

Product Information

November 2019

Strict environmental regulations are the new norm:

AS-Schneider develops drain, gauge & needle valve for refrigeration market

Nordheim (Germany) – November 7, 2019 – AS-Schneider has developed a gauge, drain & needle valve for the refrigeration market. This valve has the highest quality and safety specifications.

The gauge, drain & needle valve is suitable for NH₃ and CO₂. It is also useful for all common refrigerants in corrosive and harsh environments up to 420 bar. AS-Schneider also offers 3.1 material certificates as an option. Exotic materials are available on request.

Requirements are not very high in the regular refrigeration market. This market includes supermarkets and industrial applications. Needle and gauge valves already exist to serve the needs of these markets. They are leakproof and available in different configurations. Most can work with any fluid or gas and can withstand pressures of 6,000 psi. Manufacturers can customize them according to the most common requirements of the sector.

But things are different in the Petrochemical as well as Oil & Gas Industry. We are experts, and we've noticed that the demand for high-quality valves has increased in these industries.

The gauge, drain & needle valve has an indirect-acting two-part non-rotating, self-adjusting spindle tip. This tip secures a high-quality sealing, and it has a long lifetime. The anti-blowout backseat construction guarantees the highest safety. Buyers interested in purchasing TA-Luft and ISO 15848 FE maximum leak tightness demands can contact our factory.

The tamper-proof and lockable construction prevent unauthorized or accidental operating. Users can operate this valve in a Safety Integrity Level System.

This new valve complies with the most stringent environmental and safety standards. It also contributes to reducing operating costs.

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Strict Environmental Regulations are the New Norm

The world is facing stricter regulations on environmental protection and human safety. Compressors and other refrigeration equipment must now have drain valves. It must be possible to isolate the refrigeration equipment. Isolation lowers the risk of refrigerant leaks and different hazard situations.

Knowing down to the pound level where all gases stay is part of proper refrigerant management. It limits the discharge of greenhouse gases, which is critical for the protection of the environment. The authorities revised the refrigerant gas management laws in 2009. Legislative bodies have recognized the effect of refrigerant gases on climate change. Environmental agencies such as the EPA have increased the detailed refrigerant reporting requirements.

The handwheel is an example of the new regulations. If an organization is using isolation valves, it must have a fixed handwheel. If there's no handwheel, it must have some other manual device to enable its operation. The branches of the ammonia main should have isolation valves. When necessary, technicians can use these valves to isolate sections of the system.

Ammonia as a Refrigerant

The use of ammonia as a refrigerant is increasing. This increase is due to restrictions on the use of halogenated hydrocarbons. While the gas is cheap and does not threaten the ozone layer, it can be dangerous. An indoor leakage can cause an explosion, and the gas is also very toxic to aquatic life. In 2011, a 5,000-pound ammonia leak happened at a Boston-area seafood depot. It killed one employee and forced a shelter-in-place directive from the police.

Prolonged exposure to ammonia can also cause life-threatening health effects or death in humans. One-third of leaks occur through a pressure relief valve. Most are due to process and equipment failures. Why is ammonia increasing in popularity in spite of this risk? Ammonia combines two gases: nitrogen and hydrogen. It has four significant advantages over CFCs and HCFCs:

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- An ammonia-based refrigeration system requires less electricity. The gas is 3-10% more efficient than CFCs, resulting in lower operating costs
- An ammonia-based system costs 10-20% less to build than one that uses CFCs. The difference is because the engineers can use narrower-diameter piping
- Ammonia is less expensive than CFCs and HCFCs
- Ammonia has a global warming and ozone depletion potential rating of 0. Thus, it is safe for the environment

If companies are going to use ammonia, they need to install pressure relief valves. These valves protect the pressurized parts of a refrigeration system. The valves prevent system pressure from exceeding the maximum operating pressure. The refrigerant released by such a valve must go to a place where it poses no risk to people or the environment. In most cases, they can solve this dilemma by placing the end of a relief pipe high enough above the roof. It should be as far away as possible from the air intakes.

Scope: 4,882 characters including spaces

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Captions:



Picture 1: Refrigeration in Oil & Gas Industry

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, Manifolds and Double Block & Bleed Valves 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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March 2020

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