Data Sheet

TectoRefrigo Ceiling Unit
CMC1
CMF1

5471975-01 GB 05-2018

Please save!
Subject to technical changes!

Contents

1 User Guide

This data sheet lists technical data and information for the product.

Important information for operation and installation is summarized in the accompanying Installation and Operating Instructions.

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

1.1 Structure of the data sheet

1.1.1 Warnings

Structure of the warnings

Warnings are structured as follows:

⚠ SIGNAL WORD!	**Source of danger!** Consequences of non-compliance. ▶ Measure to avoid the danger.

Gradation of the warnings

Warnings differ according to the type of danger as follows:

⚠ DANGER!	Warns against an imminent threat of danger, which will lead to death or serious injuries if it is not avoided.
⚠ WARNING!	Warns against a possibly dangerous situation, which will lead to death or serious injuries if it is not avoided.
⚠ CAUTION!	Warns against a possibly dangerous situation, which will lead to moderate or minor injuries if it is not avoided.
NOTE	Warns against a possibly dangerous situation, which will lead to damage to property or the environment if it is not avoided.

Tips, notes, and recommendations

ⓘ *Gives the user tips, notes, or recommendations on using the product efficiently.*

1.1.2 Additional symbols

Handling instructions

Handling instructions ask you to carry out an operation or a work step. Handling instructions should always be carried out individually and in the specified sequence.

Structure of the handling instructions:

➲ Instructions for an operation.

Results if required.

Lists

Structure of the unnumbered lists:

- List level 1
  - List level 2

Structure of the numbered lists:

1. List level 1
   1.1 List level 2

1.2 Additional documents

Please observe the safe and correct use of the device, including the additional documents provided (e.g., Installation and Operating Instructions, Operating Manual) and relevant standards and laws.

2 Safety and dangers

⚠ DANGER!	**Risk of death due to electric shock!** ▶ Before you begin any work on the ceiling unit, disconnect the power plug. ▶ Comply with the applicable national standards for working on electronic devices.

⚠ DANGER!	**Risk of death due to falling ceiling unit!** ▶ Ensure sufficient load transfer, especially for commissioning, service, and other inspections. ▶ Make ceiling cutout for ceiling units according to the “Ceiling cutout and drill holesSee section „20 Zeichnungen für Deckenausschnitt und Bohrungen“ on page 26drawing of the Installation and Operating Instructions. ▶ Test the load-bearing capacity of the ceiling of the refrigeration cell in individual cases.

NOTE	**Damage due to incorrect temperature range!** ▶ Ensure that ceiling unit is operated exclusively in the prescribed temperature range.

NOTE	**Damage due to a lack of instruction!** ▶ Ensure that only trained qualified personnel carry out work on the ceiling unit.

NOTE	**Damage due to a defective device!** ▶ Ensure that only trained qualified personnel operate the ceiling unit. ▶ Use ceiling unit exclusively in original condition without unauthorized modifications and in technically perfect condition.

➲ Follow installation and operating instructions.

➲ Have maintenance, cleaning, and repair work performed exclusively by specialists who are familiar with the applicable national standards.

3 Intended Use

Use ceiling unit exclusively for cooling enclosed spaces at an ambient temperature in the range of +10 °C to +42 °C.

Use ceiling unit exclusively for commercial purposes.

Adhere to the information about installation conditions (See section “6 Installation conditions” on page 6).

Standard refrigeration units serve to cool spaces in which goods are stored at -5° C to +20° C.

Freezer units serve to cool spaces in which goods are stored at -25° C to -5° C.

4 Foreseeable misuse

Operate ceiling unit exclusively between approved operating points (See section “7 Technical data” on page 7). The device should not be operated outdoors.

5 Product designation

Standard refrigeration units: CMC1 0700, CMC1 0900, CMC1 1300, CMC1 1900, CMC1 3300, CMC1 4200

Freezer units: CMF1 0800, CMF1 1100, CMF1 1300, CMF1 1700, CMF1 2900, CMF1 4100

Refrigeration capacity is specified at full 100W.

The abbreviations in the product designations stand for:

CM = Ceiling Monobloc

C = Cooler

F = Freezer

6 Installation conditions

NOTE	**Damage due to installation outdoors!** ▶ Install ceiling units exclusively in enclosed spaces.

Requirements for installation space

- ➲ Comply with ambient temperature from +10° C to +42° C.
- ➲ Do not exceed humidity (non-condensing humidity) of 85%.
- ➲ Maintain distance of 600 mm from all intake openings in order to ensure the unimpeded intake of the ceiling unit.
- ➲ Maintain distance of 750 mm from all exhaust openings in order to ensure the unimpeded exhaust of the ceiling unit.
- ➲ At least 100 mm gap from the top edge of the ceiling unit to the bottom edge of the exiting ceiling.
- ➲ If distances cannot be maintained:
  - Have refrigeration specialist company properly plan necessary air ducts.
  - Ensure airflow with appropriate measures (e.g., air baffles, additional fans).
- ➲ Purge generated heat from the installation room.
- ➲ Avoid direct heat radiation.
- ➲ Avoid the ingress of warm, moist air into the cold room
- ➲ Exclude installation in areas with magnetic interference pulses that have an impact on the functioning of the ceiling unit.
- ➲ Exclude installation in an explosive environment.
- ➲ Exclude installation in business premises subject to potential fire hazards (see nationally applicable standards and local regulations).
- ➲ Comply with local regulations for installation, operation, maintenance, and disposal.

7 Technical data

- The performance values apply to devices with clean heat exchangers.
- Tolerances on the values correspond to DIN EN 12900:1213.
- Cooling capacity presented is based on DIN EN 328:2014.
- Cold room temperature measured at the unit air inlet as per DIN EN 328:2014.
- Ambient temperature measured at the unit air inlet as per DIN EN 327:2014.

7.1 Standard refrigeration

Standard refrigeration							
Designation		CMC1 0700	CMC1 0900	CMC1 1300	CMC1 1900	CMC1 3300	CMC1 4200
Size[1]		1		2		3	
Cold room temperature control range	[°C]	-5 to +20					
Cooling capacity at standard point[2]	[W]	700	900	1300	1900	3300	4200
Heating capacity at standard point[2]	[W]	1310	1680	2250	3070	5040	6520
Power consumption at standard point[2]	[W]	610	780	950	1170	1740	2320
EER[3]		1.15	1.15	1.37	1.62	1,90	1.81
Evaporation performance[4]	[l/d]	4,5	4,5	4,5	4,5	10	10
Permissible ambient temperature Evaporation performance	[°C]	+10 to +42					
Refrigerant		R134a					
Amount of refrigerant	[kg]	1.1	1.4	2.3	2.4	4.2	4.2
GWP[4]		1430					
CO_2 equivalent	[t CO_2]	1.6	2.0	3.3	3.4	6.0	6.0
Max. pressure (high pressure side)	[bar a]	18					
Refrigerant circuit		Hermetically sealed					
Expansion valve		thermostatic expansion valve					
Type of defrosting		air circulation defrosting / hot gas defrosting					
Voltage/phases/frequency	[V] / - / [Hz]	230 / 1 / 50			400 / 3 / 50		
Length of power cable	[m]	5			0.5		
Fuse protection (C-rated)	[A]	16					
Protection class		IP 34					
Sound pressure level[5]	[dB(A)]	45	45	49	56	54	58
Evaporator fan air throw in cold room	[m]	5		10		15	
Air volume to be discharged[6]	[m^3/h]	690	880	1180	1610	2570	3410
Cable length remote control	[m]	15					
Dimensions D x W x H (without fan box)	[mm]	945 x 900 x 445		1035 x 1070 x 550		1450 x 1530 x 645	
Ceiling cut-out dimensions	[mm]	405 x 570		450 x 740		690 x 1200	

Standard refrigeration							
Designation		CMC1 0700	CMC1 0900	CMC1 1300	CMC1 1900	CMC1 3300	CMC1 4200
Measurement from bottom edge of built-in fan box to ceiling of cold room	[mm]	114					
Total weight, incl. packaging	[kg]	95	105	144	148	247	258
Total weight, without packaging	[kg]	70	80	112	117	208	219
Weight of fan box	[kg]	8		10		23	
Weight of machine part	[kg]	47	57	82	87	147	158
Weight of insulation cover	[kg]	15		20		38	

[1] Applies exclusively to these Installation and Operating Instructions.
[2] Standard points: Standard refrigeration (NK): L0°/L32° C; freezing (TK): L-20°/L32° C; heat output: heat flow that is given off by the device in cooling mode to the surroundings.
[3] EER: Energy Efficiency Ratio; ratio cooling capacity to electric power consumption
[4] Evaporation rate related to normal point L0°/L32°C, 30 % relative room humidity and operating time 16 h/d. Deviating operating points and reduced running time can reduce evaporation performance.
[5] Manufacturer's data.
[6] A-rated sound pressure level measured at a distance of 1 m. Divergent sound pressures levels can be reached depending on spatial considerations.
[7] Volume flow indicated at the standard point at a ΔT of 6K (NK) or 8K (TK).

7.2 Freezing

Freezing							
Designation		CMF1 0800	CMF1 1100	CMF1 1300	CMF1 1700	CMF1 2900	CMF1 4100
Size[1]		1		2		3	
Cold room temperature control range	°C	-25 to -5					
Cooling capacity at standard point[2]	[W]	800	1100	1300	1700	2900	4100
Heating capacity at standard point[2]	[W]	2200	2820	2720	3570	5580	7510
Power consumption at standard point[2]	[W]	1400	1720	1420	1870	2680	3410
EER[3]		0.57	0.64	0.92	0.91	1.08	1.20
Evaporation performance[4]	[l/d]	4,5	4,5	4,5	4,5	10	10
Permissible ambient temperature	°C	+10 to +42					
Refrigerant		R407A					
Amount of refrigerant	[kg]	1.1	1.1	2,6	2.6	4,8	5.1
GWP[4]		2107					
CO_2 equivalent	[t CO_2]	2.3	2.3	5.1	5.5	8.2	10.7
Max. pressure (high pressure side)	[bar a]	28					
Refrigerant circuit		Hermetically sealed					
Expansion valve		thermostatic expansion valve					
Type of defrosting		Hot gas defrosting					
Voltage/phases/frequency	[V] / - / [Hz]	230 / 1 / 50		400 / 3 / 50			
Length of power cable	[m]	5		0.5			
Fuse protection (C-rated)	[A tr.]	16					
Protection class		IP 34					
Sound pressure level[5]	[dB(A)]	63	65	53	56	61	60
Evaporator fan air throw in cold room	[m]	5		10		15	
Air volume to be discharged[6]	[m^3/h]	870	1110	1070	1410	2190	2950
Cable length remote control	[m]	15					
Dimensions L x W x H (without fan box)	[mm]	945 x 900 x 445		1035 x 1070 x 550		1450 x 1530 x 645	
Ceiling cut-out dimensions	[mm]	405 x 570		450 x 740		690 x 1200	
Measurement from bottom edge of built-in fan box to ceiling of cold room	[mm]	114					
Total weight, incl. packaging	[kg]	115	119	148	151	260	263
Total weight without packaging	[kg]	90	94	116	119	221	224
Weight of fan box	[kg]	8		10		23	
Weight of machine part	[kg]	67	71	86	89	160	163
Weight of insulation cover	[kg]	15		20		38	

1 Applies exclusively to these Installation and Operating Instructions.
2 Standard points: Standard refrigeration (NK): L0°/L32° C; freezing (TK): L-20°/L32° C; heat output: heat flow that is given off by the device in cooling mode to the surroundings.
3 EER: Energy Efficiency Ratio; ratio cooling capacity to electric power consumption
4 Evaporation rate related to normal point L0°/L32°C, 30 % relative room humidity and operating time 16 h/d. Deviating operating points and reduced running time can reduce evaporation performance.
5 Manufacturer's data.
6 A-rated sound pressure level measured at a distance of 1 m. Divergent sound pressures levels can be reached depending on spatial considerations.
7 Volume flow indicated at the standard point at a ΔT of 6K (NK) or 8K (TK).

