



HYGIENIC BUTTERFLY VALVES WHITE PAPER

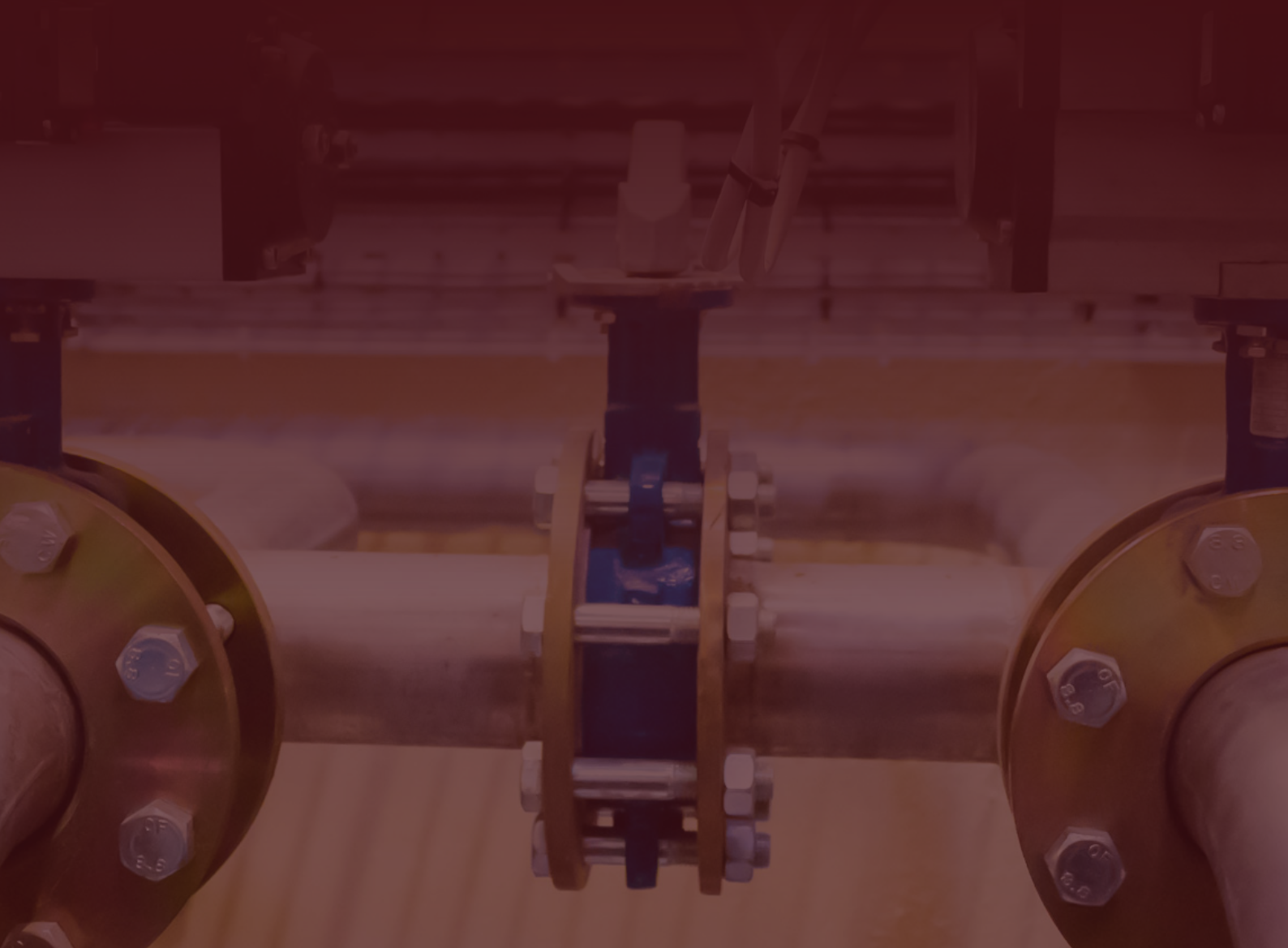



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OUR PARTNERSHIP WITH INOXPA

INOXPA is a global supplier of pumps, skids, integral solutions, engineering and technical services for the food-processing and pharmaceutical industries.

Founded in Banyoles, Spain, in 1972, INOXPA initially specialised in the manufacture of stainless steel pumps for the food processing industry. The company has since grown to become a market leader in the hygienic sector, adding to its peerless stainless steel pumps with valves, filters, sight glasses, agitators and blenders.

As trusted hygienic butterfly valve manufacturers, INOXPA's innovative stainless steel butterfly valves are suitable for any applications or industries that require a hygienic solution, such as the food and drink, pharmaceutical, dairy and cosmetic sectors.

