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TectoCore WMC5/WMF5



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1 User support

The data sheet contains technical specifications and information about the product.

The accompanying assembly and operating manual contains all the essential information required for assembly, installation and commissioning.

If you have any questions, please contact your local Viessmann trade partner. You will find the current address on the back page.

1.1 Structure of the operating manual

1.1.1 Warnings

Structure of warnings

Warnings are structured as follows:

	SIGNAL WORD!	Source of danger! Consequences of non-compliance.
		➞ Action to avoid the hazard.

Classification of warnings

Warnings are classified as follows, according to the type of hazard:

	DANGER!	This signal word indicates an imminent danger. Failure to avoid this source of danger will result in death or serious injury.
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	WARNING!	This signal word indicates a potential source of danger. Failure to avoid this source of danger may result in death or serious injury.
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	CAUTION!	This signal word indicates a potentially dangerous situation. If this dangerous situation is not avoided, it may result in minor to moderate injuries.
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NOTE	This signal word indicates actions that must be taken to prevent damage to property. Observing these notes will prevent damage or destruction of the overall system or its components.
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Tips, advice and recommendations

- ① Provides the user with tips, advice or recommendations on how to efficiently use the product.

1.1.2 Other symbols

Action instructions

Action instructions prompt the reader to carry out an action or a work step. Always carry out the action instructions one at a time and in the specified order.

Structure of the action instructions:

- ➞ Instructions for an action.

Outcome statement, if required.

Lists

Structure of unnumbered lists:

- List level 1
 - List level 2

Structure of numbered lists:

1. List level 1
 - 1.1 List level 2

1.2 Other applicable documents

- ➞ Please refer to the additional documentation supplied and the relevant standards and laws to ensure the machine is used safely and correctly.

Documents that must be observed:

- Safety data sheets for operating media
 - R290 (propane: C3H8)
- Assembly and operating manual
- Control system user manual

2 Safety and hazards

⚠ DANGER!	Risk of fatal electric shock! ➔ Before commencing work on the refrigeration unit, disconnect the mains plug and wait for at least 2 minutes. ➔ Ensure that the refrigeration unit cannot be switched back on accidentally. ➔ Observe national standards and regulations before working on electrical equipment.
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⚠ DANGER!	Risk of fatal explosion! In the event of a gas leak, explosive concentrations of gas build up around the machine. ➔ Do not perform any activities that may generate sparks (e.g. operating electrical equipment). ➔ Reduce the gas concentration by ventilating the area or opening doors.
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⚠ DANGER!	Risk of death if the refrigeration unit falls! ➔ Make sure that the refrigeration unit is secured during commissioning or when carrying out work on it. ➔ Make sure that the wall panels have sufficient load-bearing capacity. ➔ Create perforations exclusively in accordance with the specifications (siehe 7.5.2 Durchbrüche herstellen auf Seite <?>).
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⚠ WARNING!	Risk of injury from refrigerant leakage! ➔ Wear protective equipment when working on the refrigeration unit.
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⚠ WARNING!	Risk of injury from inhaling refrigerant! ➔ Make sure the operating location is adequately ventilated.
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NOTE	Damage caused by improper repairs! ➔ Do not use any objects/auxiliary equipment to speed up the defrosting process.
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NOTE

Incorrect setup!

- ➔ Please observe the site-specific setup requirements for refrigeration systems using R290 (propane).

- ➔ Please follow the assembly and operating manual.
- ➔ Assembly, maintenance, cleaning and repair work must be carried out exclusively by authorised qualified personnel.

3 Intended use

Use the refrigeration unit exclusively:

- For commercial purposes
- For the specified temperature range
- Exclusively for cooling enclosed spaces

- ➔ Please observe the setup specifications.
- ➔ Observe operating limits (See 8 Operating limits on page 8).

4 Foreseeable misuse

- ➔ Do not operate the machine in a corrosive or flammable atmosphere.
- ➔ Please observe the setup specifications and environmental conditions.
- ➔ Do not use the machine outdoors.

5 Product designation

- Standard normal-cooling refrigeration unit: TectoCore WMC5
- Standard deep-freeze refrigeration unit: TectoCore WMF5

Acronyms:

- WM = Wall Monoblock
- C = Cooler
- F = Freezer

6 Installation

6.1 Installation requirements

⚠ WARNING!	Risk of injury from sharp-edged and pointed components! ➔ Wear suitable protective equipment (protective gloves, safety footwear, safety goggles, hard hat, etc.).
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NOTE
Damage caused by improper installation!

- Install the refrigeration unit exclusively indoors.

NOTE
Malfunctions caused by improper installation!

- Do not make any cut-outs around the upper turnbuckles (connection between the cold room wall and the cold room ceiling).
- Make sure that the wall thickness does not exceed 150 mm.
- Use the assembly template.

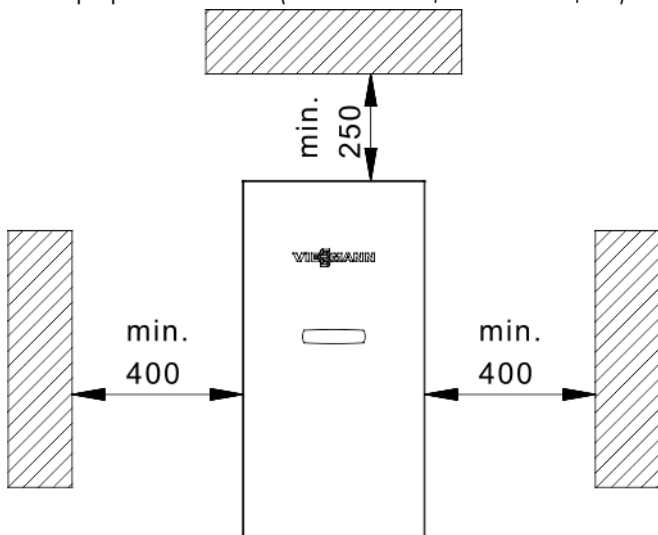
- Observe operating limits (See 8 Operating limits on page 8).
- Keep the humidity below 85 %.
- Make sure that the installation room has a volume of at least 19.7 m³.

