DAIKIN

Refrigeration

Product catalogue 2018

Daikin is a strong challenger in the refrigeration market. We can create the ideal solution for each customer's specific situation. As our products contain the latest technologies we ensure the highest energy efficiency. Our Daikin branded units are rigorously tested in order to provide you reliable operation. With the acquisition of Zanotti group, we expand our refrigeration business providing a larger and more diverse product line for all aspects in the cold chain.

Refrigeration

Inverter technology


Scroll compressor


Screw compressor


Reciprocating compressor


Swing compressor

For latest data, please consult my.daikin.eu

Why choose Daikin?

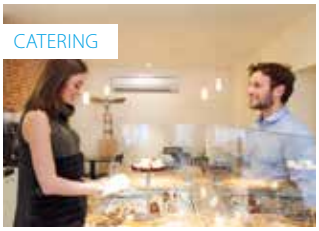
We know refrigeration inside out

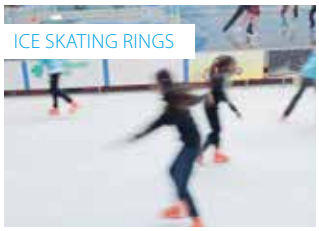
- We have over 100 years of experience in the Refrigeration business.
- We can meet all refrigeration needs from farm to fork, thanks to our wide range of refrigeration products.
- Innovative and Reliable own technology and expertise on Refrigerants, controls and compressors!
- Your advisor for solutions to meet your needs in line with legislation (F-gas regulation, ecodesign,...) and with focus on reliability, safety, Total Equivalent Warming impact (see page 7) and running cost.

Controlled temperatures throughout the whole supply chain

We can meet all refrigeration needs from farm to fork

Our extended product line-up is able to provide solutions for:





...

We can fulfill any refrigeration need

Daikin Refrigeration – United in cold

HUBBARD
a member of DAIKIN group

Hubbard Products Ltd., is one of the UK's leading designers, manufacturers and suppliers of commercial cooling equipment and has earned an enviable Global reputation for innovation and design-led excellence.

DAIKIN

Daikin Europe N.V. is a major European producer of air conditioners, heating systems and refrigeration equipment, with approximately 5,500 employees throughout Europe and major manufacturing facilities based in Belgium, the Czech Republic, Germany, Italy, Turkey and the UK. Globally, Daikin is renowned for its pioneering approach to product development and the unrivalled quality and versatility of its integrated solutions.

Tewis
a member of DAIKIN group

Tewis is a leading company in the design and engineering of refrigeration systems. Along with their expertise in customising controls (including monitoring), Tewis offers total comprehensive solutions for Refrigeration and Climate applications. Over the last few years, Tewis has focused on developing a range of CO_2 based refrigeration systems and has established a long-lasting relationship with key Spanish and Portuguese food retailers. Its mission and philosophy to date has been to achieve high reliability and realise remarkable energy savings for their customer base.

DAIKIN
Daikin Chemicals

Daikin Chemicals is one of the world's foremost manufacturer of fluorochemical products and is a leading expert in that field. We strive to find new possibilities for living and industry by making the most of fluorine characteristics using our own exclusively developed technologies.

ZANOTTI

Zanotti is a refrigeration specialist founded in 1962. With over 50 years of experience in food storing services covering the needs of commercial and industrial refrigeration, but also the needs of the transportation of fresh and frozen products. Zanotti changed the refrigeration world from the early days with the introduction of the Uniblock, an all in one plug and play refrigeration unit for cold rooms. Today they employ more than 600 people, with three production facilities and an annual turnover of approx 130 million Euro.

Meeting customer needs!

Depending on type of application, location and customers interest/values, the optimal refrigeration solution for the customer can potentially be different! **Thanks to our wide product portfolio, Daikin can offer what a customer really needs!**

The DNA of our Advice is:

☑ Safety and Reliability

☑ Reducing the Total Equivalent Warming Impact (TEWI)

TEWI =

DIRECT warming impact	+	**INDIRECT warming impact**
Refrigerant used		CO_2 emissions of electricity production
TACKLED BY		
F-gas legislation		**Eco design directive**
POTENTIAL IMPACT (when leakage occurs)		**GUARANTEED IMPACT linked to energy consumption**

Reduction of CO_2 emissions is one of the main priorities for the future. A refrigeration plant's global warming effect is the combination of the possible refrigerant losses (Direct warming impact) and the CO_2 emissions caused by electricity production (Indirect warming impact). Country per country situation is different, however on average in Europe CO_2 release at energy production is quite high (average 0,45kg/kwh of Electrical Energy)! Due to this, there is a significant greenhouse effect over the lifetime of the refrigeration plant and efficiency is thus one of the crucial focus points in reducing TEWI!

When various refrigeration solutions are being compared it is thus important to take into account both aspects as in some cases optimizing the direct warming impact (eg: changing refrigerant) will have an opposite effect on the indirect warming impact!

☑ Reducing your running cost

Through focus on reliability & quality, through extensive testing on each product, and energy efficiency our aim is to reduce your operational cost to the absolute minimum!

Daikin's Quality Philosophy

Each and every Daikin branded unit has already run in factory, avoiding dead on arrival.

Daikin is committed to providing the most efficient and safe solutions to meet all of your refrigeration needs, today and in the future.

We are aware of our responsibility to protect the environment and our policies and practices keep environmental sustainability at the heart of everything we do. We conduct our business in accordance with green principles, because it makes economical as well as ecological sense.

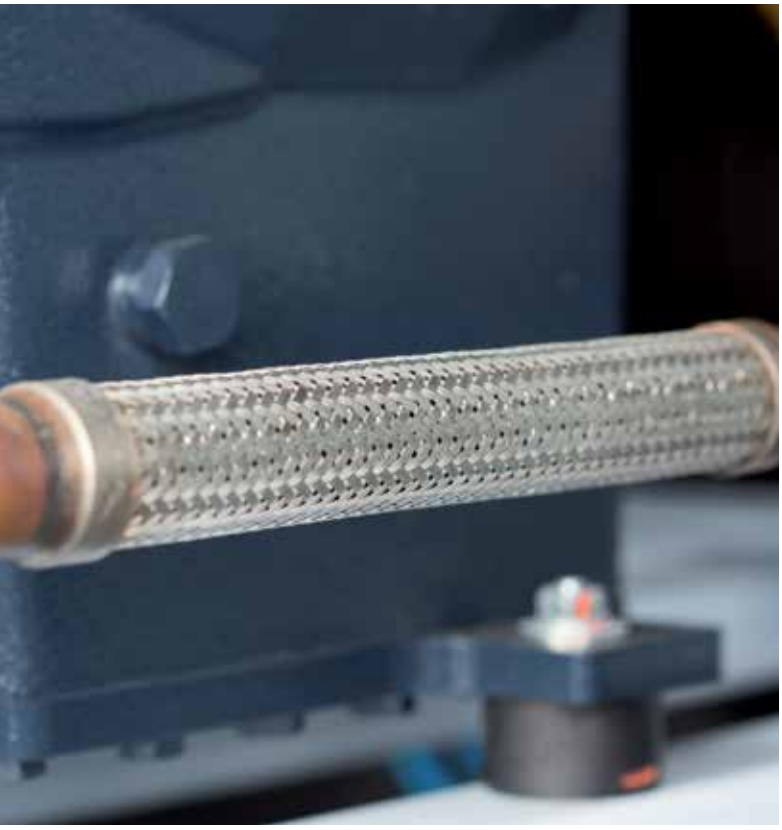
Daikin Europe N.V. continually adapts its environmental policy to the changing global, European and local legislative frameworks. It stimulates and promotes the strict application of all relevant legislation and formulates recommendations to facilitate implementation.

Tests during development and during production, to evaluate the performance of our products so that they meet the envisioned capacities, energy efficiency and reliability, is the foundation of our quality philosophy!

Each and every Daikin branded unit leaving production line has been rigorously tested from design stage (eg: vibration test) up to final production (each and every unit has a leakage test, electrical test and a running test)!As units can be exposed to severe weather conditions during the lifetime of the equipment, they are foreseen with anti-corrosion treatments and resistant casing to ensure a long life!

See how transportation is simulated and vibrations are tested on our shaker (search: vibration ZEAS)

YouTube



Vibration damper assembly

Logical, orderly and „tidy" installation in the control cabinet

Our newest members of the group, Zanotti, Tewis and Hubbard, already have a long experience on the market meeting high quality standards. Gradually, Daikin's long life experience echoes into Zanotti, Tewis and Hubbard products

Everything cleanly processed with high quality

Easily accessible and clearly laid out compound machines

Acting ahead of legislation

Ecodesign Directive - Energy related products

The EU's Ecodesign Directive 2009/125/EC is designed to encourage the market to use more efficient products. It also helps manufacturers to agree a better definition of efficiency for remote condensing units. Since 01/07/2016 refrigeration units also need to comply with this system of minimum efficiency requirements.

In catalogues the seasonal data will be marked with the seasonal flower.

Find more information about the seasonal data in refrigeration on our website: www.daikin.eu
or on the Business Portal my.daikin.eu

EN 13215: Definition of the nominal operating conditions (capacity, COP and power consumption)

Temperature application	Medium	Low
Ambient temperature	32°C	32°C
Evaporation temperature	-10°C	-35°C
Suction gas side	10 K superheat OR 20°C suction gas temperature	
Subcooling degree of the liquid	Depending on the condenser coil used in the refrigeration system	

To define the efficiency of a condensing unit the Ecodesign Directive used the EN13215 regulation.
Both methodologies are allowed to define delivered cooling capacity and efficiency of a unit.

→ This has also an impact on the SEPR AND COP value.

Two methodologies to evaluate the unit performance

Low capacities
Condensing unit installed indoor

COP methodology:

› If the medium temperature cooling capacity is lower than 5 kW and low temperature cooling capacity is lower than 2 KW

› COP given on 25°C ambient temperature

› COP given on 32°C ambient temperature

› COP given on 43°C: mandatory if ambient temperature design is higher or equal to 35°C

Minimum efficiency (COP):

› Medium temperature:
Capacity lower or equal 1 kW = 1.2
Capacity lower or equal 5 kW = 1.4

› Low temperature:
Capacity lower or equal 1 kW = 0.75
Capacity lower or equal 2 kW = 0.85

Higher capacities
Condensing unit installed outdoors (climate depending)

SEPR methodology:

› If the medium temperature cooling capacity is between 5kW and 50kW and low temperature cooling capacity is between 2kW and 20kW

› SEPR given on the reference climate zone of Strasbourg

› COP given on 43°C: mandatory if ambient temperature design is higher or equal to 35°C

Minimum efficiency (SEPR):

› Medium temperature:
Capacity lower or equal 20 kW = 2.25
Capacity lower or equal 50 kW = 2.35

› Low temperature:
Capacity lower or equal 8 kW = 1.5
Capacity lower or equal 20 kW = 1.6

Refrigeration product portfolio and Ecodesign Directive

Type	MONOBLOCKS BIBLOCKS WINEBLOCKS	JEHCCU	JEHSCU	CONDENSING UNITS	TWIN CONDENSING UNITS	INVERTER CONDENSING UNITS
				CU 	CU-T 	CI 
Medium temperature (Te = -10°C)	In scope*	In scope	In scope	In scope(4)	In scope(4)	In scope(4)
Low temperature (Te = -35°C)	In scope*	In scope	In scope	In scope(4)	In scope(4)	In scope(4)

Type	ZEAS	MULTI ZEAS	CONVENI-PACK	MULTI COMPRESSORS CONDENSING UNITS	OTHER RANGES		
				CM / CL 	Refrigerating Capacity <20kw	Refrigerating Capacity <50kw	Refrigerating Capacity >50kW
Medium temperature (Te = -10°C)	In scope	Out of scope(1)	Out of scope(2)	In scope(4)	In scope	In scope	Out of scope
Low temperature (Te = -35°C)	In scope	Out of scope(1)	-	In scope(4)	In scope	Out of scope	Out of scope

(1) Delivered capacity of the multi Zeas units in medium and low temperature application are higher than the upper boundary (MT: Q > 50 kW; LT: Q > 20 kW) mentioned in the Ecodesign Directive
(2) The CVP can only operate when also Daikin indoor units are connected. This means that the CVP can be seen as a condensing unit with multiple condensers which is considered out of scope of the Ecodesign Directive ENTR LOT1
(3) The booster unit is not seen as a condensing unit, because the heat extracted from the evaporator side is (LT –side) discharge in the MT refrigerant line of a CVP or Zeas unit and not to the surrounding air as described in the Ecodesign Directive ENTR LOT1
(4) Only the models which the delivered refrigeration capacity is within the capacity range defined in the Ecodesign directive (LT < 20 kW, MT < 50 kW)

Acting ahead of legislation

What does the F-Gas regulation mean?

GWP < 2500

Common commercial HFC refrigerants:
R-134a, R-407A, R-407C, R-407F, R-410A

GWP 2500

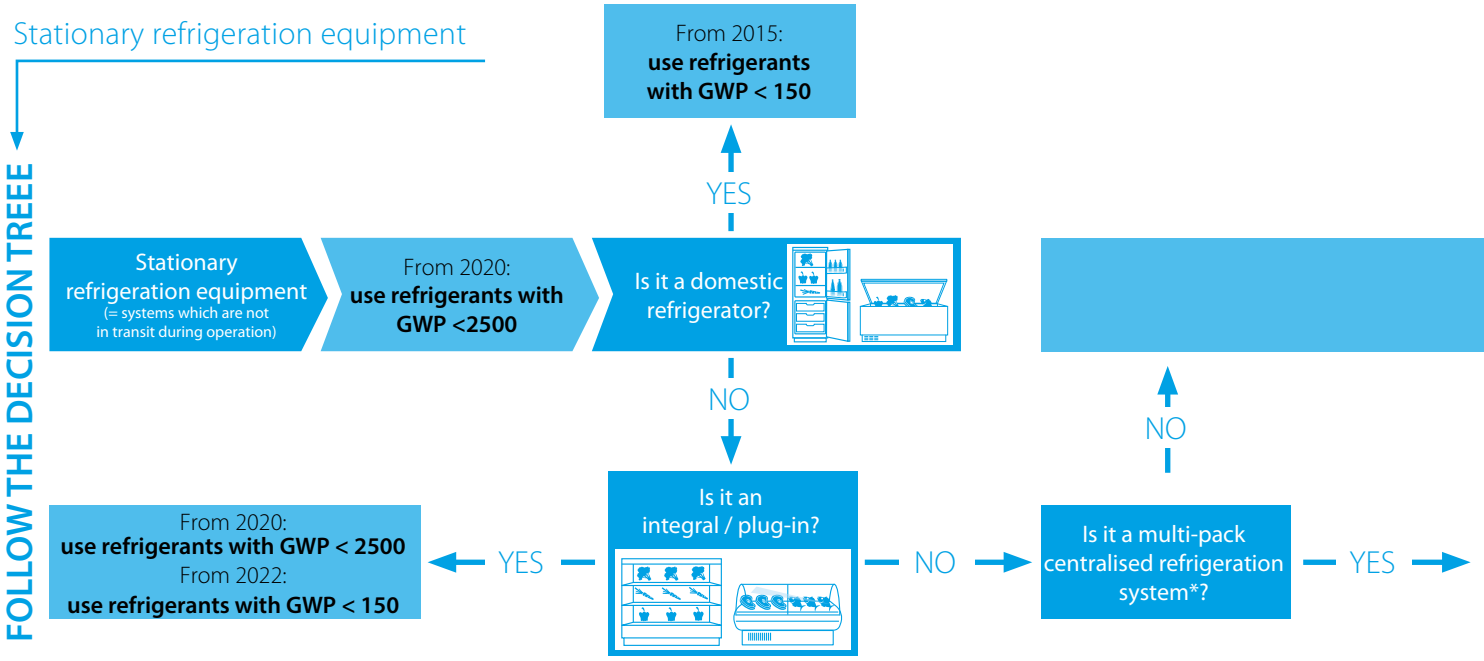
GWP > 2500

Common commercial HFC refrigerants:
R-404A, R-507

Ban from the year 2020 onwards
in new stationary refrigeration equipment

Ban from the year 2030 onwards
in servicing existing stationary refrigeration equipment

F-Gas Regulation



* "Multipack centralised refrigeration systems" = Systems with two or more compressors operated in parallel, which are connected to one or more common condensers and to a number of cooling devices such as display cases, cabinets, freezers or to chilled store rooms.

Shop with
refrigeration requirement
MT = 75kW and LT = 15 kW

MT= 75kW
LT= 15kW

Use a cascade system with a combination of **GWP < 1500** and **GWP < 150** with following conditions:

- **GWP < 1500 in the primary refrigerant circuit of cascade system**
- **GWP < 150 in the other refrigerant circuits of the cascade system**

MT= 75kW
LT= 15kW

Use a multiple compressor refrigerant system
• **GWP < 150**

MT= 37,5kW + 37,5kW
LT= 15kW

Use distributed solution of refrigeration systems with each systems having **capacity lower than 40kW**
• **GWP < 2500**

Use refigerants with GWP < 2500

NO

Is the capacity 40 kW or more?
(based on the eco-design conditions- see page 10)

YES

NO

Are these units intended for storage, display or dispensing of products for sale to end-users?

YES

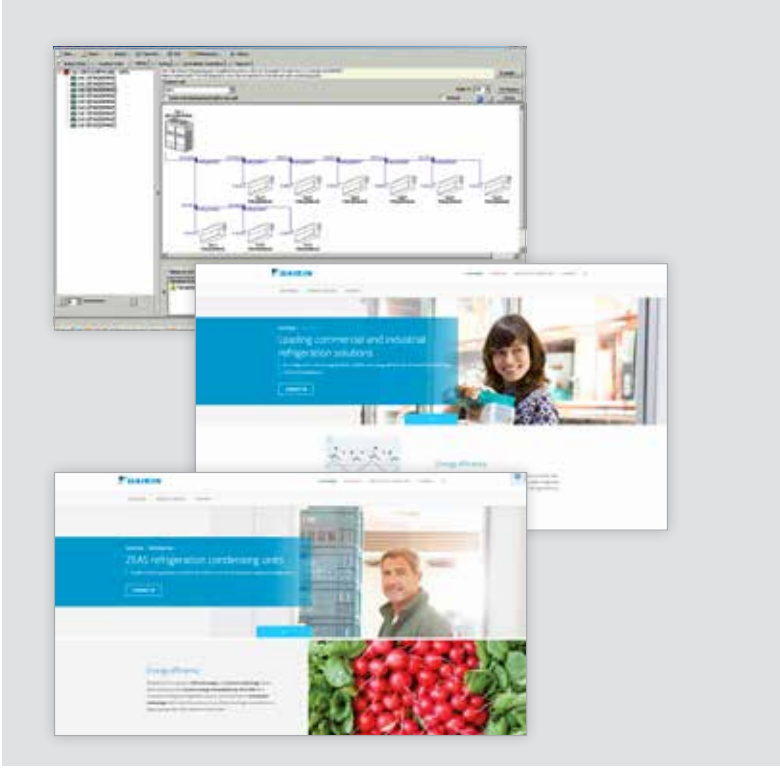
2 choices

Use a cascade system with a combination of **GWP < 1500** and **GWP < 150** with following conditions:

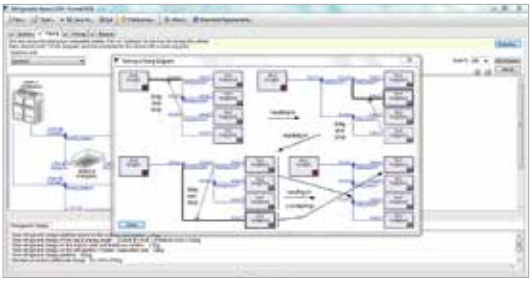
- **GWP < 1500 in the primary refrigerant circuit of cascade system**
- **GWP < 150 in the other refrigerant circuits of the cascade system**

Use a multiple compressor refrigerant system
• **GWP < 150**

Tools and platforms



Sales supporting apps



We offer a variety of building modelling, selection, simulation and quotation software tools to support your sales.

Refrigeration Xpress selection software

User-friendly selection software for Conveni-Pack, JEHCCU / JEHSCU, monoblocks, bi-blocks and ZEAS condensing units. Its detailed report includes a list of materials, piping and wiring diagrams, and device options. Design software available for Conveni-Pack and Zeas condensing units.

Psychrometric Diagram Viewer

The **Psychrometric Diagram Viewer** helps designers, consultants, students and other professionals to get more insight in our fields of activities: "the air that we condition"

Zanotti technical selection software

In order to obtain a precise selection of the refrigeration capacity and the equipment as well as to be able to select further products from our product range, we recommend our Zanotti selection software.

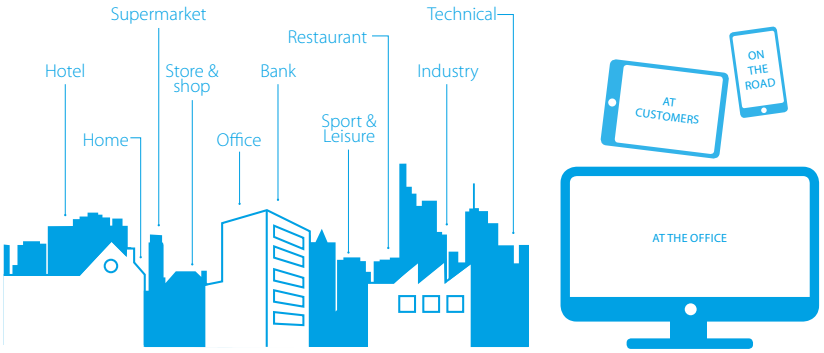
Please contact your local Daikin refrigeration sales team for more information.

Where to download the software?
Where to find catalogues and data books?

› Experience our business platform that thinks with you at my.daikin.eu
› Find information in seconds via a powerful search
› Customise the options so you see only info relevant for you
› Access via mobile device or desktop

Register and login on
my.daikin.eu
and get what you want!

Find our solution for different applications:



Quick selection guides for Uniblocks and Wineblocks

E-Care APP

Easy access to all the information about your unit, in mobile format. Daikin e-Care app incl. functionalities such as:
› Product registration
› e-Configurator
› e-Doctor

E. LECLERC, HYPERMARKET
ZEAS

BEER COOLING FACILITY,
CHILLED WITH ZEAS

EDEKA, SUPERMARKET
CONVENI-PACK (2) AND ZEAS (1)

COOMBE FISHERIES
HIGH-PERFORMANCE ZANOTTI LT REFRIGERATION EQUIPMENT

ZIGGO DOME, EVENT HALL
ZEAS FOR COOLING (6) AND FREEZING (2)

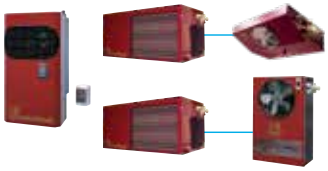
SERVICE STATION
ZEAS

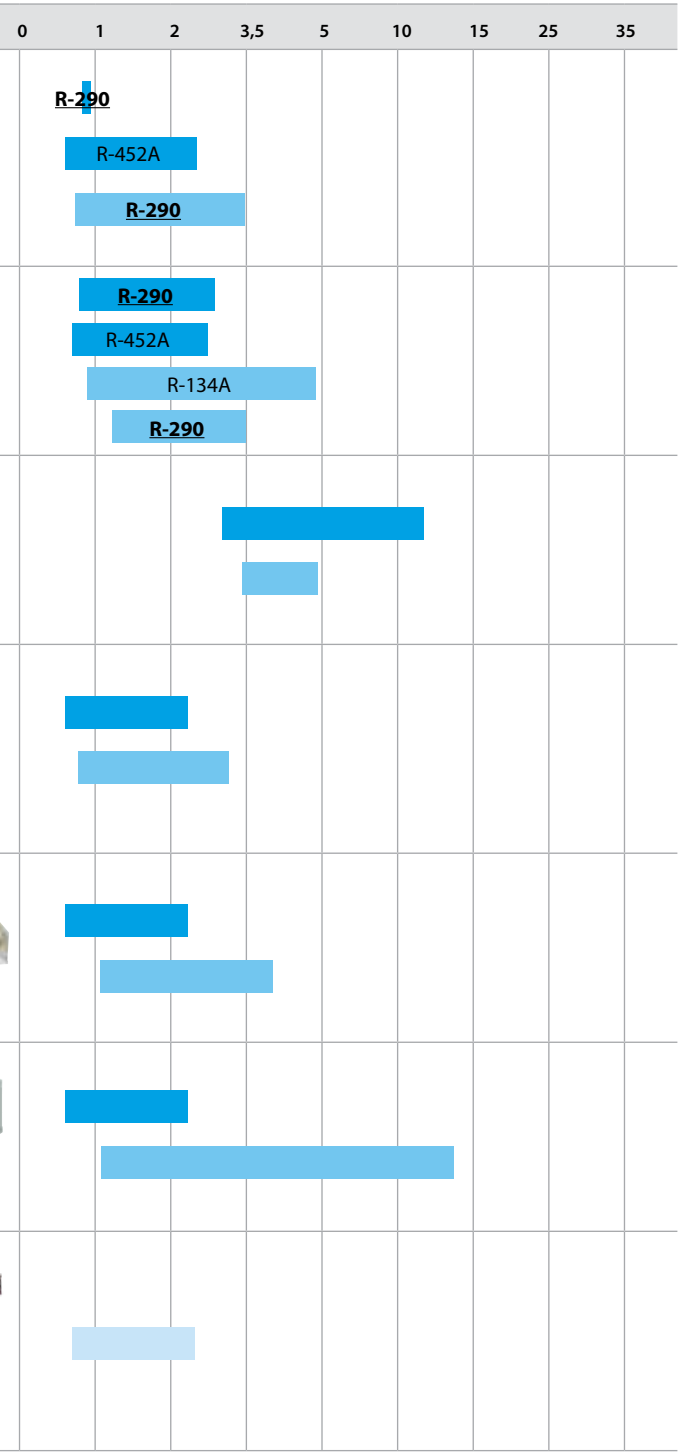
			Technology compressor		Page	Hermetic			Semi-hermetic		Capacity control			
			Application	Refrigerant		Reciprocating compressor	Rotary	Scroll	Reciprocating compressor	Screw	Varispeed	External frequency drive	DC control	Digital scroll
Plug & Play solution for cold room & wine rooms	Uni-block 		MT	R134a	22-25	•		•						
				R407C	22-25	•								
				R407H	22-25	•								
				R290	22-25	•								
			LT	R452A	22-25	•								
				R407F	22-25			•						
				R290	22-25	•								
	Biblock 		MT	R134a	26-28	•								
			LT	R452A	26-28	•								
				R407F	26-28	•								
	WINE 		HT Cooling	R134a	29-30	•								
Condensing units	Single CU (ON/OFF or INVERTER) 		MT	R449A*	34-40	•		•	•		•	•		•
				R134a	34-40	•		•	•		•	•		•
				R410A	44			•					•	
				FGAS FREE CO2	54		•		•			•	•	
			LT	R449A*	34-40	•		•	•		•	•		
				R407F	34-40	•		•	•		•	•		
				R410A	44			•					•	
				FGAS FREE CO2	54		•		•			•	•	
	Twin CU 		MT	R449A*	41	•		•	•		•	•		•
				R134a	41	•		•	•		•	•		•
				R410A	44			•					•	
				FGAS FREE CO2	54				•			•		
			LT	R449*	41	•		•	•		•	•		
				R407F	41	•		•	•		•	•		
				R410A	44			•					•	
	Multi CU 		MT	R449A	42-43			•			•	•		•
				R410A	44			•					•	
				FGAS FREE CO2	54				•			•		
			LT	R449A	42-43			•			•	•		
				R410A	44			•					•	
	Booster CU (MT + LT) 		MT	FGAS FREE CO2	55-57				•			•		
			LT	FGAS FREE CO2	55-57				•			•		
Compressor rack and packs	Racks 		MT	R449A	59-61	•		•	•	•	•	•		•
				R134a	59-61	•		•	•	•	•	•		•
			LT	R449A	59-61	•		•	•	•	•	•		
				R407F	59-61			•	•	•	•	•		
			MT	FGAS FREE CO2	64-65				•			•		
			MT	FGAS FREE CO2	66				•			•		
			LT	FGAS FREE CO2	66				•			•		
Integrated solutions (Refrigeration and climatisation)	Conveni-pack 		MT	R410A	72			•					•	
			LT	R410A	72			•					•	
			AC	R410A	72			•					•	
			HR + HP	R410A	72			•					•	
	MIX CU 		AC	FGAS FREE CO2	78-79				•			•		
			MT	FGAS FREE CO2	78-79				•			•		
	MIX RACK 		AC	FGAS FREE CO2	78-79				•			•		
			MT	FGAS FREE CO2	78-79				•			•		


Freezing (Low temperature)
(-20° C / +35°C)
Chilling (Medium temperature)
(0° C / +35°C)
Cooling (High Temperature)
(+20° C/+10°C)
Heating
Cooling capacity (kW)
10
100
200
500
0.8-11.8
1.1-1.9
0.8-3.7
1.2-5.7
0.6-54.0
2.6-8.1
0.8-2.6
0.8-13.8
0.6-4.8
4.4-11.8
0.7-2.3
1.0-77.2
1.0-69.6
3.0-15.2
3.2-40.0
0.4-28.1
0.5-23.7
2.8-6.5
1.5-8.0
8.1-27.9
6.3-25.8
9.9-26.5
15.4-47.5
5.7-19.0
5.1-17.7
4.2-10.7
45.6-183.4
17.0-75.8
36.0-119.7
13.1-70.7
7.0-29.6
18.0-90.0
8.0-30.0
1.6-295.0
0.7-233.0
0.4-89.7
0.5-88.8
30.0-512.0
30.0-400.0
15.0-240.0
13.7-22.8
3.5-7.0
14.0-26.8
16.8-42.0
18.0-150.0
15.0-220.0
18.0-150.0
15.0-220.0

Plug and Play solutions

for cold rooms and wine rooms

Model	Product name	Capacity (kW)
Uni-block system for wall mounted installation (optional through-wall) in small and medium sized cold rooms R-290 Propane natural refrigerant	(M)GM	
Uni-block system for roof mounted installation in small and medium sized cold rooms R-290 Propane natural refrigerant	(M)SB	
Uni-block system for wall mounted installation in medium sized cold rooms	AS	
Bi-block system for wall mounted installation	GS	
Bi-block system for floor standing or roof mounted installation with capillary expansion system	SP-O	
Bi-block system for floor standing or roof mounted installation with thermostatic expansion valve	DB-O	
Wineblock	RCV / RDV	



Freezing (Low temperature) (-20° C / +35°C)

Chilling (Medium temperature) (0° C / +35°C)

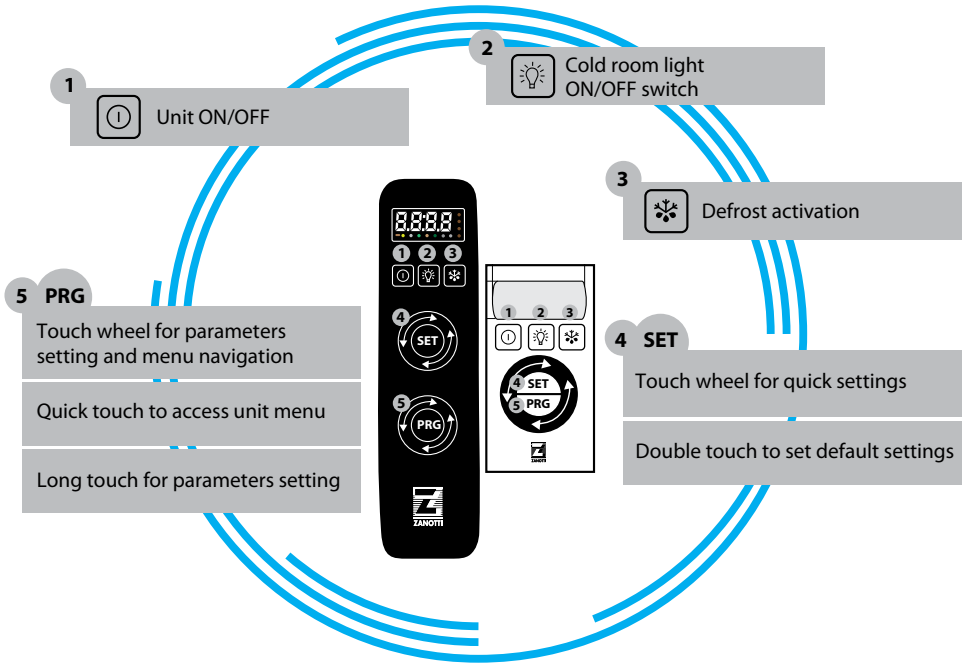
Cooling (High Temperature) (+20° C/+10°C)

Zanotti

Touch control

Zanotti presents the new "Touch Screen" control panel for GM monobloc units and GS split units. This new one User interface consists of keypad and display and allows easy access to all manual functions of the units.

