UNIT COOLERS

COMMERCIAL UNIT COOLERS

Under-counter unit coolers	**EVB**
Ceiling unit coolers	**XR - MF/MFE - MR/MRE - MH/MHE**
Unit cooler cassettes	**KRS/KRS-W**
Dual-discharge unit coolers	**TA**
Cubic unit coolers	**3C-A**

INDUSTRIAL UNIT COOLERS

Dual-discharge unit coolers	**GTI/GTA**
Cubic unit coolers	**NK**
Tunnel unit coolers	**NW - NF**
Centrifugal fan unit coolers	**NC**

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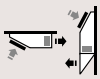
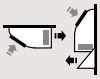
HK® REFRIGERATION

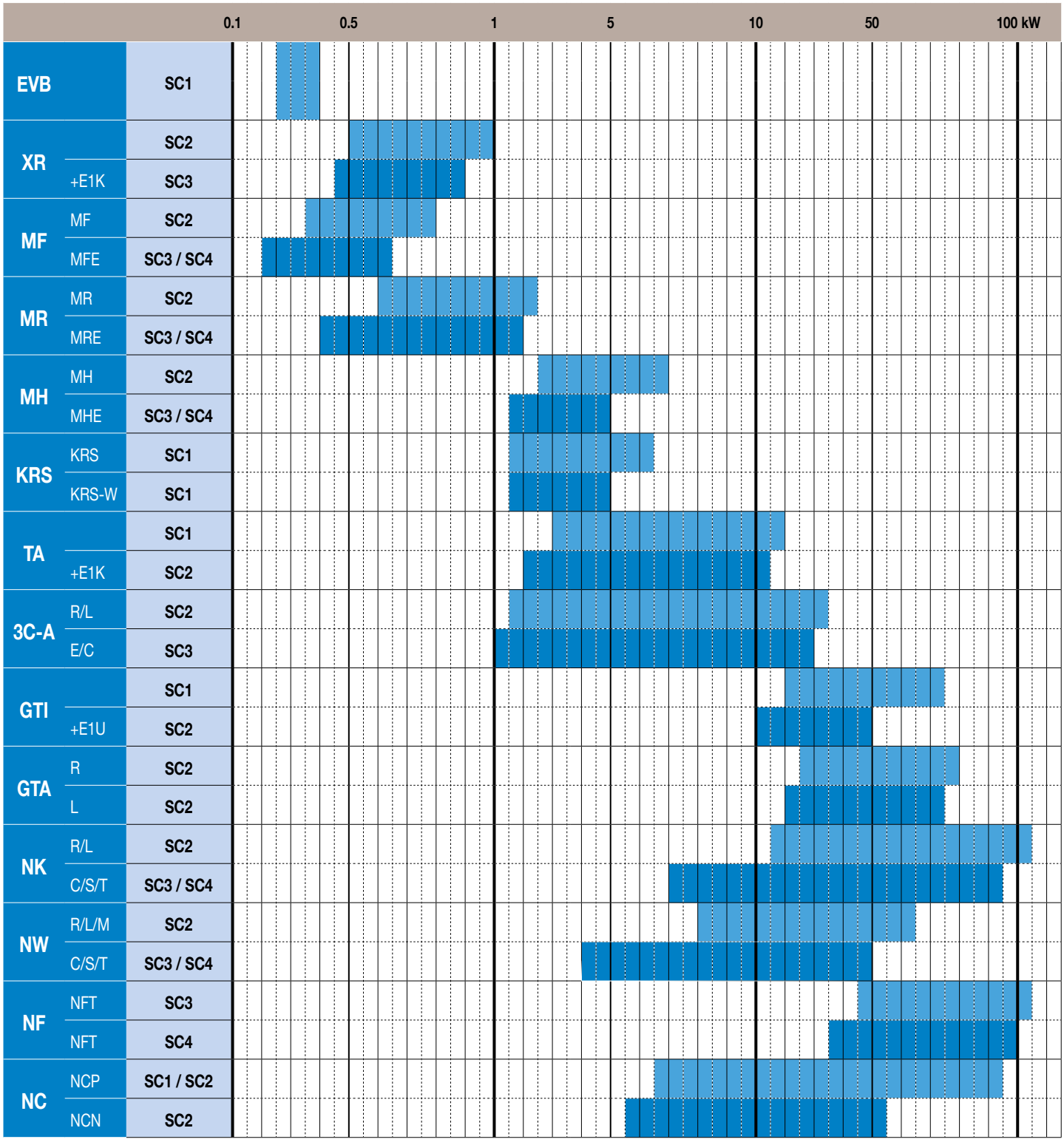
Unit coolers - Overview

FRIGA-BOHN HK REFRIGERATION

	CAPACITY	VENTILATION				COIL / CASING			EUROVENT	APPLICATIONS						MARKETS		
	Mini / Maxi R404A kW	Axial - Centrifugal Num.	EC motor	Factory wired	Position and blowing	Coil protection	Fin spacing mm	Casing - Pre-painted	EUROVENT certification	Refrigerated units / cells / small cold rooms	Cold rooms	Kitchens / work areas / laboratories	Warehouses / storage	Food processing	Rapid cooling / deep-freezing	Food Service	Supermarket	Process / Industry
EVB	0,2 / 0,4	1 > 2	-	●		●*	2,10	●	X	●	-	-	-	-	-	●	-	-
XR	0,4 / 1	1	-	●		●*	2,10	●	X	●	-	-	-	-	-	●	-	-
MF	0,2 / 0,8	1 > 2	-	●		●*	4,23 6,35	ABS	X	●	●	-	-	-	-	●	-	-
MR	0,4 / 2,6	1 > 4	-	●		●*	4,23 6,35	ABS	●	-	●	-	-	-	-	●	●	-
MH	1,4 / 7	2 > 4	○	●		○	4,23 6,35	●	●	-	●	-	-	-	-	●	●	-
KRS	1,5 / 9	1 > 2	-	●		●	2,81	ABS	X	-	-	●	-	-	-	●	●	●
TA	2 / 22	1 > 4	-	●		○	3,63 6,35	ABS	●	-	●	●	-	-	-	●	●	-
3C-A	1 / 35	1 > 4	○	●		○	4,00 6,00	●	●	-	●	-	●	●	-	●	●	●
GTI	11 / 74	3 > 5	-	●		○	4,23 6,35	●	●	-	-	●	●	-	-	-	●	●
GTA	20 / 82	2 > 4	-	○		○	4,23 6,35	●	●	-	-	●	●	-	-	-	●	●
NK	7 / 130	1 > 4	-	○		○	4,23 6,35 9,00 12,00	●	●	-	-	-	●	●	●	-	-	●
NW	4 / 63	1 > 4	-	○		-	6,35 9,00 12,00	●	●	-	-	-	-	●	●	-	-	●
NF	35 / 130	2 > 6	-	○		-	9,00	●	●	-	-	-	-	●	●	-	-	●
NC	5 / 95	1 > 4	-	○		○	4,23 6,35	●	X	-	-	●	●	-	-	-	●	●

* *Painted coil (chill applications)* ● *Standard* ○ *Option* X *Range not concerned by EUROVENT certification*

CONDITIONS STANDARD	t_{A1} - AIR INLET TEMP.	t_e - EVAPORATING TEMP.	DT1 STANDARD
SC1	+10 °C	0 °C	10
SC2	0 °C	-8 °C	8
SC3	-18 °C	-25 °C	7
SC4	-25 °C	-31 °C	6
SC5	-34 °C	-40 °C	6



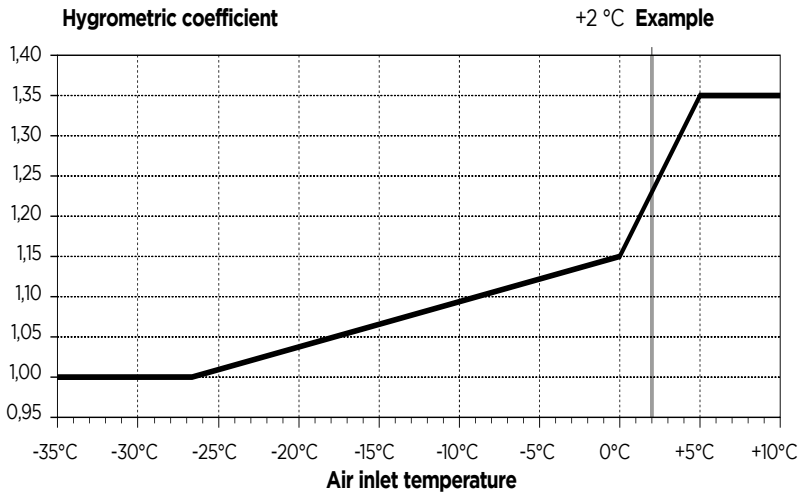
SELECTION COEFFICIENTS

Standard conditions

Standard conditions	t_{A1} Air inlet temp.	t_e Evaporating temp.	DT1 standard
SC 1	+10°C	0°C	10 K
SC 2	0°C	- 8°C	8 K
SC 3	-18°C	-25°C	7 K
SC 4	-25°C	-31°C	6 K
SC 5	-34°C	-40°C	6 K

Hygrometric coefficient

Standard conditions	Relative humidity	Nominal capacity / Standard capacity
SC 1	85%	1,35
SC 2	85%	1,15
SC 3	95%	1,05
SC 4	95%	1,01



Correction coefficient of DT1

For low glide fluids (less than 1K), or no glide, it is accepted that the capacity is directly proportional to the difference between the inlet air temperature and the evaporation temperature (DT1) i.e.:

$$\text{Required capacity} = \frac{\text{Nominal capacity x DT1 required}}{\text{DT1 standard}}$$

Refrigerant coefficient

Refrigerant	R404A	R134a	R507A	R407A	R407C	R407F
SC 1	1	0,93	0,97	1,19	1,21	1,19
SC 2	1	0,91	0,97	1,24	1,26	1,24
SC 3	1	0,85	0,97	1,28	1,31	1,29
SC 4	1	-	0,97	1,32	1,36	1,35

Fin material coefficient

Aluminium fin	Protected aluminium fin
1	0,97

Example

Whereby:

Capacity required	**Q = 6000 W**
Air inlet temperature	**t_{A1} = +2 °C**
Evaporation temperature	**t_e = -8 °C**
Refrigerant	**R 22**
Coil with protected fins	

In which case:
DT1 = tA1 - te = (+2)-(-8) = 10K

To select under standard conditions, the following correction coefficients must be applied:

- Relative humidity coefficient	**1,15/1,23 = 0,935**
- Correction coefficient for DT1	**8/10 = 0,8**
- Refrigerant coefficient	**1/0,95 = 1,05**
- Fin material coefficient	**1/0,97 = 1,03**

Expressed for given standard conditions, the required capacity of 6000 W becomes:

6000 x 0,935 x 0,8 x 1,05 x 1,03 = 4854 W

One therefore selects an **3C-A 3245 L**

On-board equipment

Our units are static. Included in a refrigeration system, they may be exited by motors, compressors, diesel engines, vehicles or others and suffer from vibration.
The person responsible for the system must ensure that the excitation frequency may not, under any circumstances, provoke the resonance of other components as this could result in irreparable damage (in particular in the case of on-board systems).

LENNOX EMEA reserves itself the right to make changes at any time without preliminary notice - Photos non-contractual

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F-Gas regulation

"PHASE DOWN"
Reduction of HFC
(79% by 2030)

NEW INSTALLATION
Ban on GWP ≥ 2500 in 2020
(depending on application)

F-Gas
EU No. 517/2014

PROCEDURES
Training & certification
Records – Labelling

INSTALLATION & MAINTENANCE
Containment measures: inspection for tightness and leaks

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The context

The chlorofluorocarbon (CF) and hydrofluorocarbon (HCFC) refrigerant fluids used in cooling systems today are considered to be powerful greenhouse gases.

To prevent climactic changes and global warming, the European Commission has adopted a roadmap for reducing global emissions by 2050.

This directive, which relates to **EU regulation No. 517/2014,** is called**F-Gas**:

- Defines rules regarding containment, use, recovery and destruction of fluorinated greenhouse gases and related measures.
- Defines the conditions for introduce on the market certain products and equipment containing HFCs.
- Imposes conditions on certain specific uses of fluorinated greenhouse gases.
- Sets quantitative limits (quotas) for sell on the market HFCs.

This decree is for all companies that install, maintain and sell equipment containing refrigerant fluids, as well as those that handle and distribute them.

Prevention & restrictions

Prevention of fluorinated greenhouse gas emissions.

All equipment must be designed to prevent accidental discharge of greenhouse gas.
Technical measures are taken upstream to reduce leaks to a minimum.
The equipment must have a leak protection system that alerts the owner or a maintenance provider company in the event of leaks (see (EU) regulation No. 517/2014 specifying the leak monitoring methods).
The F-Gas recommendation on fluorinated fluids imposes:

- Frequent inspections
- Qualification of companies and participants.

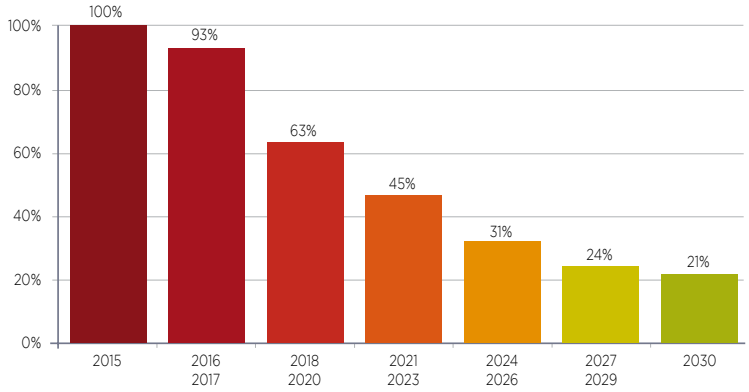
"Phase Down" quotas

The program calls for gradual reduction of the fluids available on the market from 2015 to 2030.

HFC quantities are reduced to 21% in 2030.

This restriction will require measures, such as regular leak inspection, along with certification and training of operators.

Calendar for introduction on the market (expressed as TEQ CO_2)

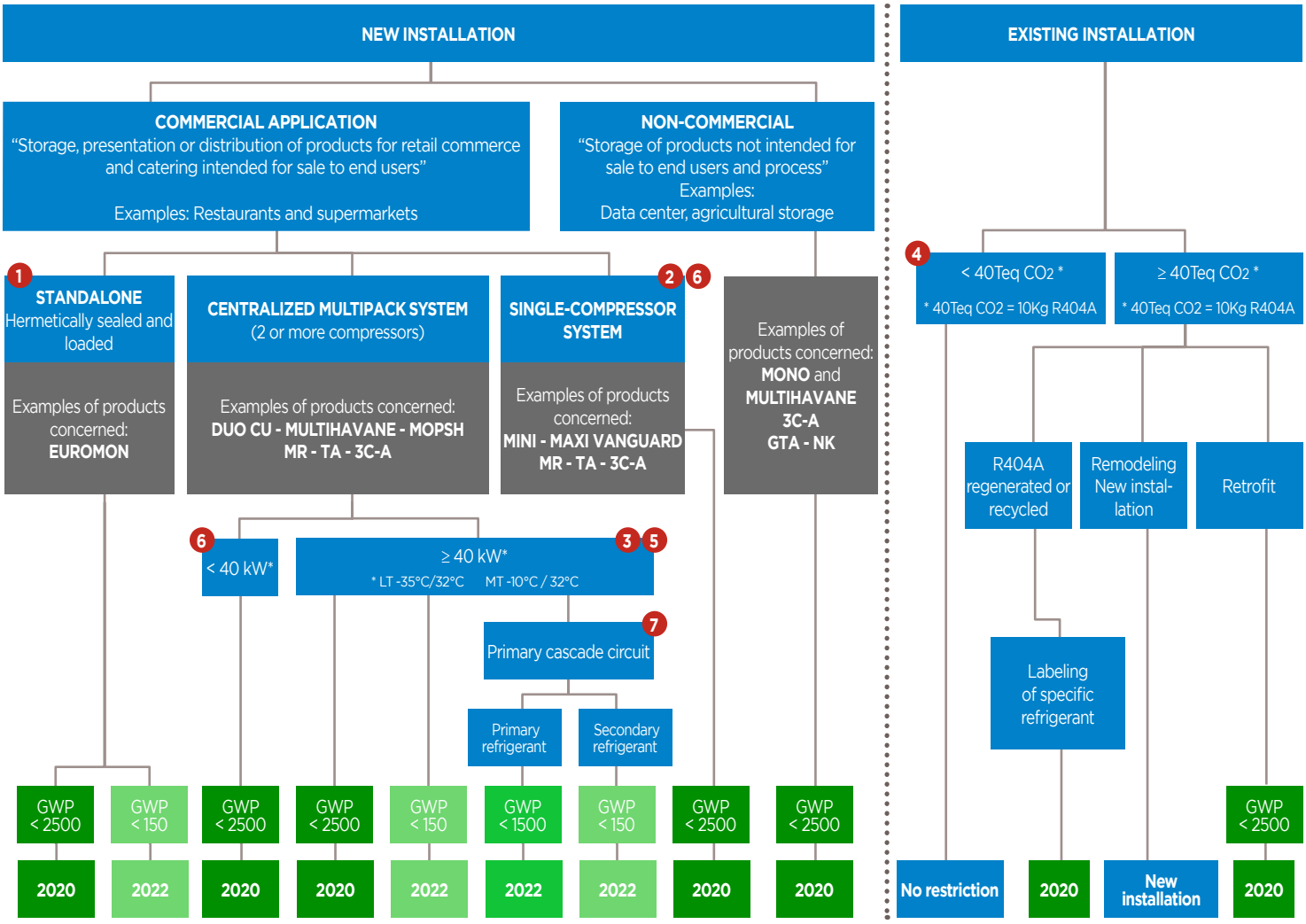


Usage restrictions for new equipment

New equipment is subject to application restrictions and HFC fluids to availability quotas.
All HFC fluids put on the market are classified according to Global Warming Potential (GWP).
The refrigeration and air conditioning products we are selling are affected by the following dates:

Fluids	R507A	R404A	R452A	R407A	R410A	R407F	R407C	R134a	R449A	R448A	R32	R513A	R450A	R454C	R455A	R152a	1234ze	1234yf	R290 (Propane)	R744 (CO_2)	R717 (NH_3)
GWP	2,500							1,500						150							
	3985	3922	2141	2107	2088	1825	1774	1430	1397	1273	675	631	600	148	145	124	6	4	3	1	0
Usage authorization	before **2020**		before/after **2020**					before/after **2022** (date for reexamining the F-Gas regulation)						before/after **2022** (date for reexamining the F-Gas regulation)							
Glide (K) to 40°C (Eurovent conditions)	0	0.3	3	4.5	0.1	4.5	5.1	0	4.5	4.8	0	0	0.6	6	11.4	0	0	0	0	0	0
Habitually used in positive refrigeration		X	X	X		X		X	X	X		X	X	X	X	X	X	X	X	X	X
Usually used in negative refrigeration		X	X	X		X			X	X				X	X			X	X	X	X

F-Gas regulation - EU No. 517/2014



1 2 3 cf. text : **Annex nr 1 of F-gas regulation (EU) N°517/2014**

1 Refrigerators and freezers for commercial use (hermetically sealed equipment)

2 Stationary refrigeration equipment, that contains, or whose functioning relies upon, HFCs with GWP of 2 500 or more except equipment intended for application designed to cool products to temperatures below – 50 °C

3 Multipack centralised refrigeration systems for commercial use with a rated capacity of 40 kW or more that contain, or whose functioning relies upon, fluorinated greenhouse gases with GWP of 150 or more, except in the primary refrigerant circuit of cascade systems where fluorinated greenhouse gases with a GWP of less than 1 500 may be used

4 cf. text : **F-gas regulation (EU) N°517/2014 Article 13 §3**

5 6 7 cf. text : **C (2017) 5230 Final 4.08.2017 + Annexes 1 & 2**

5 In case two completely independent refrigeration circuits deliver MT and LT separately from each other in direct expansion systems, then the prohibition only applies to either independent circuit if it singly surpasses the capacity threshold. If one refrigeration circuit can deliver both MT and LT capacity at the same time, the sum of the capacities is relevant for calculating the capacity of the system. Otherwise, the higher of the two capacities is used to see if the 40 kW threshold is exceeded. For multifunctional equipment only the refrigeration capacities apply and not the capacities for air conditioning or heating.

6 Centralised systems refer to systems where the refrigeration capacity for the whole store is produced centrally in one location, often in a separate machine room. The majority of refrigeration systems that are currently installed in larger supermarkets and hypermarkets are so-called "multipack centralised refrigeration systems.

Other, more decentralised, ways of providing refrigeration are also commonly used today, particularly in smaller supermarkets and convenience stores. These include the use of several distributed condensing units and/or stand-alone units, both of which will not be affected by the 2022 requirement.

Condensing units may be affected if they fall under the definition of a multipack centralised systems pursuant to Article 2(37) of Regulation (EU) No 517/2014, e.g. in case they have 2 or more compressor operated in parallel; and provide more than 40kW of cooling capacity.

7 The definition requires that the MT circuit is split in a primary and secondary circuit. On the other hand, a simple cascade with R134a in the primary circuit also serving the MT cooling requirements in direct expansion (DX system) and absorbing the heat from a CO2 circuit for the LT is not covered by this definition.

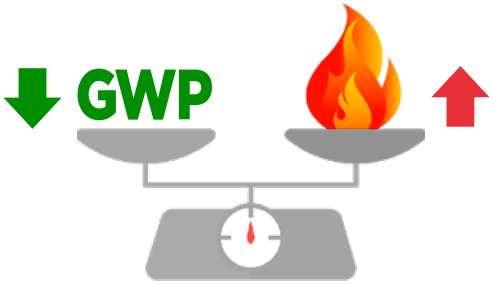
It is important to point out that the 2022 requirement does not allow a simple cascade with e.g. HFC R134a (global warming potential of 1430 times higher than that of CO2) in the primary circuit that also serves the whole medium-temperature cooling requirements while absorbing the heat from a CO2 circuit for the low temperature. The requirement demands instead that the medium-temperature itself is split into two circuits, where only the primary circuit would be allowed to use HFCs < 1500, such as R134a..

Safety group: Flammability/toxicity of fluids versus GWP

The F-Gas regulation reveals the reduction of strong GWP fluids, which orients us toward flammable or high-pressure fluids (CO_2).

In the future, it will be necessary to prepare for handling flammable or toxic fluids with low GWP.

A distinction is made between four fluid flammability groups and two toxicity groups:



	Nonflammable	Midly flammable	Flammable	Highly flammable
Low toxicity	A1	A2L*	A2	A3
High toxicity	B1	B2L	B2	B3

Refrigerants	R507A	R404A	R452A	R407A	R410A	R407F	R407C	R134a	R449A	R448A	R32	R513A	R450A	R454C	R455A	R152a	1234ze	1234yf	R290 (Propane)	R744 (CO_2)	R717 (NH_3)
GWP	3985	3922	2141	2107	2088	1825	1774	1430	1397	1273	675	631	600	148	145	124	6	4	3	1	0
Safety group	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A2L*	A1	A1	A2L*	A2L	A2	A2L*	A2L*	A3	A1	B2

** The profession's trade unions are working with the various ministries concerned, to update the the standard (EN 378-2016) with A2L Refrigerants and local governments to take into account regulation for establishments open to the public.*

Our commitment

We are committed to anticipating technological changes that will be necessary to bring our products into compliance with F-Gas:

R744 (CO_2), a natural alternative to HFC!

- Natural R744 fluid with a **minimal impact** on global warming (**GWP = 1**),
- Natural R744 fluid is **nonflammable**,
- Natural R744 fluid is **nontoxic** (but poses a risk of anoxia).

Despite the high technical level this natural refrigerant requires, its advantages are causing it to be used more and more.

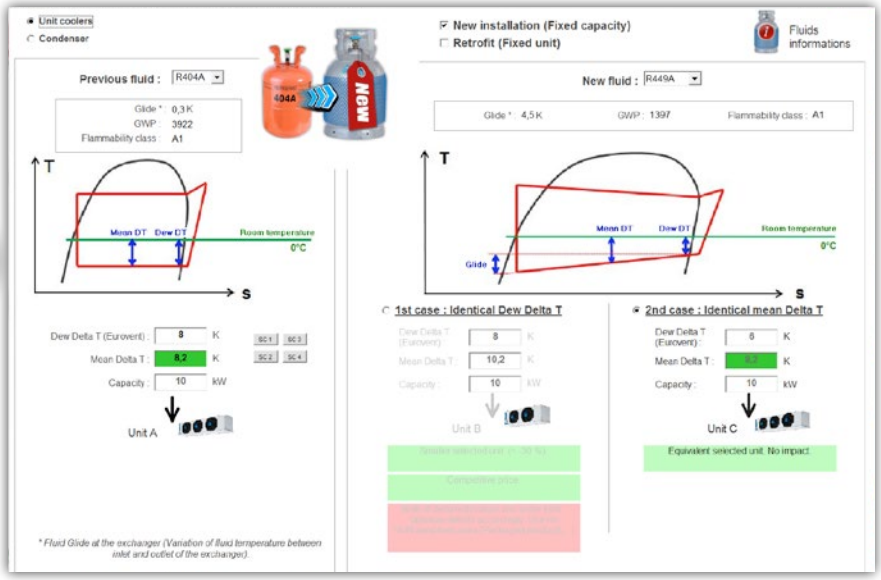
Our unit coolers

Installation type	Product name	Strengths **R404A**	Strengths **R744 (CO_2)**	Availability of refrigerant today
Ceiling installation	**MR**	**0.6 > 2.6 kW**	**0.6 > 2.6 kW**	HFC & HFO mixtures*
	MH	**1.5 > 7.7 kW**	**0.2 > 7.3 kW**	HFC & HFO mixtures*
Dual discharge	**TA**	**2 > 22 kW**	**2.1 > 13.3 kW**	HFC & HFO mixtures*
	GTI/GTA	**12.5 > 125 kW**	**20 > 98.4 kW**	HFC & HFO mixtures*
Cubic	**3C-A**	**1 > 35 kW**	**1.3 > 30.5 kW**	HFC & HFO mixtures*
	NK	**7 > 130 kW**	**8.6 > 155.2 kW**	HFC & HFO mixtures*

** R507A - R407A - R410A - R407F - R407C - R449A - R448A - R450A - R717 - R744 - R134a - Commonly available in 2017: R452A - R513A - R450A*

Refrigerant tool

Understanding the impact of the glide on the unit coolers selections.



LENNOX
EMEA

UNIT COOLERS
CONDENSERS AND DRY COOLERS
COMMERCIAL AND INDUSTRIAL RANGES

ANTI-CORROSION TREATMENTS

- **Epoxy treatment** on the whole coil
- **Blygold treatment** on the whole coil
- **Heresite treatment** on the whole coil
- **Lacquered aluminium protection**, only on the fins
- **Coil in 304L stainless steel**
  (aluminium or stainless steel fins/stainless steel tubes/stainless steel end plates)

LENNOX EMEA reserves itself the right to make changes at any time without preliminary notice - Photos non-contractual

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Recommendations for our exchangers

FRIGA-BOHN HK REFRIGERATION

	COILS						CASING			
	Standard		Optional coil treatments				Special coils	Standard	Casing option		
			BAE 1*	BAE 2*	BXT *	BHE*	BIN*		PEI*	CIN*	RAL*
COMMERCIAL UNIT COOLERS											
EVB	**BAE 1**		●					White pre-lacquered galvanised steel			
XR	**BAE 1**		●					White pre-lacquered galvanised steel & ABS (drain pan)			
MF **MFE**	**BAE 1**	Not treated	●					ABS*			
MR **MRE**	**BAE 1**	Not treated	●					ABS*			
MH	Not treated		○					White pre-lacquered galvanised steel			
KRS	**BAE 2**			●				Magnesium zinc			
TA	Not treated		○		○			ABS*			
3C-A	Not treated		○	On specific request	○	○	○	White pre-lacquered galvanised steel	○	○	
INDUSTRIAL UNIT COOLERS											
GTA	Not treated			○	○	○		White pre-lacquered galvanised steel		○	○
GTI	Not treated			○	○			White pre-lacquered galvanised steel			○
NK	Not treated			○	○	○		White pre-lacquered galvanised steel		○	○
NW	Not treated							White pre-lacquered galvanised steel			
NF	Not treated							White pre-lacquered galvanised steel			
NC	Not treated			○				White pre-lacquered galvanised steel			
CONDENSERS											
MA	**BAE 1**		●					White pre-lacquered galvanised steel			
WA	Not treated				○			White pre-lacquered galvanised steel			
NEOSTAR	Not treated			○	○			White pre-lacquered galvanised steel			○
MXW	Not treated				○			White pre-lacquered galvanised steel			
CCT	Not treated		○		○			Magnesium zinc	○		
CCV	Not treated		○		○			Magnesium zinc	○		
DRY COOLERS											
FC NEOSTAR	Not treated			○	○			White pre-lacquered galvanised steel			○
AEV	Non traité				○			White pre-lacquered galvanised steel			

● Standard
○ Optional

* **BAE 1** Epoxy treatment (on the whole coil)
* **BAE 2** Lacquered aluminium foil (only on fins)
* **BXT** Blygold treatment (on the whole coil)
* **BHE** Heresite treatment (on the whole coil)
* **BIN** 304L stainless steel coil

* **PEI** White paint
* **CIN** 316L stainless steel body
* **RAL** Polyester paint in special colour (choice of colour)
* **ABS** Acrylonitrile butadiene styrene

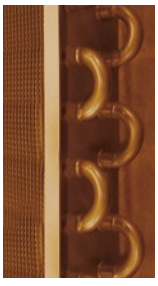
Recommendations in aggressive environments

FRIGA-BOHN HK REFRIGERATION

Recommended for this application
Can be used for this application
Not recommended for this application

Applications	Aggressive substances/particles	Type of anti-corrosion protection on our coils (copper tubes, aluminium fins)			Stainless steel coil
		BAE	BXT	BHE	BIN
Pastries					
Confectionery manufacturers	Bakery additives: - colourants E 100 to E 199 - preservatives E 200 to E 299 - antioxidants E 300 to E 399 - emulsifiers, thickeners E 400 to E 499 - baking powder (lactic acid)	😐	🙂	🙂	🙂
Cold rooms (bakery)					
Ready-to-eat marinades/salads					
Display cases	Acidifying air: Salts, acids, vinegar, preservative	😐	🙂	🙂	🙂
Fruits/vegetables					
Tropical fruits	Fruits with high acid content	😐	🙂	🙂	🙂
Bananas	Corrosive vapours				
Citrus fruits/lemons	Fruits with high acid content				
Vegetables					
Cheeses					
Storage (cellar)	Low NH3 emission and low relative humidity	😐	😐	🙂	🙂
Ripening room (for maturing soft cheeses)	High NH3 emission and high air humidity		☹		
Prepared products					
Frozen products storage		😐	🙂	🙂	🙂
Rapid cooling process			😐		
Dairies					
Milk	Acid vapours from milk and acidity of butter	😐	🙂	🙂	🙂
Meat/sausages					
Frozen products storage (packaged/unpackaged goods)		😐	😐	🙂	🙂
Refrigerated storage area for raw/fresh meat					
Rapid cooling of carcasses	Organic, amino acids				
Smoked meat/sausages	Organic, amino acids				
Salt store	Organic acids, salts				
Cold room for salted products	Organic acids, salts				
Salting rooms	Organic acids, salts				
Drying					
Waste	Organic acids				
Fish/seafood					
Fresh fish		😐	😐	🙂	🙂
Salting preparation rooms	Amines, salts				
Smoked fish drying					
Storage rooms					
Beverages					
Fermentation cellar	High sulphur, chlorine, C02	😐	😐	🙂	🙂
Wine cellar cooling			🙂		
Fruit juice bottling lines	Citric or sulphuric acid				😐
Mineral water bottling line	Aerosols		😐		🙂
Malthouses (production of malt from cereals)	Organic acids, aggressive dusts, high protein levels				
Coffee shop					
Bars		😐	🙂	🙂	🙂
Roasting (cooking the coffee beans to bring out all the flavours).	Organic acids		😐		
Restaurant					
Kitchens	Spices, salts	😐	😐	🙂	🙂
Sea air (no direct contact with seawater)					
Evaporator not in close proximity to the sea	Air with low salt content	😐	🙂	🙂	🙂
Evaporator in close proximity to the sea	Air with high salt content				
Industrial equipment					
Crane cab in steelworks/foundries	Aggressive gas (chlorine), sulphur dioxide, metal dusts	😐	🙂	🙂	🙂
Regular cleaning and disinfection					
Type of cleaning	e.g.: foam, liquid, manual	☹	🙂	😐	😐
Components and concentration to know	Chlorine, acids, alkali				
Wood dryers					
Hardwood (oak, tropical woods)	High evaporation	😐	😐	🙂	🙂
Softwoods (fir, pine)	Low evaporation		🙂		
Intensive farming stables/farms					
Abattoirs	Organic acids	😐	😐	🙂	🙂
Abattoir waste			🙂		
Leather and hides			😐		

Description of the different protection options

	Different types of anti-corrosion treatments				Other anti-corrosion protection option
	BAE 1 Epoxy paint treatment	**BAE 2** Lacquered aluminium protection	**BXT** Blygold treatment	**BHE** Heresite treatment	**BIN** 304L stainless steel protection
Definition	**Epoxy** treatment *on the fins + end plates*	**Lacquered aluminium** foil, *only on the fins*	**Blygold** treatment *on the whole coil*	**Heresite** treatment *on the whole coil and on all the elements fitted before treatment*	**304L stainless steel** *Stainless steel or aluminium fins Stainless steel tubes Stainless steel guard plates*
Description	Very good flexibility, allows the coils to withstand thermal shocks without damage. Treatment thickness: 60-80µm.	Very good finish, high thermal conductivity, good drawing and low density.	Treatment thickness: 25-30µm. Composed of polyurethane, which allows the coil to have good thermal conductivity. No anti-bacterial treatment.	Low flexibility. High sensitivity to shocks. Treatment thickness: 75µm.	-
Method of application	**STAGES:** **1.** Cleaning and degreasing the coil **2. Spraying powder paint by hand using a spray gun and by robot** **3.** Oven drying at 190°C **4.** Visual inspection	Ready to use rolls of **lacquered aluminium**	**STAGES:** **1.** Cleaning and degreasing the coil **2. An operator sprays 4 criss-cross layers of polyurethane by hand** **3.** Drying at 20°C in the open air if the coil is > 80cm or in the oven at 80°C if the coil is between 50 and 80 cm **4.** Visual and endoscopic inspection	**STAGES:** **1.** Cleaning and degreasing **2. Several layers of resin applied by soaking** **3.** Oven drying at approx. 120-142°C **4.** Finished using a spray gun and dried in the oven at 180°C. **5.** Visual inspection	Ready-to-use rolls of **304L stainless steel**
Resistance to neutral salt spray *(tests carried out in accordance with the ASTM B117 and NF EN ISO 92/27 standards)*	**1500 hours**	**1000 hours**	**2500 hours**	**3500 hours**	-
Estimation of corrosivity category of environments. *(ISO 12944, see below)*	**C4**	**C3**	**C5 - I** **C5 - M**	**C5 - I** **C5 - M**	**C5 - I**
Durability class *(limit, medium, high)*	High	High	High	High	High
Colour	White	Gold	Champagne	Brown	Silver
Operating temperature range	Higher than +180°C	Higher than +180°C to -16°C	+180°C to - 80°C.	+180°C to -75°C	Higher than +180°C
Photos					

ISO 12944 standard - Classification of environments

The **ISO 12944 standard** is a guide for choosing paint for steel structures that will ensure a certain level of durability in a given atmospheric environment.
The atmospheres are classified into 6 categories from C1 to C5-M.
In-situ or artificial laboratory tests make it possible to choose the most suitable coating.
This standard does not therefore apply directly to our products. However, we have used the classification of the different atmospheric environments and our neutral salt spray test results in order to provide you with an estimated classification for them.
The notion of durability does not constitute a warranty period.
It is an indication established according to the results obtained in salt spray tests.
A maintenance plan must be established to keep the heat exchangers in their original condition.
Not leaving deposits on their surfaces will in many cases avoid corrosive attack.

LENNOX
EMEA

UNDER-COUNTER UNIT COOLER

COMMERCIAL RANGE

Bars / Hotels / Restaurants

HFC CO2*

240 > **410** W

EVB

- The EVB unit coolers meet the requirements of under-counter coolers and cooling units: compactness, hygiene and performance.
- Minimal thickness of only 8 to 8.9 cm depending on models.
- No condensation retention zones thanks to the ABS drain pan with rounded corners.
- The treated coil is standard as well as the stainless steel screws guaranteeing protection when used in a corrosive environment.
- Radial motor ensuring an excellent air distribution.
- 2 bi-lateral blower models available.

** Operating pressure 60 bar*

www.lennoxemea.com

FRIGA-BOHN

HK® REFRIGERATION

EVB - Commercial under-counter unit cooler

HFC | CO_2

DESCRIPTION

Casing

- **Aesthetics:** white casing.
- **Hygiene:** no condensation retention zones thanks to the ABS drain pan with rounded corners.
- **Compactness:** limited height and depth.
- **Anti-corrosion:** enamelled galvanized steel casing and stainless steel screws.

Ventilation

- **Anticorrosion** : turbine aluminium.

Coil

- **Anti-corrosion:** polyester coated coil.
- **Performance**: 5/16" tubes, low internal refrigerant volume.

Defrost

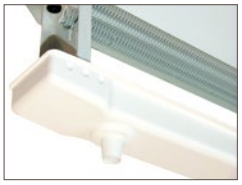
- **Defrost**: optional heater kit (a retrofit is particularly easy on an already installed unit cooler).

CERTIFICATIONS

DESIGNATION

EVB M.1(1)(2)

(1) **M** = wall mounting - **C** = central mounting
(2) Model



Capacity	SC1	EVB ...	M1	M2	M3	C1	C2
R404A	DT1 = 10K	W	240	320	380	240	410
R134a	DTM = 10K	W	220	300	350	220	380
R449A	DTM = 10K	W	230	310	360	230	390
R452A	DTM = 10K	W	220	300	350	220	380
CO_2 (1)	DT1 = 10K	W	210	310	360	210	370
Circuit volume		dm^3	0,3	0,3	0,4	0,3	0,4
Fan (3) 230 V/1/50 Hz 2200 r.p.m. Ø 45 mm	Air flow	m^3/h	60	100	100	60	110
	Air throw (2)	m	3,5	3,5	3,5	2x 3,5	2x 3,5
		Num.	1	1	1	2	2
		W total	20	20	20	30	30
		A total	0,15	0,22	0,22	0,26	0,30
Electric defrost	230V/1/50Hz	W	210	210	290	210	290
Net weight		kg	4	4	5	5	6
Dimensions	L	mm	370	370	490	370	490
	X	mm	340	340	460	340	460
	T	mm	386	386	506	386	506
	V	mm	120	180	180	60	120
Connections	Inlet	Ø E	5/16"	5/16"	5/16"	5/16"	5/16"
	Outlet	Ø S	5/16"	5/16"	5/16"	5/16"	5/16"
Option		E1K	0	0	0	0	0

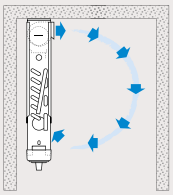
(1) Operating pressure 60 bar - Tube diameter to define the order.
(2) When the chamber size allows air circulation.
(3) Motor, class B, long-life bearings.

ADVANTAGES

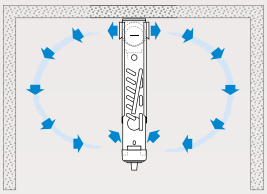
Installation

Easy reversing of casing and drain pan according to the site conditions to facilitate installation.

The models M1, M2 and M3 (wall mounting) are optimized with low space requirements and long air throw.



The models C1 and C2 (central mounting) ensure optimized air flow as well as partitioning of the zone in two sections.



Servicing / Maintenance

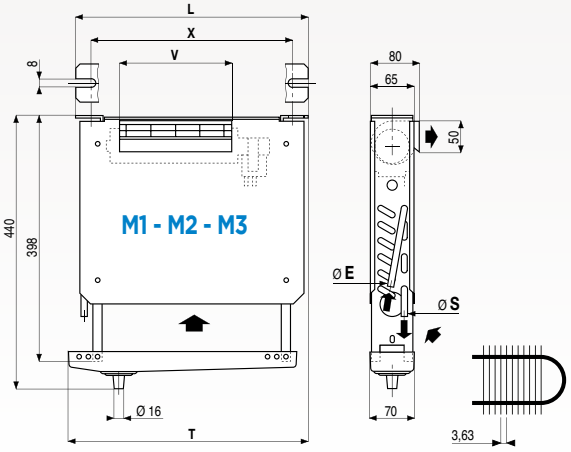
The unit cooler becomes totally accessible with easy removal of the "clipped" fan panel and drain pan rendering cleaning and maintenance far simpler.

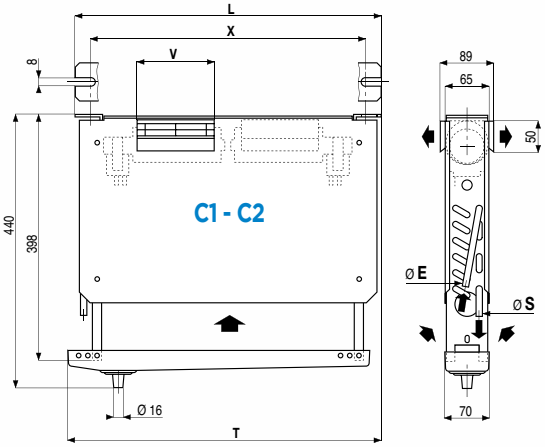
OPTIONS

Factory	Kit
	E1K

Defrost

Electric defrost.





LENNOX
EMEA

CEILING UNIT COOLER

COMMERCIAL RANGE

Bars / Hotels / Restaurants
Corner shops - Mini-markets

Wall mounting

Ceiling mounting

HFC

435 > **1030** W

XR

- The XR range is designed for use in refrigerated cabinets, bars, under-counter unit and small storage cold rooms: compactness, hygiene and performance.
- Wall or ceiling mounted.
- Directional ABS intermediate drain pan reduces the condensation effect on panelling.
- Coil with aluminium fins spaced at 4.23 mm totally treated as standard.

www.lennoxemea.com

FRIGA-BOHN

HK® REFRIGERATION

XR - Commercial ceiling unit cooler

DESCRIPTION

Casing

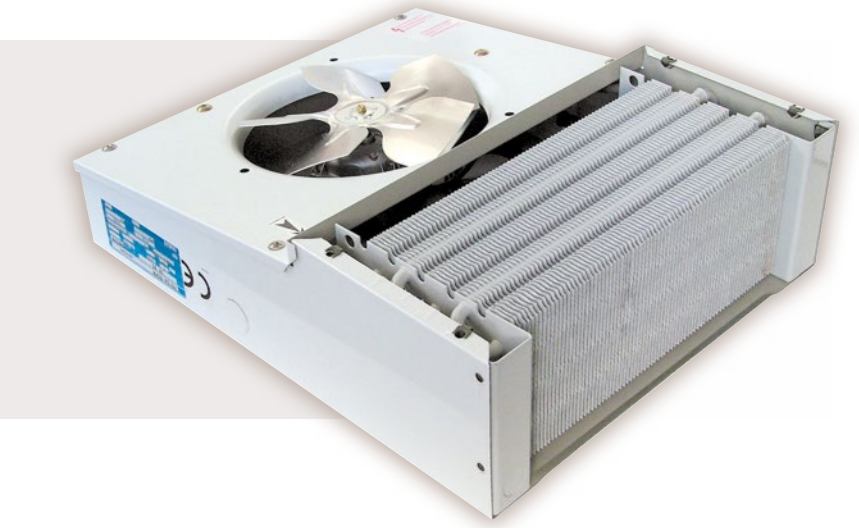
- Aesthetics white-enamelled galvanized steel and plastic casing.
- Intermediate drain pan for ceiling mounting, to limit water condensation.
- Single cardboard box packaging.

Ventilation

- The electric fans Ø 200 mm (photo n°1) used in the XR range are of the enclosed, single-phase type, 230 V, 50-60 Hz, class B, permanently lubricated delivered with a one meter long 3 x 0.75 mm2 cable:
  - 4P = 1,500 rpm, impedance-protected motor (low noise level).
  - 2P = 3,000 rpm, motor with thermal overload protection incorporated (high performance).

Coil

- The finned coils of the XR range are designed with corrugated aluminium fins with polyester finish (photo n° 2) with fin spacing of 4.23 mm and internally grooved copper tubes.



ADVANTAGES

Installation
"Keyhole" fastening requiring only one person.
Drilling template printed on the cardboard packaging.
8 knock-out holes for passage of tubes and cables.
Factory provided as ceiling-mounted model. Simple transformation into a wall-mounted model.
4 drain pipe positions possible when ceiling mounted (2 for wall mounting) in order to offer the user the maximum volume available (photo n°3).
Servicing / Maintenance
Access to all components from the front.

CERTIFICATIONS

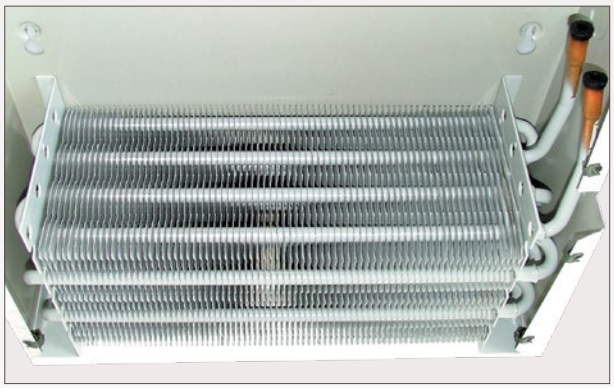
DESIGNATION

XR(1) 100(2)

(1) Unit cooler
(2) Model

1.

2.



3.

OPTIONS

Kit	Factory
E1K	

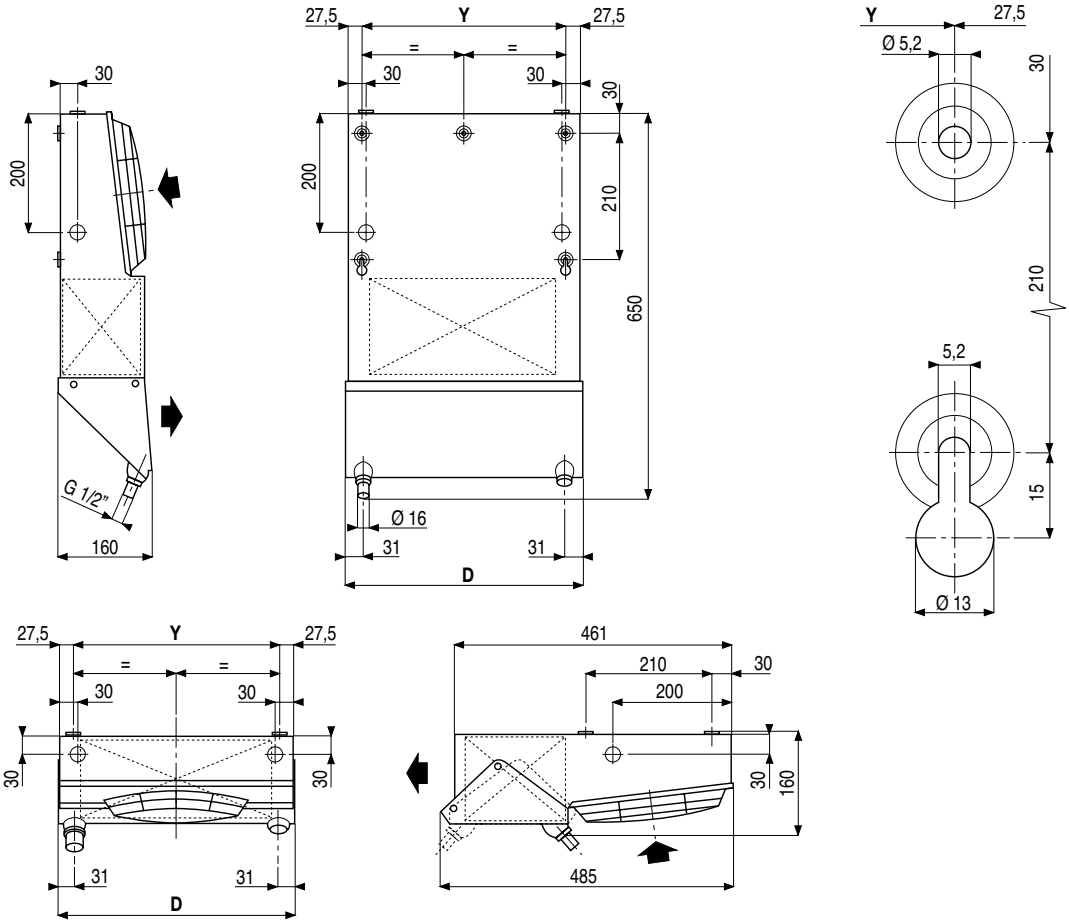
Defrost

Electric defrost
ATTENTION use in SC3 for ceiling mounting only: use of E1K kit compulsory.

XR ... 4,23 mm

Capacity	SC2	XR ...		60	72	80	85	90	100	105	122
R404A (1)	DT1 = 8K	W		495	620	665	725	770	830	895	1030
R134a	DTM = 8K	W		450	560	610	660	700	760	810	940
R449A	DTM = 8K	W		460	570	610	670	710	760	820	950
R452A	DTM = 8K	W		450	570	610	670	710	760	820	950
Capacity	**SC3**	**XR ...**		**60**	**72**	**80**	**85**	**90**	**100**	**105**	**122**
R404A (1)	DT1 = 7K	W		435	545	585	635	675	730	785	905
R134a	DTM = 7K	W		370	460	500	540	570	620	670	770
R449A	DTM = 7K	W		380	480	510	560	590	640	690	790
R452A	DTM = 7K	W		390	490	530	570	610	660	710	820
Surface		m^2		1,5	2,0	2,5	2,0	3,0	2,5	3,0	3,8
Circuit volume		dm^3		0,3	0,3	0,4	0,3	0,5	0,4	0,5	0,7
Fan 230 V/1/50-60 Hz	Air flow	m^3/h		270	250	230	440	360	410	500	480
	Air throw (2)	m		2,5	2,0	2,0	3,0	2,0	3,0	2,5	2,5
	Nb x Ø	mm		1 x 200	1 x 200	1 x 200	1 x 200	1 x 200	1 x 200	1 x 200	1 x 200
		r.p.m.		1500	1500	1500	3000	1500	3000	3000	3000
	230V/1/50Hz	W total		40	40	40	80	40	80	80	80
		A total		0,25	0,25	0,25	0,50	0,25	0,50	0,50	0,50
Electric defrost E1K (3)		Num.		1	1	1	1	1	1	1	1
	230V/1/50Hz	W total		400	400	400	400	600	400	600	600
		A total		1,8	1,8	1,8	1,8	2,7	1,8	2,7	2,7
Net weight		kg		7	8	8	8	10	8	10	10
Dimensions	D	mm		399	399	399	399	560	399	560	560
	Y	mm		330	330	330	330	485	330	485	485
Connections	Inlet	Ø ODF (4)		3/8" 10 mm	3/8" 10 mm	3/8" 10 mm	3/8" 10 mm	3/8" 10 mm	3/8" 10 mm	3/8" 10 mm	3/8" 10 mm
	Outlet	Ø ODF (4)		3/8" 10 mm	3/8" 10 mm	3/8" 10 mm	3/8" 10 mm	3/8" 10 mm	3/8" 10 mm	3/8" 10 mm	3/8" 10 mm
Option		E1K		0	0	0	0	0	0	0	0

(1) Standard conditions : SC2 / 0°C (air inlet temp.) / -8°C (evaporating temp.) / DT1 = 8K - SC3 / -18°C (air inlet temp.) / -25°C (evaporating temp.) / DT1 = 7K
(2) When the size allows circulation of air (see CECOMAF GT 6001, DIN8955, ENV328).
(3) ATTENTION use in SC3 for ceiling mounting only: Use of E1K kit compulsory.
(4) ODF: Female to receive a tube of the same diameter.



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LENNOX
EMEA

CEILING UNIT COOLER

COMMERCIAL RANGE

Bars / Hotels / Restaurants
Corner shops - Mini-markets

ABS
7

HFC

190 > **790** W

MF / MFE

- The MF range is designed for use in refrigerated cabinets, bars, under-counter unit and small storage cold rooms: hygiene and compactness.
- CETIM conformity certificate: hygiene standard EN 1672-2.
- ABS casing with rounded corners, drainage incorporated to avoid all condensation retention zones.
- Minimal depth (150 mm) for optimum use of storage space in the cold room.
- Wall mounting possible.

Certificate of conformity
cetim
"Hygiene & Security"

www.lennoxemea.com

FRIGA-BOHN

HK® REFRIGERATION

MF / MFE - Commercial ceiling unit cooler

DESCRIPTION

Casing

- Anti-corrosion casing, fan blade and guard.
- Monoblock, anti-shock ABS casing.
- Depth limited to 150 mm, easy installation of expansion valve.
- Polyamide frame on MF(E) 1-2.
- CETIM "Health and safety" conformity certificate (MF 1-2) (compliant with standard EN 1672-2). Rounded corners without condensate retention zones, easy cleaning, reduction of exterior condensation.

Ventilation

- 4-pole motor(s), polypropylene fan blade (anti-corrosion).
- Anti-corrosion casing, fan blade and guard (photos n° 1 and 2).

Coil

- Fins with polyester finish.
- Low internal refrigerant volume.

ADVANTAGES

Installation

EMA kit on MF1 and MF2 for wall mounting (not to be used on MFE 1-2).

Flexible, directional and compact drain fitting (photo n°3).

Motor wired to terminal block as standard.

Servicing / Maintenance

Totally removable casing for easy cleaning; direct access to all components mounted on the top board.

The electric heating elements are fitted in slots for easy front removal (model MFE) (photo n°4).

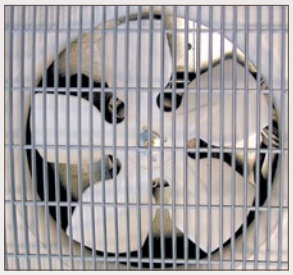
CERTIFICATIONS

DESIGNATION

MFE(1) 3(2)

(1) **MF** = chill temp. models without defrost
MFE = low temp. models with defrost
(2) Number of fans

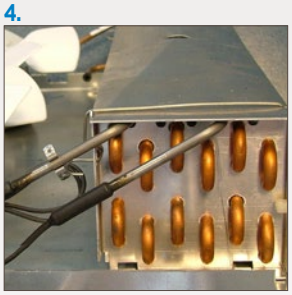
1.



2.

3.

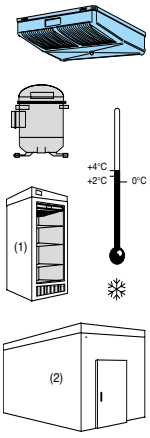
4.



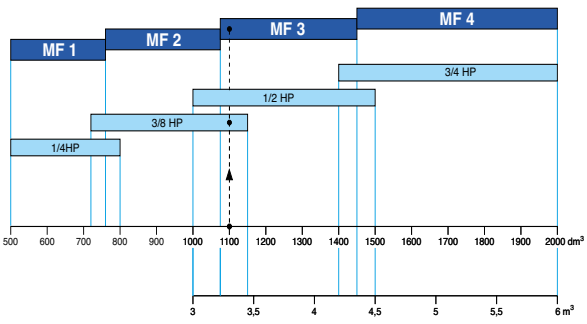
Kit	Factory
EMA	CO2

OPTIONS

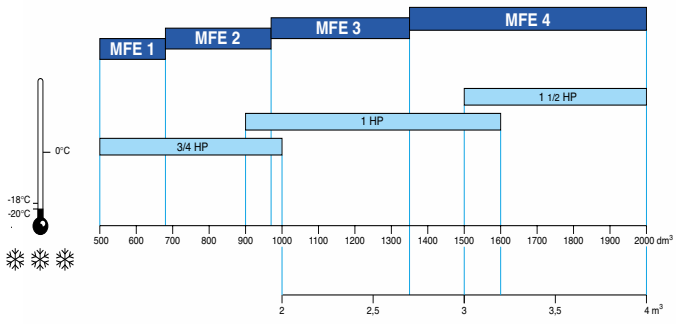
Wall kit
R744 optimization
(please contact us for details)



MF



MFE



(1) Heavy-duty cabinet
(2) Standard chamber

Data given for information only.

EXAMPLE

Volume of unit to be cooled: 1100 dm3/ Temperature: +2°C/Heavy duty
Selection: MF 3 (and compressor 3/8 HP)

MF / MFE ...

Capacity	SC2	MF ...	1	2	3	4
R404A (1)	DT1 = 8K	W	350	400	750	790
R134a	DTM = 8K	W	320	360	680	720
R449A	DTM = 8K	W	320	370	690	730
R452A	DTM = 8K	W	320	370	690	730
Kit : Wall mounting kit		EMA	○	○	-	-

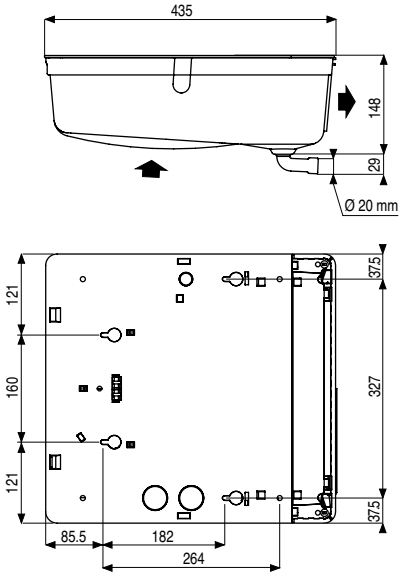
Capacity	SC3	MFE ...	1	2	3	4
R404A (1)	DT1 = 7K	W	270	320	580	640
R449A	DTM = 7K	W	240	280	510	560
R452A	DTM = 7K	W	240	290	520	580
Capacity	**SC4**	**MFE ...**	**1**	**2**	**3**	**4**
R404A (1)	DT1 = 6K	W	190	240	430	450
R449A	DTM = 6K	W	160	200	360	380
R452A	DTM = 6K	W	170	210	380	400
Electric defrost	230V/1/50 Hz	W	140	160	330	330
		A	0,64	0,73	1,5	1,5

			1	2	3	4
Surface		m^2	1,1	1,40	2,3	2,8
Circuit volume		dm^3	0,2	0,3	0,5	0,6
Fan (3) 230 V/1/50-60 Hz 1,500 rpm.	Air flow	m^3/h	270	250	460	430
	Air throw (2)	m	3,5	3,0	6,0	5,5
	Ø 200 mm	Num.	1	1	2	2
	230 V/1/50 Hz	W total	40	40	80	80
		A total	0,33	0,33	0,66	0,66
Net weight		kg	4	4	8	9

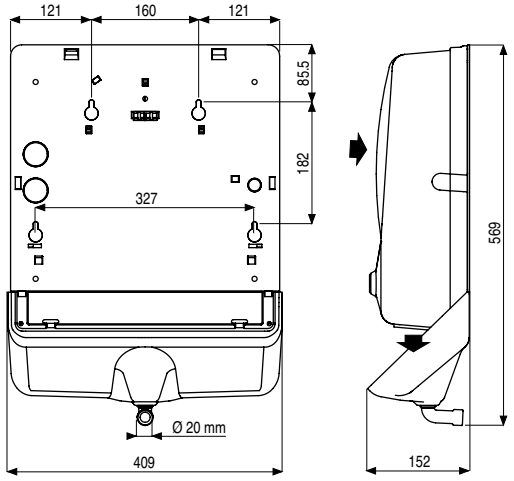
(1) Standard conditions :
SC2 / 0°C (air inlet temp.) / -8°C (evaporating temp.) / DT1 = 8K
SC3 / -18°C (air inlet temp.) / -25°C (evaporating temp.) / DT1 = 7K
SC4 / -25°C (air inlet temp.) / -31°C (evaporating temp.) / DT1 = 6K
(2) When the chamber size allows air circulation.
(3) Enclosed motor, class B, impedance-protected, permanently lubricated.

* Recommended with electric defrost (> MFE).

MF 1-2 / MFE 1-2

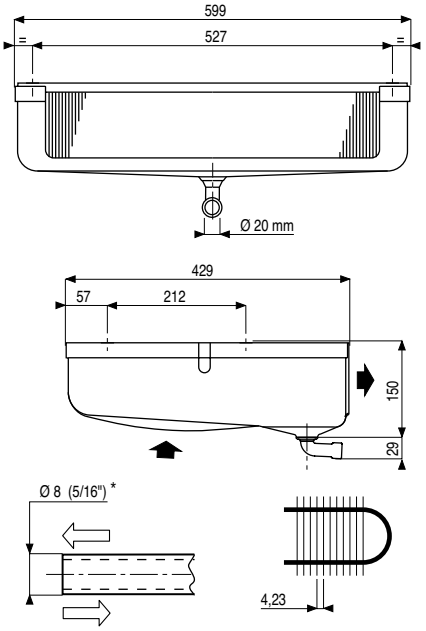


MF 1-2



Wall mounting with **EMA** kit for **MF 1-2**

MF 3-4 / MFE 3-4



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LENNOX
EMEA

CEILING UNIT COOLER

COMMERCIAL RANGE

Bars / Hotels / Restaurants
Corner shops - Mini-markets
Hard Discount - Supermarkets - Hypermarkets

ABS
7

HFC CO2* W GLYCOL

380 > **2620** W

MR / MRE

- The 28 models in the MR range meet the requirements of small storage cold rooms.
- Low depth of only 209 mm enabling optimum use of storage space in the cold room.
- Sturdy and corrosion-resistant unit, coils totally anti-corrosion treated as standard, ABS casing and stainless steel screws.

** Operating pressure 60 bar*

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FRIGA-BOHN

HK® REFRIGERATION

MR / MRE - Commercial ceiling unit cooler

DESCRIPTION

Casing

- The ABS recyclable casing guarantees a high quality with regard to:
- **Sturdyness**: high thermal (at low and high temperatures) and mechanical shock resistance.
- **Aesthetics**: the design, finish and granulated white casing enable perfect integration of the unit into the surrounding environment.
- **Hygiene**: no condensate retention zones favouring the development of harmful germs thanks to the casing with rounded corners and no corrosive elements (for example: stainless steel fastening screws).
- **Safety**: no sharp or cutting edges.

Ventilation

- The MR and MRE models are equipped with a 50-60 Hz, Ø 200 mm fan with an enclosed motor, class B, impedance protected, permanently lubricated, connected in a junction box (except for MR 75/65) (photo n°1).
- Fan guards compliant with safety standards.

Coil

- The highly efficient and compact MR range finned coils are designed with corrugated surface aluminium fins (fin spacing 4.23 or 6.35 mm) and internally grooved copper tubes.
- The coils are supplied via Venturi distributors for models MR 160/140 to MR 270/250 and MRE 135/120 to MRE 270/250.
- The entire MR coil has a polyester paint protection coating, particularly important for corrosive environments (photo n°2).

Defrost

- The electric heating element is fitted in slots under the coil. This layout considerably simplifies maintenance and guarantees homogenous dispersion of heat over the entire coil. This enables perfect defrosting.
- Condensate is collected in an intermediate drain pan then drained through a large condensation drain fitting (Ø 1" G).

DESIGNATION

MRE(1) **210**(2) **E**(3)

(1) **MR** = chill temp. models without defrost
MRE = low temp. models with defrost
(2) Model
(3) Fin spacing: **R / E** = 4.23 mm - **L / C** = 6.35 mm

1.

2.

3.

ADVANTAGES

Installation

The expansion valve may be supplied factory pre-fitted (option DMP), as well as fully equipped (option EEC) to help reduce installation time.

Servicing / Maintenance

The MR range has been designed for easy commissioning, maintenance and cleaning.
Casing fitted with polyamide hinges (photo n°3) to provide total access to all unit cooler elements (coil, electric fan, defrost heater, connections,...).
These hinges also enable removal of the casing.

The electric heating elements are fitted in slots under the coil offering unimpeded front access which considerably simplify maintenance (MRE).

CERTIFICATIONS

OPTIONS

Kit	Factory	
		Coil
	WCO	Glycol water, coolant (please contact us for details).
	CO2	R744 optimization (please contact us for details).
		Defrost
E1K	E1U	Light electric defrost: MR...R and MR...L.
	THD (MRE)	For low temperature cold storage rooms with end of defrost thermostat with single-pole, reversing switch at +12□ (±3 K) and delayed fan start up +2□ (±3 K), supplied with a sensor and fastening bracket.
		Fully equipped unit coolers
	DMP	Expansion valve fitted.
	EEC	Fully equipped unit cooler: - Expansion valve fitted. - Solenoid valve fitted. - Piping pre-fitted with a ball valve (siphoning function provided by the collector).

MR / MRE

4,23 mm

Capacity	SC2	MR ... R	75	110	135	160	180	210	270
R404A (1)	DT1 = 8K	W	680	1070	1270	1550	1860	2060	2620
R134a	DTM = 8K	W	620	970	1160	1410	1690	1870	2380
R449A	DTM = 8K	W	630	980	1170	1430	1710	1900	2410
R452A	DTM = 8K	W	620	980	1170	1420	1710	1890	2410
CO2 (4)	DT1 = 8K	W	600	930	1240	1740	1740	1970	2630
Connections	Inlet	Ø ODF *	3/8"-10mm**	3/8"-10mm**	3/8"-10mm**	D 1/2" ***	D 1/2" ***	D 1/2" ***	D 1/2" ***
R404A	Outlet	Ø ODF *	3/8"-10mm	3/8"-10mm	3/8"-10mm	1/2"-12mm	1/2"-12mm	1/2"-12mm	1/2"-12mm

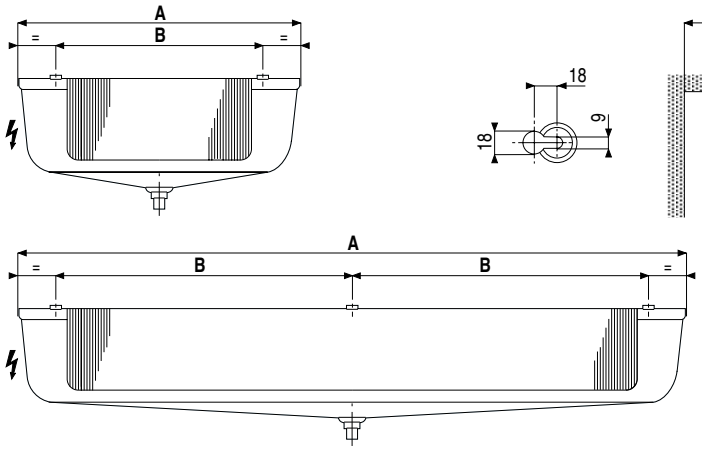
Capacity	SC3	MRE ... E	75	110	135	160	180	210	270
R404A (1)	DT1 = 7K	W	530	820	1070	1210	1440	1660	2230
R449A	DTM = 7K	W	460	720	940	1060	1260	1450	1950
R452A	DTM = 7K	W	480	740	960	1090	1300	1500	2010
CO2 (4)	DT1 = 7K	W	520	800	1060	1470	1470	1650	2200
Capacity	**SC4**	**MRE ... E**	**75**	**110**	**135**	**160**	**180**	**210**	**270**
R404A (1)	DT1 = 6K	W	420	640	840	960	1140	1320	1780
R449A	DTM = 6K	W	350	530	700	800	950	1100	1490
R452A	DTM = 6K	W	370	570	750	850	1010	1170	1580
CO2 (4)	DT1 = 6K	W	410	640	860	1200	1200	1350	1790
Connections	Inlet	Ø ODF *	3/8"-10mm**	3/8"-10mm**	D 1/2" ***	D 1/2" ***	D 1/2" ***	D 1/2" ***	D 1/2" ***
R404A	Outlet	Ø ODF *	3/8"-10mm	3/8"-10mm	1/2"-12mm	1/2"-12mm	1/2"-12mm	5/8"-16mm	3/4"-18mm

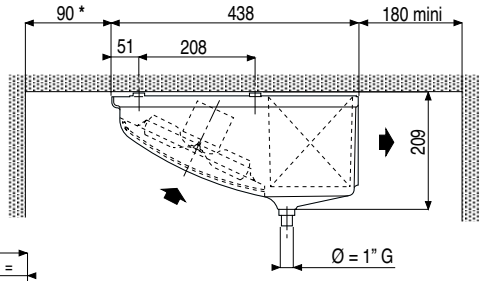
			75	110	135	160	180	210	270
Surface		m^2	3,35	3,66	6,10	8,04	8,04	10,05	13,40
Circuit volume		dm^3	0,58	0,63	1,05	1,10	1,38	1,73	2,30
Air flow		m^3/h	290	650	580	880	880	870	1160
Fan 230 V/1/50-60 Hz 1,500 rpm.	Air throw (2)	m	3,0	3,7	3,5	4,1	4,1	4,0	4,5
	Ø 200 mm	Nb	1	2	2	3	3	3	4
	230 V/1/50 Hz	W max	1 x 38	2 x 38	2 x 38	3 x 38	3 x 38	3 x 38	4 x 38
		A max (3)	1 x 0,24	2 x 0,24	2 x 0,24	3 x 0,24	3 x 0,24	3 x 0,24	4 x 0,24
Electric defrost MR > E1K option MRE > standard	230 V/1/50 Hz	Nb	1	1	1	1	1	1	1
		W	400	440	730	960	960	1200	1600
		A	1,8	2,0	3,3	4,4	4,4	5,5	7,3
Dimensions	A	mm	514	784	784	1174	1174	1174	1504
	B	mm	326	596	596	493	493	493	658
Net weight		kg	3	8	10	15	15	15	20

(1) Standard conditions : SC2 / 0°C (air inlet temp.) / -8°C (evaporating temp.) / DT1 = 8K
SC3 / -18°C (air inlet temp.) / -25°C (evaporating temp.) / DT1 = 7K
SC4 / -25°C (air inlet temp.) / -31°C (evaporating temp.) / DT1 = 6K

(2) Residual air speed: 0.25 m/s.
(3) Setting of overload protection levels. For air temperatures "ti" other than +20 °C, multiply the currents in relation to 293/(273 + "ti") in order to obtain an approximate current value after the chamber temperature is attained.
(4) Operating pressure 60 bar - Tube diameter to define the order.

* ODF: Female to receive a tube of the same diameter.
** Unions provided for expansion valve to be brazed Ø 1/2" or Ø 12 mm.
*** Distributor: Ø 1/2" male to be brazed.





* 90 mini: Casing opening
160 mini: Casing removal

	WCO	CO2	E1K	E1U	THD	DMP	EEC
MR	+👤	+👤	O	O	-	O	O
MRE	-	+👤	-	-	O	O	O

MR / MRE

6,35 mm

Capacity	SC2	MR ... L	65	100	120	140	170	190	250
R404A (1)	DT1 = 8K	W	620	890	1180	1370	1680	1890	2440
R134a	DTM = 8K	W	560	810	1070	1250	1530	1720	2220
R449A	DTM = 8K	W	570	820	1090	1260	1550	1740	2250
R452A	DTM = 8K	W	570	820	1080	1260	1540	1740	2240
CO2 (4)	DT1 = 8K	W	541	782	1127	1564	1564	1783	2392
W (5)	DT1 = 8K	W	-	-	1220	1150	-	1790	2380
Connections	Inlet	Ø ODF *	3/8"-10mm**	3/8"-10mm**	3/8"-10mm**	D 1/2" ***	D 1/2" ***	D 1/2" ***	D 1/2" ***
R404A	Outlet	Ø ODF *	3/8"-10mm	3/8"-10mm	3/8"-10mm	1/2"-12mm	1/2"-12mm	1/2"-12mm	1/2"-12mm

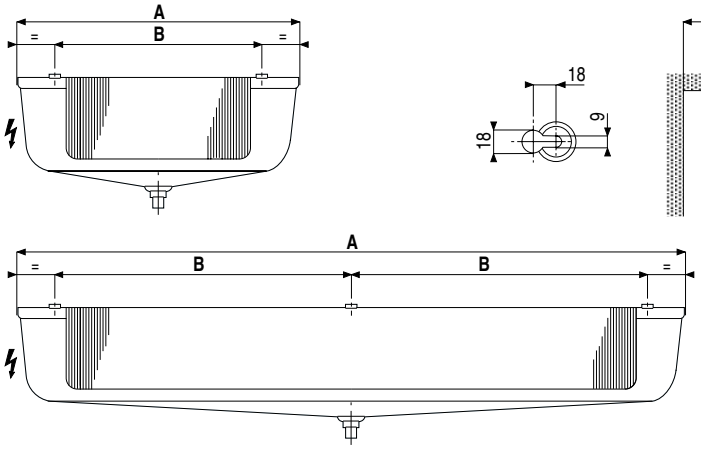
Capacity	SC3	MRE ... C	65	100	120	140	170	190	250
R404A (1)	DT1 = 7K	W	480	670	950	1080	1310	1510	2030
R449A	DTM = 7K	W	420	590	830	940	1150	1320	1770
R452A	DTM = 7K	W	430	600	860	970	1180	1360	1830
CO2 (4)	DT1 = 7K	W	462	672	956	1323	1323	1502	1995
Capacity	**SC4**	**MRE ... C**	**65**	**100**	**120**	**140**	**170**	**190**	**250**
R404A (1)	DT1 = 6K	W	380	540	760	850	1040	1210	1630
R449A	DTM = 6K	W	320	450	640	710	870	1010	1360
R452A	DTM = 6K	W	340	480	680	760	920	1080	1450
CO2 (4)	DT1 = 6K	W	462	672	956	1323	1323	1502	1995
Connections	Inlet	Ø ODF *	3/8"-10mm**	3/8"-10mm**	D 1/2" ***	D 1/2" ***	D 1/2" ***	D 1/2" ***	D 1/2" ***
R404A	Outlet	Ø ODF *	3/8"-10mm	3/8"-10mm	1/2"-12mm	1/2"-12mm	1/2"-12mm	5/8"-16mm	3/4"-18mm

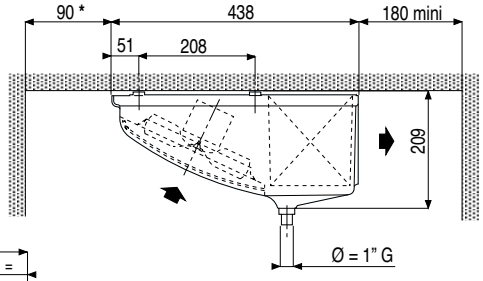
			65	100	120	140	170	190	250
Surface		m^2	2,32	2,53	4,22	5,56	5,56	6,96	9,27
Circuit volume		dm^3	0,58	0,63	1,05	1,10	1,38	1,73	2,30
Air flow		m^3/h	310	660	620	960	960	930	1240
Fan 230 V/1/50-60 Hz 1,500 rpm.	Air throw (2)	m	3,0	3,7	3,5	4,1	4,1	4,0	4,5
	Ø 200 mm	Nb	1	2	2	3	3	3	4
	230 V/1/50 Hz	W max	1 x 38	2 x 38	2 x 38	3 x 38	3 x 38	3 x 38	4 x 38
		A max (3)	1 x 0,24	2 x 0,24	2 x 0,24	3 x 0,24	3 x 0,24	3 x 0,24	4 x 0,24
Electric defrost MR > E1K option MRE > standard	230 V/1/50 Hz	Nb	1	1	1	1	1	1	1
		W	400	440	730	960	960	1200	1600
		A	1,8	2,0	3,3	4,4	4,4	5,5	7,3
Dimensions	A	mm	514	784	784	1174	1174	1174	1504
	B	mm	326	596	596	493	493	493	658
Net weight		kg	3	8	10	15	15	15	20

(1) Standard conditions : SC2 / 0°C (air inlet temp.) / -8°C (evaporating temp.) / DT1 = 8K
SC3 / -18°C (air inlet temp.) / -25°C (evaporating temp.) / DT1 = 7K
SC4 / -25°C (air inlet temp.) / -31°C (evaporating temp.) / DT1 = 6K

(2) Residual air speed: 0.25 m/s.
(3) Setting of overload protection levels. For air temperatures "ti" other than +20 °C, multiply the currents in relation to 293/(273 + "ti") in order to obtain an approximate current value after the chamber temperature is attained.
(4) Operating pressure 60 bar - Tube diameter to define the order.
(5) Glycol water: Percentage of glycol = 30% - Fluid inlet temp. = -8°C - Fluid outlet temp. = -4°C - Inlet dry temp. = +2°C - Relative humidity = 85%

* ODF: Female to receive a tube of the same diameter.
** Unions provided for expansion valve to be brazed Ø 1/2" or Ø 12 mm.
*** Distributor: Ø 1/2" male to be brazed.





* 90 mini: Casing opening
160 mini: Casing removal

	WCO	CO2	E1K	E1U	THD	DMP	EEC
MR	+👤	+👤	O	O	-	O	O
MRE	-	+👤	-	-	O	O	O

LENNOX
EMEA

CEILING UNIT COOLER

COMMERCIAL RANGE

Bars / Hotels / Restaurants
Corner shops - Mini-markets
Hard Discount - Supermarkets - Hypermarkets

HFC CO2* W GLYCOL

1400 > **7000** W

MH / MHE

- The 24 models in the MH range meet the requirements of small storage cold rooms.
- Sturdy casing made of sheet steel with a low depth (228 to 260 mm) enabling optimum use of space in the cold room.
- Excellent air throw up to 17 m.

** Operating pressure 60 bar*

www.lennoxemea.com

FRIGA-BOHN

HK® REFRIGERATION

MH / MHE - Commercial ceiling unit cooler

DESCRIPTION

Casing
- Sturdy and sober casing made of white pre-painted sheet steel.
- Its low depth enables optimum use of storage space in the cold room.

Ventilation
- The MH range is fitted with factory wired axial fans:
Ø 300 mm: 230V 50-60 Hz, single-phase, IP42, class B.
- The fan guards are compliant with safety standards.
- 2 to 4 fans are necessary to cover the requirements of the entire range of capacities.

Coil
- The highly efficient and compact MH range finned coils are designed with corrugated aluminium fins (fin spacing 4.23 or 6.35 mm) and internally grooved copper tubes.
- The coils are supplied via a Venturi distributor.

Defrost
- Shielded electric heating elements are inserted in slots both on the front and rear coil faces.
- One of these shielded heating elements is also fastened in slots under the coil. This slot assembly guarantees homogenous dispersion of heat over the entire coil.
- The defrost heating elements are factory connected to a terminal block (MHE range only).
  - 230V/1 power supply for all models MHE 320E, 380E and 250C, 310C.
  - 400V/3 power supply for models MHE 460E, 550E, 640E, 770E and 370C, 450C, 510C, 630C.

ADVANTAGES

Installation

The expansion valve may be supplied factory pre-fitted (option DMP), as well as fully equipped (option EEC) to help reduce installation time.

Servicing / Maintenance

The MH range has been designed for easy commissioning, maintenance and cleaning.
The casing is fitted with hinges offering total access to all elements of the ceiling unit cooler (coil, fan, defrost heater, connections,...).

The electric heating elements are fitted in slots under the coil offering unimpeded front access which considerably simplified maintenance.

DESIGNATION

MHE(1) **250**(2) **C**(3)

(1) **MH** = chill temp. models without defrost
MHE = low temp. models with defrost
(2) Model
(3) Fin spacing: **R / E** = 4.23 mm - **L / C** = 6.35 mm

CERTIFICATIONS

Kit	Factory	OPTIONS
		Ventilation
	MM6	Fan 230 V/1/60 (contact us for details).
		Coil
	BAE	Paint coil protection.
	WCO	Glycol water, coolant (please contact us for details).
	CO2	R744 optimization (please contact us for details).
		Defrost
E1K	E1U	Light electric defrost
	THD (MHE)	For low temperature cold storage rooms with end of defrost thermostat with single-pole, reversing switch at +12°C (±3 K) and delayed fan start up +2°C (±3 K), supplied with a sensor and fastening bracket.
		Fully equipped unit coolers
	DMP	Expansion valve fitted.
	EEC	Fully equipped unit cooler: - Expansion valve fitted. - Solenoid valve fitted. - Piping pre-fitted with a ball valve (siphoning function provided by the collector).

MH / MHE

4,23 mm

Capacity	SC2	MH ... R	320	380	460	550	640	770
R404A (1)	DT1 = 8K - SC2	W	2880	3400	4370	5050	6020	6940
R134a	DTM = 8K - SC2	W	2620	3090	3980	4600	5480	6320
R449A	DTM = 8K - SC2	W	2650	3130	4020	4650	5540	6390
R452A	DTM = 8K - SC2	W	2650	3120	4020	4640	5530	6380
CO2 (5)	DT1 = 8K - SC2	W	3210	3670	4770	5300	6130	7400

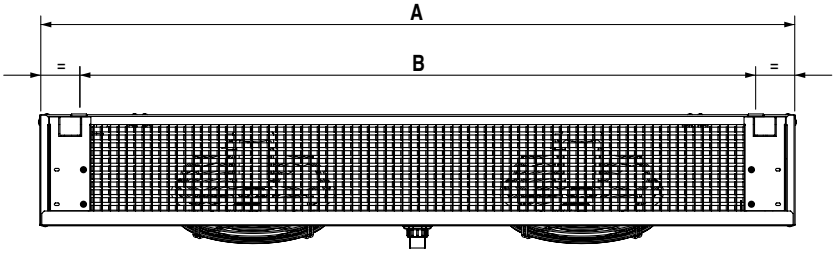
Capacity	SC3	MHE ... E	320	380	460	550	640	770
R404A (1)	DT1 = 7K - SC3	W	2230	2590	3120	3910	4440	5220
R449A	DTM = 7K - SC3	W	1950	2260	2730	3420	3880	4560
R452A	DTM = 7K - SC3	W	2010	2340	2810	3530	4000	4710
CO2 (5)	DT1 = 7K - SC3	W	2670	3000	3840	4160	5370	6070
Capacity	**SC4**	**MHE ... E**	**320**	**380**	**460**	**550**	**640**	**770**
R404A (1)	DT1 = 6K - SC4	W	1760	2070	2430	3130	3510	4160
R449A	DTM = 6K - SC4	W	1470	1730	2030	2620	2930	3480
R452A	DTM = 6K - SC4	W	1570	1840	2160	2780	3120	3700
CO2 (5)	DT1 = 6K - SC4	W	2150	2430	3080	3310	4340	4920

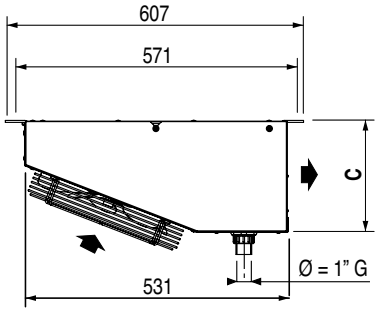
			320	380	460	550	640	770
Surface		m^2	9,73	12,98	14,60	19,47	19,61	26,15
Circuit volume		dm^3	1,67	2,23	2,51	3,34	3,37	4,49
Air flow		m^3/h	2290	2070	3430	3110	4600	4160
Fan 230 V/1/50-60 Hz 1,500 rpm.	Air throw (2)	m	16	16	16	16	16	16
	Ø 300 mm	Nb	2	2	3	3	4	4
	230 V/1/50 Hz	W max	2x 117	2x 117	3x 117	3x 117	4x 117	4x 117
		A max (3)	2x 0.77	2x 0.77	3x 0.77	3x 0.77	4x 0.77	4x 0.77
Electric defrost MH > E1K option MHE > standard *	Coil	Nb	2	2	2	2	2	2
	Drain pan	Nb	1	1	1	1	1	1
		W total	1800	1800	2700	2700	3600	3600
	230 V/1/50Hz	A total	7,83 *	7,83 *	11,70	11,70	15,70	15,70
	400 V/3/50Hz	A total	-	-	3,90 *	3,90 *	5,20 *	5,20 *
Dimensions	A	mm	1531	1531	2197	2197	2499	2499
	B	mm	1372	1372	2038	2038	2340	2340
	C	mm	228	228	228	228	260	260
Connections R404A	Inlet	Ø ODF (4)	D 1/2"	D 1/2"	D 1/2"	D 1/2"	D 5/8"	D 5/8"
	Outlet	Ø ODF (4)	5/8"	5/8"	3/4"	3/4"	7/8"	7/8"
Net weight		kg	34	35	46	48	54	57

(1) Standard conditions : SC2 / 0°C (air inlet temp.) / -8°C (evaporating temp.) / DT1 = 8K
SC3 / -18°C (air inlet temp.) / -25°C (evaporating temp.) / DT1 = 7K
SC4 / -25°C (air inlet temp.) / -31°C (evaporating temp.) / DT1 = 6K

* Factory mounted (MHE)

(2) Residual air speed: 0.25 m/s.
(3) Setting of overload protection levels. For air temperatures "ti" other than +20 °C, multiply the currents in relation to 293/(273 + "ti") in order to obtain an approximate current value after the chamber temperature is attained.
(4) ODF: Female to receive a tube of the same diameter.
(5) Operating pressure 60 bar - Tube diameter to define the order.





	ECF	MM6	BAE	WCO	CO2	E1K	E1U	THD	DMP	EEC
MH	0	+👤	0	+👤	+👤	0	0	-	0	0
MHE	0	+👤	-	-	+👤	-	-	0	0	0

MH / MHE

6,35 mm

Capacity	SC2	MH ... L	250	310	370	450	510	630
R404A (1)	DT1 = 8K - SC2	W	2340	2850	3540	4270	4750	5180
R134a	DTM = 8K - SC2	W	2130	2590	3220	3890	4320	4710
R449A	DTM = 8K - SC2	W	2150	2620	3260	3930	4370	4770
R452A	DTM = 8K - SC2	W	2150	2620	3250	3920	4370	4760
CO2 (5)	DT1 = 8K - SC2	W	2780	3320	4190	4870	5440	6690
W (6)	DT1 = 8K	W	-	2660	-	3990	-	4810

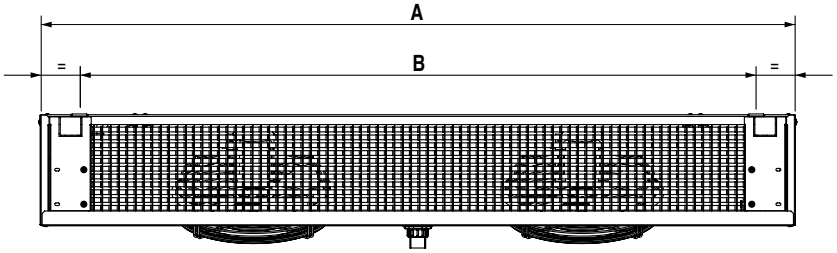
Capacity	SC3	MHE ... C	250	310	370	450	510	630
R404A (1)	DT1 = 7K - SC3	W	1790	2140	2610	3180	3610	4400
R449A	DTM = 7K - SC3	W	1560	1870	2280	2780	3160	3850
R452A	DTM = 7K - SC3	W	1610	1930	2350	2870	3250	3970
CO2 (5)	DT1 = 7K - SC3	W	2320	2740	3400	3850	4680	5520
Capacity	**SC4**	**MHE ... C**	**250**	**310**	**370**	**450**	**510**	**630**
R404A (1)	DT1 = 6K - SC4	W	1440	1700	2060	2640	2890	3530
R449A	DTM = 6K - SC4	W	1200	1420	1720	2210	2420	2950
R452A	DTM = 6K - SC4	W	1280	1510	1830	2350	2570	3140
CO2 (5)	DT1 = 6K - SC4	W	1880	2230	2750	3080	3800	4500

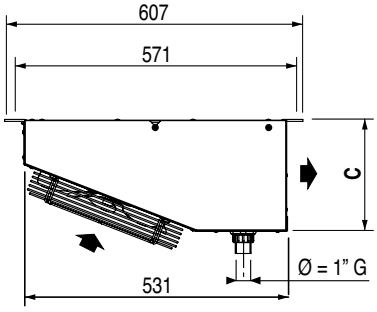
			250	310	370	450	510	630
Surface		m^2	6,74	8,98	10,10	13,47	13,57	18,09
Circuit volume		dm^3	1,67	2,23	2,51	3,34	3,37	4,49
Air flow		m^3/h	2450	2290	3680	3430	4920	4590
Fan 230 V/1/50-60 Hz 1,500 rpm.	Air throw (2)	m	17	17	17	17	17	17
	Ø 300 mm	Nb	2	2	3	3	4	4
	230 V/1/50 Hz	W max	2x 117	2x 117	3x 117	3x 117	4x 117	4x 117
		A max (3)	2x 0.77	2x 0.77	3x 0.77	3x 0.77	4x 0.77	4x 0.77
Electric defrost MH > E1K option MHE > standard *	Coil	Nb	2	2	2	2	2	2
	Drain pan	Nb	1	1	1	1	1	1
		W total	1800	1800	2700	2700	3600	3600
	230 V/1/50Hz	A total	7,83 *	7,83 *	11,70	11,70	15,70	15,70
	400 V/3/50Hz	A total	-	-	3,90 *	3,90 *	5,20 *	5,20 *
Dimensions	A	mm	1531	1531	2197	2197	2499	2499
	B	mm	1372	1372	2038	2038	2340	2340
	C	mm	228	228	228	228	260	260
Connections	Inlet	Ø ODF (4)	D 1/2"	D 1/2"	D 1/2"	D 1/2"	D 5/8"	D 5/8"
R404A	Outlet	Ø ODF (4)	5/8"	5/8"	3/4"	3/4"	7/8"	7/8"
Net weight		kg	34	35	46	48	54	57

(1) Standard conditions : SC2 / 0°C (air inlet temp.) / -8°C (evaporating temp.) / DT1 = 8K
SC3 / -18°C (air inlet temp.) / -25°C (evaporating temp.) / DT1 = 7K
SC4 / -25°C (air inlet temp.) / -31°C (evaporating temp.) / DT1 = 6K

* Factory mounted (MHE)

(2) Residual air speed: 0.25 m/s.
(3) Setting of overload protection levels. For air temperatures "ti" other than +20 °C, multiply the currents in relation to 293/(273 + "ti") in order to obtain an approximate current value after the chamber temperature is attained.
(4) ODF: Female to receive a tube of the same diameter.
(5) Operating pressure 60 bar - Tube diameter to define the order.
(6) Glycol water: Percent. glycol = 30% - Fluid inlet temp. = -8°C – Fluid outlet temp. = -4°C -Inlet dry temp. = +2°C – relative humidity = 85%.





	ECF	MM6	BAE	WCO	CO2	E1K	E1U	THD	DMP	EEC
MH	O	+1	O	+1	+1	O	O	-	O	O
MHE	O	+1	-	-	+1	-	-	O	O	O

ABS
7

HFC
W GLYCOL

1.5 > **9** kW

KRS / KRS-W

- KRS direct expansion and glycol water (KRS-W) refrigeration cassettes are compliant with workplace requirements: noise level, hygiene, ventilation and aesthetic quality.
- Vibration damper pads placed under the motor help reduce the noise level.
- Drip tray under the coil and condensate discharge pump.
- 6 motor speeds with 3 pre-wired as standard enabling precise setting of the air flow-rate.
- 4 adjustable deflectors guarantee smooth air distribution in all directions.
- Unit body totally encased in the false ceiling.

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FRIGA-BOHN

HK® REFRIGERATION

KRS / KRS-W - Commercial refrigeration cassette

DESCRIPTION

Casing
- The casing of the KRS range is made of double-insulated galvanized sheet steel: inside with a polyurethane shell and on the outside with a thick, closed cell, foam insulating layer.
- Equipped with a drip tray under the coil.

Diffuser
- Its high aesthetic quality is perfectly adapted to all environments.
- Made of smooth ABS, white colour, it has an interior insulation lining to eliminate the risk of condensation.
- A manually adjustable deflector system enables distribution of air in four directions.

Ventilation
- The KRS range is equipped with 6-speed centrifugal fans with high static pressure and air flow efficiency.
- 3 speeds are factory pre-wired on each model. It is possible to select 3 other intermediate speeds depending on noise level requirements (refer to the table opposite).
- The motors are of the type, single-phase, 230V, 50Hz- Hz, class B with internal thermal overload protection.
- The fan blades are specially designed for this range and provide a high air flow-rate while guaranteeing a low noise level.

Coil
- The high-performance and compact finned coils are composed of aluminium fins crimped onto copper tubes:

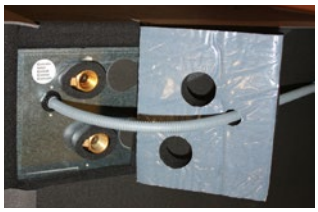
Aluminium fins	KRS	KRS-W
Spacing	2,81 mm	2,1 mm (KRS-W1) 1,81 mm (KRS-W2)
Epoxy protection	yes	no
Grooved copper tubes	yes	no

Condensate discharge pump
- The maximum discharge height is 650 mm in relation to the pump height.

ADVANTAGES

Installation

The KRS cassettes are delivered with a condensate discharge pump with float switching device.



The pre-cut insulation foam is easy to fit and guarantees total isolation of the casing once all tubes have been connected.

Servicing / Maintenance

The casing is designed to offer complete access to all components rendering maintenance tasks easier (photo n° 1).

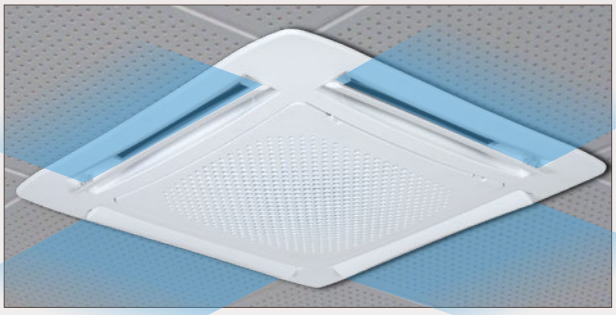
The washable filter clipped onto the diffuser is easily accessible and has a stand-by position for cleaning (photo n° 3).

CERTIFICATIONS

DESIGNATION

KRS(1)-W(2) 1(3)

(1) Silent refrigeration cassette
(2) **KRS** = direct expansion
KRS-W = glycol water
(3) **KRS 1** = casing 600 x 600 mm
KRS 2 = casing 800 x 800 mm



KRS 1 refrigeration cassette encased in the false ceiling.

1.

2.

3.

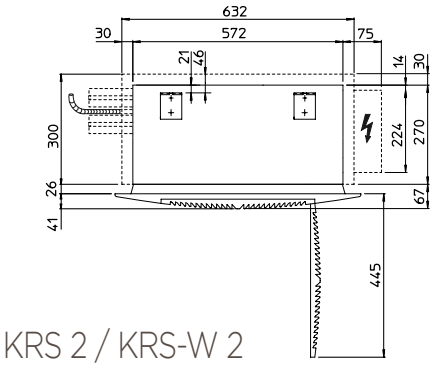
4.

KRS / KRS-W

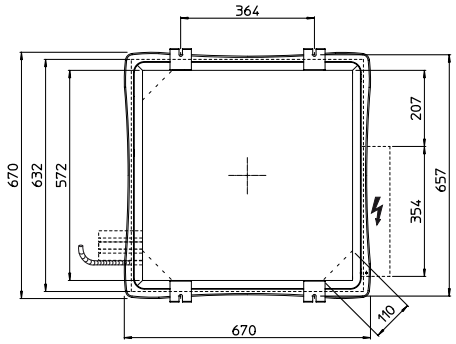
			Motor speeds*						Motor speeds*					
			V1	-	-	V2	-	V3	V1	-	V2	-	-	V3
			ST	NC	NC	ST	NC	ST	ST	NC	ST	NC	NC	ST
		r.p.m.	400	540	600	700	820	1120	280	360	470	560	670	750
Capacity (1)	**DX - Q0m - HR = 85 %**		KRS 1 *						KRS 2 *					
R404A	DT1 = 10K - tA1 = 8°C	kW	1,50	2,00	2,10	2,40	2,70	3,30	3,30	4,00	4,90	5,50	6,10	6,60
R134a	DTM = 10K - tA1 = 8°C	kW	1,37	1,82	1,91	2,18	2,46	3,00	3,00	3,64	4,46	5,01	5,55	6,01
R449A	DTM = 10K - tA1 = 8°C	kW	1,32	1,76	1,84	2,11	2,37	2,90	2,90	3,51	4,30	4,83	5,36	5,80
R452A	DTM = 10K - tA1 = 8°C	kW	1,80	1,71	1,80	2,06	2,31	2,83	2,83	3,43	4,20	4,71	5,22	5,65
R404A	DT1 = 12K - tA1 = 12°C	kW	2,10	2,60	2,80	3,20	3,50	4,30	4,30	5,20	6,40	7,20	8,10	8,70
R134a	DTM = 12K - tA1 = 12°C	kW	1,95	2,42	2,60	2,98	3,26	4,00	4,00	4,84	5,95	6,70	7,53	8,09
R449A	DTM = 12K - tA1 = 12°C	kW	1,91	2,36	2,55	2,91	3,18	3,91	3,91	4,73	5,82	6,55	7,37	7,91
R452A	DTM = 12K - tA1 = 12°C	kW	1,84	2,27	2,45	2,80	3,06	3,76	3,76	4,55	5,59	6,29	7,08	7,61
Air flow		m^3/h	300	409	453	530	620	850	700	900	1200	1400	1680	1880
Connections	inlet	Ø OD	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"
	outlet	Ø OD	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"
Capacity (2)	**Glycol water**		KRS-W 1 *						KRS-W 2 *					
W* (2)	DT1 = 10K - tA1 = 12°C	kW	1,6	1,9	2,1	2,3	2,5	2,8	3,3	3,9	4,5	4,8	5,1	5,2
Air flow		m^3/h	320	430	500	610	710	880	710	970	1280	1500	1675	1820
Connections	inlet	Ø OD	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"
	outlet	Ø OD	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"
			KRS 1 / KRS-W 1 *						KRS 2 / KRS-W 2 *					
Circuit volume		dm^3	2	2	2	2	2	2	4	4	4	4	4	4
Acoustic	Lp (3)	dB(A)	26	33	35	38	42	49	25	31	37	41	44	47
	Lw(A)	dB(A)	40	47	49	52	56	63	39	45	51	55	58	61
Net weight	casing + diffuser	kg	28	28	28	28	28	28	46	46	46	46	46	46

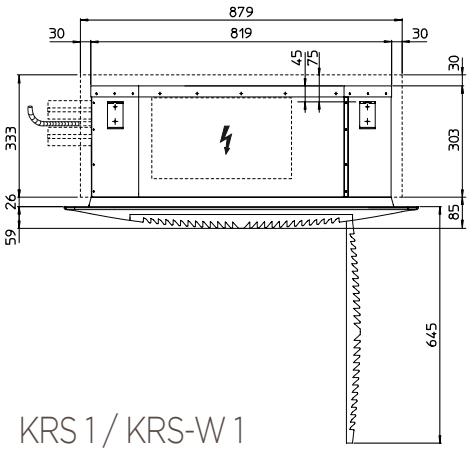
* **ST** = Motor speeds pre-wired as standard
NC = Intermediate motor speeds not wired (for selection of a non-wired speed, an installation technician must make the corresponding connections > refer to installation instructions).
KRS 1 / KRS-W 1 = 1 fan 230V/1/50 Hz - 100 W max - 0,45 A max
KRS 2 / KRS-W 2 = 1 fan 230V/1/50 Hz - 170 W max - 0,74 A max

(1) The evaporation temperature must not be less than -3°C.
(2) Glycol water operating conditions (glycol ethylene 30%) = 0/+4°C.
(3) Sound pressure level in dB(A) measured at 2 m, hemispherical measurement surface, line of sight, on a reflective surface, given as an indication only.

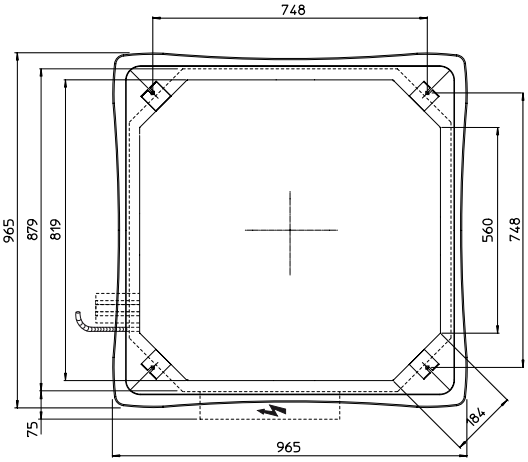


KRS 2 / KRS-W 2





KRS 1 / KRS-W 1



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LENNOX
EMEA

DUAL-DISCHARGE UNIT COOLER

COMMERCIAL RANGE

Bars / Hotels / Restaurants
Corner shops - Mini-markets
Hard Discount - Supermarkets - Hypermarkets

ABS 7

HFC CO2* W GLYCOL

2 > **22** kW

TA

- The 40 models in the TA range meet the requirements of laboratories, cutting and work areas, air locks, etc...
- Exceptionally low noise levels with the 6 or 8-pole models.
- The low air flow speed guarantees comfort as well as accurate control of both temperature and hygrometry.
- Optimised air throw up to 12 m.
- Sturdy and corrosion-resistant unit, coils totally anti-corrosion treated as standard, ABS casing and stainless steel screws.
- An intermediate drain pan avoids condensation on the casing.

** Operating pressure 60 bar*

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FRIGA-BOHN

HK® REFRIGERATION

TA - Commercial dual-discharge unit cooler

DESCRIPTION

Casing

Aesthetics and accessibility

The recyclable ABS casing of the TA guarantees a high level of quality and finish.

Sturdiness

Highly resistant to thermal shocks.

Aesthetics

The TA unit blends easily into its surroundings thanks to the casing with integrated fan guard.

Hygiene

Rounded corners eliminate condensate retention zones which favour the development of harmful germ, use of protected steel sheets and stainless steel screws.
Internal drain pans to avoid condensation on the casing.

Safety

No sharp or cutting edges.

Ventilation

- The TA range is equipped with bell mounted electric fans Ø 350 mm.
- The motors are of the enclosed type, single-phase with a capacitor, 230 V, 50-60 Hz, IP 55, class F and internal overload protection.
- Available in the following versions: 4-pole = 1,500 rpm, 6-pole = 1,000 rpm or 8-pole = 750 rpm, depending upon the admissible noise level.
- The fan guards, incorporated into the casing, are compliant with safety standards.

Coil

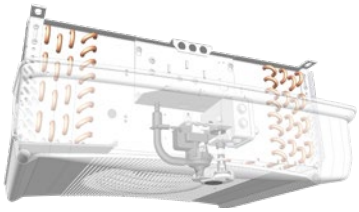
- The highly efficient and compact TA range finned coils are designed with corrugated aluminium fins (fin spacing 3.63 or 6.35 mm) and internally grooved copper tubes.
- The coils are supplied via a Venturi distributor.

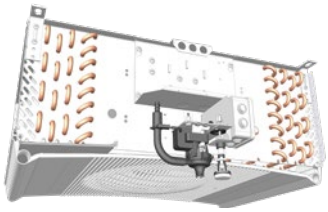
ADVANTAGES

Installation

Simple installation and commissioning with easy access to the expansion valve (see photo).

A condensation evacuation pump may be provided factory-mounted in the casing to help reduce installation time (option **PRK**).





Evacuation of condensation on left or right side.

Servicing / Maintenance

Hinged drain pan offering easy access to all components (see photo).

The electric heating elements fitted in slots under the coil considerably simplify maintenance tasks (see photo).

CERTIFICATIONS

DESIGNATION

TA 5(1) **R**(2) **6P**(3)

(1) Model
(2) Fin spacing: **R** = 3.63 mm - **L** = 6.35 mm
(3) **4P** = 1,500 rpm, **6P** = 1,000 rpm or **8P** = 750 rpm

OPTIONS

Kit	Factory	
		Coil
	BAE	Paint coil protection.
	BXT	Blygold Polual XT coil protection.
	WCO	Glycol water, coolant (please contact us for details).
	CO2	R744 optimization (please contact us for details).
		Defrost
	HGB	Hot gas coils.
E1K	**E1U**	Light electric defrost.
2TH		**TH 5709L**: end of defrost thermostat with single-pole, reversing switch at +12 °C (±3 °C) and delayed fan start up +2 °C (±3 °C). **THS 5708L**: single-pole thermostat for overheating protection set at +24 °C (±3 °C). Recommended with electric defrost.
		Fully equipped unit coolers
PRK		Condensate discharge pump.
	DMP	Expansion valve fitted.
	EEC	Fully equipped unit cooler: - Expansion valve fitted. - Solenoid valve fitted. - Piping pre-fitted with a ball valve (siphoning function provided by the collector).

TA ... 3,63 mm

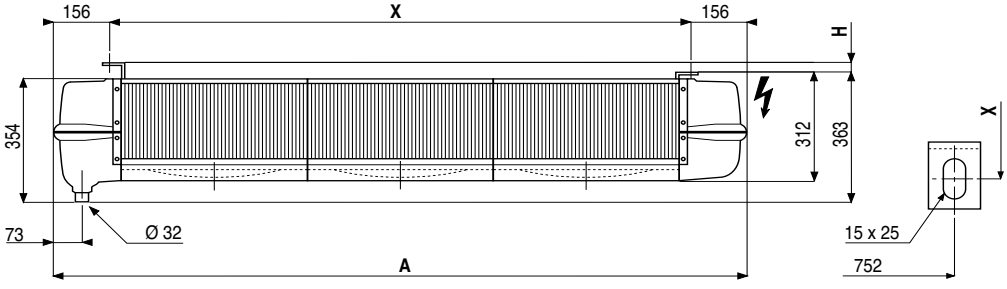
		TA ...	1	2	3	4	5	6	7
Dimensions	A	mm	872	1372	1372	1372	1872	1872	2372
	H	mm	17,5	17,5	17,5	17,5	35	35	35
	X	mm	560	1060	1060	1060	1560	1560	2060
Connections R404A	Inlet	Ø (1)	D 5/8"	D 5/8"	D 5/8"	D 5/8"	D 5/8"	D 5/8"	D 5/8"
	Outlet	Ø ODF (2)	5/8"	5/8"	7/8"	7/8"	7/8"	1"1/8	1"1/8
Net weight		kg	23	25	28	33	36	45	55

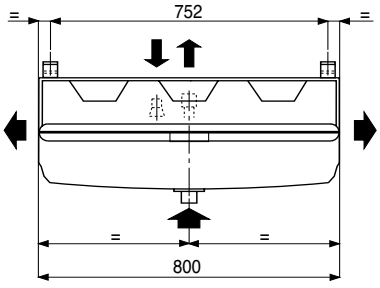
TA ... 6,35 mm

		TA ...	1	2	3	4	5	6	7
Dimensions	A	mm	872	1372	1372	1372	1872	1872	2372
	H	mm	17,5	17,5	17,5	17,5	35	35	35
	X	mm	560	1060	1060	1060	1560	1560	2060
Connections R404A	Inlet	Ø (1)	D 5/8"	D 5/8"	D 5/8"	D 5/8"	D 5/8"	D 5/8"	D 5/8"
	Outlet	Ø ODF (2)	5/8"	5/8"	7/8"	7/8"	7/8"	1"1/8	1"1/8
Net weight		kg	21	27	30	32	35	44	58

(1) Distributor: 5/8" to be brazed.

(2) ODF: Female to receive a tube of the same diameter.





BAE	BXT	WCO	CO2	PRK	HGB	E1K	E1U	2TH	DMP	EEC
O	O			O	O	O	O	O	O	O

TA ... 3,63 mm

Capacity	1500 rpm	TA ... R 4P	1	2	3	4	5	6	7
R404A (1)	DT1 = 10K - SC1	kW	5,20	7,97	9,87	10,78	14,97	18,34	21,86
R134a	DTM = 10K - SC1	kW	4,84	7,41	9,18	10,03	13,92	17,06	20,33
R449A	DTM = 10K - SC1	kW	4,98	7,64	9,46	10,33	14,35	17,58	20,95
R452A	DTM = 10K - SC1	kW	4,86	7,44	9,22	10,07	13,98	17,13	20,42
R404A (1)	DT1 = 8K - SC2	kW	3,38	5,31	6,53	7,00	9,93	12,18	14,42
R134a	DTM = 8K - SC2	kW	3,08	4,83	5,94	6,37	9,04	11,08	13,12
R449A	DTM = 8K - SC2	kW	3,11	4,89	6,01	6,44	9,14	11,21	13,27
R452A	DTM = 8K - SC2	kW	3,11	4,88	6,00	6,43	9,13	11,19	13,25
CO2 (5)	DT1 = 8K - SC2	kW	3,69	4,88	6,47	7,53	9,61	11,36	13,26
Acoustic	Lp 4 m (2)	dB(A)	39	42	42	42	44	44	45
Fan Ø 350 mm 230 V/1/50-60 Hz		Nb	1	2	2	2	3	3	4
	Air flow	m^3/h	1920	4210	4010	3850	6020	5560	7700
	Air throw (3)	m	2 x 10	2 x 12	2 x 11	2 x 10	2 x 11	2 x 10	2 x 10
	230 V/1/50 Hz	W max	1 x 220	2 x 220	2 x 220	2 x 220	3 x 220	3 x 220	4 x 220
		A max	1 x 1,1	2 x 1,1	2 x 1,1	2 x 1,1	3 x 1,1	3 x 1,1	4 x 1,1

Capacity	1000 rpm	TA ... R 6P	1	2	3	4	5	6	7
R404A (1)	DT1 = 10K - SC1	kW	3,93	6,09	7,46	8,06	11,26	13,21	16,32
R134a	DTM = 10K - SC1	kW	3,65	5,66	6,94	7,50	10,47	12,29	15,18
R449A	DTM = 10K - SC1	kW	3,77	5,84	7,15	7,72	10,79	12,66	15,64
R452A	DTM = 10K - SC1	kW	3,67	5,69	6,97	7,53	10,52	12,34	15,24
R404A (1)	DT1 = 8K - SC2	kW	2,61	4,09	4,99	5,37	7,55	8,89	10,90
R134a	DTM = 8K - SC2	kW	2,38	3,72	4,54	4,89	6,87	8,09	9,92
R449A	DTM = 8K - SC2	kW	2,40	3,76	4,59	4,94	6,95	8,18	10,03
R452A	DTM = 8K - SC2	kW	2,40	3,76	4,59	4,94	6,94	8,17	10,02
CO2 (5)	DT1 = 8K - SC2	kW	2,79	3,84	5,00	5,73	7,49	8,82	10,59
Acoustic	Lp 4 m (2)	dB(A)	29	32	32	32	34	34	35
Fan Ø 350 mm 230 V/1/50-60 Hz		Nb	1	2	2	2	3	3	4
	Air flow	m^3/h	1300	2840	2710	2600	4060	3760	5200
	Air throw (3)	m	2 x 7	2 x 7	2 x 7	2 x 7	2 x 7	2 x 6	2 x 7
	230 V/1/50 Hz	W max	1 x 120	2 x 120	2 x 120	2 x 120	3 x 120	3 x 120	4 x 120
		A max	1 x 0,6	2 x 0,6	2 x 0,6	2 x 0,6	3 x 0,6	3 x 0,6	4 x 0,6

Capacity	750 rpm	TA ... R 8P	1	2	3	4	5	6	7
R404A (1)	DT1 = 10K - SC1	kW	3,29	5,08	6,21	6,70	9,35	10,69	13,49
R134a	DTM = 10K - SC1	kW	3,06	4,72	5,78	6,23	8,70	9,94	12,55
R449A	DTM = 10K - SC1	kW	3,15	4,87	5,95	6,42	8,96	10,24	12,93
R452A	DTM = 10K - SC1	kW	3,07	4,74	5,80	6,26	8,73	9,98	12,60
R404A (1)	DT1 = 8K - SC2	kW	2,20	3,42	4,18	4,50	6,32	7,33	9,13
R134a	DTM = 8K - SC2	kW	2,00	3,11	3,80	4,10	5,75	6,67	8,31
R449A	DTM = 8K - SC2	kW	2,02	3,15	3,85	4,14	5,82	6,75	8,40
R452A	DTM = 8K - SC2	kW	2,02	3,14	3,84	4,14	5,81	6,74	8,39
CO2 (5)	DT1 = 8K - SC2	kW	2,25	3,19	4,11	4,66	6,20	7,22	8,83
Acoustic	Lp 4 m (2)	dB(A)	22	25	25	25	27	27	28
Fan Ø 350 mm 230 V/1/50-60 Hz		Nb	1	2	2	2	3	3	4
	Air flow	m^3/h	980	2140	2050	1970	3080	2850	3940
	Air throw (3)	m	2 x 5	2 x 6	2 x 5	2 x 5	2 x 5	2 x 5	2 x 5
	230 V/1/50 Hz	W max	1 x 90	2 x 90	2 x 90	2 x 90	3 x 90	3 x 90	4 x 90
		A max	1 x 0,4	2 x 0,4	2 x 0,4	2 x 0,4	3 x 0,4	3 x 0,4	4 x 0,4

		TA ...	1	2	3	4	5	6	7
Surface		m^2	15,0	15,0	22,5	29,9	33,7	56,1	59,9
Circuit volume		dm^3	2,2	2,2	3,3	4,5	5,0	8,4	8,9
Electric defrost E1K (4)	230 V/1/50 Hz	W total	800	800	1200	1600	1800	3000	3200
		A total	3,5	3,5	5,2	7,0	7,8	13,0	14,0
	400 V/3/50 Hz	W total	-	-	-	-	-	3000	3200
		A total	-	-	-	-	-	6,5	6,9

(1) Standard conditions: SC1 / +10°C (air inlet temp.) / 0 °C (evaporating temp.) / DT1 = 10K
SC2 / 0°C (air inlet temp.) / -8°C (evaporating temp.) / DT1 = 8K

(2) Average sound pressure level in dB(A) measured at 4 m, at fan height, in direct line of sight on a reflective surface, given for information only..

(3) Residual air speed: 0.25 m/s.

(4) Electric defrost option.

(5) Operating pressure 60 bar - Tube diameter to define the order.

(6) Glycol water:
(a) EG Percent. glycol = 30% - Fluid inlet temp. = -2°C - Fluid outlet temp. = +2°C - Inlet dry temp. = +10°C - relative humidity = 85%
(b) EG Percent. glycol = 30% - Fluid inlet temp. = -8°C - Fluid outlet temp. = -4°C - Inlet dry temp. = +2°C - relative humidity = 85%
Other conditions: please contact us.

TA ... 6,35 mm

Capacity	1500 rpm	TA ... L 4P	1	2	3	4	5	6	7
R404A (1)	DT1 = 10K - SC1	kW	4,48	7,30	8,53	9,27	10,26	14,92	18,84
R134a	DTM = 10K - SC1	kW	4,17	6,79	7,93	8,62	9,54	13,88	17,52
R449A	DTM = 10K - SC1	kW	4,29	7,00	8,17	8,88	9,83	14,30	18,05
R452A	DTM = 10K - SC1	kW	4,18	6,82	7,97	8,66	9,58	13,93	17,59
W (6)	DT1 = 10K (a)	kW	4,83	-	-	9,84	-	15,62	20,02
R404A (1)	DT1 = 8K - SC2	kW	2,92	4,89	5,66	6,08	6,75	10,01	12,45
R134a	DTM = 8K - SC2	kW	2,66	4,45	5,15	5,53	6,14	9,11	11,33
R449A	DTM = 8K - SC2	kW	2,69	4,50	5,21	5,59	6,21	9,21	11,46
R452A	DTM = 8K - SC2	kW	2,68	4,49	5,20	5,59	6,20	9,20	11,44
CO2 (5)	DT1 = 8K - SC2	kW	3,46	5,07	6,16	6,98	7,64	9,97	12,16
W (6)	DT1 = 8K (b)	kW	3,14	-	-	6,50	-	10,53	13,20
Acoustic	Lp 4 m (2)	dB(A)	39	42	42	42	44	44	45
		Nb	1	2	2	2	3	3	4
Fan	Air flow	m³/h	1980	4210	4070	3950	6320	5930	7900
Ø 350 mm	Air throw (3)	m	2 x 11	2 x 12	2 x 11	2 x 11	2 x 12	2 x 11	2 x 11
230 V/1/50-60 Hz	230 V/1/50 Hz	W max	1 x 220	2 x 220	2 x 220	2 x 220	3 x 220	3 x 220	4 x 220
		A max	1 x 1,1	2 x 1,1	2 x 1,1	2 x 1,1	3 x 1,1	3 x 1,1	4 x 1,1

Capacity	1000 rpm	TA ... L 6P	1	2	3	4	5	6	7
R404A (1)	DT1 = 10K - SC1	kW	3,43	5,55	6,47	7,01	8,02	10,98	14,18
R134a	DTM = 10K - SC1	kW	3,19	5,16	6,02	6,52	7,46	10,21	13,19
R449A	DTM = 10K - SC1	kW	3,29	5,32	6,20	6,72	7,69	10,52	13,59
R452A	DTM = 10K - SC1	kW	3,20	5,18	6,04	6,55	7,49	10,25	13,24
W (6)	DT1 = 10K (a)	kW	3,30	-	-	8,09	-	12,48	16,40
R404A (1)	DT1 = 8K - SC2	kW	2,28	3,76	4,35	4,67	5,35	7,45	9,53
R134a	DTM = 8K - SC2	kW	2,07	3,42	3,96	4,25	4,87	6,78	8,67
R449A	DTM = 8K - SC2	kW	2,10	3,46	4,00	4,30	4,92	6,86	8,77
R452A	DTM = 8K - SC2	kW	2,10	3,46	4,00	4,29	4,92	6,85	8,76
CO2 (5)	DT1 = 8K - SC2	kW	2,62	3,93	4,74	5,32	5,95	7,75	9,75
W (6)	DT1 = 8K (b)	kW	2,60	-	-	5,30	-	8,36	10,76
Acoustic	Lp 4 m (2)	dB(A)	29	32	32	32	34	34	35
		Nb	1	2	2	2	3	3	4
Fan	Air flow	m³/h	1340	2840	2750	2670	4250	4000	5340
Ø 350 mm	Air throw (3)	m	2 x 7	2 x 7	2 x 7	2 x 7	2 x 7	2 x 7	2 x 7
230 V/1/50-60 Hz	230 V/1/50 Hz	W max	1 x 120	2 x 120	2 x 120	2 x 120	3 x 120	3 x 120	4 x 120
		A max	1 x 0,6	2 x 0,6	2 x 0,6	2 x 0,6	3 x 0,6	3 x 0,6	4 x 0,6

Capacity	750 rpm	TA ... L 8P	1	-	3	4	5	6	7
R404A (1)	DT1 = 10K - SC1	kW	2,88	-	5,40	5,86	6,79	-	11,84
R134a	DTM = 10K - SC1	kW	2,68	-	5,02	5,45	6,31	-	11,01
R449A	DTM = 10K - SC1	kW	2,76	-	5,17	5,62	6,51	-	11,35
R452A	DTM = 10K - SC1	kW	2,69	-	5,04	5,47	6,34	-	11,06
W (6)	DT1 = 10K (a)	kW	3,34	-	-	6,77	-	8,51	13,66
R404A (1)	DT1 = 8K - SC2	kW	1,93	-	3,66	3,96	4,55	-	8,00
R134a	DTM = 8K - SC2	kW	1,76	-	3,33	3,60	4,14	-	7,28
R449A	DTM = 8K - SC2	kW	1,78	-	3,37	3,64	4,19	-	7,36
R452A	DTM = 8K - SC2	kW	1,77	-	3,36	3,64	4,18	-	7,35
CO2 (5)	DT1 = 8K - SC2	kW	2,12	-	3,88	4,32	4,92	-	8,17
W (6)	DT1 = 8K (b)	kW	2,20	-	-	4,50	-	7,27	9,06
Acoustic	Lp 4 m (2)	dB(A)	22	-	25	25	27	27	28
		Nb	1	-	2	2	3	3	4
Fan	Air flow	m³/h	1010	-	2080	2020	3210	2890	4040
Ø 350 mm	Air throw (3)	m	2 x 5	-	2 x 5	2 x 5	2 x 6	2 x 5	2 x 5
230 V/1/50-60 Hz	230 V/1/50 Hz	W max	1 x 90	-	2 x 90	2 x 90	3 x 90	3 x 90	4 x 90
		A max	1 x 0,4	-	2 x 0,4	2 x 0,4	3 x 0,4	3 x 0,4	4 x 0,4

		TA ...	1	2	3	4	5	6	7
Surface		m²	11,2	13,5	18,0	22,5	20,2	33,7	45,0
Circuit volume		dm³	2,8	3,3	4,5	5,6	5,0	8,4	11,2
Electric defrost E1K (4)	230 V/1/50 Hz	W total	800	800	1200	1600	1800	3000	3200
		A total	3,5	3,5	5,2	7,0	7,8	13,0	14,0
	400 V/3/50 Hz	W total	-	-	-	-	-	3000	3200
		A total	-	-	-	-	-	6,5	6,9

LENNOX
EMEA

CUBIC UNIT COOLER

COMMERCIAL AND SEMI INDUSTRIAL RANGE

Bars / Restaurants - Corner shops - Mini-markets
Hard Discount - Supermarkets - Hypermarkets
Refrigerated storage and transit stocking - Dispatch centres
Food processing

HFC CO2* W GLYCOL

1 > **35** kW

3C-A

- The 3C-A range is designed for commercial and semi industrial refrigeration applications or low temperature storage.
- Numerous electric, hot water or hot gas defrost possibilities.
- Wide choice of options for specific environment (streamer, stainless steel, ...).
- EC motor (optional) enables optimization of noise level and power consumption.

** Operating pressure 60 bar*

www.lennoxemea.com

FRIGA-BOHN

HK® REFRIGERATION

3C-A - Cubic commercial and semi industrial unit cooler

DESCRIPTION

Casing

- The aesthetic, white pre-painted galvanized sheet steel casing enables easy cleaning of the unit.
- Articulated drain pan with rounded corners to eliminate condensate retention zones and no sharp or cutting edges to guarantee total safety.
- Hinged intermediate drain pan to help limit condensation (3C-A .. E/C).

Ventilation

- High efficiency motor fan factory wired.
- EC fans available as an option (electronic commutation).
- Fan guards are compliant with safety standards.
- The 3C-A unit cooler range is equipped with axial fans, requiring no routine maintenance:

	models	temp.	voltage	frequency	IP	class
Ø 300 mm 4P 1320 r.p.m.	3C-A 3XXX R/L	+	230V/1	50/60Hz	44	B
	3C-A 3XXX E/C	-	230V/1	50/60Hz	44	B
Ø 450 mm * 4P/6P 1320/1070 r.p.m.	3C-A 4XXX R/L	+	400V/3	50Hz	54	F
	3C-A 4XXX E/C	-	400V/3	50Hz	54	F

* Two-speed motorfans, high speed wired (Δ) by default.

Coil

- The highly efficient and compact 3C-A range finned coils are designed with aluminium fins (fin spacing 4 or 6 mm) and internally grooved copper tubes.
- The coils are supplied via a Venturi distributor.
- Coils for using the same unit cooler in positive or negative application.
- Multi refrigerant (HFC) coil.
- CO_2 or water glycol as an option on the entire range.

Defrost

- Depending on the condition in the cold room, different level of defrost capacity are available factory wired or delivered as kits (see table below).
- Shielded electric heating elements are inserted in the sleeved tubes in the finned coil.
- One of the heaters is fastened under the intermediate drain pan. This facility enables homogenous heat distribution for fast and efficient defrosting.
- 230V/1-phase, 230V/3-phase or 400V/3-phase connection possible.
- **3C-A .. E/C range:** standard, the heaters are factory wired to a terminal block in a sealed junction box and connected for 230V/1 and 400V/3.
- **3C-A .. R/L range:** optional heaters and wiring (E1U and E2U).
- The condensate is recovered in an intermediate drain pan and then drained via a large drain fitting (Ø 1"G).
- Hot gas or glycol water defrost in option.

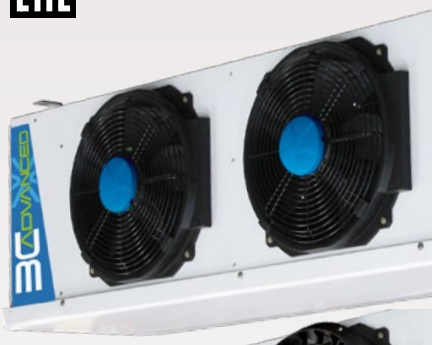
DESIGNATION

3C-A(1) 3(2) 3(3) 54(4) -R(5)

(1) **ADVANCED** range
(2) Fan diameter: **3** = Ø 300 mm - **4** = Ø 450 mm
(3) Number of fans
(4) Model
(5) Fin spacing: **R/E** = 4 mm - **L/C** = 6 mm

CERTIFICATIONS

Ø 300 mm
3C-A 3XXX R/L
Chill temperature range



Ø 300 mm
3C-A 3XXX E/C
Low temperature range

NEW VENTILATION
with metal fan blades
and air stream deflector

Ø 450 mm
3C-A 4XXX R/L/E/C
Chill temperature range
Low temperature range

		Mounting		Number of heaters					
				Ø 300 mm			Ø 450 mm		
Defrost	**Models**	**Kit**	**Factory**	**Models**	**Coil**	**Drain pan**	**Models**	**Coil**	**Drain pan**
Light	**3C-A .. R/L**	**E1K option**	**E1U option**	**3xxx** *except 3142*	**3** *2*	**-**	**all**	**3**	**-**
Intermediate	**3C-A .. R/L**	**E2K option**	**-**	**all**	**2**	**1**	**all**	**5**	**1**
	3C-A .. E/C	**-**	**E2U option**						
Full	**3C-A .. L**	**E3K option**	**-**	**3xx3**	**3**	**1**	**4xxx** *except 4263*	**8** *5*	**1** *1*
	3C-A .. C	**-**	**Standard**	**3xx4** **3xx5**	**3** **4**	**1** **1**			
	3C-A .. R	**E3K option**	**-**	**3xx2**	**2**	**1**			
	3C-A .. E	**-**	**Standard**	**3xx3** **3xxx**	**3** **5**	**1** **1**			

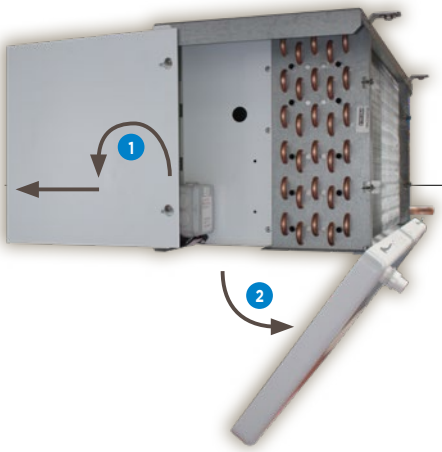
3C-A - Cubic commercial and semi industrial unit cooler

AVANTAGES

Installation / Entretien / Maintenance

Large space available for easy installation of the expansion valve.

Large electrical enclosure rendering maintenance tasks easier.



1 Easy removable side panels and 2 articulated drain pans (interior and exterior), offering fast and easy access to all unit cooler elements (coil, fans, defrost heaters, connections...).

APPLICATION OF OPTIONS

Homogenous distribution of air flow

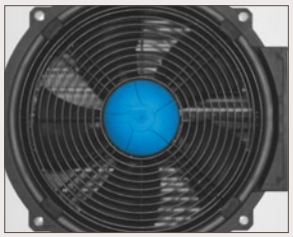
RFA option - Air stream deflector (streamer)
Provides increased air throw, optimized air flow and efficient distribution of air in the cold room.

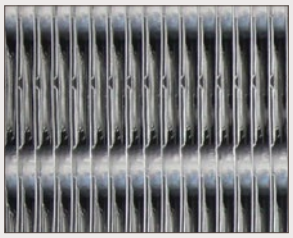
Application requiring installation of a textile duct

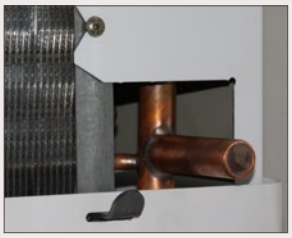
VGT option used to fasten the textile duct (not supplied).

Defrost for low-temperature applications

VPM option - Shell / air stream deflector (streamer) + flexible defrost sleeve
Avoid circulation of hot air during defrost cycles.
Reduction of defrost cycle time for energy saving.







OPTIONS

Kit	Factory	
		Casing
	PEI	White painted casing.
	CIN	Stainless steel frame.
	EIS	Insulated drain pan.
DPK		Intermediate drain pan Kit (3C-A .. R/L).
		Ventilation
	M23	Fan 230-400V/3/50hz (Ø 450mm).
	MM5	Fan 230V/1/50Hz (Ø 450mm).
	M60	Fan 230-400V/3/60hz (Ø 450mm).
	MP5	High air pressure fan 400V/3/50Hz (available air pressure 50Pa - Ø 450mm).
	2V5	2 speed 400V/3/50Hz fan assembly (Ø 450mm).
RFA		Shell / air stream deflector (streamer).
VGT		RFA + mounting parts for textile duct.
MSD		Flexible defrost sleeve.
VPM		VGT + MSD
	EC3	Dual speed EC fans (electronic commutation).
		Coil
	BAE	Paint coil protection.
	BXT	Blygold Polual XT coil protection.
	BHE	Heresite coil protection.
	WCO	Glycol water, coolant (please contact us for details).
	CO2	R744 optimization DX (please contact us for details).
		Defrost
	HG1	Hot gas (coil: hot gas, drain pan: electric heating elements).
	HGT	Hot gas (coil and drain pan).
	DEG	Hot glycol water defrost.
E1K	E1U	Light electric defrost: 3 coil heaters
E2K	E2U	Intermediate electric defrost: 2 coil heaters + 1 drain pan heater + intermediate drain pan.
E3K		Full electric defrost: 5 coil heaters + 1 drain pan heater + intermediate drain pan.
RVK	RVU	Shell defrost heaters.
HDA		Suction hood defrost.
2TH		Defrost and safety thermostats (5709L + 5708L).
THD		Defrost thermostat (5709L).
THS		Safety thermostat (5708L).
		Fully equipped unit coolers
	DMP	Expansion valve fitted.
	EVL	DMP + solenoid valve fitted.
	EEC	EVL + copper siphon equipped with a ball valve delivered not fitted.