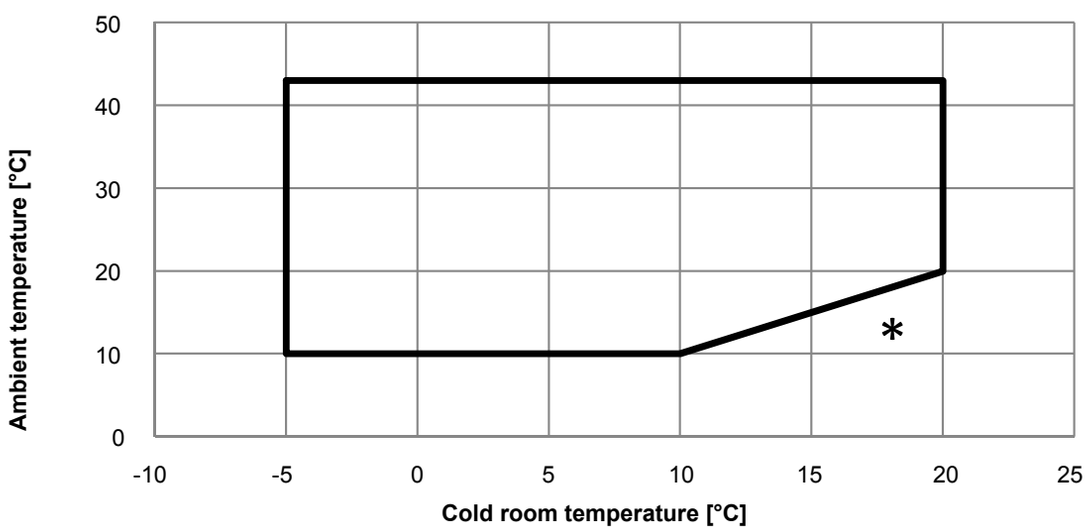
8 Limits of use

The diagrams show the limits of use of standard refrigeration and freezer units depending on the ambient and cold room temperature.

The following apply to all values of the diagrams:

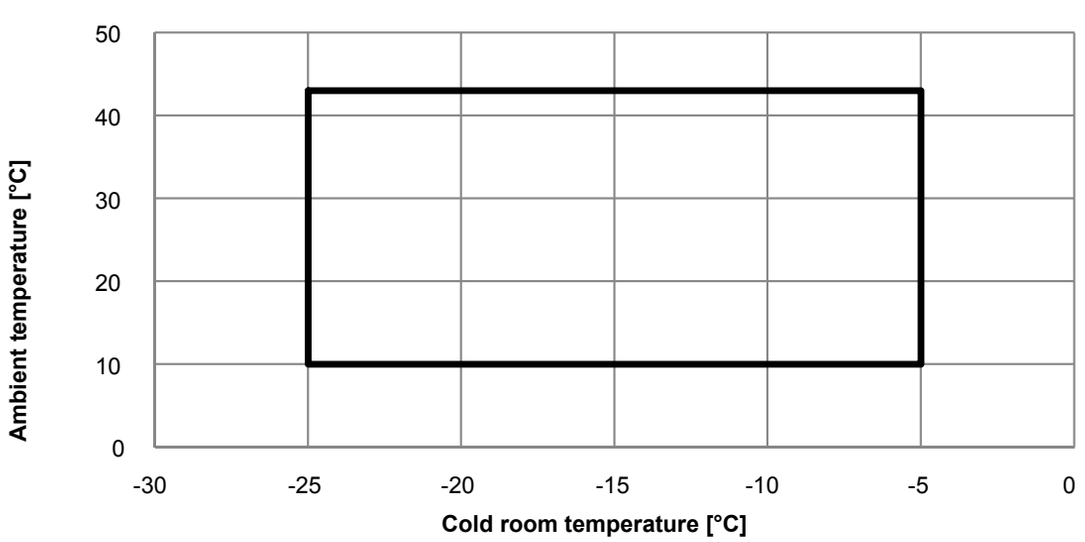
- Cold room temperature measured at the unit air inlet as per DIN EN 328:2014.
- Ambient temperature measured at the unit air inlet as per DIN EN 327:2014.
- Subject to technical changes.

8.1 Standard refrigeration



*Since the device cannot heat, operating at 10° C ambient temperature is limited to a maximum cold room temperature of 10° C.

8.2 Freezing



9 Performance diagrams

The performance diagrams show for each model of the ceiling unit respectively the cooling capacity, electric power consumption, EER, and heat output depending on the cold room temperature.

The following apply to all values of the diagrams:

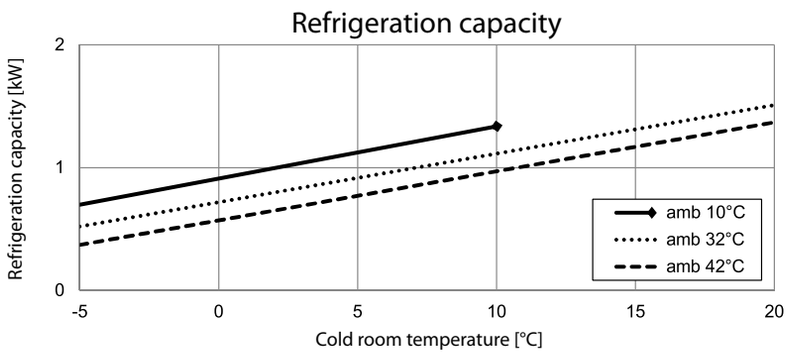
- The values apply to devices with clean heat exchangers.
- Cooling capacity presented is based on DIN EN 328:2014.
- Cold room temperature measured at the unit air inlet as per DIN EN 328:2014.
- Ambient temperature measured at the unit air inlet as per DIN EN 327:2014.
- Tolerance on the values corresponds to DIN EN 12900:1213.
- EER: Energy Efficiency Ratio; ratio cooling capacity to electric power consumption.
- Heat output: Heat flow that is given off by the device in cooling mode to the surroundings.
- The following applies to standard refrigeration units: Since the device cannot heat, operating at 10° C ambient temperature (amb) is limited to a maximum cold room temperature of 10° C.
- Subject to technical changes.

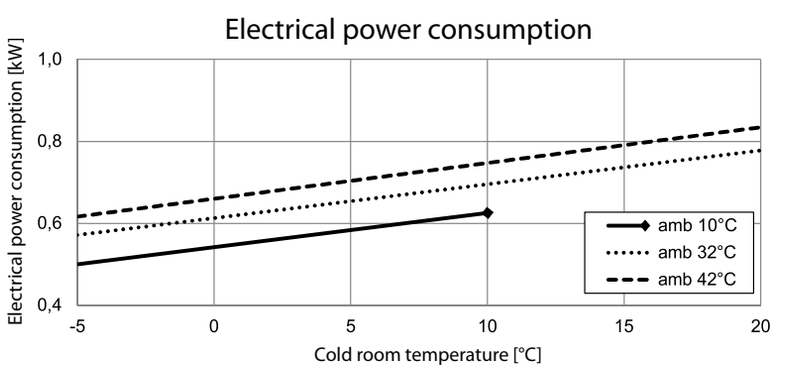
9.1 Standard refrigeration

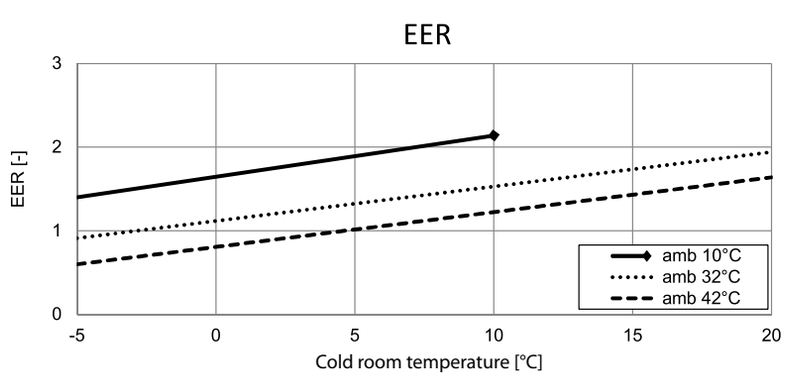
9.1.1 CMC1 0700

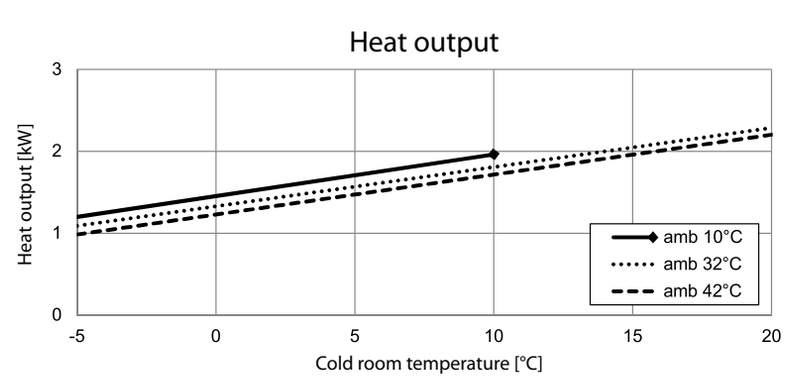
ⓘ *Since the device cannot heat, operating at 10° C ambient temperature (amb) is limited to a maximum cold room temperature of 10° C.*

