

02.2022 | Climate Solutions

Cool Update



Introduction

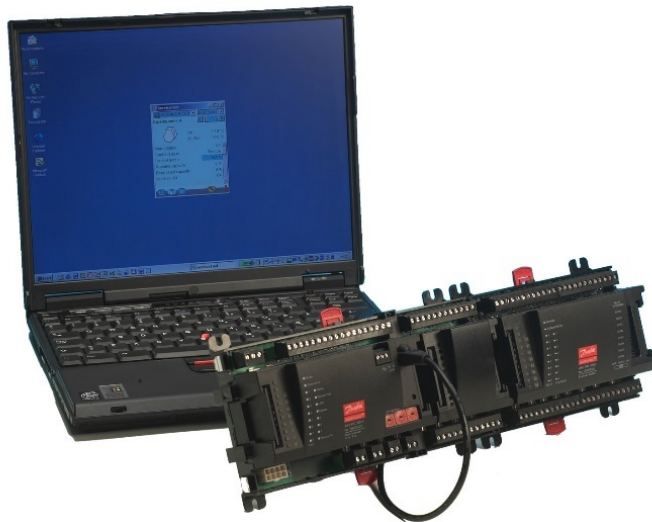
Danfoss Cool Update keeps you updated with the latest news on the cooling and industrial products portfolios from Danfoss Climate Solutions. The content is intended to give a quick overview of core technical news and updates in our product portfolio, including links to relevant documentation and more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

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Updated AK-ST 500 – Service Tool



Danfoss is now introducing a new version of AK-ST 500 – Service tool. The software is updated from version 3.45 to software version 4.00. This update implements support of the new AK-SM 800A, update of icons and application drawings for AK-PC 782A.

AK-ST 500 is a software tool designed specifically to support ADAP-KOOL® controllers during commissioning, configuration, and service.

The software is not available through a CD ROM anymore, but downloaded for free in full operational version on site [here](#)

Features:

- I/O configuration
- Parameter configurations
- Alarms management
- Start-up monitoring
- Logs
- Master control functions setup
- Full overview of system performance

This update includes:

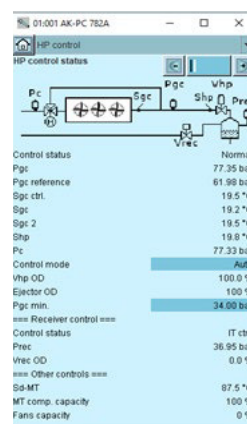
- Support for Windows 10
- Support for tunneling to High-end ADAP-KOOL® controllers via AK-SM8xxA
- Updated icons and application drawings for AK-PC 782A

User guide:

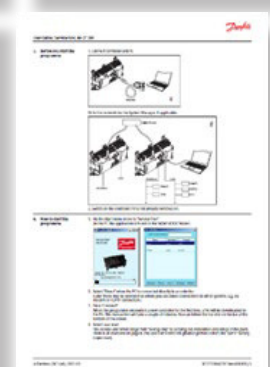
Make sure to download the [User Guide](#) for the AK-ST 500, which will give an introduction on the possibilities offered to you by AK-ST 500, both in daily use and in connection with service calls.

Important:

Do not run any previous patches after installing AK-ST 500 v. 4.00
If you need additional information, please contact your local Danfoss technical support.



Alarm	value	Ref	Act %	Status
	3.0 °C	-10.0 °C	100	Normal ctrl.
	-24.4 °C	-30.0 °C	100	Normal ctrl.
	3.3 °C	1.3 °C	33	Normal ctrl.
	19.5 °C	21.2 °C	0	Standby
	19.9 °C	21.2 °C	0	Normal
	77.3 bar	62.0 bar	100	Normal
	77.3 bar	62.0 bar	100	Using Vhp
	3.3 °C	5.4 °C	0	High refe...
	3.3 °C	-10.4 °C	0	OFF
	40.3 °C	55.0 °C	100	Heat recl...
	50.2	51	55	PI



Browser Certificate Issue Related to ADAP-KOOL™ System Manager AK-SM 800A detected



The latest deliveries of our System Manager 800A series have shown a reported issue linked to generating a browser certificate. If this fails to generate, WiFi and RJ45 will no longer be accessible.

Note: Units upgraded from a previous version are NOT impacted!

Mitigation action

- In case an issue is detected, please contact our technical support team following the contact information in this document
- As a next step, our technical support will assess the best available solution to fix the issue. We are certain to be able to solve these cases remotely, therefore no need to send the unit back for replacement.

Deliveries that might be affected

The reported issue is related to last delivered batches ONLY ranging between 05.04.2021 to 26.04.2021 and it is very seldom.

Product Codes affected

The reported issue is not related to a certain variant and therefore affects all variants listed below:

AK-SM 820 (RS485)	080Z4024
AK-SM 850 (RS485)	080Z4021
AK-SM 880 (RS485)	080Z4028
AK-SM 880 'TP78 Retro-fit'	080Z4029

Using ICF Valve Instead of EVRA/T

Have you considered ICF as an alternative to EVRA/T?

We are currently experiencing longer than expected lead times on EVRA/T 10, 15 and 20, due to demand and resources. Do you need to replace an old EVRA/T? Is this something that is potentially an issue to your project?

Consider both ICF EVRA as a replacement for old valves or ICF 15-4 for new projects and see the additional benefits



ICF EVRA

- Shorter lead times
- Flanged design for retrofit of ICF EVRA from existing EVRA/T.
- Higher pressures. ICF 15-4 has a higher MOP of 52 bar.
- Easier installation. One valve, fewer welds and the valve does not need to be dismantled for installation.
- Longevity. As the market moves towards block valve solutions and the potential of older valves being phased out.
- Multiple configurations – Available with multiple different modules so individual components are not required.
- Easily serviceable. Simple isolation of the block valve for servicing.
- Larger working temperature range: -60/+120°C (-76/+248°F)
- Suitable for use with HCFC, non-flammable HFC, NH₃ and CO₂.

The ICF 15-4 is always fitted with a stop valve and a strainer module. The two remaining module ports allow for multiple different configurations, depending on your requirements.

Further information can be found in the [cross reference document](#) or in [Coolselector2](#)

New Compressor Models VZH088/117 with R410A/R452B/R454B Release



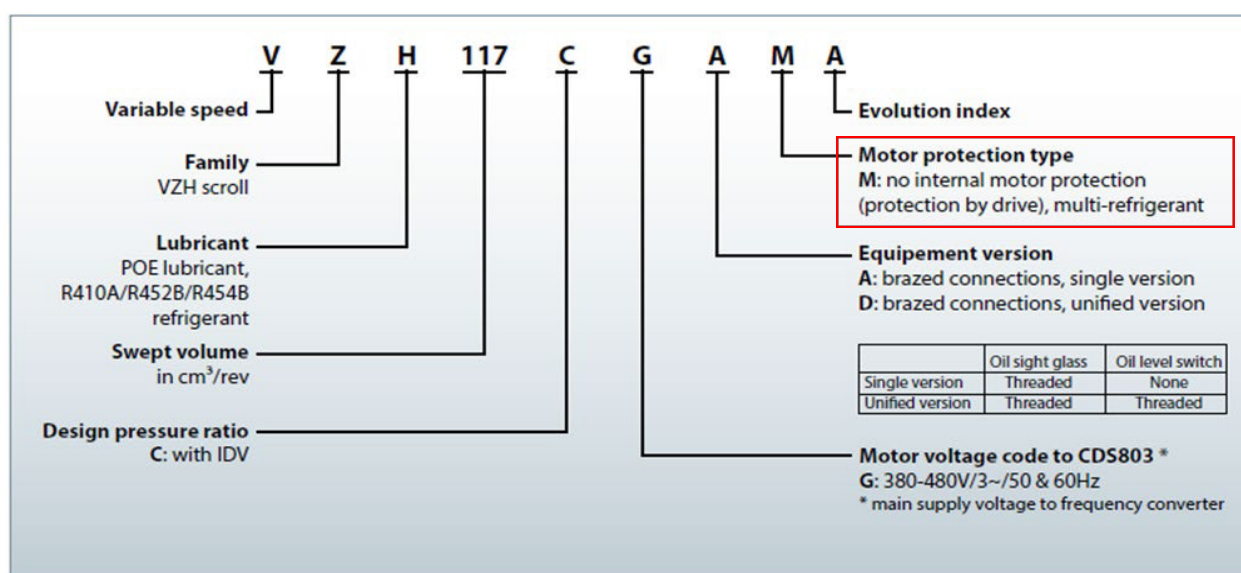
Danfoss has released new versions of variable-speed compressor VZH088/117 models which can be used with multiple refrigerants; R410A, R452B, and R454B.

The new models with R410A/R452B/R454B are currently limited to 380-400 V variable speed compressors.