If, for example, the room where you want to install the unit is 2.2 m high:

- Make sure that the clear floor area is 9.0 m².
- Take into account any items stored in the installation room that may reduce the available floor space.
- Make sure there is a clearance of 250 mm above the air outlets at the top.
- Make sure there is a 400 mm clearance in front of the air inlets and outlets at the side.

If the specified clearances cannot be maintained:

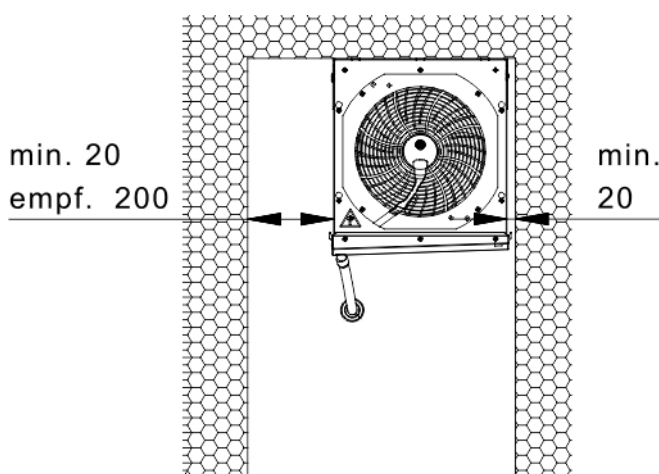
- Have the air circulation routing planned by a company specialising in refrigeration.
- Make sure you have adequate air circulation by taking appropriate measures (additional fans, air deflectors, etc.).



- Ensure that any heat generated is properly vented from the room where the unit is installed.
- Avoid sources of heat and direct heat radiation.
- Ensure there is a clearance of at least 20 mm between the unit and the right-hand inner wall of the cold room.

① The recommended clearance to the left inner wall of the cold room is 200 mm. If necessary, this clearance can be reduced to 20 mm.

① Reducing the clearance limits accessibility (e.g. for maintenance).



- Prevent warm, damp ambient air from penetrating the cold room.
- Do not install the refrigeration unit in areas exposed to magnetic radiation.
- Do not install the refrigeration unit in areas where there is a risk of explosion.
- Do not install the refrigeration unit in locations with a risk of fire.
- Comply with all local regulations, guidelines and laws relating to installation, operation, maintenance and disposal.

7 Technical specifications

- The performance figures are based on refrigeration units with clean heat exchangers.
- Tolerances for the values in accordance with DIN EN 12900:2013.
- Cooling capacity in accordance with DIN EN 17432:2021.

7.1 Standard refrigeration unit TectoCore WMC5

		900	1100	1300
Size ¹		1		
Cold room temperature control range	°C	(-5) ¹³ 0 to +15		
Perm. ambient temperature	°C	(-5) ¹⁴ +10 to +43		
Cooling capacity at rating point ²	W	900	1100	1300
Heating capacity at rating point ²	W	1369	1664	1916
Power consumption at rating point ²	W	469	564	616
EER at rating point ³		1.92	1.95	2.11
Evaporation capacity ⁴	l/d	3.6		
Number of refrigeration circuits		1		
Refrigerant		R290		
Refrigerant charging quantity for Circuit I	g	110	120	150
GWP according to the IPCC's 6th Assessment Report ⁵	CO ₂ e	0.02		
Refrigerant safety class ⁶		A3		
Refrigeration circuit ⁷		Permanently sealed		
Expansion device		Thermostatic expansion valve		
Rated pressure of high-pressure switch	bar (g)	17.8		
Rated pressure of low-pressure switch	bar (g)	1.5		
Fresh air required ⁸	m³/h	720	860	1000
Condenser fan ²	Number	1		
	Type	Axial		
	Rated air flow	1250		1270
	Power consumption	70		72
	RPM	2390		2430
Evaporator fan ²	Number	1		
	Type	Axial		
	Rated air flow	700	780	840
	Power consumption	16		
	RPM	900		
	Air throw ⁹	6		
Defrosting type ¹⁰		Hot-gas defrosting		
Total power of heating systems	W	240 ¹²		
Voltage/Phases/Frequency	V/-/Hz	230/1/50		
Max. operating current	A	3.8	4.3	5.3
Fuse required	A	C10		
Length of mains cable	m	5		
Protection class	-	I		
Protection rating		IP 2X		
Sound pressure level ¹¹	dB(A)	38	39	40
Dimensions D x W x H ⁹	mm	960 x 430 x 840		
Weight excluding packaging ¹²	kg	51	52	54

¹ Applies exclusively to this assembly and operating manual.

² Rating point in accordance with EN 17432, NR: L0°/L32°; heating capacity: the heat flux emitted by the unit into the ambient environment during cooling operation.

³ EER: Energy Efficiency Ratio - ratio of cooling capacity to electrical power consumption.

⁴ Evaporation capacity based on rating point L0 °C/L32 °C, 30 % relative humidity and an operating time of 18 h/day.

⁵ Different operating points and running times may affect the evaporation capacity.

⁶ GWP: Global-Warming Potential (IPCC AR6).

⁷ In accordance with EN 378-1, EN 14276-2.

⁸ Fresh air required for the necessary ventilation of the condenser at the rating point when the ambient temperature rises by 6 K (NR).

⁹ This may vary due to optional ShutUp accessory pack.

¹⁰ This is assisted by an auxiliary heating system (tubular heater) and can optionally be assisted by condensate trace heating in the area of the condensate tray.

