

ENGINEERING
TOMORROW



March 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!

Table of Contents

Optyma™ Plus, Optyma™ Slim Pack: New A2L-A1 Multi-Refrigerant Codes, Full Release Completed.....	3
Optyma™ iCO ₂ 4.6 kW MT and 20 kW MT – 10 kW LT Package Unit Launch.....	4
1.5 cu.in Filter Driers Manufacturing in India for Asia and Europe Regions	5
AK-SM 800A Series: End of Manual Allocation Process	6
Regional Setup for Belt Heaters for MTZ/MT/NTZ One and Two Cylinders and Scrolls: HCM/HCP/HRP/HRM/HRH/MLZ/MLM/LLZ	7
Videos on YouTube, Infograms.....	9
Details for Additional Information.....	9

Optyma™ Plus, Optyma™ Slim Pack: New A2L-A1 Multi-Refrigerant Codes, Full Release Completed

Danfoss is pleased to confirm the full launch of the new Optyma **Plus** and Optyma **Slim Pack** new A2L-A1 multi-refrigerant condensing unit codes, adding the use of A2L slightly flammable refrigerants R454C, R455A, and R1234yf. Last release involved the biggest Optyma Plus (housing 4), with 2 instead of 1 receiver (PED related)

Our full A2L-A1 offering is now available from stock. The refrigerant letter, code models, equipment, designation, and performance for these A2L-A1 models have been changed versus previous A1 units. The existing A1 versions and codes will remain unchanged and continue to be available.



Features and benefits

- Operating envelopes remain identical with the addition of
 - Allowing A1 multi-refrigerant use, including low-GWP A2L refrigerants
 - Providing a range validated for the use of A2L refrigerants without additional risks of ignition.
 - Optyma Plus condensing units (P00/P01/P02/P05) which reach PED categories II, get upgraded and have factory fitted pressure relief valve (PRV) as a damage-limiting device according to EN13136 standard.

Available documents

- [Cross Reference List](#): existing and new version, with new codes numbers, based on cooling capacities and supply chain details for logistics
- Instruction manuals:
 - [Optyma Plus](#)
 - [Optyma Plus controller](#)
 - [Optyma Slim Pack](#)
- [Commercial catalog](#)
- [Commercial brochure](#)
- [EU Declaration of conformity](#)
- [EU Declaration of conformity](#)
- Declaration of incorporation
 - [A1/A2L condensing units](#)
 - [A1/A2L condensing units](#) (UK only)
 - Component's declaration (*upon request*)
- [Manufacturer declaration](#)
- Condensing unit performance data with A2L refrigerants is available in [CoolSelector2](#).
- For easy start-up, use the [Kool Code app](#).

Codes are available to order now.

Please contact your local Danfoss contact for more information about the impact for each product and other solutions Danfoss can offer. Alternatively, you can consult instructions on the [Danfoss YouTube channel](#).

Optyma™ iCO₂ 4.6 kW MT and 20 kW MT – 10 kW LT Package Unit Launch

Danfoss is pleased to confirm the launch of the new Optyma iCO₂ condensing unit codes, allowing the use of very low GWP nonflammable, nontoxic refrigerants R744, those 2 models can offer variable load, low noise operation and high ambient temperature working envelop. They are now available from stock.

F-gas regulations impose major reductions in quotas which impact refrigerant availability and prices. For cold rooms, installers can still use A1, A2L but you can use also very low GWP refrigerants as CO₂. Our focus remains to have our products be easy to use and adapt, supporting to installers' ways of working. Therefore, Danfoss has evolved the existing ranges best in class features for ultra-low GWP CO₂ refrigerants.

Features and benefits

1. Optyma iCO₂ OP-MPAM005COP04G 4.6kW MT, code 114X6001

- a. BLDC Scroll compressor giving variable load 30 to 100%
- b. MCHE gas cooler for high reliability
- c. 1 suction accumulator (2.5 l) + 2 liquid receiver (2x2.5l) to increase charge flexibility and ensure long term reliability.
- d. 35dB(A) at 10 m for low noise operation
- e. Open doors for easy maintenance
- f. Stacking up to 2 units
- g. Working envelop from -20°C to +46°C ambient, and evaporating up to +10°C
- h. Comply with AKV and TE2 mechanical expansion valve operation.
- i. Condensing unit is PED cat I



