

ENGINEERING  
TOMORROW

*Danfoss*

Brochure | Industrial Refrigeration

# High performing **products** for your **ammonia** and **CO<sub>2</sub>** applications



**100+**

applications covered  
with flexible,  
timesaving and  
simple modularity

[danfoss.com/ir](http://danfoss.com/ir)

# One Supplier Covers your Industrial Refrigeration Needs

Danfoss has made a clear priority to be able to supply all types of components for industrial refrigeration. Having just one place to go for industrial refrigeration is a significant benefit. Danfoss' one-stop-shop concept makes constructing as well as servicing fast and easy and helps keep the part stock at a minimum.

Whether your industrial refrigeration plant is a manual system or a highly-automated system, you will be sure to find a Danfoss solution that exactly matches your project needs in our wide range for industrial refrigeration. With the support of our online tools and our dedicated, local staff, we continuously strive to make your selection of solutions safe and easy.

## The Flexline™ platform

The Flexline™ platform is synonymous with flexibility within industrial refrigeration. Based on a modular design concept, you will experience that each product features a variety of benefits, including easy selection, installation and maintenance.



### ICF Flexline™ valve station

The Danfoss ICF Flexline™ multi-ported control solution offers you significant savings by substituting a string of valves with just one valve station. Consisting of a valve housing and a maximum of four or six function modules, the valve station is a true plug-and-play solution.



### ICFD Defrost Module

The liquid drain method is widely acknowledged as the most efficient hot gas defrost method within industrial refrigeration. The method ensures that liquid condensate is drained at lowest possible pressure resulting in a reduction of blow-by gas by up to 90%.

## Support Tools for Professionals



**Coolselector®2:**  
Easy selection and calculation software



**3D CAD symbols:**  
Download symbols and illustrations



**DIRbuilder:**  
IR product configurator



**IR App:**  
Complete overview of spare parts and service kits



**IR Application Tool:**  
How a two-stage ammonia plant works



**Application Handbook:**  
How to select control methods for different refrigeration systems

## Training for Professionals



**Danfoss Learning:**  
Your personal learning portal is fast, easy and always accessible.  
[www.learning.danfoss.co.uk](http://www.learning.danfoss.co.uk)

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**ICV Flexline™ valves**

The ICV product family consists of an ICS pilot operated control, ICM motor operated control and ICLX 2-step solenoid valve. All valve variants are based on one common valve body to offer outstanding flexibility.

The modular concept greatly facilitates the building of a valve that offers energy savings and reduction of down-time. All valves are designed for a maximum working pressure of 52 bar (754 psi) and efficiently handle CO<sub>2</sub> and other future high pressure refrigerants.



**ICLX 2-step solenoid valve**

The ICLX valves are 2-step servo-operated main valves with pilot solenoid valves offering safe, flexible and convenient installation, operation and service.



**ICM motor operated valve**

The ICM motor operated valves are very compact and easy to handle. The ICM motor valve is available as a complete valve and as parts programme.



**ICS pilot operated servo valve**

The ICS pilot operated servo valves are quick and simple to handle, install and service due to their low weight and compact design.



**ICSH, dual position solenoid valve**

The ICSH dual position solenoid valve is designed for gradual and safe opening of the hot gas flow to the evaporator, featuring an extra-safety-configuration to prevent hydraulic shocks in the system.

**The Flexline™ platform**

Your road to sustainability with Flexline™ is clear as lower life-cycle costs and emissions derived from leaks are further reduced thanks to its innovative design and carefully engineered valve ports. With Flexline™ you are guaranteed that your needs are accommodated by a reliable, safe and green solution – now and in the future.



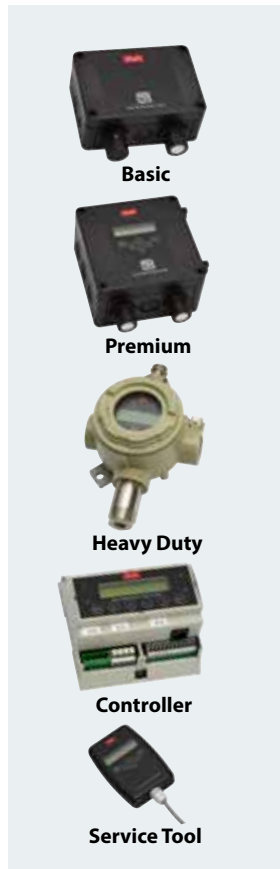
**SLV Flexline™ product platform**

The SVL Flexline™ product platform is targeted to meet industrial refrigeration requirements worldwide. Using just two basic valve housings – a straightway and an angleway – the platform offers five different functions. Two ranges available: for 52 bar and 65 bar.



**Pilots valves for ICS valve**

The line of pilots for ICS valves reduces the number of variants from eight to only four simplifying ordering, inventory management and storage. Pilot valves are ready for direct installation in the top cover of the main valve.



## Gas Detection Units for Industrial Refrigeration Systems

The new Danfoss gas detectors are based on an intelligent platform and intuitive user-interface, Danfoss' complete line of fixed gas detectors range from basic to heavy duty models with sensor technology to match the specific refrigerant, application, and safety requirements of your system.

The portfolio ranges from basic to heavy duty models with sensor technology to match the specific refrigerant, application, and safety requirements of your refrigeration system.

The Danfoss gas detection portfolio enables you to comply with regulations according to EN 378:2016, ISO 5149:2014, IAR 2-2017, and ASHRAE 15:2016 while providing comprehensive safety and easy-to-use features.

## Semi-Welded Plate Heat Exchangers for Industrial Refrigeration



- Re-enforced gasket system provides improved sealing effect and prevents gasket blow-out.
- Reduced risk of contamination due to double gasket barrier draining potential leak outside of plate pack.
- Improved plate strength and stability due to optimized plate pattern across the plate.
- Proven and verified design through mechanical and life-time testing.
- Thermal performance proven and verified on a full-scale, one-stage industrial refrigeration system.
- Comply with CE (PED) and ASME design codes.