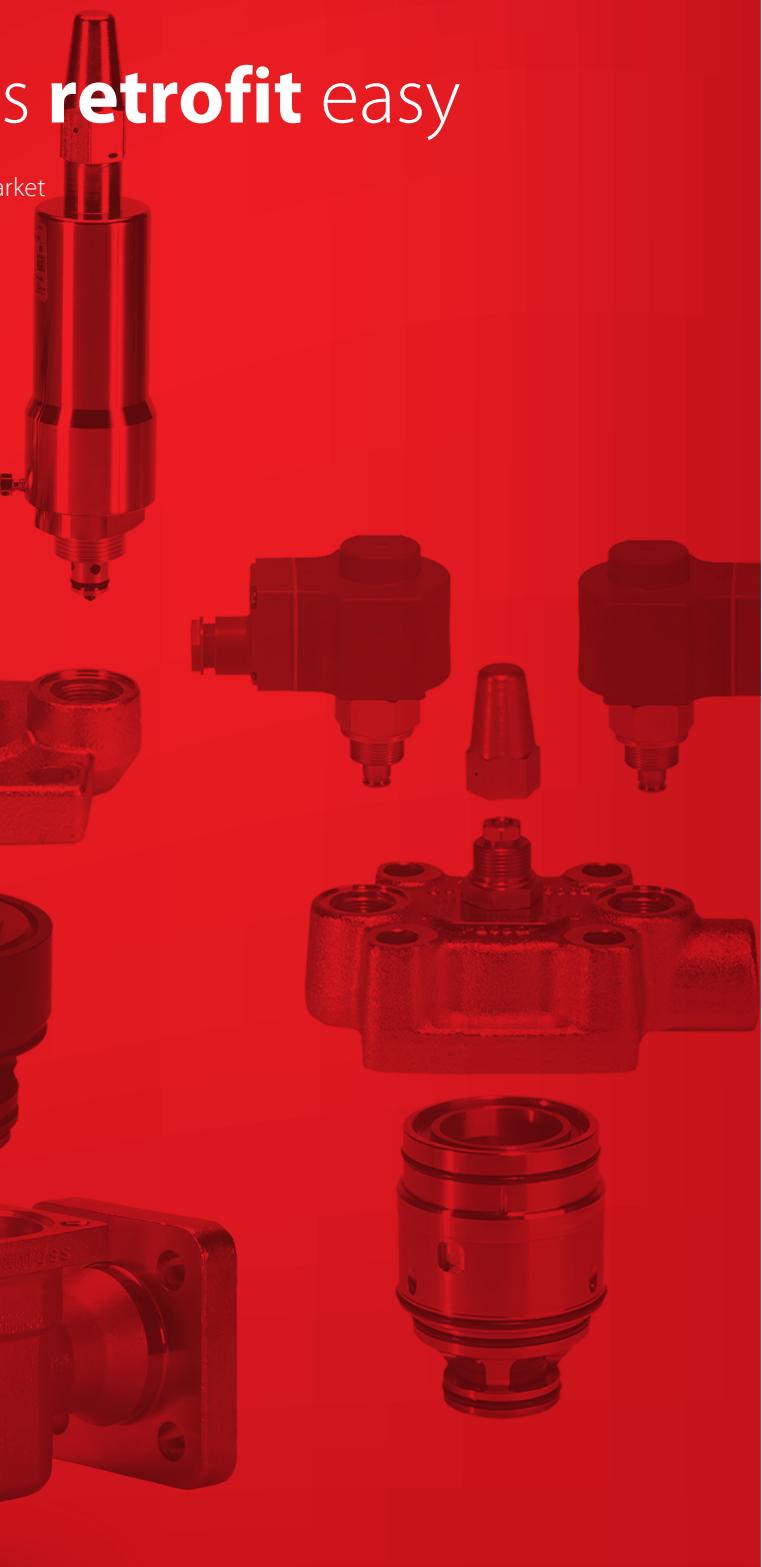


# ICV with flanges: Danfoss now makes retrofit easy

Danfoss has upgraded the Industrial Refrigeration retrofit market with the introduction of our full replacement valve for all common flanged control valves on the market, the ICV(H)A4A valve.