The control of the refrigeration cycle, switching the unit on and off, the lighting in the cold room, activating the manual defrost process and setting the parameters are the features that are more intuitive with the new keyboard.



for two units in a cold storage cell
ALTERNATIVE REMOTE CONTROL

› For cold rooms where it is required by law to maintain a certain temperature(Products for hospitals,Pharmaceutical products)for safety and control two aggregates in the same Cooling cell to be installed so that they are the same in alternate operation working hours.
› If an aggregate is in full function blocked due to a fault, automatically starts the second one Aggregate.
For remote controls with Thermostat when the temperature is not for a certain period of time achieved (product feed,open cell door for a longer Period), the unit changes into the standby function.

› Remote control for two aggregates adjustable Timer for the alternate Operation of the Aggregate.
› In case of device failure,switch the Control on the standing device around. Alarm message through Lamp and buzzer.
› Thermostat for Safety at high Temperatures in the cold room (only with models with Thermostat).

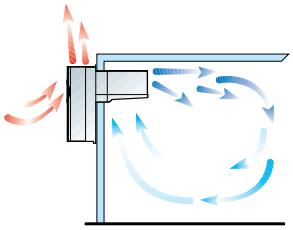
Uni-block system for low and medium temperature refrigeration

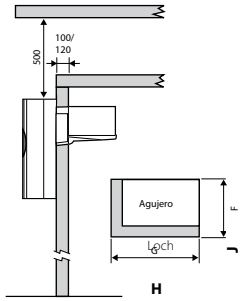
For wall mounted installation in small and medium sized cold rooms

- Rapid mounting on the wall of the cold room by straddle-mounting, which is ideal for new installations or through-wall mounting, which is ideal for refurbishment projects
- Metallic grey coloured finish of the outdoor unit
- The white colour of the evaporator blends unobtrusively with the cold room walls
- Compressor compartment insulated with suitable soundproofing material to reduce sound levels
- Microchannel condensers available in order to reduce the refrigerant charge as much as possible and ensuring higher energy efficiency
- The units are provided with a new generation control panel with an easy-to-use interface

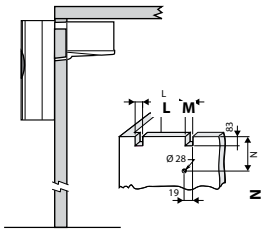
GM

Installation type

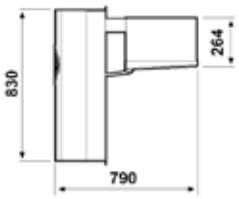


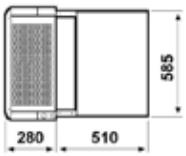


Through- wall model



Straddle model





Low temperature refrigeration				GM	BGM110 DA11XA	BGM0870 Y1AA	BGM112 DA11XA	BGM117 DA11XA	BGM218 DA11XA	BGM220 DB11XA	BGM330 DB11XA
Refrigerating capacity	Low temperature	R-290	Nom	kW	-	0.87 (1)			-		
		R-452A	Nom	kW	0.679 (1)	-	0.889 (1)	1.080 (1)	1.336 (1)	1.688 (1)	2.349 (1)
Dimensions	Unit	HeightxWidthxDepth		mm	735x400x790				830x620x790		830x620x862
	Packed unit	HeightxWidthxDepth		mm	942x450x850				1,050x670x850		1,050x670x940
Weight	Unit			kg	56	64			80		105
	Packed unit			kg	67	75			96		122
Compressor	Type				Hermetic Reciprocating						
	Nominal power			kW	0.74	0.9		1.3		1.5	2.2
	Starting method				Direct						
Condenser	Air flow			m^3/h	600	720	600		1,200		1,500
Defrost					Hot gas						
Evaporator	Air flow			m^3/h	600	672	600		1,200		1,500
	Air throw			m	4						10
Operation range	Cold room temperature	Min. ~Max.		°C	-25~-15						
Refrigerant	Type/GWP				R-452A/2,141	R-290/3	R-452A/2,141				
	Charge			kg/TCO_2Eq	0.38/0.81	0.15/0.0000	0.34/0.73	0.35/0.75	0.86/1.84	0.84/1.80	0.98/2.10
Power supply	Phase/Frequency/Voltage			Hz/V	1~/50/230					3N~/50/400	

Medium temperature refrigeration				GM	MGM103 EA11XA	MGM105 EA11XA	MGM106 EA11XA	MGM128 0Y1WA	MGM107 EA11XA	MGM110 EA11XA	MGM211 EA11XA	MGM221 0Y1WA	MGM212 EB11XA	MGM213 EB11XA	MGM315 EB11XA	MGM320 EB11XA
Refrigerating capacity	Medium temperature	R-134a	Nom	kW	0.855 (2)	0.978 (2)	1.120 (2)	-	1.315 (2)	1.351 (2)	1.806 (2)	-	2.034 (2)	2.175 (2)	3.079 (2)	3.351 (2)
		R-290	Nom	kW	-			1.31 (1)	-			2.18 (1)	-			
Dimensions	Unit	HeightxWidthxDepth		mm	735x400x790						830x620x790				830x620x682	
	Packed unit	HeightxWidthxDepth		mm	942x450x850						1,050x670x850				1,050x670x940	
Weight	Unit			kg	52	53	56			64	80				98	100
	Packed unit			kg	63	64	67			75	96				115	
Compressor	Type				Hermetic Reciprocating											
	Starting method				Direct											
Condenser	Air flow			m^3/h	600						1,200	-	1,200		1,500	
Defrost					Hot gas											
Evaporator	Air flow			m^3/h	600						1,200	1,125	1,200		1,800	
	Air throw			m	4										10	
Operation range	Cold room temperature	Min. ~Max.		°C	-5~10											
Refrigerant	Type/GWP				R-134a/1,430			R-290/3	R-134a/1,430			R-290/3	R-134a/1,430			
	Charge			kg/TCO_2Eq	0.40/0.57	0.43/0.61		0.15/0.00	0.33/0.47	0.40/0.57	0.71/1.02	0.15/0.00	0.70/1.00	0.75/1.07	0.95/1.36	1.00/1.43
Power supply	Phase/Frequency/Voltage			Hz/V	1~/50/230								3N~/50/400			

(1) When normally running: -20°C / +30°C

(2) When normally running: 0°C / +30°C

AS

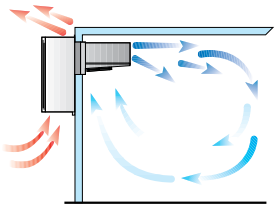
Uni-block system for low and medium temperature refrigeration

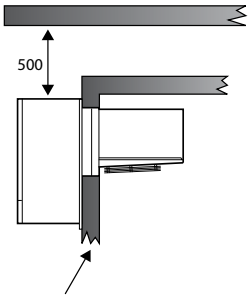
For wall mounted installation in medium sized cold rooms

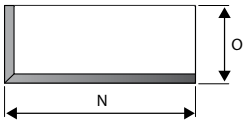
- Rapid mounting on the wall of the cold room by through-wall mounting
- Extremely fast to assemble, reducing installation time and cost
- The white colour of the evaporator blends unobtrusively with the cold room walls
- Very compact and very efficient
- Remote electronic command station with easy-to-use user interface programmable according to various system requirements

AS

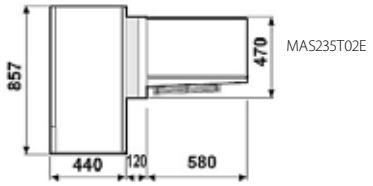
Installation type



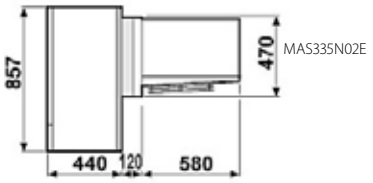




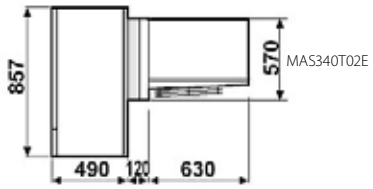
Drain pan connection: Ø 18 (AS235), Ø 22 (AS335-AS340)



MAS235T02E



MAS335N02E



MAS340T02E

Low and medium temperature refrigeration				AS	MAS235T02E	MAS335N02E	MAS335T02E	MAS340T02E
Refrigerating capacity	Medium temperature	R-134a	Nom	kW	4.981 (2)	6.988 (2)	8.290 (2)	10.664 (2)
Dimensions	Unit	Height x Width x Depth		mm	857 x 1,280 x 1,140	857 x 1,750 x 1,140		857 x 1,790 x 1,240
	Packed unit	Height x Width x Depth		mm	1,060 x 1,330 x 1,210	1,065 x 1,850 x 1,300		1,065 x 1,850 x 1,420
Weight	Unit			kg	162	221	222	244
	Packed unit			kg	202	276	277	361
Compressor	Type				Hermetic Reciprocating			
	Nominal power			kW	3.7	4.8	6.3	7.4
	Starting method				Direct			
Operation range	Cold room temperature	Min. ~Max.		°C	-5 ~10			
Refrigerant	Type				R-134a			
	GWP				1,430			
Evaporator	Air flow			m^3/h	3,900	5,600		8,000
	Air throw			m	10 (3)			17 (3)
Condenser	Air flow			m^3/h	2,700	4,000		5,600
Defrost					Hot gas			
Power supply	Voltage/Phase/Frequency			V/Hz	400 / 3N~ / 50			

(1) When normally running: -20°C / +30°C
(2) When normally running: 0°C / +30°C
(3) Use air throw as a base. Air throw is affected by many factors such as height of room, product storage, location of evaporator, etc.

Uni-block system for low and medium temperature refrigeration

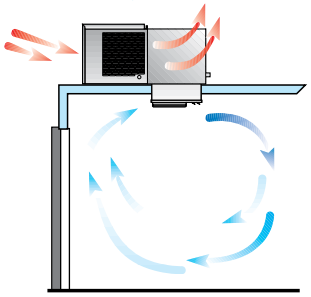
For roof mounted installation in small and medium sized cold rooms

- Rapid mounting on the roof of the cold room
- Ceiling assembly leaves the space inside the cold room completely free
- The white colour of the evaporator blends unobtrusively with the cold room walls
- Extremely fast to assemble, reducing installation time and cost
- Best surface-to-capacity ratio
- Remote electronic command station with easy-to-use user interface programmable according to various system requirements

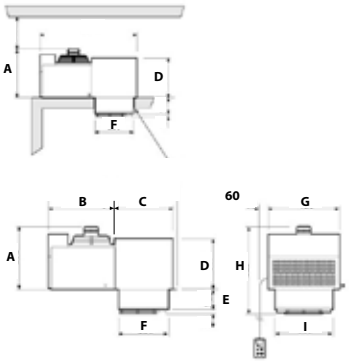
SB

Remote control

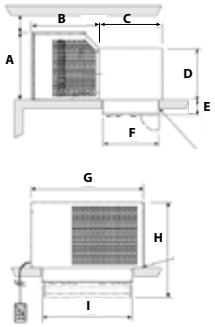
Installation type



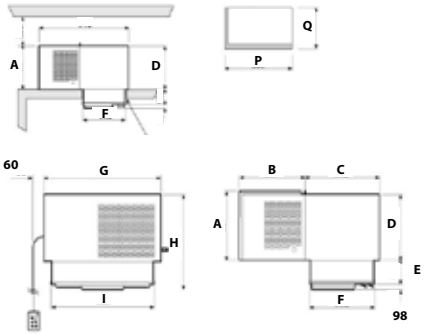
SB120



SB140



SB125-235



Low temperature refrigeration				BSB	010DA11XX	0870Y1AA	117DA11XX	330DB11XX	2650Y3AB	220DB11XX	1710Y2AA
Refrigerating capacity	Low temperature	R-290	Nom	kW	-	0.871 (1)	-		2.650 (1)	-	1.710 (1)
		R-452A	Nom	kW	0.628 (1)	-	1.029 (1)	2.472 (1)	-	1.699 (1)	-
Dimensions	Unit	Height x Width x Depth		mm	525 x 430 x 771	340 x 620 x 719	506 x 620 x 719	645 x 820 x 929	1044 x 1300 x 520	540 x 820 x 809	924 x 1075 x 360
	Packed unit	Height x Width x Depth		mm	690 x 540 x830	660 x 730 x 790		800x930x1000		690 x 930 x 880	
Weight	Unit			kg	48	68		102	200	87	102
	Packed unit			kg	61	82		124	114	108	-
Compressor	Type				Hermetic Reciprocating						
	Nominal power			kW	0.6	-	1.3	2.2	-	1.5	-
	Starting method				Direct						
Operation range	Cold room temperature	Min. ~Max.		°C	-25 ~-15						
Refrigerant	Type				R-452A	R290	R-452A		R290	R-452A	R290
	GWP				2,141.0	3.0	2,141.0		3.0	2,141.0	3.0
Evaporator	Air flow			m³/h	500	780	550	2,300	2,560	1,100	1,320
	Air throw			m	3 (3)	4 (3)		10 (3)		4 (3)	
Condenser	Air flow			m³/h	400	640	750	1,500	2,010	1,400	1,200
Defrost					Hot gas						
Power supply	Voltage / Phase /Frequency			V/Hz	230 / 1~ / 50			400 / 3N~ / 50			230 / 1~ / 50

Medium temperature refrigeration				MSB	005EA 11XX	106EA 11XX	107EA 11XX	1310Y 1AA	315EB 11XX	2180Y 1AA	320EB 11XX	3370Y 2AA	425EB 11XX	210EA 11XX	5820Y 3AB	212EB 11XX	530EB 11XX
Refrigerating capacity	Medium temperature	R-134a	Nom	kW	0.857 (2)	1.120 (2)	1.338 (2)	-	3.282 (2)	-	3.550 (2)	-	3.774 (2)	1.799 (2)	-	2.022 (2)	4.871 (2)
		R-290	Nom	kW	-			1.31 (2)	-	2.18 (2)	-	3.37 (2)	-		5.82 (2)	-	
Dimensions	Unit	Height x Width x Depth		mm	525 x 430 x 771	506 x 620 x 719		340 x 620 x 719	645 x 820 x 929	360 x 820 x 809	645 x 820 x 929	1,044x1,300x410	760 x 920 x 1,042	540 x 820 x 809	1,044 x 1,300 x 520	540 x 820 x 809	785 x 1,075 x 1,046
	Packed unit	Height x Width x Depth		mm	690 x 540 x 830	660 x 730 x 790			800 x 930 x 1,000				880 x 1,100 x1,100	690 x 930 x 880	-	690 x 930 x 880	920 x 1,200 x 1,120
Weight	Unit			kg	42	59			92	75	92	102	110	74	200	75	151
	Packed unit			kg	55	73			114				139	95	96		184
Compressor	Type				Hermetic Reciprocating												
	Nominal power			kW	0.5	0.6	0.7	-	2.2	-	2.6	-	2.9	0.9	-	1.7	3.7
	Starting method				Direct												
Operation range	Cold room temperature	Min. ~Max.		°C	-5 ~10												
Refrigerant	Type				R-134a			R290	R-134a	R290	R-134a	R290	R-134a		R290	R-134a	
	GWP				1,430.0			3.0	1,430.0	3.0	1,430.0	3.0	1,430.0		3.0	1,430.0	
Evaporator	Air flow			m³/h	500	550		610	2,300	1,220	2,300	1,500	2,300	1,100	3,600	1,100	3,450
	Air throw			m	3 (3)	4 (3)			10 (3)						4 (3)		10 (3)
Condenser	Air flow			m³/h	400	750		640	1,500	1,200	1,500	1,755	3,100	1,400	2,900	1,400	3,200
Defrost					Hot gas												
Power supply	Voltage / Phase /Frequency			V/Hz	230 / 1~ / 50				400 / 3N~ / 50					230 / 1~ / 50		400 / 3N~ / 50	

(1) When normally running: -20°C / +30°C
(2) When normally running: 0°C / +30°C
(3) Use air throw as a base. Air throw is affected by many factors such as height of room, product storage, location of evaporator, etc.

GS

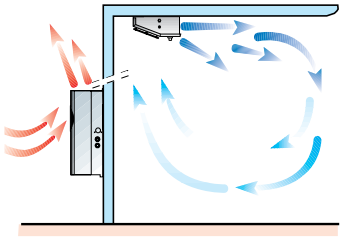
Bi-block system for low and medium temperature refrigeration

Condensing unit for wall mounted installation

- Wall mounted condensing unit and ceiling mounted evaporator
- Extremely rapid mounting
- Best surface-to-capacity ratio
- Low sound levels thanks to optional compressor compartment soundproofing
- New generation control panel: possibility to connect it to classic remote management systems or to a Modbus system
- Winter Kit

GS

Installation type



Low temperature refrigeration				GS	SB.BGS110P			SB.BGS112P			SB.BGS117P			SB.BGS218P			SB.BGS220P			SB.BGS330P		
					1D	2D	3D	1D	2D	3D	1D	2D	3D	1D	2D	3D	1D	2D	3D	1D	2D	3D
Refrigerating capacity	Low temperature	R-452A	Nom	kW	0.679 (1)			0.889 (1)			1.080 (1)			1.336 (1)			1.688 (1)			2.349 (1)		
Dimensions	Condensing unit	Height x Width x Depth		mm	735 x 400 x 280									830 x 620 x 280						830 x 620 x 350		
	Evaporator unit	Height x Width x Depth		mm	215 x 654 x 410									215 x 1,074 x 410						215 x 1,654 x 410		
	Packed condensing unit	Height x Width x Depth		mm	955 x 490 x 610									1,050 x 490 x 740						1,050 x 600 x 740		
	Packed evaporator unit	Height x Width x Depth		mm	470 x 260 x 780									470 x 260 x 1,200						470 x 260 x 1,780		
Weight	Condensing unit			kg	46			54						64						84		
	Evaporator unit			kg	13									19						28		
	Packed condensing unit			kg	57			65						76						98		
	Packed evaporator unit			kg	15									21						31		
Compressor	Type				Hermetic Reciprocating																	
	Nominal power			kW	0.74			0.9			1.3						1.5			2.2		
	Starting method				Direct																	
Operation range	Cold room temperature	Min. ~Max.		°C	-25 ~-15																	
Refrigerant	Type				R-452A																	
	GWP				2,141																	
Evaporator	Air flow			m³/h	600									1,200						1,800		
	Air throw			m	4 (3)																	
Condenser	Air flow			m³/h	600									1,200						1,500		
Defrost					Hot gas																	
Piping length				m	2.5	5	10	2.5	5	10	2.5	5	10	2.5	5	10	2.5	5	10	2.5	5	10
Power supply	Voltage / Phase / Frequency			V/Hz	230 / 1~ / 50												400 / 3N~ / 50					

Medium temperature refrigeration				GS	SB.MGS103P			SB.MGS105P			SB.MGS106P			SB.MGS107P			SB.MGS110P			SB.MGS211P			SB.MGS212P			SB.MGS213P			SB.MGS315P			SB.MGS320P		
					1E	2E	3E	1E	2E	3E	1E	2E	3E	1E	2E	3E	1E	2E	3E	1E	2E	3E	1E	2E	3E	1E	2E	3E	1E	2E	3E	1E	2E	3E
Refrigerating capacity	Medium temperature	R-134a	Nom	kW	0.855 (2)			0.978 (2)			1.120 (2)			1.315 (2)			1.351 (2)			1.806 (2)			2.034 (2)			2.175 (2)			3.079 (2)			3.351 (2)		
Dimensions	Condensing unit	Height x Width x Depth		mm	735 x 400 x 280															830 x 620 x 280									830 x 620 x 350					
	Evaporator unit	Height x Width x Depth		mm	215 x 654 x 410															215 x 1,074 x 410									215 x 1,654 x 410					
	Packed condensing unit	Height x Width x Depth		mm	955 x 490 x 610															1,050 x 490 x 740									1,050 x 600 x 740					
	Packed evaporator unit	Height x Width x Depth		mm	470 x 260 x 780															470 x 260 x 1,200									470 x 260 x 1,780					
Weight	Condensing unit			kg	42			43			46						54			64									77			79		
	Evaporator unit			kg	13															19									28					
	Packed condensing unit			kg	53			54			57						65			76									91			93		
	Packed evaporator unit			kg	15															19									31					
Compressor	Type				Hermetic Reciprocating																														
	Nominal power			kW	0.4			0.5			0.4			0.7			0.9			1.7			2			2.2			2.6					
	Starting method				Direct																														
Operation range	Cold room temperature	Min. ~Max.		°C	-5 ~10																														
Refrigerant	Type				R-134a																														
	GWP				1,430																														
Evaporator	Air flow			m³/h	600															1,200									1,800					
	Air throw			m	4 (3)																														
Condenser	Air flow			m³/h	600															1,200									1,500					
Defrost					Electric																														
Piping length				m	2.5	5	10	2.5	5	10	2.5	5	10	2.5	5	10	2.5	5	10	2.5	5	10	2.5	5	10	2.5	5	10	2.5	5	10	2.5	5	10
Power supply	Voltage / Phase / Frequency			V/Hz	230 / 1~ / 50																		400 / 3N~ / 50											

(1) When normally running: -20°C / +30°C
(2) When normally running: 0°C / +30°C
(3) Use air throw as a base. Air throw is affected by many factors such as height of room, product storage, location of evaporator, etc.

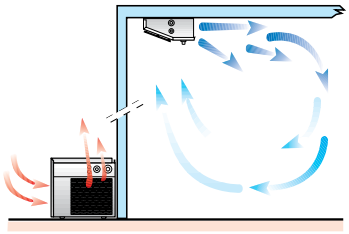
SP-O

Bi-block system for low and medium temperature refrigeration

Condensing unit for floor standing or roof mounted installation

- Condensing unit for floor standing or roof mounted installation and ceiling mounted evaporator
- Extremely fast to assemble thanks to quick connection joints
- Reduced installation time and cost
- Best surface-to-capacity ratio

Installation type



				SP-O	SB.BSP110P			SB.BSP112P			SB.BSP117P			SB.BSP330P			SB.BSP218P			SB.BSP220P		
					1D	2D	3D	1D	2D	3D	1D	2D	3D	1D	2D	3D	1D	2D	3D	1D	2D	3D
Refrigerating capacity	Low temperature	R-452A	Nom	kW	0.662 (1)			0.905 (1)			1.088 (1)			2.384 (1)			1.342 (1)			1.719 (1)		
Dimensions	Condensing unit	Height x Width x Depth		mm	357 x 620 x 337									427 x 820 x 427			390 x 820 x 427					
	Evaporator unit	Height x Width x Depth		mm	215 x 614 x 410									215 x 1,614 x 410			215 x 1,034 x 410					
	Packed condensing unit	Height x Width x Depth		mm	690 x 520 x 780												690 x 620 x 1,010					
	Packed evaporator unit	Height x Width x Depth		mm	260 x 470 x 780									260 x 470 x 1,780			260 x 470 x 1,200					
Weight	Condensing unit			kg	45			50						78			61			69		
	Evaporator unit			kg	13									28			19					
	Packed condensing unit			kg	74			79						116			99			107		
	Packed evaporator unit			kg	15									30			21					
Compressor	Type				Hermetic Reciprocating																	
	Nominal power			kW	0.75			1.1			1.3			2.2			1.3			1.5		
	Starting method				Direct																	
Operation range	Cold room temperature	Min. ~Max.		°C	-25 ~-15																	
Refrigerant	GWP				2,141																	
Evaporator	Air flow			m³/h	600									1,800			1,200					
	Air throw			m	4 (3)																	
Condenser	Air flow			m³/h	750									1,500			1,400					
Defrost					Electric																	
Piping Length				m	2.5	5	10	2.5	5	10	2.5	5	10	2.5	5	10	2.5	5	10	2.5	5	10
Power supply	Voltage / Phase / Frequency			V/Hz	230 / 1~ / 50									400 / 3N~ / 50			230 / 1~ / 50			400 / 3N~ / 50		

				SP-O	SB.MSP106P			SB.MSP107P			SB.MSP315P			SB.MSP320P			SB.MSP212P			SB.MSP213P		
					1E	2E	3E	1E	2E	3E	1E	2E	3E	1E	2E	3E	1E	2E	3E	1E	2E	3E
Refrigerating capacity	Medium temperature	R-134a	Nom	kW	1.140 (2)			1.422 (2)			3.188 (2)			3.492 (2)			1.816 (2)			2.029 (2)		
Dimensions	Condensing unit	Height x Width x Depth		mm	357 x 620 x 337						427 x 820 x 427						390 x 820 x 427					
	Evaporator unit	Height x Width x Depth		mm	215 x 614 x 410						215 x 1,614 x 410						215 x 1,034 x 410					
	Packed condensing unit	Height x Width x Depth		mm	690 x 520 x 780						690 x 620 x 1,010											
	Packed evaporator unit	Height x Width x Depth		mm	260 x 470 x 780						260 x 470 x 1,780						260 x 470 x 1,200					
Weight	Condensing unit			kg	43						69			70			59			61		
	Evaporator unit			kg	13						28						19					
	Packed condensing unit			kg	72						107			108			97			99		
	Packed evaporator unit			kg	15						30						21					
Compressor	Type				Hermetic Reciprocating																	
	Nominal power			kW	0.4			0.7			2.2			2.6			0.9			1.7		
	Starting method				Direct																	
Operation range	Cold room temperature	Min. ~Max.		°C	-5 ~10																	
Refrigerant	GWP				1,430																	
Evaporator	Air flow			m³/h	600						1,800						1,200					
	Air throw			m	4 (3)																	
Condenser	Air flow			m³/h	750						1,500						1,400					
Defrost					Electric																	
Piping Length				m	2.5	5	10	2.5	5	10	2.5	5	10	2.5	5	10	2.5	5	10	2.5	5	10
Power supply	Voltage / Phase / Frequency			V/Hz	230 / 1~ / 50						400 / 3N~ / 50						230 / 1~ / 50			400 / 3N~ / 50		

(1) When normally running: -20°C / +30°C
(2) When normally running: +0°C / +30°C
(3) Use air throw as a base. Air throw is affected by many factors such as height of room, product storage, location of evaporator, etc.

