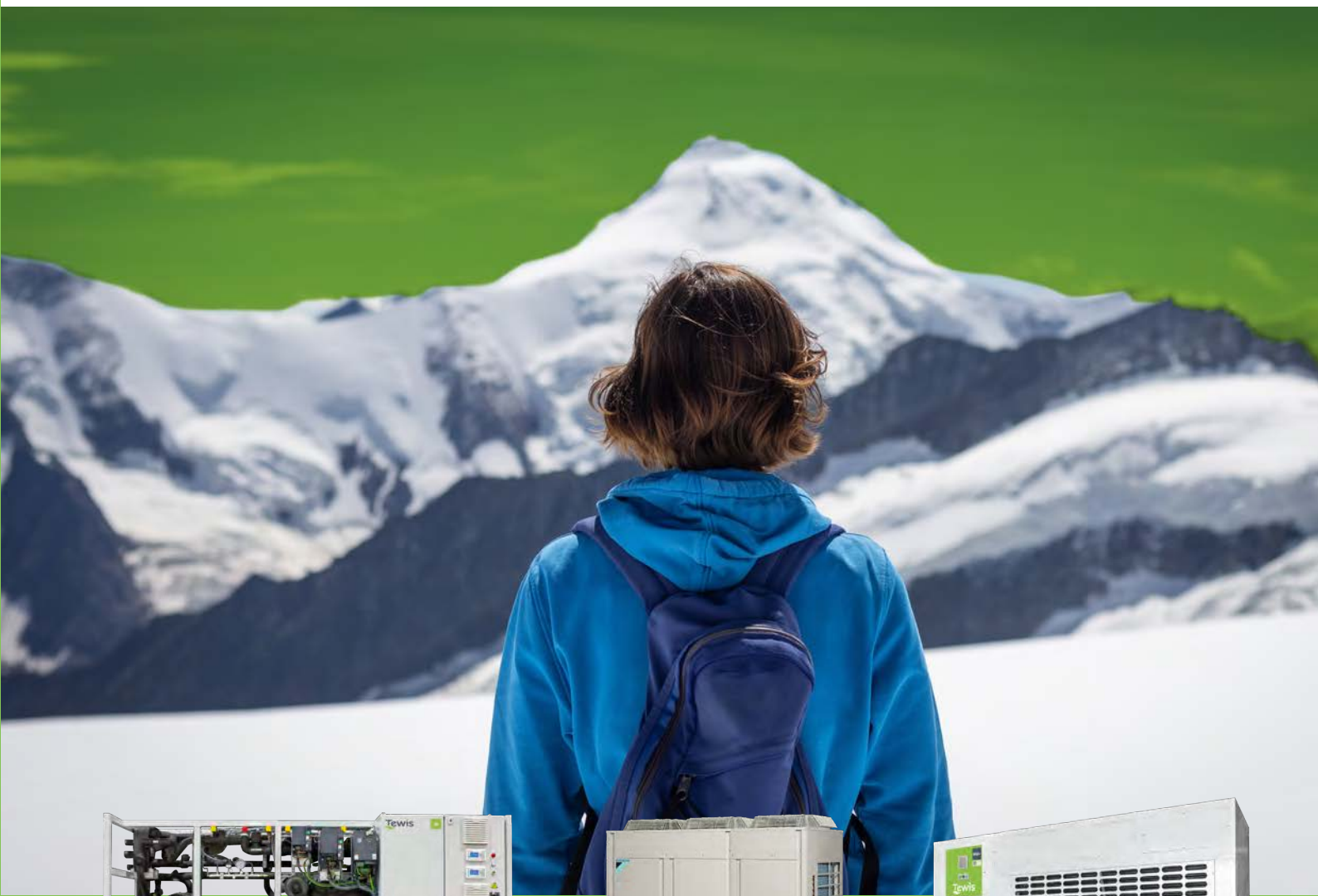


## General catalog | 2021 - 2022



SUSTAINABLE REFRIGERATION AGAINST CLIMATE CHANGE



*a member of **DAIKIN** group*

Tewis develops solutions that take care of your business and our planet. Customized, efficient and sustainable solutions that are tailored to the needs of each customer and environment. Optimized solutions that reduce investment and maintenance costs so that you can focus on what really matters, your business.



## Index

TEWIS' greatest secret .....	5
Tewis Smart Systems .....	6/13
Product range: characteristics & cooling capacities .....	14
Software tools: SRC Customer Portal & SRC Web Store .....	16
Commercial & industrial refrigeration installations .....	18/21

### CONDENSING UNITS & COMPACT COMPRESSOR RACKS 22/23

<b>GCU-PXB1</b>   Inverter condensing units for refrigeration .....	24
<b>CCU &amp; SCU</b>   Condensing units for refrigeration .....	26
<b>MINI ZEAS</b>   R410A mini condensing units for refrigeration .....	27
<b>ZEAS</b>   R410A condensing units for refrigeration .....	28
<b>CONTROL SYSTEMS ZEAS</b>   Intelligent Tablet Controller & intelligent Touch Controller .....	30
<b>NOVA</b>   Compact CO <sub>2</sub> transcritical/HFC compressor racks .....	32
<b>NV66</b>   Compact CO <sub>2</sub> transcritical/HFC compressor racks .....	34
<b>NV66+</b>   Compact CO <sub>2</sub> transcritical compressor racks .....	36
<b>CZ</b>   Compact CO <sub>2</sub> transcritical compressor racks .....	38
<b>Optionals</b> .....	40

### COMPRESSOR RACKS 42/43

<b>NS21</b>   Compact CO <sub>2</sub> mini compressor racks .....	44
<b>SMART RACK</b>   Compact CO <sub>2</sub> compressor racks .....	46
<b>SMART DUPLEX</b>   High power compact CO <sub>2</sub> compressor racks .....	48
<b>DUPLEX SPACE</b>   High power CO <sub>2</sub> commercial compressor racks .....	50
<b>Optionals</b> .....	52

### REFRIGERATION & AC SOLUTIONS 54/55

<b>GM PACK</b>   Refrigeration and AC solutions HFC .....	56
<b>CONVENI PACK HFC</b>   All-in-one solutions in a compact HFC system .....	58
<b>CONVENI PACK CO<sub>2</sub></b>   All-in-one solutions in a compact CO <sub>2</sub> system .....	60
<b>CONVENI PACK EXTRAS</b> .....	62
<b>CONTROL SYSTEMS</b>   Intelligent Tablet Controller & intelligent Touch Controller .....	63
<b>GM FULL DUPLEX</b>   Refrigeration and AC solutions CO <sub>2</sub> .....	64
<b>Optionals</b> .....	65

### INDUSTRIAL SOLUTIONS 66/67

<b>INDUSTRIAL SOLUTIONS</b>   Industrial solutions NH <sub>3</sub> /Subcritical/Glycol .....	68
<b>INDUSTRIAL SOLUTIONS CO<sub>2</sub></b>   Industrial compressor racks CO <sub>2</sub> transcritical .....	70
<b>CUO</b>   LT subcritical condensing units .....	72
<b>CUO UNIT</b>   LT subcritical industrial condensing units .....	72
<b>CO RACK</b>   LT subcritical cycle compressor racks .....	73
<b>CN UNIT</b>   NH <sub>3</sub> Industrial compressor racks .....	74
<b>CN CHILLER</b>   NH <sub>3</sub> Glycol chiller compressor racks .....	74
<b>CN RACK</b>   NH <sub>3</sub> industrial compressor racks (NH <sub>3</sub> ) .....	75
<b>Optionals</b> .....	76

### OTHERS 78/79

<b>NOVA 18</b>   HFC commercial condensing units .....	80
<b>BUC</b>   Compression groups .....	81
<b>CC</b>   HFC industrial refrigeration compressor racks .....	82
<b>Zanotti</b>   Compact units .....	83
<b>ALFA-LUVE</b>   Commercial & industrial evaporators .....	84
<b>GÜNTNER</b>   Commercial & industrial condensers .....	85
<b>Taver cold rooms / AHT Refrigerated display cases</b> .....	86
<b>Optionals</b> .....	87
<b>Electronics and electrical panel</b> .....	88



a member of **DAIKIN** group



Daikin Group - United in Cold



Daikin Europe N.V. is an important European manufacturer of air conditioners, heating systems and refrigeration equipments. With about 5,500 employees all around Europe, it runs manufacturing plants in Belgium, Czech Republic, Germany, Italy, Turkey and UK. Globally, Daikin is known for its pioneering approach to products development, as well as for the quality and versatility of its integrated solutions.



Tewis is a leading company in providing refrigeration systems design and engineering. Thanks to its experience customizing controllers (monitoring controllers included) Tewis offers all-in-one solutions for refrigeration and air conditioning applications.

Over the past few years, Tewis has focused on developing a range of refrigeration systems based on CO<sub>2</sub>, and built a lasting relationship with the major Spanish and Portuguese food retailers. Its mission and philosophy have always involved the achievement of strong reliability and substantial energy savings for its client base.



Zanotti is a specialized refrigeration manufacturer founded in 1962; its more than 50 years' experience in food storage services cover the needs of commercial and industrial refrigeration, but also those of the transport of fresh and frozen products. Zanotti changed the world of refrigeration from the very beginning with the introduction of Uniblock, a plug & play all-in-one refrigeration unit for cold rooms. Today it employs more than 600 people, has three production facilities and an annual turnover of approximately €130 million.



AHT develops, manufactures and sells refrigeration and freezing display cases especially suitable for food retailers. In the front of the plug-in display cases segment, AHT leads the market by actively launching new products corresponding to evolving store designs. In addition, using its technology capabilities and business resources, AHT gives service to big accounts that include major food retail chains around the world.



Hubbard Products Ltd. is one of the UK's leading designers, manufacturers and suppliers of commercial refrigeration equipments. It has earned an enviable worldwide reputation for its innovation and design excellence.



Daikin Chemicals is one of the world's leading manufacturers of fluorochemicals and is a leading expert in this field. We strive to find new possibilities for life and industry by taking full advantage of the characteristics of fluorine thanks to our own exclusively developed technologies.

## Tewis' greatest secret

Carlos Momplet, CEO Tewis Smart Systems

Refrigeration is one of the most important and relevant current issues in the world, closely linked to the UN's Sustainable Development Goals (SDG). Moreover, **sustainable refrigeration is crucial to fight climate change.**

Tewis **believes and works daily for a real change that ensures our future and that of the next generations.** A change based on clean and efficient refrigeration that will double the climate benefits, in addition to generating cost savings in energy consumption worldwide.

The numerous legislative changes, **including the F-GAS in 2021, highlight the need to reduce the direct effects** of fluorinated gases in atmospheric warming; a reduction that requires a technological change for which there is hardly any time left.

The F-GAS regulation is accompanied by an important demand from the market of southern Europe's warm countries, where equipments are less adapted to this regulation. Thanks to this, doors are open to large refrigeration groups with standardized and inflexible solutions to possible changes or needs. **These short-term solutions are not environmentally and economically sustainable,** and their sole objective is to reduce direct emissions. Most of them are also patent-dependent and highly complex, causing a lack of balance between the demand for facilities and the professionals trained to operate them.

However, **Tewis is focused on offering customized solutions,** tested in our factory, **that pursue a balance between energy consumption and a 10-year payback time of the installation.** We adapt to the needs of each client, taking on the responsibility of making wrong decisions. **A shared growth WIN to WIN system,** whose sole objective is to always offer the best solution and which has made possible the incredible development of Tewis.

With our sights set in 2021 (F-GAS), **Tewis believes that in order to achieve technological change with maximum effectiveness and efficiency, a change of attitude is necessary** to face the challenges deriving from environmental protection. A change of mentality that **necessarily implies the alignment of the different actors integrated in an installation, their commitment and their experience.** Did you know they say that you are never too young to make a difference? Well, imagine what we could all do together if we really wanted to. The change will only be successfully achieved if we integrate all the solutions, and if we respond to each of the either business or environmental needs that arise.

This is **Tewis' greatest secret:** an open, flexible and personalized differential model that seeks to generate benefits for our clients, adapting it to their needs and their own environment. It is a transversal work system based on active listening that provides customized solutions, with scalable, natural refrigerants, a minimum maintenance cost and a constant improvement of the control algorithms, all this to achieve, as a result, greater efficiency in all aspects. Doesn't it seem obvious? Believe me, it's not. It is vital, at a time like the present, where the number of retailers that have to adapt to new technologies and regulations is bigger than the number of new installations to be carried out. Everyone has the ideal solutions for new installations, but when it comes to restrictions on height or width, noise level, air flow, the premises itself, or even on regulations, few have the attitude and the problem solving ability of Tewis.

Ultimately, Tewis goes far beyond the service delivery. Our **strategic, responsible and sustainable model,** based on growing together with our clients, **is designed to reduce the environmental impact in the long term as much as possible. We aim to achieve the best solution, the best execution and the best sustainability over time without losing its effectiveness.** An open and transversal system that makes Tewis the best possible choice in the face of the changes that occur every day.

WE CARE ABOUT ALL OF OUR CLIENTS

We do not only take care of the environment; we take care of our clients. In our open and flexible work system, our clients are the center of all processes. This leads to the development of tailor-made solutions, reducing as much as possible the costs of traditional refrigeration systems, energy consumption and, of course, minimizing the environmental impact.

Tewis is more than a brand, it's a philosophy



**TEWI:** Total Equivalent Warming Impact  
*The balance between direct and indirect effects is essential to reduce the TEWI index. All Tewis equipment is optimized to achieve the lowest TEWI index possible.*

SOLUTIONS DESIGNED FOR RETROFIT

At a time like the present, where there is a great number of retails that have to adapt to new technologies and regulations, our transversal work system allows to, among others:

- Adapt all solutions to each situation.
- Obtain greater energy efficiency and sustainability.
- Reduce investment and maintenance costs.
- Create modular systems that facilitate greater adaptation and speed in delivery.
- Solve the opening legal obstacles.



Discover our facilities

PROCESSES

- ANALYSIS**  
client, environment...
- SOLUTIONS**  
customized, scalable...
- CONTROL**  
centralized, more efficient
- INSTALLER**  
Installation, maintenance...

CLIENTS

ACTORS

- COMPRESSOR RACKS MANUFACTURER
- FURNITURE MANUFACTURERS
- ELECTRONIC MANUFACTURERS
- INSTALLERS

As members of the Daikin Group we share the same vision: we cannot grow if we do not contribute to solving global environmental problems. That is why we develop energy efficient and environmentally friendly solutions.



ACTIVE LISTENING, WE MAKE A DIFFERENCE

Every need requires a solution. That is why Tewis has developed an Active Listening system, to advise and always execute the best solution. A 360° client-oriented system where all the actors involved in an installation work together to obtain effectiveness, efficiency and sustainability based on the experience of each one of them.

PREPARED FOR THE F-GAS

The numerous legislative changes with the aim of reducing global warming imply constant adaptation of technology. Unlike standard solutions from other manufacturers, all Tewis equipment is optimized for every need, quickly adapting to each environment and different legislative frameworks, always seeking the lowest TEWI index.



We offer solutions where others only offer machines

### 360° SYSTEM = GREATER EFFICIENCY

We are **experts** in industrial and commercial refrigeration, air conditioning, control and energy efficiency. For each case, our **360° system** studies the client's priorities, energy consumption, performance, standardization, control algorithms, the development of simple maintenance and the best technology to achieve it.

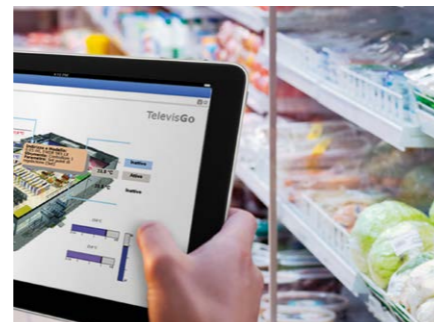
**All our refrigeration solutions benefit** from a centralized control system and are implemented in close collaboration with professionals who guarantee a proper installation and correct maintenance.

### TEWIS KNOW-HOW

- **Own laboratory** where we test solutions and developments
- **We invest in R + D + i** to offer innovative systems.
- **Collaborations:** ATMOSphere- Magrama - Tecnofrío - Chillventa - Genera - C&R Climatización - Estudio Universidad Jaume I.

### TECHNICAL SUPPORT

- **We give technical advise** on each project from the beginning.
- Together with the installer, we defend **the best solution** before the client.
- We provide **assistance** during the implementation and start-up.



