

New ICF Flexline™ stainless steel valve station for the brewery industry

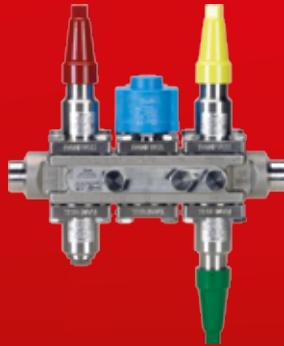
Keeping the beer flowing and the **temperatures in check:** Meet the new Danfoss ICF Flexline™ **stainless steel** valve station

Danfoss now introduces a stainless steel version of its successful ICF Flexline™ valve station for industrial refrigeration. The addition of the ICF Flexline™ stainless steel valve station makes it possible for designers and operators of refrigeration systems for the brewery industry to benefit from the many ICF Flexline™ stainless steel valve station advantages and to construct cooling lines entirely from stainless steel.

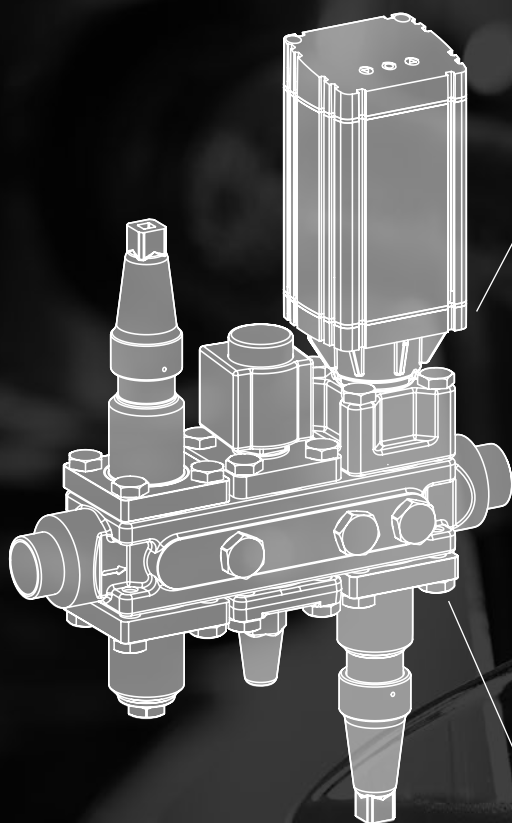
The world's

ONLY

stainless steel
valve station



The ICF Flexline™ **stainless steel** valve station from Danfoss



End-user benefits

- Perfectly suited for CO₂-based systems
- Low total cost of ownership
- Precise temperature control for optimum food safety
- Compatible with environmentally friendly refrigerants such as CO₂
- Fewer weldings equal minimized leak risk

Benefits for the contractor

- Easy to do service on your service contracts
- One code number for easier order and spare parts handling
- Less inventory space needed
- Compact design, low weight
- Fewer weldings equal minimized leak risk
- Full systems design freedom

One-stop shop

- Just one supplier needed for all component types
- The only stainless steel valve station in the market
- Innovation from the market leader in refrigeration technology
- Full range of support tools available for free
- Based on the tried and tested ICF stainless steel valve station concept
- Full compatibility with all stainless steel components from Danfoss

