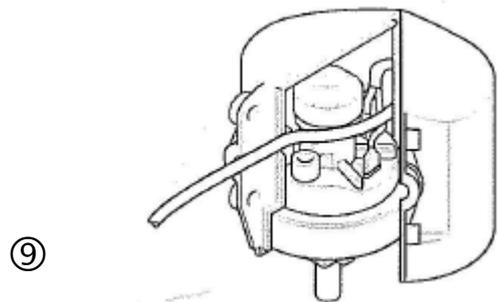
... is fitted as a change-over contact in the pressure switch. The neutral position is shown in the diagram..

Pol 3 (Com) makes contact with ...

- **Pol 2 with increasing pressure,**
- **Pol 1 with decreasing pressure.**

**Fuse protect the supply** using...

- maximum **6A/250VAC** in the version with standard contacts,
- maximum **0,1A/24VDC** in the version with gold-plated contacts (weak current).



for 901.6x, 901.8x,  
901.9x



only for 901.7x





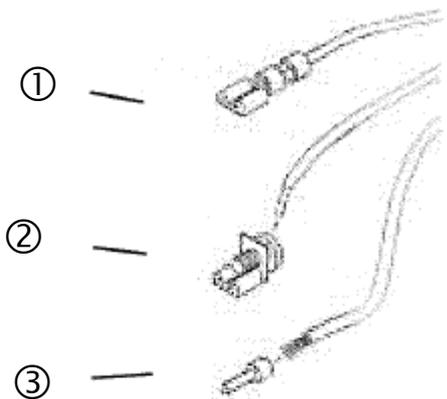
## Operating Manual

### Pressure switches 901 for the low pressure area with factory-set or adjustable pressure setting

#### c) The connections...

are intended for use with 6.3 mm receptacles for tabs, for example ...

- ① for **stranded wire**: You can directly attach receptacles for tabs.
- ② for **rigid cables**: You can use receptacles for tabs with integrated screw terminals.
- ③ If you also want to use the receptacles for tabs with integrated screw clamps for stranded wire, first attach **wire and ferrules**.
- ④ Attach the leads to the appropriate **poles** on the changeover switch.



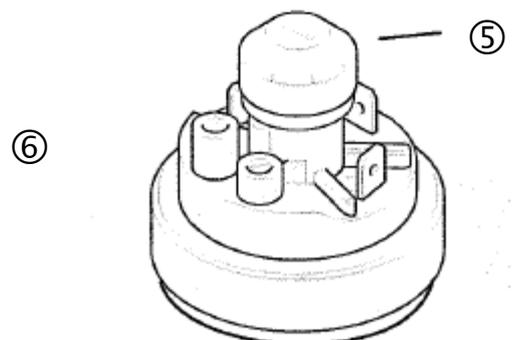
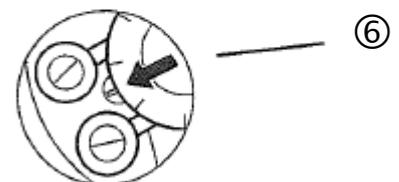
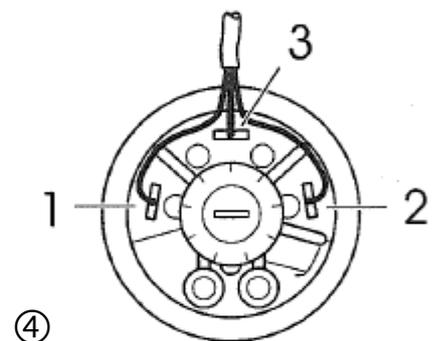
#### 4. Adjustment

Adjustable pressure switches have a knob. Fixed pressure switches have no adjustment knob and are shipped with a factory setting.

**Warning! Make sure that there is no current in the electrical connections!** Otherwise, this might **endanger life**, if you accidentally touch the **electrical connections** or the **metallic adjusting screws** du ring adjustment!

##### a) Adjusting the switching points

- ⑤ Set the upper switching pressure using the **setting knob**.
- ⑥ The **scale** only permits a general setting. More precise results can be achieved using a measuring instrument.





## Operating Manual

### Pressure switches 901 for the low pressure area with factory-set or adjustable pressure setting

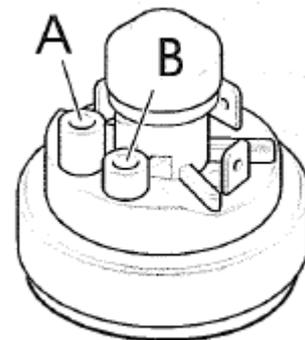
**Note:** The setting knob sets both the upper switching point (activated with increasing pressure) and the lower switching point (activated with decreasing pressure).

The switching difference (between the upper and lower switching pressure) is set by the factory and is dependent on the installed spring assembly.

#### b) Changing settings

**Warning!** The pressure switch has been precisely calibrated at the factory. Any setting changes by the user invalidates the warranty! If you do need to change the settings, this can be achieved by ...

- ⑦ adjusting screw **A** for the **upper** switching pressure and
- ⑦ adjusting screw **B** for the **lower** switching pressure.