We bet on customized solutions for each sector and for each project

### SUSTAINABLE INSTALLATIONS

As a result of years of experience and collaboration with universities, installers and property owners, our global products and solutions offer and guarantee:

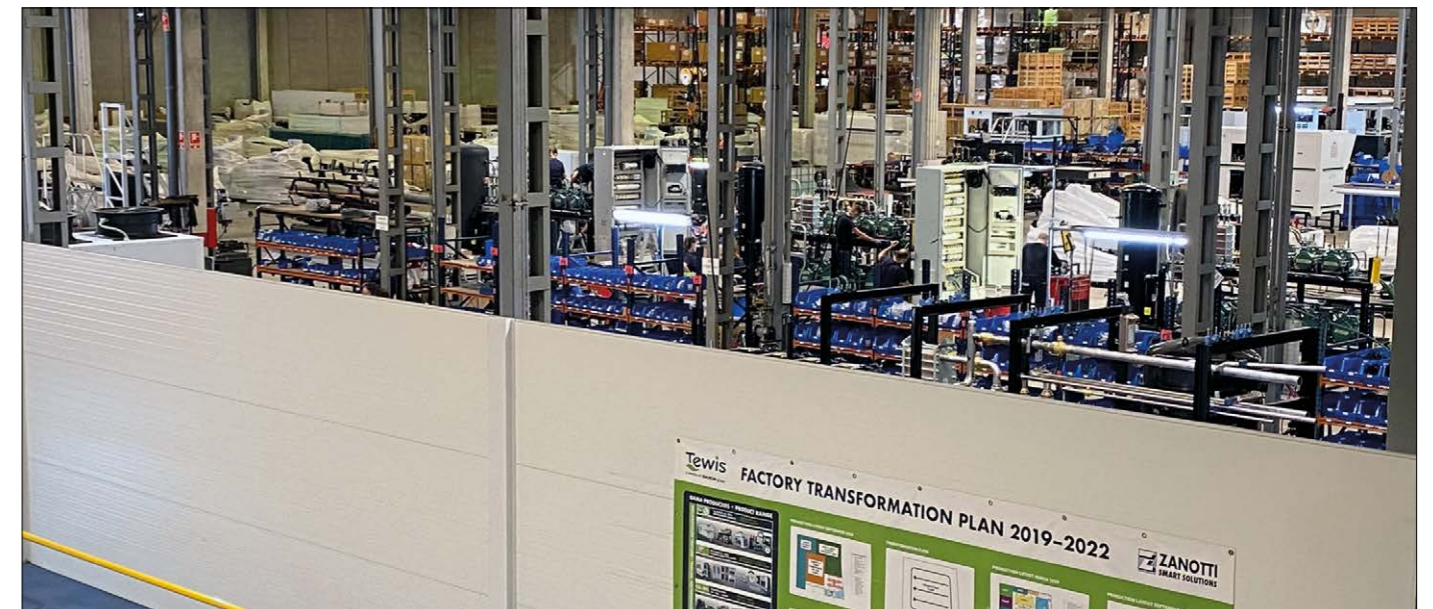
- Reliability and control
- Reduction of the TEWI index
- Plug & play connections
- Easy after market
- Maximization of efficiency
- F-GAS UE 517/2004 Regulation
- Integration of control and remote management
- Free Cooling + Air Quality

### RETAIL AND SUPERMARKETS

- **Low GWP refrigerant installations.**
- **Hybrid installations with CO<sub>2</sub>** in cascade for frozen products.
- **Full CO<sub>2</sub> range with CO<sub>2</sub> refrigerant as the only refrigerant**, with heat recovery.

### INDUSTRIAL RANGE

We offer **NH<sub>3</sub> chillers producing glycol** in refrigerated products **and condensing CO<sub>2</sub>** for frozen products.





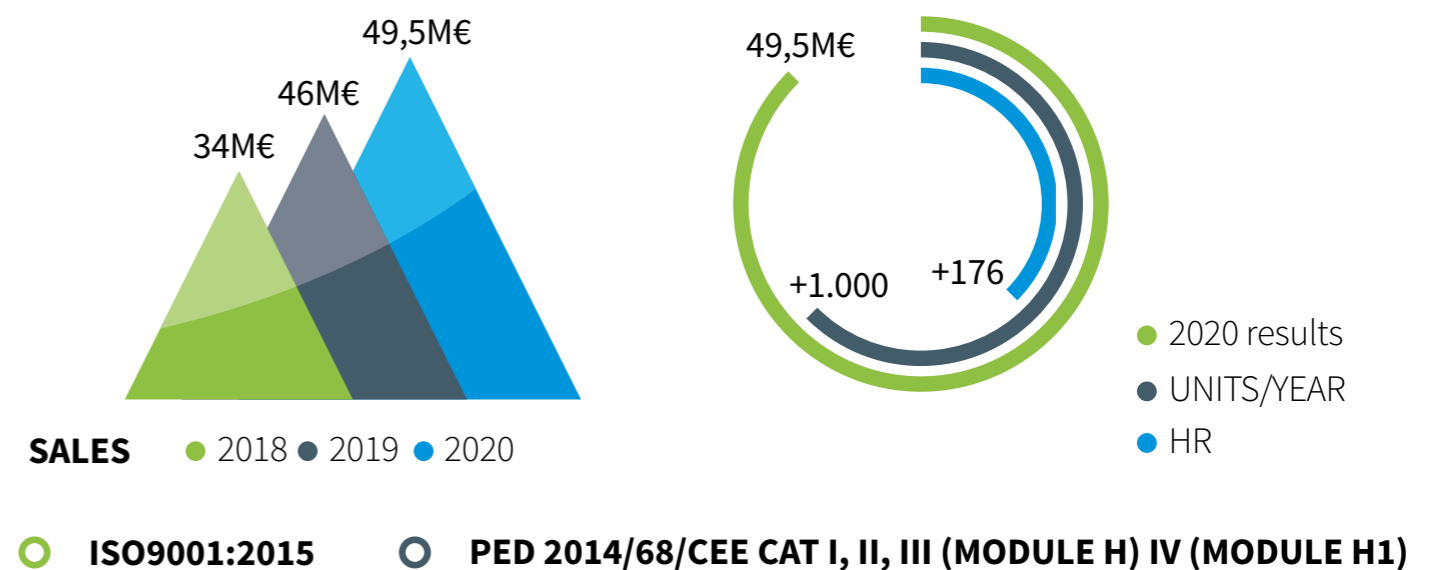
Efficient and sustainable refrigeration is essential to combating climate change and ensure our future and that of next generations.

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

## GROWING WITH OUR CLIENTS

**Thinking long term** means thinking about everything and everyone: our clients, their businesses ... our planet. Our way of thinking intends to always achieve the best solution, the best execution and the best sustainability, and all without losing efficiency or effectiveness. A shared growth win to win model that has made possible the incredible development of Tewis in recent years.

**Tewis**, a strategic, responsible and sustainable model.



**2.500 m<sup>2</sup> OFFICES + 12.000 m<sup>2</sup> FACTORY**  
**VALENCIA + MADRID\* + MÁLAGA\* + OPORTO\***

\* presencia comercial

RETAIL

Tewis Natural Refrigerants Range

RETAIL STORES  
< 400 m²

SMALL AND MEDIUM SUPERMARKETS  
400 – 1500 m²



Propane MB



CO<sub>2</sub> CCU



CO<sub>2</sub> CVP / ZEAS



Compressor rack with bodywork and soundproofed

(SEMI) - INDUSTRIAL

Tewis Natural Refrigerants Range

BIG SUPERMARKET  
1500 – 3000 m²

SMALL HYPERMARKET  
3000 – 5000 m²

BIG HYPERMARKET  
5000 – 10000 m²

MINI



NS21



NV42-58



NV66+

RACK



CZ

SMART



RACK



DUPLEX

FULL DUPLEX



DUPLEX SPACE

INDUSTRIAL



Product range: characteristics & cooling capacities

	Page	Image	Model	Brand	Refrigerant	Application	Reciprocating semihermetic	Hermetic	Screw		0 kw	50 kw	100 kw	150 kw	200 kw	250 kw	300 kw	350 kw	400 kw	450 kw	500 kw												
CONDENSING UNITS AND COMPACT COMPRESSOR RACKS											HFC CO <sub>2</sub> NH <sub>3</sub> AC												CONDENSING UNITS AND COMPACT COMPRESSOR RACKS										
24		GCU-PXB1	HUBBARD	CO <sub>2</sub>	MT			●			1,5 to 24 kW																						
26		CCU & SCU	DAIKIN	HFC	MT • LT			●			< 1 to 15 kW																						
27		MINI ZEAS	DAIKIN	HFC	MT • LT			●			3 to 9 kW																						
28		ZEAS	DAIKIN	HFC	MT • LT			●			3 to 40 kW																						
32		NOVA	Tewis	HFC	MT • LT	■	●				4 to 39 kW																						
34				CO <sub>2</sub>							7 to 38 kW																						
36		NV66	Tewis	HFC	MT • LT	■	●				15 to 39 kW																						
38		NV66+	Tewis	CO <sub>2</sub>	MT • LT	■					44 to 63 kW																						
										22 to 70 kW																							
										40 to 102 kW																							
COMPRESSOR RACKS																							COMPRESSOR RACKS										
44		NS21	Tewis	CO <sub>2</sub>	MT • LT	■	●				18 to 45 kW																						
46		SMART RACK	Tewis	CO <sub>2</sub>	MT • LT	■					40 to 140 kW																						
48		SMART DUPLEX	Tewis	CO <sub>2</sub>	MT • LT	■					80 to 250 kW																						
50		DUPLEX SPACE	Tewis	CO <sub>2</sub>	MT • LT	■					80 to 380 kW																						
REFRIGERATION & AC																							REFRIGERATION & AC										
56		GM PACK	Tewis	HFC	MT • LT • AC			●			2 to 39 kW																						
58		CONVENI PACK HFC	DAIKIN	HFC	MT • LT • AC			●			3 to 27 kW																						
60		CONVENI PACK CO <sub>2</sub>	DAIKIN	CO <sub>2</sub>	MT • LT • AC			●			3 to 21 kW																						
64		GM FULL DUPLEX	Tewis	CO <sub>2</sub>	MT • LT • AC	■					120 to 210 kW																						
										50 to 200 kW																							
INDUSTRIAL SOLUTIONS																							INDUSTRIAL SOLUTIONS										
70		INDUSTRIAL CO <sub>2</sub>	Tewis	CO <sub>2</sub>	MT • LT	■					170 to ...650kW												+										
72		CUO / UNIT / RACK	Tewis	CO <sub>2</sub>	LT	■					3 to 285 kW																						
74		CN UNIT	Tewis	NH <sub>3</sub>	MT • LT				◆			33 to 355 kW																					
74		CN CHILLER	Tewis	NH <sub>3</sub>	MT				◆			80 to ...1250 kW												+									
75		CN RACK	Tewis	NH <sub>3</sub>	MT • LT				◆			65 to ...1418 kW												+									
OTHERS																							OTHERS										
80		NOVA 18	Tewis	HFC	MT • LT	■	●				3 to 12 kW																						
81		BUC	Tewis	HFC	MT • LT	■	●				1 to 39 kW																						
82		CC	Tewis	HFC	MT • LT	■					15 to 39 kW																						

## SRC Customer portal

**SRC Customer Portal** allows you to manage your equipment's incidents during post-sales and facilitates remote access to the machine supervisor for monitoring, analysis and complete control.

**SRC Customer Portal** offers you functions that help to comprehensively manage a plant throughout its entire life cycle; all from a single portal that is offered in the cloud, without installing any software, accessible from any web browser with a PC or smartphone.

### ► DASHBOARD (Main screen)

The dashboard is our main page and grants access to the most common information:

- spare parts orders for its conditions.
- incidents sorted by priority.
- machines with warranty yet to activate.

### ► CENTERS & MACHINES

Users can see the machines related to their business and access the information for each one of them: certificates, refrigeration and electrical schemes, etc.

### ► REGISTRATION OF WARRANTIES

Users can activate the warranty of its equipments.

### ► REMOTE MANAGEMENT

Access portal to the remote management of machines through our cloud.

### ► TASKS

You may request information, ask questions or check the status of a project.

### ► CASES

You can access the incidents of your machines handled by our SAT and monitor their resolution.

### ► ORDER OF SPARE PARTS

Quick and easy request for spare parts, ensuring information and avoiding errors.



## SRC Web store

**SRC Web Store** is Tewis Smart Systems' professional online shopping portal, totally free, that allows you to easily find the products that fit your requirements.

**SRC Web Store** is completely free and will offer you all the information you need about our complete catalog as well as facilitating the purchase process. All this from a simple and intuitive web environment.

► The main solutions of the Tewis range are available from the screen: HFC solutions, Cold-clime, CO<sub>2</sub>, Ammonia ...

► Each section shows the main models, while a PDF provides us with a commercial file containing the characteristics of the machine.

► Once the range is chosen, we can select the equipment by entering the fundamental parameters.

► A series of intuitive menus allows us to select temperature ranges, the compressor brand, evaporation powers and temperatures, the number of compressors, and so on.

► It is possible to download a PDF with additional information of the model, for a better understanding of the equipment options.

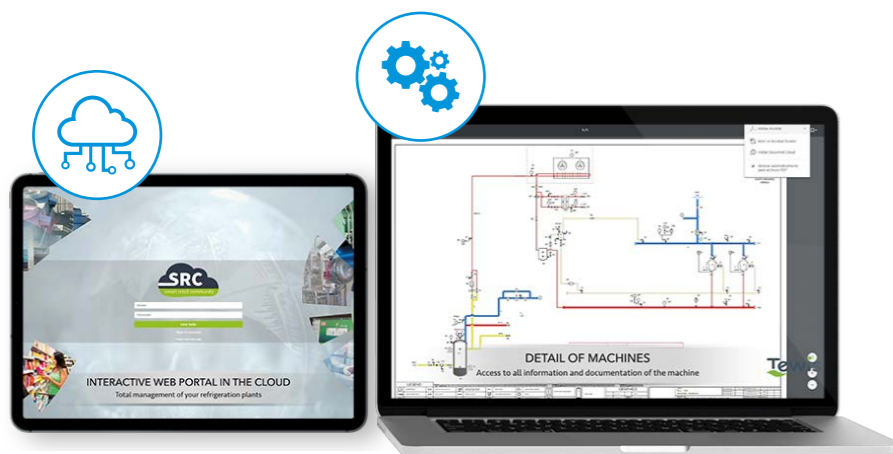
► **Web Store** suggests the equipments needed with their prices, and shows a virtual file that includes the general data and the extras that we can add.

► We can also select the electronics from the main brands on the market, the chassis and the electrical panel.

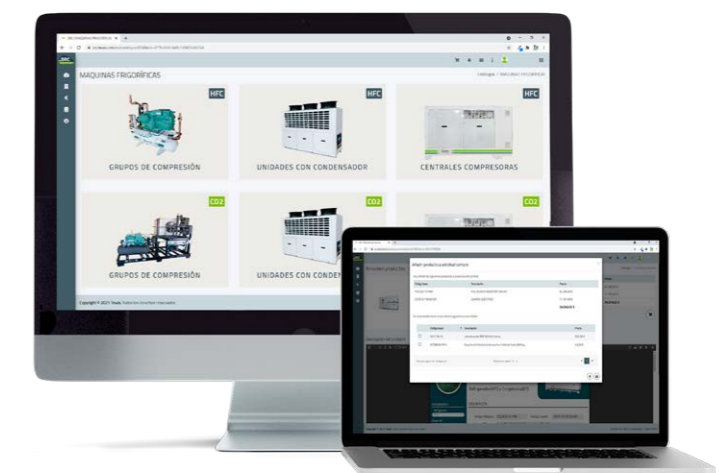
► Once all the extras are selected, the code and price of the machine and the electrical panel can be generated.

► A PDF summary file with all the data resulting from our selection is also displayed. It can be downloaded in different languages in order to be sent to the final client.

► **Web Store** streamlines your purchase process by being connected to our ERP system. Add products to the cart, click and let your sales agent do the rest of the work.



For more information about SRC WebStore you can see how it works in this video





Our solutions reduce space and installation costs, maintenance and electricity costs, as well as CO<sub>2</sub> emissions thanks to the use of natural refrigerants.

The reduced size of our equipments ensures greater installation flexibility and a space reduction of more than 50% compared to traditional equipments.



Our commercial teams are installed in the main chains of distribution of the European retail sector, supermarkets, hypermarkets.

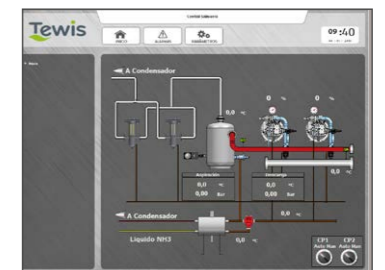
Compact, bodied and soundproof solutions that can be placed outside without needing a traditional machine room.



The on-board electrical panel allows to deliver the equipment tested, fully connected and with a warranty.



Our industrial range responds to the most demanding needs, either with CO<sub>2</sub> (transcritical and subcritical), ammonia (NH<sub>3</sub>), subcritical, and glycol equipment.



The CI-BOX bodywork is installed outside, so it does not require a traditional machine room, providing economic savings and greater surface available for other uses. Plug & Play system.



## » Condensing units and compact compressor racks



- » **GCU-PXB1**  
Inverter condensing units for refrigeration
- » **CCU & SCU**  
Condensing units for refrigeration
- » **MiniZEAS**  
R410A mini condensing units for refrigeration
- » **ZEAS**  
R410A condensing units for refrigeration
- » **Nova**  
Compact CO<sub>2</sub> transcritical/HFC compressor racks
- » **NV66**  
Compact CO<sub>2</sub> transcritical/HFC compressor racks
- » **NV66+**  
Compact CO<sub>2</sub> transcritical compressor racks
- » **CZ**  
Compact CO<sub>2</sub> transcritical compressor racks
- » **Optionals**



RETAIL STORES  
< 400 m<sup>2</sup>SUPERMARKETS  
400-1500 m<sup>2</sup>BIG SUPERMARKET  
1500-3000 m<sup>2</sup>HYPERMARKET  
3000-5000 m<sup>2</sup>BIG HYPERMARKET  
5000-10000 m<sup>2</sup>CO<sub>2</sub>

# GCU-PXB1

## Inverter condensing units for refrigeration

Compact Inverter condensing units, prepared to be placed in the open, easy to install and provided with numerous technical innovations.