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



New sales codes

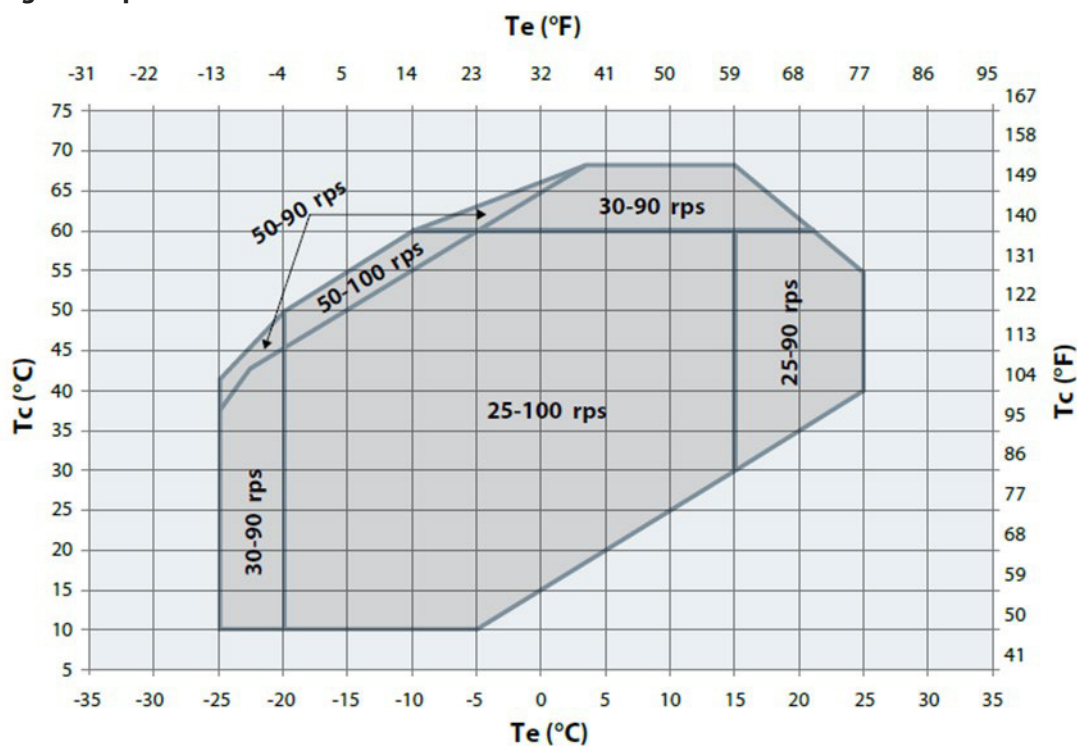
For Single pack orders

Compressor model	Equipment version	Technical Name	Motor code G 380-480V/3ph50&60Hz
VZH088	Single	VZH088CGAMA	120G0305
	Unified	VZH088CGDMA	120G0307
VZH117	Single	VZH117CGAMA	120G0309
	Unified	VZH117CGDMA	120G0311

For Industrial pack orders

Compressor model	Equipment version	Technical Name	Motor code G 380-480V/3ph50&60Hz
VZH088	Single	VZH088CGAMA	120G0306
	Unified	VZH088CGDMA	120G0308
VZH117	Single	VZH117CGAMA	120G0310
	Unified	VZH117CGDMA	120G0312

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 VZH088/117 code G new models with R410A/R452B/R454B were released in March 2021.

If you need additional information regarding the VZH088/117 new models with R410A/R452B/R454B release, please contact Danfoss technical support.

Scroll Compressor DSH381

Performances Improvement



Thanks to an optimization of the scroll set, the seasonal efficiency (SEER) of DSH381 has been improved by more than 2%, which is supporting our customers effort to exceed minimum eco-design target.

On 380-400V fixed speed compressors, the change comes along with new motor, with a light impact on locked rotor current (LRA) which will be reduced from 320A to 294 A.

Due to the scroll set modifications, the digit in the model number dedicated to the evolution index will be raised from C to D on all DSH381 models. (Label to the left)

On DSH381 380-400V fixed speed compressors, in addition of the scroll set improvement, the motor has been changed. To reflect this change, the digit dedicated to motor evolution index will be raised from A to B. (Label to the right)



All commercial references remain unchanged.

Order codes DSH381

		Motor code/refrigerant			
Packaging	Motor protection	Code 4 (R410A R454B R452B)	Code 3 (R410A)	Code 7 (R410A)	Code 9 (R410A)
Single pack	Module 24V AC	120H1368	120H1283	120H1295	120H1307
	Module 100-240V	120H1366	120H1281	120H1294	120H1305
Industrial pack	Module 24V AC	120H1367	120H1282	/	120H1306
	Module 110-240V	120H1365	120H1280	/	120H1304

Expansion Valve, type AKV P Valve Range Extended with AKV 10P8 and AKV 10PS8



AKV 10P product illustration
with label on the top



AKV 10PS

We are very pleased to announce the extended AKVP valve range to include sizes AKV 10P8 direct operated valve and AKV 10PS8 servo designed valve to meet the increasing market demands of higher evaporator cooling capacities. Both versions come with either imperial or metric connections that are available in single format.

To facilitate conversion from other AKVP valve sizes and capacities, we have included the AKV 10P8 orifice and AKV 10PS8 piston in existing AKVP service kits.

AKV 10P/AKV 10PS is a range of electric expansion valves that enhances the function by reducing pulse rate and amplitude in the installation while at the same time increasing the capacity range for all common refrigerants including CO₂.

Available Code Numbers

The new AKV 10P8 and AKV 10PS8 code numbers are specified below. See more details in the [AKVP datasheet](#)

AKV 10P8 Single pack version

Imperial [Inch] connections: Code no. 068F5218

Metric [mm] connections: Code no. 068F5208

AKV 10PS8 Single pack version

Imperial [Inch]connections: Code no. 068F4048

Metric [mm] connections: Code no. 068F4039

If you are unable to find a specific product, in the above-mentioned lists; please visit our [Product Store](#) or contact your local Danfoss Sales representative.

Livestream Recordings & Videos in YouTube

Livestream recording:

- Oil-free Heat Pump Q&A – [LINK](#)
- Smart Sensors and Connectivity – [LINK](#)
- The future of connected cooling feat. Alsense™ – [LINK](#)

Videos in YouTube:

- A guide to gas detection for all stores – [LINK](#)
- How to service a CCMT light – [LINK](#)
- A guide to Alsense alarm monitoring – [LINK](#)
- IOT energy efficiency w/ Alsense (a clip from the livestream) – [LINK](#)
- Turbocor faults and events log download tutorial – [LINK](#)
- How to download the Fault and Event log from the Danfoss Turbocor® TTS-TGS-TTH – [LINK](#)
- How pump down works in refrigeration systems – [LINK](#)
- Danfoss Turbocor® TTH/TGH Compressor for Higher Lift Applications – [LINK](#)
- How to correctly mount and remove coils on Danfoss solenoid valves – [LINK](#)
- Coolselector®2 deep dive series - [LINK](#)



Latest Software Release of the Current Generation ADAP-KOOL™ System Manager, the AK-SM 800 Series



The new AK-SM 800 software update v08.095.008 is now available for [download](#). This software is recommended for all customers and improves system reliability and performance.

The AK-SM 800 series firmware version 08.095.008 improves also connectivity with CC55 and energy meters, enhances SNMP stability, and includes several updates and improvements.

Top changes/improvements include

- SNMP randomly changing setpoints
- Full CC55 support
- Updated CALM feature
- Improved connectivity to energy meters
- Improved connectivity to Lennox devices
- Several other fixes – improving overall stability

EDF updates are also included. Please note that it might be necessary to download the latest EDF files from our System Manager site under this [link](#).

Timing

V08.095.008 software is immediately available via this [link](#).

Affected products

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	080z4008
AK-SM 880AL System M. w touch	080z4552

Important notice on SM800 platform

With the new SM 800A platform being released globally, we recommend all customers to change to the new SM 800A platform as soon as possible.

Accompanying SM 800 software tools (RMT and StoreView Desktop and Browser) will remain available.

AK-SM 800 Series Enters a Scheduled End of Life (EoL)

The newly launched AK-SM 800A platform offers higher advantages and is superior to the current AK-SM 800 series. Therefore, Danfoss now announces the scheduling of formal product End-of-Life (EoL) for the current AK-SM 800 series.



The AK-SM 800 platform will transition into maintenance mode – meaning software updates will be focusing on fixing critical bugs and improvements only. With that, accompanying software tools (RMT and StoreView Desktop and StoreView Browser) will remain available and move into maintenance mode.

Timing

Existing demand up to Q1/2022 will be produced and made available for all our customers. Additional volumes will be produced to cover service replacement need until end of 2022.

Affected products

AK-SM 850 System M. Ref.	080z4001
AK-SM 820 System M. Conv.	080z4004
AK-SM 810 System M. Wo D.	080z4006
AK-SM 880 System M. full	080z4008
AK-SM 880 System M. TP78	080z4008
AK-SM 880AL System M. w touch	080z4552

Recommendation to change to the new SM 800A platform as soon as possible

With the new SM 800A platform being released globally, **we recommend all customers to change to the new SM 800A platform as soon as possible.**

Alternative solutions for AK-SM 800

Current AK-SM 800 series		Recommended alternative – AK-SM 800A	
AK-SM 810 System M. Wo D.	080z4006	Currently not available	n/a
AK-SM 820 System M. Conv.	080z4004	AK-SM 820A Control RS485-Screen / Conv. store	080Z4024
AK-SM 850 System M. Ref.	080z4001	AK-SM 850A Control RS485-Screen/ Ref. license	080Z4021
AK-SM 880 System M. full	080z4008	AK-SM 880A Control RS485-Screen / Full store	080Z4028
AK-SM 880 System M. TP78	080z4008	AK-SM 880A Control TP78 retro-fit screen / Full store	080Z4029
AK-SM 880AL System M. w touch	080z4552	Currently not available	n/a

AK-UI55 Displays - New Mounting Base



Danfoss is now introducing AK-UI55 Mounting Base (084B4099) for the AK-UI55 displays: Info, Set or Bluetooth.

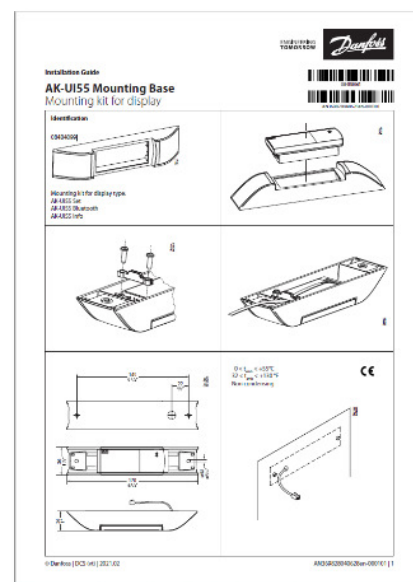
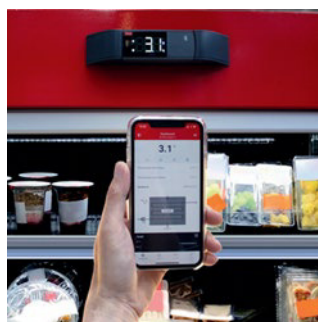
Ease of installation

The mounting base makes it easy to mount the displays on a wall or on the outside of the refrigerated display cabinet.

