

# PRODUCT BROCHURE

## VALVES RANGE



# About ITS



An experienced food and beverage supplier, Industrial Trading Solutions Ltd are hygienic equipment specialists with over 100 years of combined technical knowledge and applied skills in the food & beverage, brewery, distillery, dairy, pharmaceutical and personal care industries.

Formed in 2002 and based in the Midlands UK, ITS now distribute a multitude of top industry brands with a fast service, at competitive prices and all with an unmatched customer ethos.

Our technical team can support you with large system projects, one-off product purchases and maintenance & repair services.

As an ISO9001, ISO14001 & ISO45001 accredited business, you can expect the very best service and the highest standards from Industrial Trading Solutions Ltd.

"Operating within a safe and transparent culture of respect and innovation, we are dedicated to positively conduct ourselves with high ethical standards and integrity. We will continue to invest in and develop our staff, reliable product ranges and services provided, to ensure the high standards expected with the market

we operate are upheld or exceeded. As the complete solutions supplier of choice, we value all stakeholders of the business and build strong relationships to reinforce our unrivaled reputation and future growth."

*Peter Jeans, Company Founder and Chairman*



DISTRIBUTING SOLUTIONS ◆ PROCESSING EXCELLENCE



# Contents

Sustainability

p. 4

Butterfly Valves

p. 5

Mixproof Valves

p. 6

Ball Valves

p. 7

Regulating Valves

p. 8

Single Seat Valves

p. 9

Shutter Valves

p. 10

Diaphragm Valves

p. 11

Control and Check Valves

p. 12

Safety Valves

p. 13

Sampling Valves

p. 14

Pigging Systems

p. 15

Other Valves

p. 16

Servicing and Maintenance

p. 17



## Our Approach to Sustainability

Climate change and sustainable development are vital and urgent global issues facing us today - as an industry leading Hygienic Flow Equipment Specialist, ITS has a key responsibility to adhere to frameworks, legal requirements and enforcement mechanisms to respond to these and other global challenges and help create a more sustainable society. ITS applies sustainable practices not only on a day to day basis, but embeds them within the underlying company infrastructure and ethos.

Ask us about Sustainability Audits and let ITS support your sustainability activities.



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## Our Sustainability Goals

Our sustainability goals continually drive us to improve on all aspects of our sustainable development.



# Butterfly Valves

Our hygienic butterfly valves are straightforward on/off routing valves with a substantial opening area and low flow resistance. They are an optimal solution in modern processing technology and ideal for use with low and medium-viscosity liquids.

## How it works

These can be operated either by means of a pneumatic actuator from a remote location or manually operated by means of a handle. For automatic operation, a pneumatic actuator converts the motion of the axial piston into a 90° rotation of the shaft. The actuator torque increases as the valve disc comes into contact with the seal ring of the butterfly valve to secure proper closing of the valve seat.

For manual operation, a handle mechanically locks the valve in open or closed position. Two-position, four-position, regulating 90°-position, and multi-position handles are available. Manual valves can also be mounted with indication units for feedback on the valve position (open/closed).



Manual LKB-F



Automated LKB



LKB UltraPure  
manual

\* Minimised flow obstruction enables easy passage of process fluids, including fluids with concentrations of particles, through the valves.

- Low flow resistance for easy passage of liquids with varying levels of viscosity, thereby reducing the energy used to move the fluid through the valve.
- Fully modular, interchangeable range to suit any process line requirement, making selection, in-line installation, operation and maintenance easy.
- Fast, economical maintenance requires no special tools, only wear part replacement of a single component; flange version even easier and faster.
- Optional intelligent sensing and control units with quick auto setup function, providing perfect valve control.

Pharma Grade Butterfly Valves also available with Q-Doc Package for material traceability.



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## Video:





# Mixproof Valves

Our range of mixproof valves have been designed to offer you peace of mind with your process by minimise the risk of product contamination when running multiple processes at once.

