



Unique Mixproof Valves

The Most Advanced Mixproof Technology Available



Unique – Mixproof solutions

Alfa Laval, the world's largest flow equipment company, brings you the most advanced mixproof technology available for applications in the food, dairy, beverage, bio-pharm and personal care industries.

Mixproof valve technology has truly revolutionized the sanitary flow industries. With a double-seat mixproof design, you can stream two different products or CIP fluid through the same valve at the same time – without any risk of cross-contamination. In effect, one mixproof valve can do the job of two or three single-seat valves, saving you space and installation costs and providing you with unmatched system flexibility.

Alfa Laval offers several mixproof designs backed by years of application experience, so we can provide you with a system engineered to fit your needs exactly. Take a closer look at our stainless steel mixproof valves. With our *Unique* modular design there is sure to be a perfect solution for your application.

The new *Unique* mixproof valve design offers the customer complete customized and modular design. The valve is spillage-free during operation providing optimum hygienic conditions. A comprehensive market survey was carried out during the research and development phase of the *Unique* mixproof valve. This enabled us to find out the specific requirements of the end user/customer.

Read on to find out how this series of mixproof valves:

- Includes a very reliable design
- Requires minimal service and maintenance
- Fits your process perfectly, no more and no less
- Is easy to install
- Offers our *SpiraClean* system for ultimate hygienic performance

Unique – Designed to fit your application

Standard configurations

When configuring a valve, the key issue, generally speaking, is the actual application. It is vital that the valve can perform under the required conditions and be properly cleaned during normal cleaning procedures. To assist you in your valve selection, we have included some standard configurations in the mixproof valve range:

- *Unique Basic*
- *Unique SeatClean*
- *Unique HighClean*
- *Unique UltraClean*

You can either choose one of these standard configurations or include specific features to ensure that the valve matches your process needs.

Unique Basic – for low cost and CIP solutions

The *Unique Basic* mixproof valve configuration uses the basic components for safety and leakage detection. Typical applications are water inlet for product water push and CIP supply and return lines. This basic valve is not suitable for sticky product applications or where there is risk of pressure shocks.

Unique Basic



Unique SeatClean – for standard solutions

- Actuator with seat-lift integrated
- Balanced lower plug

The *Unique SeatClean* mixproof valve is designed to meet the demands of a process valve in the food and beverage industry. The cleaning of the plugs and seats are performed by a seat-lift during a normal cleaning procedure. This valve also includes a balanced lower plug that eliminates any risk of mixing products by pressure shock, or when the pressure in the pipe is high.

Unique HighClean – for optimal hygienic solutions

- Balanced lower and upper plug
- *SpiraClean* of leakage chamber, upper and lower plug

When you are dealing with sticky products or products with a high solids content, the *Unique HighClean* mixproof valve is sure to meet your processing needs. It uses our *SpiraClean* system to meet the demanding hygienic standards of the sanitary flow industry. With balanced plugs, the *Unique HighClean* protects against high pressure and water hammer effect.

Unique UltraClean – for the most demanding hygienic solutions

- Actuator with seat-lift integrated
- Balanced lower and upper plug
- *SpiraClean* of leakage chamber, upper and lower plug

Look to the *Unique UltraClean* to meet the highest demands in hygienic processing. During the cleaning process, the plugs are lifted independently to ensure that the plugs and seats are cleaned together with their corresponding pipe. At the same time, the leakage chamber and balanced plugs are cleaned with our *SpiraClean* system. This configuration also protects against high pressure and water hammer effect. It has few product-wetted seals and allows no product spillage during operation.

Unique SeatClean



Unique HighClean



Unique UltraClean



Unique – Fits any process

The *Unique* mixproof valve is designed with user flexibility in mind. It can be tailored exactly to the requirements you need for your specific application. You only buy the features you need, no more no less, thus saving money. Wear only occurs on the parts used, and you do not have to maintain or worry about parts that are not in use. This approach means cost-effectiveness all round. You get lower purchasing costs, efficiency of use and economical upgrading.

Modular concept

During operation, the *Unique* valve family uses the same spare parts, making inventory unnecessary. And if you do need extra functionality in the future, it can be added to your existing valve. Only the upgraded parts need to be added. It is, for example, possible to change the configuration from an unbalanced to a balanced plug with external CIP by changing just three parts of the valve, while all other components remain the same.

