DAIKIN

Product catalogue

Refrigeration

Food distribution center

Cooling tanks event hall

ZEAS condensing units

Supermarket

Cold storage

Check out more of our Refrigeration projects on **www.daikineurope.com/references**

Table of contents

Leading commercial and industrial refrigeration solutions

We know refrigeration inside out

At Daikin, we're dedicated to providing our customers with highly efficient, technically advanced systems which save space and are simple to install.

You will find our refrigeration condensing units and heat recovery solutions at the heart of refrigeration systems in all kinds of stores, restaurants, hotels and food production environments. But we know that each system we install has its own very specific requirements. That is why we have a flexible range of proven products for a wide variety of applications.

We use industry-leading technologies to give you total reliability and the ultimate in efficiency, and which also minimise your carbon footprint. Our modular ZEAS systems use our tried and tested VRV technology so that you can create a combi-system which uses 50% less energy. Our Conveni-Pack's heat recovery system uses waste heat from the cooling equipment for heating elsewhere. Innovative solutions like these make Daikin your perfect refrigeration partner.

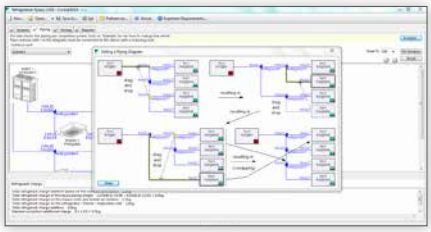
Environmental sustainability is a fundamental objective for Daikin. By designing our products and integrated solutions to operate more efficiently, we will also help our customers to reduce their carbon footprint and lower their operating costs.

Tools and platforms

We have a selection of software and apps to download, so that even when you're on site, you'll have the answers you need at your fingertips.

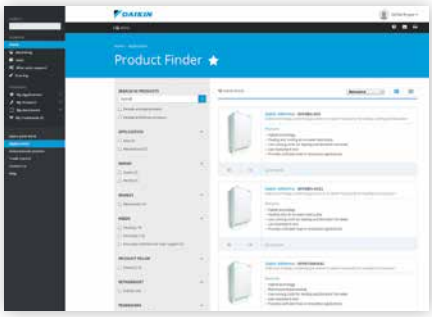
Refrigeration Xpress software

User-friendly, easy to understand design software for ZEAS condensing units, Conveni-Pack and commercial condensing units. Its detailed report includes a list of materials, piping and wiring diagrams, and device options.



Go to daikineurope.com and request the software

Business portal: my.daikin.eu



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

Daikin error codes app for iPhone

Select a family of Daikin products and get an explanation of all the error codes and their potential causes. This app will also give you the resistance value depending on probe temperature.

Available on the App Store

Acting ahead of legislation

Legislation and regulation

The Ecodesign Directive

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

F-Gas regulation

The new F-gas regulation comes into effect on January 1st 2015 and requires a phased reduction of HFCs from 2015 to 2030 based on a quota system, and with bans on high GWP refrigerants in certain sectors.
From 1st January 2020, F-gases with a GWP over 2,500 will be banned for servicing purposes as soon as the refrigerant charge reaches a CO2 equivalent of more than 40 tonnes.
The use of recycled R-404A is permitted until January 1st 2030, so it can still be used to service refrigeration systems.

Inverter capacity control

We have incorporated inverter technology into our outdoor compressors and fans to give optimum control of fluctuating loads in refrigerated cabinets. This delivers lower energy losses than traditional AC units.

Economiser function

The economiser function in our refrigeration products delivers two main benefits. It increases the evaporator's capacity while less absorbed power is required. The economiser function also decreases the discharge temperature which saves energy and is beneficial for the compressor.

Floating head pressure

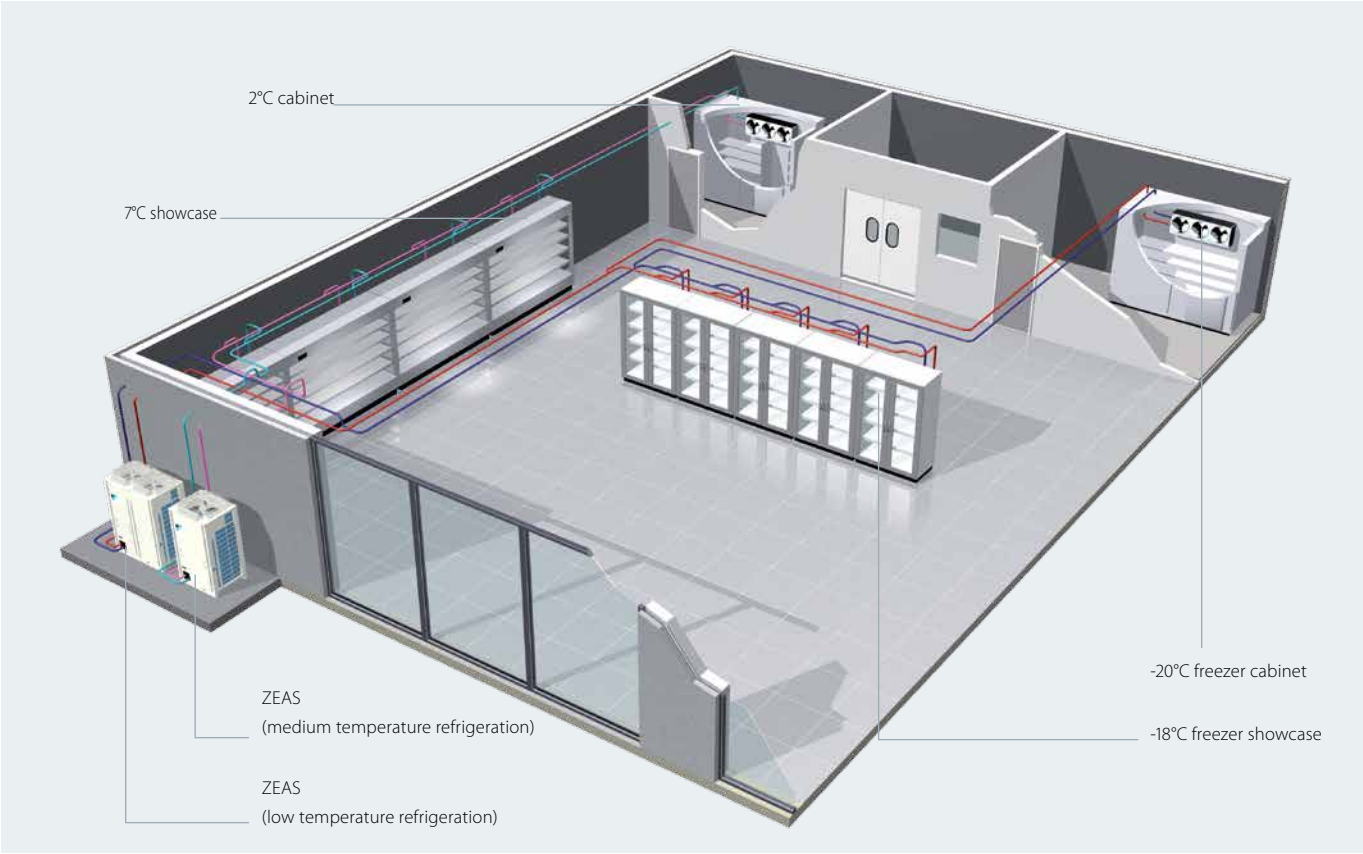
When the ambient temperature and load in the ZEAS condensing unit decrease, it will automatically change the speed of the inverter compressor, the fan and the condensation temperature. This will reduce the system's energy consumption.

