



# TECH INSIDER

Your go-to newsletter for technical updates and latest changes in refrigeration and industrial solutions—delivered nearly every month.



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## 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. Published monthly, 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!

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

## Launch of OFB shut-off ball valves

We are pleased to announce the launch of our new OFB shut-off ball valves. OFB is a series of ball valves. OFB shut-off ball valves are a suction solution for superior reliability of oil-free systems featuring Danfoss Turbocor® compressors. OFB efficiently prevents refrigerant migration during extended standby periods and the risk of liquid slug upon compressor restart. These valves are particularly suited for Danfoss Turbocor® oil-free compressors.

The OFB valve can be actuated by actuator or manually. Customers can buy Danfoss actuator and mount it on the bonnet of OFB to make the valve open and close. The actuators are being developed and will be ready for ordering in Q1 2026. Samples are available. Customer can also mount the manual kit which is delivered with OFB on the bonnet to open/close the valve manually.

### Selection of OFB (available for ordering)

	Code	Size	Pipe	Description
	009L6102	3 inches	ANSI steel Buttweld	OFB incl, 3" ANSI BW, OD Ø89,6 mm
	009L6103	3 inches	ASTM Cu pipe brazing	OFB incl, 3" ASTM Brazing, ID Ø80,2 mm
	009L6104	3 inches	DIN steel buttweld	OFB incl, 3" DIN BW, OD Ø89,6 mm
	009L6105	3 inches	EN Cu pipe brazing	OFB incl, 3" EN Cu Brazing, ID Ø80,2 mm
	009L6106	4 inches	ANSI steel Buttweld	OFB incl, 4" ANSI BW, OD Ø114,3 mm
	009L6107	4 inches	ASTM Cu pipe brazing	OFB incl, 4" ASTM Brazing, ID Ø104,9 mm
	009L6108	4 inches	DIN steel buttweld	OFB incl, 4" DIN BW, OD Ø114,3 mm
	009L6109	4 inches	EU Cu pipe brazing	OFB incl, 4" EN Cu Brazing, ID Ø108 mm
	009L6110	5 inches	ANSI steel Buttweld	OFB incl, 5" ANSI BW, OD Ø141,4 mm
	009L6111	5 inches	ASTM Cu pipe brazing	OFB incl, 5" ASTM Brazing, ID Ø130,5 mm
	009L6112	5 inches	EN Cu pipe brazing	OFB incl, 5" EN Cu Brazing, ID Ø133 mm
	009L6113	5 inches	DIN steel buttweld	OFB incl, 5" DIN BW, OD Ø114,3 mm

### Selection of actuator (planned release in Q1 2026)



Product type	Voltage	With fail-safe function	Code no.
MQT 80Nm	AC/DC 95-265 V	Yes	009L2886
	AC/DC 24 V	Yes	009L2887
	AC/DC 95-265 V	No	009L2888
	AC/DC 24 V	No	009L2889



Manual kit

You can access the data sheet and the installation guide from links below:

- [OFB data sheet](#)
- [OFB installation guide](#)

## Release of AK-CC25 Pro case controllers to market

We are pleased to announce the market release of the new family member of ADAP-KOOL® case controllers – AK-CC25 Pro, an advanced controller for plug-in and remote TXV cases.

### AK-CC25 Pro highlights

#### New modern design and improved user experience:

- White LED display and backlit capacitive touch buttons to only show the relevant UI elements
- Built-in BLE for connectivity with AK-CC Connect mobile app for fast and easy service & commissioning (AK-CC25 Pro BT only)
- New and improved functions in the mobile app: FW update, performance dashboards, Wizard for guided field installation and commissioning (AK-CC25 Pro BT only)

#### Best-in class application coverage in a single variant:

- Support for variable speed compressors, dual circuits, dual compressor
- Full parameter MT/LT switch for optimized performance
- Fully flexible I/O configuration for customized applications

#### Food safety and energy efficiency:

- Robust design for reliable operation with minimum downtime
- VSC enables MTR for optimal temperature in a display cabinet

#### Improved connectivity and monitoring:

- Modbus RS-485 built-in
- Modbus over Wi-Fi via external gateway
- BLE built-in (AK-CC25 Pro BT only)



### Availability and ordering

The initial is limited to countries/customers in Europe and Turkey, as we are still working on production capacity ramp-up and regional compliance approvals (e.g. UL). The product store will reflect this.

