DAIKIN

Tewis
a member of DAIKIN group

Pricelist 2019-2020
Refrigeration

Technical information for Refrigeration products

Daikin is a strong challenger in the refrigeration market. We can create the ideal solution for each customer's specific situation. As our products contain the latest technologies we ensure the highest energy efficiency. Our units are rigorously tested in order to provide you reliable operation.

With the acquisition of Tewis, we expand our refrigeration business providing a full product line for all aspects in the cold chain including natural refrigerant solutions with CO_2.

Table of contents

F-Gas Regulation

For non-pre-filled devices: the functioning relies on fluorinated greenhouse gases.

For complete / partial pre-filled devices: contains fluorinated greenhouse gases.

Inverter technology


Scroll compressor


Reciprocating compressor


Swing compressor

For latest data, please consult my.daikin.eu

NOTE:

The pricelist is valid from 1 April 2019 till 31 March 2020. All prices are list prices in Lei and excl. VAT.

All prior pricelists are not valid anymore. We reserve the right for printing errors and model changes.

Drawings and pictures show specific configurations; technical data and refrigeration capacity is given based on different conditions and for certain refrigerants and could be different. Please note that it is necessary to use technical manuals and design software for technical selection of equipment!

For any questions and support to select the right equipment, as well as for more information about Ecodesign conditions and regulation (see details on pages 12-15), please contact your local Daikin sales office!

Refrigeration

Why choose Daikin refrigeration?

We have over 100 years of experience in the refrigeration business.

- We can meet all refrigeration needs from farm to fork, thanks to our wide range of refrigeration products.
- Innovative and reliable own technology and expertise on refrigerants, controls and compressors!
- Your advisor for solutions to meet your needs in line with legislation (F-gas regulation, Eco design,...) and with focus on reliability, safety, Total Equivalent Warming impact and running cost.

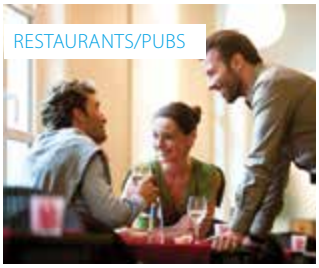
Benefits for the installer/consultant

› Plug and play solutions through monobloc and bi-bloc systems
› Pre-charged and factory-tested
› Compact design for restricted installation space
› Shorter delivery time for Conveni-Pack and ZEAS as they are manufactured in Europe
› Easy and intuitive selection of outdoor condensing units with Refrigeration Xpress
› Wide range to match most refrigeration needs according to F-gas Regulation

Benefits for the end user

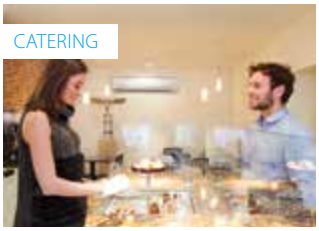
› High efficiency technology for high ROI
› Heat recovery technology on Conveni-Pack
› Proven reliability and high performance
› Ideal for urban applications
› Contributing to better environment thanks to low total equivalent warming impact

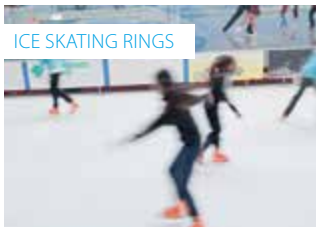
Controlled temperatures throughout the whole supply chain



We can meet all refrigeration needs from farm to fork

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





...

We can fulfill any refrigeration need

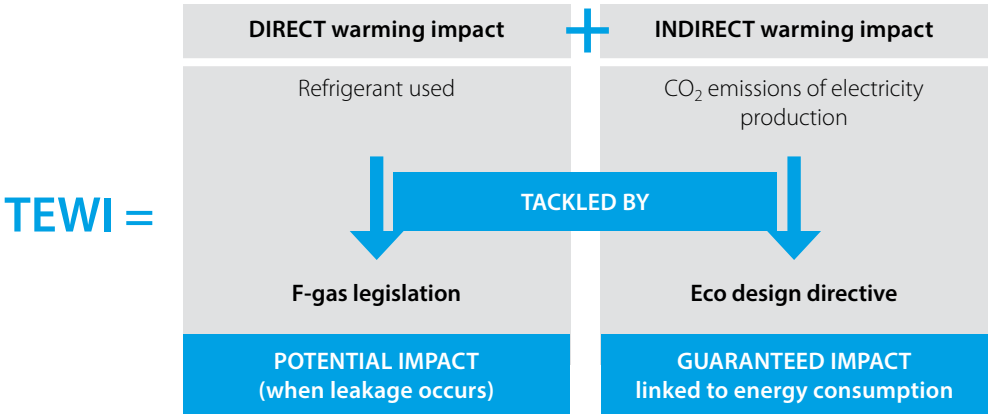
Meeting customer needs!

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

The DNA of our advice is:

☑ Safety and Reliability

☑ Reducing the Total Equivalent Warming Impact (TEWI)



Reduction of CO_2 emissions is one of the main priorities for the future. A refrigeration plant's global warming effect is the combination of the possible refrigerant losses (Direct warming impact) and the CO_2 emissions caused by electricity production (Indirect warming impact). Country per country situation is different, however on average in Europe CO_2 release at energy production is quite high (average 0,45kg/kwh of Electrical Energy)! Due to this, there is a significant greenhouse effect over the lifetime of the refrigeration plant and efficiency is thus one of the crucial focus points in reducing TEWI!
When various refrigeration solutions are being compared it is thus important to take into account both aspects as in some cases optimizing the direct warming impact (eg: changing refrigerant) will have an opposite effect on the indirect warming impact!

☑ Reducing your running cost

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

Daikin's Quality Philosophy

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

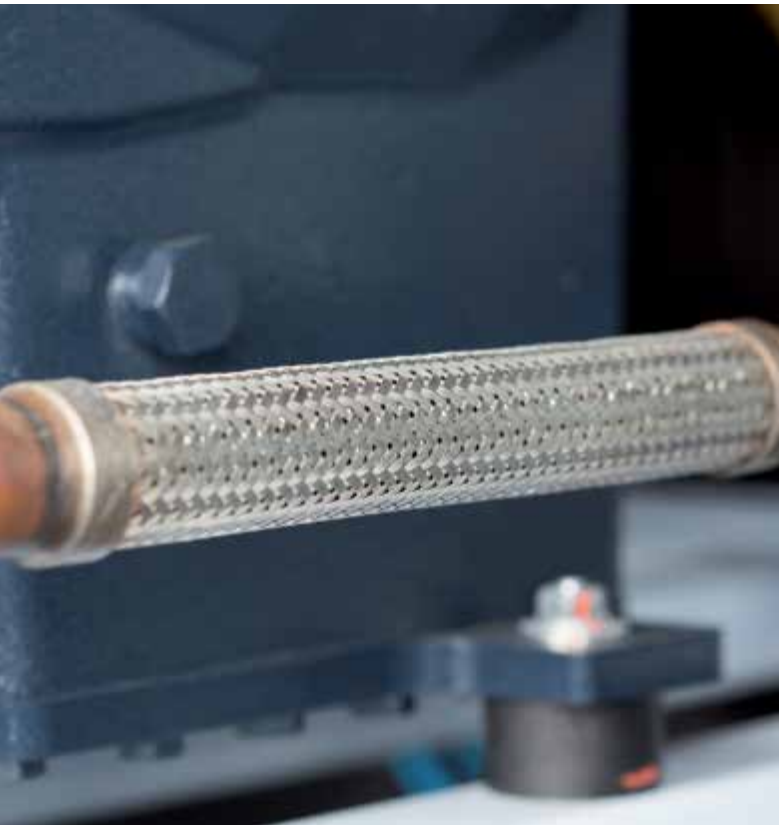
Daikin is committed to providing the most efficient and safe solutions to meet all of your refrigeration needs, today and in the future.
We are aware of our responsibility to protect the environment and our policies and practices keep environmental sustainability at the heart of everything we do. We conduct our business in accordance with green principles, because it makes economical as well as ecological sense.
Daikin Europe N.V. continually adapts its environmental policy to the changing global, European and local legislative frameworks. It stimulates and promotes the strict application of all relevant legislation and formulates recommendations to facilitate implementation.

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

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

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

YouTube



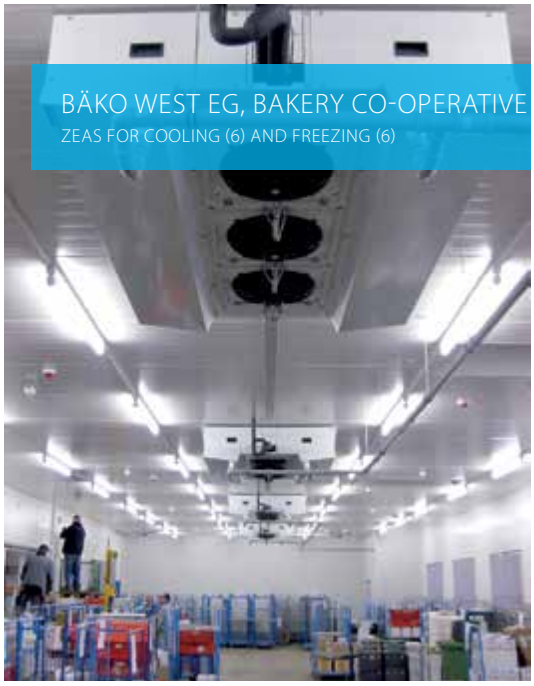
Vibration damper assembly

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

Everything cleanly processed with high quality

Easily accessible and clearly laid out compound machines

E. LECLERC, HYPERMARKET
ZEAS



BÄKO WEST EG, BAKERY CO-OPERATIVE
ZEAS FOR COOLING (6) AND FREEZING (6)

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

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

CHILLED WITH ZEAS

Online support

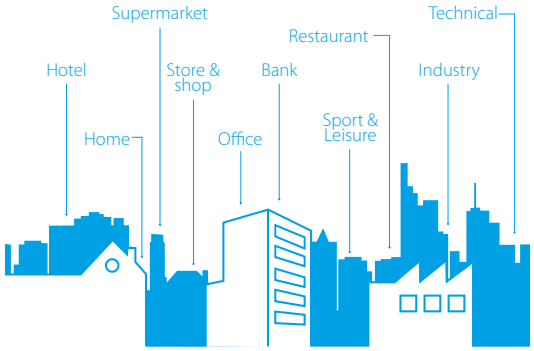
Business portal

- 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

my.daikin.eu

Internet

Find our solution for different applications:



- Get more commercial details on our flagship products via our website

www.daikin-ce.com

Tools and platforms

We're here to help you!

Literature

See all the literature available (catalogues, flyers, solution guides, product profiles, product portfolios, reference book ...)
› for you
› for your customers

www.daikin.eu/en_us/customers/support.html

TO the AFFILIATES
The contents above is not up to date - we put it only like a placeholder, so in case you have literature page - please update it. If you do not have it - delete it and expand next section.