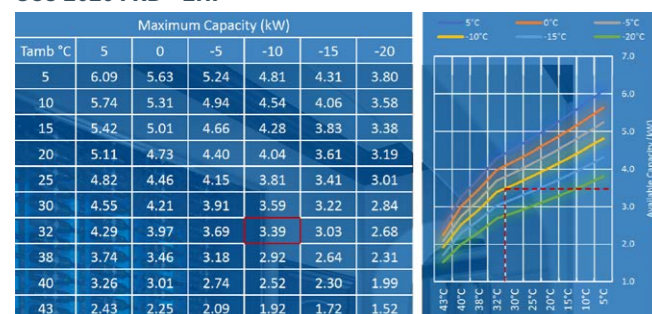


- › CONVENIENCE STORES
- › REFRIGERATED ROOMS
- › FAST FOOD STORES
- › BARS AND RESTAURANTS
- › SPECIALIZED FOOD STORES

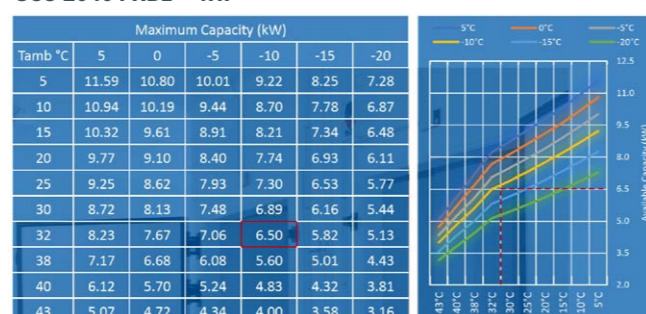
- ✓ For conservation rooms up to 480 m<sup>3</sup>.
- ✓ 400V/3F/50Hz power supply.
- ✓ Connection to multiple evaporators.
- ✓ Increased liquid container to allow longer connection sections.
- ✓ High efficiency oil separator from the 4 HP unit.
- ✓ Two-stage scroll compressors with intercooler.
- ✓ Integrated electrical panel with controller.
- ✓ Gas cooler with Ø5 mm pipes to reduce gas load.
- ✓ K65 copper pipes.
- ✓ 1 to 2 scroll compressors.
- ✓ EC axial fan.
- ✓ External mounting.
- ✓ 20HP model under development.
- ✓ Low sound level.
- ✓ Inverter.
- ✓ Plug & Play.
- ✓ Eco Design.
- ✓ Carel electronics (pRack PR300T).



GCU 2020 PXB – 2HP



GCU 2040 PXB1 – 4HP



Model	HP	Capacity [kW]*	Airflow [m <sup>3</sup> /h]	LP dB(A)** Day/Night	Receiver volume [l]
GCU 2020 PXB1	2	1,8 ... 3,39	3780	40/37	12.5
GCU 2040 PXB1	4	3,25 ... 6,50	3780	44/41	15.5
GCU 4070 PXB1	10	6,25 ... 12,54	7560	48/44	20
GCU 5140 PXB1***	20	6,25 ... 25,08	15120	ND	37.5

\* Calculation conditions: Tev MT -10°C, Tamb +32°C, Reheating 10K  
 \*\* Sound pressure at 10 m, considering a spherical surface in open field.

\*\*\* Coming soon.

HUBBA D  
REFRIGERATION SOLUTIONS

## Technical data and components

GCU 2020 PXB1



CCU footprint	0,83m <sup>2</sup>
Sound pressure	40.0 dB(A)
Intercooler	Standard
Receiver	12.5 l
Max. length pipelines	25 m
Evaporators	Máx. 2
Tevap	-10°C
Tamb	+32°C
Q (Cooling capacity)	3.39 kW
Consumption	5,840 kWh/a
SEPR	3.57
COP	1.87

GCU 2040 PXB1



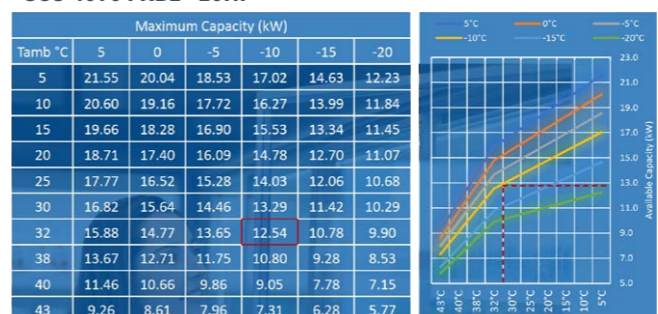
CCU footprint	0,83m <sup>2</sup>
Sound pressure	45.0 dB(A)
Oil separator	Standard
Receiver	12.5 l
Max. length pipelines	35 m
Evaporators	> 2
Q (Cooling capacity)	6.50 kW
Consumption	12,307 kWh/a
SEPR	3.24

GCU 4070 PXB1



CCU footprint	1,29m <sup>2</sup>
Sound pressure	48.0 dB(A)
Oil separator	Standard
Intercooler	Standard
Receiver	20 l
Max. length pipelines	40 m
Evaporators	> 2
Q (Cooling capacity)	12.54 kW
Consumption	26,393 kWh/a
SEPR	2.92

GCU 4070 PXB1 – 10HP



Model	Dimensions LxAxH [mm]	Weight [kg]
GCU 2020 PXB1	1452 x 574 x 7999	151
GCU 2040 PXB1	1452 x 574 x 7999	155
GCU 4070 PXB1	1684 x 773 x 1438	285
GCU 5140 PXB1*	2405 x 773 x 1484	n/d

\*Coming soon.

> Reliability, innovation and efficiency



Panasonic  
two-stage  
scroll  
compressors

High cooling capacity at every set point. Designed to compress the refrigerant twice, reducing the load during the operation.



High  
volume  
liquid  
receiver  
and flash-  
gas tank

Higher expansion volume, minimizing the risks of liquid entering the flash-gas valve and consequently damaging the compressor.



EC fans & 2  
gas circuits &  
intercooler

Large surface area to ensure functioning at high temperatures, providing better two-stage compressor operation and efficiency.



Carly turboil®  
separator

Included as standard. Up to 98,5% efficiency, divided in two.

Maintenance-free 140 bar PS separator, integrated silencers to reduce pulsations, vibrations and noise.



ABB frequency  
inverter

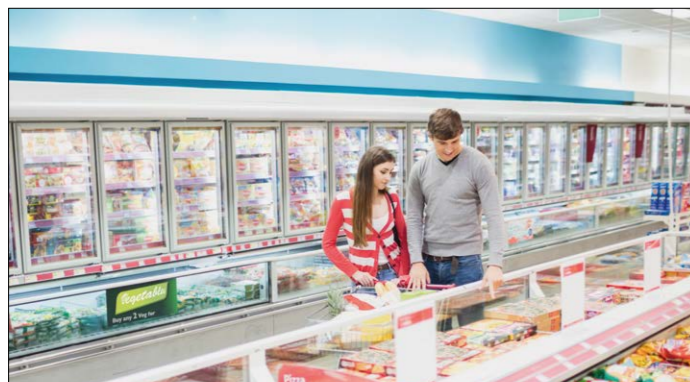
The continuous, variable speed capacity control is constantly adjusting to suit the required load, granting high efficiency during a partial load, which corresponds to around 80% of the unit operation.

RETAIL STORES  
< 400 m<sup>2</sup>SUPERMARKETS  
400-1500 m<sup>2</sup>BIG SUPERMARKET  
1500-3000 m<sup>2</sup>HYPERMARKET  
3000-5000 m<sup>2</sup>BIG HYPERMARKET  
5000-10000 m<sup>2</sup>

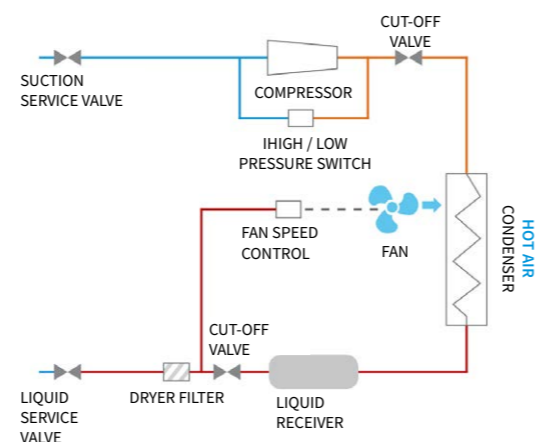
HFC

## CCU & SCU Condensing units for refrigeration

The refrigeration condensing units are perfect solutions for applications that seek compact, easy-to-install and high performances solutions.



- › CONVENIENCE STORES
- › REFRIGERATED ROOMS
- › FAST FOOD STORES
- › BARS AND RESTAURANTS
- › SPECIALIZED FOOD STORES



- ✓ All components are easily accessible, granting a quick and easy maintenance.
- ✓ Compressor shut-off valves, liquid receiver and service valves: granting maintenance time savings.
- ✓ Shut-off valve in the compressor discharge line, allowing the compressor to be replaced without collecting liquid from the system.
- ✓ Condensation controlled by varying the speed in series 2, 3 and 4.

### Medium temperature

Model	JEHCCU	0050CM1	0067CM1	0100CM1	0113CM1	0140CM1	0140CM3
Cooling capacity R449A	kW	0,82	1,05	1,25	1,52	2,02	
Consumption	kW	0,57	0,72	0,86	1,00	1,03	1,08
Sound pressure level	dBA	30				34	

### Medium temperature

Σ	JEHCCU	0040CM1	051CM1	0063CM1	0077CM1	0095CM1
Cooling capacity R134a	kW	0,55	0,83	0,99	1,20	1,49
Consumption R134a	kW	0,43	0,54	0,64	0,74	0,90
Sound pressure level	dBA	30				

### Medium temperature

Model	JEHSCU-CM1 JEHSCU-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
Cooling capacity R449A	kW	3,24	3,70	4,57	3,24	3,70	4,57	5,11	5,92	6,17	7,60	9,13	10,15	12,30	15,25
Consumption	kW	1,65	1,98	2,56	1,65	1,98	2,56	3,15	2,88	3,22	4,43	4,83	5,85	6,23	8,68
Sound pressure level	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)	

### Low temperature

Model	JEHSCU-CL1/ JEHSCU-CL3	0115CL1	135CL1	0200 CL3	0300 CL3	0400 CL3	0500 CL3	0600 CL3	0750 CL3	0950 CL3
Cooling capacity R449A	kW	-	-	1,29	1,70	2,53	3,04	3,49	4,81	5,9
Consumption	kW	-	-	1,50	1,84	2,48	3,30	4,19	4,08	4,35
Sound pressure level	dBA	31 (2)	32 (2)	32 (2)	33 (2)	37 (2)	39 (2)	41 (2)		37

(2) Average sound pressure level is measured at 10m in anechoic room.

RETAIL STORES  
< 400 m<sup>2</sup>SUPERMARKETS  
400-1500 m<sup>2</sup>BIG SUPERMARKET  
1500-3000 m<sup>2</sup>HYPERMARKET  
3000-5000 m<sup>2</sup>BIG HYPERMARKET  
5000-10000 m<sup>2</sup>

HFC

## Mini ZEAS R-410A mini condensing units for refrigeration

The Mini **ZEAS** condensing units represent the smartest solution for medium and low temperature refrigeration, saving energy with a complete equipment.




- › SPECIALIZED FOOD STORES
- › REFRIGERATED ROOMS
- › REFRIGERATING FURNITURE
- › HOSPITALITY INDUSTRY

### Inverter technology

- ✓ The inverter technology allows an optimal conservation of food thanks to an accurate control of temperature and humidity.

### Scroll

- ✓ The use of a scroll inverter contributes to extend the life of the refrigeration equipment and to lower maintenance requirements.

### Sound level

- ✓ Lowest sound level in the marketplace, down to 31 dBA. The sound level can be reduced even more thanks to the low-noise modes.

- ✓ The use of R-410A refrigerant allows lower piping diameters, thus reducing the amount of refrigerant in the system and helping to reduce our CO2 footprint. The R-410A fully complies with the latest F-Gas regulation and can be used indefinitely.
- ✓ The compressor with CC economizer dramatically improves the efficiency of

the unit, thereby helping to reduce the energy cost.

- ✓ The weight of the unit is very low, and even allows wall mounting.
- ✓ These units are up to 75% smaller than their equivalents in the marketplace, and they are suitable for areas with limited space.
- ✓ Advanced software solution that allows an easy configuration and start-up of the system.

- › FOOTPRINT REDUCED UP TO 75%
- › REDUCED WEIGHT
- › FULLY EQUIPPED
- › WIDE TEMPERATURE RANGE FROM -45°C TO +10°C

LRMEQ-BY1 – Medium temperature			LRMEQ3BY1	LRMEQ4BY1
Cooling capacity	Nom.	kW	5.90 (1)	8.40 (1)
Power consumption	Nom.	kW	2.53 (1)	3.65 (1)
Dimensions	HeightxWidthxDepth	mm	1.345 x 900 x 320	
Weight	Unit	kg	126	

LRLEQ-BY1 - Low temperature			LRLEQ3BY1	LRLEQ4BY1
Cooling capacity	Nom.	kW	2.78 (2)	3.62 (2)
Power consumption	Nom.	kW	2.60 (2)	3.41 (2)
Dimensions	HeightxWidthxDepth	mm	1.345 x 900 x 320	
Weight	Unit	kg	130	

(1) Medium temperature conditions: evaporation temperature -10°C; outside temperature 32°C; high suction superheat 10°C.

(2) Low temperature conditions: evaporation temperature -35°C; outside temperature 32°C; high suction superheat 10°C.

## ZEAS R-410A condensing units for refrigeration

The **ZEAS** condensing units represent the smartest solution for medium and low temperature refrigeration, saving energy with a complete equipment.



- › SELF-SERVICES, SUPERMARKETS, RESTAURANTS
- › SMALL INDUSTRY
- › REFRIGERATED AND FROZEN FOOD WAREHOUSES
- › WORKING ROOMS



- ✓ This is the perfect solution for all refrigeration and freezing applications, with variable load conditions and high-energy efficiency requirements. It is particularly suitable for supermarkets, refrigerated rooms, refrigerators and freezers, among others.
- ✓ The DC inverter scroll compressor with economizer function provides a high-energy efficiency and a reliable performance.
- ✓ Reduction of CO<sub>2</sub> emissions thanks to the use of R-410A refrigerant and the low energy consumption.
- ✓ Tested in the factory and preprogrammed for a quick and easy installation and start-up.
- ✓ Greater installation flexibility due to reduced dimensions.
- ✓ Low sound level, including *night mode* operation.

### Great energy saving potential

- ✓ Highly efficient operation.
- ✓ It reduces the energy consumption by 10% to 35%, compared to traditional refrigeration equipments.

### Smart control

- ✓ It can be connected to a third party monitoring system.
- ✓ The refrigeration unit can be controlled remotely thanks to a powerful interface.

### Comfort

- ✓ Quiet and discreet operation for customers and neighbors.

### Reliability

- ✓ ZEAS equipments are rigorously tested on the assembly line.

LREQ-BY1				5	6	8	10	12	15	20
Cooling 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)
Cooling capacity	Med. temperature	Nom.	kW	12.5 (2)	15.2 (2)	19.8 (2)	23.8 (2)	26.5 (2)	33.9 (2)	37.9 (2)
Dimensions	Unit	Height	mm	1.680						
		Width	mm	635		930			1.240	
		Depth	mm	765						
Weight	Unit		kg	166		242			331	337

LREQ-BY1				30	40
Cooling capacity	Low temperature	Nom.	kW	27.20 (1)	30.20 (1)
Cooling capacity	Med. temperature	Nom.	kW	64.40 (2)	74.00 (2)

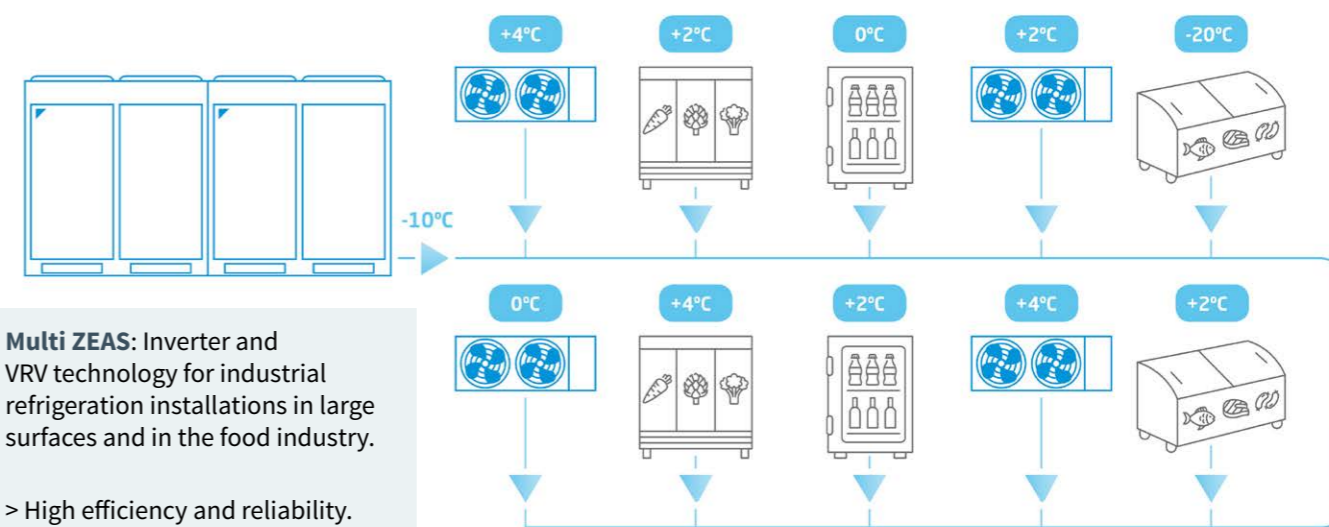
(1) Low temperature conditions: evaporation temperature -35°C; outside temperature 32°C; high suction superheat 10°C.