2. Optyma iCO₂ OP-UPAM015COP04E 20 kW MT – 10 kW LT, code 114X6003

- a. 2 stage rotary + scroll compressor to operate on Medium Temperature or Low Temperature
- b. Blue fins coated condenser
- c. 1 suction accumulator (7.6 l) and 2 receives (2 x 7.6 l) for high reliability.
- d. 45 dB(A) at 10 m for low noise operation
- e. 100 m maximum equivalent pipe length (12.7 mm diam)
- f. Oil separator and flow back management for high reliability
- g. System oil management facilitated by Module Controller 118U5498 and AK-CC55 usage
- h. Working envelope from -20°C to +43°C
- i. Comply with AKV expansion valve operation
- j. Condensing unit is certified by notified body PED cat II



Available documents - OP-MPAM005COP04G 4.6 kW MT

- [Commercial brochure](#)
- [Catalogue](#)
- [CO2 solutions for small commercial cold rooms](#)
- [Application guideline](#)
- [Refrigerant and Oil Charge Calculation](#) (new version)
- [Instruction manual](#)
- [Commissioning video example](#)
- [Manufacturer's declaration](#)
- [Sound spectrum](#)
- [Declaration of incorporation](#) (EU)
- [Declaration of conformity](#) (UK)

Available documents - OP-MPAM015COP04G 4.6 kW MT

- [Commercial brochure](#)
- [Data sheet](#)
- [Application guideline](#)
- [Module controller guideline](#)
- [Instruction manual](#)
- [Manufacturer's declaration](#)
- Module controller [Declaration of incorporation](#) (EU)
- [Declaration of conformity \(UK\)](#)

Condensing unit performance data, local language translation is available in Danfoss [Ref Tools](#), [CoolSelector2](#).
Local languages available selecting "language" in product store and "language and country" in CS2.

Codes are available to order now and product available for our stock.

Please contact your local Danfoss contact for more information about the impact for each product and other solutions Danfoss can offer. Alternatively, you can consult instructions on the [Danfoss YouTube channel](#).

1.5 cu.in Filter Driers Manufacturing in India for Asia and Europe Regions

In view of flexibility in meeting customer demand, we have decided to produce the 1.5 cu.in drier at India factory. Driers produced in India will cater the Europe and Asia region and Mexico will support America customers. The production will start in India from Week 9, 2023.

The final product will remain the same at both locations, except the sales code number that contains suffix 91 for India production.

There is no change in the product fit, form, or function.



S.no	Old Code Number	New Code Number	Description	Packing type
1	023Z8250	023Z825091	DML 1.52X2/25	Industrial
2	023Z8251	023Z825191	DCL 1.52SX2/2.8 mm	Industrial
3	023Z8252	023Z825291	DCL 1.52S/2.8 mm	Industrial
4	023Z8253	023Z825391	DML 1.52S	Industrial
5	023Z8254	023Z825491	DML 1.52S	Multi-Pack
6	023Z8255	023Z825591	DCL 1.52S/2.8 mm	Multi-Pack
7	023Z8257	023Z825791	DML 1.52X2 s/2.8 mm	Industrial
8	023Z8260	023Z826091	DML 1.52S	Industrial
9	023Z8261	023Z826191	DCL 1.52/CAPSV	Multi-Pack
10	023Z8269	023Z826991	DML 1.52S 6 mm	Industrial
11	023Z8276	023Z827691	DML 1.52SV	Industrial
12	023Z8270	023Z827091	DCL 1.52SX2/2.8 mm	Industrial

More product details: [Hermetic filter driers](#) | [Danfoss Global Product Store](#)

AK-SM 800A Series: End of Manual Allocation Process

We would like to inform you about the end of allocation process for AK-SM 800A series. Delivery situation of the AK-SM 800A series System Manager has improved over the recent months, and majority of backlog has been cleared.

Considering the current market demand, we announced the end of allocation process in week 6, 2023 for this product family.

- New orders for AK-SM 800A series should be placed with real expected volumes and quantities, as system will be running fulfillment accordingly.
- The existing orders request dates and volumes should be reviewed to ensure a consistent delivery.
- Availability of AK-SM 800A series will be improved compared to pre-allocation situation.
- Lead times on orders will be 3 weeks, also depending on region and specific customer agreements.
- Safety stock will be reintroduced in all the codes affected, based on historical data, and forecast.
- Product codes in scope:



Variants with LON Modules

AK-SM 820A	080Z4024
AK-SM 820A - no WiFi	080Z4025
AK-SM 850A	080Z4021
AK-SM 850A - no WiFi	080Z4022
AK-SM 880A	080Z4028
AK-SM 880A - TP78	080Z4029

Variants without LON Modules

AK-SM 820A	080Z4044
AK-SM 820A - no WiFi	080Z4045
AK-SM 850A	080Z4041
AK-SM 850A - no WiFi	080Z4042
AK-SM 880A	080Z4048

We would like to thank you for the patience during the period of manual allocation. We will monitor the transition to normal operation closely to ensure a smooth process.