Sales supporting apps

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

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

https://www.daikin-ce.com/software

Some of our most used apps:

There's an app for that

› **Daikin Altherma simulator:** for appropriate heat pump selection
› **3D app:** Allows you to choose the air conditioning and watch it at home BEFORE you buy!
› **Error code app:** quickly know the meaning of fault codes for each product family
› **Load calculation tool:** helps you to calculate the heat and cool load of your building
› **Multi selection tool:** for quick calculation of multi split combinations & piping lengths
› **Xpress:** quick quotaton tool for VRV
› **Astra:** AHU design software
› **BIM models** for VRV units
› ...

Acting ahead of legislation

Ecodesign Directive - Energy related products

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

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

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

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

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

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

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

Two methodologies to evaluate the unit performance

Low capacities
Condensing unit installed indoor

COP methodology:

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

› COP given on 25°C ambient temperature

› COP given on 32°C ambient temperature

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

Minimum efficiency (COP):

› Medium temperature:
Capacity lower or equal 1 kW = 1,2
Capacity lower or equal 5 kW = 1,4

› Low temperature:
Capacity lower or equal 1 kW = 0,75
Capacity lower or equal 2 kW = 0,85

Higher capacities
Condensing unit installed outdoors (climate depending)

SEPR methodology:

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

› SEPR given on the reference climate zone of Strasbourg

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

Minimum efficiency (SEPR):

› Medium temperature:
Capacity lower or equal 20 kW = 2,25
Capacity lower or equal 50 kW = 2,35

› Low temperature:
Capacity lower or equal 8 kW = 1,5
Capacity lower or equal 20 kW = 1,6

Refrigeration product portfolio and Ecodesign Directive

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

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

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

Acting ahead of legislation

What does the F-Gas regulation mean?

GWP < 2500

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

GWP 2500

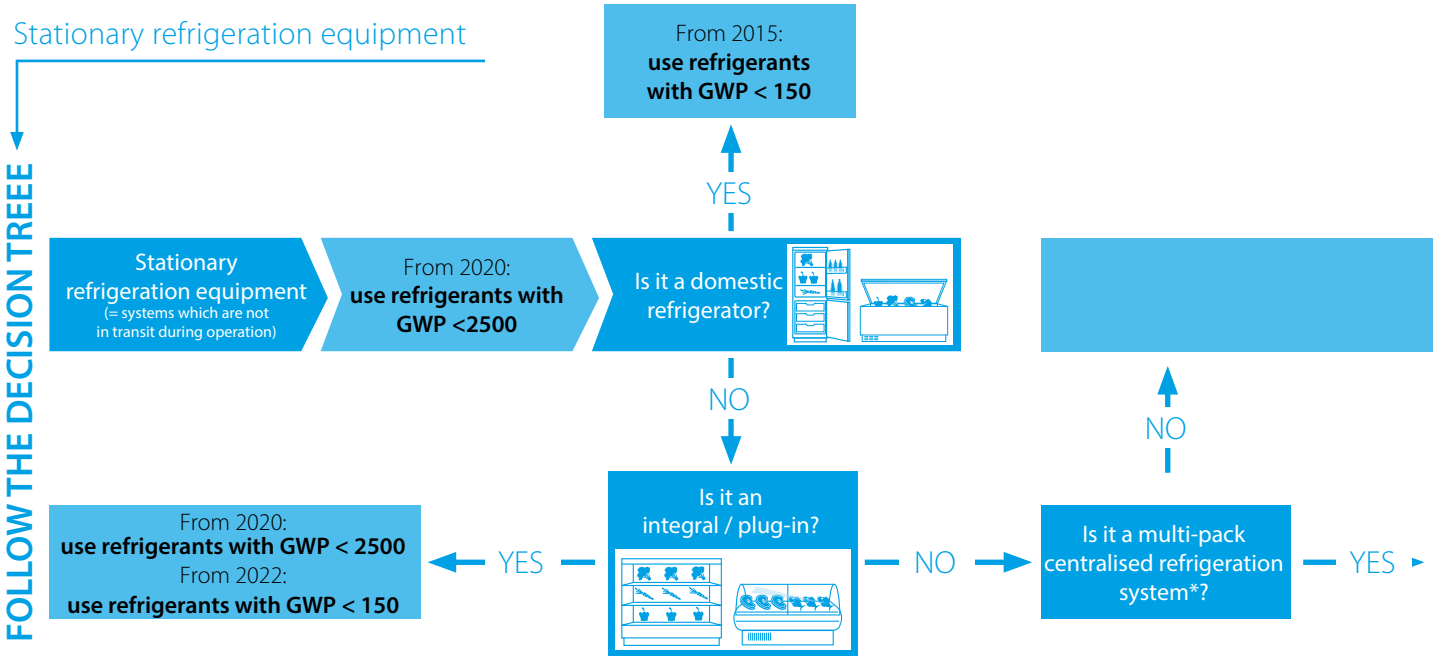
GWP > 2500

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

Ban from the year 2020 onwards
in new stationary refrigeration equipment

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

F-Gas Regulation



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

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

MT= 75kW
LT= 15kW

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

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

MT= 75kW
LT= 15kW

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

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

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

Use refigerants with GWP < 2500

NO

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

YES

NO

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

YES

2 choices

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

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

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

Why Maintenance?

Peace of mind

Daikin Service and our Service Partner Network teams strive to develop smart services & solutions to exceed your expectations. Ensuring that your Refrigeration Systems are maintained by professionals gives you peace of mind!

Improved Safety

When a Refrigeration System doesn't operate in optimal condition over longer periods of time, it could cause unsafe working conditions or accidents. Regular maintenance ensures the system operates safely and complies with local regulations and requirements.

Cost Savings

In the long run, maintenance is always cheaper than ad-hoc service interventions. Preventive maintenance allows you and Daikin to plan ahead and avoid rushed interventions. Our specialists will come prepared, thus avoiding repeated visits and extra interruptions. Another benefit is the clear and transparent costs which can easily be budgeted, as well as clear and well-founded lifecycle reports which indicate future needs and requirements to be considered well in advance. Over time this reduces the Total Cost of Ownership (TCO) and related operational costs.

Full Legal Compliance

Knowing that your Refrigeration System is maintained and serviced gives you the assurance all relevant legal requirements (e.g. F-gas regulation) are fulfilled.

REGULATION (EU) No 517/2014 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 April 2014 on fluorinated greenhouse gases and repealing Regulation (EC) No 842/2006.

Minimized System Downtime

Scheduled care visits are transparent and easy to plan which gives sufficient time to find suitable dates for visits to avoid impact on production or comfort.
A well-maintained Refrigeration System is less likely to fail during high season. Keeping a unit up-to-date on all inspections and maintenance checks means less worry that the unit will break down when it is needed the most.

Increased System Efficiency

Regular maintenance of a Refrigeration System ensures that electricity costs and performance are not jeopardized, and that the safety features and the integrity of the Refrigeration System are in line with the latest standards and regulations.
Routine maintenance such as inspections, oil and fluid changes, part replacements and other little fixes can help your Refrigeration System to run much more efficiently. In turn, your company will benefit from fuel and energy savings because the Refrigeration System will be running at peak performance.

Emergency Call-out

In case your Refrigeration System should still break down, all Daikin Care packages include access to a Hotline number for emergency call-out. Preventive and Extended Care also include Emergency Service Hotline access outside of regular office hours.

Genuine Spare Parts, Tools and Equipment

The spare parts used by Daikin Service or our Service Partner Network are all certified by Daikin, which means that the risk of failure and disturbances can be reduced while ensuring that the warranty is valid.

In case opening, overhaul or repair is needed, Daikin as an OEM manufacturer has all the original tools, casts and equipment to ensure the repair is carried out according to factory recommendations and will keep your equipment up and running.

Daikin uses advanced service tools when we care for our Refrigeration Systems. These tools are not found on the open market and they facilitate advanced troubleshooting and reporting to be done to ensure that the Refrigeration System is optimized and parametrised correctly as well as verifying the integrity of the Refrigeration System.

Attractive Retrofit solutions

Daikin also offers attractive Retrofit solutions for a range of older Refrigeration Systems. Core parts of the Refrigeration System will be replaced to ensure it can run for many more years. Using Daikin certified retrofit solutions from Daikin or Daikin Certified partners allow you to enjoy the benefits of reduced operating costs, no need to refurbish or reinstall and will include an attractive warranty policy if performed under a care agreement.

NEW

Tewis Refrigeration Range

Product range overview -

Tewis

Model	Product name	Capacity (kW)	0	10	100	200	500
Condensing units	CO_2 Booster CU MT			18,0-90,0			
	CO_2 Booster CU LT			8,0-30,0			
Compressor rack and packs	Racks MT				30,0-512,0		
	Racks MT				30,0-400,0		
	Racks LT		15,0-240,0				

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

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

Tewis - FULL CO_2 range

Advantages of using R744 (also known as CO_2) as refrigerant

- Non flammable
- Non toxic
- GWP = 1 - low global warming potential
- ODP= 0 - ozone depletion potential
- High density in suction - higher performance with smaller machines
- Requires low amount of refrigerant

A solution for all your refrigeration needs

In mild climates*, all CO_2 systems need the support of an auxiliary unit with another refrigerant . The requirements of these units vary according to the base operation of the plant.

Transcritical operation

- Auxiliary Unit
- Efficiency
- Maintenance
- Costs
- Work pressure

Subcritical operation

- Auxiliary Unit
- Efficiency
- Maintenance
- Costs (with retrofit)
- Work pressure

*As long as the ambient temperature can reach 30ºC

High performance solutions

We bet on CO_2 as a low GWP natural refrigerant and high safety and thus, we bring the most advanced technology in security and the most suitable materials. CO_2 is an excellent refrigerant although it is noticeably affected by the external temperature conditions. Hence it is fundamental to study the different operating options.

