DAIKIN

Παγκόσμιος Ηγέτης στο **Ιδανικό** Κλίμα.

Επαγγελματική ψύξη

ΚΛΙΜΑΜΗΧΑΝΙΚΗ
1984 ΟΛΙΣΤΙΚΗ ΕΝΕΡΓΕΙΑΚΗ ΔΙΑΧΕΙΡΙΣΗ

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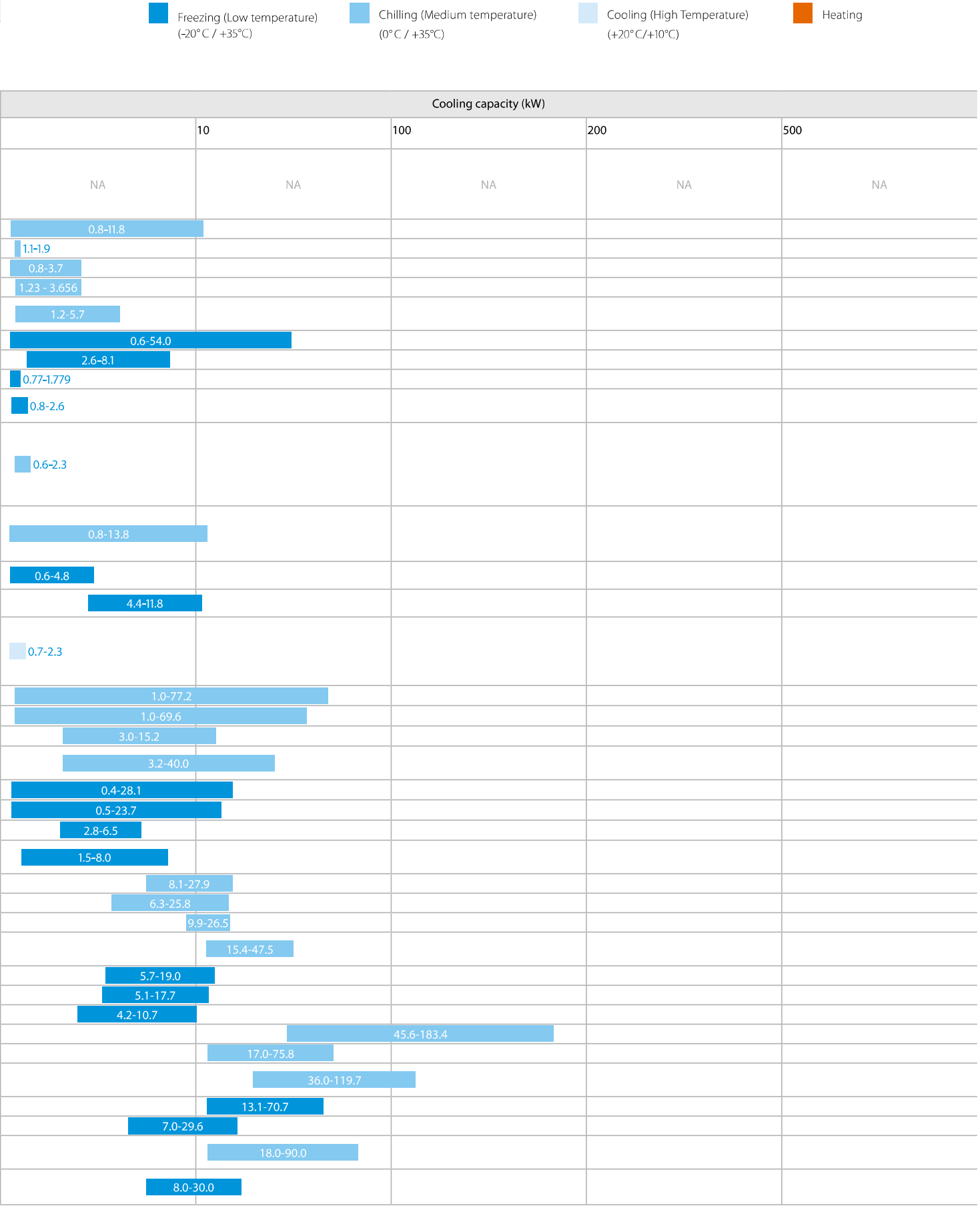
CE

ENERGY CERTIFIED PERFORMANCE

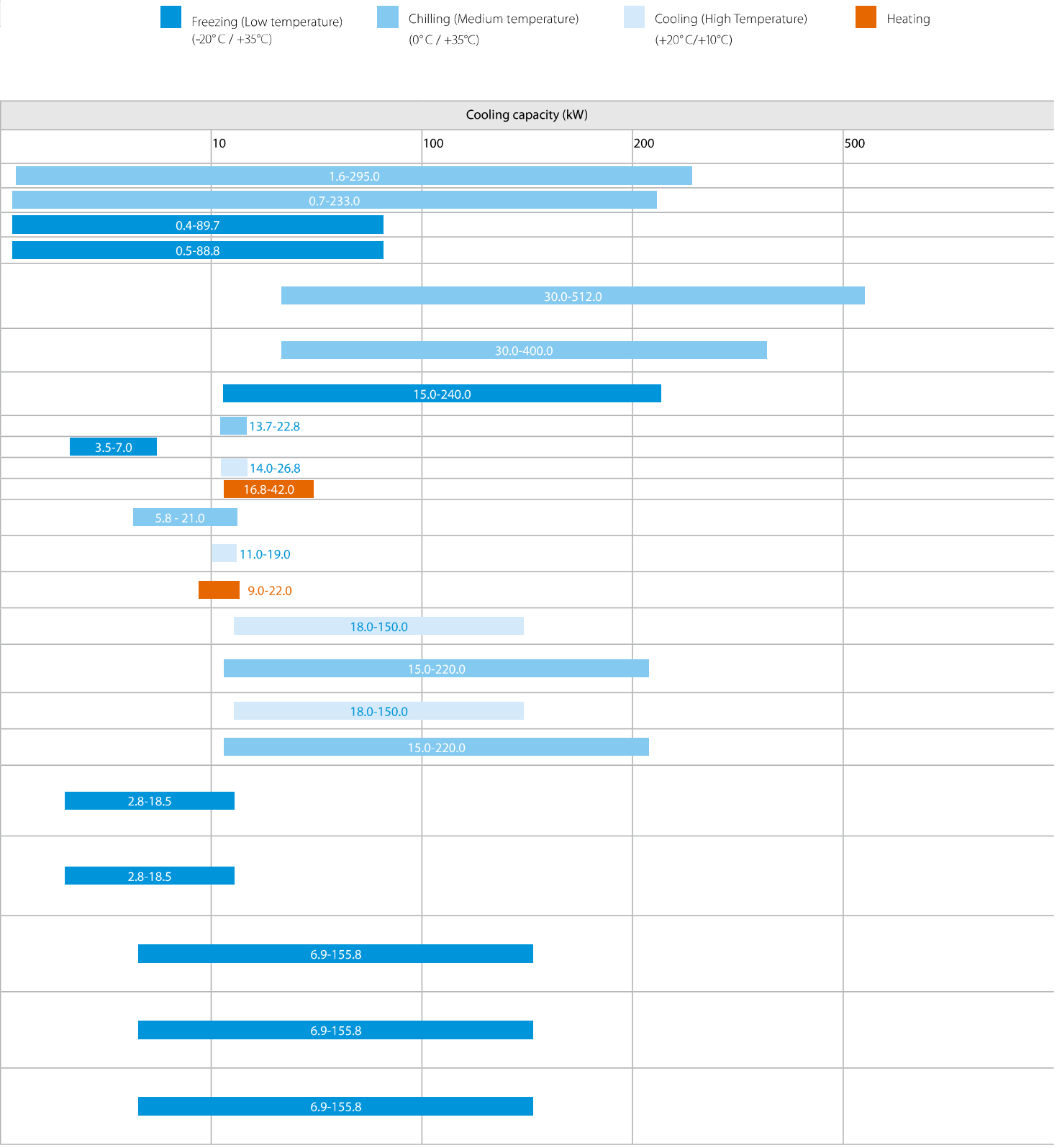
Products overview

			Technology compressor		Page	Hermetic				Semi-hermetic		Capacity control			
			Application	Refrigerant		Reciprocating compressor	Rotary	Scroll	Swing	Reciprocating compressor	Screw	Varispeed	External frequency drive	DC control	Digital scroll
	Plug-in coolers suitable for HoReCa		LT / MT	R290	682	•						(•)			
Plug & Play solution for cold room & wine rooms	Uni-block		MT	R134a	694	•		•							
				R407C	694	•									
				R407H	694	•									
				R455A	693		•								
				R290	694	•									
			LT	R452A	694	•									
				R407F	694			•							
				R455A	693		•								
				R290	694	•									
		 For wine applications	HT Cooling	R134a	700	•									
	Biblock		MT	R134a	697	•									
			LT	R452A	697	•									
				R407F	697	•									
	For wine applications		HT Cooling	R134a	701	•									
Condensing units	Single CU (ON/OFF or INVERTER)		MT	R449A*	704	•		•		•		•	•		•
				R134a	704	•		•		•		•	•		•
				R-410A	704			•						•	
				FGAS FREE CO_2	704		•			•			•	•	
			LT	R449A*	707	•		•		•		•	•		
				R407F	707	•		•		•		•	•		
				R-410A	707			•						•	
				FGAS FREE CO_2	707		•			•			•	•	
	Twin CU		MT	R449A*	709	•		•		•		•	•		•
				R134a	709	•		•		•		•	•		•
				R-410A	709			•						•	
				FGAS FREE CO_2	709					•			•		
			LT	R449*	709	•		•		•		•	•		
				R407F	709	•		•		•		•	•		
				R-410A	709			•						•	
	Multi CU		MT	R449A	710			•				•	•		•
				R-410A	710			•						•	
				FGAS FREE CO_2	710					•			•		
			LT	R449A	710			•				•	•		
				R-410A	710			•						•	
	Booster CU (MT + LT)		MT	FGAS FREE CO_2	720					•			•		
			LT	FGAS FREE CO_2	720					•			•		


Freezing (Low temperature)
(-20° C / +35°C)
Chilling (Medium temperature)
(0° C / +35°C)
Cooling (High Temperature)
(+20° C/+10°C)
Heating
Cooling capacity (kW)
10
100
200
500
NA
NA
NA
NA
NA
0.8-11.8
1.1-1.9
0.8-3.7
1.23 - 3.656
1.2-5.7
0.6-54.0
2.6-8.1
0.77-1.779
0.8-2.6
0.6-2.3
0.8-13.8
0.6-4.8
4.4-11.8
0.7-2.3
1.0-77.2
1.0-69.6
3.0-15.2
3.2-40.0
0.4-28.1
0.5-23.7
2.8-6.5
1.5-8.0
8.1-27.9
6.3-25.8
9.9-26.5
15.4-47.5
5.7-19.0
5.1-17.7
4.2-10.7
45.6-183.4
17.0-75.8
36.0-119.7
13.1-70.7
7.0-29.6
18.0-90.0
8.0-30.0

Products overview

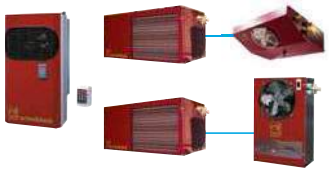
			Technology compressor		Page	Hermetic				Semi-hermetic		Capacity control			
			Application	Refrigerant		Reciprocating compressor	Rotary	Scroll	Swing	Reciprocating compressor	Screw	Varispeed	External frequency drive	DC control	Digital scroll
Compressor rack and packs	Racks		MT	R449A	725	•		•		•	•	•	•		•
				R134a	725	•		•		•	•	•	•		•
			LT	R449A	725	•		•		•	•	•	•		
				R407F	725			•		•	•	•	•		
			MT		731					•			•		
			MT		732					•			•		
			LT		732					•			•		
Integrated solutions (Refrigeration and climatisation)	Conveni-pack		MT	R-410A	736			•						•	
			LT	R-410A	736			•						•	
			AC	R-410A	736			•						•	
			HR + HP	R-410A	736			•						•	
	CO_2 Conveni-Pack		MT		738				•					•	
			AC		738				•					•	
			HR + HP		738				•					•	
	MIX CU		AC		745					•			•		
			MT		745					•			•		
	MIX RACK		AC		745					•			•		
			MT		745					•			•		
Food processing	SAS - SAR	  mono-block Bi-block	MT	R134a	751	hermetic									
				R404A	751	hermetic									
	UAV - USV	 	MT	R134a	751	hermetic				semi-hermetic					
				R404A	751	hermetic				semi-hermetic					
				R407F	751	hermetic				semi-hermetic					


Freezing (Low temperature)
(-20°C / +35°C)
Chilling (Medium temperature)
(0°C / +35°C)
Cooling (High Temperature)
(+20°C/+10°C)
Heating
Cooling capacity (kW)
10
100
200
500
1.6-295.0
0.7-233.0
0.4-89.7
0.5-88.8
30.0-512.0
30.0-400.0
15.0-240.0
13.7-22.8
3.5-7.0
14.0-26.8
16.8-42.0
5.8 - 21.0
11.0-19.0
9.0-22.0
18.0-150.0
15.0-220.0
18.0-150.0
15.0-220.0
2.8-18.5
2.8-18.5
6.9-155.8
6.9-155.8
6.9-155.8

Plug and Play solutions

for cold rooms and wine rooms

Model	Product name	
Horizontal coolers	Paris Macao Malta	
Ice cream merchandisers	RIO H RIO S	
Promotion display coolers	Air curtain GD XL/XLS Coolbox	

Model	Product name	Capacity (kW)	0	1	2	3,5	5	10	15	25	35
Uni-block system for wall mounted installation (optional through-wall) in small and medium sized cold rooms R-290 Propane natural refrigerant and R455A refrigerant with GWP <150	MGM/BGM										
Uni-block system for roof mounted installation in small and medium sized cold rooms R-290 Propane natural refrigerant	(M)SB										
Uni-block system for wall mounted installation in medium sized cold rooms	AS										
Bi-block system for wall mounted installation	GS										
Bi-block system for floor standing or roof mounted installation with capillary expansion system	SP-O										
Bi-block system for floor standing or roof mounted installation with thermostatic expansion valve	DB-O										
Uni-block system (RCV) and Bi-block system (RDV) for wine applications	RCV / RDV										

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

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

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

HoReCa range

Plug in, Refrigerate, Sell more!

AHT a member of DAIKIN group

Integral freezer and chiller cabinets

The chiller and freezer unit that maximizes your product display

- High energy-saving can be achieved in comparison to conventional open units
- Environmentally friendly with natural refrigerant propane (GWP 3)
- Brilliant LED lighting system to enhance product display & help drive sales
- Intelligent fan motor providing more further energy savings, typically 0.5 kWh daily
- Plug in models, requiring no additional installation
- Virtually maintenance-free refrigeration system
- Easy clean and hygienic food safe synthetic interior casings

Flexible location options for Paris

- ☑ Can be used as a stand alone unit
- ☑ Can be used in a line up
- ☑ Can be used as an island
- ☑ Maximizes the use of floor space with an end cabinet
- ☑ Can be either installed below shelving or integrated into existing shelving systems

EU and UK models have same specs but different electricity plugs.

					PARIS	145_EU_403751	145_UK_403775	185_UK_403776	185_EU_403752	210_EU_403753	210_UK_403777	250_UK_403778	250_EU_403754
Classification acc. EN 23953-2						L1							
Climate class acc. EN 23953-2						3							
Energy efficiency index EEI					%	39.1		38.0		34.6		32.5	
Use						Display & Sale							
Dimensions	Gross content				l	609		807		936		1,136	
	Net content				l	420		568		660		808	
	Total display area (TDA)				m^2	0.83		1.03		1.27		1.54	
	Length	Outside			mm	1,457		1,854		2,102		2,502	
		Inside			mm	1,328		1,723		1,973		2,373	
	Depth	Outside			mm	853							
		Inside			mm	723							
	Height	Outside	front		mm	770							
		Outside	rear		mm	833							
		Inside	front		mm	655							
		Inside	rear		mm	705							
	Stacking height		front		mm	550							
			rear		mm	550							
Net weight					kg	95		120		136		155	
Gross weight					kg	101		130		147		166	
Operation range	Ambient temperature		Min.		°C	16							
			Max.		°C	25							
	Relative humidity				%	60 or less							
	Product temperature		Min.		°C	-23							
			Max.		°C	-18							
	Sound pressure in 1m distance				dB(A)	43.6							
	Blowing agent					R-601 (HC) GWP 5							
Daily energy consumption	Edaily				kWh/day	5.40		6.10		6.50		7.10	
Annual energy consumption	AE				kWh/a	1,971.00		2,226.50		2,372.50		2,591.50	
HVAC	Rejected heat capacity				W	225		254		271		296	
	Dehumidification				Liter/day	0							
Refrigerant	Type					R-290							
	GWP					3							
	Charge				g	80		90		100		110	
	Max. allowable operating pressure				bar	30							
Power supply	Voltage				V	220-240							
	Frequency				Hz	50							
	Nominal power acc. EN 60335-2-89				W	460							
	Nominal power during defrost				W	900							
	Nominal current during defrost				A	3.9							
	Nominal power LED				W	28		29		39		46	
	Fuse protection					RCBO, 30mA, C16							
	Defrost heater power				W	0							
	Cord length				mm	2,400							

With process-related interior fitting | Energy test results are declared for climate class 3, test procedure according to EN 23953-2 (initial door openings, 12h LED switched on with door openings, one defrost per day)
Chiller cabinets only on request

All round visibility booster

Uniting latest technology and brilliant design

- Extremely low energy consumption due to RPM regulated compressor technology and electronic energy-saving fan
- Use of natural and efficient refrigerant R290 (propane)
- AHT e-conomize: Additional energy saving potential due to extensive optimization of technology and construction
- Convincingly efficient: the island chest freezer and chiller MACAO impresses with smart, up-to-date technical features, maximum energy efficiency and a new dimension of sales potency
- Sales-boosting product visibility thanks to glass panels on all four sides
- Improved ease of use thanks to semi-automatic defrosting and easy-to-clean plastic bin
- Attractive LED interior lighting
- Robust, smooth-running, single-piece and fully extrusion-coated glass sliding lids (lockable)

EU and UK models have same specs but different electricity plugs.

					MACAO	100_EU_403755	100_UK_403779	145_EU_403756	145_UK_403780	210_EU_403757	210_UK_403781
Classification acc. EN 23953-2						L1					
Climate class acc. EN 23953-2						3					
Energy efficiency index EEI				%		54.3		46.9		40.7	
Use						Display & Sale					
Dimensions	Gross content			l		338		500		763	
	Net content			l		156		241		362	
	Total display area (TDA)			m^2		0.49		0.76		1.13	
	Length	Outside		mm		999		1,455		2,100	
		Inside		mm		872		1,328		1,973	
	Depth	Outside		mm		850					
		Inside		mm		723					
	Height	Outside	front	mm		900					
		Outside	rear	mm		925					
		Inside	front	mm		523					
		Inside	rear	mm		523					
	Stacking height		front	mm		280					
			rear	mm		280					
Net weight				kg		103		122		167	
Gross weight				kg		126		130		175	
Operation range	Ambient temperature		Min.	°C		16					
			Max.	°C		25					
	Relative humidity			%		60 or less					
	Product temperature		Min.	°C		-23					
			Max.	°C		-18					
	Sound pressure in 1m distance			dB(A)		43.6					
	Blowing agent					R-601 (HC) GWP 5					
Daily energy consumption	Edaily			kWh/day		5.40		6.10		7.00	
Annual energy consumption	AE			kWh/a		1,971.00		2,226.50		2,555.00	
HVAC	Rejected heat capacity			W		225		254		292	
	Dehumidification			Liter/day		0					
Refrigerant	Type					R-290					
	GWP					3					
	Charge			g		70		100		110	
	Max. allowable operating pressure			bar		30					
Power supply	Voltage			V		220-240					
	Frequency			Hz		50					
	Nominal power acc. EN 60335-2-89			W		400					
	Nominal power during defrost			W		900					
	Nominal current during defrost			A		3.9					
	Nominal power LED			W		17		25		34	
	Fuse protection					RCBO, 30mA, C16					
	Defrost heater power			W		0					
	Cord length			mm		2,400					

(1) - Energy test results are declared for climate class 3, test procedure according to EN 23953-2 (initial door openings, 12h LED switched on with door openings, one defrost per day)
(2) - With process-related interior fitting

AHT a member of DAIKIN group

Integral freezer and chiller cabinets

Create a greater impact for your customers, as they benefit from all round product visibility enhanced with LED lighting

- 100 % CFC and PFC free
- Ready to plug in
- Guaranteeing the quality of the frozen goods thanks to constant internal temperature and high power reserves
- Intelligent fan motor for more energy efficiency – saves approximately 0,5 kWh daily
- Brilliant LED lighting system
- Higher energy-saving
- Improved display area with optimum useful load
- Easy access from both sides
- Low investment and operating costs
- Maintenance-free
- Environmentally friendly with natural refrigerant propane

EU and UK models have same specs but different electricity plugs.

