June/July 2022 | 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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System Manager AK-SM 800A Software Release 3.0

ADAP-KOOL™ System Manager 800A series has been updated with software package 3.0.12 and it is available for download from **ADAP-KOOL support site**. The software is recommended for all customers and adds new functionality, improves system reliability and performance.

Software Release 3.0 (package 3.0.12)- new feature highlights

- Updated performance and accuracy the touch screen
- Added new support for Schneider power meters (iEM3250/PM3255)
- New basic HACCP logging, reporting and export
- Second Modbus channel enabled (no license required)
- Expand max number of EKC based generic controls to 170 (from 120)
- Added option for device parameter status indicator (*)
- Product security updates (SM800A & SvB5)
- Increase number of 'active' device types supported to 50 (from 20)
- New 'Internet Web Port' added to overcome an issue using the Graphic Editor

Software Release 3.0 - defect fixes / update highlights

- MCX Lighting Application Support
- MCX-RTU Sensor Broadcast not working
- System Manager Gas sensor ppm levels corrected
- Bug in 'Pre-Flight' wizard that allows user to apply same username & password
- Addressing of HVAC controller in SVB5 is not possible
- Updating from G09.000.118 to G09.000.135 - lost the "Tap Water" info in the overview list for PC782A
- AK2 disabled alarms are shown as active
- Refrigeration Wizard- blank controller name causes issues
- Device Detail history showing '0' when device is offline
- SVB5 does not allow history configuration logs on 2 (same type) dual suction group pack controllers
- Unit reset Improvements
- Issue with XML request is resetting system (customer specific)
- User authorization adjustments

Software Details

From release 3.0 onwards, the System Manager software will be adopting a new labelling format. For example, this new software packages are known as V3.0.12 (rather than the previous format as SMG09.000.154_StoreView Browser 5_ SVB501.000.150).

Danux 4.14.010.181 (no change from previous package)

Timing

Release 3.0 (Package 3.0.12) is immediately available via the Danfoss **ADAP-KOOL support site**

All newly manufactured units will have Package 3.0.12 installed.

Product codes

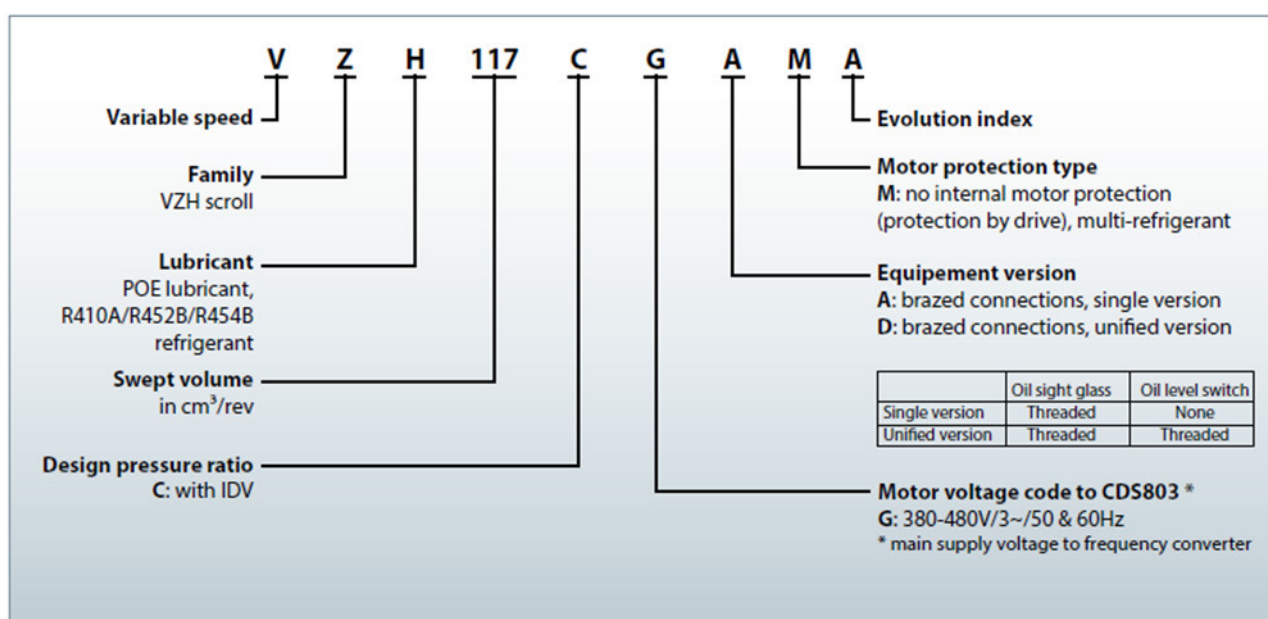| AK-SM 820A	080Z4024
AK-SM 820A - no WiFi	080Z4025
AK-SM 850A	080Z4021
AK-SM 850A - no WiFi	080Z4022
AK-SM 880A	080Z4028
AK-SM 880A - TP78	080Z4029