3C-A - Ø 300

4 mm (1/2)

Capacity	SC2	3C-A .... -R		3142	3143	3145	3155	3165	3243	3245	3343	3344	3345	3354	3444	3445	3455	3545
R404A (1)	DT1 = 8K - SC2		kW	1,45	2,00	2,44	2,90	3,25	3,99	5,02	6,04	7,01	7,55	8,19	9,35	10,37	11,84	13,02
R134a	DTM = 8K - SC2		kW	1,32	1,82	2,22	2,64	2,96	3,63	4,56	5,50	6,38	6,87	7,45	8,51	9,44	10,77	11,84
R449A	DTM = 8K - SC2		kW	1,34	1,84	2,25	2,67	2,99	3,67	4,62	5,56	6,45	6,95	7,54	8,60	9,55	10,89	11,98
R452A	DTM = 8K - SC2		kW	1,34	1,83	2,24	2,66	2,99	3,67	4,61	5,55	6,44	6,94	7,53	8,59	9,53	10,88	11,96
CO2 (6)	DT1 = 8K - SC2		kW	1,59	2,16	2,77	3,22	3,56	4,38	5,57	6,64	7,68	8,21	8,81	10,29	11,10	12,75	13,58
W (7)	DT1 = 8K		kW	1,59	2,08	3,10	3,68	3,99	3,88	5,90	6,14	7,11	8,16	7,93	8,86	10,57	12,32	12,87

Capacity	SC3	3C-A .... -E		3142	3143	3145	3155	3165	3243	3245	3343	3344	3345	3354	3444	3445	3455	3545
R404A (1)	DT1 = 7K - SC3		kW	1,08	1,46	1,91	2,20	2,47	3,09	3,98	4,70	5,53	5,84	6,48	7,39	8,05	9,01	9,64
R449A	DTM = 7K - SC3		kW	0,95	1,28	1,67	1,93	2,16	2,70	3,48	4,11	4,83	5,11	5,66	6,46	7,03	7,87	8,43
R452A	DTM = 7K - SC3		kW	0,98	1,32	1,72	1,99	2,23	2,78	3,59	4,24	4,98	5,27	5,84	6,66	7,25	8,12	8,69
CO2 (6)	DT1 = 7K - SC3		kW	1,33	1,81	2,28	2,61	2,86	3,50	4,59	5,45	6,22	6,56	7,01	8,43	9,00	10,14	10,74
Capacity	**SC4**	**3C-A .... -E**		**3142**	**3143**	**3145**	**3155**	**3165**	**3243**	**3245**	**3343**	**3344**	**3345**	**3354**	**3444**	**3445**	**3455**	**3545**
R404A (1)	DT1 = 6K - SC4		kW	0,84	1,14	1,51	1,75	1,98	2,43	3,16	3,720	4,38	4,67	5,16	5,88	6,44	7,16	7,62
R449A	DTM = 6K - SC4		kW	0,70	0,95	1,26	1,47	1,65	2,03	2,64	3,10	3,66	3,90	4,31	4,91	5,38	5,99	6,37
R452A	DTM = 6K - SC4		kW	0,74	1,01	1,34	1,56	1,76	2,16	2,81	3,30	3,89	4,15	4,59	5,23	5,73	6,37	6,78
CO2 (6)	DT1 = 6K - SC4		kW	1,06	1,45	1,84	2,11	2,30	2,80	3,73	4,38	5,01	5,27	5,62	6,81	7,26	8,15	8,60

				3142	3143	3145	3155	3165	3243	3245	3343	3344	3345	3354	3444	3445	3455	3545
Surface			m^2	4,1	6,1	10,2	12,8	15,4	12,3	20,5	18,4	24,6	30,7	30,7	32,8	41,0	51,2	51,2
Circuit volume			dm^3	0,6	1,0	1,6	2,0	2,4	1,9	3,2	2,9	3,9	4,8	4,8	5,2	6,5	8,1	8,1
Air flow			m^3/h	1600	1480	1270	1420	1530	2950	2530	4420	4100	3800	4510	5460	5070	5700	6340
Fan Ø 300 mm 1320 r.p.m.	Air throw (2)		m	15	14	12	14	15	17	15	20	19	18	21	22	21	23	24
			Nb	1	1	1	1	1	2	2	3	3	3	3	4	4	4	5
	230 V/1/50-60 Hz		W max	80	80	80	80	80	160	160	240	240	240	240	320	320	320	400
			A max (3)	0,36	0,36	0,36	0,36	0,36	0,72	0,72	1,08	1,08	1,08	1,08	1,44	1,44	1,44	1,80
3C-A .... -R Electric defrost **E1K** (4)			Nb	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3
			W Total	580	870	870	1080	1290	1740	1740	2580	2580	2580	3240	3450	3450	4320	4320
	230 V/1/50 Hz		A Total	2,5	3,8	3,8	4,7	5,6	7,6	7,6	11,2	11,2	11,2	-	-	-	-	-
	400 V/3/50 Hz		A Total	-	-	-	-	-	-	-	-	-	-	4,7	5,0	5,0	6,2	6,2
3C-A .... -E Standard electric defrost	Coil		Nb	2	3	5	5	5	3	5	3	5	5	5	5	5	5	5
	Drain pan		Nb	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
			W Total	870	1160	1740	2160	2580	2320	3480	3440	5160	5160	6480	6900	6900	8640	8640
	230 V/1/50 Hz		A Total	3,8	5,1	7,6	9,4	11,2	10,1	15,1	15	-	-	-	-	-	-	-
	400 V/3/50 Hz		A Total	-	-	-	-	-	-	-	-	7,4	7,4	9,4	10,0	10,0	12,5	12,5
Dimensions	Length		mm	672	672	672	772	872	1072	1072	1567	1567	1567	1867	1967	1967	2367	2367
	Width		mm	484	484	484	484	484	484	484	484	484	484	484	484	484	484	484
	Height		mm	428	428	428	428	428	428	428	428	428	428	428	428	428	428	428
Connections (5) **R404A**	Inlet		Ø OD	3/8" *	5/8"	5/8"	5/8"	5/8"	5/8"	5/8"	5/8"	5/8"	5/8"	5/8"	5/8"	7/8"	7/8"	7/8"
	Outlet		Ø OD	3/8" *	5/8"	5/8"	5/8"	5/8"	7/8"	7/8"	7/8"	7/8"	7/8"	7/8"	7/8"	1"1/8	1"3/8	1"3/8
Net weight			kg	17	18	20	22	24	28	32	41	43	45	48	54	57	65	70

(1) Standard conditions: SC2 : 0°C (air inlet temp.) / -8°C (evaporating temp.) / DT1 = 8K
SC3 : -18°C (air inlet temp.) / -25°C (evaporating temp.) / DT1 = 7K
SC4 / -25°C (air inlet temp.) / -31°C (evaporating temp.) / DT1 = 6K

* ODF

(2) Residual air speed: 0.25 m/s.
(3) Setting of overload protection levels. For air temperatures "ti" other than +20 °C, multiply the currents in relation to 293/(273 + "ti") in order to obtain an approximate current value after the chamber temperature is attained.
(4) Electric defrost option.
(5) OD : Male connector - ODF: Female to receive a tube of the same diameter.
(6) Specific coil - Operating pressure 60 bar - Tube diameter to define the order.
(7) Glycol water: Fluid: Percentage of glycol = 30% - Fluid inlet temperature = -8°C - Fluid outlet temperature = -4°C - Air: Inlet dry temp. = +2°C - Relative humidity = 85%
Other conditions: please contact us.

	PEI	CIN	EIS	DPK	M23	MM5	M60	RFA	VGT	MSD	VPM	EC3	BAE	BXT	BHE	WCO	CO2
3C-A .... -R	O	O	+1	O	O	O	O	O	O	-	-	O	O	O	+1	+1	+1
3C-A .... -E	O	O	+1	-	O	O	O	O	O	O	O	O	O	O	+1	-	+1

3C-A - Ø 450

Capacity	SC2	3C-A .... -R		4165	4166	4263	4264	4265	4266	4364	4366	4386	4466
R404A (1)	DT1 = 8K - SC2		kW	7,73	8,04	11,55	13,97	15,82	16,76	21,16	24,80	31,52	32,68
R134a	DTM = 8K - SC2		kW	7,04	7,32	10,51	12,72	14,39	15,25	19,25	22,57	28,68	29,74
R449A	DTM = 8K - SC2		kW	7,12	7,40	10,63	12,86	14,56	15,42	19,47	22,82	29,01	30,07
R452A	DTM = 8K - SC2		kW	7,11	7,39	10,62	12,84	14,54	15,41	19,44	22,79	28,97	30,03
CO2 (6)	DT1 = 8K - SC2		kW	8,65	9,41	12,72	15,40	17,42	18,89	23,14	27,97	34,79	37,71
W (7)	DT1 = 8K		kW	8,15	9,15	8,69	12,44	14,63	17,25	16,56	23,91	28,44	29,92

Capacity	SC3	3C-A .... -E		4165	4166	4263	4264	4265	4266	4364	4366	4386	4466
R404A (1)	DT1 = 7K - SC3		kW	5,99	6,51	8,83	10,56	12,31	13,02	16,20	20,03	23,86	25,80
R449A	DTM = 7K - SC3		kW	5,23	5,69	7,72	9,24	10,76	11,38	14,16	17,51	20,86	22,56
R452A	DTM = 7K - SC3		kW	5,40	5,87	7,96	9,52	11,10	11,73	14,60	18,06	21,52	23,26
CO2 (6)	DT1 = 7K - SC3		kW	7,15	7,73	10,31	12,56	14,29	15,57	18,90	22,28	28,28	30,49
Capacity	**SC4**	**3C-A .... -E**		**4165**	**4166**	**4263**	**4264**	**4265**	**4266**	**4364**	**4366**	**4386**	**4466**
R404A (1)	DT1 = 6K - SC4		kW	4,68	5,11	6,89	8,28	9,71	10,32	12,73	15,85	18,79	20,24
R449A	DTM = 6K - SC4		kW	3,91	4,27	5,76	6,92	8,11	8,62	10,64	13,24	15,71	16,91
R452A	DTM = 6K - SC4		kW	4,17	4,55	6,13	7,36	8,63	9,18	11,32	14,09	16,71	18,00
CO2 (6)	DT1 = 6K - SC4		kW	5,75	6,23	8,23	10,06	11,49	12,58	15,15	17,83	22,81	24,50

				4165	4166	4263	4264	4265	4266	4364	4366	4386	4466
Surface			m^2	23,0	27,6	27,6	36,9	46,1	55,3	55,3	82,9	110,6	110,6
Circuit volume			dm^3	3,6	4,4	4,4	5,8	7,3	8,7	8,7	13,1	17,4	17,4
Air flow			m^3/h	5160	4130	11740	10990	10310	8270	16480	12400	16780	16540
Fan Ø 450 mm 1320/1070 r.p.m.	Air throw (2)		m	25	24	32	31	30	29	35	33	35	36
			Nb	1	1	2	2	2	2	3	3	3	4
	400 V/3/50 Hz		W max	500	500	1000	1000	1000	1000	1500	1500	1500	2000
			A max (3)	1	1	2	2	2	2	3	3	3	4
3C-A .... -R Electric defrost E1K (4)			Nb	3	3	3	3	3	3	3	3	3	3
			W Total	1080	1080	2160	2160	2160	2160	3240	3240	3960	3960
	230 V/1/50 Hz		A Total	4,7	4,7	9,4	9,4	9,4	9,4	-	-	-	-
	400 V/3/50 Hz		A Total	-	-	-	-	-	-	4,7	4,7	5,7	5,7
3C-A .... -E Standard electric defrost	Coil		Nb	8	8	5	8	8	8	8	8	8	8
	Drain pan		Nb	1	1	1	1	1	1	1	1	1	1
			W Total	3240	3240	4320	6480	6480	6480	9720	9720	11880	11880
	230 V/1/50 Hz		A Total	14,1	14,1	-	-	-	-	-	-	-	-
	400 V/3/50 Hz		A Total	-	-	6,3	9,4	9,4	9,4	14,0	14,0	17,1	17,1
Dimensions	Length		mm	1011	1011	1611	1611	1611	1611	2211	2211	2811	2811
	Width		mm	610	610	610	610	610	610	610	610	610	610
	Height		mm	635	635	635	635	635	635	635	635	635	635
Connections (5) R404A	Inlet		Ø OD	7/8"	7/8"	7/8"	1"1/8	1"1/8	1"1/8	1"1/8	1"3/8	1"3/8	1"3/8
	Outlet		Ø OD	7/8"	7/8"	1"3/8	1"3/8	1"3/8	1"3/8	1"5/8	2"1/8	2"1/8	2"1/8
Net weight			kg	41	43	58	62	65	69	84	95	114	123

(1) Standard conditions: SC2 : 0°C (air inlet temp.) / -8°C (evaporating temp.) / DT1 = 8K
SC3 : -18°C (air inlet temp.) / -25°C (evaporating temp.) / DT1 = 7K
SC4 / -25°C (air inlet temp.) / -31°C (evaporating temp.) / DT1 = 6K

(2) Residual air speed: 0.25 m/s.
(3) Setting of overload protection levels. For air temperatures "ti" other than +20 °C, multiply the currents in relation to 293/(273 + "ti") in order to obtain an approximate current value after the chamber temperature is attained.
(4) Electric defrost option.
(5) OD : Male connector - ODF: Female to receive a tube of the same diameter.
(6) Specific coil - Operating pressure 60 bar - Tube diameter to define the order.
(7) Glycol water: Fluid: Percentage of glycol = 30% - Fluid inlet temperature = -8°C - Fluid outlet temperature = -4°C - Air: Inlet dry temp. = +2°C - Relative humidity = 85%
Other conditions: please contact us.

	HG1	HGT	DEG	E1K	E1U	E2K	E2U	E3K	RVK	RVU	HDA	2TH	THD	THS	DMP	EVL	EEC
3C-A .... -R	-	-	-	O	O	O	-	O	-	-	-	O	O	O	O	O	+1
3C-A .... -E	+1	+1	+1	-	-	-	O	-	O	O	+1	O	O	O	O	O	+1

3C-A - Ø 300

6 mm (1/2)

Capacity	SC2	3C-A .... -L		3143	3144	3145	3155	3165	3243	3244	3245	3343	3344	3345	3354	3444	3445	3455	3545
R404A (1)	DT1 = 8K - SC2		kW	1,68	2,00	2,25	2,64	3,00	3,47	4,18	4,62	5,54	6,32	6,97	7,24	8,36	9,50	10,83	12,02
R134a	DTM = 8K - SC2		kW	1,53	1,82	2,05	2,40	2,73	3,16	3,80	4,20	5,04	5,75	6,35	6,59	7,61	8,65	9,86	10,94
R449A	DTM = 8K - SC2		kW	1,55	1,84	2,07	2,43	2,76	3,19	3,85	4,25	5,10	5,81	6,42	6,66	7,69	8,74	9,97	11,06
R452A	DTM = 8K - SC2		kW	1,55	1,83	2,07	2,43	2,76	3,19	3,84	4,24	5,09	5,81	6,41	6,65	7,68	8,73	9,95	11,05
CO2 (6)	DT1 = 8K - SC2		kW	1,85	2,25	2,53	2,94	3,24	3,79	4,44	4,81	5,44	6,84	7,59	7,83	9,14	10,22	11,68	12,58
W (7)	DT1 = 8K		kW	1,85	2,38	2,82	3,34	3,59	3,69	4,50	5,37	5,18	6,45	7,50	7,75	8,04	9,73	11,25	11,85

Capacity	SC3	3C-A .... -C		3143	3144	3145	3155	3165	3243	3244	3245	3343	3344	3345	3354	3444	3445	3455	3545
R404A (1)	DT1 = 7K - SC3		kW	1,23	1,49	1,73	2,02	2,27	2,57	3,09	3,59	4,02	4,75	5,27	5,55	6,25	7,37	8,24	8,94
R449A	DTM = 7K - SC3		kW	1,07	1,30	1,51	1,77	1,98	2,24	2,70	3,14	3,51	4,15	4,61	4,85	5,46	6,44	7,20	7,81
R452A	DTM = 7K - SC3		kW	1,10	1,34	1,56	1,82	2,05	2,31	2,78	3,24	3,62	4,28	4,75	5,00	5,64	6,65	7,43	8,06
CO2 (6)	DT1 = 7K - SC3		kW	1,54	1,87	2,09	2,40	2,61	3,06	3,50	3,70	4,19	5,58	6,10	6,30	7,52	8,33	9,38	10,03
Capacity	**SC4**	**3C-A .... -C**		**3143**	**3144**	**3145**	**3155**	**3165**	**3243**	**3244**	**3245**	**3343**	**3344**	**3345**	**3354**	**3444**	**3445**	**3455**	**3545**
R404A (1)	DT1 = 6K - SC4		kW	0,96	1,17	1,37	1,610	1,82	2,02	2,45	2,87	3,18	3,78	4,21	4,42	4,99	5,89	6,57	7,11
R449A	DTM = 6K - SC4		kW	0,80	0,98	1,14	1,34	1,52	1,69	2,05	240	2,66	3,16	3,52	3,69	4,17	4,92	5,49	5,94
R452A	DTM = 6K - SC4		kW	0,85	1,04	1,22	1,43	1,61	1,80	2,18	2,55	2,83	3,36	3,74	3,93	4,44	5,24	5,85	6,32
CO2 (6)	DT1 = 6K - SC4		kW	1,24	1,52	1,70	1,94	2,11	2,45	2,79	2,92	3,30	4,49	4,92	5,07	6,08	6,74	7,55	8,05

				3143	3144	3145	3155	3165	3243	3244	3245	3343	3344	3345	3354	3444	3445	3455	3545
Surface			m^2	4,2	5,7	7,1	8,9	10,6	8,5	11,3	14,2	12,7	17,0	21,2	21,2	22,7	28,3	35,4	35,4
Circuit volume			dm^3	1,0	1,3	1,6	2,0	2,4	1,9	2,6	3,2	2,9	3,9	4,8	4,8	5,2	6,5	8,1	8,1
Air flow			m^3/h	1560	1470	1380	1520	1600	3120	2940	2770	4680	4410	4150	4740	5880	5540	6060	6920
Fan Ø 300 mm 1320 r.p.m.	Air throw (2)		m	15	14	13	15	16	18	17	16	21	20	19	22	23	22	24	25
			Nb	1	1	1	1	1	2	2	2	3	3	3	3	4	4	4	5
	230 V/1/50-60 Hz		W max	80	80	80	80	80	160	160	160	240	240	240	240	320	320	320	400
			A max (3)	0,36	0,36	0,36	0,36	0,36	0,72	0,72	0,72	1,08	1,08	1,08	1,08	1,44	1,44	1,44	1,80
3C-A .... -L Electric defrost **E1K** (4)			Nb	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
			W Total	870	870	870	1080	1290	1740	1740	1740	2580	2580	2580	3240	3450	3450	4320	4320
	230 V/1/50 Hz		A Total	3,8	3,8	3,8	4,7	5,6	7,6	7,6	7,6	11,2	11,2	11,2	-	-	-	-	-
	400 V/3/50 Hz		A Total	-	-	-	-	-	-	-	-	-	-	-	4,7	5,0	5,0	6,2	6,2
3C-A .... -C Standard electric defrost	Coil		Nb	3	3	4	4	4	3	3	4	3	3	4	3	3	4	4	4
	Drain pan		Nb	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
			W Total	1160	1160	1450	1800	2150	2320	2320	2900	3440	3440	4300	4320	4600	5750	7200	7200
	230 V/1/50 Hz		A Total	5,1	5,1	6,3	7,8	9,3	10,1	10,1	12,6	15,0	15,0	-	-	-	-	-	-
	400 V/3/50 Hz		A Total	-	-	-	-	-	-	-	-	-	-	6,2	6,2	6,6	8,3	10,4	10,4
Dimensions	Length		mm	672	672	672	772	872	1072	1072	1072	1567	1567	1567	1867	1967	1967	2367	2367
	Width		mm	484	484	484	484	484	484	484	484	484	484	484	484	484	484	484	484
	Height		mm	428	428	428	428	428	428	428	428	428	428	428	428	428	428	428	428
Connections (5) R404A	Inlet		Ø OD	5/8"	5/8"	5/8"	5/8"	5/8"	5/8"	5/8"	5/8"	5/8"	5/8"	5/8"	5/8"	5/8"	7/8"	7/8"	7/8"
	Outlet		Ø OD	5/8"	5/8"	5/8"	5/8"	5/8"	7/8"	7/8"	7/8"	7/8"	7/8"	7/8"	7/8"	7/8"	1"1/8	1"3/8	1"3/8
Net weight			kg	18	19	19	21	23	28	29	30	39	41	43	46	52	55	62	66

(1) Standard conditions: SC2 : 0°C (air inlet temp.) / -8°C (evaporating temp.) / DT1 = 8K
SC3 : -18°C (air inlet temp.) / -25°C (evaporating temp.) / DT1 = 7K
SC4 / -25°C (air inlet temp.) / -31°C (evaporating temp.) / DT1 = 6K

(2) Residual air speed: 0.25 m/s.
(3) Setting of overload protection levels. For air temperatures "ti" other than +20 °C, multiply the currents in relation to 293/(273 + "ti") in order to obtain an approximate current value after the chamber temperature is attained.
(4) Electric defrost option.
(5) OD : Male connector - ODF: Female to receive a tube of the same diameter.
(6) Specific coil - Operating pressure 60 bar - Tube diameter to define the order.
(7) Glycol water: Fluid: Percentage of glycol = 30% - Fluid inlet temperature = -8°C - Fluid outlet temperature = -4°C - Air: Inlet dry temp. = +2°C - Relative humidity = 85%
Other conditions: please contact us.

	PEI	CIN	EIS	DPK	M23	MM5	M60	RFA	VGT	MSD	VPM	EC3	BAE	BXT	BHE	WCO	CO2
3C-A .... -L	O	O	+1	O	O	O	O	O	O	-	-	O	O	O	+1	+1	+1
3C-A .... -C	O	O	+1	-	O	O	O	O	O	O	O	O	O	O	+1	-	+1

3C-A - Ø 450

Capacity	SC2	3C-A .... -L	4165	4166	4263	4264	4266	4364	4366	4386	4466
R404A (1)	DT1 = 8K - SC2	kW	6,95	7,68	10,18	12,29	15,66	18,57	23,73	28,74	31,42
R134a	DTM = 8K - SC2	kW	6,33	6,99	9,27	11,19	14,25	16,90	21,60	26,15	28,59
R449A	DTM = 8K - SC2	kW	6,40	7,06	9,37	11,31	14,41	17,09	21,84	26,44	28,91
R452A	DTM = 8K - SC2	kW	6,39	7,06	9,36	11,30	14,39	17,07	21,81	26,41	28,87
CO2 (6)	DT1 = 8K - SC2	kW	7,73	8,60	10,91	13,49	17,26	20,26	25,74	31,56	34,59
W (7)	DT1 = 8K	kW	7,68	8,46	7,90	12,27	15,82	16,10	22,23	26,30	27,81

Capacity	SC3	3C-A .... -C	4165	4166	4263	4264	4266	4364	4366	4386	4466
R404A (1)	DT1 = 7K - SC3	kW	5,26	5,70	7,60	9,04	11,66	13,66	17,71	21,33	23,09
R449A	DTM = 7K - SC3	kW	4,60	4,98	6,64	7,91	10,19	11,94	15,48	18,64	20,18
R452A	DTM = 7K - SC3	kW	4,75	5,14	6,85	8,15	10,51	12,32	15,97	19,23	20,81
CO2 (6)	DT1 = 7K - SC3	kW	6,40	7,09	8,91	11,06	14,27	16,63	20,65	25,78	28,11
Capacity	**SC4**	**3C-A .... -C**	**4165**	**4166**	**4263**	**4264**	**4266**	**4364**	**4366**	**4386**	**4466**
R404A (1)	DT1 = 6K - SC4	kW	4,13	4,48	5,94	7,12	9,24	10,77	14,06	16,86	18,14
R449A	DTM = 6K - SC4	kW	3,45	3,75	4,96	5,95	7,73	9,00	11,75	14,09	15,16
R452A	DTM = 6K - SC4	kW	3,68	3,99	5,28	6,33	8,22	9,58	12,50	15,00	16,13
CO2 (6)	DT1 = 6K - SC4	kW	5,15	5,72	7,15	8,89	11,52	13,37	16,57	20,84	22,64

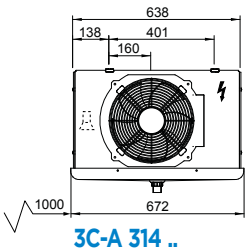
			4165	4166	4263	4264	4266	4364	4366	4386	4466
Surface		m^2	15,9	19,1	19,1	25,5	38,2	38,2	57,4	76,5	76,5
Circuit volume		dm^3	3,6	4,4	4,4	5,8	8,7	8,7	13,1	17,4	17,4
Air flow		m^3/h	5560	5290	12300	11690	10580	17540	15870	17780	21160
Fan Ø 450 mm 1320/1070 r.p.m.	Air throw (2)	m	26	25	33	32	31	36	34	36	37
		Nb	1	1	2	2	2	3	3	3	4
	400 V/3/50 Hz	W max	500	500	1000	1000	1000	1500	1500	1500	2000
		A max (3)	1	1	2	2	2	3	3	3	4
3C-A .... -L Electric defrost E1K (4)		Nb	3	3	3	3	3	3	3	3	3
		W Total	1080	1080	2160	2160	2160	3240	3240	3960	3960
	230 V/1/50 Hz	A Total	4,7	4,7	9,4	9,4	9,4	-	-	-	-
	400 V/3/50 Hz	A Total	-	-	-	-	-	4,7	4,7	5,7	5,7
3C-A .... -C Standard electric defrost	Coil	Nb	8	8	5	8	8	8	8	8	8
	Drain pan	Nb	1	1	1	1	1	1	1	1	1
		W Total	3240	3240	4320	6480	6480	9720	9720	11880	11880
	230 V/1/50 Hz	A Total	14,1	14,1	-	-	-	-	-	-	-
	400 V/3/50 Hz	A Total	-	-	6,3	9,4	9,4	14,0	14,0	17,1	17,1
Dimensions	Length	mm	1011	1011	1611	1611	1611	2211	2211	2811	2811
	Width	mm	610	610	610	610	610	610	610	610	610
	Height	mm	635	635	635	635	635	635	635	635	635
Connections (5) R404A	Inlet	Ø OD	5/8"	7/8"	7/8"	1"1/8	1"1/8	1"1/8	1"3/8	1"3/8	1"3/8
	Outlet	Ø OD	7/8"	7/8"	1"3/8	1"3/8	1"3/8	1"5/8	2"1/8	2"1/8	2"1/8
Net weight		kg	39	41	56	59	65	81	90	108	117

(1) Standard conditions: SC2 : 0°C (air inlet temp.) / -8°C (evaporating temp.) / DT1 = 8K
SC3 : -18°C (air inlet temp.) / -25°C (evaporating temp.) / DT1 = 7K
SC4 / -25°C (air inlet temp.) / -31°C (evaporating temp.) / DT1 = 6K

(2) Residual air speed: 0.25 m/s.
(3) Setting of overload protection levels. For air temperatures "ti" other than +20 °C, multiply the currents in relation to 293/(273 + "ti") in order to obtain an approximate current value after the chamber temperature is attained.
(4) Electric defrost option.
(5) OD : Male connector - ODF: Female to receive a tube of the same diameter.
(6) Specific coil - Operating pressure 60 bar - Tube diameter to define the order.
(7) Glycol water: Fluid: Percentage of glycol = 30% - Fluid inlet temperature = -8°C - Fluid outlet temperature = -4°C - Air: Inlet dry temp. = +2°C - Relative humidity = 85%
Other conditions: please contact us.

	HG1	HGT	DEG	E1K	E1U	E2K	E2U	E3K	RVK	RVU	HDA	2TH	THD	THS	DMP	EVL	EEC
3C-A .... -L	-	-	-	O	O	O	-	O	-	-	-	O	O	O	O	O	+1
3C-A .... -C	+1	+1	+1	-	-	-	O	-	O	O	+1	O	O	O	O	O	+1

Ø 300 MM



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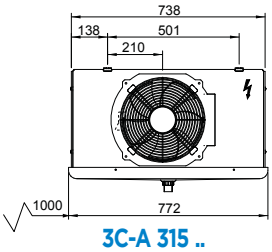

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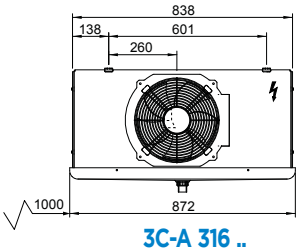

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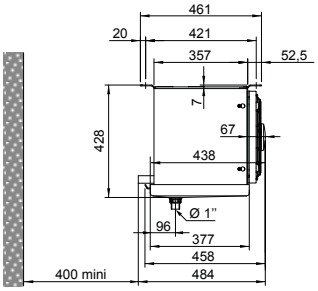

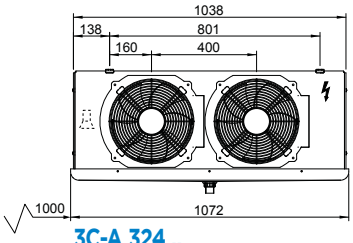

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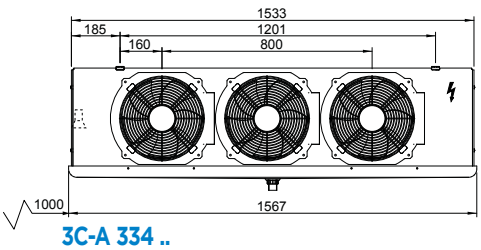

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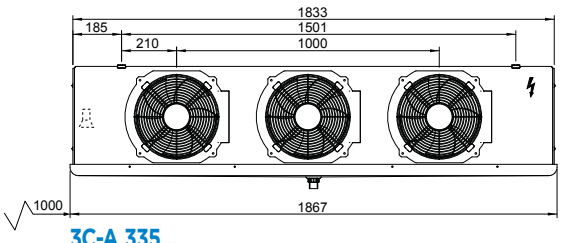

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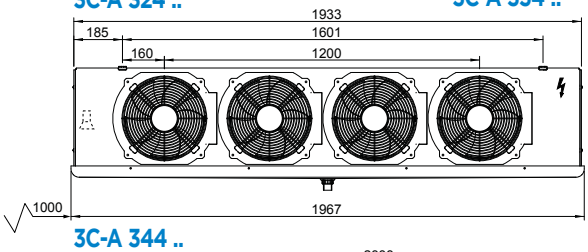

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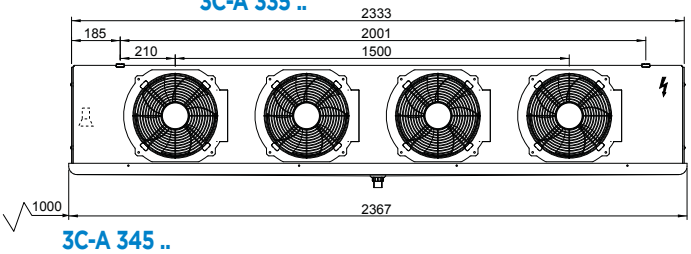

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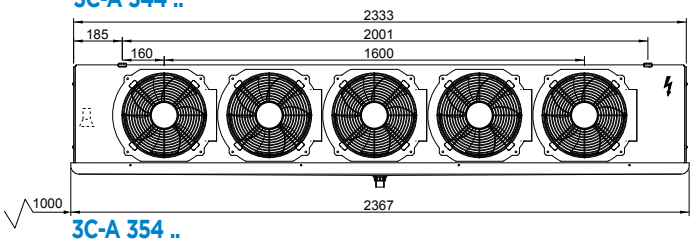

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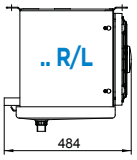
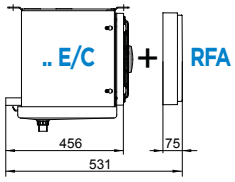
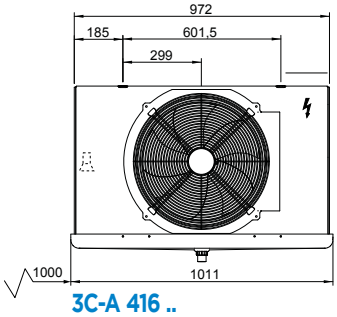




Ø 450 MM



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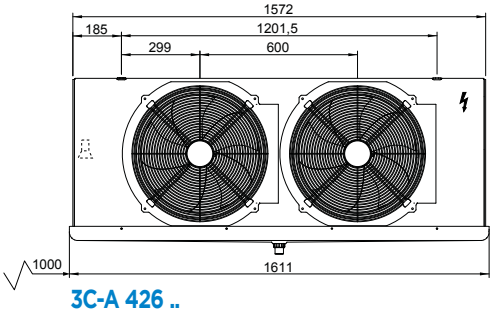

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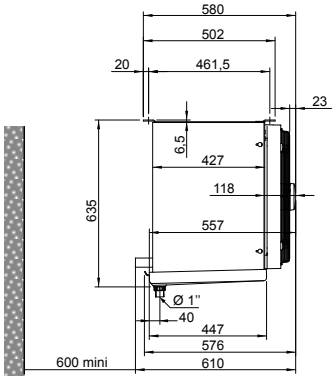

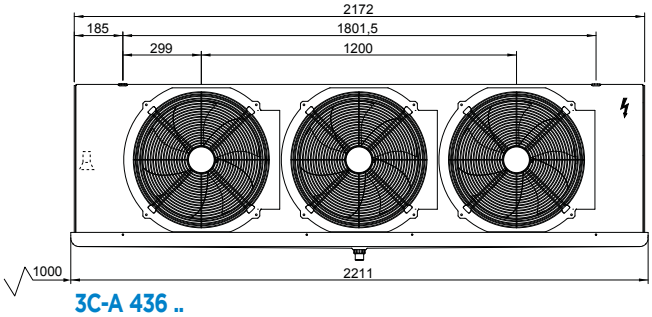

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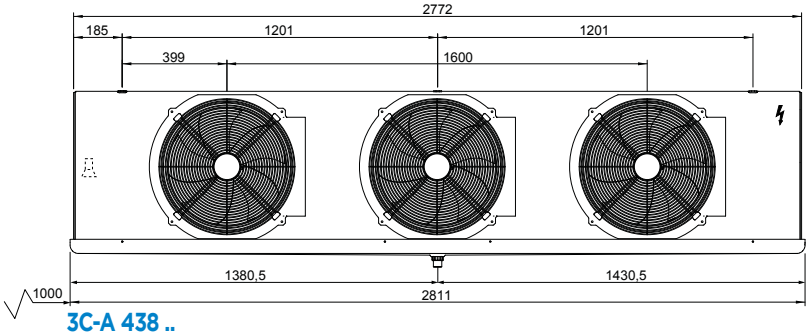

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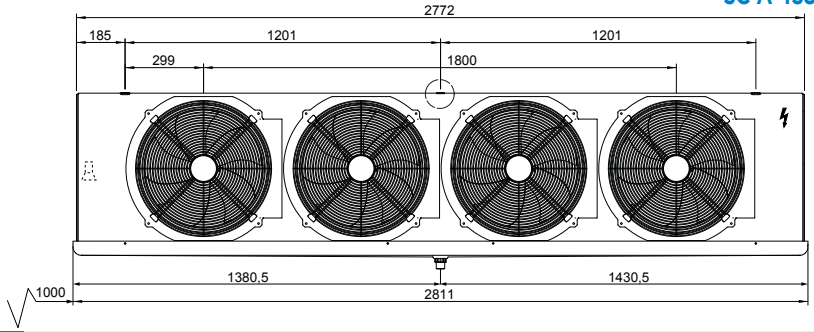
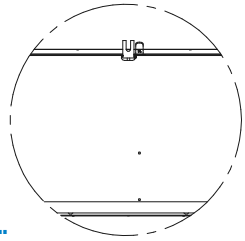




3C-A 446 ..

LENNOX
EMEA

DUAL-DISCHARGE UNIT COOLER

INDUSTRIAL RANGE

Hard Discount - Supermarkets - Hypermarkets
Refrigerated storage and transit stocking - Dispatch centres
Food processing - Canteen kitchens

GTA / GTA-W

GTI / GTI-W

HFC CO2* W GLYCOL

11 > **82** kW

GTI / GTA

Direct expansion industrial range GTI / GTA
Glycol water industrial range GTI-W / GTA-W

- The GTI and GTA ranges meet the workplace comfort requirements for laboratories, meat cutting rooms, air locks, etc...
- Exceptionally low noise levels with the 8P (GTI) and EC motor (GTA) models.
- The low air flow speed guarantees comfort as well as accurate control of both temperature and hygrometry for the 8P models.
- The 2-speed electric fans guarantee appropriate noise levels and ventilation (GTA).

** Operating pressure 50 bar*

www.lennoxemea.com

FRIGA-BOHN

HK® REFRIGERATION

GTI (-W) / GTA (-W) - Dual-discharge industrial unit cooler

DESCRIPTION

Casing

- The GTI (-W) and GTA (-W) casing is made of white pre-painted galvanized steel.
- On the GTA (-W), each removable drain pan (in 1 or 2 sections depending on the models) are fixed or hinged (**BCS** option). The condensats is evacuated via 2 large dimension drain pipes.
- GTI (-W) and GTA (-W) models are foreseen with end covers.
- GTI (-W) and GTA (-W) are delivered on a wooden base.
- GTA (-W) are delivered in their mounting position and designed for installation flush to the ceiling.

Ventilation

- The GTI (-W) unit cooler range is equipped with fans Ø 450 mm, 230-400 V/3/50 Hz: **4P** = 1,500 rpm - **6P** = 1,000 rpm - **8P** = 750 rpm
- The GTA (-W) unit cooler range is equipped with fans Ø 630 mm, 400 V/3/50 Hz, IP 54, class F, with incorporated thermal overload protection, 2 speeds depending on models: **4P** = 1330 rpm - **6/8P** = 890 / 690 rpm.
- Fan guards are compliant with safety standards.

Coil

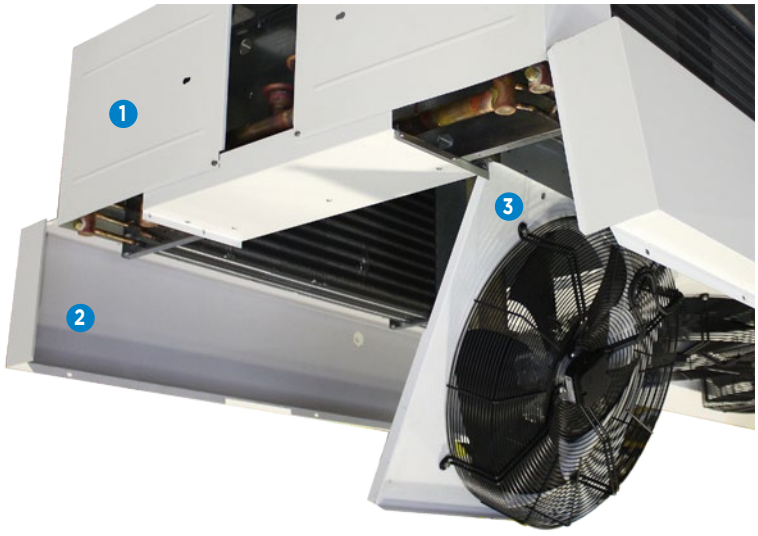
- **The GTA range is equipped with two new coil configurations optimized for direct expansion and glycol water applications.**
- The highly-efficient and compact standard finned coils of the GTI (-W) and GTA (-W) range are composed of aluminium fins with a spacing of 4.23 or 6.35 mm.

CERTIFICATIONS

DESIGNATION

GTI(1)**-W**(2) **34**(3)**4**(4) **4P**(6)
GTA(1)**-W**(2) **36**(3) **R**(5) **6D**(7)

(1) **GTI / GTA**: Direct expansion unit cooler
(2) **W**: Glycol water unit cooler
(3) Model
(4) Fin spacing: **4** = 4.23 mm - **7** = 6,35 mm
(5) Fin spacing: **R** = 4.23 mm - **L** = 6,35 mm
(6) **4P** = 1,500 rpm - **6P** = 1,000 rpm - **8P** = 750 rpm
(7) **4D** = Delta connection - 1,330 rpm
6D = Delta connection - 890 rpm
6Y = Star connection - 690 rpm



ADVANTAGES

Installation

The GTA (-W) are equipped with easily removable doors 1 thus providing easy access to electrical and coolant connections.

The GTA are supplied in assembly position.

Possibility of supplying a connection kit (option **EGK**) for the glycol water model to render installation easier.

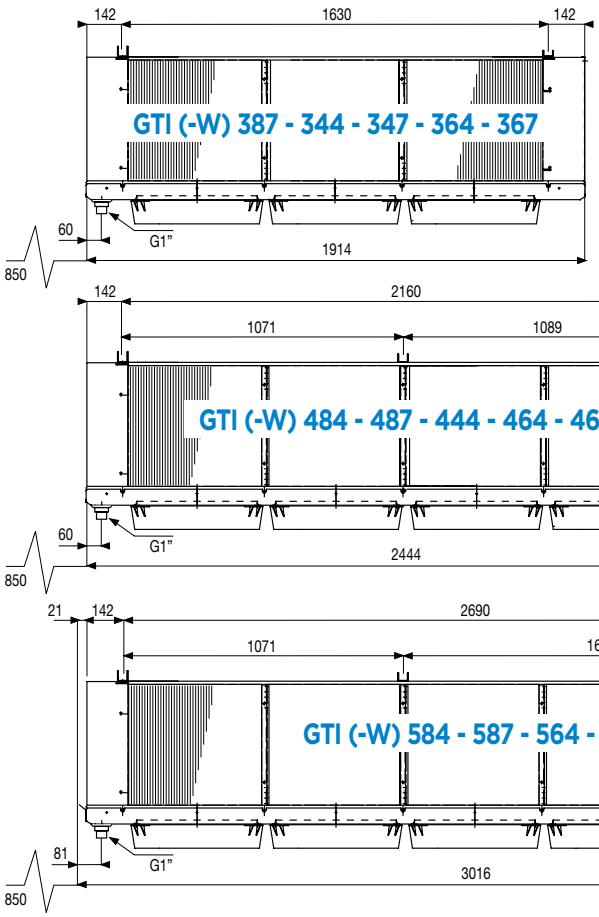
Servicing / Maintenance

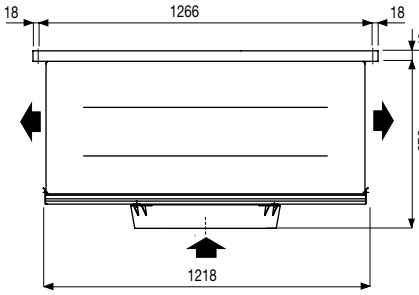
For all work on the GTA (-W), access to the drain pans does not require removal of the recovery vessel 2 and the fan units are mounted on an articulated panel 3 rendering maintenance work easier.

OPTIONS

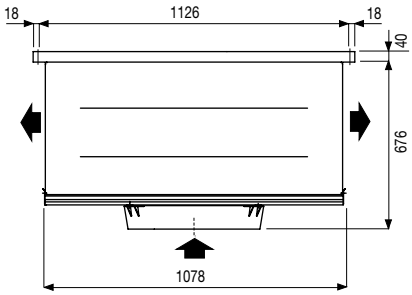
Kit	Factory	
		Ventilation - GTI / GTI-W
	M60	Fans 230-400V/3/50-60Hz (adapted fan blades).
		Ventilation - GTA / GTA-W
	EC1	EC motors 400V/3/50-60Hz.
	EC2	EC motors 230V/1/50-60Hz.
	C3V	3-speed selector switch (motors EC1 and EC2).
	CMU	Motors factory wired.
	M60	Fans 400V/3/50-60Hz (adapted fan blades).
		Coil
	BAE	Protection of fins.
	BHE	Heresite coil protection.
	BXT	Blygold Polual XT coil protection.
	WCO	Glycol water, coolant (please contact us for details).
	CO2	R744 optimization (please contact us for details).
EGK		Glycol water and coolant extension.
		Defrost - GTI / GTI-W
E1K	**E1U**	Light electric defrost.
	HGB	Hot gas defrost (coil only).
		Defrost - GTA / GTA-W
	E1U	Light electric defrost.
	ELU	Electric defrost (coil + drain pan).
	HG1	Defrost with hot gas (coil: hot gas, drain pan: heating elements).
EEK		Drain pan electric defrost.
ECK	**ECU**	Additional coil electric defrost.
		Miscellaneous
	BCS	Hinged condensate tray (**GTA / GTA-W**).
	CIN	Stainless steel frame (**GTA / GTA-W**).
	ECB	Wooden crate packaging (**GTA / GTA-W**).
	EIS	Insulated drain pan.
		Other options
		Please contact us for details.

GTI / GTI-W



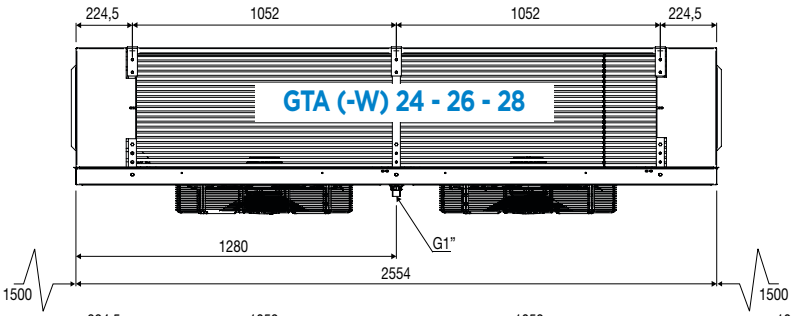


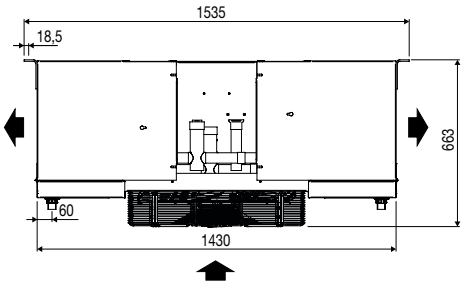
GTI (-W)
387
484 - 487
584 - 587

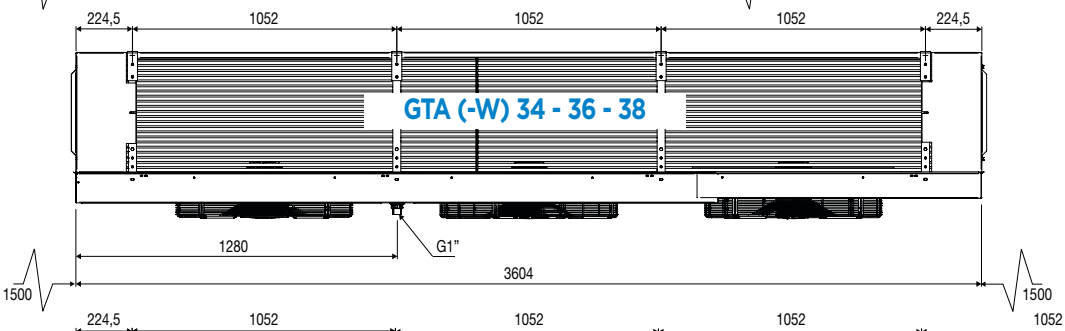


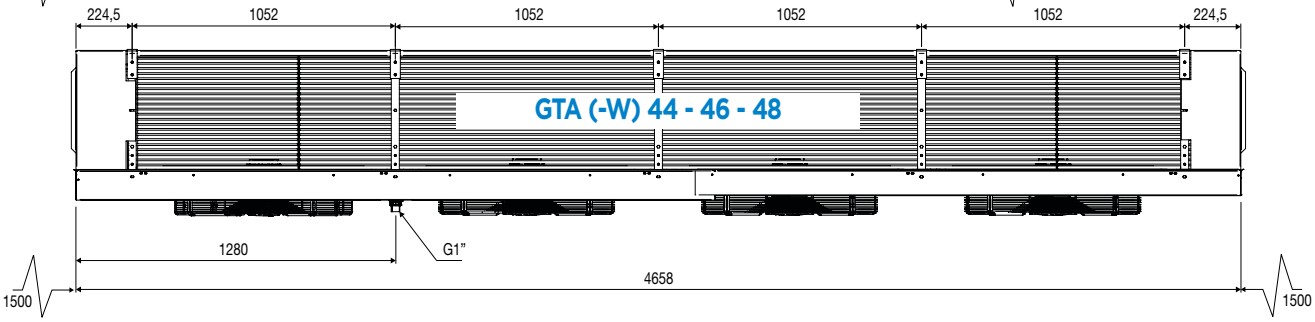
GTI (-W)
344 - 347
364 - 367
444 - 464 - 467
564 - 567

GTA / GTA-W









GTI (-W) ... 4/6/8P - 1,500/1,000/750 rpm. 4,23 mm

Direct expansion		GTI ... 4/6/8P		344	364	444	464	484	564	584
Capacity R404A (1)	DT1 = 10 K - SC1	4P	kW	33,7	42,5	45,2	57,7	66,3	68,8	73,2
		6P	kW	27,8	34,5	37,6	46,1	51,8	55,8	60,2
		8P	kW	23,5	28,0	32,1	37,5	40,8	45,6	49,7
	DT1 = 8 K - SC2	4P	kW	20,4	25,6	27,9	34,8	36,1	42,0	47,3
		6P	kW	16,4	19,8	22,2	26,8	27,8	32,7	35,9
		8P	kW	13,3	15,5	17,9	20,8	21,4	25,7	27,6
Capacity CO2 (7)	DT1 = 8 K - SC2	4P	kW	22,5	29,5	32,2	37,7	42,9	48,7	51,7
		6P	kW	18,2	22,5	25,4	29,2	31,9	37,3	39,0
		8P	kW	14,8	17,4	20,3	22,9	24,2	29,0	29,9

Glycol water		GTI-W ... 4/6/8P		344	364	444	464	484	564	584
Capacity W*	DT1 = 8 K	4P	kW	19,5	26,0	24,0	32,4	45,0	40,5	48,5
		6P	kW	16,5	21,6	20,7	28,9	33,5	33,9	39,6
		8P	kW	14,9	18,8	19,0	24,0	28,0	31,3	34,1

		GTI (-W) ... 4/6/8P		344	364	444	464	484	564	584
Surface			m^2	98,3	147,5	131,1	196,7	262,3	245,9	327,8
Circuit volume			dm^3	19,1	28,6	25,5	38,2	50,9	47,7	63,6
Fan **	Air flow	4P	m^3/h	13950	13350	18600	17800	17000	22250	21250
		6P	m^3/h	9360	8960	12480	11950	11410	14930	14260
		8P	m^3/h	6670	6390	8900	8500	8130	10650	10170
	Air throw (2)	4P	m	2 x 7	2 x 7	2 x 7	2 x 7	2 x 7	2 x 7	2 x 7
		6P	m	2 x 5	2 x 5	2 x 5	2 x 5	2 x 5	2 x 5	2 x 5
		8P	m	2 x 4	2 x 4	2 x 4	2 x 4	2 x 4	2 x 4	2 x 4
	Ø 450 mm		Nb	3	3	4	4	4	5	5
Acoustic	Lp 4m (3)	4P	dB(A)	50	50	51	51	51	52	52
		6P	dB(A)	40	40	41	41	41	42	42
		8P	dB(A)	33	33	34	34	34	35	35
Electric defrost E1U	Ω		Nb	6	6	6	6	6	6	6
	400 V/3/50 Hz		W Total	6000	6000	9240	9240	9240	12000	12000
			A Total	9	9	14	14	14	18	18
Connections R404A	Inlet		Ø (5)	7/8"	1"1/8	1"1/8	1"1/8	1"1/8	1"1/8	1"3/8
	Outlet		Ø (6)	1"5/8	1"5/8	2"1/8	2"1/8	2"1/8	2"5/8	2"5/8
Net weight			kg	181	215	228	264	307	326	379

** Ø 450 mm - 230-400 V/3/50 Hz. 4P : 360 W max - 1 A max (4). 6P : 115 W max - 0,6 A max (4). 8P : 72 W max - 0,4 A max (4).

(1) Standard conditions (Eurovent) : SC1 / +10°C (air inlet temp.) / 0 °C (evaporating temp.) / DT1 = 10K - SC2 / 0°C (air inlet temp.) / -8°C (evaporating temp.) / DT1 = 8K
(2) Residual air speed: 0.25 m/s, in compliance with standard.
(3) Average sound pressure level in dB(A) measured at 4 m, at fan height, in direct line of sight on a reflective surface, given for information only.
(4) Setting of overload protection levels.
(5) Distributor: Male to be brazed.
(6) ODF = Female to receive a tube of the same diameter.
(7) Operating pressure 50 bar - Tube diameter to define the order.

*** Glycol water** - Capacity indicated for information only under the following conditions:

Fluid: Percentage of glycol = 30 %
Fluid inlet temperature = - 8°C
Fluid outlet temperature = - 4°C.

Air: Inlet dry temperature = + 2°C
Relative humidity = 85 %
Limitation of head loss at 10 m WC maximum.

Other conditions:
Possible optimization of exchanger circuiting according to the operating level.
System head loss taken into account, percentage of glycol,... (please contact us for details).

Connection kit available:
- 1 kit for horizontal connection (please consult us).
- 4 connection kits (please consult us).
  - steel weld-on sleeve
  - steel screw-on sleeve
  - steel weld-on sleeve
  - steel screw-on sleeve

M60	BAE	BXT	WCO	CO2	E1K	E1U	HGB	EGK	EIS
O	+👤	O	+👤	+👤	O	O	O	O	O

GTI (-W) ... 4/6/8P - 1,500/1,000/750 rpm. 6,35 mm

Direct expansion		GTI ... 4/6/8P		347	367	387	467	487	567	587
Capacity R404A (1)	DT1 = 10 K - SC1	4P	kW	28,3	37,7	46,7	53,0	62,8	65,2	73,6
		6P	kW	24,5	30,1	36,3	42,2	48,7	52,3	57,1
		8P	kW	21,1	26,1	29,3	34,9	39,3	45,3	48,8
	DT1 = 8 K - SC2	4P	kW	16,8	21,9	24,6	27,9	32,8	36,3	42,6
		6P	kW	13,6	17,3	19,1	22,4	25,7	28,7	32,7
		8P	kW	11,2	13,8	15,1	18,1	20,2	23,0	25,6
Capacity CO2 (7)	DT1 = 8 K - SC2	4P	kW	18,6	25,0	28,3	32,5	38,3	41,5	46,7
		6P	kW	15,3	19,6	21,8	25,7	29,3	32,6	36,1
		8P	kW	12,6	15,5	17,0	20,6	22,8	25,9	28,2

Glycol water		GTI-W ... 4/6/8P		347	367	387	467	487	567	587
Capacity W*	DT1 = 8 K	4P	kW	17,4	23,6	30,3	35,4	38,3	36,9	45,1
		6P	kW	15,8	21,2	24,2	26,2	31,1	31,0	38,9
		8P	kW	13,0	17,1	20,5	21,9	26,2	27,3	31,8

		GTI (-W) ... 4/6/8P		347	367	387	467	487	567	587
Surface			m^2	67,6	101,5	135,3	135,3	180,4	169,1	225,5
Circuit volume			dm^3	19,1	28,6	38,2	38,2	50,9	47,7	63,6
Fan **	Air flow	4P	m^3/h	14160	13680	13260	18240	17680	22800	22100
		6P	m^3/h	9500	9180	8900	12240	11860	15300	14830
		8P	m^3/h	6770	6540	6340	8730	8460	10910	10570
	Air throw (2)	4P	m	2 x 7	2 x 7	2 x 7	2 x 7	2 x 7	2 x 7	2 x 7
		6P	m	2 x 5	2 x 5	2 x 5	2 x 5	2 x 5	2 x 5	2 x 5
		8P	m	2 x 4	2 x 4	2 x 4	2 x 4	2 x 4	2 x 4	2 x 4
	Ø 450 mm		Nb	3	3	3	4	4	5	5
Acoustic	Lp 4m (3)	4P	dB(A)	50	50	50	51	51	52	52
		6P	dB(A)	40	40	40	41	41	42	42
		8P	dB(A)	33	33	33	34	34	35	35
Electric defrost E1U	Ω		Nb	6	6	6	6	6	6	6
	400 V/3/50 Hz		W Total	6000	6000	6000	9240	9240	12000	12000
			A Total	9	9	9	14	14	18	18
Connections R404A	Inlet		Ø (5)	7/8"	1"1/8	1"1/8	1"1/8	1"1/8	1"1/8	1"3/8
	Outlet		Ø (6)	1"5/8	1"5/8	1"5/8	2"1/8	2"1/8	2"1/8	2"5/8
Net weight			kg	171	198	217	241	280	298	347

** Ø 450 mm - 230-400 V/3/50 Hz. 4P : 360 W max - 1 A max (4). 6P : 115 W max - 0,6 A max (4). 8P : 72 W max - 0,4 A max (4).

(1) Standard conditions (Eurovent) : SC1 / +10°C (air inlet temp.) / 0 °C (evaporating temp.) / DT1 = 10K - SC2 / 0°C (air inlet temp.) / -8°C (evaporating temp.) / DT1 = 8K
(2) Residual air speed: 0.25 m/s, in compliance with standard.
(3) Average sound pressure level in dB(A) measured at 4 m, at fan height, in direct line of sight on a reflective surface, given for information only.
(4) Setting of overload protection levels.
(5) Distributor: Male to be brazed.
(6) ODF = Female to receive a tube of the same diameter.
(7) Operating pressure 50 bar - Tube diameter to define the order.

*** Glycol water** - Capacity indicated for information only under the following conditions:

Fluid: Percentage of glycol = 30 %
Fluid inlet temperature = - 8°C
Fluid outlet temperature = - 4°C.

Air: Inlet dry temperature = + 2°C
Relative humidity = 85 %
Limitation of head loss at 10 m WC maximum.

Other conditions:
Possible optimization of exchanger circuiting according to the operating level.
System head loss taken into account, percentage of glycol,... (please contact us for details).

Connection kit available:
- 1 kit for horizontal connection (please consult us).
- 4 connection kits (please consult us).
  - steel weld-on sleeve
  - steel screw-on sleeve
  - steel weld-on sleeve
  - steel screw-on sleeve

M60	BAE	BXT	WCO	CO2	E1K	E1U	HGB	EGK	EIS
O	+1	O	+1	+1	O	O	O	O	O

GTA ... R 4D - 1330 rpm. 4,23 mm

Direct expansion		GTA ... R 4D	24	26	28	34	36	38	44	46	48
Capacity R404A (1)	DT1 = 8 K - SC2	kW	**30,8**	**39,1**	**40,6**	**45,3**	**57,8**	**61,3**	**62,1**	**78,7**	**82,3**
Capacity CO2 (8)	DT1 = 8 K - SC2	kW	**35,7**	**44,7**	**49,0**	**53,6**	**66,6**	**72,2**	**71,6**	**89,7**	**98,4**
Surface		m^2	130	195	260	195	292	390	260	390	520
Circuit volume		dm^3	25,2	37,8	50,4	37,8	56,7	75,7	50,4	75,7	100,9
Air flow		m^3/h	22680	21660	20750	34020	32480	31130	45360	43310	41500

Glycol water		GTA-W5 ... R 4D	24	26	28	34	36	38	44	46	48
Capacity W*	DT1 = 8 K	kW	**22,5**	**39,4**	**-**	**49,1**	**41,3**	**-**	**62,4**	**77,9**	**-**
Surface		m^2	164	246	-	246	369	-	328	492	-
Circuit volume		dm^3	32,1	48,2	-	48,2	72,2	-	64,2	96,3	-
Air flow		m^3/h	22470	21400	-	33700	32100	-	44930	42800	-

		GTA (-W) ... R 4D	24	26	28	34	36	38	44	46	48
Fan *	Air throw (2)	m	2x17	2x15	2x14	2x17	2x15	2x14	2x17	2x15	2x14
	Ø 630 mm	Nb	2	2	2	3	3	3	4	4	4
Acoustic	**Lp 4m** (3)	dB(A)	57	57	57	59	59	59	60	60	60
	Lw	dB(A)	87	87	87	89	89	89	90	90	90
Electric defrost **E1U** (4)	Ω	Nb	12	12	12	12	12	12	12	12	12
	400 V/3/50 Hz	W Total	9000	9000	9000	13800	13800	13800	18000	18000	18000
		A Total	13	13	13	20	20	20	26	26	26
Electric defrost **ELU+EEK** (4)	Ω	Nb	12+6	12+6	12+6	12+6	12+6	12+6	12+6	12+6	12+6
	400 V/3/50 Hz	W Total	13500	13500	13500	20700	20700	20700	27000	27000	27000
		A Total	19,5	19,5	19,5	30	30	30	39	39	39
ECK kit or **EEK** kit	Ω	Nb	6	6	6	6	6	6	6	6	6
	400 V/3/50 Hz	W Total	4500	4500	4500	6900	6900	6900	9000	9000	9000
		A Total	6,5	6,5	6,5	10	10	10	13	13	13
	Nb max. kit	ECK	1	1	2	1	1	2	1	1	2
		EEK	1	1	1	1	1	1	1	1	1
Connections R404A	Inlet	Ø (6)	1"1/8	1"3/8	1"3/8	1"3/8	1"5/8	1"5/8	1"5/8	2 x 1"3/8	2 x 1"3/8
	Outlet	Ø (7)	1"5/8	1"5/8	1"5/8	2"1/8	2"1/8	2"1/8	2"1/8	2"5/8	2"5/8
Net weight		kg	260	292	316	349	395	433	457	506	549

* Ø 630 mm - 400 V/3/50 Hz. **4D** : 1250 W max - 2,48 A max (5).

(1) Standard conditions (Eurovent) : SC2 / 0°C (air inlet temp.) / -8°C (evaporating temp.) / DT1 = 8K
(2) Residual air speed: 0.25 m/s, in compliance with standard.
(3) Average sound pressure level in dB(A) measured at 4 m, at fan height, in direct line of sight on a reflective surface, given for information only.
(4) Optional electric defrost kit.
(5) Setting of overload protection levels.
(6) Distributor: Male to be brazed.
(7) ODF = Female to receive a tube of the same diameter.
(8) Operating pressure 50 bar - Tube diameter to define the order.

*** Glycol water -** Capacity indicated for information only under the following conditions:

Fluid: Percentage of glycol = 30 %
Fluid inlet temperature = - 8°C
Fluid outlet temperature = - 4°C.

Air: Inlet dry temperature = + 2°C
Relative humidity = 85 %
Limitation of head loss at 10 m WC maximum.

Other conditions:
Possible optimization of exchanger circuiting according to the operating level.
System head loss taken into account, percentage of glycol,... (please contact us for details).

Connection kit available:
- 1 kit for horizontal connection (please consult us).
- 4 connection kits (please consult us).
  - steel weld-on sleeve
  - steel screw-on sleeve
  - steel weld-on sleeve
  - steel screw-on sleeve

CMU	M60	BAE	BXT	WCO	CO2	E1U	ELU	HG1	EEK	ECK	ECU	EGK	ECB	EIS
0	0	+1	0	+1	+1	0	0	0	0	0	0	0	0	0

GTA ... R 6D - 890 rpm. / GTA ... R 6Y - 690 rpm.

4,23 mm

Direct expansion		GTA ... R ...	24	26	28	34	36	38	44	46	48
Capacity R404A (1)	DT1 = 8 K - SC2	6D kW	**27,1**	**30,9**	**34,7**	**40,1**	**49,7**	**52,3**	**54,7**	**62,1**	**70,2**
		6Y kW	**23,5**	**26,2**	**28,8**	**34,8**	**41,5**	**43,1**	**47,1**	**52,8**	**57,8**
Capacity CO2 (8)	DT1 = 8 K - SC2	6D kW	**31,3**	**36,3**	**40,9**	**47,0**	**56,8**	**60,5**	**62,7**	**73,1**	**82,0**
		6Y kW	**26,8**	**30,5**	**31,0**	**38,5**	**45,9**	**49,0**	**52,5**	**61,3**	**62,4**
Surface		m^2	130	195	260	195	292	390	260	390	520
Circuit volume		dm^3	25,2	37,8	50,4	37,8	56,7	75,7	50,4	75,7	100,9
Air flow	6D	m^3/h	17770	16780	15920	26650	25180	23880	35540	33570	31840
	6Y	m^3/h	13700	12750	11930	20540	19130	17900	27390	25510	23860

Glycol water		GTA-W5 ... R ...	24	26	28	34	36	38	44	46	48
Capacity W*	DT1 = 8 K	6D kW	**19,8**	**28,8**	**-**	**40,8**	**37,5**	**-**	**49,1**	**47,7**	**-**
		6Y kW	**18,1**	**24,4**	**-**	**26**	**45,3**	**-**	**32,2**	**60,1**	**-**
Surface		m^2	164	246	-	246	369	-	328	492	-
Circuit volume		dm^3	32,1	48,2	-	48,2	72,2	-	64,2	96,3	-
Air flow	6D	m^3/h	17640	16640	-	26460	24960	-	35280	33280	-
	6Y	m^3/h	13650	12710	-	20470	19070	-	27290	25430	-

		GTA (-W) ... R ...	24	26	28	34	36	38	44	46	48
Fan *	Air throw (2)	6D m	2x12	2x11	2x10	2x12	2x11	2x10	2x12	2x11	2x10
		6Y m	2x10	2x9	2x8	2x10	2x9	2x8	2x10	2x9	2x8
	Ø 630 mm	Nb	2	2	2	3	3	3	4	4	4
Acoustic	**Lp 4m** (3)	6D dB(A)	48	48	48	50	50	50	51	51	51
		6Y dB(A)	41	41	41	43	43	43	44	44	44
	Lw	6D dB(A)	78	78	78	80	80	80	81	81	81
		6Y dB(A)	71	71	71	73	73	73	74	74	74
Electric defrost **E1U** (4)	Ω	Nb	12	12	12	12	12	12	12	12	12
	400 V/3/50 Hz	W Total	9000	9000	9000	13800	13800	13800	18000	18000	18000
		A Total	13	13	13	20	20	20	26	26	26
Electric defrost **ELU+EEK** (4)	Ω	Nb	12+6	12+6	12+6	12+6	12+6	12+6	12+6	12+6	12+6
	400 V/3/50 Hz	W Total	13500	13500	13500	20700	20700	20700	27000	27000	27000
		A Total	19,5	19,5	19,5	30	30	30	39	39	39
ECK kit or **EEK** kit	Ω	Nb	6	6	6	6	6	6	6	6	6
	400 V/3/50 Hz	W Total	4500	4500	4500	6900	6900	6900	9000	9000	9000
		A Total	6,5	6,5	6,5	10	10	10	13	13	13
	Nb max. kit	ECK	1	1	2	1	1	2	1	1	2
		EEK	1	1	1	1	1	1	1	1	1
Connections R404A	Inlet	Ø (6)	1"1/8	1"1/8	1"3/8	1"3/8	1"5/8	1"5/8	1"5/8	1"5/8	2 x 1"3/8
	Outlet	Ø (7)	1"3/8	1"5/8	1"5/8	2"1/8	2"1/8	2"1/8	2"1/8	2"1/8	2"5/8
Net weight		kg	260	292	316	349	395	433	457	506	549

* Ø 630 mm - 400 V/3/50 Hz. **6D** : 600 W max - 1,20 A max (5) - **6Y** : 400 W max - 0,68 A max (5).

(1) Standard conditions (Eurovent) : SC2 / 0°C (air inlet temp.) / -8°C (evaporating temp.) / DT1 = 8K
(2) Residual air speed: 0.25 m/s, in compliance with standard.
(3) Average sound pressure level in dB(A) measured at 4 m, at fan height, in direct line of sight on a reflective surface, given for information only.
(4) Optional electric defrost kit.
(5) Setting of overload protection levels.
(6) Distributor: Male to be brazed.
(7) ODF = Female to receive a tube of the same diameter.
(8) Operating pressure 50 bar - Tube diameter to define the order.

*** Glycol water -** Capacity indicated for information only under the following conditions:

Fluid: Percentage of glycol = 30 %
Fluid inlet temperature = - 8°C
Fluid outlet temperature = - 4°C.

Air: Inlet dry temperature = + 2°C
Relative humidity = 85 %
Limitation of head loss at 10 m WC maximum.

Other conditions:
Possible optimization of exchanger circuiting according to the operating level.
System head loss taken into account, percentage of glycol,... (please contact us for details).

Connection kit available:
- 1 kit for horizontal connection (please consult us).
- 4 connection kits (please consult us).
  - steel weld-on sleeve
  - steel screw-on sleeve
  - steel weld-on sleeve
  - steel screw-on sleeve

CMU	M60	BAE	BXT	WCO	CO2	E1U	ELU	HG1	EEK	ECK	ECU	EGK	ECB	EIS
O	O	+1	O	+1	+1	O	O	O	O	O	O	O	O	O

GTA ... L 4D - 1330 rpm. 6,35 mm

Direct expansion		GTA ... L 4D	24	26	28	34	36	38	44	46	48
Capacity R404A (1)	DT1 = 8 K - SC2	kW	**25,1**	**33,1**	**36,8**	**37,2**	**49,2**	**55,5**	**50,4**	**66,5**	**73,9**
Capacity CO2 (8)	DT1 = 8 K - SC2	kW	**28,6**	**36,1**	**43,3**	**42,9**	**56,1**	**64,1**	**57,2**	**72,7**	**86,8**
Surface		m^2	89	134	179	134	201	268	179	268	357
Circuit volume		dm^3	25,2	37,8	50,4	37,8	56,7	75,7	50,4	75,7	100,9
Air flow		m^3/h	23260	22410	21650	34890	33610	32480	46520	44810	43310

Glycol water		GTA-W5 ... L 4D	24	26	28	34	36	38	44	46	48
Capacity W*	DT1 = 8 K	kW	**18,1**	**26**	**-**	**26,2**	**52,3**	**-**	**32,2**	**69,6**	**-**
Surface		m^2	112	168	-	168	252	-	224	336	-
Circuit volume		dm^3	32,1	48,2	-	48,2	72,2	-	64,2	96,3	-
Air flow		m^3/h	23100	22220	-	34660	33330	-	46210	44440	-

		GTA (-W) ... L 4D	24	26	28	34	36	38	44	46	48
Fan *	Air throw (2)	m	2x18	2x16	2x15	2x18	2x16	2x15	2x18	2x16	2x15
	Ø 630 mm	Nb	2	2	2	3	3	3	4	4	4
Acoustic	**Lp 4m** (3)	dB(A)	57	57	57	59	59	59	60	60	60
	Lw	dB(A)	87	87	87	89	89	89	90	90	90
Electric defrost **E1U** (4)	Ω	Nb	12	12	12	12	12	12	12	12	12
	400 V/3/50 Hz	W Total	9000	9000	9000	13800	13800	13800	18000	18000	18000
		A Total	13	13	13	20	20	20	26	26	26
Electric defrost **ELU+EEK** (4)	Ω	Nb	12+6	12+6	12+6	12+6	12+6	12+6	12+6	12+6	12+6
	400 V/3/50 Hz	W Total	13500	13500	13500	20700	20700	20700	27000	27000	27000
		A Total	19,5	19,5	19,5	30	30	30	39	39	39
ECK kit or **EEK** kit	Ω	Nb	6	6	6	6	6	6	6	6	6
	400 V/3/50 Hz	W Total	4500	4500	4500	6900	6900	6900	9000	9000	9000
		A Total	6,5	6,5	6,5	10	10	10	13	13	13
	Nb max. kit	ECK	1	1	2	1	1	2	1	1	2
		EEK	1	1	1	1	1	1	1	1	1
Connections R404A	Inlet	Ø (6)	1"1/8	1"3/8	1"3/8	1"3/8	1"5/8	1"5/8	1"5/8	2 x 1"3/8	2 x 1"3/8
	Outlet	Ø (7)	1"5/8	1"5/8	1"5/8	2"1/8	2"1/8	2"1/8	2"1/8	2"5/8	2"5/8
Net weight		kg	260	292	316	349	395	433	457	506	549

* Ø 630 mm - 400 V/3/50 Hz. **4D** : 1250 W max - 2,48 A max (5).

(1) Standard conditions (Eurovent) : SC2 / 0°C (air inlet temp.) / -8°C (evaporating temp.) / DT1 = 8K
(2) Residual air speed: 0.25 m/s, in compliance with standard.
(3) Average sound pressure level in dB(A) measured at 4 m, at fan height, in direct line of sight on a reflective surface, given for information only.
(4) Optional electric defrost kit.
(5) Setting of overload protection levels.
(6) Distributor: Male to be brazed.
(7) ODF = Female to receive a tube of the same diameter.
(8) Operating pressure 50 bar - Tube diameter to define the order.

*** Glycol water -** Capacity indicated for information only under the following conditions:

Fluid: Percentage of glycol = 30 %
Fluid inlet temperature = - 8°C
Fluid outlet temperature = - 4°C.

Air: Inlet dry temperature = + 2°C
Relative humidity = 85 %
Limitation of head loss at 10 m WC maximum.

Other conditions:
Possible optimization of exchanger circuiting according to the operating level.
System head loss taken into account, percentage of glycol,... (please contact us for details).

Connection kit available:
- 1 kit for horizontal connection (please consult us).
- 4 connection kits (please consult us).
  - steel weld-on sleeve
  - steel screw-on sleeve
  - steel weld-on sleeve
  - steel screw-on sleeve

CMU	M60	BAE	BXT	WCO	CO2	E1U	ELU	HG1	EEK	ECK	ECU	EGK	ECB	EIS
O	O	+1	O	+1	+1	O	O	O	O	O	O	O	O	O

GTA ... L 6D - 890 rpm. / GTA ... L 6Y - 690 rpm. — 6,35 mm

Direct expansion			GTA ... L ...	24	26	28	34	36	38	44	46	48
Capacity R404A (1)	DT1 = 8 K - SC2	6D	kW	**22,3**	**27,3**	**31,8**	**33,2**	**41,1**	**47,9**	**44,8**	**55,0**	**64,1**
		6Y	kW	**19,5**	**23,6**	**26,9**	**29,1**	**35,6**	**40,3**	**39,2**	**47,6**	**54,0**
Capacity CO2 (8)	DT1 = 8 K - SC2	6D	kW	**25,4**	**31,7**	**37,0**	**36,9**	**47,7**	**55,0**	**50,0**	**63,7**	**74,2**
		6Y	kW	**22,2**	**27,2**	**29,4**	**32,5**	**40,9**	**45,9**	**43,9**	**54,6**	**59,1**
Surface			m^2	89	134	179	134	201	268	179	268	357
Circuit volume			dm^3	25,2	37,8	50,4	37,8	56,7	75,7	50,4	75,7	100,9
Air flow		6D	m^3/h	18300	17510	16780	27440	26270	25180	36590	35020	33570
		6Y	m^3/h	14210	13450	12750	21320	20180	19130	28420	26900	25510

Glycol water			GTA-W5 ... L ...	24	26	28	34	36	38	44	46	48
Capacity W*	DT1 = 8 K	6D	kW	**16,7**	**23,6**	**-**	**34,9**	**42,8**	**-**	**30**	**56,8**	**-**
		6Y	kW	**15,3**	**21,2**	**-**	**28,8**	**30,9**	**-**	**40,3**	**39,4**	**-**
Surface			m^2	112	168	-	168	252	-	224	336	-
Circuit volume			dm^3	32,1	48,2	-	48,2	72,2	-	64,2	96,3	-
Air flow		6D	m^3/h	18210	17410	-	27320	26120	-	36430	34820	-
		6Y	m^3/h	14180	13430	-	21280	20150	-	28370	26860	-

		GTA (-W) ... L ...	24	26	28	34	36	38	44	46	48
Fan *	Air throw (2)	6D m	2x13	2x12	2x11	2x13	2x12	2x11	2x13	2x12	2x11
		6Y m	2x11	2x10	2x9	2x11	2x10	2x9	2x11	2x10	2x9
	Ø 630 mm	Nb	2	2	2	3	3	3	4	4	4
Acoustic	**Lp 4m** (3)	6D dB(A)	48	48	48	50	50	50	51	51	51
		6Y dB(A)	41	41	41	43	43	43	44	44	44
	Lw	6D dB(A)	78	78	78	80	80	80	81	81	81
		6Y dB(A)	71	71	71	73	73	73	74	74	74
Electric defrost **E1U** (4)	Ω	Nb	12	12	12	12	12	12	12	12	12
	400 V/3/50 Hz	W Total	9000	9000	9000	13800	13800	13800	18000	18000	18000
		A Total	13	13	13	20	20	20	26	26	26
Electric defrost **ELU+EEK** (4)	Ω	Nb	12+6	12+6	12+6	12+6	12+6	12+6	12+6	12+6	12+6
	400 V/3/50 Hz	W Total	13500	13500	13500	20700	20700	20700	27000	27000	27000
		A Total	19,5	19,5	19,5	30	30	30	39	39	39
ECK kit or **EEK** kit	Ω	Nb	6	6	6	6	6	6	6	6	6
	400 V/3/50 Hz	W Total	4500	4500	4500	6900	6900	6900	9000	9000	9000
		A Total	6,5	6,5	6,5	10	10	10	13	13	13
	Nb max. kit	ECK	1	1	2	1	1	2	1	1	2
		EEK	1	1	1	1	1	1	1	1	1
Connections R404A	Inlet	Ø (6)	1"1/8	1"1/8	1"3/8	1"3/8	1"3/8	1"5/8	1"5/8	1"5/8	2 x 1"3/8
	Outlet	Ø (7)	1"3/8	1"3/8	1"3/8	1"5/8	1"5/8	2"1/8	2"1/8	2"1/8	2"5/8
Net weight		kg	260	292	316	349	395	433	457	506	549

* Ø 630 mm - 400 V/3/50 Hz. **6D** : 600 W max - 1,20 A max (5) - **6Y** : 400 W max - 0,68 A max (5).

(1) Standard conditions (Eurovent) : SC2 / 0°C (air inlet temp.) / -8°C (evaporating temp.) / DT1 = 8K
(2) Residual air speed: 0.25 m/s, in compliance with standard.
(3) Average sound pressure level in dB(A) measured at 4 m, at fan height, in direct line of sight on a reflective surface, given for information only.
(4) Optional electric defrost kit.
(5) Setting of overload protection levels.
(6) Distributor: Male to be brazed.
(7) ODF = Female to receive a tube of the same diameter.
(8) Operating pressure 50 bar - Tube diameter to define the order.

*** Glycol water -** Capacity indicated for information only under the following conditions:

Fluid: Percentage of glycol = 30 %
Fluid inlet temperature = - 8°C
Fluid outlet temperature = - 4°C.

Air: Inlet dry temperature = + 2°C
Relative humidity = 85 %
Limitation of head loss at 10 m WC maximum.

Other conditions:
Possible optimization of exchanger circuiting according to the operating level.
System head loss taken into account, percentage of glycol,... (please contact us for details).

Connection kit available:
- 1 kit for horizontal connection (please consult us).
- 4 connection kits (please consult us).
  - steel weld-on sleeve
  - steel screw-on sleeve
  - steel weld-on sleeve
  - steel screw-on sleeve

CMU	M60	BAE	BXT	WCO	CO2	E1U	ELU	HG1	EEK	ECK	ECU	EGK	ECB	EIS
O	O	+1	O	+1	+1	O	O	O	O	O	O	O	O	O

LENNOX EMEA reserves itself the right to make changes at any time without preliminary notice - Photos non-contractual

LENNOX
EMEA

CUBIC UNIT COOLER

INDUSTRIAL RANGE

Refrigerated storage and transit stocking
Food processing
Dispatch centres

HFC CO2* W GLYCOL

7 > **130** kW

NK

- The NK range is designed for industrial refrigeration, conservation or deep-freezing applications.
- **NK version T** (large heat-exchange surface):
  - Adapted to humidity-sensitive products.
  - Reduced number of daily defrost cycles offering a reduction in electrical power consumption.
- **NK version H** (high efficiency):
  - Adapted to the storage of packed products.
- Wide range of options for specific industrial applications (pressure sleeve, defrost...)
- 4 fin spacing distances: 4,23 - 6,35 - 9 - 12 mm.
- 2 fan diameters for air throw adapted to the application.
- Two-speed fans as standard.

** Operating pressure: NKT 40 bar - NKH 50 bar*

www.lennoxemea.com

FRIGA-BOHN

HK® REFRIGERATION

NK - Cubic industrial unit cooler

DESCRIPTION

Casing

- The casing is made of pre-painted, galvanized steel offering a high resistance to corrosion and impact damage.
- An internal aluminium drain pan limits the effects of condensation under the main drain pan during the defrost process.
- The NK unit coolers are delivered in mounting position in reinforced crates (ECB option).

Ventilation

- The external rotor fans are equipped with fan guards compliant with safety standards.
- 2 fan types are used for the NK range:
  - Ø 630 mm 4/6 pole (1500/1000 rpm)
  - Ø 800 mm 6/8 pole (870/630 rpm).
- The motors are of the three-phase type, 400V, 50Hz, IP54, class F.
- Selection of a unit cooler with various fan number/diameter combinations offering the dimensional and air throw characteristics best adapted to the size of the cold room.

Coil

- The finned coils of the NK range are designed with aluminium fins spaced at 4,23 - 6,35 - 9 or 12 mm, crimped onto copper tubes.
- Two types of fins are available depending on the application:
  - High-efficiency H type fins for an economical solution.
  This type of fin is particularly suitable for the storage of packed products.
  The reduced size of the heat-exchanger also enables fast defrosting.
  - T type fins with a large heat-exchanger surface. This type of fin limits dehydration of products. It also saves energy by reducing the number of defrost cycles per day;
- The coils are supplied via optimized R404A diaphragm distributor(s).
- For all other refrigerants, please contact us and specify when ordering.

Defrost

NKH ... C, NKH ... S, NKT ... C, NKT ... S, and NKT ... T

- The shielded electric heating elements are inserted in sleeves located in the finned coil, 2 or 3 heating elements are placed under the intermediate drain pan.
- This facility enables homogenous heat distribution for fast and efficient defrosting.
- The heaters are factory connected to a 400V/3 power supply on a terminal block in a junction box.
- Total gas defrost (HGT) or partial (HG1) available as optional extra.

NKH ... R, NKH ... L, and NKT ... L

- Light electric defrost (E1U) and "low temperature" electric defrost (ELU) models available as optional extra.
- The light electric defrost (E1K) is also available in kit form.
- A water defrost (DAE) option is available for room temperature equal to or greater than +4° C.
  In this case the unit cooler depth is increased by 40 mm.
- Maximum water flow-rate with NK:
  1 fan = 5 m3/h. - 2 fans = 10 m3/h.
  3 fans = 15 m3/h. - 4 fans = 20 m3/h.

CERTIFICATIONS

DESIGNATION

NKH(1) 3x6(2) D(3) B2(4) R(5)

(1) Fin type: **T** = Large exchange surface - **H** = High-efficiency fin
(2) Number of fans x Ø: **6** = Ø 630 mm - **8** = Ø 800 mm
(3) Motor connection: **D** = Delta - **Y** = Star
(4) Module
(5) Fin spacing: **R** = 4,23 mm - **L/C** = 6,35 mm - **S** = 9 mm - **T** = 12 mm

ADVANTAGES

Installation

Electrical and refrigerant connections easily accessible for simple installation.

The height-adjustable leg supports enable floor mounting of the unit (**KMS** option).

Servicing / Maintenance

Side panels 1, fan panels (**VSC** option) 2 and drain pan in galvanized steel are hinge-mounted: easy intervention, maintenance and cleaning.

External installation of fans offering easy access for possible interventions.

OPTIONS

Kit	Factory	
		Ventilation
	CMU	Motors factory wired.
	C2V	Motors wired for 2 speeds.
	M60	Electric fans 230-400V/3/60Hz.
VPA		Air pressure shell also allowing the connection of a textile duct.
	VSC	Hinged fan panels.
		Coil
	BAE	Protection of fins.
	BHE	Heresite coil protection.
	BXT	Blygold Polual XT coil protection.
	WCO	Glycol water, coolant (please contact us for details).
EGU		Glycol water extension (please contact us for details).
	CO2	R744 optimization (please contact us for details).
		Defrost
	DAE	Water defrost.
	DEG	Hot glycol water defrost.
E1K	E1U	Light electric defrost (coil + drain pan).
ECK	ECU	Additional coil electric defrost.
	ELU	Electric defrost (coil + drain pan).
HDA		Suction hood defrost.
VPM		Flexible defrost sleeve + air pressure shell.
	HG1	Hot gas defrost (coil: hot gas, drain pan: electric heaters).
	HGT	Hot gas (coil and drain pan).
RVK	RVU	Shell defrost heaters.
		Miscellaneous
	CIN	Stainless steel frame.
	ECB	Wooden crate packaging.
	EIS	Insulated drain pan.
KMS		Floor-mounting legs.

PRE-SELECTION

	Chill applications	Low-temperature applications	
Fin spacing	**SC2** **tA1 = 0 °C** **Δt 8 K**	**SC3** **tA1 = -18 °C** **Δt 7 K**	**SC4** **tA1 = -25 °C** **Δt 6 K**
NKT			
6,35 mm	NKT .. L*	NKT .. C	NKT .. C
9 mm	-	NKT .. S	NKT .. S
12 mm	-	NKT .. T	NKT .. T
Defrost	E1U* / ELU*	Integrated	Integrated

	Chill applications	Low-temperature applications	
Fin spacing	**SC2** **tA1 = 0 °C** **Δt 8 K**	**SC3** **tA1 = -18 °C** **Δt 7 K**	**SC4** **tA1 = -25 °C** **Δt 6 K**
NKH			
4,23 mm	NKH .. R*	-	-
6,35 mm	NKH .. L*	NKH .. C	NKH .. C
9 mm	-	NKH .. S	NKH .. S
Defrost	E1U* / ELU*	Integrated	Integrated

*Add defrosting:
E1U for a room temperature between +4 °C and +2 °C,
ELU for a room temperature between +2 °C and -5 °C.

APPLICATION OF OPTIONS

C2V option (2-speed wiring)

Adapted ventilation and noise level:
High speed during the charging phase requiring high capacity.
Low speed during the long storage period or in case of presence of employees for reduced noise level.

VPM + HDA option

Defrost for low-temperature applications :
Avoid circulation of hot air during defrost cycles.
Reduction of defrost cycle time for energy saving.

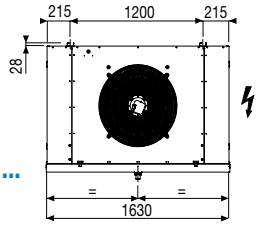
VPA option

Homogenous distribution of air flow:
Increased air throw, optimized air flow and efficient distribution of air in the cold room.

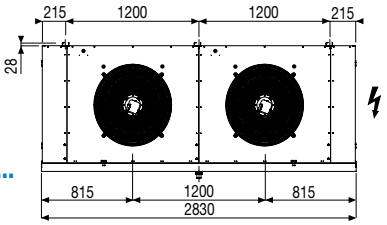
Application requiring installation of a textile duct:
Shell for textile duct with air stream deflectors (ducts not provided).

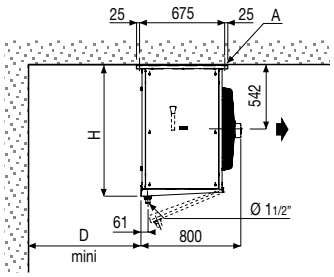
Ø 630 mm

NK ... 1x6 ...

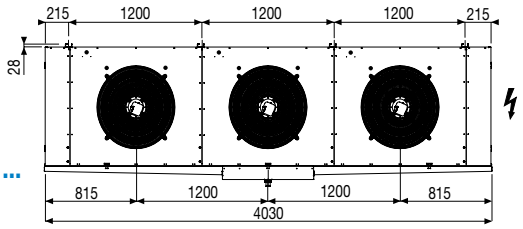


NK ... 2x6 ...



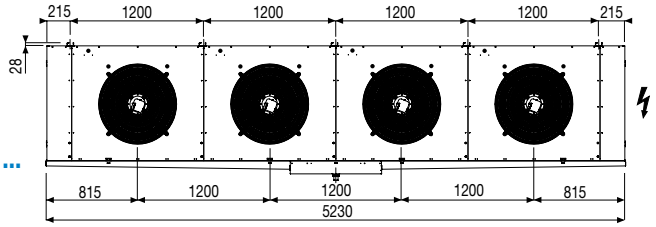


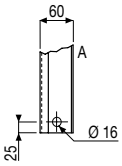
NK ... 3x6 ...



	D	H
1	550	1115
2	700	1115
3	800	1158
4	850	1158

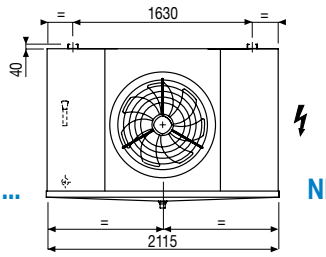
NK ... 4x6 ...





Ø 800 mm

NK ... 1x8 ...



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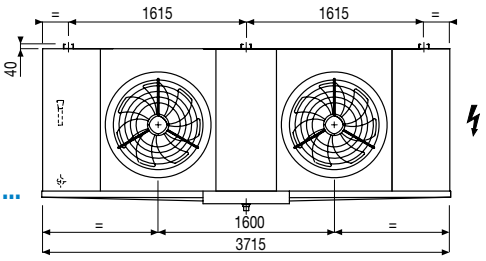
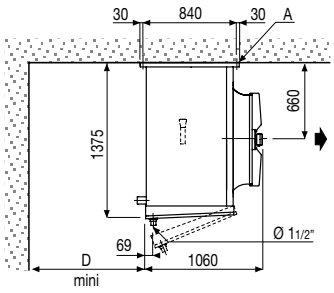
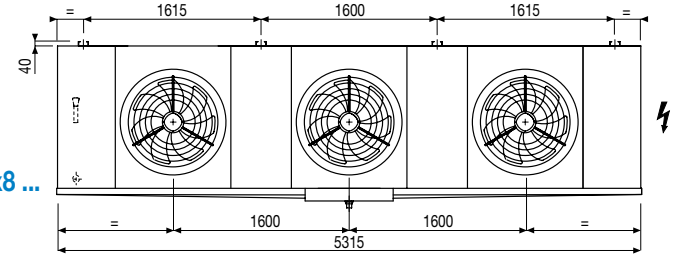


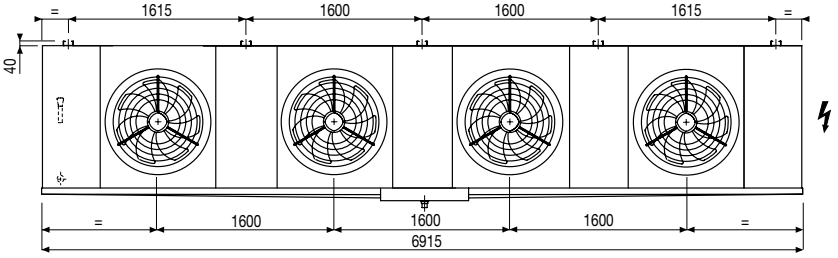


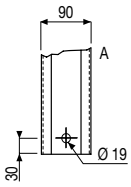
NK ... 3x8 ...



	D
1	700
2	900
3	1000
4	1050

NK ... 4x8 ...





NKH ... H = High-efficiency fin — 4,23 mm

NKH ... R	Capacity DT 8K - SC2		Coil		Ventilation						Electric defrost									Connections		Net weight
							Air throw (2)		Acoustic		E1U (5) 400 V/3/50 Hz			ELU (5) 400 V/3/50 Hz			Kit ECK (6) 400 V/3/50 Hz			R404A		
	R404A	CO2	Surface	Circuit volume	Nb x Ø	Air flow	Standard	With VPA	Lp 4m (4)	Lw	Number	W	A	Number	W	A	Number	W	A	Inlet	Outlet	
	kW (1)	kW (2)	m²	dm³	mm	m³/h	m	m	dB(A)	dB(A)										Ø D	Ø	kg
1x6Y B1	17,0	18,5	74,2	14,4	1x630	10270	33	48	51	81	6	6900	10,0	6	6900	10,0	-	-	-	7/8"	1"5/8	160
1x6D B1	19,5	20,3	74,2	14,4	1x630	12770	43	58	59	89	6	6900	10,0	6	6900	10,0	-	-	-	7/8"	1"5/8	160
1x6Y B2	21,0	22,7	111,4	21,5	1x630	9480	30	45	51	81	6	10350	14,9	9	10350	14,9	3	3450	5,0	1"1/8	1"5/8	180
1x6Y B3	22,4	25,0	148,5	28,7	1x630	8830	29	44	51	81	9	13800	19,9	12	13800	19,9	3	3450	5,0	1"1/8	1"5/8	200
1x6D B2	24,5	26,0	111,4	21,5	1x630	11580	40	55	59	89	6	10350	14,9	9	10350	14,9	3	3450	5,0	1"1/8	1"5/8	180
1x8Y C1	25,9	28,1	123,7	23,9	1x800	15260	31	46	42	72	6	9000	13,0	6	9000	13,0	-	-	-	1"3/8	2"1/8	240
1x6D B3	26,4	29,6	148,5	28,7	1x630	10670	38	53	59	89	9	13800	19,9	12	13800	19,9	3	3450	5,0	1"1/8	1"5/8	200
1x8Y C2	30,3	33,2	185,6	35,9	1x800	14220	29	44	42	72	6	9000	13,0	9	13500	19,5	3	4500	6,5	1"3/8	2"1/8	270
1x8D C1	30,4	32,9	123,7	23,9	1x800	20260	43	58	48	78	6	9000	13,0	6	9000	13,0	-	-	-	1"3/8	2"1/8	240
2x6Y B1	34,1	37,2	148,5	28,7	2x630	20530	36	51	54	84	6	13200	19,1	6	13200	19,1	-	-	-	1"3/8	2"1/8	270
1x8D C2	36,9	40,2	185,6	35,9	1x800	19130	40	55	48	78	6	9000	13,0	9	13500	19,5	3	4500	6,5	1"3/8	2"1/8	270
2x6D B1	39,5	41,0	148,5	28,7	2x630	25540	44	59	62	92	6	13200	19,1	6	13200	19,1	-	-	-	1"3/8	2"1/8	270
2x6Y B2	41,0	45,7	222,7	43,1	2x630	18970	32	47	54	84	6	19800	28,6	9	19800	28,6	3	6600	9,5	1"3/8	2"1/8	300
2x6Y B3	45,5	48,6	297,0	57,5	2x630	17650	30	45	54	84	9	26400	38,1	12	26400	38,1	3	6600	9,5	1"5/8	2"1/8	340
2x6D B2	47,7	52,3	222,7	43,1	2x630	23160	42	57	62	92	6	19800	28,6	9	19800	28,6	3	6600	9,5	1"3/8	2"1/8	300
3x6Y B1	51,7	55,9	222,7	43,1	3x630	30800	38	53	56	86	6	19500	28,1	6	19500	28,1	-	-	-	1"5/8	2"1/8	370
2x8Y C1	52,1	55,0	247,5	47,9	2x800	30520	32	47	45	75	6	17400	25,1	6	17400	25,1	-	-	-	1"5/8	2"5/8	420
2x6D B3	53,5	59,5	297,0	57,5	2x630	21340	39	54	62	92	9	26400	38,1	12	26400	38,1	3	6600	9,5	1"5/8	2"1/8	340
3x6D B1	59,5	63,2	222,7	43,1	3x630	38310	50	65	64	94	6	19500	28,1	6	19500	28,1	-	-	-	1"5/8	2"1/8	370
2x8Y C2	59,6	65,1	371,2	71,8	2x800	28440	30	45	45	75	6	17400	25,1	9	26100	37,7	3	8700	12,6	1"5/8	2"5/8	480
2x8D C1	61,3	63,9	247,5	47,9	2x800	40530	44	59	51	81	6	17400	25,1	6	17400	25,1	-	-	-	1"5/8	2"5/8	420
3x6Y B2	64,0	67,8	334,1	64,6	3x630	28450	36	51	56	86	6	19500	28,1	9	29250	42,2	3	9750	14,1	2x1"3/8	2x2"1/8	430
4x6Y B1	65,8	74,6	297,0	57,5	4x630	41070	44	59	57	87	6	25800	37,2	6	25800	37,2	-	-	-	1"5/8	2"5/8	480
3x6Y B3	66,8	71,3	445,4	86,2	3x630	26480	33	48	56	86	9	29250	42,2	12	39000	56,3	3	9750	14,1	1"5/8	2"5/8	490
3x8Y C1	69,3	83,7	371,2	71,8	3x800	45780	37	52	47	77	6	25800	37,2	6	25800	37,2	-	-	-	1"5/8	2"5/8	570
2x8D C2	72,6	80,7	371,2	71,8	2x800	38260	41	56	51	81	6	17400	25,1	9	26100	37,7	3	8700	12,6	1"5/8	2"5/8	480
3x6D B2	74,4	77,4	334,1	64,6	3x630	34750	47	62	64	94	6	19500	28,1	9	29250	42,2	3	9750	14,1	2x1"3/8	2x2"1/8	430
3x6D B3	78,6	89,4	445,4	86,2	3x630	32010	44	59	64	94	9	29250	42,2	12	39000	56,3	3	9750	14,1	1"5/8	2"5/8	490
4x6D B1	79,7	82,5	297,0	57,5	4x630	51080	55	70	65	95	6	25800	37,2	6	25800	37,2	-	-	-	2x1"5/8	2x2"1/8	480
3x8D C1	81,6	97,6	371,2	71,8	3x800	60790	50	65	53	83	6	25800	37,2	6	25800	37,2	-	-	-	1"5/8	2"5/8	570
4x6Y B2	81,9	91,7	445,4	86,2	4x630	37930	40	55	57	87	6	25800	37,2	9	38700	55,9	3	12900	18,6	2x1"3/8	2x2"1/8	550
3x8Y C2	88,1	100,1	556,8	107,7	3x800	42650	34	49	47	77	6	25800	37,2	9	38700	55,9	3	12900	18,6	2x1"5/8	2x2"1/8	670
4x6Y B3	90,8	97,5	593,9	114,9	4x630	35310	37	52	57	87	9	38700	55,9	12	51600	74,5	3	12900	18,6	2x1"5/8	2x2"1/8	630
4x6D B2	95,2	105,0	445,4	86,2	4x630	46330	52	67	65	95	6	25800	37,2	9	38700	55,9	3	12900	18,6	2x1"3/8	2x2"1/8	550
4x8Y C2	104,3	129,3	742,4	143,6	4x800	56870	38	53	48	78	6	34200	49,4	9	51300	74,0	3	17100	24,7	2x1"5/8	2x2"5/8	840
4x8Y C1	104,6	110,3	494,9	95,8	4x800	61040	41	56	48	78	6	34200	49,4	6	34200	49,4	-	-	-	2x1"5/8	2x2"5/8	740
4x6D B3	106,8	119,3	593,9	114,9	4x630	42680	49	64	65	95	9	38700	55,9	12	51600	74,5	3	12900	18,6	2x1"5/8	2x2"1/8	630
3x8D C2	107,5	121,3	556,8	107,7	3x800	57390	47	62	53	83	6	25800	37,2	9	38700	55,9	3	12900	18,6	2x1"5/8	2x2"1/8	670
4x8D C1	123,0	131,8	494,9	95,8	4x800	81060	56	71	54	84	6	34200	49,4	6	34200	49,4	-	-	-	2x1"5/8	2x2"5/8	740
4x8D C2	127,2	154,6	742,4	143,6	4x800	76520	52	67	54	84	6	34200	49,4	9	51300	74,0	3	17100	24,7	2x1"5/8	2x2"5/8	840

* ***Ø 630 mm*** : 400 V/3/50 Hz - Δ = 1500 rpm - 1900 W max - 3,2 A max - Y = 1000 rpm - 1350 W max - 2,2 A max (7)
* ***Ø 800 mm*** : 400 V/3/50 Hz - Δ = 870 rpm - 1900 W max - 3,9 A max - Y = 630 rpm - 1100 W max - 2 A max (7)

(1) Standard conditions (Eurovent) : SC2 / 0°C (air inlet temp.) / -8°C (evaporating temp.) / DT1 = 8K
(2) Operating pressure 50 bar - Tube diameter to define the order.
(3) Residual air speed: 0.25 m/s.
(4) Average sound pressure level in dB(A) measured at 4 m, at fan height, in direct line of sight on a reflective surface, given for information only.
(5) Electric defrost options.
(6) Electric defrost kit.
(7) Setting of overload protection levels. For air temperatures "ti" other than +20 °C, multiply the currents in relation to 293/(273 + "ti")
in order to obtain an approximate current value after the room temperature is attained.

CMU	C2V	M60	VPA	VSC	BAE	BHE	BXT	WCO	EGU	CO2	DAE	DEG	EIK	E1U	ECK	ECU	ELU	HDA	VPM	HG1	HGT	RVK	RVU	CIN	ECB	EIS	KMS
O	O	O	O	O	O	O	O	+1	+1	+1	O	O	O	O	O*	O*	O	O	O	O	O	O	O	O	O	O	O

* Except NKH 1x6D B1 R - NKH 1x8D C1 R - NKH 2x6Y B1 R - NKH 2x6D B1 R - NKH 3x6D B1 R - NKH 2x8D C1 R - NKH 4x6Y B1 R - NKH 4x6D B1 R - NKH 3x8D C1 R - NKH 4x8D C1 R

NKT ... L T = Large heat exchange surface 6,35 mm

NKT ... L	Capacity		Coil		Ventilation						Electric defrost									Connections		Net weight
	DT 8K - SC2						Air throw (2)		Acoustic		E1U (5) 400 V/3/50 Hz			ELU (5) 400 V/3/50 Hz			Kit ECK (6) 400 V/3/50 Hz			R404A		
	R404A	CO2	Surface	Circuit volume	Nb x Ø	Air flow	Standard	With VPA	Lp 4m (4)	Lw	Number	W	A	Number	W	A	Number	W	A	Inlet	Outlet	
	kW (1)	kW (2)	m²	dm³	mm	m³/h	m	m	dB(A)	dB(A)										Ø D	Ø	kg
1x6Y B2	15,6	16,8	96,1	27,2	1x630	10600	34	49	51	81	6	6900	10,0	9	10350	14,9	3	3450	5,0	5/8"	1"3/8	180
1x6D B2	17,9	18,7	96,1	27,2	1x630	13330	45	60	59	89	6	6900	10,0	9	10350	14,9	3	3450	5,0	5/8"	1"3/8	180
1x6Y B3	18,5	19,8	128,2	36,2	1x630	10120	33	48	51	81	9	10350	19,1	12	13800	19,9	3	3450	5,0	7/8"	1"5/8	200
1x6Y B4	20,3	21,5	160,2	45,3	1x630	9680	32	47	51	81	12	13800	19,9	15	17250	24,9	3	3450	5,0	1"1/8	1"5/8	220
1x6D B3	21,5	22,5	128,2	36,2	1x630	12610	43	58	59	89	9	10350	19,1	12	13800	19,9	3	3450	5,0	7/8"	1"5/8	200
1x8Y C2	23,0	24,7	153,8	43,5	1x800	14740	33	48	42	72	6	9000	13,0	9	13500	19,5	3	4500	6,5	7/8"	1"5/8	270
1x6D B4	23,9	24,6	160,2	45,3	1x630	11940	42	57	59	89	12	13800	19,9	15	17250	24,9	3	3450	5,0	1"1/8	1"5/8	220
1x8Y C3	26,6	28,4	205,1	58,0	1x800	13940	31	46	42	72	9	13500	19,1	12	18000	26,0	3	4500	6,5	1"1/8	2"1/8	300
1x8D C2	27,1	28,8	153,8	43,5	1x800	19580	45	60	48	78	6	9000	13,0	9	13500	19,5	3	4500	6,5	7/8"	1"5/8	270
2x6Y B2	31,6	34,1	192,3	54,3	2x630	21200	35	50	54	84	6	13200	19,1	9	19800	28,6	3	6600	9,5	1"1/8	2"1/8	310
1x8D C3	32,1	33,9	205,1	58,0	1x800	18690	43	58	48	78	9	13500	19,1	12	18000	26,0	3	4500	6,5	1"1/8	2"1/8	300
2x6D B2	35,9	37,8	192,3	54,3	2x630	26660	46	61	62	92	6	13200	19,1	9	19800	28,6	3	6600	9,5	1"1/8	2"1/8	310
2x6Y B3	37,4	39,7	256,3	72,5	2x630	20230	34	49	54	84	9	19800	28,6	12	26400	38,1	3	6600	9,5	1"3/8	2"1/8	350
2x6Y B4	41,2	43,2	320,4	90,6	2x630	19350	33	48	54	84	12	26400	38,1	15	33000	47,6	3	6600	9,5	1"5/8	2"1/8	390
2x6D B3	43,4	44,9	256,3	72,5	2x630	25220	45	60	62	92	9	19800	28,6	12	26400	38,1	3	6600	9,5	1"3/8	2"1/8	350
2x8Y C2	46,9	49,5	307,6	86,9	2x800	29470	34	49	45	75	6	17400	25,1	9	26100	37,7	3	8700	12,6	1"3/8	2"1/8	480
3x6Y B2	47,2	51,2	288,4	81,5	3x630	31800	40	55	56	86	6	19500	28,1	9	29250	42,2	3	9750	14,1	1"3/8	2"1/8	440
2x6D B4	48,5	50,6	320,4	90,6	2x630	23880	43	58	62	92	12	26400	38,1	15	33000	47,6	3	6600	9,5	1"5/8	2"1/8	390
2x8Y C3	53,7	57,1	410,2	115,9	2x800	27880	32	47	45	75	9	26100	37,7	12	34800	50,2	3	8700	12,6	1"5/8	2"5/8	540
3x6D B2	54,2	56,9	288,4	81,5	3x630	39990	52	67	64	94	6	19500	28,1	9	29250	42,2	3	9750	14,1	1"3/8	2"1/8	440
2x8D C2	55,1	57,3	307,6	86,9	2x800	39170	46	61	51	81	6	17400	25,1	9	26100	37,7	3	8700	12,6	1"3/8	2"1/8	480
3x6Y B3	55,9	59,3	384,5	108,7	3x630	30350	39	54	56	86	9	29250	42,2	12	39000	56,3	3	9750	14,1	1"5/8	2"5/8	500
3x6Y B4	60,4	63,6	480,7	135,9	3x630	29030	37	52	56	86	12	39000	56,3	15	48750	70,4	3	9750	14,1	1"5/8	2"5/8	550
4x6Y B2	63,0	68,3	384,5	108,7	4x630	42400	44	59	57	87	6	25800	37,2	9	38700	55,9	3	12900	18,6	1"5/8	2"5/8	560
2x8D C3	64,7	67,7	410,2	115,9	2x800	37380	44	59	51	81	9	26100	37,7	12	34800	50,2	3	8700	12,6	1"5/8	2"5/8	540
3x6D B3	65,0	67,1	384,5	108,7	3x630	37830	51	66	64	94	9	29250	42,2	12	39000	56,3	3	9750	14,1	1"5/8	2"5/8	500
3x8Y C2	70,1	74,3	461,4	130,4	3x800	44210	39	54	47	77	6	25800	37,2	9	38700	55,9	3	12900	18,6	1"5/8	2"5/8	680
3x6D B4	71,0	73,0	480,7	135,9	3x630	35830	49	64	64	94	12	39000	56,3	15	48750	70,4	3	9750	14,1	1"5/8	2"5/8	550
4x6D B2	72,4	75,8	384,5	108,7	4x630	53320	58	73	65	95	6	25800	37,2	9	38700	55,9	3	12900	18,6	1"5/8	2"5/8	560
4x6Y B3	73,7	78,3	512,7	144,9	4x630	40470	43	58	57	87	9	38700	55,9	12	51600	74,5	3	12900	18,6	1"5/8	2"5/8	640
3x8Y C3	80,5	85,4	615,2	173,9	3x800	41810	37	52	47	77	9	38700	55,9	12	51600	74,5	3	12900	18,6	1"5/8	2"5/8	770
4x6Y B4	80,7	87,1	640,9	181,1	4x630	38700	41	56	57	87	12	51600	74,5	15	64500	93,1	3	12900	18,6	1"5/8	2"5/8	720
3x8D C2	82,4	87,1	461,4	130,4	3x800	58750	53	68	53	83	6	25800	37,2	9	38700	55,9	3	12900	18,6	1"5/8	2"5/8	680
4x6D B3	85,7	90,5	512,7	144,9	4x630	50440	56	71	65	95	9	38700	55,9	12	51600	74,5	3	12900	18,6	1"5/8	2"5/8	640
4x8Y C2	93,5	99,2	615,2	173,9	4x800	58940	43	58	48	78	6	34200	49,4	9	51300	74,0	3	17100	18,6	2x1"3/8	2x2"1/8	870
4x6D B4	94,9	101,3	640,9	181,1	4x630	47770	54	69	65	95	12	51600	74,5	15	64500	93,1	3	12900	18,6	1"5/8	2"5/8	720
3x8D C3	97,0	101,5	615,2	173,9	3x800	56070	50	65	53	83	9	38700	55,9	12	51600	74,5	3	12900	18,6	1"5/8	2"5/8	770
4x8Y C3	107,2	110,2	820,3	231,9	4x800	55750	41	56	48	78	9	51300	74,0	12	68400	98,7	3	17100	24,7	2x1"5/8	2x2"5/8	990
4x8D C2	110,0	114,9	615,2	173,9	4x800	78330	59	74	54	84	6	34200	49,4	9	51300	74,0	3	17100	18,6	2x1"3/8	2x2"1/8	870
4x8D C3	129,2	136,3	820,3	231,9	4x800	74760	56	71	54	84	9	51300	74,0	12	68400	98,7	3	17100	24,7	2x1"5/8	2x2"5/8	990

* ***Ø 630 mm*** : 400 V/3/50 Hz - Δ = 1500 rpm - 1900 W max - 3,2 A max - Y = 1000 rpm - 1350 W max - 2,2 A max (7)
* ***Ø 800 mm*** : 400 V/3/50 Hz - Δ = 870 rpm - 1900 W max - 3,9 A max - Y = 630 rpm - 1100 W max - 2 A max (7)

(1) Standard conditions (Eurovent) : SC2 / 0°C (air inlet temp.) / -8°C (evaporating temp.) / DT1 = 8K
(2) Operating pressure 50 bar - Tube diameter to define the order.
(3) Residual air speed: 0.25 m/s.
(4) Average sound pressure level in dB(A) measured at 4 m, at fan height, in direct line of sight on a reflective surface, given for information only.
(5) Electric defrost options.
(6) Electric defrost kit.
(7) Setting of overload protection levels. For air temperatures "ti" other than +20 °C, multiply the currents in relation to 293/(273 + "ti")
in order to obtain an approximate current value after the room temperature is attained.

CMU	C2V	M60	VPA	VSC	BAE	BHE	BXT	WCO	EGU	CO2	DAE	DEG	EIK	E1U	ECK	ECU	ELU	HDA	VPM	HG1	HGT	RVK	RVU	CIN	ECB	EIS	KMS
O	O	O	O	O	O	O	O	+1	+1	+1	O	O	O	O	O*	O*	O	O	O	O	O	O	O	O	O	O	O

* Except NKT 2x4D A2 L - NKT 3x4D A2 L

NKH ... L H = High-efficiency fin — 6,35 mm

NKH ... L	Capacity		Coil		Ventilation						Electric defrost									Connections		Net weight
	DT 8K - SC2						Air throw (2)		Acoustic		E1U (5) 400 V/3/50 Hz			ELU (5) 400 V/3/50 Hz			Kit ECK (6) 400 V/3/50 Hz			R404A		
	R404A	CO2	Surface	Circuit volume	Nb x Ø	Air flow	Standard	With VPA	Lp 4m (4)	Lw	Number	W	A	Number	W	A	Number	W	A	Inlet	Outlet	
	kW (1)	kW (2)	m²	dm³	mm	m³/h	m	m	dB(A)	dB(A)										Ø D	Ø	kg
1x6Y B1	15,1	15,1	51,1	14,4	1x630	10720	34	49	51	81	6	6900	10,0	6	6900	10,0	-	-	-	7/8"	1"3/8	160
1x6D B1	17,4	16,4	51,1	14,4	1x630	13450	45	60	59	89	6	6900	10,0	6	6900	10,0	-	-	-	7/8"	1"3/8	160
1x6Y B2	19,1	19,5	76,6	21,5	1x630	10070	32	47	51	81	6	6900	10,0	9	10350	14,9	3	3450	5,0	1"1/8	1"5/8	180
1x6Y B3	21,3	21,9	102,1	28,7	1x630	9490	30	45	51	81	9	10350	14,9	12	13800	19,9	3	3450	5,0	1"1/8	1"5/8	190
1x6D B2	22,5	21,8	76,6	21,5	1x630	12460	42	57	59	89	6	6900	10,0	9	10350	14,9	3	3450	5,0	1"1/8	1"5/8	180
1x8Y C1	22,9	22,7	85,1	23,9	1x800	15830	33	48	42	72	6	9000	13,0	6	9000	13,0	-	-	-	1"3/8	1"5/8	230
1x6D B3	25,4	25,8	102,1	28,7	1x630	11600	40	55	59	89	9	10350	14,9	12	13800	19,9	3	3450	5,0	1"1/8	1"5/8	190
1x8D C1	27,3	25,9	85,1	23,9	1x800	20870	45	60	48	78	6	9000	13,0	6	9000	13,0	-	-	-	1"3/8	1"5/8	230
1x8Y C2	28,2	27,1	127,7	35,9	1x800	14990	31	46	42	72	6	9000	13,0	9	13500	19,5	3	4500	6,5	1"3/8	2"1/8	260
2x6Y B1	30,8	26,0	102,1	28,7	2x630	21440	37	52	54	84	6	13200	19,1	6	13200	19,1	-	-	-	1"3/8	2"1/8	260
1x8D C2	34,4	34,2	127,7	35,9	1x800	19970	43	58	48	78	6	9000	13,0	9	13500	19,5	3	4500	6,5	1"3/8	2"1/8	260
2x6D B1	35,3	33,0	102,1	28,7	2x630	26910	46	61	62	92	6	13200	19,1	6	13200	19,1	-	-	-	1"3/8	2"1/8	260
2x6Y B2	37,6	39,2	153,2	43,1	2x630	20140	33	48	54	84	6	13200	19,1	9	19800	28,6	3	6600	9,5	1"3/8	2"1/8	290
2x6Y B3	42,8	44,1	204,2	57,5	2x630	18990	32	47	54	84	9	19800	28,6	12	26400	38,1	3	6600	9,5	1"5/8	2"1/8	330
2x6D B2	44,2	43,8	153,2	43,1	2x630	24930	44	59	62	92	6	13200	19,1	9	19800	28,6	3	6600	9,5	1"3/8	2"1/8	290
2x8Y C1	45,9	45,6	170,2	47,9	2x800	31660	34	49	45	75	6	17400	25,1	6	17400	25,1	-	-	-	1"3/8	2"1/8	400
3x6Y B1	46,1	45,5	153,2	43,1	3x630	32160	40	55	56	86	6	19500	28,1	6	19500	28,1	-	-	-	1"5/8	2"1/8	360
2x6D B3	51,0	51,7	204,2	57,5	2x630	23200	42	57	62	92	9	19800	28,6	12	26400	38,1	3	6600	9,5	1"5/8	2"1/8	330
3x6D B1	53,0	50,0	153,2	43,1	3x630	40360	52	67	64	94	6	19500	28,1	6	19500	28,1	-	-	-	1"5/8	2"1/8	360
2x8D C1	54,6	52,1	170,2	47,9	2x800	41740	46	61	51	81	6	17400	25,1	6	17400	25,1	-	-	-	1"5/8	2"1/8	400
2x8Y C2	55,9	57,3	255,3	71,8	2x800	29980	31	46	45	75	6	17400	25,1	9	26100	37,7	3	8700	12,6	1"5/8	2"5/8	460
3x6Y B2	58,1	58,4	229,8	64,6	3x630	30200	37	52	56	86	6	19500	28,1	9	29250	42,2	3	9750	14,1	2x1"3/8	2x2"1/8	410
4x6Y B1	60,4	60,7	204,2	57,5	4x630	42880	46	61	57	87	6	25800	37,2	6	25800	37,2	-	-	-	1"5/8	2"5/8	470
3x8Y C1	61,8	68,9	255,3	71,8	3x800	47490	39	54	47	77	6	25800	37,2	6	25800	37,2	-	-	-	1"5/8	2"5/8	550
3x6Y B3	63,7	65,2	306,4	86,2	3x630	28480	36	51	56	86	9	29250	42,2	12	39000	56,3	3	9750	14,1	1"5/8	2"5/8	460
2x8D C2	68,1	68,6	255,3	71,8	2x800	39940	43	58	51	81	6	17400	25,1	9	26100	37,7	3	8700	12,6	1"5/8	2"5/8	460
3x6D B2	68,4	65,1	229,8	64,6	3x630	37390	49	64	64	94	6	19500	28,1	9	29250	42,2	3	9750	14,1	2x1"3/8	2x2"1/8	410
4x6D B1	70,6	66,1	204,2	57,5	4x630	53820	58	73	65	95	6	25800	37,2	6	25800	37,2	-	-	-	2x1"5/8	2x2"1/8	470
3x8D C1	73,6	79,0	255,3	71,8	3x800	62620	53	68	53	83	6	25800	37,2	6	25800	37,2	-	-	-	1"5/8	2"5/8	550
4x6Y B2	75,3	78,5	306,4	86,2	4x630	40270	42	57	57	87	6	25800	37,2	9	38700	55,9	3	12900	18,6	2x1"3/8	2x2"1/8	530
3x6D B3	75,8	77,7	306,4	86,2	3x630	34800	47	62	64	94	9	29250	42,2	12	39000	56,3	3	9750	14,1	1"5/8	2"5/8	460
3x8Y C2	82,6	87,3	383,0	107,7	3x800	44960	37	52	47	77	6	25800	37,2	9	38700	55,9	3	12900	18,6	2x1"5/8	2x2"1/8	650
4x6Y B3	86,0	88,6	408,5	114,9	4x630	37980	40	55	57	87	9	38700	55,9	12	51600	74,5	3	12900	18,6	2x1"5/8	2x2"1/8	600
4x6D B2	88,6	87,7	306,4	86,2	4x630	49860	55	70	65	95	6	25800	37,2	9	38700	55,9	3	12900	18,6	2x1"3/8	2x2"1/8	530
4x8Y C1	92,1	91,3	340,4	95,8	4x800	63320	43	58	48	78	6	34200	49,4	6	34200	49,4	-	-	-	2x1"5/8	2x2"1/8	720
4x8Y C2	98,1	114,2	510,6	143,6	4x800	59950	40	55	48	78	6	34200	49,4	9	51300	74,0	3	17100	24,7	2x1"5/8	2x2"1/8	800
3x8D C2	100,7	103,1	383,0	107,7	3x800	59900	50	65	53	83	6	25800	37,2	9	38700	55,9	3	12900	18,6	2x1"5/8	2x2"1/8	650
4x6D B3	102,4	103,7	408,5	114,9	4x630	46400	52	67	65	95	9	38700	55,9	12	51600	74,5	3	12900	18,6	2x1"5/8	2x2"1/8	600
4x8D C1	109,7	106,0	340,4	95,8	4x800	83490	59	74	54	84	6	34200	49,4	6	34200	49,4	-	-	-	2x1"5/8	2x2"1/8	720
4x8D C2	119,7	133,7	510,6	143,6	4x800	79870	55	70	54	84	6	34200	49,4	9	51300	74,0	3	17100	24,7	2x1"5/8	2x2"1/8	800

* ***Ø 630 mm*** : 400 V/3/50 Hz - Δ = 1500 rpm - 1900 W max - 3,2 A max - Y = 1000 rpm - 1350 W max - 2,2 A max (7)
* ***Ø 800 mm*** : 400 V/3/50 Hz - Δ = 870 rpm - 1900 W max - 3,9 A max - Y = 630 rpm - 1100 W max - 2 A max (7)

(1) Standard conditions (Eurovent) : SC2 / 0°C (air inlet temp.) / -8°C (evaporating temp.) / DT1 = 8K
(2) Operating pressure 50 bar - Tube diameter to define the order.
(3) Residual air speed: 0.25 m/s.
(4) Average sound pressure level in dB(A) measured at 4 m, at fan height, in direct line of sight on a reflective surface, given for information only.
(5) Electric defrost options.
(6) Electric defrost kit.
(7) Setting of overload protection levels. For air temperatures "ti" other than +20 °C, multiply the currents in relation to 293/(273 + "ti")
in order to obtain an approximate current value after the room temperature is attained.

CMU	C2V	M60	VPA	VSC	BAE	BHE	BXT	WCO	EGU	CO2	DAE	DEG	EIK	E1U	ECK	ECU	ELU	HDA	VPM	HG1	HGT	RVK	RVU	CIN	ECB	EIS	KMS
O	O	O	O	O	O	O	O	+👤	+👤	+👤	O	O	O	O	O*	O*	O	O	O	O	O	O	O	O	O	O	O

* Except NKH 1x6D B1 L - NKH 1x8D C1 L - NKH 2x6Y B1 L - NKH 2x6D B1 L - NKH 3x6D B1 L - NKH 2x8D C1 L - NKH 4x6Y B1 L - NKH 4x6D B1 L - NKH 3x8D C1 L - NKH 4x8D C1 L

NKT ... C T = Large heat exchange surface 6,35 mm

NKT ... C	Capacity				Coil		Ventilation						Electric defrost			Connections		Net weight
	DT 7K - SC3		DT 6K - SC4						Air throw (2)		Acoustic		400 V/3/50 Hz			R404A		
	R404A	CO2	R404A	CO2	Surface	Circuit volume	Nb x Ø	Air flow	Standard	With VPA	Lp 4m (4)	Lw	Number	W	A	Inlet	Outlet	
	kW (1)	kW (2)	kW (1)	kW (2)	m²	dm³	mm	m³/h	m	m	dB(A)	dB(A)				Ø D	Ø	kg
1x6Y B2	11,2	14,0	8,6	11,1	96,1	27,2	1x630	10600	34	49	51	81	9	10350	14,9	5/8"	1"3/8	200
1x6D B2	12,9	15,5	9,9	12,2	96,1	27,2	1x630	13330	45	60	59	89	9	10350	14,9	5/8"	1"3/8	200
1x6Y B3	13,4	16,2	10,5	12,8	128,2	36,2	1x630	10120	33	48	51	81	12	13800	19,9	7/8"	1"5/8	220
1x6Y B4	15,0	17,3	11,8	13,7	160,2	45,3	1x630	9680	32	47	51	81	15	17250	24,9	1"1/8	2"1/8	240
1x6D B3	15,6	18,2	12,1	14,4	128,2	36,2	1x630	12610	43	58	59	89	12	13800	19,9	7/8"	1"5/8	220
1x8Y C2	16,8	20,6	13,1	16,3	153,8	43,5	1x800	14740	33	48	42	72	9	13500	19,5	1"1/8	2"1/8	290
1x6D B4	17,7	20,8	13,7	16,5	160,2	45,3	1x630	11940	42	57	59	89	15	17250	24,9	1"1/8	2"1/8	240
1x8Y C3	19,5	23,3	15,3	18,6	205,1	58,0	1x800	13940	31	46	42	72	12	18000	26,0	1"1/8	2"1/8	330
1x8D C2	19,8	23,9	15,2	18,8	153,8	43,5	1x800	19580	45	60	48	78	9	13500	19,5	1"1/8	2"1/8	290
2x6Y B2	23,3	27,7	18,0	21,9	192,3	54,3	2x630	21200	35	50	54	84	9	19800	28,6	1"1/8	2"1/8	340
1x8D C3	23,5	27,4	18,2	21,7	205,1	58,0	1x800	18690	43	58	48	78	12	18000	26,0	1"1/8	2"1/8	330
2x6D B2	26,3	30,5	20,2	24,0	192,3	54,3	2x630	26660	46	61	62	92	9	19800	28,6	1"1/8	2"1/8	340
2x6Y B3	27,4	33,0	21,4	26,2	256,3	72,5	2x630	20230	34	49	54	84	12	26400	38,1	1"3/8	2"5/8	390
2x6Y B4	30,6	36,0	24,0	28,8	320,4	90,6	2x630	19350	33	48	54	84	15	33000	47,6	1"5/8	2"5/8	430
2x6D B3	31,8	37,4	24,7	29,6	256,3	72,5	2x630	25220	45	60	62	92	12	26400	38,1	1"3/8	2"5/8	390
2x8Y C2	34,0	41,3	26,5	32,7	307,6	86,9	2x800	29470	34	49	45	75	9	26100	37,7	1"3/8	2"5/8	520
3x6Y B2	34,7	42,1	26,9	33,3	288,4	81,5	3x630	31800	40	55	56	86	9	29250	42,2	1"5/8	2"5/8	490
2x6D B4	36,0	41,5	28,0	32,9	320,4	90,6	2x630	23880	43	58	62	92	15	33000	47,6	1"5/8	2"5/8	430
2x8Y C3	39,6	46,9	31,0	37,4	410,2	115,9	2x800	27880	32	47	45	75	12	34800	50,2	1"5/8	2"5/8	580
3x6D B2	39,8	46,9	30,7	36,9	288,4	81,5	3x630	39990	52	67	64	94	9	29250	42,2	1"5/8	2"5/8	490
2x8D C2	40,0	47,9	30,8	37,8	307,6	86,9	2x800	39170	46	61	51	81	9	26100	37,7	1"3/8	2"5/8	520
3x6Y B3	40,9	47,7	31,9	37,8	384,5	108,7	3x630	30350	39	54	56	86	12	39000	56,3	1"5/8	2"5/8	550
3x6Y B4	45,4	50,1	35,6	39,6	480,7	135,9	3x630	29030	37	52	56	86	15	48750	70,4	1"5/8	2"5/8	620
4x6Y B2	46,2	55,7	35,8	44,0	384,5	108,7	4x630	42400	44	59	57	87	9	38700	55,9	1"5/8	2"5/8	630
3x6D B3	47,5	56,2	36,9	44,4	384,5	108,7	3x630	37830	51	66	64	94	12	39000	56,3	1"5/8	2"5/8	550
2x8D C3	47,7	56,5	37,1	44,8	410,2	115,9	2x800	37380	44	59	51	81	12	34800	50,2	1"5/8	2"5/8	580
3x8Y C2	51,4	61,8	40,0	49,1	461,4	130,4	3x800	44210	39	54	47	77	9	38700	55,9	2x1"3/8	2x2"1/8	740
4x6D B2	53,1	61,4	40,9	48,2	384,5	108,7	4x630	53320	58	73	65	95	9	38700	55,9	1"5/8	2"5/8	630
3x6D B4	53,4	63,1	41,6	50,2	480,7	135,9	3x630	35830	49	64	64	94	15	48750	70,4	1"5/8	2"5/8	620
4x6Y B3	55,1	65,5	43,0	52,0	512,7	144,9	4x630	40470	43	58	57	87	12	51600	74,5	2x1"5/8	2x2"5/8	720
3x8Y C3	58,8	69,4	46,1	55,2	615,2	173,9	3x800	41810	37	52	47	77	12	51600	74,5	1"5/8	3"1/8	840
4x6Y B4	59,1	72,2	46,3	57,7	640,9	181,1	4x630	38700	41	56	57	87	15	64500	93,1	1"5/8	3"1/8	800
3x8D C2	60,4	71,6	46,7	56,4	461,4	130,4	3x800	58750	53	68	53	83	9	38700	55,9	2x1"3/8	2x2"1/8	740
4x6D B3	64,0	75,0	49,7	59,3	512,7	144,9	4x630	50440	56	71	65	95	12	51600	74,5	2x1"5/8	2x2"5/8	720
4x8Y C2	68,9	82,7	53,7	65,6	615,2	173,9	4x800	58940	43	58	48	78	9	51300	74,0	2x1"3/8	2x2"5/8	940
4x6D B4	69,5	83,3	53,9	66,2	640,9	181,1	4x630	47770	54	69	65	95	15	64500	93,1	1"5/8	3"1/8	800
3x8D C3	70,9	81,3	55,0	64,1	615,2	173,9	3x800	56070	50	65	53	83	12	51600	74,5	1"5/8	3"1/8	840
4x8Y C3	79,3	94,1	62,3	75,1	820,3	231,9	4x800	55750	41	56	48	78	12	68400	98,7	2x1"5/8	2x2"5/8	1080
4x8D C2	81,1	96,1	62,6	75,8	615,2	173,9	4x800	78330	59	74	54	84	9	51300	74,0	2x1"3/8	2x2"5/8	940
4x8D C3	95,6	111,0	74,5	87,8	820,3	231,9	4x800	74760	56	71	54	84	12	68400	98,7	2x1"5/8	2x2"5/8	1080

* ***Ø 630 mm*** : 400 V/3/50 Hz - Δ = 1500 rpm - 1900 W max - 3,2 A max - Y = 1000 rpm - 1350 W max - 2,2 A max (7)
* ***Ø 800 mm*** : 400 V/3/50 Hz - Δ = 870 rpm - 1900 W max - 3,9 A max - Y = 630 rpm - 1100 W max - 2 A max (7)

(1) Standard conditions (Eurovent) : SC3 / -18°C (air inlet temp.) / -25°C (evaporating temp.) / DT1 = 7K - SC4 / -25°C (air inlet temp.) / -31°C (evaporating temp.) / DT1 = 6K
(2) Operating pressure 50 bar - Tube diameter to define the order.
(3) Residual air speed: 0.25 m/s.
(4) Average sound pressure level in dB(A) measured at 4 m, at fan height, in direct line of sight on a reflective surface, given for information only.
(7) Setting of overload protection levels. For air temperatures "ti" other than +20 °C, multiply the currents in relation to 293/(273 + "ti")
in order to obtain an approximate current value after the room temperature is attained.

CMU	C2V	M60	VPA	VSC	BAE	BHE	BXT	WCO	EGU	CO2	DAE	DEG	EIK	EIU	ECK	ECU	ELU	HDA	VPM	HG1	HGT	RVK	RVU	CIN	ECB	EIS	KMS
O	O	O	O	O	O	O	O	-	-		-	-	-	-	-	O	S	O	O	O	O	O	O	O	O	O	O

S : Standard

NKH ... C H = High-efficiency fin 6,35 mm

NKH ... C	Capacity				Coil		Ventilation						Electric defrost			Connections		Net weight
	DT 7K - SC3		DT 6K - SC4						Air throw (2)		Acoustic		400 V/3/50 Hz			R404A		
	R404A	CO2	R404A	CO2	Surface	Circuit volume	Nb x Ø	Air flow	Standard	With VPA	Lp 4m (4)	Lw	Number	W	A	Inlet	Outlet	
	kW (1)	kW (2)	kW (1)	kW (2)	m²	dm³	mm	m³/h	m	m	dB(A)	dB(A)				Ø D	Ø	kg
1x6Y B1	11,3	12,1	8,9	9,7	51,1	14,4	1x630	10720	34	49	51	81	6	6900	10,0	7/8"	1"5/8	170
1x6D B1	12,9	13,1	10,2	10,4	51,1	14,4	1x630	13450	45	60	59	89	6	6900	10,0	7/8"	1"5/8	170
1x6Y B2	14,5	15,8	11,5	12,8	76,6	21,5	1x630	10070	32	47	51	81	9	10350	14,9	1"1/8	2"1/8	190
1x6Y B3	16,7	18,4	13,4	14,9	102,1	28,7	1x630	9490	30	45	51	81	12	13800	19,9	1"3/8	2"1/8	210
1x6D B2	17,0	17,5	13,5	14,1	76,6	21,5	1x630	12460	42	57	59	89	9	10350	14,9	1"1/8	2"1/8	190
1x8Y C1	17,3	18,8	13,9	15,2	85,1	23,9	1x800	15830	33	48	42	72	6	9000	13,0	1"3/8	2"1/8	250
1x6D B3	19,9	20,9	15,9	16,9	102,1	28,7	1x630	11600	40	55	59	89	12	13800	19,9	1"3/8	2"1/8	210
1x8D C1	20,6	21,5	16,4	17,3	85,1	23,9	1x800	20870	45	60	48	78	6	9000	13,0	1"3/8	2"1/8	250
1x8Y C2	21,3	23,7	17,1	19,2	127,7	35,9	1x800	14990	31	46	42	72	9	13500	19,5	1"3/8	2"1/8	280
2x6Y B1	23,2	24,4	18,4	19,6	102,1	28,7	2x630	21440	37	52	54	84	6	13200	19,1	1"3/8	2"1/8	290
1x8D C2	26,0	27,7	20,6	22,3	127,7	35,9	1x800	19970	43	58	48	78	9	13500	19,5	1"3/8	2"1/8	280
2x6D B1	26,3	26,4	20,8	21,1	102,1	28,7	2x630	26910	46	61	62	92	6	13200	19,1	1"3/8	2"1/8	290
2x6Y B2	29,8	31,9	23,8	25,7	153,2	43,1	2x630	20140	36	51	54	84	9	19800	28,6	1"5/8	2"1/8	320
2x6Y B3	33,8	37,0	27,2	30,1	204,2	57,5	2x630	18990	32	47	54	84	12	26400	38,1	1"5/8	2"5/8	360
3x6Y B1	34,4	37,7	27,4	30,5	153,2	43,1	3x630	32160	40	55	56	86	6	19500	28,1	1"5/8	2"5/8	410
2x6D B2	34,5	36,3	27,4	29,4	153,2	43,1	2x630	24930	44	59	62	92	9	19800	28,6	1"5/8	2"5/8	320
2x8Y C1	35,0	36,6	28,0	29,4	170,2	47,9	2x800	31660	34	49	45	75	6	17400	25,1	1"5/8	2"5/8	440
2x8Y C2	37,8	46,0	30,1	37,1	255,3	71,8	2x800	29980	31	46	45	75	9	26100	37,7	1"5/8	2"5/8	500
3x6D B1	39,6	41,0	31,3	33,0	153,2	43,1	3x630	40360	52	67	64	94	6	19500	28,1	1"5/8	2"5/8	410
2x6D B3	40,2	42,1	32,2	34,1	204,2	57,5	2x630	23200	42	57	62	92	12	26400	38,1	1"5/8	2"5/8	360
2x8D C1	41,7	41,4	33,2	33,1	170,2	47,9	2x800	41740	46	61	51	81	6	17400	25,1	1"5/8	2"5/8	440
3x6Y B2	44,2	47,0	35,4	37,9	229,8	64,6	3x630	30200	37	52	56	86	9	29250	42,2	2x1"3/8	2x2"1/8	460
3x8Y C1	44,5	55,9	35,1	45,1	255,3	71,8	3x800	47490	39	54	47	77	6	25800	37,2	1"5/8	2"5/8	600
2x8D C2	46,1	55,7	36,3	44,9	255,3	71,8	2x800	39940	43	58	51	81	9	26100	37,7	1"5/8	2"5/8	500
4x6Y B1	46,8	49,0	37,4	39,4	204,2	57,5	4x630	42880	44	59	57	87	6	25800	37,2	2x1"5/8	2x2"1/8	520
3x6Y B3	50,8	55,6	40,9	45,2	306,4	86,2	3x630	28480	36	51	56	86	12	39000	56,3	2x1"5/8	2x2"1/8	520
3x6D B2	52,0	52,0	41,4	41,7	229,8	64,6	3x630	37390	49	64	64	94	9	29250	42,2	2x1"3/8	2x2"1/8	460
3x8D C1	52,9	63,6	41,4	51,0	255,3	71,8	3x800	62620	53	68	53	83	6	25800	37,2	1"5/8	2"5/8	600
4x6D B1	53,8	53,0	42,8	42,5	204,2	57,5	4x630	53820	58	73	65	95	6	25800	37,2	2x1"5/8	2x2"1/8	520
3x8Y C2	56,2	71,5	44,7	58,1	383,0	107,7	3x800	44960	37	52	47	77	9	38700	55,9	2x1"5/8	2x2"5/8	700
4x6Y B3	59,0	70,8	46,9	57,0	408,5	114,9	4x630	37980	40	55	57	87	12	51600	74,5	2x1"5/8	2x2"5/8	670
3x6D B3	60,5	63,3	48,4	51,2	306,4	86,2	3x630	34800	47	62	64	94	12	39000	56,3	2x1"5/8	2x2"1/8	520
3x8D C2	68,5	83,7	53,9	67,6	383,0	107,7	3x800	59900	50	65	53	83	9	38700	55,9	2x1"5/8	2x2"5/8	700
4x8Y C1	70,2	73,4	56,2	59,1	340,4	95,8	4x800	63320	43	58	48	78	6	34200	49,4	2x1"5/8	2x2"5/8	780
4x6D B3	70,2	84,5	55,6	68,4	408,5	114,9	4x630	46400	52	67	65	95	12	51600	74,5	2x1"5/8	2x2"5/8	670
4x8D C1	83,6	86,2	66,6	69,4	340,4	95,8	4x800	83490	59	74	54	84	6	34200	49,4	2x1"5/8	2x2"5/8	780

* ***Ø 630 mm*** : 400 V/3/50 Hz - Δ = 1500 rpm - 1900 W max - 3,2 A max - Y = 1000 rpm - 1350 W max - 2,2 A max (7)
* ***Ø 800 mm*** : 400 V/3/50 Hz - Δ = 870 rpm - 1900 W max - 3,9 A max - Y = 630 rpm - 1100 W max - 2 A max (7)

(1) Standard conditions (Eurovent) : SC3 / -18°C (air inlet temp.) / -25°C (evaporating temp.) / DT1 = 7K - SC4 / -25°C (air inlet temp.) / -31°C (evaporating temp.) / DT1 = 6K
(2) Operating pressure 50 bar - Tube diameter to define the order.
(3) Residual air speed: 0.25 m/s.
(4) Average sound pressure level in dB(A) measured at 4 m, at fan height, in direct line of sight on a reflective surface, given for information only.
(7) Setting of overload protection levels. For air temperatures "ti" other than +20 °C, multiply the currents in relation to 293/(273 + "ti")
in order to obtain an approximate current value after the room temperature is attained.