ⓘ *Heat output: Heat flow that is given off by the device in cooling mode to the surroundings.*





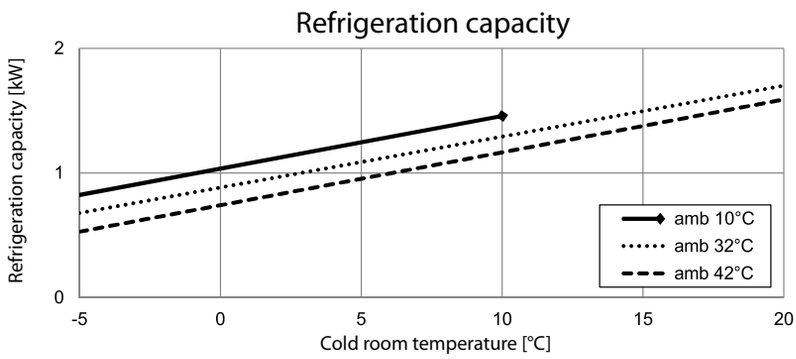


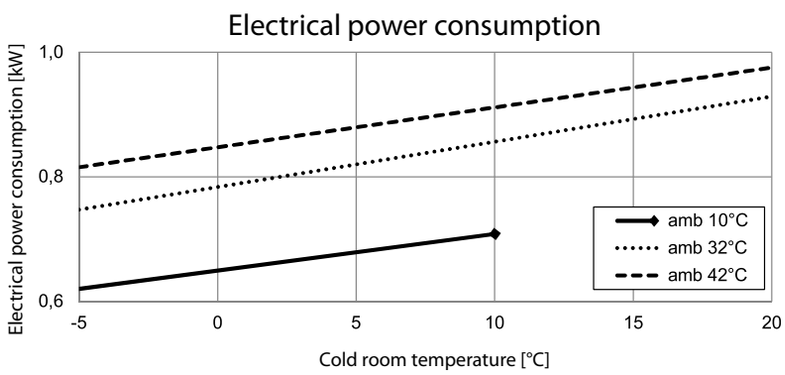


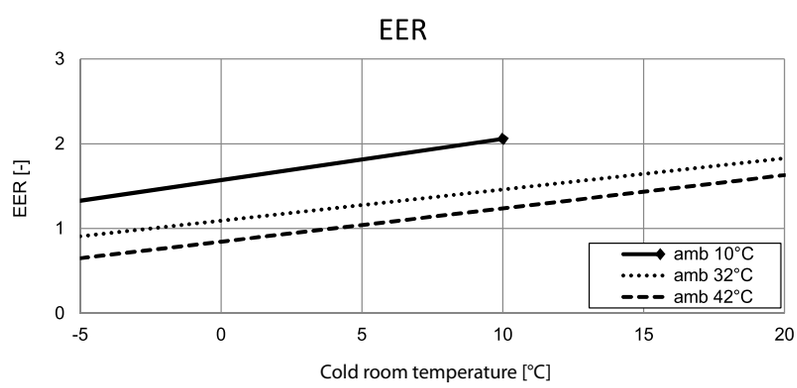
9.1.2 CMC1 0900

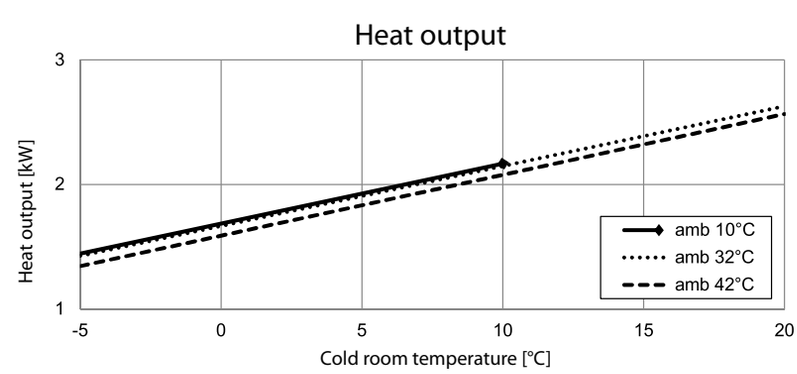
ⓘ *Since the device cannot heat, operating at 10° C ambient temperature (amb) is limited to a maximum cold room temperature of 10° C.*

ⓘ *Heat output: Heat flow that is given off by the device in cooling mode to the surroundings.*





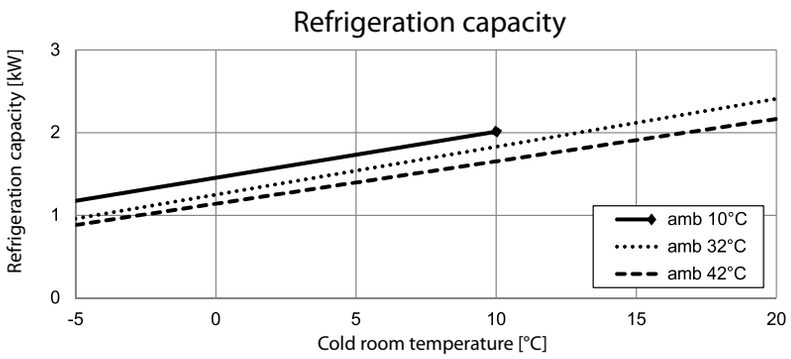


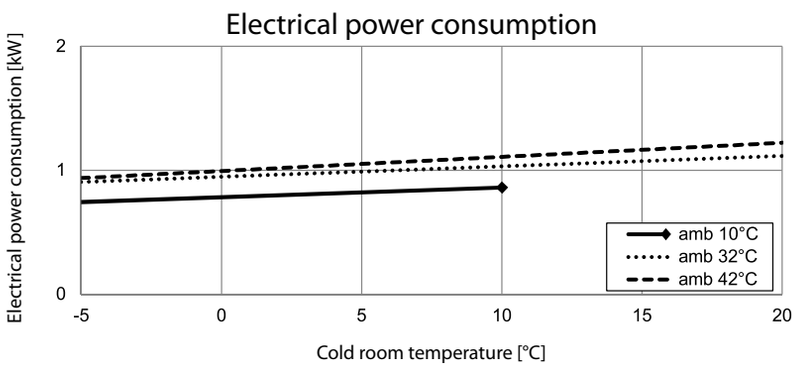


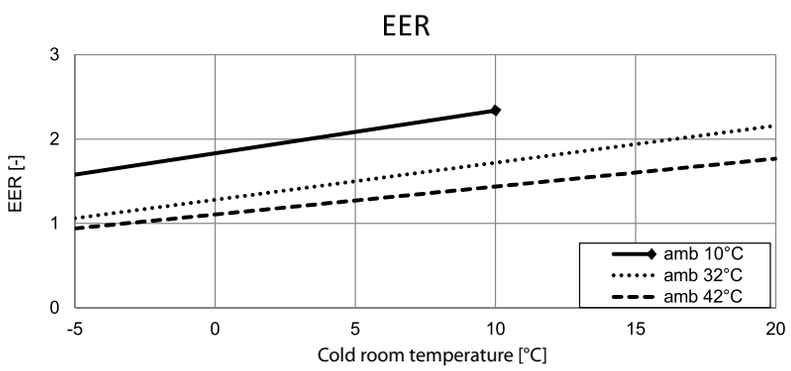
9.1.3 CMC1 1300

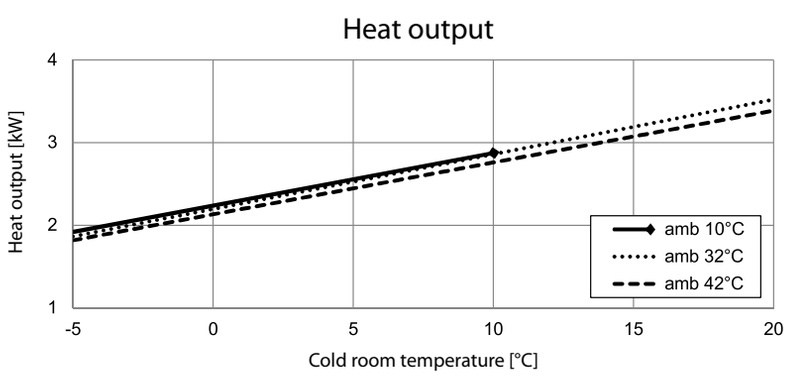
ⓘ *Since the device cannot heat, operating at 10° C ambient temperature (amb) is limited to a maximum cold room temperature of 10° C.*

ⓘ *Heat output: Heat flow that is given off by the device in cooling mode to the surroundings.*





