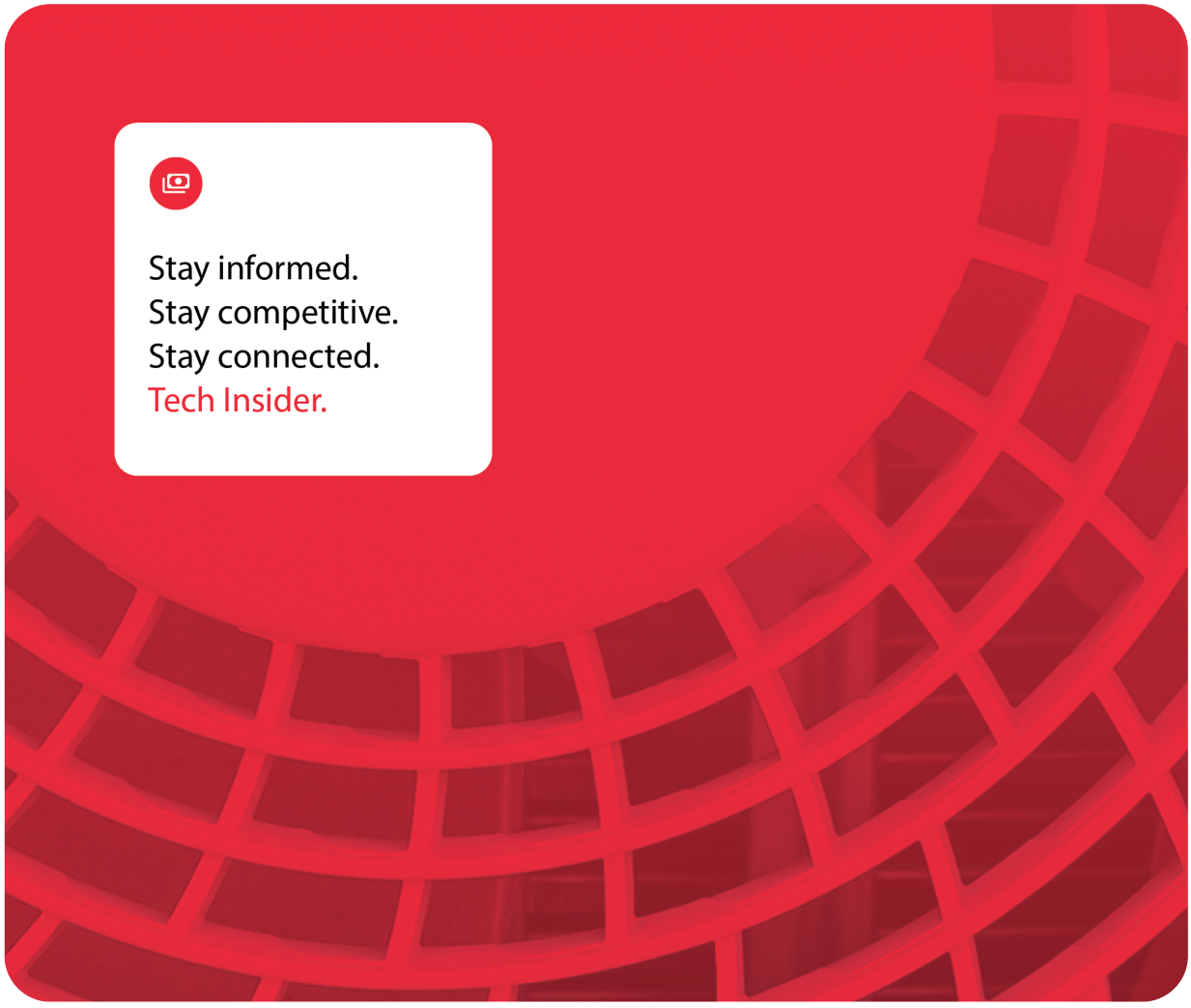
April 2026
Danfoss Climate Solutions for Cooling

TECH INSIDER

Your regular newsletter for technical updates and latest changes in refrigeration and industrial solutions.