CMU	C2V	M60	VPA	VSC	BAE	BHE	BXT	WCO	EGU	CO2	DAE	DEG	EIK	EIU	ECK	ECU	ELU	HDA	VPM	HG1	HGT	RVK	RVU	CIN	ECB	EIS	KMS
O	O	O	O	O	O	O	O	-	-		-	-	-	-	-	O	S	O	O	O	O	O	O	O	O	O	O

S : Standard

NKT ... S T = Large heat exchange surface 9 mm

NKT ... S	Capacity				Coil		Ventilation						Electric defrost			Connections		Net weight
	DT 7K - SC3		DT 6K - SC4						Air throw (2)		Acoustic		400 V/3/50 Hz			R404A		
	R404A	CO2	R404A	CO2	Surface	Circuit volume	Nb x Ø	Air flow	Standard	With VPA	Lp 4m (4)	Lw	Number	W	A	Inlet	Outlet	
	kW (1)	kW (2)	kW (1)	kW (2)	m²	dm³	mm	m³/h	m	m	dB(A)	dB(A)				Ø D	Ø	kg
1x6Y B2	10,8	13,5	8,2	10,7	70,0	27,2	1x630	10920	35	50	51	81	9	10350	14,9	5/8"	1"3/8	190
1x6D B2	12,3	14,9	9,3	11,8	70,0	27,2	1x630	13780	46	61	59	89	9	10350	14,9	5/8"	1"3/8	190
1x6Y B3	13,2	15,8	10,1	12,5	93,3	36,2	1x630	10510	33	48	51	81	12	13800	19,9	7/8"	1"5/8	220
1x6Y B4	14,8	17,1	11,4	13,6	116,7	45,3	1x630	10130	32	47	51	81	15	17250	24,9	1"1/8	2"1/8	240
1x6D B3	15,0	17,7	11,4	14,0	93,3	36,2	1x630	13200	44	59	59	89	12	13800	19,9	7/8"	1"5/8	220
1x8Y C2	16,1	19,8	12,3	15,7	112,0	43,5	1x800	15280	34	49	42	72	9	13500	19,5	1"1/8	2"1/8	280
1x6D B4	17,2	20,3	13,2	16,1	116,7	45,3	1x630	12630	42	57	59	89	15	17250	24,9	1"1/8	2"1/8	240
1x8D C2	18,7	23,0	14,3	18,2	112,0	43,5	1x800	20190	46	61	48	78	9	13500	19,5	1"1/8	2"1/8	280
1x8Y C3	19,2	22,9	14,8	18,2	149,3	58,0	1x800	14590	32	47	42	72	12	18000	26,0	1"1/8	2"1/8	320
2x6Y B2	22,0	26,8	16,9	21,2	140,0	54,3	2x630	21840	36	51	54	84	9	19800	28,6	1"1/8	2"1/8	330
1x8D C3	22,6	26,9	17,4	21,2	149,3	58,0	1x800	19420	44	59	48	78	12	18000	26,0	1"1/8	2"1/8	320
2x6D B2	25,1	29,4	19,1	23,1	140,0	54,3	2x630	27570	47	62	62	92	9	19800	28,6	1"1/8	2"1/8	330
2x6Y B3	26,9	32,1	20,6	25,6	186,6	72,5	2x630	21030	35	50	54	84	12	26400	38,1	1"3/8	2"1/8	370
2x6Y B4	30,1	35,6	23,2	28,4	233,3	90,6	2x630	20270	34	49	54	84	15	33000	47,6	1"5/8	2"5/8	410
2x6D B3	30,6	36,2	23,4	28,7	186,6	72,5	2x630	26410	46	61	62	92	12	26400	38,1	1"3/8	2"1/8	370
2x8Y C2	32,7	39,7	25,0	31,5	224,0	86,9	2x800	30560	34	49	45	75	9	26100	37,7	1"5/8	2"5/8	500
3x6Y B2	33,4	40,6	25,5	32,2	210,0	81,5	3x630	32750	41	56	56	86	9	29250	42,2	1"5/8	2"5/8	470
2x6D B4	35,0	40,7	26,9	32,3	233,3	90,6	2x630	25270	45	60	62	92	15	33000	47,6	1"5/8	2"5/8	410
3x6D B2	38,0	45,0	29,0	35,5	210,0	81,5	3x630	41350	54	69	64	94	9	29250	42,2	1"5/8	2"5/8	470
2x8D C2	38,0	46,3	29,1	36,5	224,0	86,9	2x800	40390	47	62	51	81	9	26100	37,7	1"5/8	2"5/8	500
2x8Y C3	39,0	46,0	30,0	36,7	298,6	115,9	2x800	29190	33	48	45	75	12	34800	50,2	1"5/8	2"5/8	560
3x6Y B3	40,1	46,7	30,8	37,0	280,0	108,7	3x630	31540	40	55	56	86	12	39000	56,3	1"5/8	2"5/8	530
4x6Y B2	44,4	53,8	33,9	42,5	280,0	108,7	4x630	43670	45	60	57	87	9	38700	55,9	1"5/8	2"5/8	610
3x6Y B4	44,4	49,7	34,3	39,3	350,0	135,9	3x630	30400	39	54	56	86	15	48750	70,4	1"5/8	2"5/8	590
3x6D B3	45,6	54,4	35,0	43,1	280,0	108,7	3x630	39610	52	67	64	94	12	39000	56,3	1"5/8	2"5/8	530
2x8D C3	45,9	55,1	35,3	43,8	298,6	115,9	2x800	38840	45	60	51	81	12	34800	50,2	1"5/8	2"5/8	560
3x8Y C2	49,2	59,6	37,7	47,3	336,0	130,4	3x800	45840	39	54	47	77	9	38700	55,9	2x1"3/8	2x2"1/8	710
4x6D B2	50,5	59,1	38,6	46,6	280,0	108,7	4x630	55140	59	74	65	95	9	38700	55,9	1"5/8	2"5/8	610
3x6D B4	51,7	61,7	39,9	49,1	350,0	135,9	3x630	37900	51	66	64	94	15	48750	70,4	1"5/8	2"5/8	590
4x6Y B3	53,9	63,9	41,3	51,2	373,3	144,9	4x630	42050	43	58	57	87	12	51600	74,5	2x1"5/8	2x2"1/8	690
3x8D C2	57,2	69,2	43,8	54,6	336,0	130,4	3x800	60580	54	69	53	83	9	38700	55,9	2x1"3/8	2x2"1/8	710
3x8Y C3	58,3	68,1	44,9	54,2	447,9	173,9	3x800	43780	38	53	47	77	12	51600	74,5	2x1"5/8	2x2"5/8	800
4x6Y B4	60,7	71,3	46,2	57,1	466,6	181,1	4x630	40540	43	58	57	87	15	64500	93,1	2x1"5/8	2x2"5/8	770
4x6D B3	61,2	72,6	47,0	57,5	373,3	144,9	4x630	52820	57	72	65	95	12	51600	74,5	2x1"5/8	2x2"1/8	690
4x8Y C2	66,5	77,2	50,9	63,2	447,9	173,9	4x800	61120	44	59	48	78	9	51300	74,0	2x1"3/8	2x2"5/8	910
3x8D C3	68,6	82,8	52,8	65,7	447,9	173,9	3x800	58270	52	67	53	83	12	51600	74,5	2x1"5/8	2x2"5/8	800
4x6D B4	70,5	81,7	53,7	64,9	466,6	181,1	4x630	50540	56	71	65	95	15	64500	93,1	2x1"5/8	2x2"5/8	770
4x8D C2	77,3	92,7	59,2	73,2	447,9	173,9	4x800	80770	60	75	54	84	9	51300	74,0	2x1"3/8	2x2"5/8	910
4x8Y C3	78,7	92,1	60,6	73,6	597,3	231,9	4x800	58370	42	57	48	78	12	68400	98,7	2x1"5/8	2x2"5/8	1030
4x8D C3	92,6	108,6	71,3	86,1	597,3	231,9	4x800	77690	58	73	54	84	12	68400	98,7	2x1"5/8	2x2"5/8	1030

* ***Ø 630 mm*** : 400 V/3/50 Hz - Δ = 1500 rpm - 1900 W max - 3,2 A max - Y = 1000 rpm - 1350 W max - 2,2 A max (7)
* ***Ø 800 mm*** : 400 V/3/50 Hz - Δ = 870 rpm - 1900 W max - 3,9 A max - Y = 630 rpm - 1100 W max - 2 A max (7)

(1) Standard conditions (Eurovent) : SC3 / -18°C (air inlet temp.) / -25°C (evaporating temp.) / DT1 = 7K - SC4 / -25°C (air inlet temp.) / -31°C (evaporating temp.) / DT1 = 6K
(2) Operating pressure 50 bar - Tube diameter to define the order.
(3) Residual air speed: 0.25 m/s.
(4) Average sound pressure level in dB(A) measured at 4 m, at fan height, in direct line of sight on a reflective surface, given for information only.
(7) Setting of overload protection levels. For air temperatures "ti" other than +20 °C, multiply the currents in relation to 293/(273 + "ti")
in order to obtain an approximate current value after the room temperature is attained.

CMU	C2V	M60	VPA	VSC	BAE	BHE	BXT	WCO	EGU	CO2	DAE	DEG	EIK	EIU	ECK	ECU	ELU	HDA	VPM	HG1	HGT	RVK	RVU	CIN	ECB	EIS	KMS
O	O	O	O	O	O	O	O	-	-		-	-	-	-	-	O	S	O	O	O	O	O	O	O	O	O	O

S : Standard

NKH ... S H = High-efficiency fin 9 mm

NKH ... S	Capacity				Coil		Ventilation						Electric defrost			Connections		Net weight
	DT 7K - SC3		DT 6K - SC4						Air throw (2)		Acoustic		400 V/3/50 Hz			R404A		
	R404A	CO2	R404A	CO2	Surface	Circuit volume	Nb x Ø	Air flow	Standard	With VPA	Lp 4m (4)	Lw	Number	W	A	Inlet	Outlet	
	kW (1)	kW (2)	kW (1)	kW (2)	m²	dm³	mm	m³/h	m	m	dB(A)	dB(A)				Ø D	Ø	kg
1x6Y B1	9,9	11,4	7,7	9,1	37,4	14,4	1x630	11010	35	50	51	81	6	6900	10,0	7/8"	1"5/8	170
1x6D B1	11,1	12,3	8,6	9,9	37,4	14,4	1x630	13860	46	61	59	89	6	6900	10,0	7/8"	1"5/8	170
1x6Y B2	13,0	15,1	10,2	12,2	56,2	21,5	1x630	10450	33	48	51	81	9	10350	14,9	1"1/8	1"5/8	190
1x6D B2	14,9	16,6	11,7	13,4	56,2	21,5	1x630	13050	44	59	59	89	9	10350	14,9	1"1/8	1"5/8	190
1x8Y C1	15,0	17,6	11,8	14,3	62,4	23,9	1x800	16180	34	49	42	72	6	9000	13,0	1"3/8	2"1/8	250
1x6Y B3	15,3	17,8	12,1	14,5	74,9	28,7	1x630	9950	32	47	51	81	12	13800	19,9	1"1/8	2"1/8	210
1x8D C1	17,5	20,2	13,8	16,3	62,4	23,9	1x800	21230	47	62	48	78	6	9000	13,0	1"3/8	2"1/8	250
1x6D B3	17,8	20,1	14,1	16,2	74,9	28,7	1x630	12280	42	57	59	89	12	13800	19,9	1"1/8	2"1/8	210
1x8Y C2	19,5	22,6	15,3	18,3	93,6	35,9	1x800	15470	32	47	42	72	9	13500	19,5	1"3/8	2"1/8	280
2x6Y B1	19,7	22,9	15,5	18,5	74,9	28,7	2x630	22010	38	53	54	84	6	13200	19,1	1"3/8	2"1/8	280
2x6D B1	22,4	24,8	17,6	19,9	74,9	28,7	2x630	27720	47	62	62	92	6	13200	19,1	1"3/8	2"1/8	280
1x8D C2	22,9	26,4	18,0	21,3	93,6	35,9	1x800	20490	44	59	48	78	9	13500	19,5	1"3/8	2"1/8	280
2x6Y B2	26,1	30,3	20,7	25,1	112,3	43,1	2x630	20900	37	52	54	84	9	19800	28,6	1"3/8	2"1/8	320
3x6Y B1	30,1	35,2	23,6	28,5	112,3	43,1	3x630	33020	41	56	56	86	6	19500	28,1	1"5/8	2"5/8	400
2x6D B2	30,2	34,4	23,8	27,9	112,3	43,1	2x630	26100	45	60	62	92	9	19800	28,6	1"5/8	2"5/8	320
2x8Y C1	30,3	34,3	23,9	27,7	124,8	47,9	2x800	32350	35	50	45	75	6	17400	25,1	1"5/8	2"5/8	430
2x6Y B3	31,0	34,2	24,6	29,1	149,8	57,5	2x630	19890	33	48	54	84	12	26400	38,1	1"5/8	2"5/8	360
3x6D B1	33,8	38,3	26,5	31,0	112,3	43,1	3x630	41580	54	69	64	94	6	19500	28,1	1"5/8	2"5/8	400
2x8Y C2	34,7	44,0	26,7	35,6	187,2	71,8	2x800	30950	33	48	45	75	9	26100	37,7	1"5/8	2"5/8	480
2x8D C1	35,3	39,0	27,8	33,1	124,8	47,9	2x800	42460	48	63	51	81	6	17400	25,1	1"5/8	2"5/8	430
2x6D B3	36,1	40,4	28,6	32,7	149,8	57,5	2x630	24560	44	59	62	92	12	26400	38,1	1"5/8	2"5/8	360
4x6Y B1	38,1	46,0	29,6	37,1	149,8	57,5	4x630	44020	47	62	57	87	6	25800	37,2	1"5/8	2"5/8	510
3x8Y C1	39,4	52,3	30,1	42,3	187,2	71,8	3x800	48530	40	55	47	77	6	25800	37,2	1"5/8	2"5/8	590
3x6Y B2	39,6	44,9	31,2	36,2	168,5	64,6	3x630	31350	39	54	56	86	9	29250	42,2	2x1"1/8	2x2"1/8	450
2x8D C2	40,9	53,1	31,5	42,9	187,2	71,8	2x800	40990	45	60	51	81	9	26100	37,7	1"5/8	2"5/8	480
4x6D B1	45,2	49,8	35,6	40,0	149,8	57,5	4x630	55440	59	74	65	95	6	25800	37,2	2x1"3/8	2x2"1/8	510
3x6D B2	45,5	49,5	35,8	39,8	168,5	64,6	3x630	39150	51	66	64	94	9	29250	42,2	2x1"1/8	2x2"1/8	450
3x8D C1	45,8	59,8	35,0	48,1	187,2	71,8	3x800	63700	55	70	53	83	6	25800	37,2	1"5/8	2"5/8	590
4x6Y B2	46,0	60,9	35,2	49,4	224,7	86,2	4x630	41800	43	58	57	87	9	38700	55,9	2x1"3/8	2x2"1/8	570
3x6Y B3	46,8	53,7	37,0	43,8	224,7	86,2	3x630	29840	37	52	56	86	12	39000	56,3	2x1"3/8	2x2"1/8	510
3x8Y C2	51,5	68,1	39,6	55,4	280,9	107,7	3x800	46420	38	53	47	77	9	38700	55,9	2x1"5/8	2x2"1/8	670
4x6D B2	52,8	67,3	40,5	54,4	224,7	86,2	4x630	52200	57	72	65	95	9	38700	55,9	2x1"3/8	2x2"1/8	570
3x6D B3	54,4	60,7	43,1	49,2	224,7	86,2	3x630	36840	49	64	64	94	12	39000	56,3	2x1"3/8	2x2"1/8	510
4x6Y B3	54,8	68,7	42,3	58,4	299,6	114,9	4x630	39790	42	57	57	87	12	51600	74,5	2x1"3/8	2x2"5/8	640
3x8D C2	60,6	79,7	46,6	64,5	280,9	107,7	3x800	61480	52	67	53	83	9	38700	55,9	2x1"5/8	2x2"1/8	670
4x8Y C1	60,9	68,8	48,1	55,5	249,6	95,8	4x800	64700	45	60	48	78	6	34200	49,4	2x1"5/8	2x2"5/8	770
4x6D B3	63,8	81,1	49,2	65,7	299,6	114,9	4x630	49120	55	70	65	95	12	51600	74,5	2x1"3/8	2x2"5/8	640
4x8Y C2	64,8	87,2	49,1	73,0	374,5	143,6	4x800	61890	42	57	48	78	9	51300	74,0	2x1"5/8	2x2"5/8	860
4x8D C1	70,9	80,9	55,9	65,3	249,6	95,8	4x800	84930	61	76	54	84	6	34200	49,4	2x1"5/8	2x2"5/8	770
4x8D C2	76,2	104,8	57,8	84,6	374,5	143,6	4x800	81970	58	73	54	84	9	51300	74,0	2x1"5/8	2x2"5/8	860

* ***Ø 630 mm*** : 400 V/3/50 Hz - Δ = 1500 rpm - 1900 W max - 3,2 A max - Y = 1000 rpm - 1350 W max - 2,2 A max (7)
* ***Ø 800 mm*** : 400 V/3/50 Hz - Δ = 870 rpm - 1900 W max - 3,9 A max - Y = 630 rpm - 1100 W max - 2 A max (7)

(1) Standard conditions (Eurovent) : SC3 / -18°C (air inlet temp.) / -25°C (evaporating temp.) / DT1 = 7K - SC4 / -25°C (air inlet temp.) / -31°C (evaporating temp.) / DT1 = 6K
(2) Operating pressure 50 bar - Tube diameter to define the order.
(3) Residual air speed: 0.25 m/s.
(4) Average sound pressure level in dB(A) measured at 4 m, at fan height, in direct line of sight on a reflective surface, given for information only.
(7) Setting of overload protection levels. For air temperatures "ti" other than +20 °C, multiply the currents in relation to 293/(273 + "ti")
in order to obtain an approximate current value after the room temperature is attained.

CMU	C2V	M60	VPA	VSC	BAE	BHE	BXT	WCO	EGU	CO2	DAE	DEG	EIK	EIU	ECK	ECU	ELU	HDA	VPM	HG1	HGT	RVK	RVU	CIN	ECB	EIS	KMS
O	O	O	O	O	O	O	O	-	-		-	-	-	-	-	O	S	O	O	O	O	O	O	O	O	O	O

S : Standard

NKT ... T T = Large heat exchange surface 12 mm

NKT ... T	Capacity				Coil		Ventilation						Electric defrost			Connections		Net weight
	DT 7K - SC3		DT 6K - SC4						Air throw (2)		Acoustic		400 V/3/50 Hz			R404A		
	R404A	CO2	R404A	CO2	Surface	Circuit volume	Nb x Ø	Air flow	Standard	With VPA	Lp 4m (4)	Lw	Number	W	A	Inlet	Outlet	
	kW (1)	kW (2)	kW (1)	kW (2)	m²	dm³	mm	m³/h	m	m	dB(A)	dB(A)				Ø D	Ø	kg
1x6Y B2	9,5	10,9	7,2	8,6	54,3	27,2	1x630	11120	35	50	51	81	9	10350	14,9	5/8"	1"3/8	190
1x6D B2	10,6	11,9	8,1	9,4	54,3	27,2	1x630	14050	46	61	59	89	9	10350	14,9	5/8"	1"3/8	190
1x6Y B3	11,6	13,2	8,9	10,5	72,4	36,2	1x630	10760	34	49	51	81	12	13800	19,9	7/8"	1"5/8	210
1x6D B3	13,2	14,6	10,1	11,6	72,4	36,2	1x630	13570	45	60	59	89	12	13800	19,9	7/8"	1"5/8	210
1x6Y B4	13,3	14,9	10,2	11,9	90,6	45,3	1x630	10430	33	48	51	81	15	17250	24,9	1"1/8	2"1/8	230
1x8Y C2	13,9	16,0	10,6	12,8	86,9	43,5	1x800	15620	34	49	42	72	9	13500	19,5	1"1/8	2"1/8	280
1x6D B4	15,3	16,9	11,8	13,4	90,6	45,3	1x630	13080	43	58	59	89	15	17250	24,9	1"1/8	2"1/8	230
1x8D C2	16,1	18,5	12,4	14,7	86,9	43,5	1x800	20580	47	62	48	78	9	13500	19,5	1"1/8	2"1/8	280
1x8Y C3	17,0	19,3	13,1	15,5	115,9	58,0	1x800	15020	33	48	42	72	12	18000	26,0	1"1/8	2"1/8	310
2x6Y B2	19,1	21,8	14,7	17,3	108,7	54,3	2x630	22230	36	51	54	84	9	19800	28,6	1"1/8	2"1/8	320
1x8D C3	20,0	22,5	15,4	17,9	115,9	58,0	1x800	19900	45	60	48	78	12	18000	26,0	1"1/8	2"1/8	310
2x6D B2	21,6	23,8	16,6	18,8	108,7	54,3	2x630	28110	48	63	62	92	9	19800	28,6	1"1/8	2"1/8	320
2x6Y B3	23,5	26,6	18,1	21,2	144,9	72,5	2x630	21530	36	51	54	84	12	26400	38,1	1"3/8	2"1/8	360
2x6D B3	26,8	29,4	20,6	23,5	144,9	72,5	2x630	27140	47	62	62	92	12	26400	38,1	1"3/8	2"1/8	360
2x6Y B4	27,0	30,4	20,9	24,4	181,1	90,6	2x630	20860	34	49	54	84	15	33000	47,6	1"5/8	2"5/8	400
2x8Y C2	28,5	31,8	21,9	25,3	173,9	86,9	2x800	31250	35	50	45	75	9	26100	37,7	1"3/8	2"5/8	490
3x6Y B2	29,0	32,8	22,3	26,1	163,0	81,5	3x630	33350	41	56	56	86	9	29250	42,2	1"5/8	2"5/8	460
2x6D B4	31,0	34,2	24,0	27,3	181,1	90,6	2x630	26160	45	60	62	92	15	33000	47,6	1"5/8	2"5/8	400
3x6D B2	32,6	35,9	25,0	28,4	163,0	81,5	3x630	42160	54	69	64	94	9	29250	42,2	1"5/8	2"5/8	460
2x8D C2	33,1	36,3	25,4	29,4	173,9	86,9	2x800	41150	48	63	51	81	9	26100	37,7	1"3/8	2"5/8	490
2x8Y C3	34,4	38,8	26,6	31,1	231,8	115,9	2x800	30030	34	49	45	75	12	34800	50,2	1"5/8	2"5/8	550
3x6Y B3	35,0	39,4	27,0	31,4	217,3	108,7	3x630	32290	40	55	56	86	12	39000	56,3	1"5/8	2"5/8	520
4x6Y B2	38,4	43,7	29,4	34,7	217,3	108,7	4x630	44460	46	61	57	87	9	38700	55,9	1"5/8	2"5/8	600
3x6D B3	39,7	43,5	30,6	34,5	217,3	108,7	3x630	40700	53	68	64	94	12	39000	56,3	1"5/8	2"5/8	520
2x8D C3	40,5	45,1	31,3	35,9	231,8	115,9	2x800	39790	46	61	51	81	12	34800	50,2	1"5/8	2"5/8	550
3x6Y B4	40,5	43,7	31,2	34,7	271,7	135,9	3x630	31290	39	54	56	86	15	48750	70,4	1"5/8	2"5/8	580
3x8Y C2	42,6	47,8	32,7	38,6	260,8	130,4	3x800	46870	40	55	47	77	9	38700	55,9	1"5/8	2"5/8	700
4x6D B2	43,2	47,7	33,1	37,8	217,3	108,7	4x630	56210	60	75	65	95	9	38700	55,9	1"5/8	2"5/8	600
3x6D B4	46,5	51,3	35,9	40,9	271,7	135,9	3x630	39240	51	66	64	94	15	48750	70,4	1"5/8	2"5/8	580
4x6Y B3	46,7	53,3	36,0	42,5	289,8	144,9	4x630	43060	44	59	57	87	12	51600	74,5	2x1"5/8	2x2"1/8	670
3x8D C2	49,5	55,7	38,0	44,2	260,8	130,4	3x800	61730	55	70	53	83	9	38700	55,9	1"5/8	2"5/8	700
3x8Y C3	51,6	57,8	39,8	46,3	347,7	173,9	3x800	45050	39	54	47	77	12	51600	74,5	1"5/8	3"1/8	790
4x6Y B4	52,9	60,9	40,8	48,8	362,2	181,1	4x630	41720	43	58	57	87	15	64500	93,1	1"5/8	3"1/8	750
4x6D B3	53,1	59,1	41,0	47,0	289,8	144,9	4x630	54270	58	73	65	95	12	51600	74,5	2x1"5/8	2x2"1/8	670
4x8Y C2	57,0	63,8	43,9	50,8	347,7	173,9	4x800	62500	45	60	48	78	9	51300	74,0	2x1"3/8	2x2"5/8	890
3x8D C3	60,7	67,0	46,8	53,3	347,7	173,9	3x800	59690	53	68	53	83	12	51600	74,5	1"5/8	3"1/8	790
4x6D B4	60,8	68,6	46,8	54,8	362,2	181,1	4x630	52320	57	72	65	95	15	64500	93,1	1"5/8	3"1/8	750
4x8D C2	66,3	72,8	51,0	58,8	347,7	173,9	4x800	82300	61	76	54	84	9	51300	74,0	2x1"3/8	2x2"5/8	890
4x8Y C3	69,0	77,7	53,3	62,2	463,6	231,9	4x800	60060	43	58	48	78	12	68400	98,7	2x1"5/8	2x2"5/8	1010
4x8D C3	81,1	90,5	62,7	72,0	463,6	231,9	4x800	79590	59	74	54	84	12	68400	98,7	2x1"5/8	2x2"5/8	1010

* ***Ø 630 mm*** : 400 V/3/50 Hz - Δ = 1500 rpm - 1900 W max - 3,2 A max - Y = 1000 rpm - 1350 W max - 2,2 A max (7)
* ***Ø 800 mm*** : 400 V/3/50 Hz - Δ = 870 rpm - 1900 W max - 3,9 A max - Y = 630 rpm - 1100 W max - 2 A max (7)

(1) Standard conditions (Eurovent) : SC3 / -18°C (air inlet temp.) / -25°C (evaporating temp.) / DT1 = 7K - SC4 / -25°C (air inlet temp.) / -31°C (evaporating temp.) / DT1 = 6K
(2) Operating pressure 50 bar - Tube diameter to define the order.
(3) Residual air speed: 0.25 m/s.
(4) Average sound pressure level in dB(A) measured at 4 m, at fan height, in direct line of sight on a reflective surface, given for information only.
(7) Setting of overload protection levels. For air temperatures "ti" other than +20 °C, multiply the currents in relation to 293/(273 + "ti")
in order to obtain an approximate current value after the room temperature is attained.

CMU	C2V	M60	VPA	VSC	BAE	BHE	BXT	WCO	EGU	CO2	DAE	DEG	EIK	EIU	ECK	ECU	ELU	HDA	VPM	HG1	HGT	RVK	RVU	CIN	ECB	EIS	KMS
O	O	O	O	O	O	O	O	-	-		-	-	-	-	-	O	S	O	O	O	O	O	O	O	O	O	O

S : Standard

LENNOX
EMEA

BLAST FREEZING TUNNEL UNIT COOLER

INDUSTRIAL RANGE

Food processing

HFC CO2* W GLYCOL

4 > **63** kW

NW

- The 54 models of the NW range meet the requirements of rapid deep-freezing and refrigeration applications.
- The high air flow speed guarantees extremely rapid refrigeration of food.
- The height-adjustable legs favour homogenous distribution of air over the products.
- Available air pressure of up to 200 Pa.
- Large heat-exchanger surface, large fin spacing of 6,35 - 9 or 12 mm and optimized defrost.

** Operating pressure 40 bar*

www.lennoxemea.com

FRIGA-BOHN

HK® REFRIGERATION

NW - Industrial freezing tunnel unit cooler

DESCRIPTION

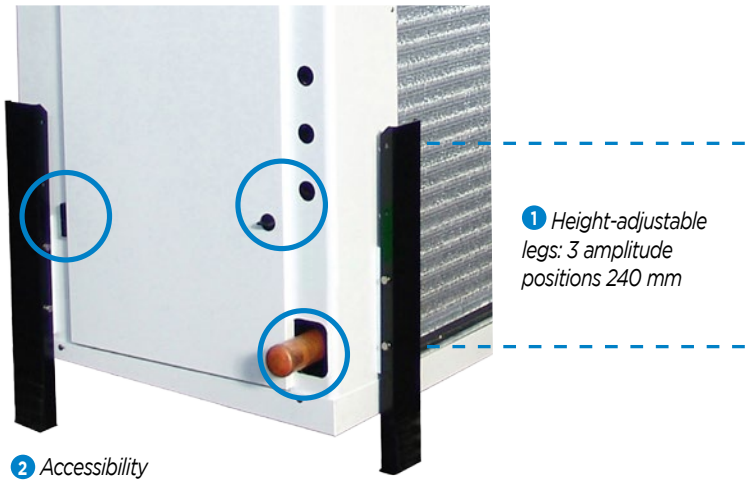
Casing
- The casing is made of pre-painted galvanized steel offering a high resistance to corrosion and impact damage.
- Intermediate aluminium drain pan to protect against the risk of condensation.

Ventilation
- Two types of fans are used in the NW range:

Axial fans
Models A - Externally mounted, their fan guards are compliant with safety standards. Three-phase external rotor motors, 400 V, 50 Hz, IP54, class F, 4 P (1,500 rpm), permanently lubricated, internal thermal overload protection. Available air pressure of up to 100 Pa.

Centrifugal fans
Models C - "Twin inlet" type with direct drive.
Three-phase enclosed motors, 230/400V, 50 Hz, IP54, class F, 4 P (1,000 rpm), permanently lubricated, internal thermal overload protection.
Available air pressure of up to 200 Pa.

Coil
- The high-performance and compact finned coils of the NW range are designed with flat-surface aluminium fins spaced at 6,35 - 9 or 12 mm, crimped onto copper tubes.
- The coils are supplied via R404A optimized Venturi distributor(s).
- For all other refrigerants, please contact us.



1 *Height-adjustable legs: 3 amplitude positions 240 mm*

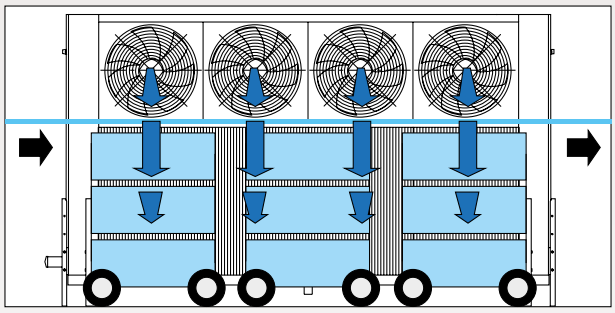
2 *Accessibility*

DESIGNATION

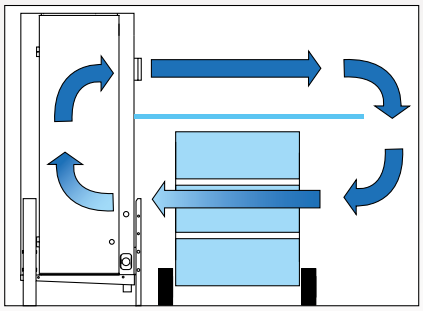
NW 11(1) **A1**(2) **S**(3) **100Pa**(4)

(1) Model
(2) **A** = Axial fan - **C** = Centrifugal fan / **1** = Number
(3) Fin spacing: **R/C** = 6,35 mm - **L/S** = 9 mm - **M/T** = 12 mm
(4) Available pressure

CERTIFICATIONS



Deep-freeze tunnel principle with an NW



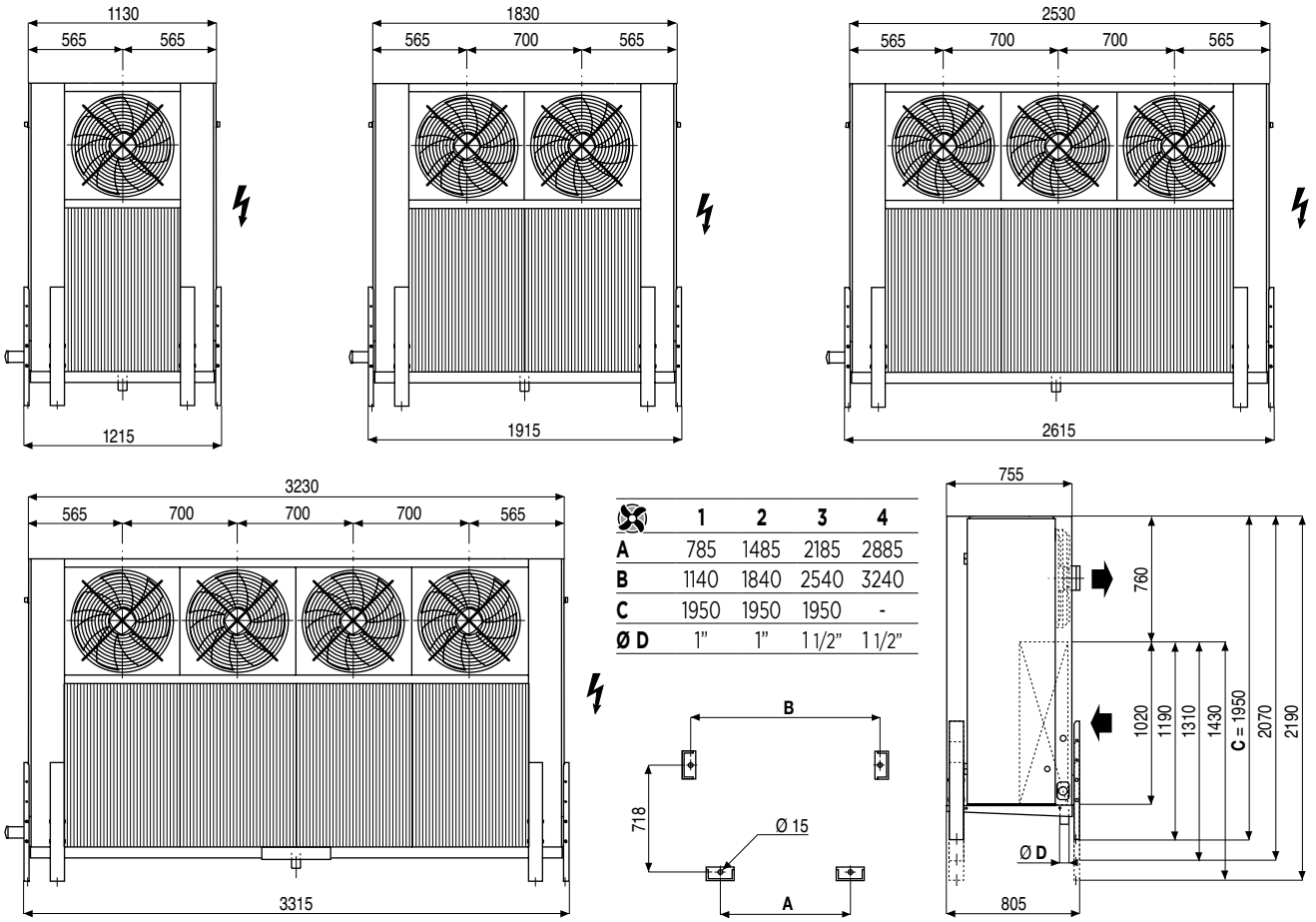
ADVANTAGES

Installation
Installation of the unit up against a wall allows maximum filling of the cold room.
The height-adjustable feet favour homogenous distribution of air over the products 1
Two blowing positions possible: horizontal (H2) vertical (H4).
Floor mounting system for easy installation and maintenance.
Servicing / Maintenance
Easily removable main aluminium drain pan.
Hinged side panels offering easy access to electrical and refrigerant connections 2

OPTIONS

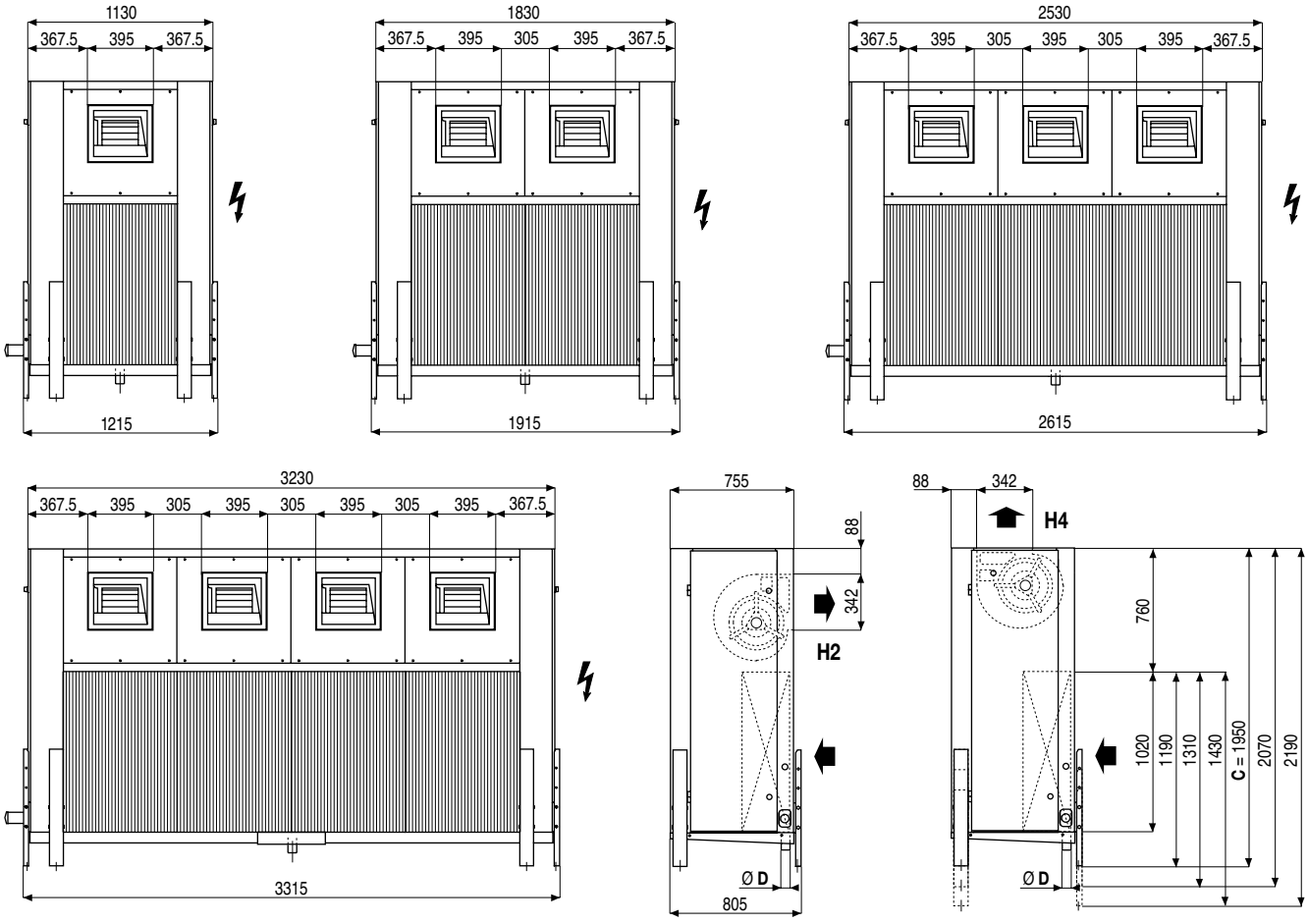
Kit	Factory	
		Ventilation
	CMU	Motors factory wired.
		Coil
	WCO	Glycol water, coolant (please contact us for details).
	CO2	R744 optimization (please contact us for details).
		Defrost
	DAE	Water defrost.
	E1U	Light electric defrost.
ECK	ECU	Additional coil electric defrost.
	HGT	Hot gas (coil and drain pan).
RVK	RVU	Shell defrost heaters.
		Miscellaneous
	ECB	Wooden crate packaging.
		Other options
		Please contact us for details.

NW .. A ..



	1	2	3	4
A	785	1485	2185	2885
B	1140	1840	2540	3240
C	1950	1950	1950	-
Ø D	1"	1"	1 1/2"	1 1/2"

NW .. C ..



NW .. A. R (Axial fans) 6,35 mm

				NW ... R	12 A1	14 A1	25 A2	30 A2	45 A3	60 A4
0 Pa (1)	Capacity R404A (2)	DT1 = 8K - SC 2	kW		13,2	15,5	26,8	31,5	47,4	63,4
	Capacity CO2 (6)	DT1 = 8K - SC 2	kW		12,8	14,7	25,2	29,6	44,6	59,5
	Air flow		m^3/h		7920	7590	15840	15190	22780	30380
	Air throw (3)		m		19	18	22	21	26	30
100 Pa (1)	Puissance R404A (2)	DT1 = 8K - SC 2	kW		11,4	13,1	23,2	26,6	40,1	53,4
	Puissance CO2 (6)	DT1 = 8K - SC 2	kW		11,0	12,3	21,7	24,7	37,2	49,7
	Air flow		m^3/h		6000	5640	12000	11290	16940	22580
	Air throw (3)		m		15	14	17	16	20	23
Surface			m^2		44,7	59,6	89,3	119,1	178,7	238,3
Circuit volume			dm^3		12,6	16,8	25,2	33,6	50,4	67,2
Net weight			kg		180	195	280	305	420	530
Connections	Inlet		Ø		5/8"	5/8"	7/8"	7/8"	1"1/8	1"3/8
R404A	Outlet		Ø		1"3/8	1"3/8	1"5/8	1"5/8	2"1/8	2"1/8

NW .. A. L (Axial fans) 9 mm

				NW ... L	9 A1	11 A1	20 A2	24 A2	36 A3	49 A4
0 Pa (1)	Capacity R404A (2)	DT1 = 8K - SC 2	kW		10,0	12,1	20,3	24,8	37,6	50,2
	Capacity CO2 (6)	DT1 = 8K - SC 2	kW		10,6	12,5	21,3	25,2	38,2	50,7
	Air flow		m^3/h		8070	7770	16130	15530	23300	31070
	Air throw (3)		m		21	21	25	24	29	34
100 Pa (1)	Puissance R404A (2)	DT1 = 8K - SC 2	kW		8,8	10,6	18,1	21,7	32,8	43,9
	Puissance CO2 (6)	DT1 = 8K - SC 2	kW		9,2	10,6	18,5	21,4	32,2	43,1
	Air flow		m^3/h		6230	5870	12460	11740	17610	23480
	Air throw (3)		m		17	16	20	19	23	27
Surface			m^2		40,8	54,4	81,6	108,8	163,2	217,6
Circuit volume			dm^3		16,1	21,4	32,1	42,8	64,2	85,6
Net weight			kg		185	205	295	325	445	565
Connections	Inlet		Ø		5/8"	5/8"	5/8"	7/8"	7/8"	1"1/8
R404A	Outlet		Ø		1"1/8	1"1/8	1"3/8	1"5/8	2"1/8	2"1/8

NW .. A. M (Axial fans) 12 mm

				NW ... M	9 A1	11 A1	19 A2	23 A2	34 A3	47 A4
0 Pa (1)	Capacity R404A (2)	DT1 = 8K - SC 2	kW		8,8	10,9	18,0	22,3	33,6	45,0
	Capacity CO2 (6)	DT1 = 8K - SC 2	kW		8,5	10,4	17,0	20,9	29,8	41,9
	Air flow		m^3/h		8230	7950	16460	15900	23840	31790
	Air throw (3)		m		22	21	26	25	30	34
100 Pa (1)	Puissance R404A (2)	DT1 = 8K - SC 2	kW		7,9	9,6	16,0	19,5	29,4	39,4
	Puissance CO2 (6)	DT1 = 8K - SC 2	kW		7,5	9,0	15,0	18,1	26,2	36,3
	Air flow		m^3/h		6420	6080	12850	12170	18250	24340
	Air throw (3)		m		17	17	21	20	24	27
Surface			m^2		31,7	42,2	63,4	84,5	126,7	169
Circuit volume			dm^3		16,1	21,4	32,1	42,8	64,2	85,6
Net weight			kg		185	200	290	320	435	555
Connections	Inlet		Ø		5/8"	5/8"	5/8"	7/8"	7/8"	1"1/8
R404A	Outlet		Ø		1"1/8	1"1/8	1"3/8	1"5/8	1"5/8	2"1/8

				NW ...						
Acoustic	Lp 4m (4)		dB(A)		52	52	55	55	57	58
	Lw		dB(A)		82	82	85	85	87	88
Turbine 1,500 rpm.	Ø 560 mm	400 V/3/50 Hz	Nb		1	1	2	2	3	4
			kW/u		1,2	1,2	1,2	1,2	1,2	1,2
			A max/u		2,4	2,4	2,4	2,4	2,4	2,4
Electric defrost E1U (5)	Ω		Nb		4 + 2	7 + 2	4 + 2	7 + 2	7 + 2	7 + 2
	230-400 V/3/50 Hz		W total		3900	5850	6600	9900	14400	22500
			A total		9,8/5,6	14,7/8,4	16,6/9,5	24,9/14,3	36,1/20,8	56,5/32,5

(1) Additional air pressure available in Pascal.
(2) Standard conditions (Eurovent) : SC2 / 0°C (air inlet temp.) / -8°C (evaporating temp.) / DT1 = 8K
(3) Residual air speed: 0.25 m/s.
(4) Average sound pressure level in dB(A) measured at 4 m, at fan height, in direct line of sight on a reflective surface, given for information only.
(5) Electric defrost option.
(6) Operating pressure 40 bar - Tube diameter to define the order.

CMU	WCO	CO2	DAE	E1U	ECK	HGT	RVK	ECB
O			O	O	O	O	O	O

NW .. C. R (Centrifugal fans) 6,35 mm

				NW ... R	12 C1	14 C1	24 C2	28 C2	43 C3	58 C4
200 Pa (1)	Capacity R404A (2)	DT1 = 8K - SC 2	kW	**11,0**	**12,6**	**22,2**	**25,5**	**38,5**	**51,5**
	Capacity CO2 (6)	DT1 = 8K - SC 2	kW	**10,1**	**11,4**	**20,0**	**22,9**	**32,5**	**44,5**
	Air flow		m^3/h	5220	5000	10450	10000	15000	20000
	Air throw (3)		m	18	18	22	21	25	28
Surface			m^2	44,7	59,6	89,3	119,1	178,7	238,3
Circuit volume			dm^3	12,6	16,8	25,2	33,6	50,4	67,2
Net weight			kg	180	195	280	305	420	530
Connections	Inlet		Ø	5/8"	5/8"	7/8"	7/8"	1"1/8	1"3/8
R404A	Outlet		Ø	1"1/8	1"3/8	1"5/8	1"5/8	2"1/8	2"1/8

NW .. C. L (Centrifugal fans) 9 mm

				NW ... L	9 C1	10 C1	18 C2	22 C2	33 C3	44 C4
200 Pa (1)	Capacity R404A (2)	DT1 = 8K - SC 2	kW	**8,0**	**9,6**	**16,3**	**19,5**	**29,2**	**39,1**
	Capacity CO2 (6)	DT1 = 8K - SC 2	kW	**8,4**	**9,8**	**16,9**	**19,8**	**28,2**	**39,8**
	Air flow		m^3/h	5360	5160	10710	10320	15490	20650
	Air throw (3)		m	19	18	23	22	26	29
Surface			m^2	40,8	54,4	81,6	108,8	163,2	217,6
Circuit volume			dm^3	16,1	21,4	32,1	42,8	64,2	85,6
Net weight			kg	185	205	295	325	445	565
Connections	Inlet		Ø	5/8"	5/8"	5/8"	7/8"	7/8"	1"1/8
R404A	Outlet		Ø	1"1/8	1"1/8	1"3/8	1"5/8	2"1/8	2"1/8

NW .. C. M (Centrifugal fans) 12 mm

				NW ... M	8 C1	10 C1	17 C2	21 C2	31 C3	42 C4
200 Pa (1)	Capacity R404A (2)	DT1 = 8K - SC 2	kW	**7,0**	**8,5**	**14,3**	**17,4**	**26,2**	**35,0**
	Capacity CO2 (6)	DT1 = 8K - SC 2	kW	**6,8**	**8,3**	**13,3**	**16,7**	**24,3**	**33,4**
	Air flow		m^3/h	5460	5280	10910	10560	15840	21120
	Air throw (3)		m	19	19	23	23	26	30
Surface			m^2	31,7	42,2	63,4	84,5	126,7	169
Circuit volume			dm^3	16,1	21,4	32,1	42,8	64,2	85,6
Net weight			kg	185	200	290	320	435	555
Connections	Inlet		Ø	5/8"	5/8"	5/8"	7/8"	7/8"	7/8"
R404A	Outlet		Ø	1"1/8	1"1/8	1"3/8	1"3/8	1"5/8	2"1/8

				NW ...						
Acoustic	**Lp 4m** (4)		dB(A)	48	48	51	51	53	54
	Lw		dB(A)	78	78	81	81	83	84
Turbine 1,000 rpm.	**12/12**	230-400 V/3/50 Hz	**Nb**	1	1	2	2	3	4
			kW/u	2,0	2,0	2,0	2,0	2,0	2,0
			A max/u	3,3	3,3	3,3	3,3	3,3	3,3
Electric defrost **E1U** (5)	Ω		**Nb**	4 + 2	7 + 2	4 + 2	7 + 2	7 + 2	7 + 2
	230-400 V/3/50 Hz		W total	3900	5850	6600	9900	14400	22500
			A total	9,8/5,6	14,7/8,4	16,6/9,5	24,9/14,3	36,1/20,8	56,5/32,5

(1) Additional air pressure available in Pascal.
(2) Standard conditions (Eurovent) : SC2 / 0°C (air inlet temp.) / -8°C (evaporating temp.) / DT1 = 8K
(3) Residual air speed: 0.25 m/s.
(4) Average sound pressure level in dB(A) measured at 4 m, at fan height, in direct line of sight on a reflective surface, given for information only.
(5) Electric defrost option.
(6) Operating pressure 40 bar - Tube diameter to define the order.

CMU	WCO	CO2	DAE	E1U	ECK	HGT	RVK	ECB
O			O	O	O	O	-	O

NW .. A. C (Axial fans) 6,35 mm

				NW ... C	12 A1	14 A1	25 A2	29 A2	45 A3	60 A4
0 Pa (1)	Capacity R404A (2)	DT1 = 7K - SC 3	kW		10,2	12,0	20,8	24,5	35,8	48,0
		DT1 = 6K - SC 4	kW		7,9	9,5	16,3	19,4	28,0	37,6
	Capacity CO2 (6)	DT1 = 7K - SC 3	kW		10,4	12,4	21,0	24,9	37,2	47,7
		DT1 = 6K - SC 4	kW		8,4	10,0	16,9	20,3	30,2	38,4
	Air flow		m^3/h		7920	7590	15840	15190	22780	30380
	Air throw (3)		m		19	18	22	21	26	30
100 Pa (1)	Capacity R404A (2)	DT1 = 7K - SC 3	kW		8,8	10,2	18,0	20,7	30,7	41,2
		DT1 = 6K - SC 4	kW		6,9	8,1	14,2	16,5	24,3	32,5
	Capacity CO2 (6)	DT1 = 7K - SC 3	kW		9,0	9,9	18,1	20,0	31,1	40,3
		DT1 = 6K - SC 4	kW		7,3	8,4	14,7	16,2	25,4	32,7
	Air flow		m^3/h		6000	5640	12000	11290	16940	22580
	Air throw (3)		m		15	14	17	16	20	23
Surface			m^2		44,7	59,6	89,3	119,1	178,7	238,3
Circuit volume			dm^3		12,6	16,8	25,2	33,6	50,4	67,2
Net weight			kg		180	195	280	305	420	530
Connections	Inlet		Ø		5/8"	7/8"	1"1/8	1"1/8	1"1/8	1"3/8
R404A	Outlet		Ø		1"3/8	1"5/8	2"1/8	2"1/8	2"1/8	2"5/8

NW .. A. S (Axial fans) 9 mm

				NW ... S	9 A1	11 A1	19 A2	24 A2	36 A3	48 A4
0 Pa (1)	Capacity R404A (2)	DT1 = 7K - SC 3	kW		7,2	8,9	14,6	18,3	27,7	37,1
		DT1 = 6K - SC 4	kW		5,5	6,8	11,1	14,0	21,2	28,5
	Capacity CO2 (6)	DT1 = 7K - SC 3	kW		8,6	9,9	17,5	20,1	31,6	42,1
		DT1 = 6K - SC 4	kW		6,8	7,7	13,8	15,8	25,0	33,3
	Air flow		m^3/h		8070	7770	16130	15530	23300	31070
	Air throw (3)		m		21	21	25	24	29	34
100 Pa (1)	Capacity R404A (2)	DT1 = 7K - SC 3	kW		6,5	7,9	13,0	16,1	24,3	32,7
		DT1 = 6K - SC 4	kW		4,9	6,0	9,9	12,4	18,8	25,3
	Capacity CO2 (6)	DT1 = 7K - SC 3	kW		7,6	8,5	15,3	17,4	26,9	35,8
		DT1 = 6K - SC 4	kW		6,0	6,8	12,1	13,8	21,4	28,6
	Air flow		m^3/h		6230	5870	12460	11740	17610	23480
	Air throw (3)		m		17	16	20	19	23	27
Surface			m^2		40,8	54,4	81,6	108,8	163,2	217,6
Circuit volume			dm^3		16,1	21,4	32,1	42,8	64,2	85,6
Net weight			kg		185	205	295	325	445	565
Connections	Inlet		Ø		5/8"	5/8"	7/8"	7/8"	1"1/8	1"1/8
R404A	Outlet		Ø		1"3/8	1"3/8	1"5/8	2"1/8	2"1/8	2"5/8

NW .. A. T (Axial fans) 12 mm

				NW ... T	9 A1	11 A1	18 A2	22 A2	34 A3	46 A4
0 Pa (1)	Capacity R404A (2)	DT1 = 7K - SC 3	kW		6,3	8,0	12,9	16,5	24,8	33,4
		DT1 = 6K - SC 4	kW		4,8	6,1	9,8	12,6	19,1	25,7
	Capacity CO2 (6)	DT1 = 7K - SC 3	kW		7,0	8,3	14,1	16,9	26,0	34,7
		DT1 = 6K - SC 4	kW		5,5	6,6	11,1	13,4	20,7	27,6
	Air flow		m^3/h		8230	7950	16460	15900	23840	31790
	Air throw (3)		m		22	21	26	25	30	34
100 Pa (1)	Capacity R404A (2)	DT1 = 7K - SC 3	kW		5,6	7,1	11,5	14,5	21,9	29,4
		DT1 = 6K - SC 4	kW		4,2	5,4	8,8	11,2	16,9	22,8
	Capacity CO2 (6)	DT1 = 7K - SC 3	kW		6,2	7,3	12,5	14,8	22,5	30,1
		DT1 = 6K - SC 4	kW		4,9	5,8	9,9	11,8	18,0	24,0
	Air flow		m^3/h		6420	6080	12850	12170	18250	24340
	Air throw (3)		m		17	17	21	20	24	27
Surface			m^2		31,7	42,2	63,4	84,5	126,7	169,0
Circuit volume			dm^3		16,1	21,4	32,1	42,8	64,2	85,6
Net weight			kg		185	200	290	320	435	555
Connections	Inlet		Ø		5/8"	5/8"	7/8"	7/8"	1"1/8	1"1/8
R404A	Outlet		Ø		1"3/8	1"3/8	1"5/8	1"5/8	2"1/8	2"1/8

				NW ...						
Acoustic	**Lp 4m** (4)		dB(A)		52	52	55	55	57	58
	Lw		dB(A)		82	82	85	85	87	88
Fan 1,500 rpm.	**Ø 560 mm**	400 V/3/50 Hz	Nb		1	1	2	2	3	4
			kW/u		1,2	1,2	1,2	1,2	1,2	1,2
			A max/u		2,4	2,4	2,4	2,4	2,4	2,4
Electric defrost **E1U** (5)	Ω	230-400 V/3/50 Hz	Nb		7 + 2	10 + 2	7 + 2	10 + 2	10 + 2	10 + 2
			W total		5850	7800	9900	13200	19200	30000
			A total		14,7/8,4	19,6/11,3	24,9/14,3	33,1/19,1	48,2/27,7	75,3/43,3

CMU	WCO	CO2	DAE	E1U	ECK	HGT	RVK	ECB
O	-		O	-	-	O	O	O

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LENNOX
EMEA

BLAST FREEZING TUNNEL UNIT COOLER

INDUSTRIAL RANGE

Food processing

HFC CO2*

35 > **130** kW

NF

- High capacity of up to 110 kW.
- The high air flow speed guarantees extremely rapid refrigeration of food.
- Large heat-exchanger surface and large fin spacing of 9 mm.

** Operating pressure 40 bar*

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FRIGA-BOHN

HK® REFRIGERATION

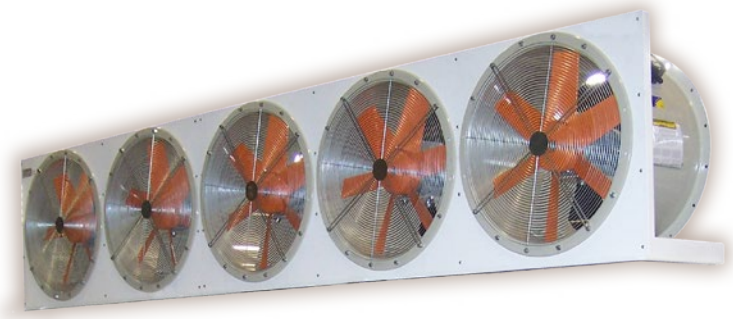
NF - Industrial blast freezing tunnel unit cooler

DESCRIPTION

Ventilation
- Fan delivered separately and installed above the coil.
- Fans Ø 710 mm 230/400 V/3/50 Hz, IP 55, class F.

Coil
- Coil with staggered copper tubes and embosed aluminium fins.
- Fin spacing of 9 mm.

Defrost
- Drain pan under the entire heat-exchanger.
- Electric defrost.

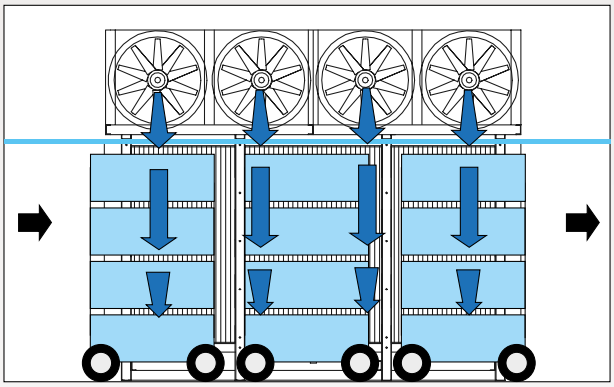


DESIGNATION

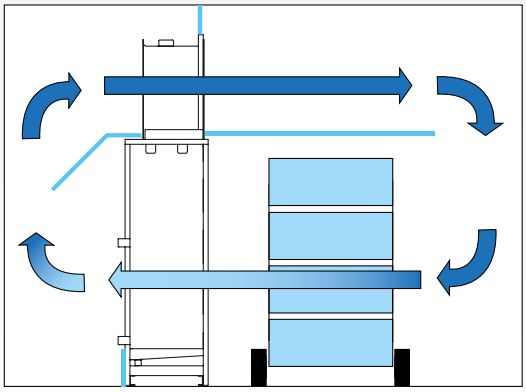
NFT(1) **280**(2)

(1) Fin spacing: **NFT** = 9 mm
(2) Model

CERTIFICATIONS



Deep-freeze tunnel principle with an NF



ADVANTAGES

Installation

Due to the unit height, the NF is supplied in 2 parts:
- a coil, frame, drain pan and heater assembly,
- a fans assembly.

Servicing / Maintenance

Inclination of the drain pan towards the largely dimensioned drain pipe (Ø 1 1/2" G) to avoid accumulation of soiling and render cleaning easier.

OPTIONS

Kit / Factory	
	Coil
CO2	R744 optimization (please contact us for details)
	Miscellaneous
ECB	Wooden crate packaging.
	Other options
	Please contact us for details.

NFT - 100 Pa (1) 9 mm

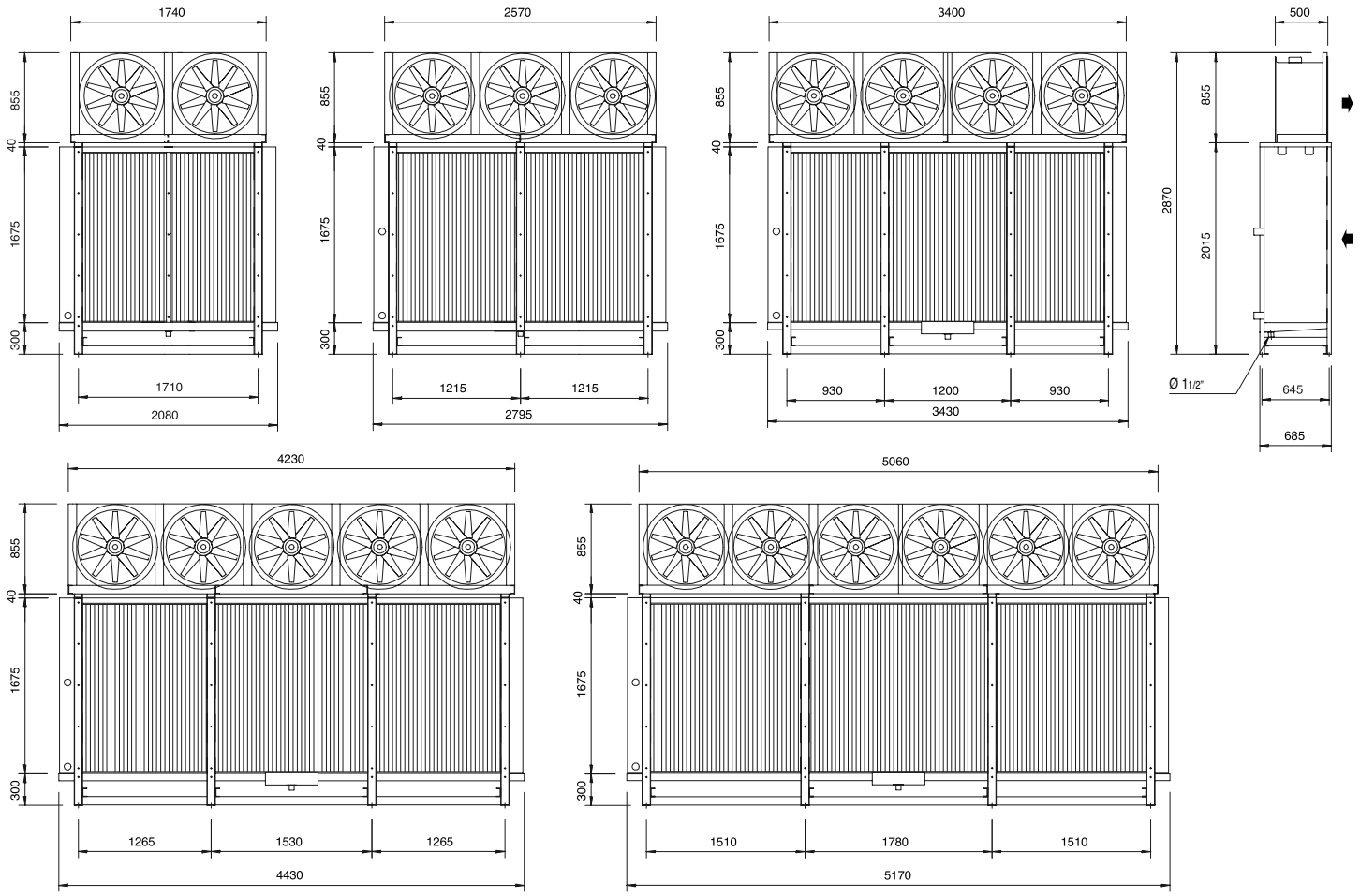
		NFT ...	280	401	507	676	802
Capacity R404A	DT1 = 7K - SC 3 (2)	kW	43,5	64,3	82,9	109,3	129,6
	DT1 = 6K - SC 4 (2)	kW	33,6	49,7	64,1	84,7	100,1
Capacity CO2 (7)	DT1 = 7K - SC 3 (2)	kW	53,5	77,9	100,2	130,3	151,8
	DT1 = 6K - SC 4 (2)	kW	42,6	62,0	79,7	103,7	120,3
Surface		m^2	307,8	442,1	559,6	746,2	884,2
Circuit volume		dm^3	121,1	173,9	220,2	293,6	347,9
Fan* Ø 710 mm 1500 r.p.m.	Air flow	m^3/h	31800	46500	60400	78500	94200
	Air throw (3)	m	41	49	56	64	71
		Nb	2	3	4	5	6
Electric defrost	Ω	Nb	19 + 2	19 + 2	19 + 2	19 + 2	19 + 2
	400 V/3/50 Hz	W total	27300	47250	59850	79800	92400
		A total	39,6	68,5	86,7	115,7	133,9
Net weight		kg	600	830	1060	1330	1560
Connections R404A	Inlet	Ø (4)	1"3/8	2x 1"1/8	2x 1"3/8	2x 1"3/8	2x 1"3/8
	Outlet	Ø (5)	2"5/8	2x 2"1/8	2x 2"5/8	2x 2"5/8	2x 3"1/8
Options		CO2	+1	+1	+1	+1	+1
		ECB	O	O	O	O	O

* 2.2 kW max - 230 V/3/50 Hz : 8.5 A max - 400 V/3/50 Hz : 4.9 A max. (6).

(1) Additional air pressure available in Pascal.
(2) Standard conditions (Eurovent) : SC3 / -18°C (air inlet temp.) / -25°C (evaporating temp.) / DT1 = 7K - SC4 / -25°C (air inlet temp.) / -31°C (evaporating temp.) / DT1 = 6K
(3) Residual air speed: 0.25 m/s.
(4) Distributor: Male to be brazed.
(5) Ø: Male to be brazed.
(6) Setting of overload protection levels.
(7) Operating pressure 40 bar - Tube diameter to define the order.

Sound power per fan Lw

	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz
Lw - dB(A)	58	78	86	91	93	90	83	72



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LENNOX
EMEA

CENTRIFUGAL UNIT COOLER

INDUSTRIAL RANGE

Hard Discount - Supermarkets - Hypermarkets
Refrigerated storage and transit stocking - Dispatch centres
Food processing - Canteen kitchens

HFC CO2* W GLYCOL

5 > **95** kW

NC

- The NC range is designed for use in cold rooms or work areas.
- Centrifugal motors delivering an available pressure of up to 200 Pa.
- Wide choice of options for industrial applications.
- 4 blowing positions possible.
- Floor or ceiling installation.

** Operating pressure 50 bar*

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FRIGA-BOHN

HK® REFRIGERATION

NC - Industrial centrifugal unit cooler

DESCRIPTION

Casing

- Compact and sturdy, it is made of white enamelled galvanized steel.
- External aluminium drain pan.
- Intermediate aluminium drain pan to reduce the condensation effect.

Ventilation

- Direct-drive, "twin inlet" centrifugal type fans.
- Pressure of up to 200 Pascals available.
- Rotation speed 1,000 rpm.
- Enclosed motors with internal thermal overload protection, IP 54 class F, designed for operating conditions between -40 °C and +70 °C.

Coil

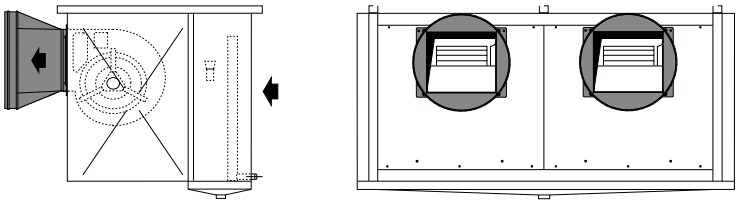
- The coils of NC unit coolers are designed with aluminium fins spaced at 4.23 mm (model P) or 6.35 mm (model N) crimped to staggered copper tubes Ø1/2" (12.7 mm).

CERTIFICATIONS

APPLICATION OF OPTIONS

Application requiring installation of a textile duct

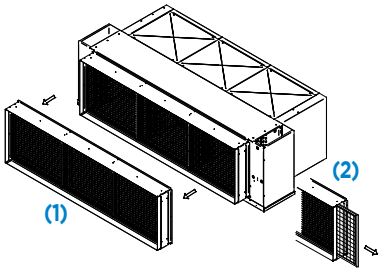
VGT option
Circular shell for connection of textile ducting (ducts not provided).



Air intake filter and ducting

FLA option
gravimetric air intake filter.

CFA option (1)
The enclosure enables connection of an air intake duct; the filter may be removed from the side of the enclosure for easy servicing (2).



Adapted power and noise level, thermal insulation

VVU / VVK option
modulated voltage speed controller. Guaranteed acoustic comfort at low and medium speeds for employees in the vicinity.

IPH option
10 mm thick insulation to help reduce the sheeting vibration and provide thermal insulation of the unit to limit the effect of condensation.

DESIGNATION

NCP(1) 6294(2) H3(3)

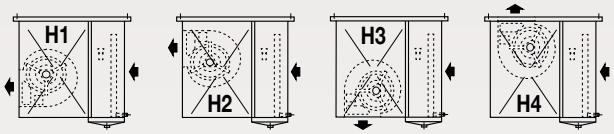
(1) Fin spacing: **NCP** = 4,23 mm - **NCN** = 6,35 mm
(2) Model
(3) Air direction

ADVANTAGES

Installation

The design concept enables floor or ceiling installation and offers easy access to all components.

4 blowing positions available (to be indicated when ordering).



Later modification is particularly easy.

Possibility to supply an optional speed controller factory fitted or in kit form (**VVU/VVK**) for optimization of the "power/noise level" ratio.

Servicing / Maintenance

Direct-drive centrifugal fans require no specific maintenance.

The external aluminium drain pan may be easily removed.

Easy access to the distributor.

OPTIONS

Kit	Factory	
		Ventilation
	CMU	Motors factory wired.
VGT		Textile duct shell.
VPS		Blower deflector vanes (please contact us for details).
VVK	VVU	Speed controller.
		Coil
	BAE	Protection of fins.
	WCO	Glycol water, coolant (please contact us for details).
	CO2	R744 optimization (please contact us for details).
		Defrost
	E1U	Light electric defrost.
	HGT	Hot gas (coil and drain pan).
		Casing
	IPH	Noise Insulation (M1*).
	FLA	Intake filters (M1*).
	CFA	Air intake filter housing (M1*).
	ECB	Wooden crate packaging.

* M1: Non-flammable.

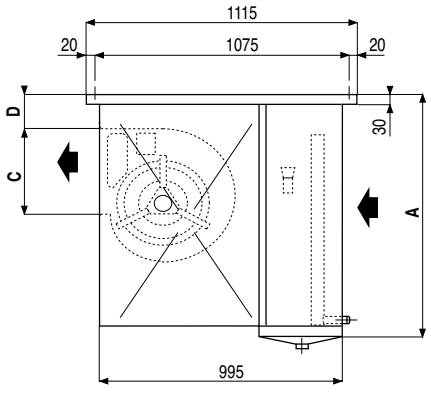
NCP

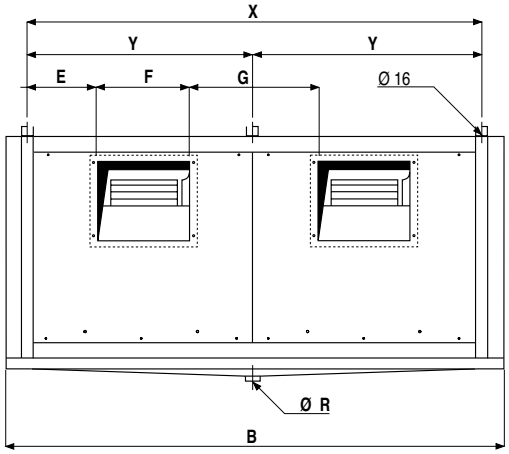
4,23 mm

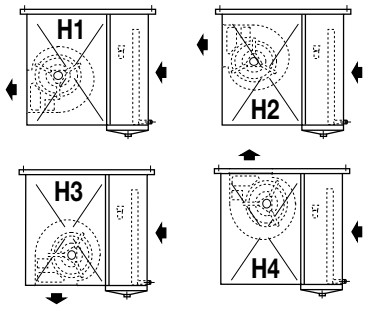
			NCP ...	831	1622	1591	2393	3162	4693	6294
100 Pa (1)	Capacity R404A (2)	DT1 = 10K - SC 1	kW	**10,9**	**21,1**	**24,9**	**31,0**	**47,9**	**70,7**	**95,0**
		DT1 = 8K - SC 2	kW	**7,1**	**13,9**	**16,5**	**20,4**	**31,7**	**46,8**	**63,2**
	Capacity CO2 (6)	DT1 = 8K - SC 2	kW	**8,2**	**16,2**	**18,4**	**24,2**	**34,4**	**53,8**	**68,5**
	Air flow		m^3/h	3200	6310	8190	9420	16150	24100	32040
Acoustic	**Lp 4 m** (3)		dB(A)	44	47	59	49	61	63	64
	Lw		dB(A)	74	77	89	79	91	93	94
150 Pa (1)	Capacity R404A (2)	DT1 = 10K - SC 1	kW	**9,6**	**18,6**	**23,7**	**27,3**	**45,7**	**67,6**	**90,9**
		DT1 = 8K - SC 2	kW	**6,3**	**12,3**	**15,8**	**18,1**	**30,3**	**44,7**	**60,5**
	Capacity CO2 (6)	DT1 = 8K - SC 2	kW	**7,4**	**14,6**	**17,6**	**21,8**	**33,0**	**51,4**	**65,7**
	Air flow		m^3/h	2740	5400	7610	8060	14990	22350	29720
Acoustic	**Lp 4 m** (3)		dB(A)	42	45	57	46	60	62	62
	Lw		dB(A)	72	75	87	76	90	92	92
200 Pa (1)	Capacity R404A (2)	DT1 = 10K - SC 1	kW	**-**	**-**	**22,4**	**-**	**43,1**	**63,9**	**85,6**
		DT1 = 8K - SC 2	kW	**-**	**-**	**14,9**	**-**	**28,7**	**42,4**	**57,2**
	Capacity CO2 (6)	DT1 = 8K - SC 2	kW	**-**	**-**	**16,6**	**-**	**31,3**	**48,5**	**62,3**
	Air flow		m^3/h	-	-	6950	-	13670	20390	27100
Acoustic	**Lp 4 m** (3)		dB(A)	-	-	55	-	58	60	61
	Lw		dB(A)	-	-	85	-	88	90	91

			NCP ...	831	1622	1591	2393	3162	4693	6294
Surface			m^2	47,0	86,6	75,2	126,2	142,0	208,8	275,6
Circuit volume			dm^3	9,1	16,8	14,5	24,4	27,5	40,4	53,3
Turbine			**Nb**	1	2	1	3	2	3	4
	230V/1/50 Hz		kW	0,67	1,34	-	2,01	-	-	-
			A max (4)	2,9	5,8	-	8,7	-	-	-
	230-400V/3/50 Hz		kW	-	-	3,3	-	6,6	9,9	13,2
			A max (4)	-	-	5,8	-	11,6	17,4	23,2
Net weight			kg	88	151	118	200	241	305	463
Dimensions	**A**		mm	760	760	870	765	875	880	880
	B		mm	1170	1810	1490	2450	2450	3410	4370
	C		mm	290	290	342	290	342	342	342
	D		mm	152	152	197	152	197	197	197
	E		mm	234	234	363	234	363	363	363
	F		mm	331	331	395	331	395	395	395
	G		mm	-	306	-	306	564	564	564
	X		mm	790	1430	1110	2070	2070	3030	3990
	Y		mm	-	-	-	-	-	-	1995
	Ø R		Ø	1"	1"	1"	1"1/2	1"1/2	1"1/2	1"1/2
Connections	Inlet		Ø	5/8"	5/8"	7/8"	7/8"	7/8"	1"1/8	1"1/8
R404A	Outlet		Ø	7/8"	1"1/8	1"1/8	1"3/8	1"3/8	1"5/8	2"1/8

(1) Additional pressure available in Pascals.
(2) Standard conditions : SC1 / +10°C (air inlet temp.) / 0 °C (evaporating temp.) / DT1 = 10K - SC2 / 0°C (air inlet temp.) / -8°C (evaporating temp.) / DT1 = 8K
(3) Average sound pressure level in dB(A) measured at 4 m, at turbine height, in direct line of sight on a reflective surface, given for information only.
(4) Setting of overload protection levels. For air temperatures "ti" other than +20 °C, multiply the currents in relation to 293/(273 + "ti")
in order to obtain an approximate current value after the chamber temperature is attained.
(6) Operating pressure 50 bar - Tube diameter to define the order.







CMU	VGT	VPS	VVK	VVU*	BAE	WCO	CO2	E1U	HGT	IPH	FLA	CFA	ECB
O	O	+👤	O	O	O	+👤	+👤	-	-	O	O	O	O

* Only for turbines : 230V/1/50Hz

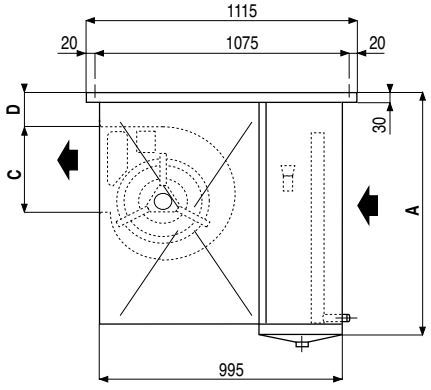
NCN

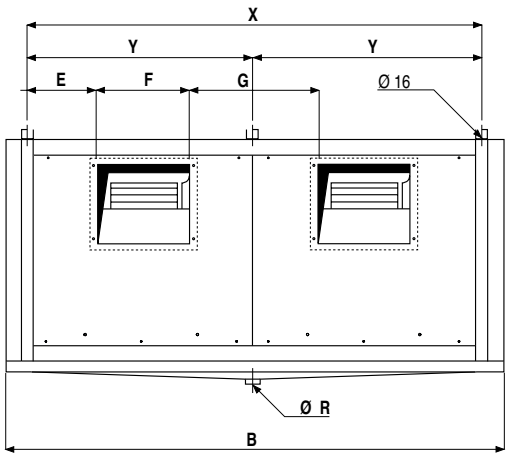
6,35 mm

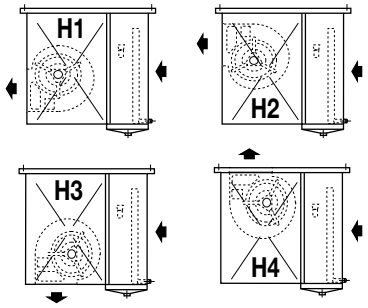
			NCN ...	831	1622	1591	2393	3162	4693	6294
100 Pa (1)	Capacity R404A (2)	**DT1 = 8K - SC 2**	**kW**	**6,2**	**12,0**	**13,5**	**17,7**	**26,8**	**39,8**	**53,3**
	Capacity CO2 (6)	**DT1 = 8K - SC 2**	**kW**	**7,2**	**14,1**	**15,5**	**20,9**	**29,5**	**45,2**	**58,5**
	Air flow		**m³/h**	3270	6470	8450	9680	16740	25020	33290
Acoustic	**Lp 4 m** (3)		**dB(A)**	44	47	59	49	62	64	65
	Lw		**dB(A)**	74	77	89	79	92	94	95
150 Pa (1)	Capacity R404A (2)	**DT1 = 8K - SC 2**	**kW**	**5,5**	**10,7**	**13,1**	**15,7**	**25,8**	**38,3**	**51,3**
	Capacity CO2 (6)	**DT1 = 8K - SC 2**	**kW**	**6,6**	**12,8**	**15,0**	**19,0**	**28,5**	**43,5**	**56,4**
	Air flow		**m³/h**	2810	5560	7910	8310	15630	23340	31050
Acoustic	**Lp 4 m** (3)		**dB(A)**	42	45	58	47	61	63	63
	Lw		**dB(A)**	72	75	88	77	91	93	93
200 Pa (1)	Capacity R404A (2)	**DT1 = 8K - SC 2**	**kW**	**-**	**-**	**12,4**	**-**	**24,6**	**36,5**	**48,8**
	Capacity CO2 (6)	**DT1 = 8K - SC 2**	**kW**	**-**	**-**	**14,3**	**-**	**27,2**	**41,4**	**53,8**
	Air flow		**m³/h**	-	-	7240	-	14290	21330	28380
Acoustic	**Lp 4 m** (3)		**dB(A)**	-	-	56	-	59	61	62
	Lw		**dB(A)**	-	-	86	-	89	91	92

			NCN ...	831	1622	1591	2393	3162	4693	6294
Surface			**m²**	32,3	59,6	51,7	86,8	97,6	143,6	189,5
Circuit volume			**dm³**	9,1	16,8	14,5	24,4	27,5	40,4	53,3
Turbine			**Nb**	1	2	1	3	2	3	4
	230V/1/50 Hz		**kW**	0,67	1,34	-	2,01	-	-	-
			A max (4)	2,9	5,8	-	8,7	-	-	-
	230-400V/3/50 Hz		**kW**	-	-	3,3	-	6,6	9,9	13,2
			A max (4)	-	-	5,8	-	11,6	17,4	23,2
Electric defrost **E1U** (5)	Ω		**Nb**	5 +1	5 +1	5 +1	5 +1	5 +1	5 +1	5 +1
	230-400V/3/50 Hz		**W total**	3900	6600	5400	9600	9600	17100	22800
			A total	9,8/5,6	16,6/9,5	13,6/7,8	24,1/13,9	24,1/13,9	42,9/24,7	57,2/32,9
Net weight			**kg**	88	151	118	200	241	305	463
Dimensions	**A**		**mm**	760	760	870	765	875	880	880
	B		**mm**	1170	1810	1490	2450	2450	3410	4370
	C		**mm**	290	290	342	290	342	342	342
	D		**mm**	152	152	197	152	197	197	197
	E		**mm**	234	234	363	234	363	363	363
	F		**mm**	331	331	395	331	395	395	395
	G		**mm**	-	306	-	306	564	564	564
	X		**mm**	790	1430	1110	2070	2070	3030	3990
	Y		**mm**	-	-	-	-	-	-	1995
	Ø R		**Ø**	1"	1"	1"	1"1/2	1"1/2	1"1/2	1"1/2
Connections	Inlet		**Ø**	5/8"	5/8"	5/8"	7/8"	7/8"	1"1/8	1"1/8
R404A	Outlet		**Ø**	7/8"	1"1/8	1"1/8	1"3/8	1"3/8	1"5/8	2"1/8

(1) Additional pressure available in Pascals.
(2) Standard conditions : SC2 / 0°C (air inlet temp.) / -8°C (evaporating temp.) / DT1 = 8K
(3) Average sound pressure level in dB(A) measured at 4 m, at turbine height, in direct line of sight on a reflective surface, given for information only.
(4) Setting of overload protection levels. For air temperatures "ti" other than +20 °C, multiply the currents in relation to 293/(273 + "ti")
in order to obtain an approximate current value after the chamber temperature is attained.
(5) Electric defrost option.
(6) Operating pressure 50 bar - Tube diameter to define the order.







CMU	VGT	VPS	VVK	VVU*	BAE	WCO	CO2	E1U	HGT	IPH	FLA	CFA	ECB
O	O	+👤	O	O	O	+👤	+👤	O	O	O	O	O	O

* Only for turbines : 230V/1/50Hz

Technical characteristics obtained with speed controller VVU or VVK:

VVU and VVK : 831 - 1622 - 2393

VVU Option with factory fitted speed controller.
VVK Speed controller kit shipped with the unit cooler chosen.

- Switching cabinet IP54.
- Single-phase electronic voltage regulator
- Potentiometer controller.
- One voltage regulator per fan.
- Setting of minimum voltage.
- Electrical wiring diagram.

VVK : 1591 - 3162 - 4693 - 6294

This option is in kit form shipped with the unit cooler chosen.

- Electromechanical voltage regulator.
- Manual rotary switch.
- Five stepped rotation speeds.
- Electrical wiring diagram.

100 Pa (1)			NCP 831	NCP 1622	NCP 1591	NCP 2393	NCP 3162	NCP 4693	NCP 6294	NCN 831	NCN 1622	NCN 1591	NCN 2393	NCN 3162	NCN 4693	NCN 6294
Capacity (2) DT1 = 10K SC 1	High speed	kW	10,9	21,1	24,9	31,0	47,9	70,7	95,0	-	-	-	-	-	-	-
	Medium speed	kW	10,2	19,7	23,6	29,0	45,4	67,2	90,2	-	-	-	-	-	-	-
	Low speed	kW	8,6	17,3	20,7	26,0	40,0	59,0	79,6	-	-	-	-	-	-	-
Capacity (2) DT1 = 8K SC 2	High speed	kW	7,1	13,9	16,5	20,4	31,7	46,8	63,2	6,2	12,0	13,5	17,7	26,8	39,8	53,3
	Medium speed	kW	6,7	13,0	15,7	19,1	30,1	44,5	60,0	5,8	11,3	12,8	16,7	25,4	38,0	50,8
	Low speed	kW	5,7	11,4	13,7	17,1	26,5	39,1	53,0	5,0	9,7	11,5	14,6	22,7	33,2	45,4
Air flow	High speed	m^3/h	3200	6310	8190	9420	16150	24100	32040	3270	6470	8450	9680	16740	25020	33290
	Medium speed	m^3/h	2890	5680	7460	8450	14710	21940	29170	2960	5860	7630	8740	15110	22910	30480
	Low speed	m^3/h	2270	4630	6020	7150	11810	17630	23670	2300	4550	6220	7030	12320	17970	24850
Acoustic Lp 4 m (3)	High speed	dB(A)	44	47	59	49	61	63	64	44	47	59	49	62	64	65
	Medium speed	dB(A)	40	43	55	45	57	59	60	40	43	55	45	58	60	61
	Low speed	dB(A)	32	35	50	37	53	55	56	32	35	50	37	53	56	57
150 Pa (1)			**NCP 831**	**NCP 1622**	**NCP 1591**	**NCP 2393**	**NCP 3162**	**NCP 4693**	**NCP 6294**	**NCN 831**	**NCN 1622**	**NCN 1591**	**NCN 2393**	**NCN 3162**	**NCN 4693**	**NCN 6294**
Capacity (2) DT1 = 10K SC 1	High speed	kW	9,6	18,6	23,7	27,3	45,7	67,6	90,9	-	-	-	-	-	-	-
	Medium speed	kW	9,3	18,0	22,4	26,5	43,6	64,5	86,5	-	-	-	-	-	-	-
	Low speed	kW	8,0	16,0	20,3	24,1	39,2	58,2	78,0	-	-	-	-	-	-	-
Capacity (2) DT1 = 8K SC 2	High speed	kW	6,3	12,3	15,8	18,1	30,3	44,7	60,5	5,5	10,7	13,1	15,7	25,8	38,3	51,3
	Medium speed	kW	6,2	11,9	15,0	17,6	28,9	42,6	57,6	5,3	10,1	12,0	15,1	23,5	35,4	47,3
	Low speed	kW	5,3	10,6	13,5	16,0	26,0	38,5	51,9	4,3	8,5	10,2	12,7	19,6	29,5	39,5
Air flow	High speed	m^3/h	2740	5400	7610	8060	14990	22350	29720	2810	5560	7910	8310	15630	23340	31050
	Medium speed	m^3/h	2640	5180	6990	7720	13770	20550	27330	2430	4630	7080	6980	14100	21130	28180
	Low speed	m^3/h	2110	4320	5890	6720	11580	17300	23010	1930	3940	6430	5980	12880	19380	25880
Acoustic Lp 4 m (3)	High speed	dB(A)	42	45	57	46	60	62	62	42	45	58	47	61	63	63
	Medium speed	dB(A)	36	38	51	39	54	56	56	36	38	52	39	55	57	57
	Low speed	dB(A)	29	32	46	33	49	51	52	29	32	47	34	50	52	53
200 Pa (1)			**NCP 831**	**NCP 1622**	**NCP 1591**	**NCP 2393**	**NCP 3162**	**NCP 4693**	**NCP 6294**	**NCN 831**	**NCN 1622**	**NCN 1591**	**NCN 2393**	**NCN 3162**	**NCN 4693**	**NCN 6294**
Capacity (2) DT1 = 10K SC 1	High speed	kW	-	-	22,4	-	43,1	63,9	85,6	-	-	-	-	-	-	-
	Medium speed	kW	-	-	21,3	-	41,2	61,1	82,8	-	-	-	-	-	-	-
	Low speed	kW	-	-	19,7	-	37,7	55,7	75,5	-	-	-	-	-	-	-
Capacity (2) DT1 = 8K SC 2	High speed	kW	-	-	14,9	-	28,7	42,4	57,2	-	-	12,4	-	24,6	36,5	48,8
	Medium speed	kW	-	-	14,2	-	27,4	40,5	55,3	-	-	11,9	-	23,3	34,8	47,3
	Low speed	kW	-	-	13,1	-	25,1	37,0	50,4	-	-	11,0	-	21,6	32,2	43,0
Air flow	High speed	m^3/h	-	-	6950	-	13670	20390	27100	-	-	7240	-	14290	21330	28380
	Medium speed	m^3/h	-	-	6470	-	12690	18910	25590	-	-	6710	-	13110	19560	26730
	Low speed	m^3/h	-	-	5610	-	10980	16310	22080	-	-	5820	-	11430	17060	22700
Acoustic Lp 4 m (3)	High speed	dB(A)	-	-	55	-	58	60	61	-	-	56	-	59	61	62
	Medium speed	dB(A)	-	-	47	-	50	52	53	-	-	48	-	51	53	54
	Low speed	dB(A)	-	-	45	-	48	50	51	-	-	46	-	49	51	52

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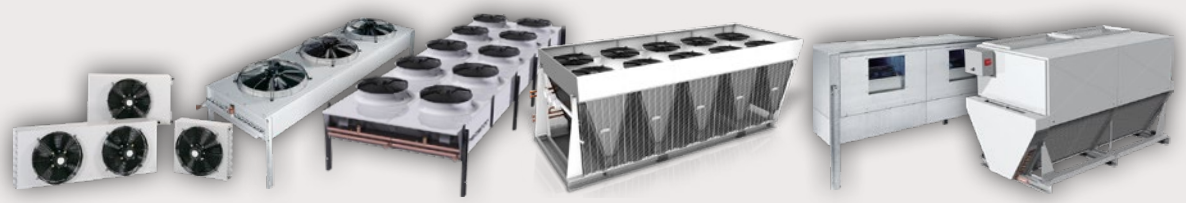
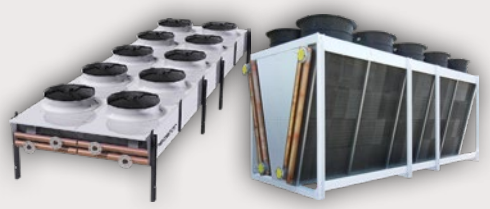
CONDENSERS



- Axial fan condensers — **MA - WA - NEOSTAR - MXW**
- Centrifugal fan condensers — **CCT - CCV**

DRY COOLERS



- Dry coolers with axial fans — **FC / FI NEOSTAR**
- Dry coolers with V-shaped coil — **V-KING**

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FRIGA-BOHN

HK® REFRIGERATION

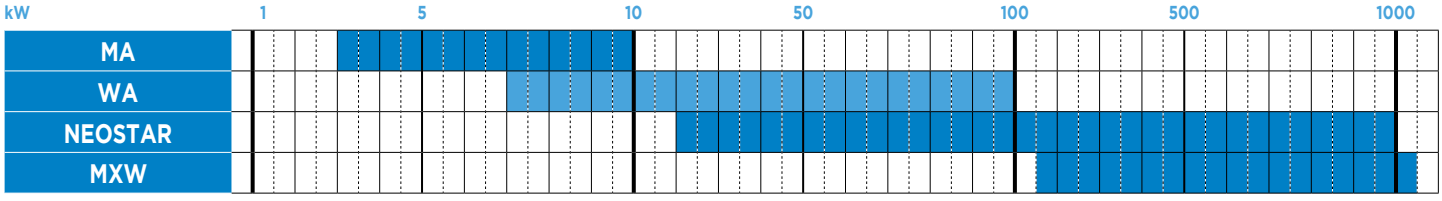
Condensers / Dry coolers - Overview and capacities

FRIGA-BOHN HK REFRIGERATION

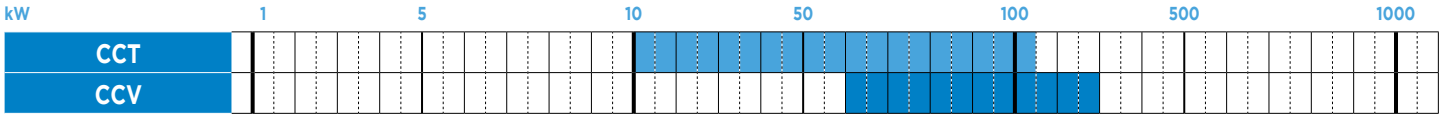
	CAPACITY	VENTILATION / COIL						APPLICATIONS					MARKETS		
	Mini / Maxi R404A kW	Axial - Centrifugal Nbre	EC motor	Factory wired	Position and blowing	Coil protection	EUROVENT certification	Commerces proximité / Restauration	Distribution centres	Industrial process	Air conditioning / "Data processing"	Cogeneration / Generator plants	Food Service	Supermarket	Process / Industry
MA	3 / 12	1 > 2	-	●		●	●	●	-	-	-	-	●	-	-
WA	7,5 / 99	1 > 6	-	●		○	●	●	●	●	●	-	●	-	-
NEOSTAR	18 / 1240	1 > 16	○	●		○	●	-	●	●	●	-	-	●	●
MXW	130 / 1670	1 > 20	●	○		○	●	-	●	●	●	-	-	●	●
CCT	11 / 146	1 > 4	-	○		○	X	●	●	-	-	-	●	●	-
CCV	60 / 290	1 > 4	●	●		○	X	-	●	●	-	-	●	●	
FC/FI NEOSTAR	20 / 1200	1 > 16	○	●		○	●	-	-	●	●	●	-	-	●
V-KING	50 / 2000	2 > 20	○	●		○	●	-	-	●	-	●	-	-	●

● *Standard* ○ *Option* X *Range not concerned by EUROVENT certification*

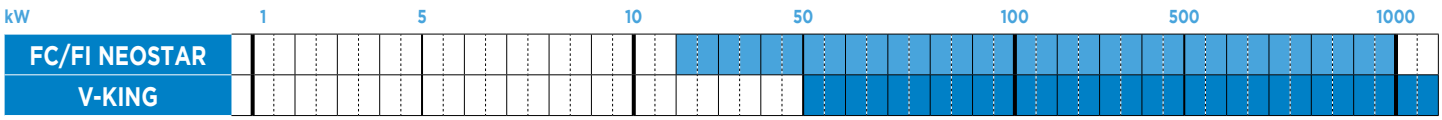
Axial fan condensers DT1 = 15K



Centrifgal fan condensers DT1 = 15K



Dry coolers DT1 = 15K



SELECTION COEFFICIENTS

P/Q0m coefficient - Open compressors

Evaporating temp.	Condensing temperature						
te	30°C	35°C	40°C	45°C	50°C	55°C	60°C
-35°C	1,36	1,41	1,44	*	*	*	*
-30°C	1,31	1,36	1,40	1,44	*	*	*
-25°C	1,27	1,32	1,36	1,41	1,45	*	*
-20°C	1,24	1,28	1,31	1,35	1,39	1,44	*
-15°C	1,20	1,24	1,27	1,31	1,35	1,39	1,44
-10°C	1,18	1,21	1,24	1,27	1,31	1,35	1,40
-5°C	1,15	1,18	1,21	1,24	1,27	1,31	1,36
0°C	1,13	1,15	1,18	1,21	1,24	1,27	1,31
+5°C	1,10	1,13	1,15	1,18	1,21	1,24	1,28
+10°C	1,08	1,11	1,13	1,15	1,17	1,21	1,24

Suction gas-cooled compressors

Evaporating temp.	Condensing temperature						
te	30°C	35°C	40°C	45°C	50°C	55°C	60°C
-40°C	1,64	1,69	1,76	1,86	2,03	*	*
-35°C	1,56	1,61	1,66	1,73	1,83	*	*
-30°C	1,48	1,53	1,57	1,62	1,69	*	*
-25°C	1,42	1,46	1,50	1,54	1,60	1,68	*
-20°C	1,37	1,40	1,44	1,48	1,53	1,60	*
-15°C	1,32	1,35	1,38	1,43	1,48	1,53	1,44
-10°C	1,28	1,31	1,34	1,37	1,42	1,46	1,40
-5°C	1,23	1,26	1,29	1,33	1,37	1,41	1,36
0°C	1,20	1,22	1,25	1,28	1,32	1,36	1,31
+5°C	1,16	1,19	1,21	1,24	1,28	1,31	1,28
+10°C	1,13	1,15	1,18	1,21	1,23	1,26	1,24

*Except for operating limits of a single-stage compressor

C1 : Altitude coefficient

C1 = (1 - 0,000075 x H*) ***H** = Altitude in metres above sea level

C2 : DT1 coefficient

DT1	8	9	10	11	12	13	14	15	16	17	18
C2	0,53	0,60	0,67	0,73	0,80	0,87	0,93	**1**	1,07	1,13	1,20

C3 : Ambient temperature coefficient $t_{A.1}$

$t_{1.1}$	15	20	25	30	35	40	45	50
C3	1,03	1,02	**1**	0,98	0,96	0,94	0,92	0,91

C4 : Refrigerant coefficient

Refrigerant		R404A	R134a	R507A	R407A	R407C	R407F
C4	DT1 = 15K	1	0,96	1	0,89	0,87	0,89

C5 : Fin material correction

	Aluminium	Coated aluminium
C5	**1**	0,97

Sound pressure correction according to the number of fans

Fan	Num.	1	2	3	4	5	6	8	10	12
Correction	dB(A)	**0**	3	5	6	7	8	9	10	11

Sound pressure correction according to distance

Distance	m	5	6	8	10	12	16	32	64	128
Correction	dB(A)	+6	+4,5	+2	**0**	-1,5	-4	-10	-16	-22

On-board equipment

Our units are static. Included in a refrigeration system, they may be exited by motors, compressors, diesel engines, vehicles or others and suffer from vibration. The person responsible for the system must ensure that the excitation frequency may not, under any circumstances, provoke the resonance of other components as this could result in irreparable damage (in particular in the case of on-board systems).

Selection

'**P**' = condenser total heat of rejection.
In the absence of specific documents, "**P**" may be calculated using one of the two tables (previous page), based on the refrigeration capacity "**Q0m**". To define a model, the application conditions and the selection conditions must be harmonized. To do this, the required capacity "P" must be divided by the 5 coefficients indicated below. For that,'**P**' should be divided by the 5 following factors:

C1 Altitude factor
C2 DT1 factor
C3 Ambient temperature factor
C4 Refrigerant factor
C5 Fin material factor

according to the formula:

$$P1 = \frac{P}{C1 \times C2 \times C3 \times C4 \times C5}$$

Select a model in the table corresponding to the rotation speed chosen and check that the noise level corresponds to level required. If this selection process enables the choice of models **L** or **P**, without dimensional prerequisites, choose the least expensive model. In the same way, to define the capacity "**P**" of a model under conditions other than those indicated in the documentation, the following formula is applied:

P = P1 x (C1 x C2 x C3 x C4 x C5)

Example

Required capacity '**P**'	58 kW
Altitude	200 m
DT1	14 K
Ambient temperature	+30 °C
Refrigerant	R134a
Coated aluminium fins	0,97
Sound pressure level at 5 m (measured on a parallelepiped surface)	37 dB(A)

Whereby: **C1 = 0,99 - C2 = 0,93 - C3 = 0,98 - C4 = 0,93 - C5 = 0,97**

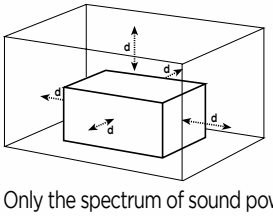
in which case:

$$\frac{58}{0,99 \times 0,93 \times 0,98 \times 0,93 \times 0,97} = 71,5 \text{ kW}$$

Sound pressure level in the conditions of the tables.
Distance correction = 6 dB(A)
37 - 6 = 31 dB(A)
The **NEOSTAR SE 16D P02 D2** will be selected.
Sound pressure level at 10 m = 31 dB(A)
Note : If the noise level is very different, then select a model from the other tables.

Noise levels

Noise level LpA :
The sound pressure level Lp indicated in the characteristics tables was measured at 10 metres, direct line of sight on a reflective surface in compliance with standard EN 13487 (parallelepiped reference surface). The relationship between sound pressure Lp and sound power Lw is derived from the following formula:



$$LpA = LwA - 10 \log \frac{Si}{So}$$

Si = parallelepiped surface for d = 10 m
So = reference surface 1 m^2

Only the spectrum of sound power and the LwA value are contractually binding. For a distance other than 10 m, refer to the correction factors below. For precise calculation of the sound pressure on site, take into consideration the sound power of each fan and its position as well as environmental conditions (directivity, reflection,...).be taken into account (directivity, reflections, ...).

Condensers / Dry coolers - Energy efficiency class

FRIGA-BOHN HK REFRIGERATION

A+ class
Energy ratio (**R**): **R ≥ 226**
Energy consumption: **extremely low**

A class
Energy ratio (**R**): **169 ≤ R < 226**
Energy consumption: **very low**

B class
Energy ratio (**R**): **109 ≤ R < 169**
Energy consumption: **low**

C class
Energy ratio **R**: **69 ≤ R < 109**
Energy consumption: **medium**

D class
Energy ratio (**R**): **37 ≤ R < 69**
Energy consumption: **high**

E class
Energy ratio (**R**): **R < 37**
Energy consumption: **very high**

THE ENERGY EFFICIENCY CLASS IS DEFINED BY THE RATIO R

Nominal certified capacity of the condenser in kW divided by the total certified input power of the motors in kW in the conditions of the rating standard.

EUROVENT CERTIFIED PERFORMANCE
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LENNOX
EMEA

UNIT COOLERS
CONDENSERS AND DRY COOLERS
COMMERCIAL AND INDUSTRIAL RANGES

ANTI-CORROSION TREATMENTS

- **Epoxy treatment** on the whole coil
- **Blygold treatment** on the whole coil
- **Heresite treatment** on the whole coil
- **Lacquered aluminium protection**, only on the fins
- **Coil in 304L stainless steel**
  (aluminium or stainless steel fins/stainless steel tubes/stainless steel end plates)

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FRIGA-BOHN

HK® REFRIGERATION

Recommendations for our exchangers

FRIGA-BOHN HK REFRIGERATION

	COILS						CASING			
	Standard		Optional coil treatments				Special coils	Standard	Casing option		
			BAE 1*	BAE 2*	BXT *	BHE*	BIN*		PEI*	CIN*	RAL*
COMMERCIAL UNIT COOLERS											
EVB	**BAE 1**		●					White pre-lacquered galvanised steel			
XR	**BAE 1**		●					White pre-lacquered galvanised steel & ABS (drain pan)			
MF **MFE**	**BAE 1**	Not treated	●					ABS*			
MR **MRE**	**BAE 1**	Not treated	●					ABS*			
MH	Not treated		○					White pre-lacquered galvanised steel			
KRS	**BAE 2**			●				Magnesium zinc			
TA	Not treated		○		○			ABS*			
3C-A	Not treated		○	On specific request	○	○	○	White pre-lacquered galvanised steel	○	○	
INDUSTRIAL UNIT COOLERS											
GTA	Not treated			○	○	○		White pre-lacquered galvanised steel		○	○
GTI	Not treated			○	○			White pre-lacquered galvanised steel			○
NK	Not treated			○	○	○		White pre-lacquered galvanised steel		○	○
NW	Not treated							White pre-lacquered galvanised steel			
NF	Not treated							White pre-lacquered galvanised steel			
NC	Not treated			○				White pre-lacquered galvanised steel			
CONDENSERS											
MA	**BAE 1**		●					White pre-lacquered galvanised steel			
WA	Not treated				○			White pre-lacquered galvanised steel			
NEOSTAR	Not treated			○	○			White pre-lacquered galvanised steel			○
MXW	Not treated				○			White pre-lacquered galvanised steel			
CCT	Not treated		○		○			Magnesium zinc	○		
CCV	Not treated		○		○			Magnesium zinc	○		
DRY COOLERS											
FC NEOSTAR	Not treated			○	○			White pre-lacquered galvanised steel			○
AEV	Non traité				○			White pre-lacquered galvanised steel			

● Standard
○ Optional

* **BAE 1** Epoxy treatment (on the whole coil)
* **BAE 2** Lacquered aluminium foil (only on fins)
* **BXT** Blygold treatment (on the whole coil)
* **BHE** Heresite treatment (on the whole coil)
* **BIN** 304L stainless steel coil

* **PEI** White paint
* **CIN** 316L stainless steel body
* **RAL** Polyester paint in special colour (choice of colour)
* **ABS** Acrylonitrile butadiene styrene

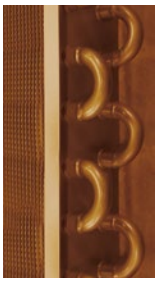
Recommendations in aggressive environments

FRIGA-BOHN HK REFRIGERATION

Recommended for this application
Can be used for this application
Not recommended for this application

Applications	Aggressive substances/particles	Type of anti-corrosion protection on our coils (copper tubes, aluminium fins)			Stainless steel coil
		BAE	BXT	BHE	BIN
Pastries					
Confectionery manufacturers	Bakery additives: - colourants E 100 to E 199 - preservatives E 200 to E 299 - antioxidants E 300 to E 399 - emulsifiers, thickeners E 400 to E 499 - baking powder (lactic acid)	😐	🙂	🙂	🙂
Cold rooms (bakery)					
Ready-to-eat marinades/salads					
Display cases	Acidifying air: Salts, acids, vinegar, preservative	😐	🙂	🙂	🙂
Fruits/vegetables					
Tropical fruits	Fruits with high acid content	😐	🙂	🙂	🙂
Bananas	Corrosive vapours				
Citrus fruits/lemons	Fruits with high acid content				
Vegetables					
Cheeses					
Storage (cellar)	Low NH3 emission and low relative humidity	😐	😐	🙂	🙂
Ripening room (for maturing soft cheeses)	High NH3 emission and high air humidity		☹		
Prepared products					
Frozen products storage		😐	🙂	🙂	🙂
Rapid cooling process			😐		
Dairies					
Milk	Acid vapours from milk and acidity of butter	😐	🙂	🙂	🙂
Meat/sausages					
Frozen products storage (packaged/unpackaged goods)		😐	😐	🙂	🙂
Refrigerated storage area for raw/fresh meat					
Rapid cooling of carcasses	Organic, amino acids				
Smoked meat/sausages	Organic, amino acids				
Salt store	Organic acids, salts				
Cold room for salted products	Organic acids, salts				
Salting rooms	Organic acids, salts				
Drying					
Waste	Organic acids				
Fish/seafood					
Fresh fish		😐	😐	🙂	🙂
Salting preparation rooms	Amines, salts				
Smoked fish drying					
Storage rooms					
Beverages					
Fermentation cellar	High sulphur, chlorine, C02	😐	😐	🙂	🙂
Wine cellar cooling			🙂		
Fruit juice bottling lines	Citric or sulphuric acid				😐
Mineral water bottling line	Aerosols		😐		🙂
Malthouses (production of malt from cereals)	Organic acids, aggressive dusts, high protein levels				
Coffee shop					
Bars		😐	🙂	🙂	🙂
Roasting (cooking the coffee beans to bring out all the flavours).	Organic acids		😐		
Restaurant					
Kitchens	Spices, salts	😐	😐	🙂	🙂
Sea air (no direct contact with seawater)					
Evaporator not in close proximity to the sea	Air with low salt content	😐	🙂	🙂	🙂
Evaporator in close proximity to the sea	Air with high salt content				
Industrial equipment					
Crane cab in steelworks/foundries	Aggressive gas (chlorine), sulphur dioxide, metal dusts	😐	🙂	🙂	🙂
Regular cleaning and disinfection					
Type of cleaning	e.g.: foam, liquid, manual	☹	🙂	😐	😐
Components and concentration to know	Chlorine, acids, alkali				
Wood dryers					
Hardwood (oak, tropical woods)	High evaporation	😐	😐	🙂	🙂
Softwoods (fir, pine)	Low evaporation		🙂		
Intensive farming stables/farms					
Abattoirs	Organic acids	😐	😐	🙂	🙂
Abattoir waste			🙂		
Leather and hides			😐		

Description of the different protection options

	Different types of anti-corrosion treatments				Other anti-corrosion protection option
	BAE 1 Epoxy paint treatment	**BAE 2** Lacquered aluminium protection	**BXT** Blygold treatment	**BHE** Heresite treatment	**BIN** 304L stainless steel protection
Definition	**Epoxy** treatment *on the fins + end plates*	**Lacquered aluminium** foil, *only on the fins*	**Blygold** treatment *on the whole coil*	**Heresite** treatment *on the whole coil and on all the elements fitted before treatment*	**304L stainless steel** *Stainless steel or aluminium fins Stainless steel tubes Stainless steel guard plates*
Description	Very good flexibility, allows the coils to withstand thermal shocks without damage. Treatment thickness: 60-80µm.	Very good finish, high thermal conductivity, good drawing and low density.	Treatment thickness: 25-30µm. Composed of polyurethane, which allows the coil to have good thermal conductivity. No anti-bacterial treatment.	Low flexibility. High sensitivity to shocks. Treatment thickness: 75µm.	-
Method of application	**STAGES:** **1.** Cleaning and degreasing the coil **2. Spraying powder paint by hand using a spray gun and by robot** **3.** Oven drying at 190°C **4.** Visual inspection	Ready to use rolls of **lacquered aluminium**	**STAGES:** **1.** Cleaning and degreasing the coil **2. An operator sprays 4 criss-cross layers of polyurethane by hand** **3.** Drying at 20°C in the open air if the coil is > 80cm or in the oven at 80°C if the coil is between 50 and 80 cm **4.** Visual and endoscopic inspection	**STAGES:** **1.** Cleaning and degreasing **2. Several layers of resin applied by soaking** **3.** Oven drying at approx. 120-142°C **4.** Finished using a spray gun and dried in the oven at 180°C. **5.** Visual inspection	Ready-to-use rolls of **304L stainless steel**
Resistance to neutral salt spray *(tests carried out in accordance with the ASTM B117 and NF EN ISO 92/27 standards)*	**1500 hours**	**1000 hours**	**2500 hours**	**3500 hours**	-
Estimation of corrosivity category of environments. *(ISO 12944, see below)*	**C4**	**C3**	**C5 - I** **C5 - M**	**C5 - I** **C5 - M**	**C5 - I**
Durability class *(limit, medium, high)*	High	High	High	High	High
Colour	White	Gold	Champagne	Brown	Silver
Operating temperature range	Higher than +180°C	Higher than +180°C to -16°C	+180°C to - 80°C.	+180°C to -75°C	Higher than +180°C
Photos					

ISO 12944 standard - Classification of environments

The **ISO 12944 standard** is a guide for choosing paint for steel structures that will ensure a certain level of durability in a given atmospheric environment.
The atmospheres are classified into 6 categories from C1 to C5-M.
In-situ or artificial laboratory tests make it possible to choose the most suitable coating.
This standard does not therefore apply directly to our products. However, we have used the classification of the different atmospheric environments and our neutral salt spray test results in order to provide you with an estimated classification for them.
The notion of durability does not constitute a warranty period.
It is an indication established according to the results obtained in salt spray tests.
A maintenance plan must be established to keep the heat exchangers in their original condition.
Not leaving deposits on their surfaces will in many cases avoid corrosive attack.

LENNOX
EMEA

AXIAL FAN CONDENSER

COMMERCIAL RANGE

Bars / Restaurants
Corner shops - Mini-markets

HFC

3 > **12** kW

MA

- Protected coil fully painted as standard.
- 3 types de motoventilateurs: 4, 6 and 8 pole for optimum noise attenuation.
- 2 blowing directions with horizontal or vertical installation with legs (optional).
- Modular product comprising 9 models: 3 types of coils and 3 types of fans.

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FRIGA-BOHN

HK® REFRIGERATION

MA - Axial fan condenser

R404A | DT1 = 15K

DESCRIPTION

Casing

- Galvanized steel casing totally protected with polyester painting.

Ventilation

- 2 mono-fan models and 1 twin-fan model, Ø 350 mm.
- 04, 06 and 08P models for even better noise level attenuation.
- Fan(s) delivered unfitted, packing gland at bottom.

CERTIFICATIONS

OPTIONS

PIE Legs for MA installation with vertical air flow.

ADVANTAGES

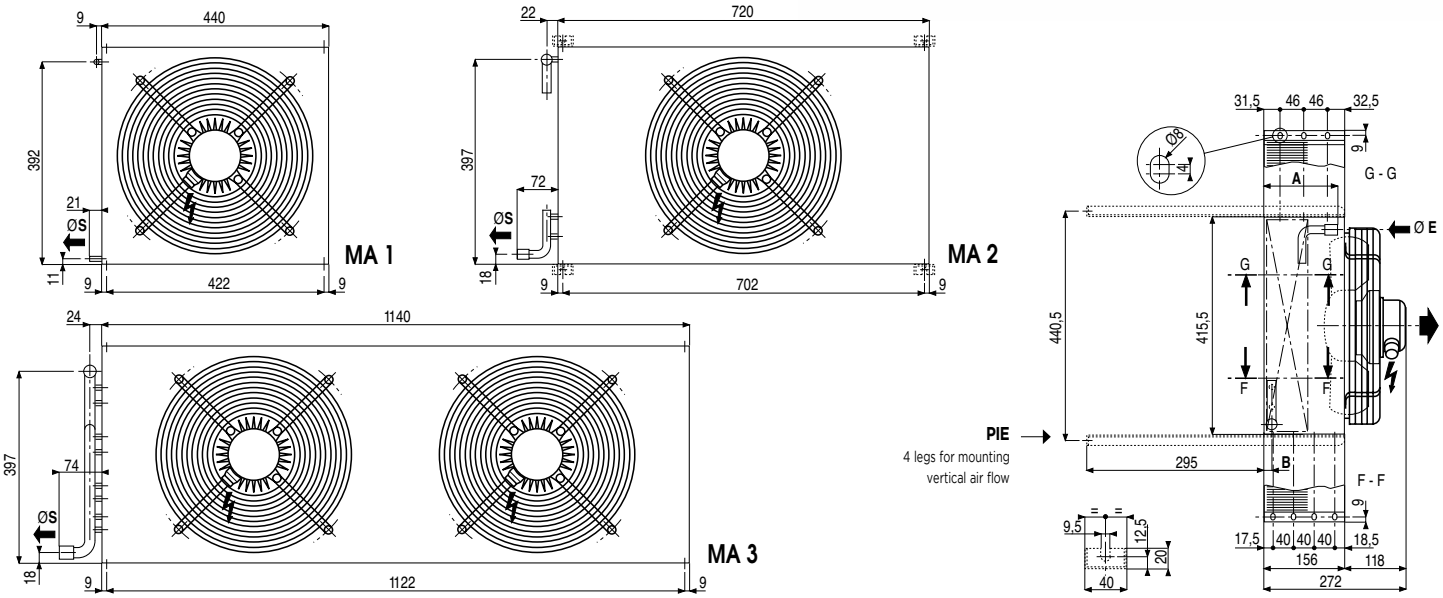
Installation

Legs (optional) for floor-mounted installation with vertical air flow.

Highly modular coil + separate motor concept:
rapid connection during fan assembly, gland located at the bottom.

Servicing / Maintenance

Fans of the "plug" type for easy maintenance.



MA ... 04P/06P/08P (1300/910/650 rpm.) 3,63 mm

		MA ...	1	1	1	2	2	2	3	3	3
			04P	06P	08P	04P	06P	08P	04P	06P	08P
Capacity R404A	DT1 = 15K	kW	**4,1**	**3,2**	**2,8**	**7,9**	**5,8**	**4,7**	**12,3**	**9,2**	**7,8**
Surface		m^2	5,7	5,7	5,7	12,9	12,9	12,9	20,9	20,9	20,9
Circuit volume		dm^3	0,9	0,9	0,9	2,1	2,1	2,1	3,4	3,4	3,4
Fan (1)	Air flow	m^3/h	1970	1220	950	2300	1450	1110	4200	2650	2060
230V/1/50Hz	Nb x Ø	mm	1 x 355	1 x 355	1 x 355	1 x 355	1 x 355	1 x 355	2 x 355	2 x 355	2 x 355
Energy efficiency class			E	E	E	D	D	D	E	D	D
Acoustic	**Lw** (2)	dB(A)	76	68	53	76	68	53	79	71	56
	Lp (3)	dB(A)	44	36	21	44	36	21	47	39	24
Net weight with fan(s)		kg	7	7	7	12	12	12	15	15	15
Dimensions	**A**	mm	125	125	125	122	122	122	122	122	122
	B	mm	34	34	34	15	15	15	15	15	15
Inlet	Ø **E**	ODF* / ODM**	8 mm / 3/8"	8 mm / 3/8"	8 mm / 3/8"	1/2"	1/2"	1/2"	5/8"	5/8"	5/8"
Outlet	Ø **S**	ODF* / ODM**	8 mm / 3/8"	8 mm / 3/8"	8 mm / 3/8"	1/2"	1/2"	1/2"	5/8"	5/8"	5/8"
Packaging		mm	570 x 430 x 185			880 x 430 x 185			1280 x 460 x 185		
Fan packaging		mm	460 x 460 x 185 (x1)			460 x 460 x 185 (x1)			460 x 460 x 185 (x2)		

(1) 04P : 117 W max - 0,9 A max (4)
06P : 80 W max - 0,45 A max (4)
08P : 65 W max - 0,35 A max (4)
(2) Sound pressure level in dB(A), obtained in compliance with standard NF EN 13487 (parallelepiped reference surface).
(3) Sound pressure level in dB(A) measured at 10 m, line of sight, on a reflective parallelepiped measurement surface, given for information only. Values measured under nominal operating conditions with clean coils and rated voltage.
(4) Setting of overload protection levels.

* ODF: Female to receive a tube of the same diameter.
** ODM: Male to receive a tube of the same diameter.

LENNOX
EMEA

AXIAL FAN CONDENSER

COMMERCIAL RANGE

Bars / Restaurants
Corner shops - Mini-markets

HFC

7.5 > **99** kW

WA

- Painted casing and corrosion-resistant, stainless steel screws.
- Very low noise 12 and 16 pole models.
- 2-speed, axial fans.
- 2 blowing directions: horizontal or vertical installation as standard.
- Modular product comprising 34 models: 13 types of coils and 4 types of fans.

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FRIGA-BOHN

HK® REFRIGERATION

WA - Axial fan condenser

DESCRIPTION

Casing

- Made of galvanized sheet steel, the condensers of the WA range are extremely well protected against corrosion thanks to the UV-resistant, polyester paint coating, as well as the use of white pre-painted, galvanized sheet steel.
- Components (fans, heat-exchanger coil) are fitted with stainless steel screws offering excellent corrosion resistance.

Ventilation

- The condensers of the WA range are equipped with axial fans:

  Ø 500 mm, 2 speeds:
  04/06P = 1,500/1,000 rpm.
  08/12P = 750/500 rpm.

  Ø 630 mm, 2 speeds:
  04/06P = 1,500/1,000 rpm.
  06/08P = 1,000/750 rpm.
  08/12P = 750/500 rpm.
  16P = 375 rpm.
  400 V, 3-phase, 50 Hz (50-60 Hz for 08/12P and 12/16P motors), monoblock, external rotor, with incorporated thermal overload protection, IP 54, class F.
- The high-efficiency, profiled fan blades turn at a very low noise level.
- The protection guards are compliant with safety standards.
- 2-speed motor connection: Δ = high speed, Y = low speed.

Coil

- The condensers of the WA range are equipped with a compact, high-efficiency, finned coil composed of staggered, grooved tubes placed in the air flow and with profiled aluminium fins, spacing 2.12 mm, optimizing the heat exchange coefficient.

CERTIFICATIONS

DESIGNATION

WA 39(1) 04/06P(2)

(1) Model
(2) **04/06P** = 1,500/1,000 rpm - **06/08P** = 1,000/750 rpm
08/12P = 750/500 rpm - **16P** = 375 rpm

ADVANTAGES

Installation

The unit may be installed in horizontal or vertical position with standard legs.

The coil and fan units may be delivered separately.

Servicing / Maintenance

Fans of the "plug" type for easy maintenance.

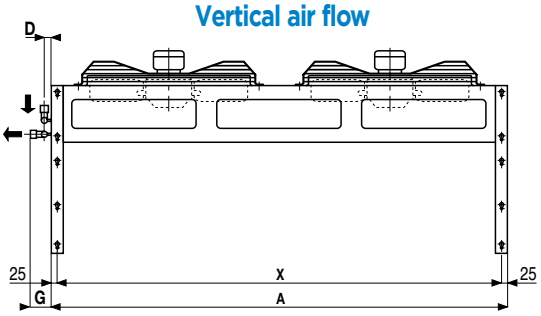
External-rotor, axial fans require no specific maintenance.

OPTIONS

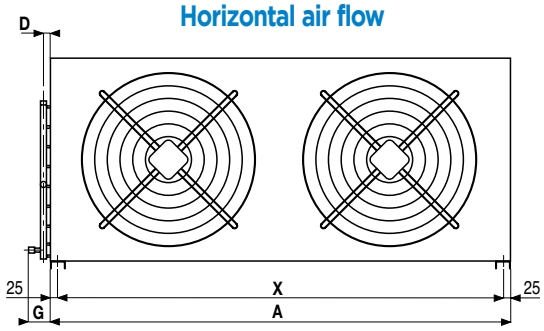
Kit	Factory	
		Ventilation
	IRP	Rotary proximity switch(es).
	M60	Fan 400 V/3/60 Hz.
	MM5	Fan 230 V/1/50 Hz - 04/06P - 06/08P - 08/12P.
	M23*	Fan 230 V/3/50 Hz - 04/06P.
	M24*	Fan 230 V/3/50-60 Hz - 08/12P.
		Coil
	BXT	Blygold Polual XT coil protection.

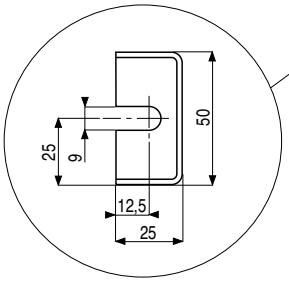
* Fans not kept on stock.

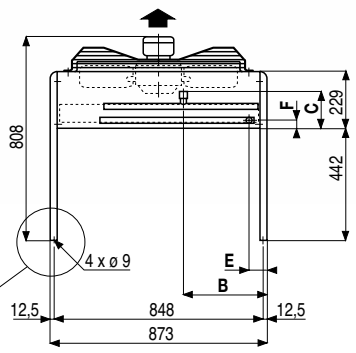
Vertical air flow

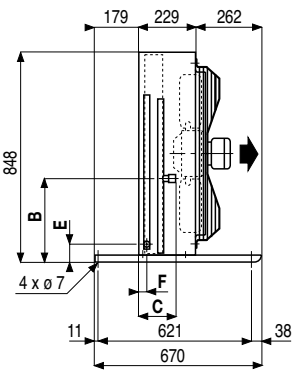


Horizontal air flow









WA - Axial fan condenser

WA .. 04P/06P (1,500/1,000 rpm.)

			WA ..	15	19	22	30	39	44	48	58	67	54	59	81	95
Capacity	DT1 = 15K	04P (Δ)	kW	14,1	18,6	21,1	28,6	37,0	42,5	43,6	55,1	61,6	54,2	60,2	81,4	93,0
R404A		06P (Y)	kW	12,7	16,2	18,0	25,6	32,3	36,2	38,9	48,4	53,1	48,4	53,4	72,7	81,7
Surface			m^2	18	26	35	35	53	70	53	79	105	72	95	107	143
Circuit volume			dm^3	3	4	6	6	9	12	9	13	18	12	16	18	24
Fan *	Air flow	04P (Δ)	m^3/h	7500	6940	6450	15010	13870	12910	22520	20810	19360	21350	19480	32030	29230
		06P (Y)	m^3/h	6050	5510	5070	12100	11020	10130	18140	16540	15200	17510	16010	26260	24010
			Nb x mm	1 x Ø 500	1 x Ø 500	1 x Ø 500	2 x Ø 500	2 x Ø 500	2 x Ø 500	3 x Ø 500	3 x Ø 500	3 x Ø 500	2 x Ø 630	2 x Ø 630	3 x Ø 630	3 x Ø 630
Energy efficiency class		04P (Δ)		E	E	E	E	E	E	E	E	E	E	E	E	E
		06P (Y)		E	E	D	E	E	D	E	E	D	E	E	E	E
Acoustic	Lw (1)	04P (Δ)	dB(A)	74	73	73	77	76	76	79	78	78	93	93	95	95
		06P (Y)	dB(A)	69	68	68	72	71	71	74	72	72	85	85	87	87
	Lp (2)	04P (Δ)	dB(A)	43	42	42	46	45	45	47	46	46	62	62	63	63
		06P (Y)	dB(A)	38	37	36	41	40	39	42	41	41	54	54	55	55
Net weight			kg	36	40	44	63	72	80	92	104	116	93	103	137	152
Circuits			Nb	2	4	4	4	6	8	8	8	8	8	8	12	16
Dimensions	A		mm	730	730	730	1390	1390	1390	2050	2050	2050	1870	1870	2770	2770
	B		mm	240	520	340	340	495	390	390	470	390	470	390	455	455
	C		mm	150	150	150	150	155	155	155	155	155	150	150	160	160
	D		mm	20	25	25	25	30	30	30	30	30	25	25	50	50
	E		mm	55	40	55	55	45	55	55	45	55	45	55	45	60
	F		mm	73	53	34	73	53	34	73	53	34	53	34	53	34
	G		mm	78	81	81	81	88	88	92	88	88	85	85	115	115
	X		mm	680	680	680	1340	1340	1340	2000	2000	2000	1820	1820	2720	2720
Inlet			ODF (4)	1/2"	5/8"	5/8"	3/4"	7/8"	7/8"	7/8"	1"1/8	1"1/8	1"1/8	1"1/8	1"3/8	1"3/8
Outlet			ODF (4)	1/2"	5/8"	5/8"	5/8"	7/8"	7/8"	7/8"	7/8"	7/8"	7/8"	1"1/8	1"1/8	1"1/8

* Ø 500 mm - 400 V/3/50 Hz - Δ : 710 W max - 1,4 A max (3) - Y : 480 W max - 0,8 A max (3) / Ø 630 mm - 400 V/3/50 Hz - Δ : 1900 W max - 3,2 A max (3) - Y : 1350 W max - 2,2 A max (3)

WA .. 06P/08P (1,000/750 rpm.)

			WA ..	41	42	57	65
Capacity	DT1 = 15K	06P (Δ)	kW	39,7	43,3	59,7	65,3
R404A		08P (Y)	kW	34,5	36,7	51,9	55,4
Surface			m^2	72	95	107	143
Circuit volume			dm^3	12	16	18	24
Fan *	Air flow	06P (Δ)	m^3/h	12800	11630	19200	17440
		08P (Y)	m^3/h	10300	9270	15440	13910
			Nb x mm	2 x Ø 630	2 x Ø 630	3 x Ø 630	3 x Ø 630
Energy efficiency class		06P (Δ)		D	D	D	D
		08P (Y)		D	C	D	D
Acoustic	Lw (1)	06P (Δ)	dB(A)	83	83	85	85
		08P (Y)	dB(A)	77	77	79	79
	Lp (2)	06P (Δ)	dB(A)	52	52	53	53
		08P (Y)	dB(A)	46	46	47	47
Net weight			kg	89	99	131	146
Circuits			Nb	8	8	12	16
Dimensions	A		mm	1870	1870	2770	2770
	B		mm	470	390	455	455
	C		mm	150	150	160	160
	D		mm	25	25	50	50
	E		mm	45	55	45	60
	F		mm	53	34	53	34
	G		mm	85	85	115	115
	X		mm	1820	1820	2720	2720
Inlet			ODF (4)	1"1/8	1"1/8	1"3/8	1"3/8
Outlet			ODF (4)	7/8"	1"1/8	1"1/8	1"1/8

* Ø 630 mm - 400 V/3/50 Hz - Δ : 420 W max - 0,78 A max (3) - Y : 300 W max - 0,5 A max (3)

(1) Sound pressure level in dB(A), obtained in compliance with standard NF EN 13487 (parallelepiped reference surface).
(2) Sound pressure level in dB(A) measured at 10 m, line of sight, on a reflective parallelepiped measurement surface, given for information only.
Values measured under nominal operating conditions with clean coils and rated voltage.
(3) Setting of overload protection levels.
(4) ODF = Female to receive a tube of the same diameter.

IRP	M60	MM5	M23	M24	BXT
O	O	O	O	-	O

WA - Axial fan condenser

WA .. 08P/12P (750/500 rpm.)

