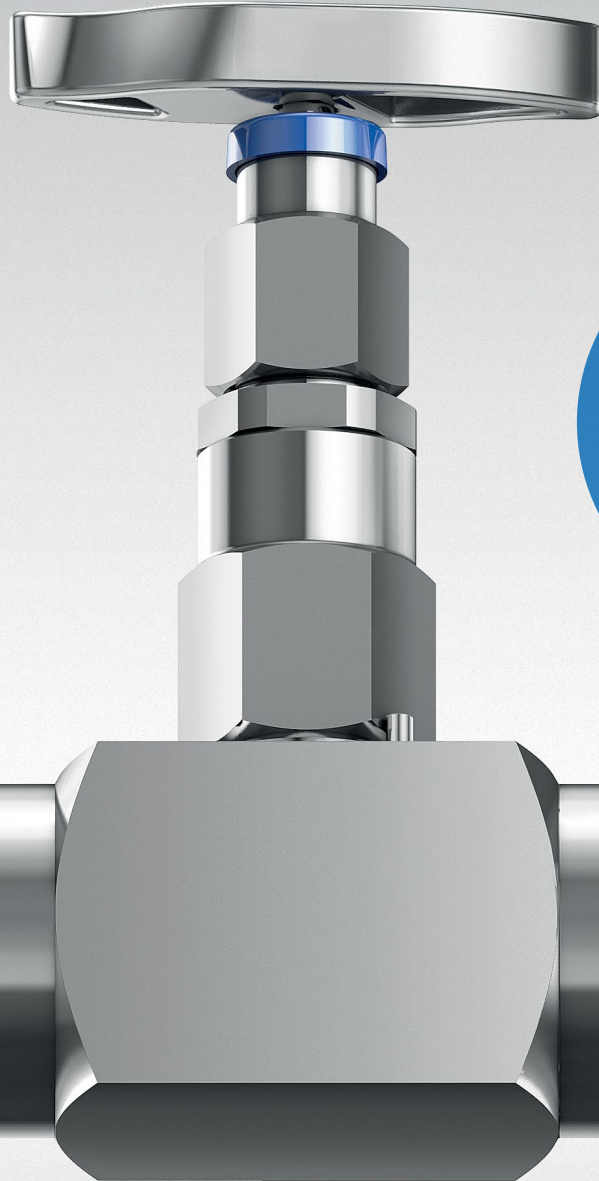




schneider
Tailored to Your Business

FOCUS



VISIT
US AT BOOTH:
4717-1

PATENT PENDING

Metal Seated Ball Valve ensures best tightness performance with maximum comfort

NATURAL GAS INDUSTRY

Instrumentation Products for tough applications



Dear Readers,

as you know, the Offshore Technology Conference (OTC) is the leading event worldwide when it comes to sources of raw materials in the world's oceans and technologies and developments in exploration, production and in environmental protection.

AS-Schneider will be celebrating a premiere this year at the OTC. We will also be participating with our own booth for the first time.

We look forward to welcoming you to our trade fair booth: Booth: 4717-I! We can promise you: Top experts will be there to answer your questions and talk about interesting business opportunities and customised instrumentation solutions for your pending new projects. Many exciting innovations also await you at our booth – new products which we are introducing especially for the American market which have been developed by our team in Germany working together with our colleagues in the USA and tested in our test laboratory.

It is our goal to ensure customer proximity and optimal service. We commit our approximately 350 employees worldwide to this end. As one of the world's leading manufacturers in industrial instrumentation for valves and manifolds and the world market leader in the field of valves for large diesel engines, we can fall back on a well-developed international network. Subsidiaries of our family-owned German company founded in 1875 are in Romania, Singapore, Dubai and more recently in Houston, Texas, in addition to experienced partners in more than 20 other countries.

We are proud of our diverse customer base all over the world and their successes. Our products can be found in the oil and gas industry, in the chemical industry, in energy generation and numerous other applications. Many well-known major projects have been equipped with our products and are among our best references. As an example, we are currently working with Dow Chemicals on the Sadara Project in Saudi Arabia and the Gulf Stream Project in the United States is also supplied by us.

Rolf Kummer
CEO AS-Schneider Group

AS-SCHNEIDER AMERICA, INC.



Tácito Loschiavo
Vice President

AS-Schneider is preparing to conquer the American market. Last year, the new subsidiary AS-Schneider America, Inc. was founded in Houston, Texas. The new subsidiary has been managed by TÁCITO LOSCHIAVO. TÁCITO LOSCHIAVO, 48 years old, Bachelor of Mechanical Engineering, Master of Business Administration (MBA), and SPI Solution Selling certified, has 25 years of career experience. Among other things, at Emerson he was Senior Director for the Latin American region and was Global Vice President at the CCC Compressor Controls Corporation.





1. Tácito Loschiavo (Vice President), 2. Linda MacDonald (US Sales Manager), 3. Sue Mujica (Office Coordinator), 4. James Dean (Application Engineer)

AS-SCHNEIDER IN TEXAS

FOCUS EDITORIAL: What was important for the specific decision to select Houston as the location for the subsidiary in the USA?