					MALTA	145_EU_403758	145_UK_403782	185_EU_403759	185_UK_403783
Classification acc. EN 23953-2						L1			
Climate class acc. EN 23953-2						3			
Energy efficiency index EEI					%	52.9			
Use						Display & Sale			
Dimensions	Gross content				l	603		795	
	Net content				l	425		571	
	Total display area (TDA)				m^2	0.73		0.99	
	Length	Outside			mm	1,456		1,851	
		Inside			mm	1,328		1,723	
	Depth	Outside			mm	855			
		Inside			mm	723			
	Height	Outside	front		mm	770			
		Outside	rear		mm	833			
		Inside	front		mm	655			
		Inside	rear		mm	655			
	Stacking height		front		mm	550			
			rear		mm	550			
Net weight					kg	103			
Gross weight					kg	110			
Operation range	Ambient temperature		Min.		°C	16			
			Max.		°C	25			
	Relative humidity				%	60 or less			
	Product temperature		Min.		°C	-23			
			Max.		°C	-18			
	Sound pressure in 1m distance				dB(A)	43.6			
	Blowing agent					R-601 (HC) GWP 5			
Daily energy consumption	Edaily				kWh/day	6.70		7.30	
Annual energy consumption	AE				kWh/a	2,445.50		2,664.50	
HVAC	Rejected heat capacity				W	279		304	
	Dehumidification				Liter/day	0			
Refrigerant	Type					R-290			
	GWP					3			
	Charge				g	80		90	
	Max. allowable operating pressure				bar	30		30	
Power supply	Voltage				V	220-240			
	Frequency				Hz	50			
	Nominal power acc. EN 60335-2-89				W	460			
	Nominal power during defrost				W	900			
	Nominal current during defrost				A	3.9			
	Nominal power LED				W	20		25	
	Fuse protection					RCBO, 30mA, C16			
	Defrost heater power				W	0			
	Cord length				mm	2,400			

(1) - Energy test results are declared for climate class 3, test procedure according to EN 23953-2 (initial door openings, 12h LED switched on with door openings, one defrost per day)
(2) - With process-related interior fitting

Ice cream freezer - horizontal: with flat glass sliding lids

More volume, more sales. A range of freezers to meet all circumstances

- Excellent product visibility due to low cabinet height
- Ready to plug in
- Easy-to-move, 2-part, flat glass sliding lids with the proven and patented injected, one-piece AHT lid frame
- Environmentally friendly with natural refrigerant
- 100 % CFC and PFC free
- Low energy consumption
- Adjustable thermostat
- Intelligent fan motor for more energy efficiency – saves approximately 0,5 kWh daily
- Reinforced insulation (72 mm) for reserve refrigeration and low energy consumption
- Inner container made of white, pre-painted, galvanised sheet metal
- Outer-skin condenser – no dirt, no maintenance
- Modular system: same height and depth, different lengths available
- Suitable for climate class 3 to climate class 7
- Supplied in robust packaging (undersliding)
- Freezing: –14 °C to –23 °C

				RIO H	68_EU_403766	100_EU_403767	125_EU_403768	150_EU_403769
Classification acc. EN 23953-2					7			
Climate class acc. EN 23953-2					L1			
Energy efficiency index EEI				%	41.2	33.9	41.0	44.4
Use					Display & Sale			
Dimensions	Gross content			l	147	262	352	422
	Net content			l	117	215	291	367
	Total display area (TDA)			m^2	0.29	0.46	0.59	0.73
	Length	Outside		mm	680	1,000	1,250	1,500
		Inside		mm	530	850	1,100	1,350
	Depth	Outside		mm	650			
		Inside		mm	500			
	Height	Outside		mm	880			
	Stacking height			mm	610			
Net weight				kg	51	63	71	79
Gross weight				kg	55	67	76	84
Operation range	Ambient temperature		Min.	°C	16			
			Max.	°C	35			
	Relative humidity			%	75			150
	Product temperature		Min.	°C	-23			
			Max.	°C	-14			
	Sound pressure in 1m distance			dB(A)	39		40	
	Blowing agent				R-601 (HC) GWP 5			
Daily energy consumption	Edaily			kWh/day	2.0 / 3.0 / 1.4	2.5 / 3.8 / 1.6	2.8 / 4.0 / 1.8	3.7 / 4.8 / 2.2
Annual energy consumption	AE			kWh/a	474.50	511.00	730.00	912.50
HVAC	Rejected heat capacity			W	54	58	83	104
	Dehumidification			Liter/day	0			
Refrigerant	Type				R290 / R4014A / R600a			
	GWP				5			
	Charge			g	50 / 100 / 50	60 / 120 / 60	70 / 140 / 70	75 / 150 /75
	Max. allowable operating pressure			bar	30			
Power supply	Voltage			V	220-240			
	Frequency			Hz	50			
	Nominal power acc. EN 60335-2-89			W	240 / 230 / 120		280 / 250 / 140	300 / 350 / 160
	Nominal power during defrost			W	240		280	300
	Nominal current during defrost			A	2.1 / 1.6 / 0.7		2.3 / 1.7 / 0.9	2.5 / 2.4 / 1.1
	Nominal power LED			W	no light			
	Fuse protection			A	16			
	Defrost heater power			W	220-240			
	Cord length			mm	1750			

AHT a member of DAIKIN group

Ice cream freezer - horizontal: with curved glass sliding lids

More volume, more sales. A range of freezers to meet all circumstances

- Excellent product visibility due to low cabinet height
- Ready to plug in
- Easy-to-move, 2-part, flat glass sliding lids with the proven and patented injected, one-piece AHT lid frame
- Environmentally friendly with natural refrigerant
- 100 % CFC and PFC free
- Low energy consumption
- Brilliant LED lighting system which enhances product display, drives sales and reduces maintenance
- Adjustable thermostat
- Intelligent fan motor for more energy efficiency – saves approximately 0,5 kWh daily
- Reinforced insulation (72 mm) for reserve refrigeration and low energy consumption
- Inner container made of white, pre-painted, galvanised sheet metal
- Outer-skin condenser – no dirt, no maintenance
- Modular system: same height and depth, different lengths available
- Suitable for climate class 3 to climate class 7
- Supplied in robust packaging (undersliding)
- Freezing: –14 °C to –23 °C

					RIO S	68_EU_403770	100_EU_403771	125_EU_403772	150_EU_403773	175_EU_403774
Classification acc. EN 23953-2						7				
Climate class acc. EN 23953-2						L1				
Energy efficiency index EEI					%	49.8	45.1	50.5	57.3	62.5
Use						Display & Sale				
Dimensions	Gross content				l	132	238	322	405	488
	Net content				l	102	190	258	327	396
	Total display area (TDA)				m^2	0.31	0.50	0.64	0.78	0.92
	Length	Outside			mm	680	1,000	1,250	1,500	1,750
		Inside			mm	530	850	1,100	1,350	1,600
	Depth	Outside			mm	650				
		Inside			mm	500				
	Height	Outside	front		mm	880				
		Outside	rear		mm	766				
	Stacking height		front		mm	530				
			rear		mm	570				
Net weight					kg	49	59	66	74	81
Gross weight					kg	53	63	71	79	87
Operation range	Ambient temperature		Min.		°C	16				
			Max.		°C	35				
	Relative humidity				%	75				
	Product temperature		Min.		°C	-23				
			Max.		°C	-14				
	Sound pressure in 1m distance				dB(A)	39		40		43
	Blowing agent					R-601 (HC) GWP 5				
Daily energy consumption	Edaily				kWh/day	2.3 / 3.0 / 1.5	2.6 /4.1 / 1.8	3.5 / 4.4 / 2.1	4.6 / 5.4	6.4 / 7.2
Annual energy consumption	AE				kWh/a	547.50	638.75	839.50	1095.00	1350.50
HVAC	Rejected heat capacity				W	63	73	96	125	154
	Dehumidification				Liter/day	0				
Refrigerant	Type					R290 / R404A / R600a			R290 / R404A	
	GWP					5				
	Charge				g	50 / 100 / 50	60 / 130 / 60	70 / 140 / 70	75 / 150	80 / 170
	Max. allowable operating pressure				bar	30				
Power supply	Voltage				V	220-240				
	Frequency				Hz	50				
	Nominal power acc. EN 60335-2-89				W	240 / 230 / 120	280 / 250 / 140	300 / 350 / 160	320 / 410	370 / 460
	Nominal power during defrost				W	240	280	300	320	370
	Nominal current during defrost				A	2.1 / 1.6 / 0.7	2.3 / 1.7 / 0.9	2.5 / 2.4 / 1.1	2.8 / 2.7	3.7 / 3.4
	Nominal power LED				W	12	18	25	32	40
	Fuse protection				A	16				
	Defrost heater power				W	220-240				
	Cord length				mm	1750				

Air curtain display cooler

For perfect merchandise presentation

- Air curtain for optimum cooling efficiency
- Energy efficient
- Low maintenance condenser
- Cooling cassette system
- Cassette replacement within 15 minutes (easy service)
- Night blind to save energy consumption (reed switch)
- Inside light
- Plug-in refrigeration
- Automatic defrost and condensate water evaporation
- Shelf supports can be fixed in inclined position
- Use of natural and efficient refrigerant R290 (propane)
- 100 % CFC and PFC free

EU and UK models have same specs but different electricity plugs.

				AC	S_UK_403784	M_UK_403785	M_EU_403761	W_UK_403786	S_EU_403760	W_EU_403762
Classification acc. EN 23953-2					M2					
Climate class acc. EN 23953-2					3					
Energy efficiency index EEI				%	42.5	38.6		48.6	42.5	48.6
Use					Display & Sale					
Dimensions	Gross content			l	245	463	463	325	245	325
	Net content			l	190	324	324	250	190	250
	Total display area (TDA)			m^2	1.00	1.72	1.72	1.20	1.00	1.20
	Length	Outside		mm	706	716		914	706	914
	Depth	Outside		mm	766	771			766	
	Height	Outside		mm	1,495	1,973			1,495	
	Shelf depth			mm	1 x 388, 2 x 321					
Net weight				kg	144	152		135	144	135
Gross weight				kg	135	165		150	135	150
Operation range	Ambient temperature		Min.	°C	16					
			Max.	°C	25					
	Relative humidity			%	60 or less					
	Product temperature		Min.	°C	-1					
			Max.	°C	7					
	Sound pressure in 1m distance			dB(A)	52.8	53.3		52.3	52.8	52.3
	Blowing agent				R-601 (HC) GWP 5					
Daily energy consumption	Edaily			kWh/day	8.50	10.50		10.70	8.50	10.70
Annual energy consumption	AE			kWh/a	3,102.50	3,832.50		3,905.50	3,102.50	3,905.50
HVAC	Rejected heat capacity			W	354	438		446	354	446
	Dehumidification			Liter/day	0					
Refrigerant	Type				R-290					
	GWP				3					
	Charge			g	140					
	Max. allowable operating pressure			bar	30					
Power supply	Voltage			V	220-240					
	Frequency			Hz	50					
	Nominal power acc. EN 60335-2-89			W	680	880		850	680	850
	Nominal current acc. EN 60335-2-89			A	3.5	5.2		5.0	3.5	5.0
	Nominal power LED			W	18	25		18		
	Fuse protection				RCBO, 30mA, C16					
	Cord length			mm	2,500					

(1) - Energy test results are declared for climate class 3, test procedure according to EN 23953-2, use of night blind for 12h, light on for 12h
(2) - With process-related interior fitting

Glass door merchandiser

For better product visibility

- Illuminated led header for maximum branding opportunities and horizontal led lighting for better product visibility
- Slim design ideal for in aisle retail placement
- Low profile, hinged door system
- Electronic temperature control with digital read out
- Spiral condenser helps improve performance and reduces maintenance time
- Low profile fixed rollers allow easy movement

EU and UK models have same specs but different electricity plugs.

					GD_XLS_UK_403788	GD_XLS_EU_403764	GD_XL_EU_403763	GD_XL_UK_403787
Classification acc. EN 23953-2					M1		M2	
Climate class acc. EN 23953-2					6		3	
Energy efficiency index EEI				%	20.5		21	
Use					Display & Sale			
Dimensions	Gross content			l	713		1,060	
	Net content			l	372		770	
	Total display area (TDA)			m^2	1.82		2.3	
	Length	Outside		mm	1,195			
	Depth	Outside		mm	655		928	
	Height	Outside		mm	1,973			
Net weight				kg	181		227	
Gross weight				kg	210		253	
Operation range	Ambient temperature		Min.	°C	16			
			Max.	°C	27		25	
	Relative humidity			%	70 or less			
	Product temperature		Min.	°C	-1		2	
			Max.	°C	5		7	
	Sound pressure in 1m distance			dB(A)	50		53	
	Blowing agent				R-601 (HC) GWP 5			
Daily energy consumption	Edaily			kWh/day	5.80		7.70	
Annual energy consumption	AE			kWh/a	2,117.00		2,810.50	
HVAC	Rejected heat capacity			W	242		321	
	Dehumidification			Liter/day	0			
Refrigerant	Type				R-290			
	GWP				3			
	Charge			g	120		150	
	Max. allowable operating pressure			bar	30			
Power supply	Voltage			V	220-240			
	Frequency			Hz	50			
	Nominal power acc. EN 60335-2-89			W	390		1,700	
	Nominal current acc. EN 60335-2-89			A	2.2		7.6	
	Nominal power LED			W	50		40	
	Fuse protection				RCBO, 30mA, C16		FI-LS, 30mA,C16	
	Cord length			mm	3,000		3,100	

(1) - Energy test results are declared for climate class 3, test procedure according to EN 23953-2
(2) - With process-related interior fitting

Promotion cooler

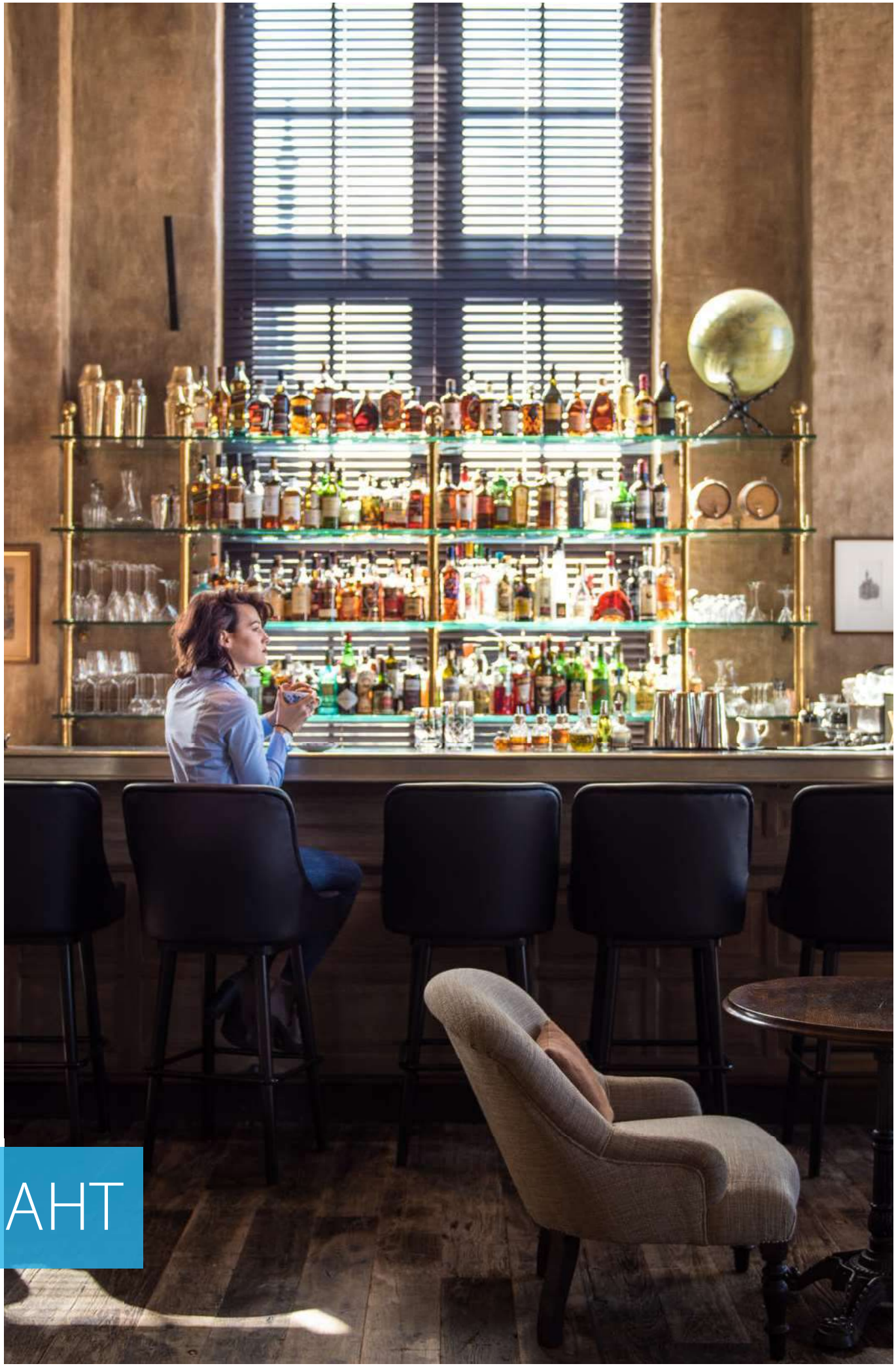
Maximum mobility and merchandise presentation with a high „cool factor“

- Presentation of snacks and beverages
- Sales-supporting promotion of complementary product groups
- High capacity
- COOLBOX generates high revenues with low space requirements – especially with fast-moving products
- Plug, chill & sell – immediately ready for use
- Unique condensate technology
- Multi functional usage
- 100% environment- & climate-friendly

EU and UK models have same specs but different electricity plugs.

				CB	CB124_EU_403765	CB124_UK_403789
Classification acc. EN 23953-2					H1	
Climate class acc. EN 23953-2					3	
Energy efficiency index EEI				%	43.5	
Use					Display & Sale	
Dimensions	Gross content			l	1,034 (0.000)	
	Net content			l	766 (2.000)	
	Total display area (TDA)			m^2	3.00 (2.000)	
	Length	Outside		mm	1,240	
		Inside		mm	1,180	
	Depth	Outside		mm	885	
		Inside		mm	640	
	Height	Outside		mm	2,150	
		Inside		mm	1,420	
	Shelf depth			mm	450	
Net weight				kg	346 (2.000)	
Gross weight				kg	374 (2.000)	
Operation range	Ambient temperature		Min.	°C	16	
			Max.	°C	25	
	Relative humidity			%	60 or less	
	Product temperature		Min.	°C	1	
			Max.	°C	10	
	Sound pressure in 1m distance			dB(A)	43.6	
	Blowing agent				R-601 (HC) GWP 5	
Daily energy consumption	Edaily			kWh/day	17.40 (1.000)	
Annual energy consumption	AE			kWh/a	6,351.00	
HVAC	Rejected heat capacity			W	725	
	Dehumidification			Liter/day	0	
Refrigerant	Type				R-290	
	GWP				3	
	Charge			g	150	
	Max. allowable operating pressure			bar	30	
Power supply	Phase				1N~	
	Voltage			V	220-240	
	Frequency			Hz	50	
	Nominal power acc. EN 60335-2-89			W	1,700	
	Nominal current acc. EN 60335-2-89-			A	7.5	
	Nominal power LED			W	70	
	Fuse protection				RCBO, 30mA, C16	
	Cord length			mm	3,500	

With process-related interior fitting | Energy test results are declared for climate class 3, test procedure according to EN 23953-2, use of night blind for 12h, light on for 12h



AHT

Zanotti

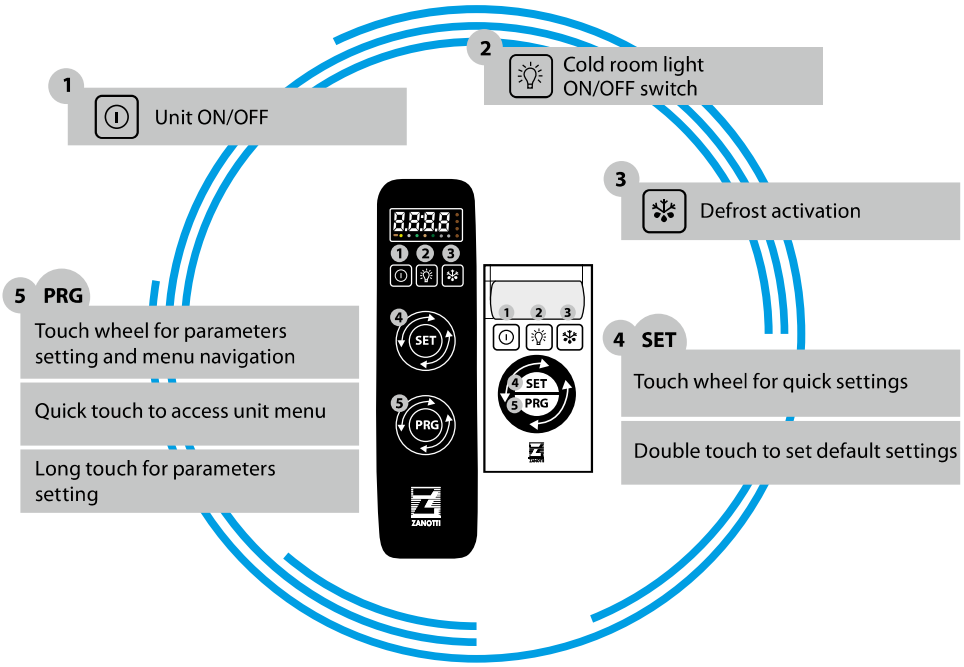
Touch control

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

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

GM Monoblock Unit

GS Split Unit



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).

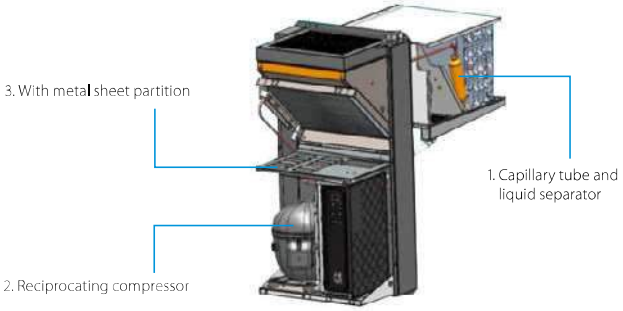
Uni-block system for low and medium temperature refrigeration

For straddle wall or though wall installation in cold rooms

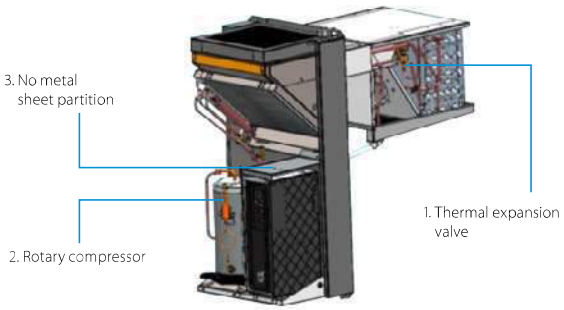
- Rapid mounting on the wall of the cold room: straddle mounting ideal for new installations, or through wall mounting ideal for replacement and refurbishment projects.
- GWP < 150 refrigerant
- Enhanced performance in any working condition
- Flexibility of use and installation even in limited space, due to compact size
- TXV (Thermostatic Expansion Valve) instead of capillary:
  - Reduces negative impact created by refrigerant glide
  - Maintains stable superheat throughout the operational temperature curve
  - Improves operational performance
- Standardizing on 1 x refrigerant
- Refrigerant charge LESS than 2.5kg in accordance with EN378 :
  - No restriction to installation and mounting of unit
  - No restrictions for internal use of cold store
  - No countermeasures required for installation or applications

A2L GM

What has changed?