Adaptable evaporation temperature

To lower the energy consumption, the configured evaporation temperature of the ZEAS can be increased through an external signal.

In night mode, each showcase's air curtains can be stopped, reducing the load by 1/3. This means that the evaporator coil is now oversized and there is a risk of freezing the goods. To avoid this, the evaporation temperature of the ZEAS can be increased to 3°C.

The ZEAS is also ideal for blast freezing products down to their required storage temperature. The load will be high during the cooling period. When the product reaches the desired temperature, the load will be reduced. The evaporation temperature can then be increased to maintain that temperature.



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 percent are only possible with ZEAS.

ZEAS inverter condensing
medium and low temperature refrigeration

Whether it is restaurants, supermarkets or event halls – ZEAS from Daikin is as individual as the requirements of the industries where it is used. The ZEAS has an **inverter scroll compressor** which reduces energy consumption by up to 30%. And one unit can **both cool and freeze**, minimising your investment in plant.

ZEAS advantages at a glance:

› Connect any number of individually controllable cabinets
› Optimum energy efficiency under partial load
› Low noise
› Compact, space-saving design
› Suitable for indoor and outdoor installation
› Easy installation, shorter assembly times
› Optimised for R-410A refrigerant

Where freshness is important for health

The storage of easily perishable goods plays a key role here. That's why Municipal Hospital opted for a special refrigeration technology: ZEAS.
It involved units with lower operating noise levels, very small footprint, which were easy to install, and allowed a combination of freezer cabinets and medium temperature refrigerators.

Sell organic for sustainable business

An organic market should not just sell sustainable food products but should also use green energy and as little as possible.
It was not just for reasons of conscience and image that Bergfeld's Biomarkt in Bonn decided on ZEAS from Daikin. The change from six conventional refrigeration units to ZEAS also had economic benefits: the company managed to make energy savings of some 50 percent.

Hotel 47°. A boutique hotel cools down its energy costs

Reducing operating costs is an increasingly important driver in the hospitality industry. Hotel 47° in Konstanz, Germany, opened for business in the spring of this year. It prides itself on not only being a trendy

Kiel Municipal Hospital
Location of the ZEAS and the two boosters

Bergfeld's Biomarkt, Bonn
Refrigeration units
in sales area; entrance

Hotel 47°, Konstanz
Refrigeration units
for restaurant kitchen

unit
with less energy

design hotel with extensive views over the Rhine, but also on using the latest in innovative, efficient technology. The hotel decided to install Daikin's ZEAS system. The integrated inverter driven, commercial refrigeration condensing units meet the hotel's cold storage and deep-freezing needs, thanks to its high energy efficiency, compact design and plug and-play capabilities.

LREQ-BY1

Unrivalled quality, unbeatable efficiency: these benefits are renowned to customers and installers. Why? Because in planning and procurement of refrigeration technology, they are looking for energy-saving potential and greater flexibility.

ZEAS solves many of the problems of traditional combination cooling systems. The solution is based on VRV technology, which gives ZEAS its foothold in commercial refrigeration.

Booster

The ZEAS can be preset to run in medium or low temperature refrigeration modes. With the booster it is possible to have medium and low temperature cooling in a single system.

ZEAS condensing unit

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

- 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 CO_2 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
- Increased installation flexibility thanks to limited dimensions
- Low sound level including "night mode" operation
- For small freezing capacities, single ZEAS units can be connected to a booster unit
- Multi combination of 2x 15HP or 2x 20HP resulting in less pipework and installation time

LREQ8-12BY1

					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			1.61	1.65	1.71	1.69	1.67	1.60	1.61
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	25,547	29,366	36,361	44,054	47,872	64,822	71,162
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					R-410A						
	GWP					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

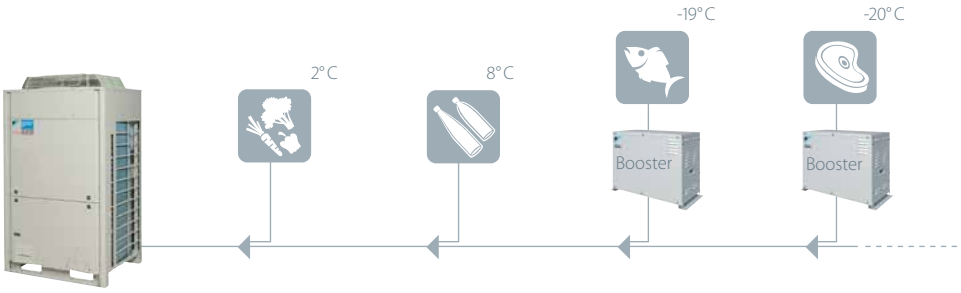
Booster unit

› A booster unit allows to connect freezer showcases/ rooms to ZEAS and Conveni-Pack outdoor units
› Reduced piping requirements, from 4 to 2 pipes, compared to a conventional system
› Low sound mode available reducing sound emissions significantly