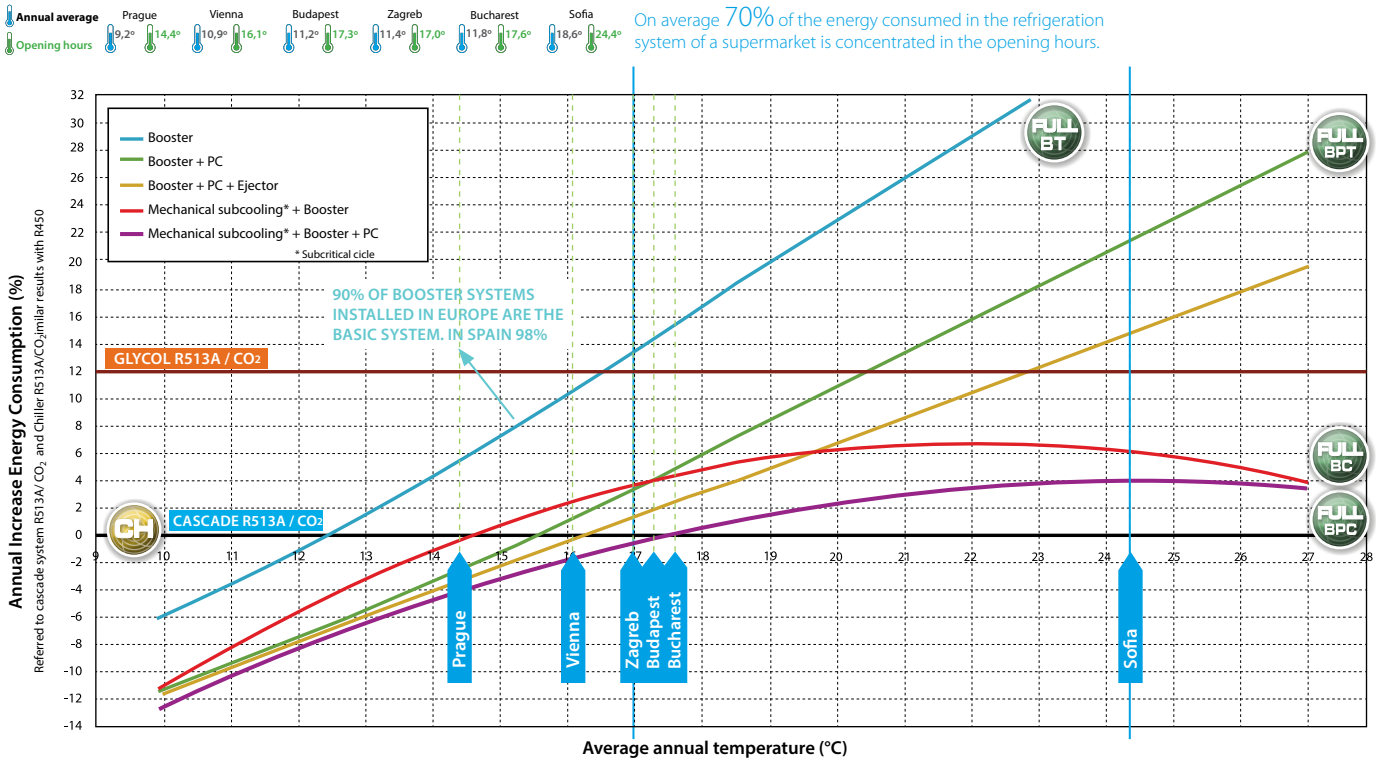
Natural refrigerants CO_2

Comparing new technologies

Solution	Application	Efficiency	Complexity	Maintenance
Booster Booster DOMINO	MT & LT			
Booster + Parallel compressor C.P + DOMINO	MT & LT			
Booster + Parallel compressor + Mechanical subcooling Mech. Subcooling + DOMINO	MT & LT			

Each of the configurations proposed in this range responds to specific operating needs.
Based on a research by the Jaume I University and Tewis, the following table shows the energy consumption of each configuration with respect to a traditional cascade plant.

The temperature is the external agent that influences the most the selection of one type of installation CO_2 or another, so we will also take into consideration the central hours of the day in which the supermarkets are open and, therefore, concentrate the consumption of the refrigeration needs.



The final leap towards natural refrigeration

Power and compressors

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

BT

FULL SERIES 10 kW - 60 kW

MT

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

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

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

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

Efficiency improvement by modulation

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

Chassis

Full CO_2 models are available in sheet metal chassis, accesible 360º with option of housing and acoustic insulation.

Plug & play

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

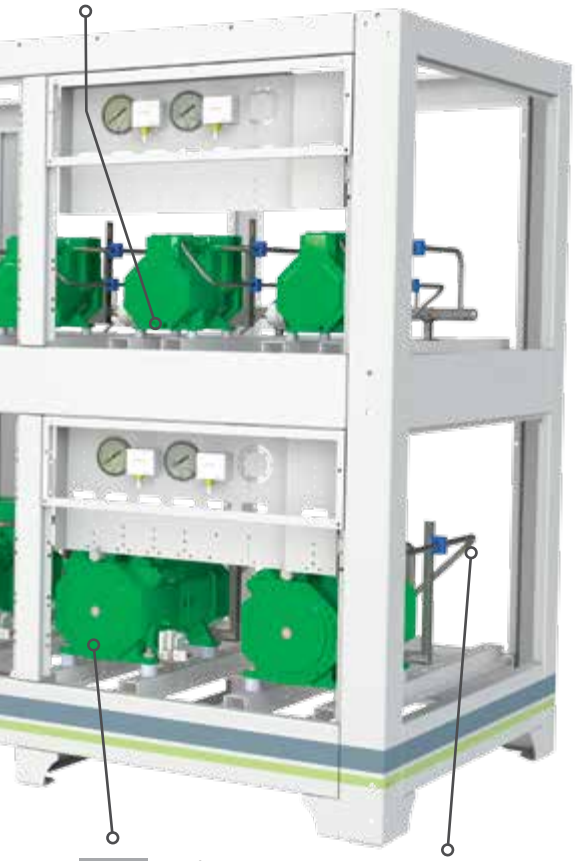
Technology for everyone

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

Double safety

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

FULL CO_2



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

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

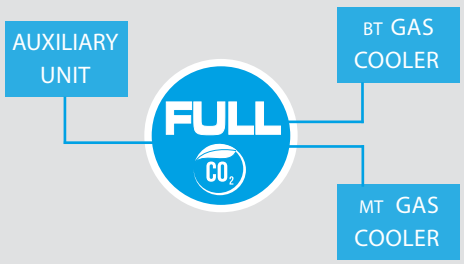
AX **Auxiliary exchanger plates**
They keep the plant at its optimum operating point when ambient temperatures are high.

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

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

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

Full CO_2 general scheme



Retrofit & external condensation

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

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

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

Compressor packs & racks

Small Racks

Small transcritical units without condenser

- Small dimensions: 1.600 x 840 x 840 mm
- Easy transportation
- Complete switchboard with protections, according to European legislation
- Switchboard includes an advanced control software to manage all the electrical and electronic switches of the machine
- 2 compressors
- Safety mode: In case of anomalous increase in temperature or pressure in the liquid zone, the safety equipment is activated by stabilizing the CO_2 pressure. The equipment is designed to take
- Proportional modulation: A frequency inverter in each group of compressors adapts its operation to the specific demand of each moment, saving energy and prolonging the life of the plant. the current of a generator set and works even during a power cut.
- Heat recovery (optional) which allows to take advantage of the heat generated by the system discharge for air conditioning or ACS.

F-Gas Free

Switchboard

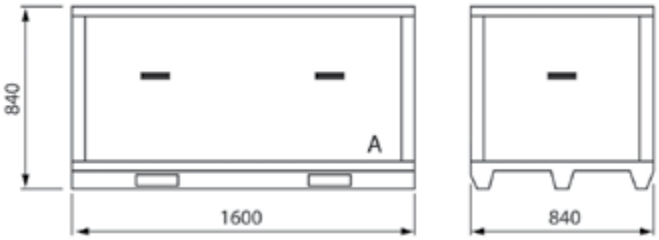
Plug&Play

Electronic Control

Proportional Modulation

Heating Interchanger (Optional)

Protective Case



☑ MT		1	2 comp.
☑ MT + LT		2+1	

FNB 1.560 mm	10 kW	
	40 kW	
	45 kW	

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

LT MT Clime Global

MSC Mechanical subcooler

PC Parallel compressor

Heating interchanger

Compressor packs & racks

Medium Racks

Transcritical units without condenser

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

F-Gas Free

Switchboard

Plug&Play

Electronic Control

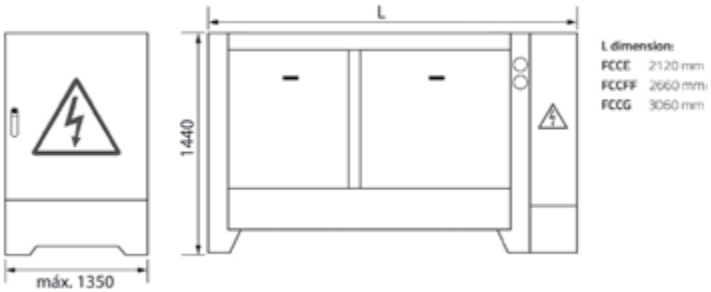
Proportional Modulation

Heating Interchanger (Optional)

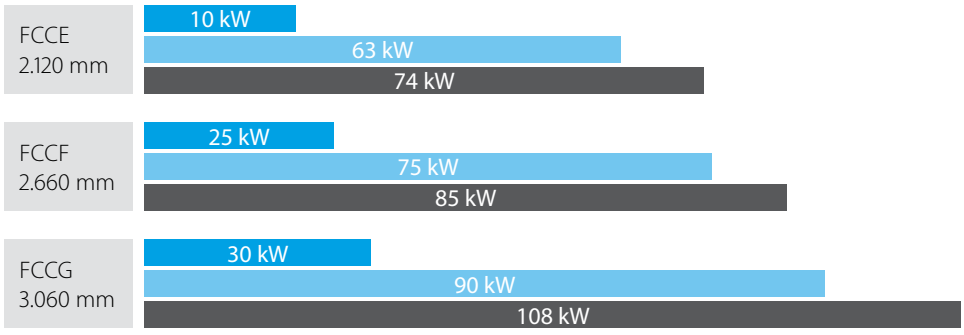
Protective Case

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

Compressor packs & racks

Large Racks

Transcritical double units without condenser

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

F-GAS F-Gas Free

Protective Case

Heating Interchanger (Optional)

Plug&Play

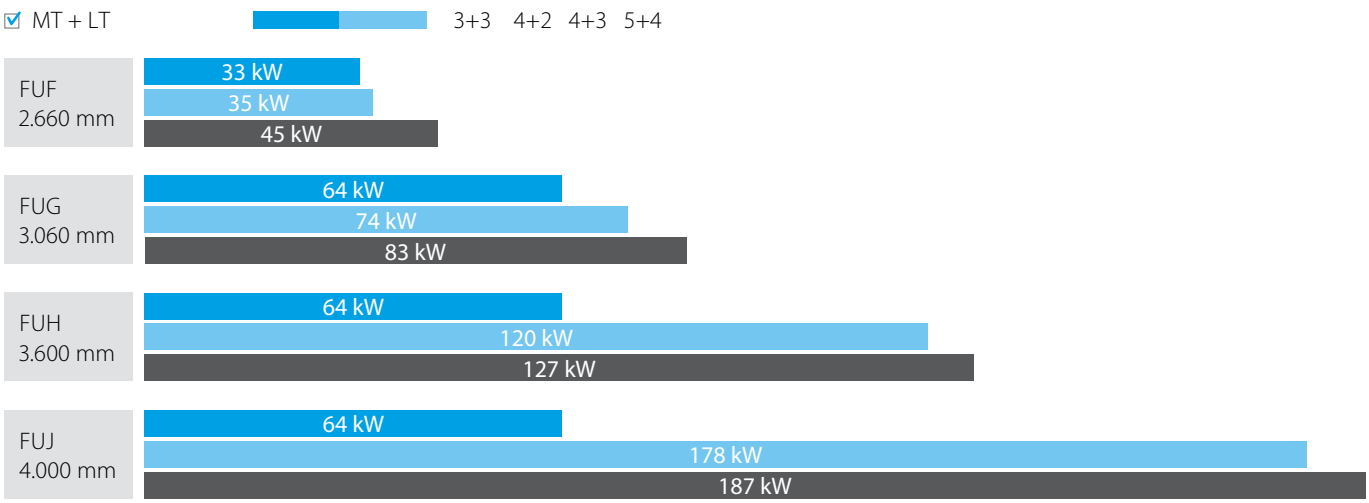
Switchboard

PC Parallel compressors (Optional)

Proportional Modulation

Electronic Control

MSC Mechanical Subcooler (Optional)



Conditions: LT: Tev.: -35°C SH: 8°K
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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.

