Technical Paper

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Soft Seated Instrumentation Valves and Manifolds from AS-Schneider:

The material is what counts

Nordheim (Germany) – 12 May 2015 – Instrumentation valves and manifolds come into contact with many different types of media, each with unique characteristics. A bubble tight seat is always of utmost importance. Leak free service is important for both the operator and environment. AS-Schneider offers users a broad range of Soft Seated Valves and Manifolds with valve seats made of synthetic materials. To ensure safe, leak free operation based on the application, AS-Schneider offers a wide variety of seat materials depending on the pressure, operating temperature and process medium.

Soft seated valves and manifolds have proven to be safe and reliable solutions in countless applications, including, chemical plants, oil refineries and natural gas pipelines. In contrast to metal seated valves, their stem needle or seat pocket incorporates a synthetic seat. When the valve closes, the elastic seat material is compressed, creating a leak free, bubble-tight closure. This provides the highest possible safety and ensures accurate instrument calibration and measurement results.

AS-Schneider is one of the world's leading manufacturers of Instrumentation Valves, Manifolds and Accessories. The family-owned company based in Nordheim (Germany), is a long-term partner of numerous renowned companies in various industries. Therefore AS-Schneider is able to draw on a broad range of practical experience and in-depth knowledge in the development and production of custom solutions.

Reliable solutions for the natural gas industry

AS-Schneider's Soft Seated Instrumentation Valves and Manifolds are used in applications such as extraction and transportation of natural gas. Leak free valves and manifolds are critical for accurate measurement. Emissions monitoring of gas is required and gas is not allowed to escape into the environment for reasons of safety and environmental protection. Additionally leaking measurement installations can lead to incorrect measurements of pressure or flow. Incorrect measurement or "lost and unaccounted for" natural gas adds to higher operating costs. As a result it is critical for valves to be absolutely tight and operate consistently.

Raw natural gas comes from three types of wells: oil wells, gas wells and condensate wells. Depending on the type of well, it can be accompanied by a variety of other components, including crude oil, ethane, propane, butane, pentane, water vapor, carbon dioxide, helium and nitrogen. Sand, grit, dirt and hydrogen sulfide can also contaminate raw natural gas. In addition, producers add chemicals such as mercaptan, which gives natural gas its characteristic odor, as well as corrosion inhibitors and glycol to protect pipelines against moisture and freezing. These substances make raw natural gas into a highly aggressive and complex process medium that can corrode equipment, eventually causing damage.

The criteria are pressure, temperature and process medium

Selection of the right seat material is therefore very important. Not every material is resistant to all the components and additives in natural gas. Moreover, the materials have different limits in regard to operating temperatures and pressure. These factors must be considered to achieve long term reliable valve performance. AS-Schneider therefore offers a range of different soft seat materials, ensuring that its valves provide excellent long term performance.

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AS-Schneider Valves and Manifolds have performed successfully over many years in numerous applications. Soft Seated Instrumentation Valves and Manifolds have a number of other advantages: they are safe and reliable, and the resilient synthetic material compensates for debris on the sealing surfaces. Also the seats are easy to replace, which prolongs the life of the valves in the case of aggressive or dirty process media. Users can replace the valve seat instead of the entire valve or manifold. This cuts repair costs and increases reliability: by performing regular maintenance, system operators can reduce the risk of leaks to a minimum.

Scope: 4,135 characters including spaces

Captions:

Picture 1: DirectMount Systems using Soft Seated Instrumentation Valves and Manifolds. Meets Best Practices recommendations of API, AGA and GPA.

Picture 2: The valves are used for control and instrumentation, for example pressure or flow measurements.

Picture 3: Tough demands and an aggressive process medium: AS-Schneider's Soft Seated Instrumentation Valves and Manifolds are used in the extraction and transportation of natural gas, among other applications.

Picture 4: Linda MacDonald (author), US Sales Manager at AS-Schneider America, Inc.

Pictures by: Armaturenfabrik Franz Schneider GmbH + Co. KG

About the author: Linda MacDonald

Linda MacDonald was born in 1958 in Blue Island, Illinois, and grew up in Indiana. After earning a degree in computer programming at Indiana Technology College she began her career in the IT sector but soon changed to Instrumentation valve sales and design. Linda served as an adviser to AS-Schneider when developing its new product line for the natural gas industry. Here she was responsible for taking long-requested customer needs into account. As US Sales Manager she has a wide range of tasks, including expanding the company's North American distributor network, looking after major customers and sales partners, managing product training and overseeing inventory requirements for our subsidiary in Houston.

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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