TWO

weldings instead
of six or more

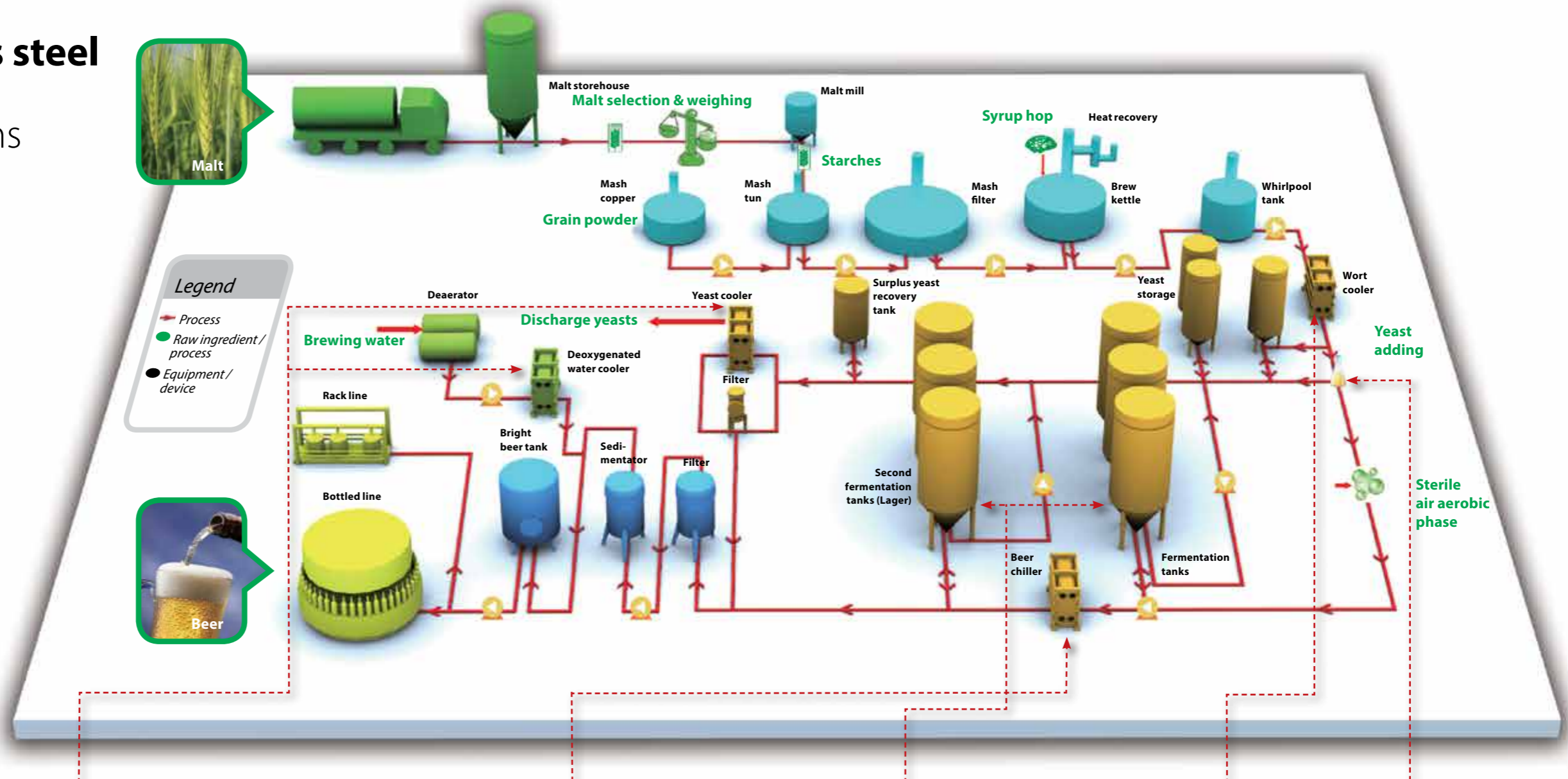
Your total **stainless steel** product range for brewery applications

In all brewing processes, temperature control is crucial to safeguard quality and hygiene.

Danfoss has the experience and the know-how to act as a competent and trustworthy partner for the global brewing industry – and with the introduction of stainless steel ICG valve stations, we now have all the products you need for a modern cooling system made entirely from stainless steel.

The stainless steel product range opens up for the use of high-pressure, low-risk refrigerants such as CO₂ and ammonia for a more environmentally friendly production line.

In this diagram we show some of the critical brewing processes where Danfoss stainless steel line products can make your production safer, cleaner and far more energy-efficient.



Deoxygenated water
As fermentation medium and for filtration purposes, deoxygenated water is applied. It is also used in such processes as attenuation, clarification and tank flushing. Deoxygenated water application requires extreme precise temperature control. The cooling medium is usually ammonia, CO₂ or ethanol brine.

Beer chilling
Once fermented, the beer must be kept under a strict temperature regimen to ensure maturation and end product quality. The beer needs to be cooled quickly before it is left to mature in the bottle or cask. The cooling medium is usually direct ammonia, CO₂ or alcohol/water.

Fermentation
Precise fermentation is the key to obtaining the desired flavor and alcohol of the product – and strict temperature regulation is absolutely essential. The cooling medium is usually direct ammonia, CO₂ or alcohol/water.

Wort cooling
Beer quality relies on accurate yeast distribution in the wort. To ensure the distribution of yeast, the boiled wort must be cooled very quickly and with high precision. The cooling medium is usually ice water, ammonia or CO₂.

Yeast propagation
Temperature control is vital when yeast needs to be propagated correctly prior to fermentation. The cooling medium is usually ammonia or CO₂.

Product range

SVL SS Flexline™ range:

The SVL SS Flexline™ range consists of a series of stainless steel valves based on the principle of one housing with many possible valve inserts. All functional inserts fit one of the two valve housings available (one straight, one angled), which makes it possible to keep a very low spare part stock and to service the valves quickly and efficiently.



The new Danfoss ICF Flexline™ stainless steel valve station

Max. operating pressure: 52 bar g (754 psig)
Temperature range: -60/+150 °C (-76 +302°F).