VZH170 New Models with R410A/R452B/R454B

Danfoss has released new variable speed compressor **VZH170 models** after VZH088/117 which can be used with multiple refrigerants: R410A, R452B, and R454B.

The new models with R410A/R452B/R454B are currently limited to code G (400 V, 3-phase).

R452B and R454B are HFO/HFC blends with similar capacities to R410A. Due to their limited discharge temperature difference, they are currently the best candidate for a direct drop-in replacement for R410A. And although R452B and R454B are classified A2L, it is considered the least flammable of all the leading R410A replacements.

New models and sales codes have been released:
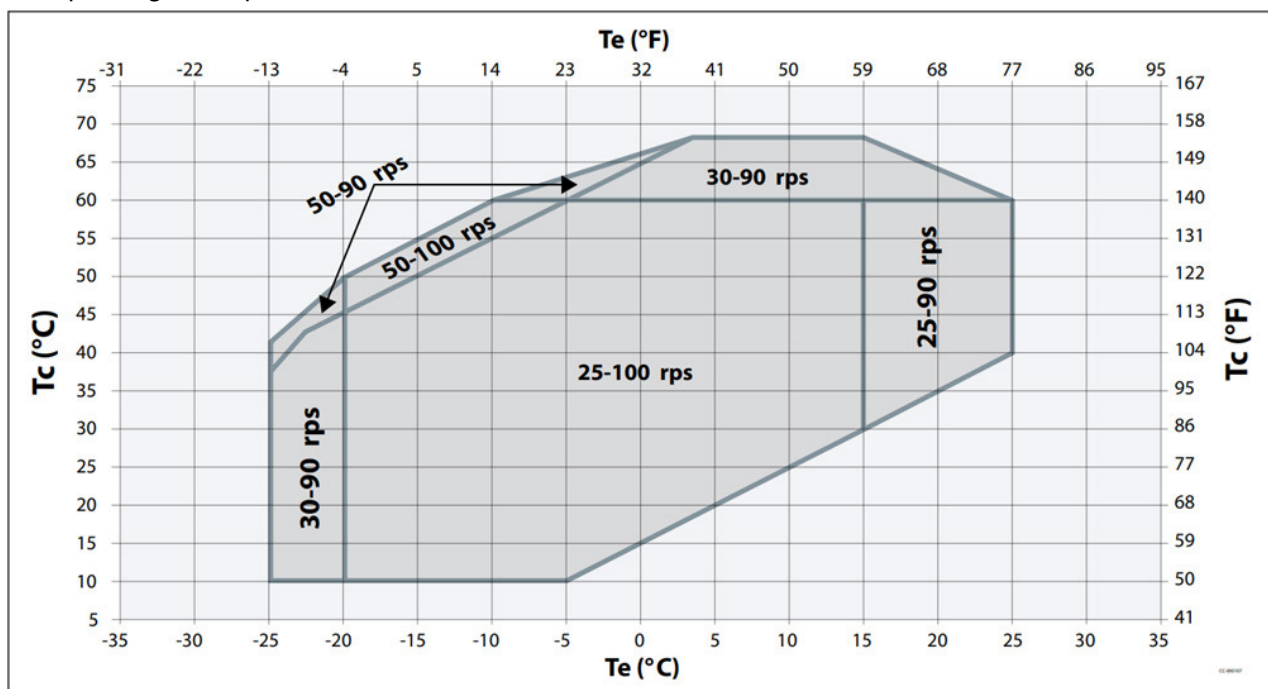
- Nomenclature:

4

- New sales codes:
  - Single pack:

Compressor model	Equipment version	Technical Name	Motor code G
			380-480V/3ph/50&60Hz
VZH088	Oil sight glass	VZH088CGAMA	120G0305
VZH088	Oil level sensor + oil sight glass	VZH088CGDMA	120G0307
VZH117	Oil sight glass	VZH117CGAMA	120G0309
VZH117	Oil level sensor + oil sight glass	VZH117CGDMA	120G0311
VZH170	Oil sight glass	VZH170CGAMA	120G0313
VZH170	Oil level sensor + oil sight glass	VZH170CGDMA	120G0315

  - Industrial pack:

Compressor model	Equipment version	Technical Name	Motor code G
			380-480V/3ph/50&60Hz
VZH088	Oil sight glass	VZH088CGAMA	120G0306
VZH088	Oil level sensor + oil sight glass	VZH088CGDMA	120G0308
VZH117	Oil sight glass	VZH117CGAMA	120G0310
VZH117	Oil level sensor + oil sight glass	VZH117CGDMA	120G0312
VZH170	Oil sight glass	VZH170CGAMA	120G0314
VZH170	Oil level sensor + oil sight glass	VZH170CGDMA	120G0316

- Operating envelope:

For detailed capacities, please refer to **Coolselector2**. Polynomial coefficients are also available directly in Coolselector2. For further information, please refer to **application guideline**.

The VZH170 code G new models oil sight glass version with R410A/R452B/R454B were released in March 2022, oil level sensor + oil sight glass version will be released in July 2022. VZH088/117 with multi refrigerant has been released in March 2021.

After this release, VZH Gen3 with multi refrigerant will replace VZH Gen3 with only R410A version. Last buy order will be in September 2022.
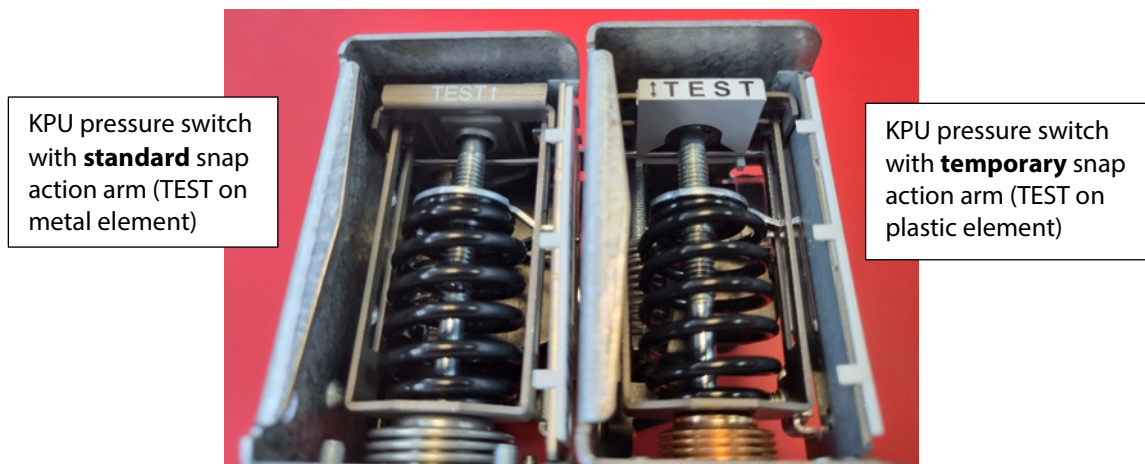
For additional information regarding the VZH170 new models with R410A/R452B/R454B release, please contact Danfoss technical support.

KPU Pressure Switches – Temporary Change of Snap Action Arm

All KPU pressure switches will temporarily use an alternative snap action arm from KPU thermostat.