With additional options available for specialised cleaning features and aseptic fluid handling they are ideal for food and beverage applications where microbacterial growth causes product contamination. The use of our mixproof range provides your process with added double seat protection to ensure safe and hygienic operation.

The guaranteed spillage free plug design of the unique mixproof range gives you confidence in the reliability and hygienic design of the valve.

## How it works

The Unique mixproof valve is a normally closed (NC) valve controlled from a remote location by means of compressed air. The valve has two independent plugs and seals to separate the flow of liquids and prevent cross-contamination; the space between the seals forms a leakage chamber at atmospheric pressure allowing any product to drain, should a seal fail, giving visual indication that a service is required whilst still maintaining cross contamination protection of product between bodies.

*UltraPure Mixproofs for Pharma applications are available with Q-Doc Package for material traceability*



**Unique Mixproof  
Tank Outlet**



**Unique Mixproof  
Process**



**Unique Mixproof  
CIP**



**Aseptic  
Mixproof with  
Thinktop V70**



**Unique  
Mixproof Valve  
with ThinkTop V70**



**SMP-BC /  
SMP-BCA Valves**



**Unique Mixproof  
Ultrapure**

## Features & Benefits

- Maximum product safety, minimised risk of cross-contamination.
- Enhanced product yield due to cost-effective, spillage-free operation.
- Optimised plant efficiency and enhanced cleanability.
- Optimised cleaning program offered with the V70 burst clean feature to reduce water wastage during seat lifts.
- Fully configurable with a broad range of models and options to meet virtually any hygienic processing requirement.



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# Ball Valves

Our ball valves are versatile full-bore valves that enable full fluid flow with zero flow restriction and minimal pressure drop. This enables easy transfer of viscous liquids or liquids containing particles through hygienic processing lines. Fully piggable, these ball valves ensure easy, reliable product recovery and optimal plant performance. Ideal for use across a wide range of industries, including the food, beverage, chemical and pharmaceutical industries.

## How it Works

The hygienic ball valves from ITS have a precision-made ball with a full bore positioned inside the valve body between two flanges and two PTFE valve seats. A 90° rotation of the valve stem opens or closes the valve. Either a pneumatic actuator or a manual handle with lockable positions enables valve operation.

Because the bore diameter matches the pipeline diameter, the viscous liquid or liquid containing particles is able to flow unobstructed through the valve and processing line with minimal pressure drop and minimal product loss. When the valve closes, the ball returns to its original position, tightly sealing the passage. Two inspection holes in the bonnet, connecting the valve body and actuator, make it easy to check that the stem seal is tight.

Along with the durable ball, a specially selected PTFE-grade material secures long valve lifetime. The use of spring-loaded, self-adjusting seal rings ensures reliable valve stem sealing. Valve screws enable assembly and disassembly for easy maintenance..



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## Features & Benefits

- Safe, hygienic design with FDA-compliant product-wetted elastomers and optional cavity cleaning or cavity fillers to prevent contamination and loss.
- Optimises product recovery and complete cleanability of the valve bore and pipeline due to the full-bore, piggable design
- Minimised pressure losses, especially when handling high-viscosity liquids
- Zero flow restriction makes handling liquids containing large particles easy
- Durable, water hammer-safe and versatile operation with choice of automated or manual control



# Regulating Valves

Our range of regulating valves offers a wide range of solutions for regulation of flow, pressure and temperature of products. Options are available based on the reliable and robust SSV style valves whilst other stand-alone models are available all maintaining high standards of hygiene.

## How it Works

Our range of regulating valves are available with Pneumatic or electro-pneumatic Actuators and control heads which remotely adjust the position of diaphragms or valve plugs to regulate product conditions set by the system requirements.

Control can be achieved in varying levels of accuracy from basic regulation to precise regulation to an accuracy degree of 0.1%. The valves can be configured in normally closed or normally open actuator functions with varying levels of feedback to control systems.