In a retrofit situation it is easy to exchange an old AK-CC 550 controller and mounting base, as the screw connections fits in the same dimensions.

Please note that the cable must be updated for AK-CC55 and displays.

See the brochure [here](#)



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

MTZ / NTZ Compressors Qualified with R455A One-Cylinder Models

The MTZ and NTZ models below are qualified for using with refrigerant R455A, which is classified in Refrigerant Group 1. For R455A, the stated GWP is below 150 limits. The refrigerant is also classified as A2L with low flammability properties. Please refer to European regulations and directives about the safe use of A2L refrigerants (EN378, EN60335). Outside of Europe, refer to local regulations

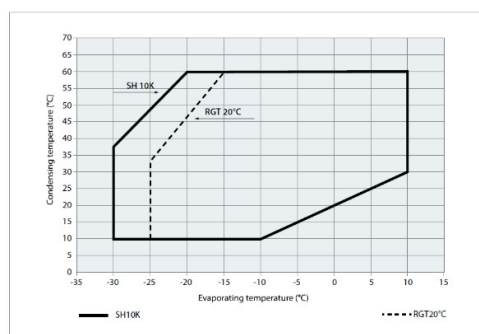
Affected compressors

MTZ18, MTZ22, MTZ28, MTZ32, MTZ36, MTZ40, NTZ048, NTZ068 with voltage code 4 (380 - 400 V (415 V) 3 ph) and code 5 (220 - 240 V 1 ph).

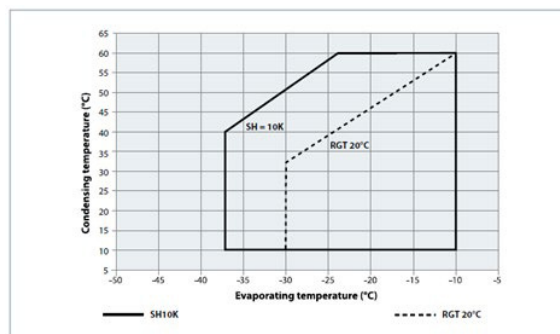
All compressor models listed above, starting from serial number LD1008416617, are qualified with R455A.

Operating Map

MTZ—R455A



NTZ—R455A



Nominal Performance data for R455A

Compressor model	50 Hz, EN12900 ratings To = -35°C, Tc = 40°C, SC = 0K, SH = 10K				60 Hz, EN12900 ratings To = -35°C, Tc = 40°C, SC = 0K, SH = 10K			
	Cooling capacity W	Power input kW	Current input A	COP W/W	Cooling capacity W	Power input kW	Current input A	COP W/W
NTZ048-4	677	0.72	1.88	0.95	807	0.94	1.86	0.86
NTZ068-4	1282	1.28	3.5	1.0	1438	1.35	3.28	1.07

R455A	Refrigeration											
Compressor model	50 Hz, EN12900 ratings To = -10°C, Tc = 45°C, SC = 0K, SH = 10K 50 Hz				50 Hz, ARI ratings To = -6.7°C, Tc = 48.9°C, SC = 0K, SH = 11.1K				60 Hz, ARI ratings To = -6.7°C, Tc = 48.9°C, SC = 0K, SH = 11.1K			
	Cooling capacity W	Power input kW	Current input A	C.O.P. W/W	Cooling capacity W	Power input kW	Current input A	E.E.R. Btu.h/W	Cooling capacity W	Power input kW	Current input A	E.E.R. Btu.h/W
MTZ018-4	1708	1.0	2.5	1.71	1882	1.09	2.56	5.87	2276	1.3	2.42	5.99
MTZ022-4	2424	1.27	2.53	1.91	2654	1.4	2.68	6.46	3394	1.76	2.78	6.58
MTZ028-4	3115	1.6	3.77	1.95	3405	1.74	3.95	6.66	4416	2.22	3.87	6.79
MTZ032-4	3534	1.76	3.52	2.01	3849	1.92	3.72	6.85	5081	2.46	3.84	7.04
MTZ036-4	4002	2.08	4.57	1.93	4441	2.3	4.85	6.59	5661	2.87	4.78	6.73
MTZ040-4	4668	2.43	5.54	1.92	5110	2.69	5.87	6.49	6524	3.28	5.8	6.78

Recommendations

R455A is a zeotropic refrigerant with a temperature glide of about 6K and therefore must be charged in liquid phase. Even if MTZ and NTZ compressors are loaded with 175PZ, R455A can highly dilute the oil. To prevent any lack of lubrication, a crankcase heater must be used.

For details please refer to the following application guidelines:

[Maneurop® reciprocating compressors MT/MTZ](#)

[Maneurop® reciprocating compressors NTZ](#)

and selection program [CoolSelector2](#)

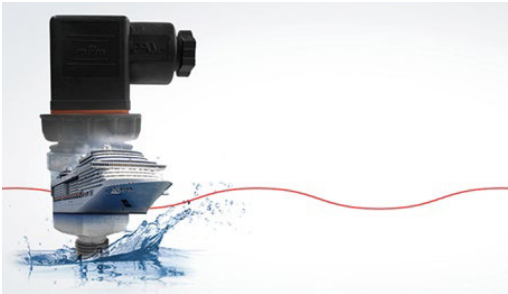
Code numbers for ordering and technical references

printed on the compressor nameplates are unchanged.

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

New Titanium Pressure Transmitter for Marine Applications

To withstand the harshest marine conditions and meeting strict environmental regulations, Danfoss has developed a new Titanium Pressure Transmitter DST P40M



The **P40M pressure transmitter** is specifically engineered for the robust pressure monitoring of marine applications such as ballast-water treatment, exhaust-gas scrubbers, desalination systems, and seawater cooling systems - environments where high corrosion resistance and longevity are essential for the reliable operation of the auxiliary and propulsion systems of a vessel.

With P40M, experience best-in-market reliability and performance against aggressive water corrosion through titanium housing and a ceramic Al₂O₃ 96% pressure element. Plus, P40M has several required international marine approvals, easing the design process to save time and administrative cost.

For more technical information have a look at the [datasheet](#) or contact our Technical Support.

Overall features and benefits

- Best-in-market quality: titanium housing and ceramic Al₂O₃ 96 % pressure element
- Innovation: robust, durable, weldless titanium construction
- Reliability: improved accuracy with high linearity and low hysteresis value
- Compliance: meets enclosure requirements up to IP67 and operates according to TS 16949
- Marine approvals: China Classification Society (CCS) (pending); DNV-GL EU RO Mutual Recognition Type Approval Certificate; Korean Register (KR); Nippon Kaiji Kyokai General Incorporated Foundations (NK, Class NK)
- Partnership & expertise: 40+ years of market experience, reliable partnership, and innovative future-proof solutions

DST P40I titanium pressure transmitter for harsh environments

Danfoss Sensor Technology (DST) P40I [Pressure Transmitter](#) has been designed for use in corrosive industrial environments such as [Desalination Systems](#), sea water cooling, wastewater, etc.

Features and benefits:

- High corrosion resistance designed for use in harsh environments.
- Transmitter housing made of Titanium Grade 2, which is exceptionally resistant to a wide range of acids, alkalis, Sodium Chloride, and polluted water.
- Ceramic sensing element made of Al₂O₃ 96 %
- Pressure range 0-100 bar (standard)

You can find more information and part numbers for easy ordering in this [Link](#)



Solenoid valves EV220BW for drinking water in NC and NO version meet strict legislative requirements

Danfoss solenoid valves meet or exceed many European regulations and standards including the British WRAS, the Swedish RISE, the Norwegian SINTEF, the France ACS and the Polish PZH for drinking water.

Unique for these valves is the ECO brass housing, which gives the valves the edge when it comes to keeping water as pure as possible.

Features:

- Long product life
- Clip-on coil for easy installation and use
- Safe EPDM sealing protects against bacterial and other hazardous contamination

To find the right solution for your application see our Selection Guide in [English](#).



TEKNOLOGISK
INSTITUT



Part numbers for the most common versions

Gasket EPDM, Media temp 0 – 90°C, Differential pressure 0,3 – 10 bar

Connection	Normally Closed	Normally Open	Part no
G1/2	X		132U1500
G1/2		X	132U1501
G3/4	X		132U2000
G3/4		X	132U2001
G1	X		132U2500
G1		X	132U2501

All valves are used together with our standard coils type BB and BE

Optimized Cable Properties for Cable Plugs

This change affect cable plug 042N0156 or a product where this plug is included from Danfoss.

As from May 17, 2021 when ordering 042N0156, the order will automatically be swopped to 042N1256.



042N0156



042N1256

In all technical matters the enhanced cable plug 042N1256 has same or better properties:

- Easier to tighten around the cable
- Provides better sealing: From IP65 to IP67
- Design and flammability are according to the Low Voltage Directive (EN60730-2-8), ROHS and UL/CSA requirements and E10 for marine applications.

The previous product 042N0156 is 100% phased out and replaced by 042N1256.

For products where 042N0156 is included today we automatically deliver the high performance Danfoss branded IP67 cable plug with DIN connection (Accessory Cable Plug IP67, EN175301-803).

For much more technical information and product availability please visit our [Product Store](#)

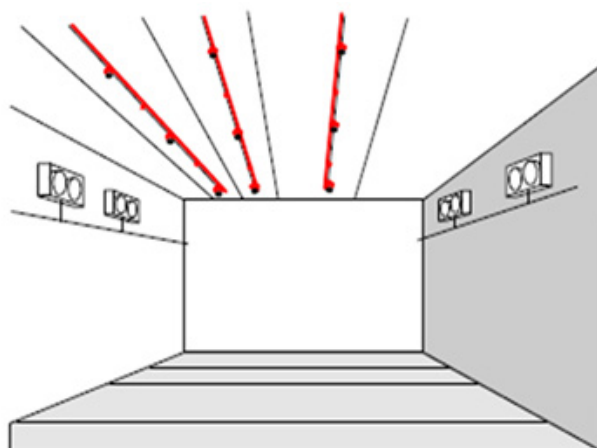
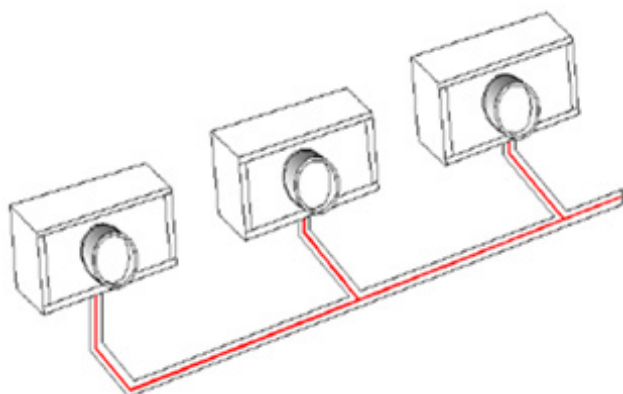
Frost protection of pipes and drain lines

What's the problem?