			WA ..	10	13	14	21	26	27	32	37	40	34	36	47	51
Capacity	DT1 = 15K	08P (Δ)	kW	8,8	10,6	11,3	17,8	21,2	22,8	26,7	31,9	34,0	34,3	37,1	51,5	56,1
R404A		12P (Y)	kW	7,8	9,0	9,6	15,6	18,3	19,0	23,4	27,4	28,5	27,8	28,9	41,6	43,5
Surface			m^2	18	26	35	35	53	70	53	79	105	72	95	107	143
Circuit volume			dm^3	3	4	6	6	9	12	9	13	18	12	16	18	24
Fan *	Air flow	08P (Δ)	m^3/h	3230	2940	2710	6460	5880	5420	9690	8820	8130	10170	9400	15250	14100
		12P (Y)	m^3/h	2620	2390	2180	5250	4780	4360	7880	7170	6550	7540	6800	11300	10200
			Nb x	1 x	1 x	1 x	2 x	2 x	2 x	3 x	3 x	3 x	2 x	2 x	3 x	3 x
			mm	Ø 500	Ø 500	Ø 500	Ø 500	Ø 500	Ø 500	Ø 500	Ø 500	Ø 500	Ø 630	Ø 630	Ø 630	Ø 630
Energy efficiency class		08P (Δ)		C	C	C	C	C	C	C	C	C	C	C	C	C
		12P (Y)		C	B	B	C	B	B	C	B	B	C	C	C	C
Acoustic	Lw (1)	08P (Δ)	dB(A)	66	66	66	69	69	69	71	71	71	67	67	69	69
		12P (Y)	dB(A)	58	58	58	61	61	61	63	63	63	60	60	62	62
	Lp (2)	08P (Δ)	dB(A)	35	35	35	38	38	38	39	39	39	35	36	37	37
		12P (Y)	dB(A)	27	27	27	30	30	30	32	32	32	29	29	30	30
Net weight			kg	36	40	44	63	72	80	92	104	116	89	99	131	146
Circuits			Nb	2	4	4	4	6	8	8	8	8	8	8	12	16
Dimensions	A		mm	1/2"	5/8"	5/8"	3/4"	7/8"	7/8"	7/8"	1"1/8	1"1/8	1"1/8	1"1/8	1"3/8	1"3/8
	B		mm	1/2"	5/8"	5/8"	5/8"	7/8"	7/8"	7/8"	7/8"	7/8"	7/8"	1"1/8	1"1/8	1"1/8
	C		mm	150	150	150	150	155	155	155	155	155	150	150	160	160
	D		mm	20	25	25	25	30	30	30	30	30	25	25	50	50
	E		mm	55	40	55	55	45	55	55	45	55	45	55	45	60
	F		mm	73	53	34	73	53	34	73	53	34	53	34	53	34
	G		mm	78	81	81	81	88	88	92	88	88	85	85	115	115
	X		mm	680	680	680	1340	1340	1340	2000	2000	2000	1820	1820	2720	2720
Inlet			ODF (4)	1/2"	5/8"	5/8"	3/4"	7/8"	7/8"	7/8"	1"1/8	1"1/8	1"1/8	1"1/8	1"3/8	1"3/8
Outlet			ODF (4)	1/2"	5/8"	5/8"	5/8"	7/8"	7/8"	7/8"	7/8"	7/8"	7/8"	1"1/8	1"1/8	1"1/8

* Ø 500 mm - 400 V/3/50-60 Hz - Δ : 120 W max - 0,35 A max (3) - Y : 80 W max - 0,16 A max (3) / Ø 630 mm - 400 V/3/50-60 Hz - Δ : 235 W max - 0,55 A max (3) - Y : 140 W max - 0,27 A max (3)

WA .. 16P (375 rpm.)

			WA ..	23	24	28	29
Capacity R404A	DT1 = 15K	16P (Y)	kW	20,4	20,8	30,6	31,2
Surface			m^2	72	95	107	143
Circuit volume			dm^3	12	16	18	24
Fan *	Air flow	16P (Y)	m^3/h	5000	4560	7500	6840
			Nb x mm	2 x Ø 630	2 x Ø 630	3 x Ø 630	3 x Ø 630
Energy efficiency class		16P (Y)		B	B	B	B
Acoustic	Lw (1)	16P (Y)	dB(A)	57	57	59	59
	Lp (2)	16P (Y)	dB(A)	26	26	27	27
Net weight			kg	89	99	131	146
Circuits			Nb	8	8	12	16
Dimensions	A		mm	1870	1870	2770	2770
	B		mm	470	390	455	455
	C		mm	150	150	160	160
	D		mm	25	25	50	50
	E		mm	45	55	45	60
	F		mm	53	34	53	34
	G		mm	85	85	115	115
	X		mm	1820	1820	2720	2720
Inlet			ODF (4)	1"1/8	1"1/8	1"3/8	1"3/8
Outlet			ODF (4)	7/8"	1"1/8	1"1/8	1"1/8

* Ø 630 mm - 400 V/3/50-60 Hz - Y : 90 W max - 0,2 A max (3)

(1) Sound pressure level in dB(A), obtained in compliance with standard NF EN 13487 (parallelepiped reference surface).
(2) Sound pressure level in dB(A) measured at 10 m, line of sight, on a reflective parallelepiped measurement surface, given for information only.
Values measured under nominal operating conditions with clean coils and rated voltage.
(3) Setting of overload protection levels.
(4) ODF = Female to receive a tube of the same diameter.

IRP	M60	MM5*	M23	M24	BXT
O	O	O	-	O	O

* Except for WA .. 12P - 16P

LENNOX EMEA reserves itself the right to make changes at any time without preliminary notice - Photos non-contractual

LENNOX
EMEA

AXIAL FAN CONDENSER

COMMERCIAL AND INDUSTRIAL RANGE

Hard Discount - Supermarkets - Hypermarkets
Refrigerated storage and transit stocking - Dispatch centres
Food processing - Canteen kitchens

HFC

18 > **1240** kW

NEOSTAR

NEOSTAR POWER The choice of **performance** and **low space requirement**.

- Capacity of up to 1,250 kW!
- Compactness: optimized heat exchange for reduced size.

NEOSTAR SILENCE The choice of **efficiency** and **low noise**.

- Low rotation speed motors with optimized electrical power consumption.
- Perfect incorporation in an urban environment, extremely quiet motors.
- An electronic switching motor (EC) is proposed as an optional extra for all models in this range.

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FRIGA-BOHN

HK® REFRIGERATION

This NEOSTAR range is sub-divided into two product lines to better meet the needs expressed in the various application fields:

neostar POWER

MASTER THE POWER

The “Power” range offers even more power in a space-saving unit.
The power rating of this unit may be as high as 1,250 kW!

An electronic switching motor (EC) is proposed as an optional extra for all our models to help reduce the energy footprint of the user's installations. Indeed, use of this type of motor offers a very significant reduction in energy consumption for a given power rating.

neostar SILENCE

LISTEN TO THE SILENCE

The "Silence" range is perfectly adapted to city centre commercial applications and all other applications where quiet operation is a key factor. In compliance with Eurovent standards the sound pressure level at 10 metres is as low as 19 dB(A) per module!

DESCRIPTION

Casing

- The casing is made of galvanized, as well as white pre-painted, galvanized sheet steel.
- The use of stainless steel screws guarantees excellent, long-lasting corrosion resistance (standard ISO 7253) and aesthetic quality.
- All components used have successfully passed the salt mist corrosion and Kesternich tests.
- The units are delivered screwed to a wooden base.
- Wooden crate packaging available as optional extra.

Ventilation

- The NEOSTAR air condenser range is equipped as standard with 2-speed, external rotor fans (star or delta connections).

NEOSTAR POWER

- The NEOSTAR Power range is equipped with the following motor fan units:
  - Ø 800 mm (PN) : 06P (D/Y) = 885/685 rpm.
  - Ø 910 mm (PU) : 06P (D/Y) = 880/670 rpm,

NEOSTAR SILENCE

- The NEOSTAR Silence range is equipped with the following fan units:
  - Ø 800 mm : 08P (D/Y) = 680/540 rpm,
  - Ø 800 mm : 12P (D/Y) = 440/330 rpm (special fan)
  - Ø 800 mm : 16P (Y) = 255 rpm.
- These enclosed motors are of the type 400V/3/50Hz, IP54, class F, compliant with standard EN 60529, permanently lubricated. Please contact us when the temperature exceeds 60°C.
- The motor fan units are wired as standard and factory connected as follows:
- 1 to 3 switching boxes for the models L (motors connected in line),
- 2 to 8 switching boxes for the models P (motors connected in parallel).
- We are also able to deliver the units unwired upon request (SCU option).
- Fan guards are compliant with safety standards.
- Fans units with special voltage ratings:
- M60: Fans 400 V/3/60Hz, IP54, class F, in version 06P Ø 910 mm
- M26: Fans 230 V/3/60Hz, IP54, class F, in version 06P Ø 910 mm

EC motor

- Electronic switching fan motors (EC) are also proposed as an optional extra and enable optimized operation of your installation. **This motor offers a reduction in energy consumption for a given power rating: a detailed comparison of the energy balance may be carried out for each project.**

Coil

- The air condensers of the NEOSTAR range are equipped with a high-performance, finned coil designed with profiled aluminium fins crimped onto internally grooved copper tubes.
- For this latest generation of condensers, a new optimized fin has been specially designed to improve performance, efficiency and compactness of the units.
- Special coil coatings are available (Vinyl protection (**BAE**), Blygold Polual XT protection (**BXT**)) offering greater corrosion resistance when used in aggressive atmospheres.

Selection software

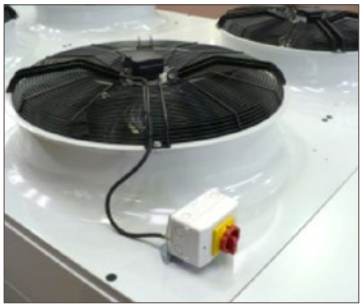
- A wider selection of models is given in our software package to better meet your needs and expectations.

DESIGNATION

PN(1) **06**(2)**D**(3) **P**(4)**08**(5) **A2**(6)

(1) **PN** (Power Normal) - **PU** (Power Ultra)
SN (Silence Normal) - **SE** (Silence Extra) - **SU** (Silence Ultra)
(2) Number of poles
(3) **D** = Delta connection - **Y** = Star connection
(4) Fan arrangement: **L** = fans in line - **P** = fans in parallel
(5) Number of fans
(6) Type of module

CERTIFICATIONS



ADVANTAGES

Installation

Installation horizontal or vertical position as required: in case of installation with horizontal air flow, the predominant wind direction must be taken into consideration to avoid any risk of hot air recirculation.

Motors supplied factory wired and connected to reduce installation time.

Support legs extended up to 1,840 mm (optional) to meet installation requirements.

Servicing / Maintenance

Unimpeded access to the coil rendering maintenance easier.

OPTIONS

Kit	Factory	
		Ventilation
	M60	Fans 400 V/3/60Hz (please contact us for details).
	M26	Fans 230 V/3/60Hz (please contact us for details).
	MTH	Motors equipped with a protection thermostat. Recommended with frequent start sequences (more than 30 start sequences per hour) or when a speed controller is used.
	IRP	Rotary proximity switch(es).
	C2V	2-speed factory wired in the switching box.
	SCU	Without factory wiring. To be indicated when ordering if the condenser unit is to be delivered unwired.
		Coil
	MCI	Multi-circuits.
	BAE	Vinyl protection of fins.
	BXT	Blygold Polual XT protection of coils.
		Casing
	RAL	Special colours.
	REH	Legs extended by 240 mm (ground clearance 800 mm)
RE2		Legs extended by 840 mm (ground clearance 1400 mm)
RE3		Legs extended by 1340 mm (ground clearance 1900 mm)
RE4		Legs extended by 1840 mm (ground clearance 2400 mm)
	ECB	Wooden crate packaging.
		Protection and control enclosure
	MEC	Condensation pressure control with speed variation using an electronic switching motor (EC).
	CMP	Motor protection cabinet.
	RP1	CMP + condensation pressure control with cascade stoppage of fans.
	RP2	CMP + condensation pressure control with speed variation (voltage).
	RP3	CMP + condensation pressure control with speed variation (frequency).
MSK		Floor mounting kit.

Other options
Please contact us for details.

NEOSTAR POWER - Axial fan condenser

R404A | DT1 = 15K

NEOSTAR POWER 1/2	Capacity (1) DT1 = 15K	Ventilation							Coil		Connections			Dimensions L x P x H	Net weight
		Acoustic Lp (2)	Total number of fans Num. x Ø	Fan arrangement	Air flow	True input power (3)	Energy efficiency class	Acoustic Lw	Surface	Circuit volume	Ø Inlet Ø Outlet	Same side	Opposite sides		
	kW	dB(A)	mm		m^3/h	W total		dB(A)	m^2	dm^3	mm			mm	kg
PU 06D L01 A1	42,3	56	1 x 910	•	23920	2480	E	88	68	9	7/8"	X	-	1512 x 1230 x 1347	153
PN 06D L01 A2	49,5	48	1 x 800	•	17890	1940	E	80	102	13	7/8"	X	-	1512 x 1230 x 1347	162
PU 06D L01 A2	54,2	56	1 x 910	•	21350	2480	E	88	102	13	7/8"	X	-	1512 x 1230 x 1347	164
PU 06D L01 B2	64,1	56	1 x 910	•	23670	2480	E	88	128	16	7/8"	X	-	1842 x 1230 x 1347	183
PU 06D L01 B3	73,1	56	1 x 910	•	21870	2480	E	88	170	21	1"1/8	X	-	1842 x 1230 x 1347	198
PU 06D L01 D2	76,0	56	1 x 910	•	26010	2480	E	88	170	21	7/8"	X	-	2312 x 1230 x 1347	210
PN 06D P02 A1	77,3	51	2 x 800	⁝	38960	3880	E	83	136	17	2x7/8"	X	-	1512 x 2310 x 1347	269
PN 06D L02 A1	77,6	51	2 x 800	••	38960	3880	E	83	136	17	7/8"	X	-	2712 x 1230 x 1347	255
PU 06D P02 A1	84,6	59	2 x 910	⁝	47840	4960	E	91	136	17	2x7/8"	X	-	1512 x 2310 x 1347	273
PU 06D L02 A1	85,0	59	2 x 910	••	47840	4960	E	91	136	17	7/8"	X	-	2712 x 1230 x 1347	259
PU 06D L01 D3	88,1	56	1 x 910	•	24660	2480	D	88	227	28	1"1/8	X	-	2312 x 1230 x 1347	228
PN 06D P02 A2	99,0	51	2 x 800	⁝	35780	3880	E	83	204	25	2x7/8"	X	-	1512 x 2310 x 1347	291
PN 06D L02 A2	99,4	51	2 x 800	••	35780	3880	E	83	204	25	1"1/8	X	-	2712 x 1230 x 1347	276
PU 06D L02 A2	108,5	59	2 x 910	••	42700	4960	E	91	204	25	1"1/8	X	-	2712 x 1230 x 1347	280
PN 06D L02 B2	114,6	51	2 x 800	••	38650	3880	E	83	255	32	1"1/8	X	-	3342 x 1230 x 1347	309
PN 06D P02 B2	114,6	51	2 x 800	⁝	38650	3880	E	83	255	32	2x7/8"	X	-	1842 x 2310 x 1347	323
PU 06D L02 D1	118,7	59	2 x 910	••	54950	4960	E	91	227	28	1"1/8	X	-	4312 x 1230 x 1347	343
PU 06D P02 D1	119,5	59	2 x 910	⁝	54950	4960	E	91	227	28	2x7/8"	X	-	2312 x 2310 x 1347	322
PU 06D P02 B2	128,3	59	2 x 910	⁝	47340	4960	E	91	255	32	2x7/8"	X	-	1842 x 2310 x 1347	327
PU 06D L02 B2	128,5	59	2 x 910	••	47340	4960	E	91	255	32	1"1/8	X	-	3342 x 1230 x 1347	313
PN 06D P02 D2	134,2	51	2 x 800	⁝	41570	3880	D	83	340	42	2x7/8"	X	-	2312 x 2310 x 1347	358
PU 06D P02 B3	146,3	59	2 x 910	⁝	43730	4960	E	91	340	42	2x1"1/8	X	-	1842 x 2310 x 1347	354
PU 06D L02 B3	146,5	59	2 x 910	••	43730	4960	E	91	340	42	1"1/8	X	-	3342 x 1230 x 1347	341
PU 06D P02 D2	152,0	59	2 x 910	⁝	52010	4960	E	91	340	42	2x7/8"	X	-	2312 x 2310 x 1347	362
PU 06D L02 D2	154,1	59	2 x 910	••	52010	4960	E	91	340	42	1"3/8	X	-	4312 x 1230 x 1347	378
PU 06D L02 B4	156,5	59	2 x 910	••	40530	4960	E	91	425	53	1"3/8	X	-	3342 x 1230 x 1347	369
PU 06D L03 A2	164,2	61	3 x 910	•••	64050	7440	E	93	306	38	1"3/8	X	-	3912 x 1230 x 1347	402
PN 06D L03 B2	171,7	53	3 x 800	•••	57970	5820	E	85	382	48	1"3/8	X	-	4842 x 1230 x 1347	450
PU 06D L02 D3	174,6	59	2 x 910	••	49310	4960	D	91	453	57	1"3/8	X	-	4312 x 1230 x 1347	413
PU 06D P02 D3	176,2	59	2 x 910	⁝	49310	4960	D	91	453	57	2x1"1/8	X	-	2312 x 2310 x 1347	397
PU 06D L03 B2	191,2	61	3 x 910	•••	71020	7440	E	93	382	48	1"3/8	X	-	4842 x 1230 x 1347	456
PN 06D P04 A2	198,9	54	4 x 800	⁞⁞	71570	7760	E	86	408	51	2x1"1/8	X	-	2712 x 2310 x 1347	510
PN 06D L04 A2	199,8	54	4 x 800	••••	71570	7760	E	86	408	51	1"5/8	X	-	5112 x 1230 x 1347	508
PU 06D P04 A2	217,1	62	4 x 910	⁞⁞	85400	9920	E	94	408	51	2x1"1/8	X	-	2712 x 2310 x 1347	518
PU 06D L03 B3	219,6	61	3 x 910	•••	65600	7440	E	93	510	64	1"5/8	X	-	4842 x 1230 x 1347	494
PN 06D P04 B2	229,2	54	4 x 800	⁞⁞	77290	7760	E	86	510	64	2x1"1/8	X	-	3342 x 2310 x 1347	564
PN 06D L04 B2	229,9	54	4 x 800	••••	77290	7760	E	86	510	64	1"5/8	X	-	6342 x 1230 x 1347	579
PU 06D L03 D2	231,2	61	3 x 910	•••	78020	7440	E	93	510	64	1"5/8	X	-	6312 x 1230 x 1347	546
PU 06D L03 B4	235,1	61	3 x 910	•••	60800	7440	E	93	637	80	1"5/8	X	-	4842 x 1230 x 1347	534
PU 06D L04 A3	245,8	62	4 x 910	••••	76730	9920	E	94	544	68	1"5/8	X	-	5112 x 1230 x 1347	558
PU 06D P04 A3	247,5	62	4 x 910	⁞⁞	76730	9920	E	94	544	68	2x1"1/8	X	-	2712 x 2310 x 1347	561
PU 06D L04 B2	256,6	62	4 x 910	••••	94690	9920	E	94	510	64	1"5/8	X	-	6342 x 1230 x 1347	587
PU 06D P04 B2	257,0	62	4 x 910	⁞⁞	94690	9920	E	94	510	64	2x1"1/8	X	-	3342 x 2310 x 1347	572
PU 06D L03 D3	265,1	61	3 x 910	•••	73960	7440	D	93	680	85	1"5/8	X	-	6312 x 1230 x 1347	598
PU 06D L05 A2	272,3	63	5 x 910	•••••	106760	12400	E	95	510	64	1"5/8	X	-	6312 x 1230 x 1347	641
PU 06D P04 B3	292,9	62	4 x 910	⁞⁞	87460	9920	E	94	680	85	2x1"1/8	X	-	3342 x 2310 x 1347	626
PU 06D L04 B3	293,4	62	4 x 910	••••	87460	9920	E	94	680	85	1"5/8	X	-	6342 x 1230 x 1347	639
PU 06D P04 D2	308,2	62	4 x 910	⁞⁞	104020	9920	E	94	680	85	2x1"3/8	X	-	4312 x 2310 x 1347	654
PU 06D L04 D2	308,5	62	4 x 910	••••	104020	9920	E	94	680	85	1"5/8	-	X	8438 x 1230 x 1347	719
PU 06D P04 B4	313,0	62	4 x 910	⁞⁞	81060	9920	E	94	850	106	2x1"3/8	X	-	3342 x 2310 x 1347	679
PU 06D L05 B2	321,8	63	5 x 910	•••••	118360	12400	E	95	637	80	1"5/8	-	X	7998 x 1230 x 1347	735
PU 06D L06 A2	321,8	64	6 x 910	••••••	128110	14880	E	96	612	76	2"1/8	X	-	7512 x 1230 x 1347	763
PU 06D P06 A2	328,3	64	6 x 910	⁞⁞⁞	128110	14880	E	96	612	76	2x1"3/8	X	-	3912 x 2310 x 1347	747

NEOSTAR POWER - Axial fan condenser

R404A **DT1 = 15K**

NEOSTAR POWER 2/2	Capacity (1) DT1 = 15K	Ventilation							Coil		Connections			Dimensions	Net weight
		Acoustic Lp (2)	Total number of fans Num. x Ø	Fan arrangement	Air flow	True input power (3)	Energy efficiency class	Acoustic Lw	Surface	Circuit volume	Ø Inlet Ø Outlet	Same side	Opposite sides	L x P x H	
	kW	dB(A)	mm		m^3/h	W total		dB(A)	m^2	dm^3	mm			mm	kg
PN 06D P06 B2	343,5	56	6 x 800	⁝⁝	115940	11640	E	88	765	95	2x1"3/8	X	-	4842 x 2310 x 1347	815
PU 06D P04 D3	349,3	62	4 x 910	⁝	98620	9920	D	94	906	113	2x1"3/8	X	-	4312 x 2310 x 1347	725
PU 06D L04 D3	350,1	62	4 x 910	••••	98620	9920	D	94	906	113	2"1/8	X	-	8312 x 1230 x 1347	792
PU 06D L05 B3	363,6	63	5 x 910	•••••	109330	12400	E	95	850	106	2"1/8	X	-	7842 x 1230 x 1347	803
PU 06D L06 A3	368,9	64	6 x 910	••••••	115090	14880	E	96	816	102	2"1/8	X	-	7512 x 1230 x 1347	828
PU 06D P06 B2	382,4	64	6 x 910	⁝⁝	142030	14880	E	96	765	95	2x1"3/8	X	-	4842 x 2310 x 1347	827
PU 06D L05 B4	391,8	63	5 x 910	•••••	101330	12400	E	95	1062	132	2"1/8	X	-	7842 x 1230 x 1347	867
PN 06D P08 A2	399,6	57	8 x 800	⁝⁝⁝⁝	143140	15520	E	89	816	102	2x1"5/8	X	-	5112 x 2310 x 1347	950
PU 06D P06 B3	439,2	64	6 x 910	⁝⁝	131200	14880	E	96	1020	127	2x1"5/8	X	-	4842 x 2310 x 1347	906
PU 06D P06 D2	462,5	64	6 x 910	⁝⁝	156040	14880	E	96	1020	127	2x1"5/8	X	-	6312 x 2310 x 1347	946
PU 06D P06 B4	470,2	64	6 x 910	⁝⁝	121600	14880	E	96	1275	159	2x1"5/8	X	-	4842 x 2310 x 1347	984
PU 06D P08 A3	491,6	65	8 x 910	⁝⁝⁝⁝	153460	19840	E	97	1088	136	2x1"5/8	X	-	5112 x 2310 x 1347	1051
PU 06D P08 B2	513,4	65	8 x 910	⁝⁝⁝⁝	189380	19840	E	97	1020	127	2x1"5/8	X	-	6342 x 2310 x 1347	1073
PU 06D P06 D3	530,3	64	6 x 910	⁝⁝	147930	14880	D	96	1360	170	2x1"5/8	X	-	6312 x 2310 x 1347	1054
PU 06D P10 A2	544,6	66	10 x 910	⁝⁝⁝⁝⁝	213510	24800	E	98	1020	127	2x1"5/8	X	-	6312 x 2310 x 1347	1198
PU 06D P06 D4	563,1	64	6 x 910	⁝⁝	140490	14880	D	96	1700	212	2x1"5/8	X	-	6312 x 2310 x 1347	1162
PN 06D P10 B2	574,8	58	10 x 800	⁝⁝⁝⁝⁝	193230	19400	E	90	1275	159	2x1"5/8	-	X	7998 x 2310 x 1347	1317
PU 06D P08 B3	586,8	65	8 x 910	⁝⁝⁝⁝	174930	19840	E	97	1360	170	2x1"5/8	X	-	6342 x 2310 x 1347	1185
PN 06D P12 A2	590,3	59	12 x 800	⁝⁝⁝⁝⁝⁝	214700	23280	E	91	1224	153	2x2"1/8	X	-	7512 x 2310 x 1347	1403
PU 06D P08 D2	617,0	64	8 x 910	⁝⁝⁝⁝	208050	19840	E	97	1360	170	2x1"5/8	-	X	8438 x 2310 x 1347	1244
PU 06D P10 A3	621,6	66	10 x 910	⁝⁝⁝⁝⁝	191820	24800	E	98	1360	170	2x1"5/8	X	-	6312 x 2310 x 1347	1309
PU 06D P10 B2	643,5	66	10 x 910	⁝⁝⁝⁝⁝	236720	24800	E	98	1275	159	2x1"5/8	-	X	7998 x 2310 x 1347	1337
PU 06D P12 A2	643,6	67	12 x 910	⁝⁝⁝⁝⁝⁝	256210	29760	E	99	1224	153	2x2"1/8	X	-	7512 x 2310 x 1347	1427
PN 06D P12 A3	680,1	59	12 x 800	⁝⁝⁝⁝⁝⁝	199080	23280	E	91	1632	203	2x2"1/8	X	-	7512 x 2310 x 1347	1534
PN 06D P12 B2	687,6	58	12 x 800	⁝⁝⁝⁝⁝⁝	231880	23280	E	91	1530	191	2x2"1/8	-	X	9498 x 2310 x 1347	1571
PN 06D P14 A2	697,0	58	14 x 800	⁝⁝⁝⁝⁝⁝⁝	250490	27160	E	91	1428	178	2x2"1/8	-	X	8838 x 2310 x 1347	1603
PU 06D P08 D3	700,1	64	8 x 910	⁝⁝⁝⁝	197240	19840	D	97	1813	226	2x2"1/8	X	-	8312 x 2310 x 1347	1390
PU 06D P10 B3	727,2	66	10 x 910	⁝⁝⁝⁝⁝	218660	24800	E	98	1700	212	2x2"1/8	X	-	7842 x 2310 x 1347	1474
PU 06D P12 A3	737,9	67	12 x 910	⁝⁝⁝⁝⁝⁝	230180	29760	E	99	1632	203	2x2"1/8	X	-	7512 x 2310 x 1347	1558
PU 06D P10 D2	761,9	65	10 x 910	⁝⁝⁝⁝⁝	260060	24800	E	98	1700	212	2x2"1/8	-	X	10438 x 2310 x 1347	1544
PU 06D P12 B2	765,6	66	12 x 910	⁝⁝⁝⁝⁝⁝	284060	29760	E	99	1530	191	2x2"1/8	-	X	9498 x 2310 x 1347	1595
PU 06D P10 B4	783,7	66	10 x 910	⁝⁝⁝⁝⁝	202660	24800	E	98	2124	265	2x2"1/8	X	-	7842 x 2310 x 1347	1602
PN 06D P14 B2	792,5	58	14 x 800	⁝⁝⁝⁝⁝⁝⁝	270520	27160	E	91	1785	223	2x2"1/8	-	X	10998 x 2310 x 1347	1833
PU 06D P14 A3	849,4	66	14 x 910	⁝⁝⁝⁝⁝⁝⁝	268550	34720	E	99	1904	237	2x2"1/8	X	-	8712 x 2310 x 1347	1766
PU 06D P14 B2	876,8	66	14 x 910	⁝⁝⁝⁝⁝⁝⁝	331410	34720	E	99	1785	223	2x2"1/8	-	X	10998 x 2310 x 1347	1861
PU 06D P12 B3	878,0	66	12 x 910	⁝⁝⁝⁝⁝⁝	262390	29760	E	99	2039	254	2x2"1/8	-	X	9498 x 2310 x 1347	1756
PU 06D P12 D2	925,2	66	12 x 910	⁝⁝⁝⁝⁝⁝	312070	29760	E	99	2039	254	2x2"1/8	X	-	12312 x 2310 x 1347	1839
PU 06D P12 B4	928,2	66	12 x 910	⁝⁝⁝⁝⁝⁝	243190	29760	E	99	2549	318	2x2"1/8	X	-	9342 x 2310 x 1347	1909
PU 06D P16 A3	983,3	67	16 x 910	⁝⁝⁝⁝⁝⁝⁝⁝	306910	39680	E	100	2175	271	2x2"1/8	-	X	10038 x 2310 x 1347	1963
PU 06D P14 B3	1016,4	66	14 x 910	⁝⁝⁝⁝⁝⁝⁝	306120	34720	E	99	2379	297	2x2"1/8	-	X	10998 x 2310 x 1347	2039
PU 06D P12 D3	1038,5	66	12 x 910	⁝⁝⁝⁝⁝⁝	295860	29760	D	99	2719	339	2x2"1/8	-	X	12438 x 2310 x 1347	2049
PU 06D P12 D4	1126,7	66	12 x 910	⁝⁝⁝⁝⁝⁝	280980	29760	D	99	3399	424	2x2"5/8	-	X	12438 x 2310 x 1347	2253
PU 06D P16 B3	1140,9	67	16 x 910	⁝⁝⁝⁝⁝⁝⁝⁝	349860	39680	E	100	2719	339	2x2"5/8	-	X	12498 x 2310 x 1347	2312
PU 06D P16 B4	1237,1	67	16 x 910	⁝⁝⁝⁝⁝⁝⁝⁝	324260	39680	E	100	3399	424	2x2"5/8	-	X	12498 x 2310 x 1347	2516

PU 06D : 885 rpm - 2480 W max. - 5,15 A max. (4)
PN 06D : 880 rpm - 1940 W max. - 3,90 A max. (4)
PU 06Y : 685 rpm - 1570 W max. - 2,90 A max. (4)
PN 06Y : 670 rpm - 1210 W max. - 2,23 A max. (4)

(1) Capacities are expressed in kW for R404A with DT1 = 15 K. They are equal to the capacities measured in accordance with standard CEN EN 327.
"DT1" represents the difference between the ambient air temperature and the condensation temperature considered equal at an equivalent condenser inlet pressure.
(2) Sound pressure level in dB(A) measured at 10 m, line of sight, on a reflective parallelepiped measurement surface, given for information only. Values measured under nominal operating conditions with clean coils and rated voltage.
(3) Power required for all motors.
(4) Setting of overload protection levels.

M60	M26	MTH	IRP	C2V	SCU	MCI	BAE	BXT	REH	RE ..	ECB	MEC	CMP	RP1	RP2	RP3	MSK
+1	+1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

NEOSTAR SILENCE - Axial fan condenser

R404A | DT1 = 15K

NEOSTAR SILENCE 1/6	Capacity (1) DT1 = 15K	Ventilation							Coil		Connections			Dimensions L x P x H	Net weight
		Acoustic Lp (2)	Total number of fans Num. x Ø	Fan arrangement	Air flow	True input power (3)	Energy efficiency class	Acoustic Lw	Surface	Circuit volume	Ø Inlet Ø Outlet	Same side	Opposite sides		
	kW	dB(A)	mm		m^3/h	W total		dB(A)	m^2	dm^3	mm			mm	kg
SU 16Y L01 A1	17,8	16	1 x 800	•	4980	105	A	48	68	9	7/8"	X	-	1512 x 1230 x 1347	151
SU 16Y L01 B1	20,4	16	1 x 800	•	5420	105	A	48	85	11	7/8"	X	-	1842 x 1230 x 1347	167
SU 12Y L01 A1	22,7	29	1 x 800	•	7190	190	B	61	68	9	7/8"	X	-	1512 x 1230 x 1347	151
SU 16Y L01 D1	23,1	16	1 x 800	•	5880	105	A	48	113	14	7/8"	X	-	2312 x 1230 x 1347	188
SU 16Y L01 D2	25,7	16	1 x 800	•	5490	105	A+	48	170	21	7/8"	X	-	2312 x 1230 x 1347	208
SU 12Y L01 B1	25,8	29	1 x 800	•	7700	190	B	61	85	11	7/8"	X	-	1842 x 1230 x 1347	167
SE 12D L01 A1	26,5	36	1 x 800	•	9330	330	C	68	68	9	7/8"	X	-	1512 x 1230 x 1347	151
SU 12Y L01 D1	29,2	29	1 x 800	•	8170	190	B	61	113	14	7/8"	X	-	2312 x 1230 x 1347	188
SE 12D L01 B1	29,9	36	1 x 800	•	9860	330	C	68	85	11	7/8"	X	-	1842 x 1230 x 1347	167
SU 12Y L01 B3	31,0	29	1 x 800	•	6610	190	B	61	170	21	7/8"	X	-	1842 x 1230 x 1347	196
SN 08D L01 A1	32,5	41	1 x 800	•	13670	890	D	73	68	9	7/8"	X	-	1512 x 1230 x 1347	151
SN 08Y L01 B1	33,4	37	1 x 800	•	11820	590	D	69	85	11	7/8"	X	-	1842 x 1230 x 1347	167
SE 12D L01 D1	34,2	36	1 x 800	•	10340	330	B	68	113	14	7/8"	X	-	2312 x 1230 x 1347	188
SU 16Y L02 A1	35,6	19	2 x 800	••	9960	210	A	51	136	17	7/8"	X	-	2712 x 1230 x 1347	255
SU 16Y P02 A1	35,6	19	2 x 800	⋮	9960	210	A	51	136	17	2x7/8"	X	-	1512 x 2310 x 1347	269
SN 08D L01 B1	37,1	41	1 x 800	•	14400	890	D	73	85	11	7/8"	X	-	1842 x 1230 x 1347	167
SN 08Y L01 D1	38,6	37	1 x 800	•	12520	590	C	69	113	14	7/8"	X	-	2312 x 1230 x 1347	188
SU 16Y L02 B1	40,2	19	2 x 800	••	10840	210	A	51	170	21	1"1/8	X	-	3342 x 1230 x 1347	283
SN 08Y L01 B2	40,4	37	1 x 800	•	10950	590	C	69	128	16	7/8"	X	-	1842 x 1230 x 1347	181
SU 16Y P02 B1	40,6	19	2 x 800	⋮	10840	210	A	51	170	21	2x7/8"	X	-	1842 x 2310 x 1347	293
SN 08D L01 A2	40,7	41	1 x 800	•	12590	890	D	73	102	13	7/8"	X	-	1512 x 1230 x 1347	162
SE 12D L01 D2	40,9	36	1 x 800	•	9940	330	B	68	170	21	7/8"	X	-	2312 x 1230 x 1347	208
SU 12Y P02 A1	45,3	32	2 x 800	⋮	14380	380	B	64	136	17	2x7/8"	X	-	1512 x 2310 x 1347	269
SU 12Y L02 A1	45,4	32	2 x 800	••	14380	380	B	64	136	17	7/8"	X	-	2712 x 1230 x 1347	255
SU 16Y P02 D1	46,1	19	2 x 800	⋮	11760	210	A	51	227	28	2x7/8"	X	-	2312 x 2310 x 1347	318
SN 08D L01 B2	46,3	41	1 x 800	•	13570	890	D	73	128	16	7/8"	X	-	1842 x 1230 x 1347	181
SU 16Y L02 D1	46,6	19	2 x 800	••	11760	210	A	51	227	28	1"1/8	X	-	4312 x 1230 x 1347	339
SN 08Y L01 D2	46,9	37	1 x 800	•	11930	590	C	69	170	21	7/8"	X	-	2312 x 1230 x 1347	208
SU 16Y L02 D2	50,9	19	2 x 800	••	10980	210	A+	51	340	42	1"3/8	X	-	4312 x 1230 x 1347	374
SN 08D L01 B3	51,2	41	1 x 800	•	12810	890	D	73	170	21	7/8"	X	-	1842 x 1230 x 1347	196
SU 12Y L02 B1	51,3	32	2 x 800	••	15400	380	B	64	170	21	1"1/8	X	-	3342 x 1230 x 1347	283
SU 16Y P02 D2	51,3	19	2 x 800	⋮	10980	210	A+	51	340	42	2x7/8"	X	-	2312 x 2310 x 1347	358
SU 12Y P02 B1	51,4	32	2 x 800	⋮	15400	380	B	64	170	21	2x7/8"	X	-	1842 x 2310 x 1347	293
SE 12D L02 A1	52,9	39	2 x 800	••	18650	660	C	71	136	17	7/8"	X	-	2712 x 1230 x 1347	255
SE 12D P02 A1	53,0	39	2 x 800	⋮	18650	660	C	71	136	17	2x7/8"	X	-	1512 x 2310 x 1347	269
SN 08D L01 D2	53,4	41	1 x 800	•	14510	890	C	73	170	21	7/8"	X	-	2312 x 1230 x 1347	208
SU 16Y L03 A1	53,6	21	3 x 800	•••	14940	315	A	53	204	25	1"1/8	X	-	3912 x 1230 x 1347	366
SN 08Y P02 A1	58,3	40	2 x 800	⋮	22110	1180	D	72	136	17	2x7/8"	X	-	1512 x 2310 x 1347	269
SU 12Y P02 D1	58,3	32	2 x 800	⋮	16340	380	B	64	227	28	2x7/8"	X	-	2312 x 2310 x 1347	318
SN 08Y L02 A1	58,4	40	2 x 800	••	22110	1180	D	72	136	17	7/8"	X	-	2712 x 1230 x 1347	255
SN 08D L01 D3	59,4	41	1 x 800	•	13970	890	C	73	227	28	1"1/8	X	-	2312 x 1230 x 1347	226
SU 12Y L02 B2	59,4	32	2 x 800	••	14240	380	B	64	255	32	1"1/8	X	-	3342 x 1230 x 1347	309
SE 12D L02 B1	59,9	39	2 x 800	••	19720	660	C	71	170	21	1"1/8	X	-	3342 x 1230 x 1347	283
SE 12D P02 B1	59,9	39	2 x 800	⋮	19720	660	C	71	170	21	2x7/8"	X	-	1842 x 2310 x 1347	293
SU 16Y L03 B1	60,3	21	3 x 800	•••	16260	315	A	53	255	32	1"1/8	X	-	4842 x 1230 x 1347	412
SN 08D P02 A1	65,2	44	2 x 800	⋮	27340	1780	D	76	136	17	2x7/8"	X	-	1512 x 2310 x 1347	269
SN 08D L02 A1	65,3	44	2 x 800	••	27340	1780	D	76	136	17	7/8"	X	-	2712 x 1230 x 1347	255
SN 08Y L02 B1	66,7	40	2 x 800	••	23650	1180	D	72	170	21	1"1/8	X	-	3342 x 1230 x 1347	283
SN 08Y P02 B1	66,7	40	2 x 800	⋮	23650	1180	D	72	170	21	2x7/8"	X	-	1842 x 2310 x 1347	293
SU 16Y L03 B2	66,8	21	3 x 800	•••	14760	315	A	53	382	48	1"3/8	X	-	4842 x 1230 x 1347	450
SU 12Y P02 D2	67,9	32	2 x 800	⋮	15540	380	A	64	340	42	2x7/8"	X	-	2312 x 2310 x 1347	358
SU 12Y L03 A1	68,1	34	3 x 800	•••	21560	570	B	66	204	25	1"1/8	X	-	3912 x 1230 x 1347	366
SE 12D P02 D1	68,5	39	2 x 800	⋮	20690	660	B	71	227	28	2x7/8"	X	-	2312 x 2310 x 1347	318

NEOSTAR SILENCE - Axial fan condenser

R404A **DT1 = 15K**

NEOSTAR SILENCE 2/6	Capacity (1) DT1 = 15K	Ventilation							Coil		Connections			Dimensions L x P x H	Net weight
		Acoustic Lp (2)	Total number of fans Num. x Ø	Fan arrangement	Air flow	True input power (3)	Energy efficiency class	Acoustic Lw	Surface	Circuit volume	Ø Inlet Ø Outlet	Same side	Opposite sides		
	kW	dB(A)	mm		m^3/h	W total		dB(A)	m^2	dm^3	mm			mm	kg
SN 08Y L02 A2	70,2	40	2 x 800	••	19830	1180	D	72	204	25	1"1/8	X	-	2712 x 1230 x 1347	276
SU 16Y L04 A1	71,2	22	4 x 800	••••	19920	420	A	54	272	34	1"3/8	X	-	5112 x 1230 x 1347	468
SU 16Y P04 A1	71,3	22	4 x 800	::	19920	420	A	54	272	34	2x7/8"	X	-	2712 x 2310 x 1347	468
SE 12D L02 B2	71,9	39	2 x 800	••	18510	660	B	71	255	32	1"1/8	X	-	3342 x 1230 x 1347	309
SN 08D P02 B1	74,3	44	2 x 800	:	28810	1780	D	76	170	21	2x7/8"	X	-	1842 x 2310 x 1347	293
SN 08D L02 B1	74,5	44	2 x 800	••	28810	1780	D	76	170	21	1"1/8	X	-	3342 x 1230 x 1347	283
SU 12Y L03 B1	76,7	34	3 x 800	•••	23090	570	B	66	255	32	1"1/8	X	-	4842 x 1230 x 1347	412
SN 08Y P02 D1	77,3	40	2 x 800	:	25040	1180	C	72	227	28	2x7/8"	X	-	2312 x 2310 x 1347	318
SE 12D L03 A1	79,7	41	3 x 800	•••	27980	990	C	73	204	25	1"1/8	X	-	3912 x 1230 x 1347	366
SU 16Y P04 B1	80,5	22	4 x 800	::	21680	420	A	54	340	42	2x1"1/8	X	-	3342 x 2310 x 1347	513
SN 08Y L02 B2	80,7	40	2 x 800	••	21900	1180	C	72	255	32	1"1/8	X	-	3342 x 1230 x 1347	309
SN 08D L02 A2	81,3	44	2 x 800	••	25190	1780	D	76	204	25	1"1/8	X	-	2712 x 1230 x 1347	276
SU 16Y L04 B1	81,3	22	4 x 800	••••	21680	420	A	54	340	42	1"3/8	X	-	6342 x 1230 x 1347	528
SN 08D P02 A2	81,4	44	2 x 800	:	25190	1780	D	76	204	25	2x7/8"	X	-	1512 x 2310 x 1347	291
SE 12D P02 D2	81,8	39	2 x 800	:	19870	660	B	71	340	42	2x7/8"	X	-	2312 x 2310 x 1347	358
SE 12D L02 D2	82,0	39	2 x 800	••	19870	660	B	71	340	42	1"3/8	X	-	4312 x 1230 x 1347	374
SN 08D P02 D1	86,5	44	2 x 800	:	30170	1780	D	76	227	28	2x7/8"	X	-	2312 x 2310 x 1347	318
SN 08Y L03 A1	87,6	42	3 x 800	•••	33170	1770	D	74	204	25	1"1/8	X	-	3912 x 1230 x 1347	366
SE 12D L02 D3	88,0	39	2 x 800	••	19090	660	B	71	453	57	1"3/8	X	-	4312 x 1230 x 1347	409
SU 12Y L03 B2	89,1	34	3 x 800	•••	21350	570	B	66	382	48	1"3/8	X	-	4842 x 1230 x 1347	450
SU 16Y P04 B2	89,1	22	4 x 800	::	19680	420	A	54	510	64	2x1"1/8	X	-	3342 x 2310 x 1347	564
SU 16Y L05 A1	89,5	23	5 x 800	•••••	24900	525	A	55	340	42	1"3/8	X	-	6312 x 1230 x 1347	579
SE 12D L03 B1	89,8	41	3 x 800	•••	29580	990	C	73	255	32	1"1/8	X	-	4842 x 1230 x 1347	412
SU 12Y L04 A1	90,6	35	4 x 800	••••	28750	760	B	67	272	34	1"3/8	X	-	5112 x 1230 x 1347	468
SU 12Y P04 A1	90,6	35	4 x 800	::	28750	760	B	67	272	34	2x7/8"	X	-	2712 x 2310 x 1347	468
SN 08D L02 B2	92,1	44	2 x 800	••	27140	1780	D	76	255	32	1"1/8	X	-	3342 x 1230 x 1347	309
SN 08D P02 B2	92,5	44	2 x 800	:	27140	1780	D	76	255	32	2x7/8"	X	-	1842 x 2310 x 1347	323
SU 16Y L04 D1	93,4	22	4 x 800	••••	23530	420	A	54	453	57	1"3/8	-	X	8438 x 1230 x 1347	641
SU 16Y P04 D1	93,4	22	4 x 800	::	23530	420	A	54	453	57	2x1"1/8	X	-	4312 x 2310 x 1347	575
SN 08Y L02 D2	93,7	40	2 x 800	••	23870	1180	C	72	340	42	1"3/8	X	-	4312 x 1230 x 1347	374
SN 08Y P02 D2	93,7	40	2 x 800	:	23870	1180	C	72	340	42	2x7/8"	X	-	2312 x 2310 x 1347	358
SE 12D L03 A2	95,4	41	3 x 800	•••	25670	990	C	73	306	38	1"3/8	X	-	3912 x 1230 x 1347	396
SU 16Y L05 A2	97,0	23	5 x 800	•••••	21930	525	A	55	510	64	1"5/8	X	-	6312 x 1230 x 1347	631
SN 08D L03 A1	98,2	46	3 x 800	•••	41010	2670	D	78	204	25	1"1/8	X	-	3912 x 1230 x 1347	366
SN 08Y L03 B1	100,1	42	3 x 800	•••	35470	1770	D	74	255	32	1"1/8	X	-	4842 x 1230 x 1347	412
SN 08Y L02 D3	101,3	40	2 x 800	••	22750	1180	C	72	453	57	1"3/8	X	-	4312 x 1230 x 1347	409
SU 16Y L05 B1	101,5	23	5 x 800	•••••	27100	525	A	55	425	53	1"3/8	-	X	7998 x 1230 x 1347	661
SU 16Y P04 D2	101,7	22	4 x 800	::	21950	420	A+	54	680	85	2x1"3/8	X	-	4312 x 2310 x 1347	646
SU 12Y P04 B1	102,5	35	4 x 800	::	30790	760	B	67	340	42	2x1"1/8	X	-	3342 x 2310 x 1347	513
SU 12Y L04 B1	102,8	35	4 x 800	••••	30790	760	B	67	340	42	1"3/8	X	-	6342 x 1230 x 1347	528
SN 08D L02 B3	103,2	44	2 x 800	••	25630	1780	D	76	340	42	1"1/8	X	-	3342 x 1230 x 1347	337
SN 08Y L03 A2	105,2	42	3 x 800	•••	29740	1770	D	74	306	38	1"3/8	X	-	3912 x 1230 x 1347	396
SE 12D L04 A1	105,9	42	4 x 800	••••	37310	1320	C	74	272	34	1"3/8	X	-	5112 x 1230 x 1347	468
SE 12D P04 A1	105,9	42	4 x 800	::	37310	1320	C	74	272	34	2x7/8"	X	-	2712 x 2310 x 1347	468
SU 12Y L03 D3	106,6	34	3 x 800	•••	22190	570	A	66	680	85	1"1/8	X	-	6312 x 1230 x 1347	592
SN 08D P02 D2	106,8	44	2 x 800	:	29020	1780	C	76	340	42	2x7/8"	X	-	2312 x 2310 x 1347	358

SN 08D : 680 rpm - 890 W max. - 2,22 A max. (4)
SE 12D : 440 rpm - 330 W max. - 0,86 A max. (4)
SN 08Y : 540 rpm - 590 W max. - 1,17 A max. (4)
SU 12Y : 330 rpm - 190 W max. - 0,39 A max. (4)
SU 16Y : 255 rpm - 105 W max. - 0,25 A max. (4)

(1) Capacities are expressed in kW for R404A with DT1 = 15 K. They are equal to the capacities measured in accordance with standard CEN EN 327.
"DT1" represents the difference between the ambient air temperature and the condensation temperature considered equal at an equivalent condenser inlet pressure.

(2) Sound pressure level in dB(A) measured at 10 m, line of sight, on a reflective parallelepiped measurement surface, given for information only. Values measured under nominal operating conditions with clean coils and rated voltage.
(3) Power required for all motors.
(4) Setting of overload protection levels.

M60	M26	MTH	IRP	C2V	SCU	MCI	BAE	BXT	REH	RE ..	ECB	MEC	CMP	RP1	RP2	RP3	MSK
+1	+1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

NEOSTAR SILENCE - Axial fan condenser

R404A | DT1 = 15K

NEOSTAR SILENCE 3/6	Capacity (1) DT1 = 15K	Ventilation							Coil		Connections			Dimensions L x P x H	Net weight
		Acoustic Lp (2)	Total number of fans Num. x Ø	Fan arrangement	Air flow	True input power (3)	Energy efficiency class	Acoustic Lw	Surface	Circuit volume	Ø Inlet Ø Outlet	Same side	Opposite sides		
	kW	dB(A)	mm		m³/h	W total		dB(A)	m²	dm³	mm			mm	kg
SU 16Y L06 A1	107,0	24	6 x 800	••••••	29870	630	A	56	408	51	1"3/8	X	-	7512 x 1230 x 1347	690
SN 08D L02 D2	107,2	44	2 x 800	••	29020	1780	C	76	340	42	1"3/8	X	-	4312 x 1230 x 1347	374
SU 16Y P06 A1	107,2	24	6 x 800	:::	29870	630	A	56	408	51	2x1"1/8	X	-	3912 x 2310 x 1347	673
SE 12D L03 B2	107,7	41	3 x 800	•••	27760	990	B	73	382	48	1"3/8	X	-	4842 x 1230 x 1347	450
SU 16Y L05 B2	110,3	23	5 x 800	•••••	24600	525	A	55	637	80	1"5/8	-	X	7998 x 1230 x 1347	725
SN 08D L03 B1	111,7	46	3 x 800	•••	43210	2670	D	78	255	32	1"1/8	X	-	4842 x 1230 x 1347	412
SU 12Y L05 A1	113,6	36	5 x 800	•••••	35940	950	B	68	340	42	1"3/8	X	-	6312 x 1230 x 1347	579
SU 16Y P06 A2	115,5	24	6 x 800	:::	26320	630	A	56	612	76	2x1"3/8	X	-	3912 x 2310 x 1347	735
SN 08Y L04 A1	116,6	43	4 x 800	••••	44230	2360	D	75	272	34	1"3/8	X	-	5112 x 1230 x 1347	468
SN 08Y P04 A1	116,8	43	4 x 800	::	44230	2360	D	75	272	34	2x7/8"	X	-	2712 x 2310 x 1347	468
SU 12Y P04 B2	118,6	35	4 x 800	::	28470	760	B	67	510	64	2x1"1/8	X	-	3342 x 2310 x 1347	564
SN 08D P02 D3	118,7	44	2 x 800	:	27940	1780	C	76	453	57	2x1"1/8	X	-	2312 x 2310 x 1347	393
SU 12Y L04 B2	118,8	35	4 x 800	••••	28470	760	B	67	510	64	1"5/8	X	-	6342 x 1230 x 1347	579
SE 12D P04 B1	119,8	42	4 x 800	::	39440	1320	C	74	340	42	2x1"1/8	X	-	3342 x 2310 x 1347	513
SE 12D L04 B1	120,3	42	4 x 800	••••	39440	1320	C	74	340	42	1"3/8	X	-	6342 x 1230 x 1347	528
SN 08Y L03 B2	121,3	42	3 x 800	•••	32850	1770	C	74	382	48	1"3/8	X	-	4842 x 1230 x 1347	450
SN 08D L03 A2	122,4	46	3 x 800	•••	37780	2670	D	78	306	38	1"3/8	X	-	3912 x 1230 x 1347	396
SE 12D L03 D2	123,1	41	3 x 800	•••	29810	990	B	73	510	64	1"5/8	X	-	6312 x 1230 x 1347	540
SU 12Y P04 B3	123,2	35	4 x 800	::	26420	760	B	67	680	85	2x1"1/8	X	-	3342 x 2310 x 1347	618
SE 12D P04 A2	127,0	42	4 x 800	::	34230	1320	C	74	408	51	2x1"1/8	X	-	2712 x 2310 x 1347	510
SE 12D L04 A2	127,3	42	4 x 800	••••	34230	1320	C	74	408	51	1"1/8	X	-	5112 x 1230 x 1347	508
SU 12Y L05 A2	130,6	36	5 x 800	•••••	32310	950	B	68	510	64	1"5/8	X	-	6312 x 1230 x 1347	631
SN 08D P04 A1	130,7	47	4 x 800	::	54680	3560	D	79	272	34	2x7/8"	X	-	2712 x 2310 x 1347	468
SN 08D L04 A1	130,9	47	4 x 800	••••	54680	3560	D	79	272	34	1"3/8	X	-	5112 x 1230 x 1347	468
SE 12D L05 A1	132,7	43	5 x 800	•••••	46640	1650	C	75	340	42	1"3/8	X	-	6312 x 1230 x 1347	579
SN 08Y L04 B1	133,8	43	4 x 800	••••	47300	2360	D	75	340	42	1"3/8	X	-	6342 x 1230 x 1347	528
SU 12Y L04 D2	135,7	35	4 x 800	••••	31090	760	A	67	680	85	1"5/8	-	X	8438 x 1230 x 1347	711
SU 12Y P04 D2	135,7	35	4 x 800	::	31090	760	A	67	680	85	2x1"3/8	X	-	4312 x 2310 x 1347	646
SU 12Y P06 A1	136,1	37	6 x 800	:::	43130	1140	B	69	408	51	2x1"1/8	X	-	3912 x 2310 x 1347	673
SN 08D L03 B2	139,0	46	3 x 800	•••	40710	2670	D	78	382	48	1"3/8	X	-	4842 x 1230 x 1347	450
SN 08Y L04 A2	140,0	43	4 x 800	••••	39660	2360	D	75	408	51	1"5/8	X	-	5112 x 1230 x 1347	508
SU 16Y P06 D1	140,0	24	6 x 800	:::	35290	630	A	56	680	85	2x1"3/8	X	-	6312 x 2310 x 1347	829
SN 08Y P04 A2	140,5	43	4 x 800	::	39660	2360	D	75	408	51	2x1"1/8	X	-	2712 x 2310 x 1347	510
SN 08Y L03 D2	140,6	42	3 x 800	•••	35800	1770	C	74	510	64	1"5/8	X	-	6312 x 1230 x 1347	540
SU 16Y P08 A1	142,5	25	8 x 800	::::	39830	840	A	57	544	68	2x1"3/8	X	-	5112 x 2310 x 1347	869
SE 12D P04 B2	143,7	42	4 x 800	::	37020	1320	B	74	510	64	2x1"1/8	X	-	3342 x 2310 x 1347	564
SE 12D L04 B2	144,1	42	4 x 800	••••	37020	1320	B	74	510	64	1"5/8	X	-	6342 x 1230 x 1347	579
SN 08Y L05 A1	146,1	44	5 x 800	•••••	55290	2950	D	76	340	42	1"3/8	X	-	6312 x 1230 x 1347	579
SU 12Y L05 B2	148,3	36	5 x 800	•••••	35590	950	B	68	637	80	1"5/8	-	X	7998 x 1230 x 1347	725
SN 08D P04 B1	148,9	47	4 x 800	::	57610	3560	D	79	340	42	2x1"1/8	X	-	3342 x 2310 x 1347	513
SN 08D L04 B1	149,5	47	4 x 800	••••	57610	3560	D	79	340	42	1"3/8	X	-	6342 x 1230 x 1347	528
SE 12D L05 B1	150,4	43	5 x 800	•••••	49300	1650	C	75	425	53	1"3/8	-	X	7998 x 1230 x 1347	661
SU 16Y P06 D2	152,5	24	6 x 800	:::	32930	630	A+	56	1020	127	2x1"5/8	X	-	6312 x 2310 x 1347	934
SU 12Y P06 B1	153,6	37	6 x 800	:::	46190	1140	B	69	510	64	2x1"1/8	X	-	4842 x 2310 x 1347	738
SU 12Y L06 A2	156,4	37	6 x 800	••••••	38770	1140	B	69	612	76	2"1/8	X	-	7512 x 1230 x 1347	751
SE 12D L06 A1	158,0	44	6 x 800	••••••	55960	1980	C	76	408	51	1"3/8	X	-	7512 x 1230 x 1347	690
SE 12D L05 A2	158,9	43	5 x 800	•••••	42790	1650	C	75	510	64	1"5/8	X	-	6312 x 1230 x 1347	631
SE 12D P06 A1	159,4	44	6 x 800	:::	55960	1980	C	76	408	51	2x1"1/8	X	-	3912 x 2310 x 1347	673
SN 08Y P04 B2	161,2	43	4 x 800	::	43800	2360	C	75	510	64	2x1"1/8	X	-	3342 x 2310 x 1347	564
SN 08Y L04 B2	161,4	43	4 x 800	••••	43800	2360	C	75	510	64	1"5/8	X	-	6342 x 1230 x 1347	579
SN 08D P04 A2	162,6	47	4 x 800	::	50370	3560	D	79	408	51	2x1"1/8	X	-	2712 x 2310 x 1347	510
SU 16Y P08 B1	162,6	25	8 x 800	::::	43370	840	A	57	680	85	2x1"3/8	X	-	6342 x 2310 x 1347	955
SN 08D L04 A2	162,8	47	4 x 800	••••	50370	3560	D	79	408	51	1"5/8	X	-	5112 x 1230 x 1347	508

NEOSTAR SILENCE - Axial fan condenser

R404A | **DT1 = 15K**

NEOSTAR SILENCE 4/6	Capacity (1) DT1 = 15K	Ventilation							Coil		Connections			Dimensions L x P x H	Net weight
		Acoustic Lp (2)	Total number of fans Num. x Ø	Fan arrangement	Air flow	True input power (3)	Energy efficiency class	Acoustic Lw	Surface	Circuit volume	Ø Inlet Ø Outlet	Same side	Opposite sides		
	kW	dB(A)	mm		m^3/h	W total		dB(A)	m^2	dm^3	mm			mm	kg
SE 12D L04 D2	163,9	42	4 x 800	••••	39740	1320	B	74	680	85	1"5/8	-	X	8438 x 1230 x 1347	711
SE 12D P04 D2	164,0	42	4 x 800	::	39740	1320	B	74	680	85	2x1"3/8	X	-	4312 x 2310 x 1347	646
SN 08Y L06 A1	173,7	45	6 x 800	••••••	66340	3540	D	77	408	51	1"5/8	X	-	7512 x 1230 x 1347	690
SN 08Y P06 A1	175,2	45	6 x 800	:::	66340	3540	D	77	408	51	2x1"1/8	X	-	3912 x 2310 x 1347	673
SN 08Y L05 A2	175,6	44	5 x 800	•••••	49570	2950	D	76	510	64	1"5/8	X	-	6312 x 1230 x 1347	631
SU 12Y P06 D1	176,9	37	6 x 800	:::	49020	1140	B	69	680	85	2x1"3/8	X	-	6312 x 2310 x 1347	829
SU 16Y P10 A1	178,8	26	10 x 800	:::::	49790	1050	A	58	680	85	2x1"3/8	X	-	6312 x 2310 x 1347	1075
SE 12D P06 B1	179,6	44	6 x 800	:::	59160	1980	C	76	510	64	2x1"1/8	X	-	4842 x 2310 x 1347	738
SE 12D L05 B2	179,9	43	5 x 800	•••••	46270	1650	B	75	637	80	1"5/8	-	X	7998 x 1230 x 1347	725
SN 08D L04 A3	180,0	47	4 x 800	••••	46610	3560	D	79	544	68	1"5/8	X	-	5112 x 1230 x 1347	550
SN 08D P04 A3	180,7	47	4 x 800	::	46610	3560	D	79	544	68	2x1"1/8	X	-	2712 x 2310 x 1347	553
SU 12Y P08 A1	181,3	38	8 x 800	::::	57500	1520	B	70	544	68	2x1"3/8	X	-	5112 x 2310 x 1347	869
SN 08D P04 B2	184,2	47	4 x 800	::	54270	3560	D	79	510	64	2x1"1/8	X	-	3342 x 2310 x 1347	564
SN 08D L04 B2	186,1	47	4 x 800	••••	54270	3560	D	79	510	64	1"5/8	X	-	6342 x 1230 x 1347	579
SU 16Y P08 D1	186,8	25	8 x 800	::::	47060	840	A	57	906	113	2x1"3/8	-	X	8438 x 2310 x 1347	1088
SN 08Y P04 D2	187,4	43	4 x 800	::	47730	2360	C	75	680	85	2x1"3/8	X	-	4312 x 2310 x 1347	646
SN 08Y L04 D2	187,5	43	4 x 800	••••	47730	2360	C	75	680	85	1"5/8	-	X	8438 x 1230 x 1347	711
SE 12D L06 A2	190,8	44	6 x 800	••••••	51340	1980	C	76	612	76	2"1/8	X	-	7512 x 1230 x 1347	751
SE 12D P06 A2	190,8	44	6 x 800	:::	51340	1980	C	76	612	76	2x1"3/8	X	-	3912 x 2310 x 1347	735
SN 08D P06 A1	196,2	49	6 x 800	:::	82020	5340	D	81	408	51	2x1"1/8	X	-	3912 x 2310 x 1347	673
SN 08Y P06 B1	200,1	45	6 x 800	:::	70950	3540	D	77	510	64	2x1"1/8	X	-	4842 x 2310 x 1347	738
SN 08Y L05 B2	202,1	44	5 x 800	•••••	54750	2950	C	76	637	80	1"5/8	-	X	7998 x 1230 x 1347	725
SU 16Y P10 B1	203,0	26	10 x 800	:::::	54210	1050	A	58	850	106	2x1"3/8	-	X	7998 x 2310 x 1347	1188
SU 12Y P06 D2	203,5	37	6 x 800	:::	46630	1140	A	69	1020	127	2x1"5/8	X	-	6312 x 2310 x 1347	934
SN 08D L05 A2	203,7	48	5 x 800	•••••	62960	4450	D	80	510	64	1"5/8	X	-	6312 x 1230 x 1347	631
SU 12Y P08 B1	205,7	38	8 x 800	::::	61580	1520	B	70	680	85	2x1"3/8	X	-	6342 x 2310 x 1347	955
SN 08D P04 B3	206,4	47	4 x 800	::	51250	3560	D	79	680	85	2x1"1/8	X	-	3342 x 2310 x 1347	618
SN 08Y L06 A2	210,3	45	6 x 800	••••••	59490	3540	D	77	612	76	2"1/8	X	-	7512 x 1230 x 1347	751
SN 08Y P06 A2	210,3	45	6 x 800	:::	59490	3540	D	77	612	76	2x1"3/8	X	-	3912 x 2310 x 1347	735
SE 12D P08 A1	211,9	45	8 x 800	::::	74620	2640	C	77	544	68	2x1"3/8	X	-	5112 x 2310 x 1347	869
SU 12Y P06 D3	213,3	37	6 x 800	:::	44370	1140	A	69	1360	170	2x1"1/8	X	-	6312 x 2310 x 1347	1042
SU 16Y P12 A1	213,9	26	12 x 800	::::::	59750	1260	A	59	816	102	2x1"3/8	X	-	7512 x 2310 x 1347	1281
SN 08D P04 D2	214,3	47	4 x 800	::	58040	3560	C	79	680	85	2x1"3/8	X	-	4312 x 2310 x 1347	646
SN 08D L04 D2	214,5	47	4 x 800	••••	58040	3560	C	79	680	85	1"5/8	-	X	8438 x 1230 x 1347	711
SE 12D P06 B2	215,5	44	6 x 800	:::	55530	1980	B	76	765	95	2x1"3/8	X	-	4842 x 2310 x 1347	815
SN 08Y L05 B3	216,9	44	5 x 800	•••••	50730	2950	C	76	850	106	2"1/8	X	-	7842 x 1230 x 1347	793
SU 16Y P10 B2	220,8	26	10 x 800	:::::	49210	1050	A	58	1275	159	2x1"5/8	-	X	7998 x 2310 x 1347	1317
SN 08D P06 B1	223,4	49	6 x 800	:::	86420	5340	D	81	510	64	2x1"1/8	X	-	4842 x 2310 x 1347	738
SU 12Y P10 A1	227,4	39	10 x 800	:::::	71880	1900	B	71	680	85	2x1"3/8	X	-	6312 x 2310 x 1347	1075
SE 12D P06 B3	231,8	44	6 x 800	:::	52290	1980	B	76	1020	127	2x1"5/8	X	-	4842 x 2310 x 1347	894
SN 08D L05 B2	231,9	48	5 x 800	•••••	67840	4450	D	80	637	80	1"5/8	-	X	7998 x 1230 x 1347	725
SN 08Y P08 A1	233,2	46	8 x 800	::::	88460	4720	D	78	544	68	2x1"3/8	X	-	5112 x 2310 x 1347	869
SU 16Y P12 A2	233,2	26	12 x 800	::::::	52630	1260	A	59	1224	153	2x2"1/8	X	-	7512 x 2310 x 1347	1403
SU 12Y P08 B2	237,5	38	8 x 800	::::	56940	1520	B	70	1020	127	2x1"5/8	X	-	6342 x 2310 x 1347	1057
SE 12D P08 B1	240,6	45	8 x 800	::::	78880	2640	C	77	680	85	2x1"3/8	X	-	6342 x 2310 x 1347	955
SU 16Y P12 B1	241,5	26	12 x 800	::::::	65050	1260	A	59	1020	127	2x1"5/8	X	-	9342 x 2310 x 1347	1418

SN 08D : 680 rpm - 890 W max. - 2,22 A max. (4)
SE 12D : 440 rpm - 330 W max. - 0,86 A max. (4)
SN 08Y : 540 rpm - 590 W max. - 1,17 A max. (4)
SU 12Y : 330 rpm - 190 W max. - 0,39 A max. (4)
SU 16Y : 255 rpm - 105 W max. - 0,25 A max. (4)

(1) Capacities are expressed in kW for R404A with DT1 = 15 K. They are equal to the capacities measured in accordance with standard CEN EN 327.
"DT1" represents the difference between the ambient air temperature and the condensation temperature considered equal at an equivalent condenser inlet pressure.

(2) Sound pressure level in dB(A) measured at 10 m, line of sight, on a reflective parallelepiped measurement surface, given for information only. Values measured under nominal operating conditions with clean coils and rated voltage.
(3) Power required for all motors.
(4) Setting of overload protection levels.

M60	M26	MTH	IRP	C2V	SCU	MCI	BAE	BXT	REH	RE ..	ECB	MEC	CMP	RP1	RP2	RP3	MSK
+1	+1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

NEOSTAR SILENCE - Axial fan condenser

R404A | DT1 = 15K

NEOSTAR SILENCE 5/6	Capacity (1) DT1 = 15K	Ventilation							Coil		Connections			Dimensions L x P x H	Net weight
		Acoustic Lp (2)	Total number of fans Num. x Ø	Fan arrangement	Air flow	True input power (3)	Energy efficiency class	Acoustic Lw	Surface	Circuit volume	Ø Inlet Ø Outlet	Same side	Opposite sides		
	kW	dB(A)	mm		m³/h	W total		dB(A)	m²	dm³	mm			mm	kg
SN 08Y P06 B2	242,5	45	6 x 800	⁝⁝	65700	3540	C	77	765	95	2x1"3/8	X	-	4842 x 2310 x 1347	815
SN 08D L06 A2	243,5	49	6 x 800	⁝⁝⁝⁝⁝⁝	75560	5340	D	81	612	76	2"1/8	X	-	7512 x 1230 x 1347	751
SN 08D P06 A2	245,0	49	6 x 800	⁝⁝	75560	5340	D	81	612	76	2x1"3/8	X	-	3912 x 2310 x 1347	735
SE 12D P06 D2	246,1	44	6 x 800	⁝⁝	59620	1980	B	76	1020	127	2x1"5/8	X	-	6312 x 2310 x 1347	934
SU 16Y P14 A1	247,6	27	14 x 800	⁝⁝⁝⁝⁝⁝⁝	69710	1470	B	59	952	119	2x1"5/8	X	-	8712 x 2310 x 1347	1466
SE 12D P08 A2	254,6	45	8 x 800	⁝⁝⁝⁝	68460	2640	C	77	816	102	2x1"1/8	X	-	5112 x 2310 x 1347	950
SU 12Y P10 B1	257,4	39	10 x 800	⁝⁝⁝⁝⁝	76980	1900	B	71	850	106	2x1"3/8	-	X	7998 x 2310 x 1347	1188
SN 08D L05 B3	257,9	48	5 x 800	⁝⁝⁝⁝⁝	64060	4450	D	80	850	106	2"1/8	X	-	7842 x 1230 x 1347	793
SN 08D P08 A1	261,8	50	8 x 800	⁝⁝⁝⁝	109360	7120	D	82	544	68	2x1"3/8	X	-	5112 x 2310 x 1347	869
SE 12D P10 A1	265,3	46	10 x 800	⁝⁝⁝⁝⁝	93270	3300	C	78	680	85	2x1"3/8	X	-	6312 x 2310 x 1347	1075
SU 16Y P12 B2	267,0	26	12 x 800	⁝⁝⁝⁝⁝⁝	59050	1260	A	59	1530	191	2x2"1/8	-	X	9498 x 2310 x 1347	1571
SN 08Y P08 B1	267,4	46	8 x 800	⁝⁝⁝⁝	94600	4720	D	78	680	85	2x1"3/8	X	-	6342 x 2310 x 1347	955
SN 08D P06 A3	270,5	49	6 x 800	⁝⁝	69910	5340	D	81	816	102	2x1"3/8	X	-	3912 x 2310 x 1347	799
SN 08D L06 A3	270,8	49	6 x 800	⁝⁝⁝⁝⁝⁝	69910	5340	D	81	816	102	2"1/8	X	-	7512 x 1230 x 1347	816
SU 12Y P12 A1	272,3	39	12 x 800	⁝⁝⁝⁝⁝⁝	86260	2280	B	72	816	102	2x1"3/8	X	-	7512 x 2310 x 1347	1281
SN 08Y P08 A2	280,1	46	8 x 800	⁝⁝⁝⁝	79310	4720	D	78	816	102	2x1"5/8	X	-	5112 x 2310 x 1347	950
SN 08Y P06 D2	281,2	45	6 x 800	⁝⁝	71600	3540	C	77	1020	127	2x1"5/8	X	-	6312 x 2310 x 1347	934
SU 16Y P14 B1	283,9	27	14 x 800	⁝⁝⁝⁝⁝⁝⁝	75890	1470	A	59	1190	148	2x2"1/8	X	-	10842 x 2310 x 1347	1654
SU 16Y P16 A1	285,1	27	16 x 800	⁝⁝⁝⁝⁝⁝⁝⁝	79660	1680	A	60	1088	136	2x2"1/8	X	-	9912 x 2310 x 1347	1646
SE 12D P08 B2	288,1	45	8 x 800	⁝⁝⁝⁝	74040	2640	B	77	1020	127	2x1"5/8	X	-	6342 x 2310 x 1347	1057
SN 08Y P10 A1	292,1	47	10 x 800	⁝⁝⁝⁝⁝	110570	5900	D	79	680	85	2x1"3/8	X	-	6312 x 2310 x 1347	1075
SU 12Y P10 B2	296,7	39	10 x 800	⁝⁝⁝⁝⁝	71180	1900	B	71	1275	159	2x1"5/8	-	X	7998 x 2310 x 1347	1317
SN 08D P08 B1	298,8	50	8 x 800	⁝⁝⁝⁝	115230	7120	D	82	680	85	2x1"3/8	X	-	6342 x 2310 x 1347	955
SE 12D P10 B1	300,7	46	10 x 800	⁝⁝⁝⁝⁝	98590	3300	C	78	850	106	2x1"3/8	-	X	7998 x 2310 x 1347	1188
SN 08Y P06 D3	303,7	45	6 x 800	⁝⁝	68240	3540	C	77	1360	170	2x1"5/8	X	-	6312 x 2310 x 1347	1042
SU 12Y P12 B1	307,4	39	12 x 800	⁝⁝⁝⁝⁝⁝	92380	2280	B	72	1020	127	2x1"5/8	X	-	9342 x 2310 x 1347	1418
SN 08D P06 B3	309,9	49	6 x 800	⁝⁝	76880	5340	D	81	1020	127	2x1"5/8	X	-	4842 x 2310 x 1347	894
SU 16Y P14 B2	312,1	27	14 x 800	⁝⁝⁝⁝⁝⁝⁝	68890	1470	A	59	1785	223	2x2"1/8	-	X	10998 x 2310 x 1347	1833
SU 12Y P14 A1	316,2	40	14 x 800	⁝⁝⁝⁝⁝⁝⁝	100630	2660	B	72	952	119	2x1"5/8	X	-	8712 x 2310 x 1347	1466
SE 12D P10 A2	317,9	46	10 x 800	⁝⁝⁝⁝⁝	85570	3300	C	78	1020	127	2x1"5/8	X	-	6312 x 2310 x 1347	1178
SN 08Y P08 B2	322,9	46	8 x 800	⁝⁝⁝⁝	87600	4720	C	78	1020	127	2x1"5/8	X	-	6342 x 2310 x 1347	1057
SU 16Y P16 B1	325,2	27	16 x 800	⁝⁝⁝⁝⁝⁝⁝⁝	86740	1680	A	60	1360	170	2x2"1/8	X	-	12342 x 2310 x 1347	1874
SN 08D P08 A2	325,5	50	8 x 800	⁝⁝⁝⁝	100740	7120	D	82	816	102	2x1"5/8	X	-	5112 x 2310 x 1347	950
SE 12D P08 D2	327,8	45	8 x 800	⁝⁝⁝⁝	79490	2640	B	77	1360	170	2x1"5/8	-	X	8438 x 2310 x 1347	1228
SN 08Y P10 B1	334,9	47	10 x 800	⁝⁝⁝⁝⁝	118250	5900	D	79	850	106	2x1"3/8	-	X	7998 x 2310 x 1347	1188
SN 08Y P12 A1	347,5	47	12 x 800	⁝⁝⁝⁝⁝⁝	132690	7080	D	80	816	102	2x1"5/8	X	-	7512 x 2310 x 1347	1281
SN 08Y P10 A2	351,3	47	10 x 800	⁝⁝⁝⁝⁝	99140	5900	D	79	1020	127	2x1"5/8	X	-	6312 x 2310 x 1347	1178
SU 16Y P16 B2	355,5	27	16 x 800	⁝⁝⁝⁝⁝⁝⁝⁝	78740	1680	A	60	2039	254	2x2"1/8	X	-	12342 x 2310 x 1347	2078
SE 12D P12 B1	359,7	46	12 x 800	⁝⁝⁝⁝⁝⁝	118310	3960	C	79	1020	127	2x1"5/8	X	-	9342 x 2310 x 1347	1418
SE 12D P10 B2	359,8	46	10 x 800	⁝⁝⁝⁝⁝	92550	3300	B	78	1275	159	2x1"5/8	-	X	7998 x 2310 x 1347	1317
SN 08D P08 A3	359,9	50	8 x 800	⁝⁝⁝⁝	93210	7120	D	82	1088	136	2x1"5/8	X	-	5112 x 2310 x 1347	1035
SU 12Y P14 B1	360,1	40	14 x 800	⁝⁝⁝⁝⁝⁝⁝	107770	2660	B	72	1190	148	2x2"1/8	X	-	10842 x 2310 x 1347	1654
SN 08D P08 B2	372,3	50	8 x 800	⁝⁝⁝⁝	108550	7120	D	82	1020	127	2x1"5/8	X	-	6342 x 2310 x 1347	1057
SN 08Y P08 D2	375,0	46	8 x 800	⁝⁝⁝⁝	95460	4720	C	78	1360	170	2x1"5/8	-	X	8438 x 2310 x 1347	1228
SE 12D P12 A2	381,6	46	12 x 800	⁝⁝⁝⁝⁝⁝	102680	3960	C	79	1224	153	2x2"1/8	X	-	7512 x 2310 x 1347	1403
SN 08Y P10 B2	404,2	47	10 x 800	⁝⁝⁝⁝⁝	109500	5900	C	79	1275	159	2x1"5/8	-	X	7998 x 2310 x 1347	1317
SN 08D P10 A2	407,6	51	10 x 800	⁝⁝⁝⁝⁝	125930	8900	D	83	1020	127	2x1"5/8	X	-	6312 x 2310 x 1347	1178
SE 12D P10 D2	409,8	45	10 x 800	⁝⁝⁝⁝⁝	99360	3300	B	78	1700	212	2x2"1/8	-	X	10438 x 2310 x 1347	1524
SU 12Y P16 B1	411,5	40	16 x 800	⁝⁝⁝⁝⁝⁝⁝⁝	123170	3040	B	73	1360	170	2x2"1/8	X	-	12342 x 2310 x 1347	1874
SE 12D P14 B1	420,1	47	14 x 800	⁝⁝⁝⁝⁝⁝⁝	138030	4620	C	79	1190	148	2x2"1/8	X	-	10842 x 2310 x 1347	1654
SN 08Y P12 A2	420,6	47	12 x 800	⁝⁝⁝⁝⁝⁝	118970	7080	D	80	1224	153	2x2"1/8	X	-	7512 x 2310 x 1347	1403
SN 08D P08 D2	429,0	50	8 x 800	⁝⁝⁝⁝	116070	7120	C	82	1360	170	2x1"5/8	-	X	8438 x 2310 x 1347	1228
SE 12D P12 B2	431,2	46	12 x 800	⁝⁝⁝⁝⁝⁝	111060	3960	B	79	1530	191	2x2"1/8	-	X	9498 x 2310 x 1347	1571

NEOSTAR SILENCE - Axial fan condenser

R404A **DT1 = 15K**

NEOSTAR SILENCE 6/6	Capacity (1) DT1 = 15K	Ventilation							Coil		Connections			Dimensions	Net weight
		Acoustic Lp (2)	Total number of fans Num. x Ø	Fan arrangement	Air flow	True input power (3)	Energy efficiency class	Acoustic Lw	Surface	Circuit volume	Ø Inlet Ø Outlet	Same side	Opposite sides	L x P x H	
	kW	dB(A)	mm		m^3/h	W total		dB(A)	m^2	dm^3	mm			mm	kg
SE 12D P14 A2	444,8	47	14 x 800	:::::::	119800	4620	C	79	1428	178	2x2"1/8	-	X	8838 x 2310 x 1347	1603
SN 08Y P12 A3	448,4	47	12 x 800	::::::	107610	7080	C	80	1632	203	2x2"1/8	X	-	7512 x 2310 x 1347	1534
SN 08D P10 A3	451,2	51	10 x 800	:::::	116520	8900	D	83	1360	170	2x1"5/8	X	-	6312 x 2310 x 1347	1289
SN 08D P10 B2	463,9	51	10 x 800	:::::	135680	8900	D	83	1275	159	2x1"5/8	-	X	7998 x 2310 x 1347	1317
SE 12D P12 B3	464,2	46	12 x 800	::::::	104580	3960	B	79	2039	254	2x2"1/8	-	X	9498 x 2310 x 1347	1732
SU 12Y P16 B2	475,3	40	16 x 800	::::::::	113890	3040	B	73	2039	254	2x2"1/8	X	-	12342 x 2310 x 1347	2078
SE 12D P16 B1	481,3	47	16 x 800	::::::::	157750	5280	C	80	1360	170	2x2"1/8	X	-	12342 x 2310 x 1347	1874
SN 08Y P12 B2	485,5	47	12 x 800	::::::	131400	7080	C	80	1530	191	2x2"1/8	-	X	9498 x 2310 x 1347	1571
SN 08D P12 A2	486,9	51	12 x 800	::::::	151120	10680	D	84	1224	153	2x2"1/8	X	-	7512 x 2310 x 1347	1403
SE 12D P14 B2	503,8	47	14 x 800	:::::::	129570	4620	B	79	1785	223	2x2"1/8	-	X	10998 x 2310 x 1347	1833
SE 12D P16 A2	509,1	47	16 x 800	::::::::	136910	5280	C	80	1632	203	2x2"1/8	-	X	10038 x 2310 x 1347	1789
SN 08D P10 B3	515,9	51	10 x 800	:::::	128130	8900	D	83	1700	212	2x2"1/8	X	-	7842 x 2310 x 1347	1454
SN 08Y P12 B3	522,1	47	12 x 800	::::::	121750	7080	C	80	2039	254	2x2"1/8	-	X	9498 x 2310 x 1347	1732
SN 08Y P16 B1	534,6	48	16 x 800	::::::::	189190	9440	D	81	1360	170	2x2"1/8	X	-	12342 x 2310 x 1347	1874
SN 08D P12 A3	541,7	51	12 x 800	::::::	139820	10680	D	84	1632	203	2x2"1/8	X	-	7512 x 2310 x 1347	1534
SE 12D P16 A3	543,8	47	16 x 800	::::::::	125860	5280	C	80	2175	271	2x2"1/8	-	X	10038 x 2310 x 1347	1931
SN 08D P12 B2	556,6	51	12 x 800	::::::	162820	10680	D	84	1530	191	2x2"1/8	-	X	9498 x 2310 x 1347	1571
SN 08Y P14 B2	564,9	48	14 x 800	:::::::	153300	8260	C	80	1785	223	2x2"1/8	-	X	10998 x 2310 x 1347	1833
SN 08D P14 A2	569,9	52	14 x 800	:::::::	176300	12460	D	84	1428	178	2x2"1/8	-	X	8838 x 2310 x 1347	1603
SE 12D P16 B2	576,5	47	16 x 800	::::::::	148080	5280	B	80	2039	254	2x2"1/8	X	-	12342 x 2310 x 1347	2078
SN 08D P16 B1	597,4	52	16 x 800	::::::::	230450	14240	D	85	1360	170	2x2"1/8	X	-	12342 x 2310 x 1347	1874
SN 08Y P14 B3	608,4	48	14 x 800	:::::::	142040	8260	C	80	2379	297	2x2"1/8	-	X	10998 x 2310 x 1347	2011
SN 08D P12 B3	617,4	51	12 x 800	::::::	153760	10680	D	84	2039	254	2x2"1/8	-	X	9498 x 2310 x 1347	1732
SE 12D P16 B3	617,6	47	16 x 800	::::::::	139440	5280	B	80	2719	339	2x2"5/8	-	X	12498 x 2310 x 1347	2280
SN 08Y P16 B2	646,0	48	16 x 800	::::::::	175200	9440	C	81	2039	254	2x2"1/8	X	-	12342 x 2310 x 1347	2078
SN 08D P14 B2	647,1	52	14 x 800	:::::::	189960	12460	D	84	1785	223	2x2"1/8	-	X	10998 x 2310 x 1347	1833
SN 08Y P16 B3	693,6	48	16 x 800	::::::::	162330	9440	C	81	2719	339	2x2"5/8	-	X	12498 x 2310 x 1347	2280
SN 08D P14 B3	720,7	52	14 x 800	:::::::	179380	12460	D	84	2379	297	2x2"1/8	-	X	10998 x 2310 x 1347	2011
SN 08D P16 A3	722,1	52	16 x 800	::::::::	186430	14240	D	85	2175	271	2x2"1/8	-	X	10038 x 2310 x 1347	1931
SN 08D P16 B2	745,1	52	16 x 800	::::::::	217090	14240	D	85	2039	254	2x2"1/8	X	-	12342 x 2310 x 1347	2078
SN 08D P16 B3	819,9	52	16 x 800	::::::::	205010	14240	D	85	2719	339	2x2"5/8	-	X	12498 x 2310 x 1347	2280
SN 08D P16 B4	861,0	52	16 x 800	::::::::	194000	14240	D	85	3399	424	2x2"5/8	-	X	12498 x 2310 x 1347	2484

SN 08D : 680 rpm - 890 W max. - 2,22 A max. (4)
SE 12D : 440 rpm - 330 W max. - 0,86 A max. (4)
SN 08Y : 540 rpm - 590 W max. - 1,17 A max. (4)
SU 12Y : 330 rpm - 190 W max. - 0,39 A max. (4)
SU 16Y : 255 rpm - 105 W max. - 0,25 A max. (4)

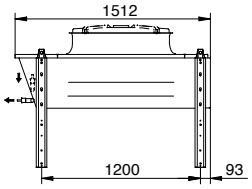
(1) Capacities are expressed in kW for R404A with DT1 = 15 K. They are equal to the capacities measured in accordance with standard CEN EN 327.
"DT1" represents the difference between the ambient air temperature and the condensation temperature considered equal at an equivalent condenser inlet pressure.

(2) Sound pressure level in dB(A) measured at 10 m, line of sight, on a reflective parallelepiped measurement surface, given for information only. Values measured under nominal operating conditions with clean coils and rated voltage.
(3) Power required for all motors.
(4) Setting of overload protection levels.

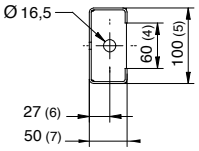
M60	M26	MTH	IRP	C2V	SCU	MCI	BAE	BXT	REH	RE ..	ECB	MEC	CMP	RP1	RP2	RP3	MSK
+1	+1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

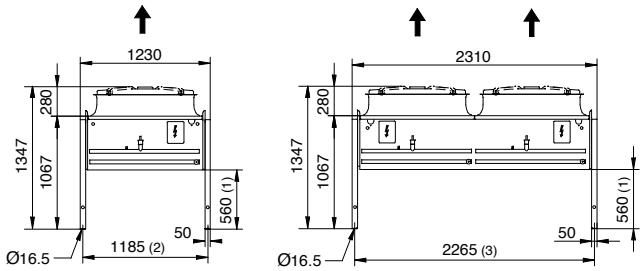
TYPE OF MODULE: A

Vertical air flow

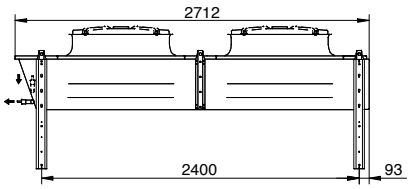


... L01 A... / ... P02 A...

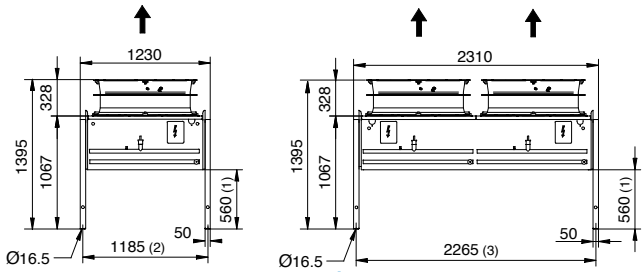




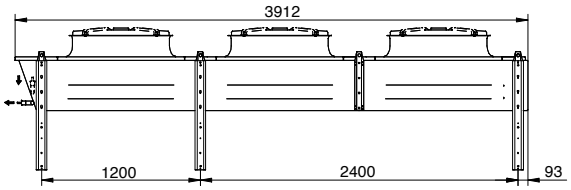
PN 06D ... / PU 06D ... / SN 08D ... / SN 08Y ... / SU 16Y ...



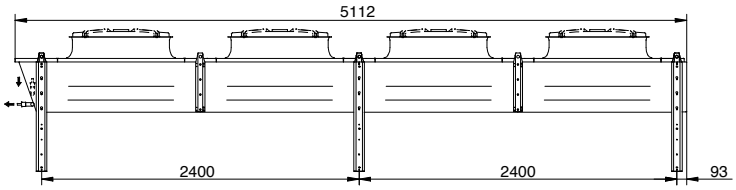
... L02 A... / ... P04 A...



SE 12D ... / SU 12Y ...

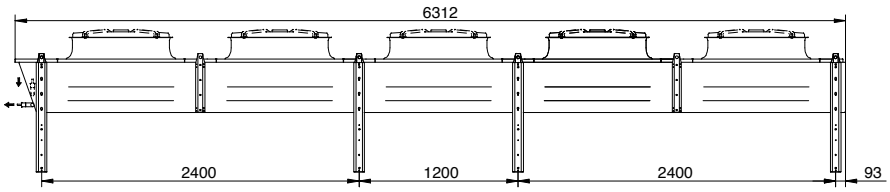


... L03 A... / ... P06 A...

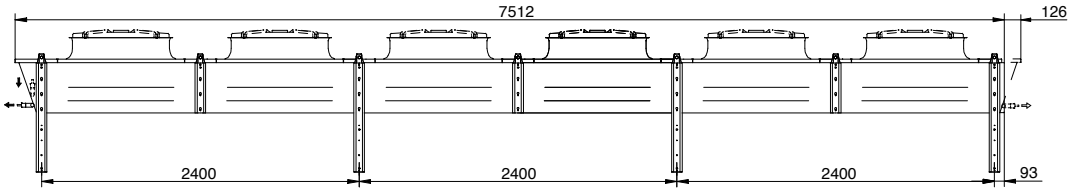


... L04 A... / ... P08 A...

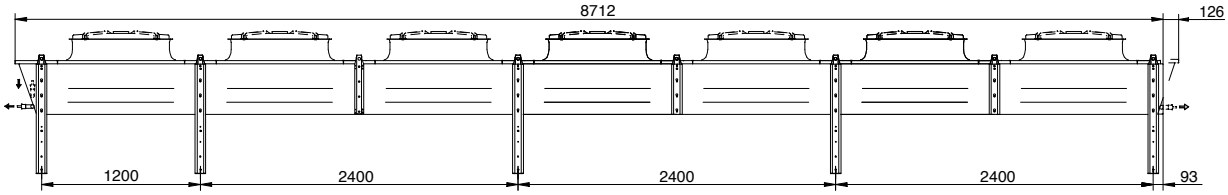
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
REH	800	1185	2265	60	100	27	50
RE2	1400	1205	2285	90	130	37	70
RE3	1900	1205	2285	90	130	37	70
RE4	2400	1205	2285	90	130	37	80



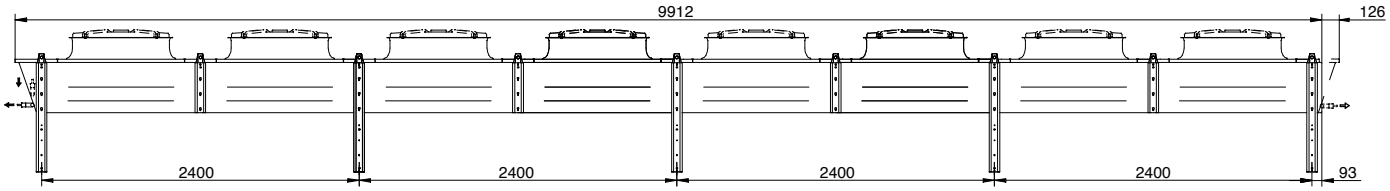
... L05 A... / ... P10 A...



... L06 A... / ... P12 A...



... P14 A...

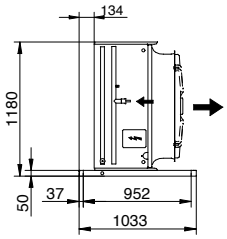


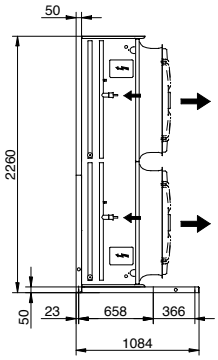
... P16 A...

TYPE OF MODULE: A

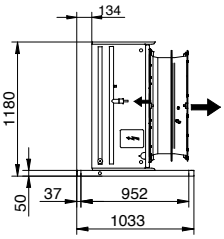
Horizontal air flow

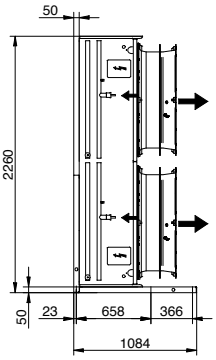
PN 06D ...
PU 06D ...
SN 08D ...
SN 08Y ...
SU 16Y ...

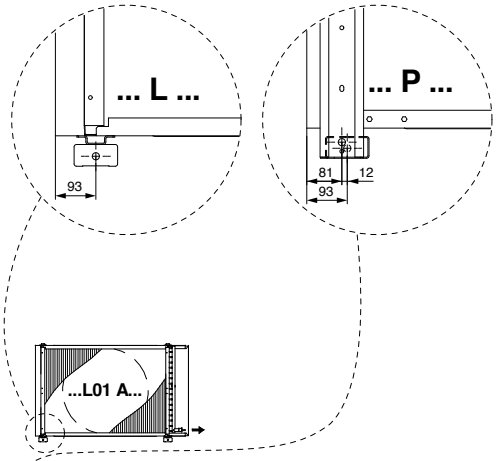


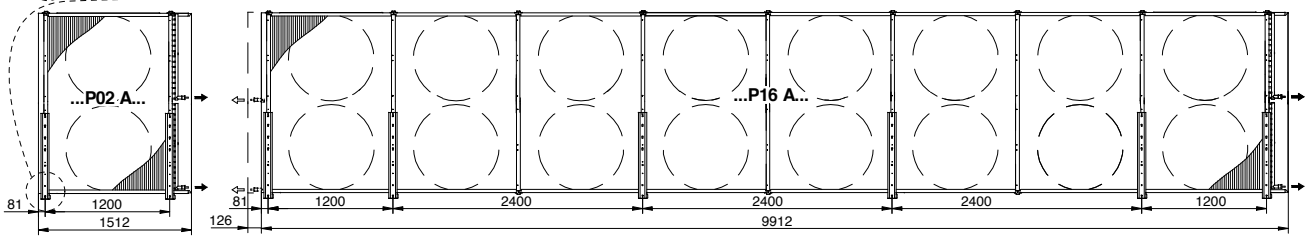


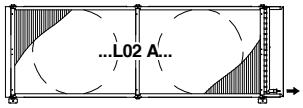
SE 12D ...
SU 12Y ...

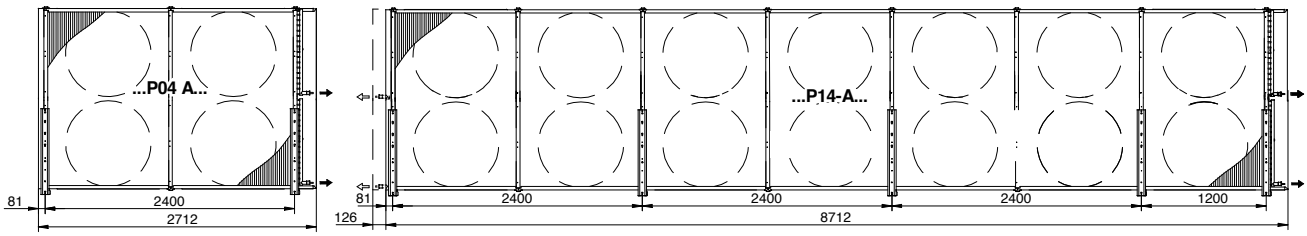


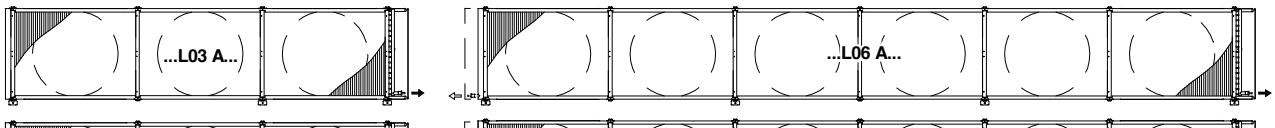


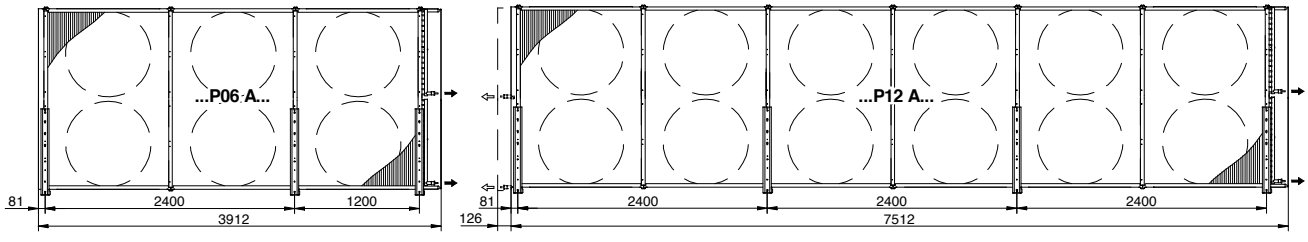


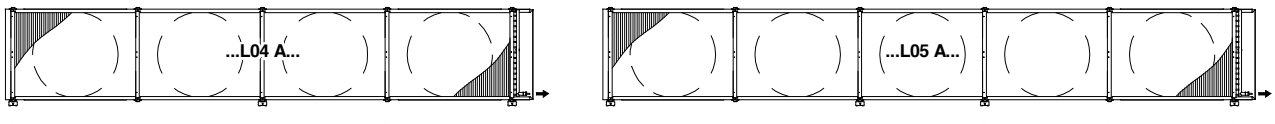


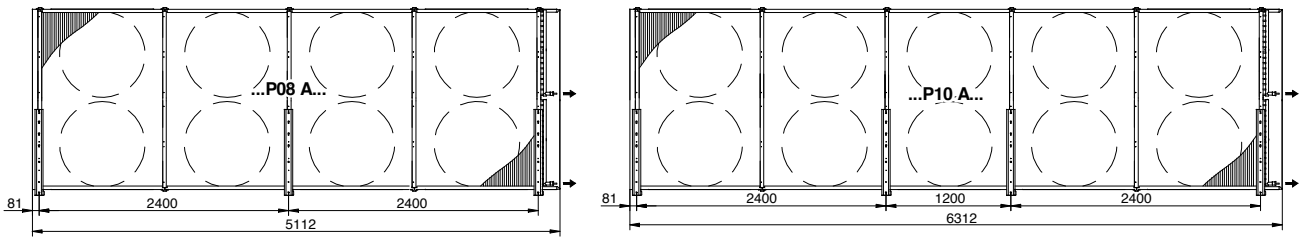






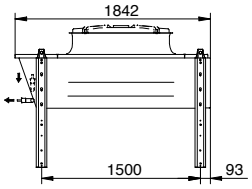




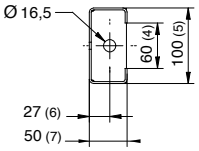


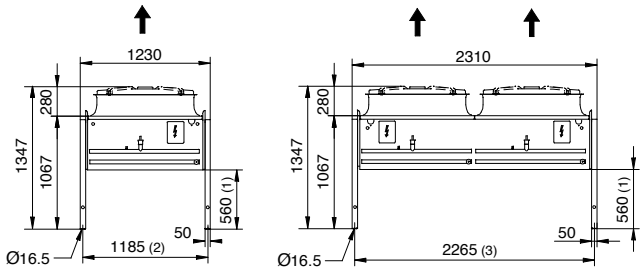
TYPE OF MODULE: B

Vertical air flow

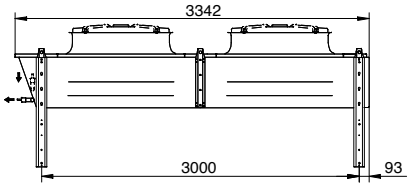


... L01 B... / ... P02 B...

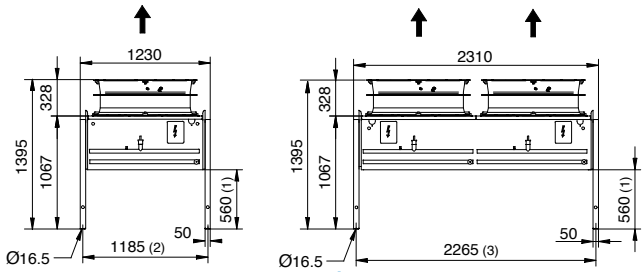




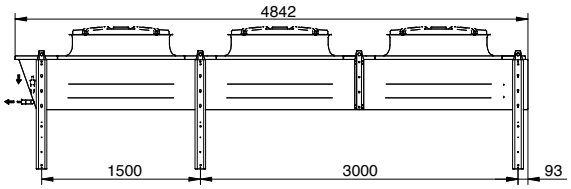
PN 06D ... / PU 06D ... / SN 08D ... / SN 08Y ... / SU 16Y ...



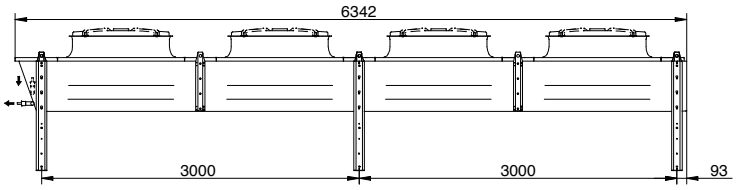
... L02 B... / ... P04 B...



SE 12D ... / SU 12Y ...

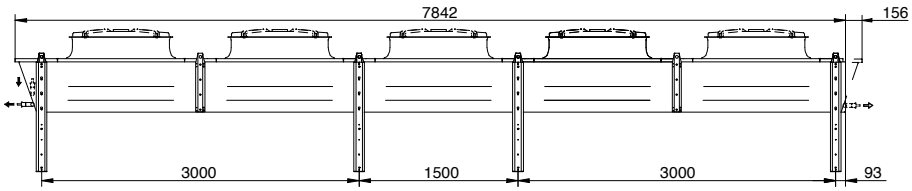


... L03 B... / ... P06 B...

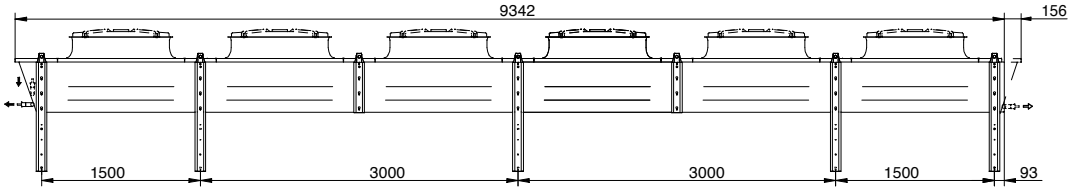


... L04 B... / ... P08 B...

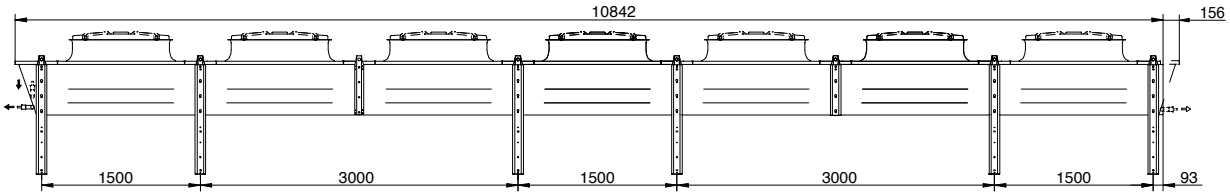
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
REH	800	1185	2265	60	100	27	50
RE2	1400	1205	2285	90	130	37	70
RE3	1900	1205	2285	90	130	37	70
RE4	2400	1205	2285	90	130	37	80



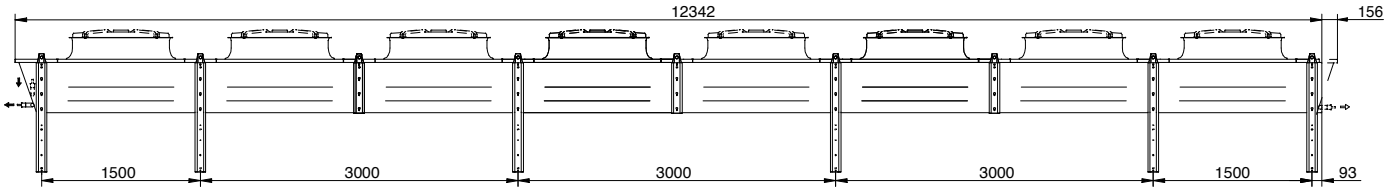
... L05 B... / ... P10 B...



... P12 B...



... P14 B...

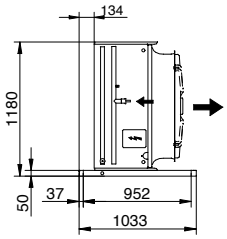


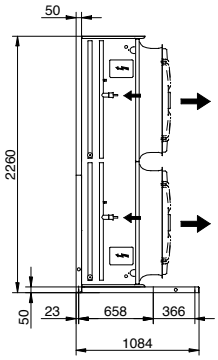
... P16 B...

TYPE OF MODULE: B

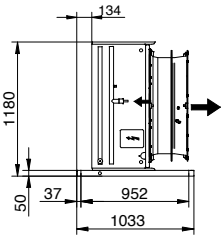
Horizontal air flow

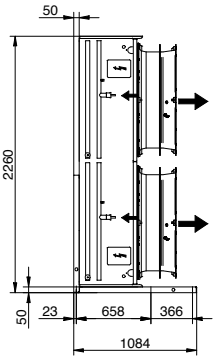
PN 06D ...
PU 06D ...
SN 08D ...
SN 08Y ...
SU 16Y ...

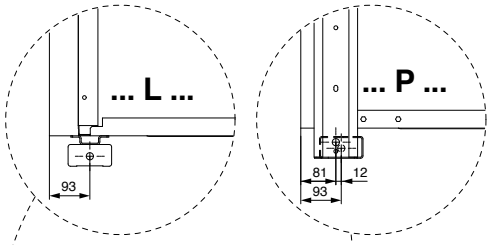


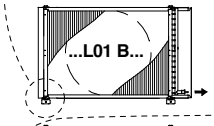


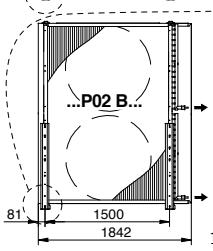
SE 12D ...
SU 12Y ...

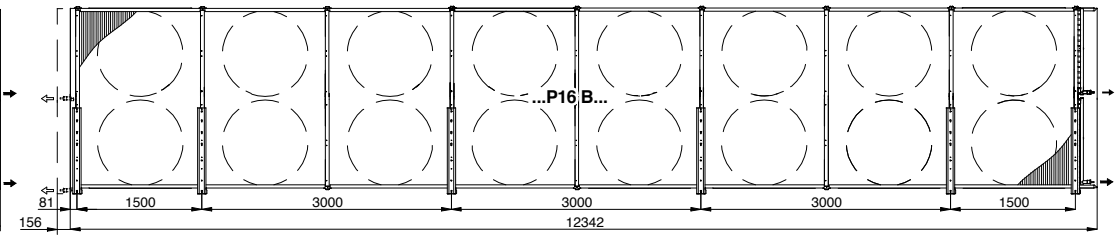


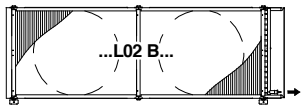


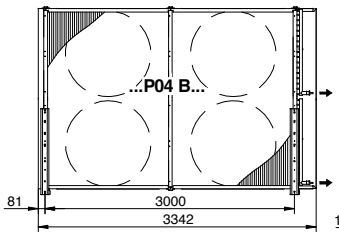


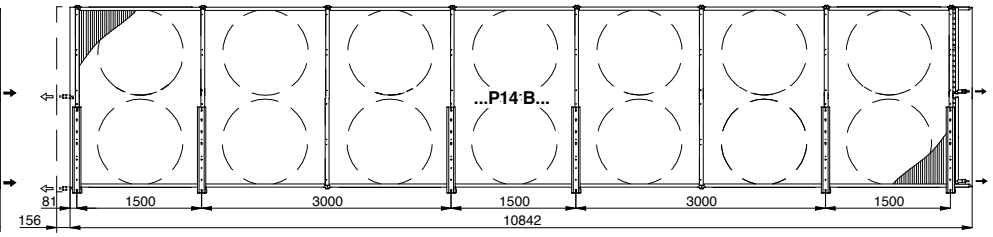


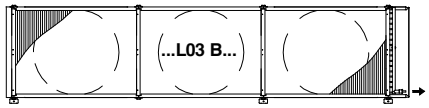


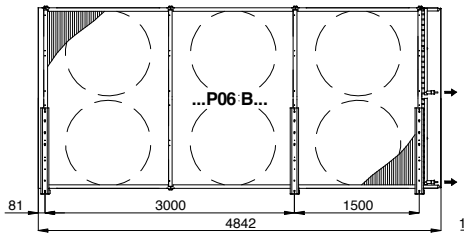


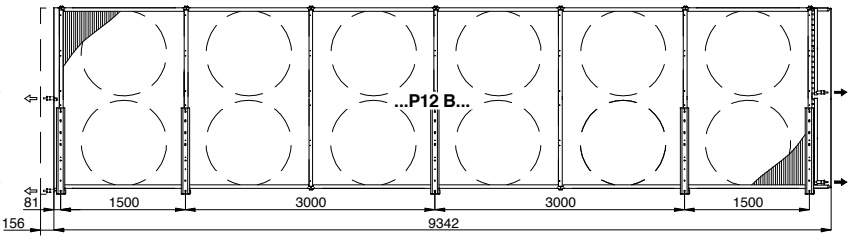


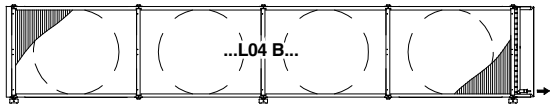


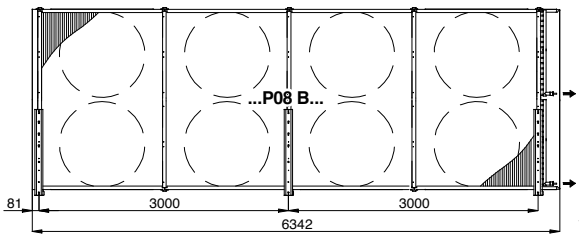


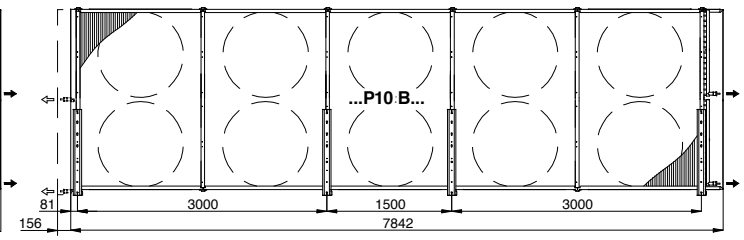






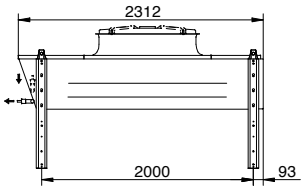




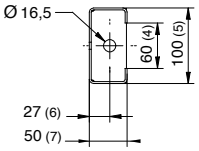


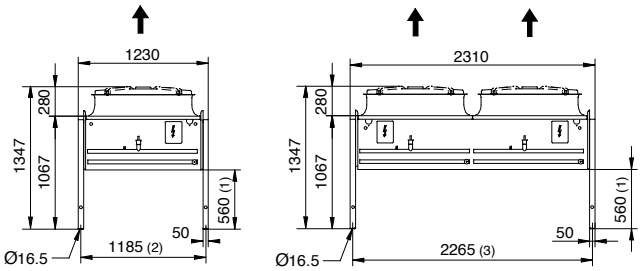
TYPE OF MODULE: D

Vertical air flow

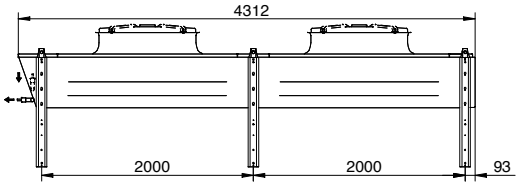


... L01 D... / ... P02 D...

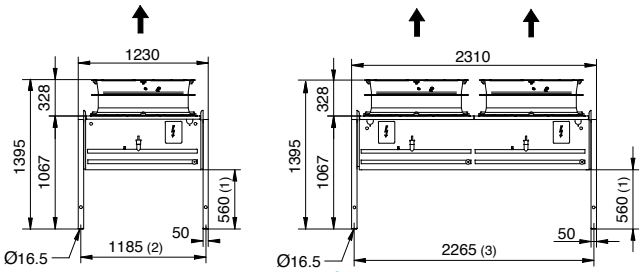




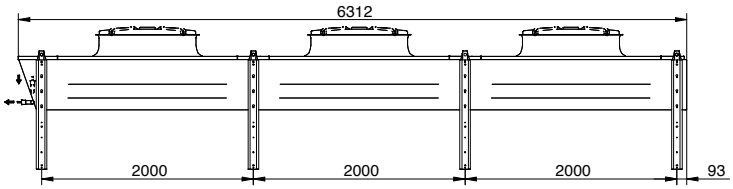
PN 06D ... / PU 06D ... / SN 08D ... / SN 08Y ... / SU 16Y ...



... L02 D... / ... P04 D...

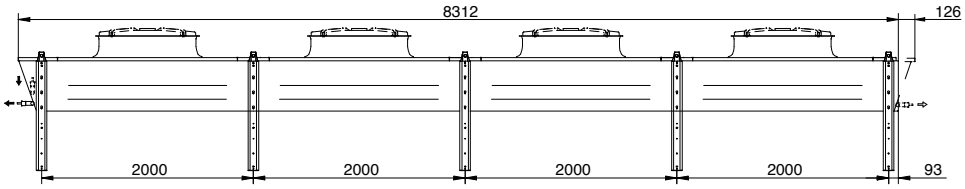


SE 12D ... / SU 12Y ...

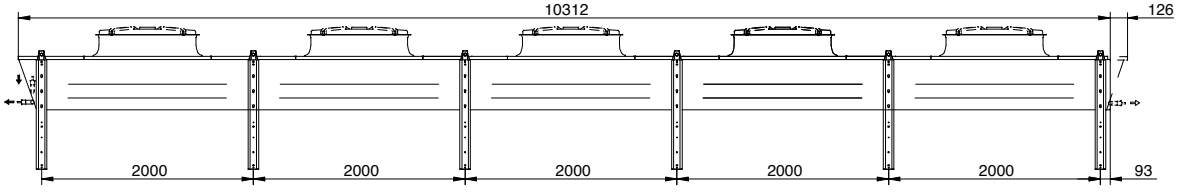


... L03 D... / ... P06 D...

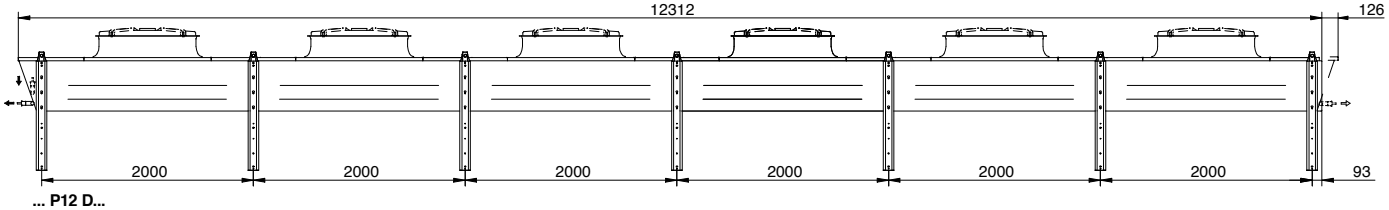
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
REH	800	1185	2265	60	100	27	50
RE2	1400	1205	2285	90	130	37	70
RE3	1900	1205	2285	90	130	37	70
RE4	2400	1205	2285	90	130	37	80



... L04 D... / ... P08 D...



... P10 D...

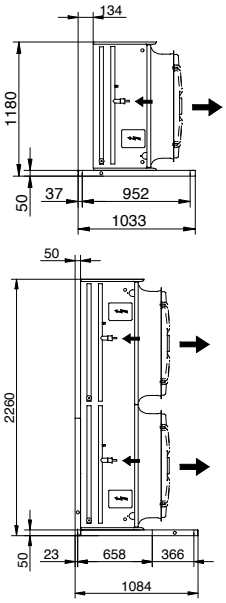


... P12 D...

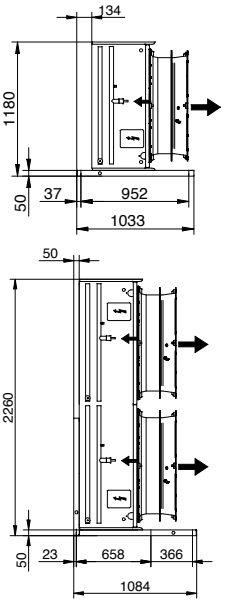
TYPE OF MODULE: D

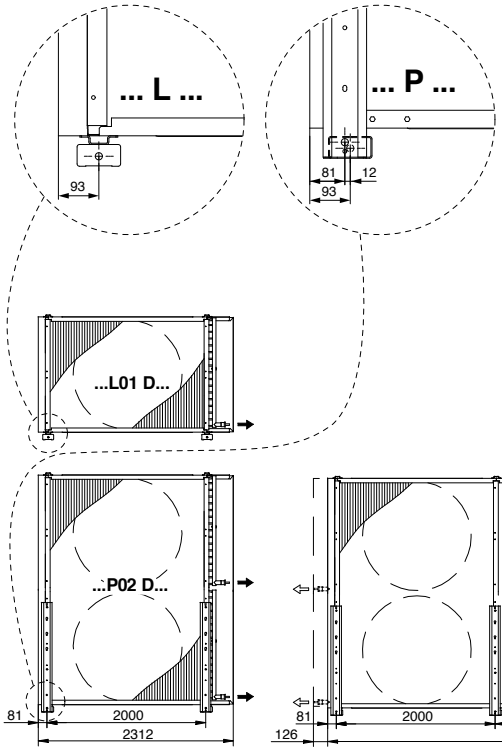
Horizontal air flow

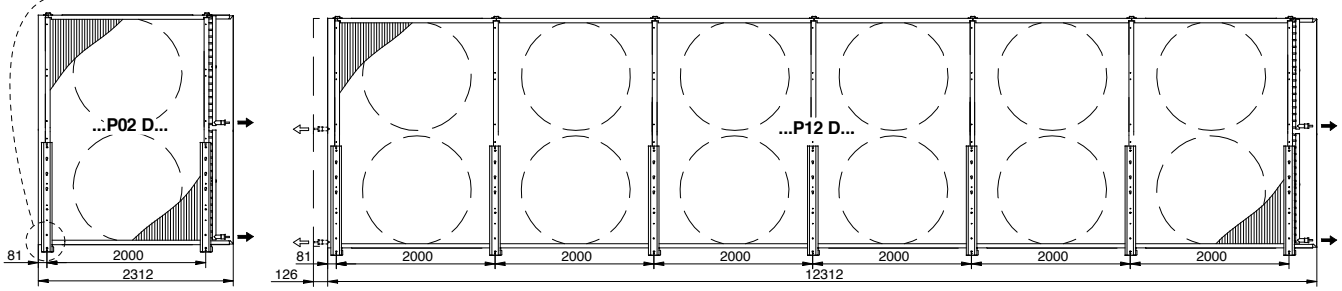
PN 06D ...
PU 06D ...
SN 08D ...
SN 08Y ...
SU 16Y ...

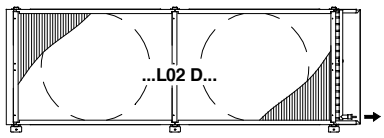


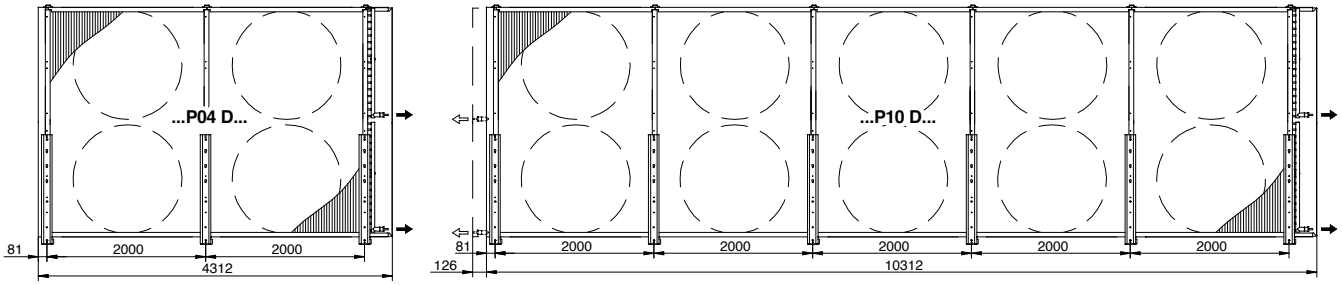
SE 12D ...
SU 12Y ...

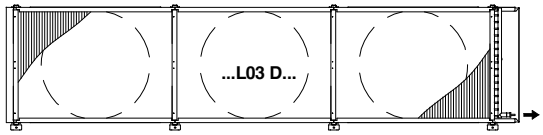


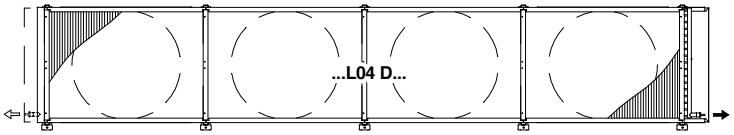


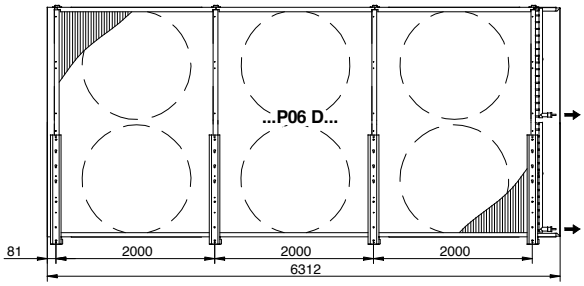


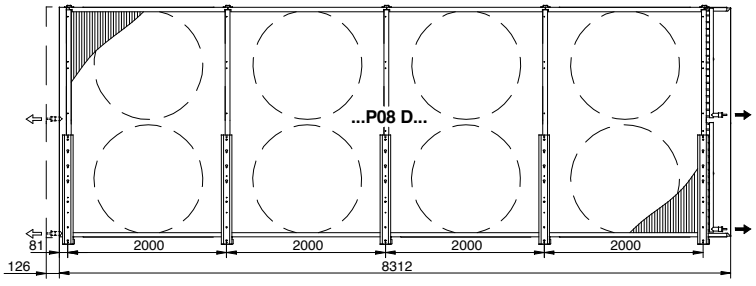












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LENNOX
EMEA

AXIAL FAN CONDENSER

COMMERCIAL AND INDUSTRIAL RANGE

Hard Discount - Supermarkets - Hypermarkets
Refrigerated storage and transit stocking - Dispatch centres
Food processing - Canteen kitchens

HFC

130 > **1670** kW

MXW

MICROCHANNEL COIL TECHNOLOGY

- A range designed to minimize unit footprint.
- High power density for an optimized energy consumption.
- Micro channel technology allowing a significant reduction of refrigerant charge.
- State of the art design with hidden fans for a perfect architectural integration.

www.lennoxemea.com

FRIGA-BOHN

HK® REFRIGERATION

MXW - Condenser with microchannel coil technology

DESCRIPTION

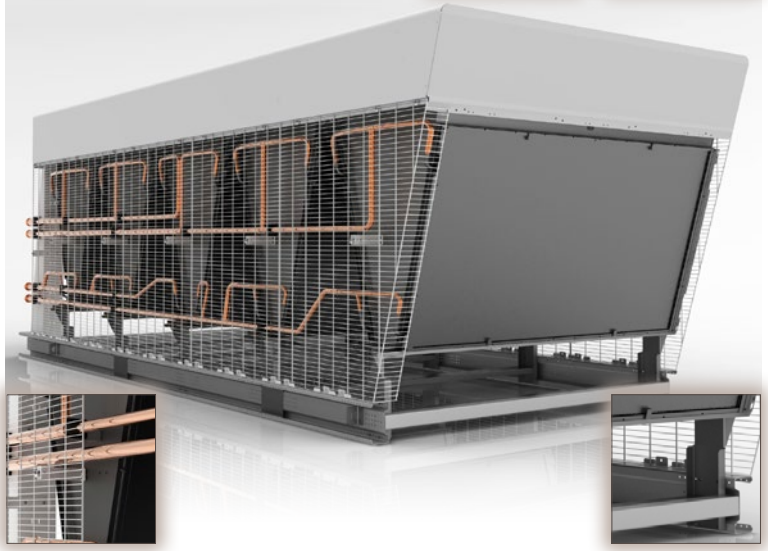
Casing
- Casing made of galvanised steel sheet metal painted with a white powdered polyester paint.
- Lateral anti-intrusive grilles painted with aesthetic design offering a protection against external impacts. (Option)
- Unit with attractive design and low height (< 2m) for a perfect integration into the surrounding environment.

Coil
- The MXW range is equipped with aluminum micro channel heat exchanger offering reliability and robustness (high mechanical fin resistance) and high corrosion resistance.
- This technology has proven its value in the automobile sector and is now used for its numerous advantages in the refrigeration sector and air conditionning sectors.
- These coils offer greater efficiency than traditional coils (copper tubes/aluminum fins). They are significantly lighter and the reduced weight renders them easier to handle. As the coil is brazed in a single operation, the risk of leakage is considerably reduced and the quality inspections are stringent: 100% of the products are tested.
- Special coating for the coils are available to ensure an improved corrosion resistance for aggressive atmospheres.

Micro channel technology

Aluminium micro channel heat exchanger with enhanced alloy system

Copper/aluminium connection with strengthened system



Protection guard
Aesthetic design and easily removable grilles offering protection against external impact

Smart construction
Elevated coils to fill properly the liquid receiver in case of installation on the floor

Ventilation
- The MXW range is equipped with high reliability external rotor fans.
- Fan guards are compliant with safety standard.

EC motors
- High reliability electronic switching fan motors (EC) enable optimized operation of your installation.
  - Ø 800 mm: EC1 (EC oversized motor) = up to 1020 rpm.
  - Ø 800 mm: EC2 = up to 730 rpm.
- This motor offers a reduction in energy consumption for a given power rating: a detailed comparison of the energy balance may be carried out for each project. (please consult us).
- The motor fan units are wired as standard and factory connected.

AC motors (option)
- Ø 800 mm : 06P (D/Y) heavy-duty motor = 910/730 rpm.
- Ø 800 mm : 06P (D/Y) = 885/685 rpm.
- Ø 800 mm : 08P (D/Y) = 660/485 rpm.
- Ø 800 mm : 12P (D/Y) = 435/340 rpm.
- Ø 800 mm : 16P (Y) = 255 rpm.
- These enclosed motors are 400V/3/50Hz, IP54, with 2-speed (star or delta connections), class F, compliant with standard EN 60529, permanently lubricated.
  Please contact us when the temperature exceeds 60°C.`

CERTIFICATIONS

OPTIONS

Kit	Factory	
		Ventilation
	CMU	Motors factory wired (AC motors).
	SCM	Without EC motorfan wiring.
	C2V	2-speed factory wired in the switching box.
	IRP	Rotary proximity switch(es).
	MTH	Motors equipped with a protection thermostat. Recommended with frequent start sequences (more than 30 start sequences per hour).
		Coil
	MCI	Multi-circuits.
	BOE	Lenguard™ coil protection.
	BXT	Blygold Polual XT coil protection.
		Casing
	ACR	SilenTop (photo 1).
	G2F	Protection guard (2 faces).
		Protection and control enclosure
	CMP	Motor protection cabinet (AC fans).
	RP2	CMP + condensation pressure control with speed variation (voltage).
	RP3	CMP + condensation pressure control with speed variation (frequency).
	CSC	Signal comparator. (Multi-circuits configuration).
		Other options
PAV		Anti vibration pads.
	CON	Packing for container shipping.

MXW - Condenser with microchannel coil technology

FRIGA-BOHN HK REFRIGERATION

DESIGNATION

MXW EC1(1) 8(4) P18(5)

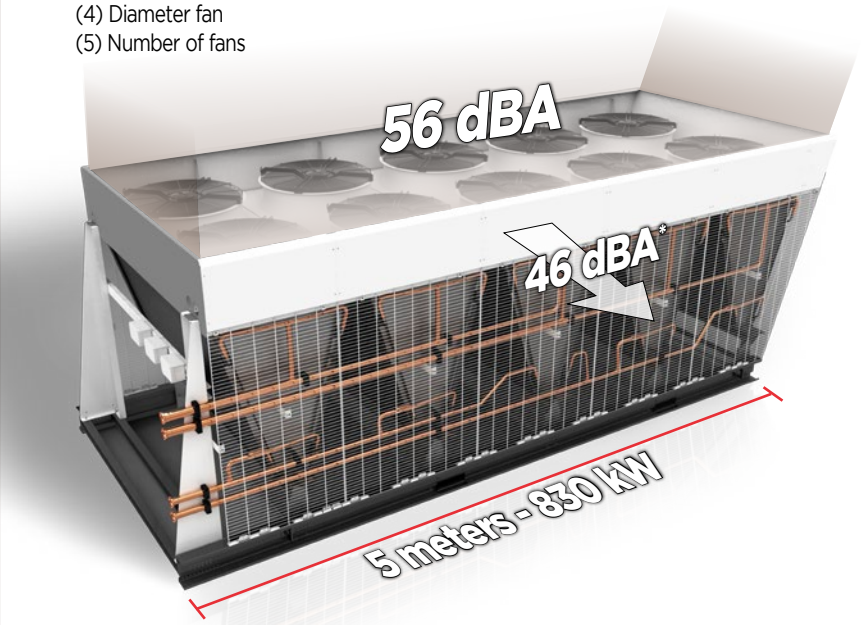
EC motors

(1) **EC1** (oversized motor) = up to 1020 rpm
EC2 = up to 730 rpm

MXW 06(2) D(3) 8(4) P18(5)

AC motors

(2) Number of poles
(3) **D** = Delta connection - **Y** = Star connection
(4) Diameter fan
(5) Number of fans



ADVANTAGES

Installation

Optimisation of installation costs:
The modular construction allows each module to be connected independently offering autonomous regulation of discharges of several compressorised racks. The user may use one single condenser that reduces the space requirement and installation time. In addition, the reduced charge refrigerant ensures a reduced costs.

Minimized Footprint:
The MXW ranged is optimized to minimize floor space required for installation by the combination of original design and innovative technology: The condenser is indeed built as modules around W-shaped micro-channels coils for easy installation in confined spaces.

Ideal for use is an urban environment:
Various ventilation solutions offered allowing significantly reduce noise level as low as 19 dB(A) at 10m per module. In addition, **SilenTop** hides fans and acts as acoustic enclosure.

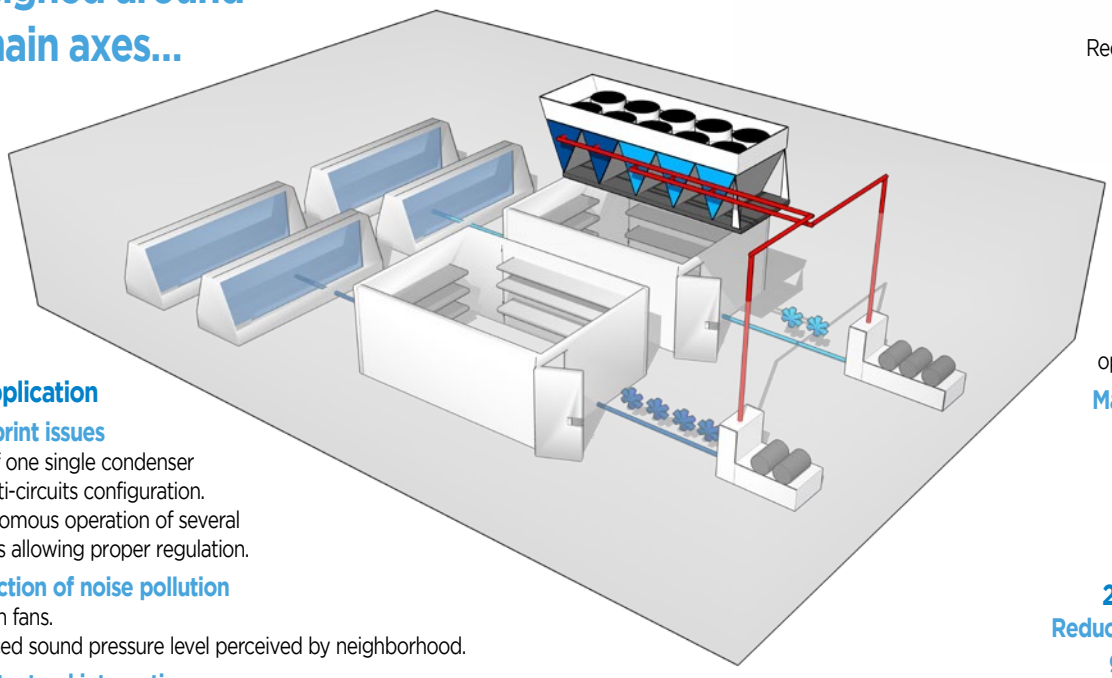
Servicing

Use of high pressure cleaners for easy coil servicing.

Maintenance

Easy access to the coil rendering maintenance easier.
The modules are composed of two coils easily removable for easy maintenance.

An innovative conception designed around 3 main axes...