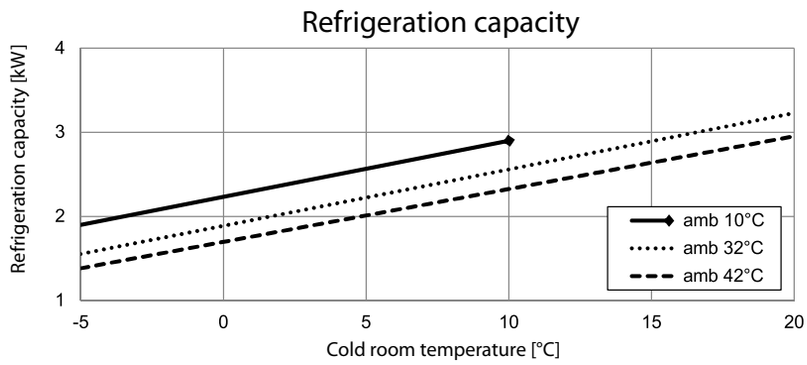


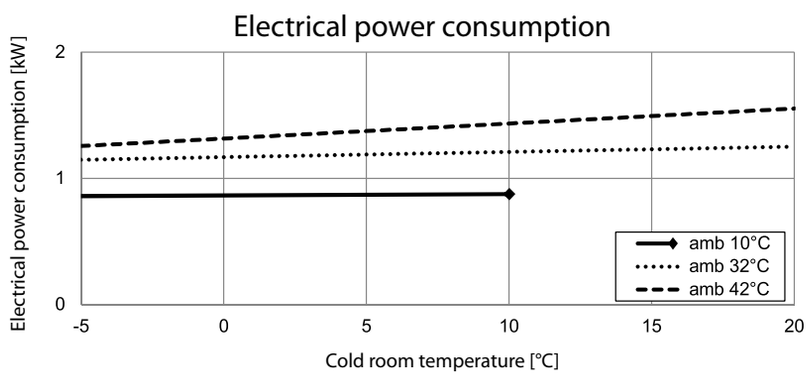


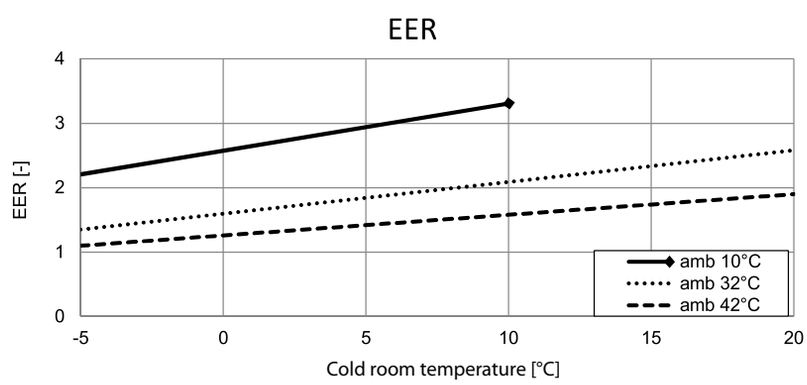
9.1.4 CMC1 1900

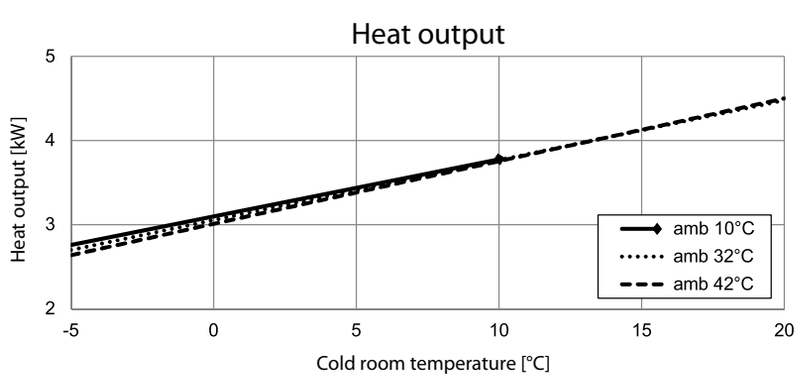
ⓘ *Since the device cannot heat, operating at 10° C ambient temperature (amb) is limited to a maximum cold room temperature of 10° C.*

ⓘ *Heat output: Heat flow that is given off by the device in cooling mode to the surroundings.*





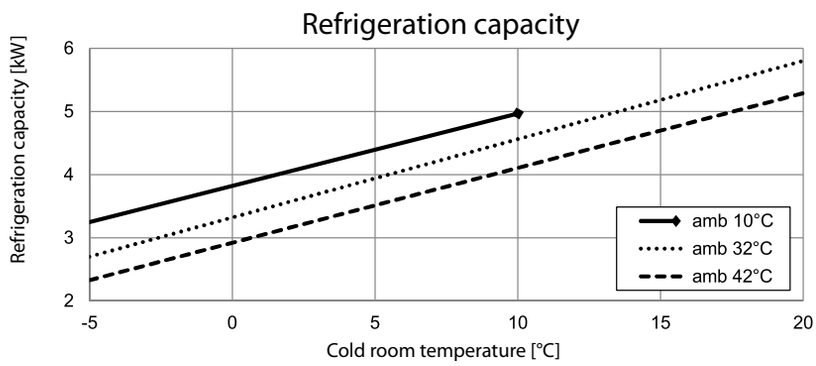


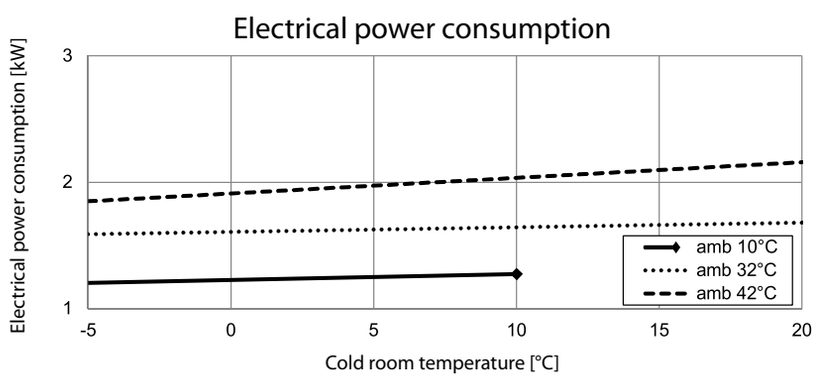


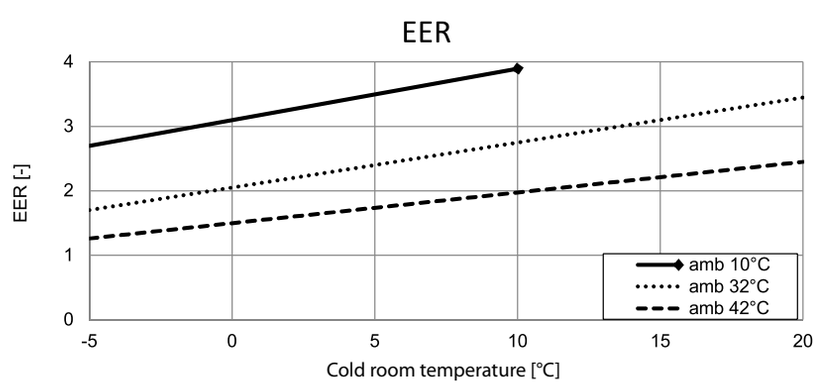
9.1.5 CMC1 3300

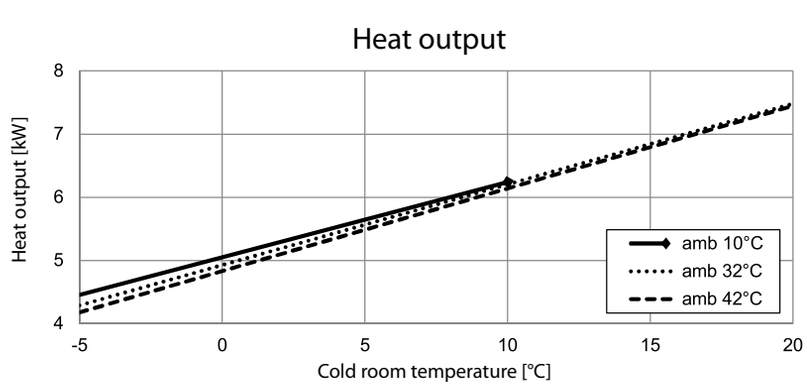
ⓘ *Since the device cannot heat, operating at 10° C ambient temperature (amb) is limited to a maximum cold room temperature of 10° C.*

ⓘ *Heat output: Heat flow that is given off by the device in cooling mode to the surroundings.*





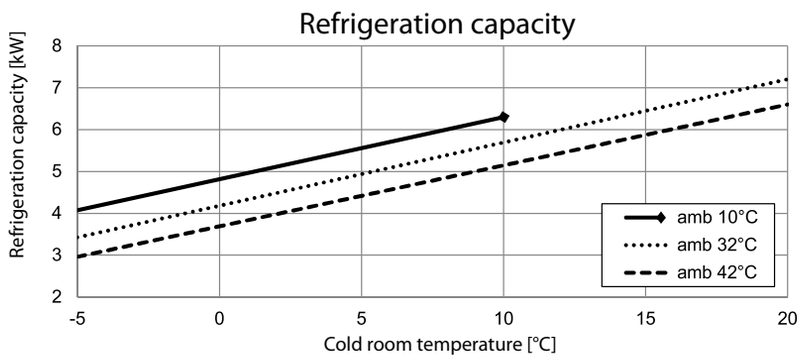


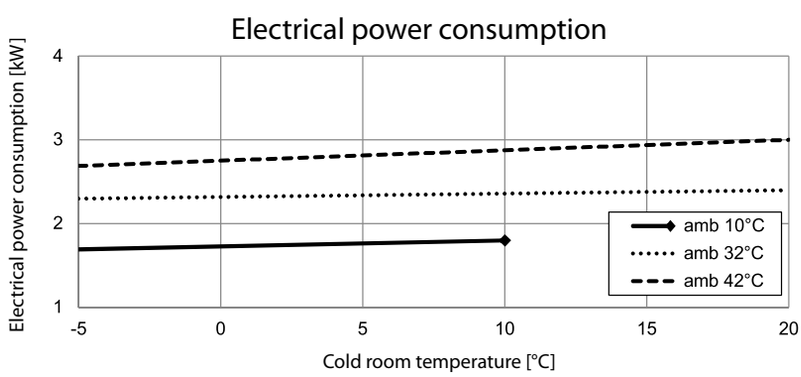


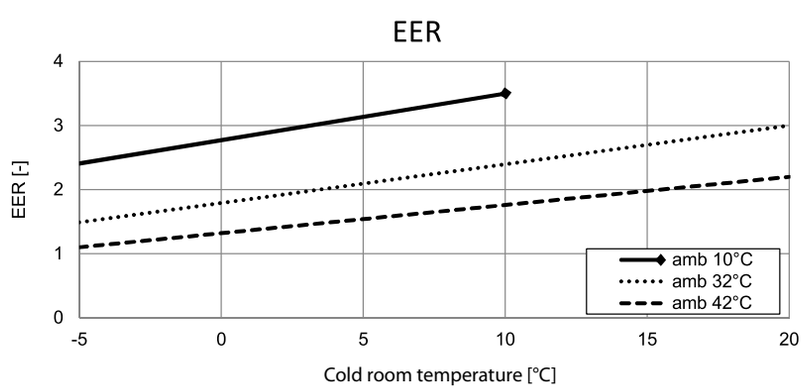
9.1.6 CMC1 4200

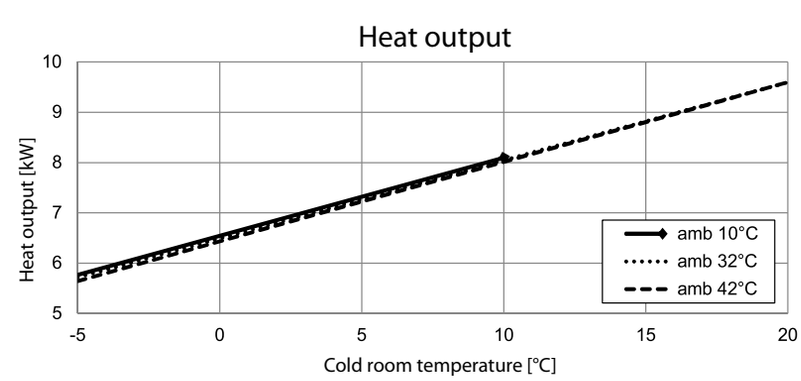
ⓘ *Since the device cannot heat, operating at 10° C ambient temperature (amb) is limited to a maximum cold room temperature of 10° C.*