Ice leads to unwanted freezing of elements such as drainage of cold store refrigeration equipment. Condensate water can freeze up into pipes, water trays, etc. disabling free water flow, and damage the cooling equipment.

Solution:

Frost protection is typically used for heating pipelines with liquids inside as well as fire pipelines and sprinklers. Danfoss pipe heating systems can be installed both inside and outside the pipes.



New DEVI pipeguard™ LSZH

Halogen free self-limiting heating cable

Output may increase or decrease according to ambient temperature

Functionality is maintained when shortened

The outer sheath is highly resistant to harsh environmental conditions and corrosion and serves as a protection against mechanical influences

Not approved for use in drinking water



New oil level sensor electrical part release

Our oil level sensor is used for monitoring compressor oil level and outputs a signal. VZH models—manifolding, unified or OLS versions—are preinstalled with a prism on the compressor shell. Customer get access to this oil level sensing function by ordering an oil level sensor electrical part and assemble it to the prism.

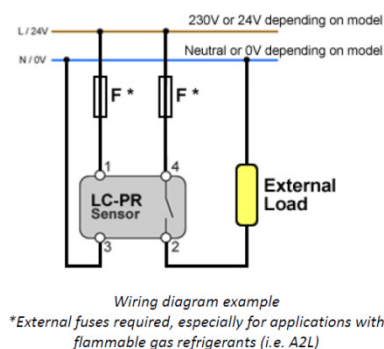
To provide a better customer experience, Danfoss will release a new oil level sensor electrical part—LC-PR—which can output relay signal. This new oil level sensor electrical part is available for A2L refrigerants.

Compared with the current oil level sensor electrical part (LC-XN), this new sensor (LC-PR) outputs a relay signal instead of a solid-state signal. Due to this update, please refer to the below diagram.

New oil level sensor electrical part LC-PR



Electrical connections diagram



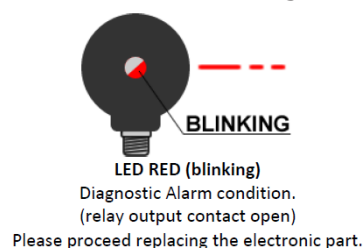
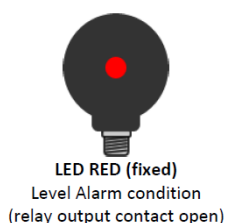
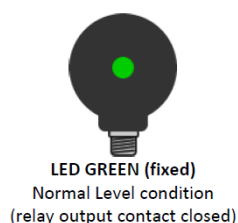
Do not connect 24V sensor to 230V power supply or 230V sensor to 24V power supply.



Check the diagram for proper wiring.

Any error can cause permanent damage to the sensor.

The new oil level sensor also has an LED on it which indicates working status.



The oil level sensor prism is preinstalled on the compressor. To use this function, customers need to order one of the new accessory kits with electrical part found below.

Accessory kits with new oil level sensor			
24V AC/DC		230V AC	
Sales code	Description	Sales code	Description
120Z0803	Oil level sensor 24V	120Z0804	Oil level sensor 230V

Tandem kits(VZH Gen3+DSH) with new oil level sensor			
24V AC/DC		230V AC	
Sales code	Application	Sales code	Application
120Z0805	VZH410H/465H	120Z0806	VZH410H/465H
120Z0807	VZH208H/301H	120Z0808	VZH208H/301H
120Z0809	VZH178H/257H/278H	120Z0810	VZH178H/257H/278H
120Z0811	VZH354H	120Z0812	VZH354H

The new oil level sensor electrical part LC-PR does not provide mating connector (female). Customers may order 2m or 8m prewired connectors using the below sales codes:

Connector with Cable	
Sales code	Description
034G7073	2M CABLE
034G7074	4M CABLE

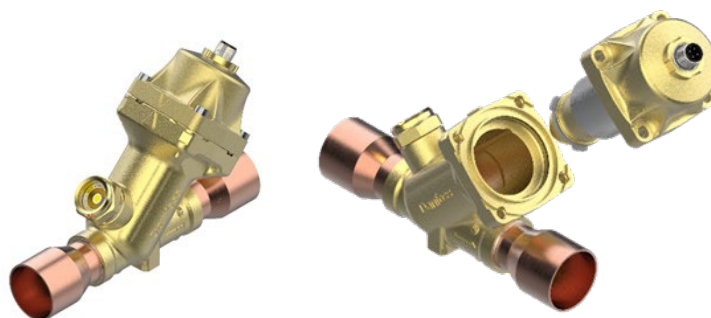


New oil level sensor electrical part LC-PR was implemented in July 2021.

If you need additional information regarding the new oil level sensor electrical part release, please contact Danfoss technical support.

New Electric Expansion Valve, ETS 175L & ETS 250L

Danfoss is pleased to announce the release 1 of the ETS 175L/250L range, which is an important addition and completion to the already existing portfolio of electric expansions valves, ETS.



With many years of experience within electric expansion valves, the new range of ETS Large series offers high reliability and precise solutions for expansion and flow control in a wide range of refrigeration and air conditioning systems, the valve design uses bi-polar drives, and various control solutions exist that are compatible with bi-polar drives.

The new ETS 175L and ETS 250L, has been designed with optimized piston and actuator design to achieve high performance and specification. The new 175L/ETS 250L can be a drop in solution for the old ETS valves with S-flow characteristic. Large ETS also has a variant with Linear flow similar to the ETS Colibri flow characteristic. Variants will optimize system performance based on application and standard requirements.

Main Applications

- Chillers
- Heat pumps from 300 to 900 kW / 85 to 260 TR

Key Features

- Precision flow control with high resolution
- Proven know-how and high reliability
- Easy serviceable
- Wide range for all common and new refrigerants, A2L refrigerant supported
- Drop in solution to convert old ETS

Product Codes

Following are the codes that are available for sales.

Code no	Valve type	Flow characteristic/ Connection	Packaging
034G3602	ETS175L Electric exp. valve	ETS175L- linear -SG-1-1/8x1-1/8-	Single Pack
034G3624	ETS175L Electric exp. valve	ETS175L-SCurve-SG-1-1/8x1-1/8-	Single Pack
034G3604	ETS175L Electric exp. valve	ETS175L- linear -1-1/8x1-1/8-	Single Pack
034G3603	ETS175L Electric exp. valve	ETS175L- linear -SG-1-3/8x1-3/8-	Single Pack
034G3625	ETS175L Electric exp. valve	ETS175L- linear -SG-1-3/8x1-3/8-	Single Pack
034G3600	ETS175L Electric exp. valve	ETS175L- linear -SG-1-3/8x1-3/8-	Single Pack
034G3601	ETS175L Electric exp. valve	ETS175L-SCurve-SG-1-3/8x1-3/8-	Single Pack
034G3626	ETS175L Electric exp. valve	ETS175L- linear -SG-1-5/8x1-5/8-	Single Pack
034G3627	ETS175L Electric exp. valve	ETS175L-SCurve-SG-1-5/8x1-5/8-	Single Pack
034G3628	ETS175L Electric exp. valve	ETS175L- linear -SG-42x42-	Single Pack
034G3629	ETS175L Electric exp. valve	ETS175L-SCurve-SG-42x42-	Single Pack

034G3616	ETS250L Electric exp. valve	ETS250L- Linear -SG-1-1/8x1-1/8-	Single Pack
034G3617	ETS250L Electric exp. valve	ETS250L- SCurve -SG-1-1/8x1-1/8-	Single Pack
034G3607	ETS250L Electric exp. valve	ETS250L- Linear -SG-1-3/8x1-3/8-	Single Pack
034G3608	ETS250L Electric exp. valve	ETS250L- SCurve -SG-1-3/8x1-3/8-	Single Pack
034G3610	ETS250L Electric exp. valve	ETS250L- linear -SG-1-3/8x1-3/8-	Single Pack
034G3605	ETS250L Electric exp. valve	ETS250L- Linear -SG-1-5/8x1-5/8-	Single Pack
034G3609	ETS250L Electric exp. valve	ETS250L- linear -SG-1-5/8x1-5/8-	Single Pack
034G3618	ETS250L Electric exp. valve	ETS250L- Linear -1-5/8x1-5/8-	Single Pack
034G3606	ETS250L Electric exp. valve	ETS250L- SCurve -SG-1-5/8x1-5/8-	Single Pack
034G3619	ETS250L Electric exp. valve	ETS250L- Linear -SG-1-5/8x2-1/8-	Single Pack
034G3620	ETS250L Electric exp. valve	ETS250L- SCurve -SG-1-5/8x2-1/8-	Single Pack
034G3621	ETS250L Electric exp. valve	ETS250L- Linear -SG-42x42-	Single Pack
034G3622	ETS250L Electric exp. valve	ETS250L- SCurve -SG-42x42-	Single Pack
034G3611	ETS250L Electric exp. valve	ETS250L- Linear -42x42-	Single Pack
034G3623	ETS250L Electric exp. valve	ETS250L- SCurve -SG-42x42-	Single Pack

Product Launch of EKF 1A and EKF 2A Stepper Valve Driver



We are pleased to announce the release of the **EKF 1A and EKF 2A** Stepper Valve Driver for sale globally.

