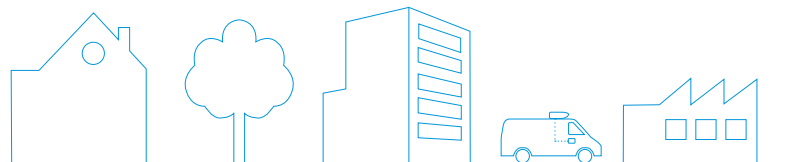


Refrigeration throughout the whole supply chain





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 units are rigorously tested in order to provide you reliable operation.

With the acquisition of the Zanotti, Tewis and AHT groups, we expand our refrigeration business providing a larger and more diverse product line for all aspects in the cold chain.

Refrigeration

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Any refrigeration system that contains fluorinated greenhouse gases is in scope of the F-gas regulations.

For fully/partially pre-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 (including, but not limited to racks): its functioning relies on fluorinated greenhouse gases.

The F-gas regulations do not apply to systems that contain only natural refrigerants such as propane (R-290) and carbon dioxide (R-744).

Refrigerant	GWP AR4	GWP AR5
R-134A	1,430	1,300
R-407C	1,774	1,620
R-407F	1,825	1,670
R-407H	1,490	1,380
R-410A	2,088	1,920
R-448A	1,387	1,270
R-449A	1,397	1,280
R-452A	2,141	1,945
R-290	3	3
R-744	1	1



Inverter technology



Scroll compressor



Screw compressor



Reciprocating compressor



Swing compressor

For latest data, please consult my.daikin.eu

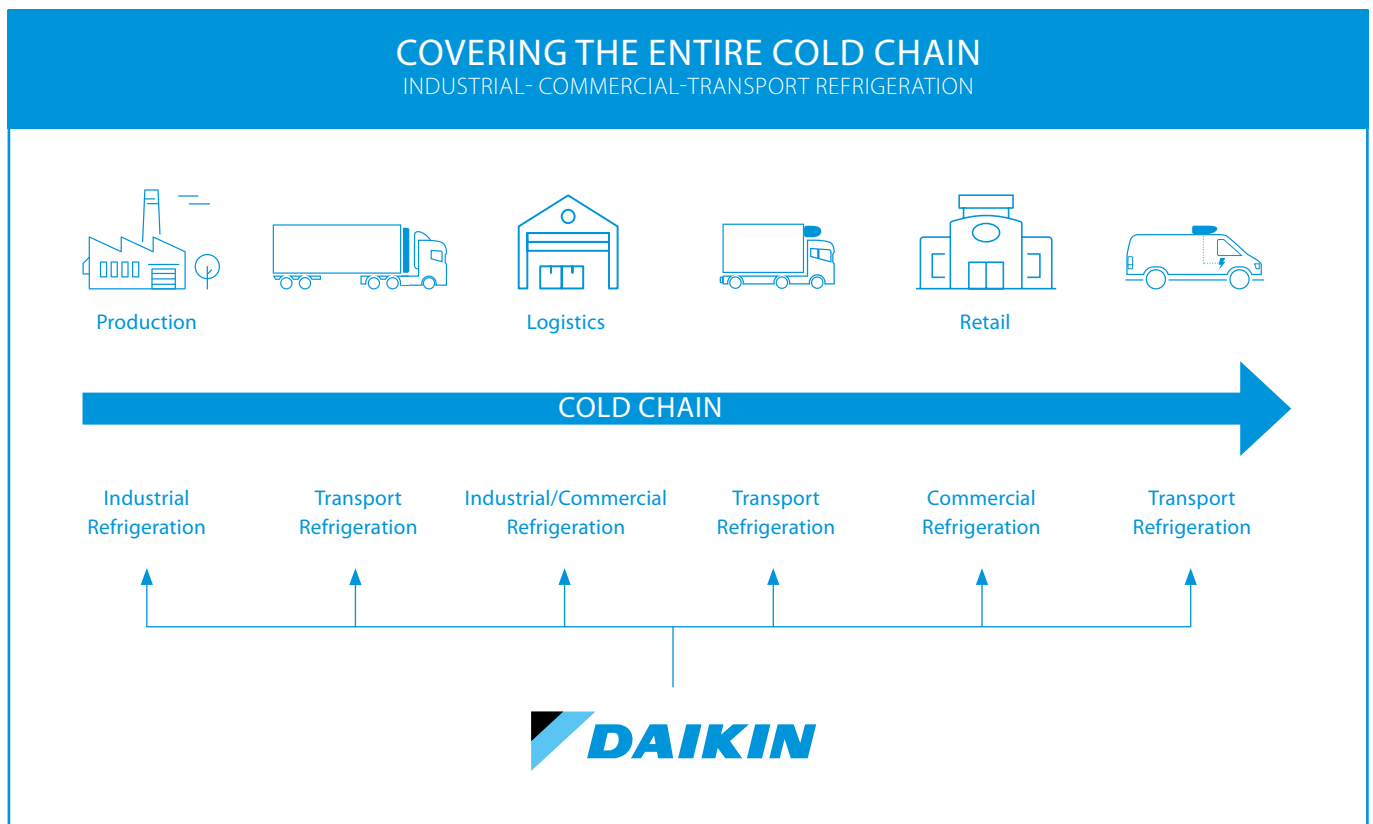
Cold Chain Expertise

From production to delivery

Reshaping the future of cold chain supply

Combining refrigeration expertise with innovative technology, Daikin's comprehensive product portfolio delivers integrated temperature control solutions that improve quality and safety through every link in the distribution process from point of origin to the final consumer. Our range of products and services provide the flexibility to meet diverse customer needs across a range of applications, during production, storage, retail and transit. Energy-efficient technologies with low-GWP refrigerants provide reliable and cost-effective operation, safeguarding perishable supplies, whatever the climate, while protecting the environment.

We will leverage our strengths **to cover the entire cold chain.**



Vision 2050

Daikin Environmental Policy

Adopted in 2015, the Paris Agreement contains a target for the latter half of this century of reducing greenhouse gas emissions to net zero and limiting global warming by less than 2°C compared to pre-industrial levels. In the spirit of the Paris Agreement, Daikin has formulated Environmental Vision 2050, with a target of reducing greenhouse gas emissions to net zero by 2050. We have established a reduction target for 2030 and incorporated this into our efforts under the Fusion 25 Strategic Management Plan.

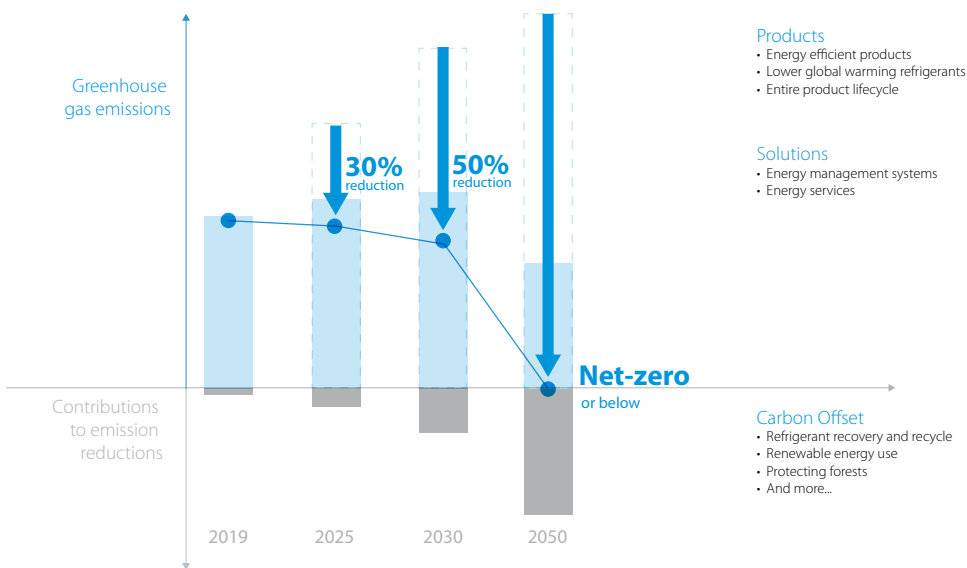
Our Vision 2050

We will reduce the greenhouse gas emissions generated throughout the entire lifecycle of our products by 2050. Furthermore, we are committed to creating solutions that link society and customers as we work with stakeholders to reduce greenhouse gas emissions to net zero. Using IoT and AI, and open innovation attempts, we will meet the world's needs for air solutions by providing safe and healthy air environments while at the same time contributing to solving global environmental problems.

Refrigeration Medium-Term Outlook

In our Cold Chain business, we are moving towards low-GWP and HFC-free natural refrigerants, while ensuring the correct safety standards are established in our markets. We maintain continuous focus on reducing the energy consumption of all our products. In the Transport Refrigeration industry, we will strive to lead the shift towards electrification and phase-down the reliance on combustion engine technologies.

Net-zero product lifecycle





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

POST HARVEST PROCESSING

FOOD PROCESSING

WAREHOUSING

FOOD RETAIL

RESTAURANTS/PUBS

HOME DELIVERY SOLUTIONS

PHARMA SOLUTIONS

Truck - Transport ref **LONG** Distances

Light truck - Transport ref **MEDIUM** Distances

Van - Transport ref **SHORT** Distances

We can meet all refrigeration needs from farm to fork

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

FOOD RETAIL

EVENT SPACES

COLD STORAGE

CATERING

CHILLED TRANSPORT

HOTELS

ICE SKATING RINKS

CLEANROOMS/HOSPITALS

BREWERY

BAR

FISHERY

SEASONING (CHEESE/MEAT)

BUTCHERS

RESTAURANTS

INDUSTRY

...

We can fulfill any refrigeration need

Daikin Refrigeration – United in cold



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 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.



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.



AHT develops, manufactures and sells refrigerating and freezing showcases specifically suited for food retailers. Leading the "plug-in" type showcases segment, AHT leads the market by the active launch of new products corresponding to evolving store layouts. Furthermore, utilizing its technological capabilities and business resources, AHT serves large accounts which include major food retail chains worldwide.



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 CO₂ 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.



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.

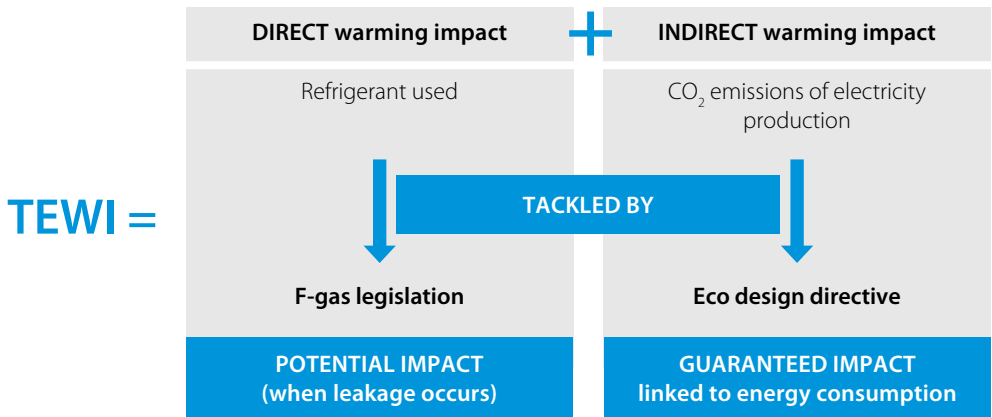


Meeting customer needs!

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)



Reduction of CO₂ 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 CO₂ emissions caused by electricity production (Indirect warming impact). Country per country situation is different, however on average in Europe CO₂ 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!





E. LECLERC, HYPERMARKET
ZEAS



BEER COOLING FACILITY,
CHILLED WITH ZEAS



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





Plug and Play solutions for cold rooms and wine rooms

Zanotti

Touch control

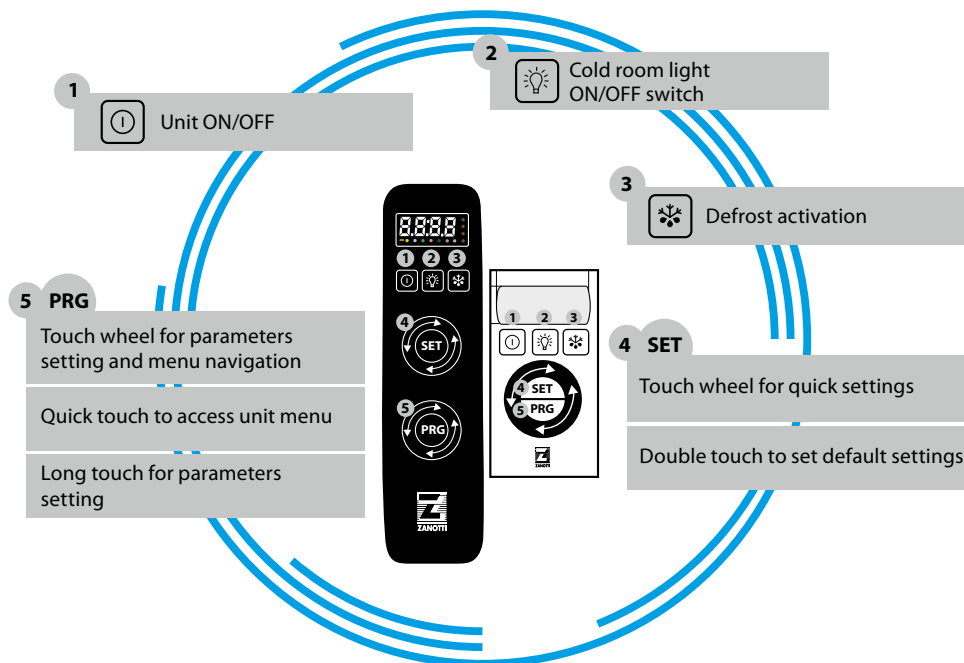
Zanotti presents the new "Touch Screen" control panel for GM monobloc units and GS split units. This new one User interface consists of keypad and display and allows easy access to all manual functions of the units.



GM Monoblock Unit

GS Split Unit

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 it is necessary to install 2 units in the same cold room, so that they can always be working in alternate hours - when one is off, the other unit is working.

› If an aggregate in full function gets blocked, the second aggregate starts automatically. When the temperature for remote controls with thermostat is not achieved for a certain period of time (product feed, open cell door for longer period of time,...), the unit changes into the standby function.

- › Remote control for two aggregates. Adjustable timer for alternate operation.
- › In case of device failure of one the refrigeration units, the control can be switched on the other unit nearby. Alarm message through Lamp and buzzer.
- › Thermostat for Safety at high Temperatures in the cold room (only with models with Thermostat).

For customized options, please contact your sales representative.

Inverter Monoblock for Refrigeration | Model B

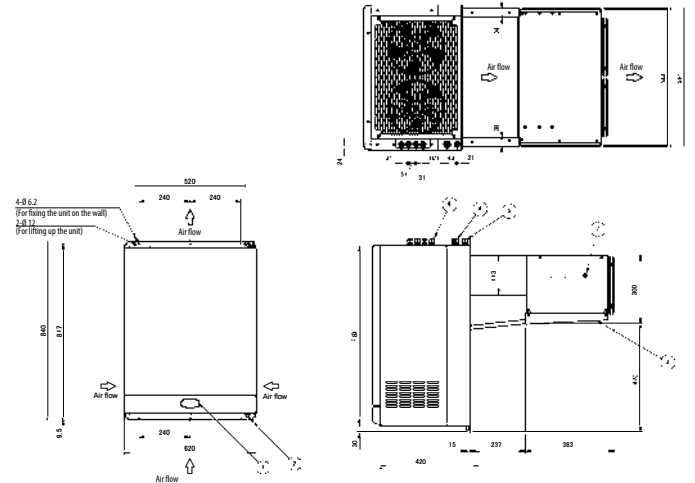
Standard equipment

- › Inverter driven hermetic reciprocating compressor
 - › 50/60 Hz power supply
 - › CE certified
 - › Microchannel condenser
 - › Filter dryer
 - › Condenser fan ON/OFF controlled by temperature probe
 - › Electronic thermal expansion valve
 - › Condensate evaporation tray
 - › Hot gas defrost
 - › Propane refrigerant charge (each circuit) => 130gr
 - › Electronic control board
 - › Electrical switchboard with protection fuses
 - › Fixed calibration HP switch with automatic reset
 - › Automatic elimination of condensation water
-
- › 5 m cable for power supply
 - › 2 m cold room lighting cable (Light bulb and bulb as option)
 - › 5 m micro-switch door cable (Microswitch as option)
 - › 5 m cable for door heater



More details and final information can be found by scanning or clicking the QR codes.

LMSEY



		LMSEY2A-AYE01	LMSEY2A19AYE01	LMSEY2A25AYE01
Dimensions of the unit	Height	mm		780
	Depth	mm		1,040
	Width	mm		620
Dimensions of the packaged unit	Height	mm		1,030
	Depth	mm		1,120
	Width	mm		720
Weight of the unit	Weight	kg		83.5
Weight of the packaged unit	Weight	kg		107.5
Characteristics of the hole where to accommodate the units (through the wall installation)	Height	mm		335
	Width	mm		595
Characteristics of the holes where to accommodate the units (straddle installation)	Height	mm		177
	Width	mm		43
Refrigerant	Type			R290
	GWP			3
N° of circuits	Charge per circuit	kg		2
Refrigerant	Voltage/phase/frequency	V/ph/Hz		0.13
Power supply				400/3/50-60
Voltage range (Min/Max)		V		360V/440V
Rated input power		W	1,765 (MT) / 1,208 (LT)	2,275 (MT) / 1,563 (LT)
Rated input current		A	4,645 (MT) / 3,179 (LT)	5,987 (MT) / 4,113 (LT)
MCA (Max Current Amps)		A	11.3	14.6
MFA (Max Fuse Amps)		A		25
TOCA (Total overcurrent Amps)		A		18.5
Compressor	Type	m³/h	Hermetic reciprocating inverter driven	
Air flow rate condenser (1)		m³/h		939
Air flow rate evaporator (1)				1,114
Air throw evaporator (2)		m		9.6
PED category				1
IP category				20
Defrost	Type			Hot gas
Operating sound pressure (3)		dB(A)		43.9
Operation range ambient temp.	Min	°C		5
	Max	°C		45
Operation range cold room temp.	Min	°C		-25
	Max	°C		10

(1) According to EN ISO 5801 | (2) According to CECOMAF GT 6-001 (final velocity = 0.25 m/s) | (3) According to UNI EN ISO 3746

Monoblock units suitable for container

Main Characteristics

- › Hermetic compressor
- › Outdoor installation frame
- › Power supply 220-230/1N~/50 or 380-400/3N~/50
- › Ari + Axial fan
- › Condenser fan pressure switch (frame 1, 2, 3 only)
- › Condenser fan pressure controlled fan speed regulator (frame 4, 5, 6 only)
- › Prearrangement for supervision system (frame 4, 5, 6 only)
- › Voltage monitor (frame 4, 5, 6 only)
- › Filter dryer on liquid line
- › Four-pole condenser fan
- › Expansion through capillary tube (expansion valve only in dual-temperature units)
- › Separator/accumulator on suction line
- › Condensate water evaporation drip tray
- › Hot gas defrost
- › Refrigerant charge
- › Electronic controller
- › Switchboard with protection fuses
- › Condenser fan pressure switch
- › Adjustable Lp switch with automatic reset
- › Adjustable Hp switch with automatic reset
- › 100mm insulated panel for wall mounting
- › Crankcase heater
- › Double defrost solenoid valve
- › External power supply plug
- › 1m cold room lighting cable
- › 3m door micro-switch cable
- › Cataphoresis for condenser coil
- › Cataphoresis for evaporator coil



Cooling capacity calculation conditions

Medium temperature units: [TC=0°C | TA=30°C]

Low temperature units: [TC=-20°C | TA=30°C]

Dual-temperature units: [TC=-20°C | TA=30°C]

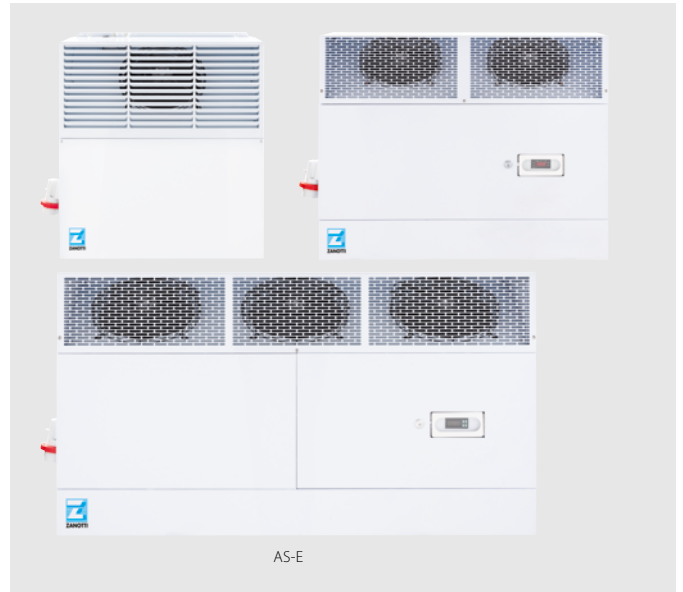
	Medium temperature units								Low temperature units		
	MAS106EA23XH	MAS107EA23XH	MAS211EA23XH	MAS320EB23XH	MAS430EB24TH	MAS535EB24TH	MAS545EB24TH	MAS660EB24TH	BAS110DA23XH	BAS112DA23XH	BAS117DA23XH
Refrigerant	R134a								R452A		
Power supply V/Ph~/Hz	220-230/1N~/50				380-400/3N~/50				230/1N~/50		
HP compressor	3/4	1	1.2	3.5	5	6.5	8.5	10	1	1.2	1.7
Defrost	Hot gas										
PED category	0			1		2			0		
Working temperature °C	+10 ÷ -5								-15 ÷ -25		
Cooling capacity Watt	1,140	1,422	1,816	3,492	4,981	6,988	8,290	10,424	662	905	1,164

	Low temperature units						Dual-temperature units					
	BAS218DA23XH	BAS320DB23XH	BAS330DB23XH	BAS445DB24TH	BAS450DB24TH	BAS560DB24TH	BAS680DB24TH	PAS330DB23XH	PAS450DB24TH	PAS565DB24TH	PAS695DB24TH	
Refrigerant	R452A											
Power supply V/Ph~/Hz	230/1N~/50		400/3N~/50									
HP compressor	1.7	2	3	4	5	7.5	10	3	5	7.5	10	
Defrost	Hot gas											
PED category	0	0	0	2			0			2		
Working temperature °C	-15 ÷ -25						+10 ÷ -5 -15 ÷ -25					
Cooling capacity Watt	1,436	2,384	2,581	3,628	4,541	6,689	8,663	2,581	4,541	6,689	8,663	

Monoblock units suitable for products storage in mobile cold rooms

Main Characteristics

- › Scroll compressor
- › Outdoor installation frame
- › Power supply 380-400/3N~/50
- › Air + Axial fan
- › Condenser fan pressure switch (frame 3 only)
- › Condenser fan pressure controlled fan speed regulator (frame 4, 5, 6 only)
- › Prearrangement for supervision system
- › Voltage monitor
- › Filter dryer on liquid line
- › Four-pole condenser fan
- › Expansion through capillary tube (expansion valve only in dual-temperature units)
- › Separator/accumulator on suction line
- › Condensate water evaporation drip tray
- › Hot gas defrost
- › Refrigerant charge
- › Electronic controller
- › Switchboard with protection fuses
- › Condenser fan pressure switch
- › Adjustable Lp switch with automatic reset
- › Adjustable Hp switch with automatic reset
- › 100mm insulated panel for wall mounting
- › Crankcase heater
- › Double defrost solenoid valve (from model 430 for MT / from model 450 for BT)
- › External power supply plug
- › 1m cold room lighting cable
- › 3m door micro-switch cable
- › Cataphoresis for condenser coil
- › Cataphoresis for evaporator coil



AS-E

Cooling capacity calculation conditions

Medium temperature units: [TC=0°C | TA=30°C]

Low temperature units: [TC=-20°C | TA=30°C]

Dual-temperature units: [TC=-20°C | TA=30°C]

		Medium temperature units									
		MAS320EB23TE	MAS430EB24TE	MAS535EB24TE	MAS545EB24TE	MAS660EB24TE	MAS320BB23TE	MAS430BB24TE	MAS535BB24TE	MAS545BB24TE	MAS660BB24TE
Refrigerant		R134a					R449A				
Supply voltage	V/Ph~/Hz	380-400/3N~/50									
HP compressor		4	6	7	9	10	2.3	3.5	4	6	7.5
Defrost		Hot gas									
PED category		1				2		1			2
Working temperature	°C	+10 ÷ -5									
Cooling capacity	Watt	3,770	5,942	7,462	9,007	12,084	3,561	5,606	6,853	9,325	11,011
		Low temperature units					Dual-temperature units				
		BAS330BB23TE	BAS450BB24TE	BAS555BB24TE	BAS560BB24TE	BAS680BB24TE	PAS330BB23TE	PAS450BB24TE	PAS565BB24TE	PAS695BB24TE	
Refrigerant		R449A									
Supply voltage	V/Ph~/Hz	380-400/3N~/50									
HP compressor		3.5	5	6	7.5	10	3.5	5	7.5	10	
Defrost		Hot gas									
PED category		1			2		1			2	
Working temperature	°C	-15 ÷ -25					+10 ÷ -5 -15 ÷ -25				
Cooling capacity	Watt	2,753	4,100	5,100	6,233	8,127	2,753	4,100	6,233	8,127	

Monoblock units suitable for medium-large size cold rooms and freezing tunnels

Extreme versatility of use, suitable for freezing tunnels

The RS series models are monoblock units characterized by extreme versatility of use, ideal for medium-large rooms.

- › Extreme versatility of use, low-medium temperatures, polyvalent temperatures and freezing tunnels
- › Suitable for different types of applications
- › Compact and highly resistant to any environmental condition
- › Solenoid valve and thermostatic valve for high efficiency
- › Control panel with electromechanical instrumentation for controlling all the functionalities of the machine



Medium temperature units	MRS150TEB23GXX	MRS245NEB23GXX	MRS245TEB23GXX	MRS250NEB23GXX	MRS250TEB23GXX	MRS251TEB23GXX	MRS351NEB23GXX	MRS351TEB23GXX	
Refrigerant	R134a/R449A								
Power supply	V/Ph~/Hz 380-400/3N~/50								
Compressor type	Semi-hermetic								
HP compressor	5		12		15		25	30	
Defrost	Hot gas								
PED category	2								
Working temperature	°C +10 ÷ -5								
Cooling capacity [TC=0°C TA=30°C]	9,164	12,657	16,096	20,284	24,165	28,414	35,852	40,837	
Medium temperature units	MRS150TBB23GXX	MRS245NBB23GXX	MRS245TBB23GXX	MRS250NBB23GXX	MRS250TBB23GXX	MRS251TBB23GXX	MRS351NBB23GXX	MRS351TBB23GXX	
Refrigerant	R134a				R449A				
Power supply	V/Ph~/Hz 380-400/3N~/50								
Compressor type	Semi-hermetic								
HP compressor	4	5	7.5	10	15	20	25	30	
Defrost	Hot gas								
PED category	2								
Working temperature	°C +10 ÷ -5								
Cooling capacity [TC=0°C TA=30°C]	10,068	14,408	17,858	23,630	26,544	26,114	35,976	38,891	
Low temperature units	BRS150NBB23GXX	BRS150TBB23GXX	BRS245NBB23GXX	BRS245TBB23GXX	BRS250NBB23GXX	BRS250TBB23GXX	BRS251TBB23GXX	BRS351NBB23GXX	BRS351TBB23GXX
Refrigerant	R449A								
Power supply	V/Ph~/Hz 380-400/3N~/50								
Compressor type	Semi-hermetic								
HP compressor	7.5	10	12.5	15	20	25	30	40	50
Defrost	Hot gas								
PED category	2								
Working temperature	°C -15 ÷ -25								
Cooling capacity [TC=-20°C TA=30°C]	8,191	8,670	11,102	14,423	18,531	21,344	23,648	31,599	35,030
Freezing and dual-temperature units	Freezing				Dual-temperature				
	CRS150NBB23GXX	CRS150TBB23GXX	CRS250NBB23GXX	CRS250TBB23GXX	PRS150TBB23GXX	PRS245TBB23GXX	PRS251TBB23GXX		
Refrigerant	R449A								
Power supply	V/Ph~/Hz 380-400/3N~/50								
Compressor type	Semi-hermetic								
HP compressor	7.5	10	15	25	10	15	30		
Defrost	Hot gas								
PED category	2								
Working temperature	°C -30 ÷ -50				°C +5 ÷ -5 -15 ÷ -25				
Cooling capacity Freezing [TC=30°C TEV=-35°C] Dual-temperature [TC=-20°C TA=30°C]	5,188	7,373	16,721	22,251	8,669	14,123	21,923		

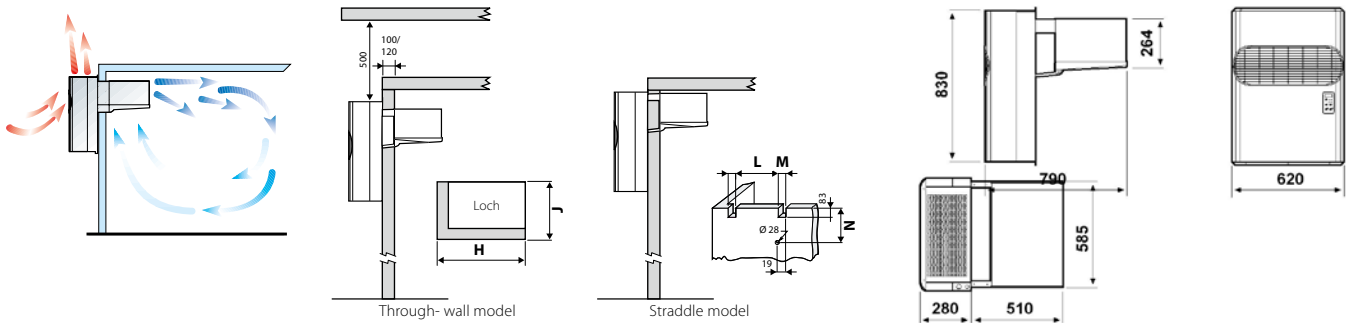
Monoblock system for low and medium temperature refrigeration

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 and 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



Installation type



More details and final information can be found by scanning or clicking the QR codes.



GM

Medium temperature units		MGM103EA11XA	MGM105EA11XA	MGM106EA11XA	MGM107EA11XA	MGM110EA11XA	MGM211EA11XA	MGM212EB11XA	MGM315EB11XA	MGM320EB11XA
Refrigerant		R134a					R134a			
Power supply	V/Ph~/Hz	220-230/1N~/50					380-400/3N~/50			
HP compressor		1/2	5/8	3/4	1	1.2	1.2	2.3	3	3.5
Defrost		Hot gas								
PED category		0								
Working temperature	°C	+10 ÷ -5								
Cooling capacity [TC=0°C TA=30°C]	Watt	855	978	1,120	1,315	1,351	1,806	2,034	3,079	3,351
Low temperature units		BGM110DA11XA	BGM112DA11XA	BGM117DA11XA	BGM218DA11XA	BGM220DB11XA	BGM320DB11XA	BGM330DB11XA	BGM340DB11XA	
Refrigerant		R452A								
Power supply	V/Ph~/Hz	220-230/1N~/50				380-400/3N~/50				
HP compressor		1	1.2	1.7	1.7	2	3	4		
Defrost		Hot gas								
PED category		0								
Working temperature	°C	-15 ÷ -25								
Cooling capacity [TC=-20°C TA=30°C]	Watt	679	889	1,155	1,429	1,688	2,491	2,701	3,160	

Monoblock system for low and medium temperature refrigeration

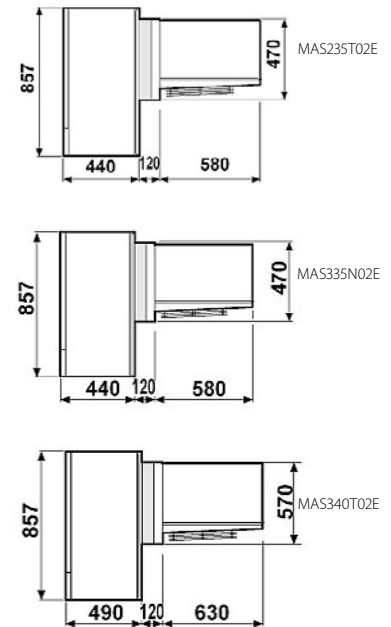
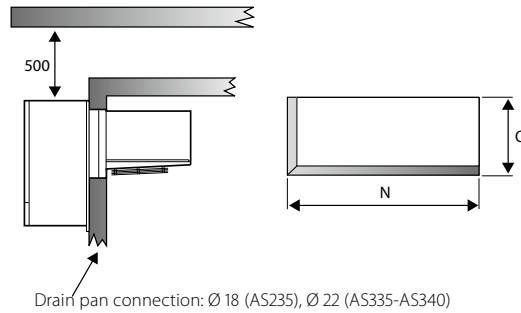
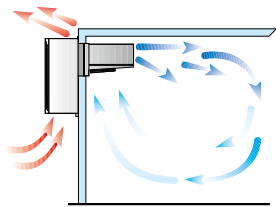
For wall mounted installation in medium sized cold rooms

- › 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
- › Low temperature models are available. Please contact your local dealer



AS

Installation type



More details and final information can be found by scanning or clicking the QR codes.