ⓘ *Heat output: Heat flow that is given off by the device in cooling mode to the surroundings.*



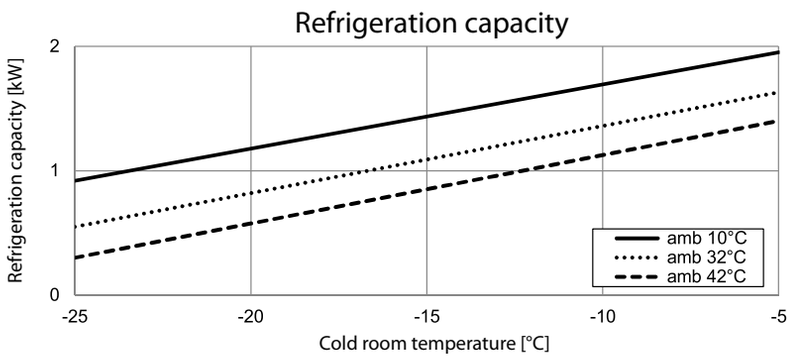


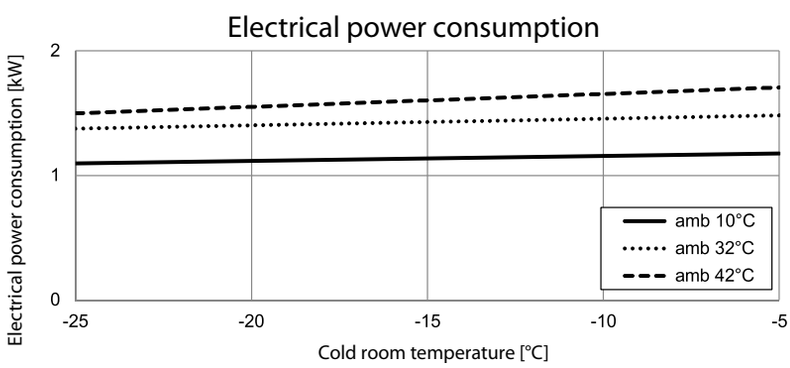


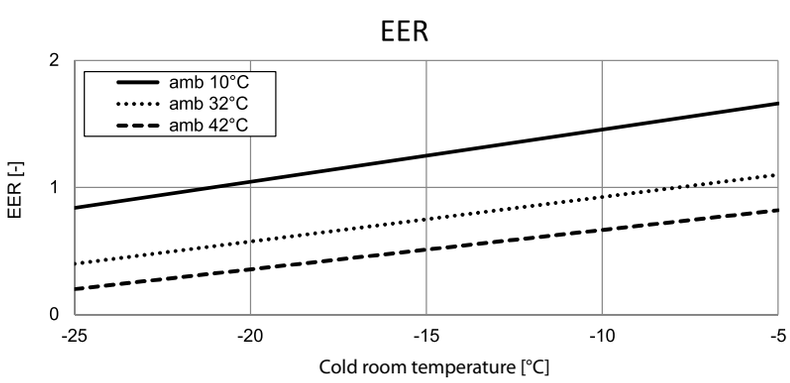


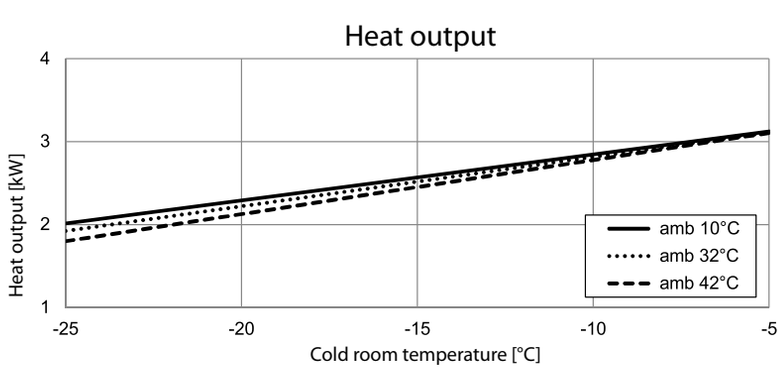
9.2 Freezing

9.2.1 CMF1 0800

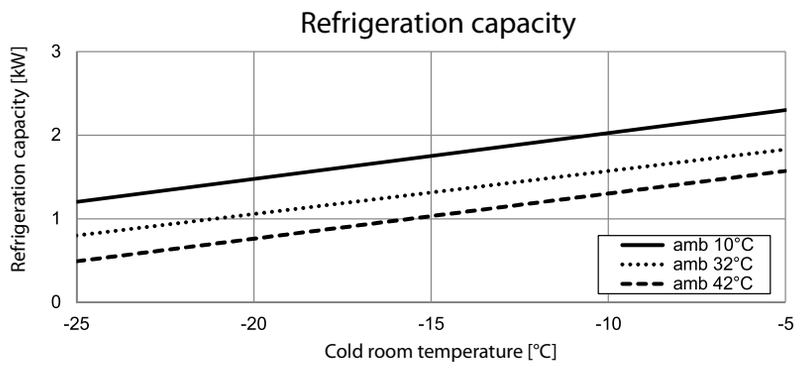


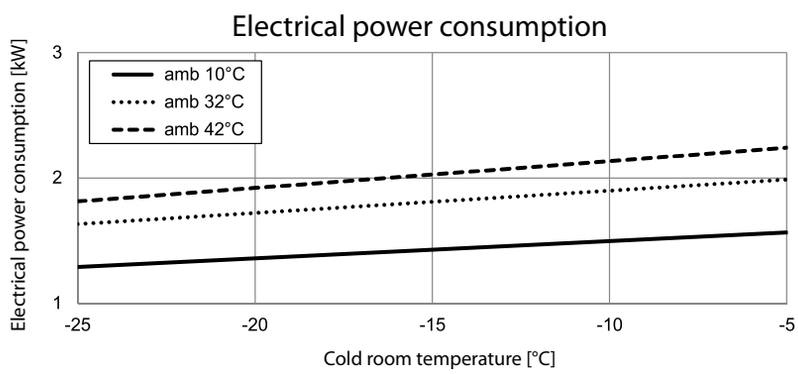


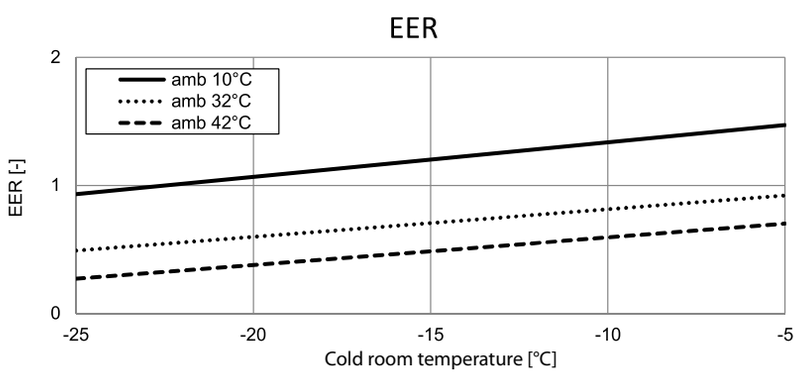


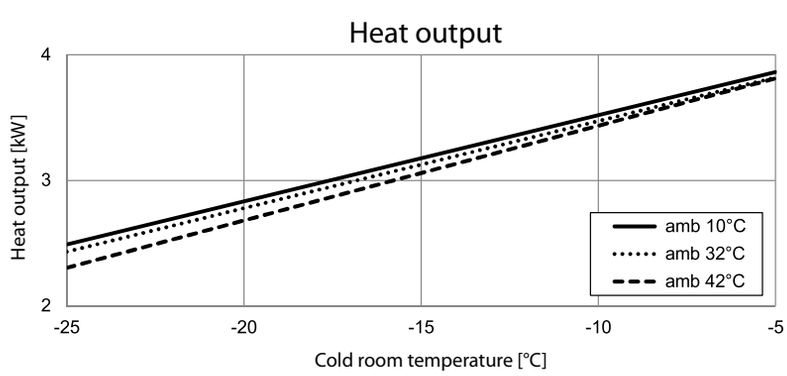


9.2.2 CMF1 1100









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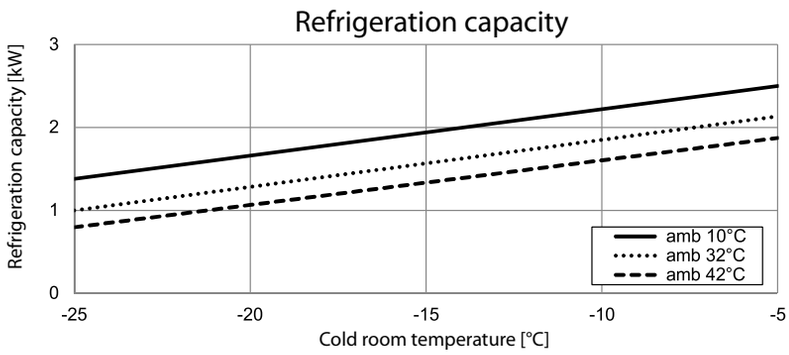
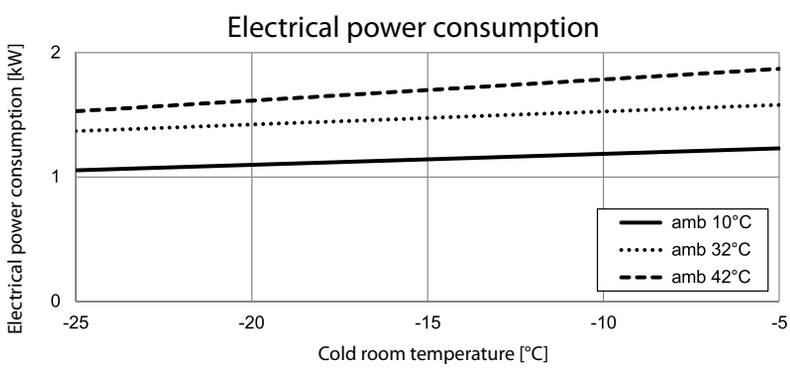
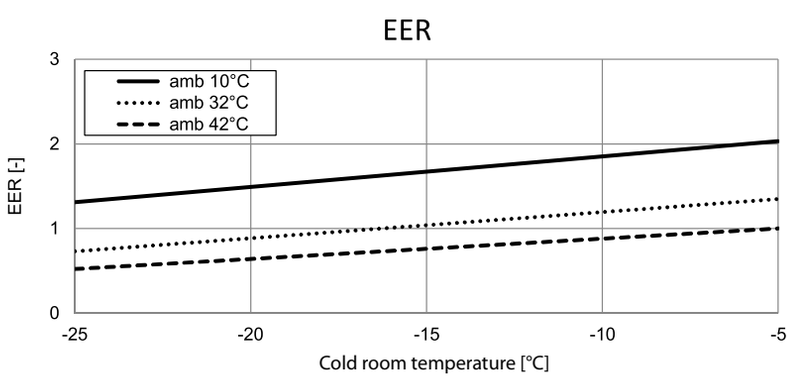
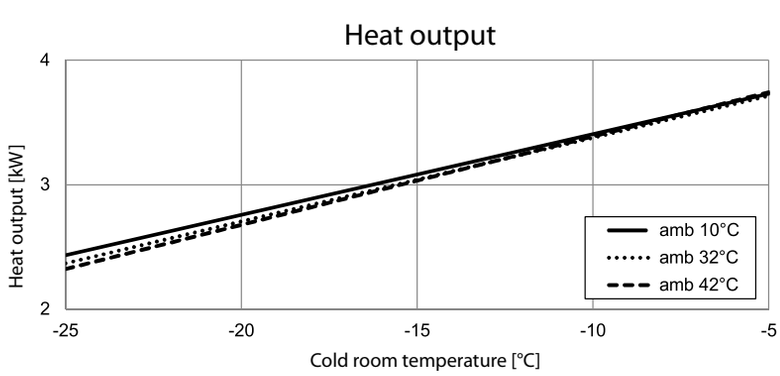
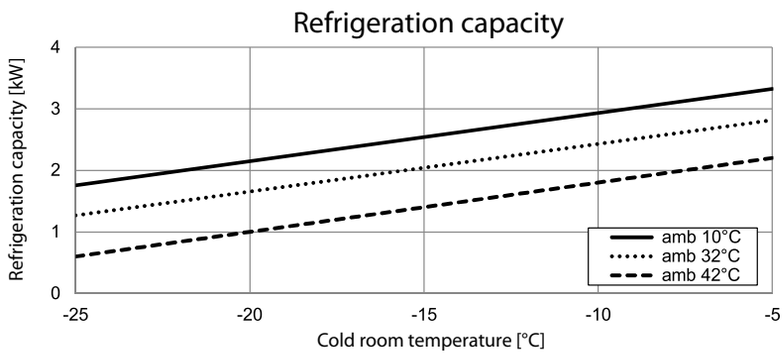