Description	Code	Availability in CDC
AK-CC25 Pro, Single pack	084B4022	Week 50, 2025
AK-CC25 Pro BT, Single pack	084B4023	TBD. Exp. Jan 2026
Interface cable AK-CC25 - KoolKey 2.1, Single pack	080N0334	Week 50, 2025
KoolKey 2.1 (PV04), Single pack	080N0020	Week 50, 2025

### EKC/AK-CC 2xx phase out

With the launch of AK-CC25, the phase out process of the existing EKC 202 and AK-CC 2xx controllers has been initiated. Please discuss with your Danfoss sales contact about the transition plan and forecast.

## Introduction of SNV-ST for 140 bar for industrial CO<sub>2</sub> transcritical applications

To address the increasing market demand for large-scale CO<sub>2</sub> transcritical applications, the SNV portfolio has been expanded to include SNV-ST variants designed for 140 bar applications. These new additions are intended to support evolving requirements for higher pressures in industrial CO<sub>2</sub> systems.

The SNV-ST for 140 bar is available in four different variants, featuring extended branch and end connections for greater flexibility and ease of installation. These variants include options such as 1/4 MPT, G1/2, and W1/2, provided in both multipack and industrial pack formats. Designed to support transcritical CO<sub>2</sub> applications, they offer high-pressure capability up to 140 bar, enhanced durability, and improved reliability. The updated packaging formats streamline inventory management and facilitate efficient usage. We are adding these new variants, SNV-ST for 140 bar, on top of the existing codes 148B0082 and 148B0084, which were released in 2022.

The complete SNV-ST 140 bar portfolio as below

According to ANSI/ASME B1.20.1 / ISO 228-1, standard branch 140 Bar

Spec. Key	Bottom branch	Bottom branch length	Side branch	Packing format	Qty/pack	Code no.
SNV-ST 1/4FPT-1/4MPT	1/4MPT	STD	1/4FPT	Multipack	12 pc	148B0082
SNV-ST 1/4FPT-/4MPT	1/4MPT	STD	1/4FPT	Industrial pack	30 pc	148B3878
SNV-ST G1/2-G1/2	G1/2 A	STD	G1/2 A	Multipack	12 pc	148B0084
SNV-ST G1/2-G1/2	G1/2 A	STD	G1/2 A	Industrial pack	30 pc	148B3880

According to EN 10220, extended branch 140 Bar

Spec. Key	Bottom branch	Bottom branch length	Side branch	Packing format	Qty/pack	Code no.
SNV-ST G1/2-W1/2 L100	Butt weld 1/2 in	100 mm / 4 in	G1/2 A	Multi pack	6 pc	148B3874
SNV-ST G1/2-W1/2 L100	Butt weld 1/2 in	100 mm / 4 in	G1/2 A	Industrial pack	30 pc	148B3876

According to DIN 3861, extended branch 140 Bar

Spec. Key	Bottom branch	Bottom branch length	Side branch	Packing format	Qty/pack	Code no.
SNV-ST CD10-W1/2 L100	Butt weld 1/2 in	100 mm / 4 in	Cutting ring 10 mm	Multi pack	6 pc	148B3709
SNV-ST CD10-W1/2 L100	Butt weld 1/2 in	100 mm / 4 in	Cutting ring 10 mm	Industrial pack	30 pc	148B3719

All SNV-ST components have been available for order starting from the end of December 2025.