LCBKQ3AV19

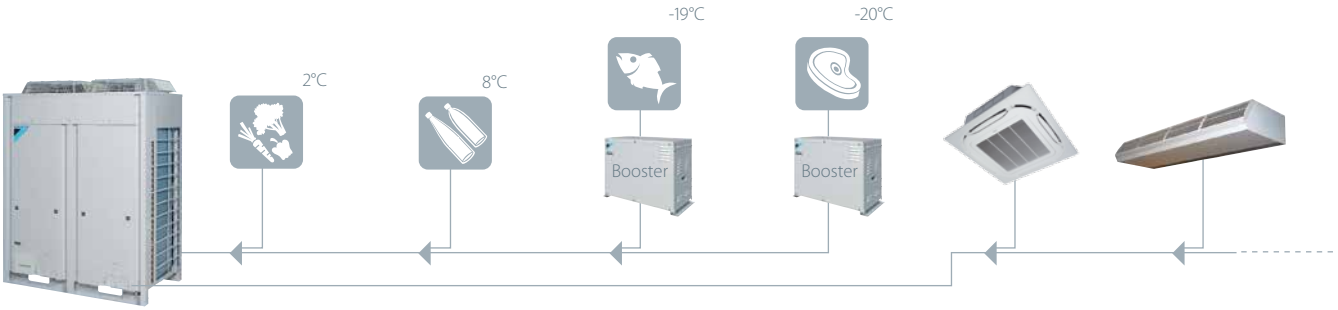
Booster with ZEAS:

MEDIUM + LOW TEMPERATURE refrigeration



Booster with Conveni-Pack:

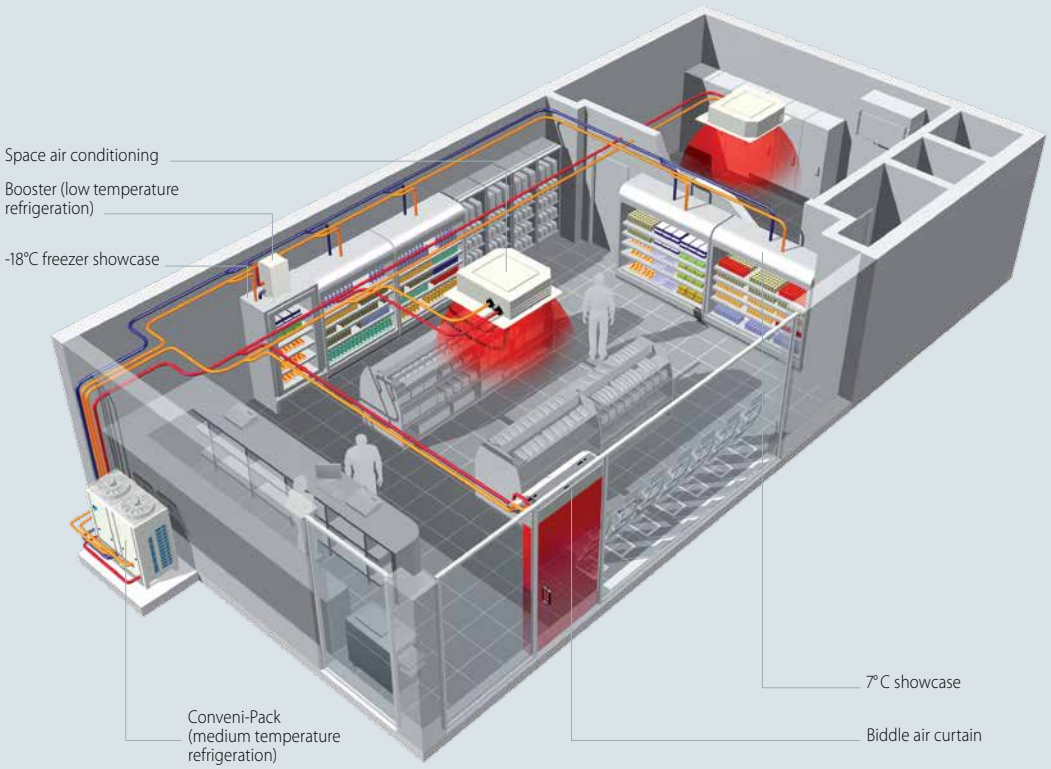
MEDIUM + LOW TEMPERATURE refrigeration + space air conditioning + Biddle air curtain



Low Temperature Refrigeration					LCBKQ-AV1
Cooling capacity	Nom.			kW	3.35
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/GWP				R-410A/2,087.5
	Control				Electronic expansion valve
Refrigerant oil	Type				Daphne FVC50K + FVC68D
	Charged volume			l	0.85 / 0.5
Piping connections	Piping length	System	Booster unit - IU		30m or less
Power supply	Phase/Frequency/Voltage			Hz/V	1~/50/220-240

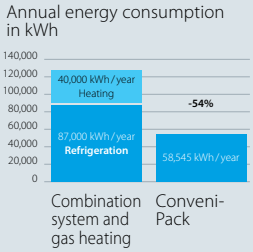
(1) Evaporating temp. -35°C; outdoor temp. 32°C; suction SH 10K; saturated temp. to discharge pressure of booster unit -10°C

(2) Its functioning relies on fluorinated greenhouse gases



Energy consumption down by 54 percent

Discount market with total area of 1,000 m² and 800 m² retail area. Only 6 percent of compressor run time was used for heating. The remaining heat requirement was supplied by heat displacement.



One system for everything

The heat recovered from freezer cabinets and display cases can be used to provide comfort heating for the shop.

Conveni-Pack: integrated

for medium and low temperature refrigeration, air

Competition in the retail food sector is fierce. This does not just affect the income you can earn from sales - operating costs are also a determining factor for success. The Conveni-Pack's **heat recovery** system saves money by reusing waste heat elsewhere in the building. One system can handle both **air conditioning and refrigeration** requirements. That is what Conveni-Pack is all about.