The new EKF 1A /2A is a Stepper Valve Driver that takes an analog signal from a master controller and converts to steps. Stepper Valve Driver EKF series is for use where stepper motor valves must be accurately controlled, typically in commercial air conditioning, heat pumps, commercial refrigeration, and food retailing applications. The product is intended to be used in the system where master controller maintains the control software but needs a way for driving the valve.

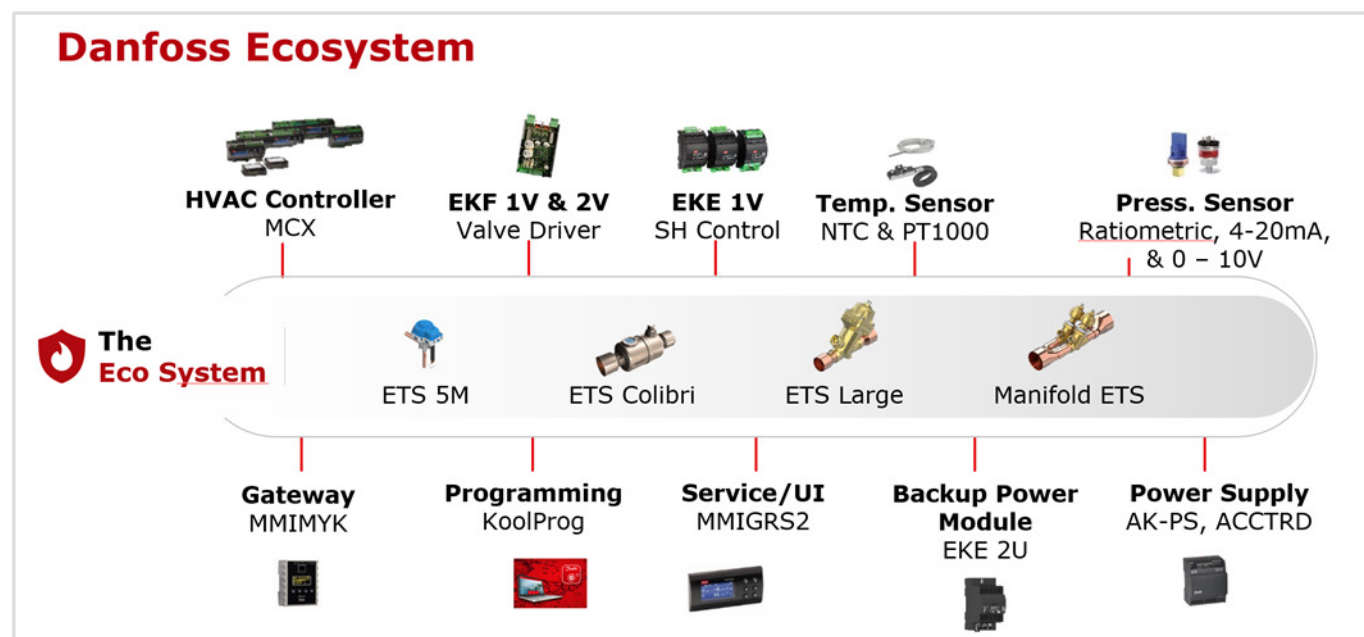
The EKF 1A /2A, Stepper Valve Driver is designed for Danfoss stepper motor valves in mind (i.e ETS series, ETS Colibri, ETS 5M, ETS 6, KVS, CCM/CCMT) but technically it can also be used with 3rd party valves with 3rd party controllers. For detail refer to the product specification.

Features:

- 1 valve and 2 valve variants available
- Bipolar (ETS Colibri, ETS, CCMT) and Unipolar (ETS 5M, ETS 6) valves supported
- Easy selection of Danfoss valve(s) using dip-switches – No display/tools needed
- Selectable 0-10 V and 4-20 mA input reference signal
- Lost step prevention
- Backup power module can be connected i.e. EKE 2U
- DIN rail mounting
- Phoenix Connector terminals
- Digital output available for alarm/error feedback to master controller
- LEDs indicating valve movement and controller status i.e. Error/Warning
- Economical design

For more information, please have a look at the [data sheet](#) or the [Installation guide](#). For a quick visual look, please have a look at the attached brochure and [3D-AR View](#).

Contact your local Danfoss team to update any outstanding stepper valve driver quotes to the new EKF Series. Additionally, we will work with you to find a proper selection of driver type, EEV valve, and accessories to ensure that you are able to take advantage of all the benefits the new EKF stepper driver in combination with package solution Danfoss offers.



AKS 4100/4100U - Liquid Level Sensor, Short Length 280 mm Available for R744 (CO₂) and HFC, HCFC

The extension of the Danfoss AKS 4100 / 4100U Liquid Level Sensor program, provides additional opportunities for the product series. With a shorter length and developed for the specific medias R744 (CO₂) and HFC / HCFC, the new sensor is ready to enter new applications.

The short length, 280 mm, is relevant for both contractors and OEMs due to its compactness, and the new media we have not been able to support until now.

The product will be available with or without HMI (Human Machine Interface) and in two language packs:

- Language Pack 1: English, German, French, Spanish
- Language Pack 2: English, Japanese, Chinese, Russian



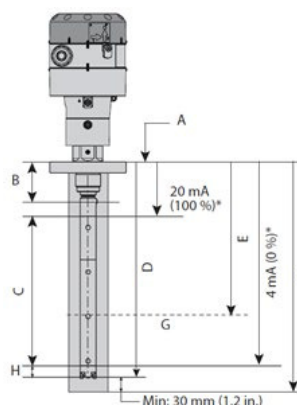
See complete list below, including spare parts:

Code	Description	Refrigerant	Language pack
084H4517	AKS 4100 Coaxial 280 mm with HMI	Ammonia	English, German, French, Spanish
084H4518	AKS 4100 Coaxial 280 mm without HMI	Ammonia	N/A
084H4536	AKS 4100U Coaxial 11 in. with HMI	Ammonia	English, German, French, Spanish
084H4567	AKS 4100 Coaxial 280 mm with HMI	Ammonia	English, Japanese, Chinese, Russian
084H4537	AKS4100U Coaxial 11 in. without HMI	Ammonia	N/A
084H4586	AKS 4100U Coaxial 11 in. with HMI	Ammonia	English, Japanese, Chinese, Russian
084H4574 *	AKS 4100 Coaxial 280 mm without HMI	CO ₂ , R134A, R404A, R410A, R22	N/A
084H4572 *	AKS 4100 Coaxial 280 mm with HMI	CO ₂ , R134A, R404A, R410A, R22	English, German, French, Spanish
084H4573 *	AKS 4100 Coaxial 280 mm with HMI	CO ₂ , R134A, R404A, R410A, R22	English, Japanese, Chinese, Russian
084H4577 *	AKS4100U Coaxial 11 in. without HMI	CO ₂ , R134A, R404A, R410A, R22	N/A
084H4575 *	AKS 4100U Coaxial 11 in. with HMI	CO ₂ , R134A, R404A, R410A, R22	English, German, French, Spanish
084H4576 *	AKS 4100U Coaxial 11 in. with HMI	CO ₂ , R134A, R404A, R410A, R22	English, Japanese, Chinese, Russian
084H4558 *	Process connection – Spare part AKS 4100 - Coaxial D22 - G1 in. - 280 mm	CO ₂ , R134A, R404A, R410A, R22	N/A
084H4559 *	Process connection – Spare part AKS 4100U - Coaxial D22 - ¾ in. NPT – 11 in.	CO ₂ , R134A, R404A, R410A, R22	N/A
084H4551	Process connection – Spare part AKS 4100 - Coaxial D22 - G1 in. - 280 mm	Ammonia	N/A
084H4552	Process connection – Spare part AKS 4100U - Coaxial D22 - ¾ in. NPT – 11 in.	Ammonia	N/A

* New sales code numbers

With the short length variant, we have improved the dead zones. Particular in CO₂ the measuring range is improved compared to existing AKS 4100/4100U Coaxial D14 variants.

Refrigerant	Probe Length		Bottom Dead Zone		Top Dead Zone	
	[mm]	[in.]	[mm]	[in.]	[mm]	[in.]
R717 Ammonia	280	11.0	40	1.6	60	2.4
R744 CO ₂			60	2.4		
R134a			50	2		
R404A						
R410A						
R22						

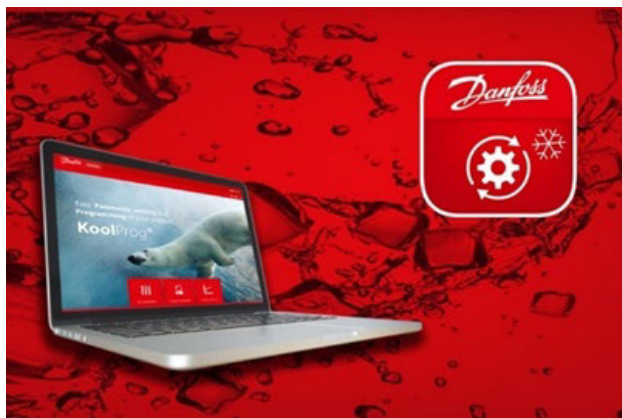


A	Reference point
B	Top dead zone
C	Measuring range
D	Probe length
E	Distance
F	Inner length of standpipe
G	Surface level
H	Bottom dead zone

Learn more – and get in touch

To learn more about the new AKS 4100/4100U please contact your local Danfoss representative.

KoolProg Ver 4.4: Maintenance Release Update



We are pleased to release an update of **KoolProg Software (Ver. 4.4)**. 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 4.3:

Key highlights of version 4.4:

- Supports the new EKF 1A/2A Stepper valve driver
- Clone feature, new variant support by importing CDF files and new software versions support for AK-CC55
- Existing features/functions enhancements
- General improvement and bug fixes

Detailed information:

1. Supports the new EKF stepper valve driver EKF 1A and EKF 2A

Following features of KoolProg are now supported for EKF 1A and 2A

- New controller model information import
- Offline project creation
- Import settings from controller
- Online services
- Copy to controller

2. AK-CC55 new features updates

- Clone feature implementation under "Copy to device"
- Support new controller variant and application automatically by importing CDF offline or from controller
- New software versions bundling
- Compact (084B4081) – 1.91 and 2.02
- Single Coil (084B4082 & 084B4083) – 1.33 and 1.53
- Multi Coil (084B4084 & 084B4085) – 1.74 and 1.83

3. Bug Fixes

- EKE patch file integration (Controller reset issue in native languages)
- In-consistency in EETa firmware update
- KoolProg crash when read only type parameter file (.cbk) is saved
- SW version issue in parameter file (back up file) when .erc file format opened and saved under new file name with .erc file format.
- ERC 111A – relay status plotting issue under online services
- ERC 111A – Button configuration parameters default settings correction to match with controller default settings.