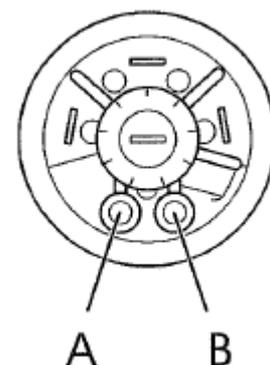


⑦

The following adjustments apply to both adjusting screws ...

- **reduce** the switching pressure by rotating **clockwise** (to the right),
- **increase** the switching pressure by rotating **counter-clockwise** (to the left).

Only use the adjusting screws to adjust back to the original values. Adjusting to completely different switching points is not possible due to the design.



**Warning:** The pressure switch will be damaged if the adjusting screws are rotated too far in either direction!

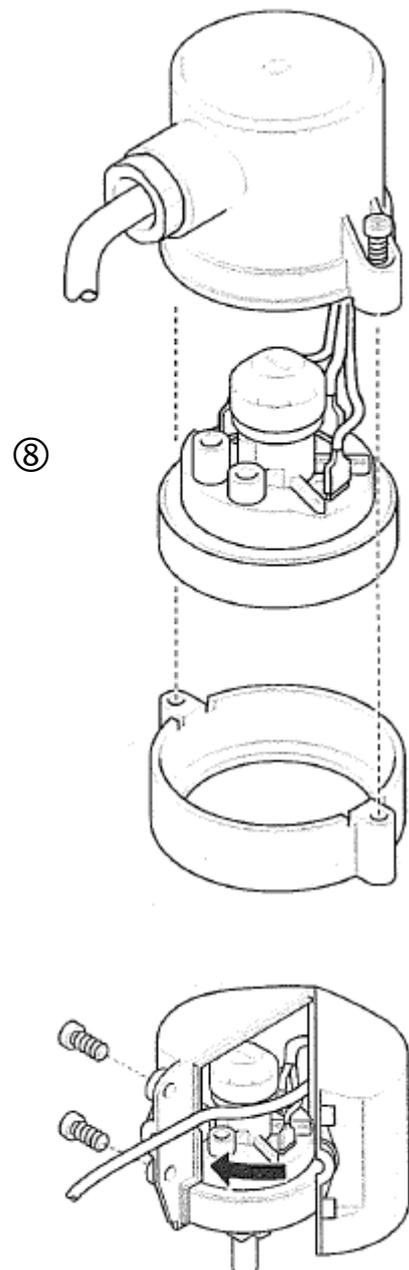


## Operating Manual

### Pressure switches 901 for the low pressure area with factory-set or adjustable pressure setting

#### 5. Closing the protection cap

- ⑧ Tighten the cable screws before fitting the 6347 protective cap. This will prevent the leads from being disconnected if the protection cap is removed.  
The two sections of the protection cap can now be attached and screwed together.
- ⑨ Feed the connection cable through the guide of the 6329 protection cap.
- ⑨ Close the protection cap and screw together.



#### 6. Testing the switching points

**Warning! Only operate the unit, when the protection cap is correctly attached.** Otherwise, this might endanger life due to electric shock, if you accidentally touch live components!

- Test the upper and lower switching points by slowly raising the pressure and then lowering it again.
- Do not exceed the **maximum** permissible operating pressure given in the data sheet! Otherwise, the pressure switch can be damaged!



## Operating Manual

### Pressure switches 901 for the low pressure area with factory-set or adjustable pressure setting

#### 7. Dismantling

If the pressure switch must be dismantled (e.g. for repairs, replacement or disposal), you must ensure that, ...

- the electrical connections are **not live** before starting any work. Otherwise, this might endanger life due to electrical shock.
- that pressure hoses are **pressure-free**. Otherwise, the medium may leak out during or after dismantling at the open location. **Caution** - Risk of accidents due to medium under pressure and contamination!
- no **medium residues** are left in or on the pressure switch, especially when hostile media, or media that may have an adverse effect on health, have been used. Otherwise, this may endanger other people (e.g. maintenance or disposal personnel) who receive the pressure switch. Mark such pressure switches with a note regarding the medium before passing them on!





## Operating Manual

### Pressure switches 901 for the low pressure area with factory-set or adjustable pressure setting

#### **Important notes!**

Technical changes and errors excepted.

These operating instructions are an integral part of the device and must be kept accessible to the personnel in the immediate vicinity of the device at all times. Persons who install, operate or service this device must read and understand these operating instructions carefully before starting any work. All safety instructions and instructions in this manual must be adhered to. In addition, the local accident prevention regulations and general safety regulations for the area of application of the device as well as all national and international legal regulations and technical standards apply.

All illustrations in this operating manual serve the basic understanding. Photos can be examples of a variant. The illustrations may differ from the actual design of the units. No claims can be deduced from any deviations.

The device has been designed and constructed exclusively for the intended use described here.

Persons installing, operating or maintaining this device must be technically qualified personnel and must comply with the applicable accident prevention regulations.

#### **limitations of liability**

All information and instructions in this operating manual have been compiled taking into account the applicable standards and regulations, the state of the art as well as our many years of knowledge and experience. Schmidt Mess- und Regeltechnik accepts no liability for damage due to

- Failure to observe this manual
- Improper use of the device
- Working by untrained personnel with this device
- Unauthorized modifications or technical modifications not approved by the manufacturer
- Use of unauthorized spare parts