Visit Tech Insider website

Introduction

Danfoss Tech Insider keeps you up to date with the latest developments in the Cooling and Industrial products portfolios from Danfoss Climate Solutions. Each edition offers a quick overview of key technical updates and product news, with direct links to relevant documentation and further details. Tech Insider ensures you're always informed about the latest innovations and changes across our products and solutions.

We hope you enjoy reading Danfoss Tech Insider and find it both useful and inspiring!

Table of Contents

Not all products/variants are available in all countries.
Please contact your local sales company for further info and product availability.

Visit Tech Insider website

RELEASE

New Optyma™ iCO2 37kW MT – 19kW LT condensing unit

Future-proof your business and stay ahead of F-gas regulations with the extra new Danfoss Optyma™ iCO_2 condensing unit 114x6005. This innovative solution utilizes natural, non-toxic, and ultra-low GWP refrigerant CO_2 (R744), offering a long-term, sustainable alternative to refrigerants affected by quota reductions and price increases. This as extension 114x6003 (20kW MT – 10kW LT) and 114x6001 (4.6kW MT).

The new Optyma™ iCO_2 OP-UPAC030COP04E delivers powerful and efficient cooling with a high capacity (up to 37kW for medium temperature and 19kW for low temperature applications), all while maintaining low noise levels.

We've designed it for easy installation, ensuring seamless integration with your current work practices. Choose a reliable, connectable, and sustainable refrigeration system without compromising on performance.

- Optyma™ iCO_2 ordering code: 114X6005
- OP-UPAC030COP04E
- Capacity: 37kW (medium temp) / 19kW (low temp)
- In stock from the end of April 2026.

Features & benefits

- Flexible operation for multiple applications:
  Features two independent compressors (a 2-stage rotary and a scroll) for reliable performance in both medium and low-temperature applications, adapting seamlessly to changing cooling demands (variable load from 18% - 100%).

- Scalable system connectivity:
  Connect up to 24 display cabinets or evaporators using Danfoss AKV electronic expansion valves. Fully compatible with Adap-KOOL® platforms, this unit supports highly scalable system designs.

- Advanced oil and system management:
  Intelligent control is enabled via the Danfoss Module Controller 118U5498 (Modbus) or 118U5534 (Ethernet) and AK-CC55 Single Evaporator Controller (084B4082 or 084B4083), ensuring optimized performance and providing peace of mind.

- Efficient and quiet operation:
  Coated fin-and-tube gas coolers with copper tubes and variable-speed fans provide efficient operation while maintaining low noise levels, even under external static pressure up to 50Pa.

- Stable and hassle-free system operation:
  A generously sized 11-liter suction accumulator and 18.7-liter receiver ensure smooth, reliable operation across a wide range of applications and load conditions.

- Installation-friendly low noise:
  Engineered for quiet performance with sound levels as low as 42 dB(A) at 10m, making it ideal for installation in noise-sensitive locations.

- Installation flexibility:
  Offers greater freedom in system layout with support for up to 100m of equivalent pipe length (Ø 12.7mm).

- High reliability and compressor protection:
  Integrated oil separators and an effective oil return management system enhance long-term compressor protection and overall system reliability.

- Wide operating envelope:
  Ensures reliable, year-round performance in ambient temperatures ranging from -20°C to +43°C.

- Certified safety and compliance:
  The unit is PED Category III and has been factory-approved by a notified body, ensuring full compliance with European pressure equipment regulations.

Available documents and tools:

OP-UPAC030COP04E 37kW MT – 19kW LT:

- Product release on Coolselector
- Product release on Ref Tools app
- Danfoss Product Store
- Dedicated Danfoss landing page
- Quick start manual
- Application guidelines
- Module controller guidelines (revision will happen by week 17)
- Instruction manual
- Commercial brochure (UK only)
- Manufacturer's declaration (UK only)
- Module controller Manufacturer declaration for EU (UK only)
- Declaration of conformity for UK (UK only)

See further details and technical documentation on Coolselector and Danfoss store.