For further information or technical support, please contact your local Danfoss representative or reach out to our product management team.

## Release of GBC 90 bar ball valves, sizes 18s to 42s

We introduced new designed GBC 90bar ball valve for CO2 application in early 2024 with size covers only from 6s to 16s. And today, we're pleased to inform you that the bigger size range from 18s to 42s are now available and released to the market.

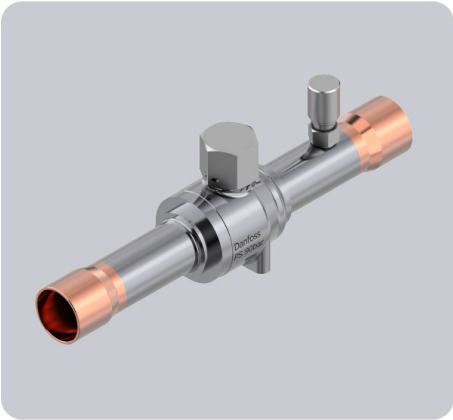
The newly released GBC 90bar with size 18s to 42s continue featuring stainless steel as the primary base material, providing customers with enhanced performance and reliability. The new models are similar in dimensions and connections as the existing models; therefore, they are an exact drop-in of former models for an easy replacement in an existing system design.

New code numbers will be created, and the existing CO2 GBC 45bar and GBCH 90bar will be phased out.




### Launch plan:

- New design GBC 90bar, size 18s – 42s: Accept order date: Jan.1st, 2026
- Old design CO2 GBC 45bar & 90bar, size 18s to 42s: Last buy date: Mar.31st 2026

	2026											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
CO2 GBC 90bar, 18s - 42s												
Old design 18s to 42s			Last buy: Mar.31,2026									
New design 18s to 42s	Release time: Jan.1st 2026											



See design highlights from the table on the next page.

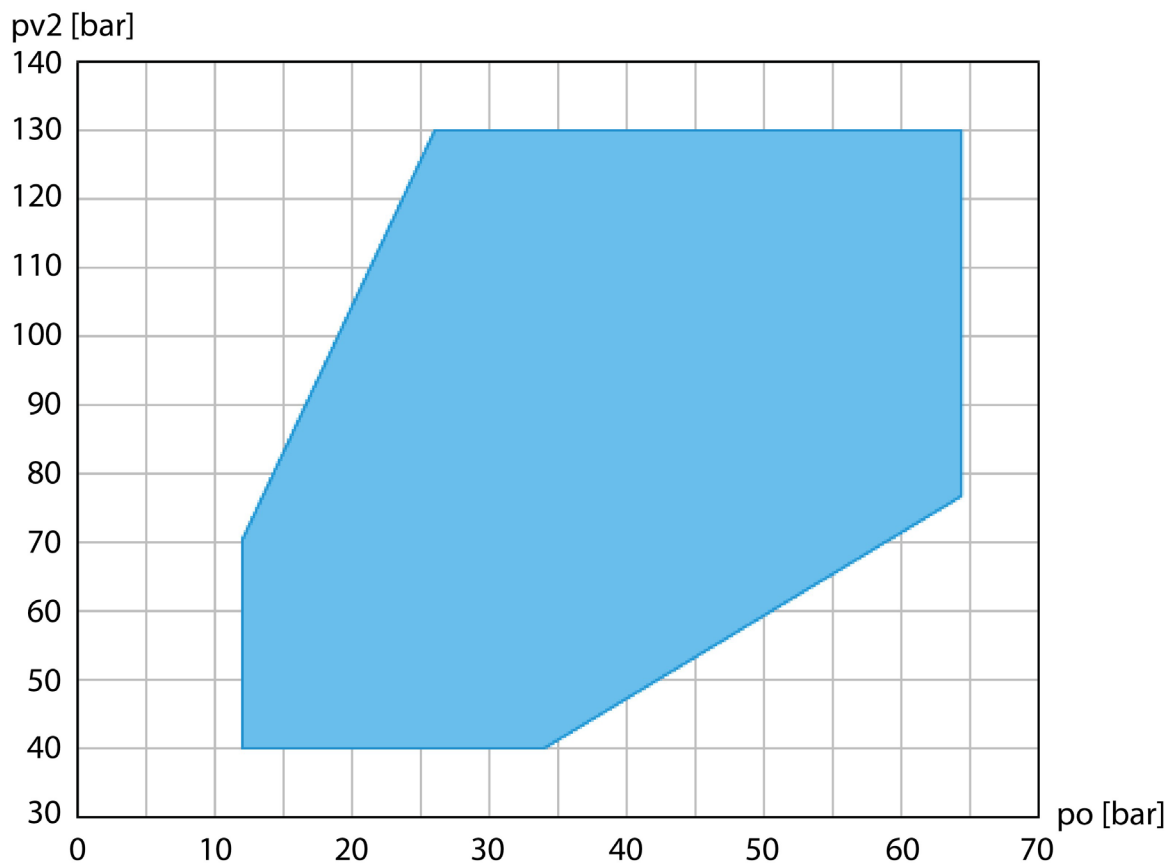
Design highlights		CO2 GBC 45bar (to be phased out)	GBCH 90bar (to be phased out)	New GBC 90bar (to be phased in) NEW code numbers
				
