

ENGINEERING  
TOMORROW



November 2023 | Danfoss Climate Solutions for cooling

# TECH INSIDER





## Introduction

Danfoss Tech Insider keeps you updated with the latest news on the cooling and industrial products portfolios from Danfoss Climate Solutions. The content is intended to give a quick overview of core technical news and updates in our product portfolio, including links to relevant documentation and more information.

Danfoss Tech Insider is sent out, on a monthly basis, to ensure you are always up to date with the latest innovations and changes made to Danfoss products and solutions.

We hope you will enjoy reading Danfoss Tech Insider!

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## Product Launch: Compressor Oil Management Level Regulators (COM)

We are pleased to announce the release of the compressor oil management, COM family, a high-performance electronic oil level regulators with alarm function and compressor switch off.

The COM 10C, 20C series and its accessories are a part of the Danfoss oil management portfolio. They are applicable for fixed speed and variable speed compressors, both semi hermetic and hermetic. COM family is based on Hall Sensor Technology meaning it utilizes a float mechanism combined with a Hall effect sensor and thereby providing superior performance in order to control and effectively manage oil level and oil returns on each compressor therefore enhancing system lifetime.



### System value and features

System Value	Features
High system reliability	<ul style="list-style-type: none"> <li>▪ Most reliable oil level measurement with float and hall effect technology, high resolution sensor with 256 points level sensing</li> <li>▪ Adaptive Power-on logic with fast-time response</li> <li>▪ Alarm relay enables compressor shut down if oil level is low</li> <li>▪ Informative operation status: LEDs</li> </ul>
Plug and Play Easy to use and customizable solution	<ul style="list-style-type: none"> <li>▪ Easy selection of the various products, low complexity</li> <li>▪ Wide range of compressor adaptors, regulators and cables</li> <li>▪ Easy installation from front side, fast mounting</li> <li>▪ Industrial and single packs</li> </ul>
Application oriented design	<ul style="list-style-type: none"> <li>▪ MWP "PS rating": Up to 130 bar operating pressure</li> <li>▪ MOPD: up to 100 bar</li> <li>▪ Suitable for 24 VAC and 230 VAC</li> <li>▪ Most lightweight and compact design</li> </ul>
Energy efficient	<ul style="list-style-type: none"> <li>▪ Best-in-class energy consumption with efficient solenoid valve operation</li> </ul>
Global applicability	<ul style="list-style-type: none"> <li>▪ CE, RoHS, EAC; UL in preparation</li> </ul>
Refrigerants	<ul style="list-style-type: none"> <li>▪ R1234ze (E), R1234yf, R1270, R134a, R290, R32, R404A, R448A, R449A, R450A, R454C, R455A, R513A, R744</li> </ul>

### COM Base Unit

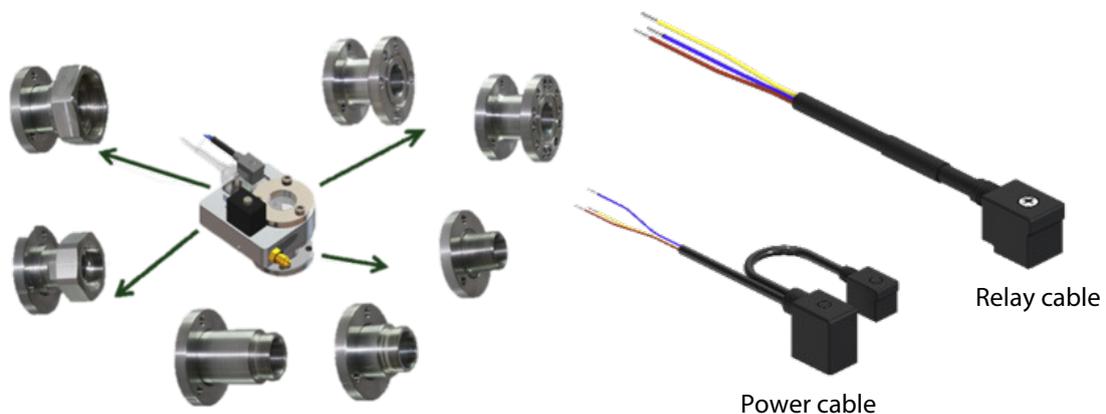
Description	Supply Voltage	Packaging Format	Quantity per Packaging	Code No.
COM 10C Oil level regulator	230 V	Single pack	1	040B0119
COM 10C Oil level regulator	24 V	Single pack	1	040B0120
COM 20C Oil level regulator	230 V	Single pack	1	040B0121
COM 20C Oil level regulator	24 V	Single pack	1	040B0122
COM 20C Oil level regulator	230 V	Industrial pack	6	040B0100

