

Valve Manifolds by AS-Schneider for Direct Mounting on Transmitters:

## What does not fit is made to fit

**Nordheim - 28 April 2014 - Transmitters contain more and more features: Additional sensors detect housing or ambient temperatures, processors process data in real-time, wireless modules enable remote monitoring. This means that the manufacturers of the devices also need to develop larger housings. But what to do when the transmitters suddenly no longer fit in their proper place on the valve manifold? The specialist for industrial valves AS-Schneider, who supplies valve manifolds to many operators of process plants, has found a solution together with its customers which is, at first glance simple, but extremely innovative.**

Transmitters are used in plant construction in numerous applications. For example, they detect the pressure or differential pressure in oil and gas pipelines or other process lines. However, in contrast to a pure measuring device, they not only show the pressure, but process the measured values further: The measured input signal is converted into an output signal in the transmitter via various physical or chemical effects. This is often a standardised analogue electrical signal unit which ranges from four to 20 mA. Frequency or pulse outputs are also typical variants. The output variable is proportional to the input variable - the higher the measured value, the higher the value at the output of the transmitter. The output signal can then be read on a display or sent directly to a control system. Thus the flow rate can be calculated from the signal of the pressure transmitter to the gas pipeline.

**New functions cause a lack of space in the housing**

Pressure and differential pressure transmitters are frequently used in power plants, chemical and petrochemical plants. These are used, among other things, to determine and forward pressure and flow rate in pipelines or the fill levels of liquid containers. They play a central role in the safety and reliable function of processes. With the increasing complexity of the systems, the demands also increase on the transmitter. This means that additional components must be incorporated into the devices: for example, digital outputs, sensors for monitoring the housing or ambient temperature as well as processors that further process the measured data in real time. The displays no longer only show the output signal, but provide a variety of other information and are therefore more extensive than previously. Add to that the possibility of wireless data transmission and remote monitoring. Many transmitters already have WLAN modules that transmit the output signal to other systems.

The increasing functionality of the transmitter means that the housings are now larger than they were a few years ago. After all, more and more components have to be accommodated inside. However, this results in difficulties with its connection. Most process plants are built as compactly as possible and therefore offer very little space. This also applies to the instruments used. If the housing of the transmitter is larger, it is harder to connect to the measuring point.

Pressure and differential pressure transmitters are usually connected to a valve manifold which, in turn, is connected via a pulse line to the plant. Consequently no flow takes place at the two inputs of the gauge. Only the static pressure of the respective medium is exerted. On the one hand, the valve manifold is used as a barrier if the transmitter should need to be removed, for example, for repairs. In this case, two valves seal the connection to the inputs so that the medium can not escape from the pulse line. In addition, the valve manifold has two exhaust

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valves - one for each input - as well as an equalising valve which can be used to calibrate the transmitter. The connection of the transmitter is directly connected via a flange. Thus, the entire structure is as compact and robust as possible.

### **Standard component no longer meets requirements**

"We have manufactured our valve manifolds for direct connection to the transmitter as standard components over decades," recalls Markus Häffner, Design & Development Manager at AS-Schneider. The company from Nordheim near Heilbronn (Germany) is one of the leading manufacturers of instrumentation valves, manifolds and accessories and supplies, among others, numerous operators of process plants in the oil, gas, energy and chemical industry. "In the recent past, customers and also manufacturers of transmitters have increasingly come to us, always with the same problem: They complained that the larger transmitters no longer fit on the valve manifolds."

The reason was soon found: The voluminous housing and the lever handles of the valves were in each other's way. The proven standard valve manifolds no longer met the changed requirements. "Therefore, we received the enquiry from a leading manufacturer of pressure and differential pressure transmitters to revise our product accordingly," says Häffner. Apart from its extensive standard range, AS-Schneider has a high level of expertise in the development of customised solutions. The company manufactures numerous instruments and accessories according to the exact specifications of its customers.

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### **New design solves the problem of space**

The development engineers at AS-Schneider quickly found a way to optimally meet the changing requirements also for the valve manifolds. They revised the complete design of the manifold and constructed a new top that offers more space and is therefore also suitable for the installation of the larger transmitter. The valve assembly's angle of inclination was also increased consisting of the two exhaust valves and the equalising valve. These namely had previously stood in the way of the transmitter. Due to the inclined arrangement of the valves, more free space was created on the top of the manifold where the flange to connect to the transmitter is located. In addition, the developers were able to use shorter lever handles than before because of the low operating torque of the new valve tops. Thus, the valves can now open and close smoothly without the handles hitting the transmitter housing when turning.