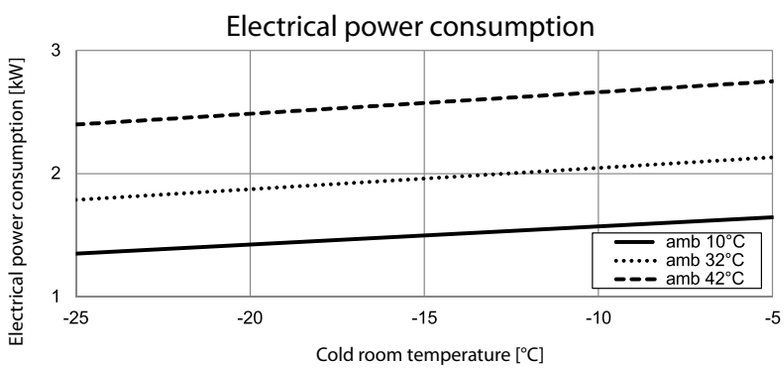


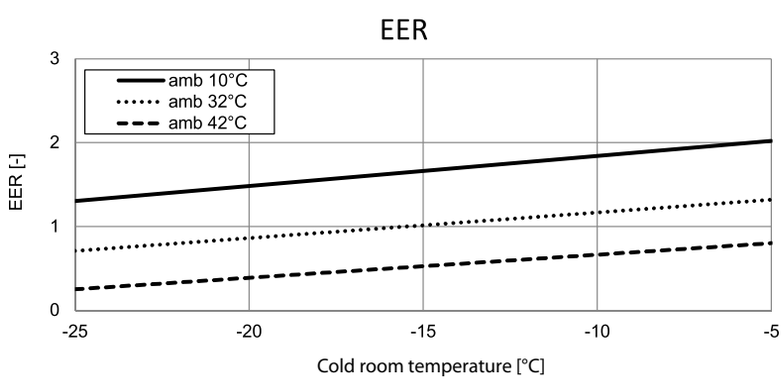


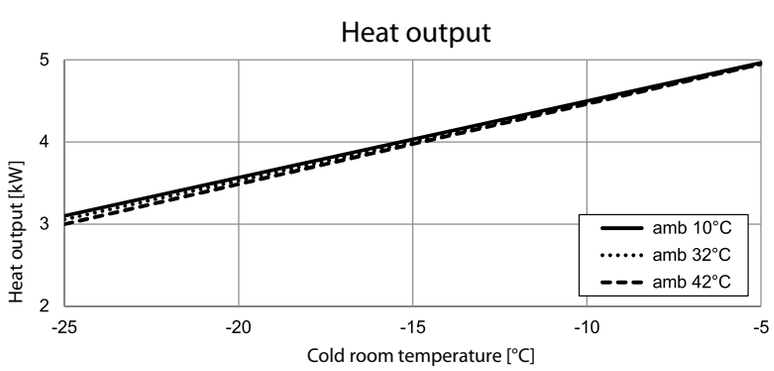


9.2.4 CMF1 1700









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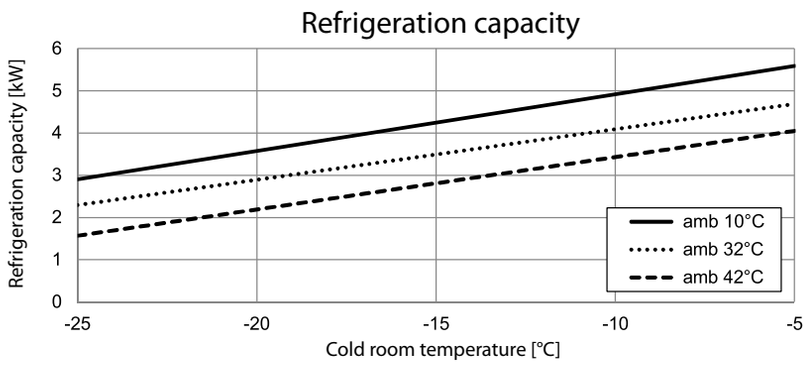
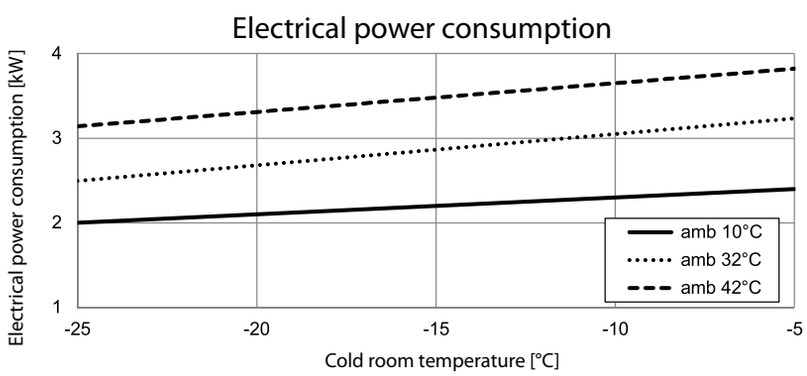
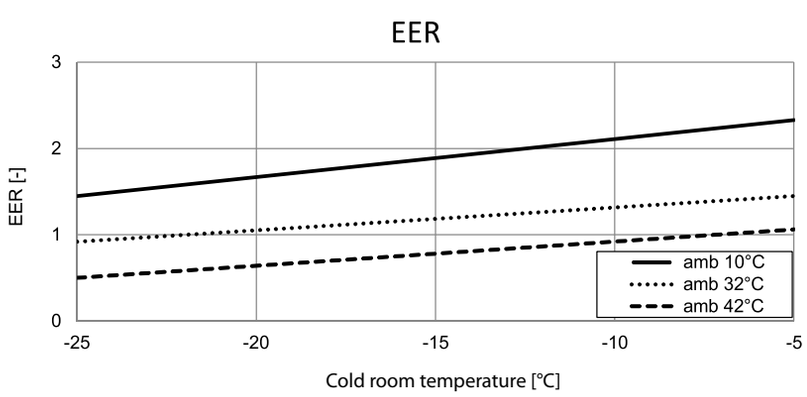
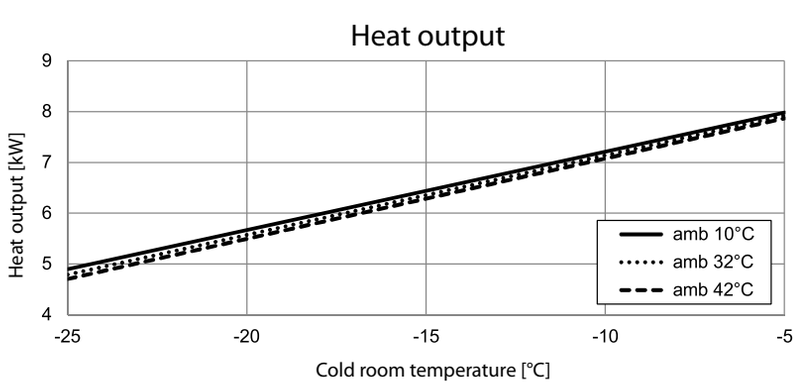
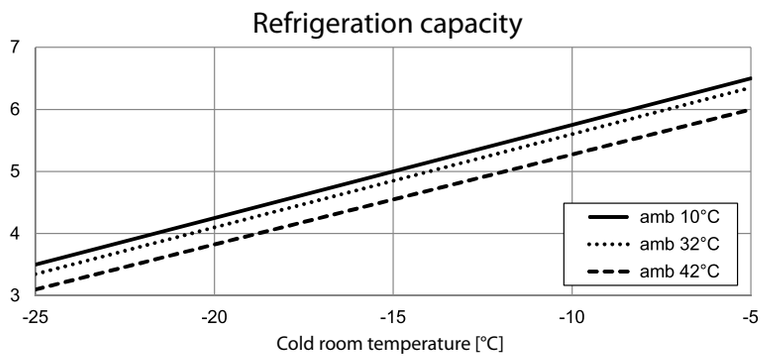