RELEASE

Launch of GBC M ball valves & MQT actuators

We are pleased to announce the launch of our motorized ball valve solution, featuring the GBC M valve series and MQT actuators. The GBC M is a ball valve series equipped with an ISO5211 mounting flange, while the MQT is a quarter-turn actuator series featuring the same standardized flange interface. This solution provides customers with precise electronic control for opening or shutting off refrigerant flow according to system requirements.

The range fills the need for applications such as heat pump when using A2L or A3 refrigerants, to enhance the safety measures to mitigate the risk of flammability. It consists of:

- 7 models of GBC M ball valves, sizes 6 to 16s with or without access port, connection ¼ into ⅝ in.
- 4 models of MQT 10 Nm actuators, with or without fail safe mode and with 24V AC/DC or 95/265V.

All together, they offer high efficiency and safety with a strong, reliable design and high versatility of use.

Read more and access materials:

- Danfoss launch site here

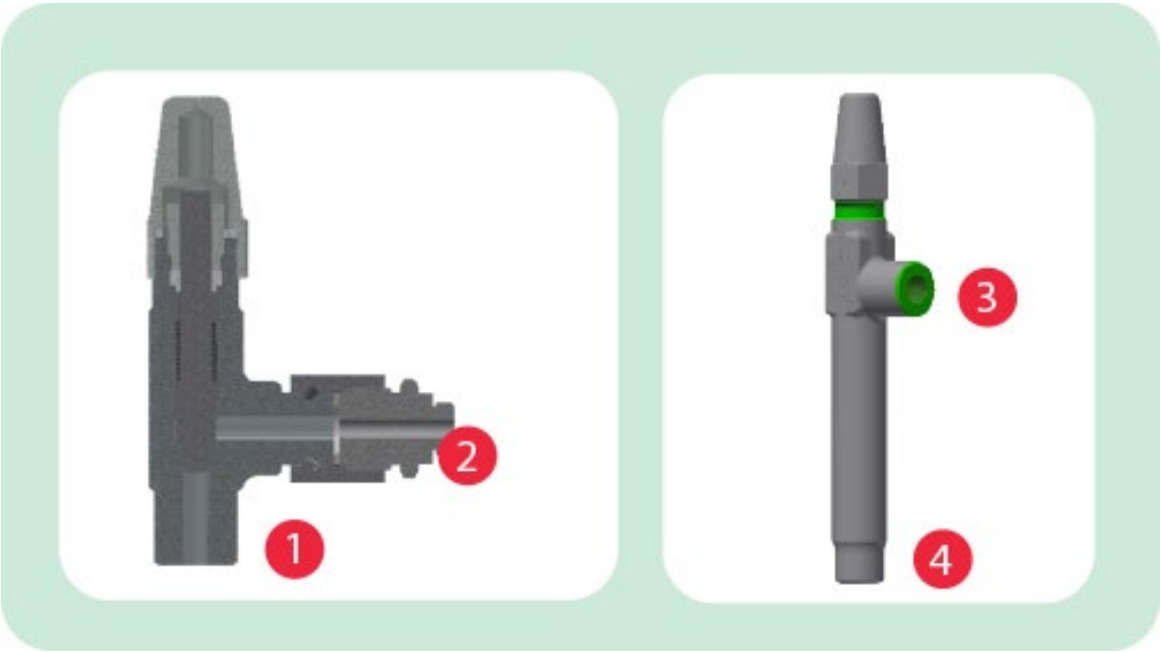
Type	Code	Power supply AC/DC (V)	Torque (Nm)	Max. power (W)	Running time (s)	With fail-safe function
MQT 010 F	**009L2187**	24	10	18	5	Yes
MQT 010 F	**009L2186**	95 — 265	10	18	5	Yes
MQT 010 N	**009L2189**	24	10	12	5	No
MQT 010 N	**009L2188**	95 — 265	10	12	5	No

