

Customer Notification

B-CN-417-EN REV A

December 9, 2025

SUBJECT: VTX1600 Major Revision "C" Introduction

Purpose

The purpose of this bulletin is to inform our customers that the VTX1600 compressor is being updated to a **new Major Revision**.

The new Major Revision "C" release is currently scheduled for all VTX1600 production starting on December 15th, 2025. Current and future orders for new compressors with a confirmed date of **December 15th** or later will be manufactured as Major Revision "C". Your Danfoss Customer Service representative will contact you to identify any existing Major Revision "B" orders which will be converted to Major Revision "C".

All Major Revision "C" compressors must be configured using the Turbocor Variant Configuration® system and new nomenclature.

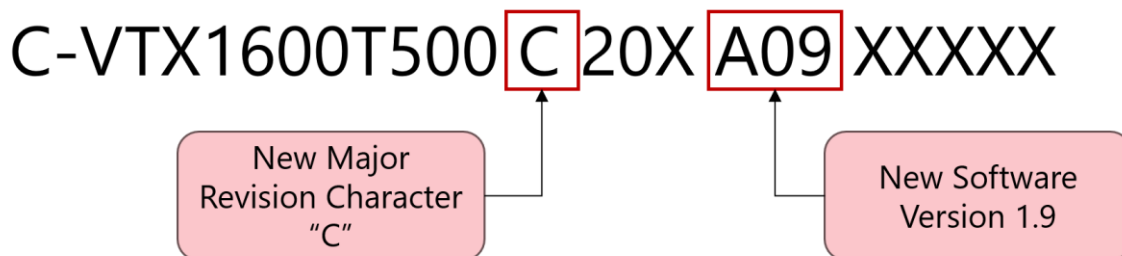


Figure 1 – VTX1600 Nomenclature Example

Several new spare parts have been introduced for Major Revision "C" and are outlined in this bulletin. These new kits will be included in the next revision of the VT Series Spare Parts Manual. Spare parts for Major Revision "B" compressors will continue to be offered.

This bulletin introduces the relevant changes and provides instructions for actions that are required from customers to prevent disruptions in compressor deliveries and spare part purchases.

Summary of Changes

Major Revision "C" includes several improvements to optimize installation, performance, and service. These improvements include an integrated Cavity Temperature Sensor which eliminates the need for installation of the Cooling Exit Temperature Sensor, an optimized motor for improved thermal performance, the latest Danfoss ETS 5M expansion valve for Motor Cooling control, improved Bearing Sensor and Power Feedthrough designs, and a new firmware release (version 1.9).