(1) Medium temperature conditions: evaporation temperature -10°C; outside temperature 32°C; high suction superheat 10°C.



## > Possibility of increasing the power by combining two outdoor units

Two ZEAS units can be combined in parallel, using a single refrigerant pipe.

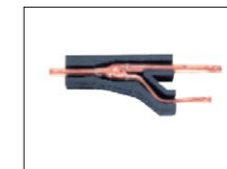


**Multi ZEAS:** Inverter and VRV technology for industrial refrigeration installations in large surfaces and in the food industry.

- > High efficiency and reliability.
- > Low sound level.
- > Space saving.
- > VRV technology for refrigeration.

## > Refnet joints

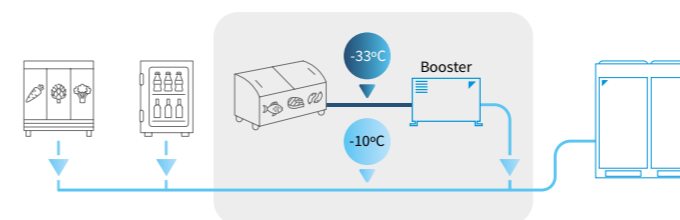
Refnet joints (derivations and collectors) are Y-shaped joints, which are recommended in the installation of ZEAS and Conveni-pack, since they have less load drops. They are also used in the VRV climatization systems.



## > Low temperature Booster units

They allow the connection of display cases or low temperature rooms to the outside medium temperature ZEAS unit, or to a Conveni-Pack (from -20°C to -45°C).

### > ZEAS applications



Booster unit



## > Capacity table

Ambient temperature		Booster unit capacity (kW)											
		Suction temperature											
		-45°C		-40°C		-35°C		-30°C		-25°C		-20°C	
		Q (Kw)	P (Kw)	Q (Kw)	P (Kw)	Q (Kw)	P (Kw)	Q (Kw)	P (Kw)	Q (Kw)	P (Kw)	Q (Kw)	P (Kw)
20°C		1,85	1,53	2,45	1,6	3,35	1,68	4,12	2,01	5,27	2,34	6,62	2,75
27°C		1,85	1,53	2,45	1,6	3,35	1,68	4,12	2,01	5,27	2,34	6,62	2,75
32°C		1,85	1,53	2,45	1,6	3,35	1,68	4,12	2,01	5,27	2,34	6,62	2,75
38°C		1,77	1,53	2,28	1,6	3,11	1,68	3,85	2,01	4,95	2,34	6,25	2,75
43°C		1,72	1,53	2,19	1,6	2,95	1,68	3,85	2,01	4,76	2,34	6,04	2,75

Q = Cooling capacity / P = Absorbed power.

### Booster dimensions

Height x Length x Width 480 x 680 x 310



# Control systems intelligent Tablet Controller & intelligent Touch Controller

New centralized control for stores, with optional wired touch screen, capable of controlling up to 32 indoor units. Compatible with VRV, Sky Air, Domestic, HRV and DX shades.

## Intelligent Tablet Controller

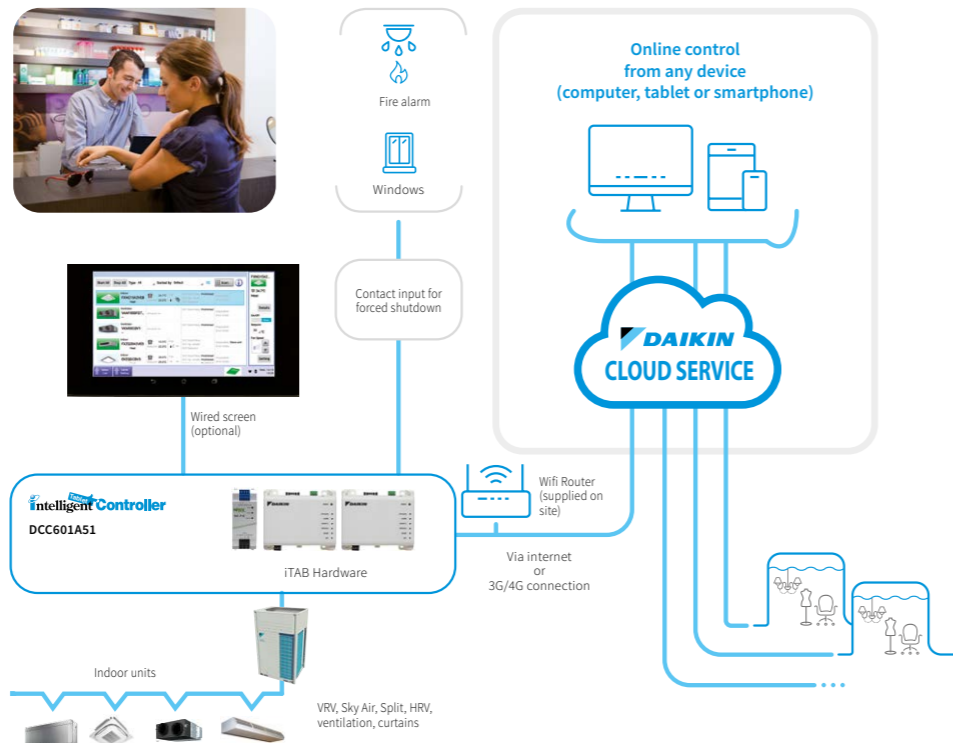
- > Control parameter: on/off, room temperature, fault signals, programming, etc.
- > Wired touch screen model AL-CCD07- VESA-1 (optional).
- > Monitoring, remote control and multi-site (optional).
- > Energy manager (optional).

### Control parameters

- > Basic monitoring: on/off, set point, airflow direction and fan speed, room temperature, fault signals and filters.
- > Advanced functions: programming (weekly), emergency stop, temperature restriction by unit and mode.

### Cloud Service extras (contact us)

- > Monitorization and remote control.
- > Multiple buildings control (multi-site).
- > Energy manager: automatic operation with energy saving functions.



<b>AL-CCD07-VESA</b>	Wired screen (optional)
<b>Cloud service</b>	
<b>ES.SBDCS_LICEN_2X1</b>	First 2 years DCS connection license
<b>ES.SBDCS_LICEN_001</b>	Annual DCS connection license
<b>ES.SBDCS_LICEN_005</b>	5-year DCS connection license
<b>ES.SBDCS_LICEN_007</b>	7-year DCS connection license
<b>ES.SBDCS_LICEN_010</b>	10-year DCS connection license

## Intelligent Touch Controller

This controller allows an easy and detailed control and monitoring of Daikin air conditioning systems (up to 64 indoor units).



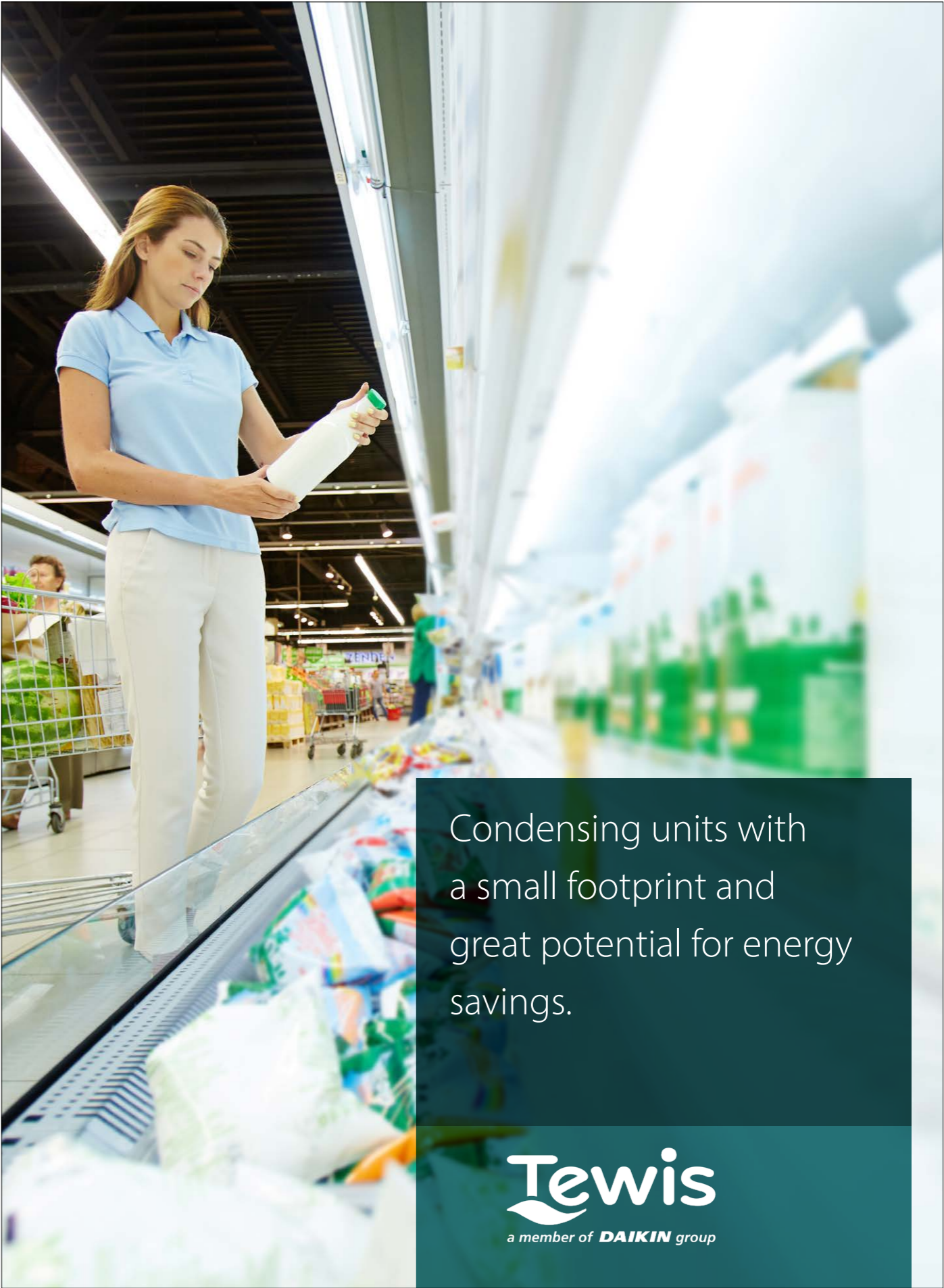
**intelligentTouchController** is a centralized management system with a 5.7" color touch screen and a simple and intuitive user interface. All this grants an easy control and supervision of Daikin air conditioning units, individually, by zones or for the entire installation. It's the perfect choice for all types of small and medium-sized installations.

### The most outstanding features are:

- > Individualized control and supervision of each parameter of the indoor units: Start/stop, status, error, set point, mode, temperature, fan speed and filter signal.
- > User configurable control groups.
- > Configuration for automatic hot/cold changes, even for VRV HP.
- > Minimum night temperature of the building.
- > Individualized restriction of local BRC controls: On/off, cold/heat, set point.
- > Access to the screen and menu by password.
- > Control of VAM enthalpy recuperators.
- > Integration with fire panel.
- > Ready for ACNSS service.

- > Optional HTTP (DCS007A51): Communication through the open http protocol (not Web Server).  
With the DEC101A51 and DEC102A51 BMS modules, it is possible to monitor and control other elements such as extractors, luminaries, filters, pumps, through digital inputs/outputs.

<b>DCS601C51</b>	Intelligent Touch Controller (up to 64 indoor units)
<b>DCS007A51</b>	Communication via http protocol (not Web Server)
<b>DEC102A51</b>	BMS module (run, stop, status, error) x 4
<b>DEC101A51</b>	BMS module (status, error) x 8



Condensing units with a small footprint and great potential for energy savings.



RETAIL STORES  
< 400 m<sup>2</sup>SUPERMARKETS  
400-1500 m<sup>2</sup>BIG SUPERMARKET  
1500-3000 m<sup>2</sup>HYPERMARKET  
3000-5000 m<sup>2</sup>BIG HYPERMARKET  
5000-10000 m<sup>2</sup>

HFC

CO<sub>2</sub>

Tewis

HFC

CO<sub>2</sub>

# NOVA Compact transcritical CO<sub>2</sub>/HFC compressor racks

**Compact compressor racks** fully equipped with gas cooler (CO<sub>2</sub>)/condenser (HFC) to generate cold both with CO<sub>2</sub> transcritical cycle and HFC models. Version with axial or radial fans.

- › CONVENIENCE STORES
- › SUPERMARKETS
- › REFRIGERATED ROOMS
- › FAST FOOD STORES
- › SPECIALIZED FOOD STORES
- › HOSPITALITY INDUSTRY



1 to 2 piston compressors



1 to 3 scroll compressors



Axial/Radial AC/EC versions



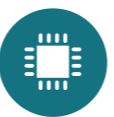
Outdoor unit [Axial]



Low noise level [Optional]



Electrical panel



Electronic control [Optional]



Proportional Modul. [Optional]

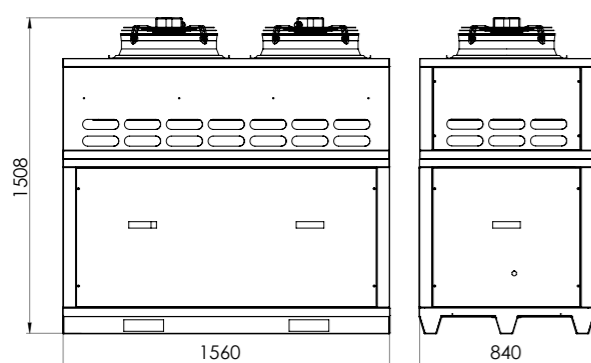
Cooling capacity: **3 to 40 kW (HFC) / 7 to 38 kW (CO<sub>2</sub>)**Application: **250 to 500 m<sup>2</sup> (HFC/CO<sub>2</sub>)**

- ✓ Double V battery (NV58 only).
- ✓ Greater exchange surface that allows a lower refrigerant flow and charge.
- ✓ A battery can act as an evaporator in case of heat demand and when cold generation is not required (optional rhx plus nv58).
- ✓ Electrical panel with controller and disconnect switch with external control.
- ✓ NV58 drivable EC fans.
- ✓ Reduced footprint.
- ✓ EPOXY resin treatment option for battery protection.
- ✓ Two independent modules to contain the compressors and the gas cooler.

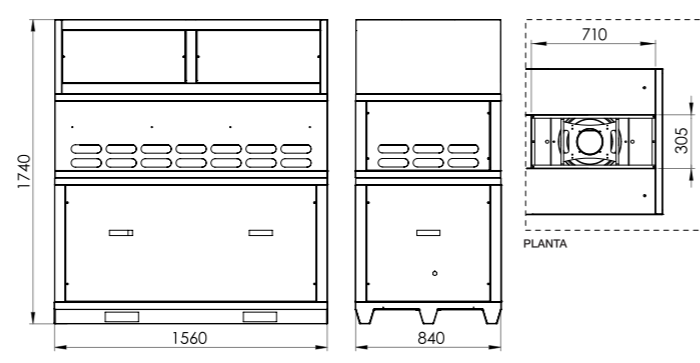


## NV42 dimensions

Axial version NV42



Radial version NV42



## Characteristics of HFC models

- ✓ Condenser with 5 mm tubes (high performance) and with low refrigerant charge.
- ✓ Optional: proportional compressor.
- ✓ Hermetic compressors and scroll compressors.

HFC model	Cooling capacity		
	R134a-MT	R449A-MT	R449A-LT
NV42	8 ... 25 kW	8 ... 20 kW	5 ... 18 kW
NV58	18 ... 33 kW	15 ... 38 kW	7 ... 18 kW

\* Calculation conditions: Tev MT -10°C, Tev LT -35°C, Text +32°C.

## Characteristics of CO<sub>2</sub> models

- ✓ Condenser with 5 mm tubes (high performance) and with low refrigerant charge.
- ✓ Optional: up to 1 exchanger (RHX or IHX).
- ✓ Design pressures:
  - MP (MT Suction): 52 bar.
  - LP (LT Suction): 30 bar.
  - IP (Receiv. and liquid line): 70 bar.
  - HP (Discharge): 120 bar.
- ✓ VF on the first compressor of each group.
- ✓ It covers refrigeration services in one or two temperatures, working as a booster.
- ✓ Gas cooler with EC fans and maximum pressure of 120 bar.

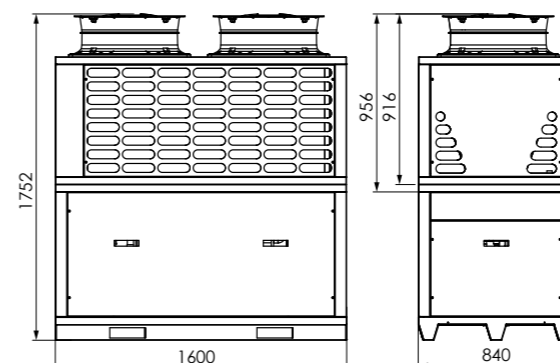
NV42 CO <sub>2</sub>		Application	
		MT	MT + LT
Cooling capacity	kW	12 kW	12 + 4 kW
Number of compressors	n°	1	1 + 1
Inverter compressors	n°	1	1 + 0
Extra Equipment	Tipo	RHX	RHX
Recovery (max)	kW	13 kW	13 kW

NV58 CO <sub>2</sub>		Application	
		MT	MT + LT
Cooling capacity	kW	32 kW	36 kW
Number of compressors	n°	1	2
Inverter compressors	n°	1	1
Extra Equipment	Tipo	RHX	RHX
Recovery (max)	kW	23 kW	25 kW

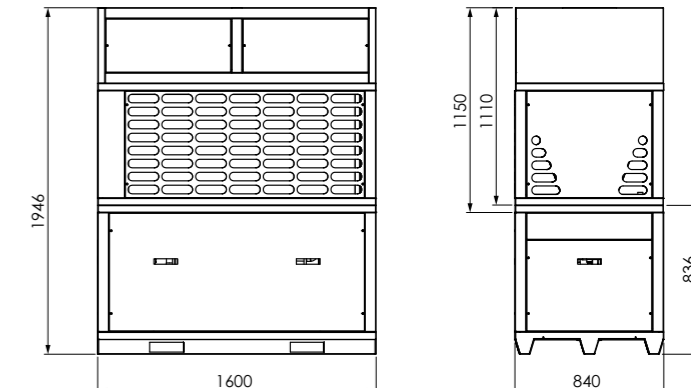
\* Calculation conditions: Tev MT -8°C, Tev LT -32°C, Tsgc +35°C.

