

04.2022 | Climate Solutions

Cool Update



Introduction

Danfoss Cool Update 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 Cool Update 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 Cool Update!

Table of Contents

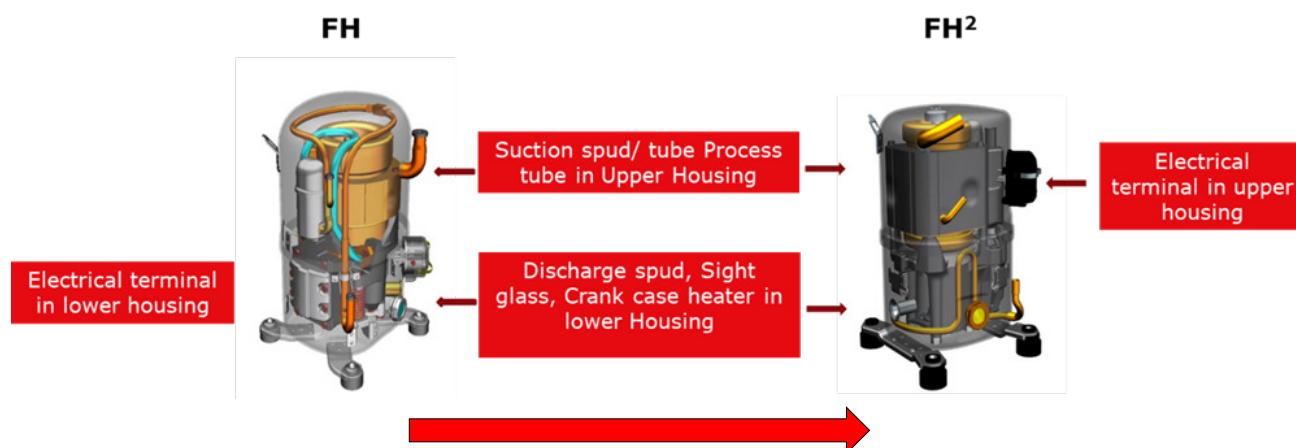
| | |
|---|----|
| Packaged Optyma™ Condensing Unit FH → FH ² Compressor Change | 3 |
| AK-PC 782A – Release New Software Version 3.50..... | 5 |
| Laser Marking Change on Coils..... | 5 |
| Solenoid Valve Range for Water Leak Detection..... | 6 |
| AK-CC55 SC (UI) SW Update 1.70 | 7 |
| KoolProg Ver 4.6.0.x: Maintenance Release Update..... | 8 |
| Videos in YouTube | 10 |

Packaged Optyma™ Condensing Unit FH → FH² Compressor Change



Danfoss has started mounting the new FH² compressor inside all light commercial packaged Optyma Slim Pack and Optyma Plus 3-phases condensing units. Please see the new compressor designation below.

| Compressor technology | Old designation | New designation |
|--|-----------------|-----------------|
| Single phase commercial reciprocating compressor | FH2511Z FZ | FH2511Z-XC |
| Three phase commercial reciprocating compressor | TFH2511Z TZ | FH2511Z-XG |



Technical description

Cooling capacity and product designation are changed but available refrigerant and model number remain identical. Please find below the designation changes:

| Current designation | New designation | Code number and YTD status |
|---------------------|------------------|------------------------------------|
| OP-LSQM074FHW05G | OP-LSQM068FHW05G | 114X7095 Phased out |
| OP-LSQM074FHW09G | OP-LSQM068FHW09G | 114X7185 Phased out |
| OP-LSQM074FHW05E | OP-LSQM068FHW05E | 114X7096 Phase-out, stock sell-off |
| OP-LSQM074FHW09E | OP-LSQM068FHW09E | 114X7186 Phase-out, stock sell-off |
| OP-LPQM074FHP00G | Remain identical | 114X3252 Phased out |
| OP-LPQM074FHP00E | OP-LPQM068FHP00E | 114X3253 Phase-out, stock sell-off |

Please find below capacity deviation with other similar models (R452A refrigerant):