Conveni-Pack advantages at a glance

› Complete solution for medium and low temperature refrigeration, heating, air conditioning
› Heat recovery for efficient heating
› Inverter-controlled outdoor unit uses renewable energy from the air
› Up to 57 percent less energy consumption
› Minimal planning groundwork and lower assembly costs

Heat recovery

Thanks to Conveni-Pack, waste heat produced during cooling can be converted and used elsewhere in the building – without additional energy expenditure.

Commercial refrigeration with renewable energy

Denn's Biomarkt in the German town of Töpen opted for a complete solution to refrigeration, heating and air conditioning: Conveni-Pack from Daikin. This compact and low-noise system cools and heats without using fossil fuels.
The fact that the organic market's energy consumption is 30% lower underlines the wisdom of the retailer's decision.

Save as you grow

The owner of two Edeka supermarkets switched to Conveni-Pack from Daikin for both food outlets. As a result and despite increased retail space (from 800

Edeka Buschkühle
Bad Waldliesborn entrance;
Conveni-Pack location

Edeka Buschkühle, Bad Waldliesborn
Daikin's round flow cassette for comfort cooling and heating

system
conditioning and heating

to 1,400 m^2) 3,000 euros were saved in energy costs after just two months. In one of the shops, the heat recovered from the Conveni-Pack is used for heating in winter without the need for additional energy – just from the waste heat from the refrigeration unit.

LRYEQ 16 AY

Like ZEAS, Conveni-Pack offers cutting edge technology for medium and low temperature refrigeration in commercial applications. However, it can also boast a further benefit: heat recovery.

Our customers in the retail food trade use renewable raw materials to halve previous energy costs.

Have a look at a short animation on the unique Conveni-Pack solution

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

To respond to all shop requirements for comfort cooling and heating, a wide range of AC 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

[3] Optional

Conveni-Pack

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
- Lower associated CO_2 emissions thanks to the heat pump technology
- 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

LRYEQ16A7Y1

Medium Temperature Refrigeration				LRYEQ-A7Y1	16
Cooling capacity	Air conditioning	Nom.		kW	14.0
	Refrigeration (1)	Nom.		kW	21.8
Heating capacity (2)	Air conditioning	Nom.		kW	27.0
	Refrigeration (2)	Nom.		kW	21.8
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
	Charge			kg	11.5
	Control				Electronic expansion valve
Refrigerant oil	Type				Daphne FVC68D
	Charged volume			l	1.7 / 2.1 / 2.1 / 4.0
Piping connections	Refrigeration	Liquid	50m or less		Ø 9.5 C1220T
			50~130m		Ø 12.7 C1220T
		Gas	50m or less		Ø 25.4 C1220T
			50~130m		Ø 28.6 C1220T
Power supply	Phase/Frequency/Voltage			Hz/V	3~/50/380-415

(1) Cooling priority mode: evaporating temp. -10°C; outdoor temp. 32°CDB; suction SH 10°C
(2) Heat recovery 100% mode: indoor temp. 20°CDB; outdoor temp. 7°CDB, 6°CWB; refrigeration load 18kW; piping length: 7.5m; level difference: 0m

Accessories

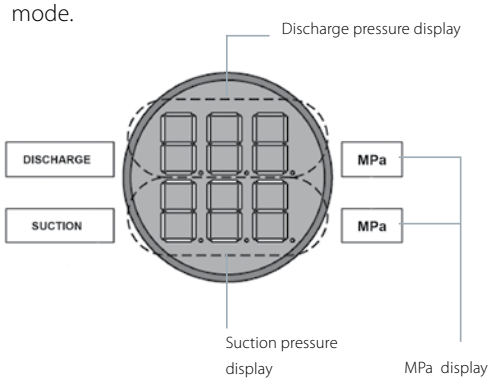
for ZEAS and Conveni-Pack

Digital pressure gauge kit

BHGP26A1

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

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



BHGP26A1

Modbus communication kit

BRR9A1V1

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

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

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

BRR9AV1

Control values

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

Display values

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

Commercial condensing units

with reciprocating or scroll compressor

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

The new units are highly energy-efficient, with operating temperatures ranging from -15°C to +43°C (ambient). Improved design and sound insulation make them ideal for urban locations, particularly near residential areas.

For installers, the units have been designed to be lightweight and compact, with easy access, making installation and maintenance straightforward. The units also have a weather-resistant housing.