The only difference between both parts is the way how the end of the arm is finished for manual tripping.
The one originally used in KPU pressure switches is just bent metal and the one from KPU thermostats has additional plastic overlay.

Apart from this visual difference, there is no other impact on the product, neither function nor performance.

KPU pressure switch with **standard** snap action arm (TEST on metal element)

KPU pressure switch with **temporary** snap action arm (TEST on plastic element)

The temporary snap action arm will be used in production of KPU pressure switches from week 23 to week 25 of 2022 (both weeks included).

MCX, AK-PC x51, EKE 347, EKE 400: Change of LCD Display Driver and New BIOS Release

The existing LCD display drivers used in MCX, AK-PC x51, EKE 347 and EKE 400 are no longer available and are substituted by new models. Consequently, new BIOS have been issued for all controllers. In the BIOS for MCX15/20B2 we also introduced few new features and bug fixes.

New LCD Display Driver
This component change takes place because the existing LCD drivers are going out of production. The change in detail:
> For MCX06D, AK-PC 351, EKE 347:

- LCD driver: from ST7565P/S to ST7567 by Sitronix

> For MCX061V, MCX08M2, MCX15/20B2, MCX152V, EKE 400, AK-PC 551, AK-PC 572, AK-PC 651A:

- LCD driver: from EPL65132HXM by ELAN to UC1604C by Ultrachip

New BIOS release
The new LCD driver requires a BIOS update.
> For MCX15/20B2 the new BIOS also provides the following main features and fixes:

- MODBUS TCP-IP timeout is adjustable
- Support for the new "frequency output" analogue output type, with 20-500 Hz range and 1Hz resolution
- Fixed: I/O expansion modules do not work properly with MCX15B2 (note that there is no problem with MCX20B2)
- Fixed: Ethernet drive sporadically gets stuck after some while

For a complete description of the changes, you can look at the changelog inside the BIOS package.

Link to the change log: **www.danfoss.com/mcx**

WARNING: The new BIOS are not down gradable.