BM Engineering is a proud supplier of INOXPA hygienic butterfly valves. INOXPA sanitary butterfly valves add to an extensive range of process and general-purpose valves that we supply. These include actuated valves, ball valves, butterfly valves, gate valves, globe valves, knife gate valves and non-return valves.

Established in 1999, BM Engineering is a family run business that has become one of the leading suppliers of valves to many process industries in Scotland. Based in Glasgow, we service a varied customer base of blue chip companies and small contractors. Our main markets are brewing, dairy, food and beverage, pharmaceuticals and renewables.

AN INTRODUCTION TO HYGIENIC BUTTERFLY VALVES

Butterfly valves are designed to isolate or regulate the flow of media. Deriving from the quarter-turn family of valves, sanitary butterfly valves operate similarly to ball valves, enabling rapid shut-off, and have been used across industry since the late 18th century.

WHAT IS A HYGIENIC BUTTERFLY VALVE?

A hygienic butterfly valve consists of a circular disc with its pivot axis at right angles to the direction that the material is flowing. Sanitary butterfly valves are typically made up of a body, disc, seat, stem and actuator.

When specifying your hygienic butterfly valve, it is crucial to match the materials of the valve to the media being handled and the operational environment. A butterfly valve body can be constructed from stainless steel, cast iron, aluminum, ductile iron, carbon steel and exotic metals.

WHERE ARE HYGIENIC BUTTERFLY VALVES USED?

Hygienic butterfly valves are used in throttling applications, particularly with larger valves that require automatic actuators. Butterfly valves have been built to diameters reaching up to 10 metres and can operate under high water velocities in excess of 20 m/s. However, the maximum velocity of approach to butterfly valves used for flow control purposes should not exceed 5 m/s.

ADVANTAGES OF HYGIENIC BUTTERFLY VALVES

Sanitary butterfly valves offer a size and weight advantage compared to ball and plug valves, and are generally more affordable than gate valves. They are also easier to operate against unbalanced water pressures and, for that reason, are commonly used in water distribution systems.

Hygienic butterfly valves typically exhibit minimal pressure drop and turbulence and are excellent for on-off and throttling control of large flow rates of liquids and gases. Sanitary butterfly valves generally do not create a tight seal and should therefore only be installed in low-pressure situations that allow for some degree of leakage.

HYGIENIC BUTTERFLY VALVES FOR YOUR INDUSTRY

Sanitary butterfly valves are straightforward on/off routing valves that are characterised by their substantial opening area and low flow resistance. Ideal for hygienic applications involving low and medium-viscosity liquids, butterfly valves are one of the most commonly used valves in the process industries.

The simple design and functionality of hygienic butterfly valves enables the

end user to contain and discharge media whenever it is required. They are typically used to control air, gas, steam, or liquid through a circular pipe or tube. Certain dry materials can also be handled through a butterfly valve.

Here are some of the industry areas where hygienic butterfly valves are regularly used to control the flow of media in hygienic applications.

FOOD AND BEVERAGE

Food and beverage manufacturers are required to ensure that their products reach consumers in a perfectly safe and palatable condition. This presents a unique set of hygiene challenges along the entire supply chain to ensure that contaminations are prevented and hygiene standards are met.

INOXPA has developed stainless steel butterfly valves that are specifically designed for the rigours of the food and beverage industry. Their compact and robust sanitary valves are fully compliant with FDA food processing regulations and offer full traceability of components.

The AISI 316L stainless steel forged disc and half bodies of their sanitary butterfly valves not only adhere to the highest standards of hygiene, but also offer exceptional mechanical strength and an excellent surface finish.

These low torque valves provide total sealing with minimal tightening to ensure low pressure loss and are available with interchangeable manual handles and pneumatic actuators. Specific models for the food processing industry include mix proof double butterfly valves, sandwich valves and multiway double butterfly valves.

DAIRY

Maintaining high standards of hygiene is critical to the production of dairy products. EU directives dictate that the equipment, tools and conditions under which dairy products are produced must fulfil certain requirements and that the end product itself must also meet specified hygiene standards.

INOXPA manufactures sanitary and cost-effective stainless steel butterfly valves that are designed to meet the industry's hygienic requirements. Offering easy handling and maintenance, INOXPA's hygienic butterfly valves provide a made-to-measure solution for dairy-specific product transfer applications.

BREWERY

Sanitary butterfly valves are commonly used in breweries for direct contact with the product. Their compact, hygienic design and exceptional sealing and cleanability properties makes them the direct contact valve of choice for brewers seeking to precisely control the flow from one tap to another.

BM Engineering has previously delivered a full turnkey solution for a popular craft brewer based in Edinburgh using exclusively INOXPA components. The complete brewing system, featuring INOXPA 4800 butterfly valves and INOXPA manually operated butterfly valves, was designed to perform reliably and safely within any brewing environment.