Condensing unit for commercial refrigeration with reciprocating technology

Refrigeration solution for small food retailers

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

JEHCCU-CM1/CM3

Medium Temperature Refrigeration				JEHCCU-CM1/CM3	0040 CM1	0050 CM1	0051 CM1	0063 CM1	0067 CM1	0077 CM1	0095 CM1	0100 CM1	0113 CM1	0140 CM1	0140 CM3
Refrigerating capacity	Medium temperature	R-134a	Nom	kW	0.55 (1)	-	0.83 (1)	0.99 (1)	-	1.20 (1)	1.49 (1)	-			
		R-404A	Nom	kW	-	0.91 (1)	-		1.23 (1)	-		1.50 (1)	1.76 (1)	2.19 (1)	2.22 (1)
		R-407A	Nom	kW	-	0.72 (1)	-		0.97 (1)	-		1.19 (1)	1.49 (1)	1.73 (1)	1.74 (1)
		R-407F	Nom	kW	-	0.78 (1)	-		1.03 (1)	-		1.26 (1)	1.55 (1)	1.87 (1)	1.88 (1)
Power input	Medium temperature	R-134a	Nom	kW	0.430 (1)	-	0.540 (1)	0.640 (1)	-	0.740 (1)	0.900 (1)	-			
		R-404A	Nom	kW	-	0.630 (1)	-		0.760 (1)	-		0.930 (1)	1.100 (1)	1.180 (1)	1.240 (1)
		R-407A	Nom	kW	-	0.540 (1)	-		0.700 (1)	-		0.840 (1)	0.980 (1)	1.110 (1)	1.160 (1)
		R-407F	Nom	kW	-	0.530 (1)	-		0.690 (1)	-		0.830 (1)	0.980 (1)	1.070 (1)	1.120 (1)
Parameters at full load and ambient temp. 25°C		R-134a	Te -10°C	Declared COP (COP2)	1.55	-	1.75	1.80	-	1.96	2.05	-			
		R-404A	Te -10°C	Declared COP (COP2)	-	1.88	-		1.92	-		1.87	1.95	1.96	2.02
		R-407A	Te -10°C	Declared COP (COP2)	-	1.39	-		1.45	-		1.50	1.65		1.58
		R-407F	Te -10°C	Declared COP (COP2)	-	1.62	-		1.66	-		1.68	1.78	1.95	1.87
Parameters at full load and ambient temp. 32°C (Point A)		R-134a	Te -10°C	Rated COP (COPA)	1.28	-	1.53	1.55	-	1.63	1.65	-			
		R-404A	Te -10°C	Rated COP (COPA)	-	1.45	-		1.61	-		1.61	1.60	1.68	1.80
		R-407A	Te -10°C	Rated COP (COPA)	-	1.33	-		1.37	-		1.42	1.52	1.57	1.50
		R-407F	Te -10°C	Rated COP (COPA)	-	1.47	-		1.49	-		1.51	1.58	1.75	1.67
Parameters at full load and ambient temp. 43°C		R-134a	Te -10°C	Declared COP (COP3)	1.18	-	1.20	1.21	-	1.30	1.32	-			
		R-404A	Te -10°C	Declared COP (COP3)	-	1.10	-		1.18	-		1.21	1.20	1.26	1.31
		R-407A	Te -10°C	Declared COP (COP3)	-	1.16	-		-					1.38	1.30
		R-407F	Te -10°C	Declared COP (COP3)	-	1.20	-		-					1.39	1.32
Dimensions	Unit		Height	mm	607									662	
			Width	mm	876									1,101	
			Depth	mm	420									444	
Weight	Unit			kg	45		53		54				55	68	
Compressor	Type				Reciprocating compressor										
	Model				AE4440Y-FZ1A	AE4460Z-FZ1C	CAJ4461Y	CAJ4476Y	CAJ9480Z	CAJ4492Y	CAJ4511Y	CAJ9510Z	CAJ9513Z	CAJ4517Z	TAJ4517Z
	Oil	Charged volume		l	0.3		0.9							-	
	Oil Type				Uniqema Emkarate RL32CF										
	Piston displacement			m^3/h	1.80		3.18	3.79	2.64	4.51	5.69	3.18	4.21	4.52	
Fan	Type				Axial										
	Air flow rate	Cooling	Nom	m^3/h	1,300									2,700	
Sound pressure level	Nom.			dBA	29 (2)				28 (2)	29 (2)		28 (2)		34 (2)	
Refrigerant	Type				R-134a	R-404A	R-134a		R-404A	R-134a		R-404A			
	Type 2				-	R-407A	-		R-407A	-		R-407A			
	Type 3				-	R-407F	-		R-407F	-		R-407F			
	GWP				1,430.0	3,921.6	1,430.0		3,921.6	1,430.0		3,921.6			
	GWP Type 2				-	2,107.0	-		2,107.0	-		2,107.0			
	GWP Type 3				-	1,825.0	-		1,825.0	-		1,825.0			
Piping connections	Liquid line connection			inch	1/4"				3/8"						
	Suction line connection			inch	3/8"				1/2"					5/8	
Power supply	Phase/Frequency/Voltage			Hz/V	1~/50/230										3~/50/400

(1) Refer to condition: Outside ambient temperature = 32°C, Evaporation temperature = -10°C and 10K superheat (medium temperature application) (2) Sound pressure level is measured at 10m in anechoic room