¹¹ A-weighted sound pressure level measured at a distance of 10 m at the operating point L0 °C/L20 °C. Any deviations are due to the specific conditions of the room.

¹² This may vary due to optional accessories.

¹³ Expandable with an optional auxiliary heating system accessory pack.

¹⁴ Expandable with an optional Winter accessory pack.

7.2 Standard deep-freeze refrigeration unit TectoCore WMF5

			1050	1300
Size ¹			1	
Cold room temperature control range		°C	-25 to -5	
Perm. ambient temperature		°C	(-5) ¹³ +10 to +43	
Cooling capacity at rating point ²		W	1050	1300
Heating capacity at rating point ²		W	1988	2587
Power consumption at rating point ²		W	938	1287
EER at rating point ³			1.12	1.01
Evaporation capacity ⁴		l/d	5.3	
Number of refrigeration circuits			1	
Refrigerant			R290	
Refrigerant charging quantity for Circuit I		g	150	
GWP according to the IPCC's 6th Assessment Report ⁵		CO ₂ e	0.02	
Refrigerant safety class ⁶			A3	
Refrigeration circuit ⁷			Permanently sealed	
Expansion device			Thermostatic expansion valve	
Rated pressure of high-pressure switch		bar (g)	17.8	
Rated pressure of low-pressure switch		bar (g)	0.1	
Fresh air required ⁸		m³/h	760	1000
Condenser fan ²	Number		1	
	Type		Axial	
	Rated air flow	m³/h	1320	1720
	Power consumption	W	77	140
	RPM	1/min	2500	3090
Evaporator fan ²	Number		1	
	Type		Axial	
	Rated air flow	m³/h	800	1240
	Power consumption	W	16	34
	RPM	1/min	900	1300
	Air throw ⁹	m	6	
Defrosting type ¹⁰			Hot-gas defrosting	
Total power of heating systems		W	265	
Voltage/Phases/Frequency		VI-/Hz	230/1/50	
Max. operating current		A	9.0	12.2
Fuse required		A	C16	
Length of mains cable		m	5	
Protection class		-	I	
Protection rating			IP 2X	
Sound pressure level ¹¹		dB(A)	42	47
Dimensions D x W x H ⁹		mm	960 x 430 x 840	
Weight excluding packaging ¹²		kg	64	66

¹ Applies exclusively to this assembly and operating manual.

² Rating point in accordance with EN 17432, DF: L-20°/L32°; heating capacity: the heat flux emitted by the unit into the ambient environment during cooling operation.

³ EER: Energy Efficiency Ratio - ratio of cooling capacity to electrical power consumption.

⁴ Evaporation capacity based on rating point L-20 °/L32 °C, 30 % relative humidity and an operating time of 16 h/day.

⁵ Different operating points and running times may affect the evaporation capacity.

⁶ GWP: Global-Warming Potential (IPCC AR6).

⁷ In accordance with EN 378-1.

⁸ In accordance with EN 378-2, EN 14276-1, EN 14276-2.

⁹ Fresh air required for the necessary ventilation of the condenser at the rating point when the ambient temperature rises by 8 K (DF).

¹⁰ This is assisted by an auxiliary heating system (tubular heater) and condensate trace heating in the area of the condensate tray.

¹¹ A-weighted sound pressure level measured at a distance of 10 m at the operating point L-20 °/L20 °C. Any deviations are due to the specific conditions of the room.

¹² This may vary due to optional accessories.

¹³ Expandable with an optional Winter accessory pack.

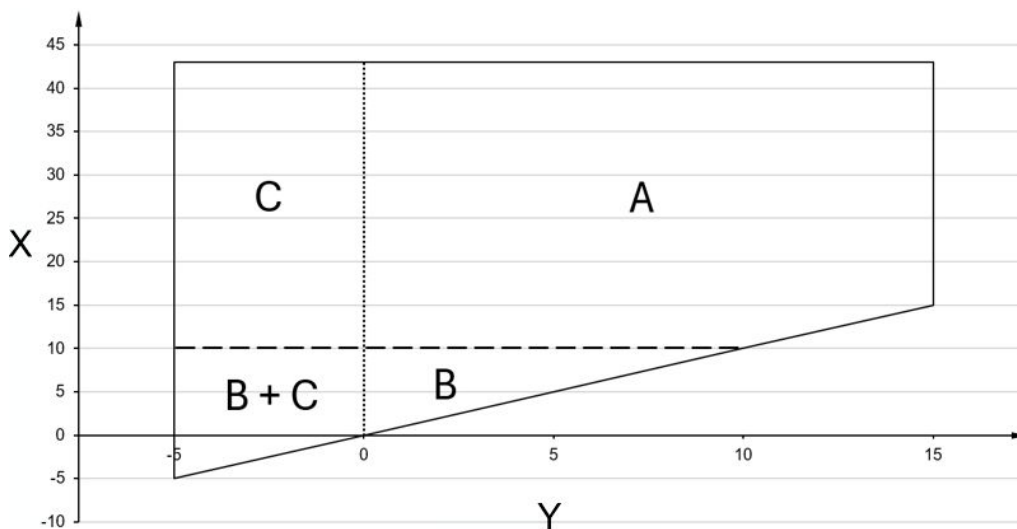
8 Operating limits

The diagrams show the operating limits of normal-cooling refrigeration units and deep-freeze refrigeration units as a function of ambient and cold room temperature.