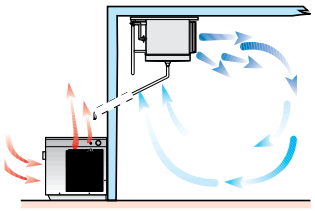
DB-O

Bi-block system for low and medium temperature refrigeration

Condensing unit for floor standing or roof mounted installation

- Condensing unit for floor standing or roof mounted installation and ceiling mounted evaporator
- Thermostatic expansion valve ensuring optimum capacity in accordance with the required load for better energy efficiency
- Extremely fast to assemble thanks to quick connection joints
- Reduced installation time and cost
- Best surface-to-capacity ratio

Installation type



Ceiling evaporator

Remote control

Floor standing condenser

				DB-O	SB.BDB 110DA12XX	SB.BDB 112DA12XX	SB.BDB 117DA12XX	SB.BDB 320DA13XX	SB.BDB 330DA13XX	SB.BDB 218DA12XX	SB.BDB 220DA12XX
Refrigerating capacity	Low temperature	R-452A	Nom	kW	0.662 (1)	0.905 (1)	1.088 (1)	2.384 (1)	2.38 (1)	1.342 (1)	1.719 (1)
Dimensions	Condensing unit	Height x Width x Depth		mm	357 x 620 x 337			427 x 820 x 427		390 x 820 x 427	
	Evaporator unit	Height x Width x Depth		mm	215 x 614 x 410			215 x 1,614 x 410		215 x 1,034 x 410	
	Packed condensing unit	Height x Width x Depth		mm	590 x 419 x 810			610 x 520 x 1,010			
	Packed evaporator unit	Height x Width x Depth		mm	260 x 470 x 780			260 x 470 x 1,200			
Weight	Condensing unit			kg	45	50		72	78	61	69
	Evaporator unit			kg	13			28		19	
	Packed condensing unit			kg	55	60		86	92	75	83
	Packed evaporator unit			kg	15			31		21	
Compressor	Type				Hermetic Reciprocating						
	Nominal power			kW	0.75	1.1	1.3	2.2		1.3	1.5
	Starting method				Direct						
Operation range	Cold room temperature	Min. ~Max.		°C	-25 ~-15						
Refrigerant	Type				R-452A						
	GWP				2,142						
Evaporator	Air flow			m^3/h	600			1,800		1,200	
	Air throw			m	4 (3)						
Condenser	Air flow			m^3/h	750			1,500		1,400	
Defrost					Electric						
Power supply	Voltage/Phase/Frequency			V/Hz	230/1~/50			400/3N~/50		230/1~/50	400/3N~/50

				DB-O	SB.MDB 106A12XX	SB.MDB 107A12XX	SB.MDB 315A13XX	SB.MDB 320A13XX	SB.MDB 425A13XX	SB.MDB 635A13XX	SB.MDB 645A13XX	SB.MDB 706A13XX	SB.MDB 530A13XX	SB.MDB 707A13XX	SB.MDB 212A12XX	SB.MDB 213A12XX
Refrigerating capacity	Medium temperature	R-134a	Nom	kW	1.140 (2)	1.422 (2)	3.188 (2)	3.492 (2)	3.606 (2)	7.293 (2)	8.779 (2)	11.014 (2)	5.070 (2)	14.069 (2)	1.816 (2)	2.029 (2)
Dimensions	Condensing unit	Height x Width x Depth		mm	357 x 620 x 337		427 x 820 x 427	427 x 820 x 427	540 x 920 x 540	654 x 1,575 x 642		885 x 1,725 x 742	594 x 1,075 x 532	885 x 1,725 x 742	390 x 820 x 427	
	Evaporator unit	Height x Width x Depth		mm	215 x 614 x 410		215 x 1,614 x 410	215 x 1,614 x 410	545 x 805 x 690	600 x 1,690 x 690		620 x 1,840 x 700	530 x 1,220 x 690	620 x 1,840 x 700	215 x 1,034 x 410	
	Packed condensing unit	Height x Width x Depth		mm	590 x 419 x 810		610 x 520 x 1,010	610 x 520 x 1,010	880 x 650 x 1,200	750 x 890 x 1,840		780 x 890 x 1,990	710 x 820 x 1,280	780 x 890 x 1,990	610 x 520 x 1,010	
	Packed evaporator unit	Height x Width x Depth		mm	260 x 470 x 780		260 x 470 x 1,200	260 x 470 x 1,200	702 x 814 x 1,004	865 x 780 x 1,850		1,100 x 880 x 2,000	865 x 780 x 1,850	1,100 x 880 x 2,000	260 x 470 x 1,200	
Weight	Condensing unit			kg	43		69	70	95	158	159	195	104	220	59	61
	Evaporator unit			kg	13		28	28	37	84		102	53	102	19	
	Packed condensing unit			kg	53		83	84	114	247	248	309	193	334	73	75
	Packed evaporator unit			kg	15		30	30	53	140		165	85	165	21	
Compressor	Type				Hermetic Reciprocating											
	Nominal power			kW	0.4	0.7	2.2	2.6	2.94	4.8	6.3	7.4	3.7	9.555	0.9	1.7
	Starting method				Direct											
Operation range	Cold room temperature	Min. ~Max.		°C	-5 ~10											
Refrigerant	Type				R-134a											
	GWP				1,430											
Evaporator	Air flow			m^3/h	600		1,800	1,800	2,300	6,800	6,400	8,400	4,600	8,000	1,200	
	Air throw			m	4 (3)				12 (3)	11 (3)		13 (3)	11 (3)	12 (3)	4 (3)	
Condenser	Air flow			m^3/h	750		1,500		3,150	5,500	7,000	8,100	3,200	8,100	1,400	
Defrost					Electric											
Power supply	Voltage/Phase/Frequency			V/Hz	230/1~/50		400/3N~/50	400/3N~/50	400/3N~/50						230/1~/50	400/3N~/50

(1) When normally running: -20°C / +30°C
(2) When normally running: 0°C / +30°C
(3) Use air throw as a base. Air throw is affected by many factors such as height of room, product storage, location of evaporator, etc.w

RCV

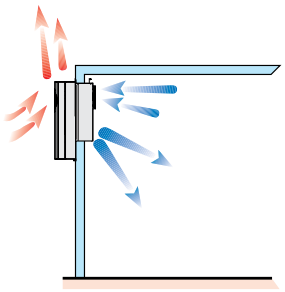
Wineblock - Monoblock units for high temperature refrigeration

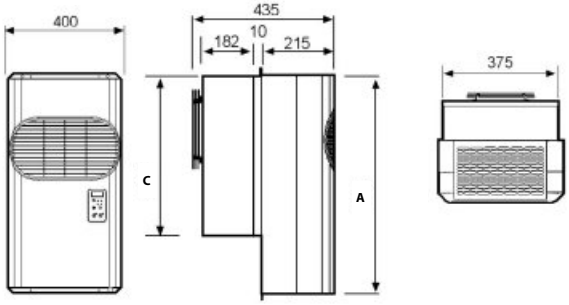
Monoblock system suitable for through-wall installation

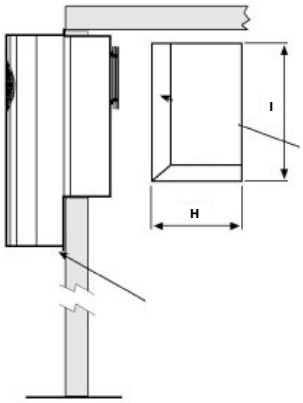
› Accurate humidity and temperature control to guarantee the quality of products (e.g. wines)
› Integrated humidifier available depending on model to have one unit which covers it all: perfect humidity & temperature control
› Electronic controller managing both temperature and humidity of the cold room

RCV

Installation type







					RCV	RCV101527E	RCV101528E	RCV102527E	RCV102528E	RCV201527E	RCV201528E	RCV202527E	RCV202528E
Refrigerating capacity	High temperature	R-134a	Nom	kW		0.6(1)		1(1)		1.4(1)		2.3(1)	
Heating capacity	R-134a	Nom		kW		0.7(1)		1.05(1)		1.4(1)		1.75(1)	
Dimensions	Unit	Height x Width x Depth		mm		735 x 400 x 435				735 x 620 x 435			
	Packed unit	Height x Width x Depth		mm		955 x 435 x 495				955 x 655 x 495			
Weight	Unit			kg		49	50	52	53	77	78	79	80
	Packed unit			kg		59	60	62	63	89	90	91	92
Compressor	Type					Hermetic Reciprocating							
	Nominal power			kW		0.25		0.37		0.46		0.55	
Operation range	Cold room temperature	Min. ~Max.		°C		10 ~20							
Refrigerant	Type					R-134a							
	GWP					1,430							
Evaporator	Air flow			m^3/h		600				1,200			
	Air throw			m		4 (2)							
Condenser	Air flow			m^3/h		600				1,200			
Power supply	Voltage / Phase / Frequency			V/Hz		230 / 1~ / 50							

(1) When normally running: +10°C / +30°C
(2) Use air throw as a base. Air throw is affected by many factors such as height of room, product storage, location of evaporator, etc.

RDV

Wineblock - Split units for high temperature refrigeration

Compact condensing unit and small-sized wall or ceiling mounted evaporators

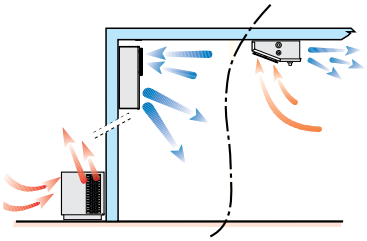
- Accurate humidity and temperature control to guarantee the quality of products (e.g. wines)
- Thermostatic expansion valve ensuring optimum capacity in accordance with the required load for better energy efficiency
- Integrated humidifier available depending on model to have one unit which covers it all: perfect humidity & temperature control
- Electronic controller managing both temperature and humidity of the cold room

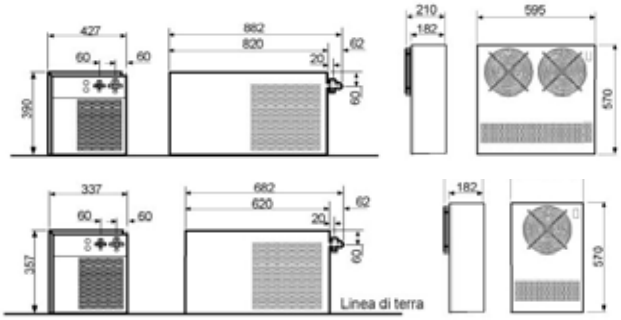
Ceiling evaporator

Wall evaporator

RDV

Installation type

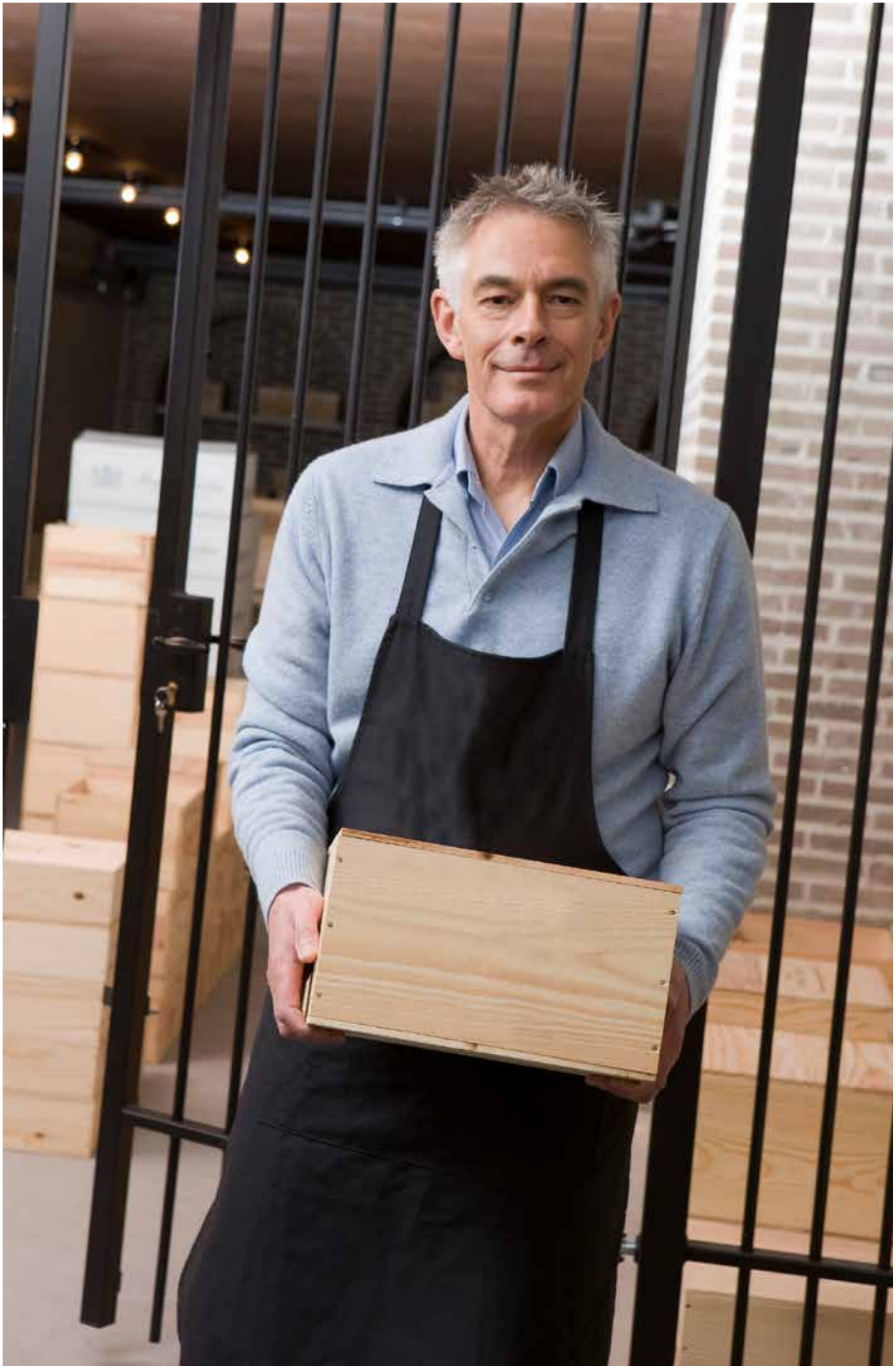




				RDV	SB.RDV101529E	SB.RDV101523E	SB.RDV101524E	SB.RDV101525E	SB.RDV102529E	SB.RDV102523E	SB.RDV102524E	SB.RDV102525E
Refrigerating capacity	High temperature	R-134a	Nom	kW	0.600 (1)				1.000 (1)			
Heating capacity	R-134a	Nom		kW	0.700		0.900		1.050		0.900	
Dimensions	Condensing unit	Height x Width x Depth		mm	357/682/337							
	Evaporator unit	Height x Width x Depth		mm	570 x 375 x 210		215 x 669 x 490		570 x 375 x 210		215 x 669 x 490	
	Packed condensing unit	Height x Width x Depth		mm	590 x 800 x 400							
	Packed evaporator unit	Height x Width x Depth		mm	610 x 250 x 525		540 x 250 x 1,190		610 x 250 x 525		540 x 250 x 1,190	
Weight	Condensing unit			kg	32	33	32	35	36		35	
	Evaporator unit			kg	12	13	12		13		12	
	Packed condensing unit			kg	37	38	37	40	41		40	
	Packed evaporator unit			kg	14	15	14		15		14	
Compressor	Type				Hermetic Reciprocating							
	Nominal power			kW	0.25				0.37			
	Starting method				Direct							
Operation range	Cold room temperature	Min. ~Max.		°C	10 ~20							
Refrigerant	Type				R-134a							
	GWP				1,430							
Evaporator	Air flow			m³/h	500		400		500		400	
	Air throw			m	4 (2)							
Condenser	Air flow			m³/h	600							
Power supply	Voltage / Phase / Frequency			V/Hz	230 / 1~ / 50							

				RDV	SB.RDV201529E	SB.RDV201523E	SB.RDV201524E	SB.RDV201525E	SB.RDV202529E	SB.RDV202523E	SB.RDV202524E	SB.RDV202525E
Refrigerating capacity	High temperature	R-134a	Nom	kW	1.400 (1)				2.300 (1)			
Heating capacity	R-134a	Nom		kW	1.400		1.600		1.750 (1)		1.600	
Dimensions	Condensing unit	Height x Width x Depth		mm	390/882/427							
	Evaporator unit	Height x Width x Depth		mm	570 x 595 x 210		215 x 1,089 x 490		570 x 595 x 210		215 x 195 x 490	215 x 1,089 x 490
	Packed condensing unit	Height x Width x Depth		mm	610 x 510 x 1,000							
	Packed evaporator unit	Height x Width x Depth		mm	610 x 250 x 745		540 x 250 x 1,190		610 x 250 x 745		540 x 1,089 x 1,190	540 x 250 x 1,190
Weight	Condensing unit			kg	60	61	60	62	63	68		62
	Evaporator unit			kg	18	19	18		19			18
	Packed condensing unit			kg	67	68	67	69	70	75		69
	Packed evaporator unit			kg	20	21	22	20	21	22		20
Compressor	Type				Hermetic Reciprocating							
	Nominal power			kW	0.46				0.55			
	Starting method				Direct							
Operation range	Cold room temperature	Min. ~Max.		°C	10 ~20							
Refrigerant	Type				R-134a							
	GWP				1,430							
Evaporator	Air flow			m³/h	1,000		800		1,000		800	
	Air throw			m	4 (2)							
Condenser	Air flow			m³/h	1,200		1,100		1,200		1,100	
Power supply	Voltage / Phase / Frequency			V/Hz	230 / 1~ / 50							

(1) When normally running: +10°C / +30°C
(2) Use air throw as a base. Air throw is affected by many factors such as height of room, product storage, location of evaporator, etc.



Condensing units

Model	Product name	Capacity (kW)
Commercial plug-in condensing units	JEHCCU and JEHSCU	
Small condensing units	CU series	
	CU series	
	CU series	
Large condensing units	CM series	
Small inverter condensing unit for commercial refrigeration	Mini-ZEAS LRMEQ-BY1	
Inverter condensing unit for commercial refrigeration	ZEAS LREQ-BY1	
	Multi ZEAS LREQ-BY1R	
CO_2		 Coming soon
		

JEHCCU and JEHSCU
Commercial plug-in condensing units

Why Daikin condensing units?

Daikin's commercial condensing units are ideal for use in cold stores, pubs, hotels, butchers, bakeries and similar locations which need reliable cooling at medium temperature.

› Daikin JEHCCU and JEHSCU series plug-in condensing units are the perfect solution for those looking for compact and economically priced solutions.

› Highly energy-efficient with operating ambient temperatures ranging from -15°C to +43°C.

› Daikin condensing kits are suitable for refrigerants R-407F, R-407A, R-404A, R-134a and latest low GWP refrigerants R-448A and R-449A

› Carefully designed details: the whole range utilizes proven and specially optimized components for Daikin.

› Fast assembly, easy handling and an energy-optimized design ensure low investment and operating costs

› Redesigned to be lightweight and compact, with easy access, making installation and maintenance straightforward.

› Improved design and sound insulation make them ideal for urban locations, particularly near residential areas.

Product overview - JEHCCU and JEHSCU condensing units

● = R404A ▲ = R-407F ■ = R-407A ◆ = R-134A

NEW

× = R-448A ★ = R-449A

MT cooling	Scroll compressor	Reciprocating compressor	230 V current	400 V current	Refrigeration capacity (kW) < 1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
JEHCCU 0040 CM1		●	●		◆															
JEHCCU 0051 CM1		●	●		◆															
JEHCCU 0063 CM1		●	●		◆															
JEHCCU 0077 CM1		●	●			◆														
JEHCCU 0095 CM1		●	●			◆														
JEHCCU 0050 CM1		●	●		● ▲ ■ ★															
JEHCCU 0067 CM1		●	●		■	● ▲ ★														
JEHCCU 0100 CM1		●	●			● ▲ ■ ★														
JEHCCU 0113 CM1		●	●			● ▲ ■ ★														
JEHCCU 0140 CM1/3		●	●			■	● ▲ ★													
JEHSCU 0200 CM1/3	●		●	●			◆	● ▲ ■ ★ ×												
JEHSCU 0250 CM1/3	●		●	●			◆	▲ ★ ×	● ■											
JEHSCU 0300 CM1/3	●		●	●				◆	▲ ■ ★ ×	●										
JEHSCU 0350 CM3	●			●				◆	▲	● ■ × ★										
JEHSCU 0400 CM3	●			●					◆		■ ★ ×	● ▲								
JEHSCU 0500 CM3	●			●						◆		★ ×	● ▲ ■							
JEHSCU 0600 CM3	●			●							◆			● ■ ★ ×	▲					
JEHSCU 0680 CM3	●			●							◆				● ■ × ★	▲				
JEHSCU 0800 CM3	●			●								◆					▲ ■ ★ ×	●		
JEHSCU 1000 CM3	●			●										◆					■	● ▲ ★ ×

LT cooling	Scroll compressor	Reciprocating compressor	230 V current	400 V current	< 1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
JEHCCU 0115 CL1		●	●		● ■															
JEHSCU 0200 CL3	●			●		● ■														
JEHSCU 0300 CL3	●			●		● ■ ★ ×														
JEHSCU 0400 CL3	●			●			■ ★ ×	●												
JEHSCU 0500 CL3	●			●			■	● ★ ×												
JEHSCU 0600 CL3	●			●				■ ★ ×	●											
JEHSCU 0750 CL3	●			●					■ ★ ×	●										

MT: Evaporation temperature -10°C, ambient temperature 32°C
LT: Evaporation temperature -35°C, ambient temperature 32°C

JEHCCU-CM1/JEHCCU-CM3

Condensing unit for commercial refrigeration with reciprocating technology

Refrigeration solution for small food retailers

- Designed specifically for small capacity refrigeration applications in small food stores (eg. in bakeries and butchers), cold rooms, bottle coolers and display cabinets
- Compact and lightweight for even the smallest of city centre locations
- All components can be accessed, making maintenance quick and easy
- Ideal for urban applications: sound proofing and low operating sound levels mean the unit is quiet
- The optimised compressor range and increased condenser surface deliver high levels of energy efficiency and reliability is ensured by using high quality components and production processes
- Micro channel heat exchanger technology reduces the amount of refrigerant used in the system, lowering environmental impact

JEHCCU-CM1/CM3

Medium Temperature Refrigeration				JEHCCU-CM1/CM3	0040 CM1	0050 CM1	0051 CM1	0063 CM1	0067 CM1	0077 CM1	0095 CM1	0100 CM1	0113 CM1	0140 CM1	0140 CM3
Refrigerating capacity	Medium temperature	R-134a	Nom	kW	0,55 (1)	-	0,83 (1)	0,99 (1)	-	1,20 (1)	1,49 (1)	-			
		R-404A*	Nom	kW	-	0,91 (1)	-		1,23 (1)	-		1,50 (1)	1,76 (1)	2,19 (1)	2,22 (1)
		R-407A	Nom	kW	-	0,72 (1)	-		0,97 (1)	-		1,19 (1)	1,49 (1)	1,73 (1)	1,74 (1)
		R-407F	Nom	kW	-	0,78 (1)	-		1,03 (1)	-		1,26 (1)	1,55 (1)	1,87 (1)	1,88 (1)
Power input	Medium temperature	R-134a	Nom	kW	0,43 (1)	-	0,54 (1)	0,64 (1)	-	0,74 (1)	0,90 (1)	-			
		R-404A*	Nom	kW	-	0,63 (1)	-		0,76 (1)	-		0,93 (1)	1,10 (1)	1,18 (1)	1,24 (1)
		R-407A	Nom	kW	-	0,54 (1)	-		0,70 (1)	-		0,84 (1)	0,98 (1)	1,11 (1)	1,16 (1)
		R-407F	Nom	kW	-	0,53 (1)	-		0,69 (1)	-		0,83 (1)	0,98 (1)	1,07 (1)	1,12 (1)
Parameters at full load and ambient temp. 25°C		R-134a	Te -10°C	Declared COP (COP2)	1,55	-	1,75	1,80	-	1,96	2,05	-			
		R-404A*	Te -10°C	Declared COP (COP2)	-	1,88	-		1,92	-		1,87	1,95	1,96	2,02
		R-407A	Te -10°C	Declared COP (COP2)	-	1,39	-		1,45	-		1,50	1,65		1,58
		R-407F	Te -10°C	Declared COP (COP2)	-	1,62	-		1,66	-		1,68	1,78	1,95	1,87
Parameters at full load and ambient temp. 32°C (Point A)		R-134a	Te -10°C	Rated COP (COPA)	1,28	-	1,53	1,55	-	1,63	1,65	-			
		R-404A*	Te -10°C	Rated COP (COPA)	-	1,45	-		1,61	-		1,61	1,60	1,68	1,80
		R-407A	Te -10°C	Rated COP (COPA)	-	1,33	-		1,37	-		1,42	1,52	1,57	1,50
		R-407F	Te -10°C	Rated COP (COPA)	-	1,47	-		1,49	-		1,51	1,58	1,75	1,67
Parameters at full load and ambient temp. 43°C		R-134a	Te -10°C	Declared COP (COP3)	1,18	-	1,20	1,21	-	1,30	1,32	-			
		R-404A*	Te -10°C	Declared COP (COP3)	-	1,10	-		1,18	-		1,21	1,20	1,26	1,31
		R-407A	Te -10°C	Declared COP (COP3)	-	1,16	-							1,38	1,30
		R-407F	Te -10°C	Declared COP (COP3)	-	1,20	-							1,39	1,32
Dimensions	Unit		Height	mm	607									662	
			Width	mm	876									1.101	
			Depth	mm	420									444	
Weight	Unit			kg	45		53		54				55	68	
Compressor	Type				Reciprocating compressor										
	Model				AE4440Y-FZ1A	AE4460Z-FZ1C	CAJ4461Y	CAJ4476Y	CAJ9480Z	CAJ4492Y	CAJ4511Y	CAJ9510Z	CAJ9513Z	CAJ4517Z	TAJ4517Z
	Oil	Charged volume		l	0,3		0,9							-	
	Oil Type				Uniqema Emkarate RL32CF										
	Piston displacement			m^3/h	1,80		3,18	3,79	2,64	4,51	5,69	3,18	4,21	4,52	
Fan	Type				Axial										
	Air flow rate	Cooling	Nom	m^3/h	1.300									2.700	
Sound pressure level	Nom.			dBA	29 (2)				28 (2)	29 (2)		28 (2)		34 (2)	
Refrigerant	Type				R-134a	R-404A	R-134a		R-404A	R-134a		R-404A			
	Type 2				-	R-407A	-		R-407A	-		R-407A			
	Type 3				-	R-407F	-		R-407F	-		R-407F			
	GWP				1.430,0	3.921,6	1.430,0		3.921,6	1.430,0		3.921,6			
	GWP Type 2				-	2.107	-		2.107	-		2.107			
	GWP Type 3				-	1.825	-		1.825	-		1.825			
Piping connections	Liquid line connection			inch	1/4"				3/8"						
	Suction line connection			inch	3/8"				1/2"					5/8	
Power supply	Phase/Frequency/Voltage			Hz/V	1~/50/230										3~/50/400

(1) Refer to condition: Outside ambient temperature = 32°C, Evaporation temperature = -10°C and 10K superheat (medium temperature application)
(2) Average sound pressure level is measured at 10m in anechoic room
* R-404A refrigerant is not 2020 F-Gas Compliant

JEHSCU-CM1/JEHSCU-CM3

Condensing unit for commercial refrigeration with scroll technology

Refrigeration solution for small food retailers

- Designed specifically for small capacity refrigeration applications in small food stores (eg. in bakeries and butchers), cold rooms, bottle coolers and display cabinets
- Compact and lightweight for even the smallest of city centre locations
- All components can be accessed, making maintenance quick and easy
- Ideal for urban applications: sound proofing and low operating sound levels mean the unit is quiet
- The optimised compressor range and increased condenser surface deliver high levels of energy efficiency and reliability is ensured by using high quality components and production processes
- Micro channel heat exchanger technology reduces the amount of refrigerant used in the system, lowering environmental impact