TÁCITO LOSCHIAVO: Houston has become the global center of excellence for the oil and gas industry which is also a main focus for AS-Schneider.

All major EPCs, OEMs, equipment manufacturers, service and oil and gas companies have presence and operations in the region. Considering that being close to our customers will enable us to execute on the growth strategy of "Providing the Best Service Level in the Industry", selecting Houston as the location for the America's operation was an easy decision.

Furthermore, Houston is an international hub and you can fly in and out easily to everywhere in the world.

FOCUS EDITORIAL: How much potential does this region have, and what does this mean for our headquarters in Nordheim (Germany)?

TÁCITO LOSCHIAVO: The opportunities in the region are huge. We put together a nice facility, a great team and I am very optimistic about the set forth strategy. Our expectati-

on is that the US operation will become the largest operation outside Germany in the next couple of years and this will continue to drive investments and provide opportunities in Nordheim.

FOCUS EDITORIAL: Now that you have the team ready, what are the next steps?

TÁCITO LOSCHIAVO: Due to territory size, amount of opportunities and the fact that different industries offer different challenges, demanding different approach, it won't be possible to succeed without a good and well established business partner. Besides trying to do it ourselves, makes absolutely no business sense.

So the next milestone should be setting up our business partner network, get them trained and on board with our strategy and provide them with the best possible support.

We have started on the right foot and I am very happy with the negotiations and the decisions we made in some key and strategic locations so far. Advanced negotiations are in place with some other first class business partners and our expectation is to close them in the next month or so. We should be announcing our business partner network shortly.

FOCUS EDITORIAL: How does the outlook for the future appear?

TÁCITO LOSCHIAVO: Well, the future of AS-Schneider America looks very bright. The existing opportunities, as mentioned, are big. We put together a first class organization with experienced team and the best business partners. Our growth strategies seem to be in line with customer's expectation and are laid on a very solid foundation – Quality, Expertise and Competitive Price.

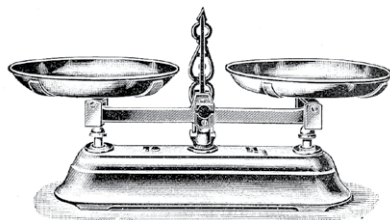
So, we have all the ingredients we need to make our future bright. It should be just a matter of executing on the strategy and I am very confident the team is ready and will deliver.

AS-Schneider America, Inc.

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STREIN

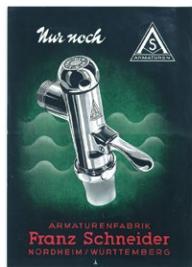
Power plants, offshore platforms, chemical plants, marine engines: In many such plants, the instrumentation products by AS-Schneider ensures smooth and trouble-free operation. The family-owned company from Nordheim in southern Germany near Heilbronn operates globally and is one of the world-wide leading manufacturers of Instrumentation Valves and Manifolds. AS-Schneider looks back on an almost 140-year history – and has always been a driving force for innovation and ideas.



The core business of AS-Schneider is instrumentation for valve and manifold technology. These are needed for the measurement of pressure and differential pressure almost everywhere in plant construction such as in the oil and gas industry, in chemical plants, power plants, refineries or cement works. The large product range of the company ranges from shut-off valves to safety devices for measuring instruments and multi-way cocks to integral manifolds. AS-Schneider is the world market leader for valves for large diesel engines, such as those used in ship propulsion or for electricity generation. Well-known companies such as BASF, DOW, Shell, Siemens, General Electric or Emerson have trusted in the products of the Swabian manufacturer for years.

Competence from tradition

AS-Schneider has a long tradition and thus sound know-how. In 1875, Franz Schneider Senior founded the company as a fine precision mechanics workshop in Heilbronn. Initially, he specialised in the production of bicycles, sewing



machines and precision balances. In 1901, the company also began to manufacture cocks and valves. For this, Schneider expanded its production in 1906 with a foundry for brass and gunmetal parts. In 1920, Franz Schneider Junior took the place of his father and took over the management of the company. The instrumentation manufacturing



was so successful that a separate division was created in 1936. As part of this progress, Franz Schneider Junior moved the headquarters to today's location in Nordheim near Heilbronn.

There, in 1937, he began manufacturing instrumentation and other metal parts with 35 employees. During the Second World War, AS-Schneider processed magnesium parts for the aircraft industry. Then the company used its many years of experience in the metalworking and produced what was missing in devastated Germany: lighters, household sieves, faucets and other building fittings. Until the 1960s, AS-Schneider continued to focus on plumbing fittings before the company turned more and more to the manufacturing of industrial applications - with sustainable success.