GM with traditional refrigerants



GM with R455A

Medium Temperature Refrigeration			GM	MGM107NA11XA	MGM213NA11XA	MGM317NA11XA
Refrigerating capacity	Medium temp R455A	Nom	kW	1,323	2,633	3,656
Recommended Cold	Medium temp V 100		m^3	11	28	44
Room Volume (3)	Medium temp V 80		m^3	10	25	39
	Medium temp V 60		m^3	9.1	23	36
Power input (1)	Max.		kW	1.00	2.00	2.4
Dimensions	Unit	HeightxWidthxDepth	mm	735 x 830 x 280 (height evaporator = 264)	830 x 620 x 280 (height evaporator = 264)	830 x 620 x 350 (height evaporator = 364)
Weight	Unit		kg	56	80	98
Compressor	Type			Rotary		
	Nominal power		kW	0.85	1.75	2.26
	Starting method			Direct		
Condenser	Air flow		m^3/h	640	1,200	1,400
Defrost				Hot gas		
Evaporator	Air flow		m^3/h	810	1,200	1,400
	Air throw (2)		m	6		
Operation range	Cold room temp	Min.~Max.	°C	-5 ~ + 10		
Refrigerant	Type/GWP			R455A/148		
	Charge		kg/TCO2Eq	0.53/0.078	0.95/0.141	1.15/0.170
Current	Peak		Amp	22.8	42.5	55.5
	Max.		Amp	5.9	11.3	16.8
Power supply	Phase/Frequency/Voltage		Hz/V	1~/50/230		

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

Low Temperature Refrigeration			GM	BGM110NA11XA	BGM220NA11XA
Refrigerating capacity	Low temp R455A	Nom	kW	0.77	1779
Recommended Cold	Low temp V 120		m^3	4	16
Room Volume (3)	Medium temp V 100		m^3	3.6	14
	Medium temp V 80		m^3	3.1	12
Power input (1)	Max.		kW	1.40/6.20	2.5/12.4
Dimensions	Unit	HeightxWidthxDepth	mm	735 x 830 x 280 (height evaporator = 264)	830 x 620 x 280 (height evaporator = 264)
Weight	Unit		kg	56	80
Compressor	Type			Rotary	
	Nominal power		kW	1.26	2.26
	Starting method			Direct	
Condenser	Air flow		m^3/h	640	1,200
Defrost				Hot gas	
Evaporator	Air flow		m^3/h	640	1,200
	Air throw (2)		m	4	
Operation range	Cold room temp	Min.~Max.	°C	-25 ~ -15	
Refrigerant	Type/GWP			R455A/148	
	Charge		kg/TCO2Eq	0.45/0.067	0.90/0.133
Current	Peak		Amp	33.7	57.3
	Max.		Amp	8.4	17.7
Power supply	Phase/Frequency/Voltage		Hz/V	1~/50/230	

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

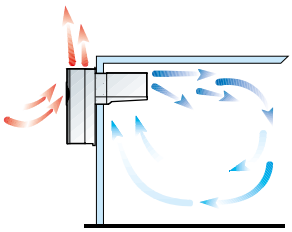
Uni-block system for low and medium temperature refrigeration

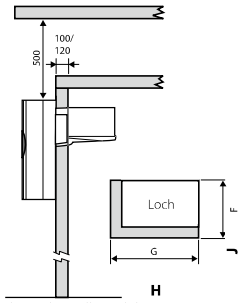
For wall mounted installation in small and medium sized cold rooms

- Rapid mounting on the wall of the cold room by straddle-mounting, which is ideal for new installations or through-wall mounting 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

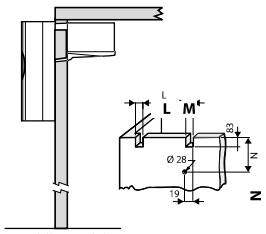
GM

Installation type

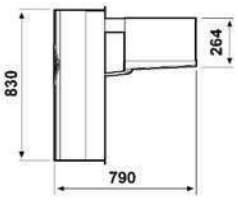


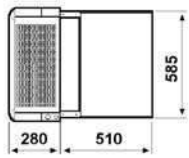


Through- wall model



Straddle model





Low Temperature Refrigeration, Medium Temperature Refrigeration				GM	0870Y1AA	110DA11XA	112DA11XA	117DA11XA	218DA11XA	220DB11XA	320DB11XA	330DB11XA	340DB11XA	103EA11XA	105EA11XA	106EA11XA	107EA11XA
Refrigerating capacity	Low temperature	R-290	Nom	kW	0.871 (1)	-											
		R-452A	Nom	kW	-	0.679 (3)	0.889 (3)	1.080 (3)	1.336 (3)	1.688 (3)	2.491	2.349 (3)	3.160	-			
	Medium temperature	R-134a	Nom	kW	-									0.855	0.978 (1)	1.120 (1)	1.315 (1)
Recommended Cold Room Volume	Low temperature	V 100		m^3	4.4	-					25	-	36	-			
	Medium temperature	V 100		m^3	-									5.8	-		
Power input	Max.			W	1.26	-											
Dimensions	Unit	HeightxWidthxDepth		mm	735x400x790				830x620x790		830x620x862		830x620x1,024	735x400x790			
	Packed unit	HeightxWidthxDepth		mm	942x450x850				1,050x670x850		1,050x670x940		1,050x660x1,090	942x450x850			
Weight	Unit			kg	64	56	64		80		105		113	52	53	56	
	Packed unit			kg	75	67	75		96		122		140	63	64	67	
Compressor	Type				Hermetic Reciprocating												
	Nominal power			kW	0.9	0.74	0.9	1.3		1.5		2.2	2.9	0.4	0.5	0.4	0.7
	Starting method				Direct												
Condenser	Air flow			m^3/h	600				1,200		1,500		2,200	600			
Defrost					Hot gas												
Evaporator	Air flow			m^3/h	600				1,200		1,800	1,500	2,100	600			
	Air throw			m	4	4 (2)					10 (2)			4 (2)			
Operation range	Cold room temperature	Min.~Max.		°C	-25~-15									-5~10			
Refrigerant	Type/GWP				R-290/3	R-452A/2,141					R-452A/2,140	R-452A/2,141	R-452A/2,140	R-134a/1,430			
	Charge			kg/TCO2Eq	-/-	0.38/0.81	0.34/0.73	0.35/0.75	0.86/1.84	0.84/1.80	-/-	0.98/2.10	-/-	0.40/0.57	0.43/0.61		0.33/0.47
Power supply	Phase/Frequency/Voltage			Hz/V	1~/50/230					3N~/50/400				1~/50/230			

Low Temperature Refrigeration, Medium Temperature Refrigeration				GM	110EA11XA	211EA11XA	212EB11XA	213EB11XA	315EB11XA	320EB11XA	1280Y1AA	2210Y1AA
Refrigerating capacity	Medium temperature	R-134a	Nom	kW	1.351 (1)	1.806 (1)	2.034 (1)	2.175 (1)	3.079 (1)	3.351 (1)	-	
	Medium temperature	R-290	Nom	kW	-						1.281	2.206 (3)
Recommended Cold Room Volume	Medium temperature	V 100		m^3	-						11	22
Power input	Max.			W	-						0.94	1.61
Dimensions	Unit	HeightxWidthxDepth		mm	735x400x790	830x620x790			830x620x862		735x400x790	830x620x790
	Packed unit	HeightxWidthxDepth		mm	942x450x850	1,050x670x850			1,050x670x940		942x450x850	1,050x670x850
Weight	Unit			kg	64	80			98	100	56	80
	Packed unit			kg	75	96			115	117	67	96
Compressor	Type				Hermetic Reciprocating							
	Nominal power			kW	0.9		1.7	2	2.2	2.6	0.56	0.9
	Starting method				Direct							
Condenser	Air flow			m^3/h	600	1,200			1,500		600	1,200
Defrost					Hot gas							
Evaporator	Air flow			m^3/h	600	1,200			1,800		600	1,200
	Air throw			m	4 (2)				10 (2)		4	
Operation range	Cold room temperature	Min.~Max.		°C	-5~10							
Refrigerant	Type/GWP				R-134a/1,430						R-290/3	
	Charge			kg/TCO2Eq	0.40/0.57	0.71/1.02	0.70/1.00	0.75/1.07	0.95/1.36	1.00/1.43	-/-	
Power supply	Phase/Frequency/Voltage			Hz/V	1~/50/230		3N~/50/400				1~/50/230	

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

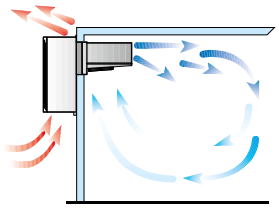
Uni-block system for low and medium temperature refrigeration

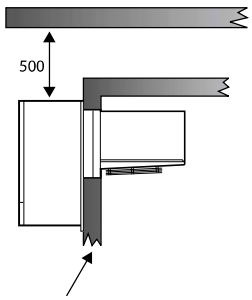
For wall mounted installation in medium sized cold rooms

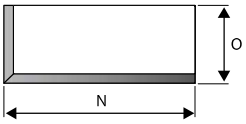
- Rapid mounting on the wall of the cold room by through-wall mounting
- Extremely fast to assemble, reducing installation time and cost
- The white colour of the evaporator blends unobtrusively with the cold room walls
- Very compact and very efficient
- Remote electronic command station with easy-to-use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

AS

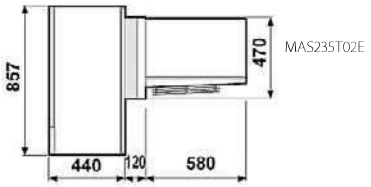
Installation type



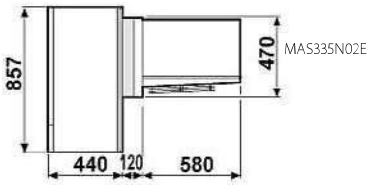




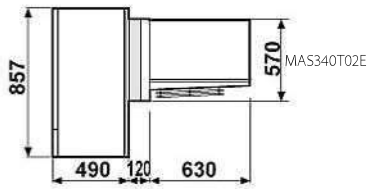
Drain pan connection: Ø 18 (AS235), Ø 22 (AS335-AS340)



MAS235T02E



MAS335N02E



MAS340T02E

Low Temperature Refrigeration, Medium Temperature Refrigeration			AS	235T02E	335N02E	335T02E	340T02E
Refrigerating capacity	Medium temperature	R-134a Nom	kW	4.981 (1)	6.988 (1)	8.290 (1)	10.664 (1)
Dimensions	Unit	HeightxWidthxDepth	mm	857x1,280x1,140	857x1,750x1,140		857x1,790x1,240
	Packed unit	HeightxWidthxDepth	mm	1,060x1,330x1,210	1,065x1,850x1,300		1,065x1,850x1,420
Weight	Unit		kg	162	221	222	244
	Packed unit		kg	202	276	277	361
Compressor	Type			Hermetic Reciprocating			
	Nominal power		kW	3.7	4.8	6.3	7.4
	Starting method			Direct			
Condenser	Air flow		m^3/h	2,700	4,000		5,600
Defrost				Hot gas			
Evaporator	Air flow		m^3/h	3,900	5,600		8,000
	Air throw		m	10 (2)			17 (2)
Operation range	Cold room temperature	Min.~Max.	°C	-5~10			
Refrigerant	Type/GWP			R-134a/1,430			
	Charge		kg/TCO2Eq	1.80/2.57	2.50/3.58		4.50/6.44
Power supply	Phase/Frequency/Voltage		Hz/V	3N~/50/400			

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

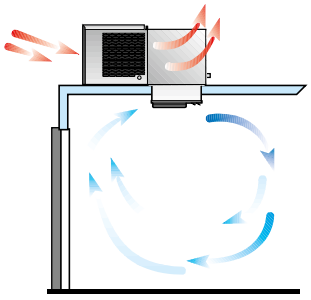
Uni-block system for low and medium temperature refrigeration

For roof mounted installation in small and medium sized cold rooms

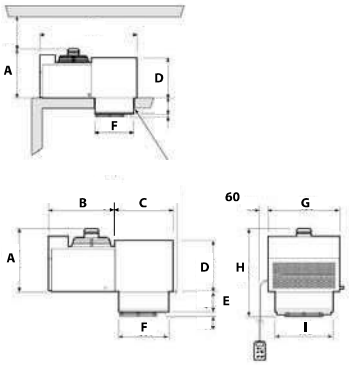
- Rapid mounting on the roof of the cold room
- Ceiling assembly leaves the space inside the cold room completely free
- The white colour of the evaporator blends unobtrusively with the cold room walls
- Extremely fast to assemble, reducing installation time and cost
- Best surface-to-capacity ratio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

SB

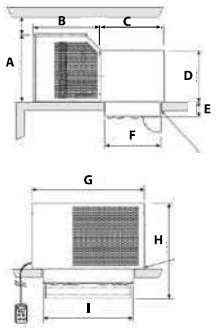
Installation type



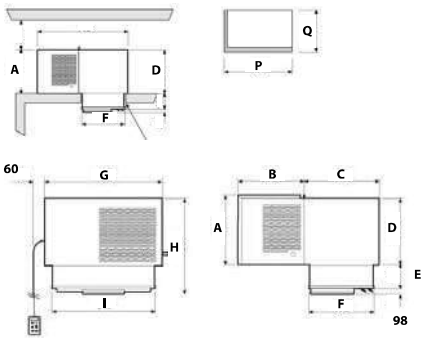
SB120



SB140



SB125-235



Low Temperature Refrigeration, Medium Temperature Refrigeration					SB	010DA11XX	0870Y1AA	117DA11XX	1710Y2AA	220DB11XX	2650Y3AC	330DB11XX	005EA11XX	106EA11XX	107EA11XX
Refrigerating capacity	Low temperature	R-290	Nom	kW	-	0.873 (3)	-	1.713 (3)	-	2.653 (3)		-			
		R-452A	Nom	kW	0.628 (3)	-	1.029 (3)	-	1.699 (3)	-	2.472 (3)		-		
	Medium temperature	R-134a	Nom	kW				-				0.857 (1)	1.120 (1)	1.338 (1)	
Recommended Cold Room Volume	Low temperature	V 100		m^3	-	4.4	-	13	-	28		-			
Power input	Max.			W	-	1.26	-	2.49	-	1.26		-			
Dimensions	Unit	HeightxWidthxDepth		mm	525x430x771	506x620x719		503x1,075x924	540x820x809	762x1,300x1,044	645x820x929	525x430x771	506x620x719		
	Packed unit	HeightxWidthxDepth		mm	690x540x830	690x730x790	660x730x790	-x-x-	690x930x880	-x-x-	800x930x1,000	690x540x830	660x730x790		
Weight	Unit			kg	48	68		102	87	200	102	42	59		
	Packed unit			kg	61	82		-	108	-	124	55	73		
Compressor	Type				Hermetic Reciprocating										
	Nominal power			kW	0.6	0.9	1.3	1.8	1.5	2.7	2.2	0.5	0.6	0.7	
	Starting method				Direct										
Condenser	Air flow			m^3/h	400	750		1,400		2,000	1,500	400	750		
Defrost					Hot gas										
Evaporator	Air flow			m^3/h	500	550		1,100		2,500	2,300	500	550		
	Air throw			m	3 (2)	4	4 (2)	4	4 (2)	4	10 (2)	3 (2)	4 (2)		
Operation range	Cold room temperature	Min.~Max.		°C	-25~-15							-5~10			
Refrigerant	Type/GWP				R-452A/2,141.0	R-290/3	R-452A/2,141.0	R-290/3	R-452A/2,141.0	R-290/3	R-452A/2,141.0	R-134a/1,430.0			
	Charge			kg/TCO2Eq	0.50/1.07	-/-	0.42/0.90	-/-	0.72/1.54	-/-	0.96/2.06	0.47/0.67	0.40/0.57	0.46/0.66	
Power supply	Phase/Frequency/Voltage			Hz/V	1~/50/230				3N~/50/400			1~/50/230			

Low Temperature Refrigeration, Medium Temperature Refrigeration					SB	1310Y1AA	210EA11XX	212EB11XX	2180Y1AA	315EB11XX	320EB11XX	3370Y2AA	425EB11XX	530EB11XX	5820Y3AB
Refrigerating capacity	Medium temperature	R-134a	Nom	kW	-	1.799 (1)	2.022 (1)	-	3.282 (1)	3.550 (1)	-	3.774 (1)	4.871 (1)	-	
		R-290	Nom	kW	1.309 (1)	-		2.179 (1)	-		3.367 (1)	-		5.821 (1)	
Recommended Cold Room Volume	Medium temperature	V 100		m^3	11	-		21	-		39	-		78	
Power input	Max.			W	0.94	-		1.58	-		2.51	-		4.66	
Dimensions	Unit	HeightxWidthxDepth		mm	506x620x719	540x820x809			645x820x929		652x1,300x1,044	760x920x1,042	785x1,075x1,046	652x1,300x1,044	
	Packed unit	HeightxWidthxDepth		mm	690x730x790	690x930x880		720x930x880	800x930x1,000		-x-x-	880x1,100x1,100	920x1,200x1,120	-x-x-	
Weight	Unit			kg	59	74	75		92		75	110	151	75	
	Packed unit			kg	73	95	96		114		-	139	184	-	
Compressor	Type				Hermetic Reciprocating										
	Nominal power			kW	0.56	0.9	1.7	0.9	2.2	2.6	1.12	2.9	3.7	2.7	
	Starting method				Direct										
Condenser	Air flow			m^3/h	750	1,400			1,500		1,750	3,100	3,200	2,900	
Defrost					Hot gas										
Evaporator	Air flow			m^3/h	550	1,100			2,300		1,500	2,300	3,450	3,600	
	Air throw			m	4	4 (2)		4	10 (2)		4	10 (2)		4	
Operation range	Cold room temperature	Min.~Max.		°C	-5~10										
Refrigerant	Type/GWP				R-290/3	R-134a/1,430.0		R-290/3	R-134a/1,430.0		R-290/3	R-134a/1,430.0		R-290/3	
	Charge			kg/TCO2Eq	-/-	0.75/1.07	0.78/1.12	-/-	0.86/1.23	0.82/1.17	-/-	0.93/1.33	2.60/3.7	-/-	
Power supply	Phase/Frequency/Voltage			Hz/V	1~/50/230	3N~/50/400		1~/50/230	3N~/50/400		1~/50/230	3N~/50/400			

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

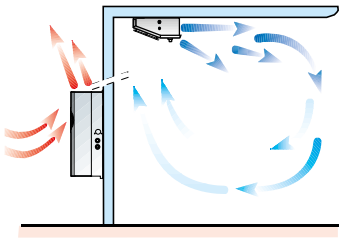
Bi-block system for low and medium temperature refrigeration

Condensing unit for wall mounted installation

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

GS

Installation type



Low Temperature Refrigeration, Medium Temperature Refrigeration				GS	SB.BGS110P			SB.BGS112P			SB.BGS117P			SB.BGS218P			SB.BGS220P			SB.BGS330P		
					1D	2D	3D	1D	2D	3D	1D	2D	3D	1D	2D	3D	1D	2D	3D	1D	2D	3D
Refrigerating capacity	Low temperature	R-452A	Nom	kW	0.679 (3)			0.889 (3)			1.080 (3)			1.336 (3)			1.688 (3)			2.349 (3)		
Dimensions	Condensing unit	HeightxWidthxDepth		mm	735x400x280									830x620x280						830x620x350		
	Evaporator unit	HeightxWidthxDepth		mm	215x654x410									215x1,074x410						215x1,654x410		
	Packed condensing unit	WidthxDepth		mm	490x610									490x740						600x740		
	Packed evaporator unit	HeightxWidthxDepth		mm	470x260x780									470x260x1,200						470x260x1,780		
Weight	Condensing unit			kg	46			54						64						84		
	Evaporator unit			kg	13									19						28		
	Packed condensing unit			kg	57			65						76						98		
	Packed evaporator unit			kg	15									21						31		
Compressor	Type				Hermetic Reciprocating																	
	Nominal power			kW	0.74			0.9			1.3						1.5			2.2		
	Starting method				Direct																	
Condenser	Air flow			m^3/h	600									1,200						1,500		
Defrost					Hot gas																	
Evaporator	Air flow			m^3/h	600									1,200						1,800		
	Air throw			m	4 (2)																	
Operation range	Cold room temperature	Min.~Max.		°C	-25~-15																	
Refrigerant	Type/GWP				R-452A/2,141																	
	Charge			kg/TCO2Eq	0.60/1.28			0.56/1.20			0.53/1.13			0.86/1.84			0.84/1.80			0.98/2.10		
Power supply	Phase/Frequency/Voltage			Hz/V	1~/50/230												3N~/50/400					

Low Temperature Refrigeration, Medium Temperature Refrigeration				GS	SB.MGS103P			SB.MGS105P			SB.MGS106P			SB.MGS107P			SB.MGS110P			SB.MGS211P			SB.MGS212P			SB.MGS213P			SB.MGS315P			SB.MGS320P		
					1E	2E	3E	1E	2E	3E	1E	2E	3E	1E	2E	3E	1E	2E	3E	1E	2E	3E	1E	2E	3E	1E	2E	3E	1E	2E	3E	1E	2E	3E
	Medium temperature	R-134a	Nom	kW	0.855 (1)			0.978 (1)			1.120 (1)			1.351 (1)						1.806 (1)			2.034 (1)			2.175 (1)			3.079 (1)			3.351 (1)		
Dimensions	Condensing unit	HeightxWidthxDepth		mm	735x400x280															830x620x280									830x620x350					
	Evaporator unit	HeightxWidthxDepth		mm	215x654x410															215x1,074x410									215x1,654x410					
	Packed condensing unit	WidthxDepth		mm	490x610															490x740									600x740					
	Packed evaporator unit	HeightxWidthxDepth		mm	470x260x780															470x260x1,200									470x260x1,780					
Weight	Condensing unit			kg	42			43			46						54			64									77			79		
	Evaporator unit			kg	13															19									28					
	Packed condensing unit			kg	53			54			57						65			76									91			93		
	Packed evaporator unit			kg	15															19									31					
Compressor	Type				Hermetic Reciprocating																														
	Nominal power			kW	0.4			0.5			0.4			0.7			0.9						1.7			2			2.2			2.6		
	Starting method				Direct																														
Condenser	Air flow			m^3/h	600															1,200									1,500					
Defrost					Electric																														
Evaporator	Air flow			m^3/h	600															1,200									1,800					
	Air throw			m	4 (2)																														
Operation range	Cold room temperature	Min.~Max.		°C	-5~10																														
Refrigerant	Type/GWP				R-134a/1,430.0																														
	Charge			kg/TCO2Eq	0.85/1.22			0.72/1.03			0.78/1.12			0.60/0.86			0.85/1.22			0.71/1.02			0.70/1.00			0.75/1.07			0.95/1.36			0.99/1.42		
Power supply	Phase/Frequency/Voltage			Hz/V	1~/50/230																		3N~/50/400											

(1)When normally running: 0°C / +30°C | (2)Use air throw as a base. Air throw is affected by many factors such as height of room, product storage, location of evaporator, etc. | (3)When normally running: -20°C / +30°C | Contains fluorinated greenhouse gases | Precharged pipe 10 m length | Precharged pipe 5 m length | Precharged pipe 2,5 m length