1. Total cost of ownership

Installation costs reduced
Reduced total refrigerant charge up to -30%.
Reduced structural frame needs.

Installation time reduced
Factory pre-mounted components (options).
One single craning required (multi-circuits configuration).

Energy consumption reduced
High power density.
Reduced air pressure drop optimizing energy comsuption.

Maintenance costs reduced:
Easy access to the coil.
Unitarily replaceable coils.

2. Environmental impact

Reduction of direct and indirect greenhouse gas emissions

Actual and forthcoming legislative constraints
Tax on the refrigerant amount of refrigeration systems (depending on the country).
European directive F-Gas.

3. Application

Footprint issues
Use of one single condenser in multi-circuits configuration.
Autonomous operation of several circuits allowing proper regulation.

Reduction of noise pollution
Hidden fans.
Reduced sound pressure level perceived by neighborhood.

Architectural integration
Sleek design for a proper architectural integration.
Very low height (<2m).

Easy handling
Reduced unit weight up to -30%.

** Sound pressure level in dB(A) measured at 10 m, at fan height, in direct line of sight on a reflective surface.*

MXW - Condenser with microchannel coil technology

MXW EC1 ... (EC motors) 1,020/800/500/400/200 rpm.

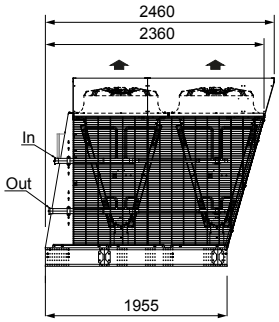
		MXW ...	EC1 8P04	EC1 8P06	EC1 8P08	EC1 8P10	EC1 8P12	EC1 8P14	EC1 8P16	EC1 8P18	EC1 8P20
1,020 rpm.	Capacity R404A (1)	kW	**334,7**	**502,1**	**669,5**	**836,8**	**1004,2**	**1171,6**	**1339,0**	**1506,3**	**1673,7**
	Input power	kW	8,49	12,74	16,98	21,23	25,48	29,72	33,97	38,21	42,46
	Air flow	m^3/h	93360	140040	186720	233400	280080	326760	373440	420120	466800
	Energy efficiency class		D	D	D	D	D	D	D	D	D
	Acoustic **Lw** (2)	dB(A)	95	97	98	99	100	100	101	102	102
	Acoustic **Lp** (3)	dB(A)	63	65	66	67	68	68	69	70	70
800 rpm.	Capacity R404A (1)	kW	**289,7**	**434,6**	**579,4**	**724,3**	**869,1**	**1014,0**	**1158,8**	**1303,7**	**1448,6**
	Input power	kW	4,26	6,39	8,52	10,65	12,78	14,91	17,04	19,17	21,30
	Air flow	m^3/h	71880	107820	143770	179710	215650	251590	287530	323470	359420
	Energy efficiency class		D	D	D	D	D	D	D	D	D
	Acoustic **Lw** (2)	dB(A)	89	91	92	93	94	94	95	96	96
	Acoustic **Lp** (3)	dB(A)	57	59	60	61	62	62	63	64	64
500 rpm.	Capacity R404A (1)	kW	**189,7**	**284,6**	**379,4**	**474,3**	**569,2**	**664,0**	**758,9**	**853,7**	**948,6**
	Input power	kW	1,16	1,74	2,32	2,90	3,48	4,06	4,64	5,22	5,80
	Air flow	m^3/h	41380	62070	82760	103450	124140	144830	165520	186210	206900
	Energy efficiency class		B	B	B	B	B	B	B	B	B
	Acoustic **Lw** (2)	dB(A)	73	75	76	77	78	78	79	80	80
	Acoustic **Lp** (3)	dB(A)	41	43	44	45	46	46	47	48	48
400 rpm.	Capacity R404A (1)	kW	**160,4**	**240,6**	**320,8**	**401,0**	**481,2**	**561,4**	**641,6**	**721,8**	**802,0**
	Input power	kW	0,65	0,98	1,30	1,62	1,95	2,28	2,60	2,92	3,25
	Air flow	m^3/h	31740	47610	63470	79340	95210	111080	126950	142820	158680
	Energy efficiency class		A+	A+	A+	A+	A+	A+	A+	A+	A+
	Acoustic **Lw** (2)	dB(A)	66	68	69	70	71	71	72	73	73
	Acoustic **Lp** (3)	dB(A)	34	36	37	38	39	39	40	41	41
200 rpm.	Capacity R404A (1)	kW	**127,4**	**191,1**	**254,8**	**318,5**	**382,2**	**445,9**	**509,6**	**573,3**	**637,0**
	Input power	kW	0,17	0,26	0,34	0,43	0,52	0,60	0,69	0,77	0,86
	Air flow	m^3/h	14450	21680	28900	36130	43360	50580	57810	65030	72260
	Energy efficiency class		A+	A+	A+	A+	A+	A+	A+	A+	A+
	Acoustic **Lw** (2)	dB(A)	48	50	51	52	53	53	54	55	55
	Acoustic **Lp** (3)	dB(A)	16	18	19	20	21	21	22	23	23

		MXW ...	EC1 8P04	EC1 8P06	EC1 8P08	EC1 8P10	EC1 8P12	EC1 8P14	EC1 8P16	EC1 8P18	EC1 8P20
Circuit volume		dm^3	22,5	36,1	50,7	70,7	87,4	102,0	121,7	131,8	141,3
		Nb	4	6	8	10	12	14	16	18	20
Fan	400V/3	**W** max	9600	14400	19200	24000	28800	33600	38400	43200	48000
	50-60 Hz	**A** max	15,2	22,8	30,4	38,0	45,6	53,2	60,8	68,4	76,0
Net weight		kg	575	846	1117	1388	1659	1930	2201	2472	2743
Inlet	**In 1**	Ø	2"1/8	2"5/8	2"5/8	2"5/8	2"5/8	2"5/8	2"5/8	2"5/8	2"5/8
	In 2	Ø	-	-	-	2"1/8	2"5/8	2"5/8	2"5/8	2"5/8	2"5/8
	In 3	Ø	-	-	-	-	-	-	-	1"3/8	2"1/8
Outlet	**Out 1**	Ø	2"1/8	2"1/8	2"5/8	2"1/8	2"1/8	2"5/8	2"5/8	2"5/8	2"5/8
	Out 2	Ø	-	-	-	2"1/8	2"1/8	2"1/8	2"5/8	2"5/8	2"5/8
	Out 3	Ø	-	-	-	-	-	-	-	1" 3/8	2" 1/8

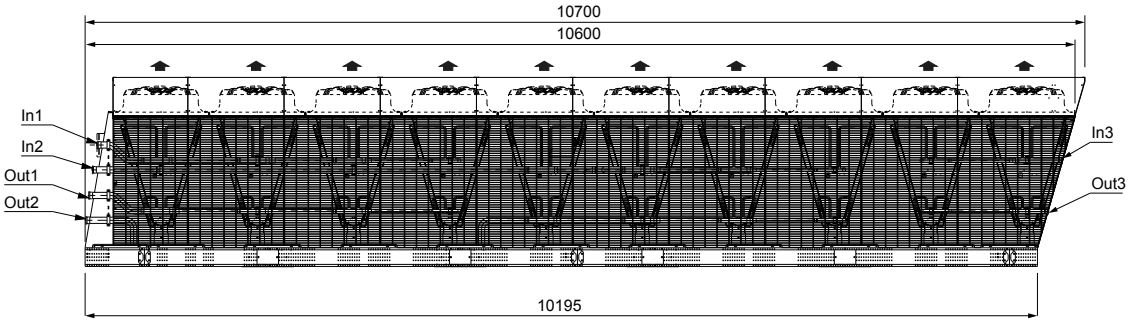
(1) Capacities are expressed in kW for R404A with DT1 = 15 K. They are equal to the capacities measured in accordance with standard CEN EN 327.
"DT1" represents the difference between the ambient air temperature and the condensation temperature considered equal at an equivalent condenser inlet pressure.
(2) Sound pressure level in dB(A), obtained in compliance with standard NF EN 13487 (parallelepiped reference surface).
(3) Sound pressure level in dB(A) measured at 10 m, line of sight, on a reflective parallelepiped measurement surface, given for information only.
Values measured under nominal operating conditions with clean coils and rated voltage.

MAC*	CMU	SCM	C2V	IRP	MTH	MCI	BOE	BXT	ACR	G2F	CMP	RP2	RP3	PAV	CON
O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O

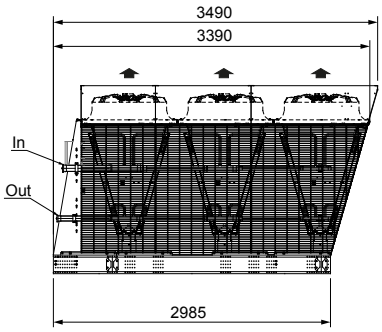
* AC motors



MXW EC1 8P04



MXW EC1 8P20



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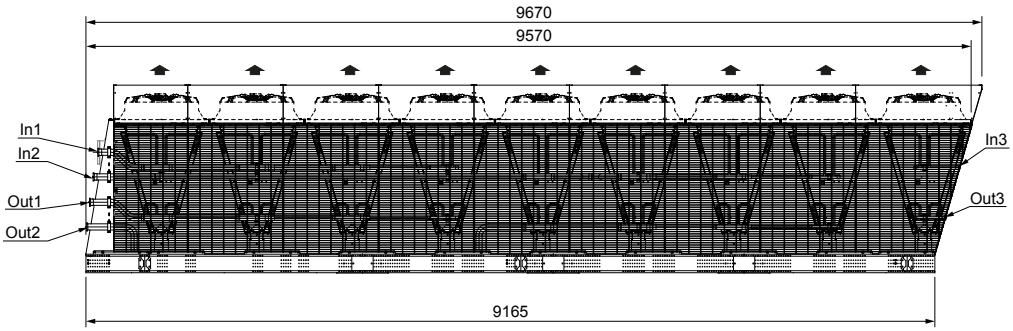
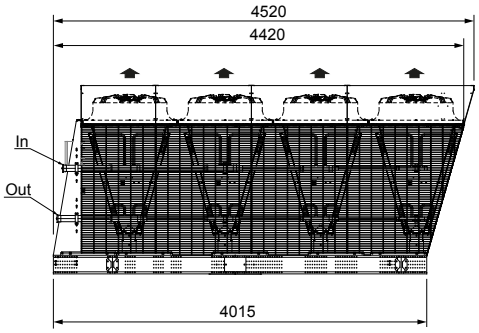
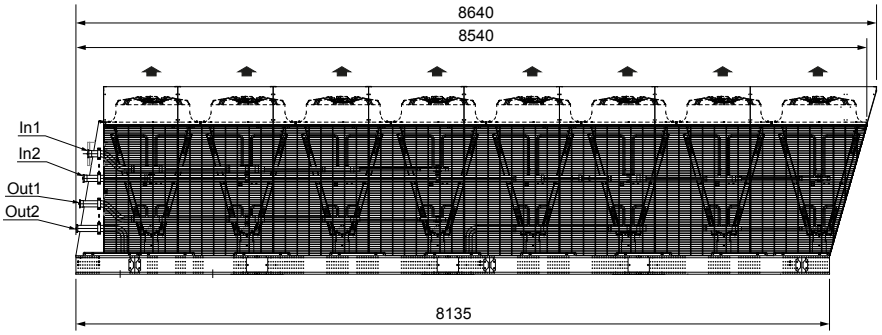


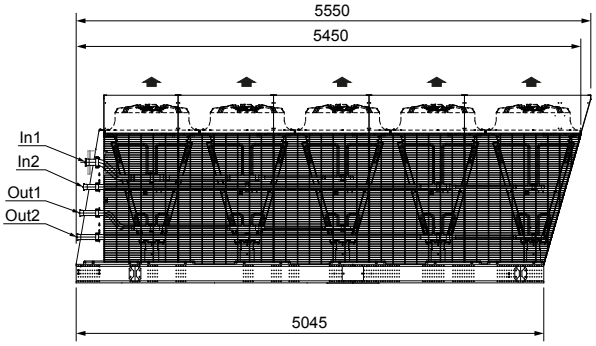
MXW EC1 8P18



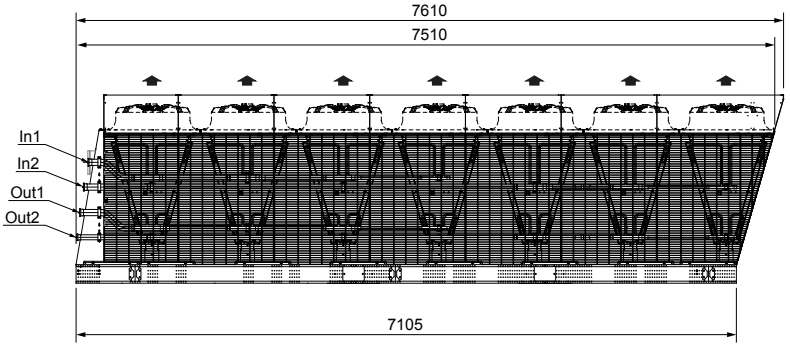
MXW EC1 8P08



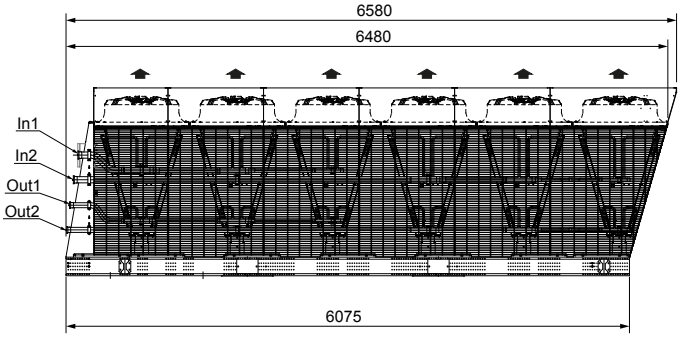
MXW EC1 8P16



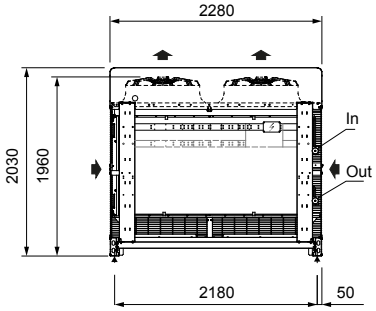
MXW EC1 8P10



MXW EC1 8P14



MXW EC1 8P12



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LENNOX
EMEA

CENTRIFUGAL FAN CONDENSER

COMMERCIAL RANGE

Bars / Restaurants
Corner shops - Mini-markets
Hard Discount - Supermarkets - Hypermarkets

HFC

11 > **146** kW

CCT

- Centrifugal fans with available air pressure of up to 150 Pa.
- 2 blowing directions possible and 8 air inlet/outlet combinations.
- The unit may be removed (DEM option) for installation in difficult access zones.

www.lennoxemea.com

FRIGA-BOHN

HK® REFRIGERATION

CCT - Centrifugal fan condenser

DESCRIPTION

Casing

- The casing is made of galvanized sheet steel.
- All components of the CCT range are designed for exposure to adverse weather conditions.

Ventilation

- Centrifugal fans: available pressure of up to 150 Pascals, performance adapted.
- Fans of the direct-drive, "double inlet" type with a rotation speed of 1,000 rpm.
- Enclosed motors with incorporated thermal overload protection, 230V/1/50Hz (230-400V/3/50Hz for CCT 1x12T B2 - 1x12T B5 - 2x12T B2 - 2x12T B5 - 3x12T B2 3x12T B5 - 4x12T B3 and 4x12T B5), IP 54, class F, permanently lubricated.
- Electrical connections factory-wired to an easily accessible switching box (three-phase motor: factory wired to 400V).
- In order to facilitate pressure control with fan stoppage, the turbines are separated with a baffler to avoid air by-pass.

Coil

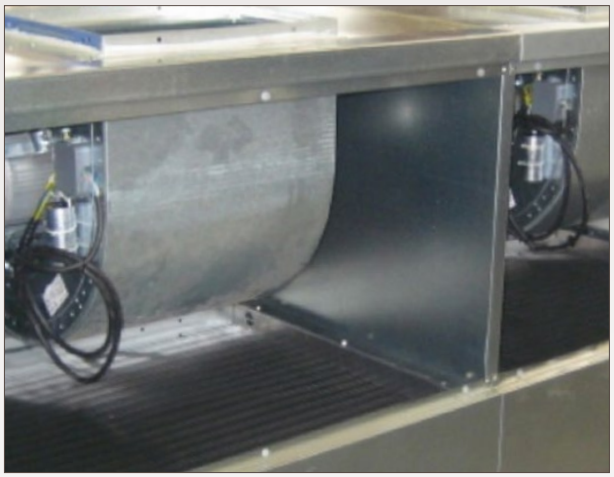
- The condensers of the CCT range are equipped with a high efficiency coil composed of profiled aluminium fins spaced at 2.12 mm, crimped onto staggered copper tubes 3/8" (9.53 mm) to optimize the heat transfer coefficient.
- Brazed connections.
- Pressure tapping point.

CERTIFICATIONS

DESIGNATION

CCT 1(1) x12T(2) B2(3)

(1) Number of centrifugal fans
(2) **12T** = Three-phase - **10M** = Single-phase
(3) Type of module



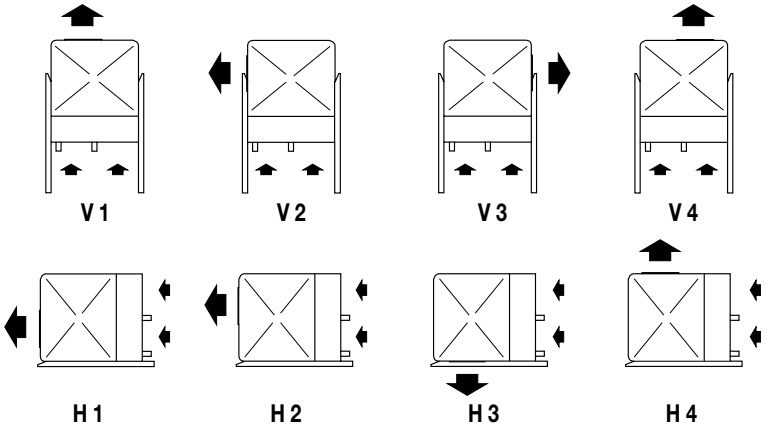
In order to facilitate pressure control with fan stoppage, the turbines are separated with a baffler to avoid air by-pass.

ADVANTAGES

Installation

For installations with difficult access, the condenser of the CCT range may be quickly removed and refitted on site.

Two installation positions, vertical air or horizontal air, with four blower outlet directions possible (to be specified when ordering):
V1, V2, V3, V4 or **H1, H2, H3, H4**



Possibility of modifying the air outlet position on site.

Servicing / Maintenance

Easy access to all components of the CCT range for commissioning, maintenance and cleaning.

OPTIONS

Kit	Factory	
		Casing
	UCC	Compressor casing (except CCT 3x12T B2 to CCT 4x12T B5).
	PEI	White paint.
	IPH	Noise insulation.
	FLA	Suction filters.
	DEM	Unit removal possible.
	ECB	Wooden crate packaging.
		Ventilation
	CMU	Motors factory wired.
VPS		Blower deflector vanes.
VVK	VVU	Speed controller.
		Coil
	MCI	Multi-circuits.
	BAE	Protected fins.
	BXT	Blygold Polual XT coil protection.
		Other options
		Please contact us for details.

CCT - Centrifugal fan condenser

CCT ...

		CCT ...	1x 10M A3	1x 10M B5	1x 12T B2	1x 12T B5	2x 10M B5	2x 12T B2	2x 12T B5	3x 12T B2	3x 12T B5	4x 12T B3	4x 12T B5
	Capacity	kW	**14,2**	**18,5**	**27,6**	**36,2**	**36,8**	**55,7**	**72,7**	**83,4**	**109,1**	**128,9**	**146,0**
0 Pa (1)	Input power	kW	0,59	0,63	2,94	2,47	1,26	5,88	4,93	8,82	7,40	11,15	9,86
DT1 = 15 K (2)	Air flow	m^3/h	3540	3630	8910	8050	7260	17810	16090	26720	24140	34530	32180
R404A	Acoustic **Lp** (3)	dB(A)	44	44	60	57	46	62	59	64	61	64	62
	Acoustic **Lw**	dB(A)	75	75	91	88	78	94	91	96	93	96	94
	Capacity	kW	**13,7**	**17,8**	**27,0**	**34,9**	**35,6**	**54,3**	**69,4**	**81,4**	**104,7**	**125,0**	**139,4**
50 Pa (1)	Input power	kW	0,54	0,58	2,75	2,25	1,15	5,50	4,51	8,25	6,76	10,29	9,02
DT1 = 15 K (2)	Air flow	m^3/h	3340	3480	8560	7610	6960	17130	15220	25690	22830	32960	30430
R404A	Acoustic **Lp** (3)	dB(A)	44	44	59	56	46	61	58	63	60	63	61
	Acoustic **Lw**	dB(A)	75	75	90	87	78	93	90	95	92	95	93
	Capacity	kW	**12,6**	**16,6**	**26,2**	**33,1**	**33,2**	**52,6**	**66,3**	**78,6**	**99,3**	**119,8**	**132,6**
100 Pa (1)	Input power	kW	0,49	0,52	2,50	2,04	1,04	5,01	4,08	7,51	6,13	9,28	8,17
DT1 = 15 K (2)	Air flow	m^3/h	3010	3210	8110	7130	6420	16230	14260	24340	21390	31020	28510
R404A	Acoustic **Lp** (3)	dB(A)	42	42	57	55	44	59	57	61	59	61	60
	Acoustic **Lw**	dB(A)	73	73	88	86	76	91	89	93	91	93	92
	Capacity	kW	**11,3**	**14,6**	**25,1**	**29,2**	**31,2**	**50,1**	**62,3**	**75,4**	**93,5**	**113,3**	**124,8**
150 Pa (1)	Input power	kW	0,43	0,45	2,23	0,90	1,83	4,46	3,65	6,69	5,48	8,29	7,30
DT1 = 15 K (2)	Air flow	m^3/h	2590	2770	7550	5540	6610	15110	13210	22660	19820	28790	26430
R404A	Acoustic **Lp** (3)	dB(A)	40	40	56	42	53	58	55	60	57	60	58
	Acoustic **Lw**	dB(A)	71	71	87	74	84	90	87	92	89	92	90

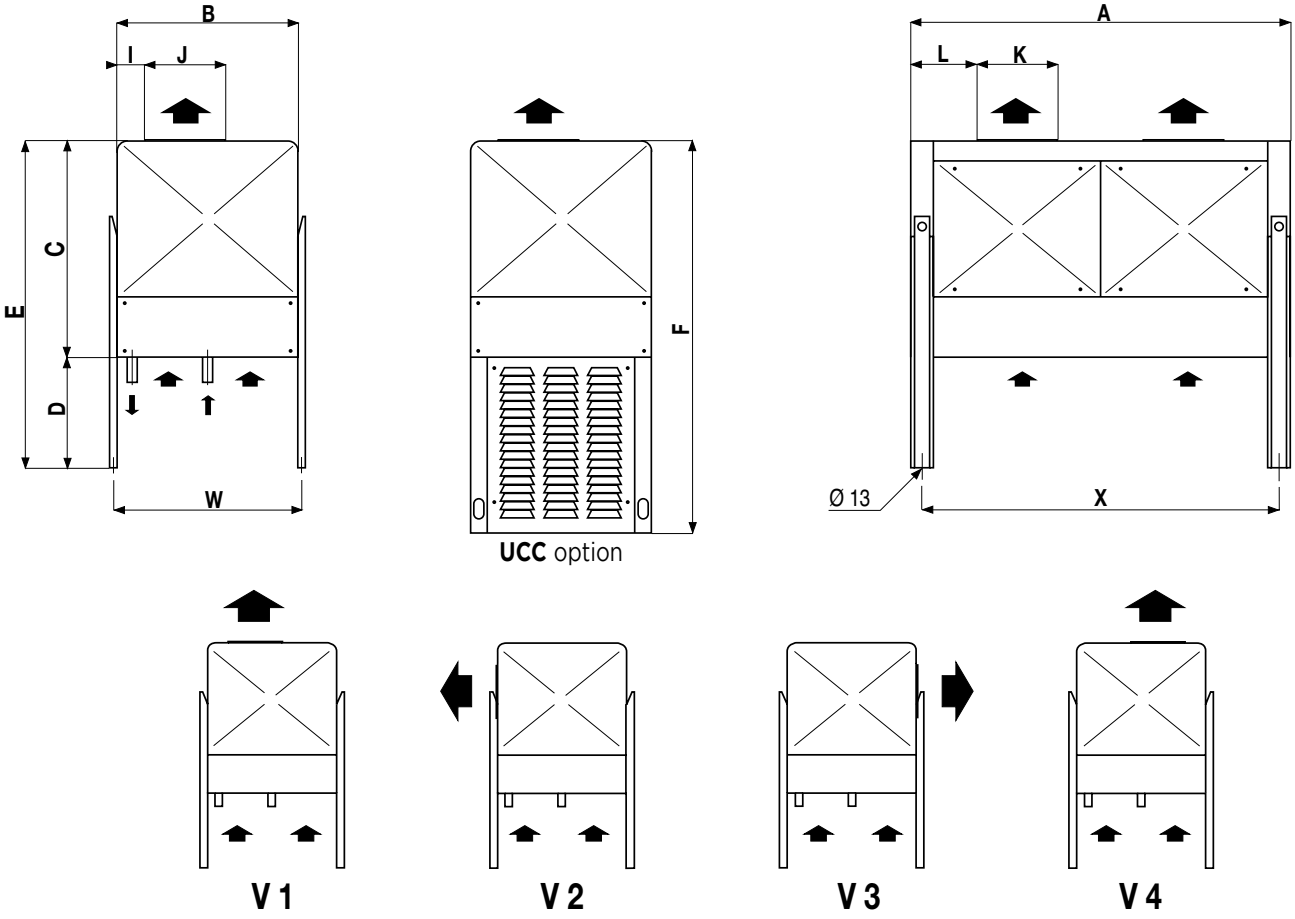
		CCT ...	1x 10M A3	1x 10M B5	1x 12T B2	1x 12T B5	2x 10M B5	2x 12T B2	2x 12T B5	3x 12T B2	3x 12T B5	4x 12T B3	4x 12T B5
Surface		m^2	39,9	98,7	49,3	98,7	197,4	98,7	197,4	148,0	296,1	263,2	394,7
Circuit volume		dm^3	3,6	8,8	4,4	8,8	17,7	8,8	17,7	13,2	26,5	23,6	35,3
		Nb	1	1	1	1	2	2	2	3	3	4	4
	230V/1	W/u	670	670	-	-	670	-	-	-	-	-	-
Turbine	50 Hz	A max/u	2,9	2,9	-	-	2,9	-	-	-	-	-	-
	230-400V/3	W/u	-	-	3300	3300	-	3300	3300	3300	3300	3300	3300
	50 Hz	A max/u	-	-	5,8	5,8	-	5,8	5,8	5,8	5,8	5,8	5,8
Net weight		kg	85	99	104	121	180	189	222	276	324	380	423
M (4)			3	6	4	6	11	8	11	11	16	22	22
	A	mm	830	1150	1150	1150	2110	2110	2110	3070	3070	4030	4030
	B	mm	695	795	795	795	795	795	795	795	795	795	795
	C	mm	835	835	835	835	835	835	835	835	835	835	835
	D	mm	400	400	400	400	400	400	400	400	400	400	400
	E	mm	1235	1235	1235	1235	1235	1235	1235	1235	1235	1235	1235
	F	mm	1500	1600	1600	1600	1600	1600	1600	-	-	-	-
	G	mm	1530	1630	1630	1630	1630	1630	1630	-	-	-	-
	H	mm	725	825	825	825	825	825	825	825	825	825	825
Dimensions	**I** (V)	mm	120	173	170	170	173	170	170	170	170	170	170
	I (H)	mm	94	97	94	94	97	94	94	94	94	94	94
	J	mm	290	290	342	342	290	342	342	342	342	342	342
	K	mm	331	331	395	395	331	395	395	395	395	395	395
	L	mm	250	410	377	377	410	377	377	377	377	377	377
	W	mm	725	825	825	825	825	825	825	825	825	825	825
	X	mm	735	1055	1055	1055	2015	2015	2015	2975	2975	3935	3935
	Y	mm	900	900	900	900	900	900	900	900	900	900	900
	Z	mm	1575	1675	1675	1675	1675	1675	1675	-	-	-	-
Inlet		Ø	7/8"	1 1/8"	1 1/8"	1 1/8"	1 3/8"	1 3/8"	1 5/8"	1 5/8"	1 5/8"	1 5/8"	1 5/8"
Outlet		Ø	5/8"	7/8"	7/8"	7/8"	1 1/8"	1 1/8"	1 3/8"	1 3/8"	1 3/8"	1 3/8"	1 3/8"

(1) Additional pressure available in Pascals.
2) DT1 = difference between the ambient air temperature and the condensation temperature considered equal at an equivalent condenser inlet pressure.
(3) Sound pressure level in dB(A) at 10 m, in direct light of sight on a non-reflective surface.
(4) Multi-circuit condensers: M = maximum number of circuits.

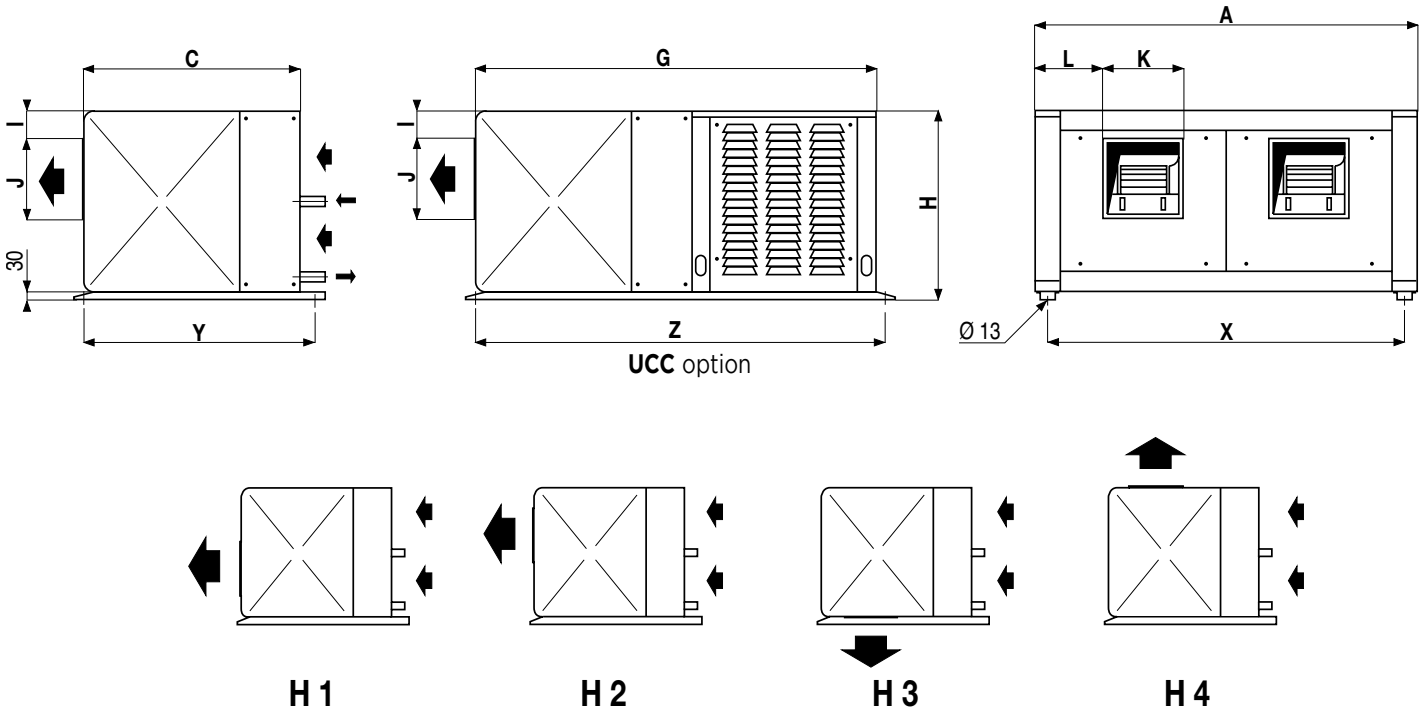
UCC*	PEI	IPH	FLA	DEM	ECB	VPS	MCI	BAE	BXT
0	0	0	0	0	0	0	0	0	0

* Except CCT 3x12T B2 to CCT 4x12T B5

VERTICAL AIR



HORIZONTAL AIR



LENNOX
EMEA

CENTRIFUGAL FAN CONDENSER

COMMERCIAL RANGE

Bars / Restaurants
Corner shops - Mini-markets
Hard Discount - Supermarkets - Hypermarkets

HFC

60 > **290** kW

CCV

- Totally removable, the CCV is specifically designed for use in tight spaces and difficult access zones.
- Reduced height and footprint.
- EC motors as standard offering optimum control for a low energy consumption.
- Low noise.
- Available air pressure of up to 200 Pa.

www.lennoxemea.com

FRIGA-BOHN

HK® REFRIGERATION

CCV - Centrifugal fan condenser

DESCRIPTION

Casing

- The casing is made of galvanized sheet steel.
- Hairpins and collectors are protected with removable sheet metal.
- Easy access to all components for commissioning, maintenance and cleaning.
- For installations with difficult access, the condenser may be quickly removed (coil, casing, fans) and refitted on site.
- Possibility to modify the air outlet position (V1, V2, V3, V4, V1+V4) using interchangeable panels (for combination V1+V4, a second set of "air outlet" panels is required, to be stipulated on the order form).

Ventilation

- Centrifugal fans: available pressure of up to 200 Pascals, performance adapted.
- Three-phase motor, Ø 630 mm, IP 54, 380-480V/3/50-60 Hz, 2.9kW, 4.6A, 1,200 rpm.
- The fans are equipped with an electronic switching (EC) device.
- Electrical connections factory-wired to an easily accessible junction box.
- Each turbine is separated with a baffler to avoid air "by-pass".

Coil

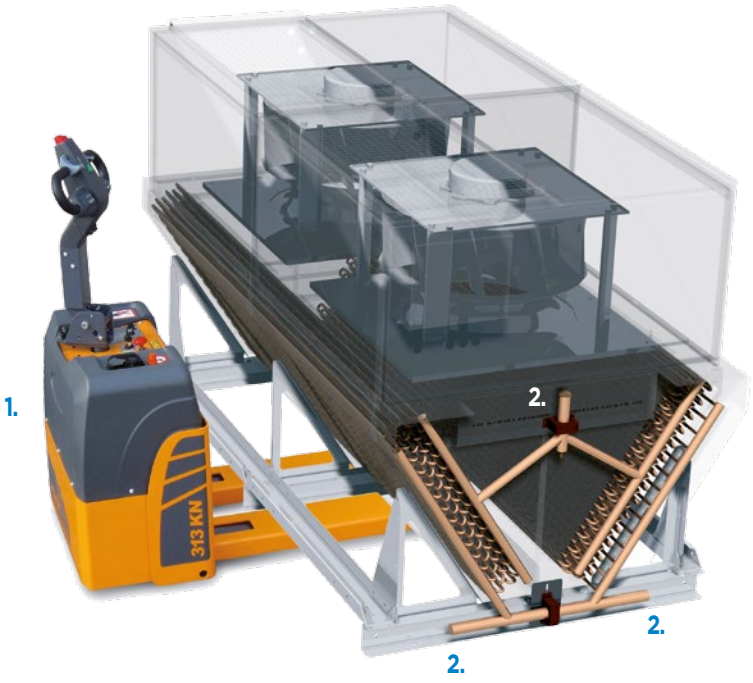
- The condensers of the CCV range are equipped with two high efficiency "V" configuration coils composed of profiled aluminium fins spaced at 2.12 mm, crimped onto staggered copper tubes 3/8" (9.53 mm) to optimize the heat transfer coefficient.
- Two coils, but only one inlet and one outlet.

Environmental respect

Motor with electronic switching (EC):

- Optimum control of condensation pressure,
- Energy saving,
- Low noise level.

CERTIFICATIONS



DESIGNATION

CCV 4(1) V2(2)

(1) Number of fans
(2) Air direction

ADVANTAGES

Installation

Easy handling: the frame structure allows easy passage of the pallet truck for transport (1).

The CCV may be removed in 3 parts to allow easy passage of standard doors of 80 cm in width.

Compact unit, 2 coils in "V" configuration to optimize the footprint in the machine room.

The condenser may be installed on a refrigeration rack to limit the footprint.

Rapid commissioning: One inlet/outlet collector for both coils requiring only one connection. Left or right as required (2).

Interchangeable sheet metal panels, 5 air outlet combinations.

Servicing / Maintenance

Easy maintenance and cleaning thanks to unimpeded access to components.

The coil becomes accessible for easy cleaning by simply removing the two panel elements.

OPTIONS

Kit	Factory	
		Casing
	PEI	White paint.
	IPH	Noise Insulation.
	ECB	Wooden crate packaging.
		Ventilation
VPS		Blower deflector vanes.
	CSC	Signal comparator.
PT1		Condensation pressure sensor (voltage 0-10V)
		Coil
	MCI	Multi-circuits.
	BAE	Protection of fins.
	BXT	Blygold Polual XT coil protection.
		Other options
		Please contact us for details.

CCV

Technical characteristics give for full speed (1,200 rpm)

		CCV ...	1			2			3			4		
Air direction			V1 / V4	V1 + V4	V2 / V3	V1 / V4	V1 + V4	V2 / V3	V1 / V4	V1 + V4	V2 / V3	V1 / V4	V1 + V4	V2 / V3
	Capacity	kW	**65,1**	**69,1**	**71,6**	**130,0**	**137,6**	**143,7**	**194,5**	**205,8**	**215,0**	**261,3**	**276,8**	**286,8**
0 Pa (1)	Input power	kW	2,55	2,37	2,23	5,10	4,74	4,46	7,65	7,11	6,69	10,20	9,48	8,92
DT1 = 15 K (2)	Air flow	m^3/h	13800	14850	15700	27600	29700	31400	41400	44550	47100	55200	59400	62800
R404A	Acoustic **Lp** (3)	dB(A)	54	55	56	57	58	59	59	60	61	60	61	62
	Acoustic **Lw**	dB(A)	86	87	88	89	90	91	91	92	93	92	93	94
	Capacity	kW	**64,2**	**68,0**	**70,6**	**128,1**	**135,5**	**140,5**	**191,7**	**202,8**	**212,0**	**257,4**	**270,0**	**282,7**
50 Pa (1)	Input power	kW	2,59	2,43	2,29	5,18	4,86	4,58	7,77	7,29	6,87	10,36	9,72	9,16
DT1 = 15 K (2)	Air flow	m^3/h	13500	14500	15350	27000	29000	30700	40500	43500	46050	54000	58000	61400
R404A	Acoustic **Lp** (3)	dB(A)	53	55	56	56	58	59	58	60	61	59	61	62
	Acoustic **Lw**	dB(A)	85	87	88	88	90	91	90	92	93	91	93	94
	Capacity	kW	**63,0**	**66,2**	**69,4**	**125,8**	**132,1**	**138,2**	**188,3**	**199,6**	**206,7**	**250,3**	**265,7**	**278,0**
100 Pa (1)	Input power	kW	2,65	2,49	2,35	5,30	4,98	4,70	7,95	7,47	7,05	10,60	9,96	9,40
DT1 = 15 K (2)	Air flow	m^3/h	13150	14150	14950	26300	28300	29900	39450	42450	44850	52600	56600	59800
R404A	Acoustic **Lp** (3)	dB(A)	53	55	55	56	58	58	58	60	60	59	61	61
	Acoustic **Lw**	dB(A)	85	87	87	88	90	90	90	92	92	91	93	93
	Capacity	kW	**61,2**	**65,4**	**68,1**	**122,2**	**130,6**	**135,8**	**185,0**	**195,4**	**203,2**	**245,7**	**262,6**	**270,6**
150 Pa (1)	Input power	kW	2,71	2,53	2,42	5,42	5,06	4,84	8,13	7,59	7,26	10,84	10,12	9,68
DT1 = 15 K (2)	Air flow	m^3/h	12800	13900	14550	25600	27800	29100	38400	41700	43650	51200	55600	58200
R404A	Acoustic **Lp** (3)	dB(A)	52	54	55	55	57	58	57	59	60	58	60	61
	Acoustic **Lw**	dB(A)	84	86	87	87	89	90	89	91	92	90	92	93
	Capacity	kW	**59,6**	**64,4**	**66,2**	**119,4**	**128,7**	**132,1**	**178,5**	**192,6**	**199,6**	**239,8**	**258,7**	**265,7**
200 Pa (1)	Input power	kW	2,78	2,58	2,49	5,56	5,16	4,98	8,34	7,74	7,47	11,12	10,32	9,96
DT1 = 15 K (2)	Air flow	m^3/h	12350	13600	14150	24700	27200	28300	37050	40800	42450	49400	54400	56600
R404A	Acoustic **Lp** (3)	dB(A)	52	53	55	55	56	58	57	58	60	58	59	61
	Acoustic **Lw**	dB(A)	84	85	87	87	88	90	89	90	92	90	91	93

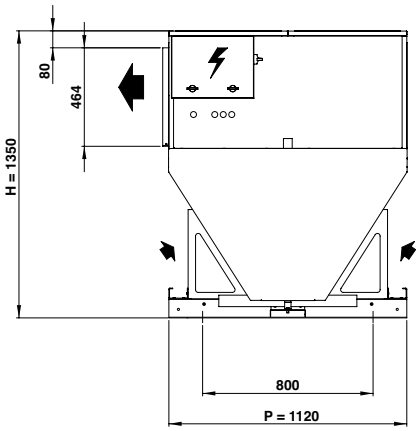
		CCV ...	1			2			3			4		
Surface		m^2	206	206	206	412	412	412	618	618	618	824	824	824
Circuit volume		dm^3	19,7	19,7	19,7	38,2	38,2	38,2	56,7	56,7	56,7	75,2	75,2	75,2
		Nb	1	1	1	2	2	2	3	3	3	4	4	4
Turbine	380-480V	W max / u	2900	2900	2900	2900	2900	2900	2900	2900	2900	2900	2900	2900
	3/50-60 Hz	A max / u	4,6	4,6	4,6	4,6	4,6	4,6	4,6	4,6	4,6	4,6	4,6	4,6
Net weight		kg	270	270	270	450	450	450	650	650	650	830	830	830
Dimensions	**L**	mm	1250	1250	1250	2250	2250	2250	3270	3270	3270	4270	4270	4270
	H	mm	1350	1350	1350	1350	1350	1350	1350	1350	1350	1350	1350	1350
	P	mm	1120	1120	1120	1120	1120	1120	1120	1120	1120	1120	1120	1120
	A	mm	104	104	104	108	108	108	111	111	111	117	117	117
Inlet		Ø	1 1/8"	1 1/8"	1 1/8"	1 3/8"	1 3/8"	1 3/8"	1 5/8"	1 5/8"	1 5/8"	2 1/8"	2 1/8"	2 1/8"
Outlet		Ø	1 1/8"	1 1/8"	1 1/8"	1 3/8"	1 3/8"	1 3/8"	1 5/8"	1 5/8"	1 5/8"	2 1/8"	2 1/8"	2 1/8"

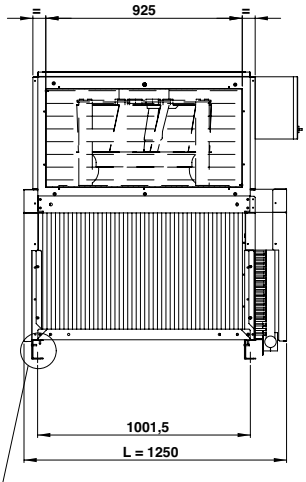
(1) Additional pressure available in Pascals.
(2) DT1 = difference between the ambient air temperature and the condensation temperature considered equal at an equivalent condenser inlet pressure.
(3) Sound pressure level in dB(A) measured at 10 m, line of sight, on a reflective parallelepiped measurement surface, given for information only.

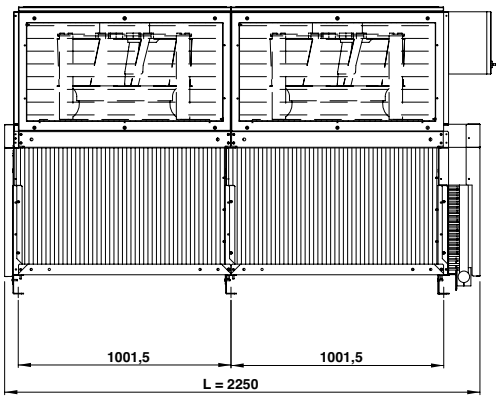
Noise level given for various rotation speeds, for information only (for 0 Pa).

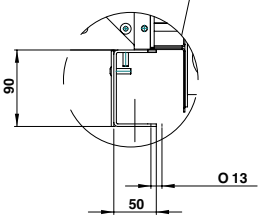
		CCV ...	1			2			3			4		
Air direction			V1 / V4	V1 + V4	V2 / V3	V1 / V4	V1 + V4	V2 / V3	V1 / V4	V1 + V4	V2 / V3	V1 / V4	V1 + V4	V2 / V3
Acoustic (3)		Lp à 10 m	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
	100 %	1200 rpm	54	55	56	57	58	59	59	60	61	60	61	62
Rotation speed	**75 %**	900 rpm	47	48	49	50	51	52	52	53	54	53	54	55
	50 %	600 rpm	37	38	39	40	41	42	42	43	44	43	44	45

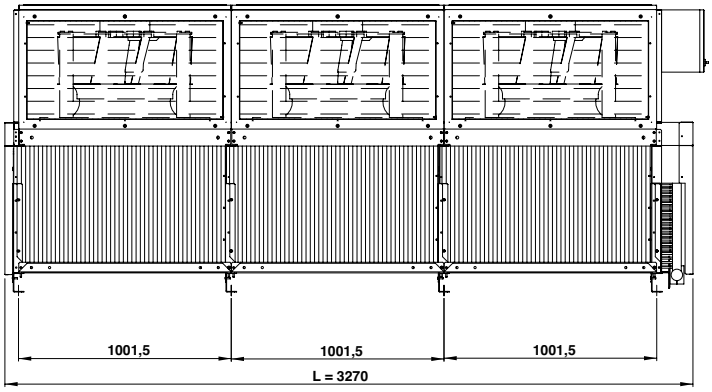
PEI	IPH	ECB	VPS	CSC	PT1	MCI	BAE	BXT
0	0	0	0	0	0	0	0	0



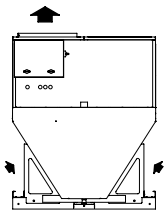




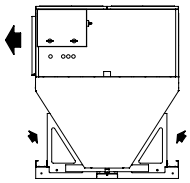




Air direction



V1



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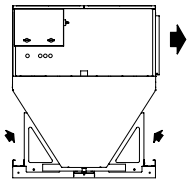
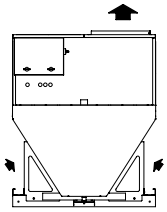
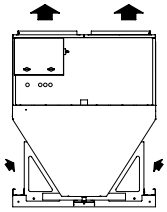


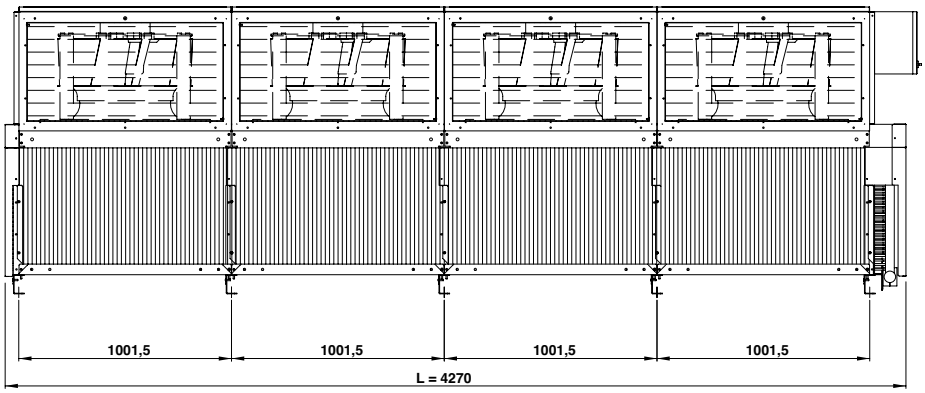
V3

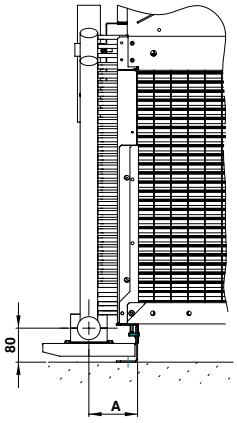


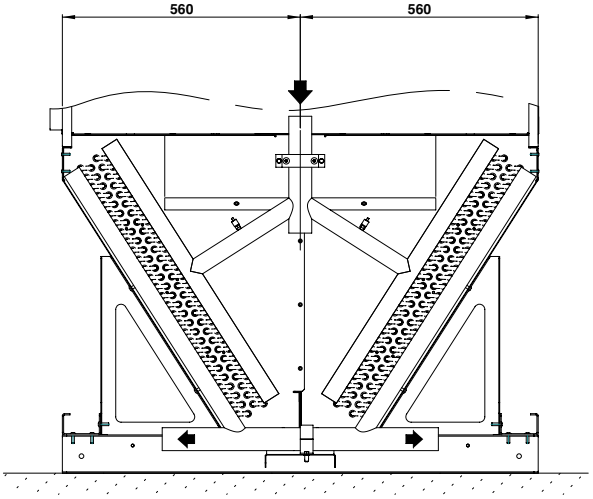
V4



V1+V4







LENNOX
EMEA

AXIAL FAN DRY COOLER

INDUSTRIAL RANGE

Electrical power stations - Biomass - solar
Urban heating stations - Cogeneration
Power plant (diesel generators)
Data centers - Telecom centers - Hospitals

W GLYCOL

20 > **1200** kW

FC / FI NEOSTAR

FC NEOSTAR "City"

- Compactness and high efficiency.

FI NEOSTAR "Industry"

- Low pressure drop and high capacity.
- Wide range up to 1,200 kW, optimized head loss.

Main applications:

- Air conditioning, free cooling, co-generation, power plants, process, industry ...
  and cooling all kinds of fluids compatible with copper, with a maximum inlet temperature of 100°C.

www.lennoxemea.com

FRIGA-BOHN

HK® REFRIGERATION

DESCRIPTION

Casing

- The casing is made of galvanized, as well as white pre-painted, galvanized sheet steel.
- The use of stainless steel screws guarantees excellent, long-lasting corrosion resistance (standard ISO 7253) and aesthetic quality.
- All models offer in standard (except A modules) to facilitate maintenance, a trapdoor between two fans for a direct access to the battery.
- All components used have successfully passed the salt mist corrosion and Kesternich tests.
- The units are delivered screwed to a wooden base.
- Full crate packaging in option.

Ventilation

- The FC/FI NEOSTAR range is equipped with motor fans:
- **Classe F** (standard): 2 speed external rotor fans units 400V/3/50Hz (star or delta coupling).
- **Class H**: 2 speed fans units 400V/3/50Hz (star or delta coupling).
- **EC**: electronic commutation motor fans to reduce energy consumption of your installation.
- The motor fan units are wired as standard and factory connected as follows:
- 1 to 3 electrical boxes for the models L (motors connected in series),
- 2 to 8 electrical boxes for the models P (motors connected in parallel).
- **We are also able to deliver the units unwired upon request (option SCU).**
- Fan guards are compliant with safety standards.
- Fans units with special voltage ratings (FC/FI NEOSTAR):
- **M60**: Fan motor 400V/3/60Hz, IP54, class F, in version 06P Ø 910 mm
- **M26**: Fan motor 230V/3/60Hz, IP54, class F, in version 06P Ø 910 mm

Coil

- The dry coolers are equipped with coils with the following characteristics :
- Special fins to reduce clogging and enables efficient maintenance to ensure a sustainable performance.
- Copper tubes in a staggered arrangement and corrugated aluminium fins for optimum heat transfer.
- Headers with air vents and drain plugs.
- Connections : steel pipe, flanges.
- In option:
- Vinyl protection (**BAE**) or Blygold Polual XT protection (**BXT**) offering greater corrosion resistance when used in aggressive atmospheres.
- Superposed circuits **HT / LT**.

Generalities

- The freezing point of the fluid must be at least 5K below the minimum winter ambient temperature of the site of installation.

Freezing risk

- A standard dry cooler cannot be fully drained simply by opening the drain fitting orifices.
- Always run the piping leak tests using the selected fluid.
- For an application with water (without anti-frost), and if the ambient temperature may drop below 0°C, the dry cooler must be suitably designed to allow complete draining of the unit (option **VID**).

Recommendations

- According to the professional regulations concerning :
- Vents and drains
- Surge tanks (**VEX** option)
- Flexible connexions
- Vibration protection
- Correct percentage of glycol
- Fan motor protection
- Connection on a closed loop water cooling circuit, thus eliminating any risk of corrosion due to oxygenation.
- When the water supply pipes are made of a non-ferrous metal, take all precautions necessary to avoid corrosion.

CERTIFICATIONS

OPTIONS

Kit	Factory	
		Ventilation
	M60	Fans 400 V/3/60Hz (please contact us for details).
	M26	Fans 230 V/3/60Hz (please contact us for details).
	MTH	Motors equipped with a protection thermostat. Recommended with frequent start sequences (more than 30 start sequences per hour) or when a speed controller is used.
	IRP	Rotary proximity switch(es).
	C2V	2-speed factory wired in the switching box.
	SCU	Unwired fans (specify when ordering).
		Coil
	VEX	Surge tank (see photo).
	VID	Total-draining special circuits.
	BAE	Vinyl protection of fins.
	BXT	Blygold Polual XT protection of fins.
		Casing
	RAL	Special colours.
	REH	Legs extended by 240 mm (ground clearance 800 mm)
RE2		Legs extended by 840 mm (ground clearance 1400 mm)
RE3		Legs extended by 1340 mm (ground clearance 1900 mm)
RE4		Legs extended by 1840 mm (ground clearance 2400 mm)
	ECB	Full crate packaging.
		Protection and control enclosure
	CMP	Motor protection cabinet.
	RT1	CMP + speed control with cascade stoppage of fans.
	RT2	CMP + speed control (voltage).
	RT3	CMP + speed control (frequency).
MSK		Floor mounting kit.
		Other options
		Please contact us for details.

FC / FI NEOSTAR - Axial fan dry cooler

DESIGNATION

FI(1)**H**(2) **PU**(3) **06**(4)**D**(5)

L(6)**04**(7) **D5**(8)

(1) **FC** = Dry cooler "City" - **FI** = Dry cooler "Industry"
(2) **H** = Class H motor (for **PU** and **SN** version only).
(3) **PN** = Power Normal - **PU** = Power Ultra
SN = Silence Normal - **SE** = Silence Extra - **SU** = Silence Ultra
(4) Number of poles
(5) **D** = delta coupling - **Y** = star coupling
(6) Fan arrangement :
L : fans in line - **P** : fans in parallel
(7) Number of fans
(8) Type of module

ADVANTAGES

Selection

As the performance of a dry cooler varies a lot with each working condition, it is not possible to present a selection method in this document.
Only the selection software, at your disposal on www.lennoxemea.com, will allow you to select the dry cooler which suits the best your needs.
In case of emergency, do not hesitate to consult us in specifying: capacity, maximum day/night noise level, type of fluid, ambient temperature, fluid inlet temperature, fluid outlet temperature (or flow), maximum allowed pressure drop, other external constraints.

Installation

Simple and cheap installation (steel pipes).

Servicing / Maintenance

Reduced maintenance due to direct driven fans.

Low maintenance costs.

Dry coolers advantages

Replace advantageously cooling towers :
- no air and water bacteria contamination
- no water consumption
- no steam production
- flexible use in winter time
- easy control of fluid temperature in winter time

An optimised solution (noise level, energy consumption, size, type of temperature control...) due to multiple selection possibilities.

FC / FI NEOSTAR		POWER			SILENCE					
		PN	PU	FCH PU FIH PU	SN	SE	SU	FCH SN FIH SN	SE EC motor	SU EC motor
Air temperature		< 70°C	< 60°C	< 80°C	< 70°C	< 80°C	< 80°C	< 80°C	< 60°C	< 60°C
Diameter		Ø 800	Ø 910	Ø 910	Ø 800	Ø 800	Ø 800	Ø 910	Ø 800	Ø 800
Poles		06P	06P	06P	08P	12P	12P 16P	08P	EC	EC
400V/3/50Hz		✔	✔	✔	✔	✔	✔	✔	✔	✔
Class		Class F	Class F	Class H	Class F	Class F	Class F	Class H	Class F	Class F
Delta (**D**)	**rpm**	880	885	890	680	440	-	650	250/1020	250/730
	W max.	1940	2480	1950	890	330	-	880	2400	790
	A max.	3,90	5,15	4,20	2,22	0,86	-	2,00	3,80	1,40
	dB(A)	80	88	82	73	68	-	75	49/88	49/78
Star (**Y**)	**rpm**	670	685	730	540	-	330 255	480	-	-
	W max.	1210	1570	1300	590	-	190 105	500	-	-
	A max.	2,23	2,90	2,30	1,17	-	0,39 0,25	1,05	-	-
	dB(A)	75	80	78	69	-	61 48	68	-	-

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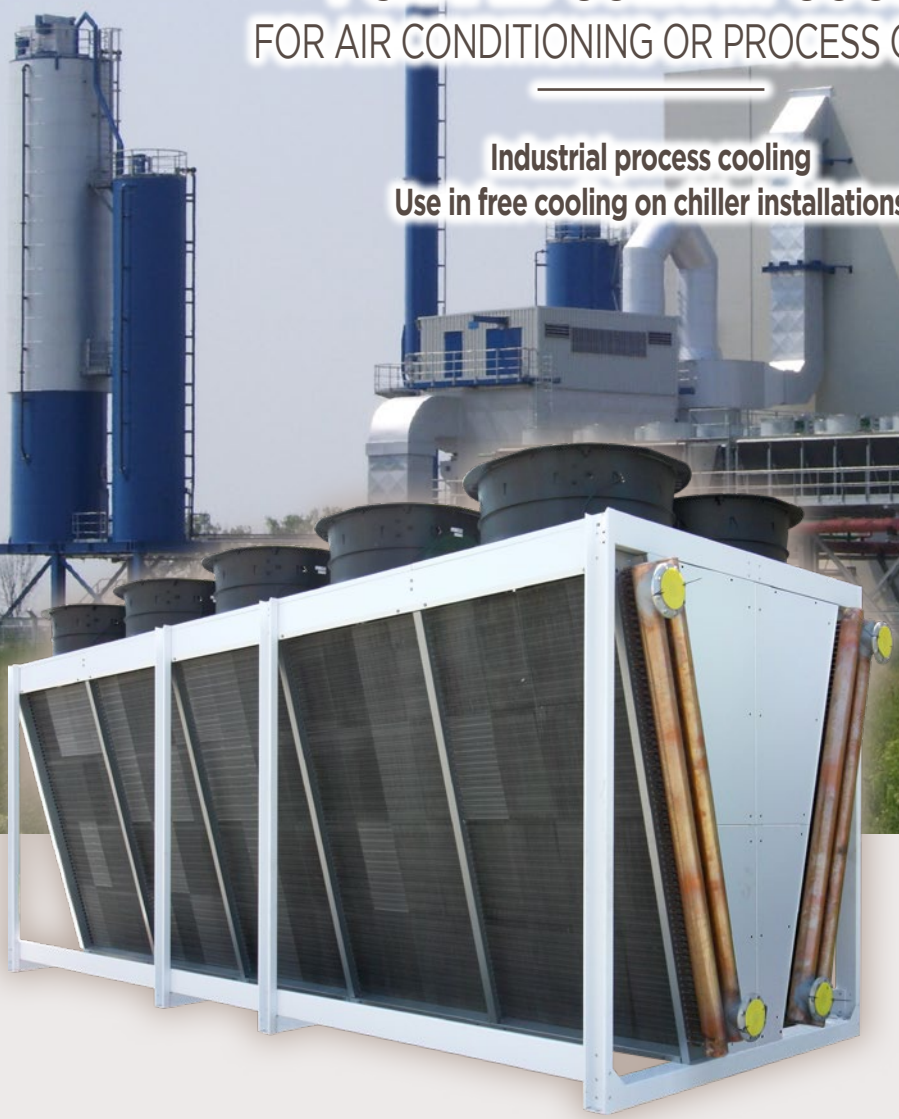
LENNOX
EMEA

V-SHAPED COIL DRY COOLER

FOR AIR CONDITIONING OR PROCESS COOLING

Industrial process cooling
Use in free cooling on chiller installations



W GLYCOL

50 > **2200** kW

V-KING

V-KING "City" (VC)
Compactness and **high capacity**

V-KING "Industry" (VI)
Low pressure drop and **high performance**

- **High** and **sustainable performance**
- **5500 models** possible depending on the project
- **Smaller footprint**
- **Optimisation of noise levels** depending on the fans selected
- Possibility of **combined HV/LV circuits**

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FRIGA-BOHN

HK® REFRIGERATION

V-KING - V-shaped coil dry cooler

DESCRIPTION

Advantages

- Sustainable performance plus easy and efficient maintenance thanks to non-louvered fins to limit fouling.
- Large range of products and configurations (5500 models):
  - 2 different fin geometries,
  - 2 designs: inline or parallel.
  - 2 module sizes: 1200 mm or 1500 mm,
  - Numerous ventilations,
  - Units up to 12 m long,
- High performance with a small footprint.
- Reduction of noise level (EC motors, attenuator, etc.).
- Reduction of electricity consumption (low-speed motors or EC motors).
- Possibility of combined HT/LT circuits:
  - one product for 2 applications (one low-temperature circuit and one high-temperature),
  - single coil block to prevent any intermediate fouling.

Coil

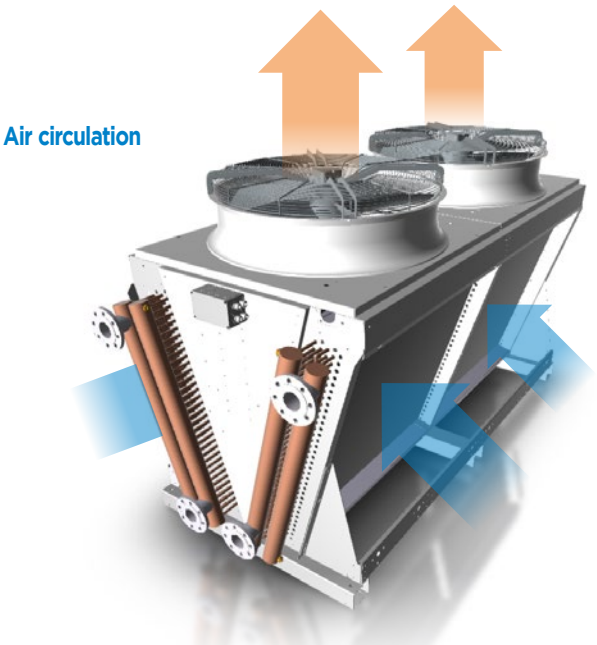
- Consisting of staggered copper tubes and embossed aluminium fins for optimal heat exchange.
- High and sustainable performance:
  - Non-louvered fins.
  - Stacked HT/LT circuits (can be selecting when ordering).
- Fin spacing 1.9 mm or 2.12 mm depending on application and conditions.

Casing

- Metal structure, epoxy painted (RAL 9003) for maximum corrosion resistance.

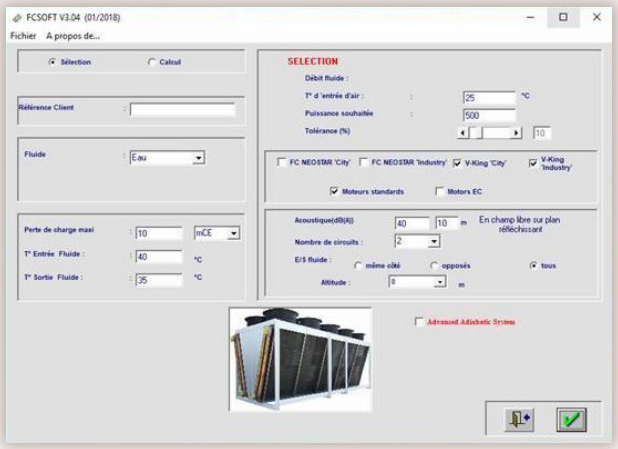
Maintenance

- Non-louvered fins for easy maintenance (limited fouling).



Selecting a V-KING

We provide you with a complete tool for maximum cost optimisation according to your needs. Enter your selection criteria and the optimum product will be offered.



Software advantages:

- Free software, updated regularly
- Several languages to chose from
- Ability to compare various data (footprint, noise level, electricity consumption, price).

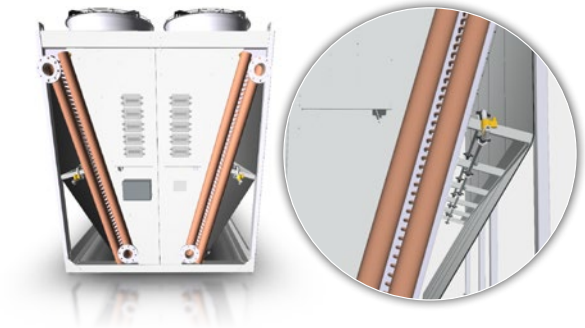
Only the selection software provided for you at www.lennoxemea.com will allow you to select the best model for your requirements.

If need be, please do not hesitate to contact us, specifying: capacity, maximum day/night noise level, type of fluid, ambient temperature, fluid inlet temperature, fluid outlet (or flow) temperature, permissible pressure drop and other external constraints.

V-KING - VC/VI		POWER					SILENCE					
		PN	PU	PM	HPU	PU EC	SN	HSN	SU	SE	SE EC	SU EC
Max. air temperature		< 70°C < 75°C < 80°C	< 60°C	< 40°C < 60°C	< 80°C	60°C	< 80°C	< 80°C	< 80°C	< 80°C	< 60°C	< 60°C
Diameter		Ø 800	Ø 910	Ø 910	Ø 910	Ø 910	Ø 800	Ø 910	Ø 800	Ø 800	Ø 800	Ø 800
Poles		06P	06P	04P	06P	EC	08P	08P	12 - 16P	12P	EC	EC
400V/3/50Hz		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Delta (**D**)	**rpm**	880	885	1230	890	250 - 1195	680	650	-	430	250 - 1020	250 - 735
	dB(A)	82	89	95	85	91	73	75	-	68	88	78
Star (**Y**)	**rpm**	670	685	900	730	-	540	480	255 - 330	-	-	-
	dB(A)	75	81	87	80	-	69	68	48 - 61	-	-	-

PRESENTATION OF OPTIONS

AAS - Advanced Adiabatic System

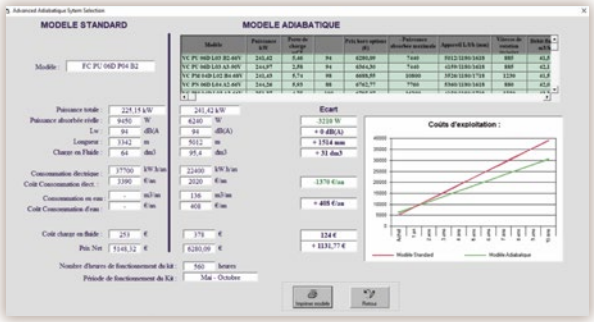


The **AAS** is an adiabatic system through indirect spraying of fine droplets of water onto a polypropylene curtain.
Compared to a traditional adiabatic system, this system:

- avoids degradation of the coil,
- reduces water consumption by 70% to 90%,
- reduces maintenance costs.

Using this system provides a power gain, which allows you to select a product with smaller footprint.
Possibility of providing installation and commissioning.

Our "Advanced Adiabatic System" selection tool



The selection tool contains a database of meteorological records enabling hourly estimation of dry cooler operation 365 days a year in over 60 different geographical zones.
Thus, the selection tool allows precise calculation of the operating costs and benefits of adiabatic cooling for your installation.
Please consult us for a detailed study!

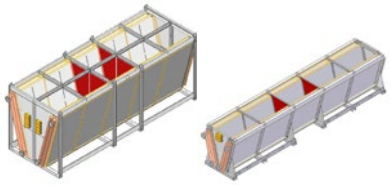
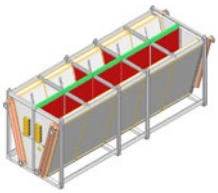
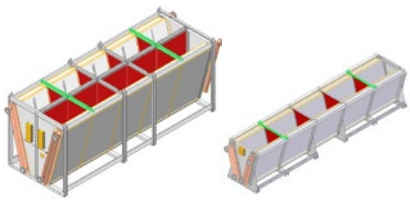
ATT - Noise level attenuator

(a) (b)

A gain of 4 dB(A)!
Available as an accessory (a) or integrated in the motor (b).
Option available on all fans no matter what diameter.

CLV/CUV - Separation of fans

Option to avoid air intake when a fan stops, in case of RT1 control or multi-circuits.

Standard	CLV	CUV
		
Partitioning every 2 modules	**Longitudinal partitioning** (option only on parallel models)	**Unit partitioning** (one partition separating all the modules)

OPTIONS

Casing

PAV	Anti-vibration pads.
RAL	Paint: RAL other than RAL 9003 for the structure.

Coil

BAE	Polyester fin protection.
BXT	Blygold Polual XT coil protection.
MCI	Multi-circuit (to be defined according to the project).
VID	Special circuiting with gravity drain
BCB	Flange against flange.
VEX	Surge tank.

Ventilation

M60	400V/3/60Hz motor fan.
MTH	Thermal protection wiring.
IRP	Rotary proximity switch per motor.
C2V	2-speed factory wiring in an electrical box.
ATT	Noise level attenuator.
AAS	Advanced Adiabatic System: adiabatic system through spraying.
CLV	Longitudinal partitioning (on parallel models only).
CUV	Unit partitioning: one partition separating all the modules.

Control and protection box

AC motor

SCU	Without factory wiring.
APC	Wiring of power on terminal.
CMP	Motor protection cabinet.
RT1	CMP + control by cascade stopping of fans.
RT2	CMP + speed control by voltage variation.
RT3	CMP + speed control by frequency variation.

EC motor

SCM	Without motor wiring.
CSB	Wiring of power on terminals (default option if customer makes no selection).
CCE	Wiring of power in box and protection for each stage included.
SE1	Direct control of motors by duplicating the signal to each fan.
SE3	Direct control of master motor and duplication of signal to motors.
CE1	Preprogrammed electronic controller.
CE2	Preprogrammed electronic controller.
CE3	Preprogrammed electronic controller.
VMA	Maximum speed setting.
MJN	Ability to define a maximum speed for night-time.
ADR	Addressing motor only.

TECHNICAL DETAILS OF THE OPTIONS FOR THE AC MOTORS

AC MOTOR possible options			
WIRING AND BOX	**Power**	**SCU**	**Without motor wiring** (note: no possibility for control with this option).
		APC	**Wiring of power on terminal** (no integrated protection option with this option).
	Protection	**CMP**	**IP54 motor protection box**, including one breaker per motor, fault overview and general switch. Possibility of a floor mounting support kit: MSK Floor stand for upper cabinets, H = 800 x L = 1000
CONTROL	**Basic** Cascade ON/OFF	**RT1** (CMP included)	**Thermostatic cascade control** in an IP54 box allowing different control stages to be managed: **From 1 to 4 control stages** > ability to manage 2 circuits. **From 4 to 10 control stages** • Possible to set day/night operation. • Integrated clock. 1 or 2 temperature sensors depending on the number of circuits present and distinct.
	Advanced control by variation	**RT2** (CMP included) Voltage variation	**A ventilated IP54 control cabinet** including a voltage variator incorporating its fuse protection. A temperature sensor to manage one circuit.
		RT3 (CMP included) Frequency variator	**A ventilated IP54 control cabinet** including a frequency variator incorporating its fuse protection. A temperature sensor to manage one circuit.

TECHNICAL DETAILS OF THE OPTIONS FOR THE EC MOTORS

EC MOTOR possible options			
WIRING AND BOX	**Power**	**SCM**	**Without motor wiring.**
		CSB	**Wiring of power on terminals.** Wiring of bus is completed.
		CCE	**Wiring of power in box and protection per stage included (in L for each fan and in P for 2 fans).** Wiring of bus is completed.
CONTROL	**Basic** Cascade ON/OFF	**SE1** *	**Direct control of motors by duplicating the signal to each fan:** One 0-10V client signal and one single circuit possible (please consult us in case of multiple circuits)
		SE3	**Direct control of master motor and duplication of signal to slave motors:** One temperature sensor included (4-20 mA on master motor and slave motors in O/10V) and one single circuit possible
	Advanced control by variation	**CE1**	**Preprogrammed electronic controller / 1 circuit:** One temperature sensor and one single circuit possible (please consult us in case of multiple circuits)
		CE2	**Preprogrammed electronic controller / 2 circuits:** 2 temperature sensors and 2 distinct circuits possible (please consult us in case of multiple circuits)
		CE3	**Preprogrammed electronic controller / signal comparison:** 2 temperature sensors and signal comparison (please consult us in case of multiple circuits)
ADDITIONAL FUNCTIONS	Only on **CCE** or **CSB**	**VMA**	**Maximum speed setting** (setting done by PC on each fan)
		MJN	**Ability to define a maximum speed for night-time** (clock by signal 0/10)
		ADR	**Addressing motor only** (setting of addresses by the BUS)

** By default delivered from the factory.*

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LENNOX
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CONDENSER / DRY COOLER
INDUSTRIAL RANGE

EC MOTOR, CONTROL AND PROTECTION CABINET

Control option on the NEOSTAR range

- Motor with electronic switching (**EC**).
- **RP1**: pressure control switch.
- **RP2**: voltage modulation speed control.
- **RP3**: frequency modulation speed control.

Control options on the FC / FI NEOSTAR and AEV ranges

- Motor with electronic switching (**EC**) for FC / FI NEOSTAR
- **RT1**: thermostatic control.
- **RT2**: voltage modulation speed control.
- **RT3**: frequency modulation speed control.

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FRIGA-BOHN

HK® REFRIGERATION

ELECTRONIC SWITCHING MOTOR (EC) NEOSTAR - FC / FI NEOSTAR

Description

- Motor fan unit with electronic switching.
- IP 55 cabinet.

This option is always proposed with the controller wired:
- motor power connections wired.
- 0 - 10V circuit wired (between motor and enclosure).
- The “motor fault” indicator wired to the electrical enclosure.

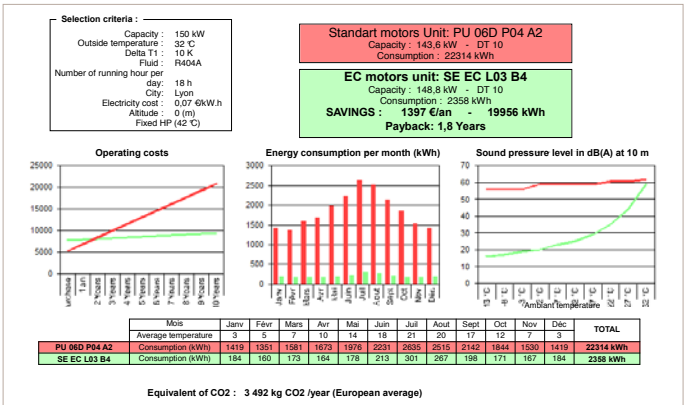
Additional options
In addition to the standard elements proposed above, other elements are also available:

MEC 1	Serial bus wiring of motors with addressing of the motor fan units.
MEC 2	Setting of max. speed parameter.
MEC 3	Setting of day/night operation parameters (clock and potentiometer).
	Back-up operation possible (please contact us for details).

Advantages

- Extremely low power consumption.
- Very low noise level.
- Control versatility.
- Reduction of operating costs.

Return on investment calculation tool:



Mois	Janv	Févr	Mars	Avr	Mai	Juin	Juil	Aout	Sept	Oct	Nov	Déc	TOTAL
Average temperature	3	5	7	10	14	18	21	20	17	12	7	3	
PU 06D P04 A2 Consumption (kWh)	1419	1351	1581	1673	1976	2231	2635	2515	2142	1844	1530	1419	22314 kWh
SE EC L03 B4 Consumption (kWh)	184	160	173	164	178	213	301	267	198	171	167	184	2358 kWh

Please contact us for comparative studies between the AC motor/EC motor:
quotation@lennoxemea.com

PROTECTION CABINET (CMP) AND RP/RT CONTROL

CMP enclosure

- IP54 cabinet.
- Fault protection: one normally open contact (NO) and one normally closed contact (NC).
- A main switch.
- One contactor per motor.
- Motor and supply packing glands.
- Wiring diagram.
- This enclosure is proposed as an optional extra fitted to the unit (floor support for those larger than H = 800 x L = 1,000) or supplied not fitted and packed separately. When delivered not fitted, the cable connecting the enclosure to the unit is provided by the installer.
- A support kit for floor mounting (**MSK**) is available as optional extra.
- In the **RP3 / RT3** version, it is recommendable to use the shielded cable connection.

Control by speed variation

RP3	RT3
With frequency speed controller	
NEOSTAR	FC / FI NEOSTAR AEV
• A frequency speed controller. • Protection of the speed controller with fuses. • Enclosure ventilation.	
• A pressure sensor with Schrader connector and shielded cable.	• A PT100 temperature sensor with finger sleeve.

Advantages
- Noise level.
- Optimized electrical power consumption.
- Control versatility.
- Simple programming adaptable to all types of processes.
- Fast installation.

Remarks:
If electrical power consumption is a key factor, give preference to the **MEC** option.
Contact us for a profitability study.

RP2	RT2
With voltage speed controller	
NEOSTAR	FC / FI NEOSTAR AEV
• A voltage speed controller. • Protection of the speed controller with fuses. • Enclosure ventilation.	
• A pressure sensor with Schrader connector and shielded cable.	• An NTC temperature sensor with finger sleeve.

Advantages
- Price

Remarks:
This enclosure cannot be ordered separately for later installation.
This control mode may generate noise at low rotation speeds.

If noise level is a key factor, give preference to the **RP3 / RT3** control system.

Control "On / Off"

RP1	RT1
In cascade	
NEOSTAR	FC / FI NEOSTAR AEV
• A pressure control switch.	• A thermostatic control switch.
• 1 or 2 pressure sensors with Schrader connector and shielded cable.	• 1 or 2 NTC temperature sensors with finger sleeve.

Advantages

1 to 4 control stages
- Capable of controlling two circuits.
- Setting of day/night operation parameter setting possible.

4 to 10 control stages
- Capable of controlling two circuits.
- Setting of day/night operation parameter possible.
- Date stamper incorporated.
- Capable of controlling a HP float type regulator.

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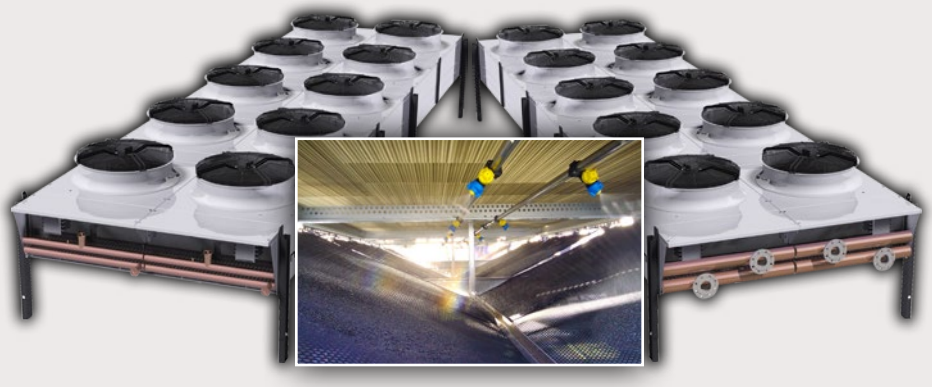
EMEA

CONDENSER / DRY COOLER

INDUSTRIAL RANGE

ADVANCED ADIABATIC SYSTEM

- Adiabatic cooling system for air cooled condensers and dry-coolers
- Optimised water consumption
- Efficient selection software



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FRIGA-BOHN

HK® REFRIGERATION

DESCRIPTION

Operating principle

• The operating principle consists in spraying water in the opposite direction to the coil with an aim to reducing the temperature of the air sprayed.
The polypropylene curtain is used to maintain the water in the form of droplets.
• The system functions according to the lost water (no recycling) principle via the town water network.
• Generally, the pressure available in public networks in Europe (3 bar) is sufficient to spray without the need for treatment or a circulation pump.
• This unique system prevents water stagnation and eliminates all potential health hazards. Moreover, our system protects the coil from premature soiling.

Control

• Complete control cabinet IP55 supplied pre-fitted to the unit.
• Power supply 230V, 50/60Hz, ICC TN 50Ka.
• Regulator incorporated.
• 2 temperature sensors (S1: T° ambient and S2: T° condenser spraying).
• Water supply solenoid valve.

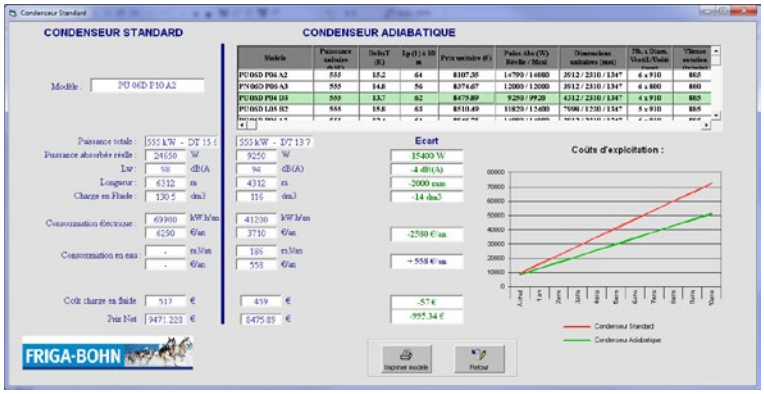
Spraying

• High-density polyethylene spray jets equipped with a high-resistance expansion membrane in case of ice formation in the water system.
• Stainless steel manifolds.
• Curtain guaranteeing homogenous spraying of cooled air over the entire spray surface thus improving system efficiency.
• Optional automatic drainage of the water circuit (supply of two NC, NO solenoid valves) and adapted regulator.

OPTIONS

• Installation and commissioning
• Automatic drainage

Case	Context / Advantages
Remodeling	• Increase in refrigeration needs. • Existing condenser units must be over-sized.
Retrofit	• Change of coolant in an existing installation. • Change-over from R22 (or R404A) to R407F/A resulting in an increase in condensation capacity.
Dimensional constraints	• Reduction of the unit footprint by 2.
Noise level constraints	• Reduction by up to 10 dB(A) of the acoustic pressure level.
Reduction of operating costs	• Reduction of electrical power consumption by around 40%. • Improvement of installation COP (decrease in condensation temperature).



ADVANTAGES

Indirect spray system

Water sprayed in the direction of the curtain guarantees a more homogenous temperature of the air sprayed than with the traditional systems whereby water is sprayed over a part of the coil only.

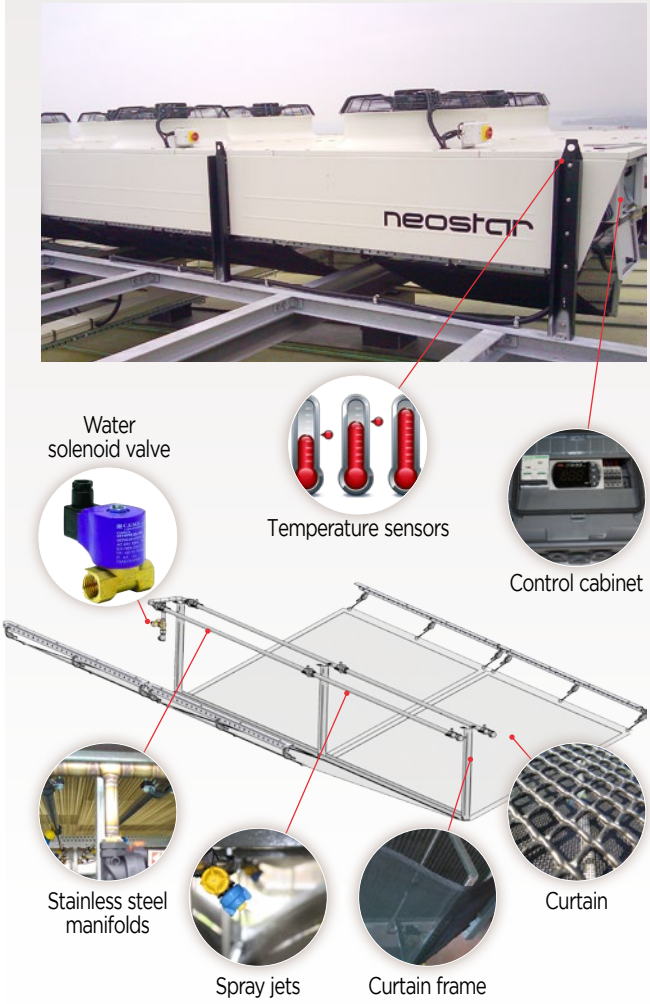
Avoids premature soiling of fins due to lime-scale deposit.
No treatment of coils necessary.
The curtain is anti-lime-scale and UV resistant.

Optimised water consumption

The water supply opening frequency is controlled by a temperature sensor placed on the coil inlet side. This offers a 70% to 90% reduction in water consumption compared to a traditional adiabatic system functioning in all-or-nothing mode.

Service

Installation and commissioning proposal.



EFFICIENT SELECTION TOOL

The high-performance selection tool contains a meteorological database enabling hourly estimation of condenser and dry-cooler operation 365 days a year in over 60 different geographic zones. In this way, the selection tool is used to calculate the exact running costs as well as the saving obtained thanks to use of the adiabatic cooling system in your installation.

Please contact us for a detailed case study.

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LENNOX
EMEA

COMPRESSORIZED PRODUCTS

- Refrigeration monoblock units
- Condensing units and split-systems

EUROMON
CLIMACAVE - MINI - MINIPLUS
VANGUARD - SPLIT VANGUARD
MAXI - MAXICLIMA

- Encased outdoor condensing units
  - 1 or 2 compressors
  - Multi-compressors
- Compressor racks

DUO CU MT/LT - MEGA - MONOHAVANE
MULTIWAVE - MULTIHAVANE
DUO MR - eCO2Gen - eCO / eMR
COMPACT - MOPSH / MOSC - MOVSH

- Other racks

CARROSSÉS - DUPLEX
BOOSTER - MONOSH ...

- Chillers (Glycol water production rack)
- Combined recovery system

PEG - NEOSYS
SRC

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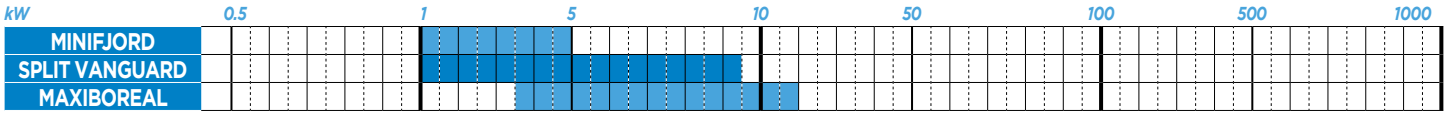
FRIGA-BOHN

HK® REFRIGERATION

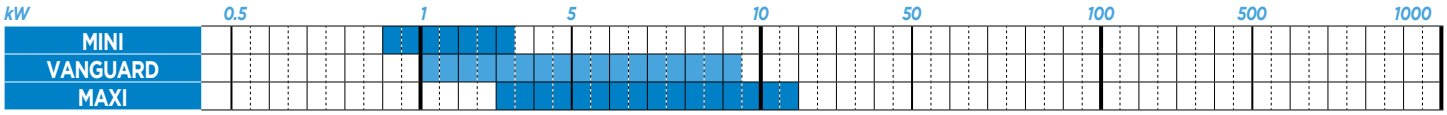
Chill range

Refrigeration monoblock units — ti = 0°C / +32°C

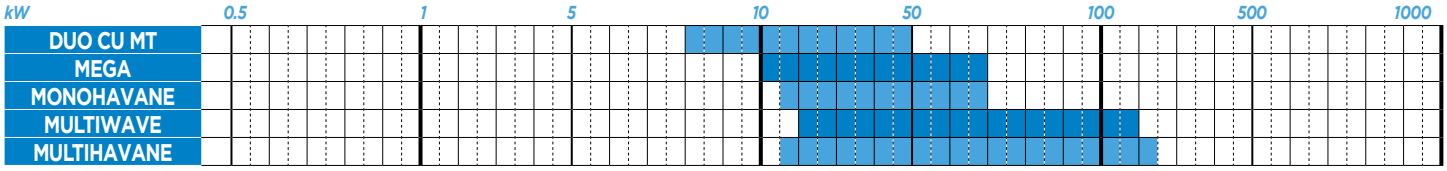
Split systems — ti = 0°C / +32°C



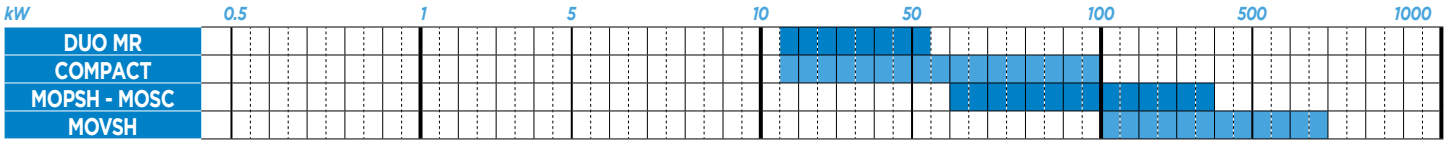
Condensing units — -10°C / +32°C



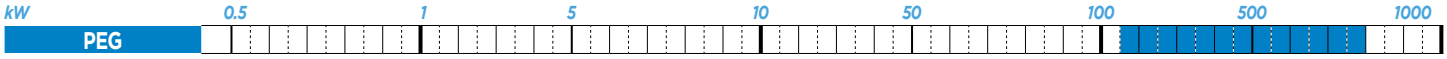
Encased outdoor condensing units — -10°C / +32°C



Compressor racks — -10°C / +45°C

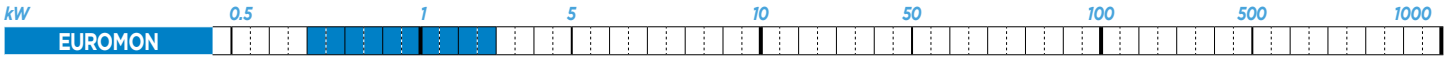


Glycol water production racks — -4°C I -8°C / +45°C

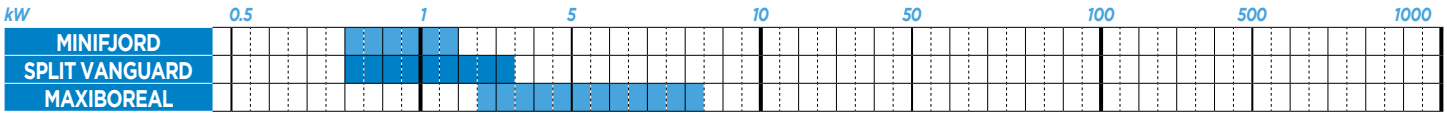


Low temperature range

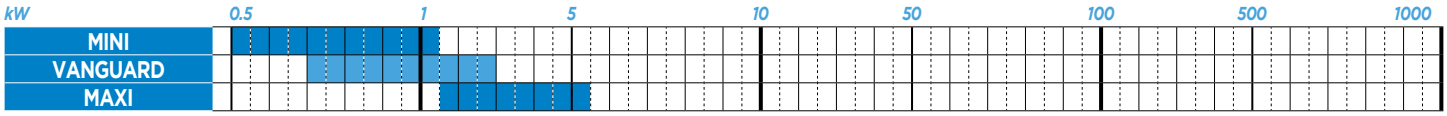
Refrigeration monoblock units — ti = -20°C / +32°C



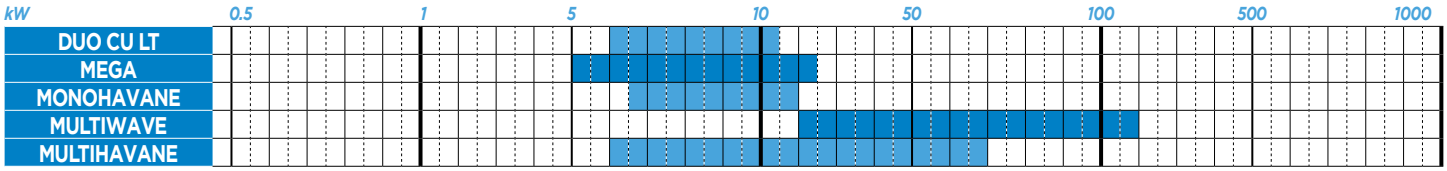
Split systems — ti = -20°C / +32°C



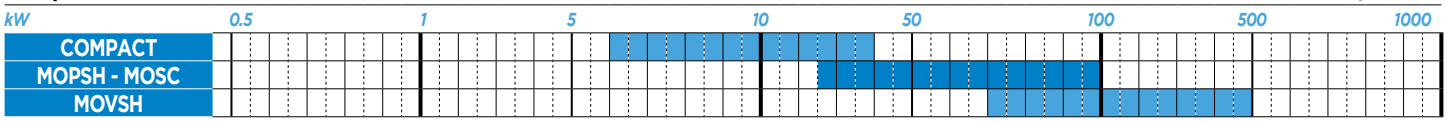
Condensing units — -35°C / +32°C



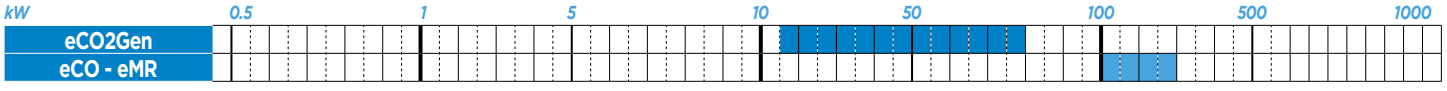
Encased outdoor condensing units — -35°C / +32°C



Compressor racks — -35°C / +40°C



CO_2 compressor racks — -35°C / -5°C



LENNOX EMEA reserves itself the right to make changes at any time without preliminary notice - Photos non-contractual

LENNOX
EMEA

REFRIGERATION MONOBLOCK UNIT

SINGLE-COMPRESSOR

Bars / Restaurants
Corner shops - Mini-markets

HFC

0.7 > **4.5** kW

EUROMON

- Complete "turnkey" monoblock unit designed for use in small cold rooms from 4 to 54 m^3.
- Mounted across the cold room panel; extremely compact unit cooler for optimum use of space in the cold room.
- Fast, easy and safe installation.
- Products assembled, tested and factory-preset according to the application.

www.lennoxemea.com

FRIGA-BOHN

HK® REFRIGERATION

EUROMON - Refrigeration monoblock unit

DESCRIPTION

The genuine technical advantages offered by EUROMON monoblock generation earn it a place as leader in its market.

Fast installation

- The installation method for this unit is extremely simple. Simply slot the monoblock unit into the notches in the top panel of the cold room and secure it. Once in place, the unit is ready for use as soon as it is plugged into an electrical power point.
- Furthermore, the various control parameters are all factory-preset according to the application.

Total accessibility

- The front cover is designed in two parts rendering access to condensing unit components, in particular the compressor, condenser fans and re-evaporation heater, easier.
- The controller is equipped with a plug-in terminal rail for easy maintenance.

Energy saving

- The unit cooler electric defrost mode is approximately three times more economical than the hot gas defrost in terms of power consumption.
- Furthermore, it is independent of compressor operation which extends the operating life of this element.

Evaporation of condensation

- An electric immersion heater is used for this function which, contrary to the discharge gas solution, does not require the compressor and protects the piping against corrosion.
- Power consumption is minimized thanks to the self-adapting property of the heater.

Optimum use of room space

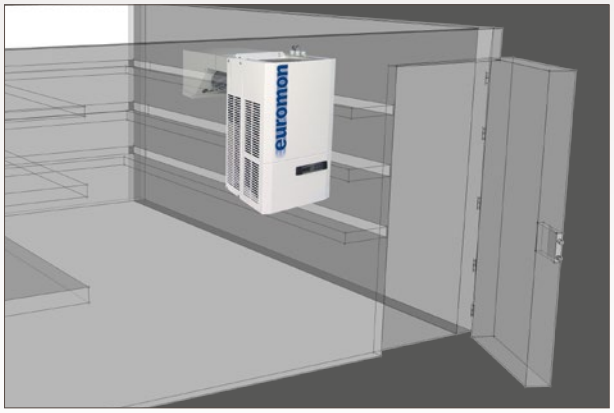
- The "ceiling unit" design form of the unit cooler not only guarantees better air distribution, but also provides more storage space for products in the cold room.

DESIGNATION

EUMOP(1) **21A**(2) **D**(3)

(1) **EUMOP** = Chill range
EUMON = Low temperature range
(2) Model
(3) Electric defrost

CERTIFICATIONS



EUMOP

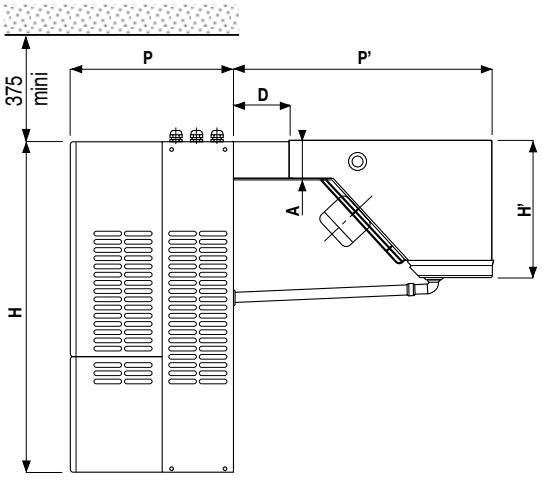
Chill range

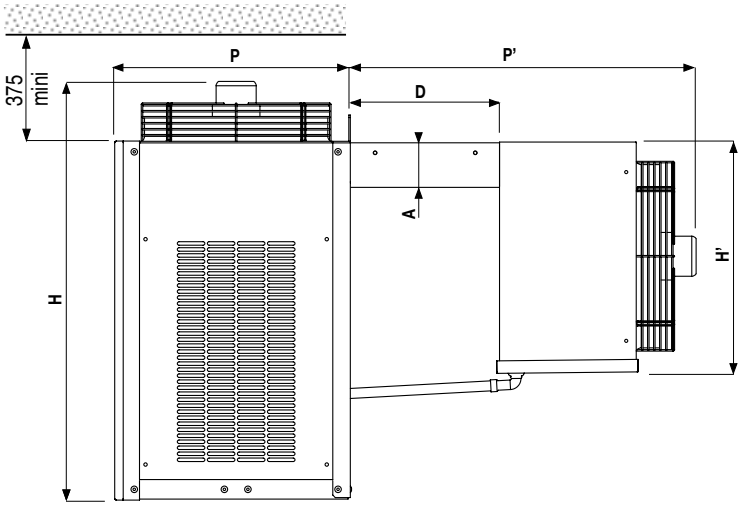
Room temperature +4 °C - Outside temperature +32 °C									
		EUMOP	3A	5A	7A	10A	13A	21A	25A
Capacity R404A (1)		kW	**1,04**	**1,28**	**1,63**	**2,21**	**2,72**	**3,72**	**4,53**
Input power (1)		kW	**0,62**	**0,72**	**0,97**	**1,10**	**1,35**	**1,53**	**1,90**
Compressor		CV	3/8	1/2	7/8	1	1 3/8	1,8	2,3
Room volume (indication)		m^3	4	7	11	17	23	29	46
Max. input current	230V/1/50Hz+T	A	5,2	5,8	6,1	7,8	9,7	-	-
	400V/3+N/50Hz	A	-	-	-	-	-	5,9	7,1
Unit cooler air flow		m^3/h	600	600	600	1160	1160	1700	2260

Room temperature 0 °C - Outside temperature +32 °C - D = Electric defrost									
		EUMOP	3AD	5AD	7AD	10AD	13AD	21AD	25AD
Capacity R404A (1)		kW	**0,93**	**1,17**	**1,47**	**1,98**	**2,44**	**3,30**	**4,03**
Input power (1)		kW	**0,59**	**0,69**	**0,92**	**1,05**	**1,28**	**1,42**	**1,79**
Compressor		CV	3/8	1/2	7/8	1	1 3/8	1,8	2,3
Room volume (indication)		m^3	3	5	8	12	17	20	26
Max. input current	230V/1/50Hz+T	A	5,2	5,8	6,1	7,8	9,7	-	-
	400V/3+N/50Hz	A	-	-	-	-	-	5,9	7,1
Unit cooler air flow		m^3/h	600	600	600	1160	1160	1700	2260

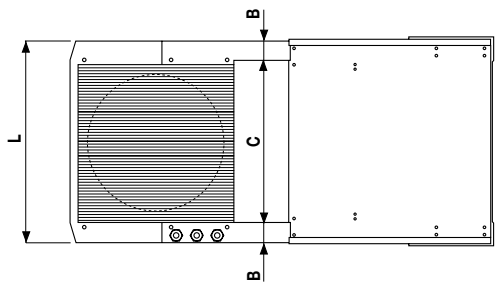
		EUMOP	3A/AD	5A/AD	7A/AD	10A/AD	13A/AD	21A/AD	25A/AD
Dimensions	H	mm	649	649	649	649	649	836	836
	H'	mm	278	278	278	278	278	462	462
	P	mm	320	320	320	320	320	472	472
	P'	mm	506	506	506	506	506	691	691
	L	mm	399	399	399	689	689	575	841
	A	mm	90	90	90	90	90	89	89
	B	mm	38	38	38	38	38	81	81
	C	mm	319	319	319	609	609	414	680
	D	mm	111	111	111	111	111	297	297
Net weight		kg	46	48	52	65	71	85	100

(1) Cooling capacity with : 10K superheat - 3K subcooling

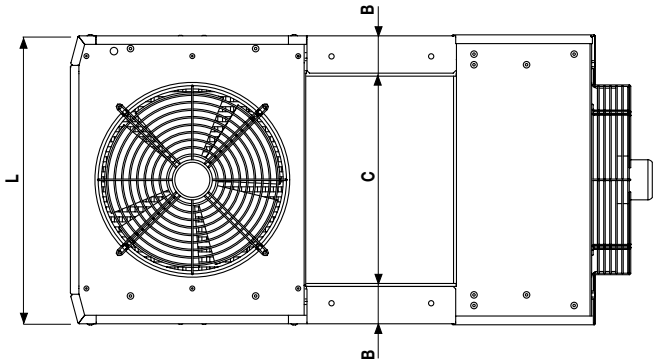




EUMOP 3A - 5A - 7A - 10A - 13A



EUMOP 21A - 25A



EUMON

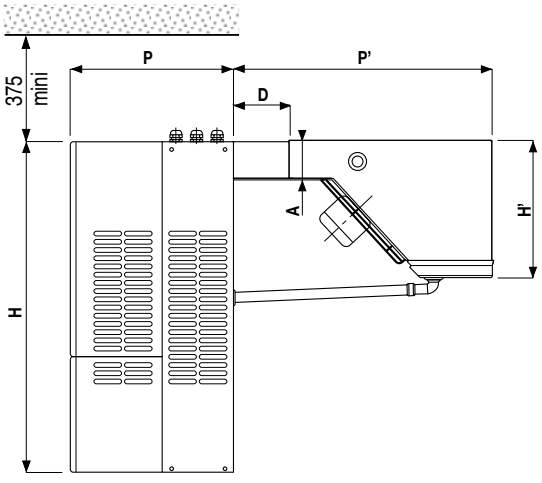
Low temperature range

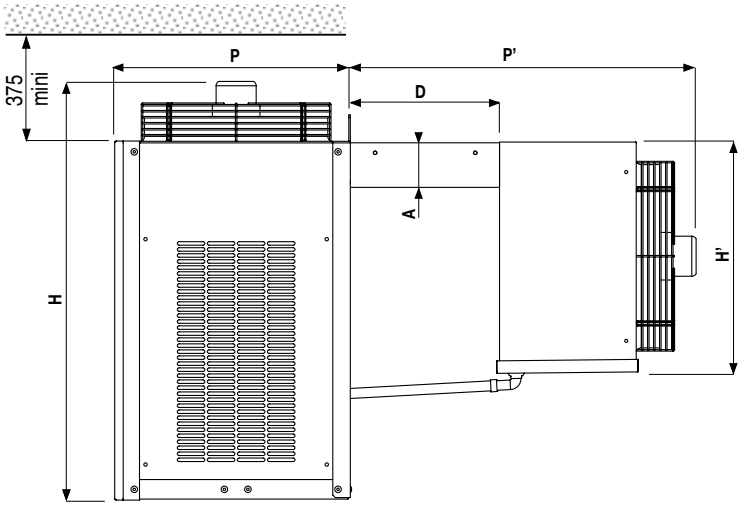
Room temperature -20 °C - Outside temperature +32 °C							
		EUMON	8A	14A	20A	26A	36A
Capacity R404A (1)		kW	**0,80**	**1,11**	**1,46**	**1,90**	**2,78**
Input power (1)		kW	**0,75**	**0,91**	**1,19**	**1,46**	**2,47**
Compressor		CV	3/4	1 1/2	2	2,3	3,3
Room volume (indication)		m^3	5	9	15	27	54
Max. input current	230V/1/50Hz+T	A	5,2	7,2	9,0	-	-
	400V/3+N/50Hz	A	-	-	-	8,3	9,3
Unit cooler air flow		m^3/h	600	1160	1160	1750	2240

Room temperature -25 °C - Outside temperature +32 °C							
		EUMON	8A	14A	20A	26A	36A
Capacity R404A (1)		kW	**0,68**	**0,92**	**1,23**	**1,59**	**2,36**
Input power (1)		kW	**0,69**	**0,83**	**1,09**	**1,30**	**2,23**
Compressor		CV	3/4	1 1/2	2	2,3	3,3
Room volume (indication)		m3	4	7	8,5	15	30
Max. input current	230V/1/50Hz+T	A	5,2	7,2	9,0	-	-
	400V/3+N/50Hz	A	-	-	-	8,3	9,3
Unit cooler air flow		m^3/h	600	1160	1160	1750	2240

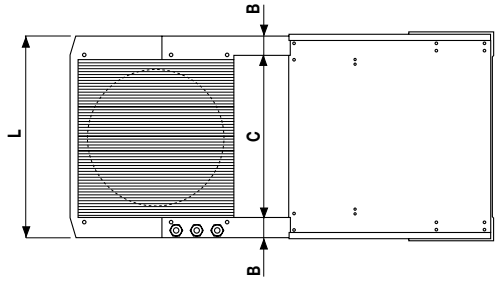
		EUMON	8A	14A	20A	26A	36A
Dimensions	H	mm	649	649	649	836	836
	H'	mm	278	278	278	462	462
	P	mm	320	320	320	472	472
	P'	mm	506	506	506	691	691
	L	mm	399	689	689	575	841
	A	mm	90	90	90	89	89
	B	mm	38	38	38	81	81
	C	mm	319	609	609	414	680
	D	mm	111	111	111	297	297
Net weight		kg	57	71	80	85	110

(1) Cooling capacity with : 10K superheat - 3K subcooling

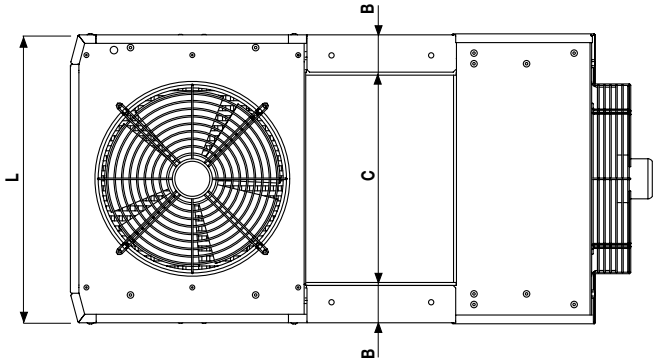




EUMON 8A - 14A - 20A



EUMON 26A - 36A



LENNOX
EMEA

HFC

1.3 > **3.5** kW

CLIMACAVE

- Ready-to-install refrigeration Split Systems suitable for wine cellar air conditioning: conservation at +12°C.
- Low-depth, ceiling-mounted unit cooler designed to control cellar hygrometry.

www.lennoxemea.com

FRIGA-BOHN

HK® REFRIGERATION

CLIMACAVE - Split system for wine cellars

DESCRIPTION

Condensing unit

Casing

- Frame and casing made of pre-painted, sheet metal for outdoor floor or wall-mounted installation.

Condenser

- Copper/aluminium condenser coil with fan 230V/1 or 400V/3 - 1,500 rpm.

Switching cabinet

- Sealed IP 53 switching cabinet comprising: 1 switchboard to standard CEI 439-1 and APAVE approved, passage of electrical connections via packing glands, enclosure pre-wired with unit and unit cooler protection devices.

Other equipment

- Liquid line with dryer with accumulator and hygroscopic indicator.
- Operating valve with pressure tapping point (inlet/outlet on unit).
- Pre-filled with R404A.

Unit cooler

- Thick, recyclable ABS casing.
- Copper/aluminium coil, fins spaced at 4.23 mm and grooved tubes.
- Pre-fitted wide range expansion valve.
- Pre-filled with nitrogen.
- Wine cellar application with conservation at +12°C and controlled hygrometry.

Control

- Electronic control.
- Lighting control.
- Display and signalling of alarms.
- An additional programmable contact (door opening, trapped person safety...).

OPTIONS

Miscellaneous

KHE Magnetic port-hole lighting kit with door switch (not fitted).

CERTIFICATIONS

PED 97/23/CE

ADVANTAGES

Installation / Servicing / Maintenance
Ready-to-install units (operating valve, dryer, indicators, casing...) with user-friendly design offering easy access to components.
Compact and sturdy equipment for easy handling and installation in confined spaces.
Switching enclosure factory pre-wired and tested.
Unit cooler made of ASB with hinge-mounted casing, access to all internal components (coil, fan...) rendering setting and cleaning work easier.

CLIMACAVE — t_i = +12°C - DT1 = 12K

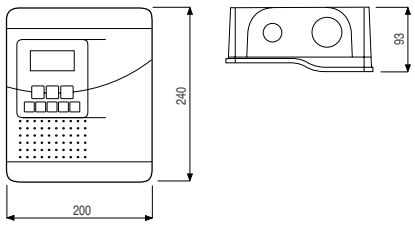
Split system	+32°C	MIV ...	3 A	5 A	10 A	13 A
Capacity R404A (1)		kW	1,30	1,50	2,37	3,56
Input power (1)		kW	0,79	0,92	1,43	1,81

Condensing unit						
Compressor		CV	3/8	1/2	1	2.3
Voltage		50Hz	230V/1+T	230V/1+T	230V/1+T	230V/1+T
Air flow		m^3/h	700	700	850	2500
Input power		W max.	550	770	1290	1590
Input current		A max.	5,0	5,6	6,8	9,0
Dimensions	L	mm	790	790	790	790
	P	mm	352	352	352	460
	H	mm	370	370	370	570
	D	mm	600	600	600	750
	F	mm	200	200	200	350
Suction		Ø	3/8"	3/8"	1/2"	1/2"
Liquid		Ø	1/4"	1/4"	1/4"	1/4"
Net weight		kg	43	45	55	60

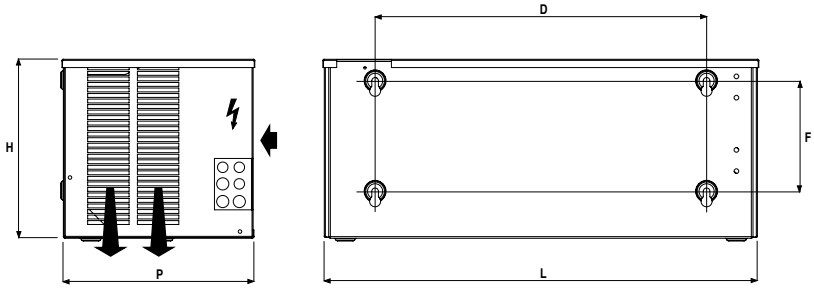
Unit cooler						
Nb x Ø		mm	2 x 200	2 x 200	3 x 200	4 x 200
Air flow		m^3/h	580	580	870	1160
Input power		W max.	76	76	114	152
Input current		A max.	0.48	0.48	0.72	0.96
Dimensions	A	mm	784	784	1174	1504
	B	mm	596	596	-	-
	C	mm	-	-	493	658
	H	mm	227	227	227	209
	G	Ø	Ø 32	Ø 32	Ø 32	1" G
Net weight		kg	9.5	9.5	15.0	20.0

(1) 10K superheating - 3K subcooling

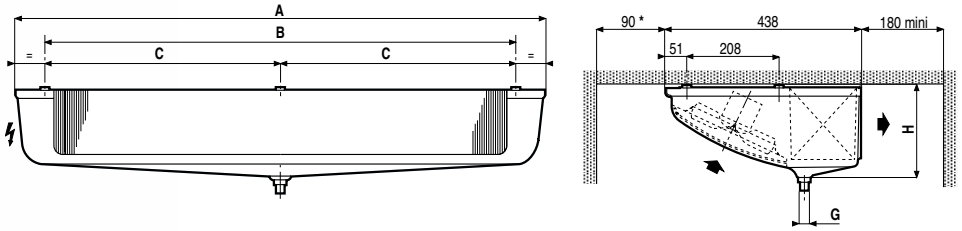
Control unit dimensions



Condensing unit dimensions



Unit cooler dimensions



LENNOX
EMEA

CONDENSING UNIT AND SPLIT SYSTEM
COMMERCIAL RANGE

Bars / Restaurants
Corner shops - Mini-markets

HFC

0.5 > **4.8** kW

MINI / MINIFJORD

MINI range

- This encased air condensing unit comprises 9 models:
  - 6 to meet chill application requirements.
  - 3 to meet low temperature application requirements.

MINIFJORD range

- The “ready-to-install” Split System model is proposed with various unit cooler types according to application requirements:
  - ceiling units (MF and MR),
  - and cubic units (3C-A).
- It covers the refrigeration requirements of cold rooms up to 35 m^3.

www.lennoxemea.com

FRIGA-BOHN

HK® REFRIGERATION

CONDENSING UNIT

Casing
- Frame and casing made of pre-painted, sheet metal for outdoor floor or wall-mounted installation.

Compressor
- The MINI condensing unit is equipped with a hermetic compressor.

Condenser
- Copper/aluminium condenser coil with fan 230V/1 or 400V/3 - 1,500 rpm.

Switching cabinet
- Sealed IP 53 switching cabinet comprising: 1 switchboard to standard CEI 439-1 and APAVE approved, passage of electrical connections via packing glands.
- Cabinet wiring with unit and unit cooler protection devices.
- Isolator switch and solenoid valve as standard for models MIF P 25A and MIF N 26A (optional for other models).

Other equipment
- HP safety is provided with an automatic-reset cartridge pressure switched.
- Liquid line with dryer with accumulator and hygroscopic indicator.
- System pump-down with LP pressure switch and solenoid valve on MIF P 25A and MIF N 26A (optional for other models).
- Operating valve with pressure tapping point (inlet/outlet on unit).

DESIGNATION

MIB(1) P(2) 5A(3)
MI(1)P(2) 3 A(3)/MF 3(4)

(1) Condensing units / Split systems
(2) **P** = Chill range - **N** = Low temperature range
(3) Model
(4) Unit cooler

ADVANTAGES

Installation / Servicing / Maintenance
"Turnkey" units (operating valve, dryer, indicators, casing...) with user-friendly design offering easy access to components.
Compact and sturdy equipment for easy handling and installation in confined spaces.
Switching box factory pre-wired and tested.

CERTIFICATIONS

PED 97/23/CE

Application 1 Room temp. +4°C DT1 = 6K	**MF**	**MR**	**3C-A**
Application 2 Room temp. 0°C DT1 = 8K	**MF** + defrost **E1K**	**MR** + defrost **E1K**	**3C-A** + defrost **E1K**
Application 3 Room temp. -18°C DT1 = 8K	-	**MRE**	**3C-A**
Application 4 Room temp. -25°C DT1 = 6K	-	**MRE**	**3C-A**

SPLIT SYSTEM

- The unit is pre-filled with refrigerant R404A.

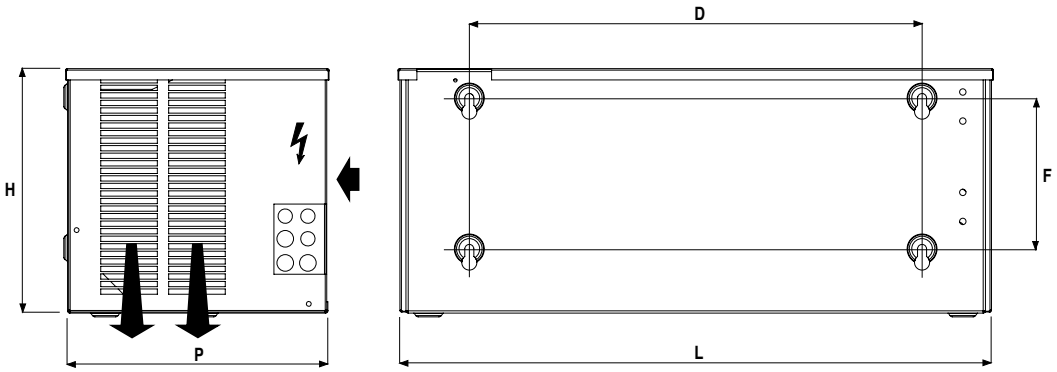
Unit coolers
- Extremely thick, recyclable ABS casing (up to models MIF P 13A and N 14A).
- Other models made of white enamelled sheet steel.
- Copper/aluminium coil, fins spaced at 4.23 mm and grooved tubes.
- Pre-fitted wide range expansion valve.
- Defrost heater and sensor (S2), end of defrost for low temperature models.
- Pre-filled with nitrogen.

Control
- Electronic control.
- Defrost control (air or electric).
- Lighting control.
- Display and signalling of alarms.
- An additional programmable contact (door opening, trapped person safety...).
- Forced operation incorporated for rapid cooling or deep-freezing.

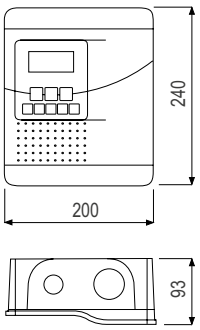
OPTIONS

Kit	Factory	
	CAC	Additional casing strap.
	CEV	Water condenser + pressostatic valve for **MINI**.
RPC		HP digital controller (not fitted).
	RPE	2 litre receiver + LP pressure switch + solenoid valve (except P 25A - N 26A). 3 litre receiver (P 25A - N 26A only).
	SEC	Isolator switch.
KHE		Magnetic port-hole lighting kit with door switch (not fitted).
KRE		Drain line heater for **MINIFJORD** (not fitted).
	ECC	Crate packaging (for the condensing units).

CONDENSING UNIT DIMENSIONS

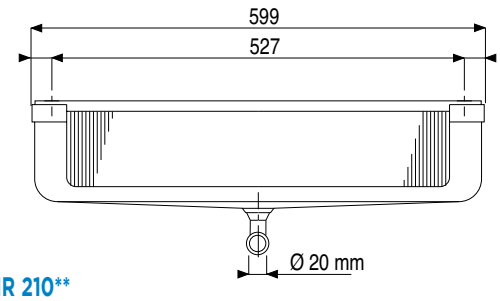


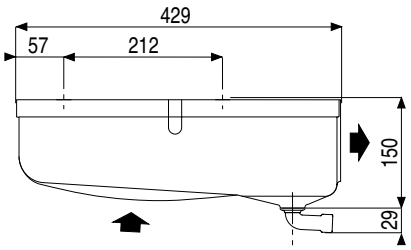
CONTROL UNIT DIMENSIONS



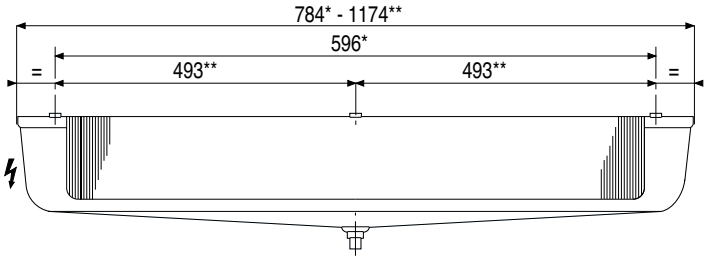
UNIT COOLER DIMENSIONS

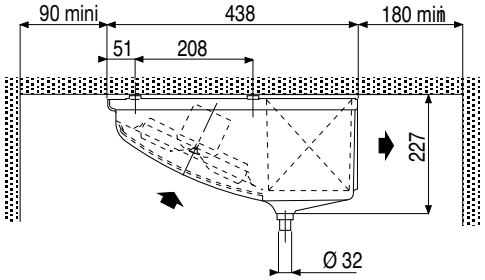
MF 3 - MF 4



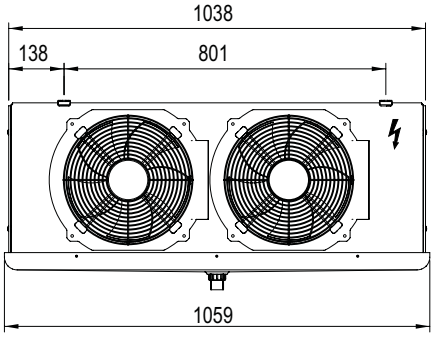


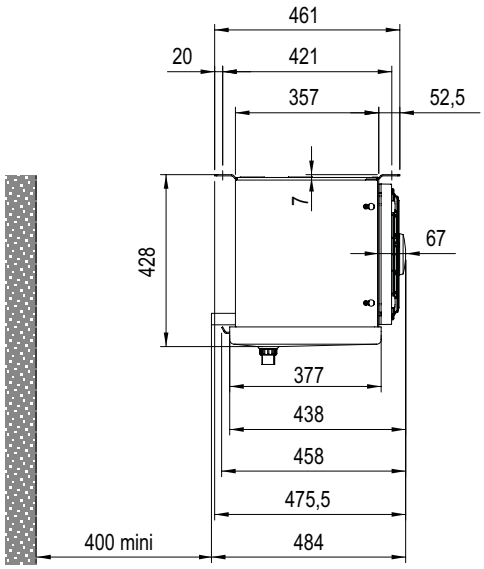
MR 110* - MR 135* - MR 210**
MRE 135* - MRE 210**





3CA 3243R
3CA 3243E





MINI - Condensing unit

Chill range

Condensing unit		MIB ...	P 3A	P 5A	P 7A	P 10A	P 13A	P 25A
Capacity R404A (1)		kW	**0,90**	**1,05**	**1,44**	**1,59**	**2,03**	**3,53**
Input power (1)		kW	**0,62**	**0,73**	**1,01**	**1,11**	**1,37**	**2,06**
Compressor		HP	3/8	1/2	3/4	1	1 1/4	2.3
Voltage		50Hz	230V/1+T	230V/1+T	230V/1+T	230V/1+T	230V/1+T	400V/3+N+T
Air flow		m^3/h	350	350	700	700	850	2500
Max. input current		A	5,0	5,6	6,0	6,8	8,7	5,7
Dimensions	L	mm	790	790	790	790	790	890
	P	mm	352	352	352	352	352	460
	H	mm	370	370	370	370	370	570
	D	mm	600	600	600	600	600	770
	F	mm	200	200	200	200	200	350
Suction		Ø	3/8"	3/8"	1/2"	1/2"	1/2"	5/8"
Liquid		Ø	1/4"	1/4"	1/4"	1/4"	1/4"	3/8"
Net weight		kg	40	43	52	52	57	69

(1) Refrigeration capacity with: Evaporation temperature -10°C - Ambient temperature +32°C -10 K superheating - 3K subcooling.

MINIFJORD - Split system

t_i = +4°C - DT1 = 6K

Split system	+32°C	MIP ...	3 A MF 3	5 A MF 4	7 A MR 110	10 A MR 135	13 A MR 210	25 A 3CA 3243R
Capacity R404A (1)		kW	**1,22**	**1,41**	**1,88**	**2,07**	**2,61**	**4,79**
Input power (1)		kW	**0,77**	**0,90**	**1,25**	**1,38**	**1,74**	**2,70**
Room volume (2)		m^3	3	6	9	14	22	35

Condensing unit	MIB ...	P 3A	P 5A	P 7A	P 10A	P 13A	P 25A
Input power	W max.	540	770	1090	1230	1580	2540
Input current	A max.	5,0	5,6	6,0	6,8	8,7	5,7

Unit cooler		MF 3	MF 4	MR 110	MR 135	MR 210	3CA 3243R
Nb x Ø	mm	2 x 200	2 x 200	2 x 200	2 x 200	3 x 200	2 x 300
Air flow	m^3/h	460	430	650	580	870	2950
Input power	W max.	76	76	76	76	114	144
Input current	A max.	0.66	0.66	0.48	0.48	0.72	0.64
Net weight	kg	8.3	8.6	7.5	9.5	15.0	28.0

MINIFJORD - Split system

t_i = 0°C - DT1 = 8K

Split system	+32°C	MIP ...	3 AD MF 3	5 AD MF 4	7 AD MR 110	10 AD MR 135	13 AD MR 210	25 AD 3CA 3243R
Capacity R404A (1)		kW	**0,97**	**1,13**	**1,54**	**1,71**	**2,17**	**3,83**
Input power (1)		kW	**0,71**	**0,83**	**1,12**	**1,23**	**1,55**	**2,44**
Room volume (2)		m^3	2	4	7	9	17	30

Condensing unit	MIB ...	P 3A	P 5A	P 7A	P 10A	P 13A	P 25A
Input power	W max.	490	680	980	1090	1410	2270
Input current	A max.	5,0	5,6	6,0	6,8	8,7	5,7

Unit cooler			MF 3	MF 4	MR 110	MR 135	MR 210	3CA 3243R
Nb x Ø		mm	2 x 200	2 x 200	2 x 200	2 x 200	3 x 200	2 x 300
Air flow		m^3/h	460	430	650	580	870	2950
Input power		W max.	76	76	76	76	114	144
Input current		A max.	0.66	0.66	0.48	0.48	0.72	0.64
Electric defrost	+ E1K	W max.	330	330	440	730	1200	1740
		A max.	1.44	1.44	2.0	3.3	5.5	7.6
Net weight		kg	8.3	8.6	7.5	9.5	15.0	28.0

(1) 10K superheating - 3K subcooling.
(2) Room volume indicated for: Insulation 80 mm floor not insulated (positive) 150 mm insulated floor (negative).
Introduction 20 kg/m3 per day at 20°C (positive) and -9°C (negative) - Operation = 18 h/day 32°C ext.

	CAC	CEV	RPC	RPE	SEC	KHE	KRE	ECC
MINI	O	O	O	O	O	O	-	O
MINIFJORD	O	-	O	O	O	O	O	O

MINI - Condensing unit

Low temperature range

Condensing unit		MIB ...	N 8A	N 14A	N 26A
Capacity R404A (1)		kW	**0,50**	**0,67**	**1,40**
Input power (1)		kW	**0,64**	**0,79**	**1,48**
Compressor		HP	3/4	1 1/2	2.3
Voltage		50Hz	230V/1+T	230V/1+T	400V/3+N+T
Air flow		m^3/h	700	850	2000
Max. input current		A	5,0	6,2	5,5
Dimensions	L	mm	790	790	890
	P	mm	352	352	460
	H	mm	370	370	570
	D	mm	600	600	770
	F	mm	200	200	350
Suction		Ø	1/2"	1/2"	5/8"
Liquid		Ø	1/4"	1/4"	3/8"
Net weight		kg	52	57	65

(1) Refrigeration capacity with: Evaporation temperature -35°C - Ambient temperature +32°C -10 K superheating - 3K subcooling.

MINIFJORD - Split system

t_i = -18°C - DT1 = 8K

Split system	+32°C	MIN ...	8A MRE 135	14A MRE 210	26A 3CA 3243E
Capacity R404A (1)		kW	**1,00**	**1,09**	**2,30**
Input power (1)		kW	**1,05**	**1,13**	**2,35**
Room volume (2)		m^3	8	16	33

Condensing unit	MIB ...	N 8A	N 14A	N 26A
Input power	W max.	960	1265	2180
Input current	A max.	5,0	6,2	5,5

Unit cooler		MRE 135	MRE 210	3CA 3243E
Nb x Ø	mm	2 x 200	3 x 200	2 x 300
Air flow	m^3/h	580	870	3118
Input power	W max.	806	1314	144
Input current	A max.	3.78	6.22	0.64
Net weight	kg	9.5	15.0	28.0

MINIFJORD - Split system

t_i = -25°C - DT1 = 6K

Split system	+32°C	MIN ...	8A MRE 135	14A MRE 210	26A 3CA 3243E
Capacity R404A (1)		kW	**0,78**	**0,83**	**1,74**
Input power (1)		kW	**0,96**	**0,99**	**2,00**
Room volume (2)		m^3	5	7	18

Condensing unit	MIB ...	N 8A	N 14A	N 26A
Input power	W max.	870	1080	1820
Input current	A max.	5,0	6,2	5,5

Unit cooler		MRE 135	MRE 210	3CA 3243E
Nb x Ø	mm	2 x 200	3 x 200	2 x 300
Air flow	m^3/h	580	870	3118
Input power	W max.	806	1314	144
Input current	A max.	3.78	6.22	0.64
Net weight	kg	9.5	15.0	28.0

(1) 10K superheating - 3K subcooling.
(2) Room volume indicated for: Insulation 80 mm floor not insulated (positive) 150 mm insulated floor (negative).
Introduction 20 kg/m3 per day at 20°C (positive) and -9°C (negative) - Operation = 18 h/day 32°C ext.

	CAC	CEV	RPC	RPE	SEC	KHE	KRE	ECC
MINI	O	O	O	O	O	O	-	O
MINIFJORD	O	-	O	O	O	O	O	O

LENNOX EMEA reserves itself the right to make changes at any time without preliminary notice - Photos non-contractual

LENNOX
EMEA

CONDENSING UNIT AND SPLIT SYSTEM
COMMERCIAL RANGE

Bars / Restaurants
Corner shops - Mini-markets

HFC

0.7 > **12.2** kW

VANGUARD

VANGUARD range

- This encased air condensing unit comprises 18 models:
  - 13 to meet chill application requirements,
  - 5 to meet low temperature application requirements.
- Coil using micro-channel technology:
  - made entirely of anti-corrosion treated and recyclable aluminium,
  - largely dimensioned for use at high outdoor temperatures.
  - with less internal refrigerant (30%).

SPLIT VANGUARD range

- The “ready-to-install” Split System model is proposed with various unit cooler types according to application requirements:
  ceiling unit (MR and MH), dual-discharge (TA), and cubic (3C-A).
- It covers the refrigeration requirements of cold rooms up to 170 m^3.

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FRIGA-BOHN

HK® REFRIGERATION

VANGUARD - Condensing unit

VANGUARD is a "turnkey" encased condensing unit designed for outdoor use.

It may be used alone to supply refrigerated displays or cabinets or as a SPLIT VANGUARD system (with a fully fitted unit cooler + optimised control) for cold rooms or food preparation areas.

Furthermore, this "turnkey" unit also combines reliability and sturdiness with accessibility and silence. Indeed, all standard models in the VANGUARD range have a very low noise level. The power range is achieved with a small number of models, equipped with all elements required for system operation. This renders selection of a model much easier.

Size TA

Size TB

CONDENSING UNIT

Casing

- The casing is made of sheet steel, pre-painted in white, designed for outdoor use offering a high resistance to adverse weather conditions. For the size TB, the front and rear panels of the compressor compartment are made of sheet steel, pre-painted in black.

Compressor

- Two compressor technologies:
- H: Hermetic piston up to 1 ½ HP chill and 1 ¼ HP low temperature.
- Sc: Scroll. From 2 HP chill and 2 ½ HP low temperature.
- In the case of TB models, the compressor compartment is noise insulated to reduce the unit noise level.