If you need additional information, please contact your local Danfoss sales representative.

[Supervisory solutions](#) | [Danfoss Global Product Store](#)

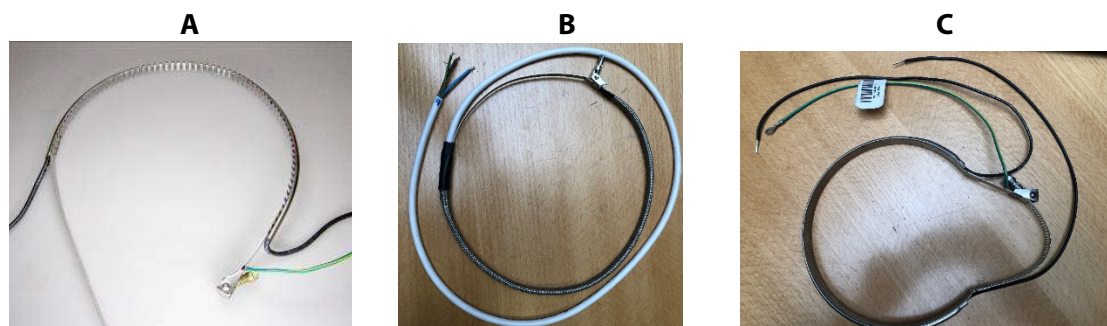
Regional Setup for Belt Heaters for MTZ/MT/NTZ One and Two Cylinders and Scrolls: HCM/HCP/HRP/HRM/HRH/MLZ/MLM/LLZ

Danfoss is pleased to announce that the new belt heater supplier is equipped with products dedicated to some reciprocating and scroll compressors models. Existing codes will continue to be used in NAM and LAM regions, while new codes will be distributed for other regions sourced from the FRCC or CNCC plant.

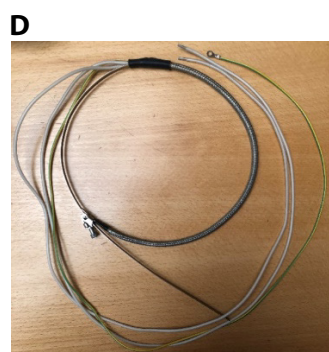
The new products will perform the same; however, some technical data, including the belt and cable length, will be updated. For further details, please refer to the following table. This modification will have no impact on the performance or reliability of the compressors.

The physical changes are shown on the pictures below:

Current solution

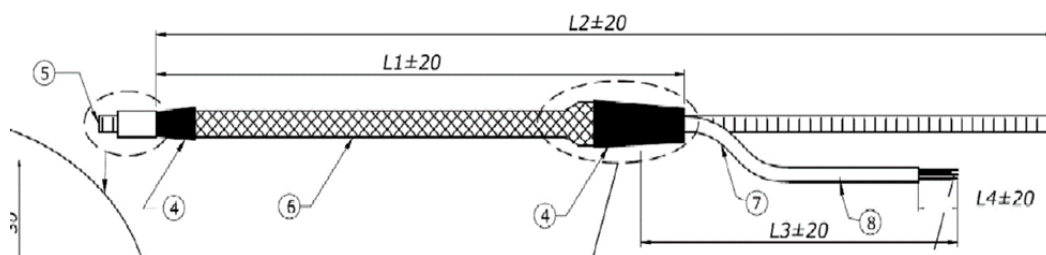


New solution



In the table below, there is a full overview of current and future belt heater solutions:

Current solution							New setup for NAM/LAM			New setup for rest of the word						
Code number	Voltage [V]	Power [W]	Heater length (L1)	Shrink band (L2-L1)	Cable length L3	Picture	Code number	Picture	Comment	Code number	Voltage [V]	Power [W]	Heater length (L1)	Shrink band (L2-L1)	Cable length L3	picture
120Z5040	240	70	486	556	1270	C	120Z5040	C	no changes	120Z0895	240	60	460	105	1270	D
120Z5012	460	70	546	616	406	C	120Z5012	C		120Z0894	460	65	500	205	410	D
120Z5041	460/400	70/55	486	556	1270	C	120Z5041	C		120Z0893	400/460	65	500	65	1270	D
120Z5041	460/400	70/55	486	556	1270	C	120Z5041	C		120Z0890	400/460	40	460	105	1270	D
120Z5011	230	70	546	616	406	C	120Z5011	C		120Z0892	230	65	520	185	1000	D
7773013	400	54	625	695	812	A	7773013	A		120Z0891	400	65	650	400	1000	D
120Z5038	460	40	486	556	406	C	120Z5038	C		120Z0890	400/460	40	460	105	1270	D
120Z0059	230	65	520	185	1000	B	-	-		120Z0892	230	65	520	185	1000	D
7773117	400	65	650	400	1000	B	-	-		120Z0891	400	65	650	400	1000	D
120Z0056	400	40	460	105	1000	B	-	-		120Z0890	400/460	40	460	105	1270	D