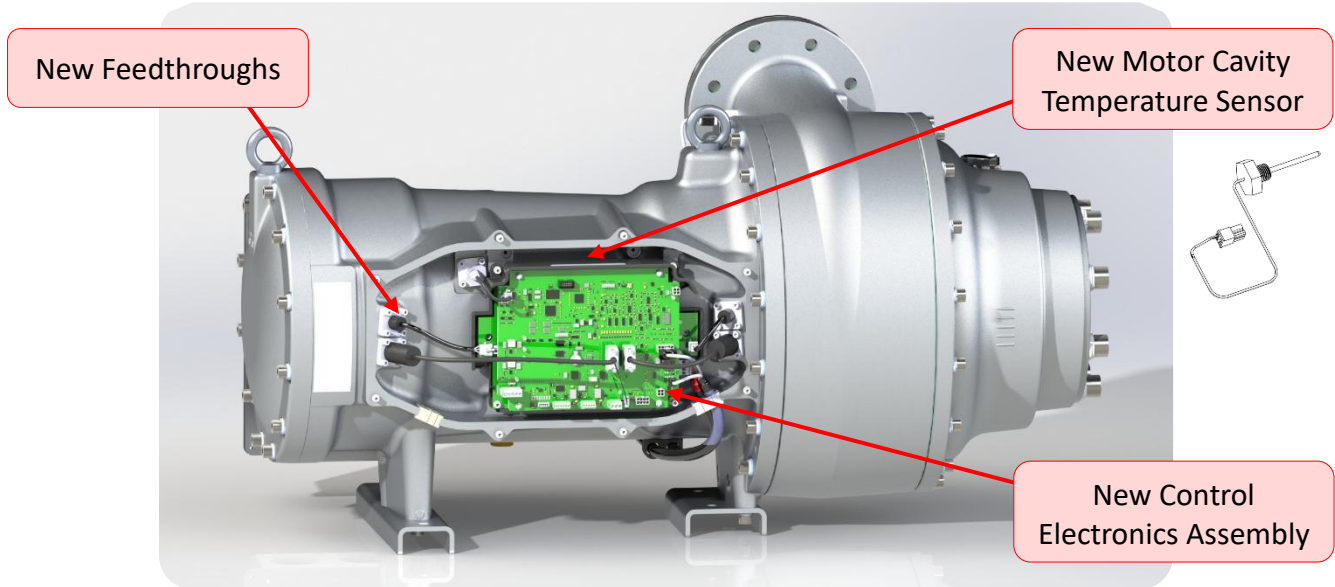


Figure 2 – Major Revision "C" VTX1600 Front View

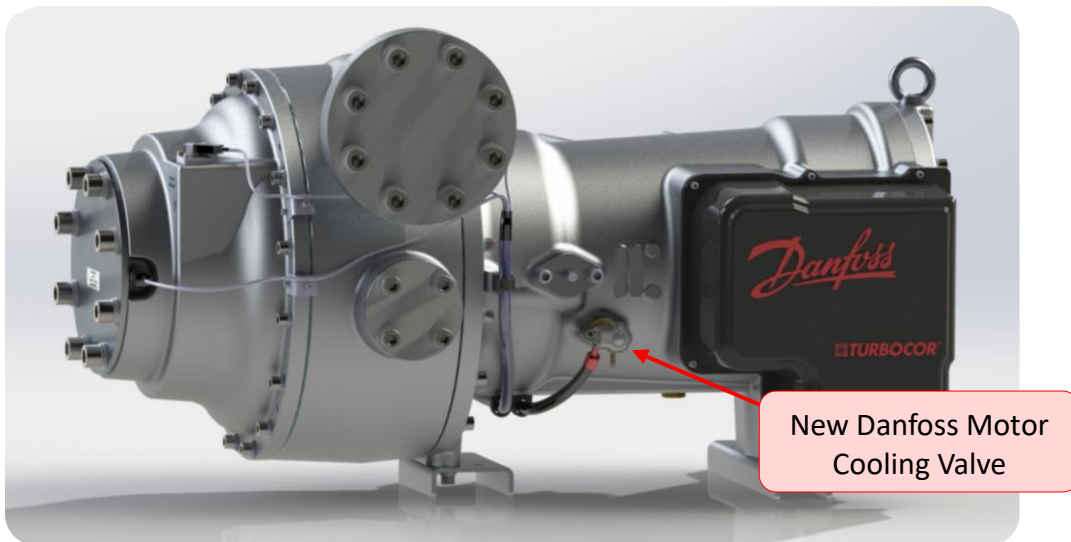


Figure 3 – Major Revision "C" VTX1600 Back View

New Cavity Temperature Sensor

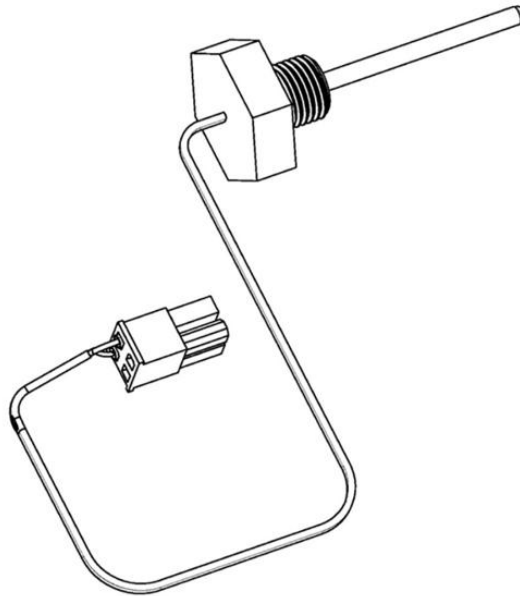


Figure 4 – Motor Cavity Temperature Sensor

The Cooling Exit Temperature Sensor will be replaced by the same Cavity Temperature Sensor used for Turbocor TT/TG series products. This eliminates the need to install the Cooling Exit Temperature Sensor during compressor installation which was introduced with Bulletin B-CN-277-EN.