Compact, light-weight and simple to install, the new ICV (H)A4A delivers the benefits of the ICV Flexline™ range – plus, it's got flanges, making retrofit faster and easier.

**All Brands**  
and functions now  
have one drop-in  
solution.



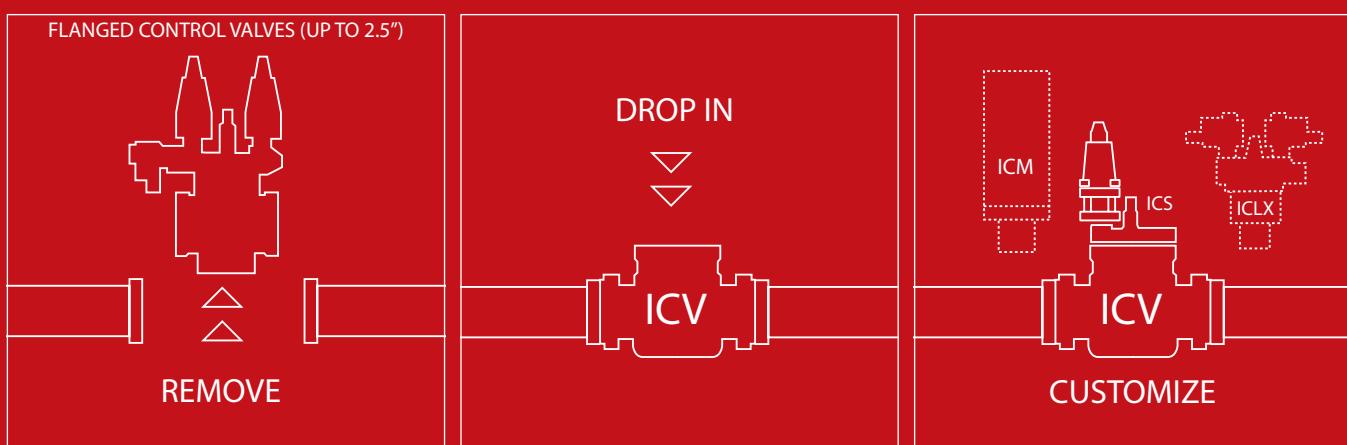
# Replacing and upgrading flanged control valves has never been easier

Now, it's just a matter of removing any type of flanged control valve and dropping in the new ICV (H)A4A flanged valve.

By doing so, you will upgrade your existing refrigeration installation. The result? A reduction in cost and energy.

Get the benefits of the **ICV Flexline™ range – and flanges**, too

- Upgrade from any available flanged valves to ICM-HMMV and ICM-HMMR or ICLX-S9A and get lower pressure drop which can improve system operation and efficiency
- Upgrade old motor valves (HMMR and HMMV) to ICM-HMMV and ICM-HMMR
- Install once for life. Once you replace your existing valve with ICV(H)A4A, it will last a lifetime with no wear
- Three interchangeable inserts: control, solenoid, motor-operated or two-step valves
- Direct replacement of all types of flanged control valves on the market without the need for cutting or welding. All wear surfaces are in the single piece function module
- Easy installation during renovation projects
- Easy and fast servicing with removable single piece cartridge
- Light and compact with corrosion-resistant design (QPQ), stainless steel bolts, and corrosion-preventing external surface treatment as standard
- No need for disassembly before installation
- High regulation performance with the special V-port
- One-stop shop for all spare parts and components
- Proven Danfoss quality and reliability