Bi-block system for low and medium temperature refrigeration

Condensing unit for floor standing or roof mounted installation

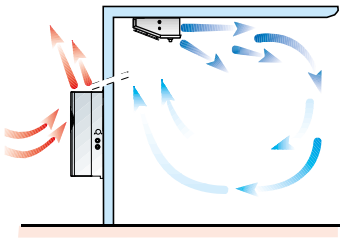
- Condensing unit for floor standing or roof mounted installation and ceiling mounted evaporator
- Extremely fast to assemble thanks to quick connection joints
- Reduced installation time and cost
- Best surface-to-capacity ratio

Floor standing condenser

Remote control

Ceiling evaporator

Installation type



Low Temperature Refrigeration, Medium Temperature Refrigeration			SP-O	SB.BSP110P			SB.BSP112P			SB.BSP117P			SB.BSP218P			SB.BSP220P			SB.BSP330P		
				1D	2D	3D	1D	2D	3D	1D	2D	3D	1D	2D	3D	1D	2D	3D	1D	2D	3D
Refrigerating capacity	Low temperature	R-452A Nom	kW	0.662 (3)			0.905 (3)			1.088 (3)			1.342 (3)			1.719 (3)			2.384 (3)		
Dimensions	Condensing unit	HeightxWidthxDepth	mm	357x620x337									390x820x427						427x820x427		
	Evaporator unit	HeightxWidthxDepth	mm	215x614x410									215x1,034x410						215x1,614x410		
	Packed condensing unit	WidthxDepth	mm	520x780									620x1,010								
	Packed evaporator unit	HeightxWidthxDepth	mm	260x470x780									260x470x1,200						260x470x1,780		
Weight	Condensing unit		kg	45			50						61			69			78		
	Evaporator unit		kg	13									19						28		
	Packed condensing unit		kg	74			79						99			107			116		
	Packed evaporator unit		kg	15									21						30		
Compressor	Type			Hermetic Reciprocating																	
	Nominal power		kW	0.75			1.1			1.3						1.5			2.2		
	Starting method			Direct																	
Condenser	Air flow		m³/h	750									1,400						1,500		
Defrost				Electric																	
Evaporator	Air flow		m³/h	600									1,200						1,800		
	Air throw		m	4 (2)																	
Operation range	Cold room temperature	Min.~Max.	°C	-25~-15																	
Refrigerant	Type/GWP			-/2,141						R-452A/2,141											
	Charge		kg/TCO2Eq	0.80/1.71						0.93/1.99			1.10/2.36			1.00/2.14			1.30/2.78		
Power supply	Phase/Frequency/Voltage		Hz/V	1~/50/230												3N~/50/400					

Low Temperature Refrigeration, Medium Temperature Refrigeration			SP-O	SB.MSP106P			SB.MSP107P			SB.MSP212P			SB.MSP213P			SB.MSP315P			SB.MSP320P		
				1E	2E	3E	1E	2E	3E	1E	2E	3E	1E	2E	3E	1E	2E	3E	1E	2E	3E
Refrigerating capacity	Medium temperature	R-134a Nom	kW	1.140 (1)			1.422 (1)			1.816 (1)			2.029 (1)			3.188 (1)			3.492 (1)		
Dimensions	Condensing unit	HeightxWidthxDepth	mm	357x620x337						390x820x427						427x820x427					
	Evaporator unit	HeightxWidthxDepth	mm	215x614x410						215x1,034x410						215x1,614x410					
	Packed condensing unit	WidthxDepth	mm	520x780						620x1,010											
	Packed evaporator unit	HeightxWidthxDepth	mm	260x470x780						260x470x1,200						260x470x1,780					
Weight	Condensing unit		kg	43						59		61			69			70			
	Evaporator unit		kg	13						19						28					
	Packed condensing unit		kg	72						97		99			107			108			
	Packed evaporator unit		kg	15						21						30					
Compressor	Type			Hermetic Reciprocating																	
	Nominal power		kW	0.4			0.7			0.9		1.7			2.2			2.6			
	Starting method			Direct																	
Condenser	Air flow		m³/h	750						1,400						1,500					
Defrost				Electric																	
Evaporator	Air flow		m³/h	600						1,200						1,800					
	Air throw		m	4 (2)																	
Operation range	Cold room temperature	Min.~Max.	°C	-5~10																	
Refrigerant	Type/GWP			R-134a/1,430																	
	Charge		kg/TCO2Eq	0.88/1.26			0.84/1.20			1.00/1.43		1.10/1.57			1.00/1.43			1.50/2.15		
Power supply	Phase/Frequency/Voltage		Hz/V	1~/50/230								3N~/50/400									

(1)When normally running: 0°C / +30°C | (2)Use air throw as a base. Air throw is affected by many factors such as height of room, product storage, location of evaporator, etc. | (3)When normally running: -20°C / +30°C | Contains fluorinated greenhouse gases | Precharged pipe 2,5 m length | Precharged pipe 5 m length | Precharged pipe 10 m length

Bi-block system for low and medium temperature refrigeration

Condensing unit for floor standing or roof mounted installation

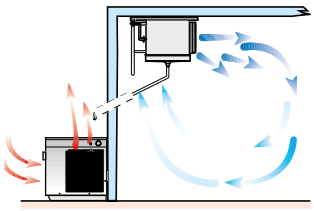
- Condensing unit for floor standing or roof mounted installation and ceiling mounted evaporator
- Thermostatic expansion valve ensuring optimum capacity in accordance with the required load for better energy efficiency
- Extremely fast to assemble thanks to quick connection joints
- Reduced installation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

Floor standing condenser

Remote control

Ceiling evaporator

Installation type



			DB-O	SB.BDB 110DA12XX	SB.BDB 112DA12XX	SB.BDB 117DA12XX	SB.BDB 320DA13XX	SB.BDB 330DA13XX	SB.BDB 218DA12XX	SB.BDB 220DA12XX
Refrigerating capacity	Low temperature	R-452A Nom	kW	0.662 (1)	0.905 (1)	1.088 (1)	2.384 (1)	2.38 (1)	1.342 (1)	1.719 (1)
Dimensions	Condensing unit	Height x Width x Depth	mm	357 x 620 x 337			427 x 820 x 427		390 x 820 x 427	
	Evaporator unit	Height x Width x Depth	mm	215 x 614 x 410			215 x 1,614 x 410		215 x 1,034 x 410	
	Packed condensing unit	Height x Width x Depth	mm	590 x 419 x 810			610 x 520 x 1,010			
	Packed evaporator unit	Height x Width x Depth	mm	260 x 470 x 780			260 x 470 x 1,200			
Weight	Condensing unit		kg	45	50		72	78	61	69
	Evaporator unit		kg	13			28		19	
	Packed condensing unit		kg	55	60		86	92	75	83
	Packed evaporator unit		kg	15			31		21	
Compressor	Type			Hermetic Reciprocating						
	Nominal power		kW	0.75	1.1	1.3	2.2		1.3	1.5
	Starting method			Direct						
Operation range	Cold room temperature	Min. ~Max.	°C	-25 ~-15						
Refrigerant	Type			R-452A						
	GWP			2,142						
Evaporator	Air flow		m³/h	600			1,800		1,200	
	Air throw		m	4 (3)						
Condenser	Air flow		m³/h	750			1,500		1,400	
Defrost				Electric						
Power supply	Voltage/Phase/Frequency		V/Hz	230/1~/50			400/3N~/50		230/1~/50	400/3N~/50

			DB-O	SB.MDB 106A12XX	SB.MDB 107A12XX	SB.MDB 315A13XX	SB.MDB 320A13XX	SB.MDB 425A13XX	SB.MDB 635A13XX	SB.MDB 645A13XX	SB.MDB 706A13XX	SB.MDB 530A13XX	SB.MDB 707A13XX	SB.MDB 212A12XX	SB.MDB 213A12XX
Refrigerating capacity	Medium temperature	R-134a Nom	kW	1.140 (2)	1.422 (2)	3.188 (2)	3.492 (2)	3.606 (2)	7.293 (2)	8.779 (2)	11.014 (2)	5.070 (2)	14.069 (2)	1.816 (2)	2.029 (2)
Dimensions	Condensing unit	Height x Width x Depth	mm	357 x 620 x 337	427 x 820 x 427	427 x 820 x 427	540 x 920 x 540	654 x 1,575 x 642	885 x 1,725 x 742	594 x 1,075 x 532	885 x 1,725 x 742	390 x 820 x 427			
	Evaporator unit	Height x Width x Depth	mm	215 x 614 x 410	215 x 1,614 x 410	215 x 1,614 x 410	545 x 805 x 690	600 x 1,690 x 690	620 x 1,840 x 700	530 x 1,220 x 690	620 x 1,840 x 700	215 x 1,034 x 410			
	Packed condensing unit	Height x Width x Depth	mm	590 x 419 x 810	610 x 520 x 1,010	610 x 520 x 1,010	880 x 650 x 1,200	750 x 890 x 1,840	780 x 890 x 1,990	710 x 820 x 1,280	780 x 890 x 1,990	610 x 520 x 1,010			
	Packed evaporator unit	Height x Width x Depth	mm	260 x 470 x 780	260 x 470 x 1,200	260 x 470 x 1,200	702 x 814 x 1,004	865 x 780 x 1,850	1,100 x 880 x 2,000	865 x 780 x 1,850	1,100 x 880 x 2,000	260 x 470 x 1,200			
Weight	Condensing unit		kg	43	69	70	95	158	159	195	104	220	59	61	
	Evaporator unit		kg	13	28	28	37	84		102	53	102	19		
	Packed condensing unit		kg	53	83	84	114	247	248	309	193	334	73	75	
	Packed evaporator unit		kg	15	30	30	53	140		165	85	165	21		
Compressor	Type			Hermetic Reciprocating											
	Nominal power		kW	0.4	0.7	2.2	2.6	2.94	4.8	6.3	7.4	3.7	9.555	0.9	1.7
	Starting method			Direct											
Operation range	Cold room temperature	Min. ~Max.	°C	-5 ~10											
Refrigerant	Type			R-134a											
	GWP			1,430											
Evaporator	Air flow		m³/h	600		1,800	1,800	2,300	6,800	6,400	8,400	4,600	8,000	1,200	
	Air throw		m	4 (3)				12 (3)	11 (3)		13 (3)	11 (3)	12 (3)	4 (3)	
Condenser	Air flow		m³/h	750		1,500		3,150	5,500	7,000	8,100	3,200	8,100	1,400	
Defrost				Electric											
Power supply	Voltage/Phase/Frequency		V/Hz	230/1~/50		400/3N~/50	400/3N~/50	400/3N~/50						230/1~/50	400/3N~/50

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

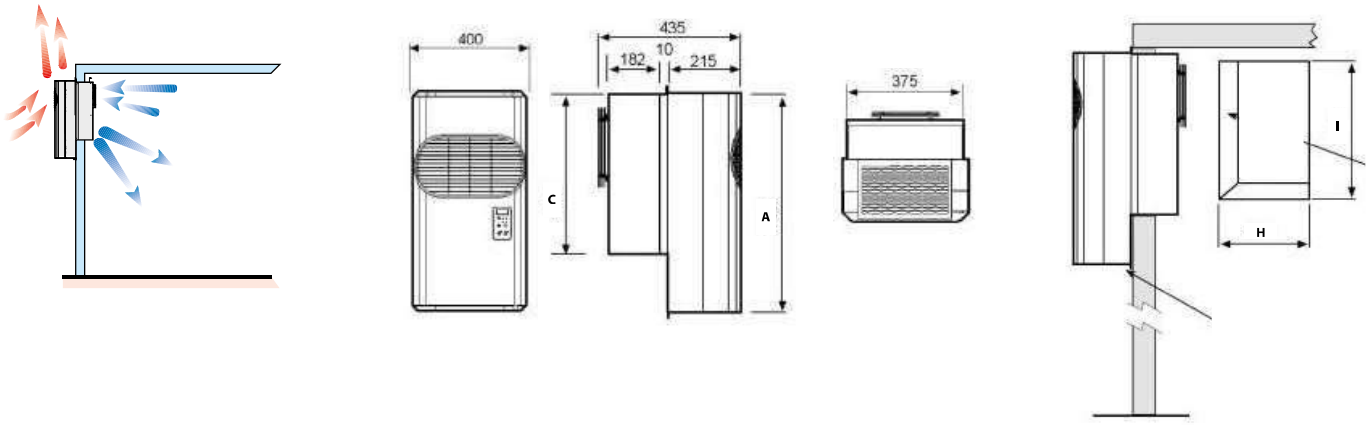
Wineblock - Monoblock units for high temperature refrigeration

Monoblock system suitable for through-wall installation

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

RCV

Installation type



High Temperature Refrigeration				RCV	101527E	101528E	102527E	102528E	201527E	201528E	202527E	202528E
Refrigerating capacity	High temperature	R-134a	Nom	kW	0.6		1		1.4		2.3	
Heating capacity	R-134a	Nom		kW	0.7		1.05		1.4		1.75	
Dimensions	Unit	HeightxWidthxDepth		mm	735x400x435				735x620x435			
	Packed unit	HeightxWidthxDepth		mm	955x435x495				955x655x495			
Weight	Unit			kg	49	50	52	53	77	78	79	80
	Packed unit			kg	59	60	62	63	89	90	91	92
Compressor	Type				Hermetic Reciprocating							
	Nominal power			kW	0.25		0.37		0.46		0.55	
Condenser	Air flow			m^3/h	600				1,200			
Evaporator	Air flow			m^3/h	600				1,200			
	Air throw			m	4 (1)							
Operation range	Cold room temperature	Min.~Max.		°C	10~20							
Refrigerant	Type/GWP				R-134a/1,430							
	Charge			kg/TCO2Eq	0.43/0.61		0.38/0.54		0.45/0.64		0.60/0.86	
Power supply	Phase/Frequency/Voltage			Hz/V	1~/50/230							

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

Wineblock - Split units for high temperature refrigeration

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

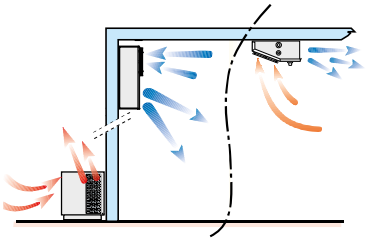
- Accurate humidity and temperature control to guarantee the quality of products (e.g. wines)
- Thermostatic expansion valve ensuring optimum capacity in accordance with the required load for better energy efficiency
- Integrated humidifier available depending on model to have one unit which covers it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

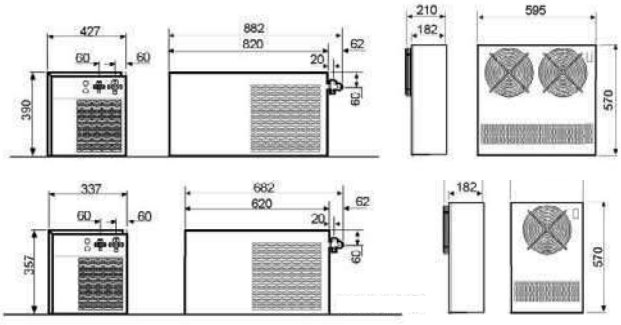
Ceiling evaporator

Wall evaporator

RDV Condensing unit

Installation type





High Temperature Refrigeration				RDV	SB.RDV 101523E	SB.RDV 101524E	SB.RDV 101525E	SB.RDV 101529E	SB.RDV 102523E	SB.RDV 102524E	SB.RDV 102525E	SB.RDV 102529E	SB.RDV 201523E	SB.RDV 201524E
Refrigerating capacity	High temperature	R-134a	Nom	kW	0.600 (2)				1.000 (2)				1.400 (2)	
Heating capacity	R-134a	Nom		kW	0.700	0.900		0.700	1.050	0.900		1.050	1.400	1.600
Dimensions	Condensing unit	HeightxWidthxDepth		mm	357x682x337								390x882x427	
	Evaporator unit	HeightxWidthxDepth		mm	570x375x210	215x669x490		570x375x210		215x669x490		570x375x210	570x595x210	215x1,089x490
	Packed condensing unit	WidthxDepth		mm	800x400								510x1,000	
	Packed evaporator unit	HeightxWidthxDepth		mm	610x250x525	540x250x1,190		610x250x525		540x250x1,190		610x250x525	610x250x745	540x250x1,190
Weight	Condensing unit			kg	33		32		36		35		61	
	Evaporator unit			kg	13		12		13		12		19	
	Packed condensing unit			kg	38		37		41		40		68	
	Packed evaporator unit			kg	15		14		15		14		21	22
Compressor	Type				Hermetic Reciprocating									
	Nominal power			kW	0.25				0.37				0.46	
	Starting method				Direct									
Condenser	Air flow			m^3/h	600								1,200	1,100
Evaporator	Air flow			m^3/h	500	400		500		400		500	1,000	800
	Air throw			m	4 (1)									
Operation range	Cold room temperature	Min.~Max.		°C	10~20									
Refrigerant	Type/GWP				R-134a/1,430									
	Charge			kg/TCO2Eq	1.30/1.86								1.80/2.57	
Power supply	Phase/Frequency/Voltage			Hz/V	1~/50/230									

High Temperature Refrigeration				RDV	SB.RDV 201525E	SB.RDV 201529E	SB.RDV 202523E	SB.RDV 202524E	SB.RDV 202525E	SB.RDV 202529E
Refrigerating capacity	High temperature	R-134a	Nom	kW	1.400 (2)		2.300 (2)			
Heating capacity	R-134a	Nom		kW	1.600	1.400	1.750 (2)	1.600		1.750 (2)
Dimensions	Condensing unit	HeightxWidthxDepth		mm	390x882x427					
	Evaporator unit	HeightxWidthxDepth		mm	215x1,089x490	570x595x210		215x195x490	215x1,089x490	570x595x210
	Packed condensing unit	WidthxDepth		mm	510x1,000					
	Packed evaporator unit	HeightxWidthxDepth		mm	540x250x1,190	610x250x745		540x1,089x1,190	540x250x1,190	610x250x745
Weight	Condensing unit			kg	60		63	68	62	
	Evaporator unit			kg	18		19		18	
	Packed condensing unit			kg	67		70	75	69	
	Packed evaporator unit			kg	20		21	22	20	
Compressor	Type				Hermetic Reciprocating					
	Nominal power			kW	0.46		0.55			
	Starting method				Direct					
Condenser	Air flow			m^3/h	1,100	1,200		1,100		1,200
Evaporator	Air flow			m^3/h	800	1,000		800		1,000
	Air throw			m	4 (1)					
Operation range	Cold room temperature	Min.~Max.		°C	10~20					
Refrigerant	Type/GWP				R-134a/1,430					
	Charge			kg/TCO2Eq	1.80/2.57					
Power supply	Phase/Frequency/Voltage			Hz/V	1~/50/230					

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

Condensing units

Model	Product name	Capacity (kW)	0	2	5	10	25	50	100	150	300	450
Commercial plug-in condensing units	JEHCCU and JEHSCU											
Small condensing units	CU series											
Semi condensing units	CU series											
Twin condensing units	CU series											
Large condensing units	CM series											
Small inverter condensing unit for commercial refrigeration	Mini-ZEAS LRMEQ-BY1											
	Mini-ZEAS LRLEQ-BY1											
Inverter condensing unit for commercial refrigeration	ZEAS LREQ-BY1											
	Multi ZEAS LREQ-BY1R											
CO_2 condensing units												
												

Freezing (Low temperature) (-20° C)

Chilling (Medium temperature) (0° C)