JEHSCU-CM1/CM3

Medium Temperature Refrigeration					JEHSCU-CM1/CM3	0200 CM1	0250 CM1	0300 CM1	0200 CM3	0250 CM3	0300 CM3	0350 CM3	0360 CM3	0400 CM3	0500 CM3	0600 CM3	0680 CM3	0800 CM3	1000 CM3
Refrigerating capacity	Medium temperature	R-134a	Nom	kW		2,05 (1)	2,59 (1)	3,09 (1)	2,17 (1)	2,48 (1)	3,06 (1)	3,48 (1)	3,69 (1)	4,24 (1)	5,24 (1)	6,16 (1)	6,89 (1)	7,95 (1)	10,40 (1)
		R-404A*	Nom	kW		3,54 (1)	3,99 (1)	4,92 (1)	3,49 (1)	4,21 (1)	4,89 (1)	5,50 (1)	5,92 (1)	6,70 (1)	8,03 (1)	9,45 (1)	10,15 (1)	12,95 (1)	16,45 (1)
		R-407A	Nom	kW		3,39 (1)	3,98 (1)	4,65 (1)	3,36 (1)	3,94 (1)	4,54 (1)	-	5,61 (1)	6,57 (1)	8,03 (1)	9,24 (1)	10,35 (1)	12,55 (1)	14,75 (1)
		R-407F	Nom	kW		3,26 (1)	3,73 (1)	4,50 (1)	3,22 (1)	3,85 (1)	4,45 (1)	-	5,61 (1)	6,62 (1)	7,99 (1)	9,36 (1)	10,40 (1)	12,65 (1)	15,95 (1)
Power input	Medium temperature	R-134a	Nom	kW		1,11 (1)	1,21 (1)	1,45 (1)	1,03 (1)	1,17 (1)	1,46 (1)	1,68 (1)	1,61 (1)	1,85 (1)	2,30 (1)	2,70 (1)	3,15 (1)	3,74 (1)	4,86 (1)
		R-404A*	Nom	kW		1,57 (1)	2,00 (1)	2,62 (1)	1,70 (1)	2,04 (1)	2,52 (1)	3,04 (1)	2,88 (1)	3,33 (1)	4,39 (1)	4,92 (1)	5,53 (1)	5,96 (1)	8,62 (1)
		R-407A	Nom	kW		1,60 (1)	1,99 (1)	2,47 (1)	1,63 (1)	2,03 (1)	2,45 (1)	-	2,58 (1)	2,97 (1)	3,93 (1)	4,62 (1)	5,54 (1)	6,24 (1)	8,41 (1)
		R-407F	Nom	kW		1,74 (1)	2,09 (1)	2,66 (1)	1,78 (1)	2,16 (1)	2,71 (1)	-	2,91 (1)	3,21 (1)	4,36 (1)	5,03 (1)	5,98 (1)	6,13 (1)	8,84 (1)
Seasonal energy performance ratio SEPR		R-134a	Te -10°C			-							2,29	-	2,69	2,63	2,57	2,92	2,88
		R-404A*	Te -10°C			-						2,61	3,48	2,77	2,64	2,72	2,65	2,90	2,57
		R-407A	Te -10°C			-							3,44	3,09	2,81	2,75	2,65	2,88	2,35
		R-407F	Te -10°C			-							3,2	2,83	2,60	2,69	2,59	2,83	2,53
Annual electricity consumption Q		R-134a	Te -10°C		kWh/a	-									11.969	14.381	16.491	16.741	22.226
		R-404A*	Te -10°C		kWh/a	-						12.939	10.448	14.881	18.673	21.344	23.536	27.407	39.372
		R-407A	Te -10°C		kWh/a	-							10.033	13.054	17.546	20.622	24.031	26.747	38.515
		R-407F	Te -10°C		kWh/a	-							10.766	14.365	18.883	21.395	24.655	27.475	38.831
Parameters at full load and ambient temp. 25°C		R-134a	Te -10°C	Declared COP (COP2)		2,15	2,54	2,50	2,55	2,52		2,46	2,8	2,83	-				
		R-404A*	Te -10°C	Declared COP (COP2)		2,65	2,54	2,24	2,44	2,41	2,26	-	2,66	-					
		R-407A	Te -10°C	Declared COP (COP2)		2,55	2,38	2,21	2,50	2,32	2,20	-	2,72	-					
		R-407F	Te -10°C	Declared COP (COP2)		2,43	2,31	2,16	2,35	2,25	2,10	-	2,5	-					
Parameters at full load and ambient temp. 32°C (Point A)		R-134a	Te -10°C	Rated COP (COPA)		1,85	2,14	2,13	2,12	2,13	2,10	2,08	2,29	2,29	2,28		2,19	2,13	2,14
		R-404A*	Te -10°C	Rated COP (COPA)		2,25	2,00	1,88	2,06	2,07	1,94	1,81	2,06	2,01	1,83	1,92	1,84	2,17	1,91
		R-407A	Te -10°C	Rated COP (COPA)		2,13	2,01	1,89	2,07	1,95	1,86	-	2,17	2,21	2,04	2,00	1,87	2,01	1,75
		R-407F	Te -10°C	Rated COP (COPA)		1,88	1,79	1,69	1,81	1,79	1,65	-	1,93	2,06	1,83	1,86	1,74	2,06	1,80
Parameters at full load and ambient temp. 43°C		R-134a	Te -10°C	Declared COP (COP3)		1,35	1,53			1,57		1,52	1,6	1,55	1,56	1,59	1,53	1,52	
		R-404A*	Te -10°C	Declared COP (COP3)		1,53	1,33	1,25		1,36	1,28	1,11	1,31	1,28	1,15	1,27	1,22	1,47	1,18
		R-407A	Te -10°C	Declared COP (COP3)		-			1,48	1,45	1,38	-	1,48	1,43	1,39	1,43	-	1,38	-
		R-407F	Te -10°C	Declared COP (COP3)		-												1,52	-
Dimensions	Unit		Height	mm		662							872	872				1.727	
			Width	mm		1.101							1.353	1.353				1.348	
			Depth	mm		444							575	575				641	
Weight	Unit			kg		70	72	74	70	72	74		112	119	123	125	126	218	
Compressor	Type					Scroll compressor													
	Model					ZB15KQE-PFJ	ZB19KQE-PFJ	ZB21KQE-PFJ	ZB15KQE-TFD	ZB19KQE-TFD	ZB21KQE-TFD	ZB26KQE-TFD	ZB26KQE-TFD	ZB29KQE-TFD	ZB38KQE-TFD	ZB45KQE-TFD	ZB48KQE-TFD	ZB58KCE-TFD	ZB76KCE-TFD
	Oil	Charged volume		l		-							1,5	1,36	2,07	1,89	1,80	2,5	3,2
	Oil Type					Polyester oil (Copeland Ultra 22 CC, 32 CC and 32-3MAF, Mobil EAL™ Arctic 22 CC, Uniqem Emkarate RL32CF														
	Piston displacement			m^3/h		5,90	6,80	8,60	5,90	6,80	8,60	9,90	9,90	11,40	14,40	17,10	18,80	22,10	29,10
Fan	Type					Axial													
	Air flow rate	Cooling	Nom	m^3/h		2.700							4.250	-				8.500	
Sound pressure level	Nom.			dBA		33 (2)	34 (2)	36 (2)	33 (2)	34 (2)	36 (2)	39 (2)	37 (2)	37 (2)	38 (2)	40 (2)		43 (2)	
Refrigerant	Type					R-134a													
	Type 2					R-404A													
	Type 3					R-407A						-	R-407A						
	Type 4					R-407F						-	R-407F						
	GWP					1.430													
	GWP Type 2					3.921,6													
	GWP Type 3					2.107						-	2.107						
	GWP Type 4					1.825						-	1.825						
Piping connections	Liquid line connection			inch		3/8"							3/4"	1/2"				3/4"	
	Suction line connection			inch		3/4"							1/2"	7/8"		1 1/8"			3/8"
Power supply	Phase/Frequency/Voltage			Hz/V		1~/50/230			3~/50/400										

(1) Refer to condition: Outside ambient temperature = 32°C, Evaporation temperature = -10°C and 10K superheat (medium temperature application)
(2) Average sound pressure level is measured at 10m in anechoic room
* R-404A refrigerant is not 2020 F-Gas Compliant
** Also compatible with refrigerants R-448A and R-449A. For more information consult RefrigXpress
Blue cells contain preliminary data

JEHCCU-CL1/JEHSCU-CL3

Condensing unit for commercial refrigeration with scroll / reciprocating technology

Refrigeration solution for small food retailers

- Designed specifically for small capacity refrigeration applications in small food stores (eg. in bakeries and butchers), cold rooms, bottle coolers and display cabinets
- Compact and lightweight for even the smallest of city centre locations
- All components can be accessed, making maintenance quick and easy
- Ideal for urban applications: sound proofing and low operating sound levels mean the unit is quiet
- The optimised compressor range and increased condenser surface deliver high levels of energy efficiency and reliability is ensured by using high quality components and production processes
- Micro channel heat exchanger technology reduces the amount of refrigerant used in the system, lowering environmental impact

JEHCCU/SCU-CL1/CL3

Low Temperature Refrigeration					JEHCCU-CL1/JEHSCU-CL3	JEHCCU0115CL1	JEHSCU0200CL3	JEHSCU0300CL3	JEHSCU0400CL3	JEHSCU0500CL3	JEHSCU0600CL3	JEHSCU0750CL3	JEHSCU0950CL3-EVI
Refrigerating capacity	Low temperature	R-404A*	Nom	kW		0,69 (1)	1,42 (1)	1,98 (1)	2,91 (1)	3,53 (1)	4,13 (1)	5,29 (1)	5,9 (1)
		R-407A	Nom	kW		-	1,16 (1)	1,51 (1)	2,29 (1)	2,77 (1)	3,31 (1)	4,29 (1)	4,96 (1)
Power input	Low temperature	R-404A*	Nom	kW		0,72 (1)	1,46 (1)	1,81 (1)	2,38 (1)	3,10 (1)	3,69 (1)	3,88 (1)	4,35 (1)
		R-407A	Nom	kW		-	1,31 (1)	1,77 (1)	2,33 (1)	2,85 (1)	3,57 (1)	4,17 (1)	3,94 (1)
Seasonal energy performance ratio SEPR		R-404A*	Te -35°C			-			1,88	1,79	1,80	1,82	1,79
		R-407A	Te -35°C			-			1,67		1,52	1,51	1,76
Annual electricity consumption Q		R-404A*	Te -35°C		kWh/a	-			11.555	14.732	17.107	21.649	24.503
		R-407A	Te -35°C		kWh/a	-			10.212	12.364	16.220	21.146	20.958
Parameters at full load and ambient temp. 25°C		R-404A*	Te -35°C	Declared COP (COP2)		1,11	1,16	1,40	-				1,58
		R-407A	Te -35°C	Declared COP (COP2)		-	1,12	1,08	-				1,51
Parameters at full load and ambient temp. 32°C (Point A)		R-404A*	Te -35°C	Rated COP (COPA)		0,96	0,97	1,09	1,22	1,14	1,06	1,36	1,36
		R-407A	Te -35°C	Rated COP (COPA)		-	0,89	0,85	0,98	0,97	0,93	1,03	1,26
Parameters at full load and ambient temp. 43°C		R-404A*	Te -35°C	Declared COP (COP3)		0,69	0,60	0,70	0,86	0,79	0,64	0,98	1,06
		R-407A	Te -35°C	Declared COP (COP3)		-	0,55	-	0,67	0,66	0,64	0,73	-
Dimensions	Unit		Height		mm	607	662		872			1.727	1.727
			Width		mm	876	1.101		1.353			1.348	1.348
			Depth		mm	420	444		575			605	605
Weight	Unit				kg	55	76	77	132		133	203	200
Compressor	Type					Reciprocating compressor	Scroll compressor						
	Model					CAJ2446Z	ZF06K4E-TFD	ZF09K4E-TFD	ZF13K4E-TFD	ZF15K4E-TFD	ZF18K4E-TFD	ZF25K5E-TFD	ZF18KVE-TFD-EVI
	Oil	Charged volume			l	0,9	-		1,90				1,90
	Oil Type					Uniqema Emkarate RL32CF	Polyester oil (Copeland Ultra 22 CC, 32 CC and 32-3MAF, Mobil EAL™ Arctic 22 CC, Uniqem Emkarate RL32CF						
	Piston displacement				m^3/h	4,55	5,90	8,00	11,80	14,50	17,10	21,40	17,1
Fan	Type					Axial							
	Air flow rate	Cooling	Nom		m^3/h	1.300	2.700		-			5.750	5.870
Sound pressure level	Nom.				dBA	31 (2)	32 (2)	33 (2)	37 (2)	39 (2)	41 (2)		37
Refrigerant	Type					R-404A							
	Type 2					-	R-407A						
	GWP					3.921,6							
	GWP Type 2					-	2.107,0						
Piping connections	Liquid line connection				inch	3/8"			1/2"				7/8"
	Suction line connection				inch	1/2"	3/4"		7/8"			1 1/8"	1/2"
Power supply	Phase/Frequency/Voltage				Hz/V	1~/50/230	3~/50/400						

(1) SRG 20°C, Ta=32°C, Te=-35°C (2) Average sound pressure level is measured at 10m in anechoic room
* R-404A refrigerant is not 2020 F-Gas Compliant
Blue cells contain preliminary data

Condensing unit for outdoor installation with hermetic compressors

General features:

› Capacity for MT cooling: 0,9 kW to 26,7 kW
› Capacity for LT cooling: 0,6 kW to 12 kW
› Ambient temperature range : - 25°C - +43°C
› R134A a, R 449A, R448A, R452A R407F, depending on the compressor
› Tecumseh, Maneurop, Copeland scroll
› Conditions:
MT: Ambient temperature: 35°C Evp. Temperature: -10°C
LT: Ambient temperature: 35°C Evp. Temperature: -35°C

General Description:

Compact air cooled condensing unit floor mounting, low noise, with hermetic compressors. Designed specifically for small capacity refrigeration applications in small food stores (eg. in bakeries and butchers), cold rooms, bottle coolers and display cabinets. All components can be accessed, allowing for quick and easy maintenance.
The optimized compressor range and increased condenser surface deliver high levels of energy efficiency and reliability is ensured by using high quality components and production processes.

CU1

CU3

Standard characteristics:

› Hermetic compressor with integral protection
› Dual HP/LP fixed switch with auto reset
› Liquid line filter dryer, liquid line sight glass
› Curved condenser with 6-pole fan motor
› Liquid receiver with safety pressure relief valve for PED units (depending on the model & PED class)
› Electrical box with capacity controller (only for digital scroll)
› Crankcase heater (only scroll type)

Normal cooling

Condensing unit		GCU-E	1006U01	107U01	1010U01	1012U01	1015U01	2025U01	2028U01	2035U01	2040U01E
Refrigeration capacity	0° C	W	1.428	1.704	2.097	2.470	3.162	5.186	6.102	7.350	7.557
	-10° C	W	974	1.177	1.498	1.710	2.075	3.013	3.848	4.628	5.173
Power input		kW	0,61	0,7	0,83	0,88	1,2	1,53	1,82	2,17	2,67
COP 32°C (1)			1,59	1,67	1,8	1,93	1,72	1,96	2,11	2,13	1,94
COP 25°C (1)			1,84	1,93	2,07	2,23	1,98	2,23	2,4	2,42	2,2
COP 43°C (1)			1,23	1,31	1,5	1,53	1,35	1,55	1,66	1,68	1,55
SEPR(1)			-	-	-	-	-	-	-	-	2,4
Annual Electricity Consumption(1)		Kwh/a	-	-	-	-	-	-	-	-	13.257
Dimensions Unit	Height	mm	625	625	625	625	625	800	800	800	800
	Width	mm	1150	1150	1150	1150	1150	1400	1400	1400	1400
	Depth	mm	500	500	500	500	500	550	550	550	550
Condenser air flow		m^3/h	1.840	1.840	1.840	1.830	1.830	3.600	3.600	3.600	3.370
Compressor			Tecumseh reciprocating hermetic compressor								
Refrigerant		Type/GWP	R-134A/1430								
Power supply		V/~/ Hz	230/1~/50					400/3~/50			

Deep freezing

Condensing unit		HCU-D	1010U01	1012U01	1015U01	1017U01	1020U01	2025U01	2035U01
Refrigeration capacity	-25° C	W	673	778	1.058	1.323	1.790	2.597	(2)
	-35° C	W	377	449	626	802	1.021	1.481	(2)
Power input		kW	0,45	0,53	0,62	0,85	1,2	1,41	(2)
COP 32°C (1)			0,83	0,85	1	0,94	0,85	1,05	(2)
COP 25°C (1)			0,98	0,99	1,16	1,09	1	1,22	(2)
COP 43°C (1)			0,62	0,64	0,76	0,73	0,59	0,79	(2)
SEPR(1)			-	-	-	-	-	-	(2)
Annual Electricity Consumption(1)		Kwh/a	-	-	-	-	-	-	(2)
Dimensions Unit	Height	mm	625	625	625	625	625	800	800
	Width	mm	1150	1150	1150	1150	1150	1400	1400
	Depth	mm	500	500	500	500	500	550	550
Condenser air flow		m^3/h	1.840	1.840	1.840	1.840	1.830	3.600	(2)
Compressor			Tecumseh reciprocating hermetic compressor						
Refrigerant		Type/GWP	R-452A/2141						
Power supply		V/~/ Hz	230/1~/50					400/3~/50	

Other refrigerants, compressors and options availibal on request (1) Nominal operating conditions according to Ecodesign EN 13215: Ambient temperature 32°C/25°C/43°C, Evaporation temperature -10°C -35°C, 20°C suction gas temperature, Sub cooling 0K; (2) Not existing at the moment

Condensing unit for outdoor installation with semi hermetic compressors

General features:

› Capacity for MT cooling: 1,37 kW to 72,3 kW
› Capacity for LT cooling: 0,77 kW to 35,2 kW
› Ambient temperature range : - 25°C - +43°C
› R134A a, R 449A, R448A, R452A R407F, R 407A
› Reciprocating: Bitzer, Dorin, Frascold
› Copeland Digital scroll and Stream reciprocation compressors
› Conditions:
MT: Ambient temperature: 35°C Evp. Temperature: -10°C
LT: Ambient temperature: 35°C Evp. Temperature: -35°C

General Description:

Compact air cooled condensing unit floor mounting, low noise, with semi hermetic compressors. Designed specifically for small capacity refrigeration applications in small and medium sized food stores (e.g. in bakeries and butchers), cold rooms, bottle coolers and display cabinets. All components can be accessed, allowing for quick and easy maintenance. The optimized compressor range and increased condenser surface deliver high levels of energy efficiency and reliability is ensured by using high quality components and production processes.

Standard characteristics:

› Semi-hermetic compressors
› Crankcase heater - Kriwan
› Curved condenser with 6-pole fan motor
› Electrical box with terminal strip
› Liquid receiver with safety pressure relief valve for PED units
› Liquid line filter dryer, liquid line sight glass
› Dual HP/LP adjustable switch with auto reset
› Suction vibration eliminator
› Frequency driver (only with Inverter option)
› Bitzer Varispeed compressor (only for Inverter option)
› Electrical box with running processor (only for Inverter)

Normal cooling

Condensing unit			GCU-E	1010B01	10150B01	2020B01	2022B01	2025B01	2030B01	2040B01	3050B01	3060B01	4090B01
Refrigeration capacity	0° C		W	2.786	3.189	4.248	5.133	5.943	7.334	9.596	1.1711	13.899	17.574
	-10° C		W	1.929	2.335	2.957	3.550	4.161	5.155	6.897	8.270	9.885	12.520
Power input			kW	0,98	1,15	1,5	1,5	1,5	2,15	2,87	3,4	4,2	5
COP 32°C (1)				2,14	2,09	2,36	2,43	2,35	2,4	2,39	2,42	2,35	2,48
COP 25°C (1)				2,51	2,43	2,83	2,84	2,75	2,8	2,81	2,83	2,74	2,89
COP 43°C (1)				1,66	1,66	1,81	1,92	1,86	1,89	1,87	1,9	1,85	1,94
SEPR (1)				-	-	-	-	-	3,37	3,39	3,32	3014	3,38
Annual Electricity Consumption (1)			Kwh/a	-	-	-	-	-	9.407	12.520	15.180	19.331	22.788
Dimensions	Unit	Height	mm	625	625	800	800	800	800	800	1480	1480	1480
		Width	mm	1150	1150	1400	1400	1400	1400	1400	1400	1400	1680
		Depth	mm	500	500	550	550	550	550	550	550	550	750
Condenser air flow			m^3/h	1.830	1.830	3.600	3.600	3.370	3.050	3.050	6.740	6.740	6.740
Compressor				Bitzer reciprocating compressor									
Refrigerant			Type/GWP	R-134a/1430									
Power supply			V/~/ Hz	400/3~/50									

Deep freezing

Condensing unit			HCU-B	1007B01	1010B01	1015B01	1020B01	2020B01	2030B01	2050B01	3060B01	4090B01	4120B01
Refrigeration capacity	-25° C		W	971	1.193	1.562	1.875	3.099	4.025	5.657	7.563	8.823	9.358
	-35° C		W	536	690	886	1.097	1.854	2.478	3.497	4.677	5.394	5.641
Power input			kW	0.54	0.68	0.8	1	1.39	1.88	2.62	3.47	3.81	3.92
COP 32°C (1)				0,98	1,02	1,09	1,1	1,33	1,32	1,33	1,35	1,42	1,44
COP 25°C (1)				1,15	1,2	1,27	1,29	1,53	1,52	1,53	1,55	1,61	1,62
COP 43°C (1)				0,68	0,68	0,75	0,74	1,05	1,04	1,07	1,07	1,16	1,04
SEPR (1)				-	-	-	-	-	1,73	1,75	1,8	1,83	1,79
Annual Electricity Consumption (1)			Kwh/a	-	-	-	-	-	10.695	14.882	19.427	21.964	23.562
Dimensions	Unit	Height	mm	625	625	625	625	800	800	800	1480	1480	1480
		Width	mm	1150	1150	1150	1150	1400	1400	1400	1400	1680	1680
		Depth	mm	500	500	500	500	550	550	550	550	750	750
Condenser air flow			m^3/h	1.830	1.830	1.830	1.830	3.600	3.600	3.050	7.200	6.740	6.740
Compressor				Bitzer reciprocating compressor									
Refrigerant			Type/GWP	R-449A/1397									
Power supply			V/~/ Hz	400/3~/50									

Other refrigerants, compressors and options availibal on request (1)Nominal operating conditions according to Ecodesign EN 13215: Ambient temperature 32°C/25°C/43°C, Evaporation temperature -10°C -35°C, 20°C suction gas temperature, Sub cooling 0K

CU Series

Twin condensing unit for outdoor installation with twin-semi hermetic compressors

General features:

› Capacity for MT cooling: 8,5 kW to 26 kW
› Capacity for LT cooling: 7,5 kW to 12 kW
› Ambient temperature range : - 25°C - +43°C
› R134A a, R 449A, R448A, R452A R407F
› Reciprocating: Bitzer, Dorin, Frascold
› Copeland Digital scroll and Stream reciprocation compressors
› Conditions:
MT: Ambient temperature: 35°C Evp. Temperature: -10°C
LT: Ambient temperature: 35°C Evp. Temperature: -35°C

General Description:

Compact air cooled condensing unit floor mounting, low noise, with hermetic compressors. Designed specifically for small capacity refrigeration applications in small food stores (eg. in bakeries and butchers), cold rooms, bottle coolers and display cabinets. All components can be accessed, making maintenance quick and easy.
The optimized compressor range and increased condenser surface deliver high levels of energy efficiency and reliability is ensured by using high quality components and production processes.

CU3

CU5

Standard characteristics:

› Two compressors parallel connected
› Level control oil system
› Curved condenser with 6-pole fan motor
› Electrical box with terminal strip
› Liquid receiver with safety pressure relief valve for PED units
› Liquid line filter dryer, liquid line sight glass
› Dual HP/LP adjustable switch with auto reset
› Suction vibration eliminator
› Electrical box with Running processor (only for Inverter)

Normal cooling

Condensing unit		GCU-E	4040L01	4060L01	4080L01	5120L01	5140L01	5180L01
Refrigeration capacity	0° C	W	11.900	15.200	19.200	27.800	30.400	36.400
	-10° C	W	8.328	10.596	13.800	19.783	21.249	25.694
Power input		kW	3,53	4,4	5,7	8,42	8,3	10
COP/EER (1)			2,4	2,4	2,4	2,3	2,6	2,6
SEPR(1)			3,52	3,6	3,71	3,55	3,75	3,8
Annual Electricity Consumption(1)		Kwh/a	14.526	18.098	22.905	24.299	34.808	41.562
Dimensions Unit	Height	mm	1480	1480	1480	1480	1480	1480
	Width	mm	1680	1680	1680	2405	2405	2405
	Depth	mm	750	750	750	750	750	750
Condenser air flow		m^3/h	7.800	7.800	7.300	15.600	15.600	14.600
Compressor			Bitzer reciprocating compressor					
Refrigerant		Type/GWP	R-134A/1430					
Power supply		V/~/ Hz	400/3~/50					

Deep freezing

Condensing unit		HCU-J	4080L01	4100L01	412L01
Refrigeration capacity	-25° C	W	9.400	11.100	13.600
	-35° C	W	5.732	6.725	8.904
Power input		kW	4,5	5,3	6,7
COP/EER (1)			1,3	1,3	1,3
SEPR(1)			1,78	1,8	1,83
Annual Electricity Consumption(1)		Kwh/a	23.949	27.806	36.214
Dimensions Unit	Height	mm	1480	1480	1480
	Width	mm	1680	1680	1680
	Depth	mm	750	750	750
Condenser air flow		m^3/h	7.600	7.900	7.300
Refrigerant		Type/GWP	R 407F/1825		
Power supply		V/~/ Hz	400/3~/50		

Other refrigerants, compressors and options availible on request. (1)Nominal operating conditions according to Ecodesign EN 13215: Ambient temperature 32°C, Evaporation temperature -10°C/ -35°C, 20°C suction gas temperature, Sub cooling 0K

Multi compressor condensing unit with scroll/digital scroll compressors

General features:

› Capacity for MT cooling: 10,5 kW to 102 kW
› Capacity for LT cooling: 7,5 kW to 48,5 kW
› Ambient temperature range : - 25°C - +43°C
› R134A a, R 449A, R448A, R452A R407F
› Copeland scroll and digital scroll compressors
Other types, brands and capacities are possible on request
› Conditions:
MT: Ambient temperature: 35°C Evp. Temperature: -10°C
LT: Ambient temperature: 35°C Evp. Temperature: -35°C

Standard configuration:

Basic Frame Version:
Basic frame made from pre-painted steel sheet, with vertical condenser placed on 1 or 2 sides of the unit and fans (2, 3, 4, or 5) placed on frame top covering sheet.
The compressors are installed in a soundproof compartment separate from the condenser side, but allowing ventilation.
The compartment is simple soundproofing insulated (SMP).

Basic Refrigerating System:
The compressors (3 or 4) are connected in parallel, with one suction and discharge header. Each compressor is fitted with shut-off valves on suction line and discharge line.
The compressors are fixed to the frame through rubber anti-vibration supports.
The oil equalization system is composed of an oil separator and an equalization header, which are mounted on the compressor oil sight glass connection.
According to the number of compressors fitted, there are one or two oil level indicator/s, fitted onto the equalization header.
The refrigerating system is equipped with liquid receivers, if there is more than one receiver, the installation is made in parallel with a safety valve, a dehydration cartridge filter, interchangeable, liquid level alarm, liquid sight glass and shut-off valves.
On suction line there is a mechanical cartridge filter, interchangeable.

CM Scroll

The refrigeration system is fitted with:

› General high pressure switch, adjustable and autoresetting
› General low pressure switch, adjustable and autoresetting
› Emergency low pressure switch, adjustable and autoresetting
› Low pressure switches for each compressor emergency, adjustable and autoresetting
› Low pressure probe, placed on suction header for capacity control
› High pressure gauge
› Low pressure gauge

Standard electrical panel:

Standard power distribution
Disconnecting switch
Compressors protection, with overload cut-out motor protector; fuses for fans protection, thermo- contacts for each single fan.
Auxiliary circuit 230 volt through transformer 400V/230V
Electronic card XC440C
Four alarm signals: emergency (button + lamp, fans block, high pressure switch block, low pressure switch block.
Electronic speed regulator for condenser fan with pressure probe for three phase fans and with temperature probe for mono phase fans + bypass
The electrical panel is placed horizontally on the top front side of the unit, inside the panel sheets for frame 1, 2 and 3; greed, ventilation fan and double door for frames 4, 5, 6 and 7.

CM Series

Multi compressor condensing unit with semi hermetic compressors

General features:

› Capacity for MT cooling: 48 kW to 150 kW
› Capacity for LT cooling: 20 kW to 85 kW
› Ambient temperature range : - 25°C - +43°C
› R134A a, R 449A, R448A, R452A R407F
› Reciprocating semi hermetic compressors: Bitzer, Dorin, Frascold, Copeland stream
Other types, brands and capacities are possible on request
› Conditions:
MT: Ambient temperature: 35°C Evp. Temperature: -10°C
LT: Ambient temperature: 35°C Evp. Temperature: -35°C

General description:

Basic Frame Version:
Basic frame made from folded and painted steel sheet, screwed with bolts to make a basic structure to fix the components on it.