## 1. Remove

Remove the flanged control valve, leaving the flanges in place

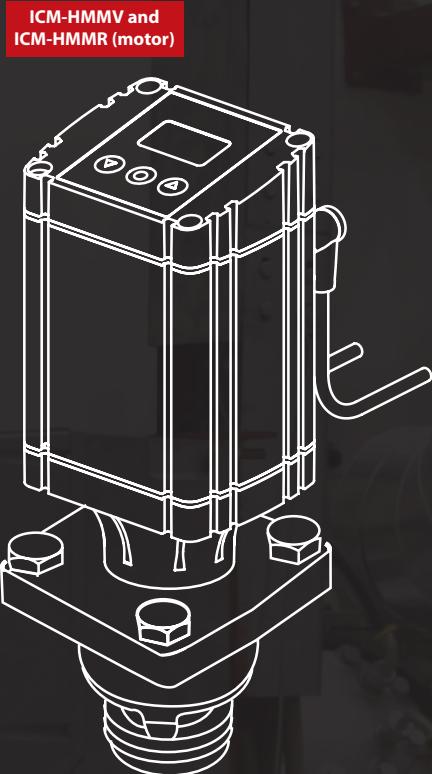
## 2. Drop in

Mate the new ICV(H)A4A valve to the existing flanges – no need for additional modification

## 3. Customize

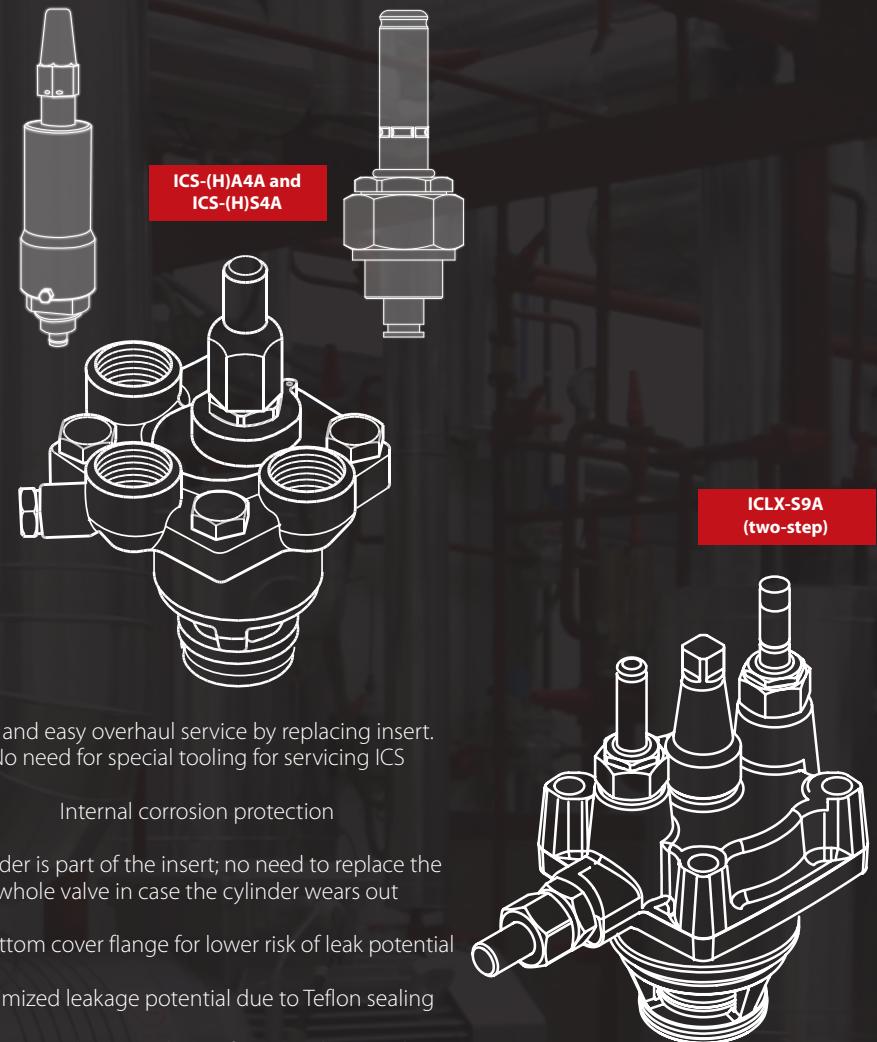
Choose the ICM-HMMV and ICM-HMMR motor valve insert, the ICS-(H)A4A and ICS-(H)S4A servo valve insert, or the ICLX-S9A two-step servo valve insert