Condensing unit for commercial refrigeration with reciprocating technology

Refrigeration solution for small food retailers

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

JEHCCU-CM1/CM3

Medium Temperature Refrigeration					JEHCCU-CM1/CM3	0040CM1	0050CM1	0051CM1	0063CM1	0067CM1	0077CM1	0095CM1	0100CM1	0113CM1	0140CM1	0150CM1	0170CM1	0225CM1	0300CM1	0140CM3	0150CM3	0170CM3	0225CM3	0300CM3
Refrigerating capacity	Medium temperature (1)	R-134a	Nom	kW	0.59	-	0.89	1.06	-	1.29	1.60		-		1.30	-	2.11	2.99	-	1.37	-	2.17	3.07
		R-407A	Nom	kW	-	0.80		-	1.07		-	1.33	1.66	1.92	2.07	-	3.45	4.3	1.92	2.07	-	3.45	4.41
		R-407F	Nom	kW	-	0.86		-	1.15		-	1.41	1.74	2.08	2.17	-	3.44	4.55	2.08	2.17	-	3.60	4.61
		R-448A	Nom	kW	-	0.87		-	1.12		-	1.35	1.64	2.15	2.31	2.57	3.84	-	2.15	2.18	2.57	3.40	4.27
		R-449A	Nom	kW	-	0.87		-	1.12		-	1.35	1.64	2.15	2.31	2.57	3.84	-	2.15	2.18	2.57	3.40	4.27
		R-452A	Nom	kW	-	0.95		-	1.23		-	1.48	1.79	2.20	2.36	2.69	3.36	-	2.20	2.32	2.69	3.61	4.41
Seasonal energy performance ratio SEPR	R-134a	Te -10°C			1.50	-	1.77	1.77	-	1.85	1.86				-			1.86	1.96	-	1.77	-	1.99	2.01
	R-407A	Te -10°C			-	1.59		-	1.62		-	1.66	1.78	1.74	1.59	-	1.89	1.85	1.66	1.86	-	1.97	1.92
	R-407F	Te -10°C			-	1.77		-	1.76		-	1.77	1.85	1.93	1.77	-	1.88	1.82	1.85	1.86	-	1.95	1.89
	R-448A	Te -10°C			-	1.66		-	1.64		-	1.64	1.71	2.09	1.66	1.73	2.04	1.82	2.00	1.95	1.76	1.92	1.79
	R-449A	Te -10°C			-	1.66		-	1.64		-	1.64	1.71	2.09	1.66	1.73	2.04	1.82	2.00	1.95	1.76	1.92	1.79
	R-452A	Te -10°C			-	1.67		-	1.67		-	1.68	1.73	1.92	1.67	1.65	1.76	1.60	1.83	1.87	1.73	1.81	1.64
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				-			2.20			-		2.28
	R-407A	Te -10°C	Declared COP (COP2)		-	1.69		-	1.69		-	1.74	1.90	1.87	2.02	-	2.13	2.05	2.09	2.10	-	2.20	2.13
	R-407F	Te -10°C	Declared COP (COP2)		-	1.93		-	1.94		-	1.95	2.07	2.22	2.09	-	2.15	2.08	1.78	2.17	-	2.25	2.16
	R-448A	Te -10°C	Declared COP (COP2)		-	1.91		-	1.90		-	1.89	1.95	2.42	2.23	1.93	2.32	1.99	2.11	2.27	2.01	2.22	2.05
	R-449A	Te -10°C	Declared COP (COP2)		-	1.91		-	1.90		-	1.89	1.95	2.42	2.23	1.93	2.32	1.99	2.32	2.27	2.01	2.22	2.05
	R-452A	Te -10°C	Declared COP (COP2)		-	1.90		-	1.90		-	1.90	1.98	2.18	2.20	1.85	1.98	1.79	2.32	2.15	1.99	2.05	1.82
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				1.61	-	1.86	1.96	-	1.77	-	1.99	2.01
	R-407A	Te -10°C	Rated COP (COPA)		-	1.59		-	1.62		-	1.66	1.78	1.74	1.80	-	1.89	1.85	1.66	1.86	-	1.97	1.92
	R-407F	Te -10°C	Rated COP (COPA)		-	1.77		-	1.76		-	1.77	1.85	1.93	1.80	-	1.88	1.82	1.85	1.86	-	1.95	1.89
	R-448A	Te -10°C	Rated COP (COPA)		-	1.66		-	1.64		-	1.64	1.71	2.09	1.97	1.73	2.04	1.82	2.00	1.95	1.76	1.92	1.79
	R-449A	Te -10°C	Rated COP (COPA)		-	1.66		-	1.64		-	1.64	1.71	2.09	1.97	1.73	2.04	1.82	2.00	1.95	1.76	1.92	1.79
	R-452A	Te -10°C	Rated COP (COPA)		-	1.67		-	1.67		-	1.68	1.73	1.92	1.93	1.65	1.76	1.60	1.83	1.87	1.73	1.81	1.64
	R-134a	Te -10°C	Rated cooling capacity (PA)	kW	0.59	-	0.89	1.06	-	1.29	1.60		-		1.30	-	2.11	3.08	-	1.37	-	2.17	3.07
	R-407A	Te -10°C	Rated cooling capacity (PA)	kW	-	0.80		-	1.07		-	1.33	1.66	1.92	2.07	-	3.45	4.41	1.92	2.07	-	3.45	4.41
	R-407F	Te -10°C	Rated cooling capacity (PA)	kW	-	0.86		-	1.15		-	1.41	1.74	2.08	2.17	-	3.44	4.61	2.08	2.17	-	3.60	4.61
	R-448A	Te -10°C	Rated cooling capacity (PA)	kW	-	0.87		-	1.12		-	1.35	1.64	2.15	2.31	2.57	3.84	4.37	2.15	2.18	2.57	3.40	4.27
	R-449A	Te -10°C	Rated cooling capacity (PA)	kW	-	0.87		-	1.12		-	1.35	1.64	2.15	2.31	2.57	3.84	4.37	2.15	2.18	2.57	3.40	4.27
	R-452A	Te -10°C	Rated cooling capacity (PA)	kW	-	0.95		-	1.23		-	1.48	1.79	2.20	2.36	2.69	3.36	4.16	2.20	2.32	2.69	3.61	4.41
	R-134a	Te -10°C	Rated power input (DA)	kW	0.39	-	0.50	0.60	-	0.70	0.86		-		0.81	-	1.14	1.57	-	0.77	-	1.09	1.52
	R-407A	Te -10°C	Rated power input (DA)	kW	-	0.50		-	0.66		-	0.80	0.94	1.11	1.15	-	1.82	2.39	1.16	1.11	-	1.75	2.30
	R-407F	Te -10°C	Rated power input (DA)	kW	-	0.49		-	0.65		-	0.79	0.94	1.07	1.21	-	1.83	2.53	1.12	1.17	-	1.85	2.43
	R-448A	Te -10°C	Rated power input (DA)	kW	-	0.53		-	0.68		-	0.82	0.96	1.03	1.18	1.49	1.88	2.40	1.08	1.12	1.46	1.77	2.38
	R-449A	Te -10°C	Rated power input (DA)	kW	-	0.53		-	0.68		-	0.82	0.96	1.03	1.18	1.49	1.88	2.40	1.08	1.12	1.46	1.77	2.38
	R-452A	Te -10°C	Rated power input (DA)	kW	-	0.57		-	0.74		-	0.88	1.03	1.15	1.22	1.63	1.91	2.60	1.20	1.24	1.55	1.99	2.70
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		-		1.20	-	1.40	1.56	-	1.34	-	1.56	1.64
	R-407A	Te -10°C	Declared COP (COP3)		-	1.42					-			1.56	1.44	-	1.54	1.53	1.47	1.49	-	1.60	1.59
	R-407F	Te -10°C	Declared COP (COP3)		-	1.46					-			1.58	1.40	-	1.48	-	1.49	1.45	-	1.55	-
	R-448A	Te -10°C	Declared COP (COP3)		-	1.27		-	1.26		-	1.25	1.33	1.62	1.55	1.42	1.62	1.48	1.53	1.49	1.43	1.49	1.42
	R-449A	Te -10°C	Declared COP (COP3)		-	1.27		-	1.26		-	1.25	1.33	1.62	1.55	1.42	1.62	1.48	1.53	1.49	1.43	1.49	1.42
	R-452A	Te -10°C	Declared COP (COP3)		-	1.31		-	1.32		-	1.34	1.37	1.52	1.52	1.35	1.41	1.31	1.44	1.46	1.39	1.47	1.36
	R-134a	Te -10°C	Cooling capacity (P3)	kW		-	0.75	0.86	-	1.06	1.34		-		1.02	-	1.70	2.61	-	1.09		1.81	2.65
	R-407A	Te -10°C	Cooling capacity (P3)	kW		0.75				-				1.79	1.72	-	2.93	3.81	1.78	1.72		2.93	3.81
	R-407F	Te -10°C	Cooling capacity (P3)	kW		0.79				-				1.85	1.77	-	2.93	-	1.84	1.77		3.02	-
	R-448A	Te -10°C	Cooling capacity (P3)	kW	-	0.73		-	0.91		-	1.10	1.34	1.79	1.86	2.23	3.24	3.69	1.77	1.74	2.20	2.86	3.61
	R-449A	Te -10°C	Cooling capacity (P3)	kW	-	0.73		-	0.91		-	1.10	1.34	1.79	1.86	2.23	3.24	3.69	1.77	1.74	2.20	2.86	3.61
	R-452A	Te -10°C	Cooling capacity (P3)	kW	-	0.80		-	1.01		-	1.23	1.46	1.83	1.92	2.28	2.76	3.46	1.81	1.89	2.26	3.07	3.80
	R-134a	Te -10°C	Power input (D3)	kW	0.36	-	0.53	0.62	-	0.71	0.89		-		0.85	-	1.21	1.68	-	0.82	-	1.16	1.62
	R-407A	Te -10°C	Power input (D3)	kW	-	0.53				-				1.15	1.19	-	1.90	2.49	1.21	1.15	-	1.84	2.40
	R-407F	Te -10°C	Power input (D3)	kW	-	0.54				-				1.17	1.27	-	1.98	-	1.23	1.23	-	1.95	-
	R-448A	Te -10°C	Power input (D3)	kW	-	0.58		-	0.73		-	0.88	1.01	1.11	1.20	1.57	2.00	2.50	1.16	1.17	1.54	1.92	2.55
	R-449A	Te -10°C	Power input (D3)	kW	-	0.58		-	0.73		-	0.88	1.01	1.11	1.20	1.57	2.00	2.50	1.16	1.17	1.54	1.92	2.55
	R-452A	Te -10°C	Power input (D3)	kW	-	0.61		-	0.77		-	0.92	1.06	1.20	1.26	1.69	1.96	2.63	1.26	1.29	1.62	2.10	2.79
Dimensions	Unit	HeightxWidthxDepth		mm	607 x876 x420													662 x1,101 x444					
Weight	Unit			kg	49		57		56	58		57	58	67	68		70	72	67	68	68	70	72
Compressor	Type				Reciprocating compressor																		
	Piston displacement			m^3/h	1.8		3.18	3.79	2.64	4.51	5.69	3.18	4.21	4.52	5.26	4.52	8.36	10.52	4.52	5.26	4.52	8.36	10.52
Fan	Type				Axial																		
Sound pressure level	Nom.			dBA	28									32	37	33	38	39	32	37	33	38	39
Piping connections	Liquid line connection			inch	1/4"				3/8"														
	Suction line connection			inch	3/8"				1/2"					5/8				3/4"	5/8				3/4"
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/ 1.430.0	R-452A/ 2.141	R-134a/1.430.0		R-407A/ 2.107	R-134a/ 1.430.0	R-452A/ 2.141	R-134a/1.430.0	
	Type 2 - GWP Type 2				-	R-407A/ 2.107	-		R-407A/ 2.107	-		R-407A/2.107			R-448A/ 1.387	R-407A/2.107.0			R-407F/ 1.825	R-407A/ 2.107.0	R-448A/ 1.387	R-407A/2.107.0	
	Type 3 - GWP Type 3				-	R-407F/ 1.825	-		R-407F/ 1.825	-		R-407F/1.825			R-449A/ 1.397	R-407F/1.825.0			R-448A/ 1.387	R-407F/ 1.825.0	R-449A/ 1.397	R-407F/1.825.0	
	Type 4 - GWP Type 4				-	R-448A/ 1.387	-		R-448A/ 1.387	-		R-448A/ 1.387	R-449A/ 1.397	R-448A/ 1.387	-				R-449A/ 1.397	-			
	Type 5 - GWP Type 5				-	R-449A/ 1.397	-		R-449A/ 1.397	-		R-449A/ 1.397	-	R-449A/ 1.397	-				R-452A/ 1.397	-			
	GWP Type 6				-														2.140.0	-			
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 Suction 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 technology

Refrigeration solution for small food retailers

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- Micro channel heat exchanger technology reduces the amount of refrigerant used in the system, lowering environmental impact

JEHSCU-CM1/CM3

Medium Temperature Refrigeration					JEHSCU-CM1/CM3	0200CM1	0250CM1	0300CM1	0200CM3	0250CM3	0300CM3	0350CM3	0360CM3	0400CM3	0500CM3	0600CM3	0680CM3	0800CM3	1000CM3
Refrigerating capacity	Medium temperature (1)	R-134a	Nom	kW		2.13	-		2.24	-		3.48	3.80	4.37	-	-	-	8.21	10.75
		R-407A	Nom	kW		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	kW		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	kW			-		3.30	3.76	4.51	-	-	5.96	-	9.24	10.3	12.3	-
		R-448A	Nom	kW		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-449A	Nom	kW		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
Seasonal energy performance ratio SEPR	R-134a	Te -10°C				1.92	-		2.19	-		2.08	2.36	2.36	-	-	-	3.10	3.37
	R-407A	Te -10°C				2.18	2.06	-	2.12	1.99	1.92	-	3.48	3.79	3.21	3.19	2.96	3.12	-
	R-407F	Te -10°C				1.92	1.83	1.74	1.88	1.83	1.69	-	3.22	3.49	3.07	3.12	-	2.95	-
	R-407H	Te -10°C					-		1.93	2.02	1.80	-	3.15	3.03	-	2.90	2.68	3.24	-
	R-448A	Te -10°C				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-449A	Te -10°C				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
Annual electricity consumption Q	R-134a	Te -10°C										-						16,257	19,586
	R-407A	Te -10°C			kWh/a				-				10 187	10 973	15 848	18,408	22,240 .	25,491	-
	R-407F	Te -10°C			kWh/a				-				10 933	11 873	16 401	18,903	-	26,882	-
	R-407H	Te -10°C			kWh/a				-				10 664	12 082	-	19,576	23,664		-
	R-448A	Te -10°C			kWh/a			-				12 363	11 736	12 512	16 305	18,395	22,298	27,302	34,432
	R-449A	Te -10°C			kWh/a			-				12 363	11 736	12 512	16 305	18,395	22,298	27,302	34,432
Parameters at full load and ambient temp. 25°C	R-134a	Te -10°C	Declared COP (COP2)			2.21	-		2.62	-		2.46	2.86	2.90			-		
	R-407A	Te -10°C	Declared COP (COP2)			2.61	2.44	-	2.55	2.36	2.26					-			
	R-407F	Te -10°C	Declared COP (COP2)			2.46	2.33	2.21	2.39	2.29	2.14					-			
	R-407H	Te -10°C	Declared COP (COP2)				-		2.37	2.48	2.21					-			
	R-448A	Te -10°C	Declared COP (COP2)			2.53	2.32	2.23	2.53	2.32	2.23					-			
	R-449A	Te -10°C	Declared COP (COP2)			2.53	2.32	2.23	2.53	2.32	2.23					-			
Parameters at part load and ambient temp. 25°C (Point B)	R-134a	Te -10°C	Declared COP (COPB)									-						2.49	2.7
	R-407A	Te -10°C	Declared COP (COPB)						-				2.77	2.90	2.60	2.51	2.37	2.55	-
	R-407F	Te -10°C	Declared COP (COPB)						-				2.53	2.66	2.36	2.39	-	2.5	-
	R-407H	Te -10°C	Declared COP (COPB)						-				2.47	2.37	-	2.32	2.17	2.68	-
	R-448A	Te -10°C	Declared COP (COPB)					-				2.18	2.56	2.51	2.41	2.39	2.18	2.33	2.26
	R-449A	Te -10°C	Declared COP (COPB)					-				2.18	2.56	2.51	2.41	2.39	2.18	2.33	2.26
Parameters at full load and ambient temp. 32°C (Point A)	R-134a	Te -10°C	Rated COP (COPA)			1.92	-		2.19	-		2.08	2.36	2.36	-	-	-	2.2	2.21
	R-407A	Te -10°C	Rated COP (COPA)			2.18	2.06	-	2.12	1.99	1.92	-	2.24	2.28	2.11	2.05	1.93	2.08	-
	R-407F	Te -10°C	Rated COP (COPA)			1.92	1.83	1.74	1.88	1.83	1.69	-	1.97	2.10	1.88	1.91	-	2.1	-
	R-407H	Te -10°C	Rated COP (COPA)				-		1.93	2.02	1.80	-		1.89	-	1.92	1.78	2.2	-
	R-448A	Te -10°C	Rated COP (COPA)			2.02	1.93	1.85	2.02	1.93	1.85	1.77	2.04	1.98	1.78	1.96	1.79	2.05	1.83
	R-449A	Te -10°C	Rated COP (COPA)			2.02	1.93	1.85	2.02	1.93	1.85	1.77	2.04	1.98	1.78	1.96	1.79	2.05	1.83
	R-134a	Te -10°C	Rated cooling capacity (PA)	kW		2.13	-		2.24	-		3.48	3.80	4.37	-	-	-	8.21	10.75
	R-407A	Te -10°C	Rated cooling capacity (PA)	kW		3.48	4.09	-	3.45	4.05	4.69	-	5.77	6.76	8.28	9.54	10.7	12.95	-
	R-407F	Te -10°C	Rated cooling capacity (PA)	kW		3.33	3.82	4.63	3.33	3.94	4.58	-	5.73	6.75	8.18	9.59	-	12.9	-
	R-407H	Te -10°C	Rated cooling capacity (PA)	kW		-	-	-	3.30	3.76	4.51	-	-	5.96	-	9.24	10.3	12.3	-
	R-448A	Te -10°C	Rated cooling capacity (PA)	kW		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-449A	Te -10°C	Rated cooling capacity (PA)	kW		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-134a	Te -10°C	Rated power input (DA)	kW		1.11	-		1.03	-		1.68	1.61	1.85	-	-	-	3.74	4.86
	R-407A	Te -10°C	Rated power input (DA)	kW		1.60	1.99	-	1.63	2.04	2.45	-	2.58	2.97	3.93	4.65	5.54	6.24	-
	R-407F	Te -10°C	Rated power input (DA)	kW		1.74	2.09	2.66	1.78	2.16	2.71	-	2.91	3.21	4.36	5.03	-	6.13	-
	R-407H	Te -10°C	Rated power input (DA)	kW			-		1.71	1.86	2.50	-		3.15	-	4.82	5.79	5.58	-
	R-448A	Te -10°C	Rated power input (DA)	kW		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
	R-449A	Te -10°C	Rated power input (DA)	kW		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 full load and ambient temp. 43°C	R-134a	Te -10°C	Declared COP (COP3)			1.42			-			1.52			-			1.59	1.60
	R-448A	Te -10°C	Declared COP (COP3)			1.31	1.36	1.31	1.31	1.36	1.31	1.26	1.41	1.37	1.24	1.42	1.32	-	
	R-449A	Te -10°C	Declared COP (COP3)			1.31	1.36	1.31	1.31	1.36	1.31	1.26	1.41	1.37	1.24	1.42	1.32		-
	R-134a	Te -10°C	Cooling capacity (P3)	kW		1.87			-			3.06			-			7.26	9.46
	R-448A	Te -10°C	Cooling capacity (P3)	kW		2.80	3.35	4.12	2.80	3.35	4.12	4.78	4.99	5.57	6.79	8.29	9.25	-	-
	R-449A	Te -10°C	Cooling capacity (P3)	kW		2.80	3.35	4.12	2.80	3.35	4.12	4.78	4.99	5.57	6.79	8.29	9.25	-	-
	R-134a	Te -10°C	Power input (D3)	kW		1.32			-			2.02			-			4.56	5.92
	R-448A	Te -10°C	Power input (D3)	kW		2.14	2.47	3.14	2.14	2.47	3.14	3.78	3.54	4.08	5.46	5.82	7.00		-
	R-449A	Te -10°C	Power input (D3)	kW		2.14	2.47	3.14	2.14	2.47	3.14	3.78	3.54	4.08	5.46	5.82	7.00		-
Parameters at part load and ambient temp. 15°C (Point C)	R-134a	Te -10°C	Declared COP (COPC)						-				3.71	4.02	3.43	-		3.26	3.58
	R-407A	Te -10°C	Declared COP (COPC)						-				3.46	3.69	3.24	3.35	3.13	3.34	-
	R-407F	Te -10°C	Declared COP (COPC)						-				3.34	3.22	-	3.3	-	3.14	-
	R-407H	Te -10°C	Declared COP (COPC)						-				3.18	3.34	3.20	3.06	2.84	3.47	-
	R-448A	Te -10°C	Declared COP (COPC)					-				2.88	3.18	3.34	3.20	3.15	2.85	3.02	3.01
	R-449A	Te -10°C	Declared COP (COPC)					-				2.88		-		3.15	2.85	3.26	3.01
Parameters at part load and ambient temp. 5°C (Point D)	R-134a	Te -10°C	Declared COP (COPD)						-				4.85	5.41	4.40	-		4.25	4.66
	R-407A	Te -10°C	Declared COP (COPD)						-				4.48	5.05	4.43	4.49	4.1	4.25	-
	R-407F	Te -10°C	Declared COP (COPD)						-				4.45	4.3	-	4.5	-	3.90	-
	R-407H	Te -10°C	Declared COP (COPD)						-				4.05	4.32	4.12	4.03	3.67	4.36	-
	R-448A	Te -10°C	Declared COP (COPD)					-				3.77		-		4.05	3.68	3.92	3.96
	R-449A	Te -10°C	Declared COP (COPD)					-				3.77	4.05	4.32	4.12	4.05	3.68	3.92	3.96
Dimensions	Unit	HeightxWidthxDepth		mm		662 x1,101 x444							872 x1,353 x575					1,727 x1,348 x641	
Weight	Unit			kg		70	72	74	70	72	74	74	112	119	123	125	126	222	226
Compressor	Type					Reciprocating compressor						Scroll compressor	Reciprocating compressor						
	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
Fan	Type					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			inch		3/8"							1/2"					3/4"	
	Suction line connection			inch		3/4"							3/4"	7/8"		1 1/8"			1 3/8"
Refrigerant	Type/GWP					R-134a/1.430	R-407A/2.107	R-407A/2.107	R-134a/1.430	R-407A/2.107	R-407A/2.107	R-134a/1.430.0	R-134a/1.430	R-134a/1.430	R-407A/2.107	R-407A/2.107	R-407A/2.107	R-134a/1.430	R-134a/1.430
	Type 2 - GWP Type 2					R-407A/2.107	R-407F/1.825	R-448A/1.387	R-407A/2.107	R-407F/1.825	R-407F/1.825	-	R-407A/2.107	R-407A/2.107	R-407F/1.825	R-407F/1.825	R-407H/1.495.0	R-407A/2.107	R-448A/1.387
	Type 3 - GWP Type 3					R-407F/1.825	R-448A/1.387	R-449A/1.397	R-407F/1.825	R-407H/1.495.0	R-407H/1.495.0	-	R-407F/1.825	R-407F/1.825	R-448A/1.387	R-407H/1.495.0	R-448A/1.387	R-407F/1.825	R-449A/1.397
	Type 4 - GWP Type 4					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-407H/1.495.0	R-449A/1.397	R-448A/1.387	R-449A/1.397.0	R-407H/1.495	-
	Type 5 - GWP Type 5					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	-	R-449A/1.397.0	-	R-448A/1.387	-
	Type 6 - GWP Type 6					-			R-449A/1.397.0	-			R-449A/1.397.0	R-449A/1.397.0	-			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 = -10°C and Suction 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

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- Ideal for urban applications: sound proofing and low operating sound levels mean the unit is quiet
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JEHCCU/SCU-CL1/CL3