Affected products

Product	Code	Description	OLD BIOS Version	NEW BIOS Version	BIOS Release to Production	OLD PV	NEW PV
MCX06D	080G0115	MCX06D ,24V RS485 S	4v20	no change	no	PV02	no change
	080G0169	MCX06D, 24V RS485 I/32	4v20	no change	no	PV02	no change
	080G0111	MCX06D, 24V LCD S	4v20	4v21	Jan-22	PV02	PV03
	080G0112	MCX06D, 24V LCD RS485 S	4v20	4v21	Jan-22	PV02	PV03
	080G0166	MCX06D, 24V LCD I/32	4v20	4v21	Jan-22	PV02	PV03
	080G0167	MCX06D, 24V LCD RS485 I/32	4v20	4v21	Jan-22	PV02	PV03
MMIGRS2	080G0294	MMIGRS2, Panel S	1v16	1v17	Jan-22	PV03	PV04
	080G0295	MMIGRS2, Wall S	1v16	1v17	Jan-22	PV03	PV04
	080G0297	MMIGRS2, Panel I/27	1v16	1v17	Jan-22	PV03	PV04
	080G0298	MMIGRS2, C.C. Panel I/27	1v16	1v17	Jan-22	PV03	PV04
	080G0299	MMIGRS2, C.C. Wall S	1v16	1v17	Jan-22	PV03	PV04
MCX08M2	080G0293	MCX08M2, 24V, RS485, S	1v14	1v15	Mar-22	PV02	PV03
	080G0303	MCX08M2, 24V, RS485, I/24	1v14	1v15	Mar-22	PV02	PV03
	080G0307	MCX08M2 230V LCD RS485 S	1v14	1v15	Mar-22	PV02	PV03
	080G0310	MCX08M2, 24V LCD RS485 S	1v14	1v15	Mar-22	PV02	PV03
	080G0314	MCX08M2, 230V RS485 2SSR I/24	1v14	1v15	Mar-22	PV02	PV03
	080G0315	MCX08M2, 24V LCD RS485 I/24	1v14	1v15	Mar-22	PV02	PV03
	080G0316	MCX08M2, 230V RS485 I/24	1v14	1v15	Mar-22	PV02	PV03
	080G0335	MCX08M2, 230V RS485 TTL S	1v14	1v15	Mar-22	PV01	PV02
MCX061V	080G0250	MCX061V, 230V LCD RS485 S	2v30	2v31	Mar-22	PV04	PV05
	080G0251	MCX061V, 24V LCD RS485 S	2v30	2v31	Mar-22	PV04	PV05
	080G0255	MCX061V, 24V LCD RS485 ETH	2v30	2v31	Mar-22	PV04	PV05
MCX152V	080G0284	MCX152V, 24V LCD 2RS485 ETH	2v30	2v31	Mar-22	PV04	PV05
	080G0285	MCX152V, 230V LCD 2RS485 ETH	2v30	2v31	Mar-22	PV04	PV05
	080G0304	MCX152V, RTU 230V LCD 2RS485	2v30	2v31	Mar-22	PV03	PV04
	080G0313	MCX152V, 24V 2 RS485 S	2v30	2v31	Mar-22	PV04	PV05
MCX15B2 _20B2	080G0327	MCX15B2, RS485, S	1v15	1v19	Mar-22	PV03	PV04
	080G0328	MCX15B2, LCD, RS485, S	1v15	1v19	Mar-22	PV03	PV04
	080G0329	MCX20B2, 2RS485, I	1v15	1v19	Mar-22	PV03	PV04
	080G0330	MCX20B2, LCD, 2RS485, S	1v15	1v19	Mar-22	PV03	PV04
	080G0331	MCX20B2, LCD, 2RS485, I	1v15	1v19	Mar-22	PV03	PV04
	080G0332	MCX20B2, LCD, 4SSR, 2RS485, S	1v15	1v19	Mar-22	PV03	PV04
AK-PC 351	080G0289	AK-PC 351, 24V LCD SSR RS485 S	5v01	5v02	Jan-22	PV06	PV07
AK-PC 551	080G0281	AK-PC 551, 230V LCD 2SSR RS485 S	1v14	1v15	Mar-22	PV11	PV12
	080G0283	AK-PC 551, 24V LCD 2SSR RS485 S	1v14	1v15	Mar-22	PV11	PV12
	080G0321	AK-PC 551, 230V 2SSR RS485 S	1v14	1v15	Mar-22	PV11	PV12
	080G0326	AK-PC 551, 24V 2SSR RS485 S	1v14	1v15	Mar-22	PV11	PV12
	080G0282	AK-PC 551, Control KIT 230V 2SSR RS485 S	1v14	1v15	Mar-22	PV11	PV12
	080G0288	AK-PC 551, Control KIT 24V 2SSR RS485 S	1v14	1v15	Mar-22	PV11	PV12
AK-PC 651A	080G0336	AK-PC 651A, 230V LCD 2SSR RS485 S	1v15	1v19	Mar-22	PV01	PV02
AK-PC 572	080G0320	AK-PC 572, Control 24V LCD 2SSR RS485 S	1v14	1v15	Mar-22	PV03	PV04
EKE 347	080G5000	EKE 347, Liquid level Controller	3v11	3v12	Jan-22	PV07	PV08
EKE 400	080G5003	EKE 400 Evap. Controller. w HMI. 230 V	1v14	1v15	Mar-22	PV04	PV05
	080G5004	EKE 400 Evap. Contr. w HMI. 24 V ac/dc	1v14	1v15	Mar-22	PV04	PV05
	080G5005	EKE 400 Evap. Controller. w/o HMI. 230 V	1v14	1v15	Mar-22	PV04	PV05
	080G5006	EKE 400 Evap.Contr. w/o HMI. 24 V ac/dc	1v14	1v15	Mar-22	PV04	PV05
MCX08M2	080G0337	MCX08M2-ECA5	1v14	1v15	Mar-22	PV01	PV02

Change in function

There are no changes in form and fit. Change in function are described below:

- The content of the label for MCX and MMIGRS will show an incremented SW version (BIOS) and Product Version (PV), according to the table above.
- The content of the label for AK-PC and EKE will show an incremented Product Version (PV), according to the table above. The SW version (Application Software) will not change.
- The new BIOS will not allow to be downgraded with older versions, because previous BIOS versions cannot work on devices mounting the new LCD driver.