Customer proximity worldwide makes us successful

Today AS-Schneider employs 350 employees and generates turnover of around 40 million euros a year. The basis of this success is not only the company's innovative and high-quality products but also its proximity to customers: Working closely together with

NGTH

the users, AS-Schneider not only develops standard products but also tailor-made solutions which cannot be found in the catalogue. In order to optimally support its customers throughout the world, the company



has founded subsidiaries in Romania, Singapore and Dubai - and since 2013, also in Houston, Texas, the heart of the American oil industry. This is because the industrial instrumentation of the German manufacturer is also successfully used in the offshore extraction of crude oil and natural gas. From Houston, AS-Schneider not only serves the important USA market, but would like to intensify the export business to Latin America. Worldwide, partners and sales offices in more than 20 countries look after the wishes and requirements of AS-Schneider customers.

The high levels of service competence of AS-Schneider pay off. The users are thrilled to be working together with the company: "We have worked with AS-Schneider for over 15 years and find that their products are rock solid", says the Manager of Application Engineering and Technical Support for a large instrumentation manufacturer with over 40 years in the pressure business. "The



quality and product performance is superior to any manifolds and valves we have used in the past."

AS-Schneider also stands out from the competition through its outstanding Customer Service: "They respond quickly and efficiently to special requests and their people are always there to assist with any problems such as drawings, technical information or special delivery requirements. They are a pleasure to work with."

A strong partner in every case

The company is just as reliable a partner for smaller installations as with large-scale international projects. Most recently AS-Schneider received two orders from the chemical industry each with a volume of several million US dollars; The Texan "Gulfstream" ethylene plant as well as the Saudi Arabian "Sadara" chemical plant. The company is supplying the so-called "installation hardware" for both plants. This consists of valves, manifolds, pipeline parts, gaskets, screws and flushing rings. Both contracts are excellent opportunities for AS-Schneider to make a name as a manufacturer and supplier in both the United States as well as in the Arab world.

The continued success of AS-Schneider shows that progress can only come from tradition. Thanks to its strong innovation culture, the company is a pioneer in the sector even after 140 years. The continuous new and further development of products is a central component of the company's philosophy. A current example of this is the metal-seated ball valve which also withstands extreme operating conditions with temperatures up to 842°F [450°C] and pressures up to 6,092 psi [420 bar]. Due to its



special design, the ball valve opens and closes easily even under the highest loads. AS-Schneider has applied for a patent for this innovation.

Fit for the future

"We constantly optimise our products and do not sit on our laurels", emphasises Rolf Kummer, CEO of AS-Schneider. The customers' needs and requirements also constantly change. The trend is moving from single valves or manifolds to complete measuring assemblies with baffles, flanges, valves, cocks and pipework. "Customers are increasingly seeking more complex units and integrated solutions", explains Kummer. "This not only requires a lot of technical know-how, but also intensive collaboration with our customers." Competition is also becoming more and more global which makes the challenge all the greater. Kummer is confident: "With our committed and competent team, we are well equipped to meet the challenges of the future."

AS-SCHNEIDER IS ONE OF THE
WORLDWIDE LEADING
MANUFACTURERS OF INSTRUMENTATION
VALVES AND MANIFOLDS.



SCHNEIDER DIRECTMOUNT SYSTEMS "SDMS"

NATURAL GAS MEASUREMENT – BEST PRACTICES

FIELD RESEARCH AND TESTING conducted by Southwest Research in San Antonio, Texas and the Pipeline Gas Compressor Research Council (PCRC) confirmed that pulsation created by compressors, flow control valves, regulators and some piping configurations may create undesirable levels of Square Root Error (SRE) and/or resulting Gauge Line Error (GLE). Pulsation at the orifice meter is a major source of lost and unaccounted for natural gas. These errors create large economic gains or losses for the buyer and seller along a natural gas pipeline system.

CONCLUSIONS DETERMINED that Transmitters or Electronic Flow Measurement (EFM) devices should be:

- Close coupled to the orifice taps (within 18 inches - "Rule of Thumb")
- Use equal length, large orifice (0.375 inch I.D. or greater), constant diameter gauge lines
- Use Multi-Turn Valves to protect electronics from pressure spikes

MINIMIZE OR ELIMINATE GAUGE LINE ERROR (GLE)

Schneider DirectMount Systems (SDMS) are designed for a safe, efficient method of close coupling EFM's and transmitters to the orifice fitting, eliminating or reducing the effects of Gauge Line Error.

SDMS ARE EASY TO INSTALL and available in both Vertical and Horizontal to Vertical Installations.

- SDMS reduces installation cost - No need to manufacture and install tube runs, fittings, and expensive pipe stands
- Reduces potential leak points associated with NPT connections
- Provides a safe compact leak free measurement installation
- Internal porting promotes self draining of condensates and liquids to reduce freezing issues

DESIGN STANDARDS MEET THE RECOMMENDATIONS OF:

- American Petroleum Institute (API)
- Gas Processors Association (GPA)
- American Gas Association (AGA)

LONG TERM CONFIDENCE AND COMMITMENT

You can rest assured in your decision to purchase AS-Schneider, we are a modern, international family-owned company since 1875. You can rely on our nearly 140 years of manufacturing experience. The AS-Schneider Group with its headquarters in Germany is one of the world's leading manufacturers of Instrumentation Valves and Manifolds.