Material				
1	Housing	Brass	Brass	Stainless steel
2	Tube	Copper tube	6~22s with copper tube 28~42s with stainless steel tube	SS tube with Cu plating
3	Cap	Brass	Brass	Aluminium, anodized
4	Access port	Brass	Brass	Stainless steel
Operation condition				
1	MWP	6s - 42s : 45 bar	6s-28s: 90 bar 35s-42s: 75 bar	6s to 42s: 90 bar
2	MWT	-40c to 100c	-40c to 100c	Same
Design				
1	Connection	6s - 42s: Solder connection, copper	6s - 22s: Solder connection, copper 28 - 42s: Welding connection, SS tube	6s - 42s: Solder connection, SS tube with Cu plating.  SS tube is not available, select GBCT 140bar or reach out to Danfoss for details
2	Access port	6s-42s: with & without AP	6s - 22s: with & without AP 28 - 42s: without AP	6s - 22s: with & without AP 28s - 42s: without AP
3	Ball design	With bleed function	With bleed function	6s - 16s: Relief hole design for bleed function 18s - 42s: elastic seal design for bleed function
4	Stem design	Internal load/mount	Internal load/mount	Same
5	O-ring	O-ring for CO2	O-ring for CO2	Same
6	Mounting panel	Yes	Yes	Not available, reach out to Danfoss in case of need.
7	Laying length	Same	Same	Same
Function				
1	Bi-isolation	Uniflow isolation	Bi-isolation	Bi-isolation
Reliability				
1	Corrosion	500hrs salt spray resistance	500hrs salt spray resistance	700hrs salt spray resistance
Certificates				
1	Safety & regulation	CE / UL / RoHS (with exemption)	CE / UL / RoHS (with exemption)	CE / UL / RoHS (without exemption, Schrader valve excluded)

## Extended operating limits for transcritical (UL-)HGX SH(P) CO<sub>2</sub> T compressors

### Description

In response to increasing market demands and expanding application areas for heat pumps, the operating limits of transcritical CO<sub>2</sub> compressors in the SH version have been extended. These compressors now support evaporating temperatures down to -35°C, enabling reliable operation at lower ambient temperatures, particularly when using air as a heat source. The SH version of the compressors is specifically designed for applications with high evaporation temperatures above +10°C up to +25°C and features a modified oil filling with higher viscosity (oil charge SH version: BOCK C170E). This ensures optimal lubrication and operational safety under the entire operating conditions.