The modular nature of the *Unique* mixproof valve means that there are innumerable options available:

- Upper plug balanced or unbalanced
- Upper plug with or without external CIP connections
- Lower plug balanced or unbalanced
- Lower plug with or without external CIP connections
- Seat-lift integrated in the actuator
- External CIP of leakage chamber

And there are many more to choose from...



The new *Unique* mixproof valve with a selection of the components showing the new modular concept. Add just the product features you need for your process, rather than pay for features that go unused.

Unique – Features you can rely on

The *Unique* mixproof valve product line is full of invaluable features. The valves can be adapted to your process, are easily upgraded, and the *SpiralClean* process ensures improved cost-effectiveness. The *Unique* mixproof valve is extremely reliable and maintenance is simple and economical.

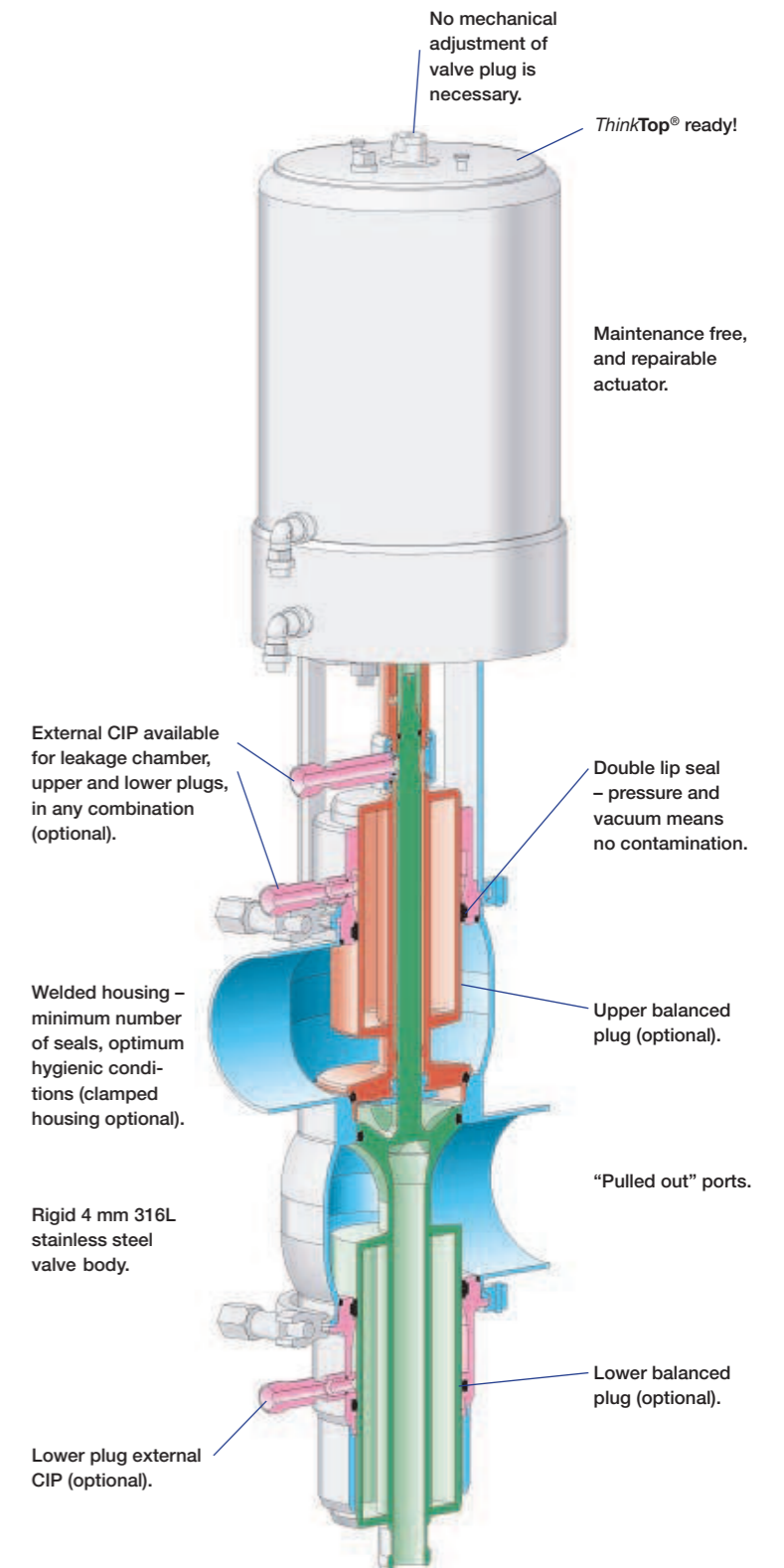
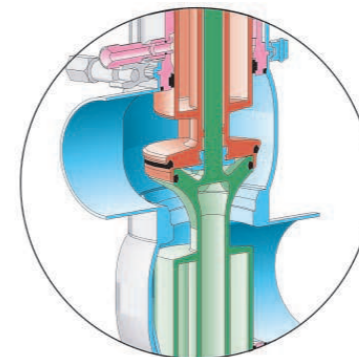
Reliable

