

A detailed photograph of industrial machinery, likely a cooling system, featuring stainless steel pipes, valves, and a digital display. The background is slightly blurred, showing more of the factory environment.

**Food &  
beverage**

**Metal &  
plastic  
forming**

**Process  
manufacturing**



**Frese Industrial**  
Simplified cooling systems



### Durable flow and pressure control for the most demanding environments

At Frese we pride ourselves on being more than a supplier of high-quality products – we are a reliable partner and trusted advisor who can help you build your business case for a transition from static to pressure independent valves.

Frese's ability to adapt our technology to meet the demands of the industrial sector, where it must perform flawlessly in the most arduous environments, stems from our extensive knowledge of materials, products and applications, which we have built up over 75 years.

### Pressure Independent Balancing and Control

Frese's patented pressure independent technology is an innovative, energy saving alternative to traditional hydronic balancing and control methods, and it provides efficient and accurate flow and differential pressure control.

By being pressure independent, the valves ensure that design flow conditions are achieved at all times, irrespective of pressure fluctuations in the system, and also eliminate overflows – resulting in significant pump energy savings.

Dynamic valves hold several other advantages over traditional, static balancing valves.

They contribute to simplified system designs by eliminating the need for additional balancing valves in the distribution pipework and are highly flexible if your system needs to be modified or expanded at a later date.

Pressure independent control valves are also much easier to commission since they require no proportional balancing. They automatically adapt to any changes in the rest of the system.

# Flow into control of your cooling system

Industrial cooling requires precise, stable, and reliable process management. Operators must meet high quality standards while still keeping an eye on cost effectiveness and the bottom line. At Frese, we can help you with both of these essential tasks.

Today most operators rely on traditional double regulating static valves, thereby overlooking easily attainable cost savings.

By integrating dynamic valve technology into your process cooling systems, you will achieve full flow control in your daily operations. You will also have a far simpler system with fewer valves, reduced maintenance, and an increased equipment lifespan as the valves eliminate overflows.

Frese valves, when working in combination with a variable speed pump, ensure that the pump is never working harder than it needs to in order to maintain the desired and easily pre-set flow rate. This enables pump savings of up to 50%.

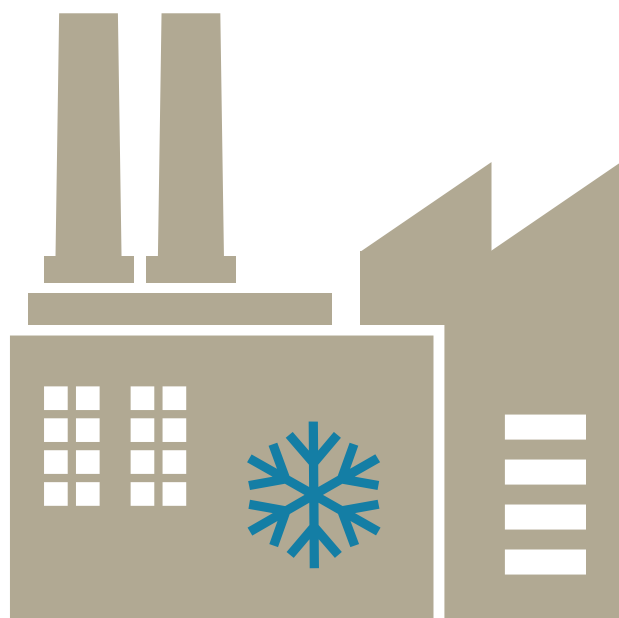
The main benefit for industrial cooling installers, however, is found in the commissioning process. With double regulating static valves, any change in the system requires adjustments of the other valves.

The dynamic nature of Frese's pressure independent balancing and control valves eliminates this need, as the valves automatically adjust themselves to meet the new

conditions. In our experience our customers can achieve reductions of between 50% and 80% on commissioning time.