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

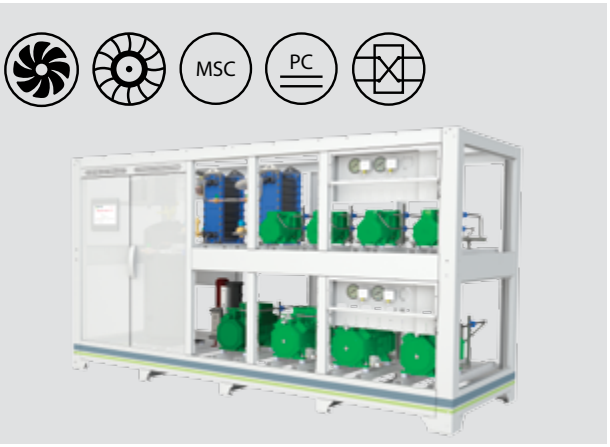
☑ MT + Air conditioning
(with or w/o condenser) — 2+3 (max. 5)

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

9 kW
30 kW
60 kW
85 kW

FCZ4G
4.000 mm
FCCG
3.060 mm

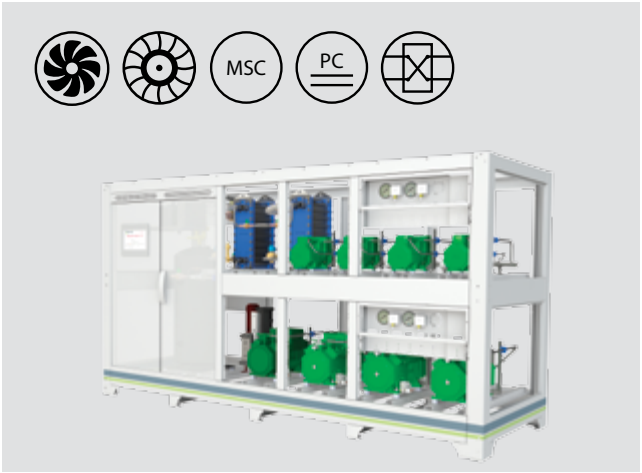
9 kW
30 kW
70 kW
108 kW

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

CO_2 Condensing Units

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 CO_2 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 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

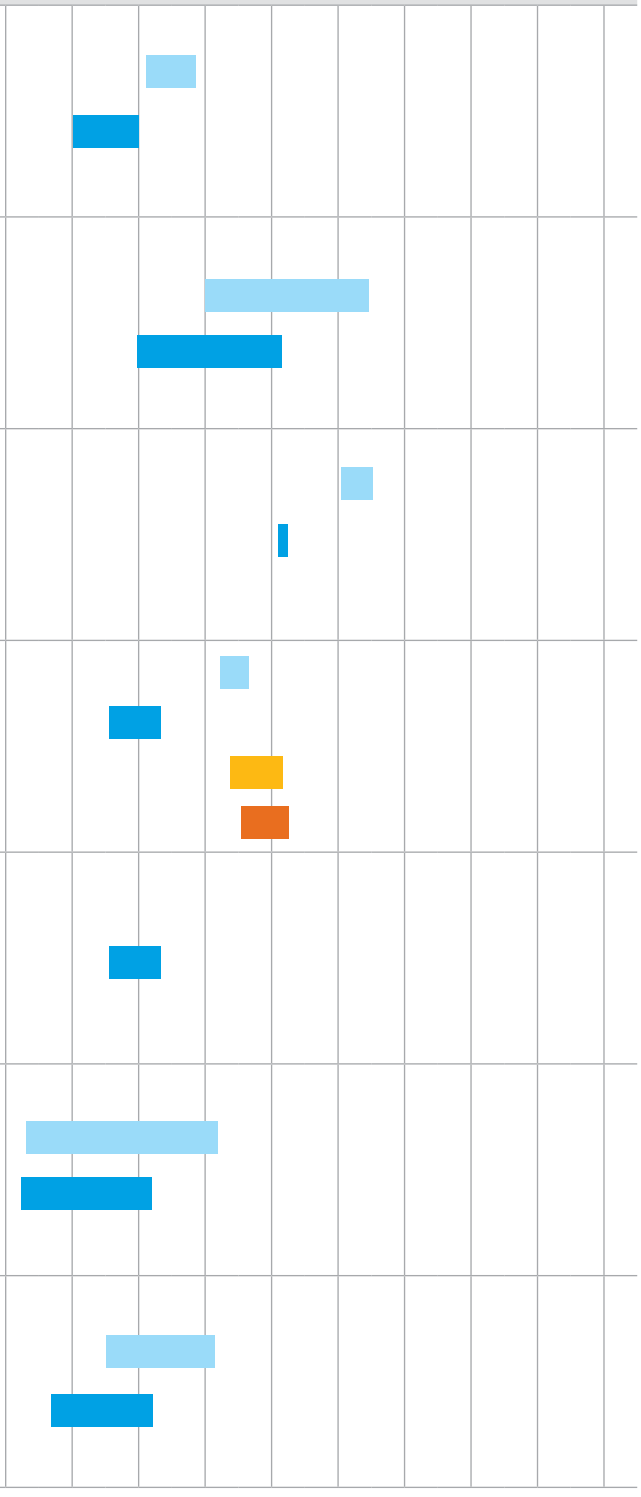
Axial

Radial

Daikin Refrigeration Range

Product range overview - Daikin

Model	Product name	Capacity (kW)
Small inverter condensing unit for commercial refrigeration	Mini-ZEAS LRMEQ-BY1 LRLEQ-BY1	
Inverter condensing unit for commercial refrigeration	ZEAS LREQ-BY1	
	Multi ZEAS LREQ-BY1R	
Integrated solution for chilling, freezing and comfort cooling and heating	Conveni-Pack LRYEQ-AY	
Booster unit to allow both ZEAS and Conveni-Pack freezing applications	Booster unit LCBKQ-AV1	
Commercial condensing units with reciprocating technology	CCU JEHCCU-M1/M3/L1/L3 JEHCCU-CM1/CM3	
Commercial condensing units with scroll technology	SCU JEHSCU-M1/M3/L3 JEHSCU-CM1/CM3	



Chilling Freezing Air conditioning Heating

ZEAS condensing unit for refrigeration

Why choose ZEAS?

High energy efficiency

› Daikin inverter scroll compressor with economizer technology
› DC inverter fan technology
› Eco-design compliant
› F-Gas regulation (R-410A) compliant

Reliable operation

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

Small foot print and low weight

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

Comfort

› Quiet operation, unobtrusive for customers and neighbours
- High grade sound insulation on panels and compressors
- Condenser fans designed to limit 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 a 3rd party monitoring system
› Remote control of target evaporation temperature, reset errors and other functions
› Refrigeration unit can be controlled remotely through a powerful interface

Benefits for installers

› Reduced delivery time thanks to European manufacturing plant
› Reduced piping requirements and installation time
› Integrated electrical & control box
› Unit already pre-charged with refrigerant

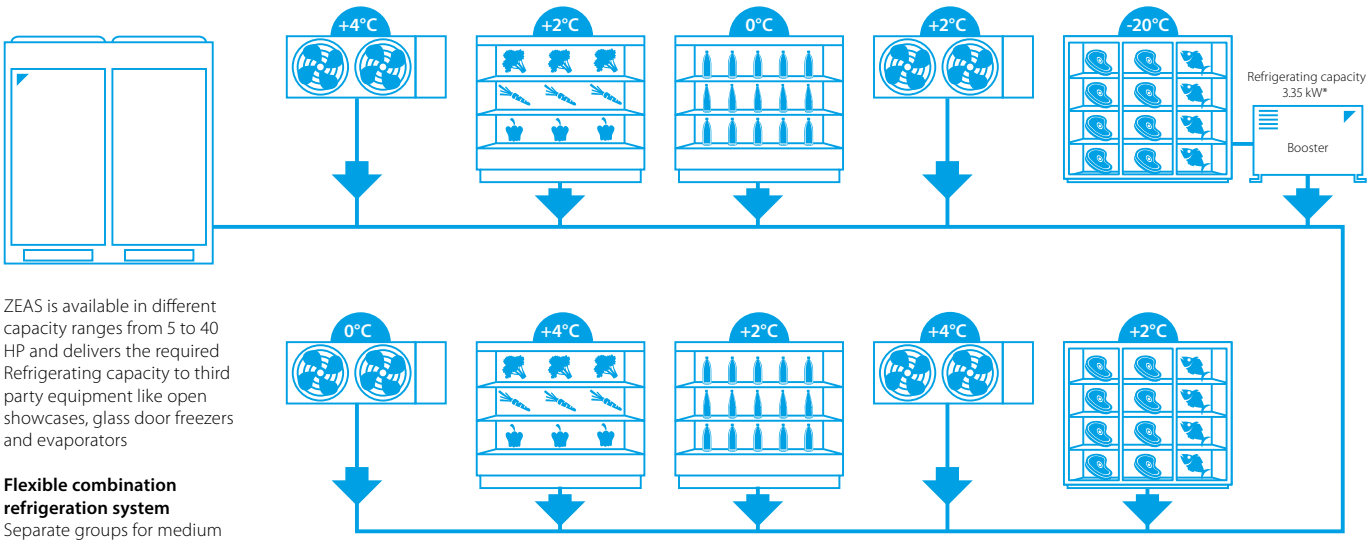
Benefits for consultants

› One model can cover for most refrigeration needs in the market
› Wide capacity range
› High modularity of the refrigeration system
› Suitable to indoor installations through the use of high ESP fans

Benefits for end users

› Energy consumption is cut by 10 to 35% compared to traditional refrigeration equipment
› Small footprint and low weight requiring only light weight supporting structures
› A neighbourhood-friendly choice with its special night operation mode

ZEAS, the smart choice for medium and low temperature refrigeration



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

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

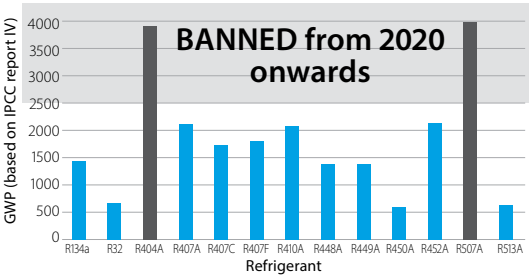
Operating range
Ambient temperatures: -20°C to +43 °C
Evaporating temperatures: -45°C to +10°C

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

Why R410A?