### ORD Differential Pressure Valve

Description	Inlet Connection Type	Outlet Connection Type	Packaging Format	Quantity per Packaging	Code No.
ORD Differential pressure valve 1,5 bar	5/8-18-2B" UNF	5/8-18-2A" UNF	Single pack	1	040B0163
ORD Differential pressure valve 3,5 bar	5/8-18-2B" UNF	5/8-18-2A" UNF	Single pack	1	040B0164
ORD Differential pressure valve 5,0 bar	5/8-18-2B" UNF	5/8-18-2A" UNF	Single pack	1	040B0165

### Adaptor

Description	Connection Type	Connection Length	Packaging Format	Quantity per Packaging	Code No.
Adaptor set COM-AD-000	Flange	40,0 mm	Single pack	1	040B0123
Adaptor set COM- AD-034-14	3/4 - 14" NPT	30,0 mm	Single pack	1	040B0124
Adaptor set COM-AD-114	1 1/4-12-2B UNF	36,0 mm	Single pack	1	040B0125
Adaptor set COM-AD-134	1 3/4-12-2B UNF	40,0 mm	Single pack	1	040B0126
Adaptor set COM-AD-D06	Flange	40,0 mm	Single pack	1	040B0127
Adaptor set COM- AD-118-18	1 1/8" UNEF	22,5 mm	Single pack	1	040B0128
Adaptor set COM- AD-118-18L	1 1/8" UNEF	42,5 mm	Single pack	1	040B0129
Adaptor set COM-AD-118-18 (with Danfoss Adapter-Ring)	1 1/8" UNEF	22,5 mm	Single pack	1	040B0130
Adaptor set COM-AD-118-18 (with Dorin Alu seal)	1 1/8" UNEF	22,5 mm	Single pack	1	040B0131
Adaptor set COM-AD-241	M 24 mm	45,0 mm	Single pack	1	040B0145
Adaptor set COM-AD-214	2 1/4-12-2B UNF	54,0 mm	Single pack	1	040B0146



### Power cable

Description	Voltage	Length	Type	Packaging Format	Quantity per Packaging	Code No.
Power Cable set for Power 10 m	24 V/230 V	10,00 m	DIN 43650	Single pack	1	040B0153
Power Cable set for Power 15 m	24 V/230 V	15,00 m	DIN 43650	Single pack	1	040B0155
Power Cable set for Power 20 m	24 V/230 V	20,00 m	DIN 43650	Single pack	1	040B0157
Power Cable set for Power 3 m	24 V/230 V	3,00 m	DIN 43650	Single pack	1	040B0147
Power Cable set for Power 5 m	24 V/230 V	5,00 m	DIN 43650	Single pack	1	040B0151
Power Cable set for Power 6 m	24 V/230 V	6,00 m	DIN 43650	Single pack	1	040B0149
Power Cable set for Power 5 m	24 V/230 V	5,00 m	DIN 43650	Industrial pack	50	040B0101
Power Cable set 10 m for Power	24 V/230 V	10,00 m	DIN 43650	Industrial pack	35	040B0102
Power Cable set 15 m for Power	24 V/230 V	15,00 m	DIN 43650	Industrial pack	25	040B0103
Power Cable set 20 m for Power	24 V/230 V	20,00 m	DIN 43650	Industrial pack	20	040B0104