Condenser

- The main innovative aspect of the VANGUARD condensing units resides in the use of new condenser coil technology. This aluminium, micro-channel coil technology has proven its value in the automobile sector and is now used for its numerous advantages in the refrigeration sector.
- Furthermore, the coils are largely dimensioned in order to function correctly at high ambient temperatures (+43°C).
- These coils offer greater efficiency than traditional coils (copper tubes/aluminium fins). They are much lighter and the reduced rack weight renders them easier to handle (less risk of damage or injury when installing the unit).
- Furthermore, they are extremely reliable and sturdy (high impact resistance) over a long period of time and offer an excellent corrosion resistance. An additional protection is provided with a special coating on the coils.
- As the coil is brazed in a single operation, the risk of leakage is considerably reduced and the quality inspections are stringent: 100% of the products are tested with helium.
- The coil is 100 % recyclable (a single metal) and the internal refrigerant volume is considerably reduced.
- Each model in the range is equipped with a single fan controlled with a voltage speed controller to help reduce system running noise at night.
- The three references of these fans (Ø 300 mm, Ø 400 mm Ø 600 mm) are all class F and index IP55.

Switching cabinet

- The switching box is made of ABS with protection rating IP66 and contains all protection and control components of the rack:
- Protection of compressor against overloads and surge voltages.
- Protection of fan against surge voltages.
- Controller supply and cold station terminals.
- Isolator switch.
- A fault relay for three-phase models.

Other equipment

- Speed controller: All models are equipped with a speed controller to guarantee optimum control of the condensation pressure.
- Liquid receiver (2l., 3l., 5l.) with shut-off valve at the receiver outlet.
- Liquid line with valve, dryer filter and hygroscopic indicator.
- LP pressure regulator and HP safety pressure switch.
- Casing heater.

CERTIFICATIONS

PED 97/23/CE

DESIGNATION

VG Sc(1) P(2) 051(3) TA 2R8P(4)

(1) **H** = Hermetic compressor - **Sc** = Scroll compressor
(2) **P** = Chill range – **N** = Low temperature range
(3) Model
(4) Unit cooler

ADVANTAGES

Installation

Electrical components supplied complete and factory pre-wired for fast installation.

Reduced size, compact and sturdy for easy handling and installation in confined spaces.

Servicing / Maintenance

All sheet metal casing elements are easily removed and offer total access to all unit components.

Once the casing elements have been removed (side, front and rear panels for the size TB), the unit structure is self-supporting thus simplifying any work on the unit (refer to illustration at top of page).

SPLIT SYSTEM

The VANGUARD range is also proposed in a Split System model, with 6 standard pre-selected applications (4 at medium temperature and 2 at low temperature), each equipped with a unit cooler adapted to specific requirements (cubic, ceiling unit, dual-discharge...).

Unit coolers

- Dual-discharge, or cubic ceiling-mounted unit coolers (low nose) according to the applications, with factory-fitted expansion and solenoid valves.
- The maximum distance between the condensing unit and the unit cooler is 20 m.

For further details, refer to our commercial unit coolers documentation.

Application 1 **Room temp. +8°C** **DT1 = 10 K**	**MR**	-	**TA**	-
Application 2 **Room temp. +6°C** **DT1 = 6 K**	**MR**	**MH**	-	**3C-A**
Application 3 **Room temp. +2°C** **DT1 = 8 K**	**MR**	**MH**	-	**3C-A**
Application 4 **Room temp. 0°C** **DT1 = 8 K**	**MR** + defrost **E1U**	-	-	**3C-A** + defrost **E1U**
Application 5 **Room temp. -20°C** **DT1 = 7 K**	**MRE**	-	-	**3C-A**
Application 6 **Room temp. -25°C** **DT1 = 6 K**	**MRE**	-	-	**3C-A**

Control

- Electronic control.
- Defrost control (air or electrical).
- Lighting control.
- Display and signalling of alarms.
- An additional programmable contact (door opening, trapped person safety...).
- Forced operation incorporated for rapid cooling or deep-freezing.

VANGUARD - Condensing unit

Chill temperature

Condensing unit		VG ...	HP 012	HP 014	HP 017	HP 020	HP 024	HP 030	HP 038	ScP 043	ScP 050	ScP 065	ScP 075	ScP 086	ScP 103
Compressor power		HP	3/8	1/2	5/8	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4	5	6
Voltage		50Hz	230V/1	230V/1	230V/1	230V/1	230V/1	230V/1	230V/1	400V/3	400V/3	400V/3	400V/3	400V/3	400V/3
Capacity R404A (1)		kW	**1,18**	**1,40**	**1,68**	**1,98**	**2,30**	**2,99**	**3,82**	**4,23**	**5,03**	**6,56**	**7,46**	**8,65**	**10,32**
Input power (1)		kW	0,65	0,76	0,95	1,05	1,15	1,41	1,99	1,79	2,20	2,63	3,07	3,51	4,53
Input current		A max.	5,0	5,6	6,6	6,0	6,8	8,7	12,9	4,6	5,6	9,8	10,7	12,5	14,5
Acoustic (1) (2)	Lp at 10m	dB(A)	35	36	38	39	40	38	37	37	37	40	40	41	42
Ventilation	230V/1/50Hz	mm	1x 300	1x 300	1x 300	1x 300	1x 300	1x 300	1x 400	1x 400	1x 400	1x 560	1x 560	1x 560	1x 560
Liquid capacity		l.	2	2	2	2	2	2	2	3	3	3	5	5	5
Connections	Suction	Ø	3/8"	1/2"	1/2"	1/2"	1/2"	5/8"	5/8"	5/8"	7/8"	7/8"	7/8"	7/8"	1"1/8
	Liquid	Ø	1/4"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	1/2"	1/2"	1/2"	1/2"
Casing	Size		TA	TA	TA	TA	TA	TB	TB	TB	TB	TB	TB	TB	TB
Net weight		kg	100	100	100	100	100	150	150	150	160	170	170	180	180

(1) Evaporation temperature -5°C – Ambient temperature +32°C - Superheating: 10K - Subcooling: 3K.
(2) Sound pressure in dB(A) measured at 10 m, line of sight in a reflective surface, in accordance with pre-standard EN 13487 (parallelepiped reference surface).

SPLIT VANGUARD - Split system

t_i = +8°C - DT1 = 10 K

Split system	+32°C	VG...	HP 012	HP 014	HP 017	HP 020	HP 024	HP 030	HP 038	ScP 043	ScP 050	ScP 065	ScP 075	ScP 086	ScP 103
			MR 100L	MR 110R	MR 135R	MR 160R	MR 180R	MR 210R	TA 1R6P	TA 2R8P	TA 2R6P	TA 3R6P	TA 4R6P	TA 5R8P	TA 5R6P
Capacity R404A (1)		kW	**1,33**	**1,57**	**1,88**	**2,21**	**2,57**	**3,34**	**4,24**	**4,71**	**5,57**	**7,30**	**8,30**	**9,62**	**11,44**
Input power (1)		kW	**0,75**	**0,87**	**1,07**	**1,21**	**1,32**	**1,59**	**2,19**	**1,94**	**2,42**	**2,95**	**3,38**	**3,86**	**5,00**
Room volume (indication)		m^3	12	14	17	20	24	32	42	48	58	81	96	116	146

Unit cooler			MR 100L	MR 110R	MR 135R	MR 160R	MR 180R	MR 210R	TA 1R6P	TA 2R8P	TA 2R6P	TA 3R6P	TA 4R6P	TA 5R8P	TA 5R6P
Surface		m^2	2,5	3,7	6,1	8,0	8,0	10,1	15,2	15,2	15,2	22,8	30,4	34,3	34,3
Circuit volume		dm^3	0,63	0,63	1,05	1,1	1,4	1,7	2,2	2,2	2,2	3,4	4,5	5,0	5,0
Fan	Air flow	m^3/h	660	650	580	880	880	870	1310	2100	2910	2750	2615	2975	4125
	Air throw	m	3,7	3,7	3,5	4,1	4,1	4,0	2x 7,0	2x 6,0	2x 7,0	2x 7,0	2x 7,0	2x 5,0	2x 7,0
	Nb x Ø	mm	2x 200	2x 200	2x 200	3x 200	3x 200	3x 200	1x 350	2x 350	2x 350	2x 350	2x 350	3x 350	3x 350
	Current	A max.	0,48 (230V/1)	0,48 (230V/1)	0,48 (230V/1)	0,72 (230V/1)	0,72 (230V/1)	0,72 (230V/1)	0,60 (230V/1)	0,80 (230V/1)	1,20 (230V/1)	1,20 (230V/1)	1,20 (230V/1)	1,20 (230V/1)	1,80 (230V/1)
Dimensions	L	mm	784	784	784	1174	1174	1174	872	1372	1372	1372	1372	1872	1872
	P	mm	438	438	438	438	438	438	800	800	800	800	800	800	800
	H	mm	209	209	209	209	209	209	380,5	380,5	380,5	380,5	380,5	398	398

SPLIT VANGUARD - Split system

t_i = +6°C - DT1 = 6 K

Split system	+32°C	VG...	HP 012	HP 014	HP 017	HP 020	HP 024	HP 030	HP 038	ScP 043	ScP 050	ScP 065	ScP 075	ScP 086	ScP 103
			MR 160R	MR 180R	MR 210R	MR 270R	MH 320R	MH 380R	3CA 3245R	3CA 3343R	3CA 3344R	3CA 3354R	3CA 3444R	3CA 4263R	3CA 4264R
Capacity R404A (1)		kW	**1,43**	**1,69**	**2,03**	**2,37**	**2,75**	**3,59**	**4,53**	**5,04**	**5,94**	**7,83**	**8,90**	**10,29**	**12,21**
Input power (1)		kW	**0,81**	**0,92**	**1,13**	**1,28**	**1,48**	**1,75**	**2,53**	**2,16**	**2,69**	**3,21**	**3,66**	**4,40**	**5,49**
Room volume (indication)		m^3	17	20	24	28	33	44	56	63	75	102	117	138	169

Unit cooler			MR 160R	MR 180R	MR 210R	MR 270R	MH 320R	MH 380R	3CA 3245R	3CA 3343R	3CA 3344R	3CA 3354R	3CA 3444R	3CA 4263R	3CA 4264R
Surface		m^2	8,0	8,0	10,1	13,4	9,7	13,0	20,5	18,4	24,6	30,7	32,8	27,6	36,9
Circuit volume		dm^3	1,1	1,4	1,7	2,3	1,7	2,2	3,2	2,9	3,9	4,8	5,2	4,4	5,8
Fan	Air flow	m^3/h	880	880	870	1160	2340	2230	2534	4425	4098	4506	5464	11738	10990
	Air throw	m	4,1	4,1	4,0	4,5	16,0	16,0	15,0	20,0	19,0	21,0	22,0	32,0	31,0
	Nb x Ø	mm	3x 200	3x 200	3x 200	4x 200	2x 300	2x 300	2x 300	3x 300	3x 300	3x 300	4x 300	2x 450	2x 450
	Current	A max.	0,72 (230V/1)	0,72 (230V/1)	0,72 (230V/1)	0,96 (230V/1)	1,54 (230V/1)	1,54 (230V/1)	0,64 (230V/1)	0,96 (230V/1)	0,96 (230V/1)	0,96 (230V/1)	1,28 (230V/1)	2 (230-400V/3)	2 (230-400V/3)
Dimensions	L	mm	1174	1174	1174	1504	1531	1531	1059	1554	1554	1854	1954	1598	1598
	P	mm	438	438	438	438	607	607	428	428	428	428	428	632	632
	H	mm	209	209	209	209	228	228	438	438	438	438	438	537	537

(1) Superheating: 10K - Subcooling: 3K.
(2) Sound pressure in dB(A) measured at 10 m, line of sight in a reflective surface, in accordance with pre-standard EN 13487 (parallelepiped reference surface).

VANGUARD - Condensing unit

Chill temperature

Condensing unit		VG ...	HP 012	HP 014	HP 017	HP 020	HP 024	HP 030	HP 038	ScP 043	ScP 050	ScP 065	ScP 075	ScP 086	ScP 103
Compressor power		HP	3/8	1/2	5/8	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4	5	6
Voltage		50Hz	230V/1	230V/1	230V/1	230V/1	230V/1	230V/1	230V/1	400V/3	400V/3	400V/3	400V/3	400V/3	400V/3
Capacity R404A (1)		kW	**1,18**	**1,40**	**1,68**	**1,98**	**2,30**	**2,99**	**3,82**	**4,23**	**5,03**	**6,56**	**7,46**	**8,65**	**10,32**
Input power (1)		kW	0,65	0,76	0,95	1,05	1,15	1,41	1,99	1,79	2,20	2,63	3,07	3,51	4,53
Input current		A max.	5,0	5,6	6,6	6,0	6,8	8,7	12,9	4,6	5,6	9,8	10,7	12,5	14,5
Acoustic (1) (2)	Lp at 10m	dB(A)	35	36	38	39	40	38	37	37	37	40	40	41	42
Ventilation	230V/1/50Hz	mm	1x 300	1x 300	1x 300	1x 300	1x 300	1x 300	1x 400	1x 400	1x 400	1x 560	1x 560	1x 560	1x 560
Liquid capacity		l.	2	2	2	2	2	2	2	3	3	3	5	5	5
Connections	Suction	Ø	3/8"	1/2"	1/2"	1/2"	1/2"	5/8"	5/8"	5/8"	7/8"	7/8"	7/8"	7/8"	1"1/8
	Liquid	Ø	1/4"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	1/2"	1/2"	1/2"	1/2"
Casing	Size		TA	TA	TA	TA	TA	TB	TB	TB	TB	TB	TB	TB	TB
Net weight		kg	100	100	100	100	100	150	150	150	160	170	170	180	180

(1) Evaporation temperature -5°C – Ambient temperature +32°C - Superheating: 10K - Subcooling: 3K.
(2) Sound pressure in dB(A) measured at 10 m, line of sight in a reflective surface, in accordance with pre-standard EN 13487 (parallelepiped reference surface).

SPLIT VANGUARD - Split system

t_i = +2°C - DT1 = 8 K

Split system	+32°C	VG...	HP 012	HP 014	HP 017	HP 020	HP 024	HP 030	HP 038	ScP 043	ScP 050	ScP 065	ScP 075	ScP 086	ScP 103
			MR 110R	MR 135R	MR 160R	MR 180R	MR 210R	MR 270R	MH 380R	3CA 3243R	3CA 3245R	3CA 3343R	3CA 3344R	3CA 3354R	3CA 3444R
Capacity R404A (1)		kW	**1,13**	**1,35**	**1,62**	**1,91**	**2,22**	**2,88**	**3,69**	**4,08**	**4,86**	**6,33**	**7,19**	**8,34**	**9,98**
Input power (1)		kW	**0,72**	**0,83**	**1,05**	**1,15**	**1,25**	**1,54**	**2,19**	**2,03**	**2,54**	**3,17**	**3,61**	**4,04**	**5,05**
Room volume (indication)		m^3	10	12	14	17	19	25	33	36	43	57	65	77	93

Unit cooler			MR 110R	MR 135R	MR 160R	MR 180R	MR 210R	MR 270R	MH 380R	3CA 3243R	3CA 3245R	3CA 3343R	3CA 3344R	3CA 3354R	3CA 3444R
Surface		m^2	3,7	6,1	8,0	8,0	10,1	13,4	13,0	12,3	20,5	18,4	24,6	30,7	32,8
Circuit volume		dm^3	0,6	1,1	1,1	1,4	1,7	2,3	2,2	1,9	3,2	2,9	3,9	4,8	5,2
Fan	Air flow	m^3/h	650	580	880	880	870	1160	2230	2950	2534	4425	4098	4506	5464
	Air throw	m	3,7	3,5	4,1	4,1	4,0	4,5	16,0	17,0	15,0	20,0	19,0	21,0	22,0
	Nb x Ø	mm	2x 200	2x 200	3x 200	3x 200	3x 200	4x 200	2x 300	2x 300	2x 300	3x 300	3x 300	3x 300	4x 300
	Current	A max.	0,48 (230V/1)	0,48 (230V/1)	0,72 (230V/1)	0,72 (230V/1)	0,72 (230V/1)	0,96 (230V/1)	1,54 (230V/1)	0,64 (230V/1)	0,64 (230V/1)	0,96 (230V/1)	0,96 (230V/1)	0,96 (230V/1)	1,28 (230V/1)
Dimensions	L	mm	784	784	1174	1174	1174	1504	1531	1059	1059	1554	1554	1854	1954
	P	mm	438	438	438	438	438	438	607	428	428	428	428	428	428
	H	mm	209	209	209	209	209	209	228	438	438	438	438	438	438

SPLIT VANGUARD - Split system

t_i = 0°C - DT1 = 8 K

Split system	+32°C	VG...	HP 012	HP 014	HP 017	HP 020	HP 024	HP 030	HP 038	ScP 043	ScP 050	ScP 065	ScP 075	ScP 086	ScP 103
			MR 110R	MR 135R	MR 160R	MR 180R	MR 210R	MR 270R	3CA 3165R	3CA 3243R	3CA 3245R	3CA 3343R	3CA 3344R	3CA 3354R	3CA 3444R
Capacity R404A (1)		kW	**1,05**	**1,24**	**1,50**	**1,77**	**2,05**	**2,67**	**3,43**	**3,78**	**4,53**	**5,87**	**6,68**	**7,75**	**9,31**
Input power (1)		kW	**0,71**	**0,85**	**1,03**	**1,12**	**1,25**	**1,57**	**2,24**	**2,15**	**2,63**	**3,16**	**3,59**	**4,02**	**5,28**
Room volume (indication)		m^3	8	9	12	14	16	21	28	31	38	50	58	69	86

Unit cooler + E1U			MR 110R	MR 135R	MR 160R	MR 180R	MR 210R	MR 270R	3CA 3165R	3CA 3243R	3CA 3245R	3CA 3343R	3CA 3344R	3CA 3354R	3CA 3444R
Surface		m^2	3,7	6,1	8,0	8,0	10,1	13,4	15,4	12,3	20,5	18,4	24,6	30,7	32,8
Circuit volume		dm^3	0,6	1,1	1,1	1,4	1,7	2,3	2,4	1,9	3,2	2,9	3,9	4,8	5,2
Fan	Air flow	m^3/h	650	580	880	880	870	1160	1527	2950	2534	4425	4098	4506	5464
	Air throw	m	3,7	3,5	4,1	4,1	4,0	4,5	15,0	17,0	15,0	20,0	19,0	21,0	22,0
	Nb x Ø	mm	2x 200	2x 200	3x 200	3x 200	3x 200	4x 200	1x 300	2x 300	2x 300	3x 300	3x 300	3x 300	4x 300
	Current	A max.	0,48 (230V/1)	0,48 (230V/1)	0,72 (230V/1)	0,72 (230V/1)	0,72 (230V/1)	0,96 (230V/1)	0,32 (230V/1)	0,64 (230V/1)	0,64 (230V/1)	0,96 (230V/1)	0,96 (230V/1)	0,96 (230V/1)	1,28 (230V/1)
Dimensions	L	mm	784	784	1174	1174	1174	1504	859	1059	1059	1554	1554	1854	1954
	P	mm	438	438	438	438	438	438	428	428	428	428	428	428	428
	H	mm	209	209	209	209	209	209	438	438	438	438	438	438	438

(1) Superheating: 10K - Subcooling: 3K.
(2) Sound pressure in dB(A) measured at 10 m, line of sight in a reflective surface, in accordance with pre-standard EN 13487 (parallelepiped reference surface).

VANGUARD - Condensing unit

Low temperature range

Condensing unit		VG ...	HN 008	HN 013	ScN 022	ScN 027	ScN 031
Compressor power		HP	3/4	1 1/4	2 1/2	3	4
Voltage		50Hz	230V/1	230V/1	400V/3	400V/3	400V/3
Capacity R404A (1)		kW	**0,71**	**1,24**	**2,21**	**2,72**	**3,06**
Input power (1)		kW	0,71	1,18	1,96	2,4	2,65
Input current		A max.	5,0	7,9	6,1	6,9	7,1
Acoustic (1) (2)	Lp at 10m	dB(A)	34	38	38	40	41
Ventilation	230V/1/50Hz	mm	1 x 300	1 x 300	1 x 400	1 x 400	1 x 400
Liquid capacity		l.	2	2	2	5	5
Connections	Suction	Ø	1/2"	1/2"	7/8"	7/8"	7/8"
	Liquid	Ø	3/8"	3/8"	3/8"	3/8"	3/8"
Casing	Size		TA	TA	TB	TB	TB
Net weight		kg	100	100	150	160	170

(1) Evaporation temperature -30°C - Ambient temperature +32°C - Superheating: 10K - Subcooling: 3K.
(2) Sound pressure in dB(A) measured at 10 m, line of sight in a reflective surface, in accordance with pre-standard EN 13487 (parallelepiped reference surface).

SPLIT VANGUARD - Split system

t_i = -20°C - DT1 = 7 K

Split system	+32°C	VG...	HN 008	HN 013	ScN 022	ScN 027	ScN 031
			MRE 120C	MRE 190C	3CA 3243C	3CA 3244C	3CA 3343C
Capacity R404A (1)		kW	**0,82**	**1,44**	**2,52**	**3,08**	**3,48**
Input power (1)		kW	**0,84**	**1,39**	**2,35**	**2,80**	**3,20**
Room volume (indication)		m^3	9	18	36	46	54

Unit cooler			MRE 120C	MRE 190C	3CA 3243C	3CA 3244C	3CA 3343C
Surface		m^2	4,2	7,0	8,5	11,3	12,7
Circuit volume		dm^3	1,1	1,7	1,9	2,6	2,9
Fan	Air flow	m^3/h	620	930	3118	2936	4677
	Air throw	m	3,5	4,0	18,0	17,0	21,0
	Nb x Ø	mm	2x 200	3x 200	2x 300	2x 300	3x 300
	Current	A max.	0,48 (230V/1)	0,72 (230V/1)	0,64 (230V/1)	0,64 (230V/1)	0,96 (230V/1)
Dimensions	L	mm	1174	1504	1059	1059	1554
	P	mm	438	438	428	428	428
	H	mm	209	209	438	438	438

SPLIT VANGUARD - Split system

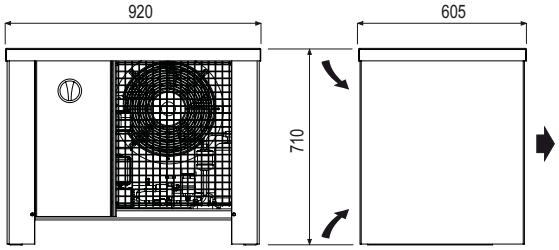
t_i = -25°C - DT1 = 6 K

Split system	+32°C	VG...	HN 008	HN 013	ScN 022	ScN 027	ScN 031
			MRE 120C	MRE 190C	3CA 3243C	3CA 3244C	3CA 3343C
Capacity R404A (1)		kW	**0,67**	**1,18**	**2,12**	**2,61**	**2,93**
Input power (1)		kW	**0,77**	**1,27**	**2,30**	**2,73**	**3,09**
Room volume (indication)		m^3	8	14	29	37	43

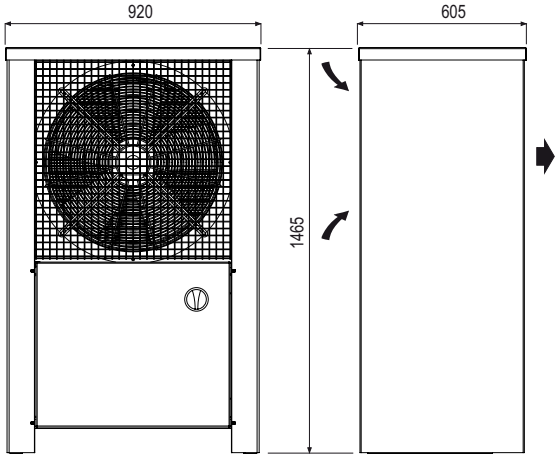
Unit cooler			MRE 120C	MRE 190C	3CA 3243C	3CA 3244C	3CA 3343C
Surface		m^2	4,2	7,0	8,5	11,3	12,7
Circuit volume		dm^3	1,1	1,7	1,9	2,6	2,9
Fan	Air flow	m^3/h	620	930	3118	2936	4677
	Air throw	m	3,5	4,0	18,0	17,0	21,0
	Nb x Ø	mm	2x 200	3x 200	2x 300	2x 300	3x 300
	Current	A max.	0,48 (230V/1)	0,72 (230V/1)	0,64 (230V/1)	0,64 (230V/1)	0,96 (230V/1)
Dimensions	L	mm	1174	1504	1059	1059	1554
	P	mm	438	438	428	428	428
	H	mm	209	209	438	438	438

(1) Superheating: 10K - Subcooling: 3K.
(2) Sound pressure in dB(A) measured at 10 m, line of sight in a reflective surface, in accordance with pre-standard EN 13487 (parallelepiped reference surface).

CONDENSING UNIT DIMENSIONS



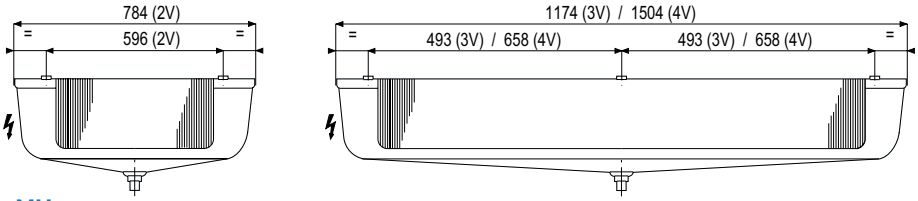
TA

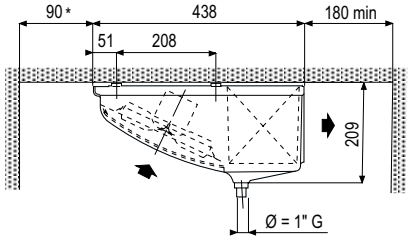


TB

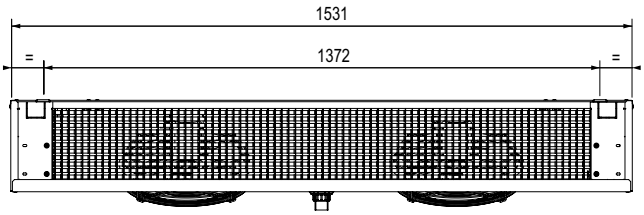
UNIT COOLER DIMENSIONS

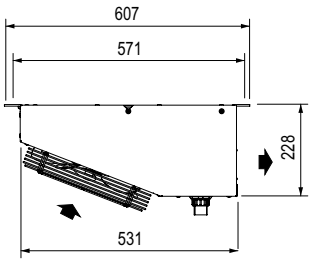
MR



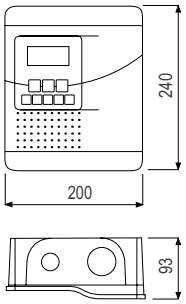


MH

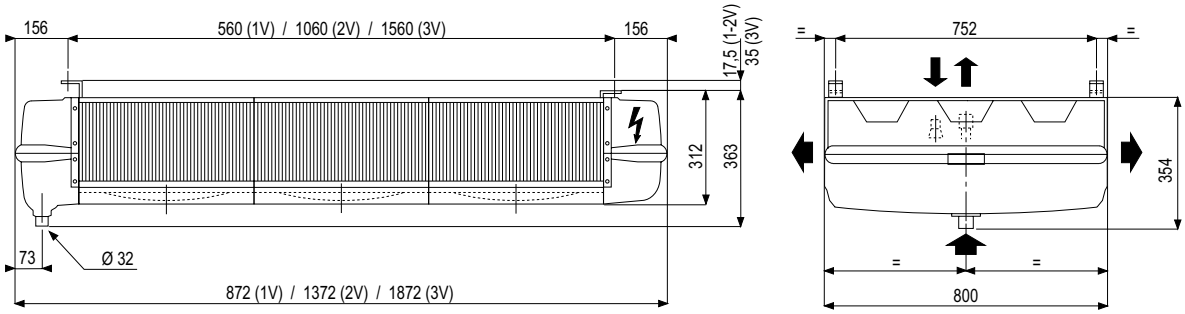




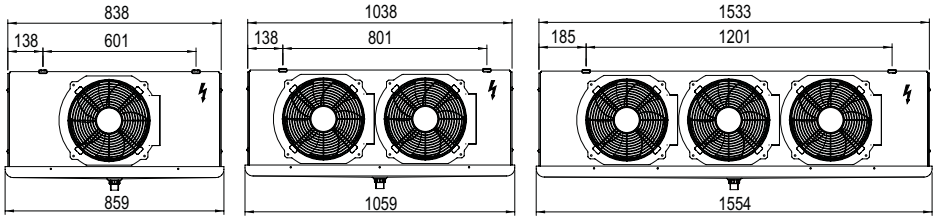
CONTROL UNIT DIMENSIONS

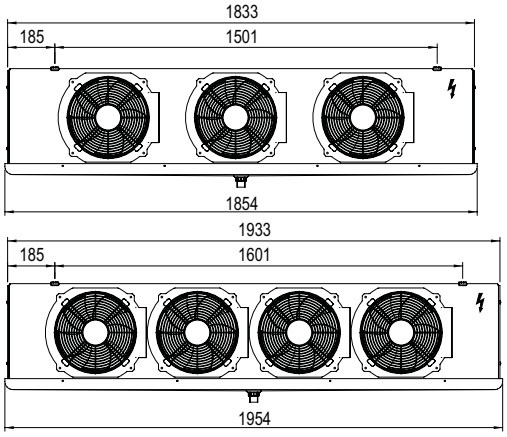


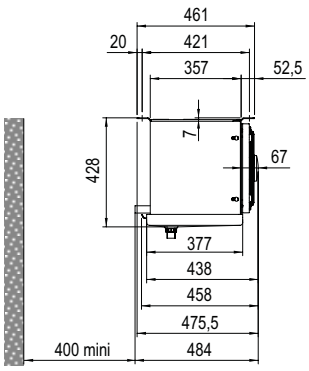
TA



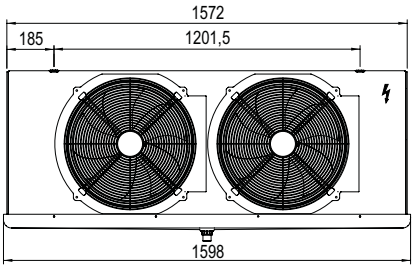
3C-A (Ø 300 mm)

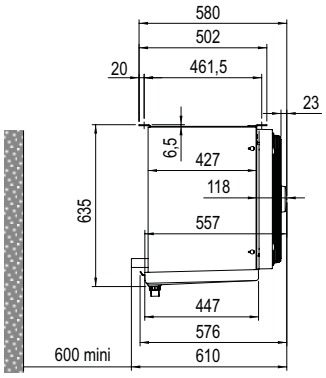






3C-A (Ø 450 mm)





LENNOX
EMEA

CONDENSING UNIT AND SPLIT SYSTEM
COMMERCIAL RANGE

Bars / Restaurants
Corner shops - Mini-markets

HFC

1.4 > **22.5** kW

MAXI / MAXIBOREAL

MAXI range

- This encased air condensing unit model:
  - three compressor technologies,
  - a low noise model,
  - an oversized condenser model for hot climates.

MAXIBOREAL range

- The Split System model is proposed with various unit cooler types according to application requirements:
  - dual-discharge (TA),
  - cubic (3C-A).
- It covers the refrigeration requirements of cold rooms up to 400 m3.

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FRIGA-BOHN

HK® REFRIGERATION

MAXI - Condensing unit

MAXIBOREAL is a split system specifically designed to provide maximum comfort: Access to all components, low noise level option, oversized coil for hot climates.

Perfect control of the manufacturing process and numerous factory inspections guarantee optimum operation.

The 5 pre-selected applications are the following:

- **Dual-discharge unit cooler = chambers at +8°C / DT 10 K.**
- **Cubic unit coolers = chambers at +6°C / DT 6 K, +2°C / DT 8 K, 0°C / DT 8 K and -20°C / DT 7 K.**

The fin spacing and defrost mode is different for each application.

Select for each model:

- **The compressor technology:**
  - **SH (semi-hermetic piston),**
  - **or Sc (Scroll).**
- **The condenser:**
  - **standard**
  - **or S (oversized) for high ambient temperatures up to +43 °C.**
- **The noise level:**
  - **standard**
  - **or LN (low noise).**

DESIGNATION

MAXI(1) **SH**(2) **P**(3) **66**(4) **A**(5)

MAXIBOREAL(1) **SH**(2) **P**(3) **66**(4) **A**(5) / **T7R6P**(6)

(1) Condensing units / Split systems
(2) **SH** = Semi-hermetic compressor
Sc = Scroll compressor
(3) **P** = Chill range - **N** = Low temperature range
(4) Model
(5) **A** = Standard
AS = Oversized
ALN = Low noise level
(6) Unit cooler

CONDENSING UNIT

Casing

- This unit is specifically designed for outdoor installation with its pre-painted sheet metal protection casing.

Compressor

- A choice of semi-hermetic compressor or Scroll compressor. The following are supplied in all cases: suction and delivery valves, casing heater and oil level indicator.

Condenser

- 1 to 4 fans according to the models with various rotation speeds depending on the option retained.

Switching cabinet

- The switching enclosure is totally incorporated into the casing and the main isolator switch is protected in a corner case to prevent damage during transport.

Other equipment

- The receiver is supplied with a delivery valve. The liquid line comprises as standard a dryer filter, a hygroscopic indicator and an operating valve.
- LP control is provided with an adjustable pressure switch.
- HP safety is provided with an automatic-reset cartridge pressure switched.

ADVANTAGES

Installation

Particularly suitable in case of noise restrictions, the ALN model may be installed in an urban environment.

The oversized condenser of the AS model enables installation in zones with high ambient temperatures.

Electrical components supplied complete and factory pre-wired for fast installation.

Servicing / Maintenance

All sheet metal casing elements (side panels, flaps) are easily removed and offer total access to all unit components.

SPLIT SYSTEM

• The unit is pre-filled with refrigerant R404A.

Unit coolers

• Dual-discharge, low noise or cubic unit cooler according to the applications, with factory-fitted expansion and solenoid valves.
For further details, refer to our commercial unit coolers documentation.

Control

• Electronic control.
• Defrost control (air or electric).
• Lighting control.
• Display and signalling of alarms.
• An additional programmable contact (door opening, trapped person safety...).
• Forced operation incorporated for rapid cooling or deep-freezing.

CERTIFICATIONS

PED 97/23/CE

Kit	Factory	OPTIONS
	CAC	Additional casing strap (**Scroll**).
	PRG	Unit pre-filled with refrigerant (**MAXI**).
	RPC	Control of condensation pressure (**MAXI**).
	VFA	Valve + suction filter.
	SPE	Wiring to terminal rail (without electric board) (**MAXI**).
	GPC	Condenser protection guard.
	ECC	Crate packaging (for the condensing units).

Application 1 **Room temperature +8°C** **DT1 = 10 K**	**TA**	-
Application 2 **Room temperature +6°C** **DT1 = 6 K**	-	**3C-A**
Application 3 **Room temperature +2°C** **DT1 = 8 K**	-	**3C-A**
Application 4 **Room temperature +0°C** **DT1 = 8 K**	-	**3C-A** **+ defrost E1K**
Application 5 **Room temperature -20°C** **DT1 = 7 K**	-	**3C-A**

MAXI

Chill range

Standard		MAXI SH	P23A	P26A	P33A	P41A	P53A	P66A	P83A	-
Capacity R404A (1)		kW	**3,25**	**4,16**	**5,51**	**6,85**	**8,54**	**10,93**	**12,87**	-
Input power (1)		kW	**1,94**	**2,45**	**2,71**	**3,46**	**4,58**	**6,22**	**8,25**	-
Input current	400V/3/50Hz	A max	5,15	7,00	7,80	10,20	13,20	15,20	19,86	-
Standard		**MAXI Sc**	**P23A**	**P26A**	**P33A**	**P41A**	**P53A**	**P66A**	**P83A**	**P104A**
Capacity R404A (1)		kW	**3,10**	**4,06**	**5,05**	**6,92**	**8,20**	**10,00**	**11,36**	**16,34**
Input power (1)		kW	**2,00**	**2,32**	**2,62**	**3,68**	**4,73**	**5,78**	**8,26**	**10,21**
Input current	400V/3/50Hz	A max	5,20	6,20	7,90	11,40	13,40	14,00	19,96	25,96
Fan	Nb x Ø	mm	1 x 355	1 x 355	2 x 355	2 x 355	2 x 355	2 x 500	2 x 500	2 x 500
		50 Hz	230V/1	230V/1	230V/1	230V/1	230V/1	400V/3	400V/3	400V/3
Air flow		m^3/h	1380	2200	2640	4200	4200	9600	11540	10314
Rotation speed		rpm	1000	1500	1000	1500	1500	1000	1500	1500
Liquid volume		l.	3	3	5	5	5	11	11	11
Dimensions	L	mm	1190	1190	1350	1350	1350	1450	1450	1450
	P	mm	475	475	550	550	550	600	600	600
	H	mm	810	810	1060	1060	1060	1470	1470	1470
	A / B	mm	805	805	955	955	955	1049 / 617	1049 / 617	1049 / 617
Connections	Suction	Ø	5/8"	7/8"	7/8"	7/8"	1 1/8"	1 1/8"	1 3/8"	1 3/8"
	Liquid	Ø	3/8"	3/8"	1/2"	1/2"	1/2"	1/2"	5/8"	5/8"
Net weight		kg	140	140	160	175	175	220	230	230

Oversized		MAXI SH	P23AS	P26AS	P33AS	P41AS	P53AS	P66AS	P83AS	-
Capacity R404A (1)		kW	**2,85**	**3,55**	**4,74**	**5,47**	**7,51**	**8,91**	**11,09**	-
Input power (1)		kW	**2,16**	**2,55**	**3,08**	**3,66**	**6,30**	**7,47**	**8,55**	-
Input current	400V/3/50Hz	A max	5,90	6,70	9,30	10,20	14,76	17,16	19,86	-
Oversized		**MAXI Sc**	**P23AS**	**P26AS**	**P33AS**	**P41AS**	**P53AS**	**P66AS**	**P83AS**	**P104AS**
Capacity R404A (1)		kW	**2,63**	**3,54**	**4,41**	**5,61**	**7,27**	**8,29**	**9,85**	**13,98**
Input power (1)		kW	**2,48**	**2,62**	**3,29**	**4,48**	**6,82**	**7,68**	**9,18**	**11,33**
Input current	400V/3/50Hz	A max	5,20	5,90	9,40	11,40	14,96	15,96	19,96	25,96
Fan	Nb x Ø	mm	1 x 355	2 x 355	2 x 355	2 x 355	2 x 500	2 x 500	2 x 500	2 x 500
		50 Hz	230V/1	230V/1	230V/1	230V/1	400V/3	400V/3	400V/3	400V/3
Air flow		m^3/h	2200	2640	4200	4200	11540	11540	10314	12400
Rotation speed		rpm	1500	1000	1500	1500	1500	1500	1500	1500
Liquid volume		l.	3	3	5	5	5	11	11	11
Dimensions	L	mm	1190	1350	1350	1350	1450	1450	1450	1750
	P	mm	475	550	550	550	600	600	600	600
	H	mm	810	1060	1060	1060	1470	1470	1470	1470
	A / B	mm	805	955	955	955	1049 / 617	1049 / 617	1049 / 617	1349 / 800
Connections	Suction	Ø	5/8"	7/8"	7/8"	7/8"	1 1/8"	1 1/8"	1 3/8"	1 3/8"
	Liquid	Ø	3/8"	3/8"	1/2"	1/2"	1/2"	1/2"	5/8"	5/8"
Net weight		kg	140	155	160	175	200	220	240	250

Low noise level		MAXI Sc	P23ALN	P26ALN	P33ALN	P41ALN	P53ALN	P66ALN	P83ALN	P104ALN
Capacity R404A (1)		kW	**3,10**	**4,16**	**5,05**	**6,91**	**8,41**	**9,56**	**11,34**	**16,42**
Input power (1)		kW	**2,00**	**2,22**	**2,62**	**3,60**	**4,53**	**5,31**	**6,63**	**9,08**
Input current	400V/3/50Hz	A max	5,50	5,80	7,90	9,84	11,84	12,84	17,80	26,80
Acoustic	LP at 10m (2)	dB(A)	24	24	34	36	36	37	35	42
Fan	Nb x Ø	mm	1 x 355	2 x 355	2 x 355	2 x 500	2 x 500	2 x 500	4 x 355	4 x 355
		50 Hz	230V/1	230V/1	230V/1	400V/3	400V/3	400V/3	230V/1	230V/1
Air flow		m^3/h	1380	2060	2640	5116	4346	4346	5520	8800
Rotation speed		rpm	1000	750	1000	750	750	750	1000	1500
Liquid volume		l.	3	3	5	5	5	11	11	11
Dimensions	L	mm	1190	1350	1350	1450	1450	1450	1750	1750
	P	mm	475	550	550	600	600	600	600	600
	H	mm	810	1060	1060	1470	1470	1470	1470	1470
	A / B	mm	805	955	955	1049 / 617	1049 / 617	1049 / 617	1349 / 800	1349 / 800
Connections	Suction	Ø	5/8"	7/8"	7/8"	7/8"	1 1/8"	1 1/8"	1 3/8"	1 3/8"
	Liquid	Ø	3/8"	3/8"	1/2"	1/2"	1/2"	1/2"	5/8"	5/8"
Net weight		kg	140	155	160	200	210	230	250	250

* **A** and **ALN**: Evaporation temperature -10°C / Ambient temperature +32°C - Superheating: 10K - Subcooling: 3K.
* **AS**: Evaporation temperature -10°C / Ambient temperature +42°C - Superheating: 10K - Subcooling: 3K.

(1) **SH**: Semi-hermetic compressor - **Sc**: Scroll compressor
(2) Sound pressure in dB(A) measured at 10 m, line of sight in a reflective surface, in accordance with pre-standard EN 13487 (parallelepiped reference surface).
(3) Motor Ø 355: 230V/1/50 Hz - Motor Ø 500: 400V/3/50 Hz

CAC*	PRG	RPC	VFA	SPE	GPC	ECC
O	O	O	O	O	O	O

* **CAC** : MAXI Sc only.

MAXI

Low temperature range

Standard		**MAXI SH**	**N24A**	**N34A**	**N42A**	**N73A**	**-**
Capacity R404A (1)		**kW**	**1,76**	**2,47**	**3,18**	**4,48**	**-**
Input power (1)		**kW**	**1,68**	**2,48**	**2,97**	**4,33**	**-**
Input current	400V/3/50Hz	**A** max	7,35	10,40	11,60	18,30	-
Standard		**MAXI Sc**	**-**	**N34A**	**N42A**	**N73A**	**N84A**
Capacity R404A (1)		**kW**	**-**	**1,76**	**3,00**	**4,45**	**6,14**
Input power (1)		**kW**	**-**	**2,00**	**3,08**	**5,14**	**7,09**
Input current	400V/3/50Hz	**A** max	-	8,20	11,90	19,40	25,00
Fan	Nb x Ø	**mm**	1 x 355	1 x 355	2 x 355	2 x 355	2 x 500
		50 Hz	230V/1	230V/1	230V/1	230V/1	400V/3
Air flow		**m³/h**	1380	2200	2640	4200	9600
Rotation speed		**rpm**	1000	1500	1000	1500	1000
Liquid volume		**l.**	5	5	5	5	5
Dimensions	**L**	**mm**	1190	1190	1350	1350	1450
	P	**mm**	475	475	550	550	600
	H	**mm**	810	810	1060	1060	1470
	A / B	**mm**	805	805	955	955	1049 / 617
Connections	Suction	**Ø**	7/8"	7/8"	1 1/8"	1 1/8"	1 3/8"
	Liquid	**Ø**	3/8"	3/8"	3/8"	1/2"	1/2"
Net weight		**kg**	140	140	175	175	230

Oversized		**MAXI SH**	**N24AS**	**N34AS**	**N42AS**	**N73AS**	**-**
Capacity R404A (1)		**kW**	**1,38**	**1,98**	**2,56**	**3,58**	**-**
Input power (1)		**kW**	**1,79**	**2,45**	**3,26**	**4,98**	**-**
Input current	400V/3/50Hz	**A** max	8,10	10,10	13,10	17,90	-
Oversized		**MAXI Sc**	**-**	**N34AS**	**N42AS**	**N73AS**	**N84AS**
Capacity R404A (1)		**kW**	**-**	**1,51**	**2,57**	**3,79**	**4,98**
Input power (1)		**kW**	**-**	**2,26**	**3,80**	**6,29**	**8,97**
Input current	400V/3/50Hz	**A** max	-	7,90	13,40	19,00	26,96
Fan	Nb x Ø	**mm**	1 x 355	2 x 355	2 x 355	2 x 500	2 x 500
		50 Hz	230V/1	230V/1	230V/1	400V/3	400V/3
Air flow		**m³/h**	2200	2640	4200	9600	11540
Rotation speed		**rpm**	1500	1000	1500	1000	1500
Liquid volume		**l.**	5	5	5	5	5
Dimensions	**L**	**mm**	1190	1350	1350	1450	1450
	P	**mm**	475	550	550	600	600
	H	**mm**	810	1060	1060	1470	1470
	A / B	**mm**	805	955	955	1049 / 617	1049 / 617
Connections	Suction	**Ø**	7/8"	7/8"	1 1/8"	1 1/8"	1 3/8"
	Liquid	**Ø**	3/8"	3/8"	3/8"	1/2"	1/2"
Net weight		**kg**	140	150	175	185	240

Low noise level		**MAXI Sc**	**N24ALN**	**N34ALN**	**N42ALN**	**N73ALN**	**N84ALN**
Capacity R404A (1)		**kW**	**-**	**1,79**	**3,00**	**4,45**	**5,89**
Input power (1)		**kW**	**-**	**1,92**	**3,08**	**5,06**	**6,59**
Input current	400V/3/50Hz	**A** max	-	7,80	11,90	17,84	23,84
Acoustic	LP at 10m (2)	**dB(A)**	-	25	30	37	38
Fan	Nb x Ø	**mm**	-	2 x 355	2 x 355	2 x 500	2 x 500
		50 Hz	-	230V/1	230V/1	400V/3	400V/3
Air flow		**m³/h**	-	2060	2640	5116	4346
Rotation speed		**rpm**	-	750	1000	750	750
Liquid volume		**l.**	-	5	5	5	5
Dimensions	**L**	**mm**	-	1350	1350	1450	1450
	P	**mm**	-	550	550	600	600
	H	**mm**	-	1060	1060	1470	1470
	A / B	**mm**	-	955	955	1049 / 617	1049 / 617
Connections	Suction	**Ø**	-	7/8"	1 1/8"	1 1/8"	1 3/8"
	Liquid	**Ø**	-	3/8"	3/8"	1/2"	1/2"
Net weight		**kg**	-	150	175	185	250

* **A** and **ALN**: Evaporation temperature -35°C / Ambient temperature +32°C - Superheating: 10K - Subcooling: 3K.
* **AS**: Evaporation temperature -35°C / Ambient temperature +42°C - Superheating: 10K - Subcooling: 3K.

(1) **SH**: Semi-hermetic compressor - **Sc**: Scroll compressor
(2) Sound pressure in dB(A) measured at 10 m, line of sight in a reflective surface, in accordance with pre-standard EN 13487 (parallelepiped reference surface).
(3) Motor Ø 355: 230V/1/50 Hz - Motor Ø 500: 400V/3/50 Hz

CAC*	PRG	RPC	VFA	SPE	GPC	ECC
O	O	O	O	O	O	O

* **CAC** : MAXI Sc only.

MAXIBOREAL - Standard

t_i = +8°C - DT1 = 10 K

Split system +32°C MAXIBOREAL SH ...			P23A T2R6P	P26A T2R6P	P33A T3R6P	P41A T5R6P	P53A T6R6P	P66A T7R6P	P83A T7R6P	- -
Capacity R404A (1)		kW	**4,24**	**5,45**	**7,27**	**9,09**	**11,16**	**14,46**	**16,88**	**-**
Input power (1)		kW	**2,45**	**3,02**	**3,31**	**4,22**	**5,49**	**7,43**	**9,65**	**-**
Input current	400V/3/50Hz	A max	5,15	7,00	7,80	10,20	13,20	15,20	19,86	-
Room volume (indication)		m^3	45	55	75	110	130	200	230	-

Split system +32°C MAXIBOREAL Sc ...			P23A T2R6P	P26A T2R6P	P33A T3R6P	P41A T5R6P	P53A T6R6P	P66A T7R6P	P83A T7R6P	P104A 2xT5R6P
Capacity R404A (1)		kW	**4,06**	**5,33**	**6,63**	**9,15**	**10,69**	**13,12**	**14,75**	**21,07**
Input power (1)		kW	**2,26**	**2,62**	**2,94**	**4,11**	**5,30**	**6,39**	**9,07**	**11,54**
Input current	400V/3/50Hz	A max	5,20	6,20	7,90	11,40	13,40	14,00	19,96	25,96
Room volume (indication)		m^3	45	55	75	110	130	200	230	300

Condensing unit			P23A	P26A	P33A	P41A	P53A	P66A	P83A	P104A
Fan	Nb x Ø	mm	1 x 355	1 x 355	2 x 355	2 x 355	2 x 355	2 x 500	2 x 500	2 x 500
		50 Hz	230V/1	230V/1	230V/1	230V/1	230V/1	400V/3	400V/3	400V/3
Air flow		m^3/h	1380	2200	2640	4200	4200	9600	11540	10314
Rotation speed		rpm	1000	1500	1000	1500	1500	1000	1500	1500
Liquid volume		l.	3	3	5	5	5	11	11	11
Dimensions	L	mm	1190	1190	1350	1350	1350	1450	1450	1450
	P	mm	475	475	550	550	550	600	600	600
	H	mm	810	810	1060	1060	1060	1470	1470	1470
	A	mm	805	805	955	955	955	1049	1049	1049
	B	mm	-	-	-	-	-	617	617	617
Connections	Suction	Ø	5/8"	7/8"	7/8"	7/8"	1 1/8"	1 1/8"	1 3/8"	1 3/8"
	Liquid	Ø	3/8"	3/8"	1/2"	1/2"	1/2"	1/2"	5/8"	5/8"
Net weight		kg	140	140	160	175	175	220	230	230

Unit cooler - 3,63 mm			T2R6P	T2R6P	T3R6P	T5R6P	T6R6P	T7R6P	T7R6P	2xT5R6P
Surface		m^2	15,23	22,84	30,43	34,26	57,10	60,91	60,91	34,26 (x2)
Circuit volume		dm^3	2,23	3,35	4,46	5,02	8,36	8,92	8,92	5,02 (x2)
Fan 230V/1/50-60Hz 1,000 rpm	Air flow	m^3/h	2910	2910	2750	4125	3765	5230	5230	4125 (x2)
	Air throw	m	2 x 7	2 x 7	2 x 7	2 x 7	2 x 6	2 x 7	2 x 7	2 x 7 (x2)
	Nb x Ø	mm	2 x 350	2 x 350	2 x 350	3 x 350	3 x 350	4 x 350	4 x 350	3 x 350 (x2)
		W Total	240	240	240	360	360	480	480	360 (x2)
		A Total	1,20	1,20	1,20	1,80	1,80	2,40	2,40	1,80 (x2)
Dimensions	L	mm	1372	1372	1372	1872	1872	2372	2372	1872 (x2)
	P	mm	800	800	800	800	800	800	800	800
	H	mm	354	354	354	354	354	354	354	354
Connections	Inlet	Ø (2)	D 5/8"	D 5/8"	D 5/8"	D 5/8"	D 5/8"	D 5/8"	D 5/8"	D 5/8" (x2)
	Outlet	Ø ODF (3)	5/8"	5/8"	7/8"	7/8"	11/8"	11/8"	11/8"	7/8" (x2)
Net weight		kg	25	25	28	36	45	55	55	36 (x2)

(1) Superheat 10 K - Subcooling 3 K.
(2) Liquid distributor: male to be brazed.
(3) ODF: female sweat type connection.

CAC*	PRG	RPC	VFA	SPE	GPC	ECC
O	-	-	O	-	O	O

MAXIBOREAL - Standard

t_i = +6°C - DT1 = 6 K

Split system +32°C MAXIBOREAL SH ...			P23A 3CA 3245R	P26A 3CA 3343R	P33A 3CA 3344R	P41A 3CA 4263R	P53A 3CA 4264R	P66A 3CA 4265R	P83A 3CA 4364R	- -
Capacity R404A (1)		kW	**4,51**	**5,81**	**7,74**	**9,70**	**11,88**	**15,40**	**17,98**	**-**
Input power (1)		kW	**2,63**	**3,37**	**3,66**	**4,78**	**6,23**	**8,34**	**11,15**	**-**
Input current	400V/3/50Hz	A max	5,15	7,00	7,80	10,20	13,20	15,20	19,86	-
Room volume (indication)		m^3	45	75	100	130	170	210	270	-

Split system +32°C MAXIBOREAL Sc ...			P23A 3CA 3245R	P26A 3CA 3343R	P33A 3CA 3344R	P41A 3CA 4263R	P53A 3CA 4264R	P66A 3CA 4265R	P83A 3CA 4364R	P104A 3CA 4366R
Capacity R404A (1)		kW	**4,32**	**5,67**	**7,06**	**9,76**	**11,39**	**13,99**	**15,69**	**22,36**
Input power (1)		kW	**2,38**	**2,90**	**3,22**	**4,59**	**5,96**	**7,16**	**10,43**	**12,80**
Input current	400V/3/50Hz	A max	5,20	6,20	7,90	11,40	13,40	14,00	19,96	25,96
Room volume (indication)		m^3	45	75	100	130	170	210	270	360

Condensing unit			P23A	P26A	P33A	P41A	P53A	P66A	P83A	P104A
Fan	Nb x Ø	mm	1 x 355	1 x 355	2 x 355	2 x 355	2 x 355	2 x 500	2 x 500	2 x 500
		50 Hz	230V/1	230V/1	230V/1	230V/1	230V/1	400V/3	400V/3	400V/3
Air flow		m^3/h	1380	2200	2640	4200	4200	9600	11540	10314
Rotation speed		rpm	1000	1500	1000	1500	1500	1000	1500	1500
Liquid volume		l.	3	3	5	5	5	11	11	11
Dimensions	L	mm	1190	1190	1350	1350	1350	1450	1450	1450
	P	mm	475	475	550	550	550	600	600	600
	H	mm	810	810	1060	1060	1060	1470	1470	1470
	A	mm	805	805	955	955	955	1049	1049	1049
	B	mm	-	-	-	-	-	617	617	617
Connections	Suction	Ø	5/8"	7/8"	7/8"	7/8"	1 1/8"	1 1/8"	1 3/8"	1 3/8"
	Liquid	Ø	3/8"	3/8"	1/2"	1/2"	1/2"	1/2"	5/8"	5/8"
Net weight		kg	140	140	160	175	175	220	230	230

Unit cooler - 4 mm			3CA 3245R	3CA 3343R	3CA 3344R	3CA 4263R	3CA 4264R	3CA 4265R	3CA 4364R	3CA 4366R
Surface		m^2	20,5	18,4	24,6	27,6	36,9	46,1	55,3	82,9
Circuit volume		dm^3	3,2	2,9	3,9	4,4	5,8	7,3	8,7	13,1
Fan 1,000 rpm	Air flow	m^3/h	2534	4425	4098	11738	10990	10310	16485	14556
	Air throw	m	15	20	19	32	31	30	35	33
	Nb x Ø	mm	2 x 300	3 x 300	3 x 300	2 x 450	2 x 450	2 x 450	3 x 450	3 x 450
	230V/1/50-60Hz	W max	144	216	216	-	-	-	-	-
		A max	0,64	0,96	0,96	-	-	-	-	-
	230-400V/3/50Hz	W max	-	-	-	2	2	2	3	3
		A max	-	-	-	900	900	900	1350	1350
Dimensions	L	mm	1059	1554	1554	1598	1598	1598	2198	2198
	P	mm	428	428	428	632	632	632	632	632
	H	mm	438	438	438	537	537	537	537	537
Connections (2)	Inlet	Ø OD	5/8	5/8	5/8	7/8	1" 1/8	1" 1/8	1" 1/8	1" 3/8
	Outlet	Ø OD	7/8	7/8	7/8	1" 3/8	1" 3/8	1" 3/8	1" 5/8	2" 1/8
Net weight		kg	32	41	43	58	62	65	84	95

(1) Superheat 10 K - Subcooling 3 K.
(2) OD : Male connector

CAC*	PRG	RPC	VFA	SPE	GPC	ECC
O	-	-	O	-	O	O

* **CAC** : MAXI Sc only.

MAXIBOREAL - Standard

t_i = +2°C - DT1 = 8 K

Split system +32°C	MAXIBOREAL SH ...		P23A	P26A	P33A	P41A	P53A	P66A	P83A	-
			3CA 3243L	3CA 3244L	3CA 3343L	3CA 3344L	3CA 4263L	3CA 4263L	3CA 4264L	-
Capacity R404A (1)		kW	**3,73**	**4,79**	**6,36**	**7,91**	**9,81**	**12,63**	**14,82**	**-**
Input power (1)		kW	**2,38**	**2,93**	**3,35**	**4,13**	**5,61**	**7,36**	**9,62**	**-**
Input current	400V/3/50Hz	A max	5,15	7,00	7,80	10,20	13,20	15,20	19,86	-
Room volume (indication)		m^3	35	40	55	70	85	120	140	-

Split system +32°C	MAXIBOREAL Sc ...		P23A	P26A	P33A	P41A	P53A	P66A	P83A	P104A
			3CA 3243L	3CA 3244L	3CA 3343L	3CA 3344L	3CA 4263L	3CA 4263L	3CA 4264L	3CA 4266L
Capacity R404A (1)		kW	**3,56**	**4,67**	**5,80**	**7,98**	**9,40**	**11,51**	**12,99**	**18,61**
Input power (1)		kW	**2,32**	**2,66**	**3,12**	**4,18**	**5,58**	**6,60**	**9,33**	**12,20**
Input current	400V/3/50Hz	A max	5,20	6,20	7,90	11,40	13,40	14,00	19,96	25,96
Room volume (indication)		m^3	35	40	55	70	85	120	140	180

Condensing unit			P23A	P26A	P33A	P41A	P53A	P66A	P83A	P104A
Fan	Nb x Ø	mm	1 x 355	1 x 355	2 x 355	2 x 355	2 x 355	2 x 500	2 x 500	2 x 500
		50 Hz	230V/1	230V/1	230V/1	230V/1	230V/1	400V/3	400V/3	400V/3
Air flow		m^3/h	1380	2200	2640	4200	4200	9600	11540	10314
Rotation speed		rpm	1000	1500	1000	1500	1500	1000	1500	1500
Liquid volume		l.	3	3	5	5	5	11	11	11
Dimensions	L	mm	1190	1190	1350	1350	1350	1450	1450	1450
	P	mm	475	475	550	550	550	600	600	600
	H	mm	810	810	1060	1060	1060	1470	1470	1470
	A	mm	805	805	955	955	955	1049	1049	1049
	B	mm	-	-	-	-	-	617	617	617
Connections	Suction	Ø	5/8"	7/8"	7/8"	7/8"	1 1/8"	1 1/8"	1 3/8"	1 3/8"
	Liquid	Ø	3/8"	3/8"	1/2"	1/2"	1/2"	1/2"	5/8"	5/8"
Net weight		kg	140	140	160	175	175	220	230	230

Unit cooler - 6 mm			3CA 3243L	3CA 3244L	3CA 3343L	3CA 3344L	3CA 4263L	3CA 4263L	3CA 4264L	3CA 4266L
Surface		m^2	8,5	11,3	12,7	17,0	19,1	19,1	25,5	38,2
Circuit volume		dm^3	1,9	2,6	2,9	3,9	4,4	4,4	5,8	8,7
Fan 1,000 rpm	Air flow	m^3/h	3118	2936	4677	4404	12304	12304	11692	10582
	Air throw	m	18	17	21	20	33	33	32	31
	Nb x Ø	mm	2 x 300	2 x 300	3 x 300	3 x 300	2 x 450	2 x 450	2 x 450	2 x 450
	230V/1/50-60Hz	W max	144	144	216	216	-	-	-	-
		A max	0,64	0,64	0,96	0,96	-	-	-	-
	230-400V/3/50Hz	W max	-	-	-	-	900	900	900	900
		A max	-	-	-	-	2	2	2	2
Dimensions	L	mm	1059	1059	1554	1554	1598	1598	1598	1598
	P	mm	428	428	428	428	632	632	632	632
	H	mm	438	438	438	438	537	537	537	537
Connections (2)	Inlet	Ø OD	5/8	5/8	5/8	5/8	7/8	7/8	1" 1/8	1" 1/8
	Outlet	Ø OD	7/8	7/8	7/8	7/8	1" 3/8	1" 3/8	1" 3/8	1" 3/8
Net weight		kg	28	29	39	41	56	56	59	65

(1) Superheat 10 K - Subcooling 3 K.
(2) OD : Male connector

CAC*	PRG	RPC	VFA	SPE	GPC	ECC
O	-	-	O	-	O	O

* **CAC** : MAXI Sc only.

MAXIBOREAL - Standard

t_i = 0°C - DT1 = 8 K

Split system +32°C	MAXIBOREAL SH ...		P23A	P26A	P33A	P41A	P53A	P66A	P83A	-
			3CA 3165R	3CA 3243R	3CA 3343R	3CA 3344R	3CA 4263R	3CA 4263R	3CA 4264R	-
Capacity R404A (1)		kW	**3,49**	**4,47**	**5,93**	**7,37**	**9,16**	**11,77**	**13,82**	**-**
Input power (1)		kW	**2,30**	**2,83**	**3,25**	**4,01**	**5,45**	**7,15**	**9,37**	**-**
Input current	400V/3/50Hz	A max	5,15	7,00	7,80	10,20	13,20	15,20	19,86	-
Room volume (indication)		m^3	25	35	50	65	75	110	130	-

Split system +32°C	MAXIBOREAL Sc ...		P23A	P26A	P33A	P41A	P53A	P66A	P83A	P104A
			3CA 3165R	3CA 3243R	3CA 3343R	3CA 3344R	3CA 4263R	3CA 4263R	3CA 4264R	3CA 4265R
Capacity R404A (1)		kW	**3,32**	**4,37**	**5,41**	**7,44**	**8,78**	**10,72**	**12,17**	**17,46**
Input power (1)		kW	**2,31**	**2,63**	**3,09**	**4,15**	**5,51**	**6,55**	**9,22**	**11,47**
Input current	400V/3/50Hz	A max	5,20	6,20	7,90	11,40	13,40	14,00	19,96	25,96
Room volume (indication)		m^3	25	35	50	65	75	110	130	170

Condensing unit			P23A	P26A	P33A	P41A	P53A	P66A	P83A	P104A
Fan	Nb x Ø	mm	1 x 355	1 x 355	2 x 355	2 x 355	2 x 355	2 x 500	2 x 500	2 x 500
		50 Hz	230V/1	230V/1	230V/1	230V/1	230V/1	400V/3	400V/3	400V/3
Air flow		m^3/h	1380	2200	2640	4200	4200	9600	11540	10314
Rotation speed		rpm	1000	1500	1000	1500	1500	1000	1500	1500
Liquid volume		l.	3	3	5	5	5	11	11	11
Dimensions	L	mm	1190	1190	1350	1350	1350	1450	1450	1450
	P	mm	475	475	550	550	550	600	600	600
	H	mm	810	810	1060	1060	1060	1470	1470	1470
	A	mm	805	805	955	955	955	1049	1049	1049
	B	mm	-	-	-	-	-	617	617	617
Connections	Suction	Ø	5/8"	7/8"	7/8"	7/8"	1 1/8"	1 1/8"	1 3/8"	1 3/8"
	Liquid	Ø	3/8"	3/8"	1/2"	1/2"	1/2"	1/2"	5/8"	5/8"
Net weight		kg	140	140	160	175	175	220	230	230

Unit cooler - 4 mm			3CA 3165R	3CA 3243R	3CA 3343R	3CA 3344R	3CA 4263R	3CA 4263R	3CA 4264R	3CA 4265R
Surface		m^2	15,4	12,3	18,4	24,6	27,6	27,6	36,9	46,1
Circuit volume		dm^3	2,4	1,9	2,9	3,9	4,4	4,4	5,8	7,3
Fan 1,500 rpm	Air flow	m^3/h	1527	2950	4425	4098	11738	11738	10990	10310
	Air throw	m	15	17	20	19	32	32	31	30
	Nb x Ø	mm	1 x 300	2 x 300	3 x 300	3 x 300	2 x 450	2 x 450	2 x 450	2 x 450
	230V/1/50-60Hz	W max	72	144	216	216	-	-	-	-
		A max	0,32	0,64	0,96	0,96	-	-	-	-
	230-400V/3/50Hz	W max	-	-	-	-	2	2	2	2
		A max	-	-	-	-	900	900	900	900
Dimensions	L	mm	859	1059	1554	1554	1598	1598	1598	1598
	P	mm	428	428	428	428	632	632	632	632
	H	mm	438	438	438	438	537	537	537	537
Connections (2)	Inlet	Ø OD	5/8	5/8	5/8	5/8	7/8	7/8	1" 1/8	1" 1/8
	Outlet	Ø OD	5/8	7/8	7/8	7/8	1" 3/8	1" 3/8	1" 3/8	1" 3/8
Net weight		kg	24	28	41	43	58	58	62	65

(1) Superheat 10 K - Subcooling 3 K.
(2) OD : Male connector

CAC*	PRG	RPC	VFA	SPE	GPC	ECC
O	-	-	O	-	O	O

* **CAC** : MAXI Sc only.

MAXIBOREAL - Standard

t_i = -20°C - DT1 = 7 K

Split system +32°C MAXIBOREAL SH ...			N24A 3CA 3165C	N34A 3CA 3243C	N42A 3CA 3343C	N73A 3CA 4263C	- -
Capacity R404A (1)		**kW**	**2,63**	**3,62**	**4,67**	**6,63**	**-**
Input power (1)		**kW**	**2,45**	**3,42**	**4,26**	**6,24**	**-**
Input current	400V/3/50Hz	**A** max	7,35	10,40	11,60	18,30	-
Room volume (indication)		**m^3**	25	40	65	120	-

Split system +32°C MAXIBOREAL Sc ...			- -	N34A 3CA 3243C	N42A 3CA 3343C	N73A 3CA 4263C	N84A 3CA 4263C
Capacity R404A (1)		**kW**	**-**	**2,49**	**4,19**	**6,20**	**8,53**
Input power (1)		**kW**	**-**	**2,40**	**3,88**	**6,42**	**8,66**
Input current	400V/3/50Hz	**A** max	-	8,20	11,90	19,40	25,00
Room volume (indication)		**m^3**	-	40	65	120	200

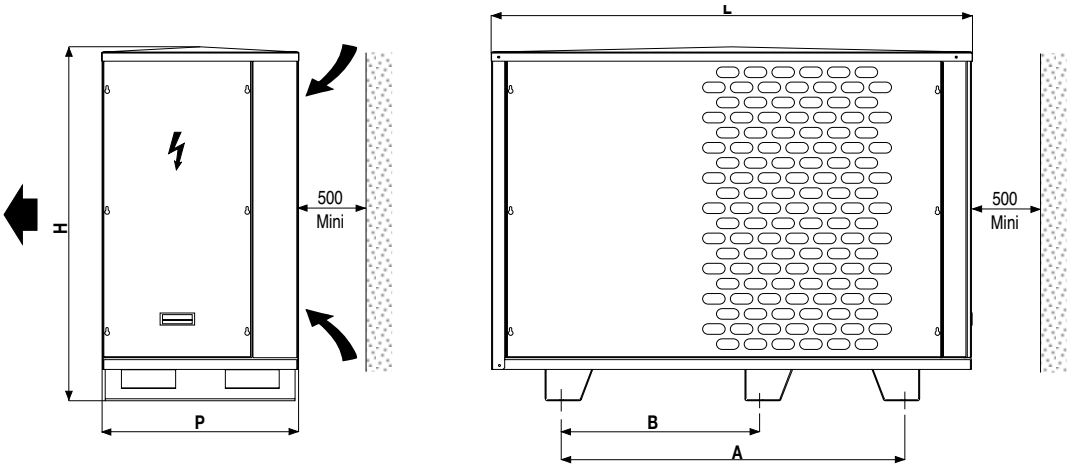
Condensing unit			N24A	N34A	N42A	N73A	N84A
Fan	Nb x Ø	**mm**	1 x 355	1 x 355	2 x 355	2 x 355	2 x 500
		50 Hz	230V/1	230V/1	230V/1	230V/1	400V/3
Air flow		**m^3/h**	1380	2200	2640	4200	9600
Rotation speed		**rpm**	1000	1500	1000	1500	1000
Liquid volume		**l.**	5	5	5	5	5
Dimensions	**L**	**mm**	1190	1190	1350	1350	1450
	P	**mm**	475	475	550	550	600
	H	**mm**	810	810	1060	1060	1470
	A	**mm**	805	805	955	955	1049
	B	**mm**	-	-	-	-	617
Connections	Suction	**Ø**	7/8"	7/8"	1 1/8"	1 1/8"	1 3/8"
	Liquid	**Ø**	3/8"	3/8"	3/8"	1/2"	1/2"
Net weight		**kg**	140	140	175	175	230

Unit cooler - 6 mm			3CA 3165C	3CA 3243C	3CA 3343C	3CA 4263C	3CA 4263C
Surface		**m^2**	10,6	8,5	12,7	19,1	19,1
Circuit volume		**dm^3**	2,4	1,9	2,9	4,4	4,4
Fan 1,500 rpm	Air flow	**m^3/h**	1602	3118	4677	12304	12304
	Air throw	**m**	16	18	21	33	33
	Nb x Ø	**mm**	1 x 300	2 x 300	3 x 300	2 x 450	2 x 450
	230V/1/50-60Hz	**W max**	72	144	216	-	-
		A max	0,32	0,64	0,96	-	-
	230-400V/3/50Hz	**W max**	-	-	-	900	900
		A max	-	-	-	2	2
Dimensions	**L**	**mm**	859	1059	1554	1598	1598
	P	**mm**	428	428	428	632	632
	H	**mm**	438	438	438	537	537
Connections (2)	Inlet	**Ø OD**	5/8	5/8	5/8	7/8	7/8
	Outlet	**Ø OD**	5/8	7/8	7/8	1" 3/8	1" 3/8
Net weight		**kg**	23	28	39	56	56

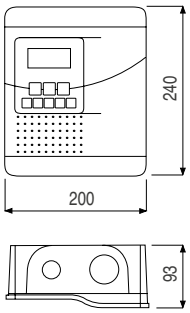
(1) Superheat 10 K - Subcooling 3 K.
(2) OD : Male connector

CAC*	PRG	RPC	VFA	SPE	GPC	ECC
O	-	-	O	-	O	O

CONDENSING UNIT DIMENSIONS

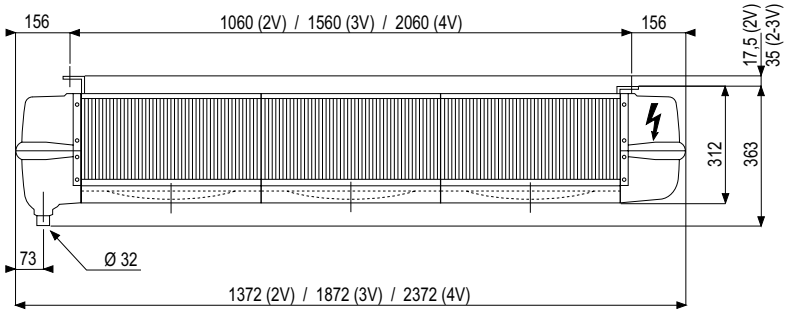


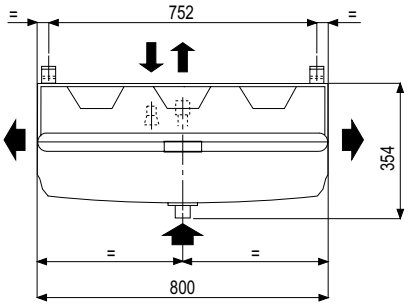
CONTROL UNIT DIMENSIONS

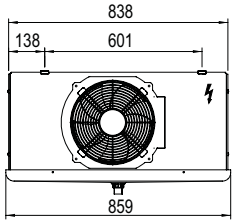


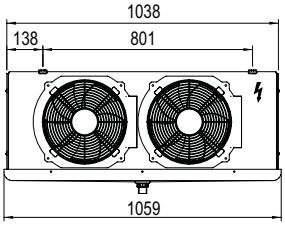
UNIT COOLER DIMENSIONS

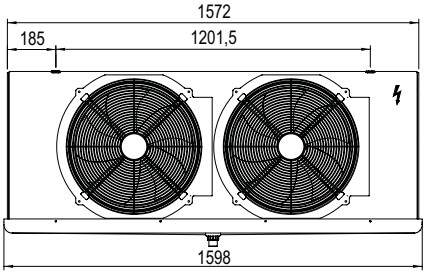
TA

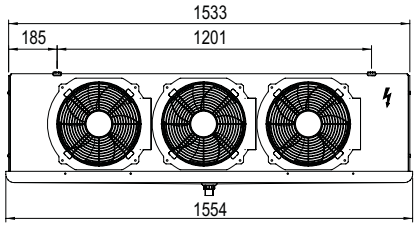


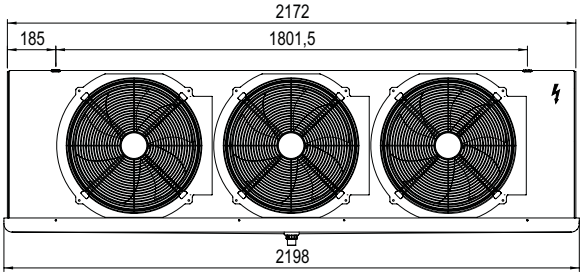


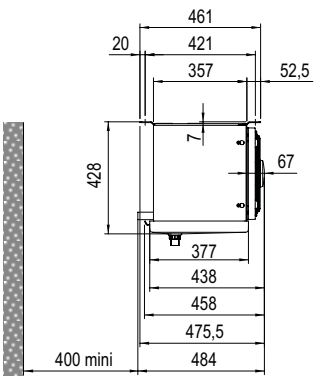


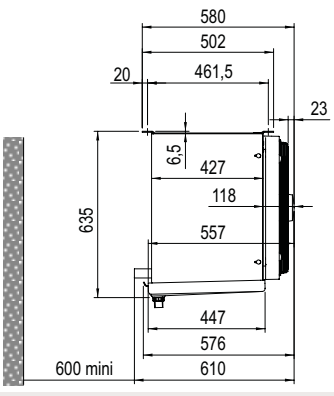












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LENNOX
EMEA

ENCASED OUTDOOR CONDENSING UNIT

DUAL-COMPRESSORS

Corner shops
Supermarkets - Hypermarkets
Central kitchens

HFC

MT 7 > 48 kW
R404A R134a R407F R407A R448A R449A R450A R513A

LT 6 > 15 kW
R404A R407F R448A R449A

DUO CU MT / LT

- **Compact** and **low-noise**
- **Micro-channel technology:** 75% reduction in refrigerant volume
- **Two Scroll compressors**, one of which **Digital™**
- Available in fan versions **with** or **without available pressure** (indoor installation)
- **Multi-fluid:** R404A, R134a, R407F, R407A, R448A, R449A, R450A and R513A
- **Energy saving:** floating HP, heat recovery for MT models
- **Safety and reliability:**
  - Anti-corrosion treatment (according to the models)
  - Back-up operation with pressure control switch.
  - Electrical oil monitoring system.
- **Ready to install:** supplied with refrigeration and electrical systems complete
- **Easy maintenance:** total accessibility to components.

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FRIGA-BOHN

HK® REFRIGERATION

DUO CU MT / LT - Encased outdoor condensing unit

The DUO CU encased condensing units are comprised of 25 models and declined in fans with or without available pressure for medium temperature (MT) and low temperature (LT) applications.

DUO CU are compatible with the use of R404A, R134a, R407F, R407A, R448A, R449A, R450A, R513A for DUO CU MT and R404A, R407F, R448A, R449A for DUO CU LT

These units contain two Scroll compressors, one of which Digital™ providing modulation of the capacity from 10 to 100% suitable for multi-station cooling applications.

DESCRIPTION

Frame / Casing
- Thick and robust frame.
- The casing is made of painted sheet steel and Epoxy treated.
- The front and side panels may be easily removed.

Compressor
- Two Scroll compressors, one of which Digital™ (except DUO CU LT 26) enabling modulation of capacity.
- Shut-off valve on the suction and delivery sides, casing heater and rigid suspension elements.
- The compressors are equipped with a noise-insulating jacket.

Collectors
- Copper suction and delivery pipes.
- Filter on the suction side.

Oil line
- HP oil separator comprising an oil tank with high and low level indicators.
- HP oil return line with filter.
- Electrical oil monitoring system per compressor.

Condenser
- Coil with micro-channel technology (T1A / T1C - T3A / T3C - T4A / T4C) and Epoxy treated (T1A / T1C).
- Aluminium finned coil and copper tubes (T2A / T2C).
- Two axial or centrifugal condenser fans with speed controller or EC motors according to models.
- **Heat recovery system (only on DUO CU MT):**
  - Tapping with stand-by valves upstream of the condenser
  - Optional heat recovery module for production of ECS at 55°C or heating (contact us).
  - Regulation incorporated.

Liquid receiver
- Vertical receiver with a capacity of 18 or 45 l. and safety valve.
- Two inlet/outlet shut-off valves.
- Liquid outlet equipped with a dryer filter, an indicator and a liquid outlet valve.

Control and safety
- Complete electrical enclosure included.
- Electronic control with PLC and back-up operation with pressure switch
- Socalled "floating" HP regulator with exterior sensor.
- Idc 15kA
- Main isolator switch.
- Switch-over to back- up operation:
  - Automatic with LPE/HPE support pressure switches
  - Manual with a switch on the electrical enclosure door.
- 2 condenser fan protection outputs
- 4 cooling station outputs 2x10A

Monitoring devices
- 1 general LP safety pressure switch.
- 1 LPE support pressure switch (switch-over to back-up mode).
- 1 LP regulator pressure switch per compressor.
- 1 automatic-reset HP pressure switch per compressor.
- 1 HPE support pressure switch (switch-over to back-up mode).
- 1 HP and BP sensor.

DESIGNATION

DUO CU(1) MT(2) 45(3) A(4)

(1) Condensing unit
(2) **MT** = Medium Temperature range
LT = Low Temperature range
(2) Model (compressor)
(3) **A** = fans without available pressure
C = fans with available pressure

CERTIFICATIONS

PED 97/23/CE

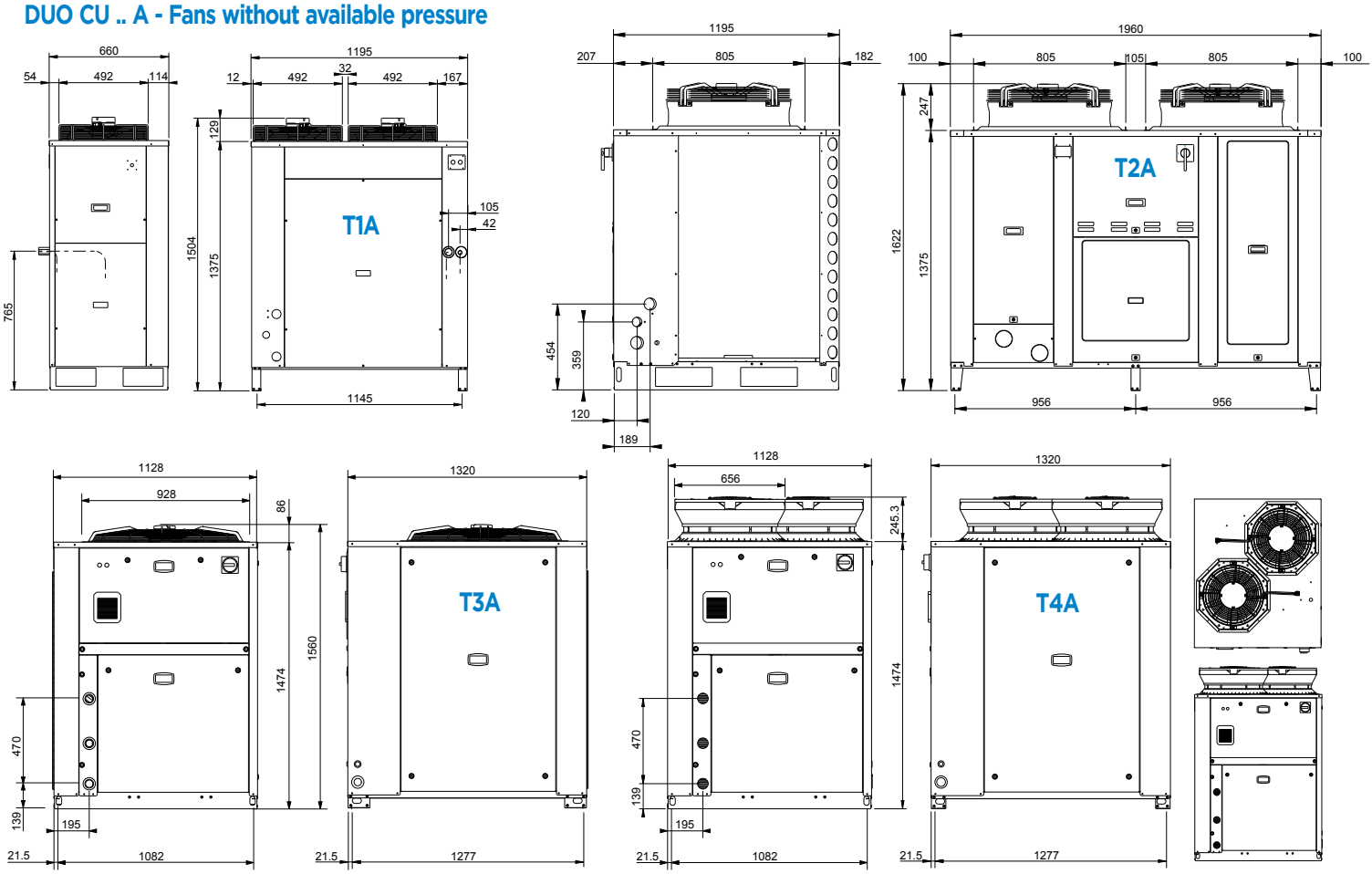
ADVANTAGES

Installation
Unit ready to install, all components are factory pre-fitted.
Back-up operation with integrated pressure control switch.
Electrical elements supplied complete allowing rapid installation.
Regulator factory pre-set for multi-fluid use.
Maintenance
Total accessibility to main components.

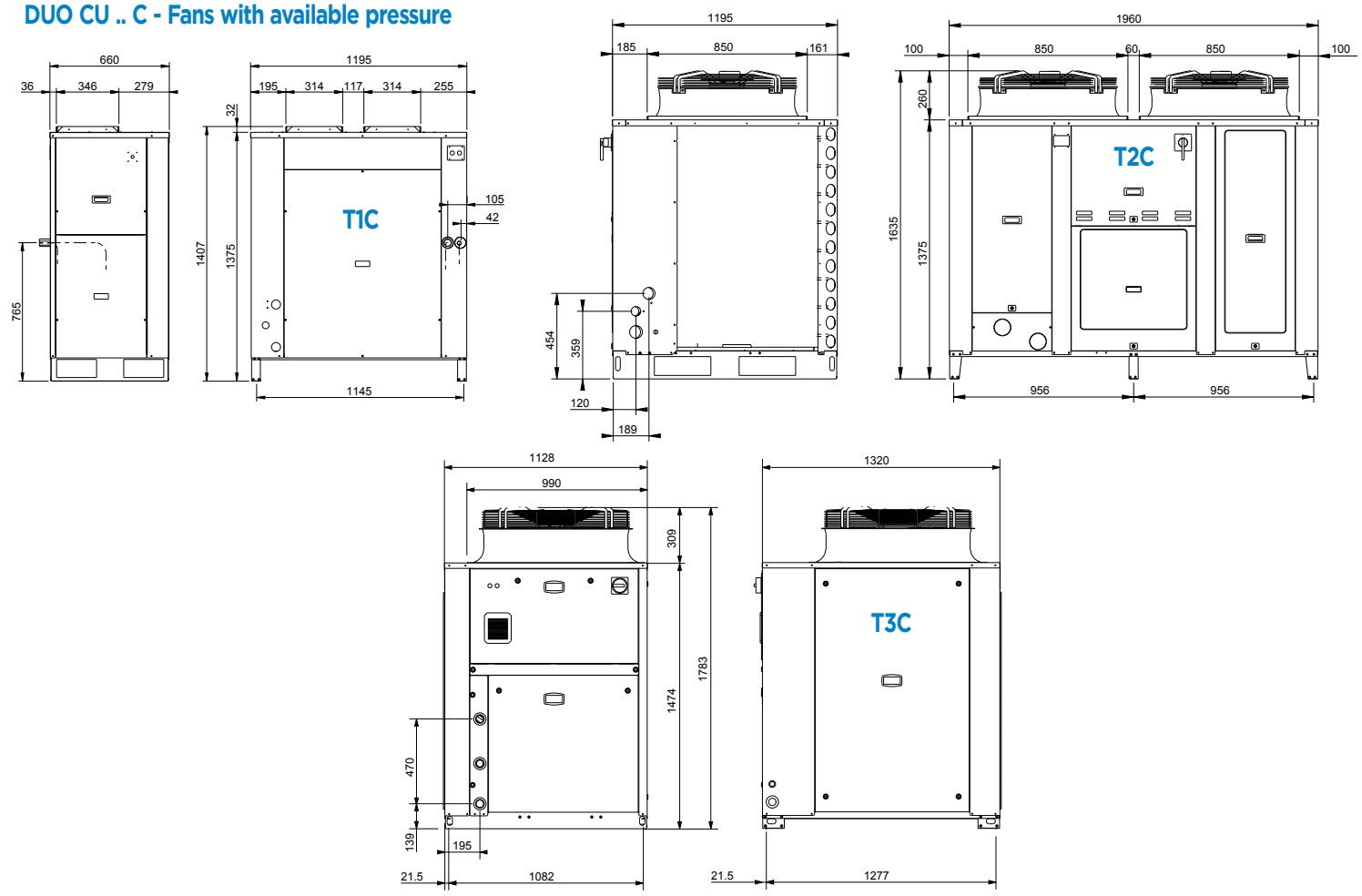
DUO CU .. A - Fans without available pressure

DUO CU .. C - Fans with available pressure

DUO CU .. A - Fans without available pressure



DUO CU .. C - Fans with available pressure



DUO CU MT - Fans without available pressure - Multi refrigerant

Medium temperature range

-10°C/+32°C (1)		DUO CU MT ... A	29	45	57	76	114
Capacity (1)	R404A	kW	**14,6**	**20,6**	**25,3**	**36,9**	**48,1**
	R134a	kW	**8,4**	**12,9**	**16,1**	**22,1**	**31,6**
	R407F	kW	**14,1**	**20,0**	**-**	**36,3**	**-**
	R407A	kW	**13,6**	**19,9**	**-**	**35,0**	**45,6***
	R448A	kW	**13,3**	**19,9**	**25,0***	**35,0**	**45,6***
	R449A	kW	**13,6**	**19,9**	**24,8***	**35,0**	**45,5***
	R450A	kW	**7,5**	**11,4**	**13,8**	**19,5**	**26,3**
	R513A	kW	**9,0**	**13,6**	**16,7**	**23,2**	**31,6**
Input power (1)	R404A	kW	**6,4**	**9,8**	**12,7**	**17,4**	**28,0**
	R134a	kW	**3,8**	**5,6**	**7,7**	**10,2**	**15,2**
	R407F	kW	**6,8**	**10,0**	**-**	**17,7**	**-**
	R407A	kW	**6,2**	**9,4**	**-**	**16,7**	**26,1***
	R448A	kW	**6,3**	**9,3**	**11,5***	**16,6**	**27,9***
	R449A	kW	**6,3**	**9,3**	**11,5***	**16,6**	**27,9***
	R450A	kW	**3,5**	**5,1**	**6,4**	**9,4**	**14,1**
	R513A	kW	**4,0**	**5,9**	**7,5**	**10,7**	**16,4**
Compressor		Nb	2	2	2	2	2
Input current (1)		A max.	17,5	24,4	29,5	37,4	58,4
Fan	Typ		AC	AC	AC	AC	AC
	Nb x Ø	mm	2x 450	2x 450	2x 450	2x 710	2x 710
Acoustic	**Lp 10m** (2)	dB(A)	41	42	45	44	46
Air flow (max.)		m^3/h	11500	11500	11500	26000	26000
Liquid capacity		l.	18	18	18	45	45
Connections	Suction	Ø	1"3/8	1"3/8	1"5/8	2"1/8	2"1/8
	Liquid	Ø	5/8"	5/8"	7/8"	7/8"	1"1/8
Casing	Size		T1A	T1A	T1A	T2A	T2A
Dimensions	**LxPxH**	mm	1195x660x1504	1195x660x1504	1195x660x1504	1960x1195x1635	1960x1195x1635
Net weight		kg	290	300	310	530	540
Maximal outdoor temperature : -10°C (R449A)		°C	+43°C	+40°C	+36°C	+41°C	+37°C
Coil (4)			( )	( )	( )		

Use our software to get complete technical data

DUO CU MT - Fans with available pressure - Multi refrigerant

Medium temperature range

-10°C/+32°C (1)		DUO CU MT ... C	29	45	57	76	114
Capacity (1) **150 Pa** (3)	R404A	kW	**14,6**	**20,6**	**25,3**	**36,9**	**48,4**
	R134a	kW	**8,4**	**12,9**	**16,1**	**22,1**	**31,6**
	R407F	kW	**14,2**	**20,1**	**-**	**36,6**	**-**
	R407A	kW	**13,7**	**19,3**	**-**	**34,4**	**45,2***
	R448A	kW	**13,7**	**20,0**	**25,0***	**35,3**	**46,3***
	R449A	kW	**13,7**	**20,0**	**25,0***	**35,3**	**16,3***
	R450A	kW	**7,5**	**11,4**	**13,8**	**19,5**	**26,3**
	R513A	kW	**9,0**	**13,6**	**16,8**	**23,2**	**31,7**
Input power (1)	R404A	kW	**7,8**	**11,0**	**13,9**	**20,6**	**31,2**
	R134a	kW	**4,6**	**6,7**	**9,1**	**13,1**	**18,1**
	R407F	kW	**8,2**	**11,4**	**-**	**21,1**	**-**
	R407A	kW	**7,7**	**10,9**	**-**	**20,1**	**29,3***
	R448A	kW	**7,7**	**10,7**	**12,9***	**20,0**	**31,0***
	R449A	kW	**7,7**	**10,7**	**12,9***	**20,0**	**31,0***
	R450A	kW	**4,4**	**6,3**	**7,7**	**12,5**	**17,0**
	R513A	kW	**4,9**	**7,2**	**8,9**	**14,0**	**19,7**
Compressor		Nb	2	2	2	2	2
Input current (1)		A max.	19,5	26,4	28,9	43,9	64,9
Fan	Typ		AC	AC	AC	AC	AC
	Nb x Ø	mm	2x 346x314	2x 346x314	2x 346x314	2x 630	2x 630
Acoustic	**Lp 10m** (2)	dB(A)	56	56	56	57	57
Air flow (max.)		m^3/h	11900	11900	11900	28400	28400
Liquid capacity		l.	18	18	18	45	45
Connections	Suction	Ø	1"3/8	1"3/8	1"5/8	2"1/8	2"1/8
	Liquid	Ø	5/8"	5/8"	7/8"	7/8"	1"1/8
Casing	Size		T1C	T1C	T1C	T2C	T2C
Dimensions	**LxPxH**	mm	1195x660x1407	1195x660x1407	1195x660x1407	1960x1195x1622	1960x1195x1622
Net weight		kg	330	340	350	540	550
Maximal outdoor temperature : -10°C (R449A)		°C	+43°C	+40°C	+37°C	+42°C	+37°C
Coil (4)			( )	( )	( )		

* New possibilities - Attention! Outdoor temperature limited to +34°C

(1) Evaporation temperature / Outdoor temperature - 10K total superheating and 3K subcooling.

(2) Sound pressure level in dB(A) measured at 10 m, line of sight, on a reflective parallelepiped measurement surface, given for information only.

(3) Additional pressure available in Pascals.

(4) Aluminium finned coil and copper tubes Coil with micro-channel technology ( ) Coil with micro-channel technology and Epoxy treated

DUO CU LT - Fans without available pressure - R404A

Low temperature range

-35°C/+32°C (1)		DUO CU LT ... A	13	18	25
Capacity (1)	R404A	kW	**7,8**	**11,9**	**14,8**
Input power (1)	R404A	kW	**6,4**	**9,0**	**10,8**
Compressor		Nb	2	2	2
Input current (1)		A max.	19,6	25,2	29,2
Fan	Typ		AC	AC	AC
	Nb x Ø	mm	2x 450	2x 450	2x 450
Acoustic	**Lp 10m** (2)	dB(A)	42	44	46
Air flow (max.)		m^3/h	11500	11500	11500
Liquid capacity		l.	18	18	18
Connections	Suction	Ø	1"1/8	1"3/8	1"3/8
	Liquid	Ø	1/2"	5/8"	5/8"
Casing	Size		T1A	T1A	T1A
Dimensions	LxPxH	mm	1195x660x1504	1195x660x1504	1195x660x1504
Net weight		kg	290	300	310
Maximal outdoor temperature : -35°C (R449A)		°C	+43°C	+43°C	+40°C
Coil (4)			(▥)	(▥)	(▥)

DUO CU LT - Fans without available pressure - Multi refrigerant

Low temperature range

-35°C/+32°C (1)		DUO CU LT ... A	13 1F	18 1F	25 1F	26 1F	13 2F	18 2F	25 2F
Capacity (1)	R407F	kW	**6,9**	**10,1**	**13,1**	**12,3**	**6,8**	**10,1**	**13,1**
	R448A	kW	**6,5**	**9,9**	**12,3**	**11,8**	**6,4**	**9,9**	**12,3**
	R449A	kW	**6,5**	**9,8**	**12,3**	**11,8**	**6,4**	**9,8**	**12,3**
Input power (1)	R407F	kW	**6,7**	**8,9**	**10,7**	**12,4**	**6,5**	**9,3**	**11,1**
	R448A	kW	**6,4**	**8,1**	**9,1**	**11,9**	**5,8**	**8,6**	**9,5**
	R449A	kW	**6,4**	**8,2**	**9,1**	**11,9**	**5,8**	**8,6**	**9,5**
Compressor		Nb	2	2	2	2	2	2	2
Input current (1)		A max.	17,9	26,3	27,1	30,5	19,9	26,6	27,4
Fan	Typ		AC	AC	AC	AC	AC	EC	EC
	Nb x Ø	mm	1 x 800	1 x 800	1 x 800	1 x 800	2 x 450	2 x 500	2 x 500
Acoustic (R449A)	**Lp 10m** (2)	dB(A)	46	45	46	49	43	56	53
Air flow (max.)		m^3/h	20000	20000	20000	20000	11500	19000	19000
Liquid capacity		l.	18	18	18	18	18	18	18
Connections	Suction	Ø	1"1/8	1"3/8	1"3/8	1"3/8	1"1/8	1"3/8	1"3/8
	Liquid	Ø	1/2"	5/8"	5/8"	5/8"	1/2"	5/8"	5/8"
Casing	Size		T3A	T3A	T3A	T3A	T1A	T4A	T4A
Dimensions	LxPxH	mm		1320x1128x1560			1195x660x1504	1320x1128x1965	
Net weight		kg	320	325	325	325	320	325	325
Maximal outdoor temperature : -35°C (R449A)		°C	+42°C	+40°C	+38°C	+43°C	+37°C	+40°C	+38°C
Coil (4)			▥	▥	▥	▥	(▥)	▥	▥

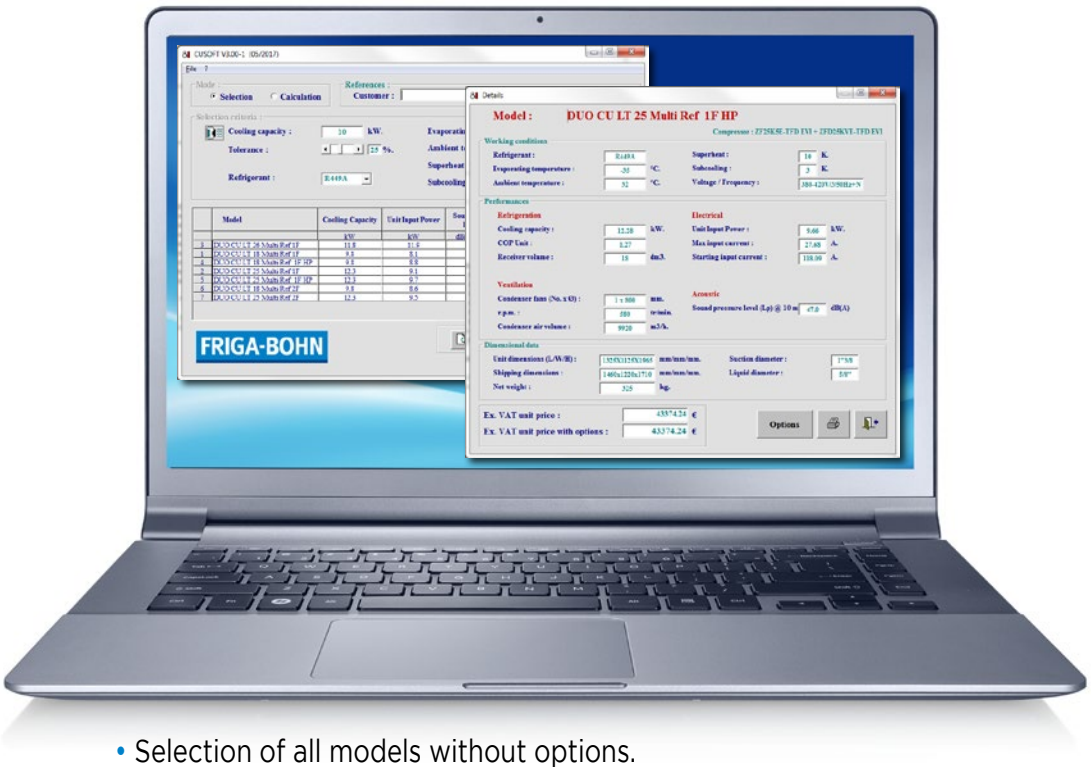
DUO CU LT - Fans with available pressure - Multi refrigerant

Low temperature range

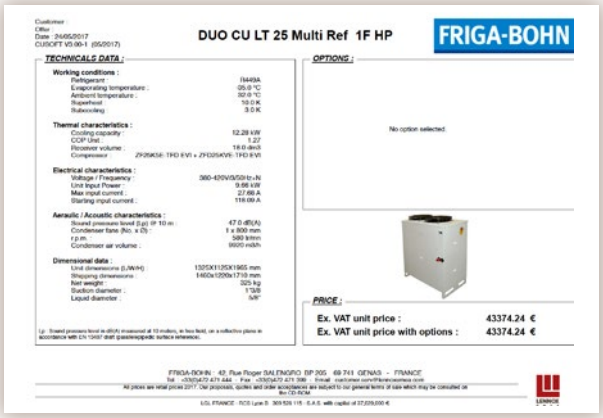
-35°C/+32°C (1)		DUO CU LT ... C	13	18	25
Capacity (1) **150 Pa** (3)	R407F	kW	**6,9**	**10,1**	**13,1**
	R448A	kW	**6,5**	**9,9**	**12,3**
	R449A	kW	**6,5**	**9,8**	**12,3**
Input power (1)	R407F	kW	**7,4**	**9,6**	**11,3**
	R448A	kW	**7,3**	**8,8**	**9,6**
	R449A	kW	**7,3**	**8,8**	**9,7**
Compressor		Nb	2	2	2
Input current (1)		A max.	20,2	26,9	27,7
Fan	Typ		AC	AC	AC
	Nb x Ø	mm	1 x 800	1 x 800	1 x 800
Acoustic (R449A)	**Lp 10m** (2)	dB(A)	49	46	47
Air flow (max.)		m^3/h	19000	19000	19000
Liquid capacity		l.	18	18	18
Connections	Suction	Ø	1"1/8	1"3/8	1"3/8
	Liquid	Ø	1/2"	5/8"	5/8"
Casing	Size		T3C	T3C	T3C
Dimensions	LxPxH	mm	1320x1128x1783	1320x1128x1783	1320x1128x1783
Net weight		kg	320	325	325
Maximal outdoor temperature : -35°C (R449A)		°C	+42°C	+40°C	+38°C
Coil (4)			▥	▥	▥

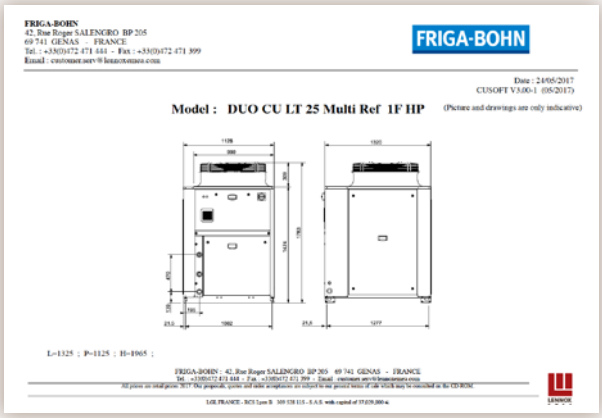
(1) Evaporation temperature / Outdoor temperature - 10K total superheating and 3K subcooling.
(2) Sound pressure level in dB(A) measured at 10 m, line of sight, on a reflective parallelepiped measurement surface, given for information only.
(3) Additional pressure available in Pascals.
(4) ▥ Aluminium finned coil and copper tubes ▥ Coil with micro-channel technology (▥) Coil with micro-channel technology and Epoxy treated

To help with all your choices and calculations, we propose our products software...



- Selection of all models without options.
- Thermodynamic calculations.
- Equipment dimensions on all sheets in digital format.
- Printing of data sheets for compilation of a price proposal.





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SINGLE-COMPRESSOR

Hard Discount - Supermarkets - Hypermarkets
Refrigerated storage and transit stocking
Food processing - Canteen kitchens

MEGA with CAR option

HFC

3.5 > **74** kW

MEGA

- Air condensing unit with:
  - equipment "tailored to needs",
  - casing (optional) for outdoor installation,
  - horizontal air blowing,
  - two compressor technologies,
  - a standard condenser,
  - or oversized for hot climates.

www.lennoxemea.com

FRIGA-BOHN

HK® REFRIGERATION

MEGA - Encased outdoor condensing unit

Composition of models
• Select for each model:
The compressor technology,
- SH (semi-hermetic piston)
- or Sc (Scroll).
The condenser:
- standard
- or S (oversized) for high ambient temperatures up to +43°C.

DESCRIPTION

Frame / Casing
• Rigid, thick sheet metal frame limiting transmission of vibrations.
• White pre-painted, sheet metal protection casing (**CAR** option).

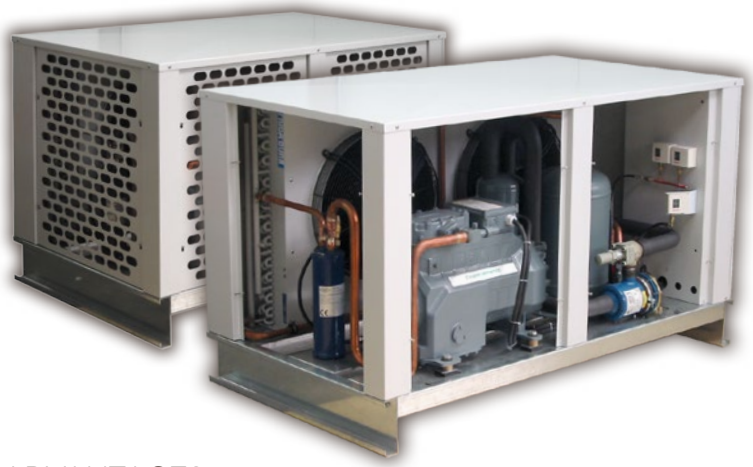
Compressor
• A choice of semi-hermetic compressor or Scroll compressor.
• The following are supplied in all cases: suction and delivery valves, casing heater and oil level indicator.

Condenser
• 1 to 4 fans according to the models.

Receiver
• The receiver is supplied with a delivery valve and safety valve (receiver ≥ 11 l.).

Control and safety
• The semi-hermetic compressor models are equipped with an oil differential pressure switch (except SH P100 - P170 - N85 - N105: oil presence sensor).
• LP control is provided with an adjustable pressure switch.
• HP safety is provided with 1 or 2 automatic-reset cartridge pressure switched. (compliant with standard EN 378-2:2009).

Wiring
• Wiring is provided to a junction box.



ADVANTAGES

Installation
Casing option (**CAR**) for installation of the unit outdoors.
Largely dimensioned liquid receiver: distance between the unit and the unit coolers up to 25 metres.
Oversized condenser for applications with high ambient temperatures.
Possibility of providing a wide range of factory-fitted optional extras to help reduce installation time on site.
Servicing / Maintenance
Easy maintenance and servicing thanks to unimpeded access to components.

DESIGNATION

MEGA SH(1) **P**(2) **85**(3) **AS**(4)

(1) **SH** = Semi-hermetic compressor
Sc = Scroll compressor
(2) **P** = Chill range - **N** = Low temperature range
(3) Model
(5) **A** = Standard - **AS** = Oversized

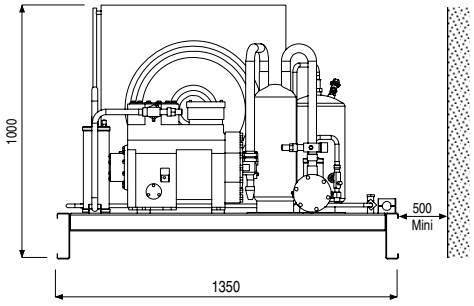
CERTIFICATIONS

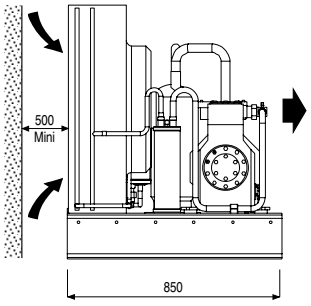
PED 97/23/CE

OPTIONS

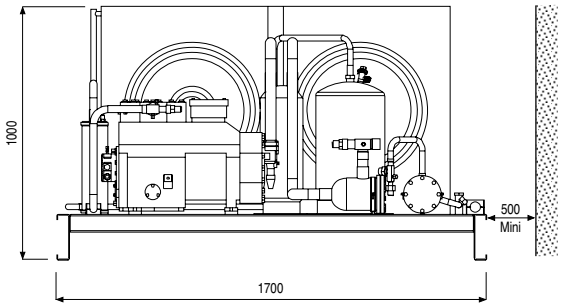
Kit	Factory	
	CAC	Additional casing strap (**Scroll**).
	BAC	Suction accumulator.
	LIQ	Liquid line with dryer filter, hygroscopic indicator and operating valve.
	MAN	HP and LP manometers.
	RLS	Oversized receiver.
	RPC	Control of condensation pressure.
	SHU	Oil separator.
	VFA	Valve + suction filter.
	ARM	Switching enclosure with main isolator switch (compressor and condenser protection).
	CAR	Pre-painted galvanized sheet metal casing.
	EVL	Solenoid valve (not fitted).
	GPC	Condenser protection guard.
	ECC	Crate packaging (for the condensing units).

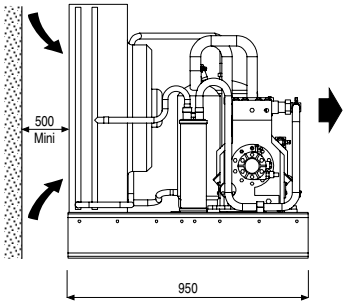
MEGA : **1 x Ø 500 mm**



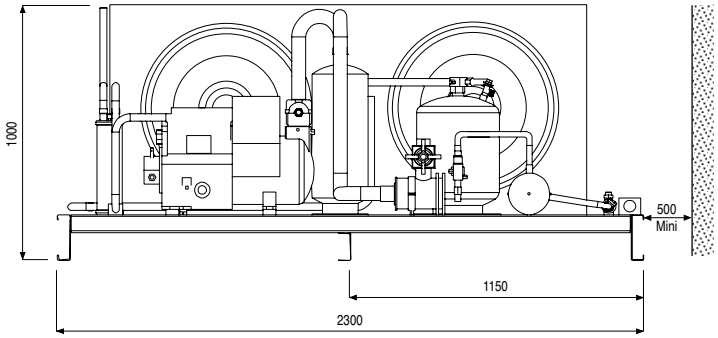


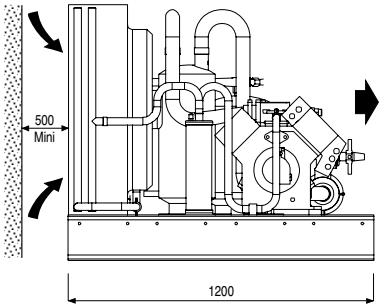
MEGA : **2 x Ø 500 mm**



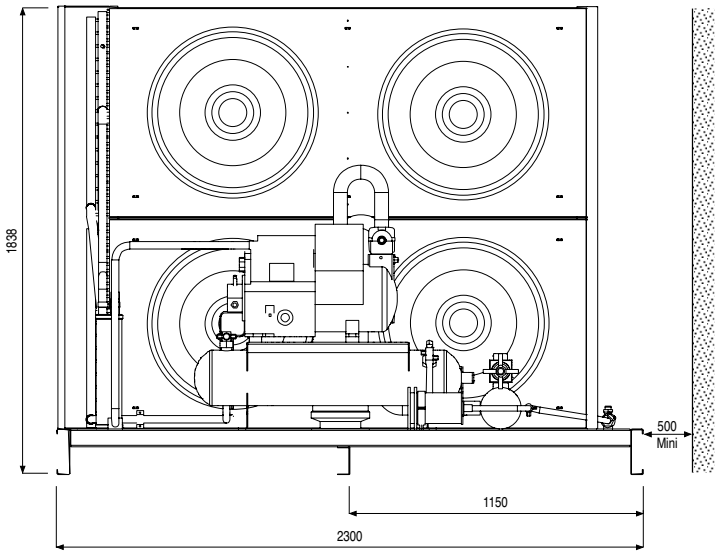


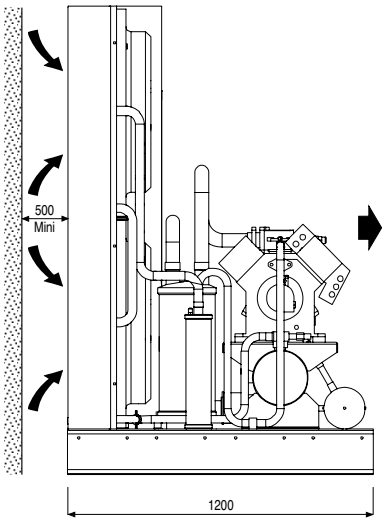
MEGA : **2 x Ø 630 mm**





MEGA : **4 x Ø 630 mm**





MEGA - Standard

Chill range

			MEGA SH P ...	80A	85A	100A	170A	200A	250A	300A	350A	400A	500A
SH (1) **-10°C/+32°C**	Capacity R404A*	kW		**12,57**	**15,68**	**19,92**	**22,56**	**29,21**	**36,55**	**45,93**	**53,43**	**62,18**	**73,95**
	Input power*	kW		**6,86**	**8,73**	**10,21**	**11,35**	**15,78**	**20,08**	**25,82**	**30,59**	**35,62**	**42,56**
	Input current	A max.		15,9	19,8	23,5	26,9	35,7	44,7	57,9	67,8	79,6	99,7
Fan	1,500 rpm	mm		1 x 500	2 x 500	2 x 500	2 x 500	2 x 630	2 x 630	4 x 630	4 x 630	4 x 630	4 x 630
Air flow		m^3/h		5315	11950	11270	10630	21300	21300	46400	46400	46400	42600
Liquid volume		l.		11	11	15	24	30	30	40	40	40	40
Connections	Suction	Ø		1"3/8	1"3/8	1"3/8	1"5/8	1"5/8	2"1/8	2"1/8	2"1/8	2"1/8	2"1/8
	Liquid	Ø		5/8"	5/8"	5/8"	7/8"	7/8"	7/8"	7/8"	7/8"	1"1/8	1"1/8
Weight without **CAR** option		kg		264	313	337	362	418	470	558	597	600	623
Weight with **CAR** option		kg		339	398	422	447	538	590	718	757	760	783
			MEGA Sc P ...	-	-	100A	170A	-	-	-	-	-	-
Sc (1) **-10°C/+32°C**	Capacity R404A*	kW		-	-	**20,50**	**23,94**	-	-	-	-	-	-
	Input power*	kW		-	-	**12,02**	**14,38**	-	-	-	-	-	-
	Input current	A max.		-	-	25,3	31,0	-	-	-	-	-	-
Fan	1,500 rpm	mm		-	-	2 x 500	2 x 500	-	-	-	-	-	-
Air flow		m^3/h		-	-	11268	10630	-	-	-	-	-	-
Liquid volume		l.		-	-	15	24	-	-	-	-	-	-
Connections	Suction	Ø		-	-	1"3/8	1"5/8	-	-	-	-	-	-
	Liquid	Ø		-	-	5/8"	7/8"	-	-	-	-	-	-
Weight without **CAR** option		kg		-	-	272	277	-	-	-	-	-	-
Weight with **CAR** option		kg		-	-	357	362	-	-	-	-	-	-

MEGA - Oversized condenser

Chill range

			MEGA SH P ...	80AS	85AS	100AS	170AS	200AS	250AS	300AS	350AS	400AS	-
SH (1) **-10°C/+42°C**	Capacity R404A*	kW		**10,96**	**13,54**	**16,49**	**20,21**	**25,90**	**33,24**	**37,97**	**44,34**	**51,28**	-
	Input power*	kW		**7,71**	**9,12**	**10,77**	**14,40**	**20,26**	**24,50**	**27,12**	**32,22**	**37,43**	-
	Input current	A max.		16,9	19,8	23,5	31,6	42,5	51,5	57,9	67,8	79,6	-
Fan	1,500 rpm	mm		2 x 500	2 x 500	2 x 500	2 x 630	4 x 630	4 x 630	4 x 630	4 x 630	4 x 630	-
Air flow		m^3/h		11950	11270	10630	21300	46400	46400	42600	42600	42600	-
Liquid volume		l.		11	11	15	24	40	40	40	40	40	-
Connections	Suction	Ø		1"3/8	1"3/8	1"3/8	1"5/8	1"5/8	2"1/8	2"1/8	2"1/8	2"1/8	-
	Liquid	Ø		5/8"	5/8"	5/8"	7/8"	7/8"	7/8"	7/8"	7/8"	1"1/8	-
Weight without **CAR** option		kg		294	322	419	415	501	553	578	617	620	-
Weight with **CAR** option		kg		379	407	504	535	661	713	738	777	780	-
			MEGA Sc P ...	-	-	100AS	-	-	-	-	-	-	-
Sc (1) **-10°C/+42°C**	Capacity R404A*	kW		-	-	**16,65**	-	-	-	-	-	-	-
	Input power*	kW		-	-	**14,23**	-	-	-	-	-	-	-
	Input current	A max.		-	-	25,3	-	-	-	-	-	-	-
Fan	1,500 rpm	mm		-	-	2 x 500	-	-	-	-	-	-	-
Air flow		m^3/h		-	-	10630	-	-	-	-	-	-	-
Liquid volume		l.		-	-	15	-	-	-	-	-	-	-
Connections	Suction	Ø		-	-	1"3/8	-	-	-	-	-	-	-
	Liquid	Ø		-	-	5/8"	-	-	-	-	-	-	-
Weight without **CAR** option		kg		-	-	280	-	-	-	-	-	-	-
Weight with **CAR** option		kg		-	-	365	-	-	-	-	-	-	-

*Superheating: 10K - Subcooling: 3K.
(1) ***SH***: Semi-hermetic compressor - ***Sc***: Scroll compressor

	CAC	BAC	LIQ	MAN	RLS	RPC	SHU	VFA	ARM	CAR	EVL	GPC	ECC
MEGA SH P 80A / AS	-	O	O	O	O	O	O	O	O	O	O	O	O
MEGA SH P 85A / AS	-	O	O	O	O	O	O	O	O	O	O	O	O
MEGA SH P 100A / AS	-	O	O	O	O	O	O	O	O	O	O	O	O
MEGA SH P 170A / AS	-	O	O	O	O	O	O	O	O	O	O	O	O
MEGA SH P 200A / AS	-	O	O	O	O / -	O	O	O	O	O	O	O	O
MEGA SH P 250A / AS	-	O	O	O	O / -	O	O	O	O	O	O	O	O
MEGA SH P 300A / AS	-	O	O	O	-	O	O	O	O	O	O	O	O
MEGA SH P 350A / AS	-	O	O	O	-	O	O	O	O	O	O	O	O
MEGA SH P 400A / AS	-	O	O	O	-	O	O	O	O	O	O	O	O
MEGA SH P 500A	-	O	O	O	-	O	O	O	O	O	O	O	O
MEGA Sc P 100A / AS	O	-	O	O	O	O	O	O	O	O	O	O	O
MEGA Sc P 170A	O	-	O	O	O	O	O	O	O	O	O	O	O

MEGA - Standard

Low temperature range

			MEGA SH N ...	55A	85A	105A	155A	205A	255A	305A	405A
SH (1) **-35°C/+32°C**	Capacity R404A*	**kW**		**4,65**	**5,38**	**7,53**	**10,75**	**12,74**	**14,56**	**19,85**	**22,38**
	Input power*	**kW**		**4,44**	**5,02**	**7,18**	**9,88**	**11,54**	**13,61**	**19,87**	**23,22**
	Input current	**A max.**		13,8	14,5	19,6	26,6	30,9	38,5	52,0	63,0
Fan	1,500 rpm	**mm**		1 x 500	1 x 500	2 x 500	2 x 500	2 x 500	2 x 500	2 x 630	2 x 630
Air flow		**m^3/h**		5635	5635	11950	11270	10630	10630	21300	21300
Liquid volume		**l.**		11	11	15	15	24	24	30	30
Connections	Suction	**Ø**		1"1/8	1"3/8	1"3/8	1"5/8	2"1/8	2"1/8	2"1/8	2"1/8
	Liquid	**Ø**		1/2"	1/2"	5/8"	5/8"	7/8"	7/8"	7/8"	7/8"
Weight without **CAR** option		**kg**		269	277	326	359	385	417	497	508
Weight with **CAR** option		**kg**		332	340	400	433	459	491	727	738
			MEGA Sc N ...	**-**	**-**	**105A**	**155A**	**-**	**-**	**-**	**-**
Sc (1) **-35°C/+32°C**	Capacity R404A*	**kW**		**-**	**-**	**7,70**	**9,34**	-	-	-	-
	Input power*	**kW**		**-**	**-**	**8,73**	**11,02**	-	-	-	-
	Input current	**A max.**		-	-	21,1	26,5	-	-	-	-
Fan	1,500 rpm	**mm**		-	-	2 x 500	2 x 500	-	-	-	-
Air flow		**m^3/h**		-	-	11948	11268	-	-	-	-
Liquid volume		**l.**		-	-	15	15	-	-	-	-
Connections	Suction	**Ø**		-	-	1"3/8	1"5/8	-	-	-	-
	Liquid	**Ø**		-	-	5/8"	5/8"	-	-	-	-
Weight without **CAR** option		**kg**		-	-	253	293	-	-	-	-
Weight with **CAR** option		**kg**		-	-	327	367	-	-	-	-

MEGA - Oversized condenser

Low temperature range

			MEGA SH N ...	55AS	85AS	105AS	155AS	205AS	255AS	305AS	405AS
SH (1) **-35°C/+42°C**	Capacity R404A*	**kW**		**3,57**	**4,31**	**5,79**	**8,30**	**9,69**	**12,36**	**15,17**	**19,09**
	Input power*	**kW**		**4,47**	**5,62**	**7,03**	**9,91**	**11,69**	**16,35**	**20,25**	**27,14**
	Input current	**A max.**		13,8	15,5	19,6	26,6	30,9	43,2	52,0	69,8
Fan	1,500 rpm	**mm**		1 x 500	2 x 500	2 x 500	2 x 500	2 x 500	2 x 630	2 x 630	4 x 630
Air flow		**m^3/h**		5315	11950	11270	10630	10630	21300	21300	46400
Liquid volume		**l.**		11	11	15	15	24	24	30	40
Connections	Suction	**Ø**		1"1/8	1"3/8	1"3/8	1"5/8	2"1/8	2"1/8	2"1/8	2"1/8
	Liquid	**Ø**		1/2"	1/2"	5/8"	5/8"	7/8"	7/8"	7/8"	7/8"
Weight without **CAR** option		**kg**		273	311	355	367	385	489	497	591
Weight with **CAR** option		**kg**		368	369	370	441	459	719	727	881
			MEGA Sc N ...	**-**	**-**	**105AS**	**155AS**	**-**	**-**	**-**	**-**
Sc (1) **-35°C/+42°C**	Capacity R404A*	**kW**		**-**	**-**	**6,51**	**7,71**	**-**	**-**	**-**	**-**
	Input power*	**kW**		**-**	**-**	**9,78**	**12,58**	**-**	**-**	**-**	**-**
	Input current	**A max.**		-	-	21,1	26,5	-	-	-	-
Fan	1,500 rpm	**mm**		-	-	2 x 500	2 x 500	-	-	-	-
Air flow		**m^3/h**		-	-	11270	10630	-	-	-	-
Liquid volume		**l.**		-	-	15	15	-	-	-	-
Connections	Suction	**Ø**		-	-	1"3/8	1"5/8	-	-	-	-
	Liquid	**Ø**		-	-	5/8"	5/8"	-	-	-	-
Weight without **CAR** option		**kg**		-	-	272	303	-	-	-	-
Weight with **CAR** option		**kg**		-	-	346	377	-	-	-	-

*Superheating: 10K - Subcooling: 3K.
(1) ***SH***: Semi-hermetic compressor - ***Sc***: Scroll compressor

	CAC	BAC	LIQ	MAN	RLS	RPC	SHU	VFA	ARM	CAR	EVL	GPC	ECC
MEGA SH N 55A / AS	-	O	O	O	O	O	O	-	O	O	O	O	O
MEGA SH N 85A / AS	-	O	O	O	O	O	O	O	O	O	O	O	O
MEGA SH N 105A / AS	-	O	O	O	O	O	O	O	O	O	O	O	O
MEGA SH N 155A / AS	-	O	O	O	O	O	O	O	O	O	O	O	O
MEGA SH N 205A / AS	-	O	O	O	O	O	O	O	O	O	O	O	O
MEGA SH N 255A / AS	-	O	O	O	O	O	O	O	O	O	O	O	O
MEGA SH N 305A / AS	-	O	O	O	O	O	O	O	O	O	O	O	O
MEGA SH N 405A / AS	-	O	O	O	O / -	O	O	O	O	O	O	O	O
MEGA Sc N 105A / AS	O	-	O	O	O	O	O	O	O	O	O	O	O
MEGA Sc N 155A / AS	O	-	O	O	O	O	O	O	O	O	O	O	O

LENNOX EMEA reserves itself the right to make changes at any time without preliminary notice - Photos non-contractual

LENNOX
EMEA

ENCASED OUTDOOR CONDENSING UNIT

SINGLE-COMPRESSOR

Hard Discount - Supermarkets - Hypermarkets
Refrigerated storage and transit stocking
Food processing - Canteen kitchens

HFC

4 > **72** kW

MONOHAVANE

- Vertical-blowing encased air condensing units for outdoor installation on the floor or roof.
- This range offers a low noise model as well as an oversized condenser for use in hot climates.

www.lennoxemea.com

FRIGA-BOHN

HK® REFRIGERATION

MONOHAVANE - Encased, outdoor, single-compressor unit

Composition of models
• Select for each model:
The noise level,
- standard
- or LN (low noise), suitable when noise is a problem.
The condenser,
- standard
- or S and S+ (oversized) for high ambient temperatures.

DESIGNATION

MONOHV N(1) 75(2) AS(3)

(1) **P** = Chill range - **N** = Low temperature range
(2) Model
(3) **A** = Standard
AS = Oversized
AS+ = Oversized "plus"
ALN = Low noise level

DESCRIPTION

Frame / Casing
• Sheet metal frame and white pre-painted casing.
• Installed outdoors on the ground or roof.

Compressor
• Semi-hermetic piston of 7.5 to 50 HP with suction and delivery valves, casing heater and head fan for low-temperature applications.

Condenser
• From 2 to 4 fans with casing protection of hairpins.

Receiver
• With service and safety valves.

Liquid line
• Composed of a dryer filter cartridge, hygroscopic indicator and operating valve.

Control and safety
• LP control is provided with an adjustable LP pressure switch.
• HP control is provided with an adjustable HP pressure switch.
• HP safety is provided with 1 or 2 automatic-reset cartridge pressure switched (in accordance with standard EN 378-2): 2009).
• Oil differential pressure switch.

Switching enclosure
• Sealed, with main isolator switch on the side and "power on" indicator. Outputs and unit protection devices.
• Designed to accommodate as many cooling outputs.
• The cabinet is closed with a 1/4-turn screw.

ADVANTAGES

Installation
Condensing units delivered "turnkey" with factory pre-wired switching enclosure to help reduce installation time.
Oversized condenser for the AS model for installation in zones with high ambient temperatures.
The low noise ALN model is ideal for use in an urban environment.
Outputs and unit protection devices. Designed to accommodate as many cooling outputs as required.
Servicing / Maintenance
Side panels easily removed for unimpeded access to all components.
Possibility of placing the door in hood position for easy access during work inside the switching enclosure (see photo).

CERTIFICATIONS

PED 97/23/CE

OPTIONS

Low noise level
Silent condenser, noise insulated compressor compartment.
Contact us for the selection.

Oversized condenser
For use with high ambient temperatures up to 42°C,
as defined in the selection charts and up to 45°C after study.

OPTIONS

Kit	Factory	
	BAC	Suction accumulator.
	BPS	LP safety pressure switch
	MAN	HP and LP manometers.
	RLS	Oversized receiver.
	SHU	Oil separator.
	VFA	Valve + suction filter.
ANM		Lifting rings.
EVL		Solenoid valve.
	GPC	Condenser protection guard.
PAV		Anti-vibration pads.

MONOHAVANE - Standard

Chill range

-10°C/+32°C		MONOHV P...	75 A	100 A	150 A	200 A	250 A	300 A	350 A	400 A	500 A
Capacity R404A*		kW	**15,7**	**20,5**	**22,6**	**29,2**	**36,6**	**44,9**	**52,0**	**60,3**	**71,9**
Input power*		kW	**8,7**	**10,1**	**11,4**	**15,8**	**20,1**	**24,1**	**28,9**	**34,0**	**40,0**
Input current		A max.	19,8	23,0	26,0	34,9	45,0	55,6	68,2	78,9	99,8
Fan	Nb x Ø	mm	2 x 500	2 x 500	2 x 500	2 x 630	2 x 630	3 x 630	3 x 630	3 x 630	2 x 910
Air flow		m3/h	11948	10630	10630	21300	21300	31950	31950	31950	42620
Liquid capacity		l.	21	21	21	40	40	40	40	40	50
Dimensions	L	mm	2995	2995	2995	3475	3475	4375	4375	4375	4100
	P	mm	920	920	920	920	920	920	920	920	1230
	H	mm	1190	1190	1190	1190	1190	1190	1190	1190	1420
Connections	Suction	Ø	1"3/8	1"3/8	1"5/8	1"5/8	2"1/8	2"1/8	2"1/8	2"1/8	2"5/8
	Liquid	Ø	5/8"	5/8"	5/8"	5/8"	7/8"	7/8"	7/8"	1"1/8	1"1/8
Net weight		kg	480	550	550	610	660	730	760	770	980

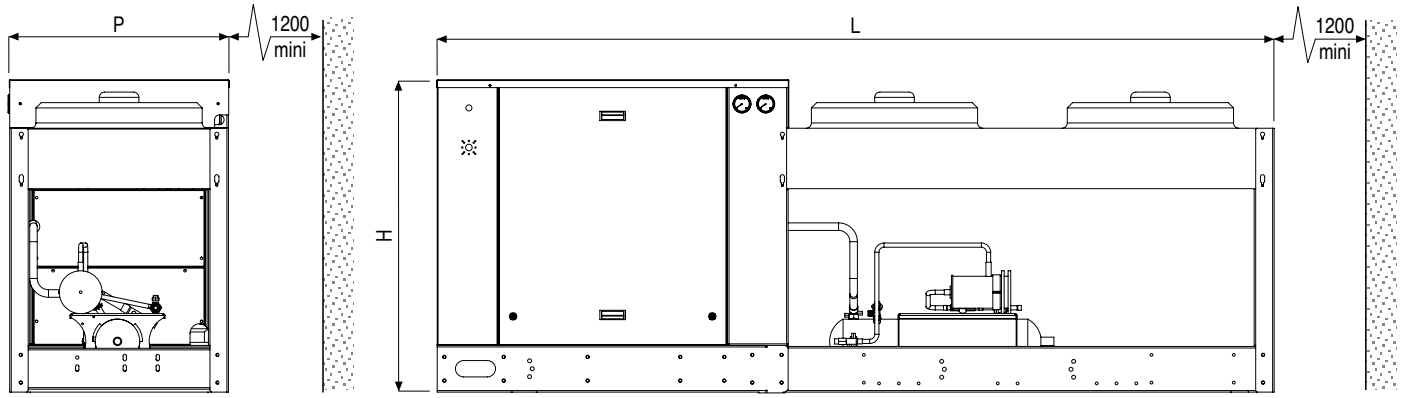
* Evaporation temperature/Ambient temperature - 10K superheating and 3K subcooling.

MONOHAVANE - Low noise level

Chill range

-10°C/+32°C		MONOHV P...	75 ALN	100 ALN	150 ALN	200 ALN	250 ALN	300 ALN	350 ALN	-	-
Capacity R404A*		kW	**15,9**	**18,7**	**22,9**	**29,1**	**36,4**	**40,3**	**49,6**	-	-
Input power*		kW	**7,9**	**9,6**	**10,6**	**12,6**	**16,9**	**19,6**	**24,6**	-	-
Input current		A max.	18,3	21,5	24,9	30,4	40,5	47,7	60,4	-	-
Acoustic	Lp at 10 m (1)	dB(A)	42	43	45	47	46	49	50	-	-
Fan	Nb x Ø	mm	2 x 630	2 x 630	3 x 630	2 x 800	2 x 800	2 x 800	2 x 800	-	-
Air flow		m3/h	6060	6060	9090	16247	16247	16247	21776	-	-
Liquid capacity		l.	21	21	40	40	40	40	50	-	-
Dimensions	L	mm	3475	3475	4375	4100	4100	4100	4700	-	-
	P	mm	920	920	920	1230	1230	1230	1230	-	-
	H	mm	1190	1190	1190	1420	1420	1420	1420	-	-
Connections	Suction	Ø	1"3/8	1"3/8	1"5/8	1"5/8	2"1/8	2"1/8	2"1/8	-	-
	Liquid	Ø	5/8"	5/8"	5/8"	5/8"	7/8"	7/8"	7/8"	-	-
Net weight		kg	530	580	670	820	880	880	1030	-	-

* Evaporation temperature/Ambient temperature - 10K superheating and 3K subcooling.
(1) Sound pressure in dB(A) measured at 10 m, line of sight in a reflective surface, in accordance with standard EN 13487 (parallelepiped reference surface).