AS

	Medium temperature units				Low temperature units		
	MAS430EB13XX	MAS535EB13XX	MAS545EB13XX	MAS660EB13XX	BAS450DB13XX	BAS560DB13XX	BAS680DB13XX
Refrigerant	R134a				R452A		
Power supply V/Ph~/Hz	380-400/3N~/50						
HP compressor	5	6.5	8.5	10	5	7.5	10
Defrost	Hot gas						
PED category	1						2
Working temperature °C	+10 ÷ -5						
Cooling capacity [TC=0°C TA=30°C] Watt	4,981	6,988	8,290	10,424	-		
Cooling capacity [TC=-20°C TA=30°C] Watt	-				4,541	6,689	8,663

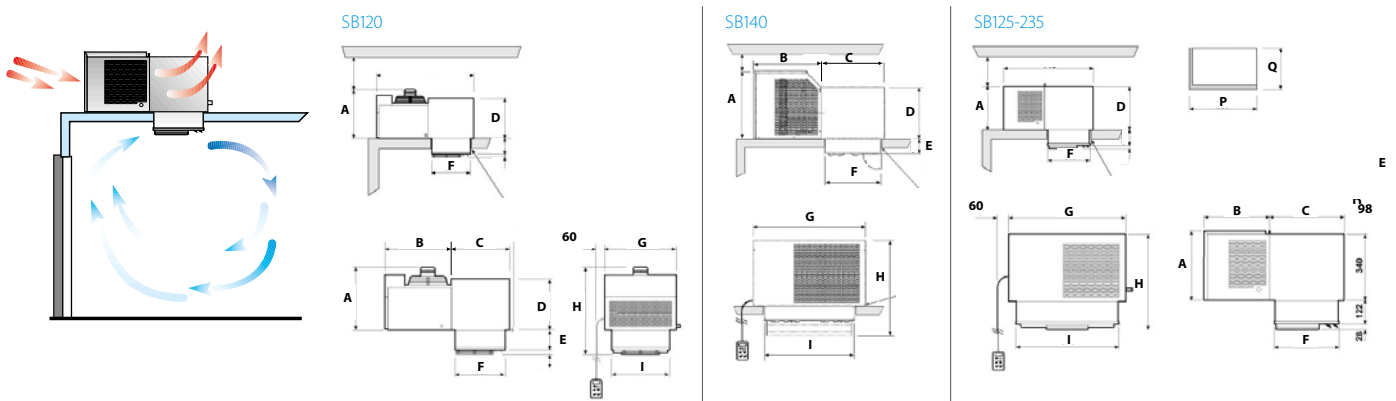
Monoblock system for low and medium temperature refrigeration

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



Installation type



More details and final information can be found by scanning or clicking the QR codes.



SB

Medium temperature units		MSB005EA11XX	MSB106EA11XX	MSB107EA11XX	MSB210EA11XX	MSB212EB11XX	MSB315EB11XX	MSB320EB11XX	MSB425EB11XX	MSB530EB13XX	
Refrigerant		R134a									
Power supply	V/Ph~/Hz	220-230/1N~/50					380-400/3N~/50				
HP compressor		5/8	3/4	1	1.2	2.3	3	3.5	4	5	
Defrost		Hot gas									
PED category		0								1	
Working temperature	°C	+10 ÷ -5									
Cooling capacity	Watt	857	1,120	1,338	1,799	2,022	3,282	3,550	3,774	4,871	
		[TC=0°C TA=30°C]									
Low temperature units		BSB010DA11XX	BSB117DA11XX	BSB220DB11XX	BSB330DB11XX	BSB440DB11XX	BSB545DB13XX	BSB550DB13XX			
Refrigerant		R452A									
Power supply	V/Ph~/Hz	220-230/1N~/50					380-400/3N~/50				
HP compressor		3/4	1.7	2	3	3.5	4	5			
Defrost		Hot gas									
PED category		0						2			
Working temperature	°C	-15 ÷ -25									
Cooling capacity	Watt	628	1,162	1,699	2,596	3,097	3,890	4,849			
		[TC=-20°C TA=30°C]									

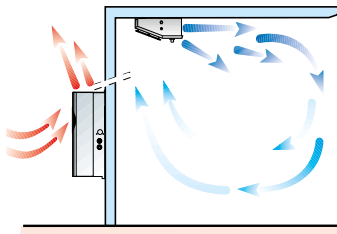
Refrigeration split type units designed for use in small to medium rooms

Condensing unit for wall mounted installation

- › Wide versatility of installation of condensing part and evaporating part
- › Condensing part body with metallic grey finishing
- › The white color of the evaporator part blends discreetly with the walls of the cold room
- › Compressor compartment is ready to be insulated with suitable sound-absorbing material to reduce noise levels
- › Micro-channel condensers available to reduce the refrigerant charge as much as possible and ensure higher energy efficiency



Installation type



More details and final information can be found by scanning or clicking the QR codes.



GS

Medium temperature units		SB.MGS103EA12XX	SB.MGS105EA12XX	SB.MGS106EA12XX	SB.MGS107EA12XX	SB.MGS110EA12XX	SB.MGS211EA12XX	SB.MGS212EB12XX	SB.MGS315EB13XX	SB.MGS320EB13XX	
Refrigerant		R134a									
Power supply	V/Ph~/Hz	220-230/1N~/50					380-400/3N~/50				
HP compressor		1/2	5/8	3/4	1	1.2		2.3	3	3.5	
Defrost		Electric									
PED category		0									
Working temperature	°C	+10 ÷ -5									
Cooling capacity [TC=0°C TA=30°C]	Watt	855	978	1,120	1,315	1,351	1,806	2,034	3,079	3,351	
Low temperature units		SB.BGS110DA12XX	SB.BGS112DA12XX	SB.BGS117DA12XX	SB.BGS218DA12XX	SB.BGS220DB12XX	SB.BGS320DB13XX	SB.BGS330DB13XX	SB.BGS340DB13XX		
Refrigerant		R452A									
Power supply	V/Ph~/Hz	220-230/1N~/50					380-400/3N~/50				
HP compressor		1	1.2	1.7		2		3	4		
Defrost		Electric									
PED category		0								2	
Working temperature	°C	-15 ÷ -25									
Cooling capacity [TC=-20°C TA=30°C]	Watt	679	889	1,155	1,429	1,688	2,491	2,701	3,160		

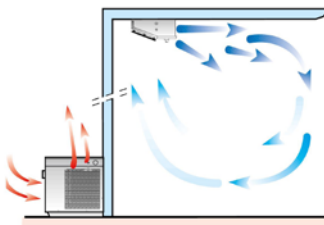
Refrigeration split type units suitable for small-medium cold rooms

Condensing unit for floor standing or roof mounted installation

- › Condensing unit for floor or roof installation and evaporator for ceiling mounting
- › Extremely quick mounting thanks to the quick coupling joints
- › Reduced installation times and costs
- › Best surface-capacity ratio



Installation type



More details and final information can be found by scanning or clicking the QR codes.



SP-O

Medium temperature units		SB.MSP106EA12XX	SB.MSP107EA12XX	SB.MSP212EA12XX	SB.MSP315EB13XX	SB.MSP320EB13XX		
Refrigerant		R134a						
Power supply	V/Ph~/Hz	220-230/1N~/50			380-400/3N~/50			
HP compressor		3/4	1	1.2	3	3.5		
Defrost		Electric						
PED category		0						
Working temperature	°C	+10 ÷ -5						
Cooling capacity [TC=0°C TA=30°C]	Watt	1,140	1,422	1,816	3,188	3,492		
Low temperature units		SB.BSP110DA12XX	SB.BSP112DA12XX	SB.BSP117DA12XX	SB.BSP218DA12XX	SB.BSP220DB12XX	SB.BSP320DB13XX	SB.BSP330DB13XX
Refrigerant		R452A						
Power supply	V/Ph~/Hz	220-230/1N~/50				380-400/3N~/50		
HP compressor		1	1.5	1.7	2	3		
Defrost		Electric						
PED category		0						
Working temperature	°C	-15 ÷ -25						
Cooling capacity [TC=-20°C TA=30°C]	Watt	662	905	1,164	1,436	1,719	2,384	2,581

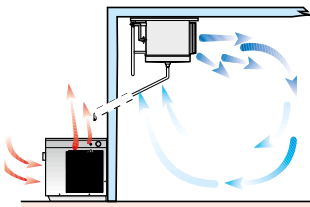
Split units suitable for outdoor installation and for small-medium cold rooms

Condensing unit for floor standing or roof mounted installation

- › Condensing unit for floor or roof installation and evaporator for ceiling mounting
- › Thermostatic expansion valve for an optimal refrigerant flow rate and for higher energy efficiency
- › Extremely quick mounting thanks to the quick coupling joints
- › Reduced installation times and costs
- › Best surface-capacity ratio



Installation type



More details and final information can be found by scanning or clicking the QR codes.



DB-O

Medium temperature units	SB.MDB106EA12XX	SB.MDB107EA12XX	SB.MDB212EB12XX	SB.MDB315EB13XX	SB.MDB320EB13XX	SB.MDB425EB13XX	
Refrigerant	R134a						
Power supply V/Ph~/Hz	220-230/1N~/50			380-400/3N~/50			
HP compressor	3/4	1	1.2	3	3.5	4	
Defrost	Electric						
PED category	1						
Working temp. °C	+10 ÷ -5						
Cooling capacity [TC=0°C TA=30°C] Watt	1,140	1,422	1,816	3,188	3,492	3,948	
Cooling capacity [TC=-20°C TA=30°C] Watt	-						
Medium temperature units	SB.MDB530EB13XX	SB.MDB635EB13XX	SB.MDB645EB13XX	SB.MDB706EB13XX	SB.MDB707EB13XX		
Refrigerant	R134a						
Power supply V/Ph~/Hz	380-400/3N~/50						
HP compressor	3.7	4.8	6.3	7.4	9.5		
Defrost	Electric						
PED category	2						
Working temp. °C	+10 ÷ -5						
Cooling capacity [TC=0°C TA=30°C] Watt	5,070	7,293	8,779	11,014	14,069		
Cooling capacity [TC=-20°C TA=30°C] Watt	-						
Low temperature units	SB.BDB110DA12XX	SB.BDB112DA12XX	SB.BDB117DA12XX	SB.BDB218DA12XX	SB.BDB220DB12XX	SB.BDB320DB13XX	SB.BDB330DB13XX
Refrigerant	R452A						
Power supply V/Ph~/Hz	220-230/1N~/50			380-400/3N~/50			
HP compressor	1	1.5	1.7		2		3
Defrost	Electric						
PED category	1						
Working temp. °C	-15 ÷ -25						
Cooling capacity [TC=0°C TA=30°C] Watt	-						
Cooling capacity [TC=-20°C TA=30°C] Watt	662	905	1,164	1,436	1,719	2,384	2,581
Low temperature units	SB.BDB440DB13XX	SB.BDB445DB13XX	SB.BDB550DB13XX	SB.BDB660DB13XX	SB.BDB680DB13XX	SB.BDB710DB13XX	SB.BDB713DB13XX
Refrigerant	R452A						
Power supply V/Ph~/Hz	380-400/3N~/50						
HP compressor	3.5	4	3.7	5.5	7.5	9.6	11
Defrost	Electric						
PED category	2						
Working temp. °C	-15 ÷ -25						
Cooling capacity [TC=0°C TA=30°C] Watt	-						
Cooling capacity [TC=-20°C TA=30°C] Watt	3,283	3,604	4,925	7,492	8,940	11,537	12,735

* Only for external use

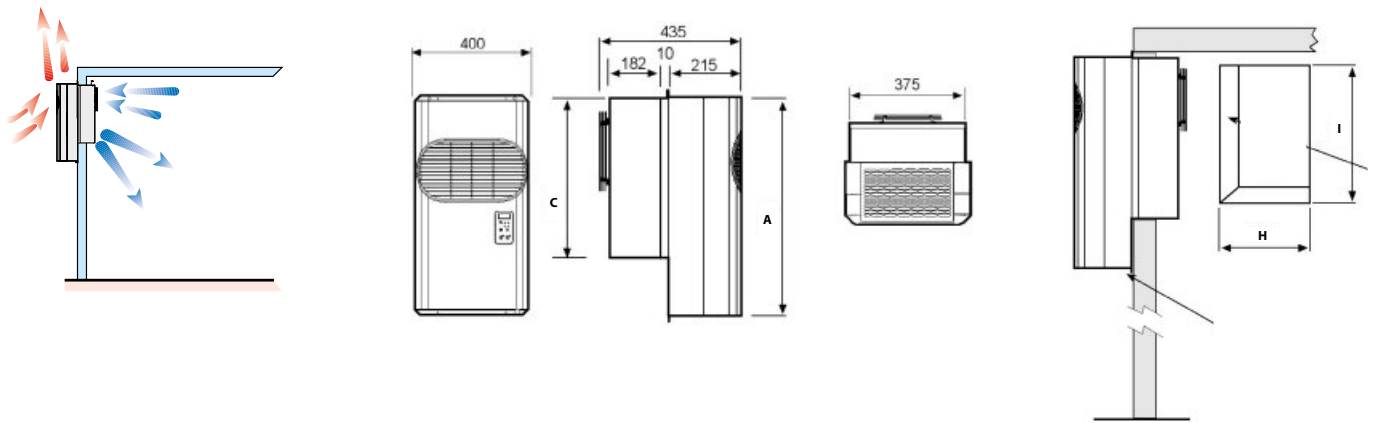
Monoblock units for wine application

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



Installation type



More details and final information can be found by scanning or clicking the QR codes.



RCV

	RCV103EA12S3	RCV105EA12S3	RCV206EA12S3	RCV207EA12S3
Refrigerant	R134a			
Power supply	V/Ph~/Hz 220-230/1N~/50			
HP compressor	1/3	3/8	1/2	3/4
PED category	0			
Working temperature	°C +20 ÷ +10			
Range RH	%			
Cooling capacity	Watt			
[TC=10°C TA=30°C]	593	912	1,336	1,935

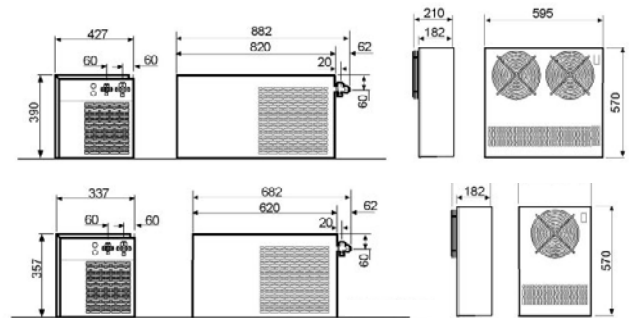
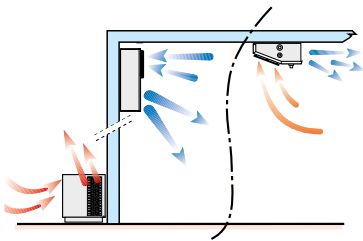
Bi-block system for wine application

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



Installation type



More details and final information can be found by scanning or clicking the QR codes.



RDV

	SB.RDV103EA12S3	SB.RDV105EA12S3	SB.RDV206EA12S3	SB.RDV207EA12S3	SB.RDV103EA12S7	SB.RDV105EA12S7	SB.RDV206EA12S7	SB.RDV207EA12S7
Refrigerant	R134a				R134a			
Power supply	220-230/1N~/50				220-230/1N~/50			
HP compressor	1/3	3/8	1/2	3/4	1/3	3/8	1/2	3/4
Evaporator type	Wall mounting evaporator				Ceiling mounting evaporator			
PED category	1				1			
Working temperature	+20 ÷ +10				+20 ÷ +10			
Range RH	60-80				60-80			
Cooling capacity [TC=10°C TA=30°C]	593	912	1,336	1,935	593	912	1,336	1,935



Drying and ageing units

Monoblock and bi-block units for drying and ageing of meat and cheese

For small and medium size coldrooms

- › Quick and easy installation
- › Low noise and vibration
- › Electronic control
- › Constant and detailed control of temperature and humidity level during operation
- › Compact and functional, with removable panels to allow easy access to internal components
- › More units available suitable for large coldrooms

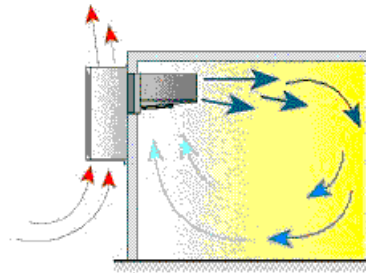


SAS: Drying and ageing units for small and medium cold rooms

- › Coldroom temperature: **+10°C to +25°C**
- › Humidity: **till 60%**

SAR: Units for post-salting resting of hams for small and medium cold rooms

- › Coldroom temperature: **+2°C to +4°C**
- › Humidity: **till 40%**



Cooling capacity:

- › from 2,900 to 15,900 Watt

SAR	Monoblock units			Bi-block units		
	SAR212DB13SM	SAR320DB13SM	SAR430DB13SM	SB.SAR212DB13SS	SB.SAR320DB13SS	SB.SAR430DB13SS
Refrigerant	R452A			R452A		
Power supply	380-400/3N~/50			380-400/3N~/50		
HP compressor	1.5	2	4	1.5	2	4
Defrost	Hot gas			Hot gas		
PED category	1		2	1		2
Working temperature	+10 ÷ -5			+10 ÷ -5		
Range RH	40-60			40-60		
Cooling capacity [TC=10°C TA=30°C]	2,900	4,500	7,250	2,900	4,500	7,250

SAS	Monoblock units					Bi-block units				
	SAS212EB10SM	SAS320EB10SM	SAS430EB10SM	SAS545EB10SM	SAS660EB10SM	SB.SAS212EB10SS	SB.SAS320EB10SS	SB.SAS430EB10SS	SB.SAS545EB10SS	SB.SAS660EB10SS
Refrigerant	R134a									
Power supply	380-400/3N~/50									
HP compressor	1	1.5	3	5	7.5	1	1.5	3	5	7.5
Drying	5	11	23	36	45	5	11	23	36	45
Drying	200	400	600	950	1,200	200	400	600	950	1,200
Ageing	20	40	70	125	160	20	40	70	125	160
Ageing	600	1,000	2,000	3,000	4,000	600	1,000	2,000	3,000	4,000
PED category	1		2			1		2		
Working temperature	+25 ÷ +10									
Range RH	60-80									
Cooling capacity [TC=10°C TA=30°C]	3,400	4,900	8,200	12,800	15,900	3,400	4,900	8,200	12,800	15,900

Air Handling Units for industrial drying

Main Characteristics

- › Frascold semihermetic compressor + Thermal overload protection
- › Power supply 380-400/3N~/50
- › Air + Axial fan (remote)
- › Embedded main electrical switchboard and remote control panel with Vision Touch controller + switch to select static/ventilated evaporator
- › Hot gas defrost
- › Magnetothermal switches
- › Liquid line predisposition for connection to static evaporators
- › Cataphoresis to the evaporator and heat recovery coil
- › Remote air cooled condenser
- › Soft start on centrifugal fan (starting from 15HP unit)
- › Liquid Receiver + Liquid receiver shut off valves
- › Safety valve
- › Filter dryer
- › Sight glass
- › Four-pole condenser fan
- › Thermostatic valve expansion
- › Evaporator centrifugal fan
- › Air suction duct
- › Condensing unit with refrigerant charge
- › Switchboard with automatic switches
- › Adjustable calibration Hp switch with manual reset
- › Adjustable calibration Lp switch with automatic reset
- › Pressure controlled condenser fan speed regulator
- › Humidity control during dehumidification with heat recovery
- › Temperature control in hot with electric heaters
- › Humidity control in humidification with automatic water supply
- › Crankcase heater
- › Fresh air intake
- › Evaporator/heat recovery coil Copper/Aluminium with cataphoresis treatment
- › Heat recovery coil + heating with electrical heaters
- › Embedded main switchboard and remote control panel with Vision Touch Controller

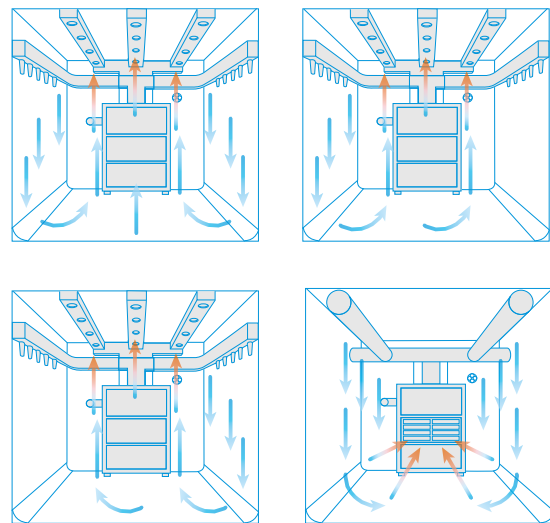


Air distribution systems with textile channels

The UAV industrial drying units are equipped with large and efficient evaporators with centrifugal fan, capable of generating air flow from 1,500 to 14,600m³/h.

This allows, thanks to the special galvanized sheet T-shaped ducts designed according to the room dimensions, an optimized distribution of the treated air in the room suitable for the required process.

The T-shaped ducts are complete with motorized damper.



For customized options, please contact your sales representative.

	SB.UAV102 RBB12EAX	SB.UAV203 RBB12EAX	SB.UAV204 RBB12EAX	SB.UAV305 RBB12EAX	SB.UAV307 RBB12EAX	SB.UAV410 RBB12EAX	SB.UAV515 RBB12EAX	SB.UAV520 RBB12EAX	SB.UAV625 RBB12EAX	SB.UAV630 RBB12EAX	SB.UAV735 RBB12EAX
Refrigerant	R449A										
Power supply	V/Ph~/Hz 380-400/3N~/50										
HP compressor	2	3	4	5	7,5	10	15	20	25	30	35
Cold room volume	m ³ 20	30	40	60	75	90	130	160	180	200	250
Product quantity	kg 400	800	1,200	1,600	2,000	2,400	3,200	4,800	6,400	8,000	10,000
PED category	2										
Working temperature	°C +25 ÷ +10										
Range RH	% 60-80										
Cooling capacity [TC=10°C TA=30°C]	Watt 7,200	10,600	13,000	14,400	27,000	33,000	38,000	45,500	59,000	68,000	87,000

Air handling units for industrial ageing

Main Characteristics

- › Frascold semihermetic compressor + Thermal overload protection
- › Power supply 380-400/3N~/50
- › Air + Axial fan (remote)
- › Embedded main electrical switchboard and remote control panel with Vision Touch controller + switch to select static/ventilated evaporator
- › Hot gas defrost
- › Magnetothermal switches
- › Liquid line predisposition for connection to static evaporators
- › Cataphoresis to the evaporator and heat recovery coil
- › Remote air cooled condenser
- › Soft start on centrifugal fan (starting from 15HP unit)
- › Liquid Receiver + Liquid receiver shut off valves
- › Safety valve
- › Filter dryer
- › Sight glass
- › Four-pole condenser fan
- › Thermostatic valve expansion
- › Evaporator centrifugal fan
- › Air suction duct
- › Condensing unit with refrigerant charge
- › Switchboard with automatic switches
- › Adjustable calibration Hp switch with manual reset
- › Adjustable calibration Lp switch with automatic reset
- › Pressure controlled condenser fan speed regulator
- › Humidity control during dehumidification with heat recovery
- › Temperature control in hot with electric heaters
- › Humidity control in humidification with automatic water supply
- › Crankcase heater
- › Fresh air intake
- › Evaporator/heat recovery coil Copper/Aluminium with cataphoresis treatment
- › Heat recovery coil + heating with electrical heaters
- › Embedded main switchboard and remote control panel with Vision Touch Controller

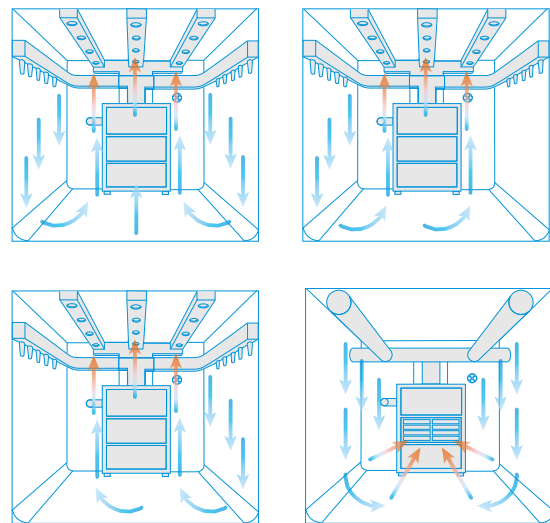


Air distribution systems with textile channels

The USV industrial drying units are equipped with large and efficient evaporators with centrifugal fan, capable of generating air flow from 1,500 to 14,600m³/h.

This allows, thanks to the special galvanized sheet T-shaped ducts designed according to the room dimensions, an optimized distribution of the treated air in the room suitable for the required process.

The T-shaped ducts are complete with motorized damper.



For customized options, please contact your sales representative.

	SB.USV102 RBB12EAX	SB.USV203 RBB12EAX	SB.USV204 RBB12EAX	SB.USV305 RBB12EAX	SB.USV307 RBB12EAX	SB.USV410 RBB12EAX	SB.USV515 RBB12EAX	SB.USV520 RBB12EAX	SB.USV625 RBB12EAX	SB.USV630 RBB12EAX	SB.USV735 RBB12EAX
Refrigerant	R449A										
Power supply	V/Ph~/Hz 380-400/3N~/50										
HP compressor	2	3	4	5	7.5	10	15	20	25	30	35
Cold room volume	m ³ 75	90	120	180	225	240	390	490	550	680	800
Product quantity	kg 1,200	2,400	3,600	5,400	7,200	9,000	10,800	14,400	19,200	24,000	30,000
PED category	2										
Working temperature	°C +25 ÷ +10										
Range RH	% 60-80										
Cooling capacity [TC=10°C TA=30°C]	Watt 7,200	10,600	13,000	14,400	27,000	33,000	38,000	45,500	59,000	68,000	87,000



Condensing units

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

More details and final information can be found by scanning or clicking the QR codes.



JEHCCU-CM3



JEHCCU-CM1

Medium Temperature Refrigeration			JEHCCU-CM1/CM3																																	
Refrigerating capacity	Medium temperature (1)		R-134a	R-407A	R-407F	R-448A	R-449A	R-452A	0040CM1	0050CM1	0051CM1	0063CM1	0067CM1	0077CM1	0095CM1	0100CM1	0113CM1	0140CM1	0170CM1	0140CM3	0170CM3															
		Nom	kW	0.59	-	0.80	-	0.89	-	1.06	-	1.07	-	1.29	-	1.60	-	1.33	1.66	1.92	-	1.92	-													
		Nom	kW	-	0.86	-	1.15	-	-	-	-	1.12	-	-	-	-	-	1.41	1.74	2.08	-	2.08	-													
		Nom	kW	-	0.87	-	1.12	-	-	-	-	1.12	-	-	-	-	-	1.35	1.64	2.15	2.57	2.15	2.57													
		Nom	kW	-	0.87	-	1.12	-	-	-	-	1.12	-	-	-	-	-	1.35	1.64	2.15	2.57	2.15	2.57													
		Nom	kW	-	0.95	-	1.23	-	-	-	-	1.23	-	-	-	-	-	1.48	1.79	2.20	2.69	2.20	2.69													
Seasonal energy performance ratio SEPR	R-134a Te -10°C			1.50	-	1.77	-	1.77	-	-	-	-	-	1.85	-	1.86	-	-	-	-	-	-	-													
	R-407A Te -10°C			-	1.59	-	1.62	-	-	-	-	-	-	-	-	-	-	1.66	1.78	1.74	-	1.66	-													
	R-407F Te -10°C			-	1.77	-	1.76	-	-	-	-	-	-	-	-	-	-	1.77	1.85	1.93	-	1.85	-													
	R-448A Te -10°C			-	1.66	-	1.64	-	-	-	-	-	-	-	-	-	-	1.64	1.71	2.09	1.73	2.00	1.76													
	R-449A Te -10°C			-	1.66	-	1.64	-	-	-	-	-	-	-	-	-	-	1.64	1.71	2.09	1.73	2.00	1.76													
	R-452A Te -10°C			-	1.67	-	1.67	-	-	-	-	-	-	-	-	-	-	1.68	1.73	1.92	1.65	1.83	1.73													
Parameters at full load and ambient temp. 25°C	R-134a Te -10°C	Declared COP (COP2)		1.84	-	2.01	-	2.05	-	-	-	-	-	2.22	-	2.30	-	-	-	-	-	-	-													
	R-407A Te -10°C	Declared COP (COP2)		-	1.69	-	1.69	-	-	-	-	-	-	-	-	-	-	1.74	1.90	1.87	-	2.09	-													
	R-407F Te -10°C	Declared COP (COP2)		-	1.93	-	1.94	-	-	-	-	-	-	-	-	-	-	1.95	2.07	2.22	-	1.78	-													
	R-448A Te -10°C	Declared COP (COP2)		-	1.91	-	1.90	-	-	-	-	-	-	-	-	-	-	1.89	1.95	2.42	1.93	2.11	2.01													
	R-449A Te -10°C	Declared COP (COP2)		-	1.91	-	1.90	-	-	-	-	-	-	-	-	-	-	1.89	1.95	2.42	1.93	2.11	2.01													
	R-452A Te -10°C	Declared COP (COP2)		-	1.90	-	1.90	-	-	-	-	-	-	-	-	-	-	1.90	1.98	2.18	1.85	2.32	1.99													
Parameters at full load and ambient temp. 32°C (Point A)	R-134a Te -10°C	Rated COP (COPA)		1.5	-	1.77	-	1.77	-	-	-	-	-	1.85	-	1.86	-	-	-	-	-	-	-													
	R-407A Te -10°C	Rated COP (COPA)		-	1.59	-	1.62	-	-	-	-	-	-	-	-	-	-	1.66	1.78	1.74	-	1.66	-													
	R-407F Te -10°C	Rated COP (COPA)		-	1.77	-	1.76	-	-	-	-	-	-	-	-	-	-	1.77	1.85	1.93	-	1.85	-													
	R-448A Te -10°C	Rated COP (COPA)		-	1.66	-	1.64	-	-	-	-	-	-	-	-	-	-	1.64	1.71	2.09	1.73	2.00	1.76													
	R-449A Te -10°C	Rated COP (COPA)		-	1.66	-	1.64	-	-	-	-	-	-	-	-	-	-	1.64	1.71	2.09	1.73	2.00	1.76													
	R-452A Te -10°C	Rated COP (COPA)		-	1.67	-	1.67	-	-	-	-	-	-	-	-	-	-	1.68	1.73	1.92	1.65	1.83	1.73													
	R-134a Te -10°C	Rated cooling capacity (PA)	kW	0.59	-	0.89	-	1.06	-	-	-	-	-	1.29	-	1.60	-	-	-	-	-	-	-													
	R-407A Te -10°C	Rated cooling capacity (PA)	kW	-	0.80	-	1.07	-	-	-	-	-	-	-	-	-	-	1.33	1.66	1.92	-	1.92	-													
	R-407F Te -10°C	Rated cooling capacity (PA)	kW	-	0.86	-	1.15	-	-	-	-	-	-	-	-	-	-	1.41	1.74	2.08	-	2.08	-													
	R-448A Te -10°C	Rated cooling capacity (PA)	kW	-	0.87	-	1.12	-	-	-	-	-	-	-	-	-	-	1.35	1.64	2.15	2.57	2.15	2.57													
	R-449A Te -10°C	Rated cooling capacity (PA)	kW	-	0.87	-	1.12	-	-	-	-	-	-	-	-	-	-	1.35	1.64	2.15	2.57	2.15	2.57													
	R-452A Te -10°C	Rated cooling capacity (PA)	kW	-	0.95	-	1.23	-	-	-	-	-	-	-	-	-	-	1.48	1.79	2.20	2.69	2.20	2.69													
	R-134a Te -10°C	Rated power input (DA)	kW	0.39	-	0.50	-	0.60	-	-	-	-	-	0.70	-	0.86	-	-	-	-	-	-	-													
	R-407A Te -10°C	Rated power input (DA)	kW	-	0.50	-	0.66	-	-	-	-	-	-	-	-	-	-	0.80	0.94	1.11	-	1.16	-													
	R-407F Te -10°C	Rated power input (DA)	kW	-	0.49	-	0.65	-	-	-	-	-	-	-	-	-	-	0.79	0.94	1.07	-	1.12	-													
	R-448A Te -10°C	Rated power input (DA)	kW	-	0.53	-	0.68	-	-	-	-	-	-	-	-	-	-	0.82	0.96	1.03	1.49	1.08	1.46													
	R-449A Te -10°C	Rated power input (DA)	kW	-	0.53	-	0.68	-	-	-	-	-	-	-	-	-	-	0.82	0.96	1.03	1.49	1.08	1.46													
	R-452A Te -10°C	Rated power input (DA)	kW	-	0.57	-	0.74	-	-	-	-	-	-	-	-	-	-	0.88	1.03	1.15	1.63	1.20	1.55													
Parameters at full load and ambient temp. 43°C	R-134a Te -10°C	Declared COP (COP3)		1.42	-	1.40	-	1.40	-	-	-	-	-	1.49	-	1.50	-	-	-	-	-	-	-													
	R-407A Te -10°C	Declared COP (COP3)		-	1.42	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.56	-	1.47	-													
	R-407F Te -10°C	Declared COP (COP3)		-	1.46	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.58	-	1.49	-													
	R-448A Te -10°C	Declared COP (COP3)		-	1.27	-	1.26	-	-	-	-	-	-	-	-	-	-	1.25	1.33	1.62	1.42	1.53	1.43													
	R-449A Te -10°C	Declared COP (COP3)		-	1.27	-	1.26	-	-	-	-	-	-	-	-	-	-	1.25	1.33	1.62	1.42	1.53	1.43													
	R-452A Te -10°C	Declared COP (COP3)		-	1.31	-	1.32	-	-	-	-	-	-	-	-	-	-	1.34	1.37	1.52	1.35	1.44	1.39													
	R-134a Te -10°C	Cooling capacity (P3)	kW	-	-	0.75	-	0.86	-	-	-	-	-	1.06	-	1.34	-	-	-	-	-	-	-													
	R-407A Te -10°C	Cooling capacity (P3)	kW	-	0.75	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.79	-	1.78	-													
	R-407F Te -10°C	Cooling capacity (P3)	kW	-	0.79	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.85	-	1.84	-													
	R-448A Te -10°C	Cooling capacity (P3)	kW	-	0.73	-	0.91	-	-	-	-	-	-	-	-	-	-	1.10	1.34	1.79	2.23	1.77	2.20													
	R-449A Te -10°C	Cooling capacity (P3)	kW	-	0.73	-	0.91	-	-	-	-	-	-	-	-	-	-	1.10	1.34	1.79	2.23	1.77	2.20													
	R-452A Te -10°C	Cooling capacity (P3)	kW	-	0.80	-	1.01	-	-	-	-	-	-	-	-	-	-	1.23	1.46	1.83	2.28	1.81	2.26													
	R-134a Te -10°C	Power input (D3)	kW	0.36	-	0.53	-	0.62	-	-	-	-	-	0.71	-	0.89	-	-	-	-	-	-	-													
	R-407A Te -10°C	Power input (D3)	kW	-	0.53	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.15	-	1.21	-													
	R-407F Te -10°C	Power input (D3)	kW	-	0.54	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.17	-	1.23	-													
	R-448A Te -10°C	Power input (D3)	kW	-	0.58	-	0.73	-	-	-	-	-	-	-	-	-	-	0.88	1.01	1.11	1.57	1.16	1.54													
	R-449A Te -10°C	Power input (D3)	kW	-	0.58	-	0.73	-	-	-	-	-	-	-	-	-	-	0.88	1.01	1.11	1.57	1.16	1.54													
	R-452A Te -10°C	Power input (D3)	kW	-	0.61	-	0.77	-	-	-	-	-	-	-	-	-	-	0.92	1.06	1.20	1.69	1.26	1.62													
Dimensions	Unit	HeightxWidthxDepth	mm	607x876x420													662x101x444																			
Weight	Unit		kg	49			57			56			58			57			58			67			68											
Compressor	Type			Reciprocating compressor																																
	Piston displacement	m³/h		1.8			3.18			3.79			2.64			4.51			5.69			3.18			4.21			4.52			4.52			4.52		
Fan	Type			Axial																																
Sound pressure level	Nom.	dBA		28													32					33			32			33								
Piping connections	Liquid line connection	inch		1/4"													3/8"																			
	Suction line connection	inch		3/8"													1/2"					5/8			5/8											
Refrigerant	Type/GWP			R-134a/1,430	R-452A/2,141	R-134a/1,430	R-452A/2,141	R-134a/1,430	R-452A/2,141	R-134a/1,430	R-452A/2,141	R-134a/1,430	R-452A/2,141	R-134a/1,430	R-452A/2,141	R-134a/1,430	R-452A/2,141	R-134a/1,430	R-452A/2,141	R-134a/1,430	R-452A/2,141	R-134a/1,430	R-452A/2,141													
	Type 2 - GWP Type 2			-	R-407A/2,107	-	R-407F/2,107	-	R-448A/1,825	-	R-449A/1,825	-	R-452A/2,141	-	R-407A/2,107	-	R-407F/1,82																			