Condensing unit for commercial refrigeration with scroll technology

Refrigeration solution for small food retailers

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

JEHSCU-CM1/CM3

Medium Temperature Refrigeration				JEHSCU-CM1/CM3	0200 CM1	0250 CM1	0300 CM1	0200 CM3	0250 CM3	0300 CM3	0350 CM3	0400 CM3	0500 CM3	0600 CM3	0680 CM3	0800 CM3	1000 CM3
Refrigerating capacity	Medium temperature	R-134a	Nom	kW	2.05 (1)	2.59 (1)	3.09 (1)	2.17 (1)	2.48 (1)	3.06 (1)	3.48 (1)	4.24 (1)	5.24 (1)	6.16 (1)	6.89 (1)	7.95 (1)	10.40 (1)
		R-404A	Nom	kW	3.54 (1)	3.99 (1)	4.92 (1)	3.49 (1)	4.21 (1)	4.89 (1)	5.50 (1)	6.70 (1)	8.03 (1)	9.45 (1)	10.15 (1)	12.95 (1)	16.45 (1)
		R-407A	Nom	kW	3.39 (1)	3.98 (1)	4.65 (1)	3.36 (1)	3.94 (1)	4.54 (1)	-	6.57 (1)	8.03 (1)	9.24 (1)	10.35 (1)	12.55 (1)	14.75 (1)
		R-407F	Nom	kW	3.26 (1)	3.73 (1)	4.50 (1)	3.22 (1)	3.85 (1)	4.45 (1)	-	6.62 (1)	7.99 (1)	9.36 (1)	10.40 (1)	12.65 (1)	15.95 (1)
Power input	Medium temperature	R-134a	Nom	kW	1.110 (1)	1.210 (1)	1.450 (1)	1.030 (1)	1.170 (1)	1.460 (1)	1.680 (1)	1.850 (1)	2.300 (1)	2.700 (1)	3.150 (1)	3.740 (1)	4.860 (1)
		R-404A	Nom	kW	1.570 (1)	2.000 (1)	2.620 (1)	1.700 (1)	2.040 (1)	2.520 (1)	3.040 (1)	3.330 (1)	4.390 (1)	4.920 (1)	5.530 (1)	5.960 (1)	8.620 (1)
		R-407A	Nom	kW	1.600 (1)	1.990 (1)	2.470 (1)	1.630 (1)	2.030 (1)	2.450 (1)	-	2.970 (1)	3.930 (1)	4.620 (1)	5.540 (1)	6.240 (1)	8.410 (1)
		R-407F	Nom	kW	1.740 (1)	2.090 (1)	2.660 (1)	1.780 (1)	2.160 (1)	2.710 (1)	-	3.210 (1)	4.360 (1)	5.030 (1)	5.980 (1)	6.130 (1)	8.840 (1)
Seasonal energy performance ratio SEPR		R-134a	Te -10°C		-								2.69	2.63	2.57	2.92	2.88
		R-404A	Te -10°C		-						2.61	2.77	2.64	2.72	2.65	2.90	2.57
		R-407A	Te -10°C		-							3.09	2.81	2.75	2.65	2.88	2.35
		R-407F	Te -10°C		-							2.83	2.60	2.69	2.59	2.83	2.53
Annual electricity consumption Q		R-134a	Te -10°C	kWh/a	-								11,969.00	14,381.00	16,491.00	16,741	22,226
		R-404A	Te -10°C	kWh/a	-						12,939	14,881.00	18,673.00	21,344.00	23,536.00	27,407	39,372
		R-407A	Te -10°C	kWh/a	-							13,054.00	17,546.00	20,622.00	24,031.00	26,747	38,515
		R-407F	Te -10°C	kWh/a	-							14,365.00	18,883.00	21,395.00	24,655.00	27,475	38,831
Parameters at full load and ambient temp. 25°C		R-134a	Te -10°C	Declared COP (COP2)	2.15	2.54	2.50	2.55	2.52		2.46	2.83	-				
		R-404A	Te -10°C	Declared COP (COP2)	2.65	2.54	2.24	2.44	2.41	2.26	-						
		R-407A	Te -10°C	Declared COP (COP2)	2.55	2.38	2.21	2.50	2.32	2.20	-						
		R-407F	Te -10°C	Declared COP (COP2)	2.43	2.31	2.16	2.35	2.25	2.10	-						
Parameters at full load and ambient temp. 32°C (Point A)		R-134a	Te -10°C	Rated COP (COPA)	1.85	2.14	2.13	2.12	2.13	2.10	2.08	2.29	2.28		2.19	2.13	2.14
		R-404A	Te -10°C	Rated COP (COPA)	2.25	2.00	1.88	2.06	2.07	1.94	1.81	2.01	1.83	1.92	1.84	2.17	1.91
		R-407A	Te -10°C	Rated COP (COPA)	2.13	2.01	1.89	2.07	1.95	1.86	-	2.21	2.04	2.00	1.87	2.01	1.75
		R-407F	Te -10°C	Rated COP (COPA)	1.88	1.79	1.69	1.81	1.79	1.65	-	2.06	1.83	1.86	1.74	2.06	1.80
Parameters at full load and ambient temp. 43°C		R-134a	Te -10°C	Declared COP (COP3)	1.35	1.53		1.57			1.52	1.55	1.56	1.59	1.53	1.52	
		R-404A	Te -10°C	Declared COP (COP3)	1.53	1.33	1.25	1.36	1.28		1.11	1.28	1.15	1.27	1.22	1.47	1.18
		R-407A	Te -10°C	Declared COP (COP3)	-		1.48	1.45	1.38		-	1.43	1.39	1.43	-	1.38	-
		R-407F	Te -10°C	Declared COP (COP3)	-											1.52	-
Dimensions	Unit		Height	mm	662							872				1,727	
			Width	mm	1,101							1,353				1,348	
			Depth	mm	444							575				641	
Weight	Unit			kg	70	72	74	70	72	74		119	123	125	126	218	
Compressor	Type				Scroll compressor												
	Model				ZB15KQE-PFJ	ZB19KQE-PFJ	ZB21KQE-PFJ	ZB15KQE-TFD	ZB19KQE-TFD	ZB21KQE-TFD	ZB26KQE-TFD	ZB29KQE-TFD	ZB38KQE-TFD	ZB45KQE-TFD	ZB48KQE-TFD	ZB58KCE-TFD	ZB76KCE-TFD
	Oil	Charged volume		l	-							1.360	2.070	1.890	1.800	2.5	3.2
	Oil Type				Polyester oil (Copeland Ultra 22 CC, 32 CC and 32-3MAF, Mobil EAL™ Arctic 22 CC, Uniqem Emkarate RL32CF												
	Piston displacement			m^3/h	5.90	6.80	8.60	5.90	6.80	8.60	9.90	11.400	14.400	17.100	18.800	22.10	29.10
Fan	Type				Axial												
	Air flow rate	Cooling	Nom	m^3/h	2,700							-				8,500	
Sound pressure level	Nom.			dBA	33 (2)	34 (2)	36 (2)	33 (2)	34 (2)	36 (2)	39 (2)	37 (2)	38 (2)	40 (2)		43 (2)	
Refrigerant	Type				R-134a												
	Type 2				R-404A												
	Type 3				R-407A						-	R-407A					
	Type 4				R-407F						-	R-407F					
	GWP				1,430.0												
	GWP Type 2				3,921.6												
	GWP Type 3				2,107.0						-	2,107.0					
	GWP Type 4				1,825.0						-	1,825.0					
Piping connections	Liquid line connection			inch	3/8"							1/2"			3/4"		
	Suction line connection			inch	3/4"							7/8"		1 1/8"			3/8"
Power supply	Phase/Frequency/Voltage			Hz/V	1~/50/230			3~/50/400									

(1) Refer to condition: Outside ambient temperature = 32°C, Evaporation temperature = -10°C and 10K superheat (medium temperature application) (2) Sound pressure level is measured at 10m in anechoic room

Condensing unit for commercial refrigeration with scroll / reciprocating technology