Basic Refrigerating System:
The compressors (3 or 4) are connected in parallel, with only one suction and discharge header. Each compressor is fitted with shut-off valves on suction line and discharge line.
The compressors are fixed to the frame through rubber anti-vibration supports.
Compressors used for low temperature are complete with fan heads.
The oil equalization system is composed of an oil separator and an equalization header, which are mounted on the compressor oil sight glass connection.
According to the number of compressors fitted, there is one or two oil level indicator/s, fitted onto the equalization header.
The refrigerating system is equipped with liquid receivers, if there is more than one receiver, the installation is made in parallel with a safety valve, a dehydration cartridge filter, interchangeable, liquid level alarm, liquid sight glass and shut-off valves.
On suction line there is a mechanical cartridge filter, interchangeable.

CM Semi hermetic

The refrigeration system is fitted with:

› General high pressure switch, adjustable and autoresetting
› General low pressure switch, adjustable and autoresetting
› Oil pressure switch for each compressor
› Emergency low pressure switch, adjustable and autoresetting
› Low pressure switches for each compressor emergency, adjustable and autoresetting
› Electronic speed regulator for condenser fan with pressure probe for three phase fans and with temperature probe for mono phase fans + bypass
› Low pressure probe, placed on suction header for capacity control
› High pressure gauge
› Low pressure gauge

Electrical panel:

Standard power distribution
Disconnecting switch
Compressors protection, with overload cut-out motor protector; fuses for fans protection, thermos contacts for each single fan
Auxiliary circuit 230 volt through transformer 400V/230V
Electronic card XC440C
IP55 with greed and ventilation fan
On the door there is the electronic card and 4 lamps: emergency (button + lamp), fans block, high pressure switch block, low pressure
Switch block, and selector for on/off compressors

ZEAS condensing unit for medium and low temperature refrigeration

Why choose ZEAS?

Whether it is restaurants, supermarkets or event halls – Zeas from Daikin is as individual as the requirements of the industries where it is used.

High energy efficiency

› Daikin DC inverter scroll compressor with economizer technology
› DC inverter fan technology
› Eco-design compliant

BENEFITS

› **Lower energy bills**
The use of Daikin proven DC technology results in lower energy bill compared to the use of standard ON/OFF units and even other capacity controller refrigeration units

› **Our units are future proof**
Combining Daikin innovating economizer technology with in house DC technology results in very high efficient units allowing us to outperformed the most severe eco-design minimum performance for the coming decades

Reliable operation

› Zeas condensing units are rigorously tested on the assembly line
› Proven inverter scroll technology
› Proven onboard innovating economizer technology
› Anti-corrosion treatment on the housing ensures long life even in extreme conditions

BENEFITS

› **Optimal food conservation**
Accurate temperature and humidity control can be easily suited to the requirements for different foods and beverages resulting in less of precious products

› **Longer lifetime expectation of our compressor**
Less thermal stress on our bearings and motor windings due to the implementation of Daikin High quality DC technology in our compressor

› **Longer lifetime expectations of our units**
The use of our innovating economizer technology in our units guarantee that our the compressor always operates within his operating envelop even in the most harvest conditions: excessive superheat at the inlet of the compressor resulting from improper quality of installation on the refrigerated cabinets side

› **No leaks**
Each new Daikin designed unit is put on a vibration plate in the factory to be sure that no leak and component damage can occur during transport. Even further, in the assemble line the Zeas unit undergo several leak test

› **No "dead on arrival"**
ALL units leaving the factory, have already run at the end of the assembly line

› **Lower installation cost**
Due to the use of the onboard economizer technology and the use of the correct low GWP refrigerant we only required the use of smaller pipes compared to other traditional systems, thus also lowered the refrigerant charge of the system

Small foot print and low weight

› Extremely compact and space-saving design
› Easy to install, even in the smallest spaces
› Indoor installation possible
› Best surface to capacity ration on the market
› Low weight thanks to compact design

BENEFITS

› **Only light weight supporting structures are required**

› **No installation restrictions anymore**
Our mini Zeas due to his compact design, light weight and very silent operation can be installed everywhere!

› **No special crane are required**
The ZEAS units are so compact that it can fit in an elevator

Peace of mind

› Quiet operation, unobtrusive for customers and neighbours
  - High grade sound on panels and compressors
  - Condenser fans designed to limit the noise
  - 4 low noise operation settings including night mode
› Wide temperature range allows multiple cabinet, freezer and cold room combinations

BENEFITS

› **Happy neighbours and no installation restrictions anymore**
The focus on sound criteria during the design of the units results in the most silent unit(s) of the market (till 25 dB(A) @ 10 m free field conditions)

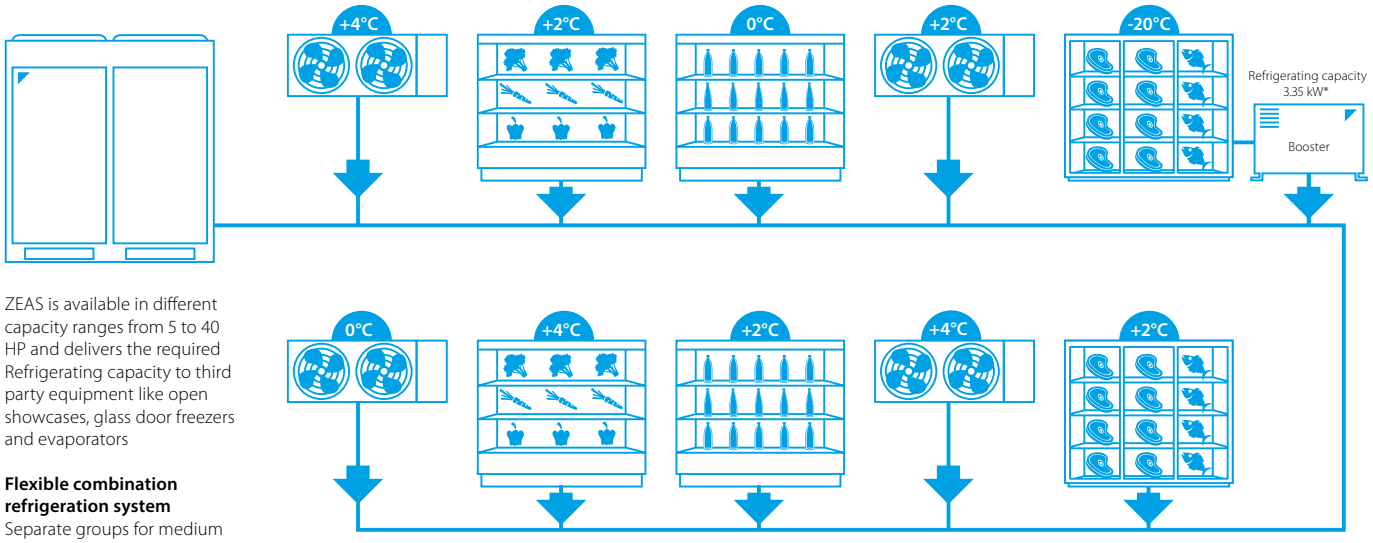
Intelligent control

› Unit can be connected to third party monitoring system
› Remote control of target evaporation temperature, reset errors and other functions
› Refrigeration unit can be controlled remotely through a power full interface

BENEFITS

› **Quick installation and commissioning**
Advanced software solution for easy system configuration and commissioning
› **Peace of mind**
Easy monitoring of ZEAS unit by third party Building Management Systems through the use of our Modbus interface

ZEAS, the smart choice for medium and low temperature refrigeration



ZEAS is available in different capacity ranges from 5 to 40 HP and delivers the required Refrigerating capacity to third party equipment like open showcases, glass door freezers and evaporators

Flexible combination refrigeration system
Separate groups for medium and low temperature cooling, each with multiple cabinets and different temperatures. This flexibility and energy savings of up to 50% are only possible with ZEAS-systems.

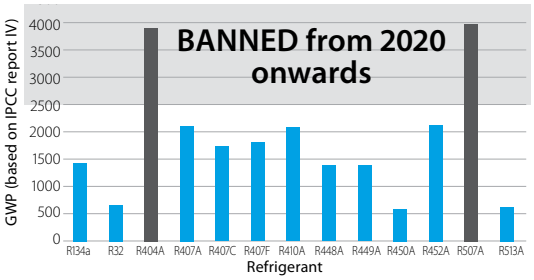
Operating range
Ambient temperatures: -20°C to +43 °C
Evaporating temperatures: -45°C to +10°C

* Te= -35°C, Tc = -10°C, 10 K SH, Tamb = 32°C
* Only Zeas. Not applicable for Mini-Zeas and Multi-Zeas

Why R410A?

R410A is a lower GWP refrigerant (less than 2500) than R404A and is fully F-gas compliant. It's future proof: it can be used even after 2030!

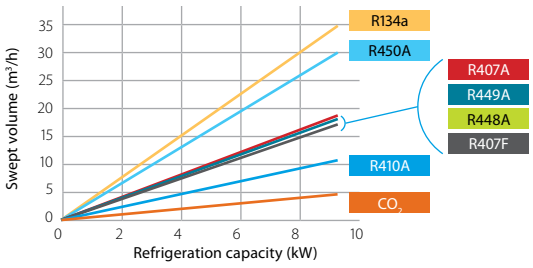
Use of refrigerant in refrigeration system with a refrigeration lower than 40 kW



Contributes to reducing installation cost and refrigerant charge

R410A is a high pressure refrigerant which for the same swept volume can deliver much more refrigeration capacity than standard mid pressure and low pressure refrigerants.

Delivered capacity per used refrigerant

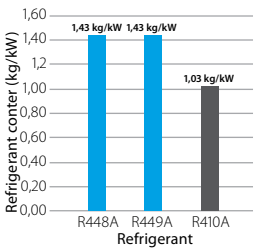


This means that for the same delivered refrigeration capacity we can use smaller main and linecomponents, thus reducing the installation cost and the amount of refrigerant charge in the system!

For a capacity of 8,4 kW (Te = -10°C / Tamb = 32°C)

Refrigerant	Suction piping diameter
R134a	1 1/8"
R407A	7/8"
R407F	7/8"
R448A	7/8"
R449A	7/8"
R450A	1 1/4"
R410A	3/4"
CO2	1/2"

Refrigerant charge per used refrigerant (Te = -10°C / Tamb = 32°C)



R410A is also:

- an easy to handle, common used refrigerant in the air conditioning world, therefore it is easy to find an installer which can work with this refrigerant, compared to CO_2, Ammonia and Propane.
- an A1 refrigerant, therefore no special safety measurements are required.

LRMEQ-BY1

Mini-ZEAS condensing unit for commercial refrigeration with scroll technology

Refrigeration solution for small food retailers

- Inverter technology guarantees optimal food conservation by ensuring an accurate temperature and humidity control
- The economized scroll contributes to a longer lifetime expectation of the refrigeration equipment and less maintenance requirement
- The use of R-410A refrigerant allows the use of smaller pipping diameters, thus reducing the refrigerant content in the system helping to lower our CO2 footprint . R-410A is fully compliant with the latest F-Gas regulation and can be still used after 2020 and beyond
- The DC economized compressor improves drastically the efficiency of the unit, thus helps lowering the energy bill!
- Lowest sound level in the market down to 31 dBA. Sound level can be even further reduced thanks to the low noise modes
- The weight of the unit is very low, therefore the unit can even be mounted on the wall
- Up to 75% smaller than equivalent products in the market, ideal for those places where space is limited
- Advanced software solution for easy system configuration and commissioning

LRMEQ-BY1

Daikin technology increases the love for German Gourmet

DAIKIN's new Mini-ZEAS condensing unit is ensuring constant refrigeration in storage and production areas at the newly refurbished butcher shop, in mid west Germany. The key to maintaining the quality of the shop's fresh meat and deli products is to store them at constant temperatures, which is also legislatively required to be quality controlled at all times. DAIKIN's new Mini-ZEAS condensing unit, which is specially designed for small-scale commercial refrigeration applications, ensures exactly that. **Fleischeslust, Bensheim,Germany.**

Medium Temperature Refrigeration				LRMEQ-BY1	3	4
Connectable capacity	Minimum~Maximum			%	50~100	
Refrigerating capacity	Medium temp.	Nom.		kW	5.90 (1)	8.40 (1)
Power input	Medium temp.	Nom.		kW	2.53 (1)	3.65 (1)
COP	Medium temp.	Nom.			2.33 (1)	2.30 (1)
Seasonal energy performance ratio SEPR	R-410A	Te -10°C			4.17	4.08
Annual electricity consumption Q	R-410A	Te -10°C		kWh/a	8,698	12,651
Parameters at full load and ambient temp. 32°C (Point A)	R-410A	Te -10°C	Rated COP (COPA)		2.33	2.30
Parameters at full load and ambient temp. 43°C	R-410A	Te -10°C	Declared COP (COP3)		1.51	1.48
Dimensions	Unit	HeightxWidthxDepth		mm	1,345x900x320	
Weight	Unit			kg	126	
Heat exchanger	Type				Cross fin coil	
Compressor	Type				Hermetically sealed scroll compressor	
	Starting method				Direct on line (inverter driven)	
Fan	Type				Propeller	
	Quantity				2	
	Air flow rate	Cooling	Nom.	m^3/min	106	
Fan motor	Output			W	70	
	Drive				Direct drive	
Sound pressure level	Nom.			dBA	51 (2)	
Piping connections	Liquid	OD		mm	9,52	
	Gas	OD		mm	19.1	
Refrigerant	Type/GWP				R-410A/2,087.5	
	Charge			kg/TCO2Eq	4.50/9.39	
	Control				Electronic expansion valve	
Power supply	Phase/Frequency/Voltage			Hz/V	3N~/50/380-415	

(1)Cooling: evaporating temp. -10°C; outdoor temp. 32°C; suction SH10°C
(2)Sound pressure data: measured at 1m in front of unit, at 1.5m height

LREQ-BY1

ZEAS condensing unit for commercial refrigeration with scroll technology

Refrigeration solution for medium to large capacity applications featuring proven VRV technology

LREQ-BY1(R)

- One model for all applications from -45°C to 10°C evaporating temperature
- Perfect solution for all cooling and freezing applications with variable load conditions and high energy efficiency requirements.In particular used in supermarkets, cold storage, blast coolers and freezers etc.
- DC inverter scroll compressor with economiser function results in high energy efficiency and reliable performance
- Reduced CO2 emissions thanks to the use of R-410A refrigerant and low energy consumption
- Factory tested and pre-programmed for quick and easy installation and commissioning
- VRV (Variable Refrigerant Volume) technology for flexible application range
- Increased installation flexibility thanks to limited dimensions
- Low sound level including „night mode" operation
- For small freezing capacity, single ZEAS units can be connected to a booster unit
- Dedicated unit to allow multi combination of 2 x 15 HP or 2 x 20 HP resulting in less pipework or installation time

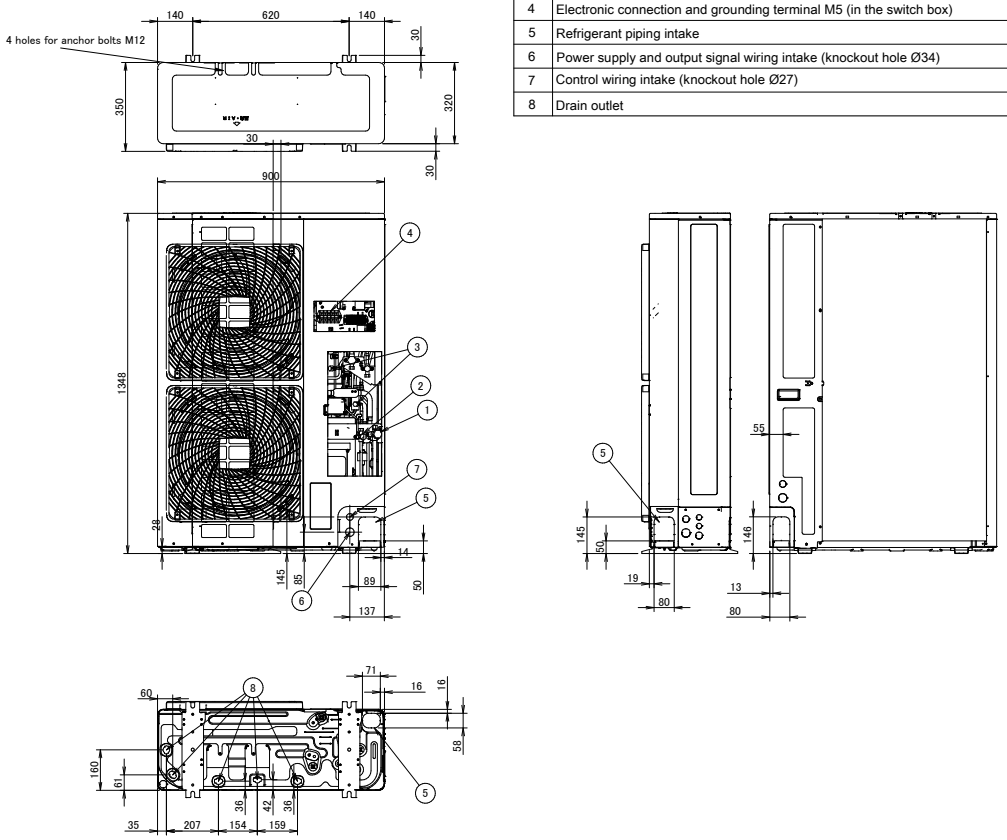
				LREQ-BY1	5	6	8	10	12	15	20
Refrigerating capacity	Low temperature	Nom.		kW	5,51 (1)	6,51 (1)	8,33 (1)	10,0 (1)	10,7 (1)	13,9 (1)	15,4 (1)
	Medium temperature	Nom.		kW	12,5 (2)	15,2 (2)	19,8 (2)	23,8 (2)	26,5 (2)	33,9 (2)	37,9 (2)
Power input	Low temperature	Nom.		kW	4,65 (1)	5,88 (1)	7,72 (1)	9,27 (1)	9,89 (1)	12,8 (1)	14,1 (1)
	Medium temperature	Nom.		kW	5,10 (2)	6,56 (2)	8,76 (2)	10,6 (2)	12,0 (2)	15,2 (2)	17,0 (2)
Seasonal energy performance ratio SEPR	R-410A	Te -10°C			3,86	3,79	3,64	3,42	3,51	3,38	3,23
		Te -35°C			1,80	1,77	1,84	1,88	1,80	1,70	1,70
Annual electricity consumption Q	R-410A	Te -10°C		kWh/a	19.907	24.681	33.483	42.794	46.377	61.683	72.030
		Te -35°C		kWh/a	22.805	27.453	33.817	39.747	44.363	61.090	67.325
Parameters at full load and ambient temp. 32°C (Point A)	R-410A	Te -10°C	Rated COP (COPA)		2,45	2,32	2,26	2,25	2,21	2,23	
		Te -35°C	Rated COP (COPA)		1,18	1,11		1,08		1,09	
Parameters at full load and ambient temp. 43°C	R-410A	Te -10°C	Declared COP (COP3)		1,54	1,57	1,40	1,46	1,47	1,46	1,51
		Te -35°C	Declared COP (COP3)		0,76	0,74	0,68	0,70	0,71		0,74
Dimensions	Unit	Height		mm	1.680						
		Width		mm	635		930			1.240	
		Depth		mm	765						
Weight	Unit			kg	166		242			331	337
Heat exchanger	Type				Cross fin coil						
Compressor	Type				Hermetically sealed scroll compressor						
	Output			W	2.600	3.200	2.100	3.000	3.400	2.600	3.400
	Piston displacement			m^3/h	11,18	13,85	19,68	23,36	25,27	32,24	35,8
	Speed			rpm	5.280	6.540	4.320	6.060	6.960	5.280	6.960
	Starting method				Direct on line (inverter driven)						
Compressor 2	Output			W	-		3.600				
	Speed			rpm	-		2.900				
Compressor 3	Output			W	-					3.600	
	Speed			rpm	-					2.900	
Fan	Type				Propeller fan						
	Quantity				1					2	
	Air flow rate	Cooling	Nom.	m^3/min	95	102	171	179	191	230	240
Fan motor	Output			W	350		750			350	750
	Drive				Direct drive						
Fan motor 2	Output			W	-					350	750
Sound pressure level	Nom.			dBA	55,0 (3)	56,0 (3)	57,0 (3)	59,0 (3)	61,0 (3)	62,0 (3)	63,0 (3)
Operation range	Evaporator	Cooling	Max.~Min.	°CDB	10~-45						
Refrigerant	Type / GWP				R-410A / 2.087,5						
	Charge			kg	5,2		7,9			11,5	
				TCO_2eq	10,9		16,5			24,0	
	Control				Electronic expansion valve						
Power supply	Phase/Frequency/Voltage			Hz/V	3~/50/380-415						

				LREQ-BY1	30	40
System	Outdoor unit module 1				LREQ15BY1R	LREQ20BY1R
	Outdoor unit module 2				LREQ15BY1R	LREQ20BY1R
Refrigerating capacity	Medium temperature	Nom.		kW	67,8 (1)	75,8 (1)
	Low temperature	Nom.		kW	27,8	29,6
Power input	Medium temperature	Nom.		kW	30,4	34,0
	Low temperature	Nom.		kW	25,6	27,6
Sound pressure level	Nom.			dBA	65,0	66,0
Piping connections	Liquid				ø 19,05	
	Gas				ø 41,28	

(1) Cooling: evaporating temp. -10°C; outdoor temp. 32°C; suction SH10°C (2) Cooling: evaporating temp. -35°C; outdoor temp. 32°C; suction SH10°C (3) Sound pressure data: measured at 1m in front of unit, at 1.5m height | RLA is based on following conditions: outdoor temp. 32°CDB; suction SH 10°C; saturated temperature equivalent to suction pressure -10°C

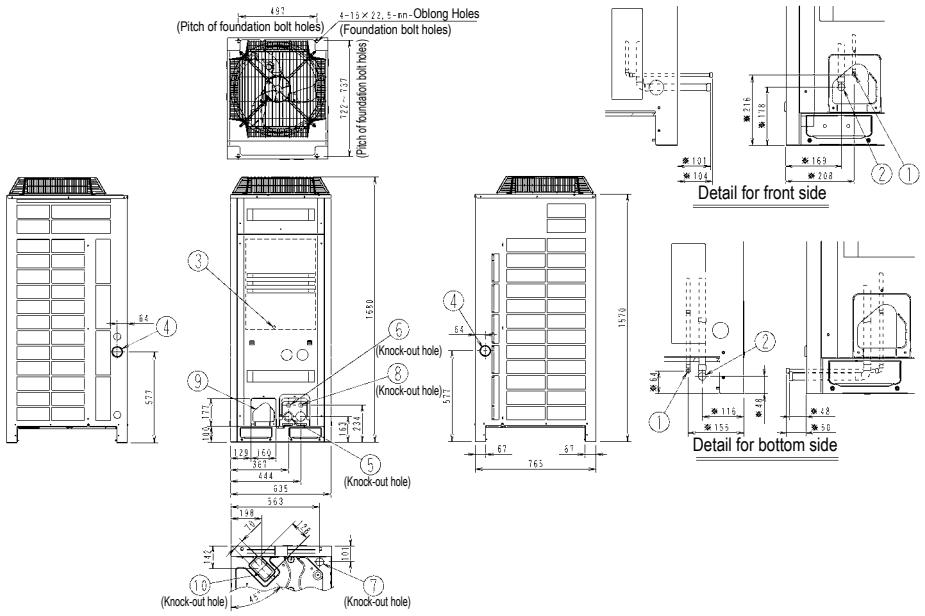
LRMEQ, BY1

1	Gas pipe connection Ø19.1 brazing
2	Liquid pipe connection Ø9.5 brazing
3	(2X) Service port (in the unit)
4	Electronic connection and grounding terminal M5 (in the switch box)
5	Refrigerant piping intake
6	Power supply and output signal wiring intake (knockout hole Ø34)
7	Control wiring intake (knockout hole Ø27)
8	Drain outlet



3D111429

LREQ5,6BY1



MODEL
LREQ5, 6BY1

3D076985

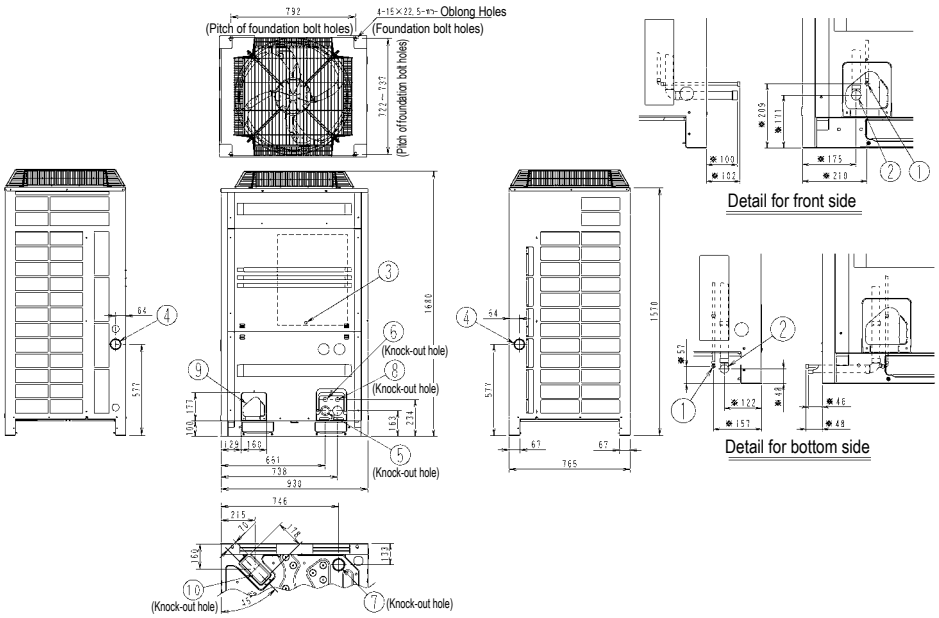
No.	Parts name	Remarks
1	Liquid pipe connection port	ø 9.5
2	Gas pipe connection port	ø 22.2
3	Earth terminal	Inside of electric component box (M8)
4	Power cord routing hole (side)	ø 62
5	Power cord routing hole (front)	ø 45
6	Power cord routing hole (front)	ø 27
7	Power cord routing hole (bottom)	ø 50
8	Wire routing hole (front)	ø 27
9	Pipe routing hole (front)	
10	Pipe routing hole (bottom)	

NOTES

1. Detail for front side and detail for bottom side indicate the dimensions after fixing the attached piping.
2. "※" is a size in the state where accessory piping is connected.

Detailed technical drawings

LREQ8-12BY1



MODEL
LREQ8,10, 12BY1

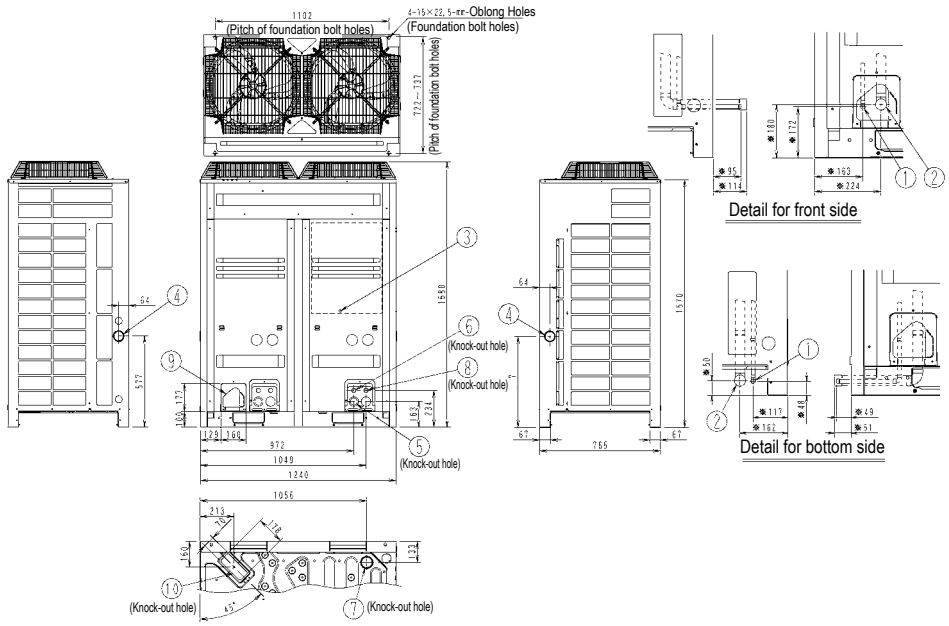
3D076986

No.	Parts name	Remarks
1	Liquid pipe connection port	ø 12.7
2	Gas pipe connection port	ø 28.6
3	Earth terminal	Inside of electric component box (M8)
4	Power cord routing hole (side)	ø 62
5	Power cord routing hole (front)	ø 45
6	Power cord routing hole (front)	ø 27
7	Power cord routing hole (bottom)	ø 65.5
8	Wire routing hole (front)	ø 27
9	Pipe routing hole (front)	
10	Pipe routing hole (bottom)	

NOTES

1. Detail for front side and detail for bottom side indicate the dimensions after fixing the attached piping.
2. "※" is a size in the state where accessory piping is connected.