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



Medium Temperature Refrigeration			JEHSCU-CM1/CM3														
Refrigerating capacity	Medium temperature (l)		0200CM1	0250CM1	0300CM1	0200CM3	0250CM3	0300CM3	0350CM3	0360CM3	0400CM3	0500CM3	0600CM3	0680CM3	0800CM3	1000CM3	
Seasonal energy performance ratio SEPR	R-134a	Nom	2.13	-	-	2.24	-	-	-	-	-	-	-	-	8.21	10.75	
	R-407A	Nom	3.48	4.09	-	3.45	4.05	4.69	-	5.77	6.76	8.28	9.54	10.7	12.95	-	
	R-407F	Nom	3.33	3.82	4.63	3.33	3.94	4.58	-	5.73	6.75	8.18	9.59	-	12.9	-	
	R-407H	Nom	-	-	-	3.30	3.76	4.51	-	-	5.96	-	9.24	10.3	12.3	-	
	R-448A	Nom	3.33	3.82	4.73	3.33	3.82	4.73	5.46	5.76	6.37	7.88	9.45	10.5	12.8	15.85	
Annual electricity consumption Q	R-134a	Nom	3.33	3.82	4.73	3.33	3.82	4.73	5.46	5.76	6.37	7.88	9.45	10.5	12.8	15.85	
	R-407A	Nom	1.92	-	-	2.19	-	-	-	2.08	2.36	-	-	-	3.10	3.37	
	R-407F	Nom	2.18	2.06	-	2.12	1.99	1.92	-	3.48	3.79	3.21	3.19	2.96	3.12	-	
	R-407H	Nom	1.92	1.83	1.74	1.88	1.83	1.69	-	3.22	3.49	3.07	3.12	-	2.95	-	
	R-448A	Nom	-	-	-	1.93	2.02	1.80	-	3.15	3.03	-	2.90	2.68	3.24	-	
Parameters at full load and ambient temp. 25°C	R-134a	Declared COP (COP2)	2.02	1.93	1.85	2.02	1.93	1.85	2.72	3.02	3.13	2.97	3.22	2.96	2.88	2.83	
	R-407A	Declared COP (COP2)	2.02	1.93	1.85	2.02	1.93	1.85	2.72	3.02	3.13	2.97	3.22	2.96	2.88	2.83	
	R-407F	Declared COP (COP2)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	R-407H	Declared COP (COP2)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	R-448A	Declared COP (COP2)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Parameters at part load and ambient temp. 25°C (Point B)	R-134a	Declared COP (COPB)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	R-407A	Declared COP (COPB)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	R-407F	Declared COP (COPB)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	R-407H	Declared COP (COPB)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	R-448A	Declared COP (COPB)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Parameters at full load and ambient temp. 32°C (Point A)	R-134a	Rated COP (COPA)	2.21	-	-	2.62	-	-	-	-	-	-	-	-	2.49	2.7	
	R-407A	Rated COP (COPA)	2.61	2.44	-	2.55	2.36	2.26	-	-	-	-	-	-	-	-	
	R-407F	Rated COP (COPA)	2.46	2.33	2.21	2.39	2.29	2.14	-	-	-	-	-	-	-	-	
	R-407H	Rated COP (COPA)	-	-	-	2.37	2.48	2.21	-	-	-	-	-	-	-	-	
	R-448A	Rated COP (COPA)	2.53	2.32	2.23	2.53	2.32	2.23	-	-	-	-	-	-	-	-	
Parameters at part load and ambient temp. 15°C (Point C)	R-134a	Rated cooling capacity (PA)	2.53	2.32	2.23	2.53	2.32	2.23	-	-	-	-	-	-	-	-	
	R-407A	Rated cooling capacity (PA)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	R-407F	Rated cooling capacity (PA)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	R-407H	Rated cooling capacity (PA)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	R-448A	Rated cooling capacity (PA)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Parameters at full load and ambient temp. 43°C	R-134a	Rated power input (DA)	1.11	-	-	1.03	-	-	-	1.68	1.61	1.85	-	-	3.74	4.86	
	R-407A	Rated power input (DA)	1.60	1.99	-	1.63	2.04	2.45	-	2.58	2.97	3.93	4.65	5.54	6.24	-	
	R-407F	Rated power input (DA)	1.74	2.09	2.66	1.78	2.16	2.71	-	2.91	3.21	4.36	5.03	-	6.13	-	
	R-407H	Rated power input (DA)	-	-	-	1.71	1.86	2.50	-	-	3.15	-	4.82	5.79	5.58	-	
	R-448A	Rated power input (DA)	1.65	1.98	2.56	1.65	1.98	2.56	3.09	2.83	3.22	4.43	4.83	5.85	6.23	8.68	
Parameters at part load and ambient temp. 5°C (Point D)	R-134a	Declared COP (COPD)	1.42	-	-	1.52	-	-	-	3.09	2.83	3.22	4.43	4.83	5.85	6.23	
	R-407A	Declared COP (COPD)	1.31	1.36	1.31	1.31	1.36	1.31	1.26	1.41	1.37	1.24	1.42	1.42	1.32	-	
	R-407F	Declared COP (COPD)	1.31	1.36	1.31	1.31	1.36	1.31	1.26	1.41	1.37	1.24	1.42	1.42	1.32	-	
	R-407H	Declared COP (COPD)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	R-448A	Declared COP (COPD)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Dimensions	Unit	HeightxWidthxDepth	662x1,101x444														
	Weight		872x1,353x575														
	Compressor	Type	Reciprocating compressor									Scroll compressor					
	Fan	Piston displacement	m ³ /h	5.9	6.8	8.6	5.9	6.8	8.6	9.9	9.9	11.4	14.4	17.1	18.8	22.1	29.1
		Type		Axial									Axial				
Sound pressure level	Nom.	dBA	33	34	36	33	34	36	39	37	37	38	40	40	43	43	
	Piping connections	Liquid line connection	3/8"									1/2"					
Refrigerant	Suction line connection	inch	3/4"									1 1/8"					
	Type/GWP		R-134a/1,430	R-407A/2,107	R-407A/1,387	R-134a/1,430	R-407A/2,107	R-407F/1,825	R-407H/1,495.0	R-407A/2,107	R-134a/1,430.0	3/4"	7/8"	R-407A/2,107	R-407A/2,107	R-407H/1,495.0	R-134a/1,430
	Type 2 - GWP Type 2		R-407F/1,825	R-448A/1,387	R-449A/1,397	R-407F/1,825	R-407H/1,495.0	R-407F/1,825	-	R-407A/2,107	R-407A/2,107	R-407F/1,825	R-407H/1,495.0	R-407H/1,495.0	R-407H/1,495.0	R-407H/1,495.0	R-407A/2,107
	Type 3 - GWP Type 3		R-448A/1,387	R-449A/1,397	-	R-407H/1,495.0	R-448A/1,387	R-448A/1,387	-	R-407H/1,495	R-448A/1,387	R-449A/1,397	R-448A/1,387	R-448A/1,387	R-449A/1,397	R-448A/1,387	R-449A/1,397
	Type 4 - GWP Type 4		R-449A/1,397	-	-	R-448A/1,387	R-449A/1,397.0	R-449A/1,397.0	-	R-448A/1,387	R-448A/1,387	-	-	-	-	-	-
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 Return Gas 20°C (medium temperature application) | (2) Average sound pressure level is measured at 10m in anechoic room

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



Low Temperature Refrigeration			JEHCCU-CL1/JEHSCU-CL3		0115CL1	0135CL1	0180CL3	0210CL3	0300CL3	0400CL3	0500CL3	0600CL3	0750CL3	0950CL3 EVI	
Refrigerating capacity	Medium temperature (1)	R-407A	Nom	kW						2.29	2.77	3.31	4.29	4.96	
		R-407F	Nom	kW						2.38	2.87	-	-	4.88	
		R-448A	Nom	kW		-	0.98	1.36	1.62	2.53	-	3.49	4.81	4.86	
		R-449A	Nom	kW		-	0.98	1.36	1.62	2.53	-	-	-	4.86	
		R-452A	Nom	kW	0.64	0.81	1.13	1.53							
Seasonal energy performance ratio SEPR	R-407A	Te -35°C								1.67	1.67	1.64	-	1.76	
	R-407F	Te -35°C								1.65	1.64	-	-	1.63	
	R-448A	Te -35°C		-	1.00	1.00	0.97	1.67	-	1.64	-	1.64	1.64	1.76	
	R-449A	Te -35°C		-	1.00	1.00	0.97	1.67	-	1.64	-	1.64	1.64	1.76	
	R-452A	Te -35°C		1.05	0.98	1.07	1.05								
Annual electricity consumption Q	R-407A	Te -35°C		kWh/a						10,212	12,364	15,026	-	20,958	
	R-407F	Te -35°C		kWh/a						10,730	13,018	-	-	22,348	
	R-448A	Te -35°C		kWh/a		-	-	-	-	11,276	-	15,878	21,856	20,551	
	R-449A	Te -35°C		kWh/a		-	-	-	-	11,276	-	15,878	21,856	20,551	
	R-452A	Te -35°C		kWh/a	1.20	1.15	1.26	1.25							
Parameters at full load and ambient temp. 25°C	R-448A	Te -35°C	Declared COP (COP2)		-	1.15	1.09	1.16							
	R-449A	Te -35°C	Declared COP (COP2)		-	1.15	1.09	1.16							
	R-452A	Te -35°C	Declared COP (COP2)		1.20	1.15	1.26	1.25							
	R-407A	Te -35°C	Declared COP (COPB)		-	-	-	-	1.24	1.25	1.35	-	-	1.51	
	R-407F	Te -35°C	Declared COP (COPB)		-	-	-	-	1.23	1.23	-	-	-	1.35	
Parameters at part load and ambient temp. 25°C (Point B)	R-448A	Te -35°C	Declared COP (COPB)		-	-	-	-	1.30	-	1.29	-	1.43	1.42	
	R-449A	Te -35°C	Declared COP (COPB)		-	-	-	-	1.30	-	1.29	-	1.43	1.42	
	R-407A	Te -35°C	Rated COP (COPA)		-	1.00	1.00	0.97	1.02	0.97	0.93	-	1.03	1.26	
	R-407F	Te -35°C	Rated COP (COPA)		-	1.00	1.00	0.97	1.02	0.97	0.93	-	1.03	1.26	
	R-448A	Te -35°C	Rated COP (COPA)		-	1.00	1.00	0.97	1.02	0.97	0.93	-	1.03	1.26	
Parameters at full load and ambient temp. 32°C (Point A)	R-448A	Te -35°C	Rated COP (COPA)		-	1.00	1.00	0.97	1.02	0.97	0.93	-	1.03	1.26	
	R-449A	Te -35°C	Rated COP (COPA)		-	1.00	1.00	0.97	1.02	0.97	0.93	-	1.03	1.26	
	R-452A	Te -35°C	Rated COP (COPA)		1.05	0.98	1.08	1.05							
	R-407A	Te -35°C	Rated cooling capacity (PA)	kW						2.29	2.77	3.31	4.29	4.96	
	R-407F	Te -35°C	Rated cooling capacity (PA)	kW						2.38	2.87	-	-	4.88	
Parameters at full load and ambient temp. 43°C	R-448A	Te -35°C	Rated cooling capacity (PA)	kW		-	0.98	1.36	1.62	2.53	-	3.49	4.81	4.86	
	R-449A	Te -35°C	Rated cooling capacity (PA)	kW		-	0.98	1.36	1.62	2.53	-	3.49	4.81	4.86	
	R-452A	Te -35°C	Rated cooling capacity (PA)	kW	0.64	0.81	1.13	1.53							
	R-407A	Te -35°C	Rated power input (DA)	kW						2.33	2.85	3.57	4.17	3.94	
	R-407F	Te -35°C	Rated power input (DA)	kW						2.51	3.08	-	-	4.51	
Parameters at part load and ambient temp. 15°C (Point C)	R-448A	Te -35°C	Rated power input (DA)	kW		-	0.98	1.36	1.67	2.48	-	4.19	4.08	3.93	
	R-449A	Te -35°C	Rated power input (DA)	kW		-	0.98	1.36	1.67	2.48	-	4.19	4.08	3.93	
	R-452A	Te -35°C	Rated power input (DA)	kW	0.61	0.83	1.06	1.47							
	R-407A	Te -35°C	Declared COP (COP3)							0.67	0.66	0.64	0.73	-	
	R-407F	Te -35°C	Declared COP (COP3)							0.62	-	-	-	-	
Parameters at part load and ambient temp. 5°C (Point D)	R-448A	Te -35°C	Declared COP (COP3)							0.68	-	0.46	0.81	-	
	R-449A	Te -35°C	Declared COP (COP3)							0.68	-	0.46	0.81	-	
	R-452A	Te -35°C	Declared COP (COP3)		0.82	0.71	-	-	0.68	0.68	-	0.46	0.81	-	
	R-407A	Te -35°C	Cooling capacity (P3)	kW						2.01	2.40	2.88	3.79	-	
	R-407F	Te -35°C	Cooling capacity (P3)	kW						2.04	-	-	-	-	
Dimensions	Unit	HeightxWidthxDepth	mm	607x876x420	606x876x430		662x1,101x444			872x1,353x575			1,727x1,348x605		
	Weight	Unit	kg	55	61	83	81	78	132	132	133	203	200		
	Compressor	Type		Reciprocating compressor											
		Piston displacement	m³/h	4.55	6	9.45	11.83			8	11.8	14.5	17.1	21.4	17.1
		Fan	Type		Axial										
Sound pressure level	Nom.	dBA	31	27		38		33	37	39		41		37	
	Piping connections	Liquid line connection	inch												
	Suction line connection	inch	1/2"		3/8"		5/8"		3/4"		1/2"		7/8"		
Refrigerant	Type/GWP		R-404A/3,921.6	R-404A/3,922	R-448A/1,387	R-448A/1,387	R-404A/3,922	R-404A/3,922	R-404A/3,922	R-404A/3,922	R-404A/3,922	R-404A/3,922	R-404A/3,922	R-404A/3,922	
	Type 2 - GWP Type 2		-	R-452A/2,141	R-449A/1,397	R-449A/1,397	R-449A/1,397	R-407A/2,107	R-407A/2,107	R-407A/2,107	R-407A/2,107	R-448A/1,387	R-407F/1,825		
	Type 3 - GWP Type 3		-	-	R-452A/2,141	R-452A/2,141	-	-	-	-	-	-	-	-	
	Type 4 - GWP Type 4		-	-	-	-	-	-	-	-	-	-	-	R-448A/1,387	
	Type 5 - GWP Type 5		-	-	-	-	-	-	-	-	-	-	-	R-449A/1,397	
Power supply	Phase/Frequency/Voltage	Hz/V	1~/50/230				3~/50/400								

1) Refer to condition: Outside ambient temperature = 32°C, Evaporation temperature = -35°C and Return Gas 20°C (low temperature application) | 2) Average sound pressure level is measured at 10m in anechoic room | * Condition with high discharge temperature



Condensing units with inverter driven compressor

High reliability, low cost and easy installation

- › Power supply 380-400/3N~/50
- › Pressure controlled fan speed controller
- › Crankcase heater
- › Oil separator
- › Power control box with magnetothermic switches + thermal protection + electronic controller
- › Inverter
- › Oil separator + condenser fans speed regulator with pressure probe
- › Liquid receiver with safety valve + liquid line
- › HP + LP pressure switches, Crankcase heater
- › Antivibration eliminators on suction and discharge line
- › Condenser with 6 poles axial fans
- › Condensing unit under nitrogen pressure
- › Muffler on discharge line
- › Residential Soundproofing



- › Electrical box: power control box with thermal protection and capacity regulation
- › Soundproofing: double noise insulation (residential)

		GCI2010B3B1D4R		GCI2020B3B1D4R		GCI2022B3B1D4R		GCI2030B3B1D4R		GCI2040B3B1D4R		GCI3050B3B1D4R		GCI3060B3B1D4R		GCI4120B3B1D4R					
Frame type		2																3		4	
Power supply	V/ph~/Hz	380-400/3N~/50																			
Max absorbed current (70Hz)	A	2.7	3.6	4.1	5.6	7.2	8.4	10.3	13.3												
Max absorbed power (70Hz)	kW	1.3	1.8	2.1	3.0	4.0	4.7	5.8	7.8												
Working temperature	°C	+5 ÷ -20																			
Compressor	Type	Semihmerctic																			
	Brand	Bitzer																			
	Model	2HES-1Y	2FES-2Y	2EES-2Y	2CES-3Y	4EES-4Y	4DES-5Y	4CES-6Y	4PES-12Y												
	Refrigerant	R134a																			
Condenser	Fin pitch	2.1																			
	Fans nr.	1								2											
	Fans ø	450																			
	Model	1ph-6P																			
	Air flow	2,943				2,701				5,850				5,366							
	Noise pressure level at 10 m (50Hz)	33	34	35	35	39	40	41	42												
Connections	Suction	ø 16	ø 18	ø 22	ø 22	ø 28	ø 28	ø 35	ø 35												
	Liquid	ø 10				ø 12															
	Standard liquid receiver	5.7				10				21											
	PED category	1																			
	Unit net weight	160	170	193	195	210	225	230	300												
Cooling capacity	Min./Max. Tev 5°C	Tamb 20°C	Tamb 25°C	Tamb 30°C	Tamb 35°C	Tamb 40°C	Tamb 45°C	Tamb 20°C	Tamb 25°C	Tamb 30°C	Tamb 35°C	Tamb 40°C	Tamb 45°C	Tamb 20°C	Tamb 25°C	Tamb 30°C	Tamb 35°C	Tamb 40°C	Tamb 45°C		
	Tev 0°C	Tamb 20°C	Tamb 25°C	Tamb 30°C	Tamb 35°C	Tamb 40°C	Tamb 45°C	Tamb 20°C	Tamb 25°C	Tamb 30°C	Tamb 35°C	Tamb 40°C	Tamb 45°C	Tamb 20°C	Tamb 25°C	Tamb 30°C	Tamb 35°C	Tamb 40°C	Tamb 45°C		
	Tev -5°C	Tamb 20°C	Tamb 25°C	Tamb 30°C	Tamb 35°C	Tamb 40°C	Tamb 45°C	Tamb 20°C	Tamb 25°C	Tamb 30°C	Tamb 35°C	Tamb 40°C	Tamb 45°C	Tamb 20°C	Tamb 25°C	Tamb 30°C	Tamb 35°C	Tamb 40°C	Tamb 45°C		
	Tev -10°C	Tamb 20°C	Tamb 25°C	Tamb 30°C	Tamb 35°C	Tamb 40°C	Tamb 45°C	Tamb 20°C	Tamb 25°C	Tamb 30°C	Tamb 35°C	Tamb 40°C	Tamb 45°C	Tamb 20°C	Tamb 25°C	Tamb 30°C	Tamb 35°C	Tamb 40°C	Tamb 45°C		
	Tev -20°C	Tamb 20°C	Tamb 25°C	Tamb 30°C	Tamb 35°C	Tamb 40°C	Tamb 45°C	Tamb 20°C	Tamb 25°C	Tamb 30°C	Tamb 35°C	Tamb 40°C	Tamb 45°C	Tamb 20°C	Tamb 25°C	Tamb 30°C	Tamb 35°C	Tamb 40°C	Tamb 45°C		
	Tev -15°C	Tamb 20°C	Tamb 25°C	Tamb 30°C	Tamb 35°C	Tamb 40°C	Tamb 45°C	Tamb 20°C	Tamb 25°C	Tamb 30°C	Tamb 35°C	Tamb 40°C	Tamb 45°C	Tamb 20°C	Tamb 25°C	Tamb 30°C	Tamb 35°C	Tamb 40°C	Tamb 45°C		

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- › Muffler on discharge line
- › Residential Soundproofing



- › Electrical box: power control box with thermal protection and capacity regulation
- › Soundproofing: double noise insulation (residential)

		HCI	HCI2015B2B1D4R	HCI2018B2B1D4R	HCI2020B2B1D4R	HCI2030B2B1D4R	HCI2050B2B1D4R	HCI3060B2B1D4R	HCI4120B2B1D4R	HCI4140B2B1D4R
			2				3		4	
Frame type			2				3		4	
Power supply	V/ph/Hz		380-400/3N~/50							
Max absorbed current (70Hz)	A	3.0	3.4	4.3	6.0	7.4	10.1	11.8	14.5	
Max absorbed power (70Hz)	kW	1.4	1.7	2.2	3.1	4.2	5.6	6.8	8.5	
Working temperature	°C	-15 ÷ -40								
Compressor	Type	Semihhermetic								
	Brand	Bitzer								
	Model	2GES-2Y	2FES-2Y	2DES-2Y	4FES-3Y	4DES-5Y	4CES-6Y	4PES-12Y	4NES-14Y	
	Refrigerant	R449A								
Condenser	Fin pitch	2.1								
	Fans nr.	1				2				
	Fans ø	450								
	Model	1ph-6P								
	Air flow	2,943				2,701		5,850		5,366
	Noise pressure level at 10 m (50Hz)	34	35	36	37	40	42	45	48	
Connections	Suction	16		22		28		35		42
	Liquid	10						12		
	Standard liquid receiver	2.3		5.7			10		21	21
	PED category	2								
	Unit net weight	170		193		215		330		335
Cooling capacity	Min./Max. Tev 5°C	Tamb 20°C	2.27/5.1	2.82/6.22	3.88/8.38	5.18/10.71	7.14/14.06	9.3/19.06	12.68/23.34	15.36/28.01
		Tamb 25°C	2.1/4.73	2.61/5.77	3.6/7.77	4.8/9.92	6.6/13	8.63/17.68	11.65/21.44	14.12/25.76
		Tamb 30°C	1.93/4.34	2.4/5.3	3.32/7.17	4.42/9.15	6.08/11.96	7.97/16.33	10.63/19.57	12.9/23.53
		Tamb 35°C	1.76/3.95	2.18/4.82	3.05/6.58	4.06/8.4	5.57/10.96	7.33/15.02	9.63/17.73	11.7/21.33
		Tamb 40°C	1.58/3.56	1.96/4.33	2.78/6	3.71/7.68	5.07/9.98	6.71/13.75	8.65/15.93	10.5/19.16
		Tamb 45°C	1.41/3.16	1.74/3.84	2.51/5.43	3.38/6.98	4.59/9.04	6.11/12.52	7.7/14.17	9.33/17.01
	Tev 0°C	Tamb 20°C	1.82/4.09	2.27/5.02	3.19/6.89	4.31/8.91	6/11.81	7.77/15.92	10.69/19.69	13.02/23.75
		Tamb 25°C	1.68/3.79	2.1/4.64	2.94/6.36	3.98/8.22	5.53/10.88	7.19/14.73	9.79/18.02	11.95/21.79
		Tamb 30°C	1.54/3.47	1.92/4.25	2.71/5.85	3.66/7.56	5.07/9.98	6.62/13.56	8.9/16.38	10.89/19.86
		Tamb 35°C	1.4/3.15	1.74/3.85	2.47/5.34	3.34/6.91	4.63/9.11	6.07/12.43	8.03/14.78	9.84/17.95
		Tamb 40°C	1.25/2.82	1.55/3.43	2.24/4.85	3.04/6.29	4.2/8.27	5.53/11.34	7.18/13.21	8.81/16.06
		Tamb 45°C	1.1/2.48	1.36/3.01	2.02/4.36	2.75/5.69	3.79/7.46	5.02/10.29	6.34/11.68	7.79/14.21
	Tev -5°C	Tamb 20°C	1.43/3.21	1.79/3.96	2.57/5.55	3.52/7.27	4.94/9.73	6.38/13.07	8.83/16.25	10.82/19.73
		Tamb 25°C	1.32/2.97	1.65/3.65	2.37/5.11	3.24/6.69	4.54/8.93	5.88/12.05	8.04/14.81	9.98/18.06
		Tamb 30°C	1.21/2.71	1.51/3.33	2.16/4.68	2.96/6.12	4.14/8.16	5.4/11.05	7.28/13.4	9/16.41
		Tamb 35°C	1.09/2.45	1.36/3	1.97/4.25	2.69/5.57	3.77/7.41	4.93/10.09	6.53/12.02	8.1/14.77
		Tamb 40°C	0.97/2.17	1.2/2.65	1.77/3.83	2.44/5.04	3.4/6.69	4.48/9.17	5.8/10.68	7.22/13.16
		Tamb 45°C	0.84/1.89	1.04/2.29	1.58/3.42	2.19/4.53	3.05/6	4.04/8.28	5.09/9.37	6.35/11.58
	Tev -10°C	Tamb 20°C	1.09/2.45	1.38/3.05	2.02/4.37	2.81/5.81	3.97/7.82	5.12/10.49	7.1/13.06	8.77/16
		Tamb 25°C	1.01/2.27	1.27/2.8	1.85/4.01	2.57/5.32	3.63/7.15	4.7/9.63	6.43/11.84	8/14.59
		Tamb 30°C	0.92/2.06	1.15/2.54	1.69/3.65	2.34/4.84	3.3/6.5	4.3/8.8	5.78/10.64	7.23/13.2
		Tamb 35°C	0.82/1.84	1.03/2.27	1.52/3.29	2.12/4.38	2.98/5.86	3.9/8	5.14/9.47	6.48/11.82
		Tamb 40°C	0.72/1.61	0.9/1.98	1.36/2.93	1.9/3.94	2.67/5.26	3.53/7.23	4.53/8.33	5.74/10.46
		Tamb 45°C	0.61/1.37	0.76/1.67	1.2/2.59	1.7/3.51	2.38/4.68	3.16/6.48	3.92/7.22	5.01/9.13
	Tev -20°C	Tamb 20°C	0.8/1.81	1.02/2.26	1.55/3.34	2.18/4.51	3.1/6.1	4/8.19	5.51/10.15	6.9/12.59
		Tamb 25°C	0.74/1.66	0.94/2.07	1.41/3.04	1.98/4.1	2.81/5.54	3.65/7.48	4.95/9.12	6.25/11.41
		Tamb 30°C	0.67/1.5	0.84/1.86	1.27/2.74	1.79/3.7	2.53/4.99	3.31/6.79	4.41/8.11	5.61/10.24
		Tamb 35°C	0.59/1.32	0.74/1.64	1.13/2.45	1.61/3.32	2.27/4.46	2.99/6.13	3.87/7.13	4.98/9.09
		Tamb 40°C	0.5/1.12	0.63/1.4	1/2.15	1.43/2.96	2.01/3.96	2.68/5.49	3.35/6.17	4.36/7.96
		Tamb 45°C	0.41/0.92	0.51/1.13	0.86/1.86	1.26/2.61	1.77/3.48	2.38/4.88	2.85/5.25	3.75/6.85
	Tev -15°C	Tamb 20°C	0.56/1.26	0.72/1.58	1.13/2.45	1.63/3.36	2.32/4.56	3.16/5	4.09/7.53	5.22/9.51
		Tamb 25°C	0.51/1.14	0.65/1.44	1.02/2.2	1.46/3.03	2.08/4.09	2.72/5.57	3.62/6.67	4.68/8.53
		Tamb 30°C	0.45/1.01	0.58/1.28	0.91/1.96	1.31/2.7	1.85/3.64	2.44/5.01	3.16/5.82	4.14/7.55
		Tamb 35°C	0.38/0.86	0.5/1.1	0.79/1.71	1.16/2.39	1.63/3.2	2.18/4.46	2.72/5	3.61/6.59
		Tamb 40°C	0.31/0.7	0.4/0.89	0.68/1.47	1.01/2.09	1.42/2.79	1.92/3.94	2.28/4.2	3.1/5.65
		Tamb 45°C	0.23/0.52	0.3/0.66	0.57/1.23	0.87/1.8	1.22/2.39	1.68/3.45	1.86/3.43	2.59/4.73



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

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

- › **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

BENEFITS

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

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

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

- › **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

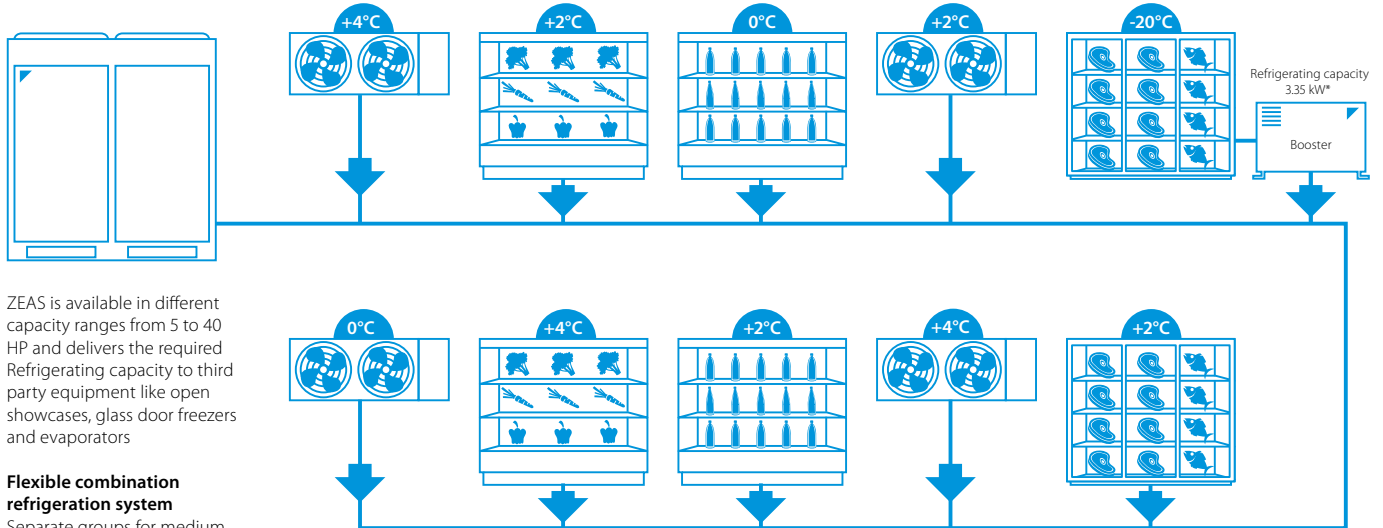
BENEFITS

- › **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)

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.