4. Improvements:

- Controller connection speed improvement by providing an option under "Preference" window to select specific controller family
- Unknown controller support feature improvement – implemented new algorithm to use most appropriate database to support unknown controller
- Standardized ERC 21x offline project UI with another controller family
- 080G3423 code number added as standard code number with offline project creation support

The new version of KoolProg is now available for [download](#).

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 Sales Contact.

Electronic Platform Upgrade of MBS 4510 (G1A) Pressure Sensor Series



Following an electronics upgrade to many of the Danfoss MBS pressure sensors, MBS 4510 Flush diaphragm (G1A) will change data sheet specification – but keeping same performance as today.

The upgrade will affect MBS 4510 (G1A) and will take place as a running change starting July 2021.

The new Danfoss electronic platform is already released and proven on a series of Danfoss products.

Accuracy specification will be updated in the data sheet from current 0,5 % FS max to the following, also for current code numbers:

Pressure range [bar]	Accuracy FS max
-0.25-0.50 - 0.00-4.00	$\leq \pm 1.0\%$
0.00-4.00 - 0.00-25.00	$\leq \pm 0.8\%$

- There is limited need to adjust zero and span via sensor - such calibration is mainly done on controller level.
- Accuracy performance at 20°C will be the same or better than today – the change of specification to 0,8 %/1 % FS max. is due to a production upgrade with a shop floor control system for improved data setup and will ensure quality measurements in production to provide same, repeated quality performance. The upgrade of electronics to digital calibration enables improved accuracy over a broader temperature range.
- The sensor signal behavior over the sensor calibrated pressure range and the sensor function will not change.

Product types name change:

From MBS 4510 to MBS 4010. Code numbers will stay the same.

AK-PC 651 Pack Controller Phase-Out



The existing AK-PC 651 code no. 080G0312 is going to be phased-out and will be migrated to a new HW platform.

A new controller named AK-PC 651A with code no. 080G0336, based on a different HW, will replace the existing AK-PC 651 with code no. 080G0312.

There will not be dimensional changes in the product, but it will present a different layout in terms of I/Os and it will need a different wiring for the electrical connections.

Please contact your local technical support for details if needed.

We have set a last buy order for end of August 2021 and expecting last deliveries by end of November 2021.

After this timeline a limited number of pieces will be available only for service until stock is depleted.

If you have any questions regarding this information, please contact your local Danfoss representative.

New CKB Pressure Switch for CO₂ applications



Please find the technical specifications below with regards to our new pressure switches for CO₂ applications.

These newly designed products have proven excellent performance in our tests, ensuring minimal drift of setting and extremely stable operation over the entire lifetime.

Some of the key characteristics:

- Dedicated to transcritical and subcritical CO₂ applications up to 143bar
- PED Cat. IV (EN 12263) certified by notified body
- Electromechanical design with diaphragm as sensing element
- Fixed setting provided by the factory
- Compact, space saving design
- DIN plug for electrical connection
- High electrical rating of 6 Amps for all models

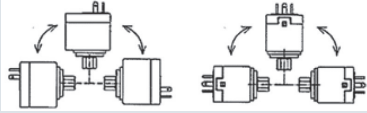
The CKB pressure switch is available for ordering from February 2021.

Technical Data

Mechanical specification:

Pressure connection type	7/16"-20UNF female thread with Schrader opener.
Reset function	Auto (PSH) Manual (PZH/PZHH)
Range (Ascent pressure setting)	40 - 130 bar (factory fixed setting only)
Differential (between Ascent and Descent pressure)	10 bar below Ascent setting pressure (auto reset) Approx. 25 bar below Ascent setting pressure (man. reset)
Accuracy of setting	+0/-8% of Ascent pressure setting compliant with EN 12263)
Max. Working Pressure	143 bar

Environmental conditions:

Refrigerant	R744 (CO ₂)
Standard	PED 2014/68/EC cat. IV (EN-12263)
Ambient temperature for storage, transport and using	-40 to +70°C
Medium Temperature	-40 to +150°C (do not freeze)
Ambient humidity	30% RH to 85% RH (do not condense)
Vibrations resistance	4G (at 20 - 250Hz)
Mounting	 <p>Direct compressor mounting possible</p>
Enclosure	IP65, if used with plug (EN175301-803-A (ISO 4400))

Electrical specifications:

Electrical connection	DIN plug
Contact function	SPDT
Electrical rating	Full Load: $\cos\phi = 0,75$ 1 to 6A 240V AC
	Inrush current: Maximum 36A 240V AC

CONTACT FUNCTIONS

PSH

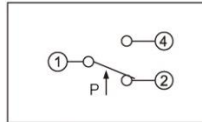


Diagram 1

PZH/PZHH

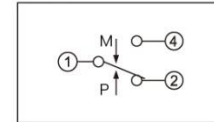
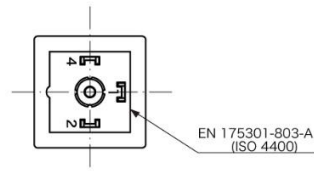


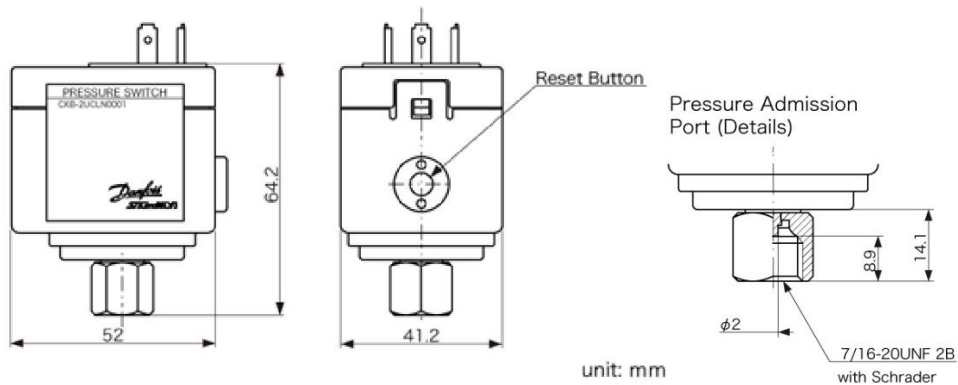
Diagram 2

↑ P: Operating direction on press. increase at high press. side
↓ M: perating direction on manual reset

WIRINGS



Dimensions:



Weight: around 180 g

Thermostatic Expansion Valve TGE Upgrade from 46 to 49 bar

As markets move to lower GWP refrigerants, R32 is becoming a viable candidate for future use. This refrigerant operates at higher pressures than most current refrigerants, and for this reason we have upgraded the pressure rating on some of our products, including the TGE. The current Maximum Working Pressure (MWP) of TGE is 46 bar and the new MWP will be upgraded to 49 bar.

The current valve can stand the new working pressure of 49 bar, therefore no changes on components are needed. No impact on fit, form or function.

The only visible change of the product will be on the label displayed on the top part, in order to inform our customers that TGE can work with MWP 49 bar.

See following images as reference:



Current label information



New label information



Implementation January 2021.

EVR v2 Flare Connections Approved for Flammable Refrigerants Types A1 and A2L

The solenoid valve EVR v2 with flare connections is now approved for A1 and A2L refrigerants in accordance with ATEX, ISO 5149, IEC 60335-2-24, IEC 60335-2-40, and UL.

The code numbers will remain the same and is updated in Coolselector®2

Affected EVR code numbers are specified below.

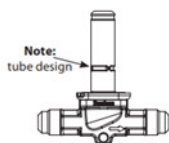


EVR NC version



Type	Coil voltage	Connection size [in]	Connection size [mm]	Manual operation	K _v value [m³/h]	Code no.
EVR 2	AC / DC	1/4	6	No	0.15	032F8056
EVR 3	AC / DC	1/4	6	No	0.26	032F8107
	AC / DC	3/8	10	No	0.26	032F8116
EVR 6	AC / DC	3/8	10	No	1.0	032L8072
	AC / DC	1/2	12	No	1.0	032L8079
EVR 10	AC / DC	1/2	12	No	2.2	032L8095
	AC / DC	3/4	16	No	2.2	032L8098
EVR 15	AC / DC	3/4	16	Yes	3.3	032L8100
	AC / DC	3/4	16	No	3.3	032L8101

EVR NO version



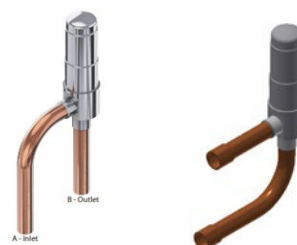
Type	Coil voltage	Connection size [in]	Connection size [mm]	Manual operation	K _v value [m³/h]	Code no.
EVR 6	AC / DC	3/8	10	No	1.0	032L8085
EVR 10	AC / DC	1/2	12	No	2.2	032L8090

New Electric Expansion Valve ETS 5M



We are pleased to announce the release of the new ETS 5M range, which is an important addition and completion to the already existing portfolio of electric expansion valves, ETS.

With many years of experience within electric expansion valves the new range of ETS 5M offers high reliability and precise solutions for expansion and flow control in a wide range of refrigeration and air conditioning systems. The valve design uses uni-polar drives, and different control solutions exist that are compatible with uni-polar drives.