There is no need to recompile the application software and no need to update the BIOS on existing controllers due to the LCD driver change.

There are no further changes from the user perspective for all the controllers apart from MCX15/20B2.

For MCX15/20B2, it is recommended to update the BIOS if you are interested to the new features and fixes.

For more information, please visit our Danfoss Store or contact your local sales representative.

Quick Selector for Solenoid Valves, Fluid Controls

Quick Selector

The Quick Selector tool has been developed to help wholesalers, installers, and end-users to specify the correct industrial solenoid valves for a range of standard applications. All it takes is an internet connection and the web-based tool makes your product selection quick and easy.

In Quick Selector Tool you only need to select

- the media,
- function for the valve,
- connection size and
- the application type

and as result the Tool gives you best valve for your application.

Go and test how easy it is to use the tool: **Quick Selector for Solenoid Valves**

Phase-Out of System Managers AK-SM 350 & AK-SM 720 and Associated Gateway P1 200

Danfoss has decided to resume the product phase-outs that will include AK-SM 350, AK-SM 720 and PI 200.

Timing

The AK-SM 350 series is subject to an immediate phase-out. Any additional new volumes – beyond what has been already placed in the system will as of today, no longer be possible.
A reminder: the AKM series has been previously also phased out.

Important notice

It is our recommendation to transition to the current AK-SM 800A series immediately as our sole system manager series going forward. For any migration issues, please contact your sales region or your local technical support team.

Affected products

AK-SM 800 series (Reminder)	
AK-SM 850 System M. Ref.	080Z4001
AK-SM 820 System M. Conv.	080Z4004
AK-SM 810 System M. Wo D.	080Z4006
SK-SM 880 System M. full	080Z4008
SK-SM 880 System M. TP78	080Z4009
AK-SM 880AL System M. w touch	080Z4552
AK-SM 720 Series	
AK-SM 720 Controller, UK-D-F-NL-I	080Z8511
AK-SM 720 Controller, UK-E-PT-US	080Z8512
AK-SM 720 Controller, UK-DK-S-FI	080Z8513
AK-SM 350 Series	
AK-SM 350 Controller, UK-D-F-NL-I	080Z8500
AK-SM 350 Controller, UK-E-PT-US	080Z8502
AK-SM 350 Controller, UK-CZ-PL	080Z8504
AK-SM 350 Controller	080Z8505
AK-SM 350 Controller, UK-DK-FI-SV	080Z8508
AK-SM 350 Controller	080Z8570
AK-PI Series	
AK-PI 100 Control, Protocol Interface	080Z8522
AK-PI 200 Control, Protocol Interface	080Z8521
AK-PI 300 Control, Protocol Interface	080Z8526
AKM (Reminder)	
AK MONITOR, Software, USB	084B4500
AK MIMIC, Software, USB	084B4501
AKM4, Software, USB, 1 User	084B4512
AKM5, Software, USB, 1 User	084B4515
AK MIMIC, Software, USB	084B4534

Recommended alternative

AK-SM 800A series	
AK-SM 850A Refrigeration	080Z4021
AK-SM 820A Convenience Store	080Z4024
AK-SM 880A Full Smart Store	080Z4028
AK-SM 880A TP78	080Z4029
AK-SM 850A – Ref. NO WiFi	080Z4022
AK-SM 820A – Conv. NO WiFi	080Z4025

Videos in YouTube

- Introducing the new ICF 20-2 solenoid valves - **LINK**
- Upcoming and on-demand webinars on Food Retail CO_2 **- LINK**
- Upcoming and on-demand webcasts from Danfoss Mobile Training Unit: observe operational CO_2 system with all the components - **LINK**
- How to program the pack controller AK-PC 551 - **LINK**

Details for Additional Information

UK/IE

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Support Made Easy
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