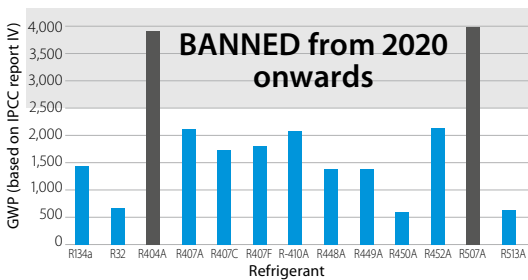
Operating range
Ambient temperatures: -20°C to +43 °C
Evaporating temperatures: -45°C to +10°C

* $T_e = -35^\circ\text{C}$, $T_c = -10^\circ\text{C}$, 10 K SH, $T_{amb} = 32^\circ\text{C}$
* Only Zeas. Not applicable for Mini-Zeas and Multi-Zeas

Why R-410A?

R-410A is a lower GWP refrigerant (less than 2,500) than R404A and is fully F-gas compliant. It's future proof: it can be used even after 2030!

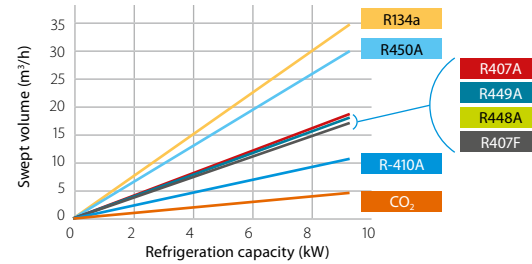
Use of refrigerant in refrigeration system with a refrigeration lower than 40 kW



Contributes to reducing installation cost and refrigerant charge

R-410A 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

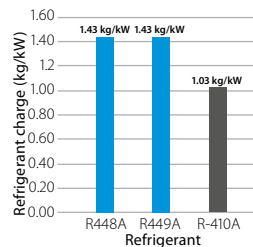


This means that for the same delivered refrigeration capacity we can use smaller components, thus reducing the installation cost and the amount of refrigerant charge in the system!

For a capacity of 8.4 kW ($T_e = -10^\circ\text{C} / T_{amb} = 32^\circ\text{C}$)

Refrigerant	Suction piping diameter
R134a	1 1/8"
R407A	7/8"
R407F	7/8"
R448A	7/8"
R449A	7/8"
R450A	1 1/4"
R-410A	3/4"
CO ₂	1/2"

Refrigerant charge per used refrigerant ($T_e = -10^\circ\text{C} / T_{amb} = 32^\circ\text{C}$)



R-410A 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 CO₂, Ammonia and Propane.
- > an A1 refrigerant, therefore no special safety measurements are required.



Mini-ZEAS condensing unit

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 piping 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



More details and final information can be found by scanning or clicking the QR codes.



LRMEQ-BY1



LRLEQ-BY1

Medium Temperature Refrigeration				LRMEQ/LRLEQ	3BY1	4BY1	3BY1	4BY1
Connectable capacity	Minimum~Maximum		%	50~100				
Refrigerating capacity	Low	Nom.	kW	-	-	2.78 (1)	3.62 (1)	
	Medium	Nom.	kW	5.90	8.40	-	-	
Power input	Low	Nom.	kW	-	-	2.60 (1)	3.41 (1)	
	Medium	Nom.	kW	2.53	3.65	-	-	
COP	Medium	Nom.		2.33	2.30	-	-	
Seasonal energy performance ratio SEPR	R-410A	Te -10°C - Te -35°C		4.17	4.08	1.74	1.68	
Annual electricity consumption Q	R-410A	Te -10°C - Te -35°C	kWh/a	8,698	12,651	11,920	16,048	
Parameters at part load and ambient temp. 25°C (Point B)	R-410A	Te -10°C - Te -35°C	Declared COP (COPB)	2.93	2.87	1.26	1.23	
Parameters at full load and ambient temp. 32°C (Point A)	R-410A	Te -10°C - Te -35°C	Rated COP (COPA)	2.33	2.30	-	-	
			Rated COP (COPA)	-	-	1.07	1.06	
			Rated cooling capacity (PA)	5.90	8.40	2.78	3.62	
			Rated power input (DA)	2.53	3.65	2.60	3.41	
Parameters at full load and ambient temp. 43°C	R-410A	Te -10°C - Te -35°C	Declared COP (COP3)	1.51	1.48	-	-	
			Declared COP (COP3)	-	-	0.59	0.66	
			Cooling capacity (P3)	5.28	7.22	2.13	3.02	
			Power input (D3)	3.50	4.89	3.58	4.57	
Parameters at part load and ambient temp. 15°C (Point C)	R-410A	Te -10°C - Te -35°C	Declared COP (COPC)	4.12	3.92	1.63		
Parameters at part load and ambient temp. 5°C (Point D)	R-410A		Declared COP (COPD)	5.15	5.20	2.13	1.98	
Dimensions	Unit	HeightxWidthxDepth		mm	1,345x900x320			
Weight	Unit			kg	126		130	
Heat exchanger	Type	Cross fin coil						
Compressor	Type	Hermetically sealed scroll compressor						
	Starting method	Direct on line (inverter driven)						
Fan	Type	Propeller						
	Quantity	2						
Fan motor	Air flow rate Cooling	Nom.	m ³ /min	106				
	Output		W	70				
	Drive	Direct drive						
Sound pressure level	Nom.			dB(A)	51 (1)		51.0 (2)	
Piping connections	Liquid	OD	mm	9.52				
	Gas	OD	mm	19.1				
Refrigerant	Type/GWP	R-410A/2,087.5						
Refrigerant	Charge			kg/TCO ₂ Eq	4.50/9.39		6.90/14.4	
	Control	Electronic expansion valve						
Power supply	Phase/Frequency/Voltage			Hz/V	3N~/50/380-415			

(1) Sound pressure data: measured at 1m in front of unit, at 1.5m height | (2)Cooling: evaporating temp. -35°C; outdoor temp. 32°C; suction SH10°C | Cooling: evaporating temp. -10°C; outdoor temp. 32°C; suction SH10°C

ZEAS condensing unit for commercial refrigeration with scroll technology

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

- › 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



More details and final information can be found by scanning or clicking the QR codes.



LREQ-BY1

				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						
Heat exchanger	Type	Cross fin coil													
Compressor	Type	Hermetically sealed scroll compressor													
Compressor 1	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					
Compressor 2	Speed		rpm	5,280	6,540	4,320	6,060	6,960	5,280	6,960					
	Starting method	Direct on line (inverter driven)													
Compressor 3	Output		W	-	-	-	-	3,600	-	3,600					
	Speed		rpm	-	-	-	-	2,900	-	2,900					
Fan	Type	Propeller fan													
	Quantity	1													
Fan motor	Air flow rate	Cooling	Nom.	m ³ /min	95	102	171	179	191	230	240				
	Output		W	350			750		350	750					
Fan motor 2	Drive	Direct drive													
	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												
Power supply	Charge		kg	5.2		7.9		11.5							
	Control		TCO ₂ eq	10.9		16.5		24.0							
Power supply	Phase/Frequency/Voltage		Hz/V	Electronic expansion valve											
				3~/50/380-415											
				LREQ-BY1				30				40			
System	Outdoor unit module 1	LREQ15BY1R													
	Outdoor unit module 2	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



CO₂ Condensing units



CO₂ ZEAS refrigeration condensing unit

Refrigeration solution for various application featuring award winning swing technology with heat recovery to water possibility

- › Condensing units ideal for commercial and industrial applications with variable cooling capacity
- › Compressor controlled by inverter
- › Daikin swing compressor
- › Suitable for outdoor use in different climatic conditions
- › Wide range of capacities



CO₂ ZEAS 8 -10-12 HP

More details and final information can be found by scanning or clicking the QR codes.



LREN-A

Low Temperature Refrigeration, Medium Temperature Refrigeration, Heat Recovery			LREN	8AY1	10AY1	12AY1	12AY1+LRNUN5AY1
Refrigerating capacity	Low temperature	Nom.	kW	11.2 (1)	13.5 (1)	15.5 (1)	17.3 (1)
	Medium temperature	Nom.	kW	19.8 (2)	23.1 (2)	26.3 (2)	31.7(2)
Power input	Low temperature	Nom.	kW	11.6 (1)	14.1 (1)	16.9 (1)	18.6 (1)
	Medium temperature	Nom.	kW	10.7 (2)	13.2 (2)	15.5 (2)	20.1 (2)
COP	Medium temperature	Nom.		1.86 (2)	1.75 (2)	1.69 (2)	1.58 (2)
Dimensions	Unit	HeightxWidthxDepth	mm	1,680x1,930x765			-
Weight	Unit		kg	547			-
Heat exchanger	Type			Cross fin coil (waffle louver fins and Hi-X tubes)			-
Compressor	Type			Hermetically sealed swing compressor			-
	Output		W	4,600.0			-
Fan	Piston displacement		m ³ /h	6.16			-
	Starting method			Direct on line (inverter driven)			-
	Type			Propeller fan			-
Fan motor	Quantity			3			-
	Air flow rate	Cooling Nom.	m ³ /min	285 (3)		315 (3)	-
Sound pressure level	Output		W	750			-
	Drive			Direct drive			-
Piping connections	Nom.		dBA	61.0 (5)	62.0 (5)	64.0 (5)	65.0 (4)
	Low noise mode 1		dBA	59.0 (4)	59.0 (4)	61.0 (4)	
	Low noise mode 2		dBA	53.0 (4)	54.0 (4)	56.0 (4)	
Refrigerant	Liquid	OD	mm	15.9			
	Gas	OD	mm	22.2			
Power supply	Type/GWP			R744 (CO2)/1.0			
	Charge		kg	0.00 (4)			
	Control			Electronic expansion valve			
	Phase/Frequency/Voltage		Hz/V	3N~/50/380-415			

(1)Rated conditions: saturation temperature equivalent to suction pressure: -35°C (LT),outdoor temp. 32°C, Suction SH 10K | (2)Rated conditions: saturation temperature equivalent to suction pressure: -10°C (MT), outdoor temp. 32°C, Suction SH 10K | (3)Outdoor Unit Total Airflow | (4)The unit is not pre-charged. A minimal rest charge is present related to factory quality inspection | (5)Sound pressure data: measured at 1m in front of unit, at 1.5m height. Nominal operation condition – Medium evaporation temperature (MT) | Minimum load of each individual refrigeration indoor unit: 3 kW (for Medium Temperature Operation) | Minimum load of each individual refrigeration indoor unit: 2 kW (for Low Temperature Operation). | Every compressor equipped with 1 accumulator of 0.909 liters. | Compressor 1 | Compressor 2 | Compressor 3 | Factory charge of unit | For MT (Medium Temperature) Operation | For LT (Low Temperature) Operation | Compressor 1: 2Y190CPCY1P#C, Compressor 2: 2Y190CPCY1P#C, Compressor 3: 2Y190CPDY1P#C | Only K65 (or equivalent) with D.P. 90 bar is allowed to use for refrigeration piping. | For all the LRNUN5A7Y1 specifications, please refer to the related MDM drawing



Hubbard Condensing units with CO₂ refrigerant



- › Transcritical CO₂ Commercial Condensing Units for food retailers
- › Wide range of capacities: 2 to 10HP MT
- › Designed for quiet and energy-saving operation
- › Inverter technology reduces energy consumption by up to 30%
- › EC fans work efficiently and quietly
- › Easy and flexible installation
- › Designed as plug & play solutions



- F-Gas Free
- Plug&Play
- Proportional Modulation
- Protective Case
- Switchboard
- Electronic Control

More details and final information can be found by scanning or clicking the QR codes.



GCU-PXB1

Medium Temperature		GCU 2020 PXB1		GCU 2040 PXB1		GCU 4070PXB1		
Capacity *		HP	2	4	10			
	Min.	kW	1.80	3.25	6.25			
	Max.		3.39	6.50	12.54			
Power & Energy EcoDesign (2009/125/EC)		Ph./Hz./VAC	3PH/50Hz/400VAC					
	FLC	A	8.64	16.04	18.25			
	COP/SEPR	kWh/a	1.87/3.57 SEPR	3.24 SEPR	2.92 SEPR			
Compressor	Compression		2 Stage (Intercooler)					
	Type		Panasonic Hermetic Rotary					
	Cap Ctrl.		ABB Frequency Inverter					
	RPM		2,200 ~ 4,200	2,200 ~ 4,800	1,800 ~ 3,600			
	Qty.		1					
Gas cooler fans	Oil		DAPHNE PZ68S					
	Type		0.7	1.15	1.80			
	Qty.		Ebmpapst EC					
Sound pressure (10 m)		m ³ /s	1					
		mm	1.05					
		dB(A)	450					
Refrigerant	Type/GWP		45.0					
Receiver volume			R744/1					
Standard pipe run		l	12.50					20.00
Liquid connections	Inch/Type	m	25	35	40			
Suction connections	Inch/Type		3/8"/K65					1/2"/K65
Oil separator	Standard		no					yes/Turbooil
Oil level control	Standard		N/A					Cappillary
Dimensions	Unit L x D x H	mm	1,452x574x799					1,684x773x1,438
Surface area		m ²	0.83					1.29
Weight		kg	151	155	285			
Colour	RAL		Light Grey RAL 7035 (Powder Coated & Baked)					
Controller	Type		CAREL pRack pR300 Electronic Controller					
High side PRV		Bar	N/A					120
Intermediate PRV		Bar	90					80
Compressor HP Switch	Standard							Yes x1
PED 2014/68/EU	Category							Cat. III

* Nominal Tevap. -10°C | Tamb +32°C | 10K Superheat

Hubbard Condensing units with CO₂ refrigerant



- › Transcritical CO₂ Commercial Condensing Units for food retailers
- › Wide range of capacities: 4 to 10HP LT
- › Designed for quiet and energy-saving operation
- › Inverter technology reduces energy consumption by up to 30%
- › EC fans work efficiently and quietly
- › Easy and flexible installation
- › Designed as plug & play solutions



- F-Gas Free
- Plug&Play
- Proportional Modulation
- Protective Case
- Switchboard
- Electronic Control

More details and final information can be found by scanning or clicking the QR codes.



HCU-PXB1

Low Temperature				HCU2040PXB1		HCU4070PXB1	
Capacity *		HP		4HP		10HP	
	Min.	kW		1.7		3.3	
	Max.			3.03		6.56	
Power & Energy EcoDesign (2009/125/EC)		Ph./Hz./VAC		3PH/50Hz/400VAC			
	FLC	A		16.04		18.25	
	COP/SEPR		kWh/a	1.5		1.55	
Compressor	Compression			2 Stage (Intercooler)			
	Type			Panasonic Hermetic Rotary			
	Cap Ctrl.			ABB Frequency Inverter			
	RPM			2,700 to 4,800		1,800 to 3,600	
	Qty.					1	
Gas cooler fans	Oil			Daphne PZ685			
	Type			1.15		2.3	
	Qty.					Ebmpapst EC	
Sound pressure (10 m)						1	
		m ³ /s		1.05		2.1	
		mm				450	
Refrigerant	Type/GWP			45		48	
Receiver volume		l		12.5		20	
Standard pipe run		m		35		40	
Liquid connections	Inch/Type			3/8" (K65)		1/2" (K65)	
Suction connections	Inch/Type					1/2" (K65)	
Oil separator	Standard					Yes/Turbooil	
Oil level control	Standard					Capillary	
Dimensions	Unit	L x D x H	mm	1,452x574x799		1,684x773x1,438	
Surface area			m ²	0.83		1.29	
Weight			kg	161		300	
Colour	RAL			Light Grey RAL7035 (Powder Coated & Baked)			
Controller	Type			CAREL pRack pR300 Electronic Controller & Ultracap			
High side PRV			Bar			120	
Intermediate PRV			Bar	90		80	
Compressor HP Switch	Standard					Yes x1	
PED 2014/68/EU	Category					Cat. III	

* Nominal Tevap -35°C | Tamb +32°C | 10K Superheat

Compact CO₂ transcritical

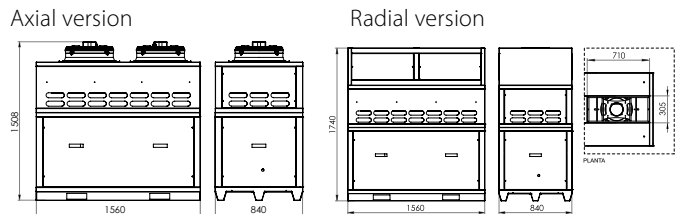
Compact compressor racks fully equipped with gas cooler (CO₂) to generate cold both with CO₂ transcritical cycle

- › Double V battery (NV58 only).
- › Greater exchange surface that allows a lower refrigerant flow and charge.
- › A battery can act as an evaporator in case of heat demand and when cold generation is not required (optional rhx plus nv58).
- › Electrical panel with controller and disconnect switch with external control.
- › NV58 drivable EC fans.
- › Reduced footprint.
- › EPOXY resin treatment option for battery protection.
- › Two independent modules to contain the compressors and the gas cooler
- › Condenser with 5 mm tubes (high performance) and with low refrigerant charge.
- › VF on the first compressor of each group.
- › Gas cooler with EC fans and maximum pressure of 120 bar.
- › Optional: up to 1 exchanger (RHX or IHX).
- › It covers refrigeration services in one or two temperatures, working as a booster.
- › Design pressures:
 - MP (MT Suction): 52 bar.
 - LP (LT Suction): 30 bar.
 - IP (Receiv. and liquid line): 70 bar.
 - HP (Discharge): 120 bar.

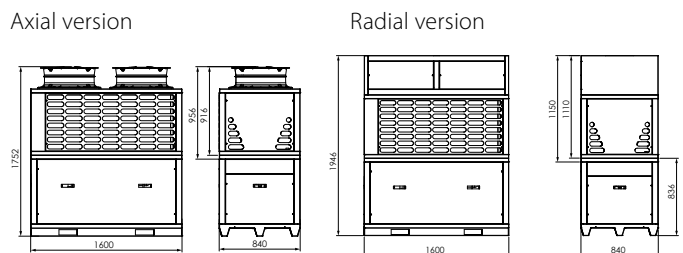


	1 to 2 piston compressors		Low noise level [Optional]
	1 to 3 scroll compressors		Electrical panel
	Axial/Radial AC/EC versions		Electronic control [Optional]
	Outdoor unit [Axial]		Proportional Modul. [Optional]

FNV42



FNV58



NV42 CO ₂				
Application		MT	MT + LT	
Cooling capacity	kW	12 kW	12 + 4 kW	18 + 4 kW
Number of compressors	nº	1	1 + 1	1 + 1
Inverter compressors	nº	1	1 + 0	1 + 0
Extra Equipment	Tipo	RHX	RHX	RHX
Recovery (max)	kW	13 kW	13 kW	13 kW

NV58 CO ₂					
Application		MT		MT + LT	
Cooling capacity	kW	32 kW	36 kW	28 + 4 kW	32 + 4 kW
Number of compressors	nº	1	2	1 + 1	2 + 1
Inverter compressors	nº	1	1	1 + 0	1 + 0
Extra Equipment	Tipo	RHX	RHX	RHX	RHX
Recovery (max)	kW	23 kW	25 kW	23 kW	25 kW

* Calculation conditions: Tev MT -8°C, Tev LT -32°C, Tsgc +35°C.

Compact CO₂ transcritical

Compact compressor racks fully equipped for cold generation with CO₂ in transcritical cycle

- › Double V battery.
- › Greater exchange surface, that allows a lower refrigerant flow and charge.
- › Possibility of installing a heat recovery unit.
- › Electrical panel with controller and disconnect switch with external control.
- › Two independent modules to contain the compressors and the gas cooler.
- › NV58 drivable EC fans.
- › EPOXY resin treatment option for battery protection.
- › Complete solution.
- › Plug & Play.
- › Indoor & outdoor.
- › Gas Cooler included.
- › 360° access.
- › Compact equipment.
- › Soundproofing.
- › Selectable electronic brand.
- › Condenser with 5 mm tubes (high performance) and with low refrigerant charge.
- › Optional: proportional compressor.

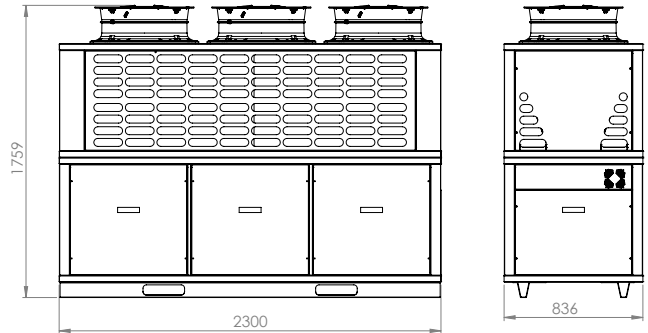


Selectable electronic brand

NOVA66: 360° accessibility

AXIAL VERSION NV66

- Fans**
› 3x Ø500 mm
- Air flow**
› 24,000 m³/h
- Sound pressure at 10 m**
› 46 up to 57 dB(A)



RHX



PS 120 / 70 / 52 / 30 Bar



Plug & Play



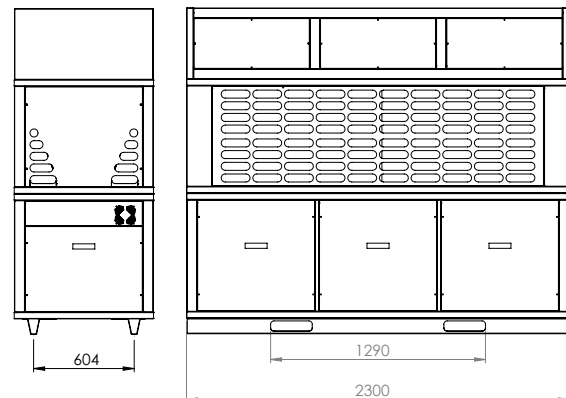
Emergency unit



Compact design

RADIAL VERSION NV66

- Fans**
› 3x Ø500 mm
- Air flow**
› 22,500 m³/h
- Available pressure**
› 100 Pa
- Sound pressure at 10 m**
› 50 up to 56 dB(A)



NV66 CO ₂		MT		MT + CP	
Application					
Cooling capacity	kW	44 kW	54 kW	63 kW	40 + 4 kW
Number of compressors	nº	2	3	2 + 1	2 + 1
Inverter compressors	nº	1	1	1 + 1	1 + 0 (opt.)
Extra equipment	Tipo	IHX / RHX	IHX / RHX	IHX / RHX	IHX / RHX
Recovery (max)	kW	30 kW	38 kW	40 kW	30 kW

* Calculation conditions: T_{ev} MT -8°C, T_{ev} LT -32°C, T_{sgc} +35°C.

Compact transcritical CO₂ compressor racks

Compact compressor racks fully equipped for cold generation with CO₂ in transcritical cycle

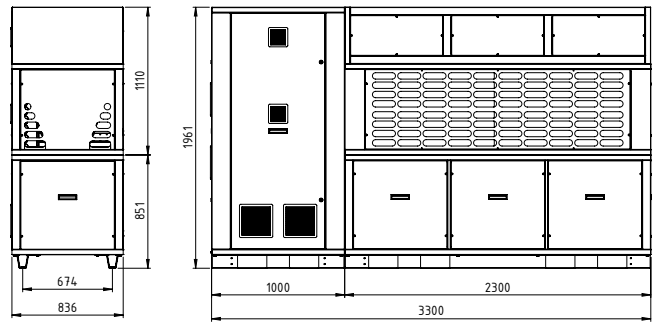
- › Double V battery with great exchange surface and lower flow rate required.
- › Two independent modules to contain the compressors and the gas cooler.
- › 360° accessible.
- › Up to 5 compressors.
- › 3 air outlet configurations.
- › Electrical panel with controller.
- › Multiple possibilities of loading and transportation.
- › Complete solution.
- › Plug & Play.
- › Indoor & outdoor.
- › Gas Cooler included.
- › 360° access.
- › Compact equipment.
- › Soundproofing.
- › Selectable electronic brand.
- › Parallel compressor (option).
- › Oil separator accumulator.
- › 90 l liquid receiver with internal exchanger for connection to the emergency unit.
- › Two electronic refrigerant level sensors (high and low level).
- › Emergency unit on board.
- › Parallel compressor (option).
- › Copper pipes and connections.
- › Frequency inverter for the first MT compressor and optional for the LT compressor.
- › Selectable electronic brands: Tewis (EWCM9000pro), Danfoss (AK-PC 772) or Carel (pRack PR300T).
- › Axial/radial fans option.
- › RHX option.
- › Design pressures:
 - MP (MT Suction): 52 bar.
 - LP (LT Suction): 30 bar.
 - IP (Receiver and liquid line): 70 bar.
 - HP (Discharge): 120 bar.



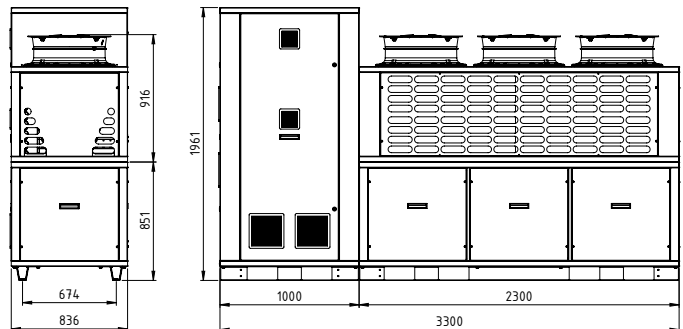
Selectable electronic brand



RADIAL VERSION



AXIAL VERSION



RHX



Emergency unit



PS 120 / 70 / 52 / 30 Bar



Compact design



Plug & Play

	GNV66**291YBX	GNV66**045YBX	TNV66**951YBX	TNV66**921YBX	TNV66**170YBX	TNV66**042YBX	TNV66**301YBX	TNV66**965YBX	TNV66**767YBX
Application	MT			MT + LT					
Compressor	Bitzer								
Capacity MT*	47.37	70.05	43.44	49.33	66.12	46.52	63.31	28.42	Dorin 37.27
Capacity LT*	-	-	3.9	3.9	3.9	6.68	6.68	6.68	7.27
MT compressors	1x 4JTC-15K (V.F.) + 1x 4HTC-15K	1x 4JTC-15K (V.F.) + 2x 4HTC-15K	1x 4JTC-15K (V.F.) + 1x 4HTC-15K	1x 4MTC-10K (V.F.) + 2x 4KTC-10K	1x 4JTC-15K (V.F.) + 2x 4HTC-15K	1x 4MTC-10K (V.F.) + 2x 4KTC-10K	1x 4JTC-15K (V.F.) + 2x 4HTC-15K	1x 4MTC-10K (V.F.) + 1x 4KTC-10K	1x CD4120-9.2H (V.F.) + 1x CD490-9.2M
LT compressors	-	-	1x 2MSL-07K	1x 2MSL-07K	1x 2MSL-07K	2x 2MSL-07K	2x 2MSL-07K	2x 2MSL-07K	2x CDS101B
	TNV66**919YBX	TNV66**762YBX	TNV66**768YBX	TNV66**310YBX	TNV66**322YBX	TNV66**966YBX	TNV66**769YBX	TNV66**775YBX	TNV66**323YBX
Application	MT + LT								
Compressor	Bitzer		Dorin		Bitzer		Dorin		Bitzer
Capacity MT*	44.96	26.44	34.8	42.09	58.88	23.99	30.85	41	55.82
Capacity LT*	8.26	9.68	9.68	11.1	11.1	11.1	13.54	13.54	14.16
MT compressors	1x 4MTC-10K (V.F.) + 2x 4KTC-10K	1x CD490-6.4H (V.F.) + 1x CD490-9.2M	1x CD4120-9.2H (V.F.) + 1x CD490-9.2M	1x 4MTC-10K (V.F.) + 2x 4KTC-10K	1x 4JTC-15K (V.F.) + 2x 4HTC-15K	1x 4MTC-10K (V.F.) + 1x 4KTC-10K	1x CD4120-9.2H (V.F.) + 1x CD490-9.2M	1x CD490-6.4H (V.F.) + 2x CD490-9.2M	1x 4JTC-15K (V.F.) + 2x 4HTC-15K
LT compressors	1x 2JSL-2K	2x CDS151B	2x CDS151B	2x 2KSL-1K	2x 2KSL-1K	2x 2KSL-1K	2x CDS181B	2x CDS181B	2x 2JSL-2K

* Calculation conditions: T_{ev} MT -8°C, T_{ev} LT -32°C, T_{sgc} +35°C.





Multi-compressor packs and racks

Compressor packs & racks



Multi compressor units

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 refrigeration system:

- › 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 system is through a oil separator, oil equalization is through a header fitted in the compressors oil sight glasses
- › According to the number of compressors fitted, there are one or two oil level indicators, fitted into the equalization header
- › The refrigerating system is equipped with liquid receiver, if the receiver is more than one, 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



Options and accessories:

- › Mechanical oil equalization system
- › Electronic oil distribution system
- › Closed frame
- › Closed frame with simple sound proofing material
- › Closed frame with double layer sound proofing material
- › Anti-vibration supports
- › Oversized liquid receiver
- › Different voltage and/or frequency
- › EWCM 4180 Electronic card
- › XC1000D-EWCM9100 Electronic card

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

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.

YouTube

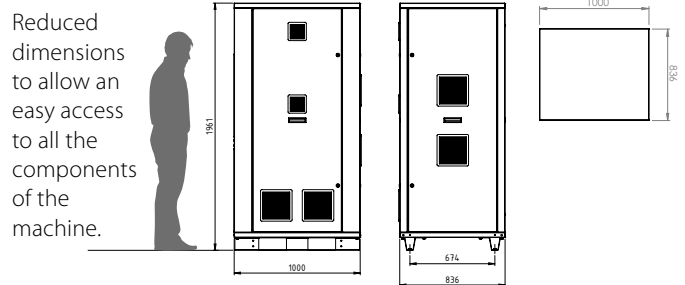




Compact CO₂ mini compressor racks

Mini compact compressor racks with less than 1 m² footprint, highly competitive, with CO₂ in transcritical cycle for cold generation

- › Highly accessible front opening door with hinges.
- › Lateral practicable door.
- › Vertical liquid receiver with exchanger prepared for connection to the emergency unit.
- › Practicable electrical panel with controller and complete wiring.
- › Compatible with Tewis remote management systems.
- › Adapted design for proper loading and transportation.
- › Up to 2 MT compressors and 1 LT compressor.
- › 360° access for easy maintenance.
- › Oil separator accumulator.
- › Two refrigerant level electronic sensors (high and low level).
- › Frequency inverter for the first MT compressor and optional for the LT compressor.
- › Optional frame for outdoor use.
- › 48l liquid receiver, with internal exchanger for connection to the emergency unit.
- › Optional connection to an external RHX. RHX can be installed on MT models.
- › Emergency unit not included (junctions included). Required power: 280 W @R134a Tev +5°C.
- › Selectable electronic brands: Tewis (EWCM9000pro), Danfoss (AK-PC 772) or Carel (pRack PR300T Medium).
- › Bitzer & Dorin compressors.
- › Design pressures:
 - MP (MT suction): 52 bar.
 - LP (LT suction): 30 bar.
 - IP (Receiver and liquid line): 70 bar.
 - HP (Discharge): 120 bar.