## NV58 dimensions

Axial version NV58



Radial version NV58



RETAIL STORES  
< 400 m<sup>2</sup>SUPERMARKETS  
400-1500 m<sup>2</sup>BIG SUPERMARKET  
1500-3000 m<sup>2</sup>HYPERMARKET  
3000-5000 m<sup>2</sup>BIG HYPERMARKET  
5000-10000 m<sup>2</sup>

HFC

CO<sub>2</sub>

Tewis

HFC

CO<sub>2</sub>

# NV66 Compact CO<sub>2</sub> transcritical/HFC compressor racks

**Compact compressor racks** fully equipped for cold generation with CO<sub>2</sub> in transcritical cycle. It covers refrigeration services in one or two temperatures, working as a booster. Optional: up to 1 exchanger and 1 parallel compressor.

- › CONVENIENCE STORES
- › SUPERMARKETS
- › REFRIGERATED FOOD WAREHOUSES
- › SMALL INDUSTRY

Cooling capacity: **15 to 39 kW (HFC) / 44 to 63 kW (CO<sub>2</sub>)**Application: **373 to 500 m<sup>2</sup> (HFC) / 700 to 1.500 m<sup>2</sup> (CO<sub>2</sub>)**

- ✓ Double V battery.
- ✓ Greater exchange surface, that allows a lower refrigerant flow and charge.
- ✓ Possibility of installing a heat recovery unit.
- ✓ Electrical panel with controller and disconnect switch with external control.
- ✓ Two independent modules to contain the compressors and the gas cooler.
- ✓ NV58 drivable EC fans.
- ✓ EPOXY resin treatment option for battery protection.



## Main features



NOVA66: 360° accessibility

- ✓ Complete solution.
- ✓ Plug & Play.
- ✓ Indoor & outdoor.
- ✓ Gas Cooler included.
- ✓ 360° access.
- ✓ Compact equipment.
- ✓ Soundproofing.
- ✓ Selectable electronic brand.



SELECTABLE ELECTRONIC BRAND

## Characteristics of HFC models

- ✓ Condenser with 5 mm tubes (high performance) and with low refrigerant charge.
- ✓ Optional: proportional compressor.
- ✓ Bitzer or Copeland compressors.

HFC model	Cooling capacity		
	R134a-MT	R449A-MT	R449A-LT
<b>NV66</b>	23 ... 37 kW	35 kW	9 ... 23 kW

\* Calculation conditions: Tev MT -10°C, Tev LT -35°C, Text +32°C.

## Characteristics of CO<sub>2</sub> models

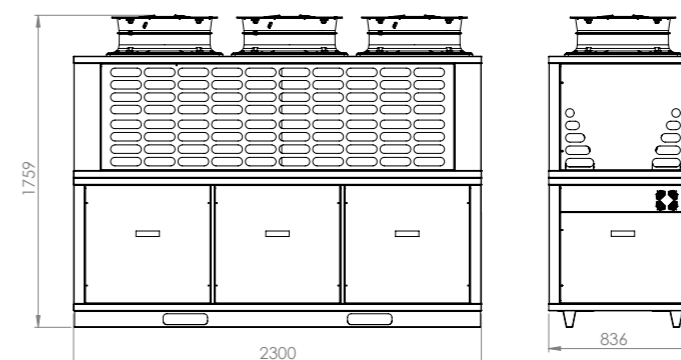
- ✓ Condenser with 5 mm tubes (high performance) and with low refrigerant charge.
- ✓ Optional: proportional compressor.

NV66 CO <sub>2</sub>		Application			
		MT		MT + CP	
Cooling capacity	kW	44 kW	54 kW	63 kW	40 + 4 kW
Number of compressors	n°	2	3	2 + 1	2 + 1
Inverter compressors	n°	1	1	1 + 1	1 + 0 (opt.)
Extra equipment	Tipo	IHX / RHX	IHX / RHX	IHX / RHX	IHX / RHX
Recovery (max)	kW	30 kW	38 kW	40 kW	30 kW

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

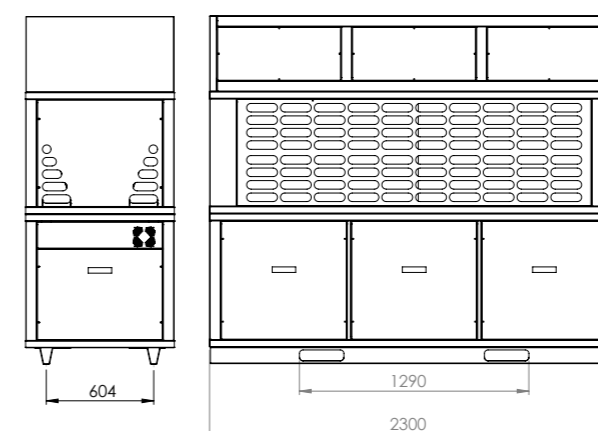
## NV66 Dimensions

Silent version available



AXIAL VERSION NV66

**Fans**  
3x Ø500 mm  
**Airflow**  
24.000 m<sup>3</sup>/h  
**Sound pressure at 10 m**  
46 to 57 dB(A)



RADIAL VERSION NV66

**Fans**  
3x Ø500 mm  
**Airflow**  
22.500 m<sup>3</sup>/h  
**Available pressure**  
100 Pa  
**Sound pressure at 10 m**  
50 to 56 dB(A)

RETAIL STORES  
< 400 m<sup>2</sup>SUPERMARKETS  
400-1500 m<sup>2</sup>BIG SUPERMARKET  
1500-3000 m<sup>2</sup>HYPERMARKET  
3000-5000 m<sup>2</sup>BIG HYPERMARKET  
5000-10000 m<sup>2</sup>CO<sub>2</sub>

Tewis

CO<sub>2</sub>

# NV66+ Compact transcritical CO<sub>2</sub> compressor racks

**Compact compressor racks** fully equipped for cold generation with CO<sub>2</sub> in transcritical cycle. It covers refrigeration services in one or two temperatures, working as a booster. Optional: it can include up to 1 exchanger and 1 parallel compressor.

- › CONVENIENCE STORES
- › SUPERMARKETS
- › REFRIGERATED FOOD WAREHOUSES
- › SMALL INDUSTRY

Cooling capacity: **22 to 77 kW**Application: **700 to 1.800 m<sup>2</sup>**

- ✓ Double V battery with great exchange surface and lower flow rate required.
- ✓ Two independent modules to contain the compressors and the gas cooler.
- ✓ 360° accessible.
- ✓ Up to 5 compressors.
- ✓ 3 air outlet configurations.
- ✓ Electrical panel with controller.
- ✓ Multiple possibilities of loading and transportation.



## Main features



- ✓ Complete solution.
- ✓ Plug & Play.
- ✓ Indoor & outdoor.
- ✓ Gas Cooler included.
- ✓ 360° access.
- ✓ Compact equipment.
- ✓ Soundproofing.
- ✓ Selectable electronic brand.
- ✓ Parallel compressor (option).

SELECTABLE  
ELECTRONIC BRAND

## Characteristics

- ✓ Oil separator accumulator.
- ✓ 90 l liquid receiver with internal exchanger for connection to the emergency unit.
- ✓ Two electronic refrigerant level sensors (high and low level).
- ✓ Emergency unit on board.
- ✓ Parallel compressor (option).
- ✓ Copper pipes and connections.
- ✓ Frequency inverter for the first MT compressor and optional for the LT compressor.
- ✓ Selectable electronic brands: **Tewis** (EWCM9000pro), **Danfoss** (AK-PC 772) or **Carel** (pRack PR300T).
- ✓ Axial/radial fans option.
- ✓ RHX option.
- ✓ Design pressures:
  - MP (MT Suction) : 52 bar.
  - LP (LT Suction) : 30 bar.
  - IP (Receiver and liquid line) : 70 bar.
  - HP (Discharge): 120 bar.

## Data & models

BASE CODE	APPLICATION	COMPRESSOR	CAPACITY kW MT*	CAPACITY kW LT*	MT COMPRESSORS	LT COMPRESSORS
<b>GNV66**291XBX</b>	MT	Bitzer	47,37	–	1x 4JTC-15K (V.F.) + 1x 4HTC-15K	–
<b>GNV66**045XBX</b>	MT	Bitzer	70,05	–	1x 4JTC-15K (V.F.) + 2x 4HTC-15K	–

<b>TNV66**951YBX</b>	MT • LT	Bitzer	43,44	3,90	1x 4JTC-15K (V.F.) + 1x 4HTC-15K	1x 2MSL-07K
<b>TNV66**921YBX</b>	MT • LT	Bitzer	49,33	3,90	1x 4MTC-10K (V.F.) + 2x 4KTC-10K	1x 2MSL-07K
<b>TNV66**170XBX</b>	MT • LT	Bitzer	66,12	3,90	1x 4JTC-15K (V.F.) + 2x 4HTC-15K	1x 2MSL-07K

<b>TNV66**042XBX</b>	MT • LT	Bitzer	46,52	6,68	1x 4MTC-10K (V.F.) + 2x 4KTC-10K	2x 2MSL-07K
<b>TNV66**301XBX</b>	MT • LT	Bitzer	63,31	6,68	1x 4JTC-15K (V.F.) + 2x 4HTC-15K	2x 2MSL-07K
<b>TNV66**965YBX</b>	MT • LT	Bitzer	28,42	6,68	1x 4MTC-10K (V.F.) + 1x 4KTC-10K	2x 2MSL-07K
<b>TNV66**767XDX</b>	MT • LT	Dorin	37,27	7,27	1x CD4120-9,2H (V.F.) + 1x CD490-9,2M	2x CDS101B

<b>TNV66**919YBX</b>	MT • LT	Bitzer	44,96	8,26	1x 4MTC-10K (V.F.) + 2x 4KTC-10K	1x 2JSL-2K
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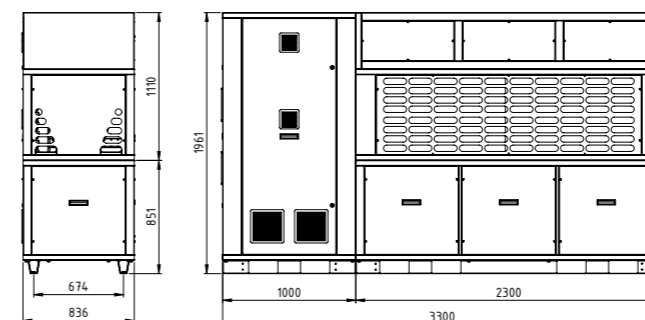
<b>TNV66**762XDX</b>	MT • LT	Dorin	26,44	9,68	1x CD490-6,4H (V.F.) + 1x CD490-9,2M	2x CDS151B
<b>TNV66**768XDX</b>	MT • LT	Dorin	34,80	9,68	1x CD4120-9,2H (V.F.) + 1x CD490-9,2M	2x CDS151B
<b>TNV66**310XBX</b>	MT • LT	Bitzer	42,09	11,10	1x 4MTC-10K (V.F.) + 2x 4KTC-10K	2x 2KSL-1K
<b>TNV66**322XBX</b>	MT • LT	Bitzer	58,88	11,10	1x 4JTC-15K (V.F.) + 2x 4HTC-15K	2x 2KSL-1K
<b>TNV66**966YBX</b>	MT • LT	Bitzer	23,99	11,10	1x 4MTC-10K (V.F.) + 1x 4KTC-10K	2x 2KSL-1K

<b>TNV66**769XDX</b>	MT • LT	Dorin	30,85	13,54	1x CD4120-9,2H (V.F.) + 1x CD490-9,2M	2x CDS181B
<b>TNV66**775XDX</b>	MT • LT	Dorin	41,00	13,54	1x CD490-6,4H (V.F.) + 2x CD490-9,2M	2x CDS181B
<b>TNV66**323XBX</b>	MT • LT	Bitzer	55,82	14,16	1x 4JTC-15K (V.F.) + 2x 4HTC-15K	2x 2JSL-2K

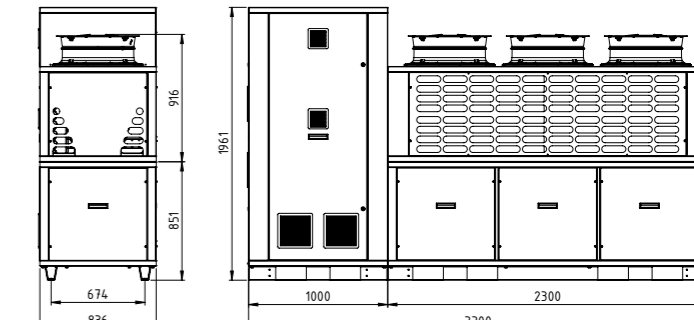
\* Calculation conditions: Tev MT -8°C, Tev LT -32°C, Tsgc +35°C.

## Dimensions

### Radial version



### Axial version



## CZ Multicompressor units with condenser

**CZ** compressor racks with condenser are designed to adapt to the environment. The radial version can be placed in the open or inside the engineering room.

- › CONVENIENCE STORES
- › SUPERMARKETS
- › REFRIGERATED FOOD WAREHOUSES
- › SMALL INDUSTRY



2 to 5 piston compressors



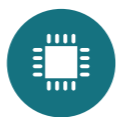
Radial AC/EC version



Protective bodywork



Electrical panel



Electronic control



Proportional modul. [Optional]



Low noise level [Optional]



Safety mode

Cooling capacity: **40 to 102 kW**

Application: **800 to 1.300 m<sup>2</sup>**

- ✓ Radial fans.
- ✓ Horizontal Gas Cooler battery.
- ✓ Liquid receiver.
- ✓ Multiple possibilities of loading and transportation.
- ✓ 3 air outlet configurations.
- ✓ Visible pressure gauge and pressure switch panel.
- ✓ Integrated electrical panel.
- ✓ Bitzer or Copeland compressors.



### ● Axial Model



### ● High efficiency electronics and control

- ✓ **Touch Machine Supervisor (TMS)**, supervision and remote management system for compressor racks with touch screen interface.

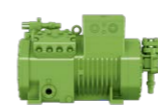
- ✓ 10" touch screen.

- ✓ Among its multiple functions, it allows:
  - Real time monitoring.
  - Configuration of the compressor rack parameters.
  - Alarm management.
  - Data logger.
  - Historical data report.
  - Visualization of synoptics.
  - Internal web server.
  - Integration with third parties.
  - Open protocols.



### ● Characteristics

- ✓ Inverter compressor as the first of each group.
- ✓ Optional: parallel compressor.
- ✓ Design pressures:
  - MP (MT Suction) : 52 bar.
  - LP (LT Suction) : 30 bar.
  - IP (Receiver and liquid line) : 70 bar.
  - HP (Discharge): 120 bar.
- ✓ Liquid receiver up to 150 l.
- ✓ EC fans.



Bitzer Ecoline



Dorin

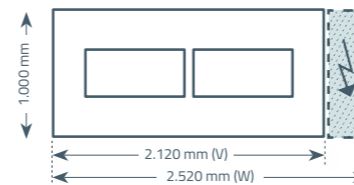
CZ4E		Application			
		MT		MT + LT	
Cooling capacity	kW	67 kW	70 kW	41 + 8 kW	59 + 8 kW
Number of compressors	n°	2	3	1 + 1	2 + 1
Inverter compressors	n°	1	1	1 + 1	1 + 1
Recovery (max)	kW	45 kW	45 kW	35 kW	45 kW

CZ4G		Application					
		MT		MT + LT			MT + LT + cp
Cooling capacity	kW	102 kW	92 kW	89 + 12 kW	89 + 12 kW	84 + 18 kW	70 + 12 kW
Number of compressors	n°	3	4	2 + 1	3 + 1	2 + 2	2 + 1 + 1
Inverter compressors	n°	1	1	1 + 1	1 + 1	1 + 1	1 + 1 + 1
Recovery (max)	kW	70 kW	65 kW	70 kW	70 kW	70 kW	55 kW

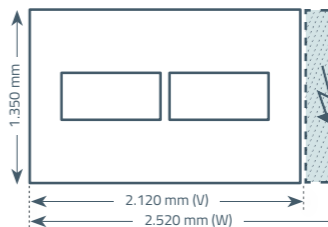
\* Calculation conditions: T<sub>ev</sub> MT -8°C, T<sub>ev</sub> LT -32°C, T<sub>sgc</sub> +35°C.