## Features & Benefits

- Superior hygiene- polished surface finish and no dead spaces allow for full cleanability of product contact areas.
- Static seal leak detection helps identify failed seals as soon as they happen.
- Varying levels of control allow for a suitable solution for any system.
- Interchangeable parts allow for converting valve internals to meet varying flow conditions for full flexibility.
- Commonality of spares – Some regulating valve ranges are based on the reliable SSV range and have common service kits to reduce spares holdings.



Unique RV-P



CPMI - Constant Pressure Modulating Valve



RV-ST



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# Single Seat Valves

Our range of single seat valves consists of large numbers of purpose designed valve units that are very robust and flexible. They are ideal for use in processes with a high hygiene standard.

## How it Works

The SSV is an air-operated seat valve, that can be remotely controlled. The valve can be configured as a shut-off or changeover valve with various actuators NO, NC or Two-step for smoother operation to avoid pressure peaks and/or over filling of a tank.

## Video:



Unique SSV Tank Outlet



SSV Tangential



Unique SSV



Unique SSV Y-body



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## Features & Benefits

- Few moving parts reduce service requirements and inventory costs.
- Superior cleanability – smooth inner valve body (surface finish of Ra <0.8 µm) eliminates crevices.
- Extended seal life due to defined seal compression.
- Static seal leak detection helps ensure product safety.
- Double lip seal provides protection against bacterial contamination.



# Shutter Valves

Our shutter valves are hygienic three-way valves that divert the flow of products that are highly viscous, contain large particles, or have strict requirements on minimizing pressure loss. Compact, reliable and pressure-shock resistant, these valves can be operated in manual or automatic (pneumatic) mode. They are engineered for use across the food, chemical, pharmaceutical and other industries with high requirements for process and product hygiene.

## How it Works

Our shutter valves consist of rigid bodies with an

internal cylindrical bore, a PTFE shutter and three ports for pipe connection. The two lids have guide rings for an internal shaft, which supports and positions the shutter.

The valves are operated either manually by means of stainless-steel handles or automatically by means of compressed air using pneumatic actuators. A spring system presses the shutter against the inside cylindrical surface of the valve body thereby ensuring complete tightness.

Manually operated valves can be fitted with indication units installed laterally. The valve actuator is available in two versions: a single-acting actuator or a double-acting actuator. The actuator consists of a system of cylinders and one or two main pistons interconnected with a toothed bar, which interacts with a gear wheel on the valve shaft.



3 Way ARC



Piggable Arc Valve



Koltek Valve with ThinkTop Control



Koltek Valve



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## Features & Benefits

- Low flow restriction enables viscous liquids and liquid containing particles to flow easily through the valves.
- Simple, straightforward and hygienic design easily integrates into various pipelines and systems.
- Long-lasting, easy operation and maintenance due to few quality components and moving parts.
- Easy, three-way routing of products when used with either manual handles or flexible, easy-to-select pneumatic actuators
- Compact, convenient, space-saving three-way valves.



# Diaphragm Valves

Our diaphragm valves are aseptic inline valves to shut off, divert and/or regulate the fluid flow through hygienic, high-purity and aseptic processing lines. Manually or pneumatically operated, these compact, lightweight valves are easy to configure to suit virtually any process requirement, including sterile and ultra-hygienic processes for biotech and pharmaceutical applications.

## How it Works

These diaphragm valves have two modes of operation: manual operation using a handle and automatic operation using a pneumatic actuator.

For manual operation, simply turn the handle to lift the compressor upwards. This moves the diaphragm away from the weir of the valve body, thereby opening the valve. Turning the handle in the opposite direction pushes the compressor downwards onto the diaphragm, pressing the diaphragm against the weir of the valve body and closing the valve.

For automatic operation, a pneumatic actuator controls the axial movement of a piston, thereby opening or closing the valve, depending on the actuator function.