INOXPA'S RANGE OF HYGIENIC BUTTERFLY VALVES

Inoxpa has developed a wide range of manually or automatically actuated stainless steel butterfly valves that can be used in most liquid product applications in the food-processing, pharmaceutical and chemical industries.

INOXPA 4800 BUTTERFLY VALVE

The compact and robust Inoxpa 4800 Butterfly Valve can be operated manually with a handle that blocks the valve in the "open" or "closed" position or automatically via an actuator that transforms the axial movement of the piston into a 90° rotary movement that is subsequently transmitted to the disc.

The Inoxpa 4800 Butterfly Valve features a disc and body halves constructed from AISI 316L forged stainless steel and a hard-wearing EPDM gasket. Boasting low pressure losses, full traceability of components, and an internal surface finish of $Ra \leq 0,8 \mu m$, the 4800 Butterfly Valve is perfectly suited to demanding hygienic applications.



INOXPA 4900 BUTTERFLY VALVE SANDWICH



Sandwich butterfly valves are designed to be easily installed and removed without separating the pipes. The Inoxpa 4900 Butterfly Valve can also be automatically operated using an actuator or manually operated with a multi-position or two-position handle depending on the pipe diameter. The handle maintains an "open", "closed" or intermediate position in some versions.

The Inoxpa 4900 Butterfly Valve features AISI 316L forged stainless steel body halves and disc, as well as an EPDM gasket. Promising low pressure losses and full traceability of components, the Inoxpa 4900 Butterfly Valve boasts an internal surface finish of $Ra \leq 0,8 \mu\text{m}$ and a machined external surface of $Ra \leq 1,2 \mu\text{m}$.

LBV DOUBLE BUTTERFLY VALVE



Inoxpa's Leakage Butterfly Valve (LBV) offers easy and safe separation of products and prevents accidental mixing in the event of a gasket failure. Ideal for media separation and CIP applications, the LBV Double Butterfly Valve features two butterflies that are simultaneously actuated by a single actuator. When the two valves are closed, the chamber between them is under atmospheric pressure. If either of the gaskets fails, any leak will indicate a potential mixing of the products.

Leakage detectors monitor the state of the gaskets, while another superior detector controls the entry of the cleaning solution to prevent any contamination in the chamber. Between them, these leakage detectors deliver optimal protection and enable the intermediate chamber to be cleaned.

FREQUENTLY ASKED QUESTIONS ABOUT HYGIENIC BUTTERFLY VALVES

Sourcing a UK butterfly valve supplier for your application can be a difficult task. There are many different factors to consider based on the demands of your project.

As such, we thought it might be useful to compile some of the most Frequently Asked Questions (FAQs) about Inoxpa hygienic butterfly valves.

WHAT ARE THE DIMENSIONS OF HYGIENIC BUTTERFLY VALVES?

Inoxpa hygienic butterfly valves range in size, from DN 1/2" to DN 150.

The Inoxpa 4800 Butterfly Valve is available from DN 1/2" to DN 8".

The Inoxpa 4900 Butterfly Valve Sandwich is available in either DN 1" to DN 6" or DN 25 to DN 150 versions.

The LBV Double Butterfly Valve is available in DN 1" to DN 4" or DN 25 to DN 100 dimensions.

CAN HYGIENIC BUTTERFLY VALVES BE USED WITHIN PHARMACEUTICAL PROCESSES?

Yes, they can. All Inoxpa sanitary butterfly valves, whether manually or automatically actuated, can be used across a wide range of liquid product applications, including in the pharmaceutical and chemical industries.

WHAT PNEUMATIC ACTUATORS WORK WELL WITH HYGIENIC BUTTERFLY VALVES?

The Inoxpa C-TOP+ control unit incorporates indication and command devices to provide pneumatic and electric control over the valve, as well as position sensors with feedback. Fitted to the pneumatic actuator, the C-TOP+ control unit receives signals from a control panel or PLC to actuate the valves and communicate the status/position of the valve.

With its simple, modular and robust design, C-TOP+ delivers maximum flexibility. Depending on the version, it can have up to three 3/2 solenoid valves (NC) and three sensors. An additional external sensor and external solenoid valve can also be connected. The sensors are actuated contact-free by a magnet attached to the control rod.

CONTACT US

BM Engineering Supplies has been providing industrial valves, actuated packages, steam equipment and instrumentation to blue-chip companies and SMEs for more than 20 years. Over this time, we have built relationships and partnerships with some of the leading manufacturers within the process industry.

Working with a select network of couriers, BM Engineering delivers all over Scotland, including remote locations like the Scottish Highlands and Islands. We also distribute to all locations across the UK.

If you are interested in purchasing stainless steel butterfly valves in the UK and would like more information about Inoxpa hygienic butterfly valves, **please contact BM Engineering today on 0141 762 0657, email sales@bmengineering.ci.uk or visit www.bmengineering.co.uk for more information.**