Note: The Motor Cooling Mode for Major Revision "C" VTX1600 compressors is set to "Cavity" by the factory. This setting should not be changed for Major Revision "C" compressors which use the Cavity Temperature Sensor. Major Revision "B" compressors using the Cooling Exit Temperature Sensor should continue to use Motor Cooling Mode "Aux Temp". **This is for information purposes only and requires no action from the customer.**

Motor Cooling Expansion Valve

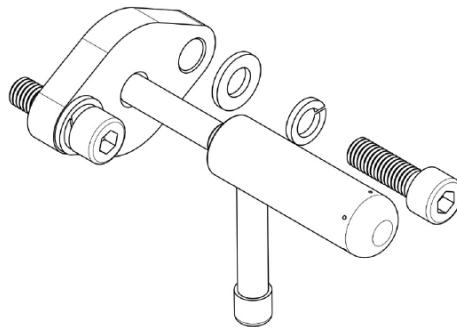


Figure 5 – Motor Cooling Expansion Valve

The Motor Cooling Expansion Valve will be updated to the latest Danfoss ETS 5M electric expansion valve to optimize motor cooling control. Major Revision "C" VTX1600 compressors must use the new, ETS 5M expansion valve. Using the Major Revision "C" VTX1600 with the previous Danfoss ETS 6 expansion valve will result in sub-optimal cooling performance. If a Major Revision "C" compressor is installed on a chiller previously built with a Major Revision "B" compressor, it is important that the Motor Cooling Expansion Valve be updated to use the ETS 5M valve that is provided with the Major Revision "C" compressor.

Optimized Motor

The motor has been updated to optimize its thermal performance. There is no resulting change to compressor performance or capacity, nor are there any changes required to the chiller for operation.

Bearing Sensor and Power Feedthroughs

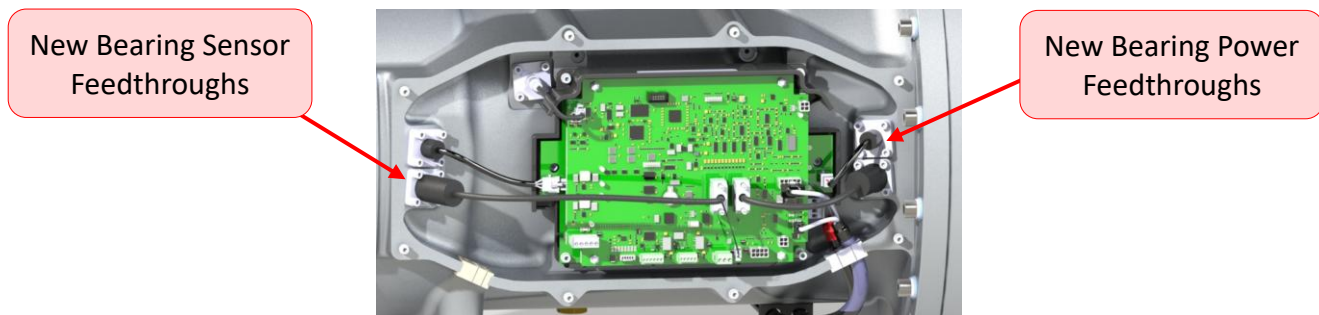


Figure 6 – Major Revision "C" VTX1600 Service Side

The Bearing Sensor and Power Feedthroughs and their associated cables will be upgraded to simplified, integrated cable-and-feedthrough designs, thereby reducing the total number of components on the compressor.