Frese valves can help achieve cost and energy savings in all types of hydronic process cooling systems, including:

- Breweries
- Distilleries
- Dairies
- Production of ready-meals and fast food
- Large cold storage facilities
- Metal and plastic forming



Benefits to the designer	<ul style="list-style-type: none"> <li>+ Simplified system design</li> <li>+ Design conditions achieved</li> </ul>	<ul style="list-style-type: none"> <li>+ No complicated control valve Kv calculations</li> <li>+ Early selection of valves possible</li> </ul>
Benefits to the installer	<ul style="list-style-type: none"> <li>+ Easy to install</li> <li>+ Fewer components to install</li> </ul>	<ul style="list-style-type: none"> <li>+ Simplified commissioning</li> <li>+ Required flow rate can be adjusted on site</li> </ul>
Benefits to the operators	<ul style="list-style-type: none"> <li>+ Minimal maintenance</li> <li>+ Energy efficient interaction with variable speed pumps</li> </ul>	<ul style="list-style-type: none"> <li>+ No overflow in the system</li> <li>+ Cooling water system is always in balance</li> </ul>
Applications Utility Cooling	<ul style="list-style-type: none"> <li>+ Breweries</li> <li>+ Dairies</li> <li>+ Process manufacturing</li> <li>+ Pharmaceutical</li> <li>+ Cold storage facilities</li> </ul>	<ul style="list-style-type: none"> <li>+ Automotive industry</li> <li>+ Butcheries</li> <li>+ Food and beverages</li> <li>+ Machinery manufacturing</li> <li>+ Metal and plastic forming</li> </ul>

*Our modern production facility in Slagelse, Denmark, relies strongly on robotics and automation. This allows us to maintain the highest possible precision and quality control of our components, while keeping our prices competitive. Design and programming of our robots is done in-house, which makes for a streamlined and flexible process to our customers' benefit.*

## Manufacturing Approvals

The Frese Foundry and valve production has been approved by DET NORSKE VERITAS – GL (DNV-GL) and Bureau Veritas (BV) as a Manufacturer of Materials for use in the construction or repair of ships, other marine structures and associated machinery, which are classed or certified.

These approvals focus on the processes, equipment, workers and practices to ensure that products are supplied to the highest standards of quality.



**BUREAU  
VERITAS**



## Quality Approvals

Frese conforms to the Quality Management System DS/EN ISO 9001:2008.

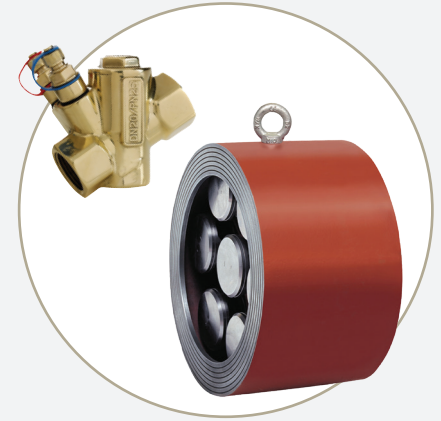
ISO 9001 is the internationally recognised standard for Quality Management Systems (QMS) and it is the most widely used QMS standard in the world.

## Dynamic flow limiting valves

### Frese ALPHA

Frese ALPHA is a fixed flow control valve for systems where the required flow has been specified, and the valve is constructed for this particular flow.

- Size: DN15-DN1000
- Flow range: 25 l/h to 6,120 m<sup>3</sup>/h
- Pressure rating: PN16/PN25
- Available Materials: DZR Brass, Ductile Iron, Stainless steel and Nickel-Aluminium-Bronze  
Other materials on request



## Dynamic flow limiting valves - externally adjustable

### Frese SIGMA Compact

Frese SIGMA is an externally adjustable dynamic balancing valve, which provides simple, accurate and reliable flow limitation and isolation in cooling systems.

- Size: DN15-DN300
- Flow range: 40 l/h to 600 m<sup>3</sup>/h
- Pressure rating: PN16/PN25
- Available Materials: DZR Brass, Ductile Iron and Stainless steel



## Pressure independent control valves

### Frese OPTIMA Compact

Frese OPTIMA Compact combines an externally adjustable automatic balancing valve, a differential pressure control valve and a full authority modulating control valve.

- Size: DN15-DN300
- Flow range: 30 l/h to 600 m<sup>3</sup>/h
- Pressure rating: PN16/PN25
- Available Materials: DZR Brass, Ductile Iron and Stainless steel



## Isolation valves

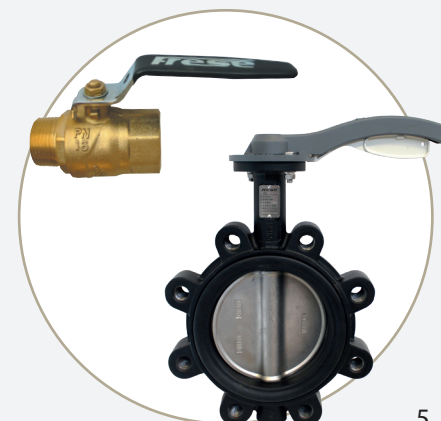
Frese offers a range of complementary isolation valves suitable for cooling systems.