### ● Dimensions

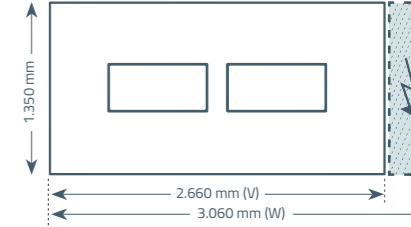
**CZ3E1**



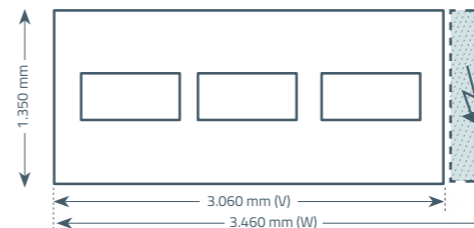
**CZ4E1**



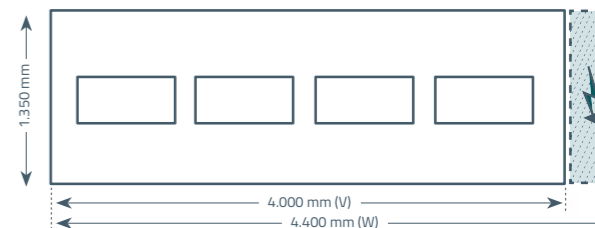
**CZ4F1**











**CZ4G1**



**CZ4J1**



● Optionals

SOLUTIONS THAT HAVE AN IMPACT ON OUR CUSTOMERS			
	<b>PROPORTIONAL MODULATION</b> It adapts the cooling capacity to a specific moment demand, saving energy and prolonging the machine's life.		<b>HEAT RECOVERY [OPTIONAL]</b> A smart way to take advantage of the heat generated by the compressor rack, for example, in DHW applications, air conditioning.
	<b>ELECTRONIC CONTROL</b> Process automation that manages regulation, control, security and energy efficiency. It includes a monitoring and control web application.		<b>PLUG &amp; PLAY</b> The compressor racks are prepared for a quick start-up at a mechanical and electronic level thanks to the electrical panel incorporated.
	<b>F-GAS FREE</b> It complies with the F-GAS regulation on fluorinated gases reducing the impact on the climate.		<b>ELECTRICAL PANEL</b> The electrical panels on the frame, with complete wiring, protect and control the elements of the compressor racks.
	<b>SECURITY MODE</b> In case of failure of the controller or its sensors, the unit is automatically controlled by pressure switches. Control returns to electronic mode once the issue is solved. An exclusive Tewis design.		<b>REDUCTION OF MAINTENANCE COSTS</b> Our systems are based on open standards, so our clients do not depend on a single manufacturer or installer. This significantly reduces maintenance and repair costs.


We recover the heat from refrigeration systems for DHW, air conditioning or other industrial processes.

All the CO<sub>2</sub> refrigeration systems generate high discharge temperatures, which is an excellent heat source to take advantage of.

The **RHX OPTIONAL** uses a welded plate exchanger located at the discharge of the refrigeration compressor rack that allows working in these modes:

- » **HEAT RECOVERY**
- » **HEAT GENERATION**
- » **PLUS HEAT GENERATION**

● Tewis exclusive security mode



**VALVE WITH ELECTRIC ACTUATOR**

In the event of failure in the electronic control unit or any of its components, this valve allows the refrigeration unit to continue operating in electro-mechanical mode without interrupting the service. (Extra equipment of compressor racks).

● Other security modes

**Systems against power failures.** The entire FULL range integrates an uninterruptible power supply (UPS) that allows the electronic controller and its devices to prepare to safely shut down the system. If the lack of supply persists and the pressure in the liquid receiver turns too high, the emergency equipment becomes operational. With an independent supply and connected to a generator set (not included), it will allow the plant pressure to be kept at a stable level.

**Double function of parallel compressors.** If the optional parallel compression is included, in the event of a medium temperature compressor failure, it can fulfil MT services and avoid a system shutdown.

**Electronic back pressure and flash-gas valves.** Each of these valves can include, for safety, another parallel pressostatic valve, ensuring its operation even in emergency cases. (Optional).



Our compact compressor racks are fully equipped and available in both CO<sub>2</sub> and low GWP HFC models.





## » Compressor racks

### » NS21

Compact CO<sub>2</sub> mini compressor racks

### » Smart Rack

Compact CO<sub>2</sub> compressor racks

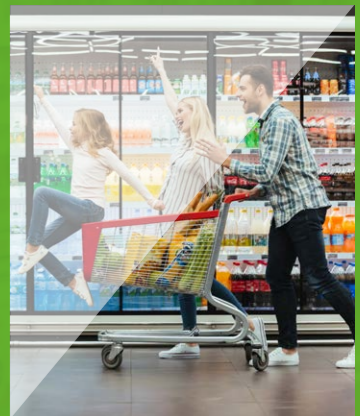
### » Smart Duplex

High Power compact CO<sub>2</sub> compressor racks

### » Duplex Space

High power CO<sub>2</sub> commercial compressor racks

### » Optionals

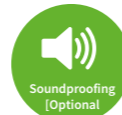


# NS21

## Compact CO<sub>2</sub> mini compressor racks

**MINI COMPACT COMPRESSOR RACKS** with less than 1 m<sup>2</sup> footprint, highly competitive, with CO<sub>2</sub> in transcritical cycle for cold generation. It covers refrigeration services in one or two temperatures, working as a booster. Its design allows an easy access to the components, simplifying the maintenance tasks.

- FOOD RETAIL (CONVENIENCE STORES)
- SOLUTIONS FOR RETAIL GAS STATIONS
- HOSPITALITY INDUSTRY
- SUPERMARKETS
- REFRIGERATED ROOMS



Cooling capacity: **18 to 45 kW**

Application: **200 to 600 m<sup>2</sup>**

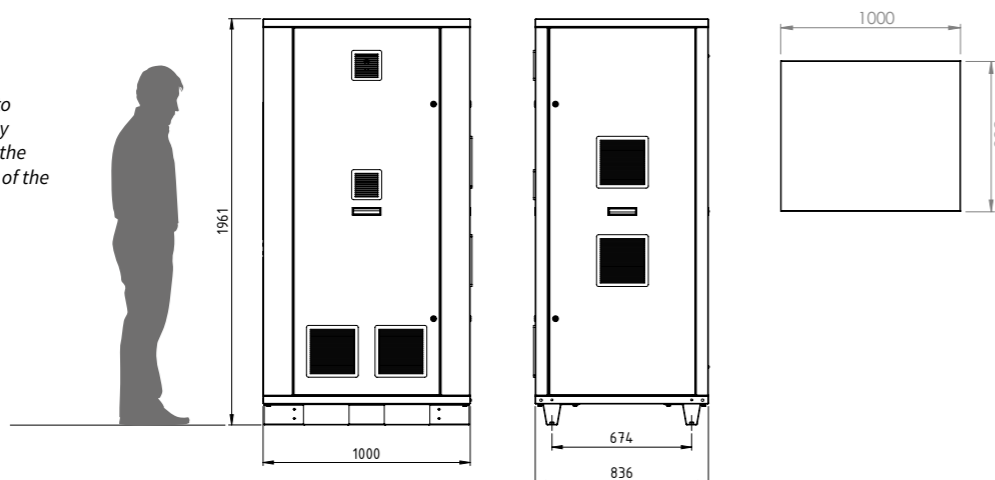
- Highly accessible front opening door with hinges.
- Lateral practicable door.
- Vertical liquid receiver with exchanger prepared for connection to the emergency unit.
- Practicable electrical panel with controller and complete wiring.
- Compatible with Tewis remote management systems.
- Adapted design for proper loading and transportation.
- Up to 2 MT compressors and 1 LT compressor.
- 360° access for easy maintenance.



360° access, with lateral practicable door.

### Dimensions

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



### Features

- Oil separator accumulator.
- Two refrigerant level electronic sensors (high and low level).
- Frequency inverter for the first MT compressor and optional for the LT compressor.
- Optional frame for outdoor use.
- 48l liquid receiver, with internal exchanger for connection to the emergency unit.
- Optional connection to an external RHX. RHX can be installed on MT models.
- Emergency unit not included (junctions included). Required power: 280 W @R134a Tev +5°C.
- Selectable electronic brands: **Tewis** (EWCM9000pro), **Danfoss** (AK-PC 772) or **Carel** (pRack PR300T Medium).
- Bitzer & Dorin compressors.
- Design pressures:
  - MP (MT suction) : 52 bar.
  - LP (LT suction) : 30 bar.
  - IP (Receiver and liquid line) : 70 bar.
  - HP (Discharge): 120 bar.

### Data & models

#### Bitzer

BASE CODE	APPLICATION	CAPAC. kW MT*	CAPAC. kW LT*	GC NEEDED kW	MT COMPRESSORS	LT COMPRESSORS	Lp dB(A)**
<b>GNS21JC302XBX</b>	MT	18,17	—	32,08	1x 2MTE-5K + 1x 2KTE-7K	—	38,7
<b>GNS21JC872YBX</b>	MT	22,63	—	39,96	1x 4PTC-7K + 1x 4MTC-7K	—	46,7
<b>GNS21JC882YBX</b>	MT	35,15	—	62,08	1x 4MTC-10K + 1x 4KTC-10K	—	47,3
<b>TNS21JC304XBX</b>	MT+LT	14,24	3,90	32,08	1x 2MTE-5K + 1x 2KTE-7K	1x 2MSL-07K	39,4
<b>TNS21JC881YBX</b>	MT+LT	31,88	3,23	62,08	1x 4MTC-10K + 1x 4KTC-10K	1x 2NSL-05K	47,4
<b>TNS21JC880YBX</b>	MT+LT	31,22	3,90	62,08	1x 4MTC-10K + 1x 4KTC-10K	1x 2MSL-07K	47,4

#### Dorin

<b>GNS21JC677XDX</b>	MT	25,58	—	45,17	1x CD475-4,7H + 1x CD475-6,4M	—	39,6
<b>GNS21JC684XDX</b>	MT	36,35	—	64,18	1x CD490-6,4H + 1x CD490-9,2M	—	41,2
<b>GNS21JC750XDX</b>	MT	44,71	—	78,95	1x CD4120-9,2H + 1x CD490-9,2M	—	42,1
<b>TNS21JC670XDX</b>	MT+LT	21,07	4,37	45,17	1x CD475-4,7H + 1x CD475-6,4M	1x CDS101B	39,7
<b>TNS21JC679XDX</b>	MT+LT	27,93	8,15	64,18	1x CD490-6,4H + 1x CD490-9,2M	1x CDS181B	41,3
<b>TNS21JC678XDX</b>	MT+LT	30,33	5,83	64,18	1x CD490-6,4H + 1x CD490-9,2M	1x CDS151B	41,3
<b>TNS21JC658XDX</b>	MT+LT	31,83	4,37	64,18	1x CD490-6,4H + 1x CD490-9,2M	1x CDS101B	41,3
<b>TNS21JC753XDX</b>	MT+LT	34,05	10,30	78,95	1x CD4120-9,2H + 1x CD490-9,2M	1x CDS301B	42,2
<b>TNS21JC659XDX</b>	MT+LT	40,19	4,37	78,95	1x CD4120-9,2H + 1x CD490-9,2M	1x CDS101B	42,1

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

\*\* Sound pressure at 10m, considering a spherical surface, in open ground and with soundproofing. Tolerance ±2 dB.



GNV58



GNV66



GNV58



GNV66

CODE	CAPACITY* [KW]	AIR FLOW [M3/H]	SOUND PRESSURE 10M 10M [DB(A)]	Nº. FANS
GNV58PE	58,84	16.400	52	2x Ø500 EC
GNV58PE LPS	52,15	12.800	46	2x Ø500 EC
GNV66PE	88,40	24.000	53	3x Ø500 EC
GNV66PE LPS	79,27	19.200	45	3x Ø500 EC

CODE	CAPACITY* [KW]	AIR FLOW [M3/H]	SOUND PRESSURE 10M [DB(A)]	Nº. FANS
GNV58NE	56,28	15.000	49	2x Ø500 EC
GNV66NE	85,61	22.500	50	3x Ø500 EC

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

# SMART RACK

## CO<sub>2</sub> compact compressor rack

**Compact** compressor racks fully equipped for the generation of cold with **CO<sub>2</sub>** in transcritical cycle. It covers refrigeration services in one or two temperatures, working as a booster. Optionally it can include up to 1 exchanger and 1 parallel compressor.

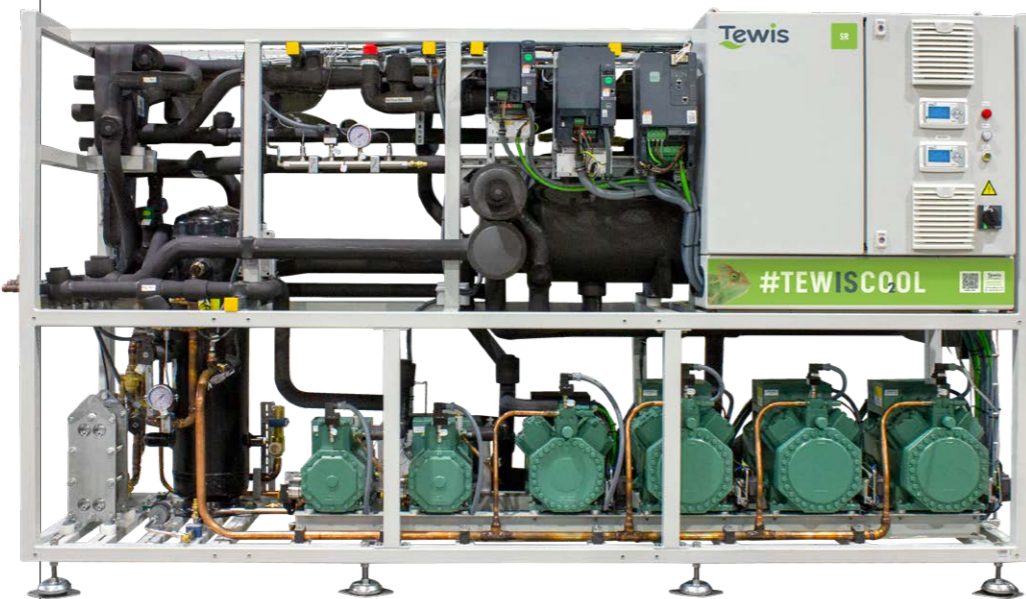
- FOOD RETAIL (CONVENIENCE STORES AND SUPERMARKETS)
- ALMACENES FRIGORÍFICOS
- WORKING ROOMS
- SMALL INDUSTRY



Cooling capacity: **40 to 140 kW**

Application: **400 to 1.500 m<sup>2</sup>**

- ✓ Horizontal liquid receiver: 92/120/160 lit.
- ✓ Tubular chassis.
- ✓ Electrical panel located above the compressors.
- ✓ Separator accumulator.
- ✓ Up to 6 compressors.
- ✓ Easy start-up and maintenance: all connections on the same side.
- ✓ Reduced width of 790 mm that allows it to pass through any standard door.
- ✓ Copper connections.
- ✓ **Capacity 115 kW (MT).**
- ✓ **Booster: up to 135 kW (MT) + 28 kW (LT).**



### Main features



- Compact design.
- Simplicity.
- Flexible (several options).



Selectable electronics brand.

### Optionals:

- ✓ RHX (Recovery Heat Exchanger).
- ✓ IHX (Internal Heat Exchanger).
- ✓ Safety valve manifold.
- ✓ Double high pressure and gas bypass valves.
- ✓ Emergency unit on board.
- ✓ Desuperheater on board.
- ✓ Inverter LT.
- ✓ 10" touchpad Tewis Machine Supervisor (TMS).
- ✓ Parallel compressor.
- ✓ Coming soon: Dorin compressor option.

### Technical features

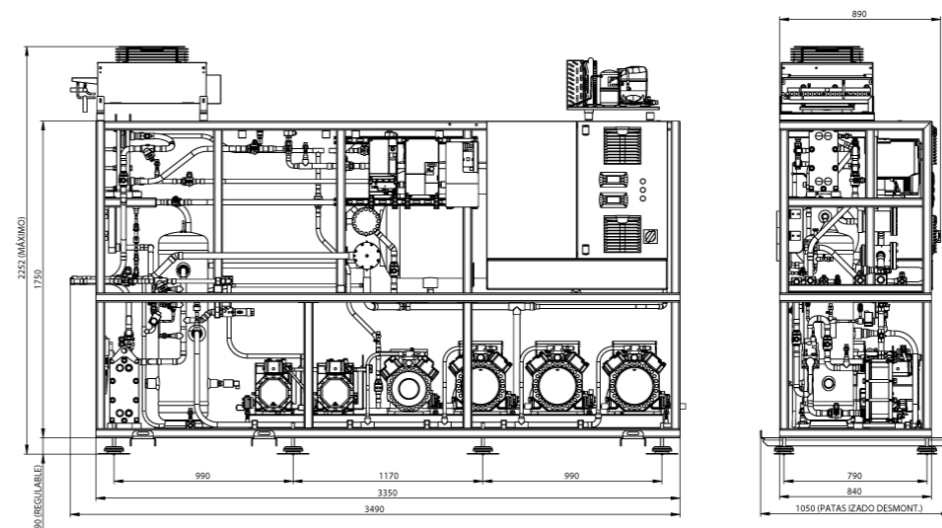
- ✓ Oil separator accumulator.
- ✓ 92/120/160 l liquid receiver, with internal exchanger for connection to emergency unit.
- ✓ Two electronic refrigerant level sensors (high and low levels).
- ✓ Frequency inverter for the first MT compressor and optional for the LT compressor.
- ✓ Selectable electronics brand: **Tewis** (EWCM9000pro), **Danfoss** (AK-PC 772 or 782) or **Carel** (pRack PR300T Medium or Large).
- ✓ All copper connections.
- ✓ Design pressures:
  - **MP** (MT suction) : 52 bar.
  - **LP** (LT suction) : 30 bar.
  - **IP** (Receiver and liquid line) : 70 bar.
  - **HP** (Discharge): 120 bar.