Reduced dimensions to allow an easy access to all the components of the machine.



360° access, with lateral practicable door.

- RHX
- Plug & Play
- Compact design
- PS 120 / 70 / 52 / 30 Bar
- Sound-proofing [Optional]
- < Maintan. costs

BITZER	GNS21JC302XBX	GNS21JC872YBX	GNS21JC882YBX	TNS21JC304XBX	TNS21JC881YBX	TNS21JC880YBX
Application	MT			MT+LT		
Capacity MT*	kW 18.17	kW 22.63	kW 35.15	kW 14.24	kW 31.88	kW 31.22
Capacity LT*	-			kW 3.90	kW 3.23	kW 3.90
GC needed	kW 32.08	kW 39.96	kW 62.08	kW 32.08	kW 62.08	kW 62.08
MT Compressors	n° 1x 2MTE-5K + 1x 2KTE-7K	n° 1x 4PTC-7K + 1x 4MTC-7K	n° 1x 4MTC-10K + 1x 4KTC-10K	n° 1x 2MTE-5K + 1x 2KTE-7K	n° 1x 4MTC-10K + 1x 4KTC-10K	n° 1x 4MTC-10K + 1x 4KTC-10K
LT Compressors	-			n° 1x 2MSL-07K	n° 1x 2NSL-05K	n° 1x 2MSL-07K
Lp**	dB(A) 38.7	dB(A) 46.7	dB(A) 47.3	dB(A) 39.4	dB(A) 47.4	dB(A) 47.4

DORIN	GNS21JC677XDX	GNS21JC684XDX	GNS21JC750XDX	TNS21JC670XDX	TNS21JC679XDX	TNS21JC678XDX	TNS21JC658XDX	TNS21JC753XDX	TNS21JC659XDX
Application	MT			MT+LT					
Capacity MT*	kW 25.58	kW 36.35	kW 44.71	kW 21.07	kW 27.93	kW 30.33	kW 31.83	kW 34.05	kW 40.19
Capacity LT*	-			kW 4.37	kW 8.15	kW 5.83	kW 4.37	kW 10.30	kW 4.37
GC Capacity	kW 45.17	kW 64.18	kW 78.95	kW 45.17	kW 64.18				
MT Compressors	n° 1x CD475-4.7H + 1x CD475-6.4M	n° 1x CD490-6.4H + 1x CD490-9.2M	n° 1x CD4120-9.2H + 1x CD490-9.2M	n° 1x CD475-4.7H + 1x CD475-6.4M	n° 1x CD490-6.4H + 1x CD490-9.2M	n° 1x CD490-6.4H + 1x CD490-9.2M	n° 1x CD490-6.4H + 1x CD490-9.2M	n° 1x CD4120-9.2H + 1x CD490-9.2M	n° 1x CD4120-9.2H + 1x CD490-9.2M
LT Compressors	-			n° 1x CDS101B	n° 1x CDS181B	n° 1x CDS151B	n° 1x CDS101B	n° 1x CDS301B	n° 1x CDS101B
Lp**	dB(A) 39.6	dB(A) 41.2	dB(A) 42.1	dB(A) 39.7	dB(A) 41.3		dB(A) 42.2	dB(A) 42.1	

* Calculation conditions: Tev MT -8°C, Tev LT -32°C, Tsge +35°C. | **Sound pressure at 10m, considering a spherical surface, in open ground and with soundproofing. Tolerance ±2 dB.

AXIAL	GNV58PE	GNV58PE LPS	GNV66PE	GNV66PE LPS
Capacity	kW 58.84	kW 52.15	kW 88.4	kW 79.27
Air flow	m ³ /h 16,400	m ³ /h 12,800	m ³ /h 24,000	m ³ /h 19,200
Sound pressure 10m	dB(A) 52	dB(A) 46	dB(A) 53	dB(A) 45
Fans	n° 2x Ø500 EC		n° 3x Ø500 EC	

RAD.	GNV58NE	GNV66NE
Capacity	kW 56.28	kW 85.61
Air flow	m ³ /h 15,000	m ³ /h 22,500
Sound pressure 10m	dB(A) 49	dB(A) 50
Fans	n° 2x Ø500 EC	

* Calculation conditions: Air T. 35°C, GC outlet 37°C, Gas Inlet T. 115°C, Gas Pressure 92 bar. Available pressure radial models. 100 Pa



CO₂ compact compressor rack

Compact compressor racks fully equipped for the generation of cold with CO₂ in transcritical cycle

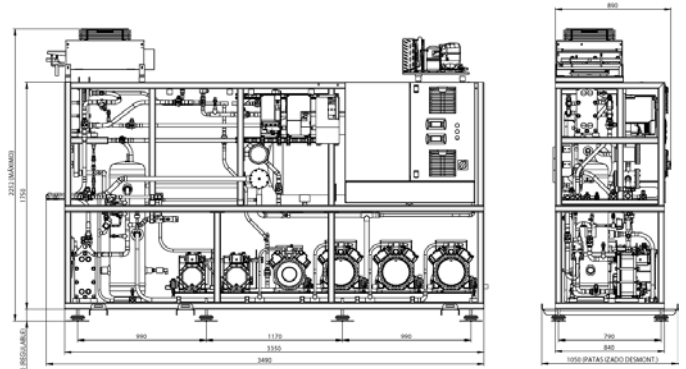
- › Horizontal liquid receiver: 92/120/160 lit.
- › Tubular chassis.
- › Electrical panel located above the compressors.
- › Separator accumulator.
- › Up to 6 compressors.
- › Easy start-up and maintenance: all connections on the same side.
- › Reduced width of 790 mm that allows it to pass through any standard door.
- › Oil separator accumulator.
- › 92/120/160 l liquid receiver, with internal exchanger for connection to emergency unit.
- › Two electronic refrigerant level sensors (high and low levels).
- › Frequency inverter for the first MT compressor and optional for the LT compressor.
- › Selectable electronics brand: Tewis (EWCM9000pro), Danfoss (AK-PC 772 or 782) or Carel (pRack PR300T Medium or Large).
- › All copper connections.
- › Design pressures:
 - MP (MT suction): 52 bar.
 - LP (LT suction): 30 bar.
 - IP (Receiver and liquid line): 70 bar.
 - HP (Discharge): 120 bar.



Smart Rack

Three different frame sizes available:

- › 4 compressors: length 1,900 mm
- › 5 compressors: length 2,650 mm
- › 6 compressors: length 3,350 mm



RHX

Emergency unit

Plug & Play

PS 120 / 70 / 52 / 30 Bar

Compact design

Receiver up to 160l

	GSR2FJ_093YBX	GSR2FJ_041YBX	TSR2EJ_585YBX	TSR2FJ_092YBX	TSR2FJ_086YBX	TSR2FJ_089YBX		
Application	MT			MT+LT				
Capacity MT*	70 Hz	kW	94.9	114.67	36.84	62.7	75.26	81.48
Capacity LT*	70 Hz	kW	-	-	5.79	6.48	6.48	6.48
MT Compressors	n°	1x 4JTE-15K (V.F.) + 2x 4JTE-15K	1x 4HTE-20K (V.F.) + 1x 4FTE-20K	1x 4JTE-15K (V.F.) + 1x 4JTE-15K	1x 4HTE-20K (V.F.) + 1x 4FTE-20K	1x 4HTE-20K (V.F.) + 2x 4HTE-20K	1x 4HTE-20K (V.F.) + 1x 4HTE-20K	
Parallel Compressors	n°	1x 4MTE-10K	1x 4JTE-15K	-	-	1x 4MTE-10K		
LT Compressors	n°	-	-	1x 2KSL-1K	1x 2KSL-1K	1x 2KSL-1K		

	TSR2FJ_439YBX	TSR2FJ_090YBX	TSR2FJ_490YBX	TSR2FJ_489YBX	TSR2EJ_112YBX	TSR2FJ_128YBX		
Application	MT+LT							
Capacity MT*	70 Hz	kW	70.61	37.97	62.01	73.76	20.47	50.81
Capacity LT*	70 Hz	kW	11.1	12.7	14.16	14.16	18.5	18.33
MT Compressors	n°	1x 4HTE-20K (V.F.) + 2x 4HTE-20K	1x 4JTE-15K (V.F.) + 1x 4HTE-20K	1x 4JTE-15K (V.F.) + 1x 4JTE-15K	1x 4HTE-20K (V.F.) + 1x 4HTE-20K	1x 4JTE-15K (V.F.) + 1x 4JTE-15K	1x 4HTE-20K (V.F.) + 1x 4FTE-20K	
Parallel Compressors	n°	-	1x 4MTE-10K	1x 4MTE-10K	1x 4MTE-10K	-		
LT Compressors	n°	1x 2KSL-1K + 1x 2KSL-1K	1x 2GSL-3K	1x 2JSL-2K + 1x 2JSL-2K	1x 2JSL-2K + 1x 2JSL-2K	1x 2HSL-3K + 1x 2HSL-3K	1x 2HSL-3K + 1x 2HSL-3K	

	TSR2FJ_128YBX	TSR2EJ_893YBX	TSR2FJ_193YBX	TSR2EJ_895YBX	TSR2FJ_444YBX	TSR2FJ_088YBX		
Application	MT+LT							
Capacity MT*	70 Hz	kW	80.75	22.5	82.91	22.81	46.8	76.79
Capacity LT*	70 Hz	kW	18.5	21.06	21.77	28.07	27.82	27.82
MT Compressors	n°	1x 4HTE-20K (V.F.) + 2x 4FTE-20K	1x 4JTE-15K (V.F.) + 1x 4HTE-20K	1x 4HTE-20K (V.F.) + 2x 4FTE-20K	1x 4HTE-20K (V.F.) + 1x 4HTE-20K	1x 4JTE-15K (V.F.) + 2x 4HTE-20K	1x 4HTE-20K (V.F.) + 2x 4FTE-20K	
Parallel Compressors	n°	-	-	-	-	-		
LT Compressors	n°	2x 2HSL-3K	1x 2GSL-3K + 1x 2GSL-3K	1x 2GSL-3K + 1x 2GSL-3K	1x 2FSL-4K + 1x 2FSL-4K	1x 2FSL-4K + 1x 2FSL-4K	1x 2FSL-4K + 1x 2FSL-4K	

	TSR2GJ_001ZBX	TSR2GJ_002ZBX	TSR2GJ_003ZBX	TSR2GJ_004ZBX	TSR2GJ_995YBX	TSR2GJ_005ZBX		
Application	MT+LT							
Capacity MT*	70 Hz	kW	66.43	72.4	106.38	118.19	70	134.08
Capacity LT*	70 Hz	kW	6.68	11.1	14.16	21.77	25	27.82
MT Compressors	n°	1x 4MTE-10K (V.F.) + 2x 4MTE-10K	1x 4MTE-10K (V.F.) + 2x 4KTE-10K	1x 4JTE-15K (V.F.) + 2x 4HTE-15K	1x 4HTE-20K (V.F.) + 2x 4HTE-15K	1x 4JTE-15K (V.F.) + 2x 4HTE-20K	1x 4HTE-20K (V.F.) + 2x 4FTE-20K	
Parallel Compressors	n°	1x 4MTE-10K (V.F.) + 1x 2MSL-07K	1x 4MTE-10K (V.F.) + 1x 2KSL-1K	1x 4JTE-15K (V.F.) + 1x 2JSL-2K	1x 4HTE-20K (V.F.) + 1x 2GSL-3K	1x 4MTE-10K (V.F.) + 1x 2FSL-4K	1x 4HTE-20K (V.F.) + 1x 2FSL-4K	
LT Compressors	n°	1x 2MSL-07K (V.F.) + 1x 2MSL-07K	1x 2KSL-1K (V.F.) + 1x 2KSL-1K	1x 2JSL-2K (V.F.) + 1x 2JSL-2K	1x 2GSL-3K (V.F.) + 1x 2GSL-3K	1x 2FSL-4K (V.F.) + 1x 2FSL-4K	1x 2FSL-4K (V.F.) + 1x 2FSL-4K	

* Calculation conditions: Tev MT -8°C, Tev LT -32°C, Tsgc +35°C. | Design pressures: MP (MT suction): 52 bar, LP (LT suction): 30 bar, IP (Container and liquid line): 70 bar, HP (Discharge): 120 bar | Temperature, LT = Low Temperature, pc = Parallel compressor

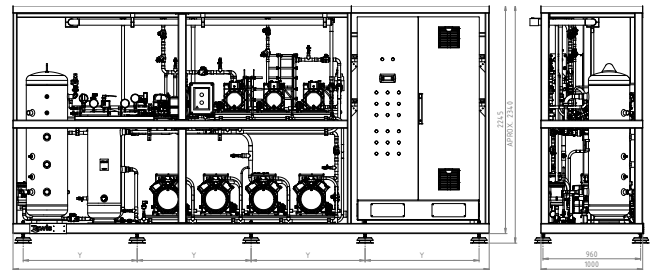
CO₂ compact compressor rack

Smart Duplex compressor racks offer the highest powers for the commercial refrigeration range with CO₂ at 2 temperatures

- › Profitability and energy savings.
- › 100% CO₂ = low environmental impact.
- › Compact and simple design (only 1 m depth).
- › High capacity up to 9 compressors.
- › Vertical liquid receiver with high capacity (up to 2x250 l).
- › Extreme flexibility.
- › Remote control (accessible anywhere).
- › Easy commissioning and maintenance.
- › Possibility of 2 RHX, one for DHW and one for air conditioning.
- › Tubular chassis.
- › Oil separator accumulator.
- › High capacity liquid receiver (up to 2x250 l).
- › Up to 9 compressors.
- › Frequency inverter for MT & LT.
- › Two electronic sensors for refrigerant levels.
- › All copper connections.



Smart Duplex



from 4.7 up to 6 m (depending on model)

DEPTH: JUST 1 m

- RHX
- Plug & Play
- M2 1,000 - 2,500 m²
- PS 120 / 60 / 52 / 30 Bar
- Emergency unit
- Compact design
- 80 to 250KW
- Liquid receiver up to 2x250
- < Maintan. costs

		GSD3KJ_048ZBX		GSD3MJ_049ZBX	TSD3JJ_028ZBX	TSD3JJ_030ZBX	TSD3JJ_031ZBX	TSD3KJ_033ZBX
Application		MT				MT+LT		
Capacity MT*	70 Hz	kW	179.56	266.6	52	64.41	77.52	105.43
Capacity LT*	70 Hz	kW	-	-	20.37	31.32	26.38	34.14
MT Compressors		n°	1x 4HTE-20K (V.F. @70 Hz) + 4x 4FTE-30K	1x 4HTE-30K (V.F. @70 Hz) + 4x 4CTE-30K	1x 4JTE-15K (V.F. @70 Hz) + 2x 4HTE-20K	1x 4JTE-15K (V.F. @70 Hz) + 3x 4HTE-20K	1x 4HTE-20K (V.F. @70 Hz) + 2x 4FTE-30K	1x 4HTE-20K (V.F. @70 Hz) + 3x 4FTE-30K
Parallel Compressors		n°						
LT Compressors		n°			1x 2JSL-2K (V.F. @70 Hz) + 2x 2JSL-2K	1x 2GSL-3K (V.F. @70 Hz) + 2x 2GSL-3K	1x 2HSL-3K (V.F. @70 Hz) + 2x 2HSL-3K	1x 2HSL-3K (V.F. @70 Hz) + 3x 2HSL-3K
		TSD3JJ_035ZBX	TSD3JJ_034ZBX	TSD3JJ_050ZBX	TSD3JJ_051ZBX	TSD3MJ_052ZBX	TSD3MJ_053ZBX	
Application		MT+LT						
Capacity MT*	70 Hz	kW	122.55	113.46	155.36	172.74	184.04	213.73
Capacity LT*	70 Hz	kW	18.62	26.81	36.44	36.44	75.88	48.21
MT Compressors		n°	1x 4HTE-20K (V.F. @70 Hz) + 3x 4FTE-30K	1x 4HTE-20K (V.F. @70 Hz) + 3x 4FTE-30K	1x 4HTE-20K (V.F. @70 Hz) + 3x 4CTE-30K	1x 4FTE-30K (V.F. @70 Hz) + 3x 4CTE-30K	1x 4FTE-20K (V.F. @70 Hz) + 4x 4CTE-30K	1x 4FTE-30K (V.F. @70 Hz) + 4x 4CTE-30K
Parallel Compressors		n°						
LT Compressors		n°	1x 2HSL-3K (V.F. @70 Hz) + 1x 2HSL-3K	1x 2JSL-2K (V.F. @70 Hz) + 2x 2GSL-3K	1x 2GSL-3K (V.F. @70 Hz) + 2x 2FSL-4K	1x 2GSL-3K (V.F. @70 Hz) + 2x 2FSL-4K	1x 2DSL-5K (V.F. @70 Hz) + 3x 2DSL-5K	1x 2GSL-3K (V.F. @70 Hz) + 3x 2FSL-4K
		TSD3JJ_037ZBX	TSD3JJ_039ZBX	TSD3JJ_042ZBX	TSD3JJ_040ZBX	TSD3JJ_044ZBX	TSD3KJ_041ZBX	
Application		MT+LT						
Capacity MT*	70 Hz	kW	85.97	110.01	123.56	119.33	130.4	123.71
Capacity LT*	70 Hz	kW	31.32	26.81	14.38	35.02	24.67	36.44
MT Compressors		n°	1x 4JTE-15K (V.F. @70 Hz) + 2x 4HTE-20K	1x 4HTE-20K (V.F. @70 Hz) + 2x 4HTE-20K	1x 4HTE-20K (V.F. @70 Hz) + 2x 4HTE-20K	1x 4JTE-15K (V.F. @70 Hz) + 2x 4FTE-30K	1x 4JTE-15K (V.F. @70 Hz) + 2x 4FTE-30K	1x 4HTE-20K (V.F. @70 Hz) + 3x 4HTE-20K
Parallel Compressors		n°	1x 4JTE-15K (V.F.)	1x 4HTE-20K (V.F.)	1x 4HTE-20K (V.F.)	1x 4HTE-20K (V.F.)	1x 4HTE-20K (V.F.)	1x 4HTE-20K (V.F.)
LT Compressors		n°	1x 2GSL-3K (V.F. @70 Hz) + 2x 2GSL-3K	1x 2JSL-2K (V.F. @70 Hz) + 2x 2GSL-3K	1x 2JSL-2K (V.F. @70 Hz) + 1x 2JSL-2K	1x 2ESL-4K (V.F. @70 Hz) + 1x 2ESL-4K	1x 2GSL-3K (V.F. @70 Hz) + 1x 2FSL-4K	1x 2GSL-3K (V.F. @70 Hz) + 2x 2FSL-4K
		TSD3KJ_041ZBX	TSD3JJ_045ZBX	TSD3KJ_046ZBX	TSD3KJ_047ZBX	TSD3KJ_096ZBX		
Application		MT+LT						
Capacity MT*	70 Hz	kW	123.71	130.05	174.7	188.76	204.69	
Capacity LT*	70 Hz	kW	36.44	31.32	49.61	36.44	26.38	
MT Compressors		n°	1x 4HTE-20K (V.F. @70 Hz) + 3x 4HTE-20K	1x 4HTE-20K (V.F. @70 Hz) + 2x 4FTE-30K	1x 4HTE-20K (V.F. @70 Hz) + 3x 4FTE-30K	1x 4HTE-20K (V.F. @70 Hz) + 3x 4FTE-30K	1x 4GTE-30K (V.F. @70 Hz) + 2x 4DTE-25K	
Parallel Compressors		n°	1x 4HTE-20K (V.F.)	1x 4HTE-20K (V.F.)	1x 4FTE-30K (V.F.)	1x 4FTE-30K (V.F.)	1x 4HTE-20K (V.F.) + 1x 4HTE-20K	
LT Compressors		n°	1x 2GSL-3K (V.F. @70 Hz) + 2x 2FSL-4K	1x 2GSL-3K (V.F. @70 Hz) + 2x 2GSL-3K	1x 2ESL-4K (V.F. @70 Hz) + 2x 2ESL-4K	1x 2GSL-3K (V.F. @70 Hz) + 2x 2FSL-4K	1x 2HSL-3K (V.F. @70 Hz) + 1x 2HSL-3K	

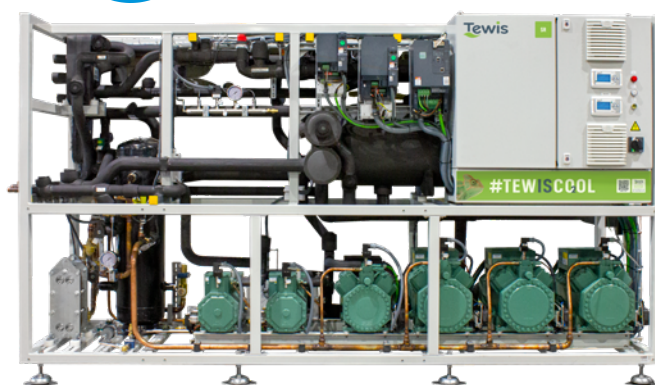
*Calculation conditions: Tev MT -8°C, Tev LT -32°C, Tsgc +35°C.

Switchboard & electronic control



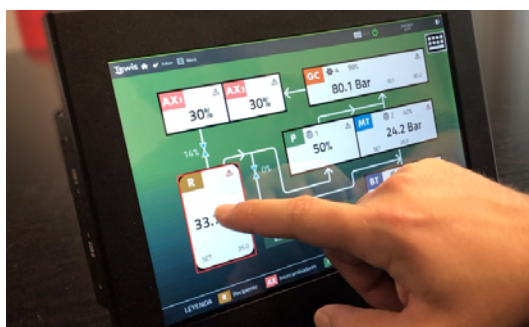
Switchboard

- › 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 CO₂ solutions with Booster circuit and allows to manage up to two circuits for the recovery of heat.
- › Tevis 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.

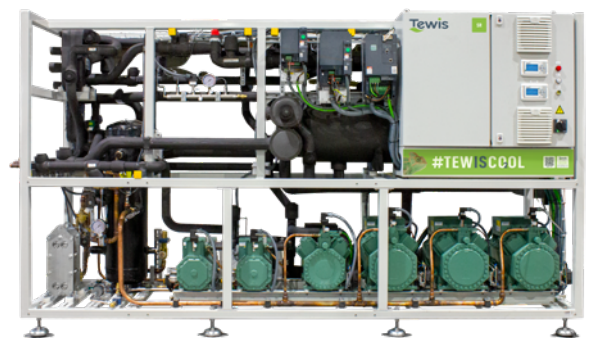




Fresh ideas for reliable performance

Choose the better solution – with Tewis Full CO₂ refrigeration systems





Why do so many widely-known retail chains count on Tewis? Because Tewis offers a well-thought-out, complete range of efficient refrigeration systems. Especially when working with R-744 under high pressure, best quality solutions count double. Avoid problems – with Tewis features like full stainless steel piping or surprisingly intuitive control systems.





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

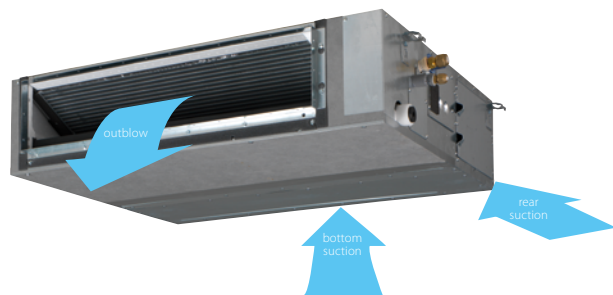
Model	Product name	Capacity (kW)	0	2	5	10	25	50	100	150	300	450	
Integrated solution for chilling, freezing, comfort cooling and heating 	Conveni-Pack LRYEQ-AY 	LT											
		MT											
		A/C											
		HR + HP											
CO ₂ Conveni-Pack LRNUN-AY1, LRYEN-AY1 		MT											
		AC											
		HR											

Indoor units compatible with CO₂ Conveni-Pack

NEW



CO₂ Round Flow Cassette
FXFN-A



Concealed Ceiling Unit
FXSN-A2

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



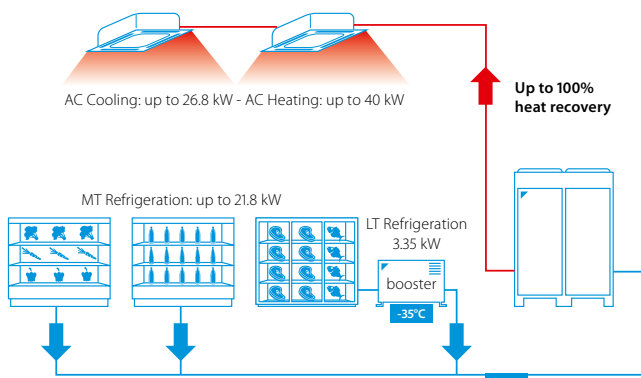
Conveni-Pack, integrated solution for commercial refrigeration, heating and air conditioning

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 determining factor for success.

Energy efficient heat recovery system

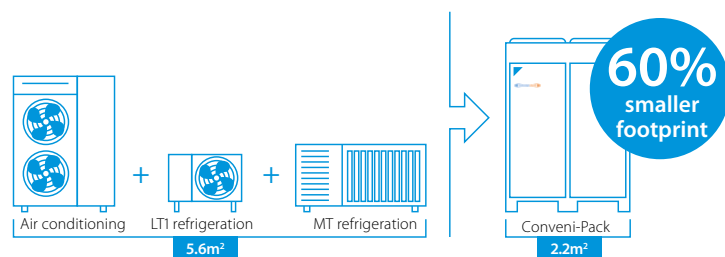
- › Conveni-Pack recovers up to 100% of the heat extracted from supermarket refrigeration cases and re-uses it to heat the retail space and improve shop comfort at no additional cost (heat recovery system)
- › Savings of up to 50% on energy costs
- › Daikin inverter scroll compressor with economizer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

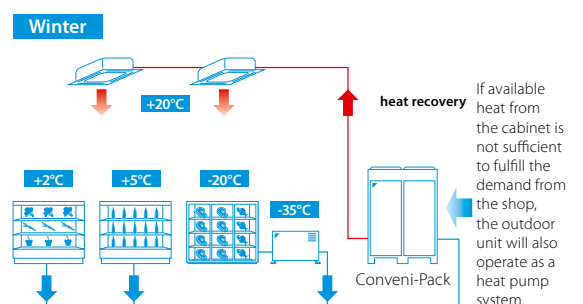
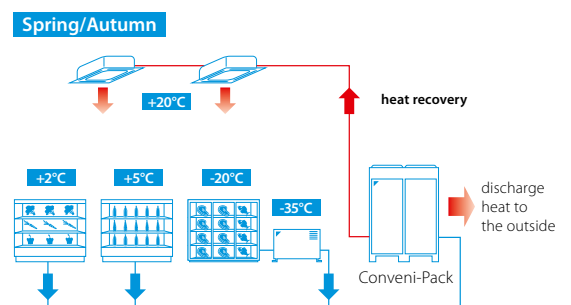
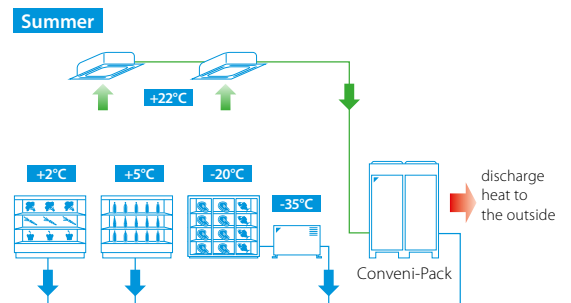
- › First mass-produced, whole-building system to combine medium and low refrigeration, heating, air conditioning in one circuit

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.



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

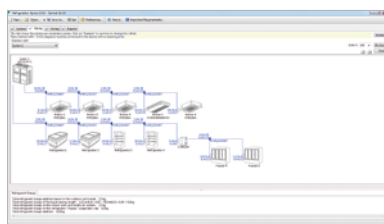
Benefits for shop owners

- › 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

CO₂ Conveni-Pack



Why choose CO₂ Conveni-pack?

- ✓ DX Refrigeration, Heating & Space cooling by CO₂, for those whom demand a totally natural solution
- ✓ Heat recovery, and for those colder days automatic heat pump operation
- ✓ Fully assembled & packaged unit, providing low noise levels
- ✓ Mass produced in Daikin Europe's award winning factory
- ✓ Each unit is fully factory & run tested
- ✓ All units in stock, fast delivery
- ✓ Reduces annual energy consumption by up to 50%, compared to other manufacturers solutions.
- ✓ Hermetic swing compressor, complete with two stage compression, for lower running temperatures
- ✓ Oversized DC Brushless motor technology for improved reliability & efficiency
- ✓ Automatically balances refrigeration & space heating / cooling loads
- ✓ "Plug and Play" technology, reduced "On site" commissioning
- ✓ Optimized control logic for reliability and efficiencies
- ✓ Adaptable evaporation temperature control

Natural HVACR 4 life



Project for demonstration of innovative, integrated HVACR installations with natural refrigerant.

OBJECTIVES

- **Remove barriers** in the market for introducing integrated refrigeration and air conditioning systems that use natural refrigerants which have a lower Global Warming Potential.
- **Raise awareness** among installers, engineers, customers and general public on the potential of a combined air conditioning and refrigeration system that uses CO₂ as a natural refrigerant.
- **Contribute** to the implementation of the EU F-gas Directive.

ACTIONS

1. Demonstrate viability

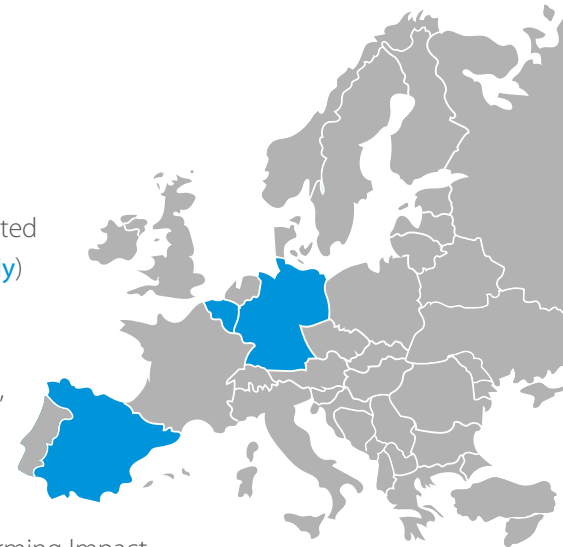
- test prototype in **Belgium** that integrates air conditioning and refrigeration with heat recovery in real life settings;
- install, operate and monitor the new concept in European supermarkets, located in both temperate and warm climate zones (**Germany** and **Spain, respectively**)

2. Organise training sessions for installers and customers

3. Help update the definitions of standards and energy labelling schemes for multi-functional products by providing information on tested risk management, procedures regarding flammability and toxicity of natural refrigerants

4. Develop a cassette-type indoor unit using CO₂ that best provides comfort cooling and heating

5. Research the potential of cold storage for improving the Total Equivalent Warming Impact



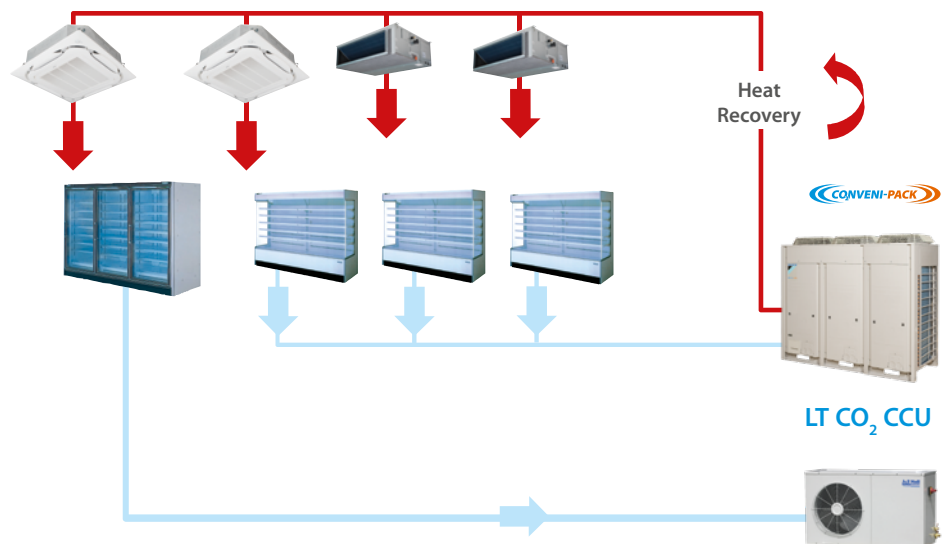
For more information refer to the website: naturalhvacr4life.eu

Low Temperature Showcases

Optional CO₂ CCU's are also available for Remote LT applications (not connected to Conveni-pack)



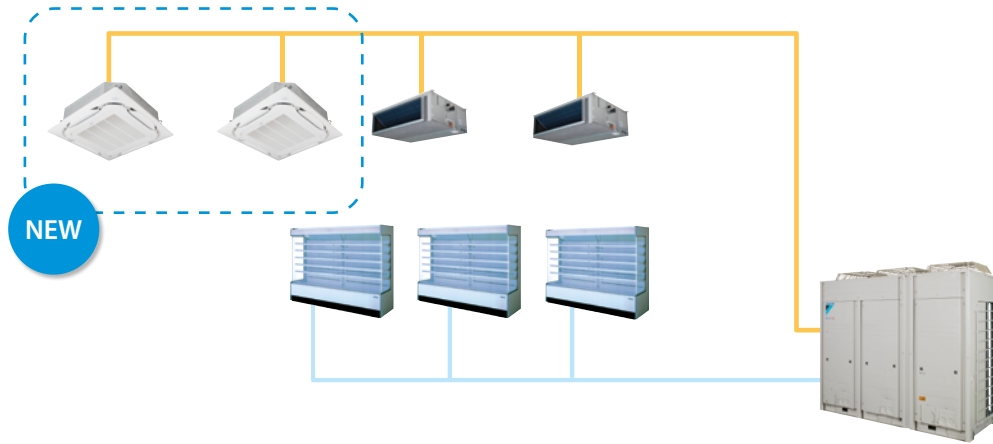
Plugin LT showcases with propane or LT condensing units with CO₂ are available to satisfy also freezer capacity needs.