### Extended operating limit for SH version





### Benefits of the operating limits extension:

- Suitable for heat pump applications using air as a heat source
- Improved operational flexibility at low ambient temperatures
- Optimized oil viscosity in SH version for high evaporation temperatures

Please refer to the updated technical data sheets and operating limits in the product documentation and in the BOCK selection software VAP:

[VAP - CO<sub>2</sub> T Compressors \(transcritical\)](#)

[VAP – UL-CO<sub>2</sub> T Compressors \(transcritical\)](#)

### Important note

Due to the higher oil viscosity in the SH version of CO<sub>2</sub> compressors, it is essential to ensure effective oil return within the system. This is critical to maintain reliable compressor operation and to support a long compressor lifetime under extended operating conditions.

### Affected products

- (UL-)HGX12 SH CO<sub>2</sub> T
- (UL-)HGX24 SH(P) CO<sub>2</sub> T
- (UL-)HGX34 SH(P) CO<sub>2</sub> T
- (UL-)HGX46 SH(P) CO<sub>2</sub> T

Time of Implementation November 2025.

### Products and selection

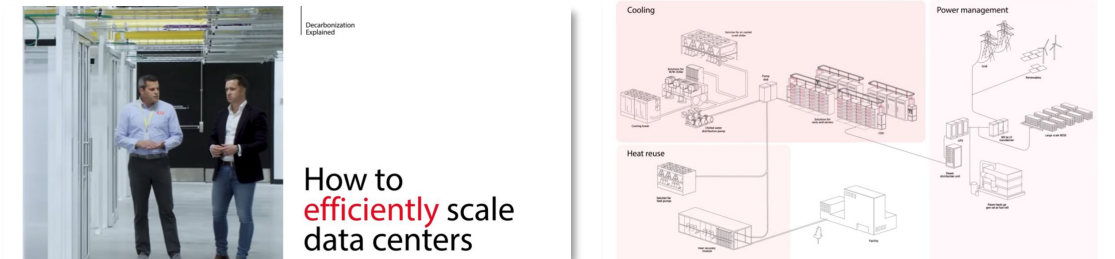
- Selection software: BOCK VAP selection software [vap.bock.de](http://vap.bock.de)
- BOCK Compressor Code Finder: [Compressor Selector | Danfoss](#)
- Product Store: [store.danfoss.com](http://store.danfoss.com)
- Brochure, pictures a. m.: [DAM Hub](#)

### Online support

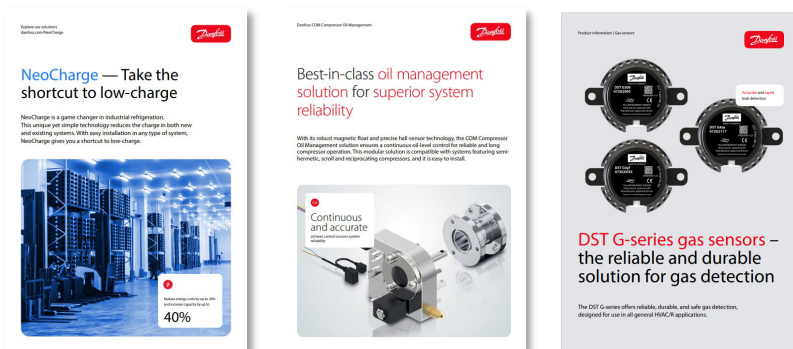
You can access and download detailed product information through the [Partner Portal/Product Data Tool](#)

Contact: If you have any questions, please contact Danfoss contact person responsible.