Type	Code		Connection		Kv(1)	Cv(1)	Multipack	PED category		Max. working pressure: PS/MWP	Media temperature range
	Without access part	With access part	[in.]	[mm]	[m^3/h]	[gal/min]	Qty/pack	Fluid Group 1(2)	Fluid Group 2(3)		
GBC 6M	**009L2020**	**009L2050**	¼	—	1.83	2.12	6	Art. 4.3	Art. 4.3	49 bar / 710 psig	-40 —150°C / -40 — 300 °F
	009L2030	**009L2060**	—	6	1.83	2.12	6				
GBC 10M	**009L2021**	**009L2051**	⅜	—	8.04	9.29	6				
	009L2031	**009L2061**	—	10	8.04	9.29	6				
GBC 12M	**009L2022**	**009L2052**	½	—	13.17	15.22	6				
	009L2032	**009L2062**	—	12	13.17	15.22	6				
GBC 16M	**009L2023**	**009L2053**	⅝	16	15.66	18.10	6				

RELEASE

Launch of new SNV-ST, 65 bar variants

As part of our continued commitment to product innovation, we are pleased to announce the launch of new SNV-ST variants with Maximum Working Pressure (MWP) of 65 bar. These additions are specifically developed to meet market demand and improve flexibility in industrial refrigeration installations.



1. G ½
2. G ½ manometric connection
3. FPT ¼
4. Butt weld ½

SNV-ST to ISO 228-1, standard, 65 bar MWP

Code	Description	Bottom branch	Side branch
148B3699	SNV-ST G½ MAN -G½ 65 bar M/06	G½ A	G½ A MAN

SNV-ST to EN 10220 extended branch, 65 bar MWP

Code	Description	Bottom branch	Side branch
148B3109	SNV-ST ¼FPT-W½ L125 65 bar M/06	Butt weld ½	FPT ¼

We are confident that the new SNV-ST 65 bar variants will deliver enhanced flexibility and reliability for your refrigeration systems, while maintaining the highest industry standards.

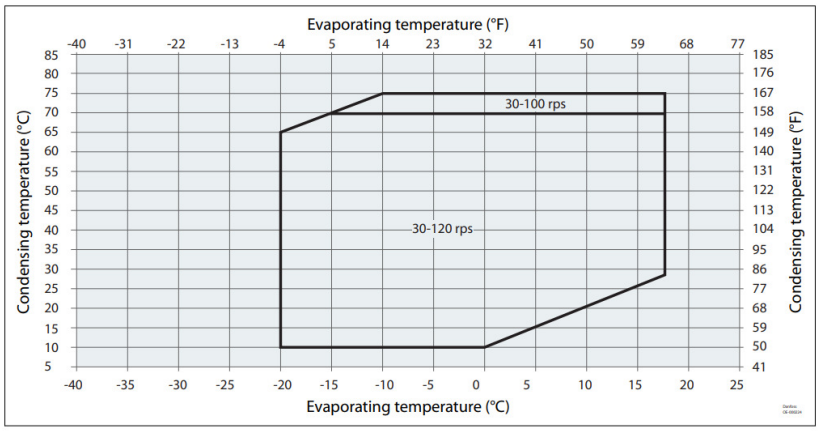
RELEASE

Release of VZN series use with R513A

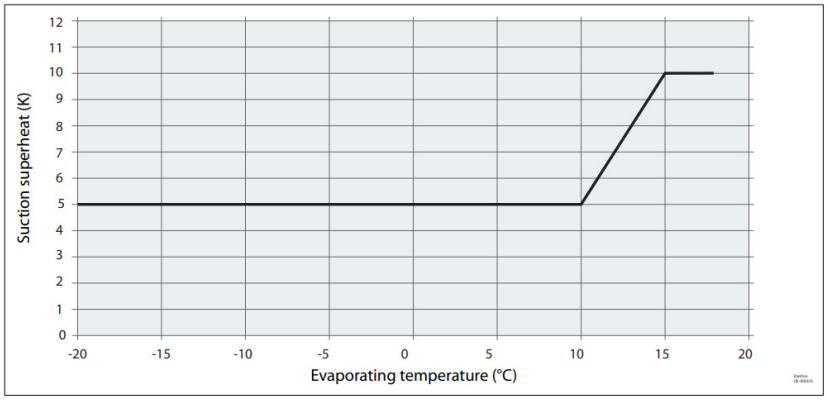
Danfoss variable speed compressor VZN086/104/140/175 has released new models which can be used with multi refrigerant R290 and R513A.