BAC	BPS	MAN	RLS	SHU	VFA	ANM	EVL	GPC	PAV
O	O	O	O	O	O	O	O	O	O

MONOHAVANE - Oversized condenser

Chill range

-10°C/+42°C		MONOHV P...	75 AS	100 AS	150 AS	200 AS	250 AS	300 AS	350 AS	400 AS	500 AS
Capacity R404A*		kW	**13,9**	**18,3**	**20,2**	**25,5**	**32,6**	**37,3**	**43,4**	**50,0**	**63,2**
Input power*		kW	**9,1**	**13,2**	**14,4**	**18,4**	**22,6**	**24,3**	**29,5**	**34,7**	**41,1**
Input current		A max.	19,8	27,7	30,7	38,3	48,4	57,4	70,0	80,7	99,8
Fan	Nb x Ø	mm	2 x 500	2 x 630	2 x 630	3 x 630	3 x 630	2 x 910	2 x 910	2 x 910	2 x 910
Air flow		m3/h	10630	21300	21300	31950	31950	42620	42620	42620	40310
Liquid capacity		l.	21	21	21	40	40	40	50	50	50
Dimensions	L	mm	2995	3475	3475	4375	4375	4100	4100	4100	4700
	P	mm	920	920	920	920	920	1230	1230	1230	1230
	H	mm	1190	1190	1190	1190	1190	1420	1420	1420	1420
Connections	Suction	Ø	1"3/8	1"3/8	1"5/8	1"5/8	2"1/8	2"1/8	2"1/8	2"1/8	2"5/8
	Liquid	Ø	5/8"	5/8"	5/8"	5/8"	7/8"	7/8"	7/8"	1"1/8	1"1/8
Net weight		kg	500	580	590	680	730	880	980	980	1100

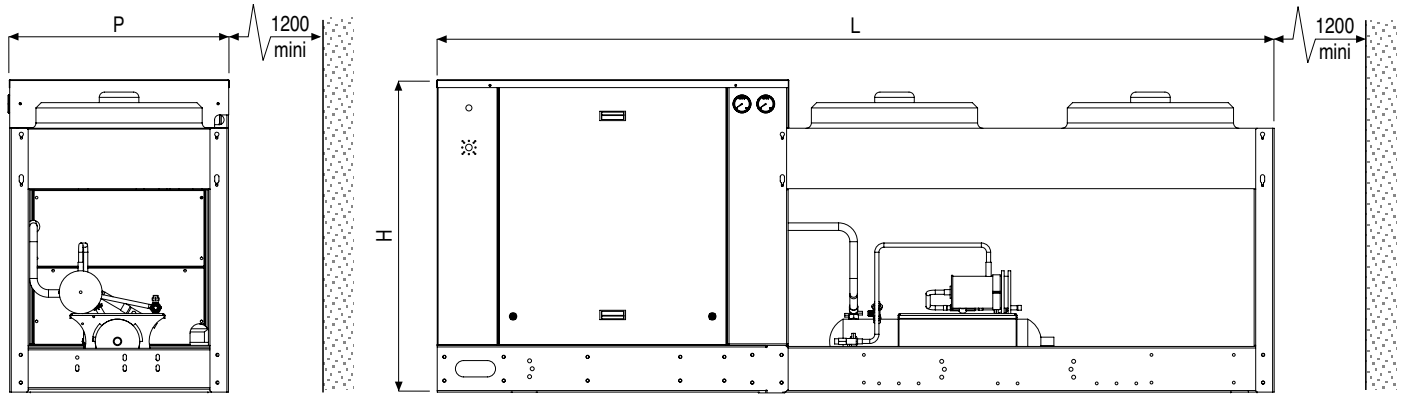
* Evaporation temperature/Ambient temperature - 10K superheating and 3K subcooling.

MONOHAVANE - Oversized "plus"

Chill range

-10°C/+44°C		MONOHV P...	75 AS+	100 AS+	150 AS+	200 AS+	250 AS+	300 AS+	350 AS+	-	-
Capacity R404A*		kW	**13,3**	**17,4**	**20,5**	**24,3**	**31,6**	**35,5**	**44,0**	-	-
Input power*		kW	**9,2**	**13,4**	**16,3**	**18,6**	**21,8**	**24,6**	**29,3**	-	-
Input current		A max.	19,8	27,7	34,1	38,3	50,2	57,4	70,0	-	-
Fan	Nb x Ø	mm	2 x 500	2 x 630	3 x 630	3 x 630	2 x 910	2 x 910	2 x 910	-	-
Air flow		m3/h	10630	21300	31950	31950	42620	42620	40310	-	-
Liquid capacity		l.	21	21	21	40	40	40	50	-	-
Dimensions	L	mm	2995	3475	3475	4375	4700	4700	4700	-	-
	P	mm	920	920	920	920	1230	1230	1250	-	-
	H	mm	1190	1190	1190	1190	1420	1420	1900	-	-
Connections	Suction	Ø	1"3/8	1"3/8	1"5/8	1"5/8	2"1/8	2"1/8	2"1/8	-	-
	Liquid	Ø	5/8"	5/8"	5/8"	5/8"	7/8"	7/8"	7/8"	-	-
Net weight		kg	500	580	660	680	880	900	1090	-	-

* Evaporation temperature/Ambient temperature - 10K superheating and 3K subcooling.



BAC	BPS	MAN	RLS	SHU	VFA	ANM	EVL	GPC	PAV
O	O	O	O	O	O	O	O	O	O

MONOHAVANE - Standard

Low temperature range

-35°C/+32°C		MONOHV N...	80 A	105 A	155 A	205 A	255 A	305 A	405 A
Capacity R404A*		kW	**5,9**	**7,5**	**10,0**	**12,7**	**14,6**	**19,9**	**22,4**
Input power*		kW	**5,6**	**7,2**	**9,9**	**11,5**	**13,6**	**19,9**	**23,2**
Input current		A max.	15,5	19,6	26,6	30,9	38,5	52,0	63,0
Fan	Nb x Ø	mm	2 x 500	2 x 500	2 x 500	2 x 500	2 x 500	2 x 630	2 x 630
Air flow		m3/h	11948	11948	11948	10630	10630	21300	21300
Liquid capacity		l.	21	21	21	21	40	40	40
Dimensions	L	mm	2995	2995	2995	2995	2995	3475	3475
	P	mm	920	920	920	920	920	920	920
	H	mm	1190	1190	1190	1190	1190	1190	1190
Connections	Suction	Ø	1"3/8	1"3/8	1"5/8	2"1/8	2"1/8	2"1/8	2"1/8
	Liquid	Ø	5/8"	5/8"	5/8"	7/8"	7/8"	7/8"	7/8"
Net weight		kg	520	530	580	600	630	690	700

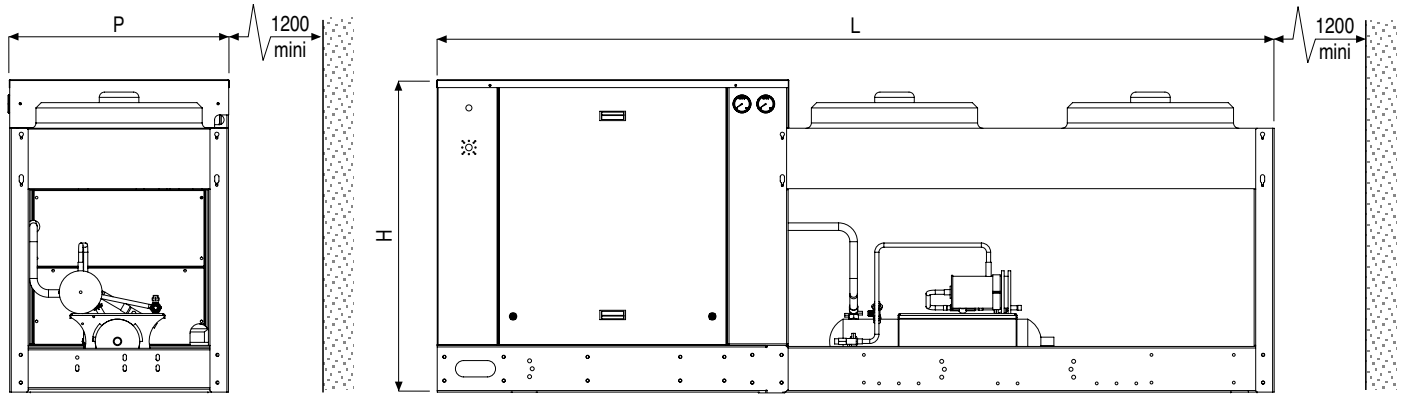
* Evaporation temperature/Ambient temperature - 10K superheating and 3K subcooling.

MONOHAVANE - Low noise level

Low temperature range

-35°C/+32°C		MONOHV N...	80 ALN	105 ALN	155 ALN	205 ALN	255 ALN	305 ALN	405 ALN
Capacity R404A*		kW	**6,9**	**10,2**	**12,9**	**14,8**	**19,7**	**22,2**	**19,9**
Input power*		kW	**6,1**	**9,1**	**10,9**	**12,9**	**16,6**	**20,0**	**18,4**
Input current		A max.	17,8	25,2	29,8	37,4	47,5	58,5	80,3
Acoustic	Lp at 10 m (1)	dB(A)	42	41	46	50	50	51	51
Fan	Nb x Ø	mm	2 x 500	2 x 630	3 x 630	3 x 630	2 x 800	2 x 800	2 x 800
Air flow		m3/h	4066	6060	9090	9090	16247	16247	16247
Liquid capacity		l.	21	21	40	40	40	50	50
Dimensions	L	mm	2995	3475	4375	4375	4100	4100	4100
	P	mm	920	920	920	920	1230	1230	1230
	H	mm	1190	1190	1190	1190	1420	1420	1420
Connections	Suction	Ø	1"3/8	1"5/8	2"1/8	2"1/8	2"1/8	2"1/8	2"1/8
	Liquid	Ø	5/8"	5/8"	7/8"	7/8"	7/8"	7/8"	7/8"
Net weight		kg	550	630	710	730	900	980	980

* Evaporation temperature/Ambient temperature - 10K superheating and 3K subcooling.
(1) Sound pressure in dB(A) measured at 10 m, line of sight in a reflective surface, in accordance with standard EN 13487 (parallelepiped reference surface).



BAC	BPS	MAN	RLS	SHU	VFA	ANM	EVL	GPC	PAV
O	O	O	O	O	O	O	O	O	O

MONOHAVANE - Oversized condenser

Low temperature range

-35°C/+42°C		MONOHV N...	80 AS	105 AS	155 AS	205 AS	255 AS	305 AS	405 AS
Capacity R404A*		kW	**4,3**	**5,5**	**8,3**	**9,7**	**12,4**	**15,2**	**18,6**
Input power*		kW	**5,6**	**7,0**	**9,9**	**11,7**	**16,4**	**20,3**	**25,2**
Input current		A max.	15,5	19,6	26,6	30,9	43,2	52,0	66,4
Fan	Nb x Ø	mm	2 x 500	2 x 500	2 x 500	2 x 500	2 x 630	2 x 630	3 x 630
Air flow		m3/h	11948	11948	10630	10630	21300	21300	31950
Liquid capacity		l.	21	21	21	40	40	40	50
Dimensions	L	mm	2995	2995	2995	2995	3475	3475	4375
	P	mm	920	920	920	920	920	920	920
	H	mm	1190	1190	1190	1190	1190	1190	1190
Connections	Suction	Ø	1"3/8	1"3/8	1"5/8	2"1/8	2"1/8	2"1/8	2"1/8
	Liquid	Ø	5/8"	5/8"	5/8"	7/8"	7/8"	7/8"	7/8"
Net weight		kg	520	530	600	610	660	690	840

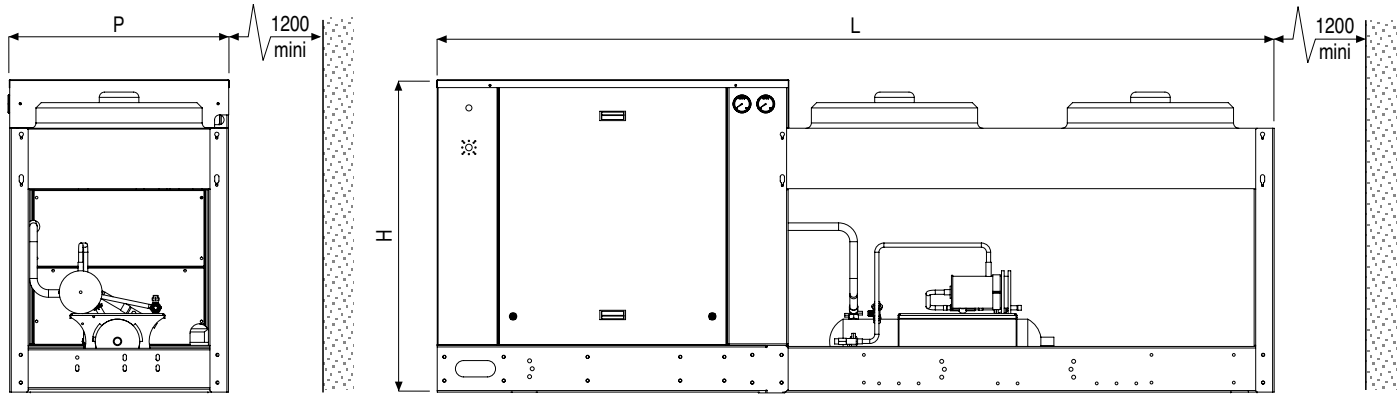
* Evaporation temperature/Ambient temperature - 10K superheating and 3K subcooling.

MONOHAVANE - Oversized "plus"

Low temperature range

-35°C/+44°C		MONOHV N...	80 AS+	105 AS+	155 AS+	205 AS+	255 AS+	305 AS+	405 AS+
Capacity R404A*		kW	**4,3**	**5,9**	**8,5**	**10,7**	**12,5**	**15,8**	**17,9**
Input power*		kW	**5,6**	**9,8**	**12,7**	**16,4**	**18,3**	**21,2**	**24,2**
Input current		A max.	15,5	24,3	31,3	39,0	46,6	57,2	68,2
Fan	Nb x Ø	mm	2 x 500	2 x 630	2 x 630	3 x 630	3 x 630	2 x 910	2 x 910
Air flow		m3/h	10630	21300	21300	31950	31950	42620	42620
Liquid capacity		l.	21	21	21	40	40	40	50
Dimensions	L	mm	2995	3475	3475	4375	4375	4700	4700
	P	mm	920	920	920	920	920	1230	1230
	H	mm	1190	1190	1190	1190	1190	1420	1420
Connections	Suction	Ø	1"3/8	1"3/8	1"5/8	2"1/8	2"1/8	2"1/8	2"1/8
	Liquid	Ø	5/8"	5/8"	5/8"	7/8"	7/8"	7/8"	7/8"
Net weight		kg	540	580	630	720	730	900	980

* Evaporation temperature/Ambient temperature - 10K superheating and 3K subcooling.



BAC	BPS	MAN	RLS	SHU	VFA	ANM	EVL	GPC	PAV
O	O	O	O	O	O	O	O	O	O

LENNOX
EMEA

ENCASED OUTDOOR CONDENSING UNIT

MONOBLOCK UNIT FOR PRODUCTIONS OF LOW AND CHILL TEMPERATURES

Hard Discount - Supermarkets - Hypermarkets

HFC CO_2

23 > **200** kW

MULTIWAVE

- Range with innovative design for installations where space may be a problem.
- Environmentally-friendly, natural refrigerant (CO2) for the production of cold in supermarkets.
- "Ready-to-install" range with cooling and electrical equipment grouped and connected on a common frame.
- Low energy consumption thanks to the use of EC motors, compressor speed variation and heat recovery (optional extras)
- Micro channel technology allowing a significant reduction of refrigerant charge.
- State of the art design with hidden fans for a perfect architectural integration.

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FRIGA-BOHN

HK® REFRIGERATION

R134A CHILL TEMPERATURE CIRCUIT

Compressors
- Compressors using semi-hermetic piston technology equipped with:
  - Crankcase heater.
  - Suction and delivery shut-off valves.
  - HP and LP tapping points with Schrader connector.
- Optional 30 to 70 Hz speed controller on the first compressor.

Collectors
- A general suction filter unit with removable cartridge.
- Copper suction and delivery header for diameters of less than 3"1/8 and stainless steel for larger diameters.
- Thermal insulation of the suction header, filter and suction piping optional.

Connection pack
- 1 connection valve on the suction and liquid supply line.

Oil line
- Removable oil separator by-pass valve (option).
- Oil receiver with high and low indicator and shut-off valve.
- Oil return with filter and indicator.
- Float or electronic oil level monitoring system (optional).
- Non-adjustable, receiver degassing differential valve connected to the LP collector.
- Copper oil collector with flexible connection for each compressor.

Condenser
- Air condenser equipped with aluminium multi-channel coils positioned in "V" form offering greater compactness, long-term reliability and strength (very high impact resistance) as well as a high corrosion resistance.
- High reliability electronic switching fan motors (EC) enable optimized operation of your installation.
  - Ø 800 mm: EC1 (EC oversized motor) = up to 1020 rpm.
  - Ø 800 mm: EC2 = up to 730 rpm.

Liquid station
- Inclined horizontal liquid receiver with inlet/outlet shut-off valves equipped with liquid level indicators.
- 1 or 2 parallel dryer filters with removable filter cartridge and 3/8" SAE load valve
- 1 liquid outlet with indicator and shut-off valve.
- 1 or 2 blow-out valves on the 3-way valve to protect the receiver against pressure build-up.
- Liquid/steam exchanger with by-pass valves in suction side and liquid side.
- Refrigerant level alarm (optional).

Monitoring devices
- **Per compressor:**
- LP pressure switch connected to the compressor (option).
- 1 or 2 automatic reset HP cartridge pressure switch(s) per compressor (according to standard EN 378-2: 2009).
- 1 LP adjustable pressure switch for back-up pressure operation.
- Oil differential pressure switch.
- INT safety thermistor box.
- **Per rack:**
- General LP safety pressure switch.
- General HP safety pressure switch.
- Framing HP and LP pressure switch.
- Set of HP and LP manometers, diameter 100 mm, class 1.
- LP and HP sensors for normal operation control.
- Additional HP probe for condenser fan back-up operation.

CO_2 LOW TEMPERATURE CIRCUIT

Compressors
- Compressors using semi-hermetic piston technology equipped with:
  - Crankcase heater.
  - Suction and delivery shut-off valves.
  - HP and LP tapping points with Schrader connector.
- Optional 30 to 70 Hz speed controller on the first compressor.

Collectors
- A general filter unit with tapping point and 2 maintenance valves (1/4" SAE).
- Copper suction and delivery collector.
- Liquid suction accumulator with oil return via siphon and discharge valve.
- Brazed plate liquid/steam heat-exchanger with by-pass valve on the liquid suction side.

Insulation
- Thermal insulation of the entire refrigeration circuit with the exception of delivery and oil lines.

Connection pack
- 1 connection valve on the suction and liquid supply line.

Oil line
- Removable oil separator by-pass valve (option) and discharge valve.
- Oil receiver with high and low indicator, shut-off valve and discharge valve.
- Oil return with filter and indicator.
- Electronic level controller with shut-off valve per compressor.
- Non-adjustable, receiver degassing differential valve connected to the LP collector.
- Copper oil collector with flexible connection for each compressor.

Condenser-unit cooler
- Thermally insulated brazed plate heat-exchanger.
- Electronic expansion valve with probe and sensor for control of superheating during normal operation.
- Thermostatic expansion valve coupled with a solenoid valve in parallel with an electronic expansion valve in back-up operation.
- Connection valves are included on the unit for connection of an optional air desuperheater.

Liquid station
- Inclined horizontal liquid receiver with inlet/outlet shut-off valves equipped with liquid level indicators.
- 2 blow-out valves on the 3-way valve to protect the receiver against pressure build-up.
- 1 dryer filter with removable filter cartridge with a 3/8" SAE load valve and 2 maintenance valves (1/4" SAE). Optional by-pass valve.
- Optoelectronic level alarm fitted to the liquid column in parallel with the receiver and height adjustable.
- 1 liquid outlet with indicator.
- Thermal insulation of the liquid station.

Safety unit
- Condensing unit filled with R134a with refrigerated connected to the CO_2 liquid receiver via a plate unit cooler.

Monitoring devices
- **Per compressor:**
- LP pressure switch connected to the compressor.
- 1 or 2 automatic reset HP cartridge pressure switch(s) per compressor (according to standard EN 378-2: 2009).
- 1 LP adjustable pressure switch for back-up pressure operation.
- INT safety thermistor box.
- **Per rack:**
- General LP safety pressure switch.
- General HP safety pressure switch.
- Framing HP and LP pressure switch.
- Set of HP and LP manometers, diameter 100 mm, class 1.
- LP and HP sensors for normal operation control.

Electrical switching enclosure
- A dedicated switching enclosure for control of the unit.
- An optional electrical switching enclosure.

MULTIWAVE - Encased, outdoor, multi-compressor unit

DESIGNATION

MCU(1)-C(2) 3x(3) 4GE23(4) / 3x(5) 2JSL2(6) A(7) 1W(8) EC1(9)

(1) **MCU** = Encased outdoor condensing unit
MCO = Encased rack (separate condenser)
MMR = Machine room rack
(2) Fluid: **C** = Cascade R134a / Sub-critical CO_2
(3) Number of chill compressors
(4) Type of chill compressors
(5) Number of low temp. compressors
(6) Type of low temp. compressors
(7) Condenser version:
A = Standard
AS = Oversized condenser
LN = Low noise
LNS = Low noise with oversized condenser
(8) Number of condensers
(9) EC motors:
EC1 (EC oversized motor) = up to 1020 rpm.
EC2 = up to 730 rpm.

CERTIFICATIONS

PED 97/23/CE

ADVANTAGES

Installation

Optimisation of installation costs:
- Ready-to-install monoblock unit for productions of low and chill temperatures.
- Micro-channel technology for reduction of the coolant volume required.

Reduced size:
- Range designed to optimise the installation footprint with a combination of cutting-edge architecture and innovative technology. Use of micro-channel coils and associated layout.

Ideal for use in an urban environment:
- Use of EC motors with a low rotation speed associated with a compressor compartment with noise-proofing insulation considerably reduces noise levels.
- Added to this, the SilenTop (optional) is used to conceal the fans and serves as an acoustic enclosure.

Servicing

- The high mechanical resistance of the micro-channel coils enable fast and easy cleaning using a high-pressure cleaner.

Maintenance

- The door of the electrical switching enclosure is hinged for top opening which provides protection against rain and snow during maintenance work.
- The micro-channel coils are easily accessible and removable for easy maintenance.

OPTIONS

Kit	Factory	
		Connection
	PR2	External connection valves (1 delivery, 2 suction, 2 liquid)
	PR3	External connection valves (1 delivery, 3 suction, 3 liquid)
		Control
	BPS	LP safety pressure switch per compressor
	CS1	Additional 4-20mA sensor
	CS2	Additional 1-5V ratiometric sensor
	HPG	HP general pressure switch
	TXL	Electronic compressor oil level regulator
		Cooling circuit
	DS1	Air desuperheater (kit)
	DS2	Plate desuperheater
	SRL	Liquid sub-cooling
	RHS	Oversized oil receiver
	BSH	Oil separator by-pass
	BFA	By-pass Suction filter
		Receiver
	RLHS	Oversized horizontal receiver
		Liquid
	ALF	Electronic level alarm on the oil receiver.
	ALR	Opto-electronic refrigerant level alarm.
	BD1	Single liquid dryer by-pass
		Condenser
	ACR	SilenTop
	G2F	Protection guard (2 faces)
	BXT	Blygold Polual XT coil protection (please contact us)
	VAR	Compressor speed variation
		Miscellaneous
	ANM	Lifting rings
	CDC	Customer outlets cabinet module
	ECO	Container packaging

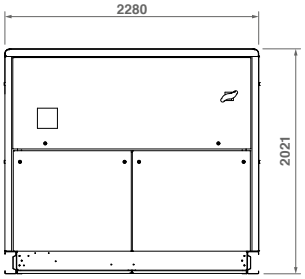
MULTIWAVE - Encased, outdoor, multi-compressor unit

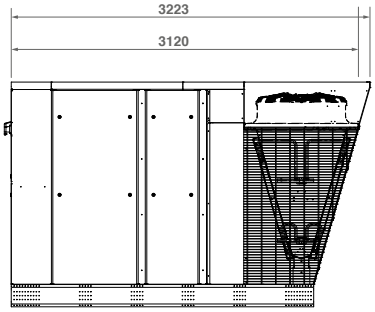
R134a

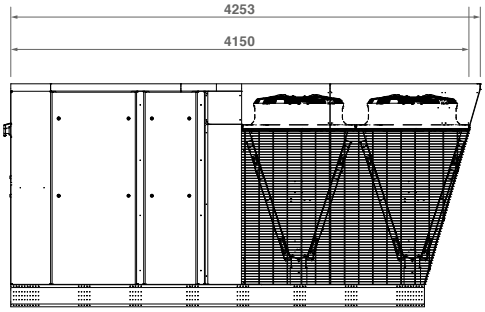
MULTIWAVE .. A ..	CHILL COMPRESSORS - R134a											
Cascade designation	Chill compressors		Capacity MT	Rated capacity	RLH stand.	RLHS	Suction connections			Liquid outlets		
							PR1	PR2	PR3	PR1	PR2	PR3
	Nb	Ref.	kW (1)	kW (1)	l.	l.	Ø	Ø	Ø	Ø	Ø	Ø
MCU-C 3x4TES9/2x2JSL2 A 1WEC1	3	4TES-9Y	23,2	14,3	60	90	2 1/8	2x1 5/8	3x1 3/8	1 1/8	2x7/8	3x5/8
MCU-C 3x4PES12/2x2JSL2 A 1WEC1	3	4PES-12Y	27,9	15,9	60	90	2 1/8	2x1 5/8	3x1 3/8	1 1/8	2x7/8	3x5/8
MCU-C 3x4JE15/2x2FSL4 A 1WEC1	3	4JE-15Y	30,6	22,3	60	90	2 5/8	2x2 1/8	3x1 5/8	1 3/8	2x7/8	3x5/8
MCU-C 4x4PES12/2x2GSL3 A 1WEC1	4	4PES-12Y	34,6	21,2	60	90	2 5/8	2x2 1/8	3x1 5/8	1 3/8	2x7/8	3x5/8
MCU-C 4x4PES12/3x2JSL2 A 1WEC1	4	4PES-12Y	34,9	21,2	60	90	2 5/8	2x2 1/8	3x1 5/8	1 3/8	2x7/8	3x5/8
MCU-C 4x4TES9/2x2JSL2 A 1WEC1	4	4TES-9Y	35,6	19,0	60	90	2 5/8	2x1 5/8	3x1 3/8	1 3/8	2x7/8	3x5/8
MCU-C 3x4NES14/2x2JSL2 A 1WEC1	3	4NES-14Y	36,0	19,0	60	90	2 5/8	2x2 1/8	3x1 3/8	1 3/8	2x7/8	3x5/8
MCU-C 2x4FE28/2x2FSL4 A 1WEC1	2	4FE-28Y	36,2	24,8	90	130	2 5/8	2x2 1/8	3x1 5/8	1 3/8	2x1 1/8	3x7/8
MCU-C 3x4JE15/2x2GSL3 A 1WEC1	3	4JE-15Y	36,7	22,3	60	90	2 5/8	2x2 1/8	3x1 5/8	1 3/8	2x7/8	3x5/8
MCU-C 3x4JE15/3x2JSL2 A 1WEC1	3	4JE-15Y	36,9	22,3	60	90	2 5/8	2x2 1/8	3x1 5/8	1 3/8	2x7/8	3x5/8
MCU-C 4x4NES14/2x2FSL4 A 1WEC1	4	4NES-14Y	39,3	25,3	90	130	2 5/8	2x2 1/8	3x1 5/8	1 3/8	2x1 1/8	3x7/8
MCU-C 3x4HE18/2x2FSL4 A 1WEC1	3	4HE-18Y	41,6	26,2	90	130	3 1/8	2x2 1/8	3x1 5/8	1 3/8	2x1 1/8	3x7/8
MCU-C 4x4PES12/2x2JSL2 A 1WEC1	4	4PES-12Y	41,9	21,2	60	90	2 5/8	2x2 1/8	3x1 5/8	1 3/8	2x7/8	3x5/8
MCU-C 3x4JE15/2x2JSL2 A 1WEC1	3	4JE-15Y	44,0	22,3	60	90	2 5/8	2x2 1/8	3x1 5/8	1 3/8	2x7/8	3x5/8
MCU-C 4x4NES14/2x2GSL3 A 1WEC1	4	4NES-14Y	45,4	25,3	90	130	2 5/8	2x2 1/8	3x1 5/8	1 3/8	2x1 1/8	3x7/8
MCU-C 4x4NES14/3x2JSL2 A 1WEC1	4	4NES-14Y	45,6	25,3	90	130	2 5/8	2x2 1/8	3x1 5/8	1 3/8	2x1 1/8	3x7/8
MCU-C 3x4HE18/2x2GSL3 A 1WEC1	3	4HE-18Y	47,6	26,2	90	130	3 1/8	2x2 1/8	3x1 5/8	1 3/8	2x1 1/8	3x7/8
MCU-C 3x4HE18/3x2JSL2 A 1WEC1	3	4HE-18Y	47,9	26,2	90	130	3 1/8	2x2 1/8	3x1 5/8	1 3/8	2x1 1/8	3x7/8
MCU-C 3x4GE23/2x2FSL4 A 1WEC1	3	4GE-23Y	48,9	30,0	90	130	3 1/8	2x2 1/8	3x1 5/8	1 5/8	2x1 1/8	3x7/8
MCU-C 4x4NES14/2x2JSL2 A 1WEC1	4	4NES-14Y	52,7	25,3	90	130	2 5/8	2x2 1/8	3x1 5/8	1 3/8	2x1 1/8	3x7/8
MCU-C 3x4FE28/3x2FSL4 A 2WEC1	3	4FE-28Y	54,4	37,1	90	130	3 1/8	2x2 5/8	3x2 1/8	1 5/8	2x1 1/8	3x7/8
MCU-C 3x4GE23/2x2GSL3 A 1WEC1	3	4GE-23Y	55,0	30,0	90	130	3 1/8	2x2 1/8	3x1 5/8	1 5/8	2x1 1/8	3x7/8
MCU-C 3x4GE23/3x2JSL2 A 1WEC1	3	4GE-23Y	55,3	30,0	90	130	3 1/8	2x2 1/8	3x1 5/8	1 5/8	2x1 1/8	3x7/8
MCU-C 3x4FE28/2x2ESL4 A 2WEC1	3	4FE-28Y	61,7	37,1	90	130	3 1/8	2x2 5/8	3x2 1/8	1 5/8	2x1 1/8	3x7/8
MCU-C 3x4FE28/3x2GSL3 A 2WEC1	3	4FE-28Y	63,5	37,1	90	130	3 1/8	2x2 5/8	3x2 1/8	1 5/8	2x1 1/8	3x7/8
MCU-C 3x6GE34/2x4FSL7 A 2WEC1	3	6GE-34Y	64,2	45,2	130	250	4 1/8	2x2 5/8	3x2 1/8	2 1/8	2x1 3/8	3x1 1/8
MCU-C 3x6GE34/3x2ESL4 A 2WEC1	3	6GE-34Y	65,7	45,2	130	250	4 1/8	2x2 5/8	3x2 1/8	2 1/8	2x1 3/8	3x1 1/8
MCU-C 3x4FE28/2x2FSL4 A 2WEC1	3	4FE-28Y	68,1	37,1	90	130	3 1/8	2x2 5/8	3x2 1/8	1 5/8	2x1 1/8	3x7/8
MCU-C 3x4FE28/2x2GSL3 A 2WEC1	3	4FE-28Y	74,2	37,1	90	130	3 1/8	2x2 5/8	3x2 1/8	1 5/8	2x1 1/8	3x7/8
MCU-C 3x6GE34/3x2FSL4 A 2WEC1	3	6GE-34Y	75,3	45,2	130	250	4 1/8	2x2 5/8	3x2 1/8	2 1/8	2x1 3/8	3x1 1/8
MCU-C 3x6GE34/2x2ESL4 A 2WEC1	3	6GE-34Y	82,7	45,2	130	250	4 1/8	2x2 5/8	3x2 1/8	2 1/8	2x1 3/8	3x1 1/8
MCU-C 3x6GE34/3x2GSL3 A 2WEC1	3	6GE-34Y	84,5	45,2	130	250	4 1/8	2x2 5/8	3x2 1/8	2 1/8	2x1 3/8	3x1 1/8
MCU-C 3x6GE34/2x2FSL4 A 2WEC1	3	6GE-34Y	89,1	45,2	130	250	4 1/8	2x2 5/8	3x2 1/8	2 1/8	2x1 3/8	3x1 1/8
MCU-C 3x6GE34/2x2GSL3 A 2WEC1	3	6GE-34Y	95,2	45,2	130	250	4 1/8	2x2 5/8	3x2 1/8	2 1/8	2x1 3/8	3x1 1/8

(1) Evaporation temperature **-10°C** / Ambient temperature **+32°C** - Superheating: 10K - Subcooling : 3K.
(2) Evaporation temperature **-35°C** / Ambient temperature **-5°C** - Superheating: 10K - Subcooling : 3K.

MULTIWAVE .. AS .. *Oversized condenser (please contact us)*



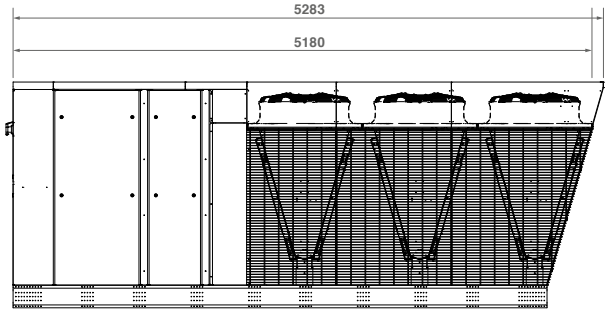


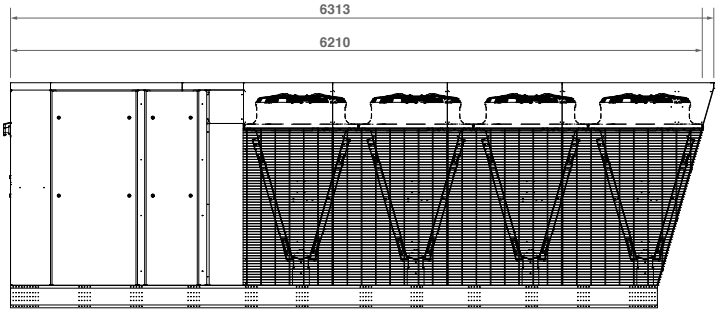


MULTIWAVE - Encased, outdoor, multi-compressor unit

CO2

LOW-TEMP. COMPRESSORS - R744 (CO_2)							EC fan	Rated capacity	Max. current	Dimensions			Weight
Low-temp. compressors		Capacity LT	Rated capacity	RLH stand.	Suction connections					Length	Width	Height	
					PR1	PR1							
Nb	Ref.	kW (2)	kW (2)	l.	Ø	Ø	Nb	kW	A	mm	mm	mm	kg
2	2JSL-2K	**10,5**	**3,2**	50	5/8	5/8	2	4,8	66,8	3120	2280	2025	2337
2	2JSL-2K	**10,5**	**3,2**	50	5/8	5/8	2	4,8	73,8	3120	2280	2025	2353
2	2FSL-4K	**21,0**	**5,7**	50	7/8	5/8	2	4,8	103,8	3120	2280	2025	2519
2	2GSL-3K	**16,3**	**4,5**	50	7/8	5/8	2	4,8	96,2	3120	2280	2025	2514
3	2JSL-2K	**15,8**	**4,7**	50	7/8	5/8	2	4,8	96,4	3120	2280	2025	2576
2	2JSL-2K	**10,5**	**3,2**	50	5/8	5/8	2	4,8	82,8	3120	2280	2025	2474
2	2JSL-2K	**10,5**	**3,2**	50	5/8	5/8	2	4,8	81,8	3120	2280	2025	2363
2	2FSL-4K	**21,0**	**5,7**	50	7/8	5/8	2	4,8	115,8	3120	2280	2025	2388
2	2GSL-3K	**16,3**	**4,5**	50	7/8	5/8	2	4,8	100,2	3120	2280	2025	2506
3	2JSL-2K	**15,8**	**4,7**	50	7/8	5/8	2	4,8	100,4	3120	2280	2025	2555
2	2FSL-4K	**21,0**	**5,7**	50	7/8	5/8	2	4,8	111,8	3120	2280	2025	2551
2	2FSL-4K	**21,0**	**5,7**	50	7/8	5/8	2	4,8	114,8	3120	2280	2025	2573
2	2JSL-2K	**10,5**	**3,2**	50	5/8	5/8	2	4,8	91,8	3120	2280	2025	2511
2	2JSL-2K	**10,5**	**3,2**	50	5/8	5/8	2	4,8	95,8	3120	2280	2025	2491
2	2GSL-3K	**16,3**	**4,5**	50	7/8	5/8	2	4,8	108,2	3120	2280	2025	2544
3	2JSL-2K	**15,8**	**4,7**	50	7/8	5/8	2	4,8	108,4	3120	2280	2025	2606
2	2GSL-3K	**16,3**	**4,5**	50	7/8	5/8	2	4,8	111,2	3120	2280	2025	2559
3	2JSL-2K	**15,8**	**4,7**	50	7/8	5/8	2	4,8	111,4	3120	2280	2025	2609
2	2FSL-4K	**21,0**	**5,7**	50	7/8	5/8	2	4,8	125,8	3120	2280	2025	2596
2	2JSL-2K	**10,5**	**3,2**	50	5/8	5/8	2	4,8	103,8	3120	2280	2025	2541
3	2FSL-4K	**31,5**	**8,5**	90	1 1/8	5/8	4	9,6	177,0	4150	2280	2025	3004
2	2GSL-3K	**16,3**	**4,5**	50	7/8	5/8	2	4,8	122,2	3120	2280	2025	2589
3	2JSL-2K	**15,8**	**4,7**	50	7/8	5/8	2	4,8	122,4	3120	2280	2025	2639
2	2ESL-4K	**26,1**	**6,8**	70	7/8	5/8	4	9,6	170,6	4150	2280	2025	2979
3	2GSL-3K	**24,4**	**6,7**	70	7/8	5/8	4	9,6	171,6	4150	2280	2025	2980
2	4FSL-7K	**40,4**	**10,4**	90	1 1/8	7/8	4	9,6	203,6	4150	2280	2025	3232
3	2ESL-4K	**39,1**	**10,2**	90	1 1/8	7/8	4	9,6	201,3	4150	2280	2025	3275
2	2FSL-4K	**21,0**	**5,7**	50	7/8	5/8	4	9,6	168,4	4150	2280	2025	2900
2	2GSL-3K	**16,3**	**4,5**	50	7/8	5/8	4	9,6	164,8	4150	2280	2025	2893
3	2FSL-4K	**31,5**	**8,5**	90	1 1/8	5/8	4	9,6	198,0	4150	2280	2025	3172
2	2ESL-4K	**26,1**	**6,8**	70	7/8	5/8	4	9,6	191,6	4150	2280	2025	3147
3	2GSL-3K	**24,4**	**6,7**	70	7/8	5/8	4	9,6	192,6	4150	2280	2025	3149
2	2FSL-4K	**21,0**	**5,7**	50	7/8	5/8	4	9,6	189,4	4150	2280	2025	3069
2	2GSL-3K	**16,3**	**4,5**	50	7/8	5/8	4	9,6	185,8	4150	2280	2025	3062





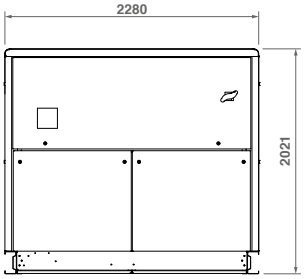
MULTIWAVE - Encased, outdoor, multi-compressor unit

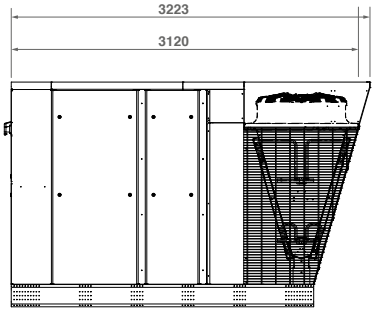
R134a

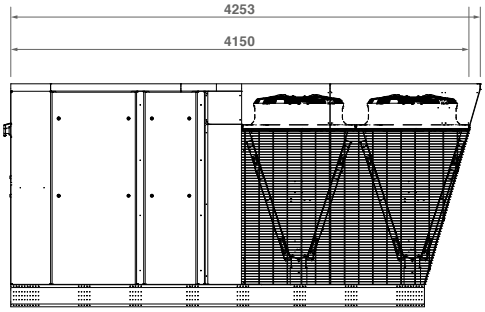
MULTIWAVE .. LN ..	CHILL COMPRESSORS - R134a											
Cascade designation	Chill compressors		Capacity MT	Rated capacity	RLH stand.	RLHS	Suction connections			Liquid outlets		
							PR1	PR2	PR3	PR1	PR2	PR3
	Nb	Ref.	kW (1)	kW (1)	l.	l.	Ø	Ø	Ø	Ø	Ø	Ø
MCU-C 3x4TES9/2x2JSL2 LN 1WEC2	3	4TES-9Y	23,2	14,3	60	90	2 1/8	2x1 5/8	3x1 3/8	1 1/8	2x7/8	3x5/8
MCU-C 3x4PES12/2x2JSL2 LN 1WEC2	3	4PES-12Y	27,9	15,9	60	90	2 1/8	2x1 5/8	3x1 3/8	1 1/8	2x7/8	3x5/8
MCU-C 3x4JE15/2x2FSL4 LN 2WEC2	3	4JE-15Y	30,6	22,3	60	90	2 5/8	2x2 1/8	3x1 5/8	1 3/8	2x7/8	3x5/8
MCU-C 4x4PES12/2x2GSL3 LN 2WEC2	4	4PES-12Y	34,6	21,2	60	90	2 5/8	2x2 1/8	3x1 5/8	1 3/8	2x7/8	3x5/8
MCU-C 4x4PES12/3x2JSL2 LN 2WEC2	4	4PES-12Y	34,9	21,2	60	90	2 5/8	2x2 1/8	3x1 5/8	1 3/8	2x7/8	3x5/8
MCU-C 4x4TES9/2x2JSL2 LN 1WEC2	4	4TES-9Y	35,6	19,0	60	90	2 5/8	2x1 5/8	3x1 3/8	1 3/8	2x7/8	3x5/8
MCU-C 3x4NES14/2x2JSL2 LN 1WEC2	3	4NES-14Y	36,0	19,0	60	90	2 5/8	2x2 1/8	3x1 3/8	1 3/8	2x7/8	3x5/8
MCU-C 2x4FE28/2x2FSL4 LN 2WEC2	2	4FE-28Y	36,2	24,8	90	130	2 5/8	2x2 1/8	3x1 5/8	1 3/8	2x1 1/8	3x7/8
MCU-C 3x4JE15/2x2GSL3 LN 2WEC2	3	4JE-15Y	36,7	22,3	60	90	2 5/8	2x2 1/8	3x1 5/8	1 3/8	2x7/8	3x5/8
MCU-C 3x4JE15/3x2JSL2 LN 2WEC2	3	4JE-15Y	36,9	22,3	60	90	2 5/8	2x2 1/8	3x1 5/8	1 3/8	2x7/8	3x5/8
MCU-C 4x4NES14/2x2FSL4 LN 2WEC2	4	4NES-14Y	39,3	25,3	90	130	2 5/8	2x2 1/8	3x1 5/8	1 3/8	2x1 1/8	3x7/8
MCU-C 3x4HE18/2x2FSL4 LN 2WEC2	3	4HE-18Y	41,6	26,2	90	130	3 1/8	2x2 1/8	3x1 5/8	1 3/8	2x1 1/8	3x7/8
MCU-C 4x4PES12/2x2JSL2 LN 2WEC2	4	4PES-12Y	41,9	21,2	60	90	2 5/8	2x2 1/8	3x1 5/8	1 3/8	2x7/8	3x5/8
MCU-C 3x4JE15/2x2JSL2 LN 2WEC2	3	4JE-15Y	44,0	22,3	60	90	2 5/8	2x2 1/8	3x1 5/8	1 3/8	2x7/8	3x5/8
MCU-C 4x4NES14/2x2GSL3 LN 2WEC2	4	4NES-14Y	45,4	25,3	90	130	2 5/8	2x2 1/8	3x1 5/8	1 3/8	2x1 1/8	3x7/8
MCU-C 4x4NES14/3x2JSL2 LN 2WEC2	4	4NES-14Y	45,6	25,3	90	130	2 5/8	2x2 1/8	3x1 5/8	1 3/8	2x1 1/8	3x7/8
MCU-C 3x4HE18/2x2GSL3 LN 2WEC2	3	4HE-18Y	47,6	26,2	90	130	3 1/8	2x2 1/8	3x1 5/8	1 3/8	2x1 1/8	3x7/8
MCU-C 3x4HE18/3x2JSL2 LN 2WEC2	3	4HE-18Y	47,9	26,2	90	130	3 1/8	2x2 1/8	3x1 5/8	1 3/8	2x1 1/8	3x7/8
MCU-C 3x4GE23/2x2FSL4 LN 2WEC2	3	4GE-23Y	50,1	29,7	90	130	3 1/8	2x2 1/8	3x1 5/8	1 5/8	2x1 1/8	3x7/8
MCU-C 4x4NES14/2x2JSL2 LN 2WEC2	4	4NES-14Y	52,7	25,3	90	130	2 5/8	2x2 1/8	3x1 5/8	1 3/8	2x1 1/8	3x7/8
MCU-C 3x4FE28/3x2FSL4 LN 3WEC2	3	4FE-28Y	54,4	37,1	90	130	3 1/8	2x2 5/8	3x2 1/8	1 5/8	2x1 1/8	3x7/8
MCU-C 3x4GE23/2x2GSL3 LN 2WEC2	3	4GE-23Y	56,2	29,7	90	130	3 1/8	2x2 1/8	3x1 5/8	1 5/8	2x1 1/8	3x7/8
MCU-C 3x4GE23/3x2JSL2 LN 2WEC2	3	4GE-23Y	56,5	29,7	90	130	3 1/8	2x2 1/8	3x1 5/8	1 5/8	2x1 1/8	3x7/8
MCU-C 3x4FE28/2x2ESL4 LN 3WEC2	3	4FE-28Y	61,7	37,1	90	130	3 1/8	2x2 5/8	3x2 1/8	1 5/8	2x1 1/8	3x7/8
MCU-C 3x4FE28/3x2GSL3 LN 3WEC2	3	4FE-28Y	63,5	37,1	90	130	3 1/8	2x2 5/8	3x2 1/8	1 5/8	2x1 1/8	3x7/8
MCU-C 3x6GE34/2x4FSL7 LN 3WEC2	3	6GE-34Y	64,2	45,2	130	250	4 1/8	2x2 5/8	3x2 1/8	2 1/8	2x1 3/8	3x1 1/8
MCU-C 3x6GE34/3x2ESL4 LN 3WEC2	3	6GE-34Y	65,7	45,2	130	250	4 1/8	2x2 5/8	3x2 1/8	2 1/8	2x1 3/8	3x1 1/8
MCU-C 3x4FE28/2x2FSL4 LN 3WEC2	3	4FE-28Y	68,1	37,1	90	130	3 1/8	2x2 5/8	3x2 1/8	1 5/8	2x1 1/8	3x7/8
MCU-C 3x4FE28/2x2GSL3 LN 3WEC2	3	4FE-28Y	74,2	37,1	90	130	3 1/8	2x2 5/8	3x2 1/8	1 5/8	2x1 1/8	3x7/8
MCU-C 3x6GE34/3x2FSL4 LN 3WEC2	3	6GE-34Y	75,3	45,2	130	250	4 1/8	2x2 5/8	3x2 1/8	2 1/8	2x1 3/8	3x1 1/8
MCU-C 3x6GE34/2x2ESL4 LN 3WEC2	3	6GE-34Y	82,7	45,2	130	250	4 1/8	2x2 5/8	3x2 1/8	2 1/8	2x1 3/8	3x1 1/8
MCU-C 3x6GE34/3x2GSL3 LN 3WEC2	3	6GE-34Y	84,5	45,2	130	250	4 1/8	2x2 5/8	3x2 1/8	2 1/8	2x1 3/8	3x1 1/8
MCU-C 3x6GE34/2x2FSL4 LN 3WEC2	3	6GE-34Y	89,1	45,2	130	250	4 1/8	2x2 5/8	3x2 1/8	2 1/8	2x1 3/8	3x1 1/8
MCU-C 3x6GE34/2x2GSL3 LN 3WEC2	3	6GE-34Y	95,2	45,2	130	250	4 1/8	2x2 5/8	3x2 1/8	2 1/8	2x1 3/8	3x1 1/8

(1) Evaporation temperature **-10°C** / Ambient temperature **+32°C** - Superheating: 10K - Subcooling : 3K.
(2) Evaporation temperature **-35°C** / Ambient temperature **-5°C** - Superheating: 10K - Subcooling : 3K.
(3) Sound pressure in dB(A) measured at 10 m, line of sight in a reflective surface, in accordance with standard EN 13487 (parallelepiped reference surface).

MULTIWAVE .. LNS .. *Low noise with oversized condenser (please contact us)*





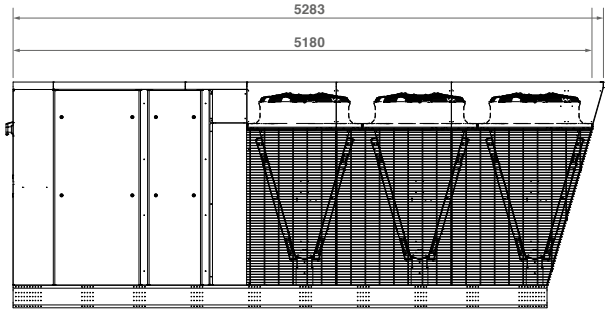


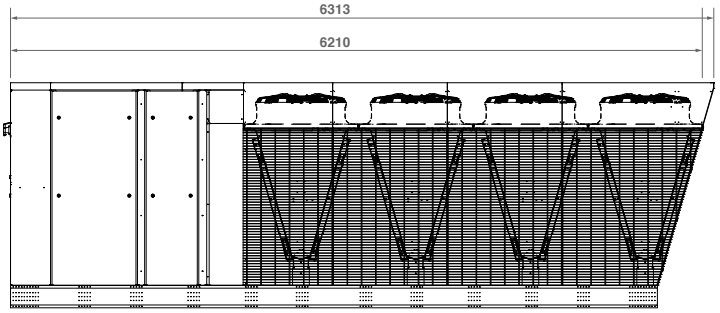
MULTIWAVE - Encased, outdoor, multi-compressor unit

CO2

LOW-TEMP. COMPRESSORS - R744 (CO_2)						
Low-temp. compressors		Capacity LT	Rated capacity	RLH stand.	Suction connections	
					PR1	PR1
Nb	Ref.	kW (2)	kW (2)	l.	Ø	Ø
2	2JSL-2K	10,5	3,2	50	5/8	5/8
2	2JSL-2K	10,5	3,2	50	5/8	5/8
2	2FSL-4K	21,0	5,7	50	7/8	5/8
2	2GSL-3K	16,3	4,5	50	7/8	5/8
3	2JSL-2K	15,8	4,7	50	7/8	5/8
2	2JSL-2K	10,5	3,2	50	5/8	5/8
2	2JSL-2K	10,5	3,2	50	5/8	5/8
2	2FSL-4K	21,0	5,7	50	7/8	5/8
2	2GSL-3K	16,3	4,5	50	7/8	5/8
3	2JSL-2K	15,8	4,7	50	7/8	5/8
2	2FSL-4K	21,0	5,7	50	7/8	5/8
2	2FSL-4K	21,0	5,7	50	7/8	5/8
2	2JSL-2K	10,5	3,2	50	5/8	5/8
2	2JSL-2K	10,5	3,2	50	5/8	5/8
2	2GSL-3K	16,3	4,5	50	7/8	5/8
3	2JSL-2K	15,8	4,7	50	7/8	5/8
2	2GSL-3K	16,3	4,5	50	7/8	5/8
3	2JSL-2K	15,8	4,7	50	7/8	5/8
2	2FSL-4K	21,0	5,7	50	7/8	5/8
2	2JSL-2K	10,5	3,2	50	5/8	5/8
3	2FSL-4K	31,5	8,5	90	1 1/8	5/8
2	2GSL-3K	16,3	4,5	50	7/8	5/8
3	2JSL-2K	15,8	4,7	50	7/8	5/8
2	2ESL-4K	26,1	6,8	70	7/8	5/8
3	2GSL-3K	24,4	6,7	70	7/8	5/8
2	4FSL-7K	40,4	10,4	90	1 1/8	7/8
3	2ESL-4K	39,1	10,2	90	1 1/8	7/8
2	2FSL-4K	21,0	5,7	50	7/8	5/8
2	2GSL-3K	16,3	4,5	50	7/8	5/8
3	2FSL-4K	31,5	8,5	90	1 1/8	5/8
2	2ESL-4K	26,1	6,8	70	7/8	5/8
3	2GSL-3K	24,4	6,7	70	7/8	5/8
2	2FSL-4K	21,0	5,7	50	7/8	5/8
2	2GSL-3K	16,3	4,5	50	7/8	5/8

EC fan	Rated capacity	Acoustic Lp at 10m	Max. current	Dimensions			Weight
				Length	Width	Height	
Nb	kW	dB(A) (3)	A	mm	mm	mm	kg
2	1,6	40	62,0	3120	2280	2025	2417
2	1,6	43	69,0	3120	2280	2025	2433
4	3,2	40	101,8	4150	2280	2025	2885
4	3,2	40	94,2	4150	2280	2025	2880
4	3,2	41	94,4	4150	2280	2025	2941
2	1,6	47	78,0	3120	2280	2025	2554
2	1,6	48	77,0	3120	2280	2025	2443
4	3,2	43	113,8	4150	2280	2025	2753
4	3,2	40	98,2	4150	2280	2025	2871
4	3,2	40	98,4	4150	2280	2025	2921
4	3,2	43	109,8	4150	2280	2025	2916
4	3,2	42	112,8	4150	2280	2025	2938
4	3,2	40	89,8	4150	2280	2025	2876
4	3,2	40	93,8	4150	2280	2025	2856
4	3,2	43	106,2	4150	2280	2025	2909
4	3,2	43	106,4	4150	2280	2025	2971
4	3,2	42	109,2	4150	2280	2025	2924
4	3,2	42	109,4	4150	2280	2025	2974
4	3,2	46	123,8	4150	2280	2025	2961
4	3,2	43	101,8	4150	2280	2025	2906
6	4,7	45	170,2	5180	2280	2025	3369
4	3,2	46	120,2	4150	2280	2025	2954
4	3,2	46	120,4	4150	2280	2025	3004
6	4,7	45	163,8	5180	2280	2025	3344
6	4,7	45	164,8	5180	2280	2025	3345
6	4,7	48	196,8	5180	2280	2025	3597
6	4,7	48	194,5	5180	2280	2025	3640
6	4,7	45	161,6	5180	2280	2025	3265
6	4,7	45	158,0	5180	2280	2025	3258
6	4,7	48	191,2	5180	2280	2025	3538
6	4,7	48	184,8	5180	2280	2025	3512
6	4,7	48	185,8	5180	2280	2025	3514
6	4,7	48	182,6	5180	2280	2025	3434
6	4,7	48	179,0	5180	2280	2025	3427





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LENNOX
EMEA

ENCASED OUTDOOR CONDENSING UNIT

MULTI-COMPRESSORS

Hard Discount - Supermarkets - Hypermarkets
Refrigerated storage and transit stocking - Dispatch centres
Food processing

HFC

5 > **290** kW

MULTIHAVANE

- Vertical-blowing, multi-compressor, encased air condensing units for outdoor installation on the floor or roof.
- This range offers a low noise model as well as an oversized condenser for use in hot climates.
- Entire unit completely pre-wired including Scroll or Semi-hermetic compressors.
- Capacity ratings of the range:
  - High-temperature application from 100 to 290 kW
  - Medium-temperature application from 15 to 235 kW
  - Low temperature application from 5 to 70 kW

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FRIGA-BOHN

HK® REFRIGERATION

MULTIHAVANE - Encased, outdoor, multi-compressor unit

FRIGA-BOHN HK REFRIGERATION

Composition of models

• Select for each model:

The compressor technology,

- OCT (Octagon semi-hermetic piston),
- or Sc (Scroll),
- or SH (Semi-Hermetic piston).

The noise level,

- standard
- or LN (low noise) suitable when noise is a problem (noise isolation of the compressor compartment and condenser with up to 16 fans).

The condenser,

- standard
- or S (oversized) for high ambient temperatures.

DESCRIPTION

Frame / Casing

- The frame base is made of folded, high resistance, galvanized sheet metal.
- The casing is composed of white pre-painted sheet metal.
- The casing panels may be easily removed with the ¼-turn latches.
- The base frame is equipped with lifting rings for easy handling.

Compressors

- The compressors are filled with R404A ester oil and equipped as indicated in the table below:

	SH Octagon	Scroll	SH
Number of compressors	2-3-4	2-3-4	2-3
Casing heater	Yes	Yes	Yes
Suction and delivery valves	Yes	Yes	Yes
HP safety pressure switch	Yes	Yes	Yes
Oil pump	From 4VC	No	Yes
Head fan	Low temp. range	No	Low temp. range

Collectors

- The suction and delivery collectors are made of stainless steel 304L for SH and copper for Sc and OCT, secured with polypropylene straps on the suction side and high temperature resistant polyamide straps on the delivery side.
- A general filter unit is used on the suction side or one per compressor according to model with removable cartridge(s).

Oil line

- LP oil return with removable oil separator and tank equipped with high/low level indicator, shut-off valve and calibrated degassing valve in the LP collector with shut-off valve.
- Oil level regulator with float system and a shut-off valve per compressor.

Condenser

- The MULTIHAVANE range includes condensers of the type NEOSTAR (L or P) and WA, which are controlled with cascade shutdown.

Receiver

- Horizontal liquid receiver with 2 inlet/outlet shutoff valves.
- Single or double safety valve with 3-way valve if the capacity is > or = to 100 l.

Liquid line

- Liquid line with dryer filter with removable cartridge(s), 3/8" SAE fill valve with hydroscopic indicator and shut-off valve(s).

Connection valves

- Liquid suction valve and delivery valve according on models.

Control and safety

- The unit is controlled as follows:
- For units with 2 Scroll or Octagon compressors: Pressure control with 1 LP pressure switch per compressor and 1 control HP pressure switch per condenser fan.
- For the other units: Electronic control with LP/HP sensors delivering a 4/20mA signal
- A general safety LP pressure switch.
- One oil differential pressure switch per compressor (only for semi-hermetic compressors and from compressor 4VC for OCT).
- 1 or 2 automatic reset HP pressure switch(s) per compressor. (compliant with standard EN 378-2: 2009) 2009)
- Two manometers (LP+HP).
- Connection of each element with 1/4" flexible hose.

Switching enclosure

- Switching enclosure with double swing doors and latching system.
- Main isolator switch on front panel with "Power on" indicator.
- All electrical components are connected to a board containing the condensing unit protection and control elements.

ADVANTAGES

Installation

Condensing units delivered ready for installation with factory pre-wired switching enclosure to help reduce installation time.

The base frame is equipped with lifting rings for easy handling.

Oversized condenser for the AS model for installation in zones with high ambient temperatures.

The low noise ALN model is ideal for use in an urban environment.

Servicing / Maintenance

The side panels may be simply removed with 1/4 turn latches offering easy access to all components.

The electrical enclosure has double swing doors for easy access during all interventions.

OPTIONS

Low noise level

Silent condenser, noise insulated compressor compartment.
Contact us for the selection.

Oversized condenser

For use with high ambient temperatures up to 43°C,
as defined in the selection charts.

DESIGNATION

MHV SH(1) 3(2) PHT(3)
D4DH250(4) ALN(5) C5(6) P(7)6(8)-9(9)

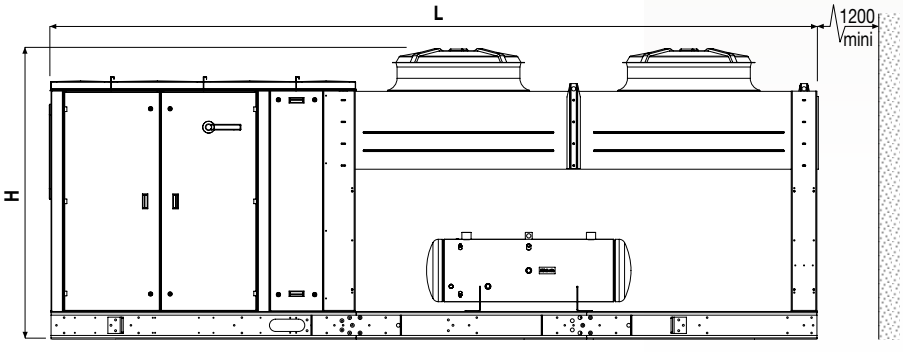
(1) Compressor technology:
SC = Scroll - **OCT** = Octagon - **SH** = Semi-hermetic
(2) Number of compressor
(3) **N** = Low temperature / **te = - 35°C**
P = Chill temperature / **te = - 10°C**
PHT = Chill (high-temperature) / **te = 0°C**
(4) Type of compressor
(5) Condenser model:
A = Standard - **AS** = Oversized - **ALN** = Low noise
(6) Type of casing: **C1 - C2 - C3 - C4 - C5**
(7) Fan arrangement:
L = in line - **P** = in parallel
(8) Number of fans
(9) Type of module or fan Ø:
A = 1200 - **B** = 1500 - **D** = 2000 - **5** = 500 mm - **6** = 630 mm

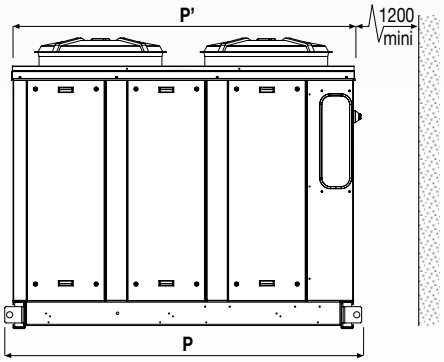
OPTIONS

Kit	Factory	
	PR2	2 suction return valves and 2 liquid delivery valves (for SH model only).
	BP1	Additional LP pressure switch.
	BPS	LP safety pressure switch per compressor (automatic reset).
	CDP	LP/HP pressure sensors, 4/20mA signal.
	HPG	General HP pressure switch.
	HPS	Additional HP pressure switch.
	BAC	Suction accumulator (except SC), with suction or gravity oil return system according to models.
	SIL	Muffler (for SH model only).
	TXL	Electronic compressor oil level regulator.
	RLS	Oversized liquid receiver.
	ALR	Opto-electronic refrigerant level alarm.
	SSD	Double safety valve with 3-way valve only for receivers with a capacity of less than 100L (standard for other models).
	BAE	Protection of fins.
	COQ	Noise insulation casing on Scroll (except ZF15, ZB38 and ZB45).
	GPC	Condenser protection guard.

CERTIFICATIONS

PED 97/23/CE





mm	C1 L2-5	C1 L2-6	C1 L3-6	C2 L2-A	C2 L2-B	C3 L2-A	C3 L2-B	C3 L2-D	C3 L3-A	C3 L3-B	C4 P4-A	C4 P4-B	C4 P4-D	C4 P6-A	C4 P6-B	C5 P4-A	C5 P4-B	C5 P6-9	C5 P6-B
L	2995	3475	4375	4100	4700	4400	5000	6000	5600	6500	4400	5000	6000	5600	6500	5000	5600	6200	7100
P	920	920	920	1230	1230	1250	1250	1250	1250	1250	2330	2330	2330	2330	2330	2330	2330	2330	2330
P'	835	835	835	1140	1140	1145	1145	1145	1145	1145	2240	2240	2240	2240	2240	2240	2240	2240	2240
H	1190	1190	1190	1420	1420	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900

MULTIHAVANE - Standard

Chill range (high temperature)

MULTIHAVANE SH	Comp.	Capacity	Input power	Casing	Input current	Receiver capacity	Suction	Liquid	Dimensions			Net weight
	Nb	kW (1)	kW (1)	Type	A max.	l.	Ø	Ø	L	P	H	kg
MHV SH 2PHT/4HE-25Y A C3 L2-D	2	115,9	41,6	C3	89,6	145	2"5/8	1"3/8	6000	1250	1900	1874
MHV SH 2PHT/4MH-25X A C3 L2-D	2	119,3	40,4	C3	88,8	145	2"5/8	1"3/8	6000	1250	1900	1860
MHV SH 2PHT/4MI-30X A C4 P4-A	2	133,0	49,0	C4	115,6	145	3"1/8	1"5/8	4400	2330	1900	2115
MHV SH 2PHT/4GE-30Y A C4 P4-A	2	135,0	52,0	C4	114,6	145	3"1/8	1"5/8	4400	2330	1900	2135
MHV SH 2PHT/4FE-35Y A C4 P6-A	2	166,8	61,9	C4	136,6	200	3"1/8	1"5/8	5600	2330	1900	2586
MHV SH 3PHT/4HE-25Y A C5 P4-A	3	171,6	65,9	C5	140,4	200	3"1/8	1"5/8	5000	2330	1900	2563
MHV SH 2PHT/4MK-35X A C4 P6-A	2	172,0	60,0	C4	131,1	200	3"1/8	1"5/8	5600	2330	1900	2544
MHV SH 3PHT/4MH-25X A C5 P4-B	3	178,4	63,1	C5	139,3	200	3"1/8	1"5/8	5600	2330	1900	2568
MHV SH 2PHT/6GE-40Y A C4 P6-A	2	197,6	73,2	C4	160,4	200	4"1/8	2"1/8	5600	2330	1900	2652
MHV SH 2PHT/6MI-40X A C4 P6-A	2	198,9	69,3	C4	138,7	200	4"1/8	2"1/8	5600	2330	1900	2618
MHV SH 3PHT/4MI-30X A C5 P6-A	3	200,0	69,7	C5	163,1	200	4"1/8	2"1/8	6200	2330	1900	2856
MHV SH 3PHT/4GE-30Y A C5 P6-A	3	203,3	74,2	C5	161,7	200	4"1/8	2"1/8	6200	2330	1900	2882
MHV SH 2PHT/6FE-50Y A C4 P6-A	2	235,8	93,4	C4	210,8	200	4"1/8	2"1/8	5600	2330	1900	2674
MHV SH 2PHT/6MK-50X A C4 P6-A	2	243,4	91,4	C4	190,9	200	4"1/8	2"1/8	5600	2330	1900	2670
MHV SH 3PHT/4FE-35Y A C5 P6-B	3	245,2	92,2	C5	202,2	200	4"1/8	2"1/8	7100	2330	1900	3025
MHV SH 3PHT/4MK-35X A C5 P6-B	3	253,1	89,5	C5	193,9	200	4"1/8	2"1/8	7100	2330	1900	3044
MHV SH 3PHT/6GE-40Y A C5 P6-B	3	289,0	109,4	C5	237,9	200	4"1/8	2"1/8	7100	2330	1900	3130
MHV SH 3PHT/6MI-40X A C5 P6-B	3	291,5	103,7	C5	205,4	200	4"1/8	2"1/8	7100	2330	1900	3142

MULTIHAVANE - Oversized condenser

Chill range (high temperature)

MHV SH 2PHT/4HE-25Y AS C4 P4-A	2	100,5	47,0	C4	94,8	145	2"5/8	1"3/8	4400	2330	1900	2154
MHV SH 2PHT/4MH-25X AS C4 P4-A	2	103,8	46,4	C4	94,0	145	2"5/8	1"3/8	4400	2330	1900	2140
MHV SH 2PHT/4MI-30X AS C4 P4-A	2	113,7	54,0	C4	115,6	145	3"1/8	1"5/8	4400	2330	1900	2166
MHV SH 2PHT/4GE-30Y AS C4 P4-B	2	115,0	55,1	C4	114,6	145	3"1/8	1"5/8	5000	2330	1900	2212
MHV SH 2PHT/4FE-35Y AS C4 P6-A	2	138,8	67,6	C4	136,6	200	3"1/8	1"5/8	5600	2330	1900	2586
MHV SH 2PHT/4MK-35X AS C4 P6-A	2	144,7	66,9	C4	131,1	200	3"1/8	1"5/8	5600	2330	1900	2544
MHV SH 3PHT/4HE-25Y AS C5 P6-A	3	150,7	70,5	C5	142,2	200	3"1/8	1"5/8	6200	2330	1900	2846
MHV SH 3PHT/4MH-25X AS C5 P6-A	3	155,8	69,5	C5	141,1	200	3"1/8	1"5/8	6200	2330	1900	2825
MHV SH 2PHT/6GE-40Y AS C4 P6-A	2	166,4	83,1	C4	170,6	200	4"1/8	2"1/8	5600	2330	1900	2664
MHV SH 2PHT/6MI-40X AS C4 P6-A	2	170,0	80,1	C4	148,9	200	4"1/8	2"1/8	5600	2330	1900	2630
MHV SH 3PHT/4MI-30X AS C5 P6-A	3	170,6	81,0	C5	173,3	200	4"1/8	2"1/8	6200	2330	1900	2868
MHV SH 3PHT/4GE-30Y AS C5 P6-A	3	171,1	83,9	C5	171,9	200	4"1/8	2"1/8	6200	2330	1900	2894
MHV SH 2PHT/6FE-50Y AS C4 P6-B	2	201,3	98,9	C4	210,8	200	4"1/8	2"1/8	6500	2330	1900	2814
MHV SH 2PHT/6MK-50X AS C4 P6-B	2	213,6	101,2	C4	201,1	200	4"1/8	2"1/8	6500	2330	1900	2822

(1) **A** : Evaporation temperature **0°C** / Ambient temperature **+32°C** - Superheating: 10K - Subcooling: 3K.
AS : Evaporation temperature **0°C** / Ambient temperature **+42°C** - Superheating: 10K - Subcooling: 3K.

MULTIHAVANE - Octagon

	PR2	BP1	BPS	CDP	HPG	HPS	BAC	SIL	TXL	RLS	ALR	SSD < 100 l.	BAE	COQ	GPC
MHV OCT 2 ...	-	O	O	-	O	O	-	-	O	O	O	O	O	-	O
MHV OCT 3 ...	-	O	O	O	O	O	O	-	O	O	O	O	O	-	O
MHV OCT 4 ...	-	O	O	O	O	O	O	-	O	O	O	O	O	-	O

MULTIHAVANE - Scroll

	PR2	BP1	BPS	CDP	HPG	HPS	BAC	SIL	TXL	RLS	ALR	SSD < 100 l.	BAE	COQ	GPC
MHV SC 2 ...	-	O	O	-	O	-	-	-	S	O	O	O	O	O	O
MHV SC 3 ...	-	O	O	O	O	O	-	-	S	O	O	O	O	O	O
MHV SC 4 ...	-	O	O	O	O	O	-	-	S	O	O	O	O	O	O

MULTIHAVANE - Semi-Hermetic

	PR2	BP1	BPS	CDP	HPG	HPS	BAC	SIL	TXL	RLS	ALR	SSD < 100 l.	BAE	COQ	GPC
MHV SH ...	O	O	O	O	O	O	O	O	O	O	O	O	O	-	O

S : Standard

MULTIHAVANE - Standard

Chill range

MULTIHAVANE OCT	Comp.	Capacity	Input power	Casing	Input current	Receiver capacity	Suction	Liquid	Dimensions			Net weight
	Nb	kW (1)	kW (1)	Type	A max.	l.	Ø	Ø	L	P	H	kg
MHV OCT 2P/4EES-4Y A C1 L2-5	2	21,9	11,4	C1	21,9	40	1"5/8	7/8"	2995	920	1190	789
MHV OCT 2P/4DES-5Y A C1 L2-6	2	28,0	15,1	C1	29,8	50	1"5/8	7/8"	3475	920	1190	890
MHV OCT 2P/4CES-6Y A C1 L2-6	2	32,5	17,7	C1	36,5	50	1"5/8	7/8"	3475	920	1190	910
MHV OCT 3P/4EES-4Y A C3 L2-A	3	36,4	18,5	C3	39,3	50	1"5/8	7/8"	4400	1250	1900	1516
MHV OCT 2P/4TES-9Y A C1 L3-6	2	41,5	19,7	C1	42,4	68	2"1/8	1"1/8	4375	920	1190	1006
MHV OCT 3P/4DES-5Y A C3 L2-A	3	42,1	21,6	C3	46,4	68	2"1/8	1"1/8	4400	1250	1900	1476
MHV OCT 4P/4EES-4Y A C5 P4-A	4	47,3	21,4	C5	42,9	68	2"1/8	1"1/8	5000	2330	1900	2098
MHV OCT 2P/4PES-12Y A C1 L3-6	2	47,4	24,5	C1	50,1	68	2"1/8	1"1/8	4375	920	1190	1022
MHV OCT 3P/4CES-6Y A C3 L2-A	3	51,4	25,2	C3	56,4	68	2"1/8	1"1/8	4400	1250	1900	1517
MHV OCT 4P/4DES-5Y A C5 P4-A	4	54,9	25,6	C5	53,0	68	2"1/8	1"1/8	5000	2330	1900	2110
MHV OCT 2P/4NES-14Y A C2 L2-A	2	57,4	27,9	C2	60,1	68	2"1/8	1"1/8	4100	1230	1420	1200
MHV OCT 3P/4TES-9Y A C3 L2-A	3	63,2	32,2	C3	70,6	68	2"1/8	1"1/8	4400	1250	1900	1646
MHV OCT 4P/4CES-6Y A C5 P4-A	4	68,7	32,3	C5	73,6	68	2"1/8	1"1/8	5000	2330	1900	2140
MHV OCT 3P/4PES-12Y A C3 L2-A	3	71,9	35,2	C3	76,8	98	2"5/8	1"3/8	4400	1250	1900	1725
MHV OCT 4P/4TES-9Y A C5 P4-A	4	83,2	38,8	C5	83,0	98	2"5/8	1"3/8	5000	2330	1900	2384
MHV OCT 3P/4NES-14Y A C3 L2-B	3	83,3	41,8	C3	89,3	98	2"5/8	1"3/8	5000	1250	1900	1777
MHV OCT 4P/4PES-12Y A C5 P4-A	4	99,5	46,7	C5	103,6	98	2"5/8	1"3/8	5000	2330	1900	2404
MHV OCT 4P/4NES-14Y A C5 P4-A	4	114,7	55,9	C5	120,2	98	2"5/8	1"3/8	5000	2330	1900	2414

MULTIHAVANE - Oversized condenser

Chill range

MHV OCT 2P/4EES-4Y AS C1 L2-6	2	19,6	14,0	C1	25,1	40	1"5/8	7/8"	3475	920	1190	822
MHV OCT 2P/4DES-5Y AS C1 L2-6	2	22,7	16,1	C1	29,8	50	1"5/8	7/8"	3475	920	1190	890
MHV OCT 2P/4CES-6Y AS C1 L3-6	2	28,2	17,1	C1	35,2	50	1"5/8	7/8"	4375	920	1190	968
MHV OCT 3P/4EES-4Y AS C3 L2-A	3	29,6	19,9	C3	39,3	50	1"5/8	7/8"	4400	1250	1900	1516
MHV OCT 2P/4TES-9Y AS C1 L3-6	2	34,5	23,8	C1	46,0	68	2"1/8	1"1/8	4375	920	1190	1012
MHV OCT 3P/4DES-5Y AS C3 L2-A	3	35,8	23,1	C3	46,4	68	2"1/8	1"1/8	4400	1250	1900	1497
MHV OCT 4P/4EES-4Y AS C5 P4-A	4	38,6	23,3	C5	43,6	68	2"1/8	1"1/8	5000	2330	1900	2098
MHV OCT 2P/4PES-12Y AS C2 L2-A	2	40,7	26,1	C2	55,2	68	2"1/8	1"1/8	4100	1230	1420	1190
MHV OCT 3P/4CES-6Y AS C3 L2-A	3	42,8	28,4	C3	59,8	68	2"1/8	1"1/8	4400	1250	1900	1517
MHV OCT 4P/4DES-5Y AS C5 P4-A	4	47,8	29,4	C5	60,2	68	2"1/8	1"1/8	5000	2330	1900	2110
MHV OCT 2P/4NES-14Y AS C2 L2-A	2	48,3	30,8	C2	63,5	68	2"1/8	1"1/8	4100	1230	1420	1226
MHV OCT 3P/4TES-9Y AS C3 L2-B	3	52,8	33,7	C3	70,6	68	2"1/8	1"1/8	5000	1250	1900	1712
MHV OCT 4P/4CES-6Y AS C5 P4-A	4	56,4	33,7	C5	68,6	68	2"1/8	1"1/8	5000	2330	1900	2182
MHV OCT 3P/4PES-12Y AS C3 L3-A	3	61,1	36,7	C3	82,8	98	2"5/8	1"3/8	5600	1250	1900	1880
MHV OCT 4P/4TES-9Y AS C5 P4-A	4	72,3	45,4	C5	95,4	98	2"5/8	1"3/8	5000	2330	1900	2384
MHV OCT 3P/4NES-14Y AS C3 L3-A	3	72,4	43,7	C3	95,3	98	2"5/8	1"3/8	5600	1250	1900	1923
MHV OCT 4P/4PES-12Y AS C5 P4-A	4	81,8	49,4	C5	103,6	98	2"5/8	1"3/8	5000	2330	1900	2447
MHV OCT 4P/4NES-14Y AS C5 P4-A	4	94,7	59,1	C5	120,2	98	2"5/8	1"3/8	5000	2330	1900	2457

MULTIHAVANE - Low noise

Chill range

MULTIHAVANE OCT	Comp.	Capacity	Input power	Casing	Input current	Acoustic Lp at 10 m	Receiver capacity	Suction	Liquid	Dimensions			Net weight
	Nb	kW (1)	kW (1)	Type	A max.	dB(A) (2)	l.	Ø	Ø	L	P	H	kg
MHV OCT 2P/4EES-4Y ALN C2 L2-A	2	24,3	10,6	C2	21,8	33	40	1"5/8	7/8"	4100	1230	1420	1160
MHV OCT 2P/4DES-5Y ALN C2 L2-A	2	28,2	12,6	C2	26,5	34	50	1"5/8	7/8"	4100	1230	1420	1228
MHV OCT 2P/4CES-6Y ALN C2 L2-A	2	34,3	16,1	C2	36,8	43	50	1"5/8	7/8"	4100	1230	1420	1227
MHV OCT 3P/4EES-4Y ALN C3 L2-A	3	35,4	17,1	C3	35,6	43	50	1"5/8	7/8"	4400	1250	1900	1656
MHV OCT 3P/4DES-5Y ALN C3 L2-A	3	40,8	20,3	C3	42,7	43	68	2"1/8	1"1/8	4400	1250	1900	1616
MHV OCT 2P/4TES-9Y ALN C2 L2-B	2	44,9	19,4	C2	44,0	44	68	2"1/8	1"1/8	4700	1230	1420	1356
MHV OCT 4P/4EES-4Y ALN C5 P4-A	4	47,3	21,4	C5	42,9	35	68	2"1/8	1"1/8	5000	2330	1900	2388
MHV OCT 2P/4PES-12Y ALN C2 L2-B	2	50,2	21,6	C2	48,1	44	68	2"1/8	1"1/8	4700	1230	1420	1366
MHV OCT 3P/4CES-6Y ALN C3 L3-A	3	51,5	24,2	C3	55,2	45	68	2"1/8	1"1/8	5600	1250	1900	1807
MHV OCT 4P/4DES-5Y ALN C5 P4-A	4	54,9	25,6	C5	53,0	37	68	2"1/8	1"1/8	5000	2330	1900	2400
MHV OCT 2P/4NES-14Y ALN C2 L2-B	2	58,0	26,1	C2	56,4	44	68	2"1/8	1"1/8	4700	1230	1420	1376
MHV OCT 3P/4TES-9Y ALN C3 L3-A	3	62,4	29,1	C3	62,3	41	68	2"1/8	1"1/8	5600	1250	1900	1966
MHV OCT 4P/4CES-6Y ALN C5 P4-A	4	68,7	32,3	C5	73,6	46	68	2"1/8	1"1/8	5000	2330	1900	2430
MHV OCT 3P/4PES-12Y ALN C3 L3-A	3	72,0	32,8	C3	72,2	46	98	2"5/8	1"3/8	5600	1250	1900	2020
MHV OCT 4P/4TES-9Y ALN C5 P4-A	4	83,2	38,8	C5	83,0	43	98	2"5/8	1"3/8	5000	2330	1900	2674
MHV OCT 3P/4NES-14Y ALN C3 L3-A	3	84,3	39,7	C3	84,6	46	98	2"5/8	1"3/8	5600	1250	1900	2063
MHV OCT 4P/4PES-12Y ALN C5 P6-A	4	99,7	44,6	C5	101,1	49	98	2"5/8	1"3/8	6200	2330	1900	2902
MHV OCT 4P/4NES-14Y ALN C5 P6-A	4	114,9	53,8	C5	117,7	49	98	2"5/8	1"3/8	6200	2330	1900	2912

(1) **A** : Evaporation temperature **-10°C** / Ambient temperature **+32°C** - Superheating: 10K - Subcooling: 3K.
AS : Evaporation temperature **-10°C** / Ambient temperature **+42°C** - Superheating: 10K - Subcooling: 3K.
ALN : Evaporation temperature **-10°C** / Ambient temperature **+32°C** - Superheating: 10K - Subcooling: 3K.
(2) Sound pressure in dB(A) measured at 10 m, line of sight in a reflective surface, in accordance with standard EN 13487 (parallelepiped reference surface).

MULTIHAVANE - Standard

Chill range

MULTIHAVANE SC	Comp.	Capacity	Input power	Casing	Input current	Receiver capacity	Suction	Liquid	Dimensions			Net weight
	Nb	kW (1)	kW (1)	Type	A max.	l.	Ø	Ø	L	P	H	kg
MHV SC 2P/ZB38 A C1 L2-5	2	17,1	8,8	C1	23,4	40	1"5/8	7/8"	2995	920	1190	701
MHV SC 2P/ZB45 A C1 L2-5	2	19,9	10,1	C1	23,8	40	1"5/8	7/8"	2995	920	1190	719
MHV SC 2P/ZB50 A C1 L2-6	2	24,2	11,8	C1	27,4	50	1"5/8	7/8"	3475	920	1190	835
MHV SC 3P/ZB38 A C3 L2-A	3	28,0	14,2	C3	41,6	50	1"5/8	7/8"	4400	1250	1900	1406
MHV SC 2P/ZB66 A C1 L2-6	2	30,3	16,5	C1	35,8	50	1"5/8	7/8"	3475	920	1190	849
MHV SC 3P/ZB45 A C3 L2-A	3	32,4	16,0	C3	42,2	50	1"5/8	7/8"	4400	1250	1900	1406
MHV SC 2P/ZB76 A C1 L2-6	2	34,7	19,2	C1	40,2	68	2"1/8	7/8"	3475	920	1190	808
MHV SC 3P/ZB50 A C3 L2-A	3	37,6	18,9	C3	46,3	68	2"1/8	1"1/8	4400	1250	1900	1404
MHV SC 2P/ZB95 A C1 L3-6	2	42,9	22,1	C1	49,6	68	2"1/8	1"1/8	4375	920	1190	866
MHV SC 3P/ZB66 A C3 L2-A	3	47,6	22,9	C3	55,4	68	2"1/8	1"1/8	4400	1250	1900	1426
MHV SC 4P/ZB50 A C5 P4-A	4	49,2	22,2	C5	52,9	68	2"1/8	1"1/8	5000	2330	1900	2028
MHV SC 2P/ZB114 A C1 L3-6	2	50,5	29,3	C1	64,6	68	2"1/8	1"1/8	4375	920	1190	882
MHV SC 3P/ZB76 A C3 L2-A	3	54,8	26,5	C3	62,0	68	2"1/8	1"1/8	4400	1250	1900	1456
MHV SC 4P/ZB66 A C5 P4-A	4	60,8	28,6	C5	67,0	68	2"1/8	1"1/8	5000	2330	1900	2028
MHV SC 3P/ZB95 A C3 L2-A	3	67,0	34,6	C3	81,5	68	2"5/8	1"1/8	4400	1250	1900	1476
MHV SC 4P/ZB76 A C5 P4-A	4	73,2	34,0	C5	81,0	68	2"5/8	1"1/8	5000	2330	1900	2058
MHV SC 3P/ZB114 A C3 L2-B	3	77,4	41,3	C3	98,6	98	2"5/8	1"3/8	5000	1250	1900	1547
MHV SC 4P/ZB95 A C5 P4-A	4	89,7	43,9	C5	102,7	98	2"5/8	1"3/8	5000	2330	1900	2124
MHV SC 4P/ZB114 A C5 P4-A	4	106,4	54,2	C5	132,7	98	2"5/8	1"3/8	5000	2330	1900	2134

MULTIHAVANE - Oversized condenser

Chill range

MHV SC 2P/ZB38 AS C1 L2-6	2	15,1	10,2	C1	24,2	40	1"5/8	7/8"	3475	920	1190	728
MHV SC 2P/ZB45 AS C1 L2-6	2	17,2	11,8	C1	24,6	40	1"5/8	7/8"	3475	920	1190	738
MHV SC 2P/ZB50 AS C1 L2-6	2	20,2	15,9	C1	29,8	50	1"5/8	7/8"	3475	920	1190	849
MHV SC 3P/ZB38 AS C3 L2-A	3	23,2	16,8	C3	41,6	50	1"5/8	7/8"	4400	1250	1900	1406
MHV SC 3P/ZB45 AS C3 L2-A	3	26,8	19,0	C3	42,2	50	1"5/8	7/8"	4400	1250	1900	1406
MHV SC 2P/ZB66 AS C1 L3-6	2	27,0	19,7	C1	38,1	50	1"5/8	7/8"	4375	920	1190	913
MHV SC 2P/ZB76 AS C1 L3-6	2	31,1	22,5	C1	42,5	68	2"1/8	7/8"	4375	920	1190	872
MHV SC 3P/ZB50 AS C3 L2-A	3	31,7	22,2	C3	46,3	68	2"1/8	1"1/8	4400	1250	1900	1426
MHV SC 2P/ZB95 AS C2 L2-A	2	38,2	28,2	C2	58,3	68	2"1/8	1"1/8	4100	1230	1420	1040
MHV SC 3P/ZB66 AS C3 L2-A	3	40,0	28,4	C3	58,8	68	2"1/8	1"1/8	4400	1250	1900	1426
MHV SC 4P/ZB50 AS C5 P4-A	4	42,3	28,3	C5	60,1	68	2"1/8	1"1/8	5000	2330	1900	2028
MHV SC 2P/ZB114 AS C2 L2-A	2	44,6	33,2	C2	69,7	68	2"1/8	1"1/8	4100	1230	1420	1072
MHV SC 3P/ZB76 AS C3 L2-A	3	47,0	32,2	C3	65,4	68	2"1/8	1"1/8	4400	1250	1900	1476
MHV SC 4P/ZB66 AS C5 P4-A	4	52,5	35,1	C5	72,2	68	2"1/8	1"1/8	5000	2330	1900	2028
MHV SC 3P/ZB95 AS C3 L3-A	3	57,3	39,8	C3	87,5	68	2"5/8	1"1/8	5600	1250	1900	1636
MHV SC 4P/ZB76 AS C5 P4-A	4	62,7	39,7	C5	81,0	68	2"5/8	1"1/8	5000	2330	1900	2100
MHV SC 3P/ZB114 AS C3 L3-A	3	66,9	47,3	C3	104,6	98	2"5/8	1"3/8	5600	1250	1900	1693
MHV SC 4P/ZB95 AS C5 P4-A	4	74,9	54,2	C5	109,9	98	2"5/8	1"3/8	5000	2330	1900	2124
MHV SC 4P/ZB114 AS C5 P4-A	4	87,5	64,6	C5	132,7	98	2"5/8	1"3/8	5000	2330	1900	2177

MULTIHAVANE - Low noise

Chill range

MULTIHAVANE SC	Comp.	Capacity	Input power	Casing	Input current	Acoustic Lp at 10 m	Receiver capacity	Suction	Liquid	Dimensions			Net weight
	Nb	kW (1)	kW (1)	Type	A max.	dB(A) (2)	l.	Ø	Ø	L	P	H	kg
MHV SC 2P/ZB38 ALN C1 L3-6	2	18,1	8,1	C1	23,0	38	40	1"5/8	7/8"	4375	920	1190	875
MHV SC 2P/ZB45 ALN C1 L3-6	2	20,7	9,5	C1	23,3	38	40	1"5/8	7/8"	4375	920	1190	885
MHV SC 2P/ZB50 ALN C2 L2-A	2	25,2	10,8	C2	26,5	36	50	1"5/8	7/8"	4100	1230	1420	1187
MHV SC 3P/ZB38 ALN C3 L2-A	3	26,6	12,1	C3	34,3	35	50	1"5/8	7/8"	4400	1250	1900	1567
MHV SC 2P/ZB66 ALN C2 L2-A	2	31,7	14,6	C2	36,1	44	50	1"5/8	7/8"	4100	1230	1420	1166
MHV SC 3P/ZB45 ALN C3 L2-A	3	31,7	14,8	C3	38,5	43	50	1"5/8	7/8"	4400	1250	1900	1546
MHV SC 2P/ZB76 ALN C2 L2-A	2	36,6	17,0	C2	40,5	44	68	2"1/8	7/8"	4100	1230	1420	1124
MHV SC 3P/ZB50 ALN C3 L2-A	3	36,6	17,8	C3	42,6	44	68	2"1/8	1"1/8	4400	1250	1900	1544
MHV SC 2P/ZB95 ALN C2 L2-B	2	46,5	20,6	C2	51,2	44	68	2"1/8	1"1/8	4700	1230	1420	1216
MHV SC 3P/ZB66 ALN C3 L3-A	3	47,6	21,8	C3	54,2	46	68	2"1/8	1"1/8	5600	1250	1900	1716
MHV SC 4P/ZB50 ALN C5 P4-A	4	49,2	22,2	C5	52,9	39	68	2"1/8	1"1/8	5000	2330	1900	2318
MHV SC 2P/ZB114 ALN C2 L2-B	2	53,7	25,2	C2	62,6	45	68	2"1/8	1"1/8	4700	1230	1420	1226
MHV SC 3P/ZB76 ALN C3 L3-A	3	54,9	25,5	C3	60,7	46	68	2"1/8	1"1/8	5600	1250	1900	1746
MHV SC 4P/ZB66 ALN C5 P4-A	4	60,8	28,6	C5	67,0	42	68	2"1/8	1"1/8	5000	2330	1900	2318
MHV SC 3P/ZB95 ALN C3 L3-A	3	67,1	32,2	C3	76,9	46	68	2"5/8	1"1/8	5600	1250	1900	1776
MHV SC 4P/ZB76 ALN C5 P4-A	4	73,2	34,0	C5	81,0	47	68	2"5/8	1"1/8	5000	2330	1900	2348
MHV SC 3P/ZB114 ALN C3 L3-A	3	78,2	39,0	C3	94,0	47	98	2"5/8	1"3/8	5600	1250	1900	1833
MHV SC 4P/ZB95 ALN C5 P4-A	4	89,4	43,0	C5	102,5	47	98	2"5/8	1"3/8	5000	2330	1900	2414
MHV SC 4P/ZB114 ALN C5 P6-A	4	106,6	52,2	C5	130,2	50	98	2"5/8	1"3/8	6200	2330	1900	2632

(1) **A** : Evaporation temperature **-10°C** / Ambient temperature **+32°C** - Superheating: 10K - Subcooling: 3K.
AS : Evaporation temperature **-10°C** / Ambient temperature **+42°C** - Superheating: 10K - Subcooling: 3K.
ALN : Evaporation temperature **-10°C** / Ambient temperature **+32°C** - Superheating: 10K - Subcooling: 3K.
(2) Sound pressure in dB(A) measured at 10 m, line of sight in a reflective surface, in accordance with standard EN 13487 (parallelepiped reference surface).

MULTIHAVANE - Standard

Chill range

MULTIHAVANE SH	Comp.	Capacity	Input power	Casing	Input current	Receiver capacity	Suction	Liquid	Dimensions			Net weight
	Nb	kW (1)	kW (1)	Type	A max.	l.	Ø	Ø	L	P	H	kg
MHV SH 2P/4MF-13X A C3 L2-A	2	63,6	31,0	C3	59,1	68	2"5/8	1"1/8	4400	1250	1900	1598
MHV SH 2P/4JE-15Y A C3 L2-A	2	65,9	32,7	C3	70,6	68	2"5/8	1"1/8	4400	1250	1900	1608
MHV SH 2P/4HE-18Y A C3 L2-A	2	76,3	38,3	C3	81,8	68	2"5/8	1"1/8	4400	1250	1900	1632
MHV SH 2P/4ML-15X A C3 L2-A	2	77,2	37,7	C3	78,5	68	2"5/8	1"1/8	4400	1250	1900	1612
MHV SH 2P/4MM-20X A C3 L2-B	2	87,9	40,8	C3	92,2	98	3"1/8	1"3/8	5000	1250	1900	1755
MHV SH 2P/4GE-23Y A C3 L2-B	2	89,8	44,3	C3	95,3	98	3"1/8	1"3/8	5000	1250	1900	1775
MHV SH 3P/4MF-13X A C5 P4-A	3	97,9	45,3	C5	85,8	145	3"1/8	1"3/8	5000	2330	1900	2438
MHV SH 3P/4JE-15Y A C5 P4-A	3	99,2	46,1	C5	97,8	145	3"1/8	1"3/8	5000	2330	1900	2473
MHV SH 2P/4FE-28Y A C4 P4-A	2	108,0	53,4	C4	116,8	145	3"1/8	1"5/8	4400	2330	1900	2227
MHV SH 2P/4MU-25X A C4 P4-A	2	111,1	52,8	C4	109,9	145	3"1/8	1"5/8	4400	2330	1900	2131
MHV SH 3P/4HE-18Y A C5 P4-A	3	116,2	56,6	C5	121,9	145	3"1/8	1"3/8	5000	2330	1900	2473
MHV SH 3P/4ML-15X A C5 P4-A	3	117,4	55,5	C5	116,9	145	3"1/8	1"3/8	5000	2330	1900	2443
MHV SH 2P/6MM-30X A C4 P4-A	2	127,6	63,9	C4	143,0	145	4"1/8	1"5/8	4400	2330	1900	2229
MHV SH 3P/4MM-20X A C5 P4-A	3	130,5	63,8	C5	144,3	145	4"1/8	1"5/8	5000	2330	1900	2477
MHV SH 2P/6GE-34Y A C4 P4-A	2	131,7	68,8	C4	148,6	145	4"1/8	1"5/8	4400	2330	1900	2271
MHV SH 3P/4GE-23Y A C5 P4-A	3	133,2	69,1	C5	149,0	145	4"1/8	1"5/8	5000	2330	1900	2507
MHV SH 2P/6FE-44Y A C4 P4-B	2	157,3	80,3	C4	172,6	200	4"1/8	1"5/8	5000	2330	1900	2389
MHV SH 2P/6MU-40X A C4 P4-B	2	158,0	79,3	C4	170,3	200	4"1/8	1"5/8	5000	2330	1900	2389
MHV SH 3P/4FE-28Y A C5 P4-B	3	161,5	79,4	C5	173,5	200	4"1/8	1"5/8	5600	2330	1900	2722
MHV SH 3P/4MU-25X A C5 P4-B	3	166,2	78,5	C5	163,0	200	4"1/8	1"5/8	5600	2330	1900	2653
MHV SH 3P/6MM-30X A C5 P6-A	3	192,0	92,0	C5	204,3	200	4"1/8	1"5/8	6200	2330	1900	2978
MHV SH 3P/6GE-34Y A C5 P6-A	3	198,3	99,4	C5	212,7	200	4"1/8	1"5/8	6200	2330	1900	3016
MHV SH 3P/6FE-44Y A C5 P6-A	3	233,6	121,9	C5	258,9	200	4"1/8	2"1/8	6200	2330	1900	3114
MHV SH 3P/6MU-40X A C5 P6-A	3	234,6	120,7	C5	255,4	200	4"1/8	2"1/8	6200	2330	1900	3114

MULTIHAVANE - Oversized condenser

Chill range

MHV SH 2P/4MF-13X AS C3 L2-A	2	54,2	34,8	C3	62,5	68	2"5/8	1"1/8	4400	1250	1900	1618
MHV SH 2P/4JE-15Y AS C3 L2-B	2	55,4	34,1	C3	70,6	68	2"5/8	1"1/8	5000	1250	1900	1674
MHV SH 2P/4HE-18Y AS C3 L2-B	2	65,2	40,2	C3	81,8	68	2"5/8	1"1/8	5000	1250	1900	1730
MHV SH 2P/4ML-15X AS C3 L2-B	2	67,0	40,1	C3	78,5	68	2"5/8	1"1/8	5000	1250	1900	1710
MHV SH 2P/4MM-20X AS C3 L2-D	2	74,4	43,8	C3	92,2	98	3"1/8	1"3/8	6000	1250	1900	1829
MHV SH 2P/4GE-23Y AS C3 L2-D	2	75,1	46,9	C3	95,3	98	3"1/8	1"3/8	6000	1250	1900	1849
MHV SH 3P/4MF-13X AS C5 P4-A	3	82,4	51,3	C5	93,0	145	3"1/8	1"3/8	5000	2330	1900	2438
MHV SH 3P/4JE-15Y AS C5 P4-A	3	85,2	53,5	C5	111,8	145	3"1/8	1"3/8	5000	2330	1900	2473
MHV SH 2P/4FE-28Y AS C4 P4-A	2	90,3	57,1	C4	116,8	145	3"1/8	1"5/8	4400	2330	1900	2270
MHV SH 2P/4MU-25X AS C4 P4-A	2	94,0	57,3	C4	109,9	145	3"1/8	1"5/8	4400	2330	1900	2174
MHV SH 3P/4HE-18Y AS C5 P4-A	3	97,0	60,3	C5	121,9	145	3"1/8	1"3/8	5000	2330	1900	2516
MHV SH 3P/4ML-15X AS C5 P4-A	3	99,8	60,2	C5	116,9	145	3"1/8	1"3/8	5000	2330	1900	2486
MHV SH 2P/6MM-30X AS C4 P4-A	2	107,6	69,1	C4	143,0	145	4"1/8	1"5/8	4400	2330	1900	2280
MHV SH 2P/6GE-34Y AS C4 P4-A	2	110,2	73,9	C4	148,6	145	4"1/8	1"5/8	4400	2330	1900	2322
MHV SH 3P/4GE-23Y AS C5 P4-A	3	111,0	73,6	C5	149,0	145	4"1/8	1"5/8	5000	2330	1900	2558
MHV SH 3P/4MM-20X AS C5 P4-B	3	113,7	67,8	C5	144,3	145	4"1/8	1"5/8	5600	2330	1900	2608
MHV SH 2P/6FE-44Y AS C4 P6-A	2	135,5	85,7	C4	174,4	200	4"1/8	1"5/8	5600	2330	1900	2646
MHV SH 2P/6MU-40X AS C4 P6-A	2	137,0	86,1	C4	172,1	200	4"1/8	1"5/8	5600	2330	1900	2646
MHV SH 3P/4FE-28Y AS C5 P6-A	3	137,8	89,2	C5	185,5	200	4"1/8	1"5/8	6200	2330	1900	2937
MHV SH 3P/4MU-25X AS C5 P6-A	3	143,3	89,5	C5	175,0	200	4"1/8	1"5/8	6200	2330	1900	2856
MHV SH 3P/6MM-30X AS C5 P6-B	3	166,4	101,9	C5	214,5	200	4"1/8	1"5/8	7100	2330	1900	3130
MHV SH 3P/6GE-34Y AS C5 P6-B	3	171,0	109,1	C5	222,9	200	4"1/8	1"5/8	7100	2330	1900	3156
MHV SH 3P/6FE-44Y AS C5 P6-B	3	197,7	127,6	C5	258,9	200	4"1/8	2"1/8	7100	2330	1900	3254
MHV SH 3P/6MU-40X AS C5 P6-B	3	200,1	128,7	C5	255,4	200	4"1/8	2"1/8	7100	2330	1900	3254

MULTIHAVANE - Low noise

Chill range

MULTIHAVANE SH	Comp.	Capacity	Input power	Casing	Input current	Acoustic Lp at 10 m	Receiver capacity	Suction	Liquid	Dimensions			Net weight
	Nb	kW (1)	kW (1)	Type	A max.	dB(A) (2)	l.	Ø	Ø	L	P	H	kg
MHV SH 2P/4MF-13X ALN C3 L2-B	2	64,3	29,1	C3	55,4	46	68	2"5/8	1"1/8	5000	1250	1900	1828
MHV SH 2P/4JE-15Y ALN C3 L2-B	2	65,2	29,6	C3	63,5	44	68	2"5/8	1"1/8	5000	1250	1900	1838
MHV SH 2P/4HE-18Y ALN C4 P4-A	2	77,6	36,4	C4	79,6	47	68	2"5/8	1"1/8	4400	2330	1900	2240
MHV SH 2P/4ML-15X ALN C4 P4-A	2	78,4	35,6	C4	76,3	49	68	2"5/8	1"1/8	4400	2330	1900	2220
MHV SH 2P/4MM-20X ALN C4 P4-A	2	88,9	39,1	C4	90,0	52	98	3"1/8	1"3/8	4400	2330	1900	2306
MHV SH 2P/4GE-23Y ALN C4 P4-A	2	91,0	42,7	C4	93,1	47	98	3"1/8	1"3/8	4400	2330	1900	2326
MHV SH 3P/4MF-13X ALN C5 P6-A	3	101,2	44,8	C5	90,5	50	145	3"1/8	1"3/8	6200	2330	1900	2936
MHV SH 3P/4JE-15Y ALN C5 P6-A	3	102,5	45,8	C5	102,5	48	145	3"1/8	1"3/8	6200	2330	1900	2971
MHV SH 2P/4FE-28Y ALN C4 P6-A	2	108,1	51,4	C4	114,3	49	145	3"1/8	1"5/8	5600	2330	1900	2675
MHV SH 2P/4MU-25X ALN C4 P6-A	2	111,3	50,7	C4	107,4	52	145	3"1/8	1"5/8	5600	2330	1900	2579
MHV SH 3P/4HE-18Y ALN C5 P6-A	3	116,4	54,6	C5	119,4	49	145	3"1/8	1"3/8	6200	2330	1900	2971
MHV SH 3P/4ML-15X ALN C5 P6-A	3	117,6	53,5	C5	114,4	51	145	3"1/8	1"3/8	6200	2330	1900	2941
MHV SH 2P/6MM-30X ALN C4 P4-D	2	127,4	57,5	C4	128,8	52	145	4"1/8	1"5/8	6000	2330	1900	2645
MHV SH 2P/6GE-34Y ALN C4 P4-D	2	131,6	62,5	C4	134,4	48	145	4"1/8	1"5/8	6000	2330	1900	2687
MHV SH 3P/4MM-20X ALN C5 P6-A	3	133,3	58,7	C5	135,0	54	145	4"1/8	1"5/8	6200	2330	1900	3037
MHV SH 3P/4GE-23Y ALN C5 P6-A	3	136,5	64,0	C5	139,7	49	145	4"1/8	1"5/8	6200	2330	1900	3067

MULTIHAVANE - Standard

Low temperature range

MULTIHAVANE OCT	Comp.	Capacity	Input power	Casing	Input current	Receiver capacity	Suction	Liquid	Dimensions			Net weight
	Nb	kW (1)	kW (1)	Type	A max.	l.	Ø	Ø	L	P	H	kg
MHV OCT 2N/4EES-4Y A C1 L2-5	2	6,8	6,4	C1	16,6	40	1"3/8	5/8"	2995	920	1190	792
MHV OCT 2N/4DES-5Y A C1 L2-5	2	7,8	7,5	C1	20,9	40	1"3/8	5/8"	2995	920	1190	793
MHV OCT 2N/4CES-6Y A C1 L2-5	2	9,3	8,4	C1	26,8	40	1"5/8	5/8"	2995	920	1190	812
MHV OCT 3N/4EES-4Y A C3 L2-A	3	10,2	8,5	C3	23,3	40	1"5/8	5/8"	4400	1250	1900	1479
MHV OCT 2N/4TES-9Y A C1 L2-5	2	10,8	9,5	C1	28,3	50	1"5/8	5/8"	2995	920	1190	968
MHV OCT 3N/4DES-5Y A C3 L2-A	3	12,4	10,3	C3	30,5	50	1"5/8	5/8"	4400	1250	1900	1548
MHV OCT 2N/4PES-12Y A C1 L2-6	2	12,5	10,4	C1	31,3	50	1"5/8	5/8"	3475	920	1190	1005
MHV OCT 3N/4CES-6Y A C3 L2-A	3	14,2	12,0	C3	39,3	50	1"5/8	5/8"	4400	1250	1900	1568
MHV OCT 4N/4EES-4Y A C5 P4-A	4	14,4	11,4	C5	31,4	50	1"5/8	5/8"	5000	2330	1900	2179
MHV OCT 2N/4NES-14Y A C1 L2-6	2	14,9	12,9	C1	37,1	68	2"1/8	7/8"	3475	920	1190	964
MHV OCT 3N/4TES-9Y A C3 L2-A	3	16,5	13,7	C3	41,6	68	2"1/8	7/8"	4400	1250	1900	1644
MHV OCT 4N/4DES-5Y A C5 P4-A	4	16,8	13,5	C5	39,9	68	2"1/8	7/8"	5000	2330	1900	2140
MHV OCT 4N/4CES-6Y A C5 P4-A	4	19,4	15,8	C5	51,7	68	2"1/8	7/8"	5000	2330	1900	2160
MHV OCT 3N/4PES-12Y A C3 L2-A	3	19,4	17,5	C3	52,3	68	2"1/8	7/8"	4400	1250	1900	1664
MHV OCT 3N/4NES-14Y A C3 L2-A	3	23,4	21,3	C3	61,0	68	2"1/8	7/8"	4400	1250	1900	1664
MHV OCT 4N/4TES-9Y A C5 P4-A	4	23,6	18,4	C5	55,6	68	2"1/8	7/8"	5000	2330	1900	2338
MHV OCT 4N/4PES-12Y A C5 P4-A	4	25,2	19,7	C5	60,1	68	2"5/8	1"1/8	5000	2330	1900	2368
MHV OCT 4N/4NES-14Y A C5 P4-A	4	30,5	24,9	C5	72,4	68	2"5/8	1"1/8	5000	2330	1900	2368

MULTIHAVANE - Oversized condenser

Low temperature range

MHV OCT 2N/4EES-4Y AS C1 L2-5	2	5,1	6,5	C1	16,6	40	1"3/8	5/8"	2995	920	1190	792
MHV OCT 2N/4DES-5Y AS C1 L2-5	2	5,9	7,6	C1	20,9	40	1"3/8	5/8"	2995	920	1190	793
MHV OCT 2N/4CES-6Y AS C1 L2-5	2	7,0	8,5	C1	26,8	40	1"5/8	5/8"	2995	920	1190	812
MHV OCT 3N/4EES-4Y AS C3 L2-A	3	7,7	8,6	C3	23,3	40	1"5/8	5/8"	4400	1250	1900	1479
MHV OCT 2N/4TES-9Y AS C1 L2-6	2	8,6	9,8	C1	29,0	50	1"5/8	5/8"	3475	920	1190	995
MHV OCT 3N/4DES-5Y AS C3 L2-A	3	9,3	10,4	C3	30,5	50	1"5/8	5/8"	4400	1250	1900	1548
MHV OCT 2N/4PES-12Y AS C1 L2-6	2	8,9	10,0	C1	31,3	50	1"5/8	5/8"	3475	920	1190	1005
MHV OCT 3N/4CES-6Y AS C3 L2-A	3	10,6	12,1	C3	39,3	50	1"5/8	5/8"	4400	1250	1900	1568
MHV OCT 4N/4EES-4Y AS C5 P4-A	4	10,9	11,6	C5	31,4	50	1"5/8	5/8"	5000	2330	1900	2179
MHV OCT 2N/4NES-14Y AS C1 L2-6	2	10,9	12,5	C1	37,1	68	2"1/8	7/8"	3475	920	1190	964
MHV OCT 4N/4DES-5Y AS C5 P4-A	4	12,7	13,8	C5	39,9	68	2"1/8	7/8"	5000	2330	1900	2140
MHV OCT 3N/4TES-9Y AS C3 L2-A	3	13,0	15,6	C3	45,3	68	2"1/8	7/8"	4400	1250	1900	1644
MHV OCT 4N/4CES-6Y AS C5 P4-A	4	14,5	16,0	C5	51,7	68	2"1/8	7/8"	5000	2330	1900	2160
MHV OCT 3N/4PES-12Y AS C3 L2-A	3	13,9	17,0	C3	52,3	68	2"1/8	7/8"	4400	1250	1900	1664
MHV OCT 3N/4NES-14Y AS C3 L2-A	3	17,0	20,8	C3	61,0	68	2"1/8	7/8"	4400	1250	1900	1664
MHV OCT 4N/4TES-9Y AS C5 P4-A	4	17,3	18,6	C5	55,6	68	2"1/8	7/8"	5000	2330	1900	2338
MHV OCT 4N/4PES-12Y AS C5 P4-A	4	18,0	19,0	C5	60,1	68	2"5/8	1"1/8	5000	2330	1900	2368
MHV OCT 4N/4NES-14Y AS C5 P4-A	4	22,2	24,2	C5	72,4	68	2"5/8	1"1/8	5000	2330	1900	2368

MULTIHAVANE - Low noise

Low temperature range

MULTIHAVANE OCT	Comp.	Capacity	Input power	Casing	Input current	Acoustic Lp at 10 m	Receiver capacity	Suction	Liquid	Dimensions			Net weight
	Nb	kW (1)	kW (1)	Type	A max.	dB(A) (2)	l.	Ø	Ø	L	P	H	kg
MHV OCT 2N/4EES-4Y ALN C1 L2-6	2	6,9	5,8	C1	15,9	37	40	1"3/8	5/8"	3475	920	1190	913
MHV OCT 2N/4DES-5Y ALN C1 L2-6	2	8,0	6,9	C1	20,1	37	40	1"3/8	5/8"	3475	920	1190	914
MHV OCT 2N/4CES-6Y ALN C1 L2-6	2	9,2	8,0	C1	26,0	38	40	1"5/8	5/8"	3475	920	1190	924
MHV OCT 3N/4EES-4Y ALN C3 L2-A	3	10,2	8,5	C3	23,3	33	40	1"5/8	5/8"	4400	1250	1900	1619
MHV OCT 2N/4TES-9Y ALN C1 L3-6	2	11,6	9,3	C1	27,8	41	50	1"5/8	5/8"	4375	920	1190	1142
MHV OCT 2N/4PES-12Y ALN C1 L3-6	2	12,3	10,0	C1	30,1	42	50	1"5/8	5/8"	4375	920	1190	1152
MHV OCT 3N/4DES-5Y ALN C3 L2-A	3	12,4	10,3	C3	30,5	37	50	1"5/8	5/8"	4400	1250	1900	1688
MHV OCT 3N/4CES-6Y ALN C3 L2-A	3	14,2	12,0	C3	39,3	38	50	1"5/8	5/8"	4400	1250	1900	1708
MHV OCT 4N/4EES-4Y ALN C5 P4-A	4	14,4	11,4	C5	31,4	35	50	1"5/8	5/8"	5000	2330	1900	2469
MHV OCT 2N/4NES-14Y ALN C2 L2-A	2	15,7	12,5	C2	36,2	42	68	2"1/8	7/8"	4100	1230	1420	1316
MHV OCT 4N/4DES-5Y ALN C5 P4-A	4	16,8	13,5	C5	39,9	36	68	2"1/8	7/8"	5000	2330	1900	2430
MHV OCT 3N/4TES-9Y ALN C3 L2-A	3	16,9	13,7	C3	41,6	41	68	2"1/8	7/8"	4400	1250	1900	1806
MHV OCT 3N/4PES-12Y ALN C3 L2-A	3	18,9	15,9	C3	48,6	46	68	2"1/8	7/8"	4400	1250	1900	1804
MHV OCT 4N/4CES-6Y ALN C5 P4-A	4	19,4	15,8	C5	51,7	38	68	2"1/8	7/8"	5000	2330	1900	2450
MHV OCT 3N/4NES-14Y ALN C3 L2-A	3	22,7	19,7	C3	57,3	47	68	2"1/8	7/8"	4400	1250	1900	1804
MHV OCT 4N/4TES-9Y ALN C5 P4-A	4	23,6	18,4	C5	55,6	42	68	2"1/8	7/8"	5000	2330	1900	2628
MHV OCT 4N/4PES-12Y ALN C5 P4-A	4	25,2	19,7	C5	60,1	43	68	2"5/8	1"1/8	5000	2330	1900	2658
MHV OCT 4N/4NES-14Y ALN C5 P4-A	4	30,5	24,9	C5	72,4	45	68	2"5/8	1"1/8	5000	2330	1900	2658

(1) **A** : Evaporation temperature **-35°C** / Ambient temperature **+32°C** - Superheating: 10K - Subcooling: 3K.
AS : Evaporation temperature **-35°C** / Ambient temperature **+42°C** - Superheating: 10K - Subcooling: 3K.
ALN : Evaporation temperature **-35°C** / Ambient temperature **+32°C** - Superheating: 10K - Subcooling: 3K.
(2) Sound pressure in dB(A) measured at 10 m, line of sight in a reflective surface, in accordance with standard EN 13487 (parallelepiped reference surface).

MULTIHAVANE - Standard

Low temperature range

MULTIHAVANE SC	Comp.	Capacity	Input power	Casing	Input current	Receiver capacity	Suction	Liquid	Dimensions			Net weight
	Nb	kW (1)	kW (1)	Type	A max.	l.	Ø	Ø	L	P	H	kg
MHV SC 2N/ZF15 A C1 L2-5	2	6,3	6,4	C1	17,6	40	1"3/8	5/8"	2995	920	1190	692
MHV SC 2N/ZF24 A C1 L2-5	2	9,2	9,8	C1	26,6	40	1"5/8	5/8"	2995	920	1190	821
MHV SC 3N/ZF15 A C3 L2-A	3	9,4	8,5	C3	24,8	50	1"5/8	5/8"	4400	1250	1900	1396
MHV SC 2N/ZF33 A C1 L2-6	2	12,8	12,5	C1	34,2	50	2"1/8	5/8"	3475	920	1190	945
MHV SC 3N/ZF24 A C3 L2-A	3	13,9	13,9	C3	39,1	50	2"1/8	5/8"	4400	1250	1900	1576
MHV SC 2N/ZF40 A C1 L2-6	2	15,8	17,6	C1	42,5	68	2"1/8	7/8"	3475	920	1190	908
MHV SC 2N/ZF48 A C1 L2-6	2	18,3	22,9	C1	53,4	68	2"1/8	7/8"	3475	920	1190	918
MHV SC 4N/ZF24 A C5 P4-A	4	19,3	18,1	C5	52,3	68	2"1/8	7/8"	5000	2330	1900	2178
MHV SC 3N/ZF33 A C3 L2-A	3	19,7	20,2	C3	56,7	68	2"1/8	7/8"	4400	1250	1900	1524
MHV SC 3N/ZF40 A C3 L2-A	3	23,7	25,4	C3	65,5	68	2"5/8	7/8"	4400	1250	1900	1554
MHV SC 4N/ZF33 A C5 P4-A	4	25,8	23,8	C5	66,0	68	2"5/8	7/8"	5000	2330	1900	2188
MHV SC 3N/ZF48 A C3 L2-A	3	28,7	32,4	C3	81,8	68	2"5/8	7/8"	4400	1250	1900	1606
MHV SC 4N/ZF40 A C5 P4-A	4	31,1	30,8	C5	78,4	68	2"5/8	1"1/8	5000	2330	1900	2228
MHV SC 4N/ZF48 A C5 P4-A	4	38,3	41,8	C5	107,4	98	2"5/8	1"1/8	5000	2330	1900	2292

MULTIHAVANE - Oversized condenser

Low temperature range

MHV SC 2N/ZF15 AS C1 L2-5	2	5,1	7,6	C1	17,6	40	1"3/8	5/8"	2995	920	1190	692
MHV SC 2N/ZF24 AS C1 L2-5	2	7,4	11,2	C1	26,6	40	1"5/8	5/8"	2995	920	1190	821
MHV SC 3N/ZF15 AS C3 L2-A	3	7,7	10,2	C3	24,8	50	1"5/8	5/8"	4400	1250	1900	1396
MHV SC 2N/ZF33 AS C1 L2-6	2	10,4	14,5	C1	34,2	50	2"1/8	5/8"	3475	920	1190	945
MHV SC 3N/ZF24 AS C3 L2-A	3	11,3	16,1	C3	39,1	50	2"1/8	5/8"	4400	1250	1900	1576
MHV SC 2N/ZF40 AS C1 L2-6	2	12,8	20,3	C1	42,5	68	2"1/8	7/8"	3475	920	1190	908
MHV SC 2N/ZF48 AS C1 L3-6	2	15,6	24,0	C1	52,1	68	2"1/8	7/8"	4375	920	1190	976
MHV SC 4N/ZF24 AS C5 P4-A	4	15,9	21,0	C5	52,3	68	2"1/8	7/8"	5000	2330	1900	2178
MHV SC 3N/ZF33 AS C3 L2-A	3	16,0	23,2	C3	56,7	68	2"1/8	7/8"	4400	1250	1900	1524
MHV SC 3N/ZF40 AS C3 L2-A	3	19,2	29,4	C3	65,5	68	2"5/8	7/8"	4400	1250	1900	1554
MHV SC 4N/ZF33 AS C5 P4-A	4	21,0	27,7	C5	66,7	68	2"5/8	7/8"	5000	2330	1900	2188
MHV SC 3N/ZF48 AS C3 L2-A	3	23,3	37,5	C3	81,8	68	2"5/8	7/8"	4400	1250	1900	1606
MHV SC 4N/ZF40 AS C5 P4-A	4	25,6	36,2	C5	80,4	68	2"5/8	1"1/8	5000	2330	1900	2228
MHV SC 4N/ZF48 AS C5 P4-A	4	31,1	48,7	C5	107,4	98	2"5/8	1"1/8	5000	2330	1900	2292

MULTIHAVANE - Low noise

Low temperature range

MULTIHAVANE SC	Comp.	Capacity	Input power	Casing	Input current	Acoustic Lp at 10 m	Receiver capacity	Suction	Liquid	Dimensions			Net weight
	Nb	kW (1)	kW (1)	Type	A max.	dB(A) (2)	l.	Ø	Ø	L	P	H	kg
MHV SC 2N/ZF15 ALN C1 L2-6	2	6,4	5,8	C1	16,8	38	40	1"3/8	5/8"	3475	920	1190	813
MHV SC 2N/ZF24 ALN C1 L2-6	2	9,1	9,5	C1	25,8	43	40	1"5/8	5/8"	3475	920	1190	933
MHV SC 3N/ZF15 ALN C3 L2-A	3	9,4	8,5	C3	24,8	37	50	1"5/8	5/8"	4400	1250	1900	1536
MHV SC 2N/ZF33 ALN C1 L3-6	2	12,7	12,2	C1	33,0	43	50	2"1/8	5/8"	4375	920	1190	1092
MHV SC 3N/ZF24 ALN C3 L2-A	3	13,9	13,9	C3	39,1	44	50	2"1/8	5/8"	4400	1250	1900	1716
MHV SC 2N/ZF40 ALN C2 L2-A	2	15,8	15,2	C2	39,2	42	68	2"1/8	7/8"	4100	1230	1420	1246
MHV SC 2N/ZF48 ALN C2 L2-A	2	19,1	20,9	C2	53,7	46	68	2"1/8	7/8"	4100	1230	1420	1234
MHV SC 4N/ZF24 ALN C5 P4-A	4	19,3	18,1	C5	52,3	45	68	2"1/8	7/8"	5000	2330	1900	2468
MHV SC 3N/ZF33 ALN C3 L2-A	3	19,4	18,9	C3	53,0	47	68	2"1/8	7/8"	4400	1250	1900	1664
MHV SC 3N/ZF40 ALN C3 L2-A	3	23,9	23,7	C3	61,8	47	68	2"5/8	7/8"	4400	1250	1900	1716
MHV SC 4N/ZF33 ALN C5 P4-A	4	25,8	23,8	C5	66,0	45	68	2"5/8	7/8"	5000	2330	1900	2478
MHV SC 3N/ZF48 ALN C3 L3-A	3	28,7	31,3	C3	80,6	48	68	2"5/8	7/8"	5600	1250	1900	1896
MHV SC 4N/ZF40 ALN C5 P4-A	4	31,1	30,8	C5	78,4	45	68	2"5/8	1"1/8	5000	2330	1900	2518
MHV SC 4N/ZF48 ALN C5 P4-A	4	38,3	41,8	C5	107,4	49	98	2"5/8	1"1/8	5000	2330	1900	2582

(1) **A** : Evaporation temperature **-35°C** / Ambient temperature **+32°C** - Superheating: 10K - Subcooling: 3K.
AS : Evaporation temperature **-35°C** / Ambient temperature **+42°C** - Superheating: 10K - Subcooling: 3K.
ALN : Evaporation temperature **-35°C** / Ambient temperature **+32°C** - Superheating: 10K - Subcooling: 3K.
(2) Sound pressure in dB(A) measured at 10 m, line of sight in a reflective surface, in accordance with standard EN 13487 (parallelepiped reference surface).

MULTIHAVANE - Standard

Low temperature range

MULTIHAVANE SH	Comp.	Capacity	Input power	Casing	Input current	Receiver capacity	Suction	Liquid	Dimensions			Net weight
	Nb	kW (1)	kW (1)	Type	A max.	l.	Ø	Ø	L	P	H	kg
MHV SH 2N/4HE-18Y A C3 L2-A	2	22,9	20,6	C3	57,7	68	2"5/8	7/8"	4400	1250	1900	1630
MHV SH 2N/4ML-15X A C3 L2-A	2	23,2	21,3	C3	59,2	68	2"5/8	7/8"	4400	1250	1900	1594
MHV SH 2N/4MM-20X A C3 L2-A	2	27,1	23,8	C3	69,6	68	2"5/8	1"1/8	4400	1250	1900	1630
MHV SH 2N/4GE-23Y A C3 L2-A	2	27,7	24,0	C3	66,3	68	2"5/8	1"1/8	4400	1250	1900	1668
MHV SH 2N/4FE-28Y A C4 P4-A	2	33,7	27,9	C4	82,6	98	2"5/8	1"3/8	4400	2330	1900	2148
MHV SH 2N/4MU-25X A C4 P4-A	2	34,4	29,3	C4	82,6	98	2"5/8	1"3/8	4400	2330	1900	2060
MHV SH 3N/4HE-18Y A C5 P4-A	3	35,1	29,2	C5	83,4	98	2"5/8	1"3/8	5000	2330	1900	2425
MHV SH 3N/4ML-15X A C5 P4-A	3	35,5	30,2	C5	85,7	98	2"5/8	1"3/8	5000	2330	1900	2371
MHV SH 2N/6MM-30X A C4 P4-A	2	39,6	33,9	C4	101,2	98	3"1/8	1"3/8	4400	2330	1900	2150
MHV SH 3N/4MM-20X A C5 P4-A	3	39,9	33,9	C5	101,3	145	3"1/8	1"3/8	5000	2330	1900	2444
MHV SH 3N/4GE-23Y A C5 P4-A	3	40,8	34,1	C5	96,3	145	3"1/8	1"3/8	5000	2330	1900	2498
MHV SH 2N/6GE-34Y A C4 P4-A	2	41,4	34,9	C4	100,2	98	3"1/8	1"3/8	4400	2330	1900	2192
MHV SH 2N/6FE-44Y A C4 P4-A	2	47,0	41,8	C4	122,2	145	3"1/8	1"3/8	4400	2330	1900	2243
MHV SH 3N/4FE-28Y A C5 P4-A	3	47,1	40,4	C5	119,0	145	4"1/8	1"5/8	5000	2330	1900	2572
MHV SH 2N/6MU-40X A C4 P4-A	2	47,4	42,8	C4	118,9	145	3"1/8	1"3/8	4400	2330	1900	2243
MHV SH 3N/4MU-25X A C5 P4-A	3	48,1	42,7	C5	119,0	145	4"1/8	1"5/8	5000	2330	1900	2485
MHV SH 3N/6MM-30X A C5 P4-A	3	59,3	52,8	C5	154,3	145	4"1/8	1"5/8	5000	2330	1900	2677
MHV SH 3N/6GE-34Y A C5 P4-A	3	61,9	54,4	C5	152,8	145	4"1/8	1"5/8	5000	2330	1900	2735
MHV SH 3N/6FE-44Y A C5 P4-A	3	70,4	64,6	C5	185,8	200	4"1/8	1"5/8	5000	2330	1900	2788
MHV SH 3N/6MU-40X A C5 P4-A	3	71,0	66,2	C5	180,8	200	4"1/8	1"5/8	5000	2330	1900	2788

MULTIHAVANE - Oversized condenser

Low temperature range

MHV SH 2N/4HE-18Y AS C3 L2-A	2	17,2	20,7	C3	57,7	68	2"5/8	7/8"	4400	1250	1900	1630
MHV SH 2N/4ML-15X AS C3 L2-A	2	17,4	21,6	C3	59,2	68	2"5/8	7/8"	4400	1250	1900	1594
MHV SH 2N/4MM-20X AS C3 L2-A	2	20,6	24,2	C3	69,6	68	2"5/8	1"1/8	4400	1250	1900	1630
MHV SH 2N/4GE-23Y AS C3 L2-A	2	21,1	24,4	C3	66,3	68	2"5/8	1"1/8	4400	1250	1900	1668
MHV SH 2N/4FE-28Y AS C4 P4-A	2	25,6	28,1	C4	82,6	98	2"5/8	1"3/8	4400	2330	1900	2148
MHV SH 2N/4MU-25X AS C4 P4-A	2	26,2	29,9	C4	82,6	98	2"5/8	1"3/8	4400	2330	1900	2060
MHV SH 3N/4HE-18Y AS C5 P4-A	3	26,4	29,5	C5	83,4	98	2"5/8	1"3/8	5000	2330	1900	2425
MHV SH 3N/4ML-15X AS C5 P4-A	3	26,8	30,7	C5	85,7	98	2"5/8	1"3/8	5000	2330	1900	2371
MHV SH 2N/6MM-30X AS C4 P4-A	2	30,2	35,1	C4	101,2	98	3"1/8	1"3/8	4400	2330	1900	2150
MHV SH 3N/4MM-20X AS C5 P4-A	3	30,3	34,5	C5	101,3	145	3"1/8	1"3/8	5000	2330	1900	2444
MHV SH 3N/4GE-23Y AS C5 P4-A	3	31,1	34,7	C5	96,3	145	3"1/8	1"3/8	5000	2330	1900	2498
MHV SH 2N/6GE-34Y AS C4 P4-A	2	31,7	35,8	C4	100,2	98	3"1/8	1"3/8	4400	2330	1900	2192
MHV SH 2N/6FE-44Y AS C4 P4-A	2	35,6	41,8	C4	122,2	145	3"1/8	1"3/8	4400	2330	1900	2243
MHV SH 3N/4FE-28Y AS C5 P4-A	3	35,8	40,5	C5	119,0	145	4"1/8	1"5/8	5000	2330	1900	2572
MHV SH 2N/6MU-40X AS C4 P4-A	2	36,2	44,2	C4	118,9	145	3"1/8	1"3/8	4400	2330	1900	2243
MHV SH 3N/4MU-25X AS C5 P4-A	3	36,5	43,2	C5	119,0	145	4"1/8	1"5/8	5000	2330	1900	2485
MHV SH 3N/6MM-30X AS C5 P4-A	3	45,3	54,7	C5	154,3	145	4"1/8	1"5/8	5000	2330	1900	2677
MHV SH 3N/6GE-34Y AS C5 P4-A	3	47,4	55,8	C5	152,8	145	4"1/8	1"5/8	5000	2330	1900	2735
MHV SH 3N/6FE-44Y AS C5 P4-A	3	53,3	64,7	C5	185,8	200	4"1/8	1"5/8	5000	2330	1900	2788
MHV SH 3N/6MU-40X AS C5 P4-A	3	54,2	68,4	C5	180,8	200	4"1/8	1"5/8	5000	2330	1900	2788

MULTIHAVANE - Low noise

Low temperature range

MULTIHAVANE SH	Comp.	Capacity	Input power	Casing	Input current	Acoustic Lp at 10 m	Receiver capacity	Suction	Liquid	Dimensions			Net weight
	Nb	kW (1)	kW (1)	Type	A max.	dB(A) (2)	l.	Ø	Ø	L	P	H	kg
MHV SH 2N/4HE-18Y ALN C3 L2-A	2	22,2	19,0	C3	54,0	45	68	2"5/8	7/8"	4400	1250	1900	1770
MHV SH 2N/4ML-15X ALN C3 L2-A	2	22,5	19,7	C3	55,5	47	68	2"5/8	7/8"	4400	1250	1900	1734
MHV SH 2N/4MM-20X ALN C3 L2-A	2	26,3	22,2	C3	65,9	52	68	2"5/8	1"1/8	4400	1250	1900	1770
MHV SH 2N/4GE-23Y ALN C3 L2-A	2	26,8	22,4	C3	62,6	48	68	2"5/8	1"1/8	4400	1250	1900	1808
MHV SH 2N/4FE-28Y ALN C4 P4-A	2	31,7	25,6	C4	75,4	50	98	2"5/8	1"3/8	4400	2330	1900	2388
MHV SH 2N/4MU-25X ALN C4 P4-A	2	32,3	27,1	C4	75,4	50	98	2"5/8	1"3/8	4400	2330	1900	2300
MHV SH 3N/4HE-18Y ALN C5 P4-A	3	32,9	27,0	C5	76,2	43	98	2"5/8	1"3/8	5000	2330	1900	2715
MHV SH 3N/4ML-15X ALN C5 P4-A	3	33,2	28,0	C5	78,5	47	98	2"5/8	1"3/8	5000	2330	1900	2661
MHV SH 2N/6MM-30X ALN C4 P4-A	2	39,6	33,9	C4	101,2	52	98	3"1/8	1"3/8	4400	2330	1900	2390
MHV SH 3N/4MM-20X ALN C5 P4-A	3	39,9	33,9	C5	101,3	54	145	3"1/8	1"3/8	5000	2330	1900	2734
MHV SH 3N/4GE-23Y ALN C5 P4-A	3	40,8	34,1	C5	96,3	50	145	3"1/8	1"3/8	5000	2330	1900	2788
MHV SH 2N/6GE-34Y ALN C4 P4-A	2	41,4	34,9	C4	100,2	52	98	3"1/8	1"3/8	4400	2330	1900	2432
MHV SH 2N/6FE-44Y ALN C4 P4-A	2	47,0	41,8	C4	122,2	52	145	3"1/8	1"3/8	4400	2330	1900	2483
MHV SH 3N/4FE-28Y ALN C5 P4-A	3	47,4	39,4	C5	114,0	51	145	4"1/8	1"5/8	5000	2330	1900	2904
MHV SH 2N/6MU-40X ALN C4 P4-A	2	47,4	42,8	C4	118,9	52	145	3"1/8	1"3/8	4400	2330	1900	2483
MHV SH 3N/4MU-25X ALN C5 P4-A	3	48,3	41,7	C5	114,0	52	145	4"1/8	1"5/8	5000	2330	1900	2817
MHV SH 3N/6MM-30X ALN C5 P6-A	3	59,3	50,8	C5	151,8	54	145	4"1/8	1"5/8	6200	2330	1900	3175
MHV SH 3N/6GE-34Y ALN C5 P6-A	3	62,0	52,4	C5	150,3	53	145	4"1/8	1"5/8	6200	2330	1900	3233
MHV SH 3N/6FE-44Y ALN C5 P6-A	3	70,5	62,6	C5	183,3	54	200	4"1/8	1"5/8	6200	2330	1900	3286
MHV SH 3N/6MU-40X ALN C5 P6-A	3	71,1	64,2	C5	178,3	54	200	4"1/8	1"5/8	6200	2330	1900	3286

(1) **A** : Evaporation temperature **-35°C** / Ambient temperature **+32°C** - Superheating: 10K - Subcooling: 3K.
AS : Evaporation temperature **-35°C** / Ambient temperature **+42°C** - Superheating: 10K - Subcooling: 3K.
ALN : Evaporation temperature **-35°C** / Ambient temperature **+32°C** - Superheating: 10K - Subcooling: 3K.
(2) Sound pressure in dB(A) measured at 10 m, line of sight in a reflective surface, in accordance with standard EN 13487 (parallelepiped reference surface).