### Relay cable

Description	Voltage	Current	Length	Type	Packaging Format	Quantity per Packaging	Code No.
Relay Cable set for Relays 3 m	24 V/230 V	3,0 A	3,00 m	DIN 43650	Single pack	1	040B0148
Relay Cable set for Relays 5 m	24 V/230 V	3,0 A	5,00 m	DIN 43650	Single pack	1	040B0152
Relay Cable set for Relays 6 m	24 V/230 V	3,0 A	6,00 m	DIN 43650	Single pack	1	040B0150
Relay Cable set for Relays 10 m	24 V/230 V	3,0 A	10,00 m	DIN 43650	Single pack	1	040B0154
Relay Cable set for Relays 15 m	24 V/230 V	3,0 A	15,00 m	DIN 43650	Single pack	1	040B0156
Relay Cable set for Relays 20 m	24 V/230 V	3,0 A	20,00 m	DIN 43650	Single pack	1	040B0158
Relay Cable set for Relays 5 m	24 V/230 V	3,0 A	5,00 m	DIN 43650	Industrial pack	50	040B0111
Relay Cable set for Relays 10 m	24 V/230 V	3,0 A	10,00 m	DIN 43650	Industrial pack	35	040B0112
Relay Cable set for Relays 15 m	24 V/230 V	3,0 A	15,00 m	DIN 43650	Industrial pack	25	040B0113
Relay Cable set for Relays 20 m	24 V/230 V	3,0 A	20,00 m	DIN 43650	Industrial pack	20	040B0114

## Spare part numbers

Description	Packaging Format	Quantity per Packaging	Code No.
Spare part set COM 10C	Single pack	1	040B0159
Spare part set COM 20C	Single pack	1	040B0160
Spare part 24 V Coil	Single pack	1	040B0161
Spare part 23 V Coil	Single pack	1	040B0162

## Approvals

CE, UKCA, EAC are some of the major approvals that has been obtained on the product.

For more information, please visit [Danfoss Product Store](#) or contact your local sales representative.

## ICF 20-2 to replace EVRA(T) 10 – New Solenoid Valve for Refrigeration Applications

We are pleased to announce the release of the Danfoss ICF 20-2 Solenoid valve in a new variant, now also replacing EVRA(T) 10. The EVRA(T) 10 replacement will join the family of EVRA(T)'s which has already moved to ICF 20-2 (EVRA(T) 15 and 20).

This will not only move the benefits from EVRA to ICF 20-2 but also introduce better performance specification. It will be a 1:1 replacement of EVRA 10 but it will also open to the well-known flexibility of the ICF platform.

## Changes

Some of the highlights with this new design are:

- Direct weld replacing flanges and gaskets increase safety and saves time
- Flat top cover gasket supports the use in systems down to -60 °C and CO<sub>2</sub> up to 65 bar
- Serviceability and full flexibility with the ICF platform
- Manual opener becomes standard for both variants
- Many more refrigerants available since it is now based on the ICF platform

For more information, please visit [Danfoss Product Store](#)

**ICF 20-2-121L with ICFE module Replacing EVRA(T) 10**



	Existing Range	New Range
<b>Main features</b>	<b>EVRA(T) 10</b>	<b>ICF 20-2-121L</b>
<b>MWP</b>	42 bar / 609 psi	65 bar / 943 psi
<b>Temp range</b>	-40 to +105 °C	-60 to +120 °C
<b>K<sub>v</sub> [m<sup>3</sup>/hr]</b>	1,5	1,5
<b>Min. OPD</b>	0,05 bar (EVRA) 0 bar (EVRAT)	0 bar
<b>Max. OPD (Coil type dep.)</b>	25 bar / 363 psi	>25 bar / >365 psi
<b>Manual stem</b>	Optionable	Standard
<b>Design</b>	Servo diaphragm	Servo diaphragm

### Product sales codes numbers

6 codes will be released with different connections type and size ICF 20-2-121L: Sales codes will be released by end of Q1 2024.

Description	Conn. Type	Conn. Std.
Valve station ICF 20-2-121L	DIN 15	EN 10220
Valve station ICF 20-2-121L	DIN 20	EN 10220
Valve station ICF 20-2-121L	ANSI 15	ANSI B 36.10
Valve station ICF 20-2-121L	ANSI 20	ANSI B 36.10
Valve station ICF 20-2-121L	22 SD	EN 1254-5
Valve station ICF 20-2-121L	7/8 SA	ASME B 16.50

### Coolselector2

ICF 20-2-121L will replace EVRA(T) 10 going forward. Therefore, it has been decided to remove EVRA 10 from Coolselector2. From April 1<sup>st</sup> 2024 EVRA(T) 10 will no longer be available in [Coolselector2](#).

### Phase out of EVRA

Release of EVRA(T) 10 replacement will also initiate phase out of EVRA(T) 15 and 20.