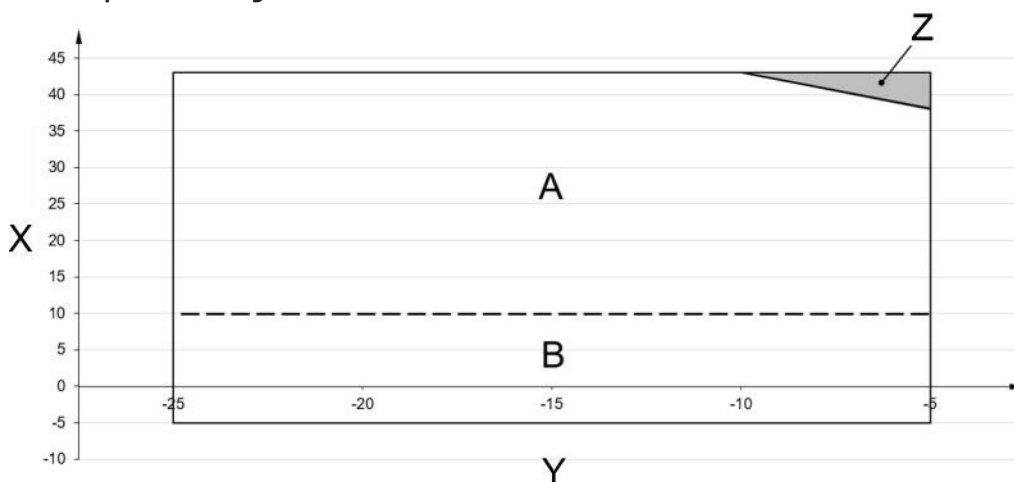
The following applies to all values in the diagrams:

- Temperatures measured in accordance with DIN EN 17432:2021
- A = standard model without accessories
- B = expandable with the Winter accessory pack (oil sump heater)
- C = expandable with the auxiliary heating system accessory pack (condensate drain pipe trace heating)
- X = ambient temperature in °C
- Y = cold room temperature in °C
- Z = exclusively for the WMF5 1050 - not for the WMF5 1300
- Since the refrigeration unit does not provide heating, it is not possible for the cold room temperature to exceed the ambient temperature.
- We reserve the right to make technical changes.

8.1 Normal-cooling refrigeration units



8.2 Deep-freeze refrigeration units



9 Performance diagrams

The performance diagrams show the cooling capacity, electrical power consumption, EER and heating capacity as a function of the cold room temperature for each refrigeration unit model.

The following applies to all values in the performance diagrams:

- These values apply to refrigeration units with clean heat exchangers.
- Cooling capacity shown, measured in accordance with DIN EN 17432:2021.
- Cold room temperatures measured in accordance with DIN EN 17432:2021.
- Value tolerances in accordance with DIN EN 12900:2013.
- EER: Energy Efficiency Ratio; ratio of cooling capacity to electrical power consumption.
- Heating capacity: the heat flux emitted by the unit into the ambient environment during cooling operation.
- The refrigeration unit is not heating.
Make sure that the cold room temperature does not exceed the ambient temperature.
- We reserve the right to make technical changes.

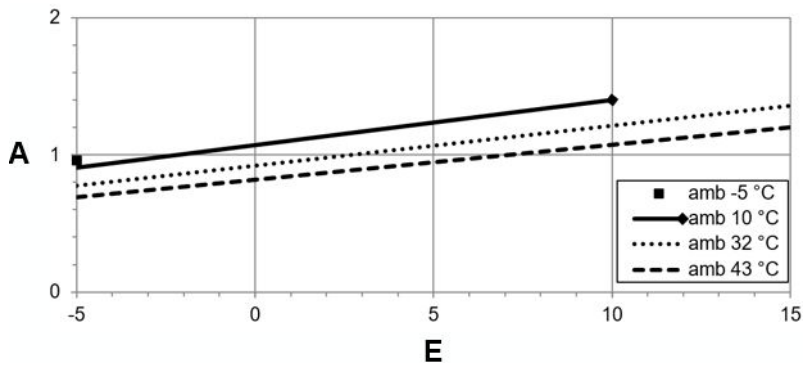
The following applies to all performance diagrams:

- A = cooling capacity in kW
- B = EER
- C = power consumption in kW
- D = heating capacity in kW
- E = cold room temperature in °C