DV-ST



DV-ST UltraPure with Think Top Automation



Unique DV-ST UltraPure



## Features & Benefits

- Few moving parts reduce service requirements and inventory costs
- Ensure high-quality, contaminant-free products due to hermetic design and aseptic diaphragm technology.
- Save time and money with compact, lightweight, easy-to-install valves from two-way to customised valve clusters.
- Increase performance with purpose-built valves with minimal deadlegs and maximum drainability and cleanability.
- Increase performance and reliability whilst reducing downtime due to optimised valves and the use of high-grade and long-lasting materials.
- Ease qualification and change control procedures with Alfa Laval Q-doc documentation package for full traceability of all product contact parts



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## Video:



# Control and Check Valves

Our control/check valves manage the flow of process liquids and gases through hygienic process systems. Easy to install, operate and maintain, these valves safeguard process integrity and product quality while preventing potential damage to pipelines and equipment or system shutdown due to reverse fluid flow, pressure surges, water hammer and air entrainment. Fully automated and fast-acting, these hygienic valves provide safe, reliable and cost-effective fluid and gas management.

## How it Works

Control/Check valves consist of many different valve types to fit specific applications and customer needs. The valves open when the pressure and flow of the process liquid or gas exceeds the pressure exerted on the valve plugs, free-moving polypropylene balls alternating between two seats, or stainless steel spring to fix it in position. To close the valve, higher pressure exerted on one side forces the valve mechanism to close, shutting off the flow of process liquid, air or gas.

## Features & Benefits

- Protect process systems against potential damage by eliminating vacuum conditions to equalize pressure in the system.
- Ensure plant safety and protect upstream equipment by preventing reverse flow and water hammer.
- Safely pressurise or release air from process pipelines and systems, preventing equipment damage whilst safeguarding product integrity and yield.
- Maintain stable CO2 pressure in process tanks or vessels by supplying gas and/or venting excess gas..
- Ensure product quality through hygienic, self-cleaning designs that promote valve cleanability and minimise the risk of contamination and cavitation.



LKC Non-return Valve



Self-cleaning CO2 valve



LKBV Air Blow non-return valve



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# Safety Valves

Our Safety valves are intended to protect pressured tanks and pipework and act as a fail safe during the processes carried out in hygienic process plants.

## How it Works

Safety valves relieve pressure or prevent vacuum conditions, delivered with the counterweights or spring set and locked at pre-set opening pressures or opening vacuums to suit either customer requirements or the tank design data.

When the pressure or vacuum in the tank exceeds the pre-set opening value, the valve relieves the excess pressure or lets in atmospheric air.

## Features & Benefits

- Safe, reliable operation
- Hygienic design
- Prevents unsanitary leakage and overflow
- Safeguards both personnel and equipment against accidents due to overpressure
- Optional manual or automated override for valve cleaning



HSV-A



Spring Loaded  
Safety Valve



Combi Anti-Vac  
and PRV Valve



BOG



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# Sampling Valves

Sampling Valves are used to draw liquid samples for evaluation in hygienic processes without contaminating the sample or the sample source. Drawing representative samples that accurately reflect product characteristics enables product control and ensures product safety and quality.

## How it Works

Sampling valves enable the operator to extract a representative portion of the process liquid for analysis to ensure quality control. The valves are operated either by manual handle, by pneumatic actuator, or by a combination of manual handle and pneumatic actuator. For sterile sampling, a hypodermic needle is inserted into a rubber membrane plug to draw the process liquid for evaluation.

## Features & Benefits

- Representative, contamination-free sampling with various options and accessories, including a double seat valve cleaning functionality
- Safe sampling using quality sampling accessories, including pressure relief valves, to assure proper usage and workplace safety
- Sterile sampling using quality sampling accessories, including a steam generator or hypodermic needle, to ensure extraction of microbial-free samples
- Flexible, easy-to-clean hygienic solutions for manual and/or pneumatic operation in a single sampling valve
- Versatile sampling methods, from hypodermic needle and plug to manual or pneumatic solutions with large ports and diaphragm



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# Pigging Systems

Process systems, which can be cleaned with pigs, are becoming increasingly important for the low-germ processes. Among other reasons, this is attributable to an increased environmental consciousness, costly waste water treatment, prevention of costly product losses, and production streamlining measures.