# One valve housing – **three multi-functional inserts**



**ICM-HMMV and ICM-HMMR (motor)**

- Magnetic coupling for hermetic sealing
- Balancing principle for optimum MOPD
- ICAD with Encoder
- Real time feedback of valve position
- Alarm generated if ICM valve is mechanically blocked
- IIFC function (Intelligent Force Compensation) – Compensation for large pressure pulsations/back pressure



**IC-(H)A4A and ICS-(H)S4A**

**ICLX-S9A (two-step)**

- Fast and easy overhaul service by replacing insert. No need for special tooling for servicing ICS
- Internal corrosion protection
- Cylinder is part of the insert; no need to replace the whole valve in case the cylinder wears out
- No bottom cover flange for lower risk of leak potential
- Minimized leakage potential due to Teflon sealing
- Insert with V-port design for smooth control
- Normally closed type minimizes the system risk
- Outstanding flow characteristic, ideal for systems where low pressure drop is required
- Simple installation
- No hot gas leakage to the suction line due to teflon valve plates and gas-tight piston rings
- User-convertible for both single and two-step operation
- Mechanical two-step operation eliminates the need and risk of utilizing external timers



# A real drop-in solution: The new ICV with flanges

**The ICV(H)A4A with flanges is fully flexible due to the modular concept – one valve housing, three functionality inserts: The ICS-(H)A4A control valve and ICS-(H)S4A solenoid valve, the ICM-HMMV and ICM-HMMR motor valve and the ICLX-S9A two-step valve. And with fewer parts, you can reduce servicing and maintenance times significantly.**

## A modular platform

As part of our continual innovation processes, Danfoss has now introduced the ICV(H)A4A with flanges based on the innovative ICV Flexline™ platform as a **direct replacement for any available flanged control valves on the market.**

The ICV Flexline™ valves offer a modular platform with just one common valve housing and three functional inserts for the ICS-(H)A4A control valve and ICS-(H)S4A solenoid valve, the ICM-HMMV and ICM-HMMR motor valve and the ICLX-S9A two-step valve, making it easier to plan, design and fit

your refrigeration installation.

The ICV Flexline™ range of valves lead to a simpler installation layout with fewer components and a reduced need for spare parts, too.

## No cutting or welding needed

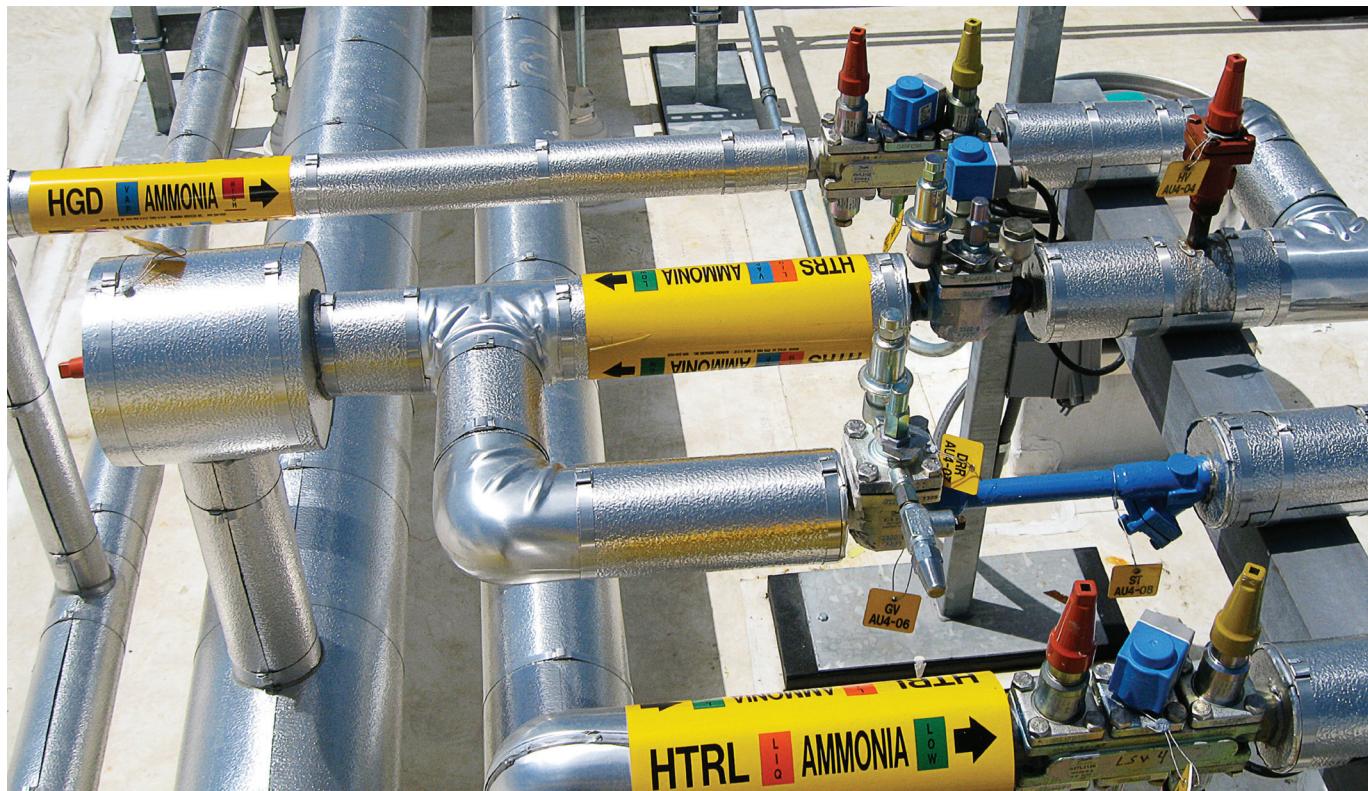
Now, Danfoss has supplemented the ICV Flexline™ range with the brand new flanged ICV(H)A4A/(H)S4A valve, which will fit where any existing flanged control valves used to be – without the need of cutting or welding.