Typical applications:

- VRF/Multi-split air conditioning systems
- IT cooling
- Domestic heat pumps
- Bus /Transport application
- Other commercial OEM applications

Key Features:

- Enables energy efficiency of the system
- Low flow noise
- Precision flow control with high resolution
- Compact and lightweight
- Power saving design
- Proven know-how and high reliability
- Wide range for all common and new refrigerants
- Bi-flow for heat pump applications

Available product codes

ETS 5M Valves

Code Nr.	Description	Qty per format*
034G6202	5M20 H 14X14 ODM	Multi pack 20
034G6203	5M24 H 14X14 ODM	Multi pack 20
034G6204	5M13 L 14X14 ODM	Multi pack 20
034G6205	5M13 U 14X14 ODF	Industrial 40
034G6206	5M13 U 14X14 ODF	Multi pack 20
034G6207	5M17 L 14X14 ODM	Multi pack 20
034G6208	5M17 H 14X14 ODM	Multi pack 20
034G6209	5M20 L 14X14 ODM	Multi pack 20
034G6210	5M20 L516X516 ODM	Industrial 40
034G6211	5M20 L516X516 ODM	Multi pack 20
034G6212	5M24 L 14X14 ODM	Multi pack 20
034G6213	5M24 H 516X516 ODM	Multi pack 20

L, H, U in the table description refers to the connection type

*I-pack codes are estimated to be available in end Q2 2021.

ETS 5M Coils

Code Nr.	Description	Qty per format*
034G3801	5M coil 1.5M 5 pin	Multi pack 20
034G3802	5M coil 2.7M 5 pin	Multi pack 20
034G3804	5M coil 1.0M 6 pin	Multi pack 20
034G3805	5M coil 0.7M /I-pack	Industrial 40
034G3806	5M coil 0.7M	Multi pack 20
034G3807	5M coil 2.7M I-pack	Industrial 24
034G3808	5M coil 2.7M	Multi pack 20

Product information: Danfoss store: **ETS 5M**

*I-pack codes are estimated to be available in end Q2 2021.

Thermostatic Expansion Valves TUA/TUAE for New A2L Refrigerants

Danfoss is now introducing a limited program of new TUA/TUAE thermostatic expansion valves for use with A2L refrigerants R454C, R455A, R1234yf, R1234ze(E) and R454A.

The new T2/TE2 valves may be used in any general application for these refrigerants within the below-mentioned evaporating temperature range. Product specifications

Charge range: $-40\text{ }^{\circ}\text{C}/+10\text{ }^{\circ}\text{C}$ ($-40\text{ }^{\circ}\text{F}/+50\text{ }^{\circ}\text{F}$)

Factory setting: $4\text{ }^{\circ}\text{C}$ ($7.2\text{ }^{\circ}\text{F}$)

Refrigerant	Multipack	Type	Connection
R454C	068U3948	TUA	1/4 x 1/2
	068U3950	TUAE	
	068U3949	TUA	6 x 12
	068U3951	TUAE	
R455A	068U3952	TUA	1/4 x 1/2
	068U3954	TUAE	
	068U3953	TUA	6 x 12
	068U3955	TUAE	
R1234yf	068U3956	TUA	1/4 x 1/2
	068U3958	TUAE	
	068U3957	TUA	6 x 12
	068U3959	TUAE	
R1234ze(E)	068U3960	TUA	1/4 x 1/2
	068U3961	TUAE	
	068U3962	TUA	6 x 12
	068U3964	TUAE	
R454A	068U3963	TUA	1/4 x 1/2
	068U3965	TUAE	
	068U3966	TUA	6 x 12
	068U3970	TUAE	

Apart from the suitability for the new refrigerants, the general features of these new TUA/TUAE variants are identical to those of other standard TUA/TUAE valves. Specifications other than those mentioned above, e.g. OEM adapted versions with fixed orifice/setting, are available upon request.

For easy sizing of the TUA/TUAE valves you can either use [Coolselector®2](#) (download) or [Coolselector®2](#) (online)

Water Regulating Valve, Type WVFX 32–40 - New Setting Section

In order to integrate large pressure-operated water valves with other Danfoss WVFX products, the setting section design already used in WVFX 10-25, AVTA, and FJVA will be implemented in WVFX 32–40. Deliveries of the first parts with the new design will start by the end of March 2021.

Current design



New Design



Current design



New Design.



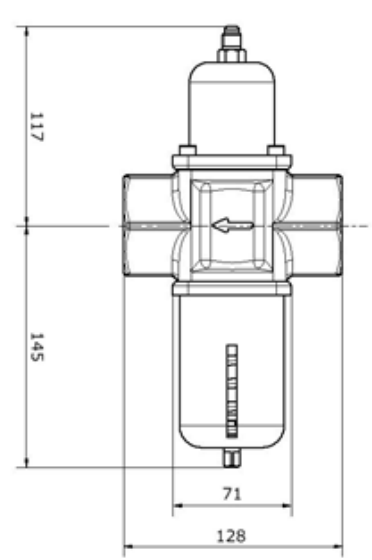
The new setting section will be equipped in a setting knob what will make setting the valve fast and simple. To integrate the valve with other Danfoss water regulating valves, the bellows element will be painted in gray, the

same as the new setting section.

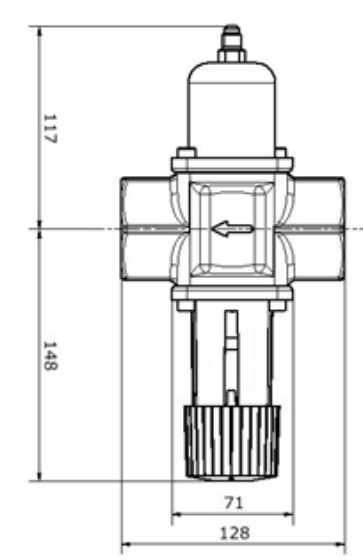
Function and technical specs, including opening curve, valve offset, Kv flow ratio, pressure drops, allowable temperature range, and setting range will not be changed.

Dimensions

Current design



New design



Affected products:

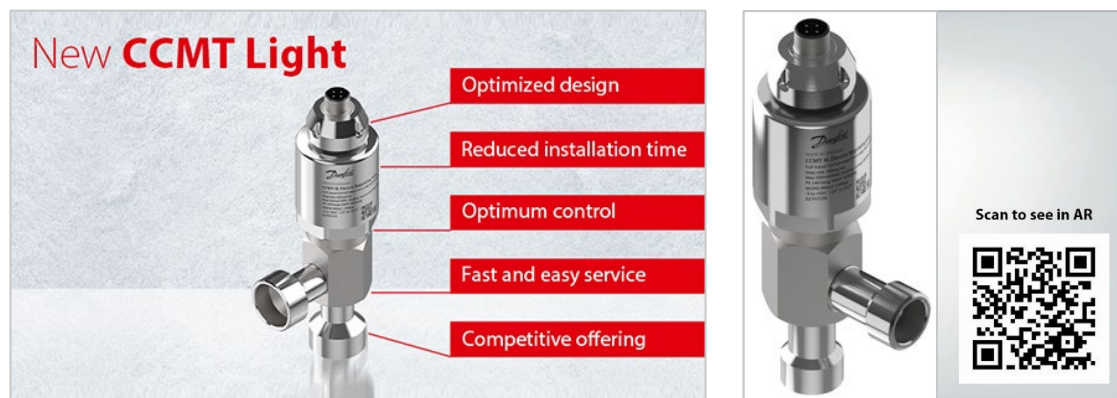
003F1232 WVFX 32 water valve G 1 1/4 in. 4–17 bar

003F1240 WVFX 40 water valve G 1 1/2 in. 4–17 bar

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

Calculation can be done through: [Coolselector®2](#) (download) or [Coolselector®2](#) (online)

Electric Regulating Valves CCMT Light with Higher Kv Values



Danfoss is pleased to announce that we are now ready to offer the CCMT 10L with higher Kv values of 1,1m³/h.

At the same time, we are releasing the CCMT 3L, 5L, 8L and 10L which are now approved to work as expansion valves for evaporators. In addition, these valves are capable of functioning either as a pressure regulator for gas coolers or as a gas bypass valve with backpressure regulation in transcritical applications. This release contains UL approval for the whole CCMT Light range.

The CCMT Light is designed for supermarkets, convenience stores, small food stores, cold rooms, and light industrial applications.

Design features

- Bi-polar stepper motor valve
- Angled valve housing
- Bi-metal and steel connections
- Fully serviceable insert module

Specifications

- Refrigerant media - R744
- Capacity - Kv 0.26 to 1,1 m³/h / Cv 0.3 to 1,28 gpm
- Max. working pressure/Connections:
 - 130 bar / 1885 psig, Bi-metal: 3/8 in. (9.52 mm) and 1/2 in. (12.7 mm)
 - 120 bar / 1740 psig for UL approval with Bi-metal connections
 - 140 bar / 2030 psig, steel: 5/8 in. (15.9 mm) and 7/8 in. (22.2 mm)
- Electrical connection - M12
- Compact and light weight - 670 g / 1.48 lbs.

Benefits

- Saves time in production and lowers field service costs with unique connections
- Offers the most robust and least dirt sensitive solution for best system performance
- Ensures safety due to their optimized size and 100 % leak check at the factory

The CCMT Light is currently available, using the code numbers on the table below.