## New and updated content



Video – [How to efficiently scale data centers | Decarbonization Explained | Danfoss](#)



Brochure – [NeoCharge — Take the shortcut to low-charge](#)

Brochure – [COM Compressor Oil Management brochure](#)

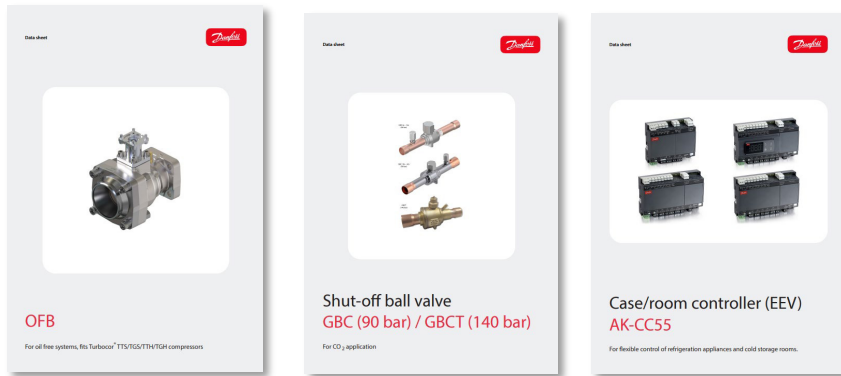
Brochure – [DST G-series gas sensors brochure](#)

Product information – [DST P070 pressure sensors - the compact and reliable solution for HVAC industry](#)



Catalogue – [Electronic Controls catalogue for commercial refrigeration](#)

User guide – [Gas detection unit, Basic](#)



- Data sheet – [OFB shut off ball valves](#)
- Data sheet – [3 phase energy meter, type energy meter](#)
- Data sheet – [1 phase energy meter, type energy meter](#)
- Data sheet – [Case/room controller \(EER\), type AK-CC25](#)
- Data sheet – [Temperature sensor type EKS 211](#)
- Data sheet – [Data Sheet Capacity Controller AK-PC 351](#)
- Data sheet – [400V 75 Amp EMC Filter](#)
- Data sheet – [Differential pressure switch, MP54 / MP55 / MP55A](#)
- Data sheet – [Solenoid valve, CSV 2 - CSV 22](#)
- Data sheet – [Pressure transmitter, DST P070](#)
- Data sheet – [Optyma controller, type AK-RC 204B, 205C, 305W-SD](#)
- Data sheet – [Pressure switch, CKB](#)
- Data sheet – [Solenoid valve, EVRB](#)
- Data sheet – [Ejector controller, EKE 80](#)
- Data sheet – [System manager, type AK-SM 800A series](#)
- Data sheet – [Valve station, ICF 15-65](#)
- Data sheet – [Electric regulating valves Type CCMT 3L, 5L, 8L and 10L](#)
- Data sheet – [Pressure switch, CS](#)
- Data sheet – [Electric expansion valve ETS 5T](#)
- Data sheet – [Bottle cooler controller, ERC 113C/D](#)
- Data sheet – [Superheat controller, EKE 315](#)
- Data sheet – [Shut-off ball valve, GBC \(90 bar\) / GBCT \(140 bar\)](#)
- Data sheet – [Gateway Unit, type X-Gate](#)
- Data sheet – [Alsmart™ universal controller platform, type AS-XP05, AS-XP10, AS-PS20](#)
- Data sheet – [Alsmart® universal controller platform, type AS-CX06, AS-UI Snap-on](#)
- Data sheet – [Refrigeration controller, EETc and EETa series – Data sheet](#)
- Data sheet – [Safety relief valve, SFV](#)
- Data sheet – [Case/room controller \(EER\), type AK-CC55 Single Coil and Single Coil UI, SW ver. 2.2x](#)
- Data sheet – [Gas sensor, DST G290 & DST G600](#)

Price Guide – [2026 Price Guide - Turbocor Compressors](#)

## Contact information – Get in touch with Danfoss

Contact Danfoss Sales office, customer service and technical support

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[Customer service](#)

Get technical support for installing Danfoss cooling solutions

[Cooling installer hub](#)

Get technical support for installing Danfoss sensing solutions

[Industrial Installer Hub](#)





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