The new Bearing Power Feedthroughs are not compatible with legacy Control Electronics Assemblies due to the new connector style. The new Bearing Sensor Feedthroughs are backwards compatible.

On earlier Major Revisions, it has not been possible to replace the Front Bearing Sensor and Power Feedthroughs in the field. Internal cable lengths have been adjusted for Major Revision "C" compressors and it is now possible to replace both the Front and Rear Bearing Sensor and Power Feedthroughs in the field.

Existing Bearing Sensor and Power Feedthroughs and their associated cables will continue to be available for purchase as spare part kits.

Service Electronics Assembly

As a result of the new feedthrough designs and thermal improvements, both the PWM and the CCM boards have been updated. As such, Revision C VTX1600 compressors will utilize a new Service Electronics Assembly.

Terminal Box Foam

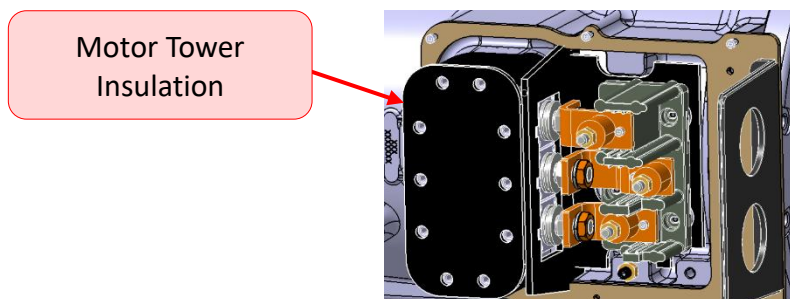


Figure 7 – VTX1600 Motor Tower Insulation

Insulation has been added to the Motor Tower inside of the Motor Power Cover to reduce condensation.

Firmware Version 1.9

Firmware version 1.9 has been released for the VTX1600, including earlier major revisions. Major Revision "C" VTX1600 compressors must utilize firmware version 1.9 or later.

If a compressor using firmware version 1.9 is paired with a VFD Control Card operating with VFD firmware version 9.12, the Kinetic Backup feature is not available. Please see the following section, "VTT/VTX VFD Drive Firmware" for more details.

Firmware version 1.9 does not include any changes to communication protocols between the compressor and the chiller controller. As such, it is not expected that any changes to chiller programming are required. Additional information on the changes included in firmware version 1.9 are included in Bulletin B-CN-418-EN Rev B.

VTT/VTX VFD Firmware

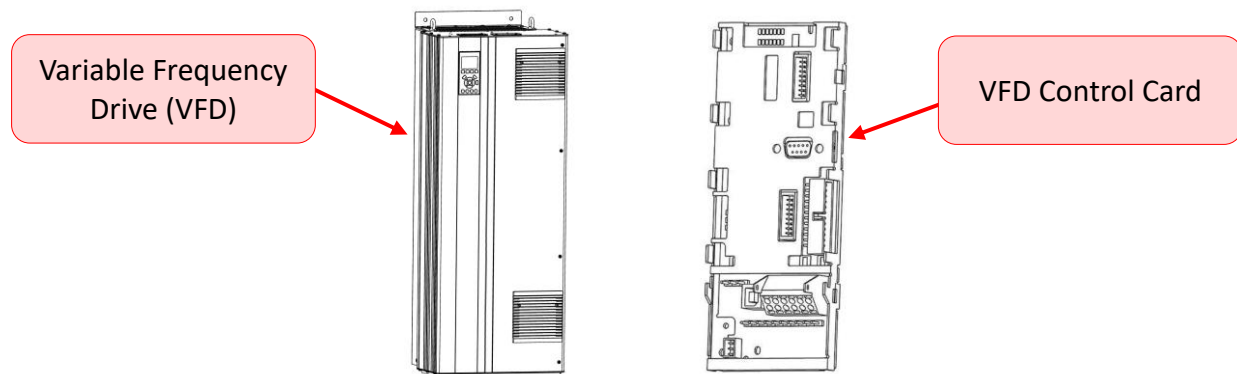


Figure 8 – VFD and VFD Control Card

A new version of the VFD Control Card firmware, version 9.14, is being implemented into production according to the same timing as the VTX1600 Major Revision "C" launch.