Our USA office and warehouse located in Houston Texas is committed to providing excellent service to our customers in the Americas.



FEATURES AND BENEFITS

1. NEW STEM DESIGN

Reduced operating torque.
Minimized gap between stem and stem nut for additional operating thread protection.

2. COST SAVINGS

Extended seal and packing life.

3. REDUCES FREEZING ISSUES

Flow paths machined to self drain condensates and liquid accumulation.

4. PROTECTION AND CONVENIENCE

6 1/2 turns to full open & close isolation valves. Protects electronics from pressure spikes.

5. CATHODIC PROTECTION

Dielectric isolators protect expensive electronics.

6. COMFORTABLE EASY TURN

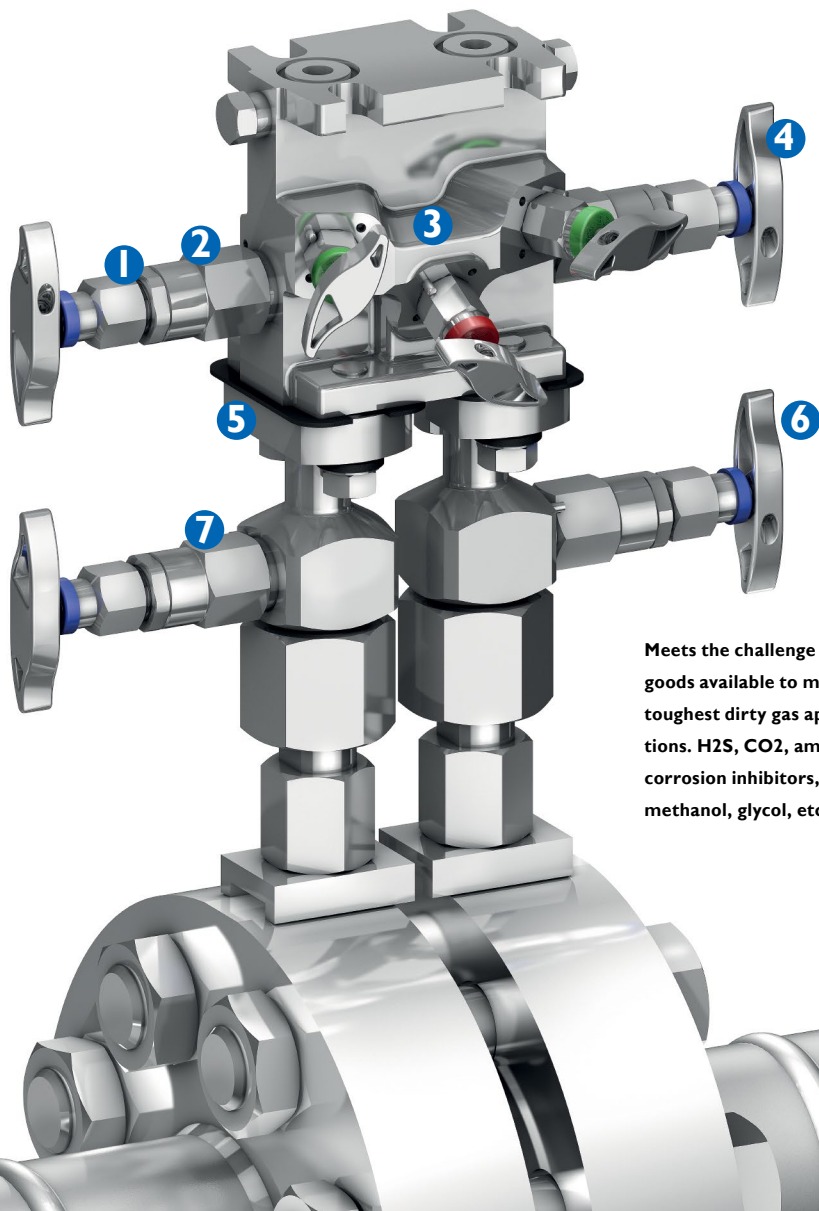
Ergonomic handle design.

7. SAFETY

Ships assembled & pressure tested. No seat and bonnet field assembly required.

FINALLY

Bug plug standard in 5 valve manifold vent port (not shown).



Meets the challenge - Soft goods available to meet the toughest dirty gas applications. H₂S, CO₂, amines, corrosion inhibitors, methanol, glycol, etc.!



ZERO LEAKS

MINIVALVES AND RUPTURE DISC HOLDERS

Rugged Design for long term performance in the most demanding environmental conditions and services. Seat and Seal materials are available for hot, cold, wet, freezing, dirty sour gas (H_2S), carbon dioxide (CO_2), amines, corrosion inhibitors, methanol and glycol compounds found in your pipeline and transmission system. Available with Double O-Ring Stem Seal or PTFE Packed. Features like Stem Seal below threads and Back Seat Design are standard. The Soft Seats are field replaceable. The valve is also available with an Integral Rupture Disc (1,800 psi rated). AS-Schneider is also supplying Rupture Disc Holders (no valve).