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

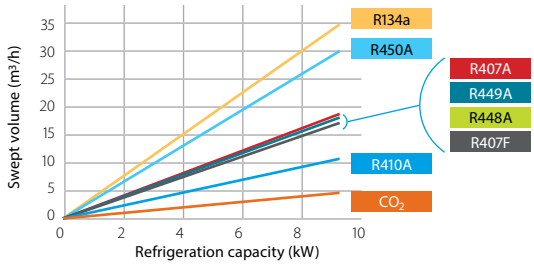
Use of refrigerant in refrigeration system with a refrigeration lower than 40 kW



Contributes to reducing installation cost and refrigerant charge

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

Delivered capacity per used refrigerant

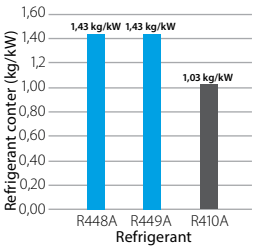


This means that for the same delivered refrigeration capacity we can use smaller main and linecomponents, thus reducing the installation cost and the amount of refrigerant charge in the system!

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

Refrigerant	Suction piping diameter
R134a	1 1/8"
R407A	7/8"
R407F	7/8"
R448A	7/8"
R449A	7/8"
R450A	1 1/4"
R410A	3/4"
CO_2	1/2"

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



R410A is also:

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

Mini-ZEAS condensing unit for commercial refrigeration with scroll technology

Refrigeration solution for small food retailers

› 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-BY1	3	4
Price				**LEI**	**25.508,-**	**28.880,-**
Refrigerating capacity	Medium temperature	Nom.		kW	5,90 (1)	8,40 (1)
Power input	Medium temperature	Nom.		kW	2,53 (2)	3,65 (2)
Seasonal energy performance ratio SEPR	R-410A	Te -10°C			4,17	4,08
Annual electricity consumption Q	R-410A	Te -10°C		kWh/a	8.698	12.651
Parameters at full load and ambient temp. 32°C (Point A)	R-410A	Te -10°C	Rated COP (COPA)		2,33	2,30
Parameters at full load and ambient temp. 43°C	R-410A	Te -10°C	Declared COP (COP3)		1,51	1,48
Dimensions	Unit	Height		mm	1.345	
		Width		mm	900	
		Depth		mm	320	
Weight	Unit			kg	126	
Heat exchanger	Type				Cross fin coil	
Compressor	Type				Hermetically sealed scroll compressor	
	Frequency ON/OFF				Less than 6 times/hour	
	Starting method				Direct on line (inverter driven)	
Fan	Type				Propeller	
	Quantity				2	
	Air flow rate	Cooling	Nom.	m^3/min	106	
Fan motor	Output			W	70	
	Drive				Direct drive	
Sound pressure level	Nom.			dBA	51 (2)	
Operation range	Evaporating temperature	Min.		°C	-20 (3)	
		Max.		°C	5	
	Ambient temperature	Min.~Max.		°CDB	-20~43	
Refrigerant	Type				R-410A	
	GWP				2.087,5	
	Charge			kg	4.50	
				TCO_2eq	9.39	
	Control				Electronic expansion valve	
	Circuits	Quantity			1	
Power supply	Phase/Frequency/Voltage			Hz/V	3N~/50/380-415	

(1) Cooling: evaporating temp. -10°C; outdoor temp. 32°C; suction SH10°C (2) 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

Mini-ZEAS condensing unit for deep freezing

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 CO_2 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

LRLEQ-BY1

Low Temperature Refrigeration				LRLEQ-BY1	3	4
Price				**LEI**	**27.421,-**	**31.046,-**
Refrigerating capacity	Low temperature	Nom.		kW	2,78 (1)	3,62 (1)
Power input	Low temperature	Nom.		kW	2,60 (1)	3,41 (1)
Seasonal energy performance ratio SEPR	R-410A	Te -10°C			1,74	1,68
Annual electricity consumption Q	R-410A	Te -10°C		kWh/a	11.920	16.048
Parameters at full load and ambient temp. 32°C (Point A)	R-410A	Te -10°C	Rated COP (COPA)		1,07	1,06
Parameters at full load and ambient temp. 43°C	R-410A	Te -10°C	Declared COP (COP3)		0,59	0,66
Dimensions	Unit	Height		mm	1.345	
		Width		mm	900	
		Depth		mm	320	
Weight	Unit			kg	130	
Heat exchanger	Type				Cross fin coil	
Compressor	Type				Hermetically sealed scroll compressor	
	Frequency ON/OFF				Less than 6 times/hour	
	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	51,0 (2)	
Operation range	Evaporating temperature	Min.		°C	-45 (2)	
		Max.		°C	-20	
	Ambient temperature	Min.~Max.		°CDB	-20~43	
Refrigerant	Type				R-410A	
	GWP				2.087,5	
	Charge			kg	6,90	
				TCO_2eq	14,4	
	Control				Electronic expansion valve	
	Circuits	Quantity			1	
Power supply	Phase/Frequency/Voltage			Hz/V	3N~/50/380-415	

(1) Cooling: evaporating temp. -35°C; outdoor temp. 32°C; suction SH10°C
(2) Sound pressure data: measured at 1m in front of unit, at 1,5m height

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 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
- 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
Price					**LEI**	**43.782,-**	**49.495,-**	**55.831,-**	**63.569,-**	**69.023,-**	**86.294,-**	**96.929,-**
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 / 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
Price				**LEI**	**174.295,-**	**195.565,-**
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	

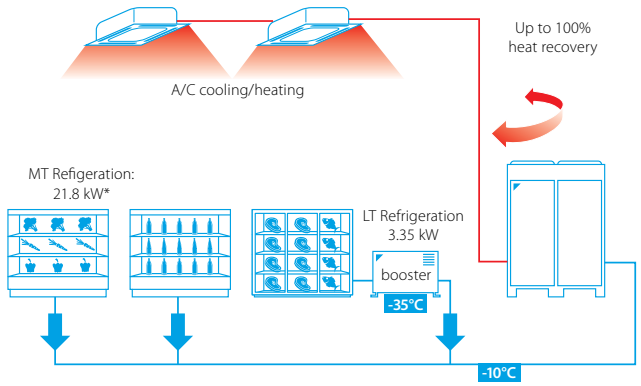
(1) Cooling: evaporating temp. -35°C; outdoor temp. 32°C; suction SH10°C (2) Cooling: evaporating temp. -10°C; outdoor temp. 32°C; suction SH10°C (3) Sound pressure data: measured at 1m in front of unit, at 1,5m height | RLA is based on following conditions: outdoor temp. 32°CDB; suction SH 10°C; saturated temperature equivalent to suction pressure -10°C

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

Why choose Conveni-Pack?

High energy efficiency

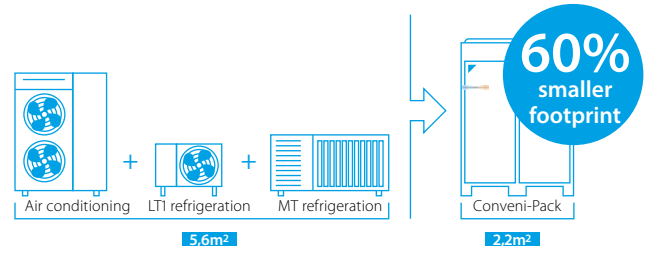
› Conveni-Pack recovers up to 100% of the heat extracted from supermarket refrigeration cases and re-uses it to heat the retail space at no additional cost
› Savings of up to 50% on energy costs
› Daikin inverter scroll compressor with economizer technology



*maximum available Refrigerating capacity when no booster units are connected

Very compact design

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



Unique combination

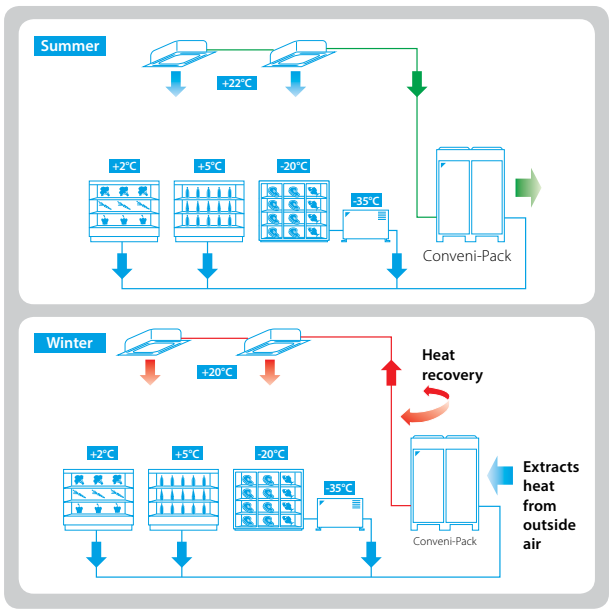
› First mass-produced, whole-building system to combine refrigeration, heating, air conditioning in one circuit

Reliable operation

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

Year-round climate comfort

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



Internationally awarded

Since the introduction Conveni-Pack was recognized as innovative and environmentally – proof of which are the below mentioned German and Irish awards:

- 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.