### Data & models

BASE CODE	APPLIC.	CAPAC. kW MT* 70 HZ	CAPAC. kW LT* 70 HZ	MT COMPRESSORS	PARALLEL COMPR.	LT COMPRESSORS
<b>GSR2FJ_093YBX</b>	MT	94,9	—	1 x 4JTE-15K (V.F.) + 2 x 4JTE-15K	1 x 4MTE-10K	—
<b>GSR2FJ_041YBX</b>	MT	114,67	—	1 x 4HTE-20K (V.F.) + 1 x 4FTE-20K	1 x 4JTE-15K	—
<b>TSR2EJ_585XBX</b>	MT+LT	36,84	5,79	1 x 4JTE-15K (V.F.) + 1 x 4JTE-15K	—	1 x 2KSL-1K
<b>TSR2FJ_092XBX</b>	MT+LT	62,7	6,48	1 x 4HTE-20K (V.F.) + 1 x 4FTE-20K	—	1 x 2KSL-1K
<b>TSR2FJ_086YBX</b>	MT+LT	75,26	6,48	1 x 4HTE-20K (V.F.) + 2 x 4HTE-20K	—	1 x 2KSL-1K
<b>TSR2FJ_089YBX</b>	MT+LT	81,48	6,48	1 x 4HTE-20K (V.F.) + 1 x 4HTE-20K	1 x 4MTE-10K	1 x 2KSL-1K
<b>TSR2FJ_439YBX</b>	MT+LT	70,61	11,1	1 x 4HTE-20K (V.F.) + 2 x 4HTE-20K	—	1 x 2KSL-1K + 1 x 2KSL-1K
<b>TSR2FJ_090YBX</b>	MT+LT	37,97	12,7	1 x 4JTE-15K (V.F.) + 1 x 4HTE-20K	1 x 4MTE-10K	1 x 2GSL-3K
<b>TSR2FJ_490YBX</b>	MT+LT	62,01	14,16	1 x 4JTE-15K (V.F.) + 1 x 4JTE-15K	1 x 4MTE-10K	1 x 2JSL-2K + 1 x 2JSL-2K
<b>TSR2FJ_489YBX</b>	MT+LT	73,76	14,16	1 x 4HTE-20K (V.F.) + 1 x 4HTE-20K	1 x 4MTE-10K	1 x 2JSL-2K + 1 x 2JSL-2K
<b>TSR2EJ_112XBX</b>	MT+LT	20,47	18,5	1 x 4JTE-15K (V.F.) + 1 x 4JTE-15K	—	1 x 2HSL-3K + 1 x 2HSL-3K
<b>TSR2FJ_128XBX</b>	MT+LT	50,81	18,33	1 x 4HTE-20K (V.F.) + 1 x 4FTE-20K	—	1 x 2HSL-3K + 1 x 2HSL-3K
<b>TSR2FJ_128XBX</b>	MT+LT	80,75	18,5	1 x 4HTE-20K (V.F.) + 2 x 4FTE-20K	—	2 x 2HSL-3K
<b>TSR2EJ_893XBX</b>	MT+LT	22,5	21,06	1 x 4JTE-15K (V.F.) + 1 x 4HTE-20K	—	1 x 2GSL-3K + 1 x 2GSL-3K
<b>TSR2FJ_193YBX</b>	MT+LT	82,91	21,77	1 x 4HTE-20K (V.F.) + 2 x 4FTE-20K	—	1 x 2GSL-3K + 1 x 2GSL-3K
<b>TSR2EJ_895XBX</b>	MT+LT	22,81	28,07	1 x 4HTE-20K (V.F.) + 1 x 4HTE-20K	—	1 x 2FSL-4K + 1 x 2FSL-4K
<b>TSR2FJ_444YBX</b>	MT+LT	46,8	27,82	1 x 4JTE-15K (V.F.) + 2 x 4HTE-20K	—	1 x 2FSL-4K + 1 x 2FSL-4K
<b>TSR2FJ_088YBX</b>	MT+LT	76,79	27,82	1 x 4HTE-20K (V.F.) + 2 x 4FTE-20K	—	1 x 2FSL-4K + 1 x 2FSL-4K
<b>TSR2GJ_001ZBX</b>	MT+LT	66,43	6,68	1x 4MTE-10K (V.F.) + 2x 4MTE-10K	1x 4MTE-10K (V.F.)	1x 2MSL-07K (V.F.) + 1x 2MSL-07K
<b>TSR2GJ_002ZBX</b>	MT+LT	72,4	11,1	1x 4MTE-10K (V.F.) + 2x 4KTE-10K	1x 4MTE-10K (V.F.)	1x 2KSL-1K (V.F.) + 1x 2KSL-1K
<b>TSR2GJ_003ZBX</b>	MT+LT	106,38	14,16	1x 4JTE-15K (V.F.) + 2x 4HTE-15K	1x 4JTE-15K (V.F.)	1x 2JSL-2K (V.F.) + 1x 2JSL-2K
<b>TSR2GJ_004ZBX</b>	MT+LT	118,19	21,77	1x 4HTE-20K (V.F.) + 2x 4HTE-15K	1x 4HTE-20K (V.F.)	1x 2GSL-3K (V.F.) + 1x 2GSL-3K
<b>TSR2GJ_995YBX</b>	MT+LT	70	25	1x 4JTE-15K (V.F.) + 2x 4HTE-20K	1x 4MTE-10K (V.F.)	1x 2FSL-4K (V.F.) + 1x 2FSL-4K
<b>TSR2GJ_005ZBX</b>	MT+LT	134,08	27,82	1x 4HTE-20K (V.F.) + 2x 4FTE-20K	1x 4HTE-20K (V.F.)	1x 2FSL-4K (V.F.) + 1x 2FSL-4K

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

### Dimensions



### Three different frame sizes available:

- ✓ 4 compressors: length 1900 mm
- ✓ 5 compressors: length 2650 mm
- ✓ 6 compressors: length 3350 mm

With **reduced dimensions** and a **width of 79cm**, the Smart Rack is the most complete option for those supermarkets in retrofit, increasing the possibilities of the sales room. In addition, its design allows **easy access to all the components of the machine**, reducing installation and maintenance times and costs.

# SMART DUPLEX

## High power CO<sub>2</sub> compact compressor rack

**SMART DUPLEX** compressor racks offer the highest powers for the commercial refrigeration range with CO<sub>2</sub> at 2 temperatures, MT and LT. They are two-level transcritical cycle booster machines, and this reduces the space required for their assembly and ensures modulation and operational reliability thanks to the number of compressors they house.

**Optional:** up to 3 exchangers and 1 parallel compressor.

- FOOD RETAIL (CONVENIENCE STORES AND SUPERMARKETS)
- ALMACENES FRIGORÍFICOS
- WORKING ROOMS
- SMALL INDUSTRY



Cooling capacity: **80 to 250 kW**

Application: **1.500 to 3.000 m<sup>2</sup>**

- ✓ Profitability and energy savings.
- ✓ 100% CO<sub>2</sub> = low environmental impact.
- ✓ Compact and simple design (just 1 m depth).
- ✓ High capacity up to 9 compressors.
- ✓ Vertical liquid receiver with high capacity (up to 2x250 l).
- ✓ Extreme flexibility.
- ✓ Remote control (accessible anywhere).
- ✓ Easy commissioning and maintainance.
- ✓ Possibility of 2 RHX, one for DHW and one for air conditioning.



### Main features



- Compact design.
- Simplicity.
- Flexible (several options).



Selectable electronics brand.

### Optionals:

- ✓ Parallel compressor.
- ✓ RHX (Recovery Heat Exchanger) up to 190 kW.
- ✓ IHX (Intenal Heat Exchanger).
- ✓ Double high pressure and gas bypass valves.
- ✓ Emergency unit on board.
- ✓ 10" touchpad TMS (Tewis Machine Supervisor).
- ✓ Possibility of 2 RHX, one for DHW and one for air conditioning.
- ✓ Also available with ECOLINE+ compressors (permanent magnet motor compressors - LSPM)

### Technical features

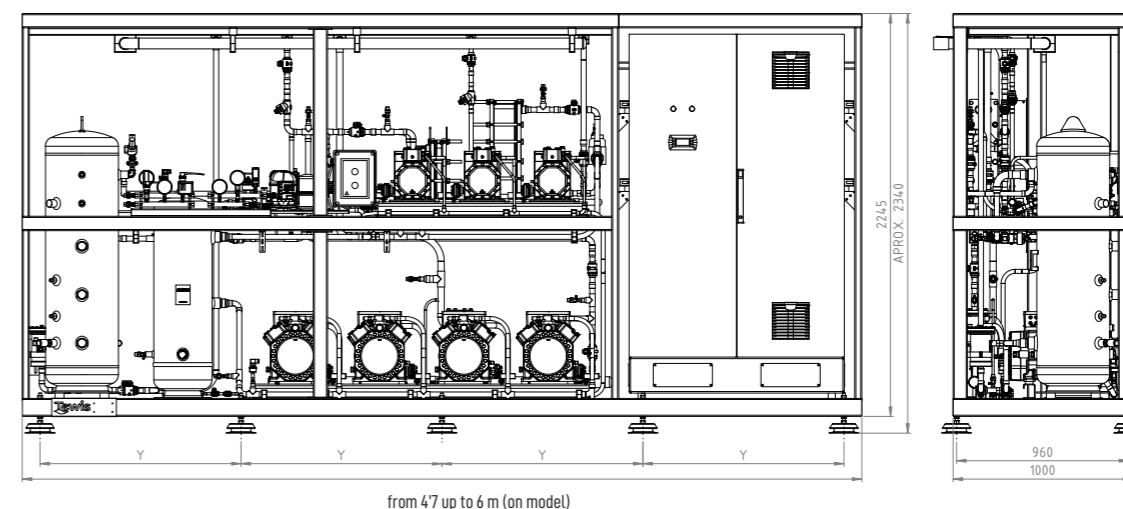
- ✓ Tubular chassis
- ✓ High capacity liquid receiver (up to 2x250 l).
- ✓ Oil separator accumulator.
- ✓ Up to 9 compressors.
- ✓ Frequency inverter for the first MT compressor and for the LT compressor.
- ✓ Two electronic sensors for refrigerant levels (high and low levels).
- ✓ All copper connections.
- ✓ Selectable electronics brand: **Tewis** (EWC9000pro), **Danfoss** (AK-PC 782) or **Carel** (pRack PR300T Large).
- ✓ Design pressures:
  - MP (MT suction) : 52 bar.
  - LP (LT suction) : 30 bar.
  - IP (Receiver and liquid line) : 60 bar.
  - HP (Discharge): 120 bar.

### Models & Data

BASE CODE	APPLIC.	CAPAC. KW MT* 70 HZ	CAPAC. KW LT* 70 HZ	MT COMPRESSORS	PARALLEL COMPRESSOR	LT COMPRESSORS
GSD3KJ_048ZBX	MT	179,56	-	1x 4HTE-20K (V.F. @70 Hz) + 4x 4FTE-30K	-	-
GSD3MJ_049ZBX	MT	266,6	-	1x 4FTE-30K (V.F. @70 Hz) + 4x 4CTE-30K	-	-
TSD3JJ_028ZBX	MT+LT	52	20,37	1x 4JTE-15K (V.F. @70 Hz) + 2x 4HTE-20K	-	1x 2JSL-2K (V.F. @70 Hz) + 2x 2JSL-2K
TSD3JJ_030ZBX	MT+LT	64,41	31,32	1x 4JTE-15K (V.F. @70 Hz) + 3x 4HTE-20K	-	1x 2GSL-3K (V.F. @70 Hz) + 2x 2GSL-3K
TSD3JJ_031ZBX	MT+LT	77,52	26,38	1x 4HTE-20K (V.F. @70 Hz) + 2x 4FTE-30K	-	1x 2HSL-3K (V.F. @70 Hz) + 2x 2HSL-3K
TSD3KJ_033ZBX	MT+LT	105,43	34,14	1x 4HTE-20K (V.F. @70 Hz) + 3x 4FTE-30K	-	1x 2HSL-3K (V.F. @70 Hz) + 3x 2HSL-3K
TSD3JJ_035ZBX	MT+LT	122,55	18,62	1x 4HTE-20K (V.F. @70 Hz) + 3x 4FTE-30K	-	1x 2HSL-3K (V.F. @70 Hz) + 1x 2HSL-3K
TSD3JJ_034ZBX	MT+LT	113,46	26,81	1x 4HTE-20K (V.F. @70 Hz) + 3x 4FTE-30K	-	1x 2JSL-2K (V.F. @70 Hz) + 2x 2GSL-3K
TSD3JJ_050ZBX	MT+LT	155,36	36,44	1x 4HTE-20K (V.F. @70 Hz) + 3x 4CTE-30K	-	1x 2GSL-3K (V.F. @70 Hz) + 2x 2FSL-4K
TSD3JJ_051ZBX	MT+LT	172,74	36,44	1x 4FTE-30K (V.F. @70 Hz) + 3x 4CTE-30K	-	1x 2GSL-3K (V.F. @70 Hz) + 2x 2FSL-4K
TSD3MJ_052ZBX	MT+LT	184,04	75,88	1x 4FTE-30K (V.F. @70 Hz) + 4x 4CTE-30K	-	1x 2DSL-5K (V.F. @70 Hz) + 3x 2DSL-5K
TSD3MJ_053ZBX	MT+LT	213,73	48,21	1x 4FTE-30K (V.F. @70 Hz) + 4x 4CTE-30K	-	1x 2GSL-3K (V.F. @70 Hz) + 3x 2FSL-4K
TSD3JJ_037ZBX	MT+LT	85,97	31,32	1x 4JTE-15K (V.F. @70 Hz) + 2x 4HTE-20K	1x 4JTE-15K (V.F.)	1x 2GSL-3K (V.F. @70 Hz) + 2x 2GSL-3K
TSD3JJ_039ZBX	MT+LT	110,01	26,81	1x 4HTE-20K (V.F. @70 Hz) + 2x 4HTE-20K	1x 4HTE-20K (V.F.)	1x 2JSL-2K (V.F. @70 Hz) + 2x 2GSL-3K
TSD3JJ_042ZBX	MT+LT	123,56	14,38	1x 4HTE-20K (V.F. @70 Hz) + 2x 4HTE-20K	1x 4HTE-20K (V.F.)	1x 2JSL-2K (V.F. @70 Hz) + 1x 2JSL-2K
TSD3JJ_040ZBX	MT+LT	119,33	35,02	1x 4JTE-15K (V.F. @70 Hz) + 2x 4FTE-30K	1x 4HTE-20K (V.F.)	1x 2ESL-4K (V.F. @70 Hz) + 1x 2ESL-4K
TSD3JJ_044ZBX	MT+LT	130,4	24,67	1x 4JTE-15K (V.F. @70 Hz) + 2x 4FTE-30K	1x 4HTE-20K (V.F.)	1x 2GSL-3K (V.F. @70 Hz) + 1x 2FSL-4K
TSD3KJ_041ZBX	MT+LT	123,71	36,44	1x 4HTE-20K (V.F. @70 Hz) + 3x 4HTE-20K	1x 4HTE-20K (V.F.)	1x 2GSL-3K (V.F. @70 Hz) + 2x 2FSL-4K
TSD3JJ_045ZBX	MT+LT	130,05	31,32	1x 4HTE-20K (V.F. @70 Hz) + 2x 4FTE-30K	1x 4HTE-20K (V.F.)	1x 2GSL-3K (V.F. @70 Hz) + 2x 2GSL-3K
TSD3KJ_046ZBX	MT+LT	174,7	49,61	1x 4HTE-20K (V.F. @70 Hz) + 3x 4FTE-30K	1x 4FTE-30K (V.F.)	1x 2ESL-4K (V.F. @70 Hz) + 2x 2ESL-4K
TSD3KJ_047ZBX	MT+LT	188,76	36,44	1x 4HTE-20K (V.F. @70 Hz) + 3x 4FTE-30K	1x 4FTE-30K (V.F.)	1x 2GSL-3K (V.F. @70 Hz) + 2x 2FSL-4K
TSD3KJ_096ZBX	MT+LT	204,69	26,38	1x 4GTE-30K (V.F. @70 Hz) + 2x 4DTE-25K	1x 4HTE-20K (V.F.) + 1x 4HTE-20K	1x 2HSL-3K (V.F. @70 Hz) + 1x 2HSL-3K
TSD3KJ_097ZBX	MT+LT	150,4	31,32	1x 4HTE-20K (V.F. @70 Hz) + 2x 4FTE-30K	1x 4JTE-15K (V.F.) + 1x 4JTE-15K	1x 2GSL-3K (V.F. @70 Hz) + 1x 2GSL-3K

\* Calculation conditions: T<sub>ev</sub> MT -8°C, T<sub>ev</sub> LT -32°C, T<sub>sgc</sub> +35°C.

### Dimensions



from 4.7 up to 6 m (on model)

Its design allows easy access to all the components of the unit, reducing installation and maintenance time and costs.