R513A is an HFO/HFC Blend, with similar thermodynamic properties to the R134a. It is an Azeotrope refrigerant with a negligible glide. R513A has zero ozone depletion potential (ODP=0) and a Global Warming Potential (AR5) at 631.

Operating envelope



Minimum suction superheat (R513A)



If R513A sample is needed, customer could order by below temporary sales codes.

Single pack

Compressor model	Technical name	Commercial name
VZN086	VZN086AGVNA	**120G0594**
VZN104	VZN104AGVNA	**120G0592**
VZN140	VZN140AGVNA	**120G0590**
VZN175	VZN175AGVNA	**120G0588**

Industrial pack

Compressor model	Technical name	Commercial name
VZN086	VZN086AGVNA	**120G0595**
VZN104	VZN104AGVNA	**120G0593**
VZN140	VZN140AGVNA	**120G0591**
VZN175	VZN175AGVNA	**120G0589**

Above temporary sales codes have been released in February 2026, they will be replaced by new sales codes with R290/R513A/R454C in Q3 2026. VZN application guideline AB478735922007en has been updated with R513A technical information.

UPDATED GUIDELINES

Updated application guidance: Optyma™ iCO_2 condensing unit

Optimizing performance

As part of our commitment to continuous product improvement, we are providing updated guidance on the ideal applications for our best-in-class Optyma™ iCO2 condensing unit. To ensure optimal performance and reliability, we have released a new application guidelines that clarify the unit's capabilities and intended scope of use. This information will help ensure a clear understanding of its behavior.

Engineered for Commercial Refrigeration

The Optyma™ iCO2 condensing unit is specifically designed and engineered for standard commercial refrigeration systems. It delivers exceptional efficiency and reliability for applications such as walk-in cold rooms, display cabinets, and other environments that operate consistently within a typical refrigeration temperature range.

Guidance on specialized applications

To ensure the longevity of the equipment and successful operation, it is important to note the applications for which the iCO2 condensing unit is not suitable:

- High-precision temperature control: The unit is not designed for applications requiring exceptionally tight temperature tolerances, such as the +/- 2K required for blood storage or sensitive laboratory environments. For these needs, we recommend evaluating more specialized systems like heat pumps or chillers.
- Environments with external heating cycles: The condensing unit should not be used in systems where the cold room or chamber is periodically warmed to high temperatures (e.g., 20°C or 35°C), such as in some fermentation or pharmaceutical testing processes. Exposing the unit to heat from the refrigerated space can cause repeated cycling and lead to premature failure.

Continuous improvement: enhanced software

Since the product launch, we have gathered valuable field data. In response to certain restarting issues observed under high ambient temperatures with low load, we released a software update (version 002) in 2023. This new thermostat strategy improves performance and reliability by optimizing compressor speed and high-pressure valve control during restarts.

Our commitment

Our goal is to ensure you get the best performance and lifespan from your Danfoss products. The Optyma™ iCO2 condensing unit is the right choice for standard commercial refrigeration. For applications outside this scope, our team is ready to help you find the perfect Danfoss solution for your needs.

PRODUCT UPDATE

Optimization hydrocarbon (HC) and low GWP (LG) compressors

Description

Continuous product development and new market requirements in response to ongoing product development and evolving market demands, such as applications for heat pumps, we are pleased to announce several enhancements to our hydrocarbon (HC) and low GWP (LG) compressors. These improvements have undergone internal validation, resulting in increased robustness.

1 Optimized bearing shell material for connecting rods

Affected products:

- (EX-)HG44e HC, (EX-)HG56e HC, (EX-)HG66e HC, (EX-)HG88e HC
- HAX44e LG, HGX44e LG, HGX56e LG, HGX66e LG, HGX88e LG

We are introducing new, advanced bearing shell material in the connecting rods. This material offers enhanced resistance to stress, thereby improving durability under demanding operating conditions. The bearing shell and conrods are completely interchangeable.