Low Temperature Refrigeration			JEHCCU-CL1	JEHSCU-CL3		0115CL1	0135CL1	0180CL1	0210CL1	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		-	1.08*	1.42*	0.98	1.36	1.62	2.53	-	3.49	4.81	4.86
			R-449A	Nom	kW		-	1.08*	1.42*	0.98	1.36	1.62	2.53		-		4.86
			R-452A	Nom	kW	0.64	0.81	1.10	1.60	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					-	0.96	0.99	1.00	1.00	0.97	1.67	-	1.64	1.64	1.76
	R-449A	Te -35°C					-	0.96	0.99	1.00	1.00	0.97	1.67	-	1.64	1.64	1.76
	R-452A	Te -35°C				1.05	0.98	1.03	0.99	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
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			-			
Parameters at part load and ambient temp. 25°C (Point B)	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
	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
Parameters at full load and ambient temp. 32°C (Point A)	R-407A	Te -35°C	Rated COP (COPA)						-				0.98	0.97	0.93	1.03	1.26
	R-407F	Te -35°C	Rated COP (COPA)						-				0.95	0.93		-	1.08
	R-448A	Te -35°C	Rated COP (COPA)				-	0.96*	0.99*	1.00	1.00	0.97	1.02	-	0.83	1.18	1.24
	R-449A	Te -35°C	Rated COP (COPA)				-	0.96*	0.99*	1.00	1.00	0.97	1.02	-	0.83	1.18	1.24
	R-452A	Te -35°C	Rated COP (COPA)			1.05	0.98	1.03	1.10	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
	R-448A	Te -35°C	Rated cooling capacity (PA)		kW		-	1.08*	1.42*	0.98	1.36	1.62	2.53	-	3.49	4.81	4.86
	R-449A	Te -35°C	Rated cooling capacity (PA)		kW		-	1.08*	1.42*	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	1.10	1.60	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
	R-448A	Te -35°C	Rated power input (DA)		kW		-	1.13*	1.43*	0.98	1.36	1.67	2.48	-	4.19	4.08	3.93
	R-449A	Te -35°C	Rated power input (DA)		kW		-	1.13*	1.43*	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	1.07	1.62	1.06	1.47			-			
Parameters at full load and ambient temp. 43°C	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	-		-	-
	R-448A	Te -35°C	Declared COP (COP3)						-				0.68	-	0.46	0.81	-
	R-449A	Te -35°C	Declared COP (COP3)					-				0.68	0.68	-	0.46	0.81	-
	R-452A	Te -35°C	Declared COP (COP3)			0.82	0.71	0.74*	0.69*					-			
	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		-		
	R-448A	Te -35°C	Cooling capacity (P3)		kW				-				2.23	-	2.82	4.26	-
	R-449A	Te -35°C	Cooling capacity (P3)		kW			-				1.43	2.23	-	2.82	4.26	-
	R-452A	Te -35°C	Cooling capacity (P3)		kW	0.49	0.57	0.76*	1.01*					-			
	R-407A	Te -35°C	Power input (D3)		kW				-				2.98	3.64	4.48	5.20	-
	R-407F	Te -35°C	Power input (D3)		kW				-				3.30		-		
	R-448A	Te -35°C	Power input (D3)		kW				-				3.29	-	6.15	5.28	-
	R-449A	Te -35°C	Power input (D3)		kW			-				2.11	3.29	-	6.15	5.28	-
	R-452A	Te -35°C	Power input (D3)		kW	0.60	0.81	1.03*	1.47					-			
Parameters at part load and ambient temp. 15°C (Point C)	R-407A	Te -35°C	Declared COP (COPC)						-				1.69	1.69	1.68	-	1.74
	R-407F	Te -35°C	Declared COP (COPC)						-				1.68	1.69		-	1.67
	R-448A	Te -35°C	Declared COP (COPC)						-				1.75	-	1.78	1.71	1.75
	R-449A	Te -35°C	Declared COP (COPC)						-				1.75	-	1.78	1.71	1.75
Parameters at part load and ambient temp. 5°C (Point D)	R-407A	Te -35°C	Declared COP (COPD)						-				2.25	2.25	2.1	-	2.13
	R-407F	Te -35°C	Declared COP (COPD)						-				2.22	2.2		-	1.97
	R-448A	Te -35°C	Declared COP (COPD)						-				2.14	-	2.06	1.94	2.18
	R-449A	Te -35°C	Declared COP (COPD)						-				2.14	-	2.06	1.94	2.18
Dimensions	Unit	HeightxWidthxDepth			mm	607 x876 x420	606 x876 x430	662 x1,101 x444					872 x1,353 x575			1,727 x1,348 x605	
Weight	Unit				kg	55	61	81	80	83	81	78	132	132	133	203	200
Compressor	Type					Reciprocating compressor											
	Piston displacement				m^3/h	4.55	6	9.45	11.83	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	35		38		33	37	39	41		37
Piping connections	Liquid line connection				inch	3/8"							1/2"				
	Suction line connection				inch	1/2"		5/8"				3/4"	7/8"				
Refrigerant	Type/GWP					R-404A/3,921.6	R-404A/3,922	R-448A/1,387	R-448A/1,387	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
	Type 2 - GWP Type 2					-	R-452A/2.141	R-449A/1,397	R-449A/1,397	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-448A/1,387	R-407A/2,107
	Type 3 - GWP Type 3					-		R-452A/2.141	R-452A/2.141	R-452A/2.141	R-452A/2.141	-	R-407F/1,825	R-407F/1,825	R-449A/1,397	R-449A/1,397	R-407F/1,825
	Type 4 - GWP Type 4					-							R-448A/1,387		-		R-448A/1,387
	Type 5 - GWP Type 5					-							R-449A/1,397		-		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 Suction 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 unit for outdoor installation with hermetic compressors

General features:

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

General Description:

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

CU2 CU3

Standard characteristics:

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

Normal cooling

Condensing unit		GCU-E	1006U01	107U01	1010U01	1012U01	1015U01	2025U01	2028U01	2035U01	2040U01E
Refrigeration capacity	0° C	W	1,428	1,704	2,097	2,470	3,162	5,186	6,102	7,350	7,557
	-10° C	W	974	1,177	1,498	1,710	2,075	3,013	3,848	4,628	5,173
Power input		kW	0.61	0.7	0.83	0.88	1.2	1.53	1.82	2.17	2.67
COP 32°C (1)			1.59	1.67	1.8	1.93	1.72	1.96	2.11	2.13	1.94
COP 25°C (1)			1.84	1.93	2.07	2.23	1.98	2.23	2.4	2.42	2.2
COP 43°C (1)			1.23	1.31	1.5	1.53	1.35	1.55	1.66	1.68	1.55
SEPR(1)			-	-	-	-	-	-	-	-	2.4
Annual Electricity Consumption(1)		Kwh/a	-	-	-	-	-	-	-	-	13,257
Dimensions Unit	Height	mm	625	625	625	625	625	800	800	800	800
	Width	mm	1150	1150	1150	1150	1150	1400	1400	1400	1400
	Depth	mm	500	500	500	500	500	550	550	550	550
Condenser air flow		m^3/h	1,840	1,840	1,840	1,830	1,830	3,600	3,600	3,600	3,370
Compressor			Tecumseh reciprocating hermetic compressor								
Refrigerant		Type/GWP	R-134A/1430								
Power supply		V/~/ Hz	230/1~/50					400/3~/50			

Deep freezing

Condensing unit		HCU-D	1010U01	1012U01	1015U01	1017U01	1020U01	2025U01	2035U01
Refrigeration capacity	-25° C	W	673	778	1,058	1,323	1,790	2,597	(2)
	-35° C	W	377	449	626	802	1,021	1,481	(2)
Power input		kW	0.45	0.53	0.62	0.85	1.2	1.41	(2)
COP 32°C (1)			0.83	0.85	1	0.94	0.85	1.05	(2)
COP 25°C (1)			0.98	0.99	1.16	1.09	1	1.22	(2)
COP 43°C (1)			0.62	0.64	0.76	0.73	0.59	0.79	(2)
SEPR(1)			-	-	-	-	-	-	(2)
Annual Electricity Consumption(1)		Kwh/a	-	-	-	-	-	-	(2)
Dimensions Unit	Height	mm	625	625	625	625	625	800	800
	Width	mm	1150	1150	1150	1150	1150	1400	1400
	Depth	mm	500	500	500	500	500	550	550
Condenser air flow		m^3/h	1,840	1,840	1,840	1,840	1,830	3,600	(2)
Compressor			Tecumseh reciprocating hermetic compressor						
Refrigerant		Type/GWP	R-452A/2141						
Power supply		V/~/ Hz	230/1~/50					400/3~/50	

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

Condensing unit for outdoor installation with semi hermetic compressors

General features:

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

General Description:

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

CU2 CU3_4

Standard characteristics:

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

Normal cooling

Condensing unit			GCU-E	1010B01	10150B01	2020B01	2022B01	2025B01	2030B01	2040B01	3050B01	3060B01	4090B01
Refrigeration capacity	0° C		W	2,786	3,189	4,248	5,133	5,943	7,334	9,596	1,1711	13,899	17,574
	-10° C		W	1,929	2,335	2,957	3,550	4,161	5,155	6,897	8,270	9,885	12,520
Power input			kW	0.98	1.15	1.5	1.5	1.5	2.15	2.87	3.4	4.2	5
COP 32°C (1)				2.14	2.09	2.36	2.43	2.35	2.4	2.39	2.42	2.35	2.48
COP 25°C (1)				2.51	2.43	2.83	2.84	2.75	2.8	2.81	2.83	2.74	2.89
COP 43°C (1)				1.66	1.66	1.81	1.92	1.86	1.89	1.87	1.9	1.85	1.94
SEPR(1)				-	-	-	-	-	3.37	3.39	3.32	3014	3.38
Annual Electricity Consumption(1)			Kwh/a	-	-	-	-	-	9,407	12,520	15,180	19,331	22,788
Dimensions	Unit	Height	mm	625	625	800	800	800	800	800	1480	1480	1480
		Width	mm	1150	1150	1400	1400	1400	1400	1400	1400	1400	1680
		Depth	mm	500	500	550	550	550	550	550	550	550	750
Condenser air flow			m^3/h	1,830	1,830	3,600	3,600	3,370	3,050	3,050	6,740	6,740	6,740
Compressor				Bitzer reciprocating compressor									
Refrigerant			Type/GWP	R-134a/1430									
Power supply			V/~/ Hz	400/3~/50									

Deep freezing

Condensing unit			HCU-B	1007B01	1010B01	1015B01	1020B01	2020B01	2030B01	2050B01	3060B01	4090B01	4120B01
Refrigeration capacity	-25° C		W	971	1,193	1,562	1,875	3,099	4,025	5,657	7,563	8,823	9,358
	-35° C		W	536	690	886	1,097	1,854	2,478	3,497	4,677	5,394	5,641
Power input			kW	0,54	0,68	0,8	1	1,39	1,88	2,62	3,47	3,81	3,92
COP 32°C (1)				0.98	1.02	1.09	1.1	1.33	1.32	1.33	1.35	1.42	1.44
COP 25°C (1)				1.15	1.2	1.27	1.29	1.53	1.52	1.53	1.55	1.61	1.62
COP 43°C (1)				0.68	0.68	0.75	0.74	1.05	1.04	1.07	1.07	1.16	1.04
SEPR(1)				-	-	-	-	-	1.73	1.75	1.8	1.83	1.79
Annual Electricity Consumption(1)			Kwh/a	-	-	-	-	-	10,695	14,882	19,427	21,964	23,562
Dimensions	Unit	Height	mm	625	625	625	625	800	800	800	1480	1480	1480
		Width	mm	1150	1150	1150	1150	1400	1400	1400	1400	1680	1680
		Depth	mm	500	500	500	500	550	550	550	550	750	750
Condenser air flow			m^3/h	1,830	1,830	1,830	1,830	3,600	3,600	3,050	7,200	6,740	6,740
Compressor				Bitzer reciprocating compressor									
Refrigerant			Type/GWP	R-449A/1397									
Power supply			V/~/ Hz	400/3~/50									

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

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

General features:

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

General Description:

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

Standard characteristics:

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

Normal cooling

Condensing unit		GCU-E	4040L01	4060L01	4080L01	5120L01	5140L01	5180L01
Refrigeration capacity	0° C	W	11,900	15,200	19,200	27,800	30,400	36,400
	-10° C	W	8,328	10,596	13,800	19,783	21,249	25,694
Power input		kW	3.53	4.4	5.7	8.42	8.3	10
COP/EER (1)			2.4	2.4	2.4	2.3	2.6	2.6
SEPR(1)			3.52	3.6	3.71	3.55	3.75	3.8
Annual Electricity Consumption(1)		Kwh/a	14,526	18,098	22,905	24,299	34,808	41,562
Dimensions Unit	Height	mm	1480	1480	1480	1480	1480	1480
	Width	mm	1680	1680	1680	2405	2405	2405
	Depth	mm	750	750	750	750	750	750
Condenser air flow		m^3/h	7,800	7,800	7,300	15,600	15,600	14,600
Compressor			Bitzer reciprocating compressor					
Refrigerant		Type/GWP	R-134A/1430					
Power supply		V/~/ Hz	400/3~/50					

Deep freezing

Condensing unit		HCU-J	4080L01	4100L01	412L01
Refrigeration capacity	-25° C	W	9,400	11,100	13,600
	-35° C	W	5,732	6,725	8,904
Power input		kW	4.5	5.3	6.7
COP/EER (1)			1.3	1.3	1.3
SEPR(1)			1.78	1.8	1.83
Annual Electricity Consumption(1)		Kwh/a	23,949	27,806	36,214
Dimensions Unit	Height	mm	1480	1480	1480
	Width	mm	1680	1680	1680
	Depth	mm	750	750	750
Condenser air flow		m^3/h	7,600	7,900	7,300
Refrigerant		Type/GWP	R 407F/1825		
Power supply		V/~/ Hz	400/3~/50		

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

Multi compressor condensing unit with scroll/digital scroll compressors

General features:

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

Standard configuration:

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

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

CM Scroll

The refrigeration system is fitted with:

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

Standard electrical panel:

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

Multi compressor condensing unit with semi hermetic compressors

General features:

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

General description:

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

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

CM Semi hermetic

The refrigeration system is fitted with:

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

Electrical panel:

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

ZEAS condensing unit for medium and low temperature refrigeration

Why choose ZEAS?

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

High energy efficiency

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

BENEFITS

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

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

Reliable operation

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

BENEFITS

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

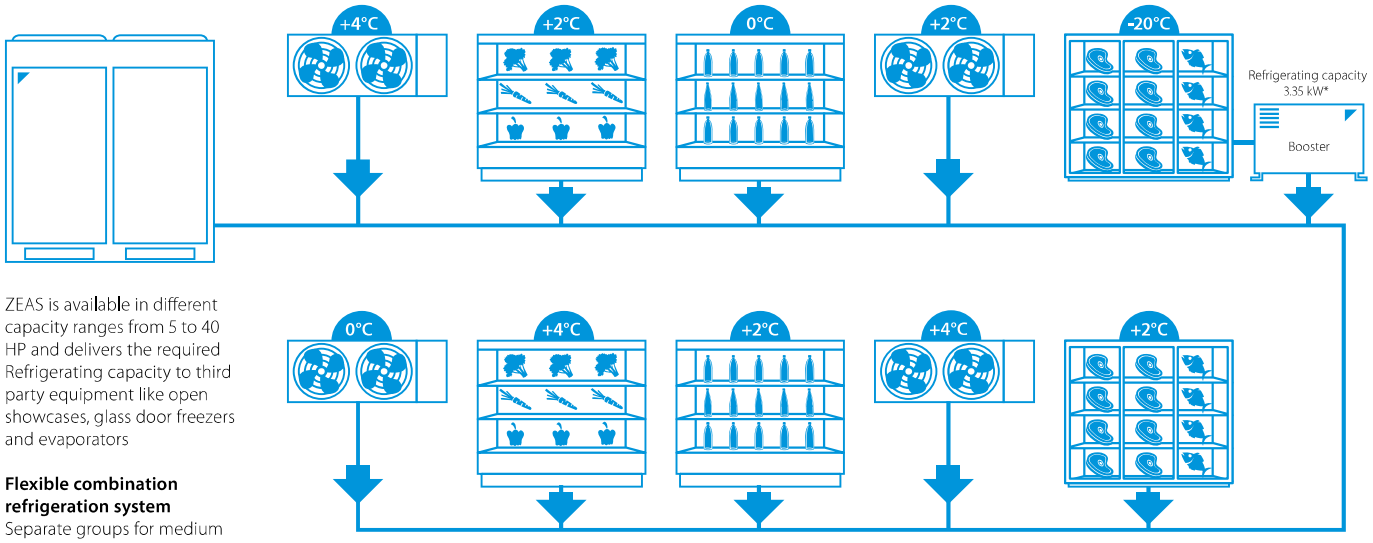
BENEFITS

› **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.

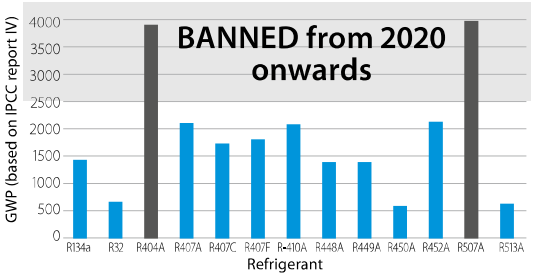
Operating range
Ambient temperatures: -20°C to +43 °C
Evaporating temperatures: -45°C to +10°C

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

Why R-410A?

R-410A is a lower GWP refrigerant (less than 2500) than R404A and is fully F-gas compliant. It's future proof: it can be used even after 2030!

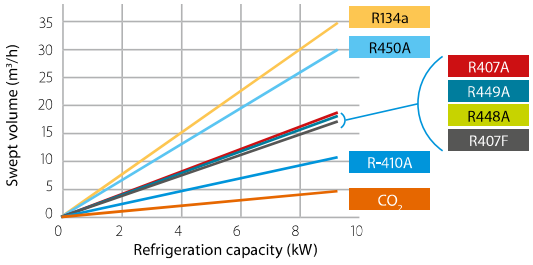
Use of refrigerant in refrigeration system with a refrigeration lower than 40 kW



Contributes to reducing installation cost and refrigerant charge

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

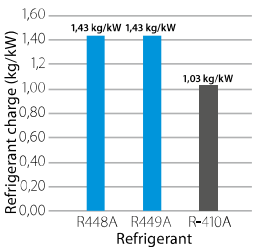


This means that for the same delivered refrigeration capacity we can use smaller components, thus reducing the installation cost and the amount of refrigerant charge in the system!

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

Refrigerant	Suction piping diameter
R134a	1 1/8"
R407A	7/8"
R407F	7/8"
R448A	7/8"
R449A	7/8"
R450A	1 1/4"
R-410A	3/4"
CO2	1/2"

Refrigerant charge per used refrigerant (Te = -10°C / Tamb = 32°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 CO_2, Ammonia and Propane.
› an A1 refrigerant, therefore no special safety measurements are required.

INVERTER

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 pipping diameters, thus reducing the refrigerant content in the system helping to lower our CO2 footprint . R-410A is fully compliant with the latest F-Gas regulation and can be still used after 2020 and beyond
- The DC economized compressor improves drastically the efficiency of the unit, thus helps lowering the energy bill!
- Lowest sound level in the market down to 31 dBA. Sound level can be even further reduced thanks to the low noise modes
- The weight of the unit is very low, therefore the unit can even be mounted on the wall
- Up to 75% smaller than equivalent products in the market, ideal for those places where space is limited
- Advanced software solution for easy system configuration and commissioning

LRMEQ-BY1

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	Rated COP (COPA)		2.33	2.30	-	
		Te -35°C	Rated COP (COPA)		-		1.07	1.06
		Te -10°C - Te -35°C	Rated cooling capacity (PA)	kW	5.90	8.40	2.78	3.62
			Rated power input (DA)	kW	2.53	3.65	2.60	3.41
Parameters at full load and ambient temp. 43°C	R-410A	Te -10°C	Declared COP (COP3)		1.51	1.48	-	
		Te -35°C	Declared COP (COP3)		-		0.59	0.66
		Te -10°C - Te -35°C	Cooling capacity (P3)	kW	5.28	7.22	2.13	3.02
			Power input (D3)	kW	3.50	4.89	3.58	4.57
Parameters at part load and ambient temp. 15°C (Point C)	R-410A		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			
	Air flow rate	Cooling	Nom.	m^3/min	106			
Fan motor	Output			W	70			
	Drive				Direct drive			
Sound pressure level	Nom.			dBA	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/TCO2Eq	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

LREQ-BY1(R)

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

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

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

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


Cleaens

Hubbard Condensing units with CO_2 refrigerant

- Transcritical CO_2 Commercial Condensing Units for food retailers
- Wide range of capacities: 2 to 20HP MT and 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

LT models and 20HP MT coming soon!

F-Gas Free

Protective Case

Plug&Play

Switchboard

Proportional Modulation

Electronic Control

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			Ph./Hz./VAC	3PH / 50Hz / 400VAC		
EcoDesign	FLC		A	8.64	16.04	18.25
(2009/125/EC)	COP/SEPR			1.87 / 3.57 SEPR	3.24 SEPR	2.92 SEPR
			kWh/a	5,840	12,307	26,393
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		
	Oil			DAPHNE PZ68S		
			l	0.7	1.15	1.80
Gas cooler fans	Type			Ebmpapst EC		
	Qty.			1		2
			m^3/s	1.05		2.10
	Ø (dia.)		mm	450		
Sound pressure	(10 m)		dB(A)	40.0	45.0	48.0
Refrigerant	Type/GWP			R744/1		
Reciever volume			l	12.50		20.00
Standard pipe run			m	25	35	40
Liquid connections		Inch/Type		3/8"/K65		1/2"/K65
Suction connections		Inch/Type		3/8"/K65	1/2"/K65	
Oil seperator	Standard			no	yes/Turboil	
Oil level control	Standard			N/A	Cappillary	
Dimensions	Unit	L x D x H	mm	1452 x 574 x 799		1684 x 773 x 1438
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	
Intermetdiate PRV			Bar	90		80
Compressor HP Switch		Standard		Yes x 1		
PED 2014/68/EU	Category			Cat. III		

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

Standard Condensing units

Standard condensing units with transcritical cycle

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

F-Gas Free

Switchboard

Plug&Play

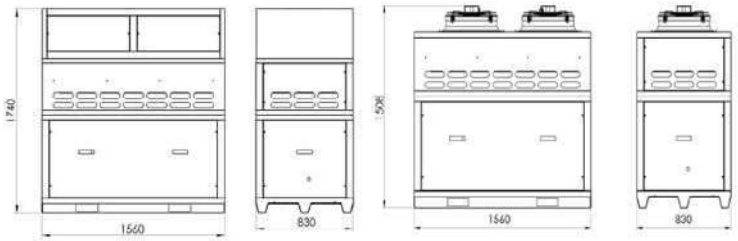
Electronic Control

Proportional Modulation

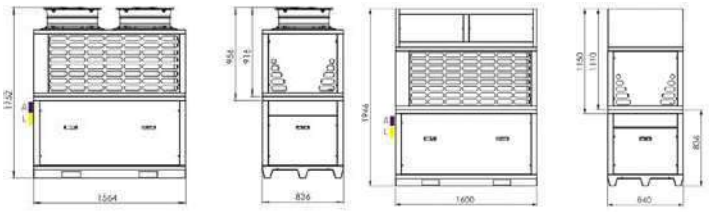
Heating Interchanger (Optional)

Protective Case

FNV42



FNV58



☑ MT — 1 comp.