EVRs and EVRST stainless steel solenoid valves

Solenoid valves with three different operation types: Direct, servo or forced servo. Operating pressure up to 52 bar in a temperature range from -40 °C to +105 °C, depending on the coil.

OFV-SS stainless steel overflow valves

Three functions in one: Overflow valve, stop valve and check valve. Operating pressure up to 52 bar.

SNV-SS stainless steel needle valve

Compact and light service valves with sturdy design and high flow characteristics. Operating pressure up to 52 bar in a temperature range from -60 °C to +150 °C.

Introducing the world's first **stainless steel** valve station

In the brewery industry, hygiene and absolute temperature control are essential when your production has to flow effortlessly. Many breweries are deeply reliant on stainless steel components to ensure safe and corrosion-free production environments, and many are also shifting towards using CO₂ as the refrigerant of choice, as it's far safer and far more energy-efficient in daily use.



Replace many valves with one valve station

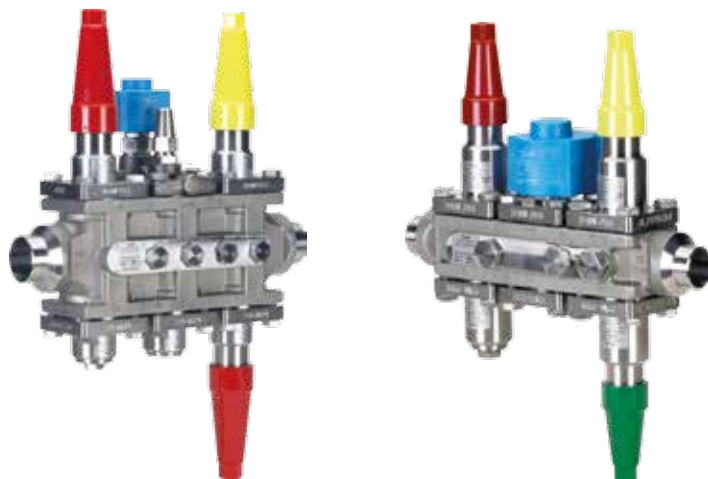
With the introduction of the new ICF stainless steel valve station from Danfoss, you can design and operate cooling lines for complete brewery systems entirely from stainless steel, which makes it more energy-efficient and hygienic production lines with perfect temperature control characteristics.

One of the major advantages of the ICF stainless steel valve station concept is its compact size. Having just one valve housing for multiple functional inserts eliminates the need for several individual valves placed in-line. It reduces not just the complexity of the system – and the weight of it

– but more importantly, it reduces the number of welding needed, and with it the risk of leaks. Installations based on ICF stainless steel valve stations are much smaller, much easier to install and to service, and far more hygienic than conventional individual products.

A complete stainless steel range

The ICF stainless steel valve station comes in two sizes: ICF 20 and ICF 25 with multiple connection types and sizes. It fits perfectly with all other stainless steel products for refrigeration in the brewery processing such as the SVL SS Flexline™ range from Danfoss. See our complete stainless steel offering for industrial refrigeration in this brochure.



Danfoss Industrial Refrigeration

A world of expertise at the click of a button

Turn to Danfoss if you want to combine quality components with expert knowhow and support. Try out these free tools, designed to make your work much easier.



DIRbuilder

DIRbuilder is designed to make selection processes for industrial refrigeration projects easier and less time-consuming. Specify the valves you need from an extensive pool of configuration options. The DIRbuilder library comprises all Danfoss Industrial Refrigeration valves. Free of charge – no software needed.



Coolselector® 2 – New calculation software for Industrial Refrigeration

Coolselector® 2 is a calculation and support tool for contractors and system designers, offering complete pressure drop calculations, analysis of pipe and valve design and the ability to generate performance reports. It replaces the well-known DIRcalc™ software and offers several new functionalities.



Danfoss IR app

The free IR App gives you a spare parts tool, which makes it easy for you to find the spare part number for a given Danfoss industrial refrigeration valve.



Download 3D CAD symbols

From our online product catalogue on our website, you can download 3D CAD symbols and illustrations to help you when designing refrigeration plants.



IR application tool

With this interactive PowerPoint slideshow, you can explore all the details of a two-stage ammonia plant. You will find detailed cut-away drawings and information on the valves in the installation along with links to videos, literature and product animations.



Application handbook

The Application Handbook is designed to help you every step of the way when working with industrial refrigeration systems. Among many other things, it contains examples of how to select control methods for different refrigeration systems, their design and which components to choose.

Visit www.danfoss.com/IR-tools and find all the tools you need.