The reliable *Unique* valve is designed so that only the parts in use are exposed to wear, optimizing service intervals. When the valve opens the radial gasket slides inside the upper plug. This way the radial gasket is always protected when in use and can be cleaned easily using the seat-lift option. When the valve closes, the upper plug moves into its axial seat first, then the lower plug with the radial seal moves into position. This means that friction on the radial seal is kept to a minimum, prolonging its working life. The leakage chamber is designed with a restriction on the CIP inlet flow, which prevents any form of pressure build-up in the chamber.

Simple and economical maintenance

There is no need for mechanical adjustment of the *Unique* mixproof valve plugs. Straightforward assembly of the valve is the key to simple and effective installation and maintenance. The *Unique* mixproof valve is made up of a limited number of different parts and a minimum of seals, which means the valve is extremely simple to handle during service and maintenance.

Open valve
The radial seal is fully protected in the open position.



Unique – SpiraClean system

The innovative *SpiraClean* system provides many benefits as well as being economical. The system cleans more efficiently, uses less cleaning fluid and can be fitted to both the upper and lower plug and to the leakage chamber, or in fact, any combination.

All external CIP systems for the *Unique* mixproof valve include the *SpiraClean* design as standard.

The *SpiraClean* system is a brilliant example of how small details in design can have a major impact on the result. By controlling the CIP flow patterns the cleaning effect of the fluid is increased considerably, thereby shortening the time of the cleaning cycle.

The *SpiraClean* system ensures that a directional flow of CIP fluid reaches all the surfaces in much less time than with conventional systems. The direction of attack is designed to enhance the cleaning action, meaning that less fluid has to be used to achieve the same level of cleanliness.

The *SpiraClean* system exploits both gravity and centrifugal forces in the cleaning process.

SpiraClean is also a part of the *Unique* modular concept and can be specified at purchase or added to an existing *Unique* valve. Innovative design means that simple changes of internal parts can upgrade a *Unique* valve to include CIP for the upper plug, the lower plug, or the leakage chamber.

Another advantage of the *SpiraClean* system is that it allows the *Unique* mixproof valve to run under aseptic-like conditions if steam is applied to the CIP pipes. This will form a steam barrier to the atmosphere.

Few and very simple parts provide the unique *SpiraClean* CIP connections.



The spray turbine with the special designed groove.



The spray nozzle and the angle on the inlet pipe gives the *SpiraClean* effect.



Simplifies configuration and service

With the *Unique* mixproof valve product line Alfa Laval offers you advanced valve technology with maximum flexibility. In order to assist you in making the most of your *Unique* valve and its continuous high-grade performance, we bring you the *Unique* CAS mixproof valve configurator software and the *Unique* maintenance video. These tools are aimed at helping you optimize the performance of your processes.

Unique CAS – mixproof valve configurator

When configuring a valve, it is vital that the valve can perform under the required conditions and be properly cleaned during the normal cleaning procedures. To assist you in your valve selection we have developed a software called CAS (Computer Aided Selection). This is a simple and user friendly tool that assists you in selecting and configuring your *Unique* mixproof valve exactly according to the needs of the application.

Other features of the CAS configurator are:

- Dynamic picture changes according to selections
- Dimension drawings
- Part lists
- Ability to monitor performance of the valve
- Maintenance cost calculator

Unique mixproof valves – maintenance videos

Alfa Laval has developed maintenance videos with navigator systems. The videos can be played in full length, or you can choose to view the part you want from the navigation menu.

Some features of the maintenance videos are:

- Excellent screen quality
- Animation of the *Unique* valve
- Tool list with supporting picture
- Maintenance manuals
- Spare part manuals