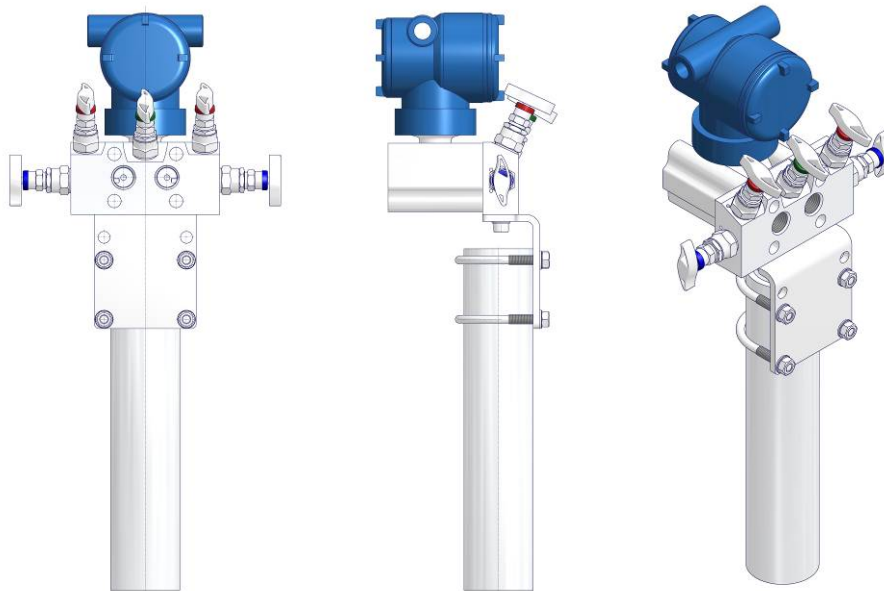
AS-Schneider presented this innovation to its customer - who was very pleased. "The valve manifolds had now been optimally rebuilt for direct connection to a pressure transmitter," says Markus Häffner. These manifolds are used in many plants worldwide - not only with the transmitters of that one manufacturer. "The problem was related to the pressure transmitter in general," Häffner recalls. "Ultimately, each provider tries to accommodate as many features as possible in its products." As a result, the development was able to asset itself more quickly. "This story has again made one thing clear: No matter how long a product has proven itself in practice - you can still make it better," says Häffner with a smile.

**Scope:** 6,930 characters including spaces

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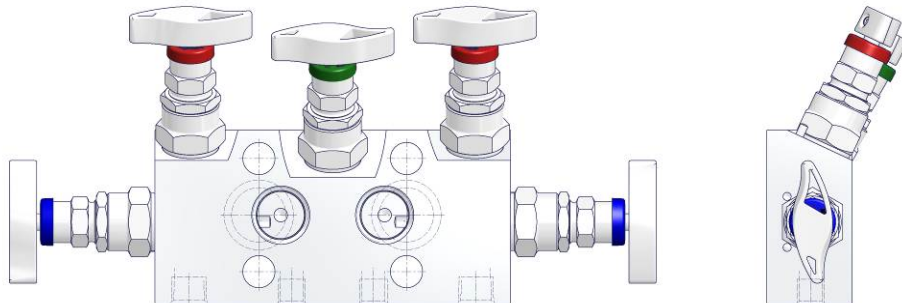
### Captions:



**Picture 1:** New design solves space problem - Increased inclination angle of the valve assembly, which consists of the two vent valves and the equalising valve. Due to the inclined arrangement of the valves, more free space is created on the upper side of the manifold.

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**Picture 2:** Shorter lever handles allow easy opening-and closing of the valves without the handles hitting against the the transmitter housing when turning.

**Pictures by:** Armaturenfabrik Franz Schneider GmbH + Co. KG

### About AS-Schneider

The family-run company, AS-Schneider, was founded in 1875 and with over 350 employees, is one of the leading manufacturers of Instrumentation Valves and Manifolds worldwide. In the market segment for Large-Bore Diesel Engine Valves such as those used in marine propulsion and the generation of electricity, AS-Schneider is even the world market leader. With our own subsidiaries in Romania, Singapore, Dubai (UAE) and Houston (USA) and professional partners in more than 20 countries worldwide, we are located everywhere our customers need us.

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