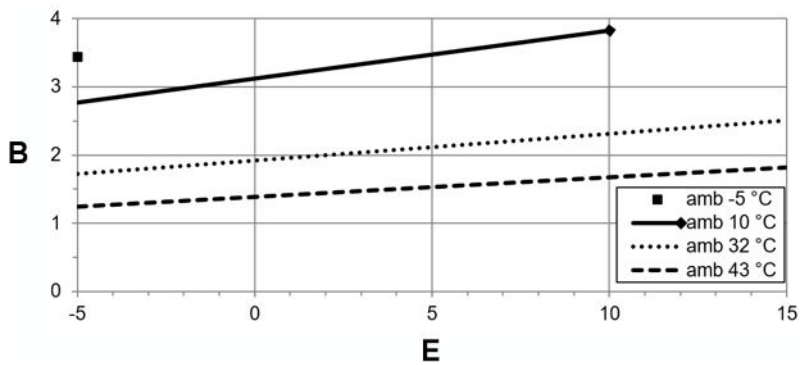
9.1 Normal-cooling refrigeration units

9.1.1 WMC5 900

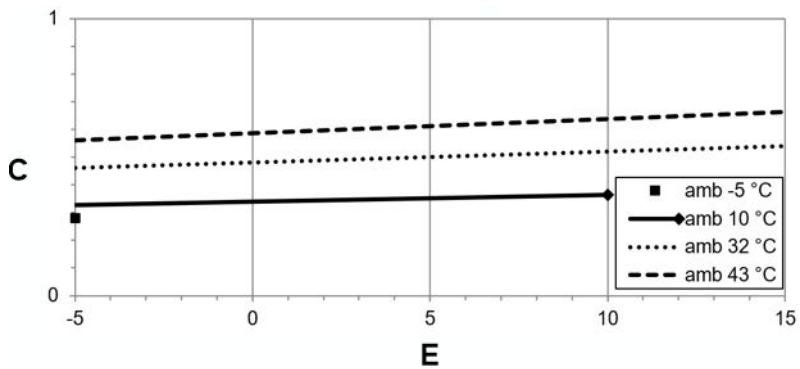
Cooling capacity



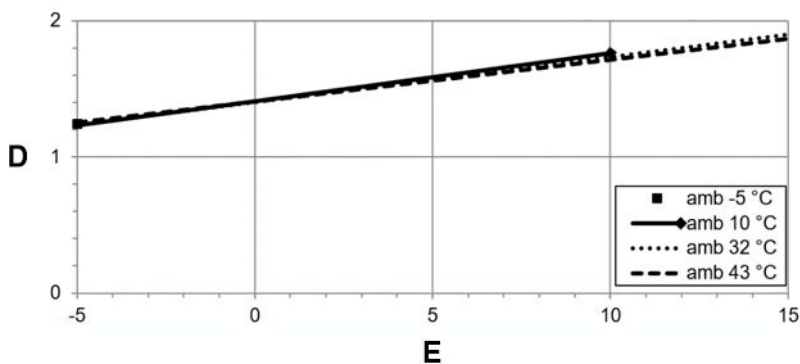
EER



Electrical power consumption

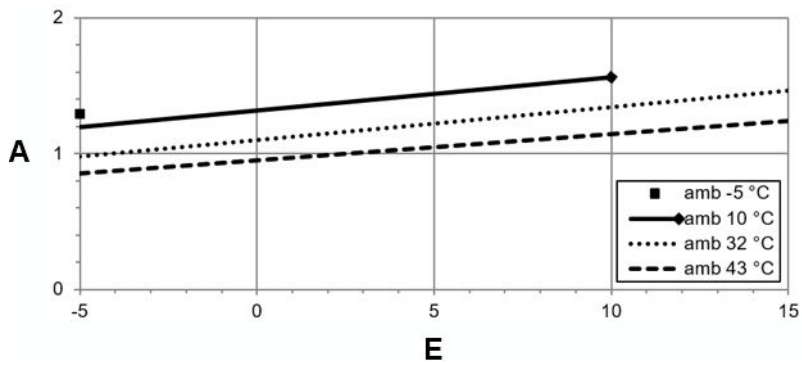


Heating capacity

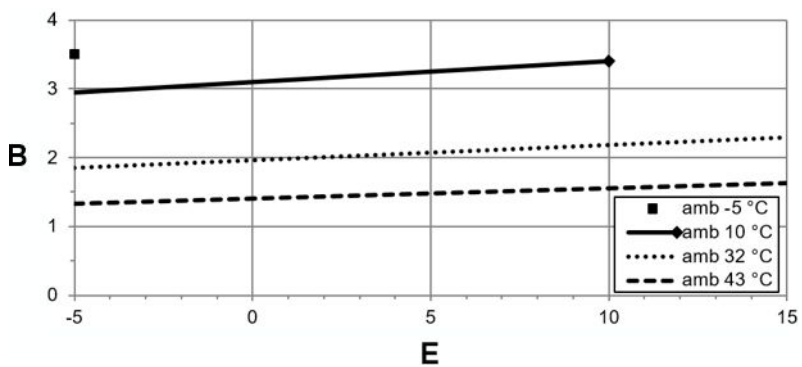


9.1.2 WMC5 1100

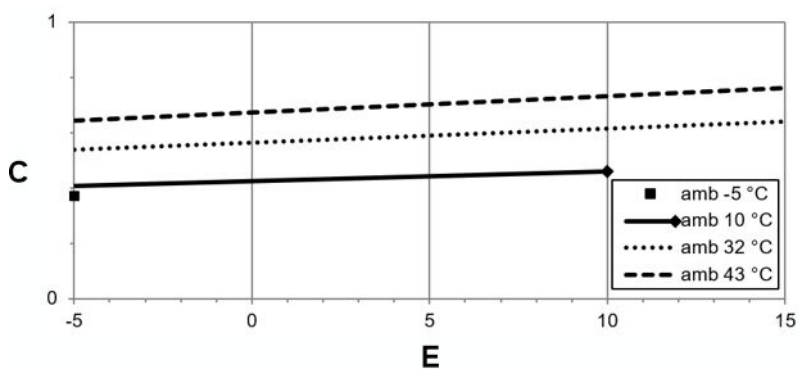