LREQ15-20BY1



MODEL
LREQ15, 20 BY1

3D076987

No.	Parts name	Remarks
1	Liquid pipe connection port	ø 12.7
2	Gas pipe connection port	ø 34.9
3	Earth terminal	Inside of electric component box (M8)
4	Power cord routing hole (side)	ø 62
5	Power cord routing hole (front)	ø 45
6	Power cord routing hole (front)	ø 27
7	Power cord routing hole (bottom)	ø 65.5
8	Wire routing hole (front)	ø 27
9	Pipe routing hole (front)	
10	Pipe routing hole (bottom)	

NOTES

1. Detail for front side and detail for bottom side indicate the dimensions after fixing the attached piping.
2. "※" is a size in the state where accessory piping is connected.

CO_2 Condensing Units

Zanotti Condensing units with CO_2 refrigerant

Coming soon

Standard Condensing units

Standard condensing units with transcritical cycle

- Chassis in galvanized and painted steel sheet. Bodyworking and soundproofing available
- High modular concept.
- The gascooler can be disconnected from the unit
- Electrical board with all the necessary electronics for the operation of the unit
- 1 MT compressor
- (Optional) Frequency drive
- All piping done in stainless steel
- Multiple options possible to facilitate transport of the unit
- All necessary safety devices
- 3 air exit configurations
- Reduced dimensions
- Easy to transport
- Until 6 assembly options

F-Gas Free

Switchboard

Plug&Play

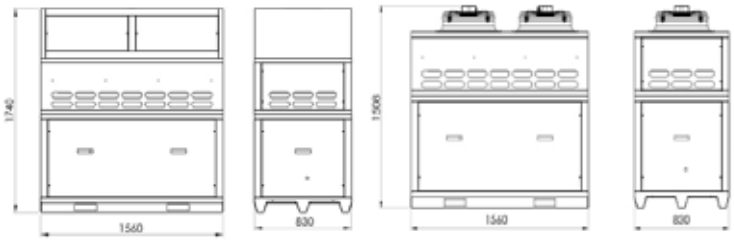
Electronic Control

Proportional Modulation

Heating Interchanger (Optional)

Protective Case

FNV42



FNV58

☑ MT — 1 comp.

FC17 832 mm	7 kW / 9 kW
FNV42 1.560 mm	18 kW / 22 kW
FNV58 1.560 mm	38 kW / 45kW

Conditions: LT: Tev.: -35°C SH: 8°K
MT: Tev.: -10°C SH: 8°K
Clime: Tev. med: 5°C SH: 8°K

LT MT Clime Global — MSC Mechanical subcooler — PC Parallel compressor — Heating interchanger — Axial — Radial

Small Booster Condensing units

Small condensing units with Transcritical cycle

- Gas cooler with Axial or Radial EC fans.
- Air connection:Three different configurations
- V-shaped gas cooler optimized for CO2 applications
- Compressor configuration:
  CU: 1 x MT
  Racks: 1 x MT + 1 x LT/2xMT
- Racks Standard delivery:
  Inverter: 1x MT and 1x LT compressor
  CU: inverter optional
- High safety level with pressure relief valves, pressure switches and intelligent controls
- Stainless steel Piping
- Galvanized and painted sheet metal chassis and weather proof enclosure.
- Optional: acoustic insulation
- Electrical Panel including electronic controller and control panel
- Modular concept - The gascooler can be disassembled from the unit and assembled in different configurations
- Reduced dimensions
- Easy to transport
- Until 6 assembly options

F-Gas Free

Switchboard

Plug&Play

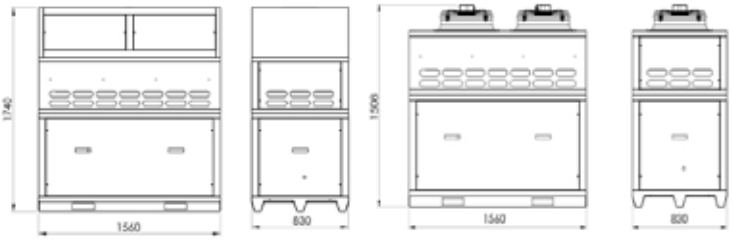
Electronic Control

Proportional Modulation

Heating Interchanger (Optional)

Protective Case

FNV42



FNV58

☑ MT
☑ MT + LT

2 comp.
1+1 2+1

FNV42 1.560 mm	8 kW 18 kW 22 kW
FNV58 1.560 mm	10 kW 40 kW 45 kW

Conditions: LT: Tev.: -35°C SH: 8°K
MT: Tev.: -10°C SH: 8°K
Clime: Tev. med: 5°C SH: 8°K

LT MT Clime Global

MSC Mechanical subcooler

PC Parallel compressor

Heating interchanger

Axial

Radial

Large Booster Condensing units

Large condensing units with Transcritical cycle

- Gas cooler with Axial or Radial EC fans.
- Air connection: Three different configurations
- (Optional) Heat recovery heat exchanger to take advantage of the "free heat" for air conditioning or for sanitary application
- Galvanized and painted sheet metal chassis and weather proof enclosure.
- Optional: acoustic insolation
- Large liquid receiver
- All piping done in stainless steel
- Design adapted for loading and transportation
- (Optional) Parallel compressor(s) to improve further the efficiency of the unit. Only for FCZ range where more than 2 compressor(s) can be used
- Compressor configuration Bitzer/Dorin:
  MT compressor(s)
  Possibility to have combination of MT and LT compressor
- Racks Standard delivery:
  Inverter: 1x MT and 1x LT
- Electrical Panel including electronic controller and control panel
- High safety level with pressure relief valves, pressure switches and intelligent controls
- Visible panel of manometers and pressostats
- High modular concept.
- The gascooler can be disconnected from the unit

F-Gas Free

Electronic Control

Proportional Modulation

Heating Interchanger (Optional)

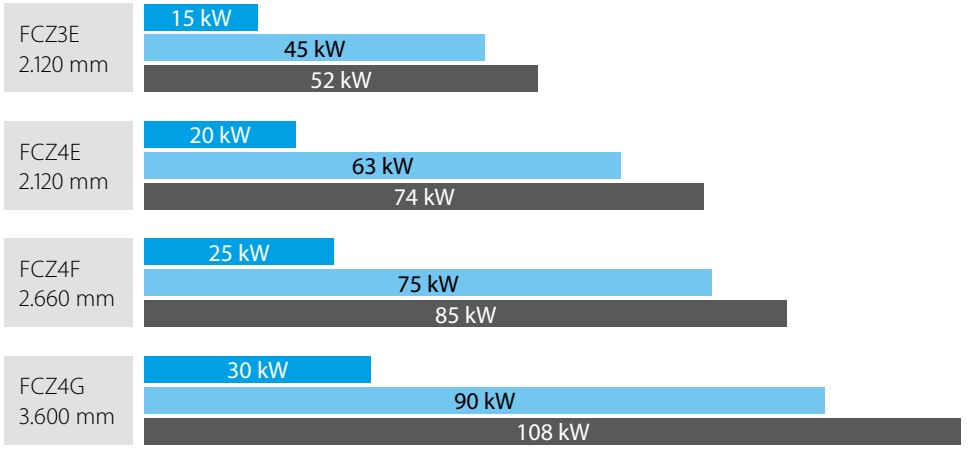
Protective Case

Parallel compressors (Optional)

Switchboard

Mechanical Subcooler (Optional)

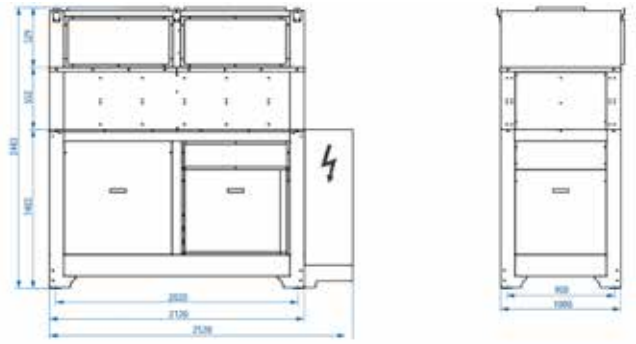
☑ MT — 3 4 comp.
☑ MT + LT — 2+1 3+1 3+2 4+1



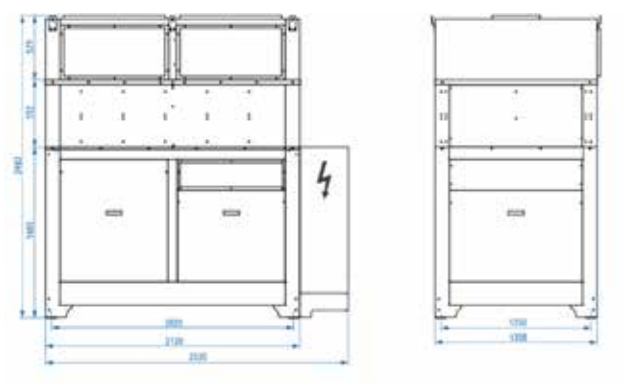
Conditions: LT: Tev.: -35°C SH: 8°K
MT: Tev.: -10°C SH: 8°K
Clime: Tev. med: 5°C SH: 8°K

LT MT Clime Global — MSC Mechanical subcooler — PC Parallel compressor — Heating interchanger — Axial — Radial

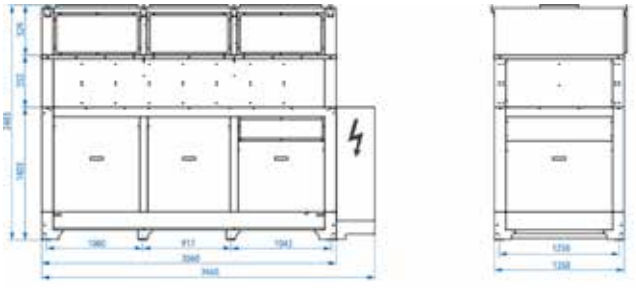
FCZ3E



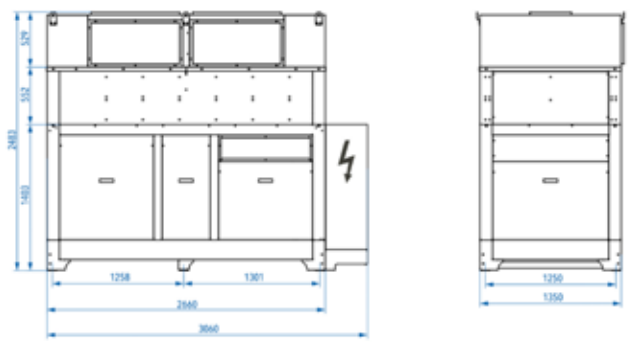
FCZ4E



FCZ4G



FCZ4F



Compressor packs & racks

Compressor packs & racks

Freezing (Low temperature) (-20° C)

Chilling (Medium temperature) (0° C)

Model	Product name	Capacity (kW)	0	2	5	10	25	50	100	150	300	450	500
	CC Series												
Racks	Mini racks - FNB Compressor racks - FCCE Duplex racks - FUF, FUG, FUH, FUJ												

Compressor packs & racks

Multi compressor units

- ☑ Open frame for multi-compressors racks
- ☑ Three or four compressors on parallel
- ☑ Many different compressor types
  - › Hermetic
  - › Hermetic Scroll (Brand : Copeland)
  - › Semihermetic reciprocating (Brand: Bitzer, Dorin, Copeland Stream & Frascold)
  - › Screw (Brand: J&E Hall (single screw) and Bitzer (twin screw)
    - • Larger Refrigeration capacities or solution with screw compressors has to be selected from our technical department.
    - • Consist in many models for medium and low temperature, with a refrigeration capacity up to 900,000 Watt.
- ☑ Compatible with latest refrigerants*

Standard features

- › Metal open frame with electrical switchboard
- › Compressor parallel with discharge and suction header
- › Liquid receiver
- › Liquid line
- › High and low pressure switch
- › Electrical switchboard complete with electronic control

Most common used options:

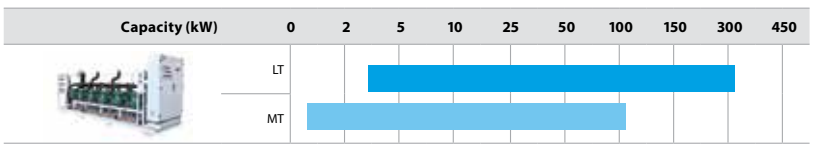
- › Panels to close the frame and put it outside
- › Oil equalization through mechanical floating valve
- › Oil equalization through electronic valve
- › Oversized liquid receiver
- › Refrigerant charge

Other options available on request

*Note: Selection from Selection software based on R404A, R134a and R407F

Single Screw compressor

The single screw compressor consists of a main single screw and two gate rotors. They are designed for high capacities and optimal performances through the step less capacity control.



CC Series

Multi compressors rack unit with Scroll/Digital scroll and hermetic reciprocating compressors

CC scroll

CC hermetic

General features:

› Capacity for MT cooling: 7,2 kW to 26 kW
› Capacity for LT cooling: 6,6 kW to 12 kW
› Ambient temperature range : - 25°C - +43°C
› R134A a, R 449A, R448A, R452A R407F depending on the used compressor
› Copeland scroll/digital scroll, Tecumseh and Maneurop reciprocation hermetic compressors
Other types, brands and capacities are possible upon request
› Conditions:
MT: Ambient temperature: 35°C Evp. Temperature: -10°C
LT: Ambient temperature: 35°C Evp. Temperature: -35°C

Standard configuration:

Basic Frame Version:
Basic frame made from folded and pre-painted steel sheet, with complete closed frame with simple sound proof material and anti-vibration
Supports (CC Standard)

Basic Refrigerating System:
The compressors (3 or 4) are connected in parallel, with one suction and discharge header. Each compressor is fitted with shut-off valves on suction line and discharge line.
The compressors are fixed to the frame through rubber anti-vibration supports.
The oil equalization system is composed of an oil separator and an equalization header, which are mounted on the compressor oil sight glass connection.
According to the number of compressors fitted, there is one or two oil level indicator/s, fitted onto the equalization header.
The refrigerating system is equipped with liquid receivers, if there is more than one receiver, the installation is made in parallel with a safety valve, a dehydration cartridge filter, interchangeable, liquid level alarm, liquid sight glass and shut-off valves.
On suction line there is a mechanical cartridge filter, interchangeable.

The refrigerating system is fitted with:

› General high pressure switch, adjustable and auto-resetting
› General low pressure switch, adjustable and auto-resetting
› Emergency low pressure switch, adjustable and auto-resetting
› Low pressure switches for each compressor emergency, adjustable and auto-resetting
› High pressure switches to control condenser fans, adjustable and auto-resetting
› Low pressure probe, placed on suction header for capacity control
› High pressure gauge
› Low pressure gauge
› With or without integrated condenser

Electrical panel:

Standard power distribution
Disconnecting switch
Compressors protection, with overload cut-out motor protector; fuses for fans protection, thermo contacts for each single fan
Auxiliary circuit 230 volt through transformer 400V/230V
Electronic card XC440C
IP55 with greed and ventilation fan
On the door there is the electronic card and 4 lamps: emergency (button + lamp), fans block, high pressure switch block, low pressure
Switch block, and selector for on/off compressors.
Condensation control through pressure switches: 1 pressure switch every 2 fans, standard 2 pressures

Accessories:

INSRD	Closed frame with double layer sound proofing material
AC&R	Mechanical oil equalization system with oil reserve, oil line filter, pressure reduction valve onto oil reserve
TRAXOIL	Electronic oil distribution system
INSRD	Closed frame with double layer sound proofing material

RIC. LIQ.	Oversized liquid receiver
CFF	Compressors sound shell
ELC.C	Electronic card EWCM4180 - XC1000D – EWCM9100
FQD	Frequency driver

Other additional equipment and special requirements on request

CC Series

Multi compressor rack unit with semi hermetic compressors

General features:

› Capacity for MT cooling: 25 kW to 320 kW
› Capacity for LT cooling: 13 kW to 133 kW
› Ambient temperature range : - 25°C - +43°C
› R134A a, R 449A, R448A, R452A R407F
› Reciprocating semi hermetic compressors: Bitzer, Dorin, Frascold, Copeland stream
Other types, brands and capacities are possible on request
› Conditions:
MT: Ambient temperature: 35°C Evp. Temperature: -10°C
LT: Ambient temperature: 35°C Evp. Temperature: -35°C

CC Semi hermetic

Standard configuration:

Basic Frame Version:
Basic frame made from folded and painted steel sheet, screwed with bolts to make a basic structure to fix the components on it.

Basic Refrigerating System:
The compressors (3 or 4) are connected in parallel, with only one suction and discharge header. Each compressor is fitted with shut-off valves on suction line and discharge line.
The compressors are fixed to the frame through rubber anti-vibration supports.
Compressors used for low temperature are complete with fan heads.
The oil equalization system is composed of an oil separator and an equalization header, which are mounted on the compressor oil sight glass connection.
According to the number of compressors fitted, there is one or two oil level indicator/s, fitted onto the equalization header.
The refrigerating system is equipped with liquid receivers, if there is more than one receiver, the installation is made in parallel with a safety valve, a dehydration cartridge filter, interchangeable, liquid level alarm, liquid sight glass and shut-off valves.
On suction line there is a mechanical cartridge filter, interchangeable.

The refrigerating system is fitted with:

› General high pressure switch, adjustable and auto-resetting
› General low pressure switch, adjustable and auto-resetting
› Oil pressure switch for each compressor
› Emergency low pressure switch, adjustable and auto-resetting
› Low pressure switches for each compressor emergency, adjustable and auto-resetting
› High pressure switches to control condenser fans, adjustable and auto-resetting (the pressure switches control 2 fans; if there are more than 4 condenser fans, the quantity of pressure switches installed increases to a maximum of 4)
› Low pressure probe, placed on suction header for capacity control
› High pressure gauge
› Low pressure gauge

Electrical panel:

Standard power distribution
Disconnecting switch
Compressors protection, with overload cut-out motor protector, fuses for fans protection, thermos contacts for each single fan
Auxiliary circuit 230 volt through transformer 400V/230V
Electronic card XC440C
IP55 with greed and ventilation fan
On the door there is the electronic card and 4 lamps : emergency (button + lamp), fans block, high pressure switch block, low pressure
Switch block, and selector for on/off compressors
Condensation control through pressure switches: 1 pressure switch every 2 fans, standard

Accessories:

INSRD	Closed frame with double layer sound proofing material
AC&R	Mechanical oil equalization system with oil reserve, oil line filter, pressure reduction valve onto oil reserve
TRAXOIL	Electronic oil distribution system
INSRD	Closed frame with double layer sound proofing material
CFF	Compressors sound shell
FQD	Frequency driver

RIC. LIQ.	Oversized liquid receiver
FREON	Refrigerant charge
ELC.C	Electronic card EWCM4180 - XC1000D – EWCM9100
CR1	CR1 Capacity controller
CR2	CR2 Capacity controller
CAP	Capacity step controled compressors

Other additional equipment and special requirements on request

The final leap towards natural refrigeration

Power and compressors

The compression sets are made up of 2 to 4 compressors except in the case of parallel compression, which adds up to 2 specific compressors.

BT

FULL SERIES 10 kW - 60 kW

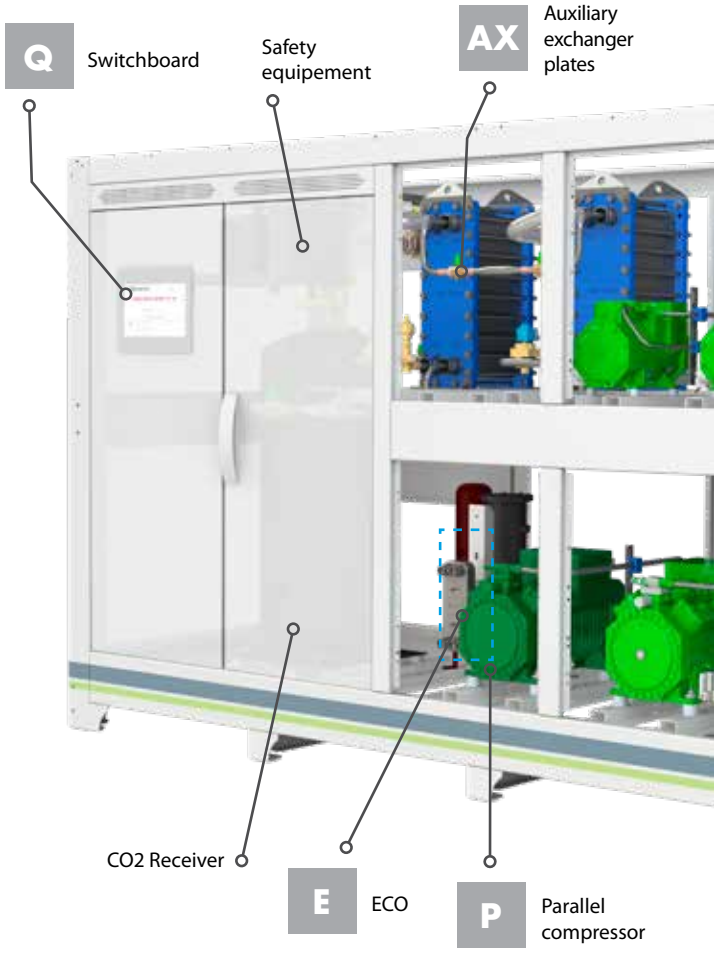
MT

10 kW **FULL BT** 110 kW
Transcritical booster

20 kW **FULL BPT** 210 kW
Traditional booster with parallel compression

15 kW **FULL BC** 190 kW
Booster with condensation assistant

30 kW **FULL BPC** 240 kW
Subcritical booster with parallel compression



Efficiency improvement by modulation

One frequency inverter for each compression group adapts its function parameters to the system cooling necessities continuously saving energy and extending the service life of the machine.

Chassis

FullCO$_2$ models are available in sheet metal chassis, accesible 360º with option of housing and acoustic insulation.

Plug & play

The units are prepared for a very agile start-up at a mechanical and electronic level, with built-in electric panel.

Technology for Everyone

EASY MAINTENANCE

Automation and operation of the system are made with open technology standards. Thus the customer does not depend on a single manufacturer or installer, which decreases maintenance and repair costs.

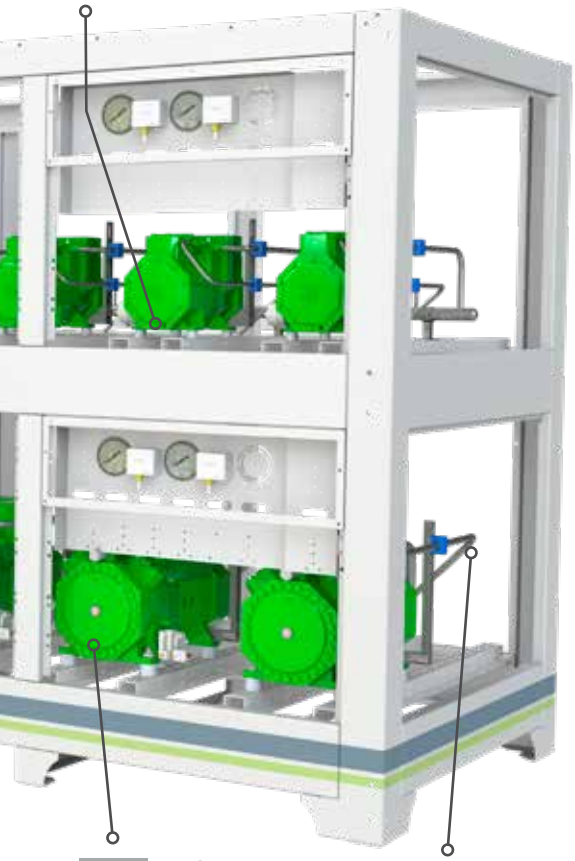
Double safety

double safety

Several components have been designed to perform a second function in case of failure avoiding the system shutdown.

Tewis
a member of DAIKIN group

FULL CO_2



BT **Low temperature group**
Covers freezing needs. Equipped with oil system, gas cooler connections and all necessary protection and safety elements.

MT **Medium temperature group**
It covers the refrigeration needs and allows the operation of the BT group. Equipped with oil system, gas cooler connections and all necessary protection and safety elements. Includes CO_2 receiver.

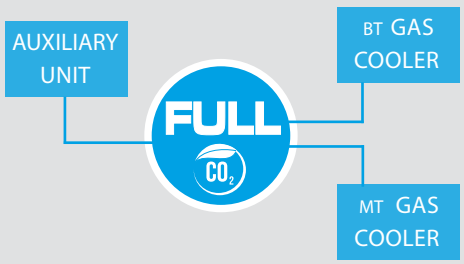
AX **Auxiliary exchanger plates**
They keep the plant at its optimum operating point when ambient temperatures are high.

P **Parallel compressor**
The efficiency of the system is considerably increased.

E **Economizer**
Increases the efficiency of the system by making the MT compressors give part of their power to the BT group.

Q **Switchboard**
Integrated and easy to use via touch screen, it displays an exclusive control software.

Full CO_2 general scheme



Retrofit & external condensation

Our system offers the possibility to take advantage of an existing machine using it in ancillary functions and also, recover a large amount of gas, with the consequent savings.

FullBC & FullBPC models allow to assist the condensation of the CO_2 booster in different ways:

› Using an already present unit (Retrofit).
› Partially using equipment from another service such as air conditioning.
› Installing a specific equipment recommended by Tewis.

Compressor packs & racks

Small Racks

Small transcritical units without condenser

- Small dimensions: 1600 x 840 x 840 mm
- Easy transportation
- Complete switchboard with protections, according to European legislation
- Switchboard includes an advanced control software to manage all the electrical and electronic switches of the machine
- 2 compressors
- Safety mode: In case of anomalous increase in temperature or pressure in the liquid zone, the safety equipment is activated by stabilizing the CO2 pressure. The equipment is designed to take
- Proportional modulation: A frequency inverter in each group of compressors adapts its operation to the specific demand of each moment, saving energy and prolonging the life of the plant. the current of a generator set and works even during a power cut.
- Heat recovery (optional) which allows to take advantage of the heat generated by the system discharge for air conditioning or ACS.