Refrigeration solution for small food retailers

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

JEHCCU/SCU-CL1/CL3

Low Temperature Refrigeration					JEHCCU-CL1/JEHSCU-CL3	JEHCCU0115CL1	JEHSCU0200CL3	JEHSCU0300CL3	JEHSCU0400CL3	JEHSCU0500CL3	JEHSCU0600CL3	JEHSCU0750CL3
Refrigerating capacity	Low temperature	R-404A	Nom	kW		0.69 (1)	1.42 (1)	1.98 (1)	2.91 (1)	3.53 (1)	4.13 (1)	5.29 (1)
		R-407A	Nom	kW		-	1.16 (1)	1.51 (1)	2.29 (1)	2.77 (1)	3.31 (1)	4.29 (1)
Power input	Low temperature	R-404A	Nom	kW		0.720 (1)	1.460 (1)	1.810 (1)	2.380 (1)	3.100 (1)	3.690 (1)	3.880 (1)
		R-407A	Nom	kW		-	1.310 (1)	1.770 (1)	2.330 (1)	2.850 (1)	3.570 (1)	4.170 (1)
Seasonal energy performance ratio SEPR		R-404A	Te -35°C				-		1.88	1.79	1.80	1.82
		R-407A	Te -35°C				-		1.67		1.52	1.51
Annual electricity consumption Q		R-404A	Te -35°C		kWh/a		-		11,555.00	14,732.00	17,107.00	21,649
		R-407A	Te -35°C		kWh/a		-		10,212.00	12,364.00	16,220.00	21,146
Parameters at full load and ambient temp. 25°C		R-404A	Te -35°C	Declared COP (COP2)		1.11	1.16	1.40		-		
		R-407A	Te -35°C	Declared COP (COP2)		-	1.12	1.08		-		
Parameters at full load and ambient temp. 32°C (Point A)		R-404A	Te -35°C	Rated COP (COPA)		0.96	0.97	1.09	1.22	1.14	1.06	1.36
		R-407A	Te -35°C	Rated COP (COPA)		-	0.89	0.85	0.98	0.97	0.93	1.03
Parameters at full load and ambient temp. 43°C		R-404A	Te -35°C	Declared COP (COP3)		0.69	0.60	0.70	0.86	0.79	0.64	0.98
		R-407A	Te -35°C	Declared COP (COP3)		-	0.55	-	0.67	0.66	0.64	0.73
Dimensions	Unit		Height		mm	607	662		872			1,727
			Width		mm	876	1,101		1,353			1,348
			Depth		mm	420	444		575			605
Weight	Unit				kg	55	76	77	132		133	203
Compressor	Type					Reciprocating compressor	Scroll compressor					
	Model					CAJ2446Z	ZF06K4E-TFD	ZF09K4E-TFD	ZF13K4E-TFD	ZF15K4E-TFD	ZF18K4E-TFD	ZF25K5E-TFD
	Oil	Charged volume			l	0.9	-		1.900			
	Oil Type					Uniqema Emkarate RL32CF	Polyester oil (Copeland Ultra 22 CC, 32 CC and 32-3MAF, Mobil EAL™ Arctic 22 CC, Uniqem Emkarate RL32CF					
	Piston displacement				m^3/h	4.55	5.90	8.00	11.800	14.500	17.100	21.40
Fan	Type					Axial						
	Air flow rate	Cooling	Nom		m^3/h	1,300	2,700		-			5,750
Sound pressure level	Nom.				dBA	31 (2)	32 (2)	33 (2)	37 (2)	39 (2)	41 (2)	
Refrigerant	Type					R-404A						
	Type 2					-	R-407A					
	GWP					3,921.6						
	GWP Type 2					-	2,107.0					
Piping connections	Liquid line connection				inch	3/8"			1/2"			
	Suction line connection				inch	1/2"	3/4"		7/8"			1 1/8"
Power supply	Phase/Frequency/Voltage				Hz/V	1~/50/230	3~/50/400					

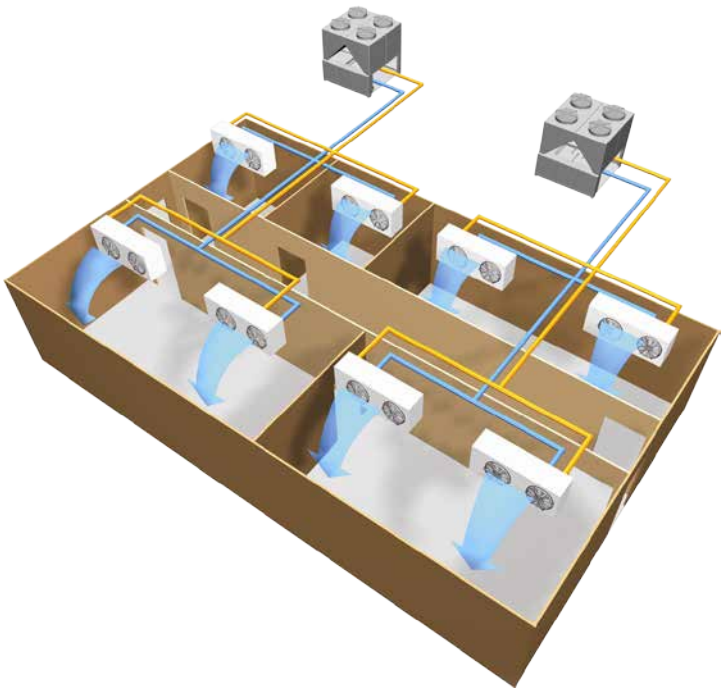
(1) SRG 20°C, Ta=32°C, Te=-35°C (2) Sound pressure level is measured at 10m in anechoic room

Industrial condensing units

with screw compressor

Designed for outdoor use, the large condensing units are a perfect medium to high capacity refrigeration solution for cold stores, distribution platforms, supermarkets, food processing, etc in low and medium temperature applications.

These industrial condensing units are real workhorses designed for maximum performance in minimum space.