Cooling capacity



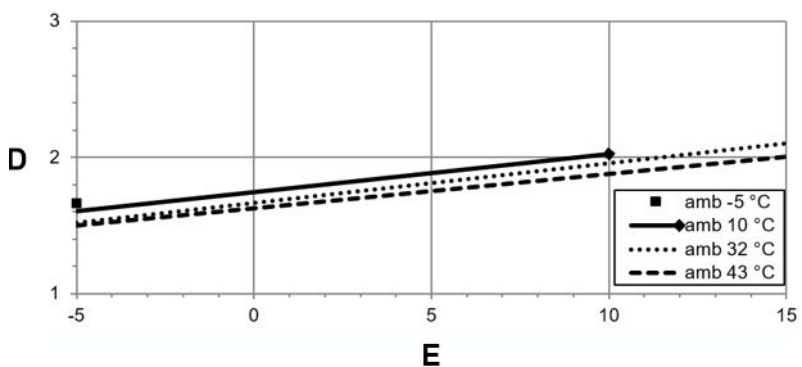
EER



Electrical power consumption

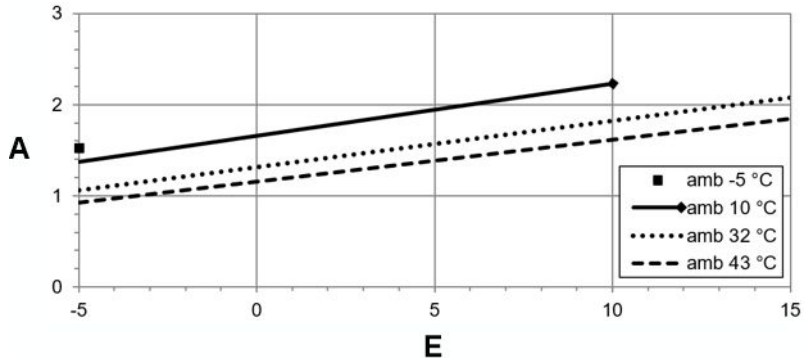


Heating capacity

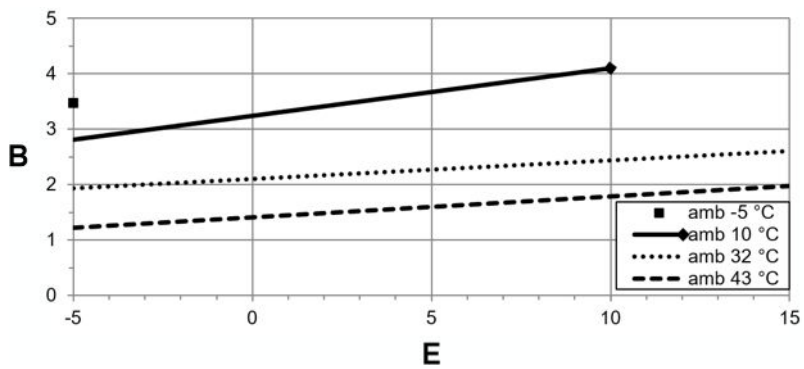


9.1.3 WMC5 1300

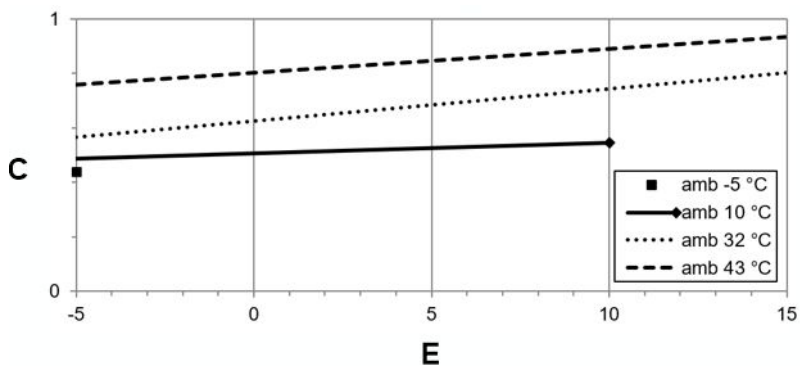
Cooling capacity



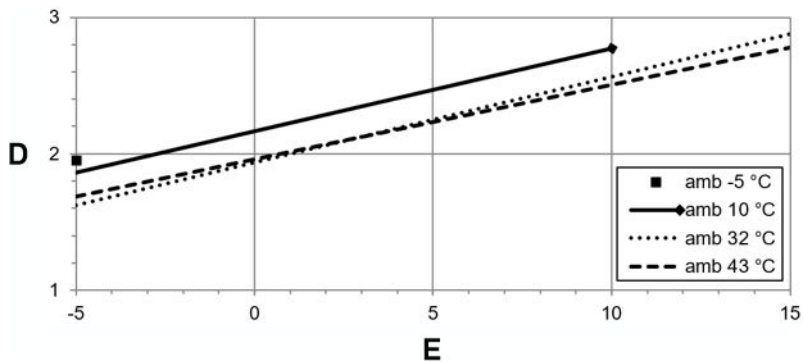
EER



Electrical power consumption



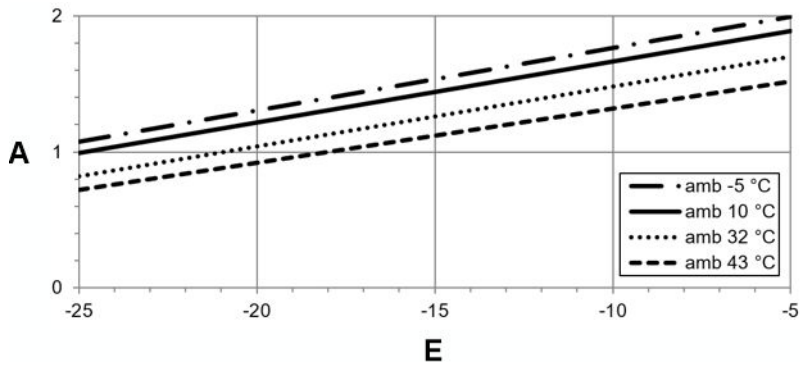
Heating capacity