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

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

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

Small Booster Condensing units

Small condensing units with Transcritical cycle

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

F-Gas Free

Switchboard

Plug&Play

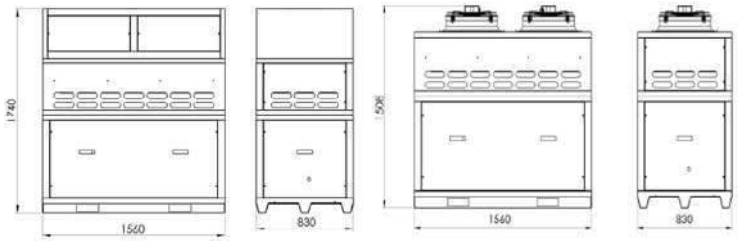
Electronic Control

Proportional Modulation

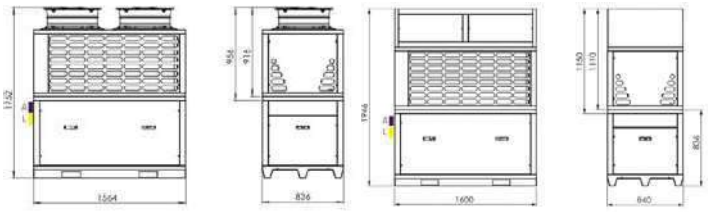
Heating Interchanger (Optional)

Protective Case

FNV42



FNV58



☑ MT
☑ MT + LT

2 comp.
1+1 2+1

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

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

LT MT Clime Global

MSC Mechanical subcooler

PC Parallel compressor

Heating interchanger

Axial

Radial

Commercial Refrigeration

Compact centrally equipped for the generation of cold with CO_2 in the transcritical cycle

- Serves refrigeration services in one or two temperatures, working as a booster.
- It can include up to 1 heat exchanger and 1 parallel compressor (optional).
- Equipped with a double battery V with greater exchange surface that allows a lower flow.
- The battery can act as an evaporator in case of heat demand if it does not need cold generation (optional RHX plus NV58)
- The casing has 3 air output configurations.
- The electrical panel equipped with the control unit and can disconnect via external control.
- There are 2 independent modules to house compressors and gas cooler.

F-Gas Free

Plug&Play

Proportional Modulation

Switchboard

Electronic Control

Heating Interchanger (Optional)

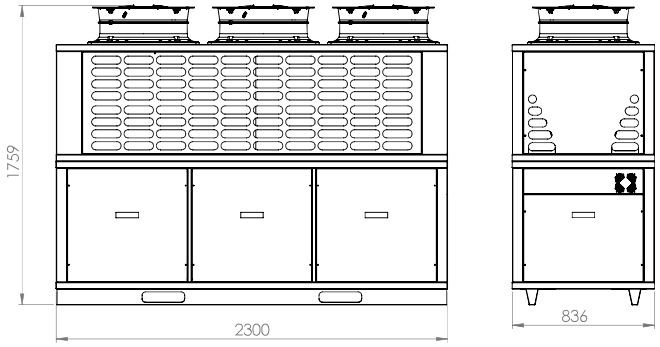
Parallel compressors (Optional)

AXIAL EC FAN

Fans
- 3x Ø500 mm

Air flow
- 24.000 m³/h

Sound pressure at 10 m
- 46 up to 57 dB(A)
- Silent version available



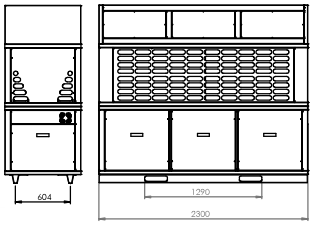
RADIAL EC FAN

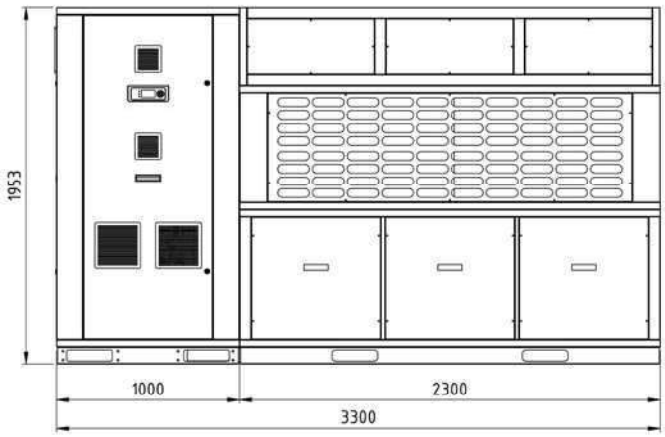
Fans
- 3x Ø500 mm

Air flow
- 22.500 m³/h

Available pressure
- 100 Pa

Sound pressure at 10 m
- 50 up to 56 dB(A)





	NV66				
Application		MT		MT + pc	MT + LT
Cooling capacity	kW	44	54	63	40 + 4
Compressors	nº	2	3	2 + 1	2 + 1
Inverter compressors	nº	1		1 + 1	1 + 0 (opt.)
Optional equipment		IHX / RHX			
Recovery (max capacity)	kW	30	38	40	30

Application	NV66+				
Application		MT		MT + pc	MT + LT + cp
Cooling capacity	kW	68	34 + 8	60 + 8	54 + 8
Compressors	nº	3	2 + 2	3 + 1	2 + 1 + 1
Inverter compressors	nº	1	1 + 0		1 + 0 + 1
Optional equipment		IHX / RHX			
Recovery (max capacity)	kW	45	30	45	40

Temperature, LT = Low Temperature, pc = Parallel compressor

PC Parallel compressor

Heating interchanger

Axial

Radial

Large Booster Condensing units

Large condensing units with Transcritical cycle

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

- High safety level with pressure relief valves, pressure switches and intelligent controls
- Visible panel of manometers and pressostats
- High modular concept.
- The gascooler can be disconnected from the unit

F-GAS F-Gas Free

Electronic Control

Proportional Modulation

Heating Interchanger (Optional)

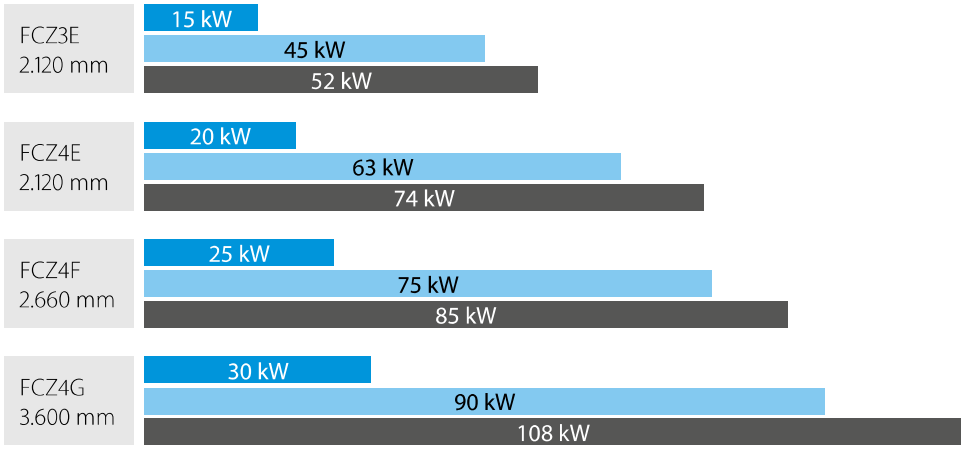
Protective Case

PC Parallel compressors (Optional)

Switchboard

MSC Mechanical Subcooler (Optional)

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



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

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

Compressor packs & racks

Compressor packs & racks

Freezing (Low temperature) (-20° C)

Chilling (Medium temperature) (0° C)

Model	Product name	Capacity (kW)	0	2	5	10	25	50	100	150	300	450	500
Racks	CC Series												
	NS21												
	Mini racks - FNB Compressor racks - FCCE Duplex racks - FUF, FUG, FUH, FUJ												
	Smart Racks												

Compressor packs & racks

Multi compressor units

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

Standard features

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

Most common used options:

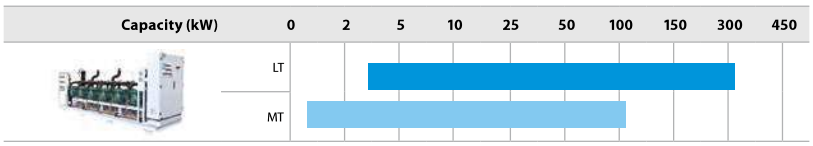
- › Panels to close the frame and put it outside
- › Oil equalization through mechanical floating valve
- › Oil equalization through electronic valve
- › Oversized liquid receiver
- › Refrigerant charge

Other options available on request

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

Single Screw compressor

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



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

CC scroll

CC hermetic

General features:

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

Standard configuration:

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

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

The refrigerating system is fitted with:

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

Electrical panel:

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

Accessories:

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

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

Other additional equipment and special requirements on request

Multi compressor rack unit with semi hermetic compressors

General features:

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

CC Semi hermetic

Standard configuration:

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

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

The refrigerating system is fitted with:

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

Electrical panel:

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

Accessories:

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

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

Other additional equipment and special requirements on request

High power CO_2 commercial racks

Full Duplex offer the highest power for the commercial cold range with CO_2 in 2 MT and LT temperatures

- Reduced assembly space with the double-deck transcritical cycle booster machines.
- The Modulation and operational reliability is ensured thanks to the number of compressor they house.
- It can include up to 3 heat exchangers and 1 parallel compressor (optional).
- Possibility of 2 RHX: 1 for Domestic Hot water and 1 for air conditioning.
- Cooling capacity ranges from 8kW up to 250kW - Heat recovery up to 190kW.
- Variable frequency drive.
- Touch screen and management synoptic available.
- High efficiency electronics and control possible (optional)
  - Tewis Machine Interface (TMI): developed to measure and send alarms both in plant and by telemanagement
  - Intuitive interface
  - Compatible with Tellevis System and open protocol for integration of Modbus RTU/TCP or BACnet MS/TP systems (optional)
  - Manangement of parameters and performance with selectors and light indicators
- Stainless Steel AINSI 340L used

DUPLEX

F-Gas Free

Switchboard

Plug&Play

Electronic Control

Proportional Modulation

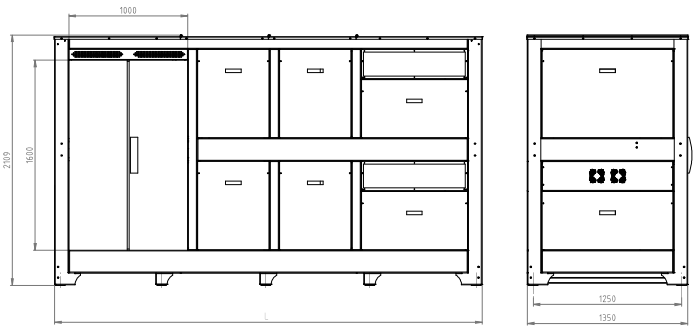
Heating Interchanger (Optional)

Protective Case

Parallel compressors (Optional)

Dimensions **without gas cooler**

Chassis: CD4G 3060 mm | CD4H 3600 mm | CD4J 4000 mm



CD4G – 3060 mm							
Application		MT			MT + LT + pc		
Cooling Capacity	kW	194 + 22	191 + 25	183 + 32	230 + 22	228 + 25	240 + 32
Compressors Qty.	n°	3 + 2	3 + 3	3 + 4	2 + 2 + 1	2 + 3 + 1	2 + 4 + 1
Inverter Compressors	n°	1 + 1			1 + 1 + 1		
Recovery (Max)	kW	150			170		190
CD4H – 3600 mm							
Application		MT			MT + LT		
Cooling capacity	kW	230 + 22	184 + 25	176 + 32	200 + 22	228 + 25	240 + 32
Compressors Qty.	n°	4 + 2	4 + 3	4 + 4	3 + 2 + 1	3 + 3 + 1	3 + 4 + 1
Inverter compressors	n°	1 + 1			1 + 1 + 1		
Recovery (max)	kW	170	150				
CD4J – 4000 mm							
Application		MT + LT + pc					
Cooling capacity	kW	220 + 22		217 + 25		209 + 32	
Compressors Qty.	n°	4 + 2 + 1		4 + 3 + 1		4 + 4 + 1	
Inverter compressors	n°	1 + 1 + 1					
Recovery (max)	kW	170		150			

Temperature, LT = Low Temperature, pc = Parallel compressor

PC Parallel compressor

Heating interchanger

Commercial Refrigeration in a transcritical cycle

Mini compact units for the generation of cold with CO_2 in the transcritical cycle

- The unit has a footprint of less than 1m² and has been adopted for better loading and transportation.
- It serves refrigeration and freezing, working as a booster.
- The design allows easy access to the components, making easy tasks.
- Up to 2 MT compressors and 1 LT compressor.
- Frequency inverter for the first MT compressor and optional for the LT compressor.
- There is a vertical liquid container (48l) with internal exchanger prepared for its connection to the emergency unit.
- Oil separator accumulator included.
- 2 Electronic refrigerant level sensors for high and low levels
- All pipes and connections in copper.
- Possibility to connect the unit to an external RHX. In MT-models the RHX can be installed
- The switchboard with control unit and complete wiring is compatible with Tewis Remote Management Systems.
- Outdoor chassis option
- Combination with gas coolers possible.
- Soundproofing (optional)

NS21

F-Gas Free

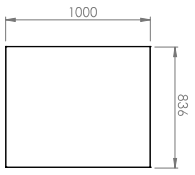
Protective Case

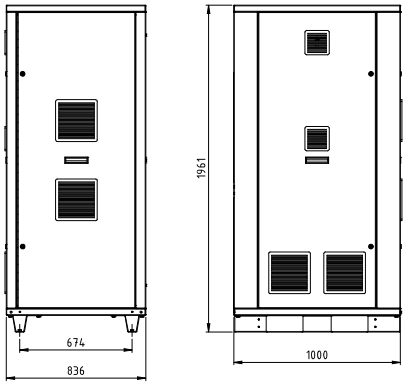
Plug&Play

Switchboard

Proportional Modulation

Electronic Control





BITZER		GNS21JC302XBX	GNS21JC872YBX	GNS21JC882YBX	TNS21JC304XBX	TNS21JC881YBX	TNS21JC880YBX
Application		MT			MT+LT		
Capacity MT*	kW	18.17	22.63	35.15	14.24	31.88	31.22
Capacity LT*	kW	0			3.9	3.23	3.9
GC Capacity	kW	32.08	39.96	62.08	32.08	62.08	62.08
MT Compressors	nº	1x 2MTE-5K + 1x 2KTE-7K	1x 4PTC-7K + 1x 4MTC-7K	1x 4MTC-10K + 1x 4KTC-10K	1x 2MTE-5K + 1x 2KTE-7K	1x 4MTC-10K + 1x 4KTC-10K	1x 4MTC-10K + 1x 4KTC-10K
LT Compressors	nº	-			1x 2MSL-07K	1x 2NSL-05K	1x 2MSL-07K

DORIN		GNS21JC677XDX	GNS21JC684XDX	GNS21JC750XDX	TNS21JC670XDX	TNS21JC679XDX	TNS21JC678XDX	TNS21JC658XDX	TNS21JC753XDX	TNS21JC659XDX
Application		MT			MT+LT					
Capacity MT*	kW	25.58	36.35	44.71	21.07	27.93	30.33	31.83	34.05	40.19
Capacity LT*	kW	0			4.37	8.15	5.83	4.37	10.3	4.37
GC Capacity	kW	45.17	64.18	78.95	45.17	64.18	64.18	64.18	78.95	78.95
MT Compressors	nº	1x CD475-4.7H + 1x CD475-6.4M	1x CD490-6.4H + 1x CD490-9.2M	1x CD4120-9.2H + 1x CD490-9.2M	1x CD475-4.7H + 1x CD475-6.4M	1x CD490-6.4H + 1x CD490-9.2M	1x CD490-6.4H + 1x CD490-9.2M	1x CD490-6.4H + 1x CD490-9.2M	1x CD4120-9.2H + 1x CD490-9.2M	1x CD4120-9.2H + 1x CD490-9.2M
LT Compressors	nº	-			1x CDS101B	1x CDS181B	1x CDS151B	1x CDS101B	1x CDS301B	1x CDS101B

* Calculation conditions: Tev MT -8ºC, Tev LT -32ºC, GC outlet +35ºC. | 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 compressorµ

AXIAL		GNV58PE	GNV58PE LPS	GNV66PE	GNV66PE LPS
Capacity	kW	58.84	52.15	88.4	79.27
Air flow	m³/h	16.400	12.800	24.000	19.200
Sound pressure 10m	dBA	52	46	53	45
Fans	nº	2x Ø500 EC		3x Ø500 EC	

RAD.		GNV58NE	GNV66NE
Capacity	kW	56.28	85.61
Air flow	m³/h	15.000	22.500
Sound pressure 10m	dBA	49	50
Fans	nº	2x Ø500 EC	3x Ø500 EC


GNV58 GNV66

Mini compact cooling racks with CO_2

Compact compressor rack equipped for the generation of cold with CO_2 in the transcritical cyle

- Ideal solution for retail applications with a surface of 400m² to 1,200m²
- It serves refrigeration in 1 or 2 temperatures, working as a booster.
- Cooling capacity ranges from 40kW up to 115kW.
- It can include up to 3 heat exchangers and 1 parallel compressor (optional).
- Frequency inverter for the first MT compressor and optional for the LT compressor.
- Up to 5 compressors.
- Easy commissioning and maintenance as all connections are at the same side of the unit.
- With its compact design (width of 790mm) it can pass through every standard doorway.
- The horizontal liquid container (80/160l) with internal exchanger prepared for its connection to the emergency unit.
- Oil separator accumulator included.
- 2 Electronic refrigerant level sensors for high and low levels
- All pipes and connections in copper.

F-Gas Free

Electronic Control

Plug&Play

Heating Interchanger (Optional)

Proportional Modulation

Parallel compressors (Optional)

Switchboard

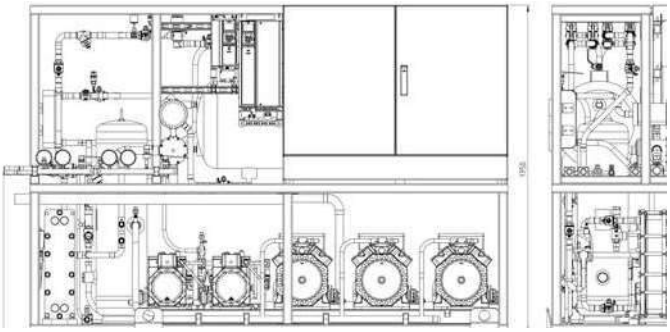
Mechanical Subcooler (Optional)

Smart Rack

- Stainless steel collectors
- Tubular frame
- The electrical panel is located above the compressors.
- Connection with 10" touchpad Tewis Machine Supervisor (TMS) is possible (optional).

Two different frame sizes available:

- 4 compressors: lenght 2,125 mm
- 5 compressors: lenght 2,550 mm



			GSR2FJ_093YBX	GSR2FJ_041YBX	TSR2EJ_585XBX	TSR2FJ_092XBX	TSR2FJ_086YBX	TSR2FJ_089YBX
Application			MT	MT	MT+LT	MT+LT	MT+LT	MT+LT
Capacity MT*	70 Hz	kW	89.34	110.45	36.84	62.13	72.51	78.92
Capacity LT*	70 Hz	kW	-	-	5.79	5.79	5.79	6.48
MT Compressors		nº	1 x 4JTC-15K (V.F.) + 2 x 4JTC-15K	1 x 4HTC-20K (V.F.) + 1 x 4FTC-20K	1 x 4JTC-15K (V.F.) + 1 x 4JTC-15K	1 x 4HTC-20K (V.F.) + 1 x 4FTC-20K	1 x 4HTC-20K (V.F.) + 2 x 4HTC-20K	1 x 4HTC-20K (V.F.) + 1 x 4HTC-20K
Parallel Compressors		nº	1 x 4MTC-10K	1 x 4JTC-15K	-	-	-	1 x 4MTC-10K
LT Compressors		nº	-	-	1 x 2KSL-1K	1 x 2KSL-1K	1 x 2KSL-1K	1 x 2KSL-1K

			TSR2FJ_439YBX	TSR2FJ_090YBX	TSR2FJ_490YBX	TSR2FJ_489YBX	TSR2EJ_112XBX	TSR2FJ_128XBX
Application			MT+LT	MT+LT	MT+LT	MT+LT	MT+LT	MT+LT
Capacity MT*	70 Hz	kW	66.98	64.89	57.85	71.2	20.47	45.77
Capacity LT*	70 Hz	kW	10.46	12.7	14.16	14.16	18.5	18.5
MT Compressors		nº	1 x 4HTC-20K (V.F.) + 1 x 4HTC-20K	1 x 4JTC-15K (V.F.) + 1 x 4HTC-20K	1 x 4JTC-15K (V.F.) + 1 x 4JTC-15K	1 x 4HTC-20K (V.F.) + 1 x 4HTC-20K	1 x 4JTC-15K (V.F.) + 1 x 4JTC-15K	1 x 4HTC-20K (V.F.) + 1 x 4FTC-20K
Parallel Compressors		nº		1 x 4MTC-10K	1 x 4MTC-10K	1 x 4MTC-10K	-	-
LT Compressors		nº	1 x 2KSL-1K + 1 x 2KSL-1K	1 x 2GSL-3K	1 x 2JSL-2K + 1 x 2JSL-2K	1 x 2JSL-2K + 1 x 2JSL-2K	1 x 2HSL-3K + 1 x 2HSL-3K	1 x 2HSL-3K + 1 x 2HSL-3K

			TSR2FJ_364XBX	TSR2EJ_893XBX	TSR2FJ_193YBX	TSR2EJ_895XBX	TSR2FJ_444YBX	TSR2FJ_088YBX
Application			MT+LT	MT+LT	MT+LT	MT+LT	MT+LT	MT+LT
Capacity MT*	70 Hz	kW	80.75	22.5	77.73	22.81	38.18	69.43
Capacity LT*	70 Hz	kW	18.5	21.06	21.06	28.07	28.07	28.07
MT Compressors		nº	1 x 4HTC-20K (V.F.) + 2 x 4FTC-20K	1 x 4JTC-15K (V.F.) + 1 x 4HTC-20K	1 x 4HTC-20K (V.F.) + 2 x 4FTC-20K	1 x 4HTC-20K (V.F.) + 1 x 4HTC-20K	1 x 4JTC-15K (V.F.) + 2 x 4HTC-20K	1 x 4HTC-20K (V.F.) + 2 x 4FTC-20K
Parallel Compressors		nº	-	-	-	-	-	-
LT Compressors		nº	2 x 2HSL-3K	1 x 2GSL-3K + 1 x 2GSL-3K	1 x 2GSL-3K + 1 x 2GSL-3K	1 x 2FSL-4K + 1 x 2FSL-4K	1 x 2FSL-4K + 1 x 2FSL-4K	1 x 2FSL-4K + 1 x 2FSL-4K

* Calculation conditions: Tev MT -8ºC, Tev LT -32ºC, Tsgc +35ºC. | 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 compressorμ