Type	Connections [in]		Flow rate		Packing format	Code no.
	Bi-metal	Steel	kv [m³/h]	Cv [gpm]	Single pack	
CCMT 3L	3/8 × 3/8	-	0.26	0.3	1	027H7239
CCMT 3L	1/2 × 1/2	-	0.26	0.3	1	027H7240
CCMT 3L	-	5/8 × 5/8	0.26	0.3	1	027H7241
CCMT 3L	-	7/8 × 7/8	0.26	0.3	1	027H7273
CCMT 5L	3/8 × 3/8	-	0.5	0.57	1	027H7242
CCMT 5L	1/2 × 1/2	-	0.5	0.57	1	027H7243
CCMT 5L	-	5/8 × 5/8	0.5	0.57	1	027H7245
CCMT 5L	-	7/8 × 7/8	0.5	0.57	1	027H7274
CCMT 8L	3/8 × 3/8	-	0.8	0.92	1	027H7275
CCMT 8L	1/2 × 1/2	-	0.8	0.92	1	027H7247
CCMT 8L	-	5/8 × 5/8	0.8	0.92	1	027H7250
CCMT 8L	-	7/8 × 7/8	0.8	0.92	1	027H7272
CCMT 10L	1/2 × 1/2	-	1.10	1.28	1	027H7277
CCMT 10L	-	5/8 × 5/8	1.10	1.28	1	027H7278
CCMT 10L	-	7/8 × 7/8	1.10	1.28	1	027H7279

Available documentation

[Data Sheet](#), [Installation Guide](#), [CCMT product family site](#), [3D model](#)

How to YouTube videos



[How to weld steel connections on a CCMT Light valve for CO₂](#)

[How to braze steel connections on a CCMT light valve](#)

[How to braze bi-metal connections on a CCMT light valve](#)

New Multi-Refrigerants Evolution Allowing A2L (A1) for Optyma™ Plus and Optyma™ Slim Pack



Danfoss is pleased to announce the launch of the new Optyma **Plus** and Optyma **Slim Pack** new multi-refrigerant condensing unit evolution, adding the use of A2L mildly flammable refrigerants R454C, R455A, and R1234yf.

Our existing A1 versions will remain unchanged and continue to be available even though models will be progressively replaced by new versions and code numbers during Q4/2021. The refrigerant letter, code models, equipment, designation, and performance for these models will all be changed. For a quick overview you can have a look at our [brochure](#). For more detailed information the European Catalogue is available for [download](#).

Features and benefits

- Operating envelopes remain identical with the addition of
 - Allowing multi-refrigerant use, including low-GWP A2L refrigerants
 - Providing a range validated for the use of A2L refrigerants without additional risks of ignition



Sealed electrical box



A1/A2L compressor



Electrical components approved for A2Ls



A2L upgraded design



Optyma Plus: Stackable units



Louvers and holes for compressor compartment ventilation



Optyma Plus: preprogrammed controller with A2Ls



Fan timer for ventilation before compressor starts



Flare connections approved for A2Ls

Designation and code numbers Optyma™ Plus, Optyma™ Slim Pack A2L (A1) models MLZ015-026

Current Optyma Plus designation	Code No.	New Optyma Plus designation	Code No.
OP-MPXM034MLP00E	114X4264	OP-MPIM034MLP00E	114X4204
OP-MPXM034MLP00G	114X4261	OP-MPIM034MLP00G	114X4205
OP-MPXM046MLP00E	114X4284	OP-MPIM046MLP00E	114X4206
OP-MPXM046MLP00G	114X4281	OP-MPIM046MLP00G	114X4207
OP-MPXM057MLP00E	114X4293	OP-MPIM057MLP00E	114X4208
OP-MPXM057MLP00G	114X4290	OP-MPIM057MLP00G	114X4209

Current Optyma Slim Pack designation W05	Code No.	New Optyma Slim Pack W05 designation	Code No.
OP-MSXM034MLW05E	114X7062	OP-MSIM034MLW05E	114X7266
OP-MSXM034MLW05G	114X7061	OP-MSIM034MLW05G	114X7267
OP-MSXM044MLW05E	114X7162	OP-MSIM044MLW05E	114X7268
OP-MSXM044MLW05G	114X7161	OP-MSIM044MLW05G	114X7269
OP-MSXM046MLW05E	114X7064	OP-MSIM046MLW05E	114X7270
OP-MSXM046MLW05G	114X7063	OP-MSIM046MLW05G	114X7271
OP-MSXM057MLW05E	114X7066	OP-MSIM057MLW05E	114X7272
OP-MSXM057MLW05G	114X7065	OP-MSIM057MLW05G	114X7273

Current Optyma Slim Pack designation W09	Code No.	New Optyma Slim Pack W09 designation	Code No.
OP-MSXM034MLW09E	114X7196	OP-MSIM034MLW09E	114X7274
OP-MSXM034MLW09G	114X7195	OP-MSIM034MLW09G	114X7275
OP-MSXM044MLW09E	114X7212	OP-MSIM044MLW09E	114X7276
OP-MSXM044MLW09G	114X7211	OP-MSIM044MLW09G	114X7277
OP-MSXM046MLW09E	114X7198	OP-MSIM046MLW09E	114X7278
OP-MSXM046MLW09G	114X7197	OP-MSIM046MLW09G	114X7279
OP-MSXM057MLW09E	114X7200	OP-MSIM057MLW09E	114X7280
OP-MSXM057MLW09G	114X7199	OP-MSIM057MLW09G	114X7281

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. Condensing unit performance data with A2L refrigerants is available in [CoolSelector2](#).

Alternatively, you can consult instructions on the [Danfoss YouTube channel](#).

TD1/TDE1 Thermostatic Expansion Valves Material Change for Capillary Tube and Bulb



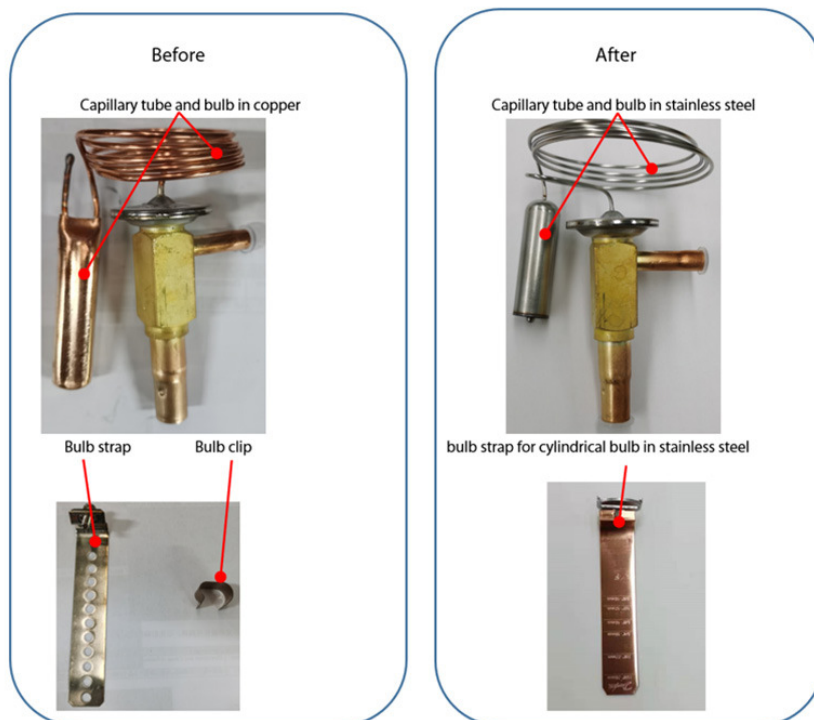
Old copper capillary tube and bulb



New stainless steel capillary tube and bulb

Adapting to market demands and customer requirements, Danfoss will change the material of the capillary tube and bulb of TD1/TDE1 thermostatic expansion valves from copper to stainless steel. Bulb clip/strap accessory will be changed to the dedicated bulb strap designed for the cylindrical stainless-steel bulb.

SSH (static superheat) characteristics and valve performance will remain the same level as the current TD1/TDE1. So, this change includes a change to Form and Fit, but no change to the function.



Old (copper) product will be phased out and new (stainless-steel) product will be phased in. Production of TD1 with Copper Cap: Tube and bulb will be stopped in March 2022, last buy order date is 1st Feb. 2022. Production of new TD1 with stainless-steel Cap: Tube and bulb will start from Nov. 2021

TXI 2 Injection Valve Phase Out



Danfoss is committed to fighting global warming and we fully support the transition away from high ODP and high GWP refrigerants. Since the TXI 2 was designed for systems using R22 or R407C, and it is still using a copper capillary tube and bulb, we have decided to phase out this product. Additionally, Danfoss will standardize our tube and bulb material offering across all Danfoss thermostatic expansion valves. All capillary tubes and bulbs will be converted to stainless-steel and current copper capillary tubes will be phased out.

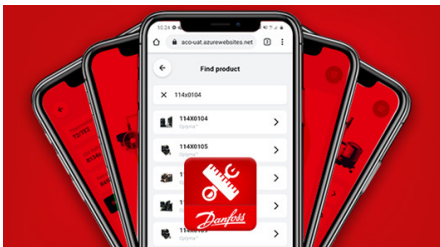
If needed, we recommend making TXI 2 stock and find replacement in the market.

Production of TXI 2 will be stopped in March 2022 and last buy order date is 1st Feb. 2022.

Affected products: All TXI 2 existing code numbers.

Ref Tools App - The Essential All-in-One Tool & Videos in YouTube Danfoss Climate Solution for Cooling

Ref Tools is an essential all-in-one mobile app for air conditioning and refrigeration technicians. Get the guidance, support, information, and tools you need - on the job and in the field. Ref Tools is a free, powerful app including 8 of our most popular tools:



- **Refrigerant Slider:**
Quickly calculate pressure/temperature ratios and find essential information on over 80 refrigerants.
- **Low-GWP Tool:**
Find and compare climate-friendly refrigerants for retrofitting by checking compatibility with the cooling system's TXV.
- **Magnetic Tool:**
Test and troubleshoot solenoid valve coils quickly and easily.
- **Spare Parts:**
Access and order an extensive list of Danfoss spare parts and service kits.
- **Troubleshooter:**
Get help diagnosing issues in refrigeration systems.
- **TXV Superheat Tuner:**
Optimize superheat in less than 15 minutes
- **Product Finder:**
Find and share extensive product-related data.
- **Podcasts:**
Relax a bit with our collection of podcasts.

In addition to giving you quick access to helpful tools, Ref Tools lets you track your most visited service sites and save unique settings for each one. You'll save time and simplify each service call.

Download **Ref Tools app**

Click here to [access the browser version](#)

- Danfoss solenoid valve troubleshooting, videos for solenoid valves – [LINK](#)
- Superheat and Subcooling, livestream recording – [LINK](#)
- What's new in Coolselector®2 | Latest Updates + Q&A, livestream recording - [LINK](#)

Danfoss Climate Solutions EER Region

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

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