2 Introduction of a new refrigerant oil (Shrieve RFL-68 EP)

Affected products:

- All hydrocarbon compressors. [(EX-)HG12e HC – (EX-)HG88e HC]

The use of Shrieve RFL-68 EP refrigerant oil specifically enhances the tribological properties within the compressor. This leads to optimized lubrication, reduced wear, and overall increased operational safety, particularly under challenging operating and start-up conditions.

The Shrieve RFL-68 EP is fully compatible and mixable with the previous Bocklub G68 oil. However, it is recommended to avoid mixing the oils to ensure optimal performance. During service and compressor replacement, the amount of residual old oil in the system must be kept to a minimum. This includes removing all oil from other components, such as oil separators. If necessary, perform an additional oil change to ensure optimal system performance.

3 Stronger oil sump heater (220W)

Affected products:

- HG44e HC, HG56e HC, HG66e HC

To provide maximum flexibility, three different oil sump heaters are now available.

To further improve start-up conditions, especially at low ambient temperatures, a more powerful oil sump heater with 220W is now available. This heater is offered as an option for new compressors and as a retrofit kit for existing installations. The improved heating supports the enhanced evaporation of refrigerant dissolved in the oil, contributing to a more stable and gentler compressor start.

As in the past, the 160W version remains available. In addition, a self-regulated oil sump heater (50–120W) is offered. This option is intended exclusively for indoor installations.

A minimum oil temperature of +30°C is mandatory to be ensured before compressor start-up. For external monitoring of the oil temperature both prior to start up and during operation a Pt1000 oil temperature sensor is available as accessories.

Spare part numbers oil sump heater:

50 – 120W oil sump heater (self-regulated)	160W iol sump heater	220W oil sump heater
097B08028	**097B81252**	**097B82399**

4 7/16″ Schrader at the oil pump for all HC compressors

Affected products:

- All hydrocarbon compressors. [(EX-)HG12e HC – (EX-)HG88e HC]

To enable easier and more accurate monitoring of the oil differential pressure, all hydrocarbon compressors are equipped with a 7/16" Schrader valve at the oil pump.

All these optimizations contribute to a further increase in compressor reliability.

Implementation

All optimizations will be implemented in the compressors ordered from calendar week 14/2026 onwards with new G Codes. Current orders scheduled for production from calendar week 14 will be updated accordingly. Please coordinate any new orders with the relevant Danfoss sales representative.

A new design key for compressors is being introduced to indicate the change. Compressors are assigned design key 087. The design key can be found on the compressor's nameplate (the least 3 characters of the machine number (No.)).

General guidelines for hydrocarbons and low GWP refrigerants are attached to this information and soon available on DAM Hub and BOCK VAP.

SOFTWARE RELEASE

New software release version 1.35 for AK-CC25 Pro & Pro BT

A new software version 1.35 is now available for AK-CC25 Pro and Pro BT. The new SW comes with new security features such as mandatory password configuration, while it also resolves a bug in the condenser monitoring function.

The main new functionality includes:

- Security Update: Access code protection

The new software version introduces enhanced security features including mandatory access code setup at first startup, configurable access levels for function keys and brute force attack prevention. The values of the access codes are protected, and the values cannot be read out from any interface once they have been set, however if users forget the access code it can be overwritten via KoolProg or via SM800A.

Please note the exception; for the AK-CC25 Pro without Bluetooth, the access code can be disabled.

- Bug fix: Condenser monitoring function

A bug has been reported in the condenser monitoring function, resulting in the compressor not being cut-out if the measured condenser temperature exceeds the condenser block limit. The bug is only present if no condenser fan is defined on one of the digital outputs. This bug has been fixed with SW version 1.35.

Products with the new SW version 1.35 installed from factory will be identified as PV 02. All AK-CC 25 Pro and Pro BT with previous PV versions can be updated manually via KoolProg or CC Connect.