F-Gas Free

Switchboard

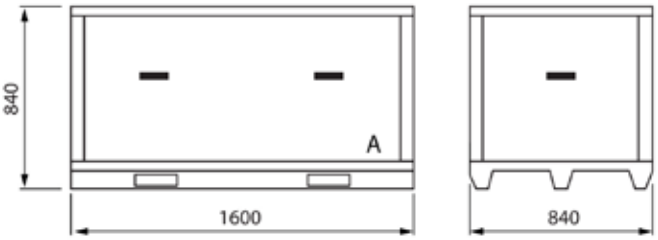
Plug&Play

Electronic Control

Proportional Modulation

Heating Interchanger (Optional)

Protective Case



☑ MT		1	2 comp.
☑ MT + LT		2+1	

FNB 1.560 mm	10 kW
	40 kW
	45 kW

Conditions: LT: Tev.: -35°C SH: 8°K
MT: Tev.: -10°C SH: 8°K
Clime: Tev. med: 5°C SH: 8°K

LT MT Clime Global MSC Mechanical subcooler PC Parallel compressor Heating interchanger

Compressor packs & racks

Medium Racks

Transcritical units without condenser

- Adapted design for loading and transportation
- Integrated switchboard. Easy to use via touch screen and displays an exclusive control software
- Heat recovery (optional) which allows to take advantage of the heat generated by the system discharge for air conditioning or ACS.
- Parallel compressor (optional).
- The parallel compression includes one or two compressors that extract steam from the accumulation tank, lightening the load of the rest of the compressors and improving their efficiency index.
- Possibility of incorporating up to 4 compressors
- Proportional modulation: A frequency inverter in each group of compressors adapts its operation to the specific demand of each moment, saving energy and prolonging the life of the plant.
- Mechanical subcooler exchanger, connected to an auxiliary unit that cools the discharge of the transcritical fluid, reducing steam and increasing the efficiency of the system

F-GAS F-Gas Free

Plug&Play

Proportional Modulation

Protective Case

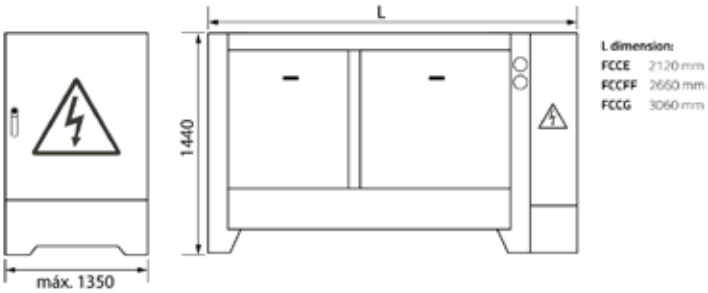
Switchboard

Electronic Control

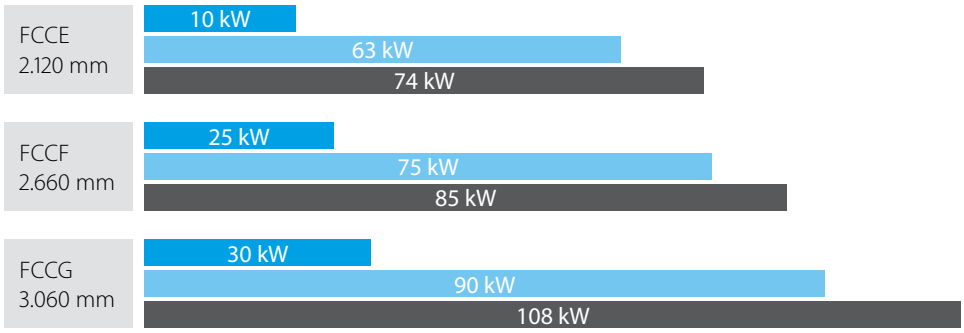
Heating Interchanger (Optional)

PC Parallel compressors (Optional)

MSC Mechanical Subcooler (Optional)



☑ MT	2	3	4	5 comp.
☑ MT + LT	2+1	3+1	3+2	4+1



Conditions: LT: Tev.: -35°C SH: 8°K
MT: Tev.: -10°C SH: 8°K
Clime: Tev. med: 5°C SH: 8°K

LT MT Clime Global MSC Mechanical subcooler PC Parallel compressor Heating interchanger

Compressor packs & racks

Large Racks

Transcritical double units without condenser

- Integrated switchboard. Easy to use via touch screen and displays an exclusive control software (see next page)
- Parallel compressors (optional), which increase considerably the efficiency of the system
- Possibility of incorporating up to 9 compressors
- Low and Medium temperature compressors
- Economizer: Increases the efficiency of the system by making the MT compressors give part of their power to the LT compressors group.
- Proportional modulation: A frequency inverter in each group of compressors adapts its operation to the specific demand of each moment, saving energy and prolonging the life of the plant.
- Mechanical subcooler exchanger, connected to an auxiliary unit that cools the discharge of the transcritical fluid, reducing steam and increasing the efficiency of the system
- Stainless steel in 100% of the pipes

F-Gas Free

Protective Case

Heating Interchanger (Optional)

Plug&Play

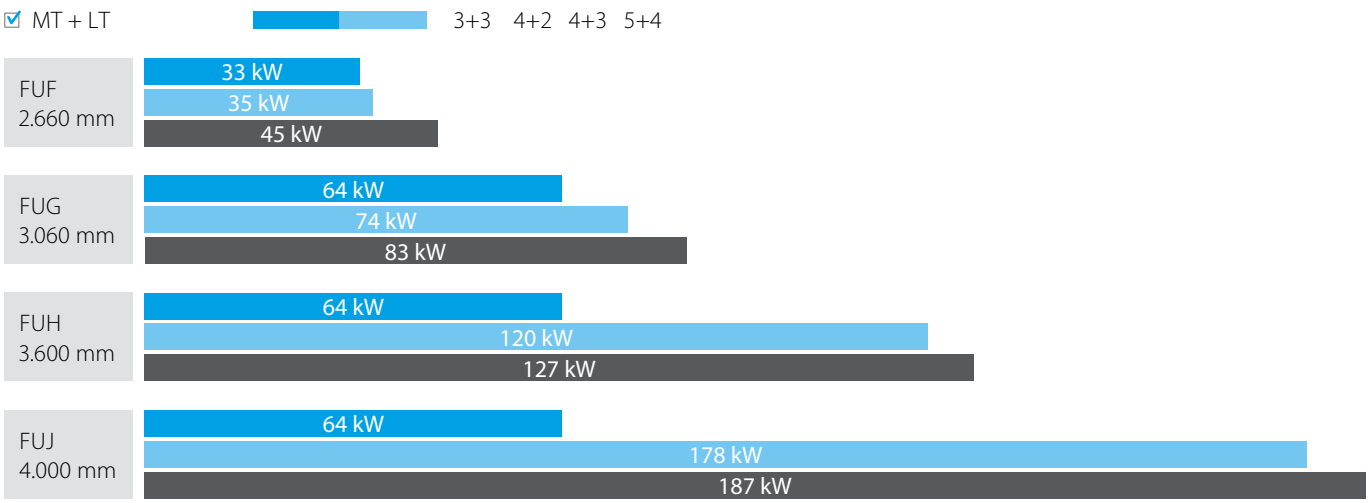
Switchboard

Parallel compressors (Optional)

Proportional Modulation

Electronic Control

Mechanical Subcooler (Optional)



Conditions: LT: Tev.: -35°C SH: 8°K
MT: Tev.: -10°C SH: 8°K
Clime: Tev. med: 5°C SH: 8°K

LT MT Clime Global

MSC Mechanical subcooler

PC Parallel compressor

Heating interchanger

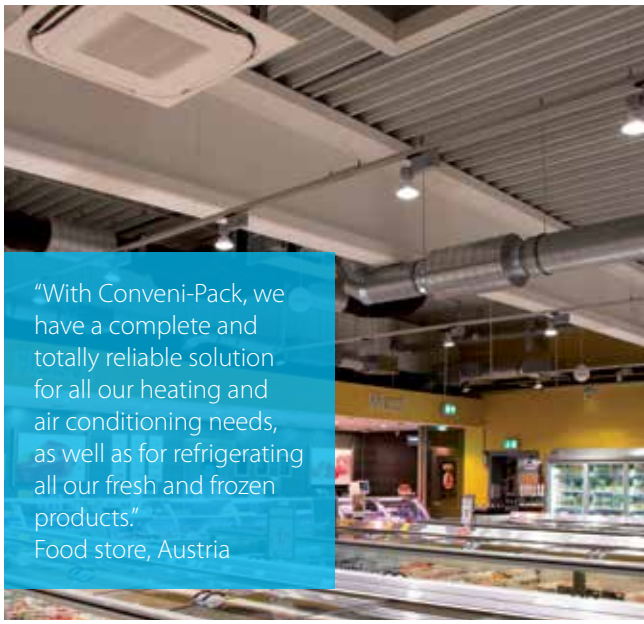
Switchboard & electronic control

Switchboard

- Bench-mounted switchboard, including complete wiring.
- Power supply at 400V / 3F + N / 50Hz
- Frequency inverter in the first compressor in sections BT, MT and parallel
- Booster components and remote gas coolers electrically protected against overcurrents and short circuits.
- Option: electrical connections of power supply to the auxiliary unit

Electronic control

- It represents the best option for transcritical and subcritical CO_2 solutions with Booster circuit and allows to manage up to two circuits for the recovery of heat.
- Televis System compatible and open for the integration of Modbus RTU / TCP or BACnet MS / TP (optional) systems.
- Touch screen with synoptic and real-time data.
- Data logging and alarms.
- Historical charts and data tables.
- Parameter management.



"With Conveni-Pack, we have a complete and totally reliable solution for all our heating and air conditioning needs, as well as for refrigerating all our fresh and frozen products."
Food store, Austria

"The flexible system optimally accommodates different cooling temperatures for all refrigerating units and can be controlled remotely. The system's near-silent operation guarantees that the noise level is kept at a minimum for residents."
Hotel 47°, Germany

"An organic market should not just sell sustainable food products but should also use green energy and as little as possible. It was not just for reasons of conscience and image that Bergfeld's Biomarkt in Bonn decided on ZEAS from Daikin."
Bergfeld's Biomarkt, Germany

"We wanted a future-proof, energy efficient and proven technology with high reliability."
Bakery cooperative, Germany

"Freshness and healthy nutrition contribute to patient recovery. The storage of easily perishable goods plays a key role here. That's why Municipal Hospital opted for a special refrigeration technology: ZEAS."
Kiel Municipal Hospital, Germany

"Quality and operational safety are important here at Germany's largest manufacturer of organic meat and sausage products. A total of 28 ZEAS systems with future-proof R-410A guarantee a fault-free and closed refrigeration chain."
kff kurhessische fleischwaren GmbH, Germany

In a German supermarket Conveni-Pack teams up with ZEAS to supply service counters, fridges, an air curtain and indoor A/C units, a cooling storage room and deep-freeze cabinets.

Integrated solutions

Freezing (Low temperature) (-20°C / +35°C)

Chilling (Medium temperature) (0°C / +35°C)

Cooling/AC (High Temperature) (+20°C/+10°C)

Heating

Model	Product name	Capacity (kW)	0	2	5	10	25	50	100	150	300	450
Integrated solution for chilling, freezing, comfort cooling and heating	Conveni-Pack LRYEQ-AY											
	Mini racks, Racks, Duplex											

Service station (Ranst, Belgium) Conveni-Pack

Discover why a Belgian petrol station owner chose Daikin for its shop comfort and refrigeration needs.
www.youtube.com/DaikinEurope

Conveni-Pack,

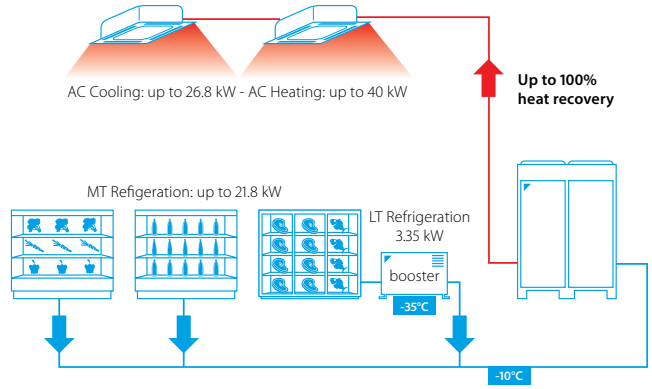
integrated solution for commercial refrigeration, heating and air conditioning

Why choose Conveni-Pack?

Competition in the retail food sector is fierce. This does not just affect the income you can earn from sales - operating costs are also a determing factor for success.

Energy efficient heat recovery system

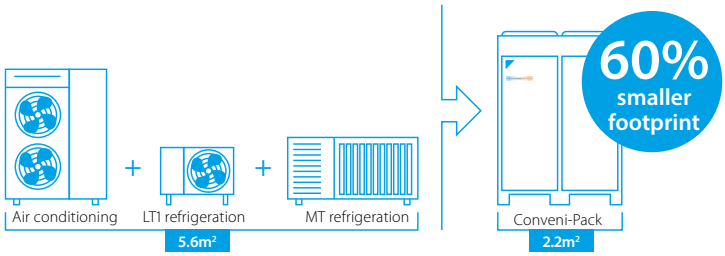
› Conveni-Pack recovers up to 100% of the heat extracted from supermarket refrigeration cases and re-uses it to heat the retail space and improve shop comfort at no additional cost (heat recovery system)
› Savings of up to 50% on energy costs
› Daikin inverter scroll compressor with economizer technology



Above-mentioned scheme is an example of what can be delivered depending on predefined conditions.
For more detailed information, please consult the technical specifications in this catalogue.

Installing a compact solution

› Easy to install, even in small spaces
› Small footprint (up to 60% smaller footprint than conventional systems) and low weight
› Reduced piping requirements
› Minimal planning groundwork and lower assembly costs



Unique combination

› First mass-produced, whole-building system to combine medium and low refrigeration, heating, air conditioning in one circuit

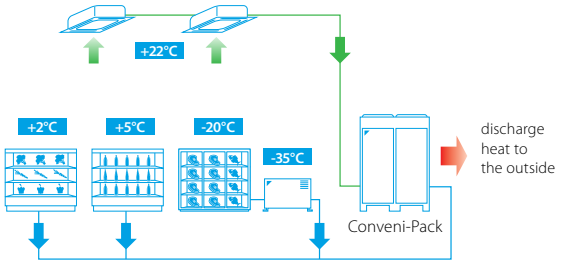
Reliable operation

› Error-proof component selection
› Factory leak-tested and pre-charged

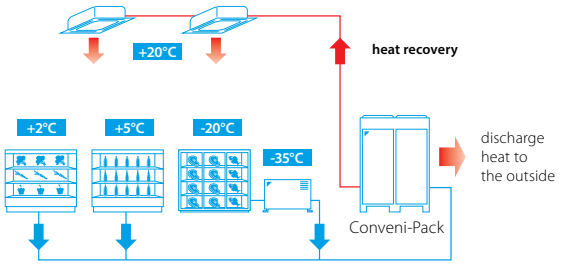
Year-round climate comfort

› Quiet operation : Improved acoustics thanks to night operation mode, inverter control and inverter driven fans with optimised blades and grills
› High grade sound insulation on both panels and compressors
› Specially designed fan blades to limit sound emissions
› 4 low sound operation settings including night mode
› The heat recovered from refrigerated and freezer display cabinets can be used to provide heating for the shop.

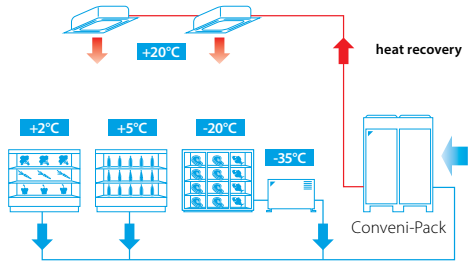
Summer



Spring/Autumn



Winter



If available heat from the cabinet is not sufficient to fulfill the demand from the shop, the outdoor unit will also operate as a heat pump system.

Internationally awarded

Winner of several awards* thanks to the innovating technology used and environmental friendly solution offered:

- Winner of UK Environmental Product of the Year, Cooling Industry Awards - 2006
- Winner of Incentive Prize, German Environment Ministry - 2007
- Winner of the Innovation Trophy, equipmag (exhibition in France) - 2008
- Winner of 2014 Institute of Refrigeration Ireland (IRI) Environmental award
- Environmental Friendliness category of the Top Retail Product Awards 2014 in Germany

Reference

Edeka Buschkühle supermarket (Germany)
2 Conveni-Pack systems supply 32 meters of service counters, 12.5 meters of convenience fridges, one cooling storage room for fruit, an air curtain and 5 indoor units; the ZEAS system supplies two deep-freeze cabinets with a total capacity of 5 kW.

Discover more references on
www.daikineurope.com/references

Benefits for installers/consultants

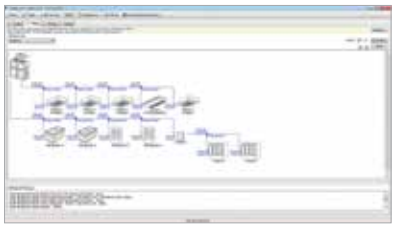
- Integrated electrical & control box
- Unit already pre-charged with refrigerant
- Established VRV technology ensuring optimised installation and maintenance
- Reduced delivery time thanks to European manufacturing plant
- Flexible system for multiple applications
- Connectable to all grocery refrigeration applications and supplied with a wide range of air conditioning indoor units to meet shop requirements
- Outdoor units can be positioned up to 35m above or 10m below the indoor units
- Piping length possible up to 130m
- Suitable for indoor installation through the use of high ESP fans

Benefits for shop owners

- Thought design for supermarkets and smaller retail outlets
- Maximised retail sales space available as Conveni-Pack has a footprint up to 60% smaller than conventional grocery refrigeration systems
- Reduced energy consumption by up to 50% through heat recovery
- Quiet operation, thus ideal for densely populated urban areas

Marketing tools

Refrigeration Xpress
User-friendly design software for Conveni-Pack, CCU, SCU and ZEAS condensing units. Its detailed report includes a list of materials, piping and wiring diagrams, and device options.



Short videos

- Watch a short animation on the unique refrigeration solution Conveni-Pack

LRYEQ-AY

Conveni-Pack refrigeration system with heat recovery

Refrigeration solution for food retailers featuring award winning technology for heat recovery

- Integrates high and low temperature refrigeration and air conditioning (including heating) into one system
- By using heat recovery, optimised controls and state of the art compressor technology, Conveni-pack can reduce annual energy consumption up to 50% or more, compared to conventional systems
- Lower associated CO_2 emissions thanks to the heat pump technology
- Conveni-pack's modular design allows it to be used for smaller as well as larger shops
- The modularity of the Conveni-pack system maximises installation flexibility. Outdoor units can be grouped into blocks or rows, or distributed around the building, to meet individual installation constraints
- The heat extracted from the refrigeration showcases or evaporators can be re-used for comfort heating of the shop at no extra cost
- Low sound level including „night mode" operation

LRYEQ16AY

Conveni pack, in combination with a ZEAS unit.

This store was nominated by spar as its 'local supermarket of the year', thanks in part to its owner's strategic investment in a key department: Refrigeration. By installing a Conveni pack in combination with Zeas, it was possible to **save around €10,000 on energy costs each year**, from money that would otherwise have spent on heating. **SPAR, Supermarket.**

Medium Temperature Refrigeration				LRYEQ-AY	16
Cooling capacity	Air conditioning	Nom.		kW	14,0 (1)
	Refrigeration	Nom.		kW	21,8 (2)
Heating capacity	Air conditioning	Nom.		kW	27,0 (3)
	Refrigeration	Nom.		kW	21,8 (4)
Dimensions	Unit	Height		mm	1.680
		Width		mm	1.240
		Depth		mm	765
Weight	Unit			kg	370
Heat exchanger	Type				Cross fin coil
Compressor	Type				Hermetically sealed scroll compressor
	Piston displacement			m^3/h	13,34
	Speed			rpm	6.300
	Output			W	2.500
	Starting method				Direct on line (inverter driven)
	Frequency ON/OFF				Less than 6 times/hour
Compressor 2	Speed			rpm	2.900
	Output			W	3.600
Compressor 3	Speed			rpm	2.900
	Output			W	4.500
Fan	Type				Propeller fan
	Quantity				2
	Air flow rate	Cooling	Nom.	m^3/min	230
Fan motor	Output			W	750
	Drive				Direct drive
Sound pressure level	Nom.			dBA	62,0
Operation range	Evaporator	Cooling	Min.~Max.	°CDB	-20~10
	Cooling	Ambient	Min.~Max.	°CDB	-5~43
	Heating	Ambient	Min.~Max.	°CDB	-15~21
Refrigerant	Type				R-410A
	GWP				2.087,5
	Charge			kg	11,5
				TCO_2eq	24,0
	Control				Electronic expansion valve
Power supply	Phase/Frequency/Voltage			Hz/V	3~/50/380-415

(1) Cooling priority mode: indoor temp. 27°CDB, 19°CWB; outdoor temp. 32°CDB; piping length: 7.5m; level difference: 0m (2) Cooling priority mode: evaporating temp. -10°C; outdoor temp. 32°CDB; Suction SH: 10°C (3) Heat recovery 100% mode: indoor temp. 20°CDB; outdoor temp. 7°CDB, 6°CWB; refrigeration load 18kW; piping length: 7.5m; level difference: 0m (4) Saturated temperature equivalent to suction pressure (refrigeration side): -10°C (under chilled condition); connection capacity for indoor air conditioner: 10HP, when heat recovery is 100%

Indoor units and Biddle air curtains for connection to Conveni-Pack

To respond to all shop requirements for comfort cooling and heating, a wide range of air conditioning indoor units and Biddle air curtains are available.

Capacity class (kW)

Model	Product name		50	63	71	80	100	125	140	200	250
Cooling capacity (kW)[1]			5,6	7,1	8,0	9,0	11,2	14,0	16,0	22,4	28,0
Heating capacity (kW)[2]			6,3	8,0	9,0	10,0	12,5	16,0	18,0	25,0	31,5
Round flow cassette	FXFQ-A		●	●		●	●	●			
2-way blow ceiling mounted cassette	FXCQ-A		●	●		●		●			
Ceiling mounted corner cassette	FXKQ-MA			●							
Concealed ceiling unit with inverter driven fan	FXSQ-A		●	●		●	●	●			
Concealed ceiling unit with inverter driven fan	FXMQ-P7		●	●		●	●	●			
Large concealed ceiling unit	FXMQ-MB									●	●
Ceiling suspended unit	FXHQ-A			●			●				
4-way blow ceiling suspended unit	FXUQ-A				●		●				
Floor standing unit	FXLQ-P		●	●							
Concealed floor standing unit	FXNQ-A		●	●							

Capacity class (kW)

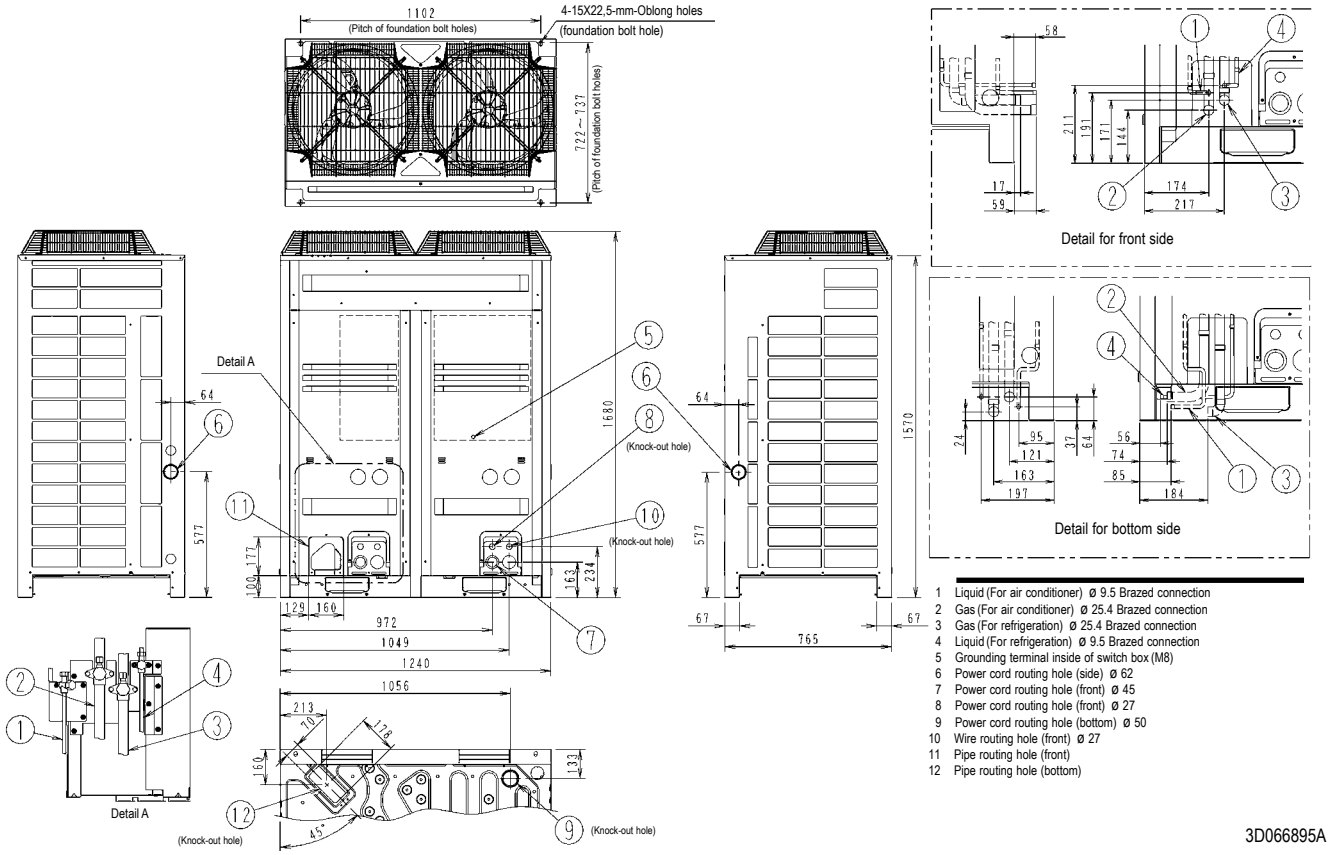
Model	Product Name		80	100	125	140	200	250
Heating capacity (kW)[2]			7,4 - 9,2	11,6 - 13,4	15,6	16,2 - 19,9	29,4	29,4 - 31,1
Biddle air curtain free hanging	CYVS-DK		●	●	●	●	●	●
Biddle air curtain cassette	CYVM-DK		●	●	●	●	●	●
Biddle air curtain recessed	CYVL-DK		●	●	●	●	●	●

[1] Nominal cooling capacities are based on: indoor temperature: 27°CDB / 19°CWB, outdoor temperature: 35°CDB, piping length: 7,5m, level difference: 0m

[2] Nominal heating capacities are based on: indoor temperature: 20°CDB, outdoor temperature: 7°CDB / 6°CWB, piping length: 7,5m, level difference: 0m

Detailed technical drawings

LRYEQ16AY



1 Liquid (For air conditioner) Ø 9.5 Brazed connection
2 Gas (For air conditioner) Ø 25.4 Brazed connection
3 Gas (For refrigeration) Ø 25.4 Brazed connection
4 Liquid (For refrigeration) Ø 9.5 Brazed connection
5 Grounding terminal inside of switch box (M8)
6 Power cord routing hole (side) Ø 62
7 Power cord routing hole (front) Ø 45
8 Power cord routing hole (front) Ø 27
9 Power cord routing hole (bottom) Ø 50
10 Wire routing hole (front) Ø 27
11 Pipe routing hole (front)
12 Pipe routing hole (bottom)

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LRYEQ-AY

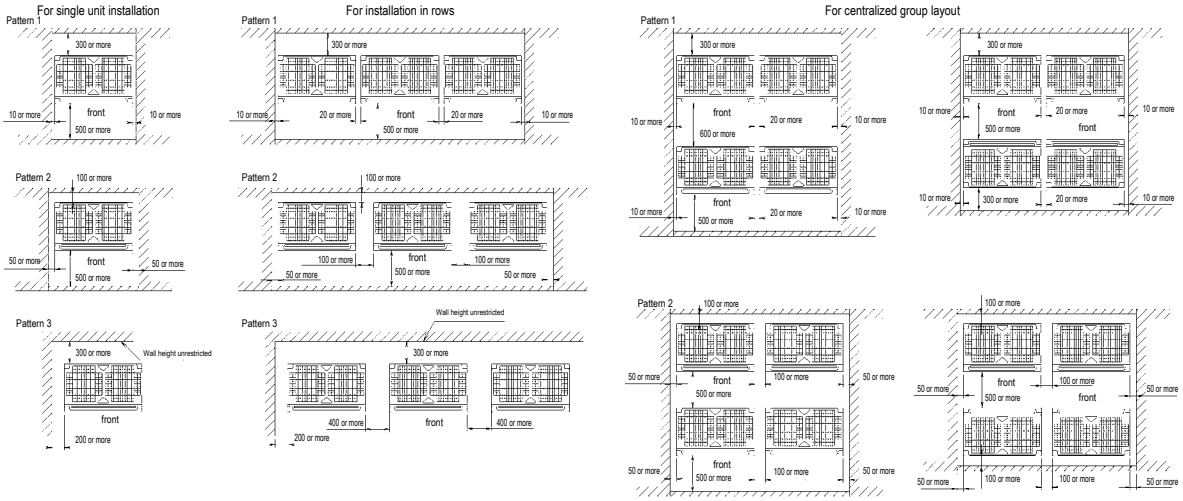
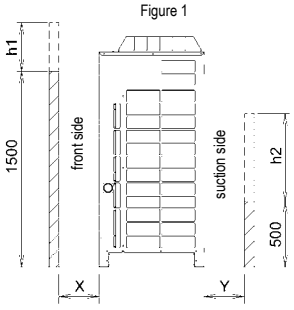


Figure 1

1. Heights of walls in case of patterns 1 and 2:
   Front: 1500
   Suction side: 500mm
   Side: Height unrestricted
   The installation space as shown on this drawing is based on cooling operation at 32°C (outdoor air temperature).
   If the design outdoor air temperature exceeds 32°C degrees, provide a broader suction space than showing on the drawing.
2. If the walls are higher than mentioned above, then additional space is needed.
   Suction side: service space + h2/2
   Front side: service space + h1/2
   See figure 1
3. When installing the units, select the pattern that best fits the available space.
   Always keep in mind to leave sufficient space for a person to pass between unit and wall and for the air to circulate freely.
   If more units are to be installed than are catered for in the above patterns, your layout should take into account of the possibility of short circuits).
4. Provide sufficient space at the front to connect refrigerant piping (comfortably).