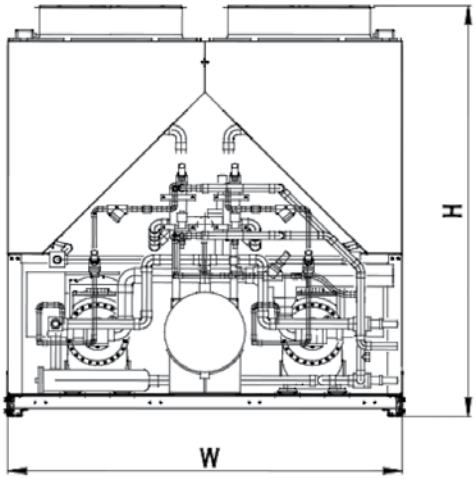
Condensing unit for industrial refrigeration

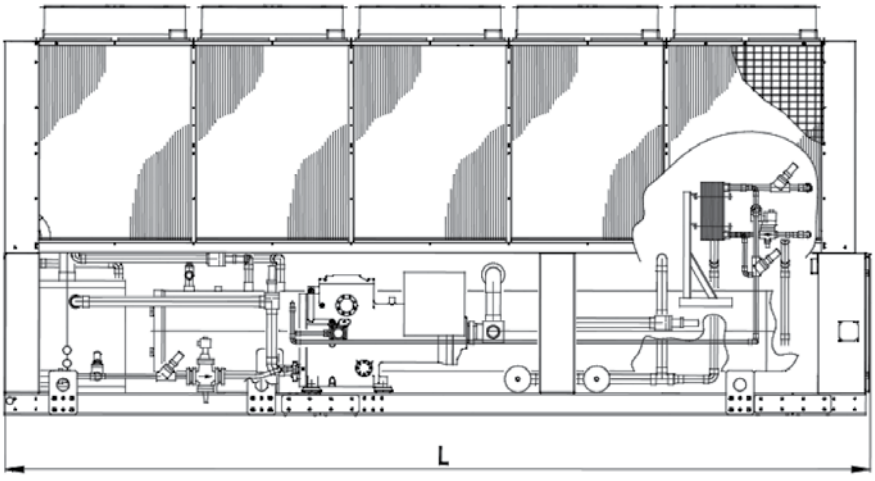
› High energy efficiency: inverter controlled compressor, economizer, high performance condenser
› Possibility of having a stand-by compressor
› Easy installation, ready to connect evaporators
› Integrated starter and control panel with electronic controller
› Space saving construction due to the compact design of the condenser coils arranged in a 'W' configuration
› Low sound operation
› Approved according to EN 378: 2008 (Safety and environmental requirements)
› Refrigerants: R-404A, R-134a, R-407C, R-507A

A comprehensive product range with 1 or 2 compressors and 4, 6, 8 or 10 condenser fans

Chilled application:
› R-404A | 113 - 417 kW
› R-134a | 72.5 kW - 315.4 kW
› R-407C | 100.3 kW - 430.2 kW
› (at T0 = -10°C / Tamb = +32°C)

Frozen application:
› R-404A | 37 - 159 kW
› (at T0 = -35°C / Tamb = +32°C)





	Length	Width	Height	Weight
	mm	mm	mm	kg
From	2,240	2,235	2,340	2,405
To	4,940	2,235	2,340	4,496

Products overview

Model	Product name	Capacity (kW)	0	2	5	10	25	50	100	150	300	450
Inverter condensing unit for commercial refrigeration	ZEAS LREQ-BY1											
	Multi ZEAS LREQ-BY1											
Integrated solution for chilling, freezing and comfort cooling and heating	Conveni-Pack LRYEQ-AY1											
Booster unit to allow both ZEAS and Conveni-Pack freezing applications	Booster unit LCBKQ-AV1											
Commercial condensing units with reciprocating technology	CCU JEHCCU-CM1/CM3 JEHCCU-CL1											
Commercial condensing units with scroll technology	SCU JEHSCU-CM1/CM3 JEHSCU-CL3											
Inverter condensing unit for industrial refrigeration	ICU ICUHS-HA											

Chilling Freezing Air conditioning Heating

Notes

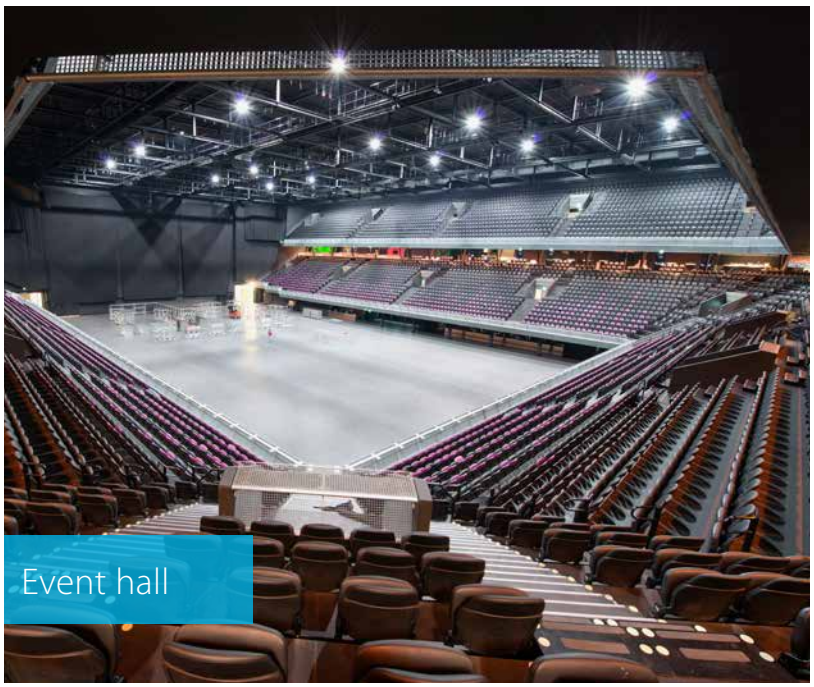
Notes

Notes

Ice bar


Cabinet cooling


Multi ZEAS condensing units


Event hall


Cold storage

KEEP COOL, SAVE MONEY

Daikin refrigeration products are designed to reduce environmental impact. That's why Daikin ZEAS and Conveni-Pack already comply with the new F-gas regulation that enters into force on 1 January 2015. Daikin systems also set industry standards when it comes to energy efficiency. Which enables you to save money while you help save the planet.

Learn more at www.daikineurope.com/refrigeration

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ECPEN16-800 450 · 10/14

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