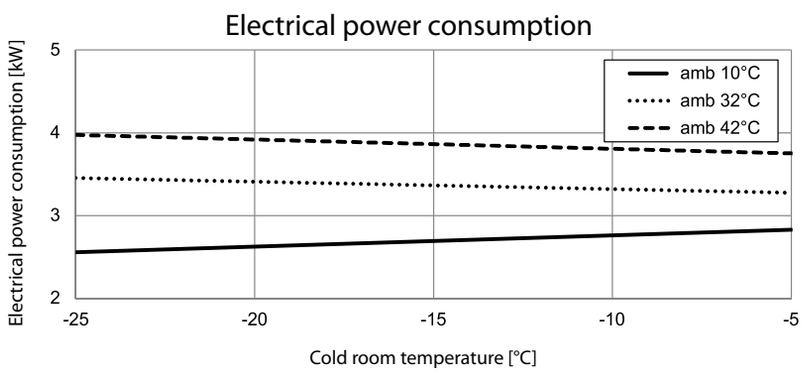


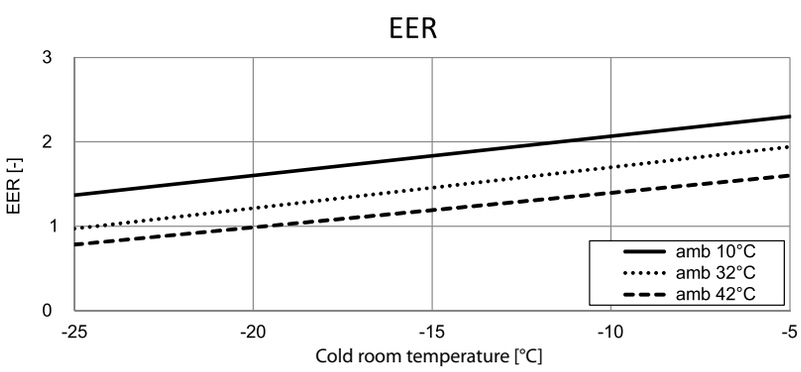


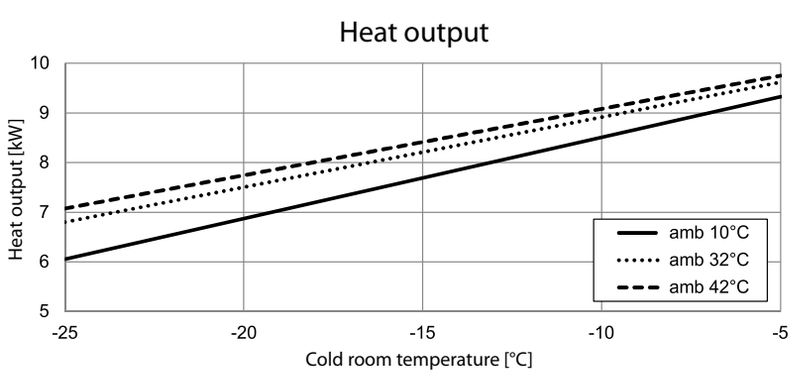


9.2.6 CMF1 4100







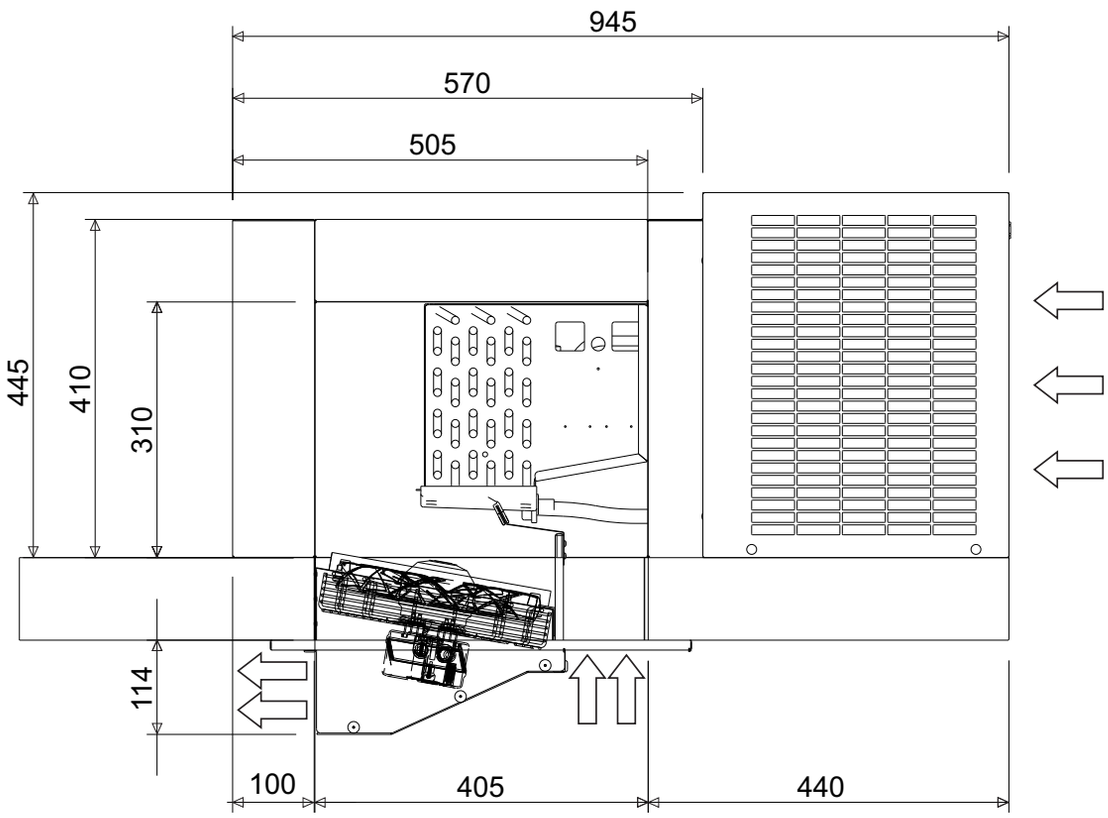


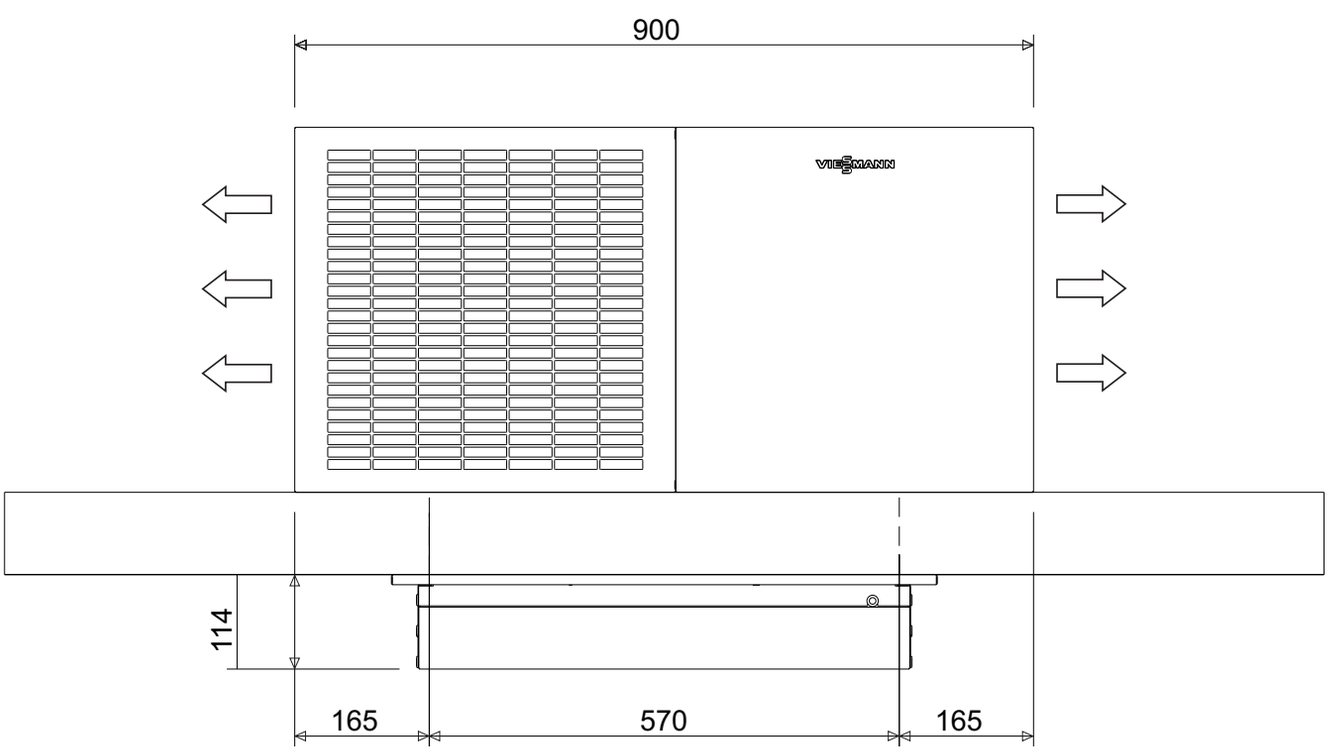
10 Dimensional drawings

ⓘ *Data on sizes See section “7 Technical data” on page 7.*

⇦	Direction of the air stream

10.1 Size 1