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

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

Medium Temperature Refrigeration				LRYEQ-AY	16
Price				**LEI**	**118.689,-**
Cooling capacity	Air conditioning	Nom.		kW	14,0 (1)
	Refrigeration	Nom.		kW	21,8 (2)
Heating capacity	Air conditioning	Nom.		kW	27,0 (3)
	Refrigeration	Nom.		kW	21,8 (4)
Dimensions	Unit	Height		mm	1.680
		Width		mm	1.240
		Depth		mm	765
Weight	Unit			kg	370
Heat exchanger	Type				Cross fin coil
Compressor	Type				Hermetically sealed scroll compressor
	Piston displacement			m^3/h	13,34
	Speed			rpm	6.300
	Output			W	2.500
	Starting method				Direct on line (inverter driven)
	Frequency ON/OFF				Less than 6 times/hour
Compressor 2	Speed			rpm	2.900
	Output			W	3.600
Compressor 3	Speed			rpm	2.900
	Output			W	4.500
Fan	Type				Propeller fan
	Quantity				2
	Air flow rate	Cooling	Nom.	m^3/min	230
Fan motor	Output			W	750
	Drive				Direct drive
Sound pressure level	Nom.			dBA	62,0
Operation range	Evaporator	Cooling	Min.~Max.	°CDB	-20~10
	Cooling	Ambient	Min.~Max.	°CDB	-5~43
	Heating	Ambient	Min.~Max.	°CDB	-15~21
Refrigerant	Type				R-410A
	GWP				2.087,5
	Charge			kg	11,5
				TCO_2eq	24,0
	Control				Electronic expansion valve
Power supply	Phase/Frequency/Voltage			Hz/V	3~/50/380-415

(1) Cooling priority mode: indoor temp. 27°CDB, 19°CWB; outdoor temp. 32°CDB; piping length: 7,5m; level difference: 0m (2) Cooling priority mode: evaporating temp. -10°C; outdoor temp. 32°CDB; Suction SH: 10°C (3) Heat recovery 100% mode: indoor temp. 20°CDB; outdoor temp. 7°CDB, 6°CWB; refrigeration load 18kW; piping length: 7,5m; level difference: 0m (4) Saturated temperature equivalent to suction pressure (refrigeration side): -10°C (under chilled condition); connection capacity for indoor air conditioner: 10HP, when heat recovery is 100%

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

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

Booster unit

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

LCBKQ3AV1

Low Temperature Refrigeration				LCBKQ-AV1	3
Price				**LEI**	**23.494,-**
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

Options - Refrigeration

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

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

Accessories

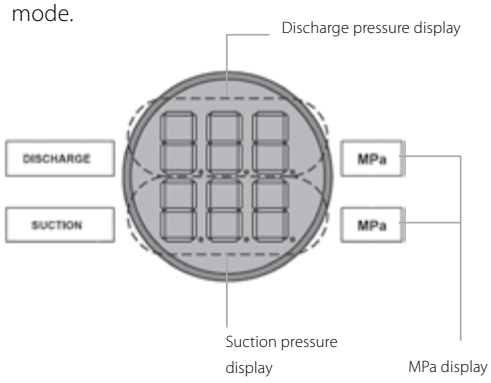
for ZEAS and Conveni-Pack

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

ACCESSORIES for ZEAS + CONVENI-PACK

Communication box - ModBus interface

Type		BRR9A1V1
Price [2]	**LEI**	**7.910,-**
Power input		230V / 1~ / 50Hz
Dimensions WxDxH	in [mm]	124 x 397 x 87
Weight	in [kg]	2,10

Digital pressure gauge kit

Type		BHGP26A1
Price [2]	**LEI**	**see VRV price list**

Wind protection

Type		DE.KI_WINPROVRV1	DE.KI_WINPROVRV2	DE.KI_WINPROVRV3
Price [2]	**LEI**	**9.244,-**	**4.313,-**	**4.822,-**
Suitable for		right + left side, L=730 mm	front side, L=930 mm	front side, L=1.240 mm

Base frame

Type		CE.KI_FRAMEVRV2	CE.KI_FRAMEVRV3
Price [2]	**LEI**	**2.584,-**	**2.769,-**
Suitable for		ZEAS 5-6-8-10-12 HP	ZEAS 15-20 HP + CVP

Drain pan[1]

Type		CE.KI_DRAINPANVRV2	CE.KI_DRAINPANVRV3
Price [2]	**LEI**	**2.261,-**	**3.131,-**
Suitable for		ZEAS 5-6-8-10-12 HP	ZEAS 15-20 HP + CVP

Conditions & Remarks:

[1] Drain pan can be installed only together with base frame, heater cable not included

[2] Warranty: 36 months, parts only

JEHCCU and JEHSCU
Commercial plug-in condensing units

Why Daikin condensing units?

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

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

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

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

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

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

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

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

	Scroll compressor	Reciprocating compressor	230 V current	400 V current

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

NEW
× = R-448A ★ = R-449A

MT cooling	Refrigeration capacity (kW)														
	<1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
JEHCCU 0040 CM1	◆															
JEHCCU 0051 CM1	◆															
JEHCCU 0063 CM1	◆															
JEHCCU 0077 CM1		◆														
JEHCCU 0095 CM1		◆														
JEHCCU 0050 CM1	●▲■★															
JEHCCU 0067 CM1	■	●▲★														
JEHCCU 0100 CM1		●▲■★														
JEHCCU 0113 CM1		●▲■★														
JEHCCU 0140 CM1/3		■	●▲★													
JEHSCU 0200 CM1/3			◆	●▲■★×												
JEHSCU 0250 CM1/3			◆	▲★×	●■											
JEHSCU 0300 CM1/3				◆	▲■★×	●										
JEHSCU 0350 CM3				◆	▲	●■×★										
JEHSCU 360 CM3					◆●▲■★×											
JEHSCU 0400 CM3					◆		■★×	●▲								
JEHSCU 0500 CM3						◆		★×	●▲■							
JEHSCU 0600 CM3							◆			●■★×	▲					
JEHSCU 0680 CM3							◆				●■×★	▲				
JEHSCU 0800 CM3								◆					▲■★×	●		
JEHSCU 1000 CM3										◆					■	●▲★×

LT cooling	<1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
JEHCCU 0115 CL1	●■															
JEHSCU 0200 CL3		●■														
JEHSCU 0300 CL3		●■★×														
JEHSCU 0400 CL3			■★×	●												
JEHSCU 0500 CL3			■	●★×												
JEHSCU 0600 CL3				■★×	●											
JEHSCU 0750 CL3					■★×	●										
JEHSCU 950 CM3							●■									

MT: Evaporation temperature -10°C, ambient temperature 32°C
LT: Evaporation temperature -35°C, ambient temperature 32°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	0040 CM1	0050 CM1	0051 CM1	0063 CM1	0067 CM1	0077 CM1	0095 CM1	0100 CM1	0113 CM1	0140 CM1	0140 CM3
Price				**LEI**	**5.691,-**	**5.709,-**	**7.011,-**	**7.315,-**	**6.774,-**	**7.448,-**	**7.591,-**	**6.821,-**	**7.220,-**	**7.885,-**	**8.009,-**
Refrigerating capacity	Medium temperature	R-134a	Nom	kW	0,55 (1)	-	0,83 (1)	0,99 (1)	-	1,20 (1)	1,49 (1)	-			
		R-404A*	Nom	kW	-	0,91 (1)	-		1,23 (1)	-		1,50 (1)	1,76 (1)	2,19 (1)	2,22 (1)
		R-407A	Nom	kW	-	0,72 (1)	-		0,97 (1)	-		1,19 (1)	1,49 (1)	1,73 (1)	1,74 (1)
		R-407F	Nom	kW	-	0,78 (1)	-		1,03 (1)	-		1,26 (1)	1,55 (1)	1,87 (1)	1,88 (1)
Power input	Medium temperature	R-134a	Nom	kW	0,43 (1)	-	0,54 (1)	0,64 (1)	-	0,74 (1)	0,90 (1)	-			
		R-404A*	Nom	kW	-	0,63 (1)	-		0,76 (1)	-		0,93 (1)	1,10 (1)	1,18 (1)	1,24 (1)
		R-407A	Nom	kW	-	0,54 (1)	-		0,70 (1)	-		0,84 (1)	0,98 (1)	1,11 (1)	1,16 (1)
		R-407F	Nom	kW	-	0,53 (1)	-		0,69 (1)	-		0,83 (1)	0,98 (1)	1,07 (1)	1,12 (1)
Parameters at full load and ambient temp. 25°C		R-134a	Te -10°C	Declared COP (COP2)	1,55	-	1,75	1,80	-	1,96	2,05	-			
		R-404A*	Te -10°C	Declared COP (COP2)	-	1,88	-		1,92	-		1,87	1,95	1,96	2,02
		R-407A	Te -10°C	Declared COP (COP2)	-	1,39	-		1,45	-		1,50	1,65		1,58
		R-407F	Te -10°C	Declared COP (COP2)	-	1,62	-		1,66	-		1,68	1,78	1,95	1,87
Parameters at full load and ambient temp. 32°C (Point A)		R-134a	Te -10°C	Rated COP (COPA)	1,28	-	1,53	1,55	-	1,63	1,65	-			
		R-404A*	Te -10°C	Rated COP (COPA)	-	1,45	-		1,61	-		1,61	1,60	1,68	1,80
		R-407A	Te -10°C	Rated COP (COPA)	-	1,33	-		1,37	-		1,42	1,52	1,57	1,50
		R-407F	Te -10°C	Rated COP (COPA)	-	1,47	-		1,49	-		1,51	1,58	1,75	1,67
Parameters at full load and ambient temp. 43°C		R-134a	Te -10°C	Declared COP (COP3)	1,18	-	1,20	1,21	-	1,30	1,32	-			
		R-404A*	Te -10°C	Declared COP (COP3)	-	1,10	-		1,18	-		1,21	1,20	1,26	1,31
		R-407A	Te -10°C	Declared COP (COP3)	-	1,16	-		-					1,38	1,30
		R-407F	Te -10°C	Declared COP (COP3)	-	1,20	-		-					1,39	1,32
Dimensions	Unit		Height	mm	607									662	
			Width	mm	876									1.101	
			Depth	mm	420									444	
Weight	Unit			kg	45		53		54				55	68	
Compressor	Type				Reciprocating compressor										
	Model				AE4440Y-FZ1A	AE4460Z-FZ1C	CAJ4461Y	CAJ4476Y	CAJ9480Z	CAJ4492Y	CAJ4511Y	CAJ9510Z	CAJ9513Z	CAJ4517Z	TAJ4517Z
	Oil	Charged volume		l	0,3		0,9							-	
	Oil Type				Uniqema Emkarate RL32CF										
	Piston displacement			m^3/h	1,80		3,18	3,79	2,64	4,51	5,69	3,18	4,21	4,52	
Fan	Type				Axial										
	Air flow rate	Cooling	Nom	m^3/h	1.300									2.700	
Sound pressure level	Nom.			dBA	29 (2)				28 (2)	29 (2)		28 (2)		34 (2)	
Refrigerant	Type				R-134a	R-404A	R-134a		R-404A	R-134a		R-404A			
	Type 2				-	R-407A	-		R-407A	-		R-407A			
	Type 3				-	R-407F	-		R-407F	-		R-407F			
	GWP				1.430,0	3.921,6	1.430,0		3.921,6	1.430,0		3.921,6			
	GWP Type 2				-	2.107	-		2.107	-		2.107			
	GWP Type 3				-	1.825	-		1.825	-		1.825			
Piping connections	Liquid line connection			inch	1/4"				3/8"						
	Suction line connection			inch	3/8"				1/2"					5/8	
Power supply	Phase/Frequency/Voltage			Hz/V	1~/50/230										3~/50/400