PC Parallel compressor

Heating interchanger

Medium Racks

Transcritical units without condenser

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

F-Gas Free

Plug&Play

Proportional Modulation

Protective Case

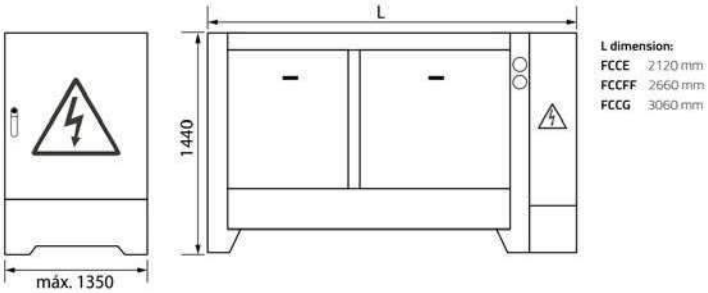
Switchboard

Electronic Control

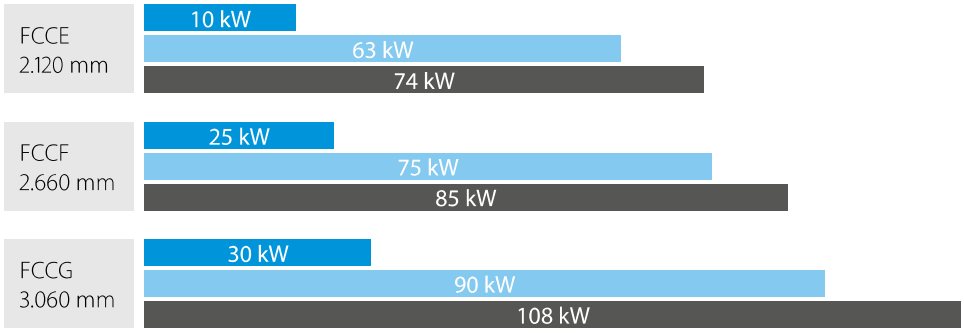
Heating Interchanger (Optional)

Parallel compressors (Optional)

Mechanical Subcooler (Optional)



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



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

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

Large Racks

Transcritical double units without condenser

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

F-Gas Free

Protective Case

Heating Interchanger (Optional)

Plug&Play

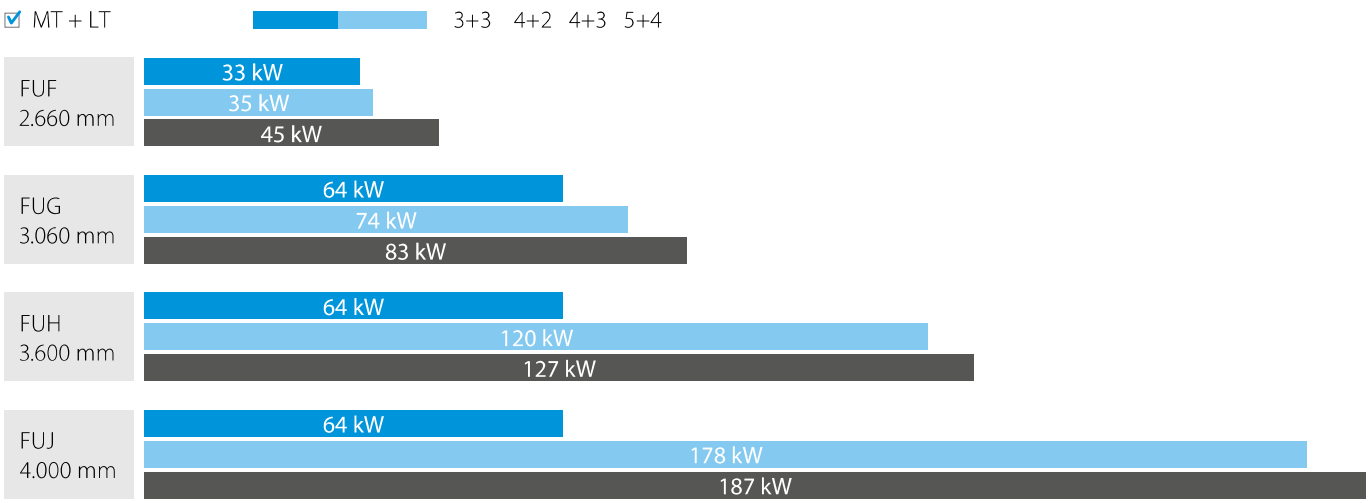
Switchboard

Parallel compressors (Optional)

Proportional Modulation

Electronic Control

Mechanical Subcooler (Optional)



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

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

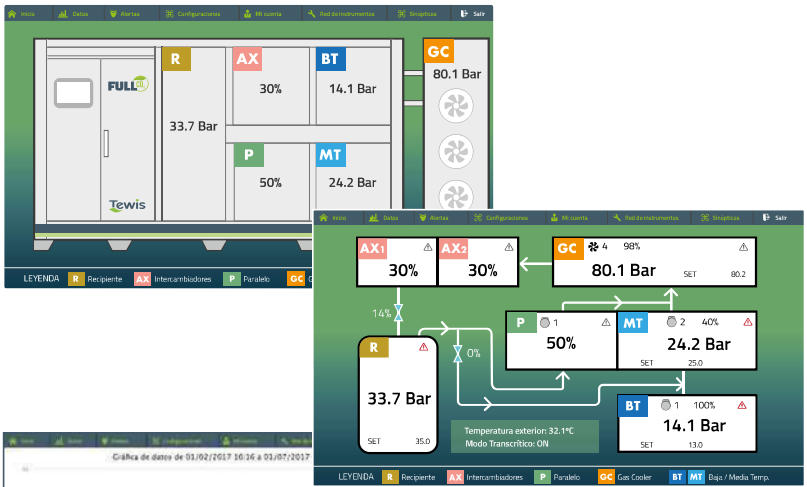
Switchboard & electronic control

Switchboard

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

Electronic control

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



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				
	Mini racks, Racks, Duplex					MT	A/C					

Service station (Ranst, Belgium) Conveni-Pack

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

Conveni-Pack,

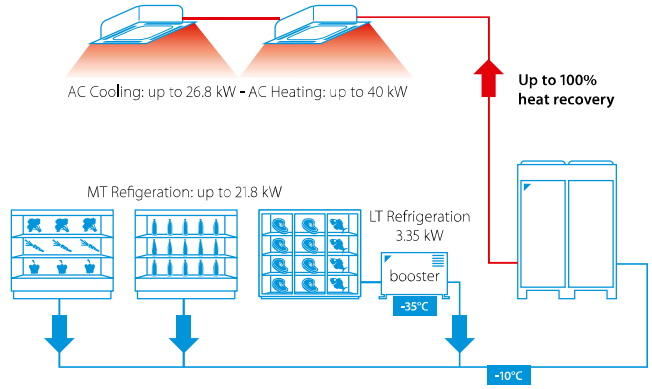
integrated solution for commercial refrigeration, heating and air conditioning

Why choose Conveni-Pack?

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

Energy efficient heat recovery system

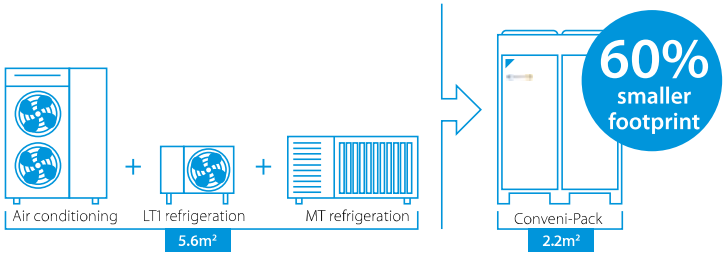
- Conveni-Pack recovers up to 100% of the heat extracted from supermarket refrigeration cases and re-uses it to heat the retail space and improve shop comfort at no additional cost (heat recovery system)
- Savings of up to 50% on energy costs
- Daikin inverter scroll compressor with economizer technology



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

Installing a compact solution

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



Unique combination

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

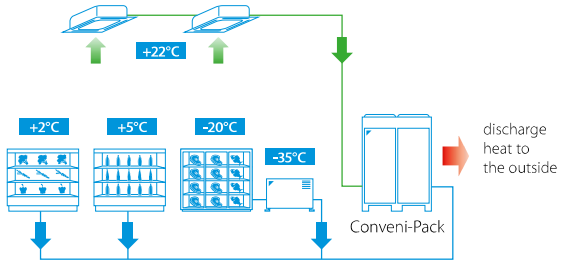
Reliable operation

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

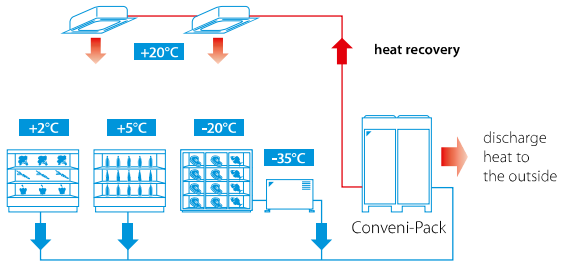
Year-round climate comfort

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

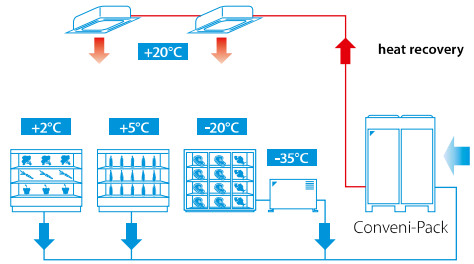
Summer



Spring/Autumn



Winter



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

Internationally awarded

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

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

Reference

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

Discover more references on
www.daikineurope.com/references

Benefits for installers/consultants

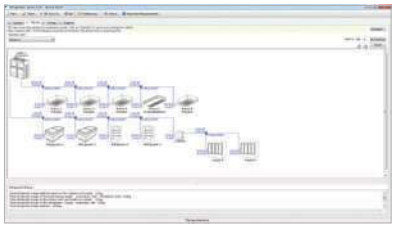
- Integrated electrical & control box
- Unit already pre-charged with refrigerant
- Established VRV technology ensuring optimised installation and maintenance
- Reduced delivery time thanks to European manufacturing plant
- Flexible system for multiple applications
- Connectable to all grocery refrigeration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

Benefits for shop owners

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

Marketing tools

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



Short videos

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

CO_2 Conveni-Pack

Why choose CO_2 Conveni-pack?

- ☑ DX Refrigeration, Heating & Space cooling by CO_2, 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

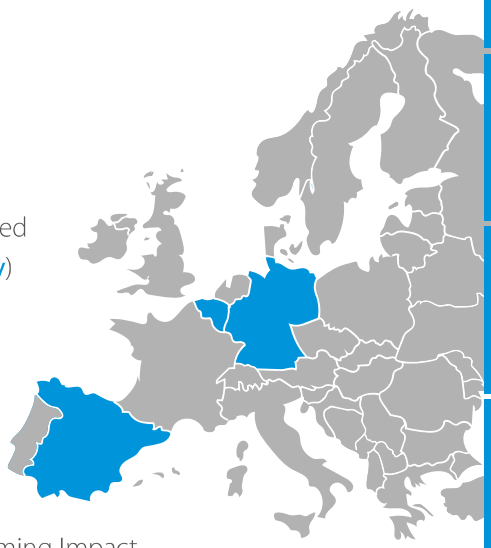
Project for demonstration of innovative, integrated HVACR installations with natural refrigerant.

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 CO_2 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 CO_2 that best provides comfort cooling and heating
5. **Research the potential of cold storage** for improving the Total Equivalent Warming Impact

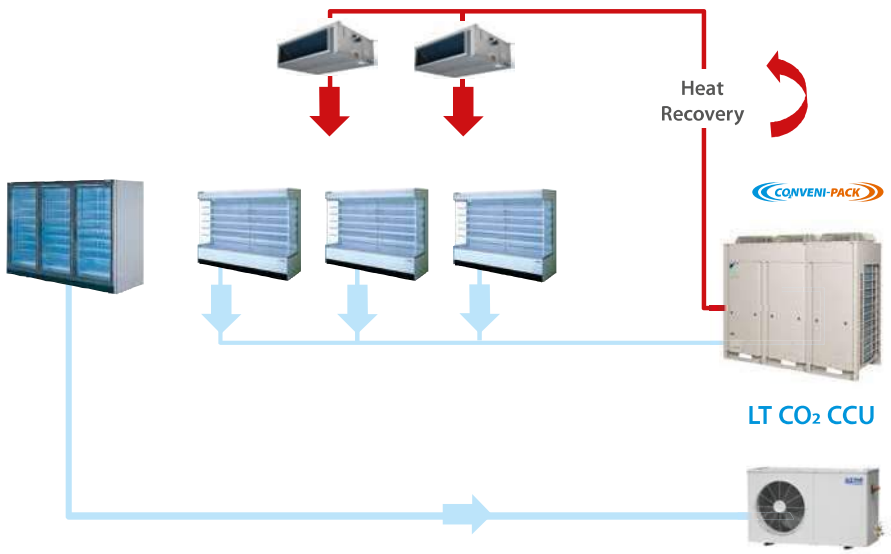


For more information refer to the website: naturalhvacr4life.eu

Low Temperature Showcases

Optional CO_2 CCU's are also available for Remote LT applications (not connected to Conveni-pack)

Plugin LT showcases with propane or LT condensing units with CO_2 are available to satisfy also freezer capacity needs.



CO_2 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

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 CO_2 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

8,5 kW of New Refrigeration added, Q-up installed to existing CO_2 CVP for additional capacity

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)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.

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 CO_2 emissions thanks to the heat pump technology
- Conveni-pack's modular design allows it to be used for smaller as well as larger shops
- The modularity of the Conveni-pack system maximises installation flexibility. Outdoor units can be grouped into blocks or rows, or distributed around the building, to meet individual installation constraints
- The heat extracted from the refrigeration showcases or evaporators can be re-used for comfort heating of the shop at no extra cost
- Low sound level including „night mode" operation

LRYEQ16AY

Conveni pack, in combination with a ZEAS unit.

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

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

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

Indoor units and Biddle air curtains for connection to 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

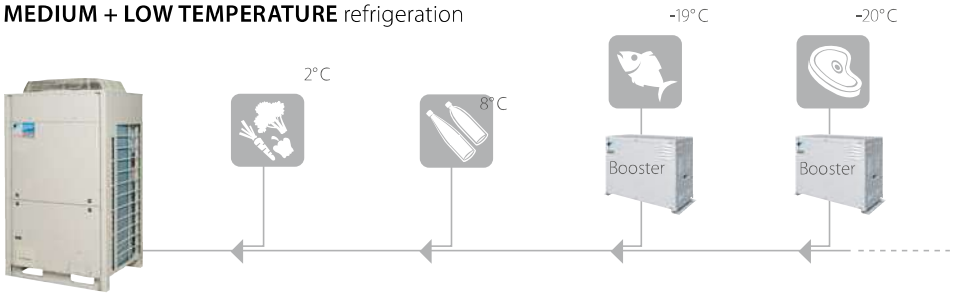
Booster unit for R-410A

› 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

LCBKQ3AV1

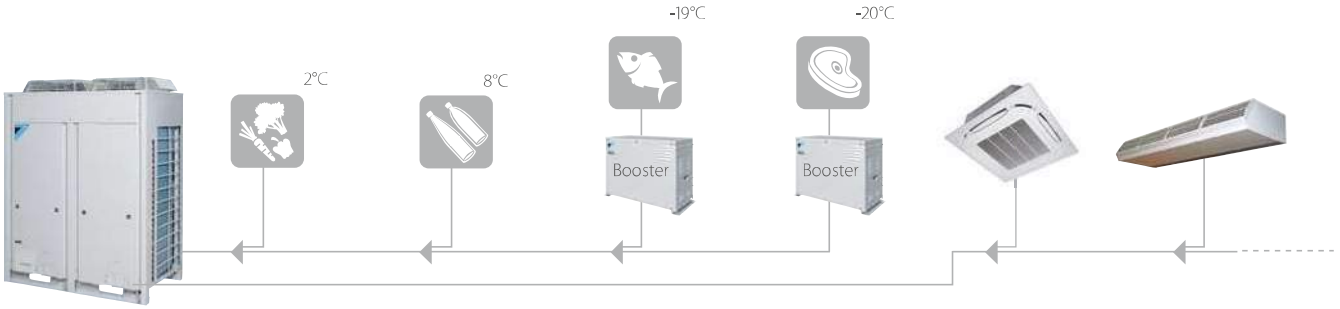
Booster with ZEAS:

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

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

Medium temperature with air conditioning

Mini racks

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

FNB FNV58 1.560 mm	18 kW 27 kW 45 kW

Racks

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

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

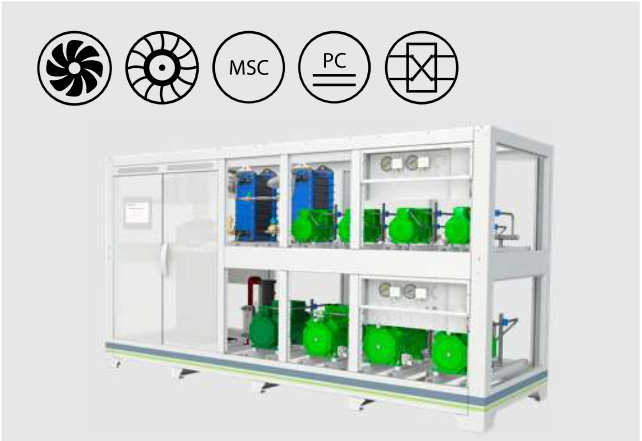
☑ MT + Air conditioning
(with or w/o condenser) — 2+3 (max. 5)

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

Duplex racks

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

FUJ 4.000 mm	115 kW 230 kW 250 kW



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

Low temperature with air conditioning

Racks

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

FCCE
FCZ3E
FCZ4E
2.120 mm

9 kW
30 kW
30 kW
52 kW

9 kW
30 kW
50 kW
74 kW

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

FCZ4F
2.660 mm

FCZ4G
4.000 mm

9 kW
30 kW
60 kW
85 kW

FCCG
3.060 mm

9 kW
30 kW
70 kW
108 kW

Duplex racks

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

FUJ
4.000 mm

18 kW
100 kW
200 kW
250 kW

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

Other products

Evaporators with or without TEV for different operations and refrigerants

General features:

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

Options:

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

Types:

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

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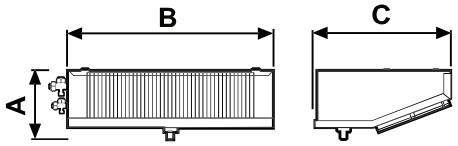
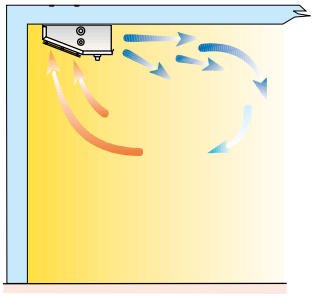
Dimensions

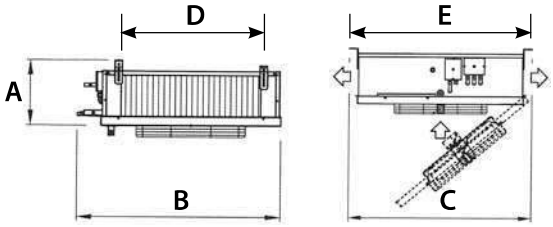
Flat



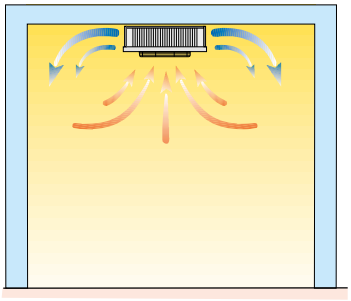
mm	A	B	C
201	215	614	410
202	215	1034	410
203	215	1614	410
232	150	713	455
301	300	910	690
302	300	1530	690
303	300	2150	690
304	300	2770	690
305	300	3390	690



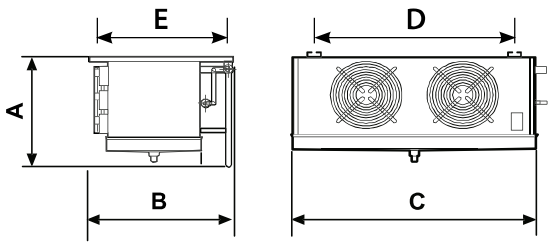
Double flow



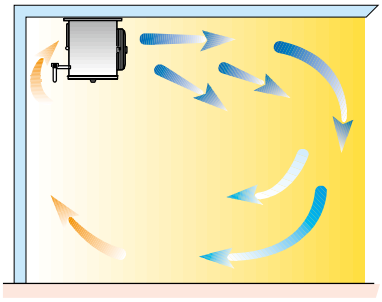
mm	A	B	C	D	E
231	171	579	585	293	600
232	171	889	585	603	600
233	171	1199	585	913	600
234	171	1509	585	1223	600
352	300	1671	995	1214	1065
353	300	2291	995	1834	1065
354	300	2911	995	2454	1065
355	300	3531	995	3074	1065



Cubic



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



Other Monoblocks

Model			Capacity range
Small- Monoblock for wall mounting. These units are perfect for cold rooms built on trailers and therefore liable to continuous moving. For small to medium-sized cold rooms. AS-R, AS-E	› Standard refrigerant: • MT: R404A, R134a • LT: R290, R1270 › Defrost: hot gas › Compressor type: Hermetic › Refrigerated volume (R404A): • MT (0°C): 73m³ ~182m³ • LT (-20°C): 48m³ ~ 158m³		0° 5,906 kW ~ 11,872 kW -20° 4.113 kW ~ 8.755 kW Referring refrigerant R404A
Large- Monoblock for shock freezing. Direct mounting through the wall and outside installation without any protection. For medium and large-sized cold rooms. RS	› Standard refrigerant: • MT: R404A, R134a • LT: R407F › Defrost: Electric › Compressor type: Hermetic, semi-hermetic › Refrigerated volume: • MT (0°C): 19m³ ~ 951m³ • LT (-20°C): 9.4m³ ~ 1, 130m³ › Multi temperature (+5°C ~ -25°C) and freezing versions (-30°C ~ -50°C) available		0° 1.914 kW ~ 40.157 kW -20° 1.447kW ~ 36.025 kW Referring refrigerant R404A
Large- Monoblock for shock freezing. Duct connection. Direct mounting through the wall and floorstanding outside installation without any protection. For large-sized cold rooms. BX	› Standard refrigerant: • MT: R404A, R134a • LT: R452A › Defrost: Electric › Compressor type: Semi-Hermetic › Refrigerated volume: • MT (0°C): 1.137m³ ~ 1.949m³ • LT (-20°C): 838m³ ~ 1.938m³ › Multi temperature (+5°C ~ -25°C) and freezing versions (-30°C ~ -50°C) available		0° 42.266kW ~63.311 kW -20° 28.522kW ~51.514kW Referring refrigerant R404A

C° Cooling capacity

External reference temperature: 35°C

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