As described in the preceding section, the Kinetic Backup functionality is not available when the compressor uses Firmware Version 1.9 and the VFD Control Card uses firmware version 9.12. When compressors in the field are upgraded to firmware version 1.9, upgrade the VFD Control Card to firmware version 9.14 to restore the Kinetic Backup functionality. VFD Control Cards with firmware version 9.14 are available for purchase as Spare Part Kit part number 199K2013.

All VTX1600 compressors leaving the Danfoss Turbocor factories will be shipped with firmware version 1.9, including Rebuilt Certified Compressors. If the Rebuilt Certified Compressor will be installed on an existing chiller where the VFD Control Card uses firmware version 9.12, Danfoss will provide a new VFD Control Card with the Rebuilt Certified Compressor free-of-charge so that the VFD can be upgraded. Please inform your Customer Experience Account Manager to ensure that this card is included with your order.

It is not necessary to upgrade the previous, MKI VFD Control Cards utilizing firmware version 1.15.

Compressor			VFD		Compatibility
Model	Revision	Software Version	Control Card	Software Version	
VTT/VTX	All	<1.8	MKI	1.15	All Features Available
			MKII	9.12	VTX FW Must Be Updated
				9.14	VTX FW Must Be Updated
		1.8	MKI	1.15	All Features Available
			MKII	9.12	All Features Available
				9.14	VTX FW Must Be Updated
		>1.8	MKI	1.15	All Features Available
			MKII	9.12	Kinetic Backup Not Available
				9.14	All Features Available

Table 1 – Compressor and VFD Firmware Compatibility

CIM

As with all new compressor firmware versions, the CIM firmware has been updated accordingly. When updating the firmware of a compressor in the field to version 1.9, the CIM firmware must also be updated. For more information on how to do this, contact your regional DTC service technician or DTC Applications at dtcapplications@danfoss.com.

New Spare Part Kits

Part Number	Kit Description
199K2008	MOTOR COOLING EEV
110083	O-RING, MOTOR COOLING EEV
199K2009	HARNESS, MOTOR COOLING EEV
199K2012	MOTOR COOLING EXIT FLANGE
199K2011	O-RING, MOTOR COOLING
199K2028	HOUSING END CAP
110112	O-RING, END CAP
199K2010	IGV DRIVE ASSY
199K2022	IGV THROAT
199K2027	IGV HOUSING
199K2021	O-RING IGV HOUSING
199K2030	IGV MOTOR
199K2029	IGV WORM GEAR SHAFT REPAIR
199K2001	SERVICE ELECTRONICS
199K2017	HARDWARE, SERVICE ELECTRONICS
100196-3	CAVITY TEMP SENSOR
199K2020	O-RING - CAVITY SENSOR
199K2015	FRONT BEARING SENSOR FEEDTHROUGH
199K2024	REAR BEARING SENSOR FEEDTHROUGH
199K2026	FRONT BEARING POWER FEEDTHROUGH
199K2025	REAR BEARING POWER FEEDTHROUGH
199K2016	O-RING, SENSOR-POWER FEEDTHROUGH
112060	TOWER TERMINAL BLOCK INSULATION
199K2014	O-RINGS, PORTS CONNECTION
199K2023	CONTROL CARD, VFD, MKI
199K2013	CONTROL CARD, VFD, MKII

Table 2 – New Spare Part Kits for Major Revision “C” VTX1600 Compressors

Action Required

New Major Revision "C" compressors will be produced beginning December 15th, 2025. The previous Major Revision "B" compressors will no longer be available for purchase as a new compressor.

Customers will need to update their ordering systems to use the new Type Code associated with the Major Revision "C" compressors. Your Danfoss Customer Experience Account Manager will contact you to identify any existing Major Revision "B" orders which will be converted to Major Revision "C".

Need Assistance

For more information please contact your Key Account Manager or our Product Support group at turbocor.ps.na@danfoss.com or eu.support@danfoss.com for inquiries within Europe.