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

Condensing unit for commercial refrigeration with scroll technology

Refrigeration solution for small food retailers

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

JEHSCU-CM1/CM3

Medium Temperature Refrigeration					JEHSCU-CM1/CM3	0200 CM1	0250 CM1	0300 CM1	0200 CM3	0250 CM3	0300 CM3	0350 CM3	0360 CM3	0400 CM3	0500 CM3	0600 CM3	0680 CM3	0800 CM3	1000 CM3
Price					**LEI**	**9.699,-**	**10.127,-**	**11.020,-**	**9.690,-**	**10.697,-**	**10.184,-**	**10.982,-**	**12.084,-**	**12.008,-**	**12.416,-**	**13.879,-**	**15.684,-**	**21.584,-**	**24.824,-**
Refrigerating capacity	Medium temperature	R-134a	Nom	kW		2,05 (1)	2,59 (1)	3,09 (1)	2,17 (1)	2,48 (1)	3,06 (1)	3,48 (1)	3,69 (1)	4,24 (1)	5,24 (1)	6,16 (1)	6,89 (1)	7,95 (1)	10,40 (1)
		R-404A*	Nom	kW		3,54 (1)	3,99 (1)	4,92 (1)	3,49 (1)	4,21 (1)	4,89 (1)	5,50 (1)	5,92 (1)	6,70 (1)	8,03 (1)	9,45 (1)	10,15 (1)	12,95 (1)	16,45 (1)
		R-407A	Nom	kW		3,39 (1)	3,98 (1)	4,65 (1)	3,36 (1)	3,94 (1)	4,54 (1)	-	5,61 (1)	6,57 (1)	8,03 (1)	9,24 (1)	10,35 (1)	12,55 (1)	14,75 (1)
		R-407F	Nom	kW		3,26 (1)	3,73 (1)	4,50 (1)	3,22 (1)	3,85 (1)	4,45 (1)	-	5,61 (1)	6,62 (1)	7,99 (1)	9,36 (1)	10,40 (1)	12,65 (1)	15,95 (1)
Power input	Medium temperature	R-134a	Nom	kW		1,11 (1)	1,21 (1)	1,45 (1)	1,03 (1)	1,17 (1)	1,46 (1)	1,68 (1)	1,61 (1)	1,85 (1)	2,30 (1)	2,70 (1)	3,15 (1)	3,74 (1)	4,86 (1)
		R-404A*	Nom	kW		1,57 (1)	2,00 (1)	2,62 (1)	1,70 (1)	2,04 (1)	2,52 (1)	3,04 (1)	2,88 (1)	3,33 (1)	4,39 (1)	4,92 (1)	5,53 (1)	5,96 (1)	8,62 (1)
		R-407A	Nom	kW		1,60 (1)	1,99 (1)	2,47 (1)	1,63 (1)	2,03 (1)	2,45 (1)	-	2,58 (1)	2,97 (1)	3,93 (1)	4,62 (1)	5,54 (1)	6,24 (1)	8,41 (1)
		R-407F	Nom	kW		1,74 (1)	2,09 (1)	2,66 (1)	1,78 (1)	2,16 (1)	2,71 (1)	-	2,91 (1)	3,21 (1)	4,36 (1)	5,03 (1)	5,98 (1)	6,13 (1)	8,84 (1)
Seasonal energy performance ratio SEPR		R-134a	Te -10°C			-							2,29	-	2,69	2,63	2,57	2,92	2,88
		R-404A*	Te -10°C			-						2,61	3,48	2,77	2,64	2,72	2,65	2,90	2,57
		R-407A	Te -10°C			-							3,44	3,09	2,81	2,75	2,65	2,88	2,35
		R-407F	Te -10°C			-							3,2	2,83	2,60	2,69	2,59	2,83	2,53
Annual electricity consumption Q		R-134a	Te -10°C		kWh/a	-									11.969	14.381	16.491	16.741	22.226
		R-404A*	Te -10°C		kWh/a	-						12.939	10.448	14.881	18.673	21.344	23.536	27.407	39.372
		R-407A	Te -10°C		kWh/a	-							10.033	13.054	17.546	20.622	24.031	26.747	38.515
		R-407F	Te -10°C		kWh/a	-							10.766	14.365	18.883	21.395	24.655	27.475	38.831
Parameters at full load and ambient temp. 25°C		R-134a	Te -10°C	Declared COP (COP2)		2,15	2,54	2,50	2,55	2,52		2,46	2,8	2,83	-				
		R-404A*	Te -10°C	Declared COP (COP2)		2,65	2,54	2,24	2,44	2,41	2,26	-	2,66	-					
		R-407A	Te -10°C	Declared COP (COP2)		2,55	2,38	2,21	2,50	2,32	2,20	-	2,72	-					
		R-407F	Te -10°C	Declared COP (COP2)		2,43	2,31	2,16	2,35	2,25	2,10	-	2,5	-					
Parameters at full load and ambient temp. 32°C (Point A)		R-134a	Te -10°C	Rated COP (COPA)		1,85	2,14	2,13	2,12	2,13	2,10	2,08	2,29	2,29	2,28		2,19	2,13	2,14
		R-404A*	Te -10°C	Rated COP (COPA)		2,25	2,00	1,88	2,06	2,07	1,94	1,81	2,06	2,01	1,83	1,92	1,84	2,17	1,91
		R-407A	Te -10°C	Rated COP (COPA)		2,13	2,01	1,89	2,07	1,95	1,86	-	2,17	2,21	2,04	2,00	1,87	2,01	1,75
		R-407F	Te -10°C	Rated COP (COPA)		1,88	1,79	1,69	1,81	1,79	1,65	-	1,93	2,06	1,83	1,86	1,74	2,06	1,80
Parameters at full load and ambient temp. 43°C		R-134a	Te -10°C	Declared COP (COP3)		1,35	1,53			1,57		1,52	1,6	1,55	1,56	1,59	1,53	1,52	
		R-404A*	Te -10°C	Declared COP (COP3)		1,53	1,33	1,25		1,36	1,28	1,11	1,31	1,28	1,15	1,27	1,22	1,47	1,18
		R-407A	Te -10°C	Declared COP (COP3)		-			1,48	1,45	1,38	-	1,48	1,43	1,39	1,43	-	1,38	-
		R-407F	Te -10°C	Declared COP (COP3)		-												1,52	-
Dimensions	Unit		Height	mm		662							872		872			1.727	
			Width	mm		1.101							1.353		1.353			1.348	
			Depth	mm		444							575		575			641	
Weight	Unit			kg		70	72	74	70	72	74		112	119	123	125	126	218	
Compressor	Type					Scroll compressor													
	Model					ZB15KQE-PFJ	ZB19KQE-PFJ	ZB21KQE-PFJ	ZB15KQE-TFD	ZB19KQE-TFD	ZB21KQE-TFD	ZB26KQE-TFD	ZB26KQE-TFD	ZB29KQE-TFD	ZB38KQE-TFD	ZB45KQE-TFD	ZB48KQE-TFD	ZB58KCE-TFD	ZB76KCE-TFD
	Oil		Charged volume	l		-							1,5	1,36	2,07	1,89	1,80	2,5	3,2
	Oil Type					Polyester oil (Copeland Ultra 22 CC, 32 CC and 32-3MAF, Mobil EAL™ Arctic 22 CC, Uniqem Emkarate RL32CF													
	Piston displacement			m^3/h		5,90	6,80	8,60	5,90	6,80	8,60	9,90	9,90	11,40	14,40	17,10	18,80	22,10	29,10
Fan	Type					Axial													
	Air flow rate		Cooling Nom	m^3/h		2.700							4.250		-			8.500	
Sound pressure level	Nom.			dBA		33 (2)	34 (2)	36 (2)	33 (2)	34 (2)	36 (2)	39 (2)	37 (2)	37 (2)	38 (2)	40 (2)		43 (2)	
Refrigerant	Type					R-134a													
	Type 2					R-404A													
	Type 3					R-407A						-	R-407A						
	Type 4					R-407F						-	R-407F						
	GWP					1.430													
	GWP Type 2					3.921,6													
	GWP Type 3					2.107						-	2.107						
	GWP Type 4					1.825						-	1.825						
Piping connections	Liquid line connection			inch		3/8"							3/4"	1/2"				3/4"	
	Suction line connection			inch		3/4"							1/2"	7/8"		1 1/8"			3/8"
Power supply	Phase/Frequency/Voltage			Hz/V		1~/50/230			3~/50/400										

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

Condensing unit for commercial refrigeration with scroll / reciprocating technology

Refrigeration solution for small food retailers

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

JEHCCU/SCU-CL1/CL3

Low Temperature Refrigeration				JEHCCU-CL1/JEHSCU-CL3	JEHCCU0115CL1	JEHSCU0200CL3	JEHSCU0300CL3	JEHSCU0400CL3	JEHSCU0500CL3	JEHSCU0600CL3	JEHSCU0750CL3	JEHSCU0950CL3-EVI
Price				**LEI**	**6.526,-**	**10.479,-**	**14.611,-**	**17.071,-**	**21.717,-**	**21.841,-**	**24.671,-**	**29.061,-**
Refrigerating capacity	Low temperature	R-404A*	Nom	kW	0,69 (1)	1,42 (1)	1,98 (1)	2,91 (1)	3,53 (1)	4,13 (1)	5,29 (1)	5,9 (1)
		R-407A	Nom	kW	-	1,16 (1)	1,51 (1)	2,29 (1)	2,77 (1)	3,31 (1)	4,29 (1)	4,96 (1)
Power input	Low temperature	R-404A*	Nom	kW	0,72 (1)	1,46 (1)	1,81 (1)	2,38 (1)	3,10 (1)	3,69 (1)	3,88 (1)	4,35 (1)
		R-407A	Nom	kW	-	1,31 (1)	1,77 (1)	2,33 (1)	2,85 (1)	3,57 (1)	4,17 (1)	3,94 (1)
Seasonal energy performance ratio SEPR		R-404A*	Te -35°C			-		1,88	1,79	1,80	1,82	1,79
		R-407A	Te -35°C			-		1,67		1,52	1,51	1,76
Annual electricity consumption Q		R-404A*	Te -35°C	kWh/a		-		11.555	14.732	17.107	21.649	24.503
		R-407A	Te -35°C	kWh/a		-		10.212	12.364	16.220	21.146	20.958
Parameters at full load and ambient temp. 25°C		R-404A*	Te -35°C	Declared COP (COP2)	1,11	1,16	1,40	-				1,58
		R-407A	Te -35°C	Declared COP (COP2)	-	1,12	1,08	-				1,51
Parameters at full load and ambient temp. 32°C (Point A)		R-404A*	Te -35°C	Rated COP (COPA)	0,96	0,97	1,09	1,22	1,14	1,06	1,36	1,36
		R-407A	Te -35°C	Rated COP (COPA)	-	0,89	0,85	0,98	0,97	0,93	1,03	1,26
Parameters at full load and ambient temp. 43°C		R-404A*	Te -35°C	Declared COP (COP3)	0,69	0,60	0,70	0,86	0,79	0,64	0,98	1,06
		R-407A	Te -35°C	Declared COP (COP3)	-	0,55	-	0,67	0,66	0,64	0,73	-
Dimensions	Unit	Height		mm	607	662		872			1.727	1.727
		Width		mm	876	1.101		1.353			1.348	1.348
		Depth		mm	420	444		575			605	605
Weight	Unit			kg	55	76	77	132		133	203	200
Compressor	Type				Reciprocating compressor	Scroll compressor						
	Model				CAJ2446Z	ZF06K4E-TFD	ZF09K4E-TFD	ZF13K4E-TFD	ZF15K4E-TFD	ZF18K4E-TFD	ZF25K5E-TFD	ZF18KVE-TFD-EVI
	Oil	Charged volume		l	0,9	-		1,90				1,90
	Oil Type				Uniqema Emkarate RL32CF	Polyester oil (Copeland Ultra 22 CC, 32 CC and 32-3MAF, Mobil EAL™ Arctic 22 CC, Uniqem Emkarate RL32CF						
	Piston displacement			m^3/h	4,55	5,90	8,00	11,80	14,50	17,10	21,40	17,1
Fan	Type				Axial							
	Air flow rate	Cooling	Nom	m^3/h	1.300	2.700		-			5.750	5.870
Sound pressure level	Nom.			dBA	31 (2)	32 (2)	33 (2)	37 (2)	39 (2)	41 (2)		37
Refrigerant	Type				R-404A							
	Type 2				-	R-407A						
	GWP				3.921,6							
	GWP Type 2				-	2.107,0						
Piping connections	Liquid line connection			inch	3/8"			1/2"				7/8"
	Suction line connection			inch	1/2"	3/4"		7/8"			1 1/8"	1/2"
Power supply	Phase/Frequency/Voltage			Hz/V	1~/50/230	3~/50/400						

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


LONDON

DAIKIN

Fresh ideas
for reliable performance

Choose the better solution – with Tewis Full CO_2 refrigeration systems

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

Tewis
a member of DAIKIN group

www.daikin.ro

Daikin Service

Saving energy doesn't stop with the purchase or installation of energy-efficient equipment; it has to be kept running under optimum conditions.