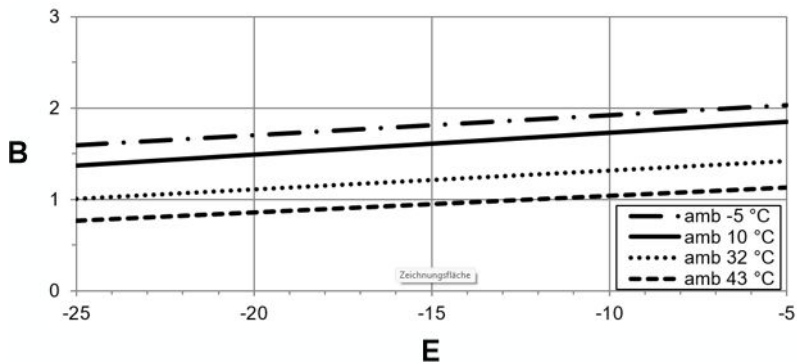
9.2 Deep-freeze refrigeration units

9.2.1 WMF5 1050

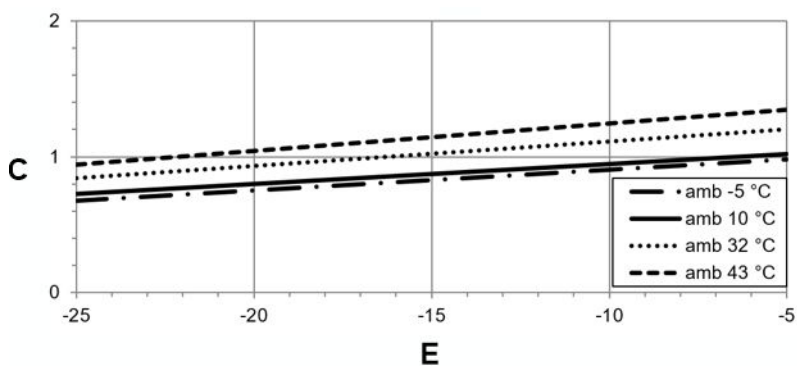
Cooling capacity



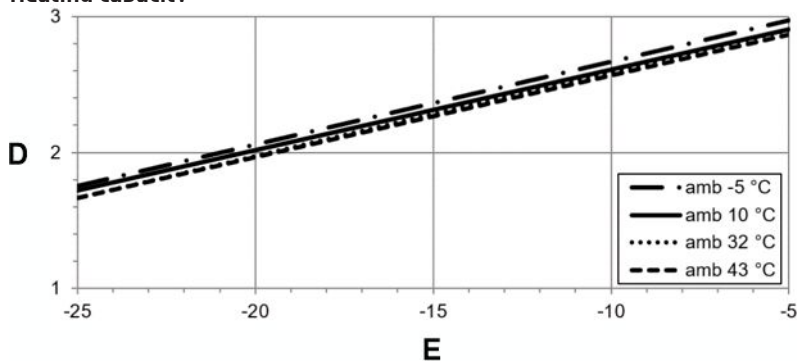
EER



Electrical power consumption

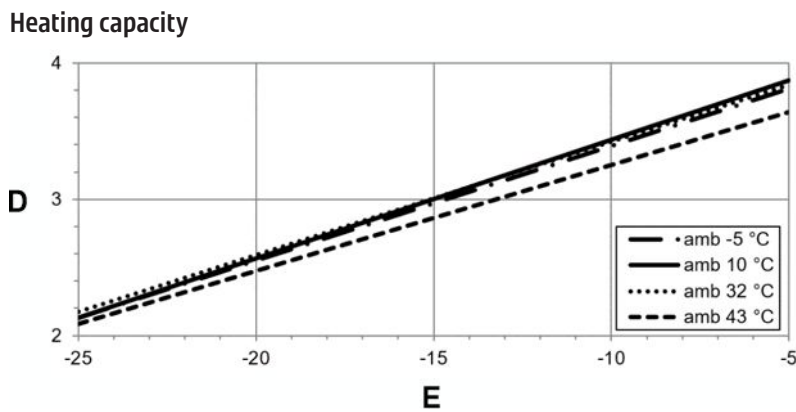
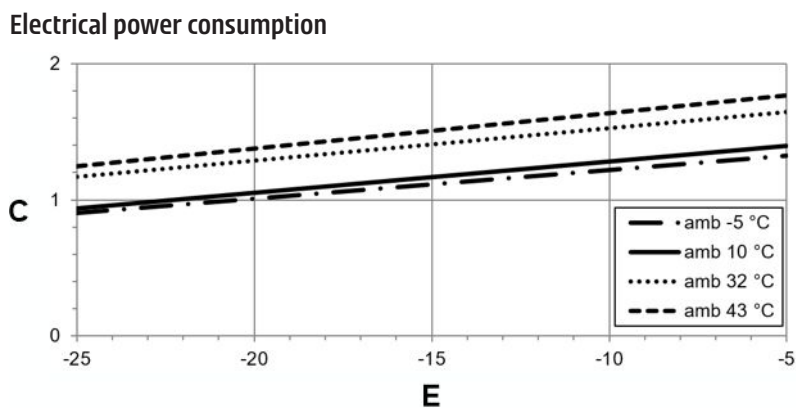
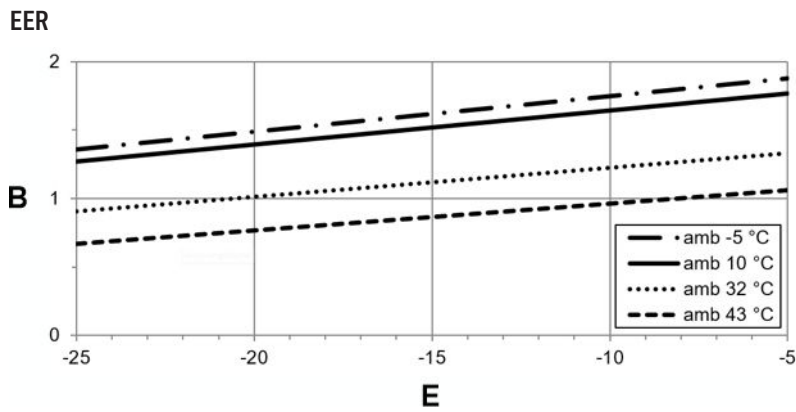
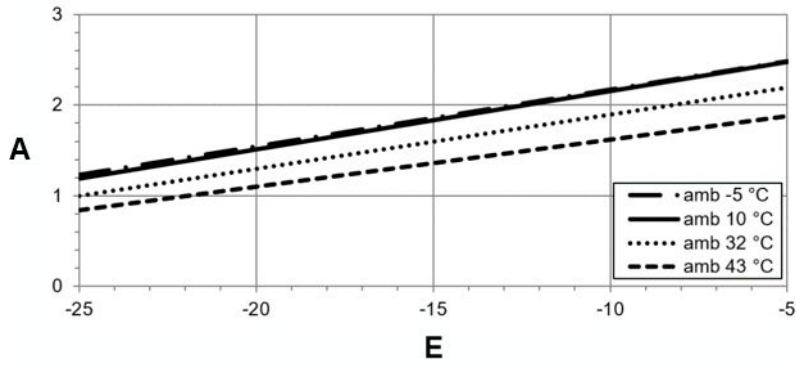