The current solution, including ordering codes, remains unchanged in NAM and LAM regions.
For the rest of the world, the new models/codes will apply current solutions according to the table below:

Current solution			New setup for NAM/LAM			New for rest of the word				Compressor reference
Code number	Voltage [V]	Power [W]	Code number	Voltage [V]	Comments	Code number	Voltage [V]	Power [W]	Comments	
120Z5040	240	70	120Z5040	240	No changes	120Z0895	240	60	New models/codes	MLZ/MLM 015-026
120Z5012	460	70	120Z5012	460		120Z0894	460	65		HCM094-120; HCP094-120; HCJ091-121; DCJ091-121; MLZ/MLM 030-076; LLZ all models
120Z5041	460/400	70/55	120Z5041	460/400		120Z0893	400/460	65		LLZ all models
120Z5041	460/400	70/55	120Z5041	460/400		120Z0890	400/460	40		HRM025-047; HRP025-047; HRH029-050; VZH028-035-044
120Z5011	230	70	120Z5011	230		120Z0892	230	65		HCM094-120; HCP094-120; HCJ091-121; DCJ091-121; MLZ/MLM 030-076; LLZ all models
7773013	400	54	7773013	400		120Z0891	400	65		MT(Z)18 to 40; NTZ048-068; VTZ038 to 054
120Z5038	460	40	120Z5038	460		120Z0890	400/460	40		HRM025-047; HRP025-047; HRH029-050; VZH028-035-044
120Z0059	230	65	N/A	N/A		120Z0892	230	65		HCM094-120; HCP094-120; HCJ091-121; DCJ091-121; MLZ/MLM 030-076; LLZ all models
7773117	400	65	N/A	N/A		120Z0891	400	65		MT(Z)18 to 40; NTZ048-068; VTZ038 to 054
120Z0056	400	40	N/A	N/A		120Z0890	400/460	40		HRM025-047; HRP025-047; HRH029-050; VZH028-035-044

This change will be implemented in FRCC production by the end of March 2023. Once the current stock has been used, the new belt heaters will be used for orders, according to availability.

Available documents

- Cross reference of existing and new version, with codes numbers
- The Compressor Guidelines, Accessories catalog and selection tool: [CoolSelector 2](#) will be updated accordingly.

Videos on YouTube, Infograms

- How to select the right solenoid valve for your project - [LINK](#)
- Compressor check-up tips - [Infogram](#)
- Replacing AK-PC 782A with AK-PC 782B - [LINK](#)
- How to connect AK-PC 782B to AK-SM 800A - [LINK](#)
- Heat exchanger lab for future proof and highly efficient brazed heat exchangers - [LINK](#)



Details for Additional Information

UK/IE

[Cooling United Support Hub](#)

[Support Made Easy](#)

customerservice.uk@danfoss.com

customerservice.ie@danfoss.com

Customer Service UK & IE tel: 0330 808 6888

Denmark

[Cooling United Support Hub](#)

[Support Made Easy](#)

kundeservice.dk@danfoss.com

Kundeservice tel: 69 91 80 80

Norway

[Cooling United Support Hub](#)

[Support Made Easy](#)

kundeservice.no@danfoss.com

Kundeservice tel: 23 96 71 00

Sweden

[Cooling United Support Hub](#)

[Support Made Easy](#)

kundservice.se@danfoss.com

Kundservice tel: 010 888 7400

Finland

[Cooling United Support Hub](#)

[Support Made Easy](#)

asiakaspalvelu.fi@danfoss.com

Asiakaspalvelu puh: 0753 251 100

Estonia

klienditeenindus.ee@danfoss.com

Klienditeenindus tel: +372 6593 300

Latvia

klientuserviss.lv@danfoss.com

Klientu serviss tel: +371 6733 9166

Lithuania

klientucentras.lt@danfoss.com

Klientų centras tel: +370 5214 0043