Good maintenance and servicing are key elements in ensuring the maximum performance.

Are you sure the filters are clean and none of the components are defective?
Are all of your settings correct?

Any of these things may lead to a reduced level of comfort. And while you may not notice the difference right away, you will certainly notice it at the end of the year – when you pay your energy bill.

Our Daikin design team is constantly striving to improve the energy efficiency of our systems.

We at Daikin Service are here to support you in keeping your units up and running efficiently by means of optimised commissioning and start-up, regular and preventative maintenance, remote monitoring, improving the performance of units, and providing cost effective upgrades to benefit from the efficiency gains from our latest state of the art technology.

Optimisation and upgrades

European Remote Monitoring Center

Upgrading / optimisation

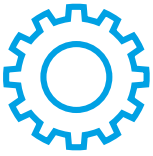
Keep the installation in top condition

Care Packages

Installation support

Commissioning

Parts and repairs



Spare parts

Repair service

Commissioning

To guarantee your Daikin unit efficiency and long term performance, Daikin offers the professional start-up of your Daikin system by highly qualified, OEM educated engineers as part of the commissioning services.

Commissioning through an authorized Partner or by Daikin itself assures you that your unit is working as it should and is delivering all the benefits of a unique climate.

Every commissioning is documented as per Daikin standard and a detailed commissioning report is provided, detailing all activities done and recording the functioning of the units.

The prices listed are based on completion of the Pre-Commissioning checklist which covers a range of core activities including the general conditions at the site, provision of power and the required electrical distribution as well as installation related topics. This ensures that the service can be provided efficiently, on time and giving the best results. For the latest edition of the Pre-Commissioning checklist please visit: **www.daikin-ce.com**

Description	Material Number	Price LEI
Commissioning CCU	CE.S_COM_REF_CCU	**1.103,-**
Commissioning ZEAS	CE.S_COM_REF_ZEAS	**1.609,-**
Commissioning MULTI-ZEAS	CE.S_COM_REF_MZEAS	**2.023,-**
Commissioning CVP incl. Touch Manager Configuration	CE.S_COM_REF_CVPIM	**2.942,-**
Commissioning CVP excl. Touch Manager Configuration	CE.S_COM_REF_CVP	**2.094,-**
Additional Services & Materials		
On Request		**on request**
Labourrates		
Labour hour service engineer	CE.S_LA_HOUR	**255,-**
Labour hour service engineer +50%	CE.S_LA_HOUR50	**375,-**
Labour hour service engineer +100%	CE.S_LA_HOUR100	**500,-**
Labour hour service foreman	CE.S_LA_FOR	**375,-**
Labour hour project design	CE.S_LA_PRO	**375,-**
Normal working hours without surcharge	MON – THU: 08:00-17:00, FRI: 08:00-12:00	
50% surcharge	MON – FRI: 07:00-08:00 and 17:00-20:00,SAT: 07:00-20:00	
100% surcharge	Before 07:00 and after 20:00 and on Sundays and holidays	
Travel Costs (not including parking, highway tolls etc)		
Cost allowance per km	CE.S_TR_KM_AL	**on request**
Flat travel fee per case	CE.S_TR_CASE	
Special travel cost (plane, ferry…)	CE.S_TR_SPEC	
Travel zone 1	CE.S_TR_Z1	
Travel zone 2	CE.S_TR_Z2	
Travel zone 3	CE.S_TR_Z3	
Travel zone 4	CE.S_TR_Z4	
Hourly rate for car travel	CE.S_TR_HOUR	
Cancellation		
Failed travel (customer fault)	CE.S_COM_FAILTRAV	**on request**
Training		
Full day Training per person per day (minimum 5 participants)	CE.S_LA_TRA	**1.555,-**

NOTE:

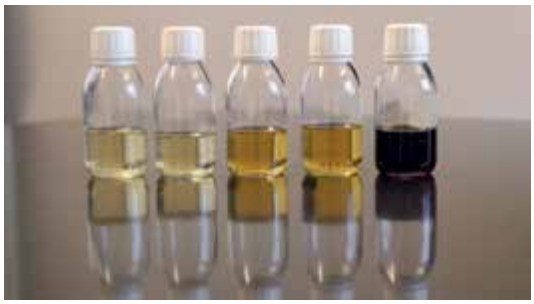
The listed prices are subject to change and might change without prior notification.
Note that the prices are to be understood as NET prices without VAT and travel.
The listed prices are based on order confirmation minimum 10 day before commencement of work.

Maintenance

Maintenance is the key element to ensure the quality, efficiency and flawless operation of any asset.
Our Care agreements are based on years of experience to ensure you reap the full benefits of having Daikin Certified engineers maintain your equipment.
Preventive maintenance and regular service is a key component in securing your investment.
Dust, temperature, humidity and load degrade the reliability and performance of a refrigeration system over time.

Regular maintenance of a unit or system ensures that electricity costs and performance are not jeopardized, and that the safety features and the entire system are in line with the latest standards and regulations.

Regular care safeguards your investment for the full lifetime of the Daikin System. Downtime and failures are avoided, while keeping operating costs low, as they should be throughout the entire system lifecycle.



Preventive care plans give you cost transparency avoiding unexpected repair costs or degradation of comfort, quality or production loss.

Daikin Cares contains 3 different levels of maintenance agreements catering to your every need. In addition to these 3 Care packages Daikin offers a comprehensive set of options you can choose from.

1. Care:

Care is the minimal requirement to fulfil current legislation requirements, and makes sure your refrigeration system is operating in a correct fashion and according to parameters.
The Care package includes the following services:
- Inspections based on predefined activities
- Soft- and firmware upgrades as needed and if required
- Validated Log book

2. Preventive Care:

Preventive Care keeps the refrigeration system in optimal condition for a long time.
In addition to the maintenance activities included in the Care package, Preventive Care includes:
- Service based on predefined activities
- Optimizations and detailed analysis of the retrieved data
- Lifecycle report with comprehensive, predictive status & measurement report
- On-site refrigeration system diagnostic and/or analysis during service intervention
- Recorded, retrievable service history of each refrigeration system
- Emergency support & callout
- Access to technical assistance and repair service

3. Extended Care:

Extended Care provides maximum equipment availability at the minimum Total Cost of Ownership.
In addition to the activities mentioned in the Preventive care package, Extended Care includes:
- Labor- & travel cost, spare parts for planned maintenances are included
- Labor- & travel cost, spare parts for repairs are included
- Extension of warranty

Options:
Energy audit & reporting
Remote monitoring
Remote analysis
Fleet management for larger systems or multi-site systems

Price in LEI

Description	Care	Preventive Care	Extended Care
Maintenance CCU	on request		
Maintenance ZEAS 6-12 HP			
Maintenance ZEAS 15-20 HP			
Maintenance MULTI-ZEAS			
Maintenance CVP INC. ITM			
Maintenance CVP EXC. ITM			

Options

Description	Per Hour	
Specialist support and consultancy	On Request	
	Monday-Friday 17-22h	**Weekend, Holiday, Nights**
Emergency support	on request	on request
	Call out Time 8h	**Call out Time 4h**
Call out Time	on request	

NOTE:
The listed prices are subject to change and might change without prior notification. Note that the prices are to be understood as NET prices without VAT and travel.
The listed prices are based on order confirmation minimum 10 days before commencement of work.

E-Parts

Find the correct spare part for your Daikin unit, check availability (real-time) and order online.

All in just a few simple steps.

Your benefits:

› fast handling
› free shipment
› 24/7 accessibility
› flexible delivery
› "real time" availability

Register now to use the E-Parts service

Create access for you and your colleagues.
- Simply go to **my.daikin.eu**
- download the registration form
- fill it in
- and email it back to your local Daikin office

Always accessible for you

You can find the links to E-Parts and to the spareparts bank on our Business Portal:

http://eparts.daikin-ce.com
https://my.daikin.eu

Service Academy

The Daikin Service Academy offers individual learning paths covering all service cases for Daikin products.
Our goal is to help you delivering better Service on site and therefore grow your business.

Goals & Objectives

With the Daikin Service Academy we want to offer a uniform European learning program for service technicians (internal & external) to become the best of the best.

› Ensure that our partners have skilled labour available
› Enable and deliver high quality Service to our end users
› Enhance performance and efficiency, using less time for service interventions
› Improve quality and hence customer satisfaction on site
› Foster career paths to keep service technicians in the HVAC-R industry
› Offer trainings in local language wherever possible

Our training packages cover following areas:

› Installation & Pre-Commissioning
› Commissioning
› Maintenance
› Troubleshooting & Repair
› Application & Design

DAIKIN ACADEMY Central Europe

Want to know more?

Please contact us for more information about the Daikin Academy Central Europe: academy@daikin-ce.com

Daikin & Tewis CO_2 solutions

FULL CO_2 Solution - For all refrigeration needs

With the acquisition of Tewis Smart Systems S.L. Daikin is extending its refrigeration portfolio with refrigerants R-410A, R-134a and others with future-proof CO_2 technologies.

Series GM and FULL CO_2 are specially designed for food retail application.

Tewis
a member of **DAIKIN** *group*

CO_2 refrigerant - ODP 0, GWP 1, non-flammable, non-toxic

- Wide capacity range
- Air conditioning and heat recovery function
- Auxiliary unit
- Parallel compressor
- Transcritical and subcritical operation possible
- Control with MODBUS communication & touch monitor

DAIKIN AIRCONDITIONING CENTRAL EUROPE – ROMANIA SRL

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