When receiving the new version or when making the SW update through CC Connect or Koolprog, please be aware of the updated security feature and the mandatory access code setup at first startup.

For more information on how to set up the access code upon first start-up, and overwrite in case of forgotten access code, please refer to:

- The updated user guide
- The FAQ on Danfoss website
- Or contact your local product support.

SOFTWARE RELEASE

New software release version 2.31 for AK-CC55 Compact

A new SW release is available for AK-CC55 Compact case controllers (v 2.31); 084B4081 & 084B4181. This brings a set of new and improved features (see below), while keeping the core application functionality of the controller unchanged. Currently, the update will only be released as a web-release, available via AK-CC Connect app or as update file for KoolProg.

From May 2026 this SW update is also planned to come preinstalled on the controllers coming out of production, therefore if you are using the product as part of production line, please update the setting files accordingly.

New features

- Improved injection algorithm (improved SH control, flooding protection)
- New refrigerants (R454A, R454C, R455A, R516A, R469A)
- Support for stepper valve driver via 0-10V signal in applications with EEV valve (5-9)
- Local Day/night schedule
- Pulsing electrical defrost
- Support 2 defrost stop sensors
- Variable speed compressor in applications with TXV valve (1-4)
- Compressor safety monitoring via DI input
- Fully flexible IO configuration in application 4 and 9
- New default settings for dewpoint-based rail-heat control
- Prepared for KoolProg connection via Modbus RS-485 and KoolKey 2.1 (will be supported by future release of KoolProg – follow the dedicated PN)
- Added performance indicators (visible in AK-CC Connect app – Performance dashboard)
    - Door opening history
    - Average defrost time
    - Number of high temp. alarms
- Added temperature quality indicator

STOREVIEW WEB RELEASE

New StoreView Web (SvW) release 3.4.2

We would like to inform you that SvW R3.4.2 has been released with a performance improvement for Store Maps. This hotfix improves the communication handling between SvW and AK-SM8xxA/AK-SM8xx, resulting in better Store Maps performance and a more stable user experience.

Timing and availability

Storeview Web (3.4.2) was released by Danfoss on March 2026 but may take up to 24 hours to take effect depending on browser versions.

Storeview Web (3.4.2) is available via browser (svw.danfoss.com) and via desktop app, available from same location. Please note that Storeview Web requires connectivity to your System Manager.

Affected products

StoreView Web supports:

- AK-SM 800 series (Recommended VG08.095 and above)
- AK-SM 800A series (Recommended R3.0.12 spk and above)

SOFTWARE UPDATE

Important software update 1.29 for EKF Stepper Motor Valve Driver

We are pleased to inform you about an upcoming software update for the EKF stepper motor valve drivers. This update will transition the software from version 1.28 to version 1.29, bringing several enhancements to improve your experience and operational capabilities.

Key updates

- Improved valve selection:
  The update includes the addition of PTS valves with enhanced settings, selectable via a dip switch.
- Enhanced performance:
  Modifications to the PPS for ETS 8M bipolar from 16 PPS to 45 PPS and adjustments to ETS 8M Unipolar PPS from 31 PPS to 45 PPS.

Affected products

- EKF1A stepper valve driver (080G5030)
- EKF2A stepper valve driver (080G5035, 080G5036)

Customer actions required

To ensure compatibility with the updated software version 1.29, customers utilizing the KoolProg PC tool must download and use the latest version 5.6. Additionally, for those employing offline files, it is necessary to create a new file specifically for version 1.29 within KoolProg. The update enhances user experience by enabling customers to select newly added valves via the dip switch, thereby improving ease of use and expanding operational capabilities. You can utilize the auto-convert feature in KoolProg to seamlessly convert older files to this latest version, ensuring compatibility and optimal performance.

Availability

The new software version 1.29 is now available in our Central Distribution Center (CDC).