We offer a variety of pigging technologies to satisfy the requirements of the wide range of processes. Optimum pigging geometry and the suitable process depend on different process factors and are therefore always designed to the specific project.

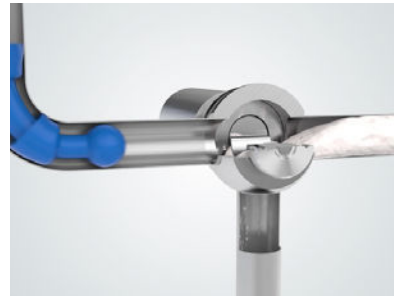
## How it Works

The pig itself is a projectile that has a diameter based on the pipeline for which it's going to be used. As part of the pigging process, the pig is launched into the pipeline manually or automatically with the use of pig launchers and pig receivers.

During pigging, the pig is propelled using nitrogen, carbon dioxide, compressed air, water, or even the subsequent product that will be put into the line. The pig then rapidly traverses the pipeline scraping, brushing and pushing product or capturing data. Depending on the purpose of the pigging process, it's critical to have a pig that's composed with the right material, shape, dimensions, and components.



DMV 1



Pigging 1



Pigging 2



Video:



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# Other Valve Services

As part of our valve program we also offer the service to supply pre-manufactured valve manifolds based upon specific customer requirements.

Application Valve manifolds are widely used within the dairy, food, beverage and brewery industries and provides easy on site installation and connection to pipe connections.

## Standard Design

- Welding Procedures according to EN 288-3.
- Orbital Welding wherever possible.
- All external pipe ends have welding ends each 100 mm long.
- Product wetted parts are AISI 316L/EPDM.
- Internal and external acid treatment and external glass blasting, after the welding.
- Adjustable feet +/- 30 mm.
- Valves welded directly together wherever possible.
- Access allowed for in the design to enable service access.
- Surface roughness (app. Ra 1,6 micron).



## Options

- Connections welded on to the external pipe ends.
- Polished surfaces
- Cat walk for service access.
- Internal air distribution.
- Internal wiring and junction box.
- PLC equipment / master gateway etc.
- Special frame design etc.
- Dummy bodies for future expansion



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# Servicing and Maintenance

We aim to be the technical service provider of choice to our customers. By maintaining their process equipment, saving on costly breakdowns, and further supporting customers with their processes, we will bring a wealth of technical knowledge coupled with a data driven approach, allowing them to make informed decisions.

Services we can offer include:

- Maintenance / Repair Works
- Breakdown Support
- Servicing / Maintenance Packages (With Monthly Pay Options)
- Plant Audits / Site Surveys
- Inventory Recommendations
- Equipment Health Checks
- Onsite / Remote Troubleshooting
- Face to Face / Online Training



# Packages

Our packages are provided to give customers peace of mind that somebody is always at hand to help. ITS can be called out for planned maintenance needs along with any emergency requirements that may arise. 24/7 365 days a year.

With options to suit all budgets, not only do our packages offer technical support, we also include training, equipment health checks, inventory logs and discounts on any spares purchased through ITS for your equipment. You can also choose to pay for your package on an annual or monthly basis, making it easy to plan costs and section budgets.



# SPARES

ITS offers a complete range of genuine OEM spares for all products supplied, with access to the knowledge and expertise to keep your equipment running at peak performance throughout its lifetime. Our high-quality, durable parts put productivity first and therefore provide:

- Increased uptime and productivity
- Longer lasting parts for a longer lifespan
- Reduced cost of ownership





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