ICF 20-2 will replace EVRA(T) 10 but not overnight. We will have a transition period where EVRA(T) is still available.

For more information, please contact your local Danfoss sales representative.

## Phase Out of EKA Accessories

We would like to inform you about the EKA 163B, 164B, 165 displays and EKA 182A copy key are being phased out. You can place last buy orders until stock lasts, thereafter the code numbers will be phased out. Alternative products, where applicable are mentioned below. We will now begin the phase out process and we invite you to place your last buy orders.

You are invited to check with your Danfoss sales contact about the remaining stock, which will still be available to order as usual by the end of 2023 and after that through special orders for service needs, while sales will be closed generally.

### Affected codes

Product Code	Product Description
080B8574	EKA 163B Display, S/M-pack
080B8674	EKA 163B Display, I-pack
080B8575	EKA 164B Display, S/M-pack
080B8675	EKA 164B Display, I-pack
084B4573	EKA 165 Display, S/M-pack
084B8567	EKA 182A Copying Key

The EKA163B/164B have been sold mainly complementary to our AK-CC 4xx/5xx case controllers. These controllers have now been phased-out so the volumes on the afore mentioned display have dropped significantly. To simplify our portfolio, we are phasing out the 163B/164B variant of displays (TTL connection), while keeping the A variant (TTL and RS-485 connection).

You are advised and kindly asked to transition to EKA 163A/164A displays where needed.

For additional information, please contact your local Danfoss sales representative.

## Product Launch: EKE 100 Service Cable

We are pleased to announce the release of the EKE 100 service cable, an accessory product used for configuring and servicing the EKE 100 family of superheat controllers and valve drivers.

The cable will allow the user of EKE 100 to connect with KoolKey, which can act as a gateway or copy key for configuring, commissioning, and servicing.

Check out our [technical documents of EKE 100](#) to learn more about the product.



EKE 100 service cable

Product Code	Product Description
080G5058	EKE 100 service cable

For more information, please visit [Danfoss Product Store](#) or contact your local sales representative.

## Forward Naturally – Danfoss CO<sub>2</sub> Portfolio

As we transition toward a more environmentally friendly future, your refrigerant choice becomes an important factor for your business and the planet. CO<sub>2</sub> is a natural cooling agent that delivers sustainable and energy-efficient refrigeration in everything from warehouses to ice machines. Allowing businesses to move forward naturally.

### CO<sub>2</sub> has several unique thermo-physical properties making it an ideal refrigerant:

- Excellent heat transfer coefficient
- High energy content
- Relatively insensitive to pressure losses
- Very low viscosity of the liquid phase

### In practical applications, CO<sub>2</sub> systems deliver a very high-performance output. The main reasons are:

- Superior heat exchange
- Smaller piping sizes
- Low pumping power as secondary fluid
- Superior heat recovery

Download the catalogue here:

[Components and controls catalogue for CO<sub>2</sub> applications](#)



## Videos

- Danfoss EffyBoost dual circuit Micro Plate brazed plate heat exchanger - [LINK](#)
- Efficient Service/Maintenance videos:
  - ICF 25 valve station - [LINK](#)
  - ICLX 32 - 65 2-step solenoid valves - [LINK](#)
  - ICM 20 motor operated valves - [LINK](#)
  - ICM 25-56 motor operated valves - [LINK](#)
  - ICM 100-150 motor operated valves - [LINK](#)
  - ICS 25-65 pilot operated servo valves - [LINK](#)
  - KDC 56-200 pressure control valves - [LINK](#)
  - SVA shut-off valves - [LINK](#)
  - SVA 140B shut-off valves - [LINK](#)



## Details for Additional Information

### UK/IE

[Cooling United Support Hub](#)

[Support Made Easy](#)

[customerservice.uk@danfoss.com](mailto:customerservice.uk@danfoss.com)

[customerservice.ie@danfoss.com](mailto:customerservice.ie@danfoss.com)

Customer Service UK & IE tel: 0330 808 6888

### Denmark

[Cooling United Support Hub](#)

[Support Made Easy](#)

[kundeservice.dk@danfoss.com](mailto:kundeservice.dk@danfoss.com)

Kundeservice tel: 69 91 80 80

### Norway

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### Sweden

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