Heating capacity



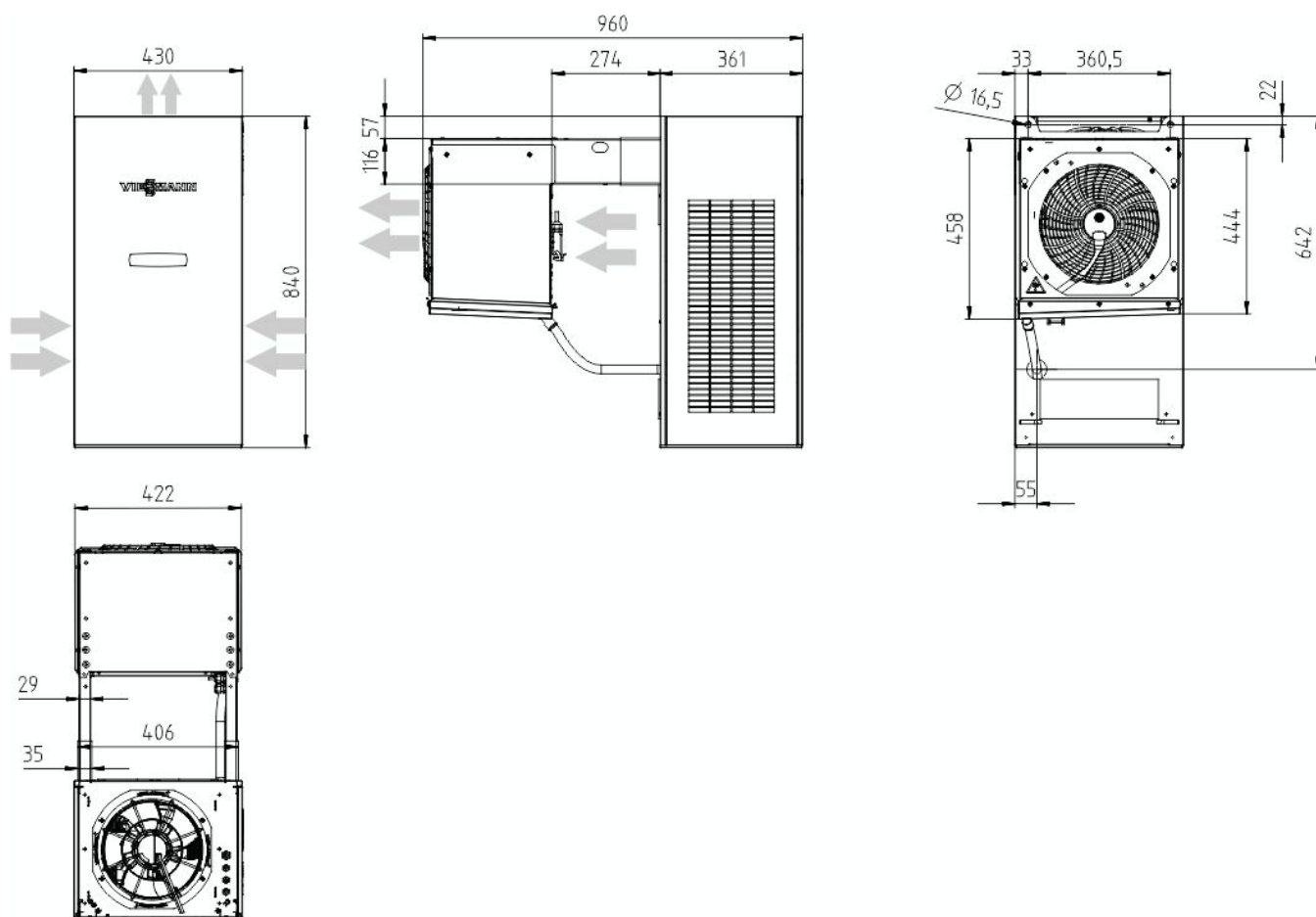
9.2.2 WMF5 1300

Cooling capacity



10 Dimensional drawings

10.1 TectoCore WMC5 size 1 / TectoCore WMF5 size 1



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Viessmann Kühleysteme GmbH

Dr.-Vießmann-Strasse 1
95030 Hof, Germany
+49 9281 814 0
cleancold@vi-ccs.com
www.viessmann-cold.com

Viessmann Kältetechnik Österreich GmbH

IZ NÖ Süd Strasse 7, Objekt 58c, Stiege 3, Top
5, A-2355 Wiener Neudorf, Austria
+43 2236 677656
vk.at.info@vi-ccs.com

Viessmann Kältetechnik Schweiz AG

Industriestrasse 124
8957 Spreitenbach, Switzerland
+41 56 418 67 11
info.ch@vi-ccs.com

Viessmann Technique du Froid

27 rue du Champ de Mars, CS 60919 57209
SARREGUEMINES Cedex, France
+33 3 87 13 08 13
refrigeration-france@vi-ccs.com

Viessmann Refrigeration Solutions Benelux

Nijverheidsweg-Noord 60-94, NL-3812 PM
Amersfoort, The Netherlands
+31 85 018 7460
info-ref-nl@vi-ccs.com

Viessmann Refrigeration Systems Ltd.

Suite 22, Lake View House, Wilton Drive,
Warwick CV34 6RG, United Kingdom
+44 1952 457 157
uksales@vi-ccs.com