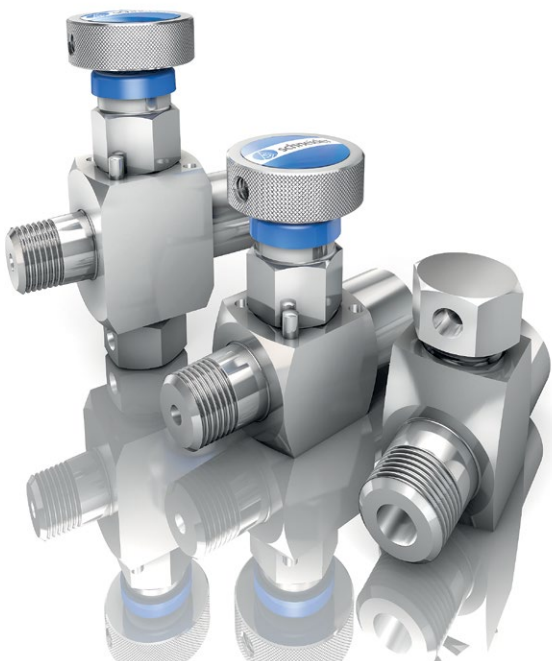
- Safety Back Seat Design – Blow-out proof stem
- Safety Bonnet Lock Pin – Prevents accidental removal of valve head and performs in high vibration installations
- Complies with Industry Recommendations use Multi-Turn Valves – Protects sensitive instruments
- 316SS Body, Bonnet and Stem – Meets NACE MR0175/MR0103 and ISO 15156
- Available in Exotic Alloys – Alloy 400, Alloy C-276, etc.
- Certified Material Traceability Reports (CMTR) – North America, Europe and Canada sourced raw materials

FEATURES AND BENEFITS:

- Rugged Body Design – 6,092 psi [420 bar] pressure rating standard - Engraved on body for installation safety
- All Packing and Seals are below Stem Threads - Extends life of valve by preventing corrosion of stem threads
- Designed and tested by the people who use them for long term performance
- 100% Tested (zero leaks) – Insures accurate calibration of your instrument
- Double O-Ring Stem Seal or PTFE Packed Designs
- Variety of Seats and Seals available – Performs in tough applications
- Rolled Stem Threads – Provides strength and extended valve life

MINI VALVES ARE MANUFACTURED TO THE FOLLOWING CODES AND SPECIFICATIONS:

- ASME B31.1 Power Piping
- ASME B31.3 Process Piping
- ASME B16.34 Valves – Flanged, Threaded and Welding End
- API 598 Valve Inspection and Testing
- MSS SP-25 Standard Marking Systems for Valves, Fittings and Flange Unions
- MSS SP-99 Instrument Valves
- MSS SP-105 Instrument Valves for Code Applications
- NACE MR0175 Petroleum and Natural Gas Industries - Materials for use in H_2S - Containing environments in oil and gas production



ISO FE SERIES. THE NEW VALVE TECHNOLOGY FOR

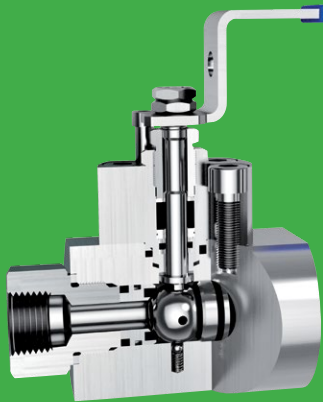
MAXIMUM

LEAK TIGHTNESS
DEMANDS

Rising energy consumption, dwindling natural resources and the increasingly stringent legal requirements force the industry to rethink and employ emission-reducing equipment. This applies to the instrumentation valves and manifolds.

As response to the current and especially the future market demands, AS-Schneider, in the framework of the new ISO FE Series, has developed an innovative valve technology meeting the highest tightness class "A" of ISO 15848-1. With a maximum permissible leak rate of $1.3 \cdot 10^{-7}$ mbar \cdot l/s (for a stem diameter of 7.5 mm), this class even exceeds the requirements of TA-Luft.

During the development of the ISO FE Series as well, the highest tightness class "A" and the highest endurance class "CO₃" were naturally set as the goal, which was shown in the success of the type testing carried out by the Technical Inspection Authority TÜV SÜD. The careful selection and the surface treatment of the materials used make the ISO FE Ball Valve a reliable valve technology with environmental character.



Our ISO FE Series is used for Needle Valves, Manifolds, and also for Ball Valves that are subject to the strictest requirements for tightness and reliability.