Contact information – Get in touch with Danfoss

Contact Danfoss Sales office, customer service and technical support

Sales and services
Customer service

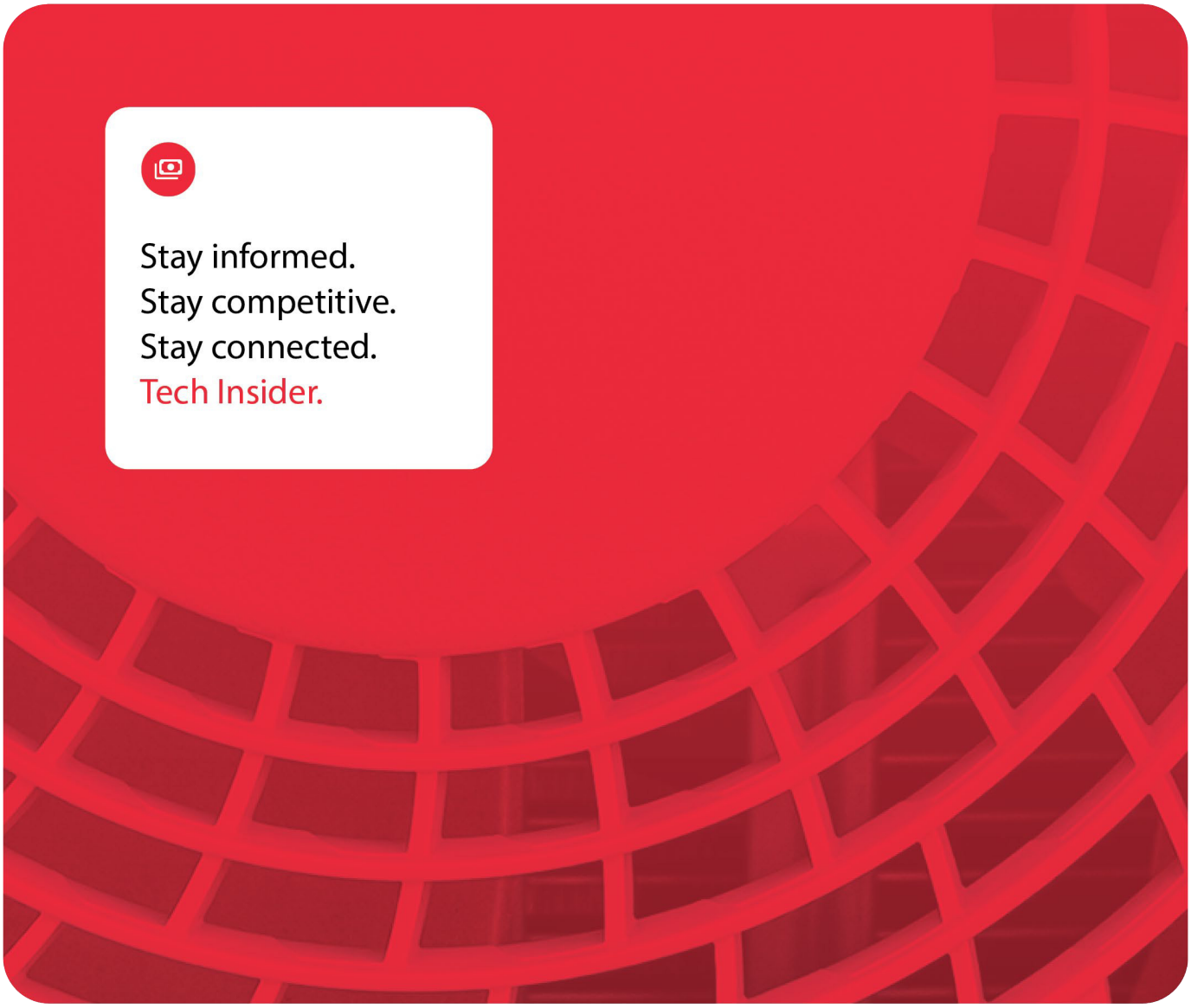
Get technical support for installing Danfoss cooling solutions

Cooling installer hub

Get technical support for installing Danfoss sensing solutions

Industrial Installer Hub

Eplore our solutions:
Danfoss.com



Tech Insider edition
[April 2026 Europe]