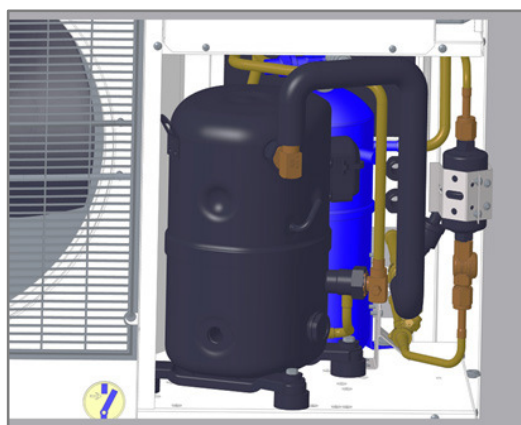
| Current/New Optyma Plus Designation | Remaining Optyma Plus Code | New Optyma Slim Pack Designation W05 | Remaining Optyma Slim Pack Code W05 | New Optyma Slim Pack Designation W09 | Remaining Optyma Slim Pack Code W09 | Current Model Cooling Capacity kW* |
|-------------------------------------|----------------------------|--------------------------------------|-------------------------------------|--------------------------------------|-------------------------------------|------------------------------------|
| LPQM048NTP00E | 114X3225 | LSQM048NTW05E | 114X7087 | LSQM048NTW09E | 114X7181 | 0,92 |
| LPQM048NTP00G | 114X3233 | LSQM048NTW05G | 114X7088 | LSQM048NTW09G | 114X7182 | 0,94 |
| LPQM074FHP00G | 114X3253 | LSQM068FHW05G | 114X7095 | LSQM068FHW09G | 114X7185 | 1,31 Old 1.47 New |
| LPQM068FHP00E | 114X3252 | LSQM068FHW05E | 114X7096 | LSQM068FHW09E | 114X7186 | 1,31 Old 1.47 New |
| LPQM068NTP00E | 114X3249 | LSQM068NTW05E | 114X7090 | LSQM068NTW09E | 114X7184 | 1,46 |
| LPQM068NTP00E | 114X3241 | LSQM068NTW05G | 114X7089 | LSQM068NTW09G | 114X7183 | 1,45 |

* -35 °C midpoint 32 °C ambient

Changed technical features, tubing, and wiring of the condensing unit:

- Better cooling capacity +12 %
- Better COP +1 %
- Similar noise level
- Changed internal wiring diagram due to internal compressor capacitor change

Optyma Plus new lay out



Slim Pack new lay out



Spare parts

To replace FH compressor with FH² in existing units we can provide tube adaptation spare part for previous FH based design.

| Code | Description | Compressor Designation | EAN Number |
|----------|---------------------------------------|------------------------|---------------|
| 118U5501 | Spare part, comp tube FH 2511 FH SP | FH2511Z-XC & | 5702424634100 |
| 118U5502 | Spare part, comp tube FH2511 FH2 PLUS | FH2511Z-XG | 5702424634117 |

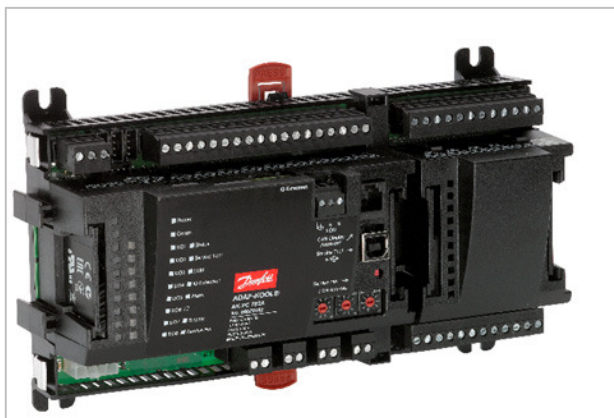
Available documentation

- CoolSelector2 will be updated end April 2022
- Instruction guidelines are updated inside the unit and available at the following links
 - [Optyma Slim Pack guideline](#)
 - [Optyma Plus guideline](#)
- [Catalogue](#) is updated and commercial brochure will be updated by Q2 2022

Please contact your local Danfoss contact for more information about the impact for each product and other solutions Danfoss can offer.