But the leak tightness of the ISO FE Series isn't the only advantage it has. Reliability, long service life, and low torque operation are all characteristics of the new Series. To pass the tough testing requirements of ISO 15848-1, the ISO FE Series only uses durable, high-quality components. These, along with the demanding and innovative design, have an effect on system reliability and availability.

HIGH PRESSURES

Even high pressures of 6,092 psi [420 bar] (ASME Class 2,500) and repeated mechanical cycles are no problem for the reliable ISO FE Series.

TEMPERATURE RATING

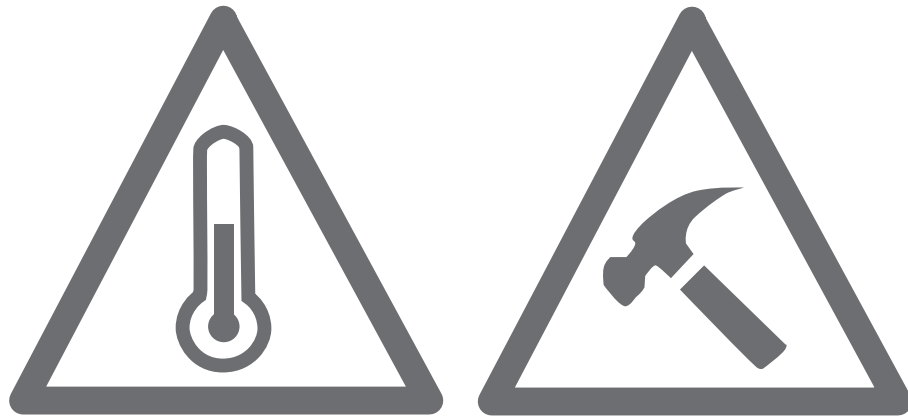
The temperature rating from -20.2°F to 392°F [-29°C to 200°C] permits the use of the valves in a wide variety of applications.

DOUBLE SEALED

The ISO FE Series have a variety of sealing systems to meet your application. These consist of double sealing systems with FKM RGD resistant O-Rings and graphite packing. PTFE packed sealing system is also available.

6.092^{psi}

BALL VALVE MEETS TOUGHEST REQUIREMENTS



METAL SEATED BALL VALVE

Extreme operating conditions with temperatures up to 842°F [450°C] and pressures up to 6,092 psi [420 bar] require special sealing technology in ball valves. Standard soft seated ball valves are not capable of meeting the extreme temperature and pressure requirements. Metal seated ball valves are not limited by the soft goods. However, most metal seated ball valves are not rated for high pressures and also not capable of low torque smooth operation. Customers have requested AS-Schneider design a Metal Seated Ball Valve to meet this severe application. We've met this challenge with our new KM Series.

PATENT PENDING

When developing the new KM Series AS-Schneider used the latest surface and material knowledge combined with years of comprehensive engineering experience. The result is a ball valve with zero leakage even under extreme operating conditions. Thanks to the innovative "Dissolution" Ball Valve

Design, an optimum distribution of forces and loads is also provided, so they are only present where they are really needed. This unique design is also registered for patent protection.

TESTED AND CERTIFIED

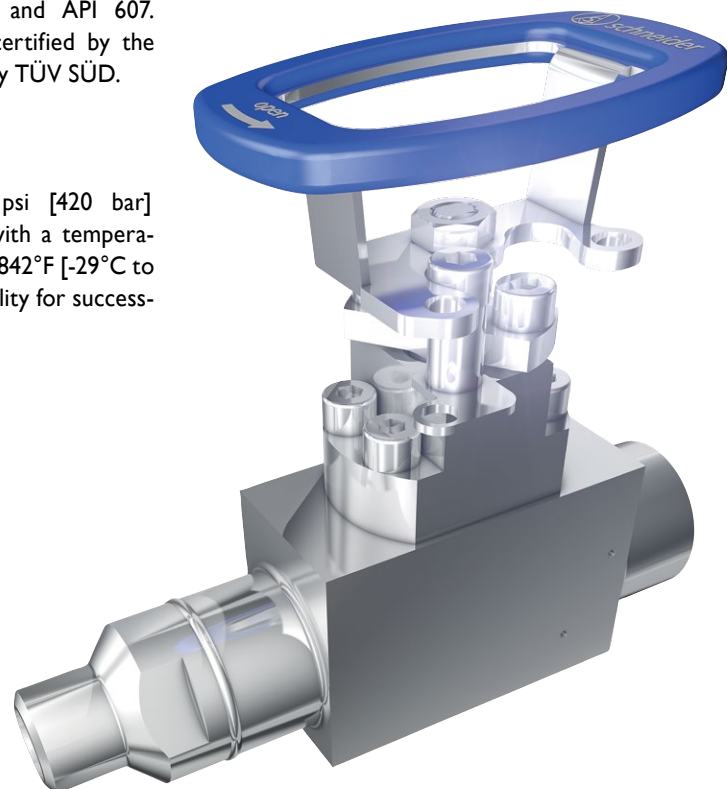
The AS-Schneider KM Series meets the toughest endurance and tightness requirements. In parallel with the TA-Luft approval, the KM Series has also been subjected to type testing for fire safety in compliance with DIN EN ISO 10497 and API 607. This has been tested and certified by the Technical Inspection Authority TÜV SÜD.