CO₂ 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 CO₂ 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



More details and final information can be found by scanning or clicking the QR codes.



LRYEN-AY1

Medium Temperature Refrigeration, Cooling Only, Heating Only					LRYEN	10AY1
Parameters at part load and ambient temp. 25°C (Point B)						-
Parameters at part load and ambient temp. 25°C (Point B)						-
Dimensions	Unit	HeightxWidthxDepth		mm		1,680x1,930x765
Weight	Unit			kg		563
Heat exchanger	Type					Cross fin coil
Compressor	Type					Hermetically sealed swing compressor
	Output			W		4,600.0
	Piston displacement			m ³ /h		6.16
	Starting method					Direct on line (inverter driven)
Fan	Type					Propeller fan
	Quantity					3
	Air flow rate	Cooling	Nom.	m ³ /min		300
Fan motor	Output			W		750
Sound pressure level	Nom.			dBA		64.0
Refrigerant	GWP					1.0
	Type 2					R-744
	Charge			kg		6.30
	Control					Electronic expansion valve
Power supply	Phase/Frequency/Voltage		Hz/V			3N~/50/380-415

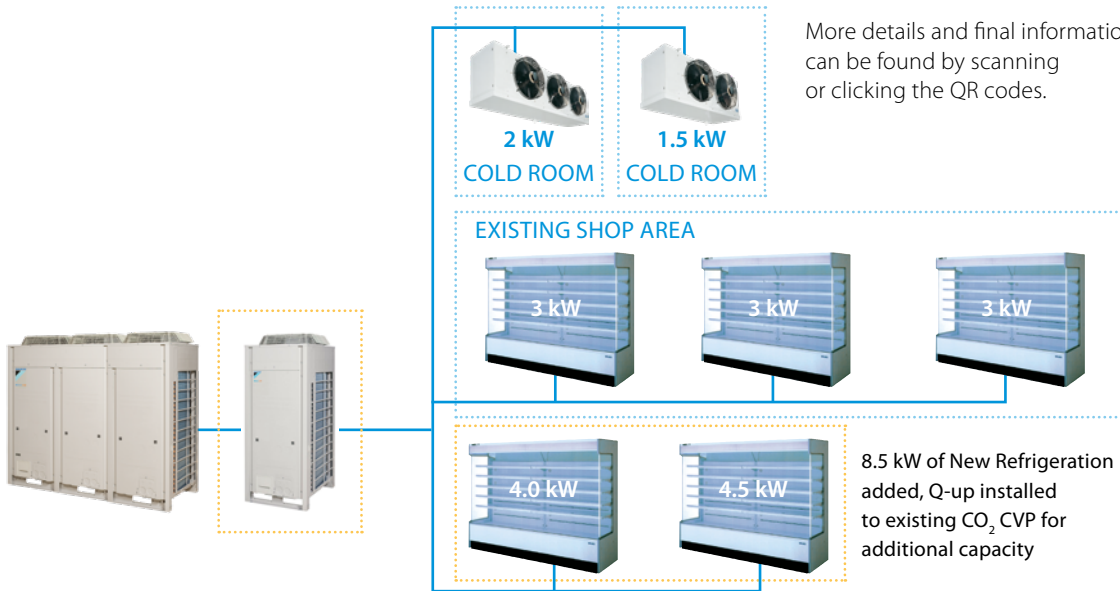
LRYEN10A7Y1+LRNUN5A7Y1 | Compressor 1 | Compressor 2 | Compressor 3 | Factory charge of unit | Only K65 with D.P. 120 bar is allowed to use for AC piping connections. | The safety valve pressure is indicated as gauge pressure. | Only K65 with D.P. 90 bar is allowed to use for refrigeration piping.

Capacity-up module for CO₂ Conveni-Pack

- › 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 CO₂ 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



LRNUN-AY1



LRNUN-AY1

Model	Refrigeration Capacity*	HR Capacity
DAIKIN CO ₂ CVP AC10	3 - 14.5 kW	22 kW

Q-up can also easily be added later, as part of a system upgrade

Model	Refrigeration Capacity*	HR Capacity
DAIKIN CO ₂ CVP AC10 + Q-up	3- 21 kW	22 kW

* Refrigeration capacity given under following conditions: Te = -10°C, 10 K SH and ambient = 32°C

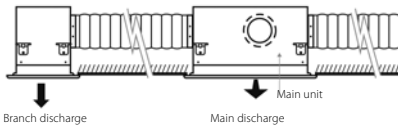
Medium Temperature Refrigeration				LRNUN	5AY1
Parameters at part load and ambient temp. 25°C (Point B)					-
Parameters at part load and ambient temp. 25°C (Point B)					-
Dimensions	Unit	HeightxWidthxDepth		mm	1,680x635x765
Weight	Unit			kg	173
Heat exchanger	Type				Cross fin coil
Compressor	Type				Hermetically sealed swing compressor
	Output			W	4,600.0
	Piston displacement			m ³ /h	6.16
	Starting method				Direct on line (inverter driven)
Fan	Type				Propeller fan
	Quantity				1
	Air flow rate	Cooling	Nom.	m ³ /min	102
Fan motor	Output			W	350
Sound pressure level	Nom.			dBA	65.0 (1)
Refrigerant	GWP				1.0
	Type 2				R-744
	Charge			kg	3.20
	Control				Electronic expansion valve
Power supply	Phase/Frequency/Voltage			Hz/V	3N~/50/380-415

(1)LRNUN5AY1+LRNUN5AY1 | Compressor 1 | Compressor 2 | Compressor 3 | Factory charge of unit | Only K65 with D.P. 120 bar is allowed to use for AC piping connections. | The safety valve pressure is indicated as gauge pressure. | Only K65 with D.P. 90 bar is allowed to use for refrigeration piping.

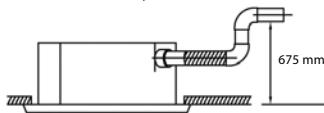
CO₂ Round Flow Cassette

360° air discharge for optimum efficiency and comfort

- › Automatic filter cleaning results in higher efficiency & comfort and lower maintenance costs.
- › Two optional intelligent sensors improve energy efficiency and comfort
- › Widest choice ever in decoration panels: designer panels in white (RAL9010) and black (RAL9005) and standard panels in white (RAL9010) with grey louvers or full white
- › Bigger flaps and unique swing pattern improve equal air distribution
- › Individual flap control: flexibility to suit every room layout without changing the location of the unit!
- › Lowest installation height in the market: 214mm for class 20-63
- › Optional fresh air intake
- › Branch duct discharge allows to optimize air distribution in irregular shaped rooms or to supply air to small adjacent rooms

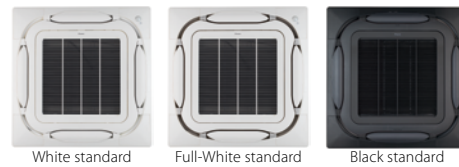


- › Standard drain pump with 675mm lift increases flexibility and installation speed



Round flow cassette panel (7 types)
Daikin Round Flow Cassette with 360° airflow, wide flaps and optional intelligent sensors

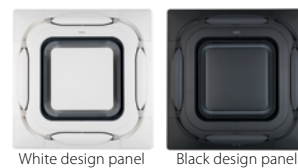
1) Standard Panel (White & Black)



2) Auto-cleaning Panel (White & Black)



3) Designer Panel (White & Black)



More details and final information can be found by scanning or clicking the QR codes.



FXFN-A

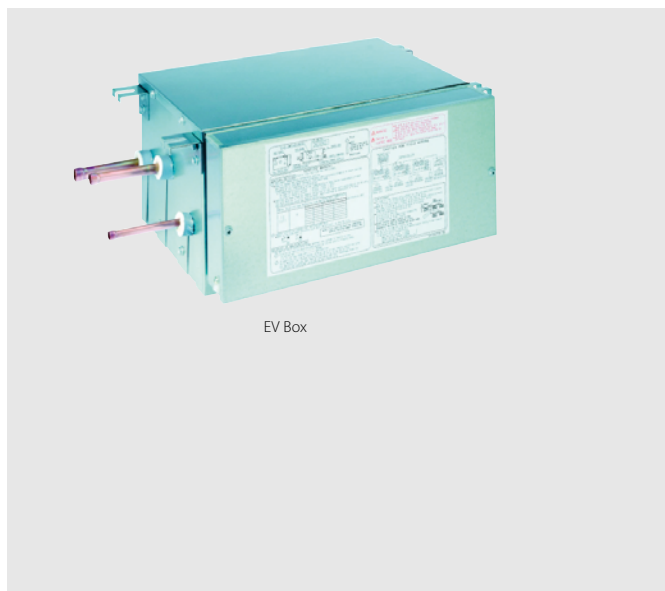
				FXFN-A	50	71	112
Capacity (H tap)	Cooling	Nom.	kW		5.6	8.0	12.5
	Heating	Nom.	kW		6.3	9.0	14.0
Dimensions	Unit	HeightxWidthxDepth		mm	246x840x840		288x840x840
Weight	Unit	gross	kg		29		32
		net	kg		26		29
Fan	Type	Turbo fan					
	Quantity	1					
Air flow rate	Cooling/heating	high/medium/low	m ³ /h		15.5/12.8/10.7	23.2/19.4/13.8	32.7/27.6/20.6
Fan motor	Output	W					
Sound power level	Cooling	dBA					
Sound pressure level	Cooling	high/medium/low	dBA		35/33/31 (4)	40/36/33 (4)	46/43/38 (4)
	Heating	high/medium/low	dBA		36/34/31 (1)(4)	41/37/33 (1)(4)	47/44/39 (1)(4)
Piping connection	Brazing type	Liquid	mm		9.52		
		Gas	mm		12.7		
Operation range	Indoor	Cooling	°C(WB)		14~24 (2)		
		Heating	°C(WB)		15~27		
Refrigerant	Type	R744					
Power supply	Phase/Frequency/Voltage	Hz/V			1~50/60Hz 220~240/220V		

(1) Update of sound pressure level in heating on 2.3.2020 bases on test results (for 71 and 112 class) | (2) update of Cooling max (25 -> 24°C) operation range on 2.3.2020 based on test result | (3) The panel lineup is the same as the existing machine lineup | (4) Sound of designer panel: +3dB

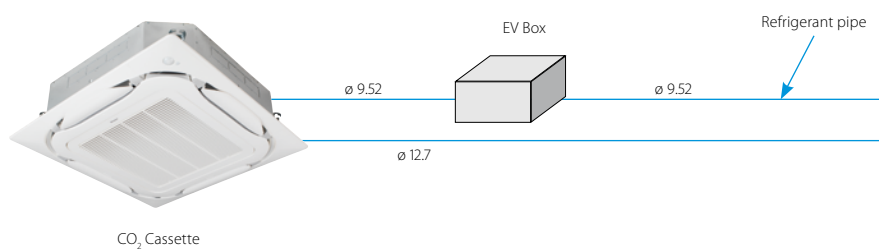
Expansion valve box

EV Box

- > EV Box is the unit which include EV & Control
- > 1 unit of EV box must be used together with 1 unit of CO₂ Cassette.



EV Box



CO₂ Cassette

Combination with Cassette Indoor unit

Cassette indoor unit	FXFN50A2VEB	FXFN71A2VEB	FXFN112A2VEB
EV Box BEV2N112A7V1B	✓	✓	✓

Specifications		BEV2N-A	BEV2N112A7V1B
Power supply			1~, 50/60Hz, 220~240/220V
Dimension	Height	mm	207
	Wide	mm	388
	Depth	mm	326
Mass	Unit	kg	12 (Tentative)
Refrigerant Type			R744 (CO ₂)
Piping connections Liquid	Type		Brazing
	OD	mm	ø 9.52

Concealed ceiling unit with medium ESP for CO₂ Conveni-pack

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

- > Slimmest unit in class, only 245mm (300mm built-in height) and therefore narrow ceiling voids are no longer a challenge

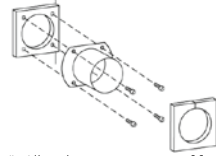


- > Medium external static pressure up to 150Pa facilitates using flexible ducts of varying lengths
- > Possibility to change ESP via wired remote control allows optimisation of the supply air volume
- > Discretely concealed in the wall: only the suction and discharge grilles are visible
- > Multi zoning kit allows multiple individually-controlled climate zones to be served by one indoor unit
- > Reduced energy consumption thanks to specially developed DC fan motor and drain pump
- > Optional fresh air intake

Fresh air intake opening in casing



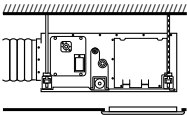
Optional fresh air intake kit



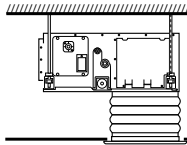
* Brings in up to 10% of fresh air into the room

* Allow larger quantities of fresh air to be brought in

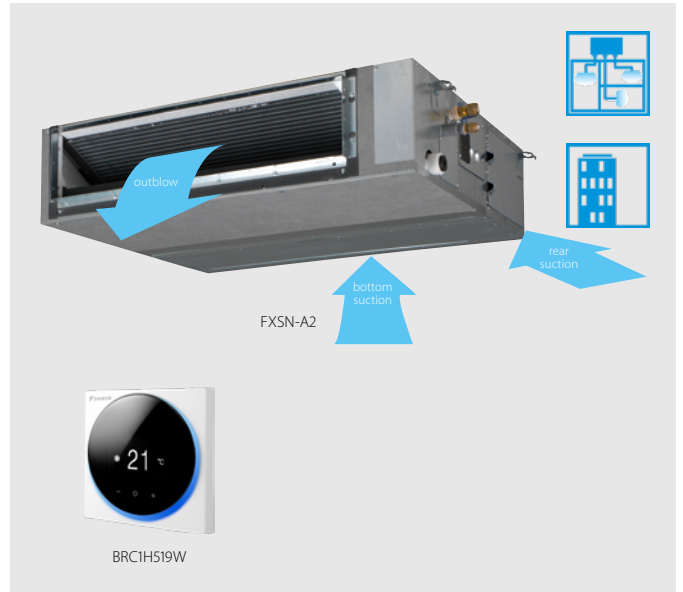
- > Flexible installation: air suction direction can be altered from rear to bottom suction and choice between free use or connection to optional suction grilles



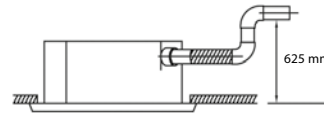
For free use into a false ceiling



For connecting onto a suction canvas (not supplied by Daikin)



- > Standard built-in drain pump with 625mm lift increases flexibility and installation speed

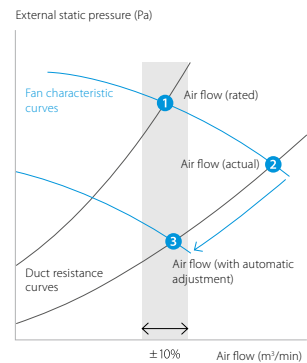


Automatic Airflow Adjustment function

Automatically selects the most appropriate fan curve to achieve the units' nominal air flow within ±10%

Why?

After installation the real ducting will frequently differ from the initially calculated air flow resistance * the real air flow may be much lower or higher than nominal, leading to a lack of capacity or uncomfortable air temperature. Automatic Airflow Adjustment function will adapt the unit's fan speed to any ducting - automatically (10 or more fan curves are available on every model), making installation much faster.



More details and final information can be found by scanning or clicking the QR codes.



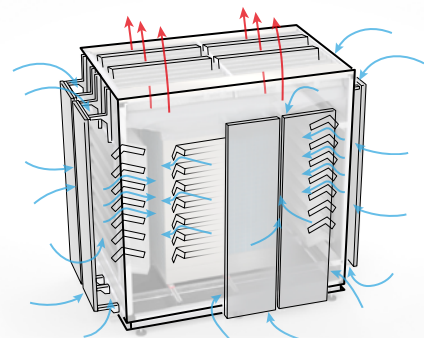
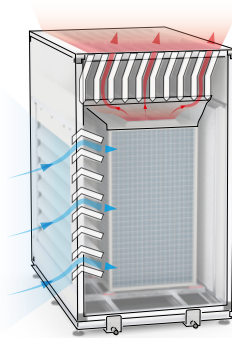
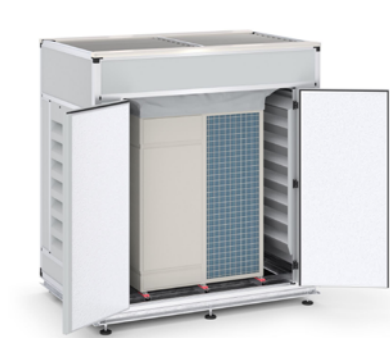
FXSN-A2

Indoor unit		FXSN	50A2	71A2	112A2		
Cooling capacity	Total capacity	Nom.	kW	5.60	8.00	12.50	
	Heating capacity	Total capacity	Nom.	kW	6.30	9.00	14.0
Power input - 50Hz	Cooling	Nom.	kW	0.186	0.258	0.388	
		Heating	Nom.	kW	0.181	0.253	0.383
Dimensions	Unit	HeightxWidthxDepth	mm	245x700x800	245x1,000x800	245x1,400x800	
Weight	Unit		kg	31.0	40.0	50.0	
Casing	Material						
Fan	Air flow rate	Cooling	High / Medium / Low	m ³ /min	15.2/13.0/11.0	23.0/19.5/16.0	36.0/31.5/26.0
		-50Hz	Heating	High / Medium / Low	m ³ /min	15.2/13.0/11.0	23.0/19.5/16.0
	External static pressure - 50Hz	Factory set / High	Pa	30/150	40/150	50/150	
Air filter	Type						
Sound power level	Cooling	At high fan speed		dBA	61	63	66
		High / Medium / Low	dBA	36.0/33.0/31.0	37.0/34.0/32.0	40.0/38.0/34.0	
Sound pressure level	Heating	High / Medium / Low		dBA	38.0/35.0/32.0	39.0/36.0/33.0	42.0/40.0/38.0
		Refrigerant Type/GWP					
Piping connections	Liquid	OD	mm	9.52			
		Gas	OD	mm	12.7		
	Drain	VP20 (I.D. 20/O.D. 26), drain height 625 mm					
Power supply	Phase/Frequency/Voltage		Hz/V	1~/50/60/220-240/220			
Current - 50Hz	Maximum fuse amps (MFA)		A	16			
Control systems	Infrared remote control			BRC4C65 / BRC4C66			
	Wired remote control			BRC1H52W/S/K			

Contains fluorinated greenhouse gases

Acoustic solution for Conveni-pack

- › Complete & professional housing solution, series KVD specially designed for Daikin CVP units
- › Stable and storm proof construction, tested and verified by TÜV Austria
- › Extremely low static pressure drop, measured by TÜV Austria
- › Highest soundproofing values thanks to multi-layered sound insulation
- › Already assembled ex works -> ensures very quick installation of the outdoor unit
- › Base frame made of steel-profiles, insulated bottom and drain pan are standard
- › Housing can be modified for an even higher dampening with additional deflection plates and hoods



Please contact:

Kellner Engineering GmbH

kellner.r@kellner-engineering.com

www.kellner-engineering.com

Office: +43-2236-660048



suitable for 1x Daikin LRYEN10AY1 (10 HP)

acoustic housing type	external dimensions (HxWxD)	sound dampening ¹		pressure drop ²	weight
		on average Ø	vertically		
Kellner KVD300-PV Standard	2,350 x 3,071 x 1,461 mm	-18 dB(A)	-13 dB(A)	< 20 Pa	850 kg
+ deflection plates (8 pc.)	2,350 x 3,671 x 1,761 mm	-21 dB(A)	-13 dB(A)	< 25 Pa	320 kg
+ redirection hood (exhaust front)	3,100 x 3,671 x 1,761 mm	-24 dB(A)	-24 dB(A)	< 32 Pa	300 kg
Kellner KVD300-PV-UL Ultra	2,550 x 3,071 x 1,461 mm	-20 dB(A)	-18 dB(A)	< 25 Pa	875 kg
+ deflection plates (8 pc.)	2,550 x 3,671 x 1,761 mm	-23 dB(A)	-18 dB(A)	< 30 Pa	320 kg
+ redirection hood (exhaust front)	3,300 x 3,671 x 1,761 mm	-25 dB(A)	-26 dB(A)	< 37 Pa	300 kg

suitable for 1x Daikin LRYEN10AY1 (10 HP) + 1x Daikin LRNUN5AY1 (5 HP)

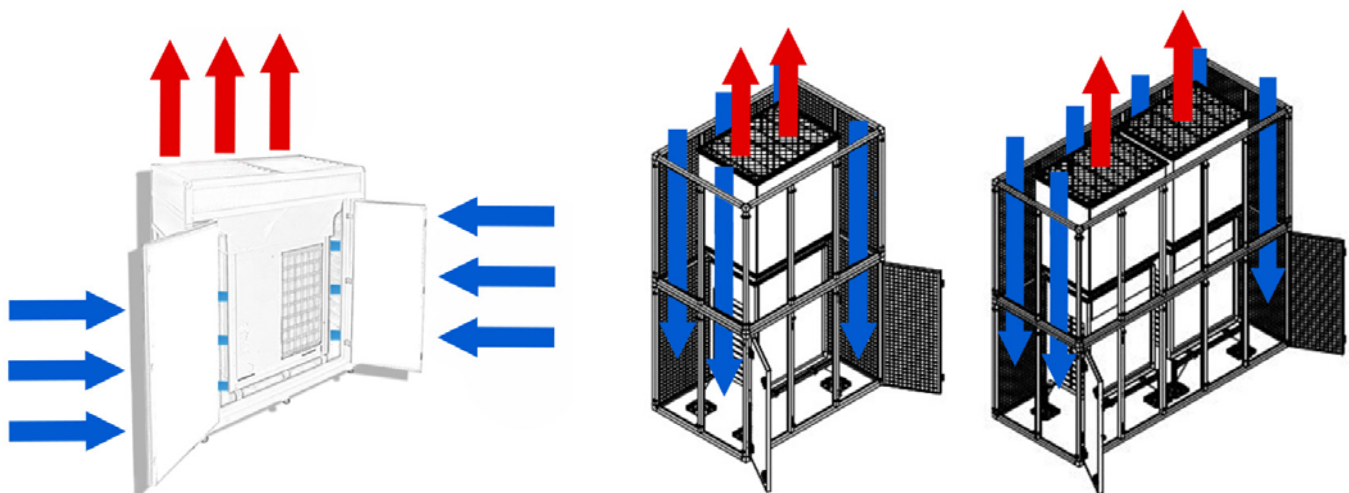
acoustic housing type	external dimensions (HxWxD)	sound dampening ¹		pressure drop ²	weight
		on average Ø	vertically		
Kellner KVD310-PV Standard	2,350 x 3,871 x 1,461 mm	-18 dB(A)	-13 dB(A)	< 20 Pa	975 kg
+ deflection plates (10 pc.)	2,350 x 4,471 x 1,761 mm	-21 dB(A)	-13 dB(A)	< 25 Pa	400 kg
+ redirection hood (exhaust front)	3,100 x 4,471 x 1,761 mm	-24 dB(A)	-24 dB(A)	< 32 Pa	350 kg
Kellner KVD310-PV-UL Ultra	2,550 x 3,871 x 1,461 mm	-20 dB(A)	-18 dB(A)	< 25 Pa	1,000 kg
+ deflection plates (10 pc.)	2,550 x 4,471 x 1,761 mm	-23 dB(A)	-18 dB(A)	< 30 Pa	400 kg
+ redirection hood (exhaust front)	3,300 x 4,471 x 1,761 mm	-25 dB(A)	-26 dB(A)	< 37 Pa	350 kg

(1) NORM EN ISO 9614-2:1997 - Determination of the sound power level of noise sources from sound intensity measurements
EN ISO 11546-1:2010 - Determination of the sound insulation of soundproofing capsules
EN ISO 717-1:2013 - Assessment of sound insulation in buildings and building components

(2) total pressure drop at maximum air-flow

Acoustic solution for Conveni-Pack

- › Solflex acoustic solutions have been developed to reduce the sound emissions of outdoor units without limiting functionality.
- › Nominal sound reduction measured according to DIN EN ISO 3744 by a renomated and independent laboratory.
- › Exterior surfaces are standard available in RAL7016 anthracite grey, RAL9006 white aluminium, RAL9010 pure white or in galvanised steel.
- › Online technical data and configuration including sound evaluation to norm accepted by many authorities to obtain building permission.
- › On demand custom made acoustic solutions with site assistance including installation for large scale projects.
- › Very large variety of standard acoustic solutions available for all type of HVACR units.



For more info, please contact:

Solflex GmbH

office@solflex.eu

www.solflex.eu



suitable for 1x Daikin LRYEN10AY1 (10 HP)

acoustic housing type	external dimensions (HxWxD)	Nominal Sound Insulation ¹	pressure drop ²	weight
SDW 211763-1 A	2,450 x 3,150 x 1,600 mm	Rw(Ctr, 50-5,000): 20 dB	< 5 Pa	550 kg
V 211763-2 A	2,600 x 3,100 x 1,650 mm	D(e): 19 dB(A)	<15 Pa	1,250 kg
XV 211763-3 A	2,600 x 3,500 x 1,900 mm	D(e): 23 dB(A)	<25 Pa	1,450 kg
SQVY 211763-4 A	3,800 x 3,150 x 1,600 mm	D(e): 25 dB(A)	<25 Pa	950 kg

suitable for 1x Daikin LRYEN10AY1 (10 HP) + 1x Daikin LRNUN5AY1 (5 HP)

acoustic housing type	external dimensions (HxWxD)	Nominal Sound Insulation ¹	pressure drop ²	weight
SDW 211763-1 B	2,450 x 3,925 x 1,600 mm	Rw(Ctr, 50-5,000): 20 dB	< 5 Pa	630 kg
V 211763-2 B	2,600 x 3,800 x 1,650 mm	D(e): 19 dB(A)	<15 Pa	1,350 kg
XV 211763-3 B	2,600 x 4,200 x 1,900 mm	D(e): 23 dB(A)	<25 Pa	1,600 kg
SQVY 211763-4 B	3,800 x 3,925 x 1,600 mm	D(e): 25 dB(A)	<25 Pa	1,140 kg

(1) NORM DIN EN ISO 10140-2 - Specifies a laboratory method for measuring the airborne sound insulation of building products
 DIN EN ISO 3744 - Specifies methods for determining the sound power level or sound energy level of a noise source

(2) total pressure drop at maximum air-flow

R-410A 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 CO₂ 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



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.**

More details and final information can be found by scanning or clicking the QR codes.



LRYEQ-AY




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)		
Compressor 2	Frequency ON/OFF	Less than 6 times/hour		
	Speed		rpm	2,900
Compressor 3	Output		W	3,600
	Speed		rpm	2,900
Fan	Output		W	4,500
	Type	Propeller fan		
Fan motor	Quantity	2		
	Air flow rate	Cooling	Nom.	m ³ /min
Sound pressure level	Output	750		
	Drive	Direct drive		
Operation range	Nom.		dB(A)	62.0
	Evaporator	Cooling	Min.-Max.	°CDB
	Cooling	Ambient	Min.-Max.	°CDB
Refrigerant	Heating	Ambient	Min.-Max.	°CDB
	Type	R-410A		
	GWP	2,087.5		
Power supply	Charge		kg	11.5
	Control		TCO ₂ eq	24.0
Phase/Frequency/Voltage	Electronic expansion valve			
	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 R-410A 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

Booster unit for R-410A

- › 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



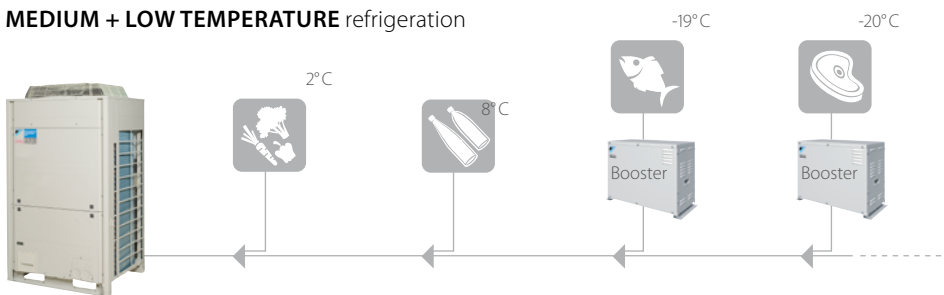
More details and final information can be found by scanning or clicking the QR codes.



LCBKQ-AV1

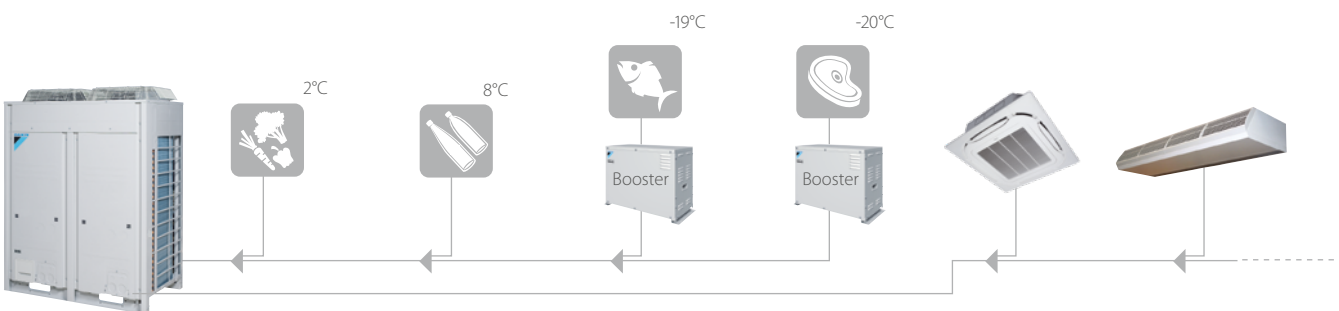
Booster with ZEAS:

MEDIUM + LOW TEMPERATURE refrigeration



Booster with R-410A 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



Evaporators

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)



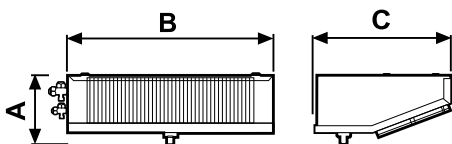
Types:

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

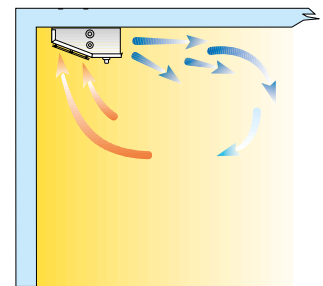
For technical selection, prices, accessories and delivery time please use the Zanotti software and contact our technical department. We are happy to help you.