AK-PC 782A – Release New Software Version 3.50

A new software version 3.50 for the pack controller AK-PC 782A is now available, with the intention to support the continuous development of transcritical CO₂ packs and to correct some minor bugs.



The new features added with the software version 3.50 are as follow:

- Capacity control of up to 10 compressors on MT and 8 on IT
- Possibility to control a new combination of compressors in the suction line:
1x Variable + 1x Comp. w. unloaders + single step
- Update IT- optimize for ejector operation
- Alarm transmission to the frontend can be disabled to avoid “Alarm Router Full” message
- Correction of minor bugs

The current AK-PC 782A with software version 3.30 can be optionally upgraded to version 3.50 by using the [AK-ST 500 Service Tool](#).

The new software version 3.50 was released as a software Web release end of March 2022. Production of AK-PC 782A controllers will be enhanced with this software version accordingly during the month of May 2022.

Laser Marking Change on Coils



To improve the quality and durability of markings on coils, Danfoss is gradually changing from tempo printing to laser marking starting in March 2022.

There are no changes to product specifications. Below is a picture of the layout comparison, including:

- Ink markings changed to laser markings
- Added QR code

Tampo marking



Laser marking



There will be a transition period from March 2022, that customers might receive products with both tempo and laser printing.

Solenoid Valve Range for Water Leak Detection

The increased focus on water leaks on the part of both authorities and insurance companies has led to digital solutions that help prevent water leak damages.



The solution consists of sensors that detect moisture that are connected to a control system which raises alarm if a water leak occurs. The system also sends a signal to a shut-off valve, which shuts off the water supply and ensures that no more water leaks out. The shut-off valve can be mounted either on the building's main water supply or other installations connected to the water supply.

Danfoss, in collaboration with leading providers of water leakage solutions, has developed a valve program that, when building in the leak detection system, is activated once daily to ensure that it always works.

The valves have all required drinking water approvals: RISE, SINTEF, ACS, PZH, WRAS, Wetted materials in accordance with 4MSI (4 member states Germany, Holland, France, UK and Denmark), DVGW, KTW, and W270.

Key features and advantages:

- ECO brass housing (CW724R)
 - ECO brass contains no toxic additives, such as lead and nickel. It also has superior corrosion resistance compared to conventional free-cutting brass.
- EPDM sealing material
 - Our sealing material is fully compliant with new strict European regulations and protects the consumer against bacterial and other hazardous contamination.
- Flow range for water in Kv: 0,7 – 40 m³/h
- Differential pressure: 0,3 – 16 bar
- Media temperature: 0 – 90 °C
- Coil enclosure: IP67
- Thread connections: G 3/8 – G 2
- DN 6 – 50
- Water hammer damped
- Build-in, self-cleaning filter
- Insensitive to dirt - square armature design prevents dirt buildup
- RoHS certified
- Single-piece, weldless construction
- Compact design making it easy to fit in all systems

| Type | NC/NO | Material |
|---------------|---------------|--------------------|
| EV221BW 10-22 | NC | ECO brass (CW724R) |
| EV221BW 10-22 | NO | ECO brass (CW724R) |
| EV220BW 15-25 | NC | ECO brass (CW724R) |
| EV220BW 15-25 | NO | ECO brass (CW724R) |
| EV228BW 15-25 | UN (latching) | ECO brass (CW724R) |

See how the new solenoid valves for leak detection work: [Leak detection video](#)

Read more about leak detection and our dedicated solenoid valve program here: [Solenoid valves for leak detection](#) |

Danfoss

AK-CC55 SC (UI) SW Update 1.70



We would like to inform you that the AK-CC55 Single Coil (UI) case controllers are receiving software update (ver. 1.70). This brings a set of new and improved features (see below), while keeping the core application functionality of the controller unchanged. The update will come preinstalled on the controllers coming out of production during week 12 and the update file is available to download for updating the existing installations from our product support site.

Please reach out to your local Technical Support for the installation file.

Product codes in scope are 084B4082, 084B4182, 084B4083, 084B4183.