HIGH PRESSURES AND TEMPERATURES

High pressures of 6,092 psi [420 bar] (ASME Class 2,500) along with a temperature spectrum from -20°F to 842°F [-29°C to 450°C] provide the range ability for successful use in the field.

DOUBLE TIGHT

With a double sealing system and the integral lantern ring, even the smallest leaks can be detected quickly, and leaks to atmosphere are nearly impossible.



FIRE SAFE

AS-Schneider Industrial Valves are used in a wide range of applications and must withstand every challenge. For this reason, quality has a central role to play during each stage of an operation at our company.

Our Monoflanges, VariAS-Blocks and K/KM Series Ball Valves are tested and approved for fire safety as standard. The test basis at AS-Schneider is ISO 10497 'testing of valves – fire-type testing requirements' and API 607 'fire test for quarter-turn valves and valves equipped with non-metallic seats'. The type test is monitored and certified at AS-Schneider by the Technical Inspection Authority TÜV SÜD.

FIRE SAFE DESIGN

One often encounters the term "Fire Safe Design". However, this term is no guarantee

that the valve will really offer a safe emergency operation in the event of fire. Only if the valve undergoes an appropriate type test, can one be sure that the medium will be safely shut off in the event of fire.

HOW WE TEST

ISO 10497 defines the requirements and the process for evaluating the functionality of valves that are exposed to fire. These requirements are identical to API 607 in terms of content.

For this, the valve to be tested is exposed to water under pressure and to fire for a period of 30 minutes. There are strict specifications for the temperature of the flames and of the valve body that is measured with the help of thermocouples for the entire duration of the fire test. After being allowed to burn for a

period of 30 minutes, the burners are switched off and within 10 minutes the valve is force cooled to below 212°F [100°C]. The 30-minute burning period corresponds to the maximum period required by the fire brigade to extinguish the fire in a plant. The leakage from the valve seat and the external leakage are measured for the entire duration of the test. The leakages may not exceed a specific limit value. The valve is then tested again to ensure that it is operable.

What makes AS-Schneider's Fire Safe Construction so safe?

To guarantee the external tightness, only graphite or metallic seal rings are used for stem and body seals. Spring washers ensure guaranteed internal tightness for OS&Y needle valves that compensate the different length expansion of the individual parts, and therefore prevent the valve tip lifting off the valve seat. Concerning ball valves a secondary metal sealing guarantees the internal tightness. Under normal operating conditions, a polymeric seat provides a bubble tight sealing. In the event of fire, the secondary metal sealing will ensure the tightness instead of the burnt polymeric seat.





PROJECT PARTNER WITH HIGH

EXPERIENCE

THE 10 MILLION US DOLLAR
PROJECT IN SAUDI ARABIA

AS-Schneider has been awarded the contract to supply the installation hardware for the Sadara project in Saudi Arabia. With an order value of nearly 10 million US dollars is that the biggest project in company history.

The Dow Chemical Company and the Saudi Arabian Oil Company (Saudi Aramco) set up a joint venture to build what will be the largest chemical factory in the industrial city of Jubail. The factory will be one of the largest integrated chemical sites in the world, and is also the largest chemical factory ever to have been built at one time. It is intended that an annual total of more than 2 million tons of chemical products and high-performance plastics will be produced for use in the fields of energy,

transportation, infrastructure and consumer goods. Planning was started as early as 2007. Before this took place, comprehensive project feasibility studies were necessary to obtain approval for the new "Sadara Chemical Company" joint venture.

The first of 26 production units is intended to be commissioned in the second half of 2015, with completion and total commissioning expected in 2016. It is expected that only a few years after commissioning, Sadara will have annual sales of around 10 billion US dollars – the total investment in the project amounted to about 20 billion US dollars. AS-Schneider was awarded the contract to supply the commissioned EPCs with Dow Chemical's installa-

tion hardware technology that has been tried and tested for many years.

The installation hardware of AS-Schneider is a combination of valves, manifolds, pipeline components, seals, bolts and flush rings in every imaginable material. The installation hardware is delivered pre-assembled, so that it is only necessary to attach the hardware to the process pipe, on-site. This reduces the amount of time and effort needed for assembly at the site considerably.



AWARDED THE CONTRACT IN THE GULFSTREAM PROJECT

AS-Schneider has received a contract for a significant project: We will be delivering the installation hardware for the DOW Gulfstream Project in the United States.

The Gulfstream Project will be the construction of one of the largest ethylene plants in the world in Freeport, Texas. Dow Chemical plans to have all construction work completed by 2017 and production started – with a planned capacity of 1.5 million tons per year. It will be possible to use both ethane and propane as the raw material. The "main EPC" responsible for planning, procurement, and execution of construction and installation work is Fluor Corporation in Houston. That company is thus also the contact and

contractual partner of AS-Schneider. Represented on six continents with more than 40,000 employees, Fluor has of course already implemented many complex and challenging projects over its more than 100 years of tradition, earning it notice and recognition.