Dimensions

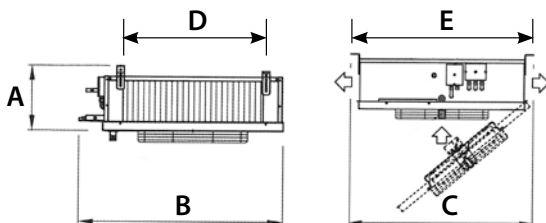
Flat



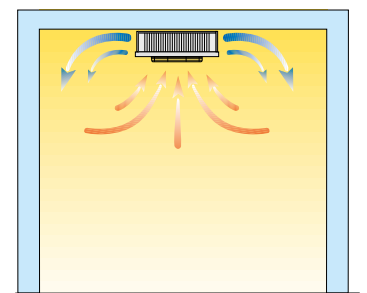
mm	A	B	C
201	215	614	410
202	215	1,034	410
203	215	1,614	410
232	150	713	455
301	300	910	690
302	300	1,530	690
303	300	2,150	690
304	300	2,770	690
305	300	3,390	690



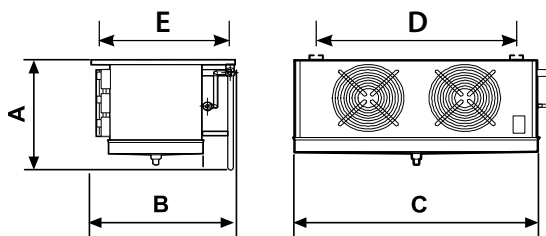
Double flow



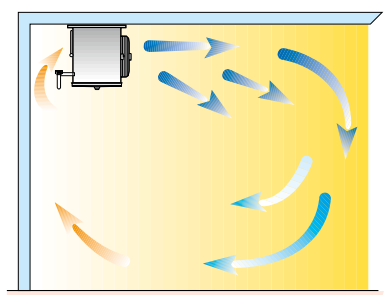
mm	A	B	C	D	E
231	171	579	585	293	600
232	171	889	585	603	600
233	171	1,199	585	913	600
234	171	1,509	585	1,223	600
352	300	1,671	995	1,214	1,065
353	300	2,291	995	1,834	1,065
354	300	2,911	995	2,454	1,065
355	300	3,531	995	3,074	1,065



Cubic



mm	A	B	C	D	E
301	420	480	789	495	345
302	420	480	1,254	960	345
303	420	480	1,719	1,425	345
HEU351	545	690	805	605	540
HEU352	530	690	1,220	965	540
HEU353	600	690	1,690	1,370	540
HEU403	620	700	1,840	1,520	545
HEU502	844	992	1,829	1,526	740
SKC352	490	606	1,614	1,270	450
SKC353	490	606	2,234	1,890	450
SKC452	610	650	2,032	1,680	510
SKC503	800	830	3,350	2,760	675







Options

Options for ZEAS and Conveni-Pack

	CO ₂ Conveni-Pack		Conveni-Pack	ZEAS					Multi-ZEAS		
	LRYN10AY1	LRNUN5AY1	LRYEQ16AY	LRQE5BY1	LRQE6BY1	LRQE8BY1	LRQE10BY1	LRQE12BY1	LRQE15BY1	LRQE20BY1	LRQE15BY1Rx2
Digital pressure gauge kit	-		BHGP26A1								
Pressure gauge kit	-		KHGP26B140								
Pressure Reduction Kit	EKPRV1		-								
(a+b+c+d) kit	KPS26C504	KPS26C160	KPS26C504	KPS26C160	KPS26C280				KPS26C504		
a. Air outlet	KPS26C504T (left side)	KPS26C160T	KPS26C504T	KPS26C160T	KPS26C280T				KPS26C504T		
b. Air inlet (left)	KPS26C504B	-	KPS26C504L	KPS26C504L							
c. Air inlet (right)	KPS26C504R	KPS26C160L	KPS26C504R	KPS26C504R							
d. Air inlet (rear)	KPS26C504R	KPS26C160R	KPS26C504B	KPS26C160B	KPS26C280B				KPS26C504B		
Air outlet (right side)	KPS26C160T	-									
Air inlet (rear)	KPS26C160B	-									
Central drain pan kit	-		KWC26C450**	KWC26C160	KPS26C280			KPS26C450	KPS26C450*** x2		
Modbus communication kit	BRR9B1V1		BRR9A1V1			BRR9A1V1****					
Booster unit	-		LCBKQ3AV19								
Suction branch pipe for multi	-		EKHRQZM*****								
Refnet header	-		KHRQM22M29H8								
	-		KHRQ22M64H8								
	-		KHRQM22M75H8								
	-		KHRQ22M20TA8								
Refnet joint	-		KHRQ22M29T9								
	-		KHRQ22M64T8								
	-		KHRQ22M75T8								
	-		-								
Intelligent Controller	DSC601C51		-								
Intelligent 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

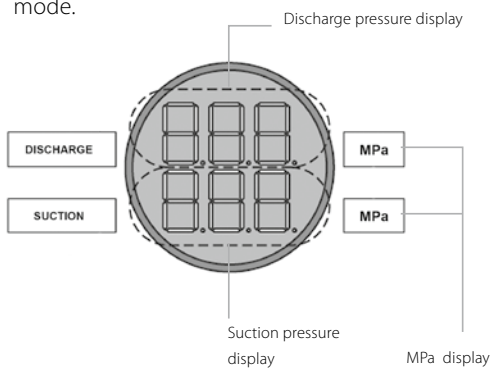
**** software update required (to be executed during commissioning) ***** mandatory

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 and R-410A 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.



Modbus communication kit

BRR9A1V1

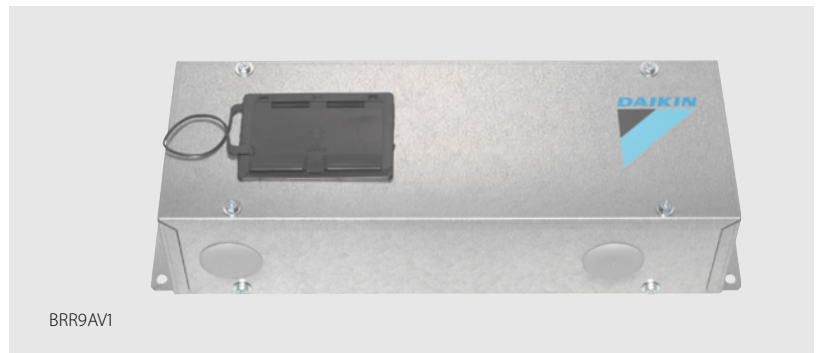
The Daikin Modbus Communication Interface lets you fully integrate Daikin ZEAS and Daikin R-410A Conveni-Pack systems with building control automation networks and other monitoring systems.

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 R-410A 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



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

Modbus communication kit

The Daikin Modbus Communication Interface lets you fully integrate Daikin ZEAS and Daikin CO₂ 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 on refrigeration and comfort side. This unifying component transforms CO₂ 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 7 CO₂ Conveni-Pack units.

More details and final information can be found by scanning or clicking the QR codes.



BRR9B1V1



Round Flow CO₂ Cassette Indoor unit for CO₂ Conveni-Pack



To respond to all shop requirements for
comfort cooling and heating



360° AIR DISCHARGE
FOR OPTIMUM
EFFICIENCY & COMFORT





Transport Refrigeration

Transport Refrigeration

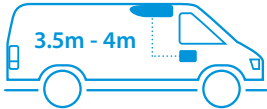
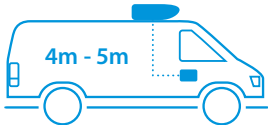
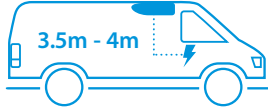
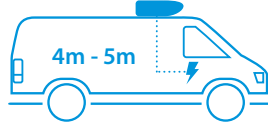











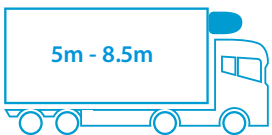













Product Portfolio

Our transport refrigeration unit range offers reliable and efficient solutions for a wide range of applications and vehicle types. Each unit is designed to minimize your total cost of ownership, configured to your exact needs, manufactured to Daikin's rigorous quality standards, and supported with a service network available 24/7.

VAN			
Direct-Drive		Electric	
Invisible Direct-Drive	Zero Direct-Drive	Invisible Electric	Zero Electric
			
			
SFZ007 SFZ008 SFZ009	Z200 Z250 Z350 Z380	SFZ009e	Z120b Z200e Z250e Z350e
			
SFZ009 Multi	Z380 Multi	SFZ009e Multi	Z350e Multi

LIGHT TRUCK	TRUCK		TRAILER
SFZ	Uno	Uno Undermount	Exigo
			
			
<p>SFZ238 SFZ248</p>	<p>U600 U800 U1000</p>	<p>UN120</p>	<p>E1500</p>
			
<p>SFZ238 Multi SFZ248 Multi</p>	<p>U800 Multi U1000 Multi</p>	<p>UN120 Multi</p>	



Van

Direct-Drive





Invisible Direct-Drive

SFZ007 | SFZ008 | SFZ009 | SFZ009 Multi

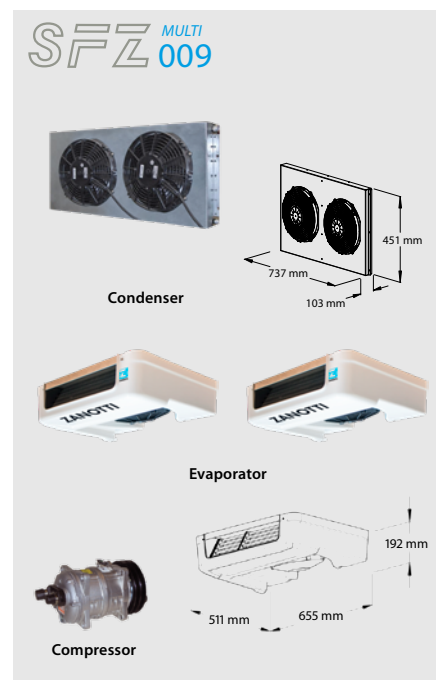
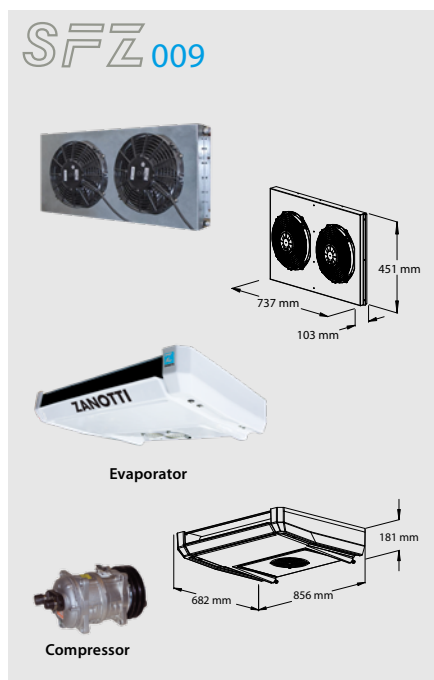
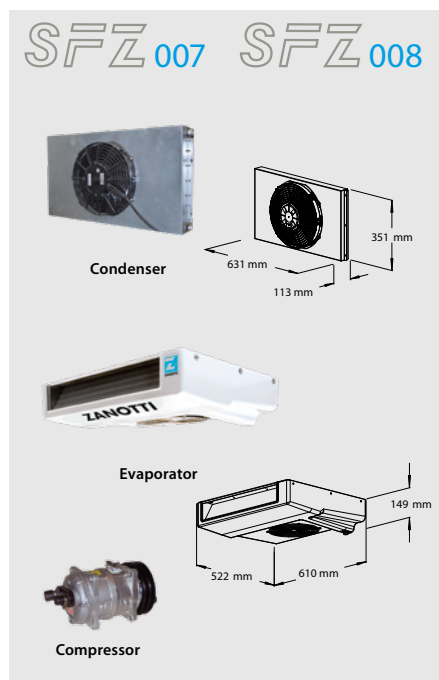
Our Invisible range is designed for discreet and efficient transportation of refrigerated products in vans. These units are installed underneath the vehicle chassis, completely invisible from the outside, preserving the aesthetics, original height and aerodynamics of the vehicle, while reducing bodywork. SFZ007, SFZ008 and SFZ009 offer varying refrigeration capacities and volume ratings tuned for different applications. SFZ009 Multi features dual evaporators to enable products with different temperature requirements to be transported in two separate zones.

The Invisible range, with its ultra-thin dimensions make it the ideal choice for customers who need a space-saving solution. A driver-friendly interface in the cabin allows real-time monitoring and control of the unit performance to ensure the cargo is maintained at precisely the right temperature throughout the trip.

Key Features:

- ✓ Multiple temperature zones in the same vehicle (Multi model only)
- ✓ Powered by direct-drive on road, electric grid on stand-by
- ✓ Vehicle access to tight underground areas
- ✓ Under-chassis mounting preserves vehicle aesthetics and aerodynamics
- ✓ Invisible from the outside
- ✓ Low noise
- ✓ User-friendly cabin driver interface
- ✓ Telematics-compatible
- ✓ 2-year standard warranty





	SFZ007	SFZ008	SFZ009	SFZ009 Multi					
General									
Refrigerant	R134a		R452A						
System net cooling capacity under ATP conditions (30°C ambient temperature)									
	[°C]	0°C	-20°C	0°C	-20°C	0°C	-20°C	0°C	-20°C
Road mode	[W]	1,790	N/A	2,180	1,090	3,160	1,828	2,990	1,580
Stand-by mode	[W]	1,130	N/A	1,580	800	2,030	1,124	1,760	970
Heating capacity									
Road mode	[W]	N/A		1,890		2,790		2,640	
Stand-by mode	[W]	N/A		1,380		1,630		1,580	
Airflow rate									
Airflow rate at 100kPa static pressure	[m³/h]	620		910		840		2x 620	
Weight									
Condenser without electric stand-by	[kg]	25		38		45		45	
Condenser with electric stand-by	[kg]	50		65		75		75	
Evaporator	[kg]	10		14		20.5		2x 10.2	
Road compressor									
Displacement	[cc]	146		146		163		163	

These products contain fluorinated greenhouse gases (R134a GWP=1,430 / R452A GWP=2,140.5).
Stand-by voltages available: 230/1/50 or 400/3/50
Vehicle voltages available: 12VDC or 24VDC



Zero Direct-Drive

Z200 | Z250 | Z350 | Z380

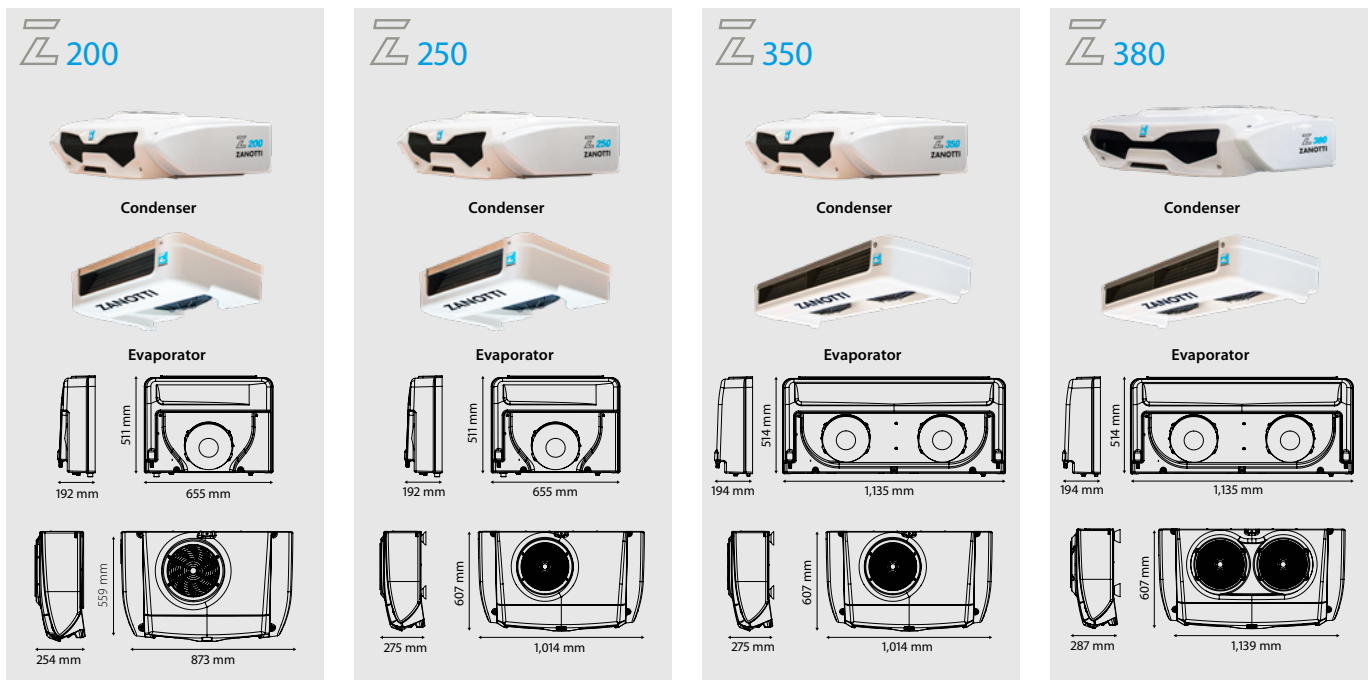
The Zero range meets the needs of the distribution industry by offering the utmost flexibility in the temperature management of refrigerated products. The extensive direct-drive Zero line-up including Z200, Z250, Z350, and Z380 is designed to meet a wide range of applications in light commercial vehicles.

All Zero models provide easy installation and serviceability. The condensing unit can be mounted on the roof or the front wall of the box, and the ultra-thin evaporator installed in the cargo compartment maximizes cargo volume. A driver-friendly interface in the cabin allows real-time monitoring and control of unit performance to ensure goods are maintained at precisely the right temperature throughout the trip. Our Zero units are setting new standards with their attractive design.

Key Features:

- ✓ Proven reliability and performance
- ✓ Powered by direct-drive on road, electric grid on stand-by
- ✓ Easy to install and service with removable side panels
- ✓ Configurable for a wide range of refrigerated applications in light commercial vehicles
- ✓ Low noise
- ✓ User-friendly cabin driver interface
- ✓ Reduced refrigerant charge and maintenance costs
- ✓ Telematics-compatible
- ✓ 2-year standard warranty





		Z250	Z380	Z200	Z250	Z350	Z380						
General													
Refrigerant	[-]	R134a			R452A								
System net cooling capacity under ATP conditions (30°C ambient temperature)													
	[°C]	0°C	-20°C	0°C	-20°C	0°C	-20°C	0°C	-20°C	0°C	-20°C	0°C	-20°C
Road mode	[W]	2,140	N/A	2,920	N/A	2,220	1,170	2,680	1,470	3,350	1,840	3,800	2,020
Stand-by mode	[W]	1,130	N/A	1,900	N/A	1,500	700	2,120	820	2,240	890	2,450	970
Heating capacity													
Road mode	[W]	1,930		2,620		2,100		2,500		3,100		3,300	
Stand-by mode	[W]	1,020		1,710		1,300		1,900		2,000		2,200	
Airflow rate													
Airflow rate at 100kPa static pressure	[m³/h]	650		1,300		622		650		1,300		1,300	
Weight													
Condenser without electric stand-by	[kg]	34		40		30		36		36		42	
Condenser with electric stand-by	[kg]	70		78		56		72		72		80	
Evaporator	[kg]	9		18		10.2		10.5		19.6		19.6	
Road compressor													
Displacement	[cc]	146		163		131		131		146		146	

These products contain fluorinated greenhouse gases (R134a GWP=1,430 / R452A GWP=2,140.5).
 Stand-by voltages available: 230/1/50 or 400/3/50
 Vehicle voltages available: 12VDC

Zero Direct-Drive Multi-Temp

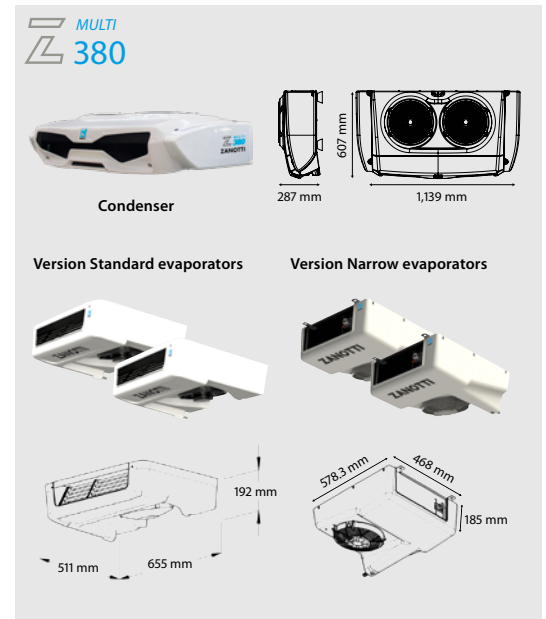
Z380 Multi

Z380 Multi and Z380 Multi (Narrow Evap) models are designed to meet the modern needs of low environmental impact refrigeration for light commercial vehicles. These units feature additional evaporators to enable transport of products with different temperature requirements in separate zones, available in multiple configurations to adapt to a wide range of applications.

All Zero models provide easy installation and serviceability. The condensing unit can be mounted on the roof or the front wall of the box, and the ultra-thin evaporator installed in the cargo compartment maximizes cargo volume. A driver-friendly interface in the cabin allows real-time monitoring and control of unit performance to ensure goods are maintained at precisely the right temperature throughout the trip. Our Zero units are setting new standards with their attractive design.

Key Features:

- ✓ Multiple temperature zones in the same vehicle
- ✓ Proven reliability and performance
- ✓ Powered by direct-drive on road, electric grid on stand-by
- ✓ Easy to install and service with removable side panels
- ✓ Configurable for a wide range of refrigerated applications in light commercial vehicles
- ✓ Low noise
- ✓ User-friendly cabin driver interface
- ✓ Reduced refrigerant charge and maintenance costs
- ✓ Telematics-compatible
- ✓ 2-year standard warranty



		Z380 Multi		Z380 Multi (Narrow Evap)	
General					
Refrigerant	[-]	R452A			
System net cooling capacity under ATP conditions (30°C ambient temperature)					
	[°C]	0°C	-20°C	0°C	-20°C
Road mode	[W]	3,265	1,655	3,250	1,310
Stand-by mode	[W]	2,030	640	2,420	1,030
Heating capacity					
Road mode	[W]	3,010		2,630	
Stand-by mode	[W]	1,770		1,520	
Airflow rate					
Airflow rate at 100kPa static pressure	[m³/h]	2x 620		2x 830	
Weight					
Condenser without electric stand-by	[kg]	42		42	
Condenser with electric stand-by	[kg]	80		80	
Evaporator	[kg]	2x 10.2		2x 16	
Road compressor					
Displacement	[cc]	146		146	

These products contain fluorinated greenhouse gases (R452A GWP=2,140.5).
 Stand-by voltages available: 230/1/50 or 400/3/50
 Vehicle voltages available: 12VDC

Van Electric





Invisible Electric

SFZ009e | SFZ009e Multi

The Invisible Electric range is designed for discreet and efficient transportation of refrigerated products in vans on electric power, both on road and during stand-by. A highly reliable battery-inverter package supplies the power, making the Invisible Electric an ideal choice for full-electric, hybrid, or conventional vehicles.

These units are installed underneath the vehicle chassis, completely invisible from the outside, preserving the aesthetics, original height and aerodynamics of the vehicle, while reducing bodywork. SFZ009e offers varying refrigeration capacities and volume ratings tuned for different applications. SFZ009e Multi features dual evaporators to enable products with different temperature requirements to be transported in two separate zones.

The Invisible range, with its ultra-thin dimensions make it the ideal choice for customers who need a space-saving solution. A driver-friendly interface in the cabin allows real-time monitoring and control of the unit performance to ensure the cargo is maintained at precisely the right temperature throughout the trip.

Key Features:

- ✓ Zero emissions
- ✓ Powered by reliable battery-inverter pack on road, chargeable on electric grid
- ✓ Compatible with full-electric, hybrid or conventional vehicles
- ✓ Multiple temperature zones in the same vehicle (Multi model only)
- ✓ Vehicle access to tight underground areas
- ✓ Under-chassis mounting preserves vehicle aesthetics and aerodynamics
- ✓ Invisible from the outside
- ✓ Low noise
- ✓ User-friendly cabin driver interface
- ✓ Telematics-compatible
- ✓ 2-year standard warranty



		SFZ009e		SFZ009e Multi	
General					
Refrigerant	[-]	R452A			
System net cooling capacity under ATP conditions (30°C ambient temperature)					
	[°C]	0°C	-20°C	0°C	-20°C
Battery mode	[W]	2,030	1,124	1,760	970
Heating capacity					
Battery mode	[W]	1,650		1,580	
Airflow rate					
Airflow rate at 100kPa static pressure	[m³/h]	840		2x 620	
Weight					
Condenser with electric stand-by	[kg]	75		75	
Evaporator	[kg]	20.5		2x 10.2	
Max current					
	[A]	165		170	

These products contain fluorinated greenhouse gases (R452A GWP=2,140.5).
 Stand-by voltages available: 230/1/50 or 400/3/50
 Vehicle voltages available: 12VDC or 24VDC

Zero Electric

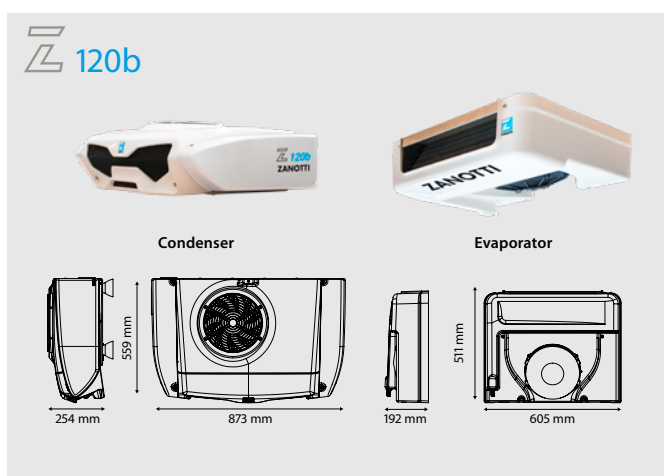
Z120b

Z120b is powered by the vehicle battery, with minimal environmental impact and maximum cooling effectiveness ideal for refrigerated transport in vans. The unit can be installed quickly without any mechanical couplings with the vehicle engine, which also minimises power draw and thus emissions.

All Zero models provide easy installation and serviceability. The condensing unit can be mounted on the roof or the front wall of the box, and the ultra-thin evaporator installed in the cargo compartment maximizes cargo volume. A driver-friendly interface in the cabin allows real-time monitoring and control of unit performance to ensure goods are maintained at precisely the right temperature throughout the trip.

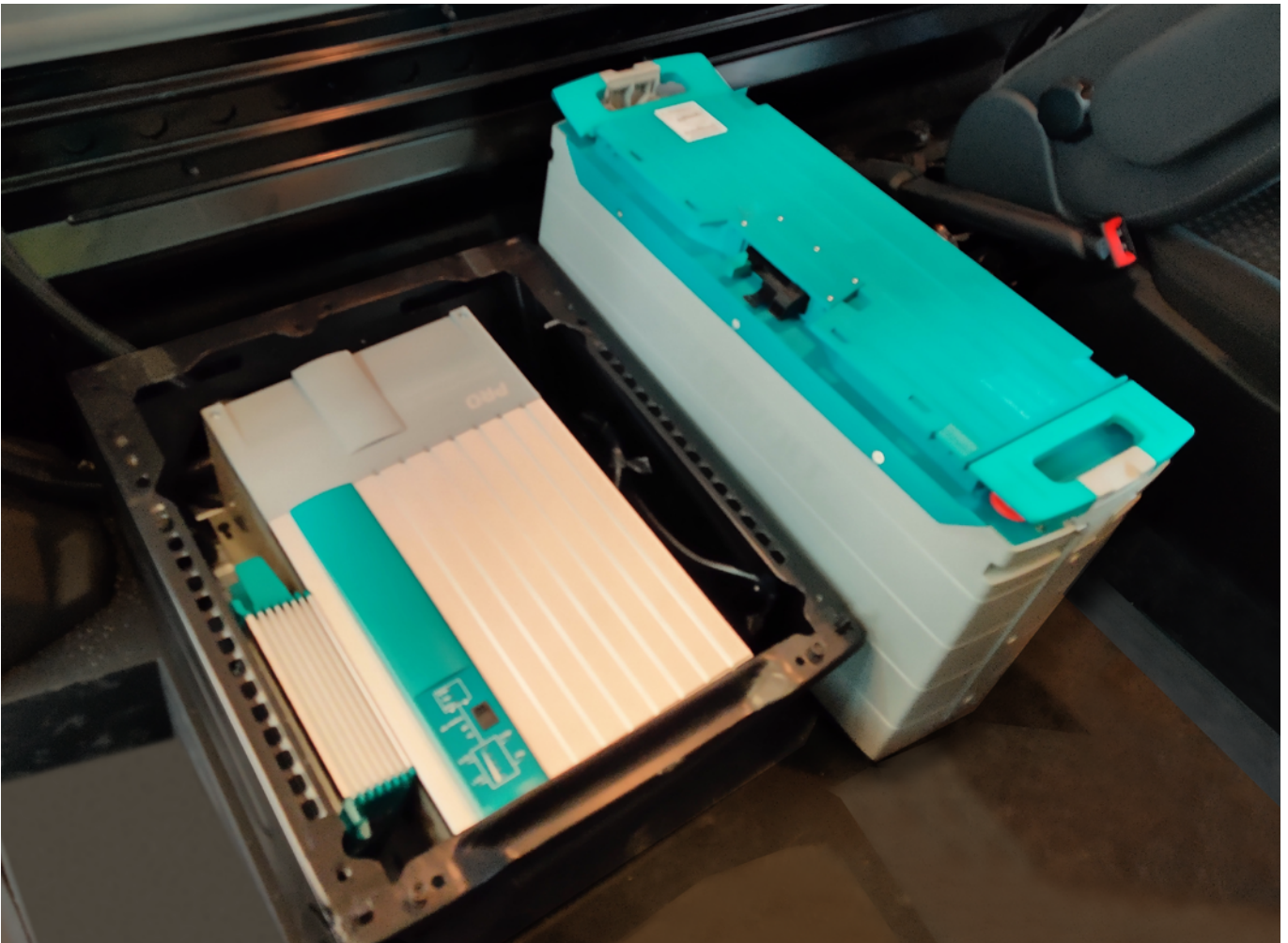
Key Features:

- ✓ Low emissions
- ✓ Proven reliability and performance
- ✓ Powered by vehicle battery on road, electric grid on stand-by
- ✓ Compatible with full-electric, hybrid or conventional vehicles
- ✓ Easy to install and service with removable side panels
- ✓ Low noise
- ✓ User-friendly cabin driver interface
- ✓ Reduced refrigerant charge and maintenance costs
- ✓ Telematics-compatible
- ✓ 2-year standard warranty, extendable up to 5 years



Z120b			
General			
Refrigerant	[-]	R452A	
System net cooling capacity under ATP conditions (30°C ambient temperature)			
	[°C]	0°C	-20°C
Battery mode	[W]	1,300	550
Heating capacity			
Battery mode	[W]	1,100	
Airflow rate			
Airflow rate at 100kPa static pressure	[m³/h]	560	
Weight			
Condenser with electric stand-by	[kg]	64	
Evaporator	[kg]	10.2	
Max current			
	[A]	75	

This product contains fluorinated greenhouse gases (R452A GWP=2,140.5).
 Stand-by voltages available: 230/1/50 or 400/3/50
 Vehicle voltages available: 12VDC



Electric Power Supply

Our power supply packages are designed to match our Invisible Electric and Zero Electric ranges, providing a high level of reliability and customization for the specific vehicle and application needs.

The power supply can be configured as one or two DC lithium-ion batteries, each providing 1.25 to 5.5kW, up to 11kW total; and comes with a robust inverter battery charger.

Key Features:

- ✓ Zero emissions
- ✓ Zero maintenance
- ✓ Automotive-grade design with high reliability
- ✓ Long life with 3,500 cycles
- ✓ Fast charging
- ✓ 230VAC power for charging and stand-by operation
- ✓ Bluetooth connection with smartphone app
- ✓ Compatible with telematics, for remote battery monitoring
- ✓ Optional connection to vehicle DC battery for supplementary power supply
- ✓ Optional auxiliary input for external power supply



Battery Charger
Z120b only



Inverter Battery Charger
SFZ009e / Z200e / Z250e /
Z350e / Z350e Multi



Zero Electric

Z200e | Z250e | Z350e | Z350e Multi

The Zero range meets the needs of the distribution industry by offering the utmost flexibility in the temperature management of refrigerated products. Zero Electric is designed to meet a wide range of applications in light commercial vehicles on electric power, both on road and during stand-by. A highly reliable battery-inverter package supplies the power, making Zero Electric an ideal choice for full-electric, hybrid, or conventional vehicles.