With the flanged ICV(H)A4A/(H)S4A, you will experience the benefits of the ICV Flexline™ valve range: the flexibility, the easy installation, and the servicing.

The ICV(H)A4A with flanged connections is available in five sizes:

- ICV 25(H)A4A/(H)S4A for  $\frac{3}{4}$ " and 1"
- ICV 32(H)A4A/(H)S4A for  $1\frac{1}{4}$ " flanged control valves
- ICV 40(H)A4A/(H)S4A for  $1\frac{1}{2}$ " flanged control valves
- ICV 50(H)A4A/(H)S4A for 2" flanged control valves
- ICV 65(H)A4A/(H)S4A for  $2\frac{1}{2}$ " flanged control valves





## Product Overview

### Refrigerants:

Applicable to HCFC, non-flammable HFC, and NH<sub>3</sub>

### Max Working Pressure (MWP):

28 bar (406 psi)

### Temperature range:

-76/+248°F

### Connection type:

Flanges

### Application Range Compatibility Table

	ICS-(H)S4A	ICS-STD	ICS-S	ICS-B	ICS-D
Danfoss	ICM-HMMR	ICM-HMMV	ICM-HMSV		
	ICLX-S9A				

## More info?

Ready to upgrade your refrigeration installation with the new flanged ICV(H)A4A? Contact Danfoss for more details. For any technical queries please go to [www.danfoss.com/IR](http://www.danfoss.com/IR) or one of the dedicated websites: [www.danfoss.com/ICV](http://www.danfoss.com/ICV), [www.danfoss.com/ICS](http://www.danfoss.com/ICS), [www.danfoss.com/ICM](http://www.danfoss.com/ICM) or [www.danfoss.com/ICLX](http://www.danfoss.com/ICLX). You are also welcome to contact your local Danfoss sales office.

# 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 know-how and support. Try out these free tools, designed to make your work much easier.**



### **Coolselector® 2 – New calculation software for Industrial Refrigeration**

Coolselector® 2 is your brand new Danfoss calculation and selection software designed to make selection processes for all industrial refrigeration projects easier and less time consuming. Coolselector® 2 is a unique 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. It also presents all the products and benefits of the SVL Flexline™ range – with a fun game thrown in as well.



### **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](http://www.danfoss.com/IR-tools) and find all the tools you need.