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LCBKQ-AV1

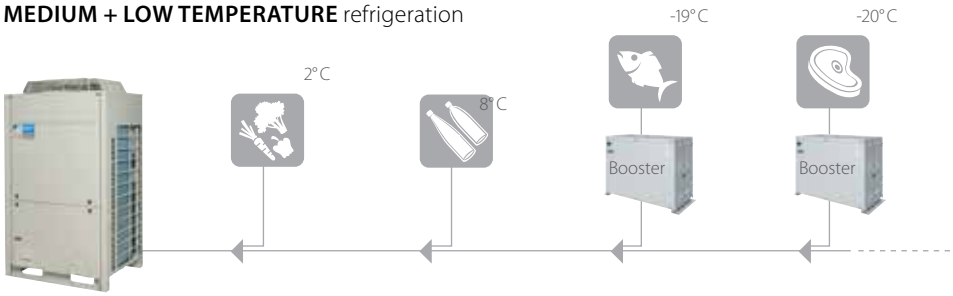
Booster unit

- A booster unit allows to connect freezer showcases / rooms to ZEAS and Conveni-Pack outdoor units
- Reduced piping requirements, from 4 to 2 pipes, compared to a conventional system
- Low sound mode available reducing sound emissions significantly without giving in on Refrigerating capacity

LCBKQ3AV1

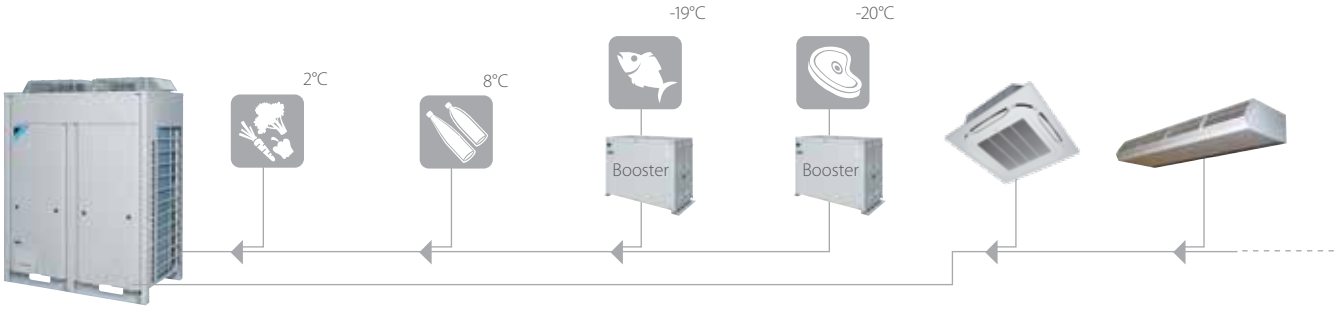
Booster with ZEAS:

MEDIUM + LOW TEMPERATURE refrigeration



Booster with Conveni-Pack:

MEDIUM + LOW TEMPERATURE refrigeration + space air conditioning + Biddle air curtain



Low Temperature Refrigeration				LCBKQ-AV1	3
Refrigerating capacity	Low temperature		Nom.	kW	3,35 (1)
Dimensions	Unit	Height		mm	480
		Width		mm	680
		Depth		mm	310
Weight	Unit			kg	47
Compressor	Type				Hermetically sealed swing compressor
	Piston displacement			m^3/h	10,16
	Number of revolutions			rpm	6.540
	Output			W	1.300
	Starting method				Direct on line (inverter driven)
	Frequency ON/OFF				Less than 6 times/hour
Fan	Type				Propeller fan
	Air flow rate	Cooling	Nom.	m^3/min	1,6
Operation range	Evaporator	Cooling	Min.~Max.	°CDB	-45~-20
	Ambient temperature	Min.~Max.		°C	-15~43
Refrigerant	Type				R-410A
	GWP				2.087,5
	Control				Electronic expansion valve
Piping connections	For outdoor unit	Liquid	OD	mm	6,35
	To indoor unit	Liquid	OD	mm	6,35
	For indoor unit	Gas	OD	mm	15,9
	To outdoor unit	Gas	OD	mm	9,5
Power supply	Phase/Frequency/Voltage			Hz/V	1~/50/220-240

(1) Evaporating temp. -35°C; outdoor temp. 32°C; suction SH 10K; saturated temp. to discharge pressure of booster unit -10°C

Medium temperature with air conditioning

Mini racks

☑ MT + Air conditioning
(with or w/o condenser) — 1+2 (max. 3)

FNB FNV58 1.560 mm	18 kW 27 kW 45 kW

Racks

☑ MT + Air conditioning
(with or w/o condenser) — 2+2 (max. 4)

FCCE 2.120 mm	18 kW 40 kW 52 kW
FCZ 3E FCZ 4E 2.120 mm	18 kW 50 kW 74 kW

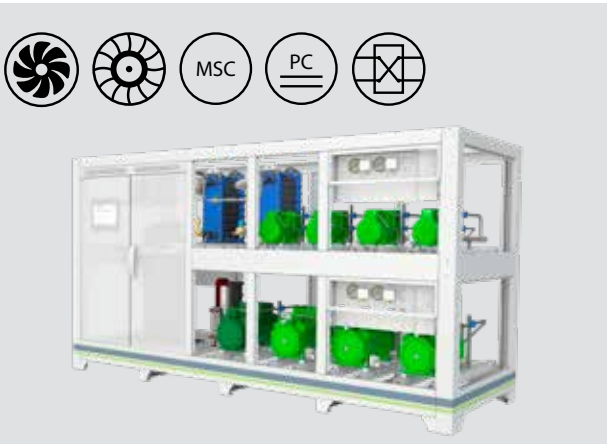
☑ MT + Air conditioning
(with or w/o condenser) — 2+3 (max. 5)

FCZ4F 2.660 mm	36 kW 70 kW 85 kW
FCZ4G FCCG 3.060 mm	36 kW 93 kW 108 kW

Duplex racks

☑ MT + Air conditioning
(with or w/o condenser) — 5+4 (max. 9)

FUJ 4.000 mm	115 kW 230 kW 250 kW



Conditions: LT: Tev.: -35°C SH: 8°K
MT: Tev.: -10°C SH: 8°K
Clime: Tev. med: 5°C SH: 8°K

Low temperature with air conditioning

Racks

☑ MT + LT + Air conditioning
(with or w/o condenser) — 1+2+1 (max. 4)

FCCE
FCZ3E
FCZ4E
2.120 mm

9 kW
30 kW
30 kW
52 kW

9 kW
30 kW
50 kW
74 kW

☑ MT + LT + Air conditioning
(with or w/o condenser) — 1+2+2 (max. 5)

FCZ4F
2.660 mm

FCZ4G
4.000 mm

9 kW
30 kW
60 kW
85 kW

FCCG
3.060 mm

9 kW
30 kW
70 kW
108 kW

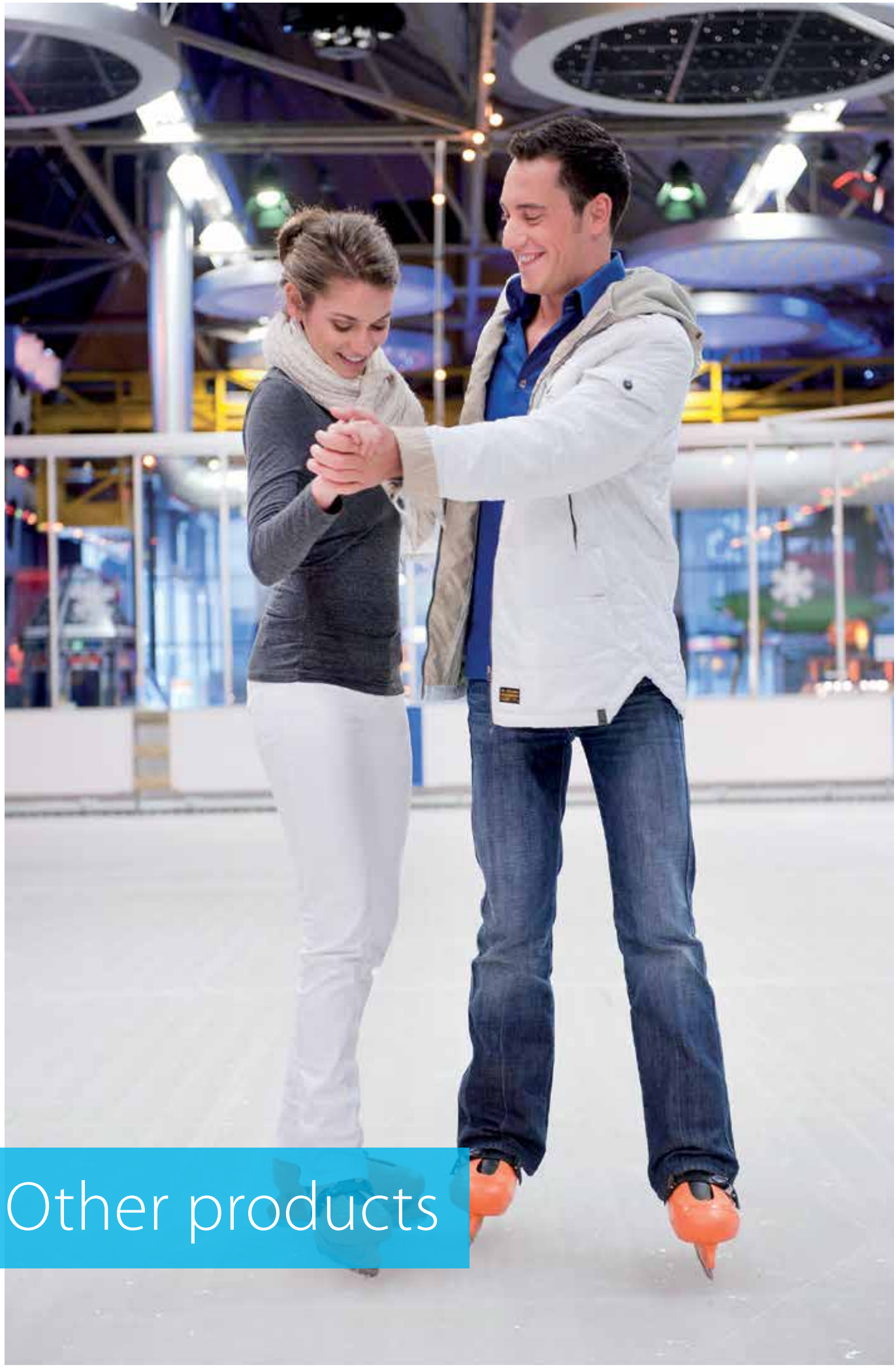
Duplex racks

☑ MT + LT + Air conditioning
(with or w/o condenser) — 2+3+4 (max. 9)

FUJ
4.000 mm

18 kW
100 kW
200 kW
250 kW

LT MT Clime Global — MSC Mechanical subcooler — PC Parallel compressor — Heating interchanger — Axial — Radial



Other products

Evaporators with or without TEV for different operations and refrigerants

General features:

› Capacity for LT/MT cooling: 0,5 to 213 kW
› Ambient/cooling room temperature range: - 40°C - +25°C
› Refrigerants: R134A a, R 449A, R448A, R452A R407F, R 407A
› Fin distance: from 3 mm to 11 mm
› Fin materials: Al
› Tube materials: Cu
› Conditions:
MT: Ambient temperature: 35°C Evp. Temperature: -10°C
LT: Ambient temperature: 35°C Evp. Temperature: -35°C

Options:

› Electric defrost heating
› Hot gas defrost
› Drain pan heating
› Fan ring heater
› High efficient EC fans
› Wiring on terminal box
› Included valves and regulation
› Fin materials AISI 304, AISI 316
› Tube materials AISI 304, AISI 316
› Casing in stainless steel (Inox)

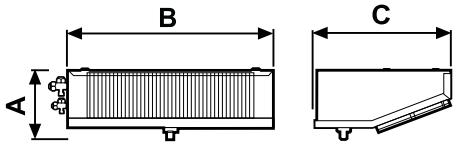
Types:

› flat evaporator
› double flow
› cubic design
› Evaporator only
› Evaporator + EEV/TEV
› Evaporator + EEV/TEV + electronic controller

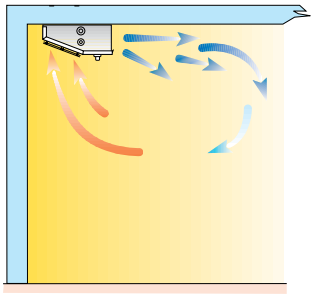
For technical selection, prices, accessories and delivery time please use the Zanotti software and contact our technical department. We are happy to help you.

Dimensions

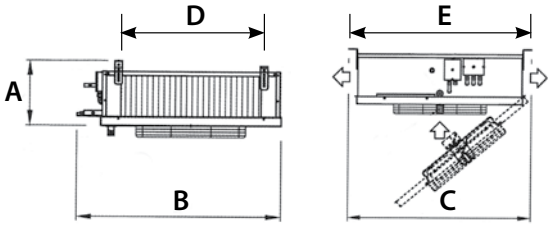
Flat



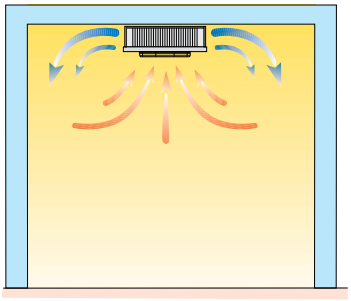
mm	A	B	C
201	215	614	410
202	215	1034	410
203	215	1614	410
232	150	713	455
301	300	910	690
302	300	1530	690
303	300	2150	690
304	300	2770	690
305	300	3390	690



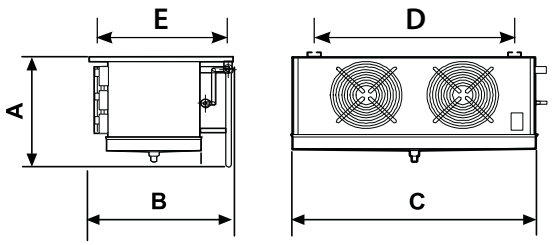
Double flow



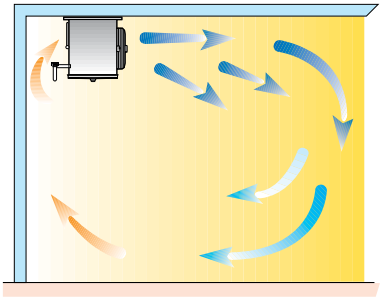
mm	A	B	C	D	E
231	171	579	585	293	600
232	171	889	585	603	600
233	171	1199	585	913	600
234	171	1509	585	1223	600
352	300	1671	995	1214	1065
353	300	2291	995	1834	1065
354	300	2911	995	2454	1065
355	300	3531	995	3074	1065



Cubic



mm	A	B	C	D	E
301	420	480	789	495	345
302	420	480	1254	960	345
303	420	480	1719	1425	345
HEU351	545	690	805	605	540
HEU352	530	690	1220	965	540
HEU353	600	690	1690	1370	540
HEU403	620	700	1840	1520	545
HEU502	844	992	1829	1526	740
SKC352	490	606	1614	1270	450
SKC353	490	606	2234	1890	450
SKC452	610	650	2032	1680	510
SKC503	800	830	3350	2760	675



Other Monoblocks

Model	Refrigerant		Capacity range
Small- Monoblock for wall mounting AS-R	Standard refrigerant: MT: R134a, LT: R452A Other refrigerants possible upon request		0° 0,43 to 7,4 kW -20° 0,75 to 7,4 kW P 1,5 to 7,4 kW
Large- Monoblock for wall mounting RS	Standard refrigerant: MT: R134a, LT: R452A Other refrigerants possible upon request		0° 0,75 to 22 kW -20° 1,5 to 37 kW
Large- Monoblock for shock freezing PRS • CBX	Direct mounting trough the wall Standard refrigerant: MT: R134a, LT: R452A Other refrigerants possible upon request		-40° 5,5 to 18,5 kW P 1,5 to 7,4 kW
Open frame condensing units with Bitzer semi hermetic compressor ZH	Standard refrigerants: R134a, R407H, R449A Other refrigerants upon request Semi hermetic Bitzer compressor Liquid receiver with safety pressure relief valve for PED units Many different options and accessories available upon request.		-10° 2,3 kW to 44 kW -30° 1,5 kW to 31,5 kW
Large- Monoblock for shock freezing CBX • PBX	Duct connection Standard refrigerant: MT: R134a, LT: R452A Other refrigerants possible upon request		-40° 22 to 55 kW P 22 to 55 kW

C° capacity on evaporation temp. P power input

For technical selection, prices, accessories and delivery time please use the Zanotti software and contact our technical department. We are happy to help you.

Other Bi-blocks

Model	Refrigerant		Capacity range
Small- Bi-Block with cubic evaporator DBS	MT: R134a, LT: R452A, R407F Other refrigerants possible upon request		0° 0,4 to 7,4 kW -20° 0,7 to 11 kW
Middle- Bi-Block with cubic evaporator DBD	MT: R134a, LT: R452A, R407F Other refrigerants possible upon request		0° 0,75 to 30 kW -20° 1,1 to 44,5 kW
Middle- Bi-Block with cubic evaporator CDB • PDB	MT: R134a, LT: R452A, R407F Other refrigerants possible upon request		-40° 5,5 to 56 kW P 2,2 to 60 kW

C° capacity on evaporation temp. P power input

For technical selection, prices, accessories and delivery time please use the Zanotti software and contact our technical department. We are happy to help you.

Other

Model	Refrigerant		Capacity range
Small Mono and Bi-Block seasoning conditioner unit for meat and cheeses maturity process SAS	Standard Refrigerant: MT: R134a Other refrigerants possible upon request		+12° 0,7 to 5,5 kW
Large mobile grain process and seasoning conditioner DUK	R404A - R407F		0° 7,5 to 37 kW
Water Chiller ZC	Standard Refrigerant: MT: R134a, R449A		-5° 19,4 to 197 kW -10° 16,3 to 165,2 kW -15° 13,3 to 86 kW -20° 10,6 to 69,1 kW
Large Mono and Bi-Block seasoning conditioner unit for meat and cheeses maturity process UAV	Standard Refrigerant: MT: R134a Other refrigerants possible upon request	 	+12° 1,5 to 36,8 kW

C° capacity on evaporation temp.

For technical selection, prices, accessories and delivery time please use the Zanotti software and contact our technical department. We are happy to help you.

Other Products

Transport refrigeration

Zanotti and Hubbard offer various systems for the refrigerated transport of fresh and frozen foods in small and medium sized vehicles.

For refrigerated transport with large vehicles Zanotti manufactures monoblock and panel-mounted diesel units (Un0° series).

Industrial range

Zanotti's core business in the industrial sector includes large cooling systems for logistics centers and cold storage solutions in the food, catering and petrochemical industries.

Many sports and leisure facilities, such as ice skating rinks or indoor winter sports halls use Zanotti freezing technology.

F-Gas Regulation

For fully/partially charged equipment: contains fluorinated greenhouse gases. Actual refrigerant charge depends on the final unit construction, details can be found on the unit labels.

For non pre-charged equipment (LCBKQ-AV1, JEHCCU/JEHSCU): Its functioning relies on fluorinated greenhouse gases.

Hubbard

Products

Hubbard Products has an enviable global reputation for innovation and excellence in refrigeration design, refrigeration engineering and refrigeration solutions for static and transport refrigeration requirements.

Hubbard serves the cool chain supply sector offering a wide range of direct drive, alternator drive, Diesel drive and stand alone electrical units for panel vans, box body vehicles and truck and trailer combinations.

Hubbard Products Ltd., is one of the UK's leading designers, manufacturers and suppliers of energy-efficient commercial cooling equipment and has earned a Global reputation for innovation and design-led excellence.

- Cellar Cooling
- Convenience and Retail Cooling
- Multi Compressor Packs
- Cold Room Units
- Heat Recovery Systems
- Transport Refrigeration
- Low GWP, natural refrigeration systems

Made to Order

Made to Order

We build units according to customer requirements.

Our refrigeration experts are able to give the best advice, personalised to each situation.

We can provide complete solutions, entirely tailored to the customer needs.

Contact us to find the best solution for your business.

Please contact the refrigeration department at Daikin Europe (refrigeration@bxl.daikineurope.com) or your local refrigeration product manager.

Options

Options

for ZEAS and Conveni-Pack

		Conveni-Pack	ZEAS						Multi-ZEAS	
		LRYEQ16AY	LREQ5BY1	LREQ6BY1	LREQ8BY1	LREQ10BY1	LREQ12BY1	LREQ15BY1	LREQ20BY1	LREQ15BY1Rx2	LREQ20BY1Rx2
SEE NEXT PAGE	Digital pressure gauge kit	BHGP26A1									
Pressure gauge kit		-	KHGP26B140								
Snowbreak hood*	(a+b+c+d) kit	KPS26C504	KPS26C160		KPS26C280			KPS26C504			
	a. Air outlet	KPS26C504T	KPS26C160T		KPS26C280T			KPS26C504T			
	b. Air inlet (left)	KPS26C504L	KPS26C504L								
	c. Air inlet (right)	KPS26C504R	KPS26C504R								
	d. Air inlet (rear)	KPS26C504B	KPS26C160B		KPS26C280B			KPS26C504B			
Central drain pan kit		KWC26C450**	KWC26C160		KPS26C280			KPS26C450		KPS26C450*** x2	
SEE NEXT PAGE	Modbus communication kit	BRR9A1V1								BRR9A1V1****	
Booster unit		LCBKQ3AV19								-	
Suction branch pipe for multi		-	-							EKHRQZM*****	
Refnet header		KHRQM22M29H8									
		KHRQ22M64H8									
		KHRQM22M75H8									
Refnet joint		KHRQ22M20TA8									
		KHRQ22M29T9									
		KHRQ22M64T8									
		KHRQ22M75T8									
intelligent touch Controller		DSC601C51	-								
intelligent touch Manager		DCM601A51	-								

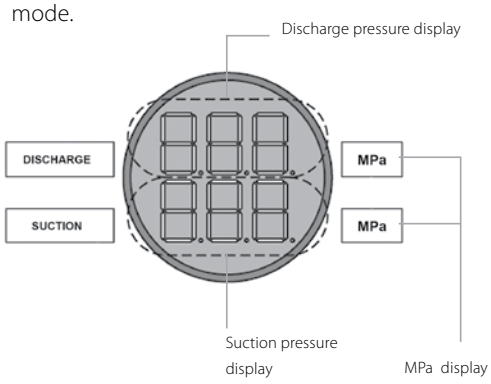
* Snowbreak hoods are field-supplied. For technical drawings and more information, contact your dealer. It is recommended to install a snowbreak hood when regular snowfall occurs.
** In cold areas, provide a drain pan heater (field supply) to prevent drained water from freezing up in the drain pan *** required for each module
**** software update required (to be executed during commissioning) ***** mandatory

Digital pressure gauge kit

BHGP26A1

The digital measurement display allows you to diagnose a unit at a glance and it can be used with all ZEAS units and Conveni-Pack systems.

› Digital measurement display for fixed installation or service applications.
› Displays high and low pressure.
› Displays error codes in the event of a fault.
› Displays up to 32 operating parameters.
› Displays error code history (last three).
› Scrolls and stores output values.
› Automatically returns to normal operating display mode.



BHGP26A1

Modbus communication kit

BRR9A1V1

The Daikin Modbus Communication Interface lets you fully integrate Daikin ZEAS and Daikin Conveni-Pack systems with building control automation networks and other monitoring systems.

The interface allows you to read all the operational parameters and control important values using the Modbus protocol. This unifying component transforms ZEAS and Conveni-Pack into a transparent, customisable refrigeration unit and means that you can create object-specific and energy-optimised shop concepts, including remote monitoring application.

Pro interfaces can be used to connect up to 32 ZEAS units, and are also suitable for use with Conveni-Pack systems and the Booster.

Control values

› Target evaporation temperature
› Low pressure level for on and off points
› Forced stop
› Error messages can be cancelled remotely

BRR9AV1

Display values

› Model information and operating status
› Refrigerant operating pressure and temperatures
› Electrical operating data and temperatures for components
› Target values
› Fan stage and compressor frequency, operating hours
› Warning and error messages as well as system safety functions

Options

Zanotti Uniblock

			GM	SB	AS		
					Standard	Transport coldroom	Container
Options which need to be ordered with the unit	Winter kit 1: Condenser fan pressure switch + Crankcase heater + Double defrost solenoid valve	PRS VNT + RES CAR + SOL SBR	•	•			
	Winter kit 2: Condenser fan speed regulator with temperature control+ Double defrost solenoid valve	VVE TER + RES CAR + SOL SBR	•	• (Std on 235)	•	Std on 135	Std on 121, 123, 221, 135
	Winter kit 3: Condenser fan speed regulator with pressure control + Crankcase heater + Double defrost solenoid valve	VVE PRS + RES CAR + SOL SBR	•	•	Std	Std on 235, 335, 340	Std on 235, 335, 340
	Winter kit 4: BEST COP condenser fan speed regulator + Crankcase heater + Double defrost solenoid valve	VVEBCO + RES CAR + SOL SBR	•	•	•	•	•
	Simple low noise housing	INS SEM	•				
	Evaporator cataphoresis treatment	FRS EVP	•	•	•	•	•
	Condensor cataphoresis treatment	FRS CND	•	•	•	•	•
	Zanotti remote control panel with 5 m cable	PAN SNG	•				
	Watercooled condenser	CON ACQ	•	•	•	•	•
	Voltage monitor	MON TEN	•	•	•	•	•
	Phase sequence control	CTR FAS				Only for scroll	
	3 m cable for door heater (for MT only, standard for LT)	RES POR	•	•	•	•	•
	Remote control panel for 2-3-4 units	PAN MUL	•		•		Only for 235, 335, 340
	Audible and visual alarm	ALR SNV	•		•		Only for 235, 335, 340
	Prearrangement for supervising system	KIT SUP	•	•	•	•	•
	Kit long distance (more than 10 meters)	KIT DIS	•				
Option where afterwards installation is possible	Kit for through wall construction	KIT PAN	•	Std	Std	Std	Std

Zanotti Bi-block

			GS	SPO	DBO
Options which need to be ordered with the unit	Simple low noise housing	FRS CND	•		
	Condensate drain electrical heater	RES SCC	X (Std LT)	X (Std LT)	X (Std LT)
	Evaporator cataphoresis treatment	FRS EVP	•	•	•
	Condensor cataphoresis treatment	FRS CND	•	•	•
	Water-cooled condenser	CON ACQ	•	•	•
	Voltage monitor	MON TEN	•	•	•
	3 m micro-switch door cable	MIC POR	•	•	•
	1 m cold room lightning cable	CAV LCE			•
	3 m cable for door heater	RES POR	•	•	•
	Remote control panel for 2-3-4 units	PAN MUL	•	•	•
	Audible and visual alarm	ALR SNV	•	•	•
	Prearrangement for supervising system	KIT SUP	•	•	•
	Kit long distance (more than 10 meters)	KIT DIS	•		
	cold room lamp	KIT LCE	•	•	•

Zanotti Wineblock

			RCV	RDV
Options (Mandatory to be ordered with the unit)	Winter kit 1: Condenser fan pressure switch + Crankcase heater	PRS VNT + RES CAR	•	
	Winter kit 3: Condenser fan speed regulator with pressure control + Crankcase heater	VVE PRS + RES CAR	•	•
	Winterkit 4: BEST COP condenser fan speed regulator + Crankcase heater	VVEBCO + RES CAR	•	•
	Evaporator cataphoresis treatment	FRS EVP	•	•
	Condensor cataphoresis treatment	FRS CND	•	•
	Watercooled condenser	CON ACQ	•	•
	Voltage monitor	MON TEN	•	•
Options (Installation afterwards possible)	Prearrangement for supervising system	KIT SUP	•	•

Zanotti condensing units

		Condensing unit for outdoor installation		Twin condensing unit for outdoor installation with twin-semi hermetic compressors
		with hermetic compressors	with semi hermetic compressors	
RES CAR	Crankcase heater	•	•	•
PRO TRM	Thermal overload protection	•	•	•
VVE BCO	BESTCOP Condenser fan speed controller	•	•	•
VVE PRS	Pressure condenser fan speed controller	•	•	•
VVE TER	Temperature condenser fan speed controller	•	•	•
PRS LPF	LP switch (fixed calibration)	•	•	•
SEP ASP	Suction liquid separator	•	•	•
SEP OIL	Oil separator	•	•	•
VEN RAD	Radial type condenser fans	•	•	•
REG POT	Compressors capacity controller	•	•	•
SOL LIQ	Liquid line solenoid valve	•	•	•
CON ACQ	Watercooled condensation	•	•	•
VLT DIF	Different voltage	•		
FRS CND	Anti-corrosion protection on condenser coil	•	•	•
FRS EVP	Anti-corrosion protection on evaporator coil	•	•	•
IMB FUM	Fumigation according to ISPM15	•	•	•
PRS VNT	Condenser fan pressure switch	•	•	•
PRS HPR	HP switch with auto reset	•	•	•
MON TEN	Voltage monitor	•	•	•
INS SEM	Simple low noise housing	•	•	•
INS DOP	Enhanced low noise housing	•	•	•
QUA ELE	Power control box with magneto thermic switches	•	•	•
RES CAR	Crankcase heater	•	•	•
FQD	Frequency driver		•	•

		Multi compressor condensing unit	
		with scroll/digital scroll compressors	with semi hermectic compressors
INSRD	Closed frame with double layer sound proofing material	•	•
AC&R	Mechanical oil equalization system with oil reserve, oil line filter, pressure reduction valve onto oil reserve	•	•
TRAXOIL	Electronic oil distribution system	•	•
RIC.LIQ.	Oversized liquid receiver	•	•
CFF	Compressors sound shell	•	•
ELC.C	Electronic card EWCM4180 - XC1000D - EWCM9100	•	•

Ice bar

Cabinet cooling

Supermarket

Multi ZEAS
condensing units

Cold storage

Notes

Notes

KEEP COOL, SAVE MONEY

Daikin refrigeration products are designed to reduce environmental impact. That's why Daikin ZEAS and Conveni-Pack already comply with the latest F-gas regulation. This secures your investments and enables you to plan ahead for long-term projects, already complying with all the regulations.

Daikin Europe N.V. Naamloze Vennootschap Zandvoordestraat 300 · 8400 Oostende · Belgium · www.daikin.eu · BE 0412 120 336 · RPR Oostende (Publisher)

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