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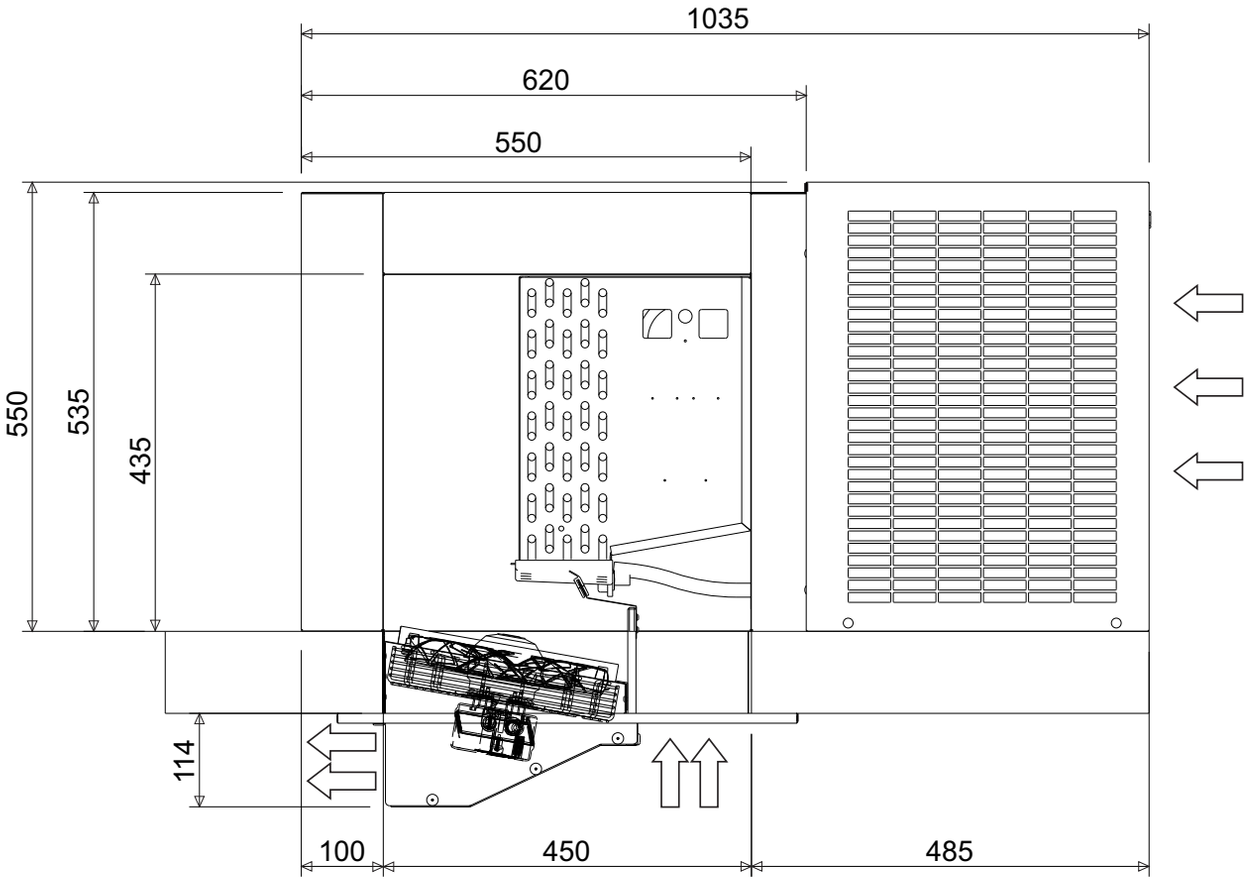
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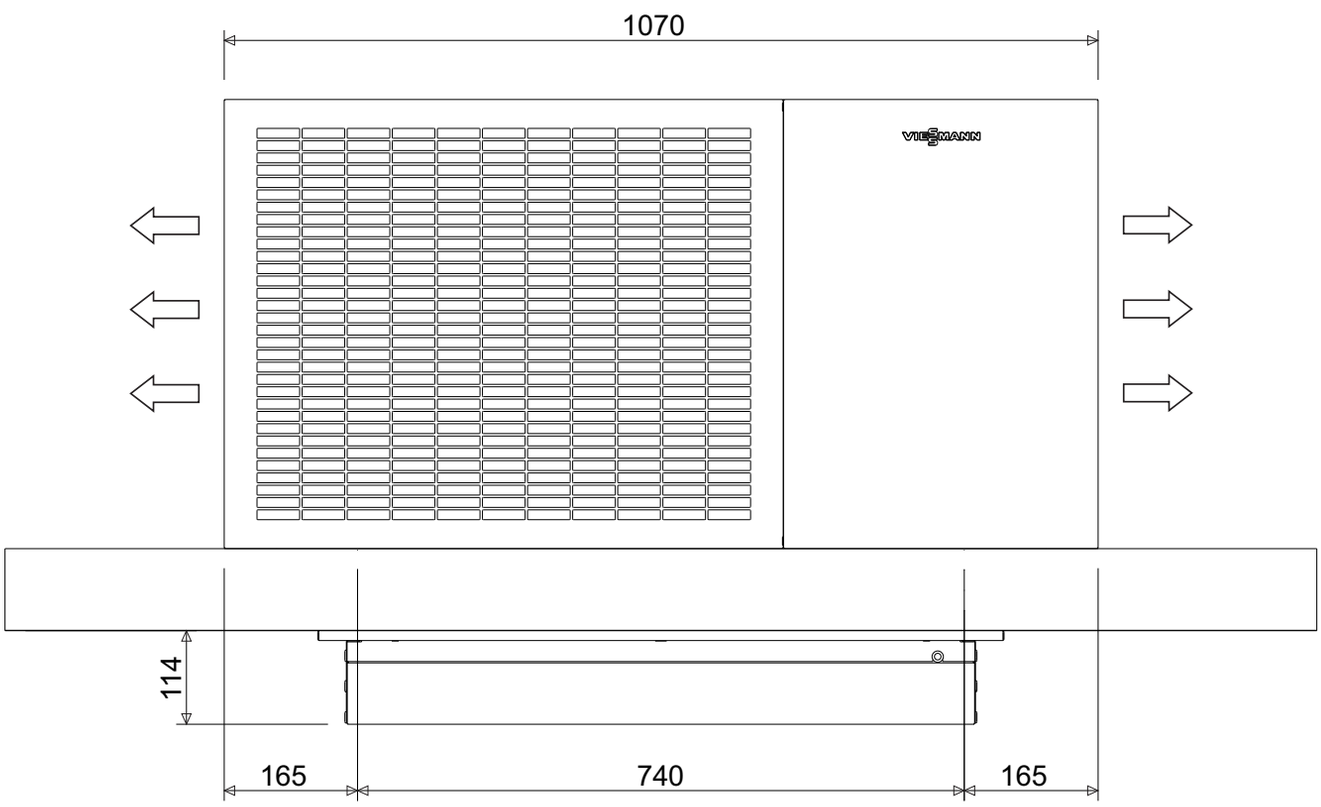
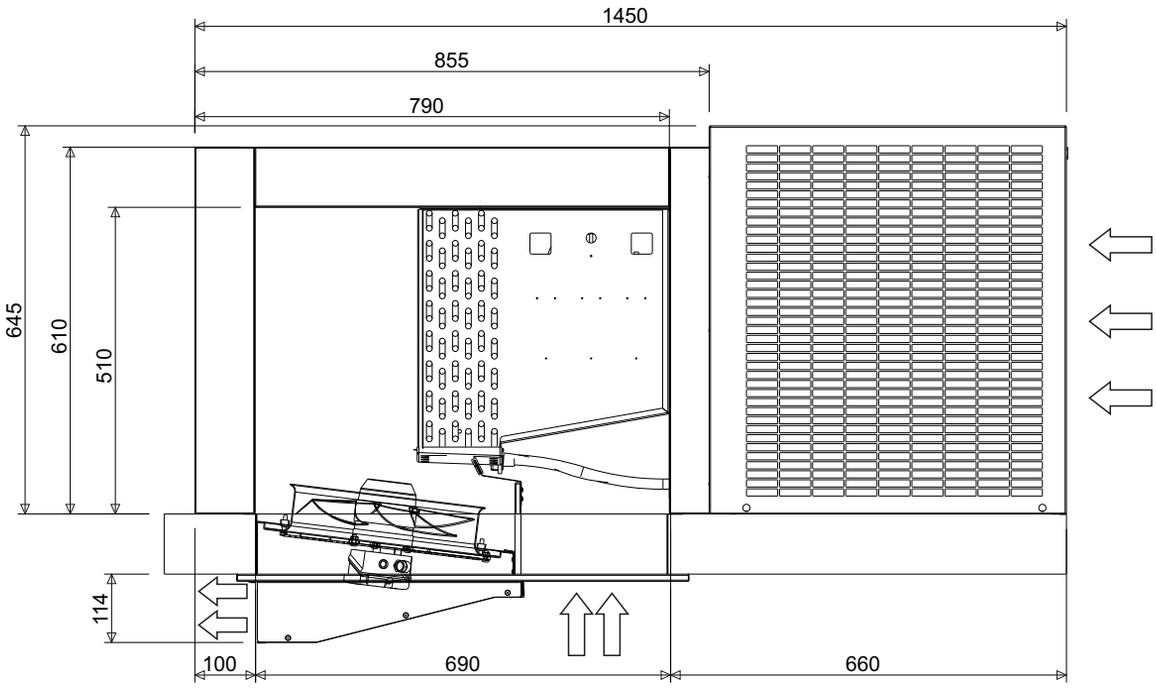
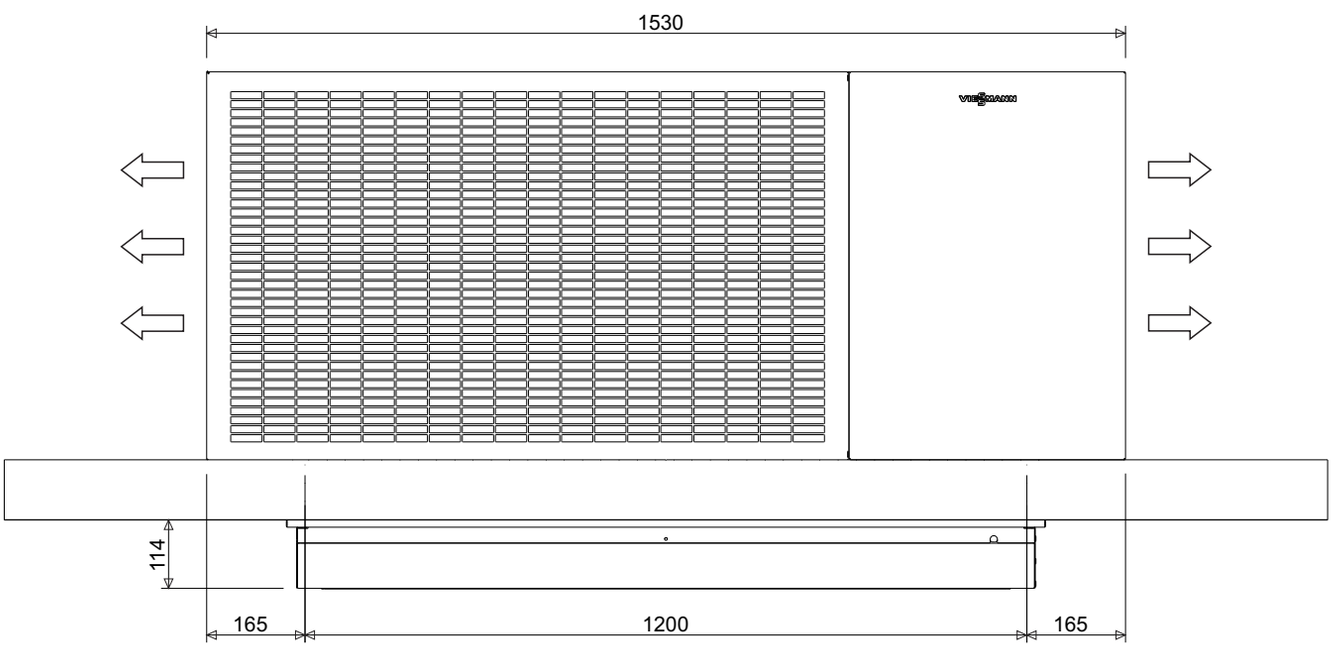
620
550
550
535
435
114
100
450
485


1070
VIESMANN
114
165
740
165

10.3 Size 3





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