SMC Valve Manifolds Built to Withstand High-Pressure Cleaners and Treatments with Steam

South Africa, September 2017

In the food and beverage industry, hygiene is the order of the day. Many systems and system parts need to withstand treatment with steam, high-pressure cleaning and aggressive cleaning agents, whilst also preventing the formation of dirt and bacteria traps.

SMC's new clean style valve manifolds (New SY5000 series) are designed with these purposes in mind and comply with the required protection class - IP69K, making treatment with steam and high pressure possible. One prominent characteristic of these valve manifolds is that they possess no grooves and gaps where dirt or food residue could build up. As a result, they can be cleaned quickly and effectively. Additionally, they are built lightly and compactly, which pays off in dynamic applications (in particular). Installation near the application area is possible, which simplifies connection and wiring. Both contribute to a high level of energy efficiency and quick reaction times.

Freedom of motion within the manifold

These manifolds make an internal and external pilot air supply possible: thanks to channel separation, vacuum and pressure can be used at the same time within a valve manifold. Thus, different applications can be united in a single valve manifold. Depending on the type of cleaning agent, connections made of stainless steel can be used, making the valve manifold perfectly suited for the area of application.

Installation in wet areas

Because they are resistant to corrosion and are perfectly sealed, clean style valve manifolds can be installed closer to the cylinders/ actuators for quicker actuation in wet areas. The recommended valves of the New SY valve series are available with the rubber seal spool and metal steal spool. The metal spool valves in particular are suitable for extremely high operating frequencies and operating pressures of up to 10 bar. Tests at SMC have proven that their service life can reach up to 200 million switch cycles.

The valves are extremely efficient when it comes to power consumption: in the energy-saving model, each coil requires only 0.10 W to hold the spool in a switched state. SMC offers the option of valve manifolds with back pressure check valves, which prevent the cylinder from malfunctions caused by the exhaust air from other valves.