### Frese Ball

- Size: DN15 to DN50
- Material: DZR Brass
- Pressure Rating: PN16

### Frese Butterfly

- Size: DN50 to DN600
- Material: Housing: Ductile Iron  
Disc: Stainless steel
- Pressure Rating: PN16



# Testimonials

**JD Cooling Systems** has been using Frese valves for several years now on a wide variety of chilled water/glycol refrigeration systems, including food and beverage cold storage, process water cooling, packing and production facility cooling and HVAC. We pride ourselves on being able to provide our customers with a best quality install and as such, we focus on using only high quality equipment and valves.

We use the Frese SIGMA Compact and Frese OPTIMA Compact valves. Over the years we have found that the Frese SIGMA Compact valves provide a higher quality alternative to traditional fixed orifice regulating valves. Using a Frese SIGMA Compact ensures that once the flow rate is set, it will not vary regardless of changes elsewhere in the system. Use of the Frese OPTIMA Compact valves has proved invaluable, and we generally use these on every chilled water application as a means for both modulated flow control via 4-20mA or 0-10V signals as well as balancing the flow rate in the same way as the Frese SIGMA Compact.

In the past we have used other suppliers and brands, however these have always come up short in both cost effectiveness and quality. Overall, Frese has been top of their field and we would struggle to operate without their products.

## **JD Cooling Group**

Hansa Court, Lubeck Road, North Lynn Industrial Estate, King's Lynn, Norfolk, PE30 2HN  
[www.jdcooling.com](http://www.jdcooling.com)



**ICS Cool Energy** is a leading supplier of highly reliable temperature control equipment and uses Frese valves on our cooling system installations because their quality valves help ensure a fixed flow rate to process equipment, keeping the system operating to optimum efficiency and reducing the commissioning time required on site.

This is particularly advantageous when using Frese SIGMA Compact valves in place of traditional DRV's as the Frese SIGMA Compact valves flowrate will remain constant, regardless of adjustments to other valves or pressure fluctuations in the system.

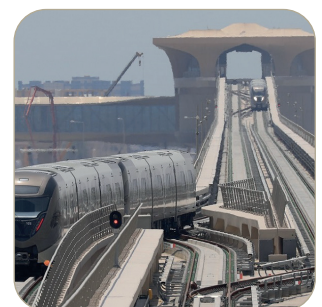
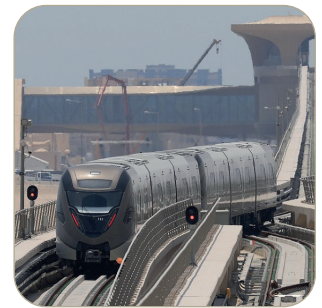
## **ICS Cool Energy Ltd**

ICS House, Calmore Industrial Estate, Stephenson Rd, Totton, Southampton, SO40 3SA  
[www.icscoolenergy.com](http://www.icscoolenergy.com)



# Project references

Project Name	Country of Installation	End Customer	Industrial Segment	Year of Installation
BMW FIZ Geb. 75.1-TÜ_Prüfstände	Germany	BMW	Automotive	2020
BMW GEB.75.1 München	Germany	BMW	Automotive	2020
GSK Marburg	Germany	GSK	Pharma	2020
Octapharma BAISY	Austria	Octapharma	Pharma	2020
Orthomol, Langenfeld	Germany	Orthomol	Pharma	2020
Bakkavor Foods, Boston	United Kingdom	Bakkavor Foods	Food/Beverage	2020
Bakkavor Foods, Scotland	United Kingdom	Bakkavor Foods	Food/Beverage	2020
Dunbia Foods, Preston	United Kingdom	Dunbia Foods	Food/Beverage	2020
Karro Foods, Scunthorpe	United Kingdom	Karro Foods	Food/Beverage	2020
Doha Metro	Qatar	Doha Metro	Transportation	2019
Festo Werk II Berkheim	Germany	Festo	Mechanical Manufacturing	2019
Fleischwerk EDEKA	Germany	EDEKA	Food/Beverage	2019
John Deere Bau 30 BA1	Germany	John Deere	Mechanical Manufacturing	2019
Knorr Bremse NB Technologiezentrum	Germany	Knorr-Bremse	Automotive	2019
Knorr Bremse, Betriebsgastronomie, München	Germany	Knorr-Bremse	Automotive	2019





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