The installation hardware we will be providing Fluor includes a combination of valves such as ball valves, shut-off valves and manifolds, pipeline parts, gaskets, screws, and flushing rings in different materials. The scope of investment for this order amounts over several million US dollars. But the volume isn't the only thing that makes this new order significant for the production of AS-Schneider.

Collaboration with a well-known and well-respected partner like Fluor is especially important for the newest subsidiary of AS-Schneider America, founded just this year in Houston. The new order will act as a prestige project to help the subsidiary gain a stronger foothold in the States and win the trust of new, important customers.

We are looking forward now to the challenges that will come with the DOW Gulfstream Project – and we're sure we can handle them.

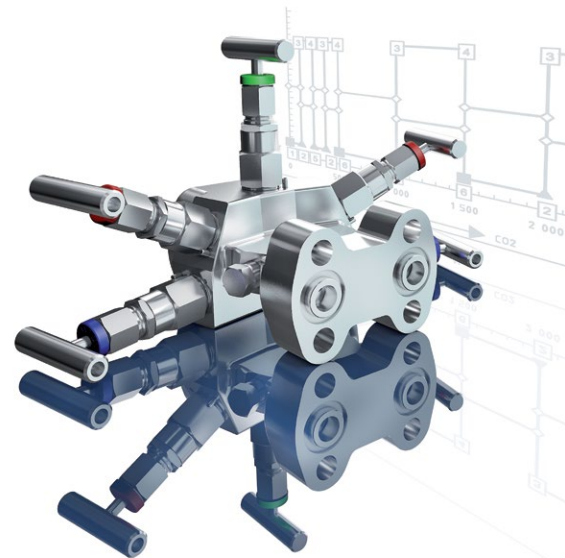
SPECIAL INSTRUMENTATION FOR QATAR

AS-Schneider supplies special valves and fittings to a very important customer in Qatar for an offshore installation completely made from Alloy C-276.

The main challenge lay in the non-wetted metallic components such as screws, pins and handles made from the Special Alloy which can withstand aggressive environments such as salt water long-term.

The non-wetted components which are typically manufactured from Stainless Steel, quickly show significant corrosion and lead finally to fracturing of the T-Handles.

AS-Schneider supplies the first valves entirely made of Alloy C-276 for use in this very aggressive environment.



DEVELOPMENT

FOR THE COMTES700 RESEARCH PROJECT

AS-SCHNEIDER A4 SERIES

AS-Schneider received the order by ALSTOM Power Boiler GmbH to develop an isolation valve which should be used in the COMTES700 test plant and is able to withstand temperatures up to 1,382°F [750°C] at 5,802 psi [400 bar].

The high requirements on the valve design and the very difficult mechanical machinability of the material Alloy 617 presented a special challenge to our development team.

Purchase of the material also turned out to be complicated. The research project had special material specifications (Alloy 617mod), so the material could not be procured through the usual channels. Each component manufacturer had to register his material demand in advance at the performing steel forge. For the subsequent production of components not planned the individual component supplier had to help each other out with left-over material.

The performance specification for the AS-Schneider A4 Series was prepared based on the VGB directive R 107 L "Ordering and design of valves in thermal power plants". Abstract of the essential points:

- All materials used must be suitable for the high temperatures and exhibit the same thermal expansion coefficients to rule out material tensions and leaks on the valve seat during the temperature changes from room temperature to 1,382°F [750°C].

- The valve head units shall be solidly welded to the valve body to prevent leaks even from developing.
- The valve shall be equipped with a metal back seat which completely relieves the packing when the valve is fully opened.
- Packing and stem thread must have a sufficient distance to the valve body so that the temperature on these components is markedly lower and reliable operation is thereby guaranteed even at 1,382°F [750°C].
- The closing force of the valve tip must be introduced via a spring assembly which can compensate the thermal expansion differences to prevent the valve tip from lifting during temperature changes.
- A vent hole must be present above the packing through which the hot steam is directed away from the handwheel in the event of a leaking packing.

WE LOVE THE CHALLENGE

In close collaboration with ALSTOM, our engineers were venturing into new technological territory to ensure their development efforts keep up with current requirements and technologies.

So we were able to bring the specified requirements in line with the latest technology. The resulting prototypes were tested successfully during long-term testing at 1,292°F [700°C] in the COMTES700 system.

A



Save The Date



OTC
05 – 08 May, 2014



ASGMT American School of Gas
Measurement Technology
22 – 25 September, 2014



ISHM International School of
Hydrocarbon Measurement
13 – 15 May, 2014



ISA Pipeline Subsection
12 November, 2014



AGMSC Appalachian Gas
Measurement School
August 2014





schneider

Tailored to Your Business



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