New features and functions:

- Extension of thermostat range from -50 °C down to -60 °C
- Function to remote lock display keypad (type AK-UI55 Set)
- Possibility to stop fan only when door opens (refrigeration still active)
- Improved SH-close control when running modulating thermostat (MTR)
- Separate defrost/thermostat parameters for thermostat band 2
- Option for user defined temperature sensors type for S3, S4 and S5
- Improved melt function when running modulating thermostat (MTR)
- Oil flush function to force oil back to the compressor/oil receiver
- Option for offset adjustment for sensors S2 and S5 with long cable runs
- Minimum defrost time added to be used in CO₂ hot gas defrost applications

Product version identifier which is shown on the packaging label and product label on the front cover below the code number will be stepped up from PV03 to PV04.

For technical support regarding this update, please contact your local Technical Support Engineer.

KoolProg Ver 4.6.0.x: Maintenance Release Update



We are pleased to release an update of [KoolProg Software](#) (Ver. 4.6.0.x). We have completed several improvements, enhancements, and bug fixes to give you better and smoother experience working with KoolProg tool and our Danfoss range of electronic controllers. Below are some highlights of the updates made in version 4.6.0.x:

Key highlights of version 4.6.0.x:

- Support ERC 21X maintenance release code numbers
- EETa PV02 SW version updated from 1.49 to 1.50
- Support for new SW and PV version for 080G3413 ERC112D Controller
- General improvements and bug fixes

Detailed description

1. ERC21x maintenance release code numbers support

Below list of new code numbers added under ERC 21X family

| Code No. | PV | Description |
|----------|------|------------------------------------|
| 080G3452 | PV01 | ERC 211 Controller, 115V (New) |
| 080G3454 | PV01 | ERC 211 Controller, 230V (New) |
| 080G3458 | PV01 | ERC 213 Controller, 230V (New) |
| 080G3461 | PV01 | ERC 214 Controller, 115V (New) |
| 080G3462 | PV01 | ERC 214 Controller, 230V (New) |
| 080G3468 | PV01 | ERC 213 Controller, 115V NAM (New) |
| 080G3470 | PV01 | ERC 213 Controller, 230V NAM (New) |
| 080G3267 | PV05 | ERC 213G Controller, 230V |

2. EETa PV02 software version update

- EETa, PV02 Software version updated from 1.49 to 1.50

3. Support new PV version for 080G3413 ERC112D Controller

- Added new product version (PV02) under 080G3413 code
- SW version: 9.33

4. General improvements and bug fixes

- Code number drop down sequence updated for ERC11x, ERC21x and EET
- Fixed parameter display issue when selected through menu group in ERC11x family
- 080G3229 – Enum mismatch issue fixed for parameter “Temp Sensor to Display (trS)”
- EKF controller setting file update to support copy key mode
- Code Signing Certificate (CSC) validity extended in this version to address the installation issue observed in 4.5.0 and lower versions

Known issues/ Specific limitations to this release:

- Under certain conditions, some operations might take longer than expected because of software compatibilities issues
- MYK version below 5.01 may not support all KoolProg features for AK-CC55 controllers
- ERC21x - Parameter files generated with KoolProg version 4.3 and below cannot be opened in this version

The new version of KoolProg is now available for download at:

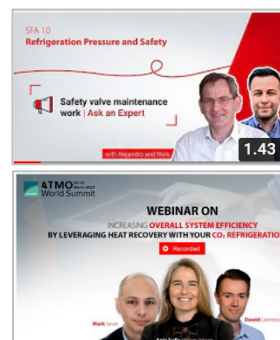
<http://refrigerationandairconditioning.danfoss.com/support-center/apps-and-software/koolprog/#/>

We hope that you will like the experience of working with this new version of KoolProg.

For any queries, please reach out to your Danfoss Technical Support office.

Videos in YouTube

- Refrigerant Safety | Ask an Expert:
 - What to consider with safety valves? - [LINK](#)
 - How to select a safety valve? - [LINK](#)
 - Maintenance work on safety valves - [LINK](#)
- From ATMO Summit 2022
 - Increase CO₂ refrigeration system efficiency with heat recovery | ATMO World Summit 2022 - [LINK](#)



Danfoss Climate Solutions EER Region

– Bulgaria, Croatia, Czech Republic, Hungary, Poland, Romania, Serbia, Slovakia, Slovenia, Ukraine

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