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LENNOX
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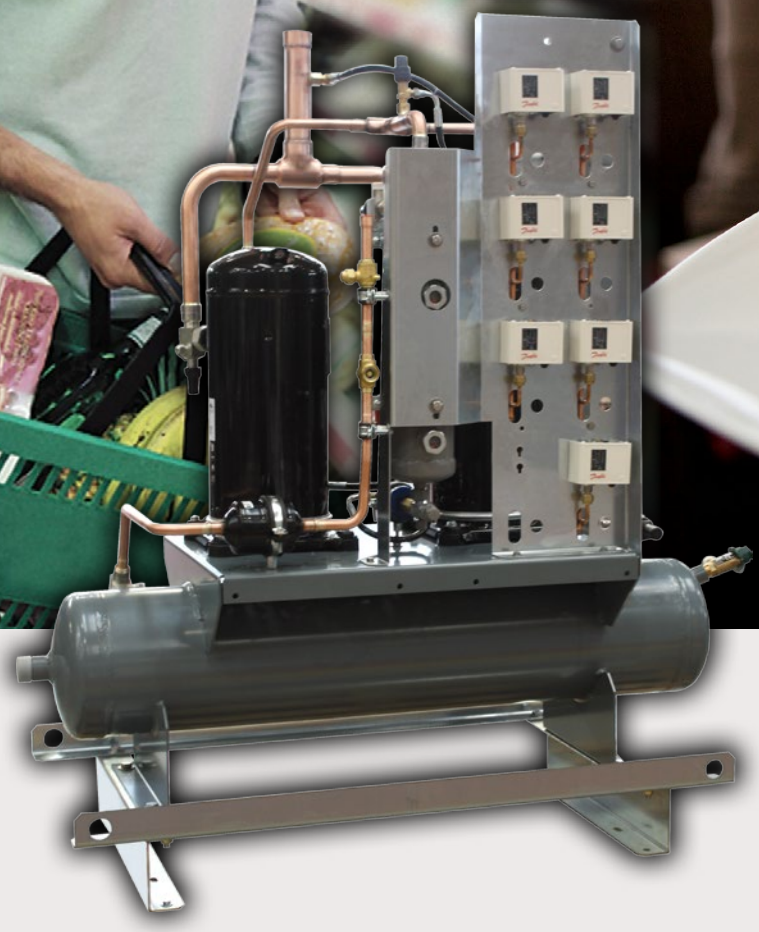
COMPRESSOR RECEIVER RACK

SCROLL COMPRESSORS

Bars - Restaurants - Corner shops - Mini-markets



HFC

8 > **55** kW

DUO MR

- A range specially designed to meet the needs and expectations of today's market, in particular with regard to compactness, reliability and noise level.
- The unit comprises 2 Scroll compressors, one of which DIGITAL™, enabling modulation of power according to multiple-station configurations.
- Supplied complete and ready to install.

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FRIGA-BOHN

HK® REFRIGERATION

DUO MR - Scroll compressor receiver rack

DESCRIPTION

Compressors
- 2 Scroll technology compressors, one of which equipped with a DIGITAL™ power controller.
- Equipped with shut-off valves on the suction and delivery sides, casing heater and rigid suspension elements.
- Unit factory pre-wired with a 3 m supply cable possible.

Collectors
- Copper suction and delivery pipes.

Oil line
- HP oil separator incorporated into the oil tank with high and low level indicators.
- HP oil return line with filter.
- Electronic oil level controller.

Liquid receiver
- Horizontal receiver with a capacity of 40L.
- 2 inlet/outlet shut-off valves.
- Liquid outlet equipped with a dryer filter, an indicator and a liquid outlet valve.
- Single safety valve.

Monitoring devices
- 1 general LP safety pressure switch.
- 1 LP regulator pressure switch per compressor.
- 1 automatic-reset HP pressure switch per compressor.
- 2 HP regulator pressure switches.
- 1 LPE and HPE support pressure switch (switch-over to back-up mode).
- 1 LP sensor.

Electrical enclosure (optional)
- Idc 15kA.
- Main isolator switch.
- Electronic control per PLC EC2-552.
- Pressure control value in back-up mode with anti-run cycle timer.
- Switch-over to back-up operation:
  - **Automatic** with LPE/HPE support pressure switches.
  - **Manual** with a switch on the electrical enclosure door.
- 5 cooling station outputs 2x10A
- 1 or 2 condenser fan outlets:

			Control	
Type	**Model**	**Operation**	**LP**	**HP**
AC	Three phase **NEOSTAR SU 16Y L02 B2 CCT 2x12T B2**	**Normal**	EC2-552	Pressure control switch
		Back-up	Pressure control switch	-
	Single phase **CCT 2x10M B5**	**Normal**	EC2-552	Pressure control or voltage variation
		Back-up	Pressure control switch	-
EC	**CCV 1**	**Normal**	EC2-552	EC2-552 (+ 1 CDP)
		Back-up	Pressure control switch	FCM (+ 1 CDP)

DESIGNATION

DUO MR (1) **45** (2)

(1) Compressor receiver rack
(2) Compressor model

CERTIFICATIONS

PED 97/23/CE

ADVANTAGES

Installation
Unit ready to install, all components are factory pre-fitted.
Back-up operation with integrated pressure control switch.
Electrical elements supplied complete allowing rapid installation.
Supports enabling easy handling of the unit.

Kit	Factory
CDP	
RPC	
ARM	
	DPS
COQ	

OPTIONS

Control
HP pressure sensor, signal 4-20 mA (condenser EC - CCV 1)
Condensation pressure regulation with voltage variation (condenser CCT 2x10M B5)

Control cabinet
Complete electrical enclosure
3 additional cooling station outputs 2x 10A

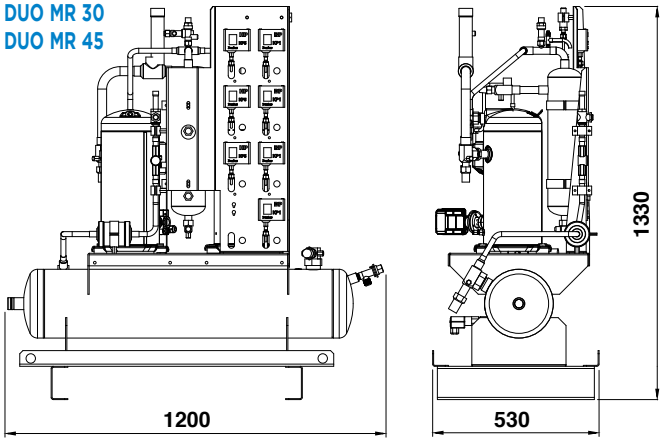
Miscellaneous
Noise insulation casing

DUO MR - Scroll compressor receiver rack

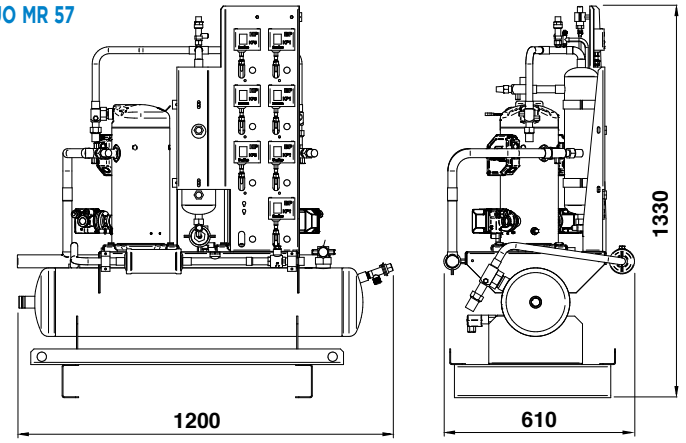
-10°C/+42°C *		DUO MR ...	30	45	57	76	114
Compressor type			ZB30+ZBD30	ZB45+ZBD45	ZB57+ZBD57	ZB76+ZBD76	ZB114+ZBD114
Capacity*	R404A	kW	14,3	20,9	27,2	37,6	53,9
	R134a	kW	8,6	12,5	15,7	21,3	31,6
	R407F	kW	14,2	20,8	27,0	38,2	54,7
	R407A	kW	13,9	19,8	27,0	35,6	50,0
	R448A	kW	14,1	20,7	26,7	36,6	52,9
	R449A	kW	14,1	20,6	26,7	36,6	52,8
Input power *	R404A	kW	6,1	8,8	11,1	15,8	23,6
	R134a	kW	3,7	5,2	7,2	9,6	13,9
	R407F	kW	6,0	8,7	11,0	15,2	22,8
	R407A	kW	5,8	8,2	11,0	14,5	21,7
	R448A	kW	5,7	8,0	9,9	14,2	22,2
	R449A	kW	5,7	8,0	9,9	14,2	22,2
Compressor		Nb	2	2	2	2	2
Input current*	R404A	A max.	15,8	24,2	28,0	40,8	66,6
Receiver volume		l.	40	40	40	40	40
Acoustic	Lp 10m**	dB(A)	41	43	50	48	53
Connections	Suction	Ø	1"5/8	1"5/8	1"5/8	2"1/8	2"1/8
	Discharge	Ø	7/8"	7/8"	7/8"	1"1/8	1"1/8
	Liquid inlet	Ø	7/8"	7/8"	7/8"	7/8"	1"1/8
	Liquid outlet	Ø	5/8"	5/8"	5/8"	1"1/8	1"1/8
Weight		kg	196	200	210	260	275

* Evaporation temperature / condensation temperature - Superheating 10K, subcooling 3K.
** Acoustic pressure level at 10 m given for information only.

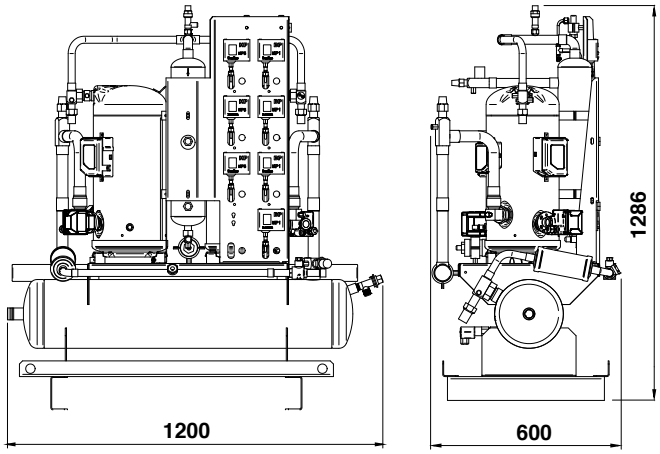
DUO MR 30
DUO MR 45



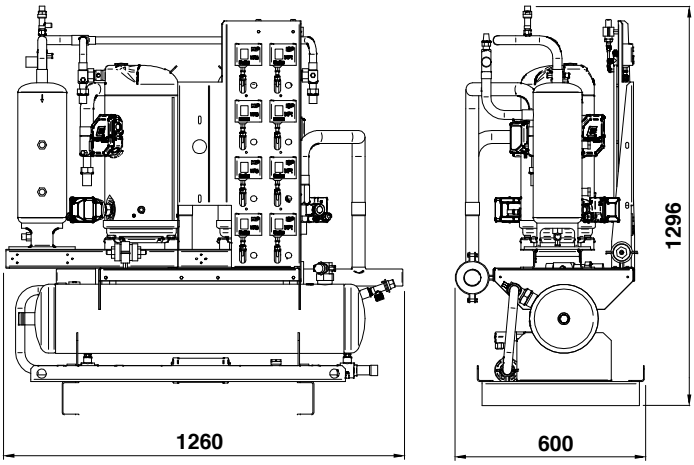
DUO MR 57



DUO MR 76



DUO MR 114



A complete solution for your refrigeration installation...

COMPRESSOR RECEIVER RACK

DUO MR

- Variation of power enabling precise adjustment of the capacity according to cooling requirement.
- Electronic oil regulation with oil separator with 2 l. receiver for safety and reliability.
- 40 l. largely dimensioned liquid receiver.
- Factory pre-wired with a 3 m cable.
- Noise insulation casing (optional) for a lower noise level: - 6 dB(A).

UNIT COOLERS

MR

- Low depth: only 209 mm enabling optimum use of storage space in the cold room.
- Robust and corrosion-resistant unit: coils totally anti-corrosion treated as standard, ABS casing and stainless steel screws.

TA

- Exceptionally low noise levels with the 6 or 8-pole versions.
- Low air speed guarantees comfort as well as precise control of temperature and hygrometry.
- Robust ABS casing with rounded corners combining hygiene and safety.

INDOOR CONDENSERS

CCT 2x12T B2

- Available air pressure up to 150 Pa.
- 8 air inlet/outlet combinations.
- The unit may be dismantled for installation in difficult access zones.
- Factory pre-wired fans.

CCV 1

- EC motors for optimised energy consumption.
- Low noise
- Available air pressure up to 200 Pa.
- The unit may be dismantled for installation in difficult access zones.
- Factory pre-wired fan.

OUTDOOR CONDENSER

NEOSTAR SU 16Y L02 B2

- Perfect incorporation in an urban environment, extremely quiet motors (Lp 22 dB(A) at 10m).
- Factory pre-wired fans.

ELECTRICAL ENCLOSURE

Electronic control EC2-552 with switch-over to back-up operation with automatic pressure control switch. Supplied with complete electrical system, refrigeration and condenser fan outputs are incorporated.

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CO_2 COMPRESSOR RACK

INSTALLATION WITH CASCADE IN MEDIUM TEMPERATURE CIRCUIT

Hard Discount - Supermarkets - Hypermarkets
Refrigerated storage and transit stocking - Dispatch centres
Food processing

HFC CO_2 W GLYCOL

16.5 > **83** kW

eCO2Gen

- **Sub-critical CO_2 racks** available in version direct expansion and glycol water.
- **"Turnkey" range** with equipment grouped and connected on a common frame.
- **Environmentally-friendly, natural refrigerant (CO_2)** for the production of cold in supermarkets.
- **Service pack:** Training in the use of CO_2 equipment.
- **Software selection:** CO_2 rack + chill rack with or without options.

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FRIGA-BOHN

HK® REFRIGERATION

eCO2Gen - CO2 Semi-Hermetic Piston rack

FRIGA-BOHN HK REFRIGERATION

DESCRIPTION

Frame
• Thick, folded, galvanized sheet steel monobock unit.

Compressors
• Compressors using semi-hermetic piston technology equipped with:
- Crankcase heater.
- Suction and delivery shut-off valves.
- HP and LP tapping points with Schrader connector.

Collectors
• A general filter unit with tapping point and by-pass valves and 2 maintenance valves (1/4" SAE).
• Copper suction and delivery collector.
• Liquid suction accumulator with oil return via siphon and discharge valve.

Insulation
• Thermal insulation of the entire refrigeration circuit with the exception of delivery and oil lines.

Oil line
• Removable oil separator by-pass valve and discharge valve.
• Oil receiver with high and low indicator, shut-off valve and discharge valve.
• Oil return with filter and indicator.
• Electronic level controller with shut-off valve per compressor.
• Non-adjustable, receiver degassing differential valve connected to the LP collector.
• Copper oil collector with flexible connection for each compressor.

Liquid station
• Horizontal liquid receiver with shutoff valves.
• Double safety shut-off valve with inverter switch.
• Removable cartridge dryer with by-pass valves and 2 maintenance valves (1/4" SAE).
• Optoelectronic level alarm fitted to the liquid column in parallel with the receiver and height adjustable.
• Liquid/steam exchanger with by-pass valves in suction side and liquid side.

Connection pack
• 1 connection valve on the suction and liquid supply line.

Monitoring devices
• **Per compressor:**
- LP pressure switch connected to the compressor.
- 1 or 2 automatic reset HP cartridge pressure switch(s) per compressor (according to standard EN 378-2: 2009).
- INT safety thermistor box.
• **Per rack:**
- General LP safety pressure switch.
- General HP safety pressure switch.
- Framing HP and LP pressure switch.
- Set of HP and LP manometers, diameter 100 mm, class 1.
- LP and HP sensors for normal operation control.
- LP and HP sensors for back-up operation control.

Condenser
• Multi-tube heat-exchanger with discharge valve(s).
• **Direct expansion model:**
Siemens "polycool" electronic expansion valve with probe and sensor for control of superheating during normal operation.
Thermostatic expansion valve coupled with a solenoid valve in parallel with an electronic expansion valve in back-up operation.
• **Glycol water model:**
Supply of a glycol water flow controller and thermostat kit.

Safety unit
• Condensing unit filled with R404A with refrigerated connected to the CO2 liquid receiver via a plate unit cooler.

DESIGNATION

eCO2Gen 24(1) /4(2) DB(3)

(1) Direct expansion capacity
(2) Number of compressor
(3) **DB** = direct expansion - **EB** = Glycol water

CERTIFICATIONS

OPTIONS

Kit	Factory	
	ALR	Electronic level alarm on the oil receiver.
	BP1	LP pressure switch (automatic) per compressor.
	CCB	Control terminal rail wiring.
	PC1	Rack pre-wired with 5 m cable available.
PAV		Anti-vibration pads.

eCO2Gen
CO2 low temperature racks (R744) with CCB option

eCO2Gen - CO2 Semi-Hermetic Piston rack

eCO2Gen - Direct expansion

Low-temperature range

-35°C / -5°C*		eCO2Gen ...	18/3 DB	24/4 DB	25/3 DB	32/3 DB	33/4 DB	40/3 DB	42/4 DB	53/4 DB	60/3 DB	80/4 DB
Capacity CO2*		kW	**16,5**	**22,1**	**25,1**	**32,3**	**33,5**	**40,2**	**43,1**	**53,5**	**60,3**	**83,0**
Input power*		kW	**4,5**	**6,1**	**6,7**	**8,5**	**8,9**	**10,2**	**11,4**	**13,6**	**15,6**	**20,9**
Compressor		Nb	3	4	3	3	4	3	4	4	3	4
Max. input current		A	18	24	18	21	24	35	28	46	41	54
Receiver capacity		l.	70	70	70	70	70	180	180	180	180	180
Connection pack	Suction	Ø	2"1/8	2"1/8	2"1/8	2"5/8	2"5/8	2"5/8	2"5/8	3"1/8	3"1/8	114,3
	Liquid	Ø	7/8"	7/8"	7/8"	7/8"	7/8"	1"1/8	1"1/8	1"1/8	1"1/8	1"3/8
Rack weight		kg	1070	1140	1080	1110	1160	1120	1220	1350	1470	1600
Receiver dimensions	L	mm	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000
	P	mm	1440	1440	1440	1440	1440	1440	1440	1440	1440	1440
	H	mm	1990	1990	1990	1990	1990	1990	1990	1990	1990	1990

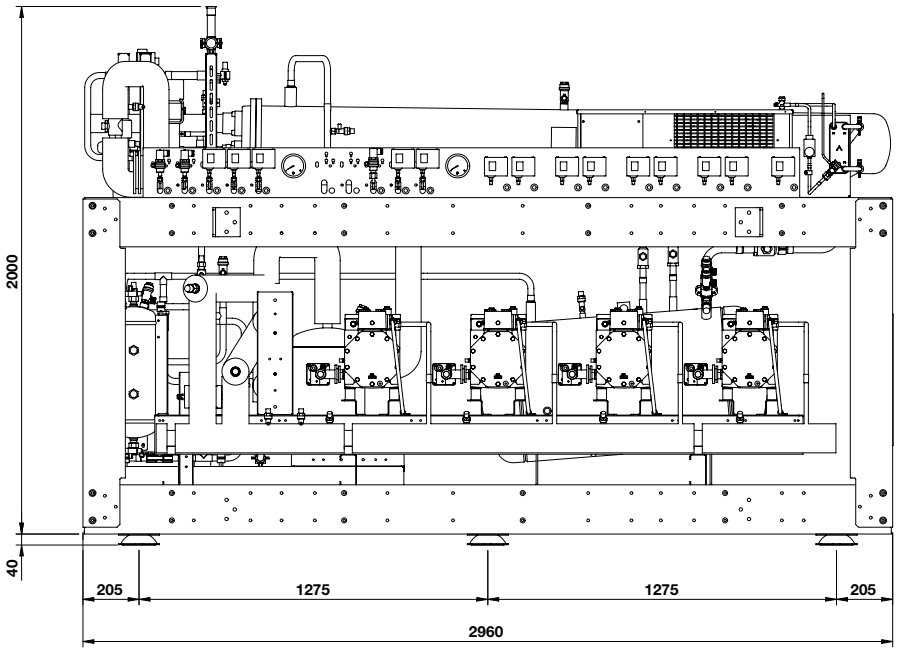
* Evaporation temperature/condensation temperature - Superheating total 20K, useful 10K and subcooling 3K .
Refer to the software package for a more accurate rack selection.

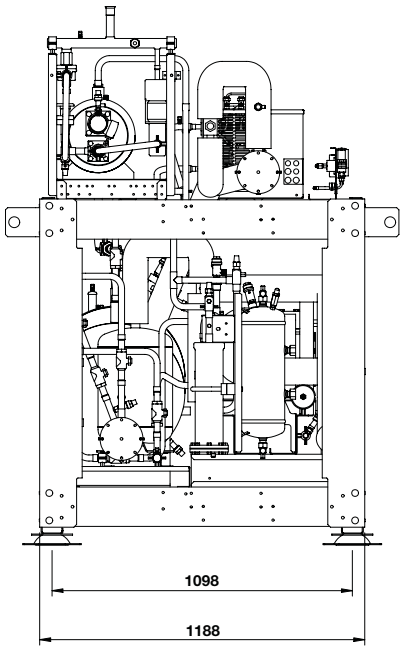
eCO2Gen - Glycol water

Low-temperature range

-35°C / -3°C*		eCO2Gen ...	24/4 EB	25/3 EB	32/3 EB	33/4 EB	40/3 EB	42/4 EB	53/4 EB	60/3 EB	80/4 EB
Capacity CO2*		kW	**21,2**	**24,2**	**31,1**	**32,2**	**38,8**	**41,5**	**51,7**	**60,2**	**80,2**
Input power*		kW	**6,3**	**7,0**	**9,0**	**9,4**	**10,7**	**12,0**	**14,3**	**16,4**	**21,9**
Compressor		Nb	4	3	3	4	3	4	4	3	4
Max. input current		A	24	18	21	24	35	28	46	41	54
Receiver capacity		l.	70	70	70	70	180	180	180	180	180
Connection		DN	65	65	65	65	80	80	80	100	100
Rack weight		kg	1140	1080	1110	1160	1120	1220	1350	1470	1600
Receiver dimensions	L	mm	3000	3000	3000	3000	3000	3000	3000	3000	3000
	P	mm	1440	1440	1440	1440	1440	1440	1440	1440	1440
	H	mm	1990	1990	1990	1990	1990	1990	1990	1990	1990

* Evaporation temperature/condensation temperature - Superheating total 20K, useful 10K and subcooling 3K .
** Glycol water: Fluid: Percentage of glycol = 40% - range -8/-4°C
Refer to the software package for a more accurate rack selection.





ALR	CCB	PC1	PAV
O	O	O	O

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EMEA

CO_2 COMPRESSOR RACK

INSTALLATION WITH CASCADE IN GLYCOL WATER CIRCUIT

Refrigerated storage and transit stocking - Dispatch centres
Food processing

HFC CO_2 W GLYCOL

108 > **341** kW

eMR with options PEI and MPI

eCO / eMR

- **Sub-critical CO_2 racks** combining **reliability** and **compactness.**
- **Two versions available:**
  - encased outdoor (**eCO**),
  - machine room (**eMR**).
- **Environmentally-friendly, natural refrigerant (CO_2)** for industrial refrigeration.
- **Service pack:** training in the use of CO_2 equipment.

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FRIGA-BOHN

HK® REFRIGERATION

eCO / eMR - CO_2 compressor rack

DESCRIPTION

Frame
- Compressor rack: monoblock frame designed to avoid vibration-related problems.
- Liquid station:
  - Folded galvanized sheet steel monobock unit.
  - Anti-vibration pads (kit).

Compressors
- Compressors using semi-hermetic piston technology equipped with:
  - Crankcase heater.
  - Suction and delivery shut-off valves.
  - HP and LP tapping points with Schrader connector.

Collectors
- A general filter unit or per compressor.
- Copper suction and discharge collector.
- Drip tray under suction collector.

Insulation
- Thick thermal insulation of liquid lines.

Oil line
- Removable oil separator with discharge valve.
- Oil receiver with high and low indicator, shut-off valve and discharge valve.
- Oil return with filter and indicator.
- Electronic level controller with shut-off valve per compressor.
- Non-adjustable, receiver degassing differential valve connected to the LP collector.
- Copper oil collector with flexible connection for each compressor.

Liquid station
- Horizontal liquid receiver with shutoff valves.
- Double safety shut-off valve with inverter switch.
- Removable cartridge dryer with maintenance valve (1/4" SAE).
- Optoelectronic level alarm fitted to the liquid receiver (high and low level).
- Liquid / vapor plate heat exchanger.
- Sight glass.

Connection pack
- 1 connection valve on the suction and liquid supply line.

Monitoring devices
- **Per compressor:**
  - LP pressure switch connected to the compressor.
  - 1 or 2 automatic reset HP cartridge pressure switch(s) per compressor (according to standard EN 378-2: 2009).
  - INT safety thermistor box.
- **Per rack:**
  - General LP safety pressure switch.
  - General HP safety pressure switch.
  - HP and LP pressure switch for automatic back-up operation control.
  - Set of HP and LP manometers, diameter 100 mm, class 1.
  - LP and HP sensors for normal operation control.
  - LP and HP sensors for back-up operation control.

Condenser
- Brazed plate exchanger.
- Supply of a glycol water flow controller and thermostat kit.
- Desuperheater (supplied separately) located upstream of the condenser.

Safety unit (option)
- Condensing unit filled with R134a with refrigerated connected to the CO_2 liquid receiver via a plate unit cooler.

DESIGNATION

eCO(1) **341**(2) **/4** (3)

(1) **eCO** = encased outdoor rack
(1) **eMR** = machine room rack
(2) Capacity
(3) Number of compressor

CERTIFICATIONS

A complete solution for your CO_2 refrigeration installation...

Low temp. sub-critical CO_2 rack

eCO / eMR
- Machine room and encased outdoor versions
- Heat recovery option allowing production of hot water glycol 40/50°C

Industrial unit coolers

NK
- Hot glycol water defrost option.
- Defrosting hood and flexible defrost sleeve options.

GTA
- EC fans option for a very low noise level

Chiller

PEG

eCO / eMR

Low-temperature range

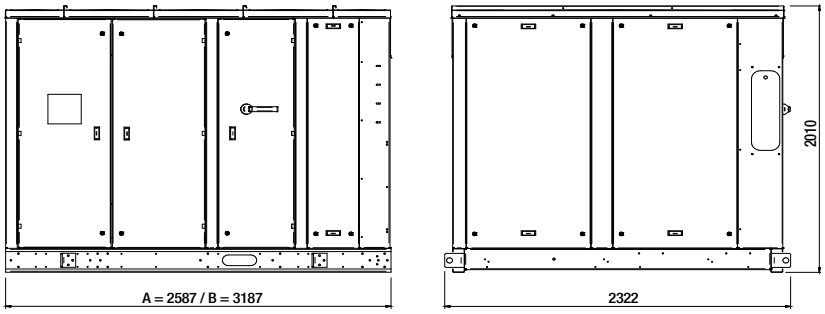
-35/-3°C*	eCO / eMR ...		108/2	100/3	111/4	129/2	122/3	132/4	153/2	157/3	160/4	179/2	188/3	206/4	222/3	247/4	260/3	292/4	341/4
Capacity CO2*		kW	108	100	111	129	122	132	153	157	160	179	188	206	222	247	260	292	341
Input power*		kW	25,5	24,7	27,8	30,6	30,0	32,9	36,1	38,3	40,0	42,0	45,8	51,0	54,1	61,1	63,0	72,1	84,0
Compressor		Nb	2	3	4	2	3	4	2	3	4	2	3	4	3	4	3	4	4
Max. input current		A	67,0	66,0	75,6	80,0	80,1	88,0	96,6	100,5	106,8	111,0	120,0	134,0	144,9	160,0	166,5	193,2	222,0
Receiver capacity		l.	300	300	300	300	300	300	300	300	300	300	300	300	300	550	550	550	550
Connections	Suction	Ø	1"5/8	1"5/8	1"5/8	2"1/8	2"1/8	2"1/8	2"1/8	2"1/8	2"1/8	2"1/8	2"5/8	2"5/8	2"5/8	2"5/8	2"5/8	2"5/8	2"5/8
	Discharge	Ø	1"3/8	1"3/8	1"3/8	1"3/8	1"3/8	1"3/8	1"3/8	1"5/8	1"5/8	1"5/8	1"5/8	1"5/8	1"5/8	2"1/8	2"1/8	2"1/8	2"1/8
	Liquid	Ø	1"1/8	1"1/8	1"1/8	1"1/8	1"1/8	1"1/8	1"1/8	1"1/8	1"1/8	1"3/8	1"3/8	1"3/8	1"3/8	1"5/8	1"5/8	1"5/8	1"5/8
Dimensions eCO			A	A	A	A	A	A	A	A	A	A	A	A	B	B	B	B	B
Weight eCO		kg	2030	2000	2120	2060	2080	2270	2170	2280	2220	2620	2730	2930	2830	3180	3080	3380	3430
Dimensions eMR	Rack		A	B	C	A	B	C	A	B	C	A	B	C	B	C	B	C	C
		P	850	784	784	850	784	784	850	850	784	850	850	850	850	850	850	850	850
	Hydraulic Skid		A	A	A	A	A	A	A	A	A	A	A	A	B	B	B	B	B
Weight eMR	Rack	kg	400	370	490	390	410	600	460	570	510	460	570	730	630	730	630	830	830
	Hydraulic Skid	kg	710	710	710	750	750	750	790	790	790	810	810	850	850	1100	1100	1200	1250

* Evaporation temperature/condensation temperature - Superheating total 20K, useful 10K and subcooling 3K, with 60Hz leading compressor.
** Glycol water: Fluid: Percentage of glycol = 40% - range -8/-4°C

OPTIONS

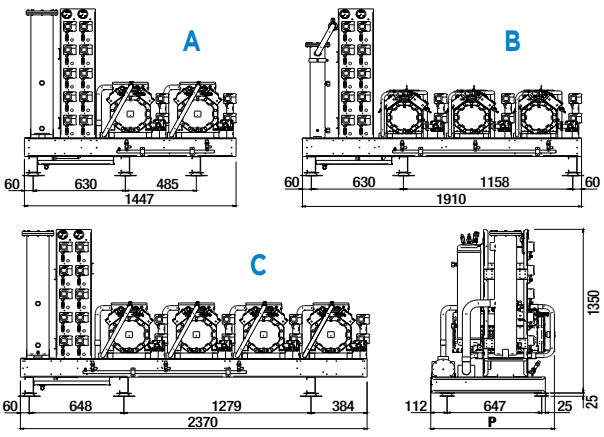
Kit	Factory	
	DES	Braze plate Desuperheater
	BAC	Suction accumulator
	RLS	Oversized liquid receiver
	GMP	Safety group (MINI unit delivered mounted and connected)
	BFA	By-pass Suction filter
	VFA	Suction valve and filter
	BSH	Oil separator by-pass
	BD1	Dryer by-pass
	2CD	2 condensers 50/50%
	PC1	Rack pre-wired with 5 m cable available
	PEI	Painted frame
	MPI	Injected polyurethane foam insulation (only for liquid receiver and condenser)

eCO - Encased outdoor rack

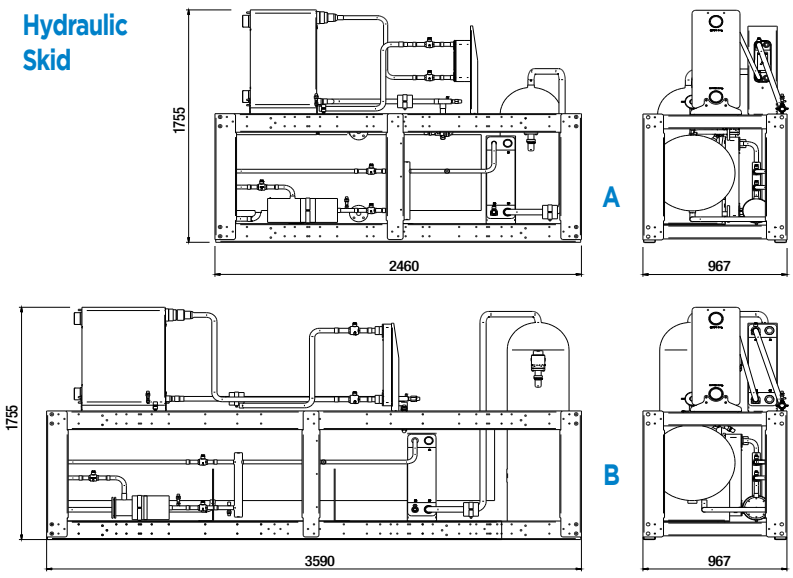


eMR - Machine room rack

Rack



Hydraulic Skid



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LENNOX
EMEA

CO_2 TRANSCRITICAL BOOSTER RACK

SUPERMARKET AND HYPERMARKETS ALL-IN-ONE SOLUTION

CO_2

MT **50** > **250** kW

LT **15** > **100** kW

eCO2Boost

- **CO_2 transcritical booster system** linking the positive and negative racks.
- **"Turnkey" range** with equipment grouped and connected on a common frame.
- **Environmentally-friendly, natural refrigerant (CO_2)** for the production of cold in supermarkets.
- **Service pack:** Training in the use of CO_2 equipment.

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FRIGA-BOHN

HK® REFRIGERATION

eCO2Boost - CO2 Transcritical Booster Rack

MARKET SEGMENTS

Supermarkets and Hypermarkets

ADVANTAGES

Advantages of CO2 transcritical Solution

- HP circuit: 120 Bar
- Positive rack suction circuit and liquid receiver: 45 Bar
- Negative rack suction circuit: 30 Bar

Product advantages

Solid steel galvanized bent thick plate for installation in machine room.

DESCRIPTION

Operating pressure

- HP circuit: 120 Bar.
- Positive rack suction circuit and liquid receiver: 45 Bar.
- Negative rack suction circuit: 30 Bar.

Frame

- Thick, folded, galvanized sheet steel monobock unit for installation in machine room.

Compressors

- Bitzer or Copeland.
- Compressors using semi-hermetic piston technology (or scroll for negative racks with Copeland compressors) equipped with:
  - Crankcase heater.
  - Suction and delivery shut-off valves.
  - HP and LP tapping points with Schrader connector.

Collectors / Pipes

- A general filter unit on negative and positive rack suction.
- Copper or stainless steel manifold and piping depending on the diameters.
- Safety valve on:
  - negative rack suction manifold (30 Bar).
  - positive rack suction manifold (45 Bar).
  - positive rack discharge manifold (120 Bar).

Insulation

- Thermal insulation of the entire refrigeration circuit with the exception of delivery and oil lines.

Oil return system

- Removable oil separator of type combining oil level regulator and oil return electro-valve. By-pass of the oil separator.
- Oil receiver with high and low indicator, shut-off valve.
- Oil return with filter and indicator.
- INT280 KRIWAN level controller supply 230V with isolation valve.
- Copper oil collector with flexible connection for each compressor.

Liquid station

- Vertical liquid receiver with shutoff valves.
- Double safety shut-off valve with inverter switch.
- Removable cartridge dryer with by-pass valves.
- Gas cooler pressure control valve connected upstream of the liquid receiver.
- Flash gas valve for controlling liquid receiver pressure connected between liquid receiver and positive rack suction.
- Liquid sub-cooler with plate heat exchanger and equipped with an electronic thermostatic valve.

Connection pack

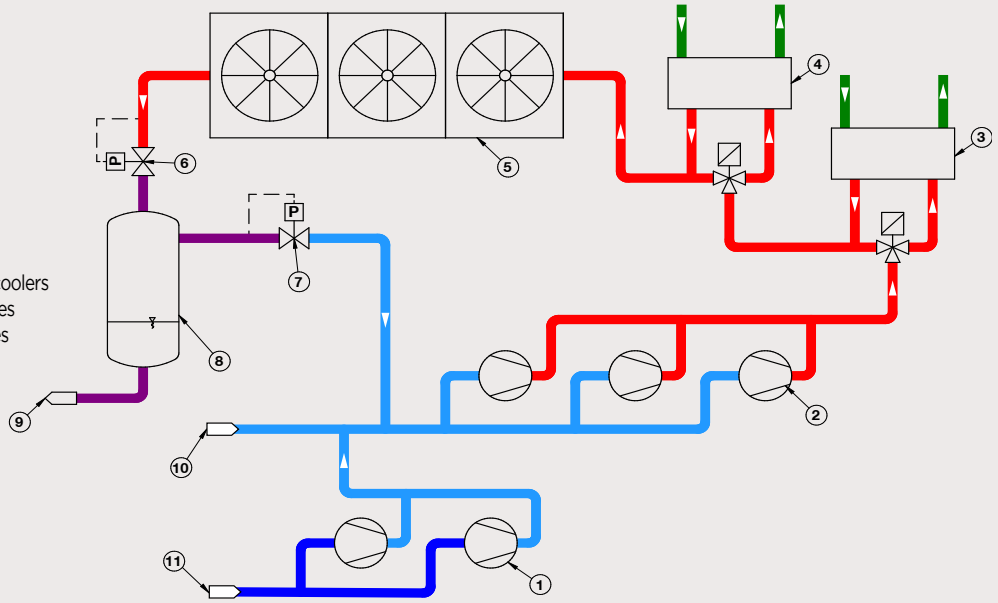
- 1 connecting valve on the suction of each rack and the general liquid discharge.

Monitoring and Security devices

- **Per compressor:**
  - 2 HP auto-reset pressure switches connected to the cylinder head.
  - INT safety thermistor case.
- **Per rack:**
  - LP general safety pressure switch.
  - LP ratiometric pressure sensor (-1/34 B) for standard operation.
  - LP pressure gauge diameter 100 mm class 1.
- **For positive rack:**
  - LP general safety pressure switch.
  - HP ratiometric pressure sensor (-1/159 B) for standard operation.
  - LP ratiometric pressure sensor (-1/59 B) for standard operation.
  - LP and HP pressure gauge diameter 100 mm class 1.
  - Frequency converter for the 1st compressor of the positive rack.

BASIC DIAGRAM

1. Low temperature rack (LT)
2. Medium temperature rack (MT)
3. Heat recovery for domestic hot water
4. Heat recovery for space heating
5. Gas cooler
6. High pressure control valve
7. Flash gas valve
8. Liquid receiver / Flash gas tank
9. Liquid line to supply display cases and unit coolers
10. Return from MT unit coolers and display cases
11. Return from LT unit coolers and display cases



eCO2Boost - CO2 Transcritical Booster Rack

FRIGA-BOHN HK REFRIGERATION

Safety unit
- 1 kW refrigeration unit directly triggered by CO2 pressure via an auto-reset pressure switch and must be connected to the store's backup power supply.
- This unit functions at R134a and is delivered loaded and ready-to-use.

Electrical cabinet
- Electric cabinet mounted and electrically connected to the rack's frame.
- It houses the power for and control of the rack (outlets for cooling sites are not included).
- Management can be achieved with CAREL, DANFOSS or AOE PLCs.

CERTIFICATIONS

DESP 97/23/CE

OPTIONS

- Anti-vibration pads.
- Frequency converter for the 1st compressor of the negative rack or Digital scroll if Copeland compressor.
- Suction accumulator with oil return by siphon for negative rack.
- Suction accumulator with oil return by siphon for positive rack.
- Optoelectronic low-level alarm for the liquid receiver.
- Optoelectronic high-level alarm for the liquid receiver.
- Optoelectronic low-level alarm for the oil receiver.
- Double liquid receiver (PSxV < 10000 bar.L).

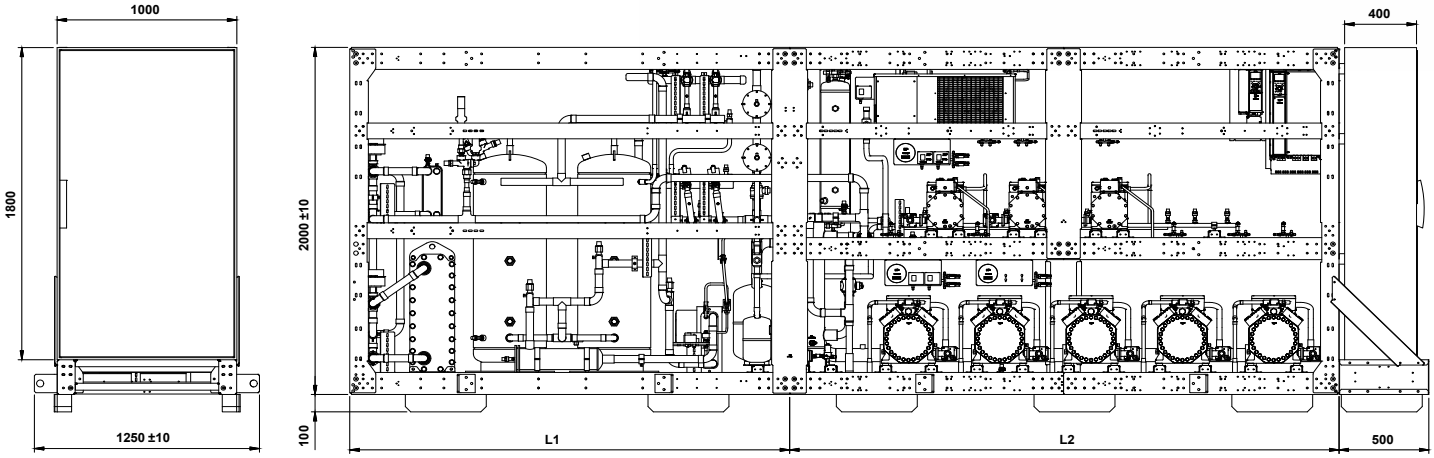
Heat recovery
The heat produced, instead of being carried away by the gas cooler may be used to create a complete store heating and refrigeration system:
- Heat recovery for store heating system: addition of high-pressure exchanger mounted and connected to the CO2 circuit with 3-way, servo-controlled valve.
- Heat recovery for domestic hot water: high-pressure exchanger mounted and connected to the CO2 circuit with 3-way, servo-controlled valve.

Backup operations **(different configurations available)**
- Backup controllers mounted and electrically connected in the electric cabinet. Switching via LP monitoring pressure switches on the positive and negative racks.
- Pre-programmed backup controllers delivered separately.
- HP control and flash gas valves delivered separately.
- HP control and flash gas valves insulated and connected to refrigeration and electricity with switching:
  - automatically if backup controllers present,
  - manually by power switch located on the cabinet door.

Performance enhancement and warm areas
- Parallel compression (consult us). This option consists of the addition of one or several compressors which are dedicated to the suction of flash gas vapors coming from the liquid receiver. They function as periodic replacement for the flash gas valve during warm periods of the year in order to improve the efficiency of the system.

Other options
- Ejectors, addition of cooling function upon existing the gas cooler (under additional cooling).

FEATURES



	Combinations	Power ratings
MT Compressors*	3 > 6	50 > 250KW
LT Compressors*	2 > 4	15 > 100 KW
Liquid receiver capacity	80 > 400l	

** Available brands: Copeland (semi sealed MT and scroll in LT) or Bitzer (semi sealed)*

L1 = 1533 mm > Single liquid receiver
L1 = 2041 mm > Single liquid receiver with heat recovery
L1 = 2041 mm > Double liquid receiver
L1 = 2447 mm > Double liquid receiver with heat recovery

L2 = 2041 mm > MT rack 3 compressors
L2 = 2549 mm > MT rack 4 compressors
L2 = 3057 mm > MT rack 5 compressors
L2 = 3565 mm > MT rack 6 compressors

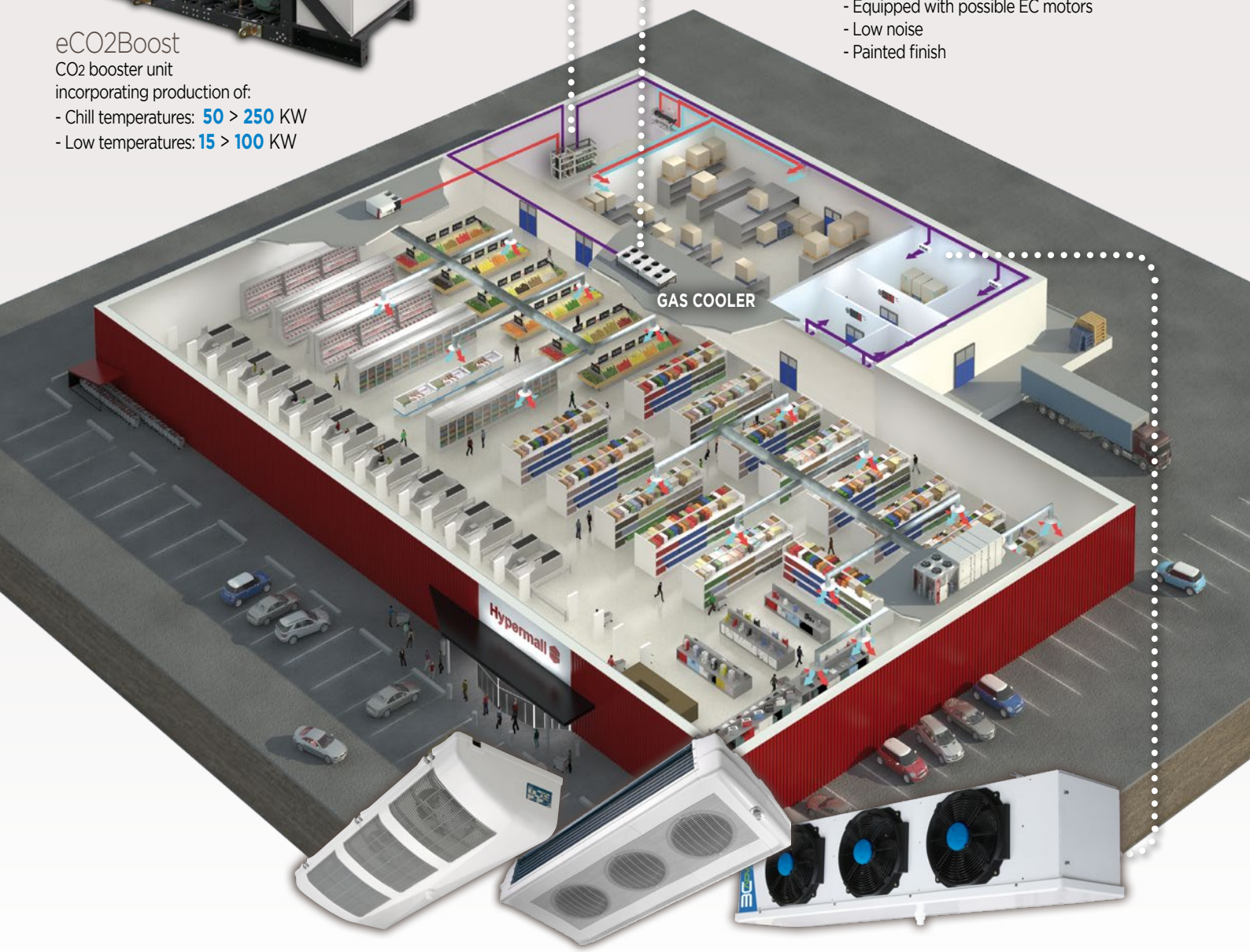
GLOBAL SOLUTION

eCO2Boost

CO_2 booster unit
incorporating production of:
- Chill temperatures: **50** > **250** KW
- Low temperatures: **15** > **100** KW

Gas cooler

Provision of standard Gas cooler or fitted with the vaporization option and treatment adjusted as follows:
- Equipped with possible EC motors
- Low noise
- Painted finish



A range of CO_2 unit coolers at 45 bar in the trading area for each zone

MR
Ceiling unit coolers
0.4 > **2.6** KW

- The MR range meets the requirements for small-scale cold rooms.
- Low height: Only 209 mm which enables optimal loading of the cold room.
- Robust appliance, corrosion resistant: battery fully anti-corrosion treated as standard, ABS body and stainless steel fasteners.

TA
Dual-discharge unit coolers
2.1 > **13.2** KW

- The TA range meets the requirements of laboratories, cutting and work rooms, airlocks, etc...
- Excellent level of acoustic comfort in 6 or 8 pole version.
- Low air velocity ensuring comfort and precise control of the temperature and the hygrometry.
- Optimized air projection up to 12 m.
- Robust ABS body with rounded corners combining hygiene and safety.
- Intermediate drip-trays avoiding condensation on the body.

3C-A
Cubic unit coolers
1.3 > **38** KW

- The 3C-A range is intended for commercial applications and semi-industrial refrigeration or storage at low temperatures.
- Numerous possibilities for defrosting: electric, hot water and hot gas.
- Large choice of options for applications in demanding environments (steamer, stainless steel, ...).
- Optional EC motorized fan enables noise and power consumption optimization.

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LENNOX
EMEA

COMPRESSOR RACK

SEMI-HERMETIC PISTONS AND SCROLL

Hard Discount - Supermarkets - Hypermarkets
Food processing - Canteen kitchens

HFC

6 > **110** kW

COMPACT

- A range specially designed to meet the needs and expectations of today's market, in particular with regard to reliability and compactness.
- Racks include 2 to 4 Scroll or Octagon Semi-Hermetic compressors.
- Folded, galvanized steel monoblock frame eliminating vibrations.
- Liquid station delivered separately.
- Copper collector and oil control line.
- Supplied non-wired, wired or with a complete switching enclosure.

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FRIGA-BOHN

HK® REFRIGERATION

DESCRIPTION

Frame
- Monoblock frame designed to avoid vibration-related problems.

Compressors
- Compressor with scroll (Copeland) or semi-hermetic piston (Octagon) technology.
- Equipped with a shut-off valve on the suction and delivery sides, casing heater and rigid suspension elements.
- Head fan for semi-hermetic piston models used in low-temperature applications.

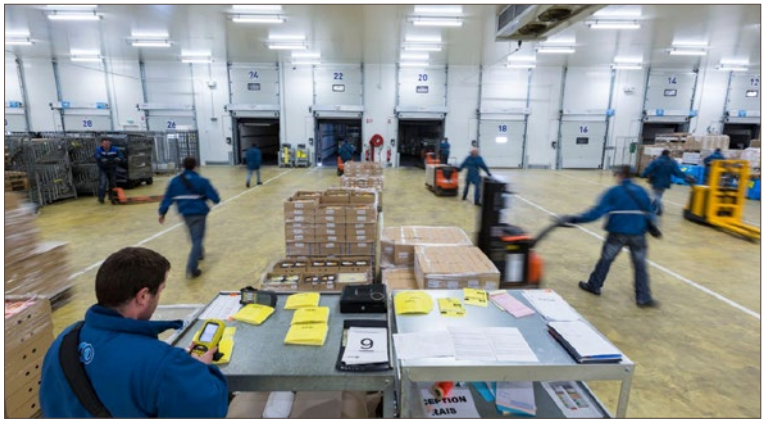
Collectors
- Copper suction and delivery pipes.
- Polypropylene fastening straps on the suction side and high-temperature resistant polyamide straps on the delivery side.
- A general filter unit on the suction side.

Oil line
- Oil separator with receiver high and low level indicator.
- Oil collector with flexible end connections.
- LP oil return line with filter and indicator.
- Oil level regulator with float system with shut-off valve per compressor for SH and electronical for Scroll.
- Degassing valve.

Liquid station
- Liquid station delivered separately.
- 2 inlet/outlet shut-off valves.
- Liquid line equipped with a removable filter dryer unit and indicator.
- Single safety valve or double (according to PED).

Connection pack
- 1 connection valve on the suction, delivery and liquid line.

Monitoring devices
- 1 general safety LP pressure switch.
- 1 or 2 automatic reset HP cartridge pressure switch(s) per compressor (according to EN 378-2: 2009).
- 2 manometers (LP+HP)
- 1 oil differential pressure switch per compressor for semi-hermetic piston compressor model 4TC to 4NC.



DESIGNATION

COM 2(1)P(2) / 4EES-4Y(3)

(1) Number of compressor
(2) **P** = Chill range – **N** = Low temperature range
(3) Type of compressor

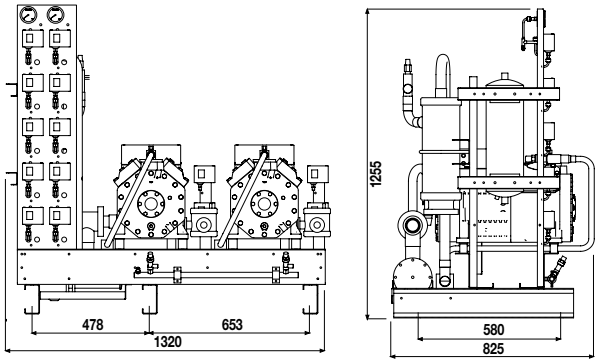
CERTIFICATIONS

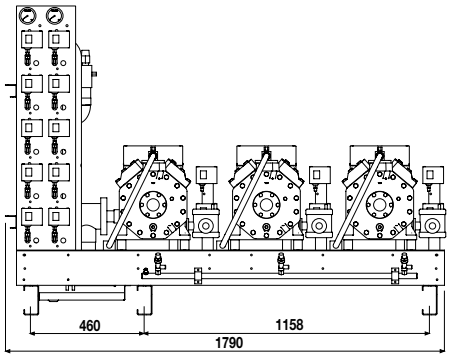
PED 97/23/CE

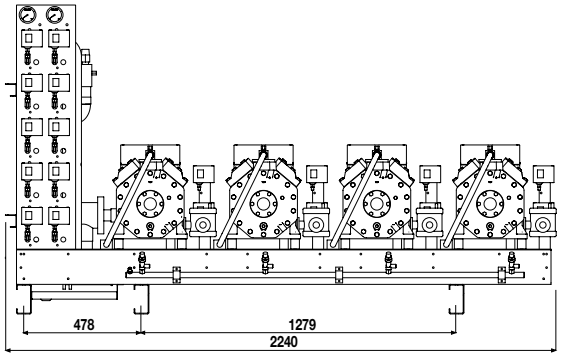
OPTIONS

Kit	Factory	
		Safety pack
	BPS	LP safety pressure switch per compressor.
	HPG	General HP safety pressure switch.
		Regulator pack
	BP1	LP pressure switch (automatic reset).
	HPS	Additional HP pressure switches.
	CDP	LP/HP pressure sensors, 4-20 mA signal.
		Miscellaneous
	BAC	Suction accumulator (only for semi-hermetic compressor).
	TXL	Traxoil oil regulator.
	RLS	Oversized liquid receiver.
	ALF	Height-adjustable refrigerant level alarm with float.
	ALR	Opto-electronic refrigerant level alarm.
	SSD	Double safety valve with 3-way valve (for receivers < 120 litres).
	BDR	Condensate drip tray under suction collectors.
PAV		Anti-vibration pads.
	ARM	Switching enclosure (contact us).

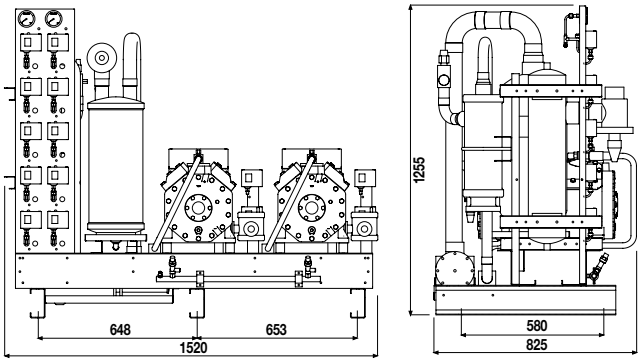
COMPACT - **Octagon (without BAC option)**

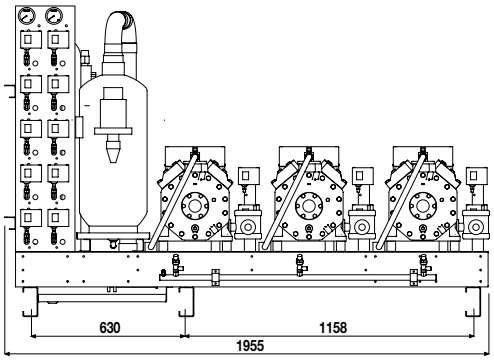


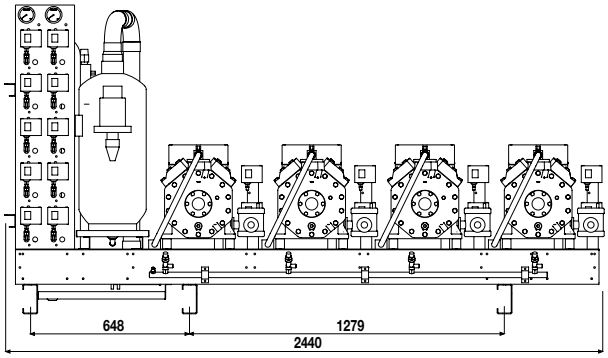




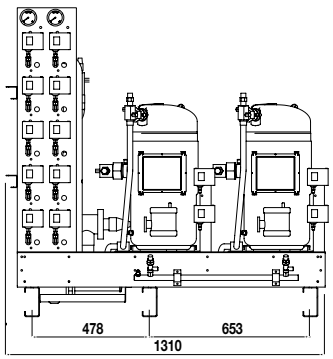
COMPACT - **Octagon (with BAC option)**

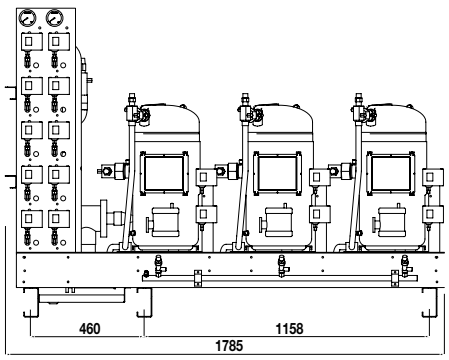


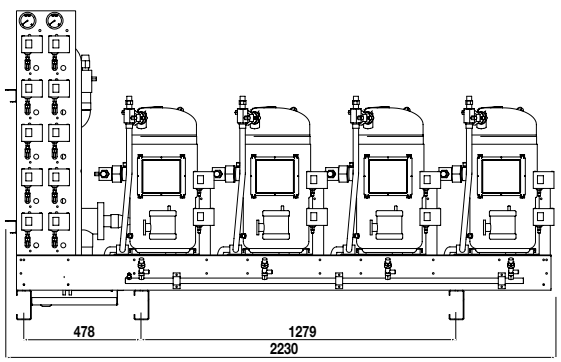


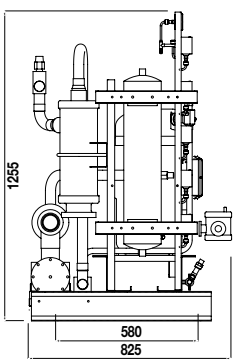


COMPACT - **Scroll**



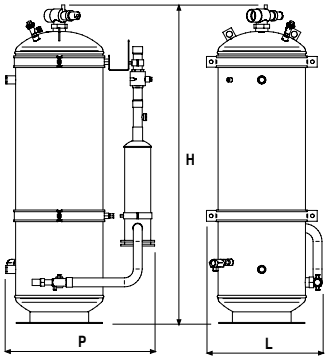






Liquid station

		45 l.	60 l.	120 l.
L	**mm**	666	666	714
P	**mm**	402	402	455
H	**mm**	1137	1338	1834
Weight	**kg**	60	80	120



COMPACT - Octagon

Chill range

-10°C/+45°C *		COM ...	2P 4EES-4Y	2P 4DES-5Y	2P 4CES-6Y	3P 4EES-4Y	3P 4DES-5Y	2P 4TES-9Y	4P 4EES-4Y	2P 4PES-12Y	3P 4CES-6Y
Capacity R404A*		kW	**22,2**	**26,5**	**32,0**	**33,3**	**39,7**	**40,2**	**44,4**	**45,7**	**48,1**
Input power*		kW	**10,7**	**12,6**	**15,0**	**16,0**	**18,9**	**18,6**	**21,3**	**20,5**	**22,5**
Compressor		Nb	2	2	2	3	3	2	4	2	3
Max. input current		A	20	25	32	31	38	39	41	43	48
Receiver volume		l.	45	45	60	60	60	60	60	60	60
Standard connection package	Discharge	Ø	1"1/8	1"1/8	1"1/8	1"1/8	1"1/8	1"1/8	1"1/8	1"1/8	1"1/8
	Suction	Ø	1"5/8	1"5/8	1"5/8	1"5/8	2"1/8	2"1/8	2"1/8	2"1/8	2"1/8
	Liquid	Ø	7/8"	7/8"	7/8"	7/8"	1"1/8	1"1/8	1"1/8	1"1/8	1"1/8
Rack weight		kg	374	383	390	472	482	481	573	491	498
Receiver dimensions	L	mm	666	666	666	666	666	666	666	666	666
	P	mm	402	402	402	402	402	402	402	402	402
	H	mm	1137	1137	1338	1338	1338	1338	1338	1338	1338
Receiver weight		kg	60	60	80	80	80	80	80	80	80

-10°C/+45°C *		COM ...	4P 4DES-5Y	2P 4NES-14Y	3P 4TES-9Y	4P 4CES-6Y	3P 4PES-12Y	4P 4TES-9Y	3P 4NES-14Y	4P 4PES-12Y	4P 4NES-14Y
Capacity R404A*		kW	**53,0**	**54,8**	**60,4**	**64,1**	**68,6**	**80,5**	**82,1**	**91,4**	**109,5**
Input power*		kW	**25,2**	**25,0**	**27,8**	**30,0**	**30,8**	**37,1**	**37,4**	**41,1**	**49,9**
Compressor		Nb	4	2	3	4	3	4	3	4	4
Max. input current		A	50	52	59	64	65	78	77	86	103
Receiver volume		l.	60	60	60	60	120	120	120	120	120
Standard connection package	Discharge	Ø	1"3/8	1"3/8	1"3/8	1"3/8	1"3/8	1"5/8	1"5/8	1"5/8	1"5/8
	Suction	Ø	2"1/8	2"1/8	2"1/8	2"1/8	2"5/8	2"5/8	2"5/8	2"5/8	2"5/8
	Liquid	Ø	1"1/8	1"1/8	1"1/8	1"1/8	1"3/8	1"3/8	1"3/8	1"3/8	1"3/8
Rack weight		kg	589	504	637	608	656	794	670	815	823
Receiver dimensions	L	mm	666	666	666	666	714	714	714	714	714
	P	mm	402	402	402	402	455	455	455	455	455
	H	mm	1338	1338	1338	1338	1834	1834	1834	1834	1834
Receiver weight		kg	80	80	80	80	120	120	120	120	120

* Evaporation temperature / condensation temperature - Superheating 10K, subcooling 3K.
Refer to the software package for a more accurate rack selection.

	BPS	HPG	BP1	HPS	CDP	BAC	TXL	RLS 60 l.	RLS 120 l.	RLS 150 l.	ALF	ALR	SSD	BDR	PAV	ARM
COM 2P/4EES-4Y	0	0	0	0	0	0	0	0	-	-	0	0	0	0	0	0
COM 2P/4DES-5Y	0	0	0	0	0	0	0	0	-	-	0	0	0	0	0	0
COM 2P/4CES-6Y	0	0	0	0	0	0	0	-	0	-	0	0	0	0	0	0
COM 3P/4EES-4Y	0	0	0	0	0	0	0	-	0	-	0	0	0	0	0	0
COM 3P/4DES-5Y	0	0	0	0	0	0	0	-	0	-	0	0	0	0	0	0
COM 2P/4TES-9Y	0	0	0	0	0	0	0	-	0	-	0	0	0	0	0	0
COM 4P/4EES-4Y	0	0	0	0	0	0	0	-	0	-	0	0	0	0	0	0
COM 2P/4PES-12Y	0	0	0	0	0	0	0	-	0	-	0	0	0	0	0	0
COM 3P/4CES-6Y	0	0	0	0	0	0	0	-	0	-	0	0	0	0	0	0
COM 4P/4DES-5Y	0	0	0	0	0	0	0	-	0	-	0	0	0	0	0	0
COM 2P/4NES-14Y	0	0	0	0	0	0	0	-	0	-	0	0	0	0	0	0
COM 3P/4TES-9Y	0	0	0	0	0	0	0	-	0	-	0	0	0	0	0	0
COM 4P/4CES-6Y	0	0	0	0	0	0	0	-	0	-	0	0	0	0	0	0
COM 3P/4PES-12Y	0	0	0	0	0	0	0	-	-	0	0	0	-	0	0	0
COM 4P/4TES-9Y	0	0	0	0	0	0	0	-	-	0	0	0	-	0	0	0
COM 3P/4NES-14Y	0	0	0	0	0	0	0	-	-	0	0	0	-	0	0	0
COM 4P/4PES-12Y	0	0	0	0	0	0	0	-	-	0	0	0	-	0	0	0
COM 4P/4NES-14Y	0	0	0	0	0	0	0	-	-	0	0	0	-	0	0	0

COMPACT - Octagon

Low temperature range

-35°C/+40°C *		COM ...	2N 4EES-4Y	2N 4DES-5Y	2N 4CES-6Y	3N 4EES-4Y	2N 4TES-9Y	3N 4DES-5Y	2N 4PES-12Y	4N 4EES-4Y	3N 4CES-6Y
Capacity R404A*		kW	**6,6**	**7,9**	**9,3**	**9,9**	**11,2**	**11,8**	**12,0**	**13,2**	**13,9**
Input power*		kW	**5,5**	**6,6**	**7,7**	**8,3**	**8,9**	**9,9**	**9,5**	**11,1**	**11,6**
Compressor		Nb	2	2	2	3	2	3	2	4	3
Max. input current		A	15	19	25	23	27	29	29	30	38
Receiver volume		l.	45	45	45	45	45	45	45	45	45
Standard connection package	Discharge	Ø	1"1/8	1"1/8	1"1/8	1"1/8	1"1/8	1"1/8	1"1/8	1"1/8	1"1/8
	Suction	Ø	1"3/8	1"3/8	1"5/8	1"5/8	1"5/8	1"5/8	1"5/8	1"5/8	1"5/8
	Liquid	Ø	5/8"	5/8"	5/8"	5/8"	5/8"	5/8"	5/8"	5/8"	5/8"
Rack weight		kg	371	376	388	470	474	476	484	566	492
Receiver dimensions	L	mm	666	666	666	666	666	666	666	666	666
	P	mm	402	402	402	402	402	402	402	402	402
	H	mm	1137	1137	1137	1137	1137	1137	1137	1137	1137
Receiver weight		kg	60	60	60	60	60	60	60	60	60

-35°C/+40°C *		COM ...	2N 4NES-14Y	4N 4DES-5Y	3N 4TES-9Y	3N 4PES-12Y	4N 4CES-6Y	4N 4TES-9Y	3N 4NES-14Y	4N 4PES-12Y	4N 4NES-14Y
Capacity R404A*		kW	**15,2**	**15,8**	**16,7**	**18,0**	**18,6**	**22,3**	**22,8**	**24,0**	**30,4**
Input power*		kW	**12,1**	**13,2**	**13,3**	**14,2**	**15,4**	**17,7**	**18,1**	**18,9**	**24,1**
Compressor		Nb	2	4	3	3	4	4	3	4	4
Max. input current		A	35	39	40	44	51	54	52	58	70
Receiver volume		l.	60	60	60	60	60	60	60	60	60
Standard connection package	Discharge	Ø	1"1/8	1"1/8	1"1/8	1"1/8	1"1/8	1"1/8	1"1/8	1"1/8	1"1/8
	Suction	Ø	2"1/8	2"1/8	2"1/8	2"1/8	2"1/8	2"1/8	2"1/8	2"5/8	2"5/8
	Liquid	Ø	7/8"	7/8"	7/8"	7/8"	7/8"	7/8"	7/8"	1"1/8	1"1/8
Rack weight		kg	490	577	624	634	597	769	646	796	805
Receiver dimensions	L	mm	666	666	666	666	666	666	666	666	666
	P	mm	402	402	402	402	402	402	402	402	402
	H	mm	1338	1338	1338	1338	1338	1338	1338	1338	1338
Receiver weight		kg	80	80	80	80	80	80	80	80	80

* Evaporation temperature / condensation temperature - Superheating 10K, subcooling 3K.
Refer to the software package for a more accurate rack selection.

	BPS	HPG	BP1	HPS	CDP	BAC	TXL	RLS 60 l.	RLS 120 l.	RLS 150 l.	ALF	ALR	SSD	BDR	PAV	ARM
COM 2N/4EES-4Y	0	0	0	0	0	0	0	0	-	-	0	0	0	0	0	0
COM 2N/4DES-5Y	0	0	0	0	0	0	0	0	-	-	0	0	0	0	0	0
COM 2N/4CES-6Y	0	0	0	0	0	0	0	0	-	-	0	0	0	0	0	0
COM 3N/4EES-4Y	0	0	0	0	0	0	0	0	-	-	0	0	0	0	0	0
COM 2N/4TES-9Y	0	0	0	0	0	0	0	0	-	-	0	0	0	0	0	0
COM 3N/4DES-5Y	0	0	0	0	0	0	0	0	-	-	0	0	0	0	0	0
COM 2N/4PES-12Y	0	0	0	0	0	0	0	0	-	-	0	0	0	0	0	0
COM 4N/4EES-4Y	0	0	0	0	0	0	0	0	-	-	0	0	0	0	0	0
COM 3N/4CES-6Y	0	0	0	0	0	0	0	0	-	-	0	0	0	0	0	0
COM 2N/4NES-14Y	0	0	0	0	0	0	0	-	0	-	0	0	0	0	0	0
COM 4N/4DES-5Y	0	0	0	0	0	0	0	-	0	-	0	0	0	0	0	0
COM 3N/4TES-9Y	0	0	0	0	0	0	0	-	0	-	0	0	0	0	0	0
COM 3N/4PES-12Y	0	0	0	0	0	0	0	-	0	-	0	0	0	0	0	0
COM 4N/4CES-6Y	0	0	0	0	0	0	0	-	0	-	0	0	0	0	0	0
COM 4N/4TES-9Y	0	0	0	0	0	0	0	-	0	-	0	0	0	0	0	0
COM 3N/4NES-14Y	0	0	0	0	0	0	0	-	0	-	0	0	0	0	0	0
COM 4N/4PES-12Y	0	0	0	0	0	0	0	-	0	-	0	0	0	0	0	0
COM 4N/4NES-14Y	0	0	0	0	0	0	0	-	0	-	0	0	0	0	0	0

COMPACT - Scroll

Chill range

-10°C/+45°C *		COM ...	2P ZB38	2P ZB45	2P ZB50	3P ZB38	2P ZB66	3P ZB45	3P ZB50	2P ZB76	2P ZB95	3P ZB66
Capacity R404A*		kW	**16,6**	**19,6**	**23,2**	**24,9**	**29,4**	**29,4**	**34,7**	**34,8**	**42,3**	**44,1**
Input power*		kW	**8,4**	**9,6**	**11,4**	**12,6**	**14,2**	**14,4**	**17,2**	**16,3**	**21,0**	**21,2**
Compressor		Nb	2	2	2	3	2	3	3	2	2	3
Max. input current		A	22	22	25	33	31	34	38	36	46	47
Receiver volume		l.	45	45	45	45	45	45	60	60	60	60
Standard connection package	Discharge	Ø	1"1/8	1"1/8	1"1/8	1"1/8	1"1/8	1"1/8	1"1/8	1"1/8	1"1/8	1"1/8
	Suction	Ø	1"5/8	1"5/8	1"5/8	1"5/8	1"5/8	1"5/8	2"1/8	2"1/8	2"1/8	2"1/8
	Liquid	Ø	7/8"	7/8"	7/8"	7/8"	7/8"	7/8"	1"1/8	7/8"	1"1/8	1"1/8
Rack weight		kg	287	292	328	340	334	346	403	338	348	408
Receiver dimensions	L	mm	666	666	666	666	666	666	666	666	666	666
	P	mm	402	402	402	402	402	402	402	402	402	402
	H	mm	1137	1137	1137	1137	1137	1137	1338	1338	1338	1338
Receiver weight		kg	60	60	60	60	60	60	80	80	80	80

-10°C/+45°C *		COM ...	4P ZB50	2P ZB114	3P ZB76	4P ZB66	3P ZB95	4P ZB76	3P ZB114	4P ZB95	4P ZB114
Capacity R404A*		kW	**46,3**	**50,2**	**52,2**	**58,8**	**63,5**	**69,6**	**75,3**	**84,7**	**100,4**
Input power*		kW	**22,9**	**25,2**	**24,4**	**28,3**	**31,5**	**32,6**	**37,8**	**42,0**	**50,4**
Compressor		Nb	4	2	3	4	3	4	3	4	4
Max. input current		A	50	58	53	62	70	71	87	93	115
Receiver volume		l.	60	60	60	60	60	60	120	120	120
Standard connection package	Discharge	Ø	1"1/8	1"3/8	1"3/8	1"3/8	1"3/8	1"3/8	1"3/8	1"5/8	1"5/8
	Suction	Ø	2"1/8	2"1/8	2"1/8	2"1/8	2"5/8	2"5/8	2"5/8	2"5/8	2"5/8
	Liquid	Ø	1"1/8	1"1/8	1"1/8	1"1/8	1"1/8	1"1/8	1"3/8	1"3/8	1"3/8
Rack weight		kg	474	361	425	491	438	506	448	526	533
Receiver dimensions	L	mm	666	666	666	666	666	666	714	714	714
	P	mm	402	402	402	402	402	402	455	455	455
	H	mm	1338	1338	1338	1338	1338	1338	1834	1834	1834
Receiver weight		kg	80	80	80	80	80	80	120	120	120

* Evaporation temperature / condensation temperature - Superheating 10K, subcooling 3K.
Refer to the software package for a more accurate rack selection.

	BPS	HPG	BP1	HPS	CDP	BAC	TXL	RLS 60 l.	RLS 120 l.	RLS 150 l.	ALF	ALR	SSD	BDR	PAV	ARM
COM 2P/ZB38	0	0	0	0	0	-	0	0	-	-	0	0	0	0	0	0
COM 2P/ZB45	0	0	0	0	0	-	0	0	-	-	0	0	0	0	0	0
COM 2P/ZB50	0	0	0	0	0	-	0	0	-	-	0	0	0	0	0	0
COM 3P/ZB38	0	0	0	0	0	-	0	0	-	-	0	0	0	0	0	0
COM 2P/ZB66	0	0	0	0	0	-	0	0	-	-	0	0	0	0	0	0
COM 3P/ZB45	0	0	0	0	0	-	0	0	-	-	0	0	0	0	0	0
COM 3P/ZB50	0	0	0	0	0	-	0	-	0	-	0	0	0	0	0	0
COM 2P/ZB76	0	0	0	0	0	-	0	-	0	-	0	0	0	0	0	0
COM 2P/ZB95	0	0	0	0	0	-	0	-	0	-	0	0	0	0	0	0
COM 3P/ZB66	0	0	0	0	0	-	0	-	0	-	0	0	0	0	0	0
COM 4P/ZB50	0	0	0	0	0	-	0	-	0	-	0	0	0	0	0	0
COM 2P/ZB114	0	0	0	0	0	-	0	-	0	-	0	0	0	0	0	0
COM 3P/ZB76	0	0	0	0	0	-	0	-	0	-	0	0	0	0	0	0
COM 4P/ZB66	0	0	0	0	0	-	0	-	0	-	0	0	0	0	0	0
COM 3P/ZB95	0	0	0	0	0	-	0	-	0	-	0	0	0	0	0	0
COM 4P/ZB76	0	0	0	0	0	-	0	-	0	-	0	0	0	0	0	0
COM 3P/ZB114	0	0	0	0	0	-	0	-	-	0	0	0	-	0	0	0
COM 4P/ZB95	0	0	0	0	0	-	0	-	-	0	0	0	-	0	0	0
COM 4P/ZB114	0	0	0	0	0	-	0	-	-	0	0	0	-	0	0	0

COMPACT - Scroll

Low temperature range

-35°C/+40°C *		COM ...	2N ZF15	3N ZF15	2N ZF24	2N ZF33	3N ZF24	2N ZF40	4N ZF24
Capacity R404A*		kW	**6,1**	**9,2**	**9,3**	**12,7**	**13,9**	**15,8**	**18,5**
Input power*		kW	**5,7**	**8,5**	**9,0**	**11,7**	**13,6**	**14,8**	**18,1**
Compressor		Nb	2	3	2	2	3	2	4
Max. input current		A	16	24	25	32	38	38	50
Receiver volume		l.	45	45	45	45	45	60	60
Standard connection package	Discharge	Ø	1"1/8	1"1/8	1"1/8	1"1/8	1"1/8	1"1/8	1"1/8
	Suction	Ø	1"3/8	1"5/8	1"5/8	2"1/8	2"1/8	2"1/8	2"1/8
	Liquid	Ø	5/8"	5/8"	5/8"	5/8"	5/8"	7/8"	7/8"
Rack weight		kg	289	344	414	402	530	424	641
Receiver dimensions	L	mm	666	666	666	666	666	666	666
	P	mm	402	402	402	402	402	402	402
	H	mm	1137	1137	1137	1137	1137	1338	1338
Receiver weight		kg	60	60	60	60	60	80	80

-35°C/+40°C *		COM ...	2N ZF48	3N ZF33	3N ZF40	4N ZF33	3N ZF48	4N ZF40	4N ZF48
Capacity R404A*		kW	**19,0**	**19,1**	**23,6**	**25,5**	**28,5**	**31,5**	**38,0**
Input power*		kW	**19,4**	**17,5**	**22,2**	**23,3**	**29,1**	**29,6**	**38,8**
Compressor		Nb	2	3	3	4	3	4	4
Max. input current		A	49	48	57	64	73	76	98
Receiver volume		l.	60	60	60	60	60	60	120
Standard connection package	Discharge	Ø	1"1/8	1"1/8	1"1/8	1"1/8	1"1/8	1"1/8	1"3/8
	Suction	Ø	2"1/8	2"1/8	2"5/8	2"5/8	2"5/8	2"5/8	2"5/8
	Liquid	Ø	7/8"	7/8"	7/8"	7/8"	7/8"	1"1/8	1"1/8
Rack weight		kg	443	510	542	617	575	661	702
Receiver dimensions	L	mm	666	666	666	666	666	666	714
	P	mm	402	402	402	402	402	402	455
	H	mm	1338	1338	1338	1338	1338	1338	1834
Receiver weight		kg	80	80	80	80	80	80	120

* Evaporation temperature / condensation temperature - Superheating 10K, subcooling 3K.
Refer to the software package for a more accurate rack selection.

	BPS	HPG	BP1	HPS	CDP	BAC	TXL	RLS 60 l.	RLS 120 l.	RLS 150 l.	ALF	ALR	SSD	BDR	PAV	ARM
COM 2N/ZF15	O	O	O	O	O	-	S	O	-	-	O	O	O	O	O	O
COM 3N/ZF15	O	O	O	O	O	-	S	O	-	-	O	O	O	O	O	O
COM 2N/ZF24	O	O	O	O	O	-	S	O	-	-	O	O	O	O	O	O
COM 2N/ZF33	O	O	O	O	O	-	S	O	-	-	O	O	O	O	O	O
COM 3N/ZF24	O	O	O	O	O	-	S	O	-	-	O	O	O	O	O	O
COM 2N/ZF40	O	O	O	O	O	-	S	-	O	-	O	O	O	O	O	O
COM 4N/ZF24	O	O	O	O	O	-	S	-	O	-	O	O	O	O	O	O
COM 2N/ZF48	O	O	O	O	O	-	S	-	O	-	O	O	O	O	O	O
COM 3N/ZF33	O	O	O	O	O	-	S	-	O	-	O	O	O	O	O	O
COM 3N/ZF40	O	O	O	O	O	-	S	-	O	-	O	O	O	O	O	O
COM 4N/ZF33	O	O	O	O	O	-	S	-	O	-	O	O	O	O	O	O
COM 3N/ZF48	O	O	O	O	O	-	S	-	O	-	O	O	O	O	O	O
COM 4N/ZF40	O	O	O	O	O	-	S	-	O	-	O	O	O	O	O	O
COM 4N/ZF48	O	O	O	O	O	-	S	-	-	O	O	O	-	O	O	O

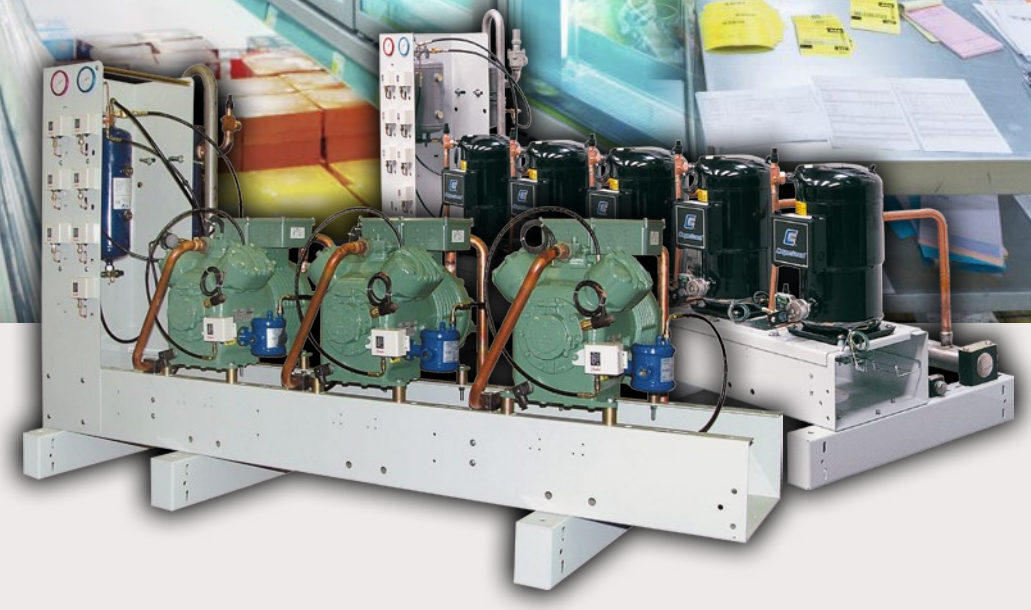
LENNOX EMEA reserves itself the right to make changes at any time without preliminary notice - Photos non-contractual

LENNOX
EMEA

COMPRESSOR RACK

SEMI-HERMETIC PISTONS AND SCROLL

Hard Discount - Supermarkets - Hypermarkets
Refrigerated storage and transit stocking - Dispatch centres
Food processing



HFC

22 > **385** kW

MOPSH / MOSC

- Racks composed in standard:
  - MOPSH model with 2 to 5 semi-hermetic compressors,
  - MOSC model with 5 and 6 Scroll compressors.
- Supplied non-wired, wired or with a complete switching enclosure.
- Rack adapted for use in sites with difficult access.
- Low width 800 to 1,000 mm.
- Liquid station delivered separately.
- Painted, U-profile, monoblock frame to eliminate vibrations.

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FRIGA-BOHN

HK® REFRIGERATION

DESCRIPTION

Frame

MOPSH - MOSC

- Monoblock, painted, 4 mm thick, U-profile, folded sheet steel.

Compressors

MOPSH

- With ROTALOCK suction and delivery valves + head fan for low temperature applications, casing heater and oil pump.

MOSC

- Equipped with ROTALOCK suctions and delivery valves, casing heater, HP safety cartridge pressure switch and rigid suspension.
- The low temperature models are also equipped with an injection system with various configurations according to the compressors used: shut-off valve, filter, solenoid valve and capillary.

Collectors

MOPSH - MOSC

- Suction and delivery pipes made of stainless steel 304 L.
- Schrader pressure tapping point with a shut-off valve per collector (connection of mano-pressure switch, etc...).
- Polypropylene fastening straps on the suction side and high-temperature resistant polyamide straps on the delivery side.

MOPSH

- A general suction filter unit with removable cartridge up to 186 kW refrigeration capacity for chill and 47 kW for low temperature. One unit per compressor for higher capacities.

MOSC

- A removable cartridge filter fitted on the suction collector.

Oil line

MOPSH - MOSC

- Removable oil separator and oil receiver with high/low level Indicator and shut-off valves.
- Oil collector with flexible end connections.
- LP oil return line with filter, indicator and shut-off valve per compressor.
- Degassing valve.

MOPSH

- Level regulator with float.

Liquid station

- Liquid station delivered separately.
- Inlet/outlet shut-off valves.
- Liquid line equipped with a removable filter dryer unit ≤ 150 l. and 2 units in parallel with shut-off valves > 150 l.
- General line indicator and shut-off valve.
- Single safety valve or double (according to PED).

Monitoring devices

MOPSH - MOSC

- 1 general safety LP pressure switch.
- 1 or 2 automatic reset HP cartridge pressure switch(s) per compressor (according to EN 378-2: 2009).
- 2 manometers (LP+HP).

MOPSH

- Oil differential pressure switch per compressor.

DESIGNATION

MOSC 5(1)P(2) / ZB50(3)

(1) Number of compressor
(2) **P** = Chill range – **N** = Low temperature range
(3) Type of compressor

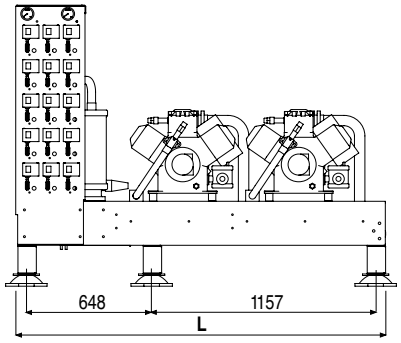
CERTIFICATIONS

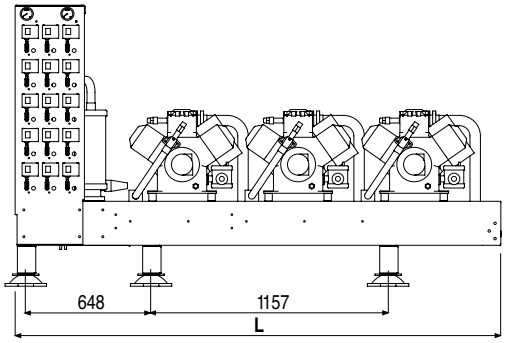
PED 97/23/CE

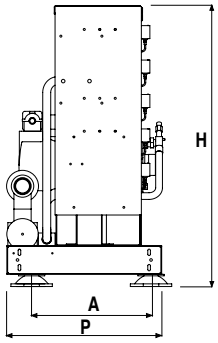
OPTIONS

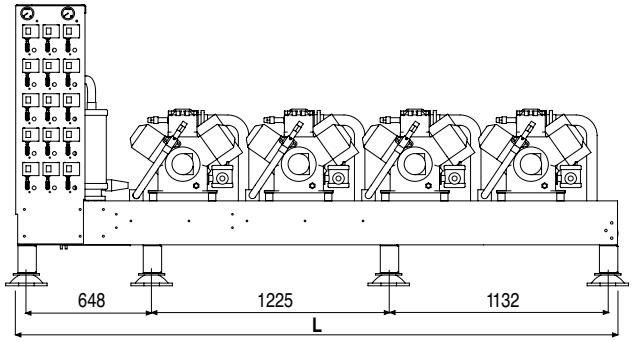
Kit	Factory	
		Connection pack
	PR1	External connection valves (1 delivery, 1 suction, 1 liquid).
	PR2	External connection valves (1 delivery, 2 suction, 2 liquid).
	PR3	External connection valves (1 delivery, 3 suction, 3 liquid).
		Safety pack
	BPS	LP safety pressure switch per compressor.
	HPG	HP general pressure switch (automatic).
		Regulator pack
	BP1	LP pressure switch (automatic) per compressor.
	HPS	Additional HP pressure switches.
	CDP	LP/HP pressure sensors, 4-20 mA signal.
		Miscellaneous
	TXL	Traxoil oil regulator (**MOPSH**).
	BD1	Single liquid dryer by-pass (1 filter) during operation.
	ALF	Height-adjustable refrigerant level alarm with float.
	ALR	Opto-electronic refrigerant level alarm.
	PAV	Anti-vibration pads (supplied with the rack not fitted).
	SSD	Double safety valve with 3-way valve (for receivers < 120 litres).
	RLS	Oversized liquid receiver.
	BDR	Condensate drip tray under suction collectors.
	VFA	Suction valve and filter on each compressor (**MOPSH**).
	CAR	Casing (with incorporated switching enclosure).
	SIL	Delivery muffler (1 per compressor) (**MOPSH**).
ANM		Rack lifting rings (supplied with the rack not fitted).
	BAC	Suction accumulator (**MOPSH**).
	EVH	Oil return solenoid valve.
	CCB	Control terminal rail wiring.
	ARM	Switching enclosure (contact us).

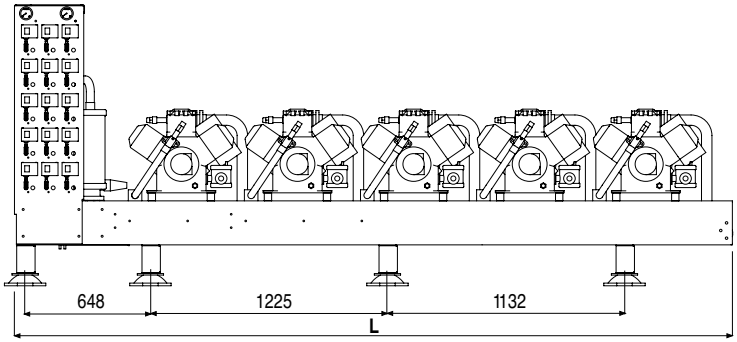
MOPSH - **Semi-Hermetic**

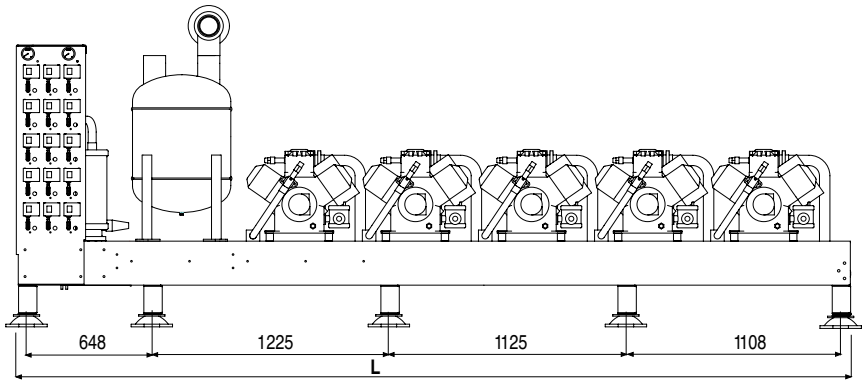






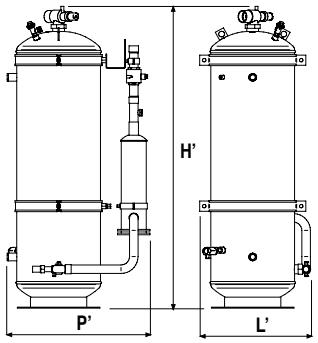




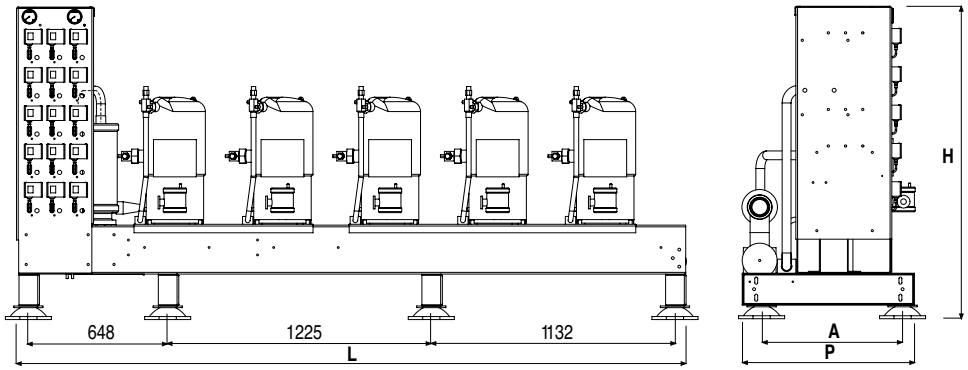


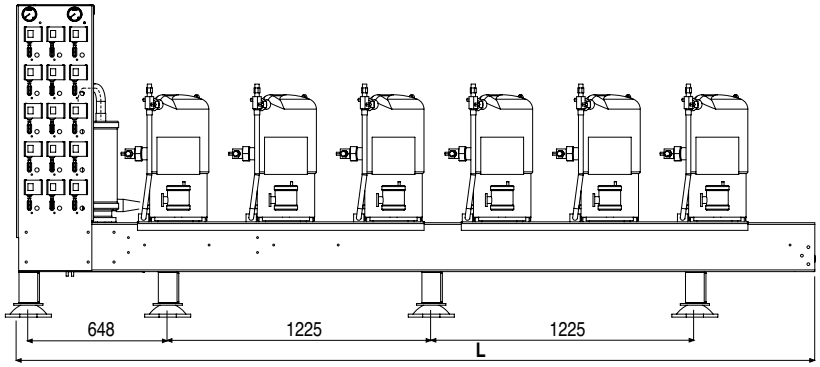
Liquid station

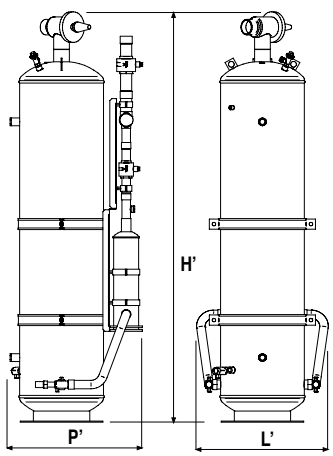
		60 l.	120 l.	150 l.	250 l.	350 l.
L'	**mm**	666	714	790	739	993
P'	**mm**	402	455	538	638	856
H'	**mm**	1366	1834	1605	2010	1942
Weight	**kg**	70	110	120	170	240



MOSC - **Scroll**







MOPSH

Chill range

-10°C/+45°C *		MOPSH ...	2P 4JE-15Y	2P 4HE-18Y	2P 4GE-23Y	3P 4JE-15Y	3P 4HE-18Y	4P 4JE-15Y	3P 4GE-23Y	4P 4HE-18Y	3P 4FE-28Y
Capacity R404A*		kW	**63,5**	**74,4**	**86,2**	**95,3**	**111,6**	**127,0**	**129,4**	**148,8**	**153,2**
Input power*		kW	**28,2**	**33,8**	**40,3**	**42,3**	**50,7**	**56,5**	**60,4**	**67,6**	**71,7**
Compressor		Nb	2	2	2	3	3	4	3	4	3
Max. input current		A	58,6	69,8	83,3	87,9	104,7	117,2	125,0	139,6	149,5
Receiver volume		l.	60	60	120	150	150	150	150	150	250
Standard connection package	Discharge	Ø	1"3/8	1"5/8	1"5/8	1"5/8	1"5/8	2"1/8	2"1/8	2"1/8	2"1/8
	Suction	Ø	2"5/8	2"5/8	3"1/8	3"1/8	3"1/8	2x2"5/8	2x2"5/8	2x2"5/8	2x2"5/8
	Liquid	Ø	1"1/8	1"1/8	1"3/8	1"3/8	1"3/8	2x1"3/8	2x1"3/8	2x1"3/8	2x1"3/8
Rack dimensions	L	mm	1915	1915	1915	2515	2515	3115	2515	3115	2515
	P	mm	800	800	800	800	1000	1000	1000	1000	1000
	H	mm	1500	1500	1500	1500	1500	1450	1450	1450	1450
	A	mm	655	655	655	755	755	755	755	755	755
Weight		kg	610	620	630	850	860	1100	900	1140	960

-10°C/+45°C *		MOPSH ...	4P 4GE-23Y	3P 6GE-34Y	4P 4FE-28Y	3P 6FE-44Y	5P 4FE-28Y	4P 6GE-34Y	4P 6FE-44Y	5P 6GE-34Y	5P 6FE-44Y
Capacity R404A*		kW	**172,5**	**191,6**	**204,2**	**229,8**	**255,3**	**255,5**	**306,4**	**319,4**	**383,0**
Input power*		kW	**80,5**	**90,4**	**95,6**	**107,9**	**119,5**	**120,5**	**143,9**	**150,6**	**179,9**
Compressor		Nb	4	3	4	3	5	4	4	5	5
Max. input current		A	166,7	186,9	199,3	222,9	249,1	249,2	297,2	311,5	371,6
Receiver volume		l.	250	250	250	250	350	250	350	350	350
Standard connection package	Discharge	Ø	2"1/8	2"5/8	2"5/8	2"5/8	3"1/8	3"1/8	3"1/8	3"1/8	3"1/8
	Suction	Ø	2x2"5/8	2x3"1/8	2x3"1/8	2x3"1/8	3x3"1/8	3x3"1/8	3x3"1/8	3x3"1/8	3x3"1/8
	Liquid	Ø	2x1"3/8	2x1"3/8	2x1"5/8	2x1"5/8	3x1"3/8	3x1"3/8	3x1"3/8	3x1"3/8	3x1"5/8
Rack dimensions	L	mm	3115	2515	3115	2515	3715	3115	3115	3715	3715
	P	mm	1000	1000	1000	1000	1000	1000	1000	1000	1000
	H	mm	1450	1450	1580	1580	1580	1580	1580	1580	1780
	A	mm	755	755	755	755	755	755	755	755	755
Weight		kg	1160	1020	1240	1080	1540	1380	1430	1650	1720

* Evaporation temp./Condensation temp. - Superheating 10K, subcooling 3K.
Refer to the software package for a more accurate rack selection.

MOPSH ...	PR1	PR2	PR3	BPS	HPG	BP1	HPS	CDP	TXL	BD1	ALF	ALR	PAV	SSD	RLS 120l.	RLS 150l.	RLS 250l.	RLS 350l.	BDR	VFA	SIL	ANM	BAC	EVH	CCB	ARM
2P/4JE-15Y	0	0	-	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	0	-	0	0	0	0	0	0
2P/4HE-18Y	0	0	-	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	0	-	0	0	0	0	0	0
2P/4GE-23Y	0	0	-	0	0	0	0	0	0	0	0	0	0	-	-	0	-	-	0	-	0	0	0	0	0	0
3P/4JE-15Y	0	0	-	0	0	0	0	0	0	0	0	0	0	-	-	-	0	-	0	-	0	0	0	0	0	0
3P/4HE-18Y	0	0	-	0	0	0	0	0	0	0	0	0	0	-	-	-	0	-	0	-	0	0	0	0	0	0
4P/4JE-15Y	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	0	-	0	-	0	0	0	0	0	0
3P/4GE-23Y	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	0	-	0	-	0	0	0	0	0	0
4P/4HE-18Y	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	0	-	0	-	0	0	0	0	0	0
3P/4FE-28Y	0	0	0	0	0	0	0	0	0	-	0	0	0	-	-	-	-	0	0	-	0	0	0	0	0	0
4P/4GE-23Y	0	0	0	0	0	0	0	0	0	-	0	0	0	-	-	-	-	0	0	-	0	0	0	0	0	0
3P/6GE-34Y	0	0	0	0	0	0	0	0	0	-	0	0	0	-	-	-	-	0	0	-	0	0	0	0	0	0
4P/4FE-28Y	0	0	0	0	0	0	0	0	0	-	0	0	0	-	-	-	-	0	0	0	0	0	0	0	0	0
3P/6FE-44Y	0	0	0	0	0	0	0	0	0	-	0	0	0	-	-	-	-	0	0	0	0	0	0	0	0	0
5P/4FE-28Y	-	0	0	0	0	0	0	0	0	-	0	0	0	-	-	-	-	-	0	0	0	0	0	0	0	0
4P/6GE-34Y	-	0	0	0	0	0	0	0	0	-	0	0	0	-	-	-	-	0	0	0	0	0	0	0	0	0
4P/6FE-44Y	-	0	0	0	0	0	0	0	0	-	0	0	0	-	-	-	-	-	0	0	0	0	0	0	0	0
5P/6GE-34Y	-	0	0	0	0	0	0	0	0	-	0	0	0	-	-	-	-	-	0	0	0	0	0	0	0	0
5P/6FE-44Y	-	0	0	0	0	0	0	0	0	-	0	0	0	-	-	-	-	-	0	0	0	0	0	0	0	0

MOPSH

Low temperature range

-35°C/+40°C*		MOPSH ...	2N 4HE-18Y	2N 4GE-23Y	2N 4FE-28Y	3N 4HE-18Y	3N 4GE-23Y	2N 6GE-34Y	4N 4HE-18Y	2N 6FE-44Y	3N 4FE-28Y
Capacity R404A*		kW	**22,2**	**26,6**	**31,8**	**33,3**	**39,8**	**40,6**	**44,4**	**47,7**	**47,7**
Input power*		kW	**17,4**	**20,7**	**24,8**	**26,1**	**31,0**	**31,8**	**34,8**	**38,5**	**37,2**
Compressor		Nb	2	2	2	3	3	2	4	2	3
Max. input current		A	49,1	57,7	72,8	73,6	86,5	90,4	98,2	112,4	109,2
Receiver volume		l.	60	60	120	120	150	120	150	150	150
Standard connection package	Discharge	Ø	1"3/8	1"3/8	1"3/8	1"3/8	1"3/8	1"3/8	1"3/8	1"3/8	1"5/8
	Suction	Ø	2"5/8	2"5/8	2"5/8	2"5/8	2x2"5/8	2x2"1/8	2x2"5/8	2x2"5/8	2x2"5/8
	Liquid	Ø	7/8"	1"1/8	1"3/8	1"3/8	2x7/8"	2x7/8"	2x7/8"	2x7/8"	2x7/8"
Rack dimensions	L	mm	1915	1915	1915	2515	2515	1915	3115	1915	2515
	P	mm	800	800	800	800	800	800	800	800	1000
	H	mm	1500	1500	1500	1500	1450	1450	1450	1450	1450
	A	mm	655	655	655	655	755	755	755	755	755
Weight		kg	600	610	640	820	840	690	1060	720	930

-35°C/+40°C*		MOPSH ...	3N 6GE-34Y	4N 4FE-28Y	3N 6FE-44Y	5N 4FE-28Y	4N 6GE-34Y	4N 6FE-44Y	5N 6GE-34Y	5N 6FE-44Y
Capacity R404A*		kW	**60,9**	**63,6**	**71,5**	**79,5**	**81,2**	**95,3**	**101,5**	**119,2**
Input power*		kW	**47,7**	**49,6**	**57,8**	**62,0**	**63,7**	**77,0**	**79,6**	**96,3**
Compressor		Nb	3	4	3	5	4	4	5	5
Max. input current		A	135,6	145,6	168,6	182,0	180,8	224,8	226,0	281,0
Receiver volume		l.	150	250	250	250	250	250	350	350
Standard connection package	Discharge	Ø	1"5/8	1"5/8	1"5/8	1"5/8	1"5/8	2"1/8	2"1/8	2"1/8
	Suction	Ø	2x2"5/8	2x3"1/8	2x3"1/8	3x2"5/8	2x3"1/8	3x2"5/8	3x3"1/8	3x3"1/8
	Liquid	Ø	2x1"1/8	2x1"1/8	2x1"1/8	3x1"1/8	2x1"3/8	3x1"1/8	3x1"1/8	3x1"1/8
Rack dimensions	L	mm	2515	3115	2515	3715	3115	3115	3715	3715
	P	mm	1000	1000	1000	1000	1000	1000	1000	1000
	H	mm	1580	1580	1580	1580	1580	1580	1580	1780
	A	mm	755	755	755	755	755	755	755	755
Weight		kg	1000	1200	1050	1470	1290	1370	1610	1680

* Evaporation temp./Condensation temp. - Superheating 10K, subcooling 3K.
Refer to the software package for a more accurate rack selection.

MOPSH ...	PR1	PR2	PR3	BPS	HPG	BP1	HPS	CDP	TXL	BD1	ALF	ALR	PAV	SSD	RLS 120l.	RLS 150l.	RLS 250l.	RLS 350l.	BDR	VFA	SIL	ANM	BAC	EVH	CCB	ARM
2N/4HE-18Y	0	0	-	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	0	-	0	0	0	0	0	0
2N/4GE-23Y	0	0	-	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	0	-	0	0	0	0	0	0
2N/4FE-28Y	0	0	-	0	0	0	0	0	0	0	0	0	0	-	-	0	-	-	0	-	0	0	0	0	0	0
3N/4HE-18Y	0	0	-	0	0	0	0	0	0	0	0	0	0	-	-	0	-	-	0	-	0	0	0	0	0	0
3N/4GE-23Y	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	0	-	0	-	0	0	0	0	0	0
2N/6GE-34Y	0	0	-	0	0	0	0	0	0	0	0	0	0	-	-	0	-	-	0	-	0	0	0	0	0	0
4N/4HE-18Y	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	0	-	0	-	0	0	0	0	0	0
2N/6FE-44Y	0	0	-	0	0	0	0	0	0	0	0	0	0	-	-	-	0	-	0	-	0	0	0	0	0	0
3N/4FE-28Y	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	0	-	0	-	0	0	0	0	0	0
3N/6GE-34Y	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	0	-	0	0	0	0	0	0	0	0
4N/4FE-28Y	0	0	0	0	0	0	0	0	0	-	0	0	0	-	-	-	-	0	0	0	0	0	0	0	0	0
3N/6FE-44Y	0	0	0	0	0	0	0	0	0	-	0	0	0	-	-	-	-	0	0	0	0	0	0	0	0	0
5N/4FE-28Y	-	0	0	0	0	0	0	0	0	-	0	0	0	-	-	-	-	0	0	0	0	0	0	0	0	0
4N/6GE-34Y	0	0	0	0	0	0	0	0	0	-	0	0	0	-	-	-	-	0	0	0	0	0	0	0	0	0
4N/6FE-44Y	-	0	0	0	0	0	0	0	0	-	0	0	0	-	-	-	-	0	0	0	0	0	0	0	0	0
5N/6GE-34Y	-	0	0	0	0	0	0	0	0	-	0	0	0	-	-	-	-	-	0	0	0	0	0	0	0	0
5N/6FE-44Y	-	0	0	0	0	0	0	0	0	-	0	0	0	-	-	-	-	-	0	0	0	0	0	0	0	0

MOSC

Chill range

-10°C/+45°C *		MOSC ...	5P ZB50	5P ZB76	6P ZB76	5P ZB95	5P ZB114	6P ZB95	6P ZB114
Capacity R404A*		kW	**57,9**	**87,0**	**104,4**	**105,8**	**125,5**	**127,0**	**150,6**
Input power*		kW	**28,6**	**40,7**	**48,9**	**52,5**	**63,0**	**63,0**	**75,6**
Compressor		Nb	5	5	6	5	5	6	6
Max. input current		A	73	102	122	141	167	169	200
Receiver volume		l.	60	120	120	120	150	150	150
Standard connection package	Discharge	Ø	1"5/8	1"5/8	2"1/8	2"1/8	2"1/8	2"1/8	2"5/8
	Suction	Ø	2"5/8	3"1/8	3"1/8	3"1/8	3"1/8	4"1/8	4"1/8
	Liquid	Ø	1"1/8	1"3/8	1"3/8	1"3/8	1"5/8	1"5/8	1"5/8
Rack dimensions	L	mm	3115	3115	3715	3115	3115	3715	3715
	P	mm	800	800	800	1000	1000	1000	1000
	H	mm	1500	1500	1500	1500	1500	1500	1500
	A	mm	655	655	755	755	755	755	755
Weight		kg	820	820	980	890	930	1040	1100

* Evaporation temp./Condensation temp. - Superheating 10K, subcooling 3K.
Refer to the software package for a more accurate rack selection.

MOSC ...	PR1	PR2	PR3	BPS	HPG	BP1	HPS	CDP	TXL	BD1	ALF	ALR	PAV	SSD	RLS 120l.	RLS 150l.	RLS 250l.	RLS 350l.	BDR	VFA	SIL	ANM	BAC	EVH	CCB	ARM
5P / ZB50	O	O	-	O	O	O	O	O	S	O	O	O	O	O	O	-	-	-	O	-	-	O	-	O	O	O
5P / ZB76	O	O	-	O	O	O	O	O	S	O	O	O	O	-	-	O	-	-	O	-	-	O	-	O	O	O
6P / ZB76	O	O	O	O	O	O	O	O	S	O	O	O	O	-	-	O	-	-	O	-	-	O	-	O	O	O
5P / ZB95	O	O	O	O	O	O	O	O	S	O	O	O	O	-	-	O	-	-	O	-	-	O	-	O	O	O
5P / ZB114	O	O	O	O	O	O	O	O	S	O	O	O	O	-	-	-	O	-	O	-	-	O	-	O	O	O
6P / ZB95	O	O	O	O	O	O	O	O	S	O	O	O	O	-	-	-	O	-	O	-	-	O	-	O	O	O
6P / ZB114	O	O	O	O	O	O	O	O	S	O	O	O	O	-	-	-	O	-	O	-	-	O	-	O	O	O

S : Standard

MOSC

Low temperature range

-35°C/+40°C *		MOSC ...	5N ZF24	5N ZF33	6N ZF33	5N ZF40	6N ZF40	5N ZF48	6N ZF48
Capacity R404A*		kW	**23,2**	**31,8**	**38,2**	**39,4**	**47,3**	**47,5**	**57,0**
Input power*		kW	**22,6**	**29,2**	**35,0**	**37,0**	**44,5**	**48,5**	**58,2**
Compressor		Nb	5	5	6	5	6	5	6
Max. input current		A	81	112	134	126	151	153	184
Receiver volume		l.	60	60	120	150	150	150	150
Standard connection package	Discharge	Ø	1"3/8	1"3/8	1"3/8	1"3/8	1"5/8	1"3/8	1"5/8
	Suction	Ø	2"5/8	2"5/8	3"1/8	3"1/8	3"1/8	3"1/8	4"1/8
	Liquid	Ø	1"1/8	1"1/8	1"3/8	1"3/8	1"3/8	1"3/8	1"5/8
Rack dimensions	L	mm	3115	3115	3715	3115	3715	3115	3715
	P	mm	800	800	800	800	800	800	1000
	H	mm	1500	1500	1500	1500	1500	1500	1500
	A	mm	655	655	755	755	755	755	755
Weight		kg	820	820	980	890	1040	930	1100

* Evaporation temp./Condensation temp. - Superheating 10K, subcooling 3K.
Refer to the software package for a more accurate rack selection.

MOSC ...	PR1	PR2	PR3	BPS	HPG	BP1	HPS	CDP	TXL	BD1	ALF	ALR	PAV	SSD	RLS 120l.	RLS 150l.	RLS 250l.	RLS 350l.	BDR	VFA	SIL	ANM	BAC	EVH	CCB	ARM
5N / ZF24	O	O	-	O	O	O	O	O	-	O	O	O	O	O	O	-	-	-	O	-	-	O	-	O	O	O
5N / ZF33	O	O	-	O	O	O	O	O	-	O	O	O	O	O	O	-	-	-	O	-	-	O	-	O	O	O
6N / ZF33	O	O	-	O	O	O	O	O	-	O	O	O	O	-	-	O	-	-	O	-	-	O	-	O	O	O
5N / ZF40	O	O	O	O	O	O	O	O	-	O	O	O	O	-	-	-	O	-	O	-	-	O	-	O	O	O
6N / ZF40	O	O	O	O	O	O	O	O	-	O	O	O	O	-	-	-	O	-	O	-	-	O	-	O	O	O
5N / ZF48	O	O	O	O	O	O	O	O	-	O	O	O	O	-	-	-	O	-	O	-	-	O	-	O	O	O
6N / ZF48	O	O	O	O	O	O	O	O	-	O	O	O	O	-	-	-	O	-	O	-	-	O	-	O	O	O

LENNOX
EMEA

COMPRESSOR RACK

SEMI-HERMETIC SCREW COMPRESSOR

Hard Discount - Supermarkets - Hypermarkets
Refrigerated storage and transit stocking - Dispatch centres
Food processing

HFC

70 > **700** kW

MOVSH

- This range meets the needs and expectations of today's market in terms of reliability, efficiency and compactness.
- Various rack models with 2 to 6 screw compressors.
- Supplied with a complete switching enclosure.

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FRIGA-BOHN

HK® REFRIGERATION

MOVSH - Semi-hermetic screw compressor rack

DESCRIPTION

Compressors
- Screw compressors with part-winding start protection motors.
- Suction and delivery valves, non-return valve and capacity reduction.

Collectors
- 304L stainless steel suction collectors, low speed.
- Stainless steel delivery collectors.
- One suction filter with stainless steel sieve.
- Optional suction valve(s).

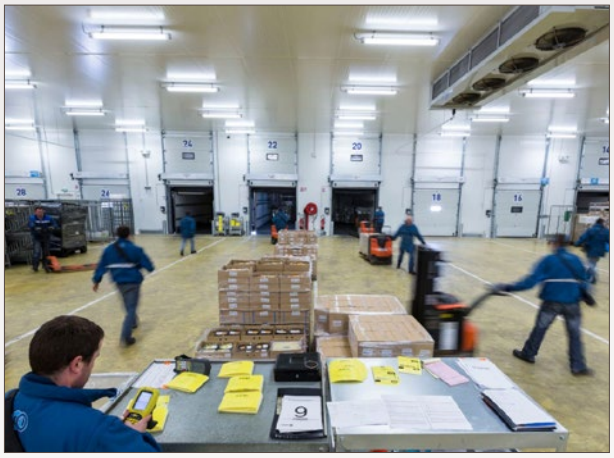
Liquid receiver
- Vertical separate from the rack.
- Inlet and outlet valves.
- Liquid indicator.
- Safety valve (double from 100 litres).

Liquid line
- Removable filter dryer.
- Operating valve.
- Liquid indicator.
- Optional liquid valve(s).

Oil circuit
- 3-way mixing valve for homogenous thermostatic oil control.
- Oil temperature max./min. safety thermostats.
- One oil indicator per compressor.
- Oil flow monitor.
- Solenoid valve.
- Manual shut-off valve.
- High-efficiency filter.

Oil separator
- Heaters.
- Control thermostat.
- Min. oil level detector.
- Indicator, safety valve, shut-off valve, non-return valve and filling valve.

Monitoring devices
- HP and LP manometers.
- 1 or 2 automatic reset HP cartridge pressure switch(s) per compressor (according to EN 378-2: 2009).
- HP pressure switch and automatic reset LP safety switch.
- Oil temperature safety and control thermostat.
- Oil temperature display thermometer.
- Delivery temperature, flow-rate and oil level protection relay.



OPTIONS

Miscellaneous
- Air or water oil cooling.
- System saver for chill racks.
- Oversized receiver.
- Water-cooled condenser fitted.
- Heat-exchanger.
- Hot-gas defrost in all its forms.
- Switching enclosure.

CERTIFICATIONS

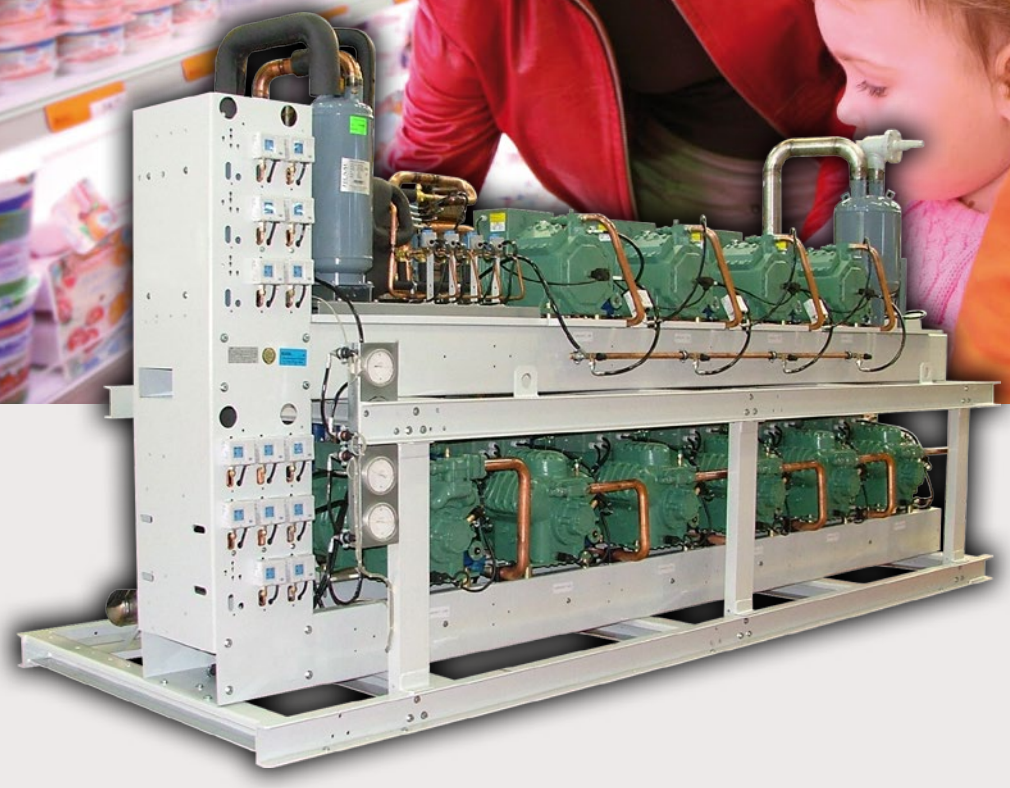
PED 97/23/CE

LENNOX
EMEA

COMPRESSOR RACK

OTHER CONFIGURATIONS

Bars - Restaurants - Corner shops - Mini-markets
Hard Discount - Supermarkets - Hypermarkets



Specially adapted to suit dimensional, acoustic and energy efficiency constraints.

- **Duplex "Booster" rack.**
- **Stand-alone, duplex low-temperature and chill rack.**
- **Encased rack.**
- **Compressor rack with superimposed centrifugal fan condenser.**
- **Compressor unit with liquid receiver.**

www.lennoxemea.com

FRIGA-BOHN

HK® REFRIGERATION

DUPLEX "BOOSTER" RACK

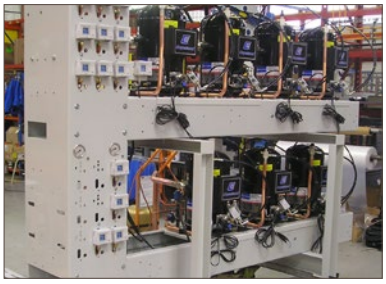
- Semi-hermetic or Scroll compressors.
- LP stage at the top and MP stage at the bottom on a superimposed or separate frame.
- Injection expansion valve, solenoid valve and desuperheating liquid suction accumulator.
- Liquid station delivered separatly with liquid subcooler exchanger (upon request).
- Regenerative heat-exchanger (upon request).
- Complete switching enclosure (not fitted).

Advantages

- Space saving in machine rooms, reduced footprint.
- 1 delivery and a single condenser for the LP and MP stages.
- Enhanced performance coefficient (COP).
- Reduced compressor size.
- Possibility to provide a removable frame to enable installation in narrow or difficult access sites (contact us for details).

STAND-ALONE, DUPLEX LOW-TEMPERATURE AND CHILL RACK

- Semi-hermetic or Scroll compressors.
- Superimposed frame with lifting rings.
- Low-temperature and chill racks with common delivery (upon request).
- Liquid station delivered separatly with liquid sub-cooler exchanger (upon request).
- Regenerative heat-exchanger (upon request).
- Complete switching enclosure (not fitted).



Advantages

- Space saving in machine rooms, reduced footprint.
- The choice of a common delivery offers a reduction in the roof space required with the installation of a single condenser unit.
- Possibility to provide a removable frame to enable installation in narrow or difficult access sites (contact us for details).

ENCASED RACK

- Semi-hermetic, Scroll or semi-hermetic screw compressors.
- Pre-paint, sheet-metal casing with removable panels secured with a ¼-turn latches, noise insulation on 6 sides with a cooling system connected to a rack available upon request.
- Frame with lifting rings.
- Incorporated switching enclosure.

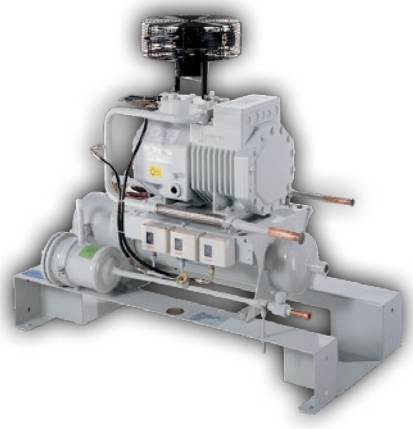
Advantages

- Designed for outdoor, floor or roof installation.
- The frame base lifting rings render handling operations easier.
- These encased racks are ideal for use in an urban environment thanks to their noise-insulated casing (upon request).
- Alternative to narrow machine rooms.

COMPRESSOR UNIT ON LIQUID RECEIVER

MONOSH

- Semi-hermetic compressor with casing heater and suction and delivery valves.
- 21 or 40-litre horizontal liquid receiver according to models with valves and safety shut-off valve.
- Optional:
- Head line (filter dryer, indicator, solenoid valve and shut-off valve),
- Suction line (suction accumulator and vibration dampers),
- Delivery line with vibration damper, muffler, oil separator
- Oil line (manual valve, indicator and solenoid valve),
- Switching enclosure (not fitted),
- Pre-painted sheet metal casing ideal for outdoor use (incorporated enclosure).



Advantages

- The MONOSH liquid receiver units have a reduced footprint.
- A wide choice of options enables adaptation of the unit to specific requirements.
- The units are delivered as standard with HP/LP pressure switches and oil differential switches, receiver shut-off valves, safety shut-off valve...
- Models with or without casing, the compressor is placed in the longitudinal direction on the receiver making it easier to extract and providing better access to the oil pump.

LENNOX EMEA reserves itself the right to make changes at any time without preliminary notice - Photos non-contractual

LENNOX
EMEA

CHILLER

ICE WATER PRODUCTION

Hard Discount - Supermarkets - Hypermarkets
Refrigerated storage and transit stocking - Dispatch centres - Food processing
Canteen kitchens - Conservation of fruits, vegetables, flowers...

PEG / NEOSYS®

Ice water production range PEG

- Chiller with 1, 2 or 3 circuits up to 780 kW.
- Primary fluids: R134a/MEG 35% or MPG - R404A / Secondary fluids: 35% MEG or MPG.
- Installation in the machine room.
- Independent refrigeration circuits with remote air or incorporated water condenser.
- Semi-hermetic piston, Scroll or semi-hermetic screw compressors.

Encased outdoor ice water production range PEG / NEOSYS®

www.lennoxemea.com

FRIGA-BOHN

HK® REFRIGERATION

PEG 300 ... 760 RANGE

Ice water production

Refrigeration capacity

290 to 780 kW (glycol water -4°C/-8°C - +45°C condensation temperature)
280 to 690 kW (glycol water -5°C/-9ºC - +45°C condensation temperature)

Characteristics

- UPN hot-dip galvanized monoblock.
- 1, 2 or 3 separate refrigeration circuits.
- Capacity control up to 3 stages: 100% / 75% / 50%.
- One delivery valve per circuit.
- One vertical liquid receiver per circuit: liquid stations delivered on separate frames.
- Multi-tube heat-exchanger (copper tube bundle and rolled steel).
- Electronic expansion valves with regulator, probes, sensors and solenoid valves.
- Screw compressors (HSK or CSH).

EXAMPLES OF INSTALLATIONS

- Screw compressors with energy-saving plate heat-exchanger.
- Stainless steel condensate drip tray under the compressor.
- Total isolation, heat-exchanger and suction collector.
- Electronic expansion valve with complete control.
- Pre-wired switching cabinet.
- **One multi-tube or plate desuperheater per circuit.**

PEG 170 ... 320 RANGE

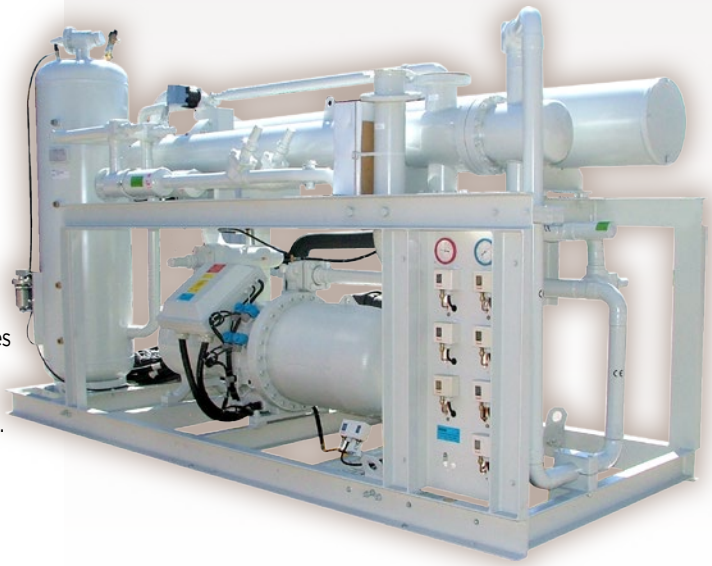
Ice water production

Refrigeration capacity

170 to 320 kW (glycol water -4°C/-8°C - +45°C condensation temperature)
180 to 330 kW (glycol water -3/-7ºC - +45°C condensation temperature)

Characteristics

- UPN hot-dip galvanized monoblock.
- 1 or 2 separate refrigeration circuits.
- One delivery valve per circuit.
- One vertical liquid receiver per circuit: liquid stations delivered on separate frames or fitted.
- Multi-tube heat-exchanger (copper tube bundle and rolled steel).
- 2 electronic expansion valves with regulator, probes, sensors and solenoid valves.
- Semi-hermetic piston: 3/4 or 5 compressors.



- Screw compressors with energy-saving plate heat-exchanger.
- Total isolation of heat-exchanger and suction collector (option).
- Electronic expansion valve with complete control
- Liquid receiver fitted.
- Pre-wired power + control circuits (upon request).
- **Paint RAL 9002 (upon request).**
- **Complete hydraulic equipment.**

ADVANTAGES

Servicing / Maintenance
The rack design is optimized to offer easy access to all components: compressors, plate heat-exchanger, desuperheater, by-pass valve,...
The by-pass valves are used to isolate the circuit to simplify operations during maintenance on the receiver, heat-exchanger,...
A condensate drip tray is placed under each compressor as standard in order to keep the machine room clean.

CERTIFICATIONS

PED 97/23/CE

PEG / NEOSYS® - Encased ice water production

PEG ENCASED, OUTDOOR RANGE

Glycol water (MEG/MPG) -4°C/-8ºC and -5°C/-9°C

- Pre-painted sheet-metal casing with removable panels secured with a ¼-turn latches, noise insulation on 6 sides with a cooling system connected to a rack available upon request.
- UPN galvanized frame with lifting rings.
- Multi-tube heat-exchanger with 2 refrigeration circuits.
- Total isolation of the heat-exchanger and suction collector.
- Liquid sub-cooling exchanger for screw compressor.
- Electronic expansion valve with complete control.
- Switching enclosure fitted.
- Complete hydraulic equipment and circuit (option).

Advantages

- Designed for outdoor floor or roof installation.
- Simple installation, the frame base lifting rings render handling operations easier.
- These encased units are ideal for use in an urban environment thanks to the noise-insulated casing (upon request).
- Alternative to narrow machine rooms.

CERTIFICATIONS

NEOSYS®

The ice water is produced with a compact, monoblock, liquid cooler with air condensation for discrete outdoor installation. This range is equipped with Scroll compressors filled with environmentally-friendly refrigerant R410A and variable-speed fans for optimized noise and energy efficiency.

Cold only

Nominal conditions

Water: +2°C/-2°C - 20% MEG - Air: +35°C

EUROVENT CERTIFIED PERFORMANCE www.eurovent-certification.com

120 kW **780 kW**

NEOSYS®

Switching enclosure with Butterfly™ door. Protection of components and persons in case of adverse weather conditions.

Multiple Compliant™ Scroll compressors, zero maintenance.

Axial and radial clearance enabling the compressor tolerate liquid hammerhead and injection of debris for an extended working life.

Technical compartment. Compressors, water heat-exchangers, pumps, thermal and noise insulation materials, protected against outdoor weather conditions and water splashing during cleaning of coils.

OWLET™ fan with ceramic blades to considerably increase fan longevity.

High corrosion-resistant, aluminium micro-channel coils. -40% less refrigerant.

V-form coils with protection guards. Protection against hailstone and impact damage.

3 YEAR WARRANTY*

*3-year warranty for key components

LENNOX
EMEA

COMBINED RECOVERY SYSTEM

COMMON PRODUCT TO AIRCONDITIONING AND REFRIGERATION APPLICATIONS

Local shops
Small and medium supermarkets

iNnoVATion Winner 2015 — BATIMAT IDÉOBAIN INTERCLIMA+ELEC le mondial du bâtiment

HFC

50 > **220** kW

SRC

- A solution to achieve significant energy savings
- Two ranges for renovation and new installations
- Suitable for many types of sales area
- Several refrigerants available
- “Plug and Play” packaged solution for quick and easy installation

www.lennoxemea.com

FRIGA-BOHN

HK® REFRIGERATION

SRC - Combined recovery system

R404A R134a

Common product to airconditioning and refrigeration applications

The combined energy recovery system is a “Plug and Play” solution, developed by **LENNOX EMEA**.
In most cases, buildings equipped with food refrigeration systems waste heat outside through air cooled condensers.
The **SRC** allows to recover thermal energy rejected by the commercial refrigeration to heat the sales area, thus achieving significant energy savings over the annual heating consumption.
The **SRC** unit is equipped with a multi-tubular dual circuit exchanger using the cooling capacity available due to the closure of furniture which refreshed indirectly the sales floor in open mode, to cool it.
The return on investment depends on the type of building, installation, climatic conditions and energy costs at the place of installation.
The **SRC** solution is composed of two ranges (12 models):
"REMODEL" range and **"NEW INSTALLATION"** range.

The **"REMODEL"** range is designed for existing installations: It is designed to suit new thermal loads in an existing building (installation of doors on refrigerated display cabinets).
Heat recovery provides energy saving on winter heating consumption while using the cooling capacity excess available of the cold production plant for the refreshment in summer.

The **"NEW INSTALLATION"** range is designed for new buildings, buildings undergoing complete remodel or major extension with replacement of the complete refrigeration systems : This range takes into account the cooling and heating needs (central sizing). The energy gains realized during the heating season (heat recovery) are used to finance a portion of the facility and ensure no extra cost to refresh the sales area.

DESCRIPTION

- Multi-tubular heat exchanger with an isolated bi-circuit, specifically designed for heating and cooling.
- Compact chassis (900 mm wide max.).
- Hydraulic connection with flanges.
- Complete electrical cabinet, complying with EN-60204 standard, with a programmable controller and display.
- Complete control for heating and cooling mode with electronic expansion valve, valves, and sensors.
- Complete hydraulic module with variable flow dual pump, valves, flow switch, filters, expansion vessel.

Advanced control

- 3 control modes that can be selected through a three position manual switch:
  - Summer/Cooling mode,
  - Winter/Heating mode,
  - Dead zone.
- Variable speed dual pump regulation.
- Cooling capacity priority management.
- Freeze protection and flow switch.
- Floating head pressure management.

CERTIFICATIONS

SRC - Combined recovery system

R404A R134a

SRC "REMODEL" range

		SRC	50/40	85/60	110/80	145/100	165/115	190/130
R404A	**Heating capacity - Condenser** (1)	kW	**50**	**85**	**110**	**145**	**165**	**190**
	Cooling capacity - Evaporator (2)	kW	**37**	**60**	**80**	**100**	**115**	**130**
	Water flow rate	m^3/h	10,8	18,7	23,9	31,5	35,8	41,2
	Internal pressure drop (heat exchanger)	kPa	11	17	15	30	29	27
R134a	**Heating capacity - Condenser** (1)	kW	**50**	**80**	**105**	**140**	**160**	**180**
	Cooling capacity - Evaporator (2)	kW	**30**	**50**	**65**	**85**	**95**	**105**
	Water flow rate	m^3/h	10,7	17,8	22,7	30,2	34,3	39
	Internal pressure drop (heat exchanger)	kPa	10	16	14	28	26	24
Available water pressure		mCe	15	16	17	16	16	16
Pump absorbed power		kW	3	4	4	5	6	6
Pump maximum current		A	6	8	8	10	12	12

SRC "NEW INSTALLATION" range

		SRC	80/85	105/115	115/130	160/175	195/215	220/240
R404A	**Heating capacity - Condenser** (1)	kW	**80**	**105**	**115**	**160**	**195**	**220**
	Cooling capacity - Evaporator (2)	kW	**85**	**115**	**130**	**175**	**215**	**240**
	Water flow rate	m^3/h	15,5	20,8	22,9	31,2	38,4	42,8
	Internal pressure drop (heat exchanger)	kPa	9	28	17	24	26	29
R134a	**Heating capacity - Condenser** (1)	kW	**65**	**85**	**95**	**130**	**160**	**180**
	Cooling capacity - Evaporator (2)	kW	**70**	**95**	**105**	**140**	**170**	**190**
	Water flow rate	m^3/h	12,6	16,6	18,4	24,6	30,0	33,3
	Internal pressure drop (heat exchanger)	kPa	6	18	11	15	17	18
Available water pressure		mCe	15	16	17	16	16	16
Pump absorbed power		kW	3	4	4	5	6	6
Pump maximum current		A	6	8	8	10	12	12

(1) Water: 38°C/42°C - Condenser : 45°C (2) Water inlet : 12°C - Evaporator : 2°C

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