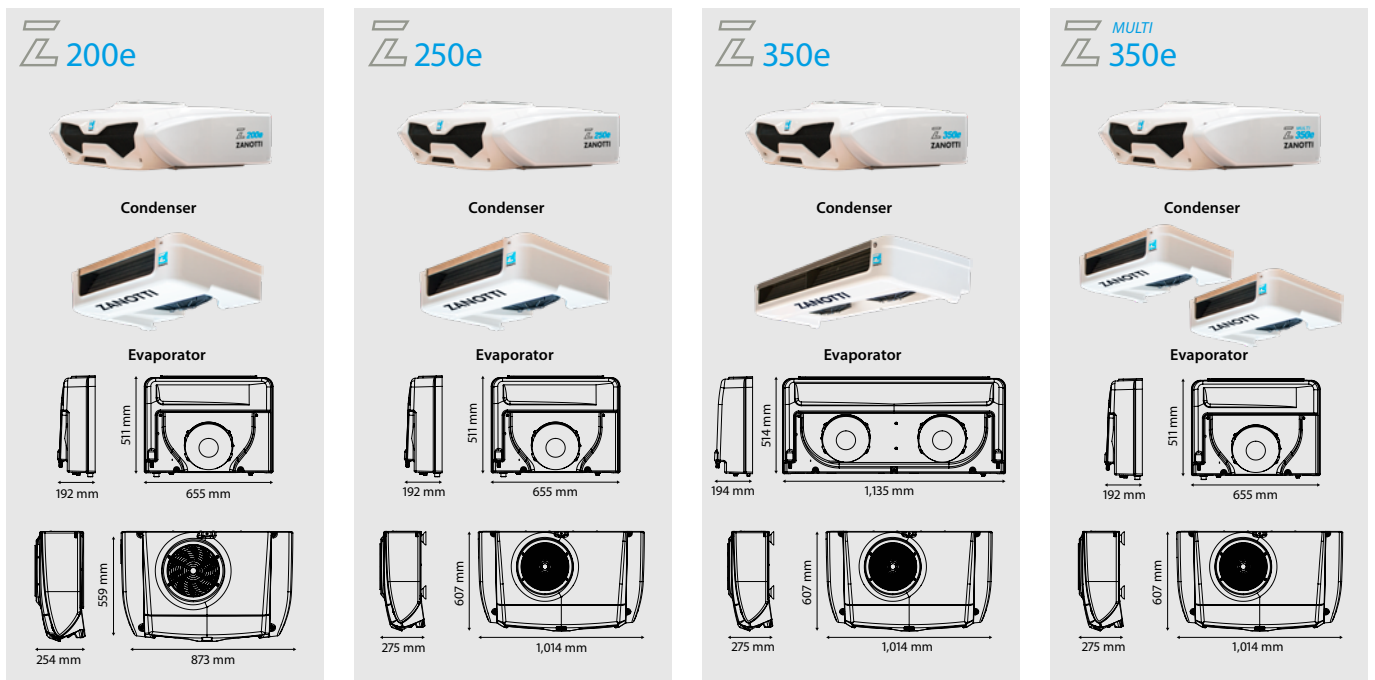
Z200e, Z250e and Z350e offer varying refrigeration capacities and volume ratings tuned for different applications. Z350e Multi features additional evaporators to enable transport of products with different temperature requirements in separate zones.

All Zero models provide easy installation and serviceability. The condensing unit can be installed as top-mount on the roof of the box or nose-mount on the front wall of the box, and the ultra-thin evaporator installed in the cargo compartment maximizes cargo volume. A driver-friendly interface in the cabin allows real-time monitoring and control of unit performance to ensure goods are maintained at precisely the right temperature throughout the trip. Our Zero units are setting new standards with their attractive design.

Key Features:

- ✓ Zero emissions
- ✓ Powered by reliable battery-inverter pack on road, chargeable on electric grid
- ✓ Compatible with full-electric, hybrid or conventional vehicles
- ✓ Multiple temperature zones in the same vehicle (Multi model only)
- ✓ Proven reliability and performance
- ✓ Easy to install and service with removable side panels
- ✓ Low noise
- ✓ Configurable for a wide range of refrigerated applications in light commercial vehicles
- ✓ User-friendly cabin driver interface
- ✓ Reduced refrigerant charge and maintenance costs
- ✓ Telematics-compatible
- ✓ 2-year standard warranty





	Z200e	Z250e	Z350e	Z350e Multi					
General									
Refrigerant	[-] R452A								
System net cooling capacity under ATP conditions (30°C ambient temperature)									
	[°C]	0°C	-20°C	0°C	-20°C	0°C	-20°C	0°C	-20°C
Battery mode	[W]	1,495	695	1,735	955	1,880	1,045	1,940	830
Heating capacity									
Battery mode	[W]	1,200	1,500	1,650	1,600				
Airflow rate									
Airflow rate at 100kPa static pressure	[m³/h]	620	650	1,300	2x 620				
Weight									
Condenser with electric stand-by	[kg]	54	70	70	70				
Evaporator	[kg]	10.2	10.5	19.6	2X 10.2				
Max current									
	[A]	100	159	166	171				

These products contain fluorinated greenhouse gases (R452A GWP=2,140.5).
 Stand-by voltages available: 230/1/50 or 400/3/50
 Vehicle voltages available: 12VDC or 24VDC



Light Truck





SFZ

SFZ238 | SFZ248

SFZ is a robust direct-drive solution for refrigerated transport on light to medium trucks. It is a proven design optimized for energy-efficiency, low noise, and easy-to-service transport of temperature-controlled goods in medium sized boxes.

SFZ238 and SFZ248 are designed as nose-mount, installed on the front wall of the box, with multiple configurations of evaporators and fans to meet the requirements of a wide range of vehicle types and applications. A driver-friendly interface in the cabin allows real-time monitoring and control of unit performance to ensure goods are maintained at precisely the right temperature throughout the trip.

Key Features:

- ✓ Proven reliability and performance
- ✓ Powered by direct-drive on road, electric grid on stand-by
- ✓ Easy to install and service, light weight
- ✓ Low noise
- ✓ Configurable for a wide range of refrigerated applications in light to medium trucks
- ✓ User-friendly cabin driver interface
- ✓ Telematics-compatible
- ✓ 2-year standard warranty





		SFZ238	SFZ248		
General					
Refrigerant	[-]	R452A			
System net cooling capacity under ATP conditions (30°C ambient temperature)					
	[°C]	0°C	-20°C	0°C	-20°C
Road mode	[W]	4,700	2,470	5,100	2,570
Stand-by mode	[W]	3,830	2,010	4,405	2,005
Heating capacity					
Road mode	[W]	3,990		4,540	
Stand-by mode	[W]	3,310		2,800	
Airflow rate					
Airflow rate at 100kPa static pressure	[m³/h]	1,670		3,340	
Weight					
Condenser without electric stand-by	[kg]	70		77	
Condenser with electric stand-by	[kg]	128		143	
Evaporator	[kg]	26.5		42.5	
Road compressor					
Displacement	[cc]	163		215	

These products contain fluorinated greenhouse gases (R452A GWP=2,140.5).
 Stand-by voltages available: 230/1/50 or 400/3/50
 Vehicle voltages available: 12VDC or 24VDC

SFZ Multi-Temp

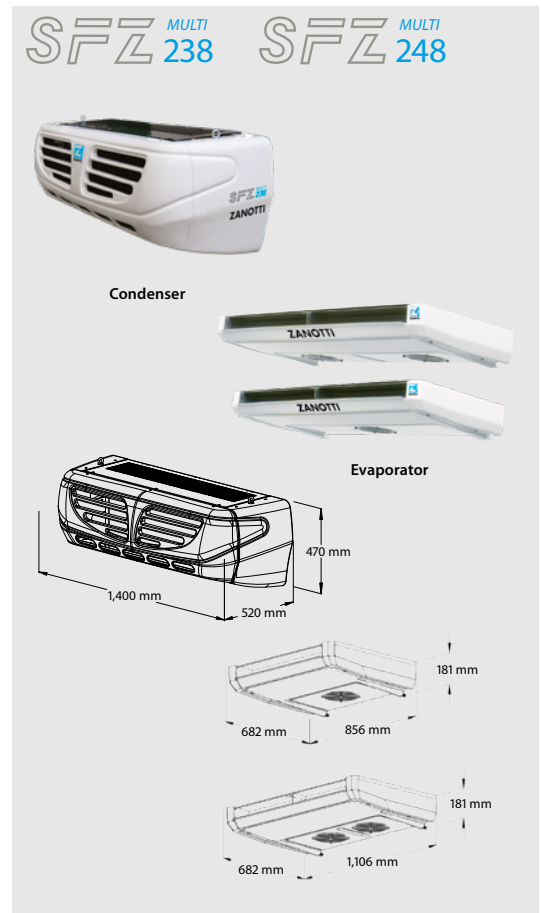
SFZ238 Multi | SFZ248 Multi

Our SFZ Multi-Temp range is designed to meet the modern needs of refrigeration for light to medium trucks. These units feature additional evaporators to enable transport of products with different temperature requirements in separate zones, available in multiple configurations to adapt to a wide range of applications. It is a proven design optimized for energy-efficiency, low noise, and easy-to-service transport of temperature-controlled goods in medium-sized boxes.

SFZ238 Multi and SFZ248 Multi are designed as nose-mount, installed on the front wall of the box. A driver-friendly interface in the cabin allows real-time monitoring and control of unit performance to ensure goods are maintained at precisely the right temperature throughout the trip.

Key Features:

- ✓ Multiple temperature zones in the same vehicle
- ✓ Proven reliability and performance
- ✓ Powered by direct-drive on road, electric grid on stand-by
- ✓ Easy to install and service, lightweight
- ✓ Low noise
- ✓ Configurable for a wide range of refrigerated applications in light to medium trucks
- ✓ User-friendly cabin driver interface
- ✓ Telematics-compatible
- ✓ 2-year standard warranty



		SFZ238 Multi		SFZ248 Multi	
General					
Refrigerant	[-]	R452A			
System net cooling capacity under ATP conditions (30°C ambient temperature)					
	[°C]	0°C	-20°C	0°C	-20°C
Road mode	[W]	4,240	2,135	5,080	2,560
Stand-by mode	[W]	3,570	1,635	4,130	2,020
Heating capacity					
Road mode	[W]	3,850		4,430	
Stand-by mode	[W]	3,230		3,610	
Airflow rate					
Airflow rate at 100kPa static pressure	[m³/h]	2x 835		2x 1,670	
Weight					
Condenser without electric stand-by	[kg]	70		77	
Condenser with electric stand-by	[kg]	128		143	
Evaporator	[kg]	2x		2x	
Road compressor					
Displacement	[cc]	163		215	

These products contain fluorinated greenhouse gases (R452A GWP=2,140.5).
 Stand-by voltages available: 230/1/50 or 400/3/50
 Vehicle voltages available: 12VDC or 24VDC

Truck





Uno

U600 | U800 | U1000

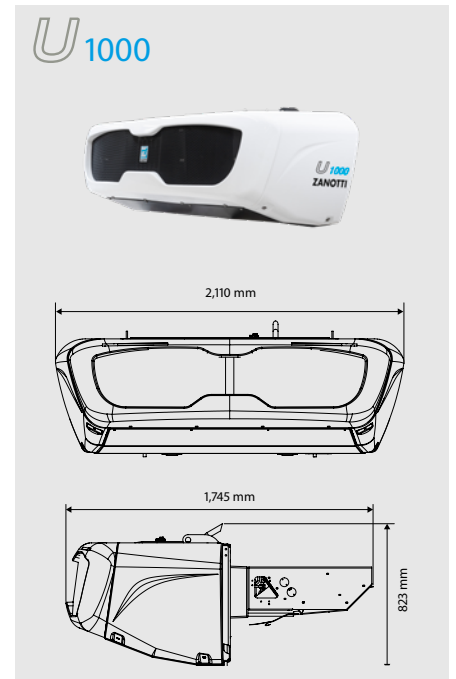
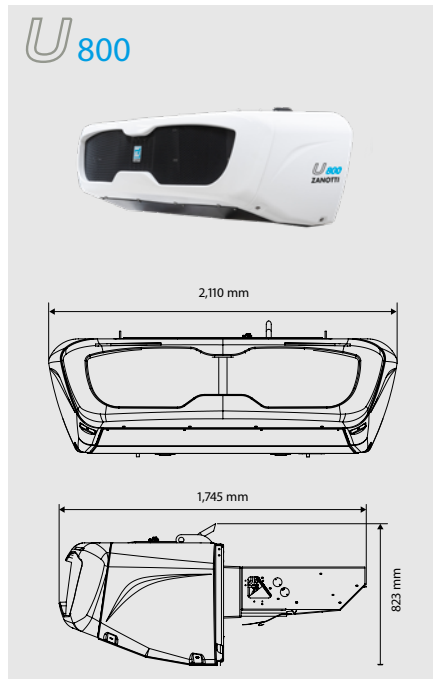
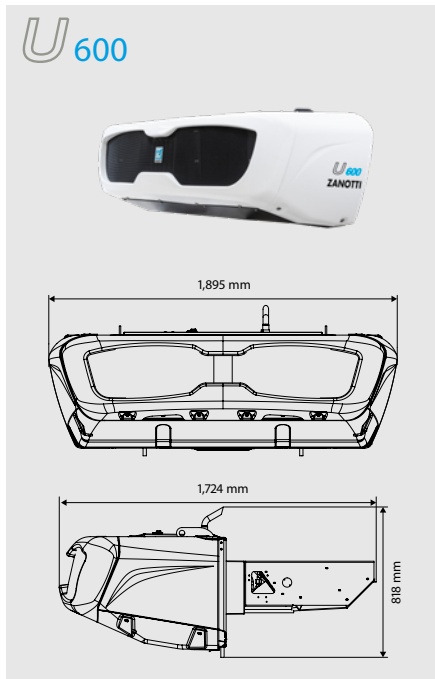
The redesigned Uno range of units are independently powered with a diesel engine, and available in various capacities to efficiently transport temperature-controlled products in medium to heavy trucks. The Uno features Zanotti's innovative direct coupling design between the engine and the compressor, and utilize Daikin's expertise in design for reliability and performance. Their high cooling performance, energy efficiency and extended maintenance intervals minimise the total cost of ownership, while meeting the most stringent emission, material waste, and noise pollution regulations.

U600, U800, and U1000 are designed as nose-mount, installed on the front wall of the box. The electronics enabled advanced diagnostics and two-way telematics including remote monitoring and control. A robust interface in the cabin can be installed in the vehicle DIN slot or mounted on the dash, allowing real-time monitoring and control of unit performance to ensure goods are maintained at precisely the right temperature throughout the trip.

Key Features:

- ✓ Designed for high reliability with a custom Yanmar engine
- ✓ Innovative powertrain design enabling high performance and energy efficiency
- ✓ Reduced fuel consumption and noise
- ✓ Extended maintenance intervals
- ✓ All-new electronics compatible with two-way telematics
- ✓ 2-year standard warranty





	U600	U800	U1000
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General			
Refrigerant	[-]	R452A	
Defrost	[-]	Hot gas defrost	

System net cooling capacity under ATP conditions (30°C ambient temperature)							
	[°C]	0°C	-20°C	0°C	-20°C	0°C	-20°C
Road mode	[W]	6,200	3,200	8,600	4,700	10,000	5,700
Stand-by mode	[W]	3,700	1,700	6,500	3,500	8,300	4,500

Heating capacity				
Road mode	[W]	5,400	7,500	8,700
Stand-by mode	[W]	3,200	5,700	7,200

Airflow rate			
Airflow rate at 100kPa static pressure	[m³/h]	1,500	2,610

Weight				
Monoblock road and stand-by	[kg]	485	500	549
Monoblock road-only	[kg]	435	455	504

Diesel engine				
Displacement	[cc]	854	1,116	1,116
Rated power output	[kW]	11.5	15.1	15.1
Maintenance interval	[hrs]	2,000	2,000	2,000

Road compressor				
Displacement	[cc]	235	325	390

Stand-by compressor				
Displacement	[m³/h]	11.3	14.4	21.4

These products contain fluorinated greenhouse gases (R452A GWP=2,140.5).
Stand-by voltages available: 400/3/50



Uno

U800 Multi | U1000 Multi

The redesigned Uno range of units are independently powered with a diesel engine, and available in various capacities to efficiently transport temperature-controlled products in medium to heavy trucks. The Uno features Zanotti's innovative direct coupling design between the engine and the compressor, and utilise Daikin's expertise in design for reliability and performance. Their high cooling performance, energy efficiency and extended maintenance intervals minimise the total cost of ownership, while meeting the most stringent emission, material waste, and noise pollution regulations.

U800 Multi and U1000 Multi are designed as nose-mount, installed on the front wall of the box, with multiple configurations of evaporators and fans to meet the requirements of a wide range of vehicle types and applications. The electronics enabled advanced diagnostics and two-way telematics including remote monitoring and control. A robust interface in the cabin can be installed in the vehicle DIN slot or mounted on the dash, allowing real-time monitoring and control of unit performance to ensure goods are maintained at precisely the right temperature throughout the trip.

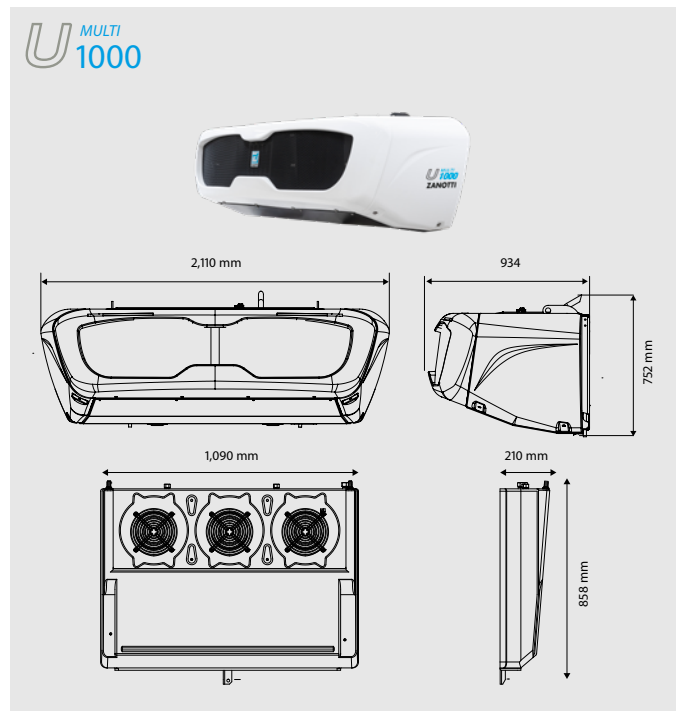
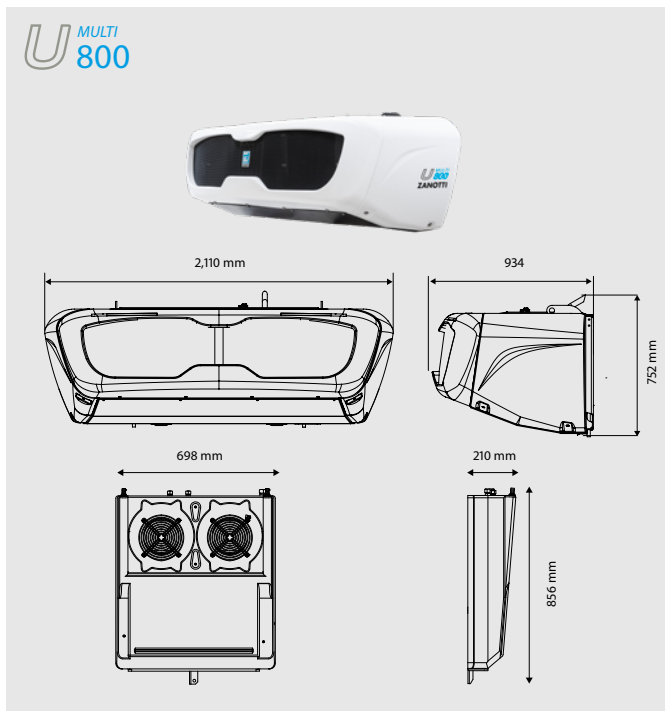
Key Features:

- ✓ Multiple temperature zones in the same vehicle
- ✓ Designed for high reliability with a custom Yanmar engine
- ✓ Innovative powertrain design enabling high performance and energy efficiency
- ✓ Reduced fuel consumption and noise
- ✓ Extended maintenance intervals
- ✓ All-new electronics compatible with two-way telematics
- ✓ 2-year standard warranty, extendable up to 5 years



The all-new Uno cabin controller is modern technology in a robust build.

U800 Multi | U1000 Multi



		U800 Multi	U1000 Multi		
General					
Refrigerant	[-]	R452A			
Defrost	[-]	Hot gas defrost			
System net cooling capacity under ATP conditions (30°C ambient temperature)					
	[°C]	0°C	-20°C	0°C	-20°C
Road mode	[W]	7,970	4,140	9,800	5,400
Stand-by mode	[W]	6,050	3,075	8,700	4,500
Heating capacity					
Road mode	[W]	7,300		8,500	
Stand-by mode	[W]	4,900		7,600	
Airflow rate					
Airflow rate at 100kPa static pressure	[m ³ /h]	2x 1,680		2x 2,520	
Weight					
Split road and stand-by	[kg]	500		505	
Monoblock road-only	[kg]	460		465	
Evaporator	[kg]	35 x 2		40 x 2	
Diesel engine					
Displacement	[cc]	1,116		1,116	
Rated power output	[kW]	13.2		13.2	
Maintenance interval	[hrs]	2,000		2,000	
Road compressor					
Displacement	[cc]	325		390	
Stand-by compressor					
Displacement	[m ³ /h]	14.4		21.4	

These products contain fluorinated greenhouse gases (R452A GWP=2,140.5).
Stand-by voltages available: 400/3/50

Uno Undermount

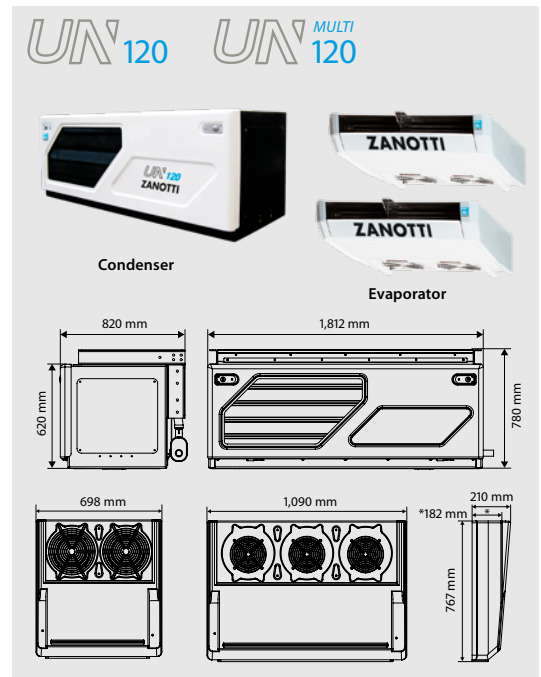
UN120 | UN120 Multi

Uno Undermount models are independently powered with a diesel engine, and available in various capacities to efficiently transport temperature-controlled products in heavy trucks. The units feature Zanotti's innovative direct coupling design between the engine and the compressor.

UN120 and UN120 Multi are undermount units designed to be installed under the box. UN120 Multi features additional evaporators to enable transport of products with different temperature requirements in separate zones. A driver-friendly interface in the cabin enables them to monitor and modify performance to ensure it is kept at precisely the right temperature throughout the trip.

Key Features:

- ✓ Multiple temperature zones in the same vehicle (Multi model only)
- ✓ Designed for high reliability with a custom Yanmar engine
- ✓ Innovative powertrain design enabling high performance and energy efficiency
- ✓ Reduced fuel consumption and noise
- ✓ Telematics-compatible
- ✓ 2-year standard warranty



		UN120	UN120 Multi		
General					
Refrigerant	[-]	R452A			
Defrost	[-]	Hot gas defrost			
System net cooling capacity under ATP conditions (30°C ambient temperature)					
	[°C]	0°C	-20°C	0°C	-20°C
Road mode	[W]	11,500	6,200	10,600	5,700
Stand-by mode	[W]	8,200	4,200	7,500	3,900
Heating capacity					
Road mode	[W]	10,000		9,500	
Stand-by mode	[W]	7,100		6,700	
Airflow rate					
Airflow rate at 100kPa static pressure	[m ³ /h]	4,500		2x 2,520	
Weight					
Condensing unit road and stand-by	[kg]	510		510	
Condensing unit road-only	[kg]	475		475	
Evaporators	[kg]	40		40 x 2	
Diesel engine					
Displacement	[cc]	1,116		1,116	
Rated power output	[kW]	13.2		13.2	
Maintenance interval	[hrs]	2,000		2,000	
Road compressor					
Displacement	[cc]	390		390	
Stand-by compressor					
Displacement	[m ³ /h]	21.4		21.4	

These products contain fluorinated greenhouse gases (R452A GWP=2,140.5).
Stand-By voltages available: 400/3/50





Trailer





Exigo E1500

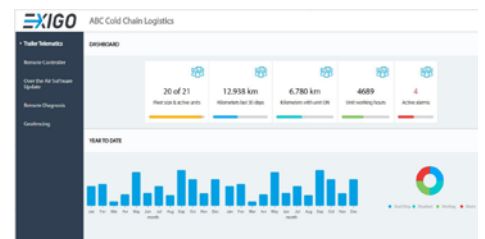
Daikin Exigo E1500 is the reflection of our legacy in innovation, reliability, and transport refrigeration expertise. E1500 is the pinnacle of diesel-powered refrigeration, built on an electric-ready platform.

Exigo offers minimum total cost of ownership and maximum peace of mind

- › Full variable speed achieving lower fuel consumption than fixed speed units
- › Electric architecture providing 15kW true capacity both on the road and the grid
- › Highest cooling power of the category in frozen applications
- › Ease of unit operation with high resolution graphical user interface
- › Ease of fleet management via advanced telematics, compatible across platforms
- › Daikin components with proven reliability and lightweight design (over 100kg lighter)
- › Low-noise as standard, PIEK available
- › Reduced maintenance downtime with 3,000h service interval as standard
- › 2-year warranty, telematics and maintenance coverage included as standard
- › EMEA sales and service network backed by Daikin



High resolution graphical user interface



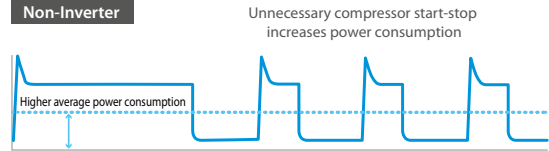
Advanced telematics included as standard



INVERTER



Non-Inverter



Inverter reduces power and fuel consumption by eliminating unnecessary compressor start-stop

Specifications	
Cooling capacity 30/0°C (W) - Road & Grid	14,900
Cooling capacity 30/-20°C (W) - Road & Grid	9,200
Heating capacity -20/+2°C (W) - Road & Grid	10,500
Air Flow rate evaporator at max pulldown (m³/h)	5,500
Compressor	Custom scroll compressor economizer inverter Variable speed
Variable speed components	Compressor Evaporator fans Condenser Fans
PCB	Daikin
Temperature zones	Single
Refrigerant	R-452A
Total net weight (kg)*	730
Unit Dimensions W x H x D (mm)	2,072 x 2,227 x 440
Sound Pressure Level dB(A) at PIEK condition*	65
Connectivity	Telematics as Standard with 2-Year Contract Included
Maintenance	Maintenance as Standard with 2-Year Contract Included
Pharma	Certicold GDP certification
Connectivity	Telematics with 2-year contract included
Maintenance	Maintenance with 2-year contract included

* provisional data

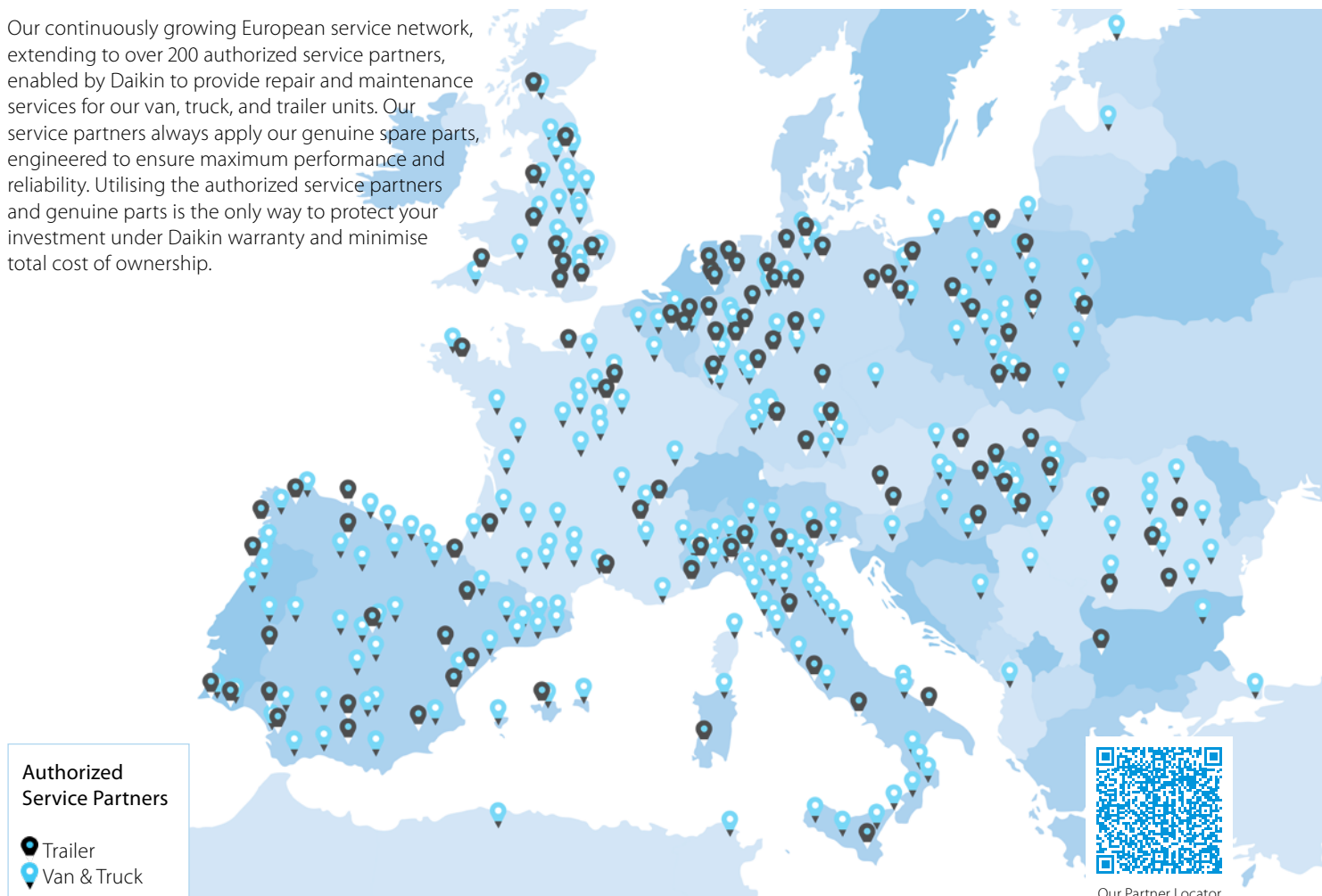




Services

Service Network

Our continuously growing European service network, extending to over 200 authorized service partners, enabled by Daikin to provide repair and maintenance services for our van, truck, and trailer units. Our service partners always apply our genuine spare parts, engineered to ensure maximum performance and reliability. Utilising the authorized service partners and genuine parts is the only way to protect your investment under Daikin warranty and minimise total cost of ownership.



Service Contracts

Our vision in Daikin Transport Refrigeration is to support the entire lifecycle of our customers' products. All our transport refrigeration units come standard with a two-year warranty. With the launch of Daikin Exigo trailer refrigeration unit, we are introducing the following additional service contracts.

Maintenance Plan

Exigo comes standard with a two-year maintenance plan, covering the scheduled service intervals at national service providers. After the first two years, the contract is renewable on an annual basis.

Extended Warranty

Exigo international parts & labor warranty can be extended on an annual basis after the first two years of standard warranty. The Extended Warranty contract requires Telematics and Maintenance Plan to be also selected.

24/7 Breakdown Support

Our European call center will help arrange breakdown service regardless of time, location or language. This service is also included as standard for the first two years, renewable annually.

Stand By Me

Exigo customers will have access to the Daikin Stand By Me portal which simplifies contract management and renewal for fleet managers.



Telematics

Daikin Telematics help trailer fleet managers gain greater insight and control over their fleet remotely. The back-end of our system is supported by an EU-based provider highly experienced in commercial vehicle telematics providing connectivity across EMEA. Exigo comes standard with two-year telematics and renewable annually afterwards.

The telematics framework is designed with the customer in mind, providing utmost flexibility by being configurable for third-party fleet management software. The included telematics portal provides state-of-the-art visibility and control of each unit in the fleet.

- ✓ Live location monitoring on map
- ✓ Remote HMI display and control
- ✓ Error messages with push notification
- ✓ Geofence alarm and low-noise programming
- ✓ Remote unit diagnostics
- ✓ Over-the-air software update
- ✓ Intuitive online fleet management portal
- ✓ Configurable for existing fleet management software



Service Contracts	Zanotti Van & Truck Range (First 2 years)	Daikin Exigo (First 2 years)	Daikin Exigo (Annual Renewal)
Warranty EMEA parts and labor warranty coverage	Included	Included	Optional Extended Warranty (requires Telematics and Maintenance Plan)
Telematics EMEA coverage and fleet management portal access		Included	Optional
Maintenance Plan National scheduled preventative maintenance		Included	Optional
24/7 Breakdown Support Call center support in main European languages		Included	Optional