DEPTH: JUST 1 m

RETAIL STORES  
< 400 m<sup>2</sup>SUPERMARKETS  
400-1500 m<sup>2</sup>BIG SUPERMARKET  
1500-3000 m<sup>2</sup>HYPERMARKET  
3000-5000 m<sup>2</sup>BIG HYPERMARKET  
5000-10000 m<sup>2</sup>CO<sub>2</sub>

# DUPLEX SPACE

## High power CO<sub>2</sub> commercial compressor racks

**FULL DUPLEX SPACE** compressor racks offer the **highest powers for the commercial refrigeration range with CO<sub>2</sub>** at 2 temperatures, MT and LT. They are two-level transcritical cycle booster machines, and this reduces the space required for their assembly and ensures modulation and operational reliability thanks to the number of compressors they house. Optional: up to 3 exchangers and 1 parallel compressor.

- FOOD RETAIL
- SUPERMARKETS
- HYPERMARKETS
- REFRIGERATED FOOD WAREHOUSES

Cooling capacity: **80 to 380 kW**Application: **3.000 to 5.000 m<sup>2</sup>**

- Electrical panel mounted on the side of the unit, providing a greater refrigeration power and a greater capacity of the liquid receiver.
- Maximum MT capacity: 380 kW.
- Maximum LT capacity: 200 kW.
- Up to 2 x 300 L receivers.
- Optional: 6 cylinders compressors.
- Optional: bodywork and soundproofing for outdoor use.

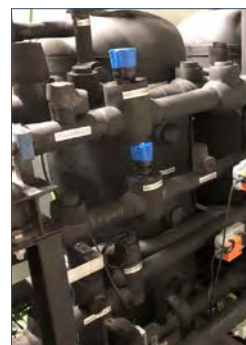
### Two widths available (see dimensions table)

- 1000 mm (CDX3\* models)**
- 1350 mm (CDX4\* models)**



- Bitzer Ecoline or Dorin compressors.

### Optionals



#### Security mode

##### Valve with electric actuator.

In the event of failure in the electronic control unit or any of its components, this valve allows the refrigeration unit to continue operating in electro-mechanical mode without interrupting the service. (Extra equipment of compressor racks).

### Extras:

- RHX (heat recuperation exchanger).
- IHX (internal heat exchanger).
- Security valve.
- Double gas derivation and high pressure valves.
- Emergency unit on board.
- LT Inverter.
- Tewis Machine Supervisor (TMS) 10" touch screen.
- Parallel compressor.

CO<sub>2</sub>

### Technical data

- Models of different lengths:
  - 3460 mm (mod. G).**
  - 4000 mm (mod. H).**
  - 4400 mm (mod. J).**

- Two widths available** according to options (see table below):
  - 1000 mm (mod. CDX3\*)** or
  - 1350 mm (mod. CDX4\*).**

CDX3G / CDX4G 3460 mm [length]	Application			
	MT + LT		MT + LT + CP	
Cooling capacity	kW	80+70	0+140	120+70
Number of compressors	n°	3+2	3+4	2+2+1
Recovery (max)	kW	110	110	140

CDX3H / CDX4H 4000 mm [length]	Application			
	MT + LT		MT + LT + CP	
Cooling capacity	kW	140+70	60+140	170+70
Number of compressors	n°	4+2	4+4	3+2+1
Recovery (max)	kW	150	150	150

CDX3J / CDX4J 4400 mm [length]	Application			
	MT + LT		MT + LT + CP	
Cooling capacity	kW	140+70	60+140	200+70
Number of compressors	n°	4+2	4+4	4+2+1
Recovery (max)	kW	170	170	190

\* Calculation conditions: T<sub>ev</sub> MT -8°C, T<sub>ev</sub> LT -32°C, T<sub>sgc</sub> +35°C.

### High efficiency electronics and control (option)

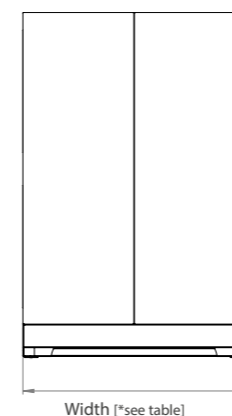
- Touch Machine Supervisor (TMS)**, supervision and remote management system for compressor racks with touch screen interface.

- 10" touch screen for Tewis CO<sub>2</sub> compressor racks.

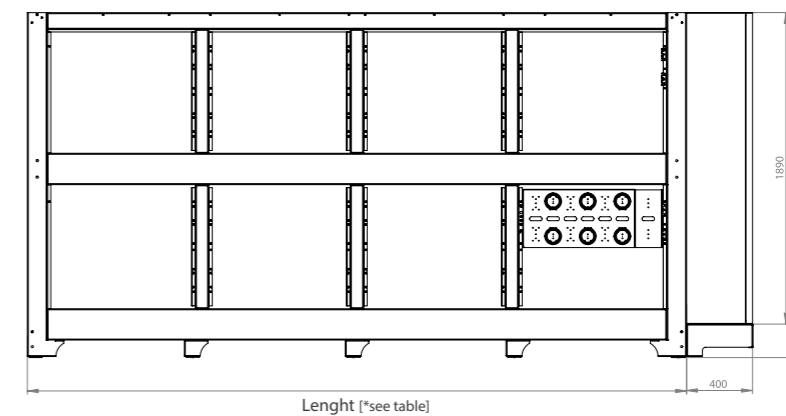
- Among its multiple functions, it allows:
  - Real time monitoring.
  - Configuration of the compressor rack parameters.
  - Alarm management.
  - Data logger.
  - Historical data report.
  - Visualization of synoptics.
  - Internal web server.
  - Integration with third parties.
  - Open protocols.



### Dimensions











Width [\*see table]



Length [\*see table]

Chassis	Length [mm]	Width [mm]	Height [mm]
CDX3G	3460	1000	2100
CDX3H	4000	1000	2100
CDX3J	4400	1000	2100
CDX4G	3460	1350	2100
CDX4H	4000	1350	2100
CDX4J	4400	1350	2100

● Compressor racks extras

SOLUTIONS THAT HAVE AN IMPACT ON OUR CUSTOMERS			
	<b>PROPORTIONAL MODULATION</b> It adapts the cooling capacity to a specific moment demand, saving energy and prolonging the machine's life.		<b>HEAT RECOVERY [OPTIONAL]</b> A smart way to take advantage of the heat generated by the compressor rack, for example, in DHW applications, air conditioning.
	<b>ELECTRONIC CONTROL</b> Process automation that manages regulation, control, security and energy efficiency. It includes a monitoring and control web application.		<b>PLUG &amp; PLAY</b> The compressor racks are prepared for a quick start-up at a mechanical and electronic level thanks to the electrical panel incorporated.
	<b>F-GAS FREE</b> It complies with the F-GAS regulation on fluorinated gases reducing the impact on the climate.		<b>ELECTRICAL PANEL</b> The electrical panels on the frame, with complete wiring, protect and control the elements of the compressor racks.
	<b>SECURITY MODE</b> In case of failure of the controller or its sensors, the unit is automatically controlled by pressure switches. Control returns to electronic mode once the issue is solved. An exclusive Tewis design.		<b>REDUCTION OF MAINTENANCE COSTS</b> Our systems are based on open standards, so our clients do not depend on a single manufacturer or installer. This significantly reduces maintenance and repair costs.

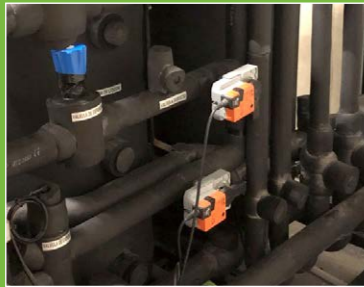
We recover the heat from refrigeration systems for DHW, air conditioning or other industrial processes

All the CO<sub>2</sub> refrigeration systems generate high discharge temperatures, which is an excellent heat source to take advantage of.

The **RHX OPTIONAL** uses a welded plate exchanger located at the discharge of the refrigeration compressor rack that allows working in these modes:

- » **HEAT RECOVERY**
- » **HEAT GENERATION**
- » **PLUS HEAT GENERATION**

● Tewis exclusive security mode



**VALVE WITH ELECTRIC ACTUATOR**

In the event of failure in the electronic control unit or any of its components, this valve allows the refrigeration unit to continue operating in electro-mechanical mode without interrupting the service. (Extra equipment of compressor racks).

● Other security modes

**Systems against power failures.** The entire FULL range integrates an uninterruptible power supply (UPS) that allows the electronic controller and its devices to prepare to safely shut down the system. If the lack of supply persists and the pressure in the liquid receiver turns too high, the emergency equipment becomes operational. With an independent supply and connected to a generator set (not included), it will allow the plant pressure to be kept at a stable level.

**Double function of parallel compressors.** If the optional parallel compression is included, in the event of a medium temperature compressor failure, it can fulfil MT services and avoid a system shutdown.

**Electronic back pressure and flash-gas valves.** Each of these valves can include, for safety, another parallel pressostatic valve, ensuring its operation even in emergency cases. (Optional).



Widely equipped compact compressor racks, with models with a reduced footprint and high-power models.

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

## » Refrigeration & AC solutions

### » GM Pack

Refrigeration and AC solutions HFC

### » Conveni Pack HFC

All-in-one solutions in a compact HFC system

### » Conveni Pack CO<sub>2</sub>

All-in-one solutions in a compact CO<sub>2</sub> system

### » Conveni Pack extras

CO<sub>2</sub>/HFC

### » Control systems

Intelligent Tablet Controller & Intelligent Touch Controller

### » GM Full Duplex

Refrigeration and AC solutions CO<sub>2</sub>

### » Optionals



# GM Pack

## Refrigeration and AC solutions HFC

The **GM PACK** range has been designed to respond to all the energetic requirements of the supermarket with a single compact unit.

- CONVENIENCE/PROXIMITY STORES
- SPECIALIZED FOOD STORES
- SOLUTIONS FOR RETAIL GAS STATIONS



Axial EC Version



Radial EC Version



Proportional modulation



F-gas free



Day/night function



Low noise level



Plug&play



Electronic control

Cooling capacity: **2 to 40 kW**

Application: **200 to 500 m²**

- ✓ Double V battery, one of which is reversible and has a condensation tray for water collection with a high performance 5 mm tube and a low internal volume of refrigerant.
- ✓ Air balancing solution.
- ✓ Optional: axial fans.
- ✓ Complete electrical panel with protections. It complies with the European regulation.
- ✓ Reduced dimensions.
- ✓ Easy to transport and with up to 6 mounting options.
- ✓ 3 air outlet configurations.
- ✓ Free management software included.
- ✓ 3 compressors: 2 digital scroll that self-regulate according to the demand, and 1 scroll.
- ✓ Compressors with emergency maneuver.



### Dimensions

Axial version: 1.600 x 840 x 1.752 mm  
Radial version: 1.600 x 840 x 1.946 mm

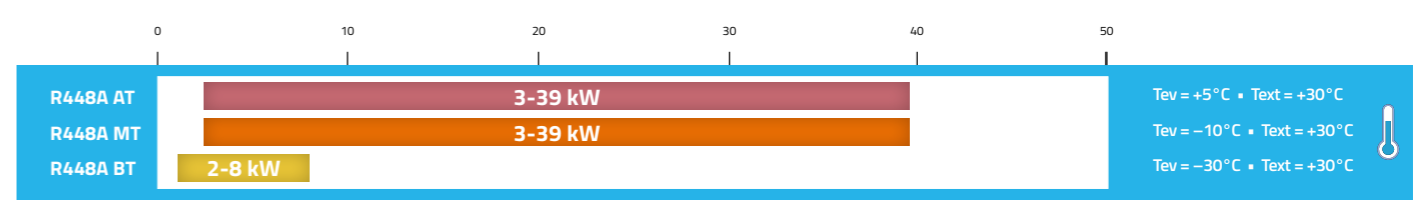


### Air balancing single-zone/multi-zone system

The system is air balancing and the air conditioning is single-zone with integrated control or multi-zone with zone control.

Selection	1	2	3	4	5	6
Refrigeration (-10°C)	39,5 kW	27 kW	22 kW	16 kW	12,5 kW	0 kW
Air conditioning (+5°C)	0 kW	12,5 kW	17,5 kW	23,5 kW	27 kW	39,5 kW

### Cooling capacity range



### GM Pack range features

**GM Pack** is a range of multi-functional, highly efficient units designed for retail and proximity stores.

These units allow to combine refrigeration, air conditioning, heating and heat recuperation services.

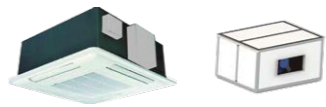
They comply with the F-GAS regulation. They easily fit any installation thanks to their modular design that allows to combine several units depending on the area requirements, and to their constructive design which includes different layouts (axial, radial, reduced height, and so on).

The interconnection of systems allows the centralized regulation and monitoring of the installations, knowing in detail the status of each machine as well as that of the grouped installations.

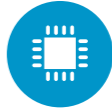
*Simultaneous refrigeration and air conditioning*

*TOP: refrigeration + air conditioning*

*Air conditioning available for cassettes or ducts*



**PROPORTIONAL MODULATION**  
It adapts the cooling capacity to a specific moment demand, saving energy and prolonging the machine's life.



**ELECTRONIC CONTROL**  
Process automation that manages regulation, control, security and energy efficiency. It includes a monitoring and control web application.



**RADIAL/AXIAL FANS**  
Axial fans for outdoor mounting and radial fans for indoor, with directed air-outlet.



**LOW SOUND LEVEL**  
Hermetic compressors with sound insulation covers, EC fans and electronic management with day/night function that allows the night noise threshold to be even lower.

### GM Pack modular features



Split



Radial



Axial

# Conveni Pack

All-in-one solutions in compact HFC system

**CONVENI PACK** is a low sound system for medium temperature, space cooling and heating, with heat recovery and heat pump function. All these functions are combined in a compact system.

- › REFRIGERATION AND HIGH AND LOW TEMPERATURE AIR CONDITIONING ARE INTEGRATED IN A SINGLE SYSTEM.

› UP TO 50% SAVING IN ENERGY COST.

› REDUCTION OF THE CO2 EMISSIONS THANKS TO THE HEAT PUMP TECHNOLOGY.
- › THE HEAT RECOVERED FROM THE CHILLED AND FROZEN DISPLAY CASES CAN BE USED TO PROVIDE HEATING FOR THE STORE.

› AVAILABLE: PRESSURE FOR INDOOR INSTALLATION (78 PA).



78pa  
Available pressure

- › SMALL AND MEDIUM-SIZED FOOD STORES
- › COMMERCIAL KITCHENS
- › FARMS AND ORGANIC STORES
- › SOLUTIONS FOR RETAIL GAS STATION



Model		LRYEQ16AY
Refrigerant		R410A
Capacity	Cold	Air conditioning 14 kW
	Heat	Refrigeración 21,8 kW
Compressor	Type	Hermetic SCROLL compressor
	Heat recovery	31 kW
Dimensions	Height x Length x Width	1.680 x 1.240 x 765
Outdoor temperature		-15 °C ~43 °C
Weight	Kg	370 kg

Model		LRYEQ16AY
Standard		42 dB(A)
Mode 1 low sound level		38 dB(A)
Mode 2 low sound level		35 dB(A)
Mode 3 low sound level		34 dB(A)

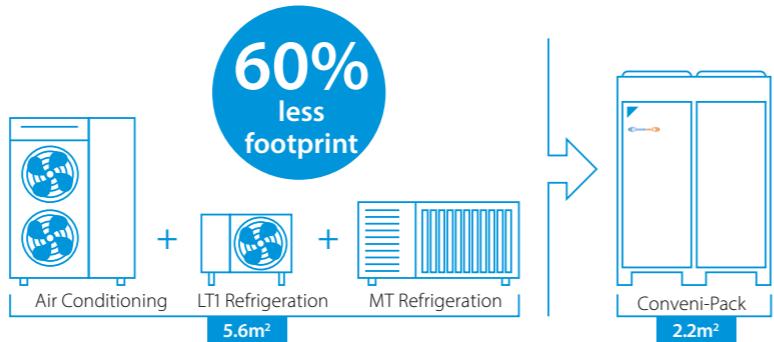
VERY LOW SOUND LEVEL:  
it allows to reduce noise down to 8 dB(A)

You can select the sound level of the unit. Depending on the mode, the maximum speed of the fans is adjusted, significantly reducing the level without affecting the operation of the equipment.

## Flexible and modular design

- ✓ Conveni-Pack is a modular design solution that allows the installation of several exterior units and the addition of extra units according to the requirements. By combining the Conveni-Pack with other Daikin units, the best heating, air conditioning and cooling solution is granted for almost all types of stores. The capacity to decentralize outdoor units reduces the need for long piping in installations.
- ✓ Combination of cooling and freezing (with the booster unit): evaporation temperature range from -45° C to +10° C.
- ✓ Several outdoor units can be placed in order to maximize the available space.
- ✓ Suitable for indoor installations with high ESP fans.

Up to 35 m over the indoor unit or room.  
Up to 130 m from the indoor unit or the most remote room.  
Up to 10 m below the indoor unit or room.



## Features

### Reliable functioning

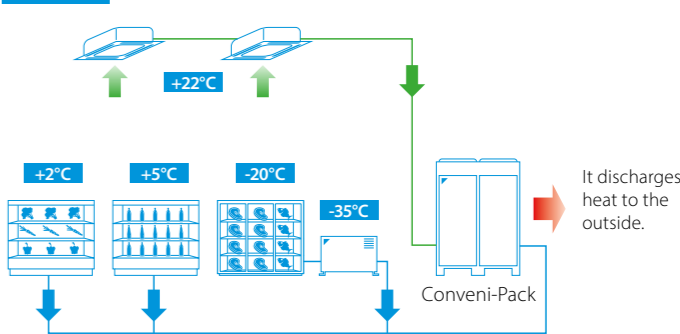
- › Selection of fail-safe components.
- › Leaks test and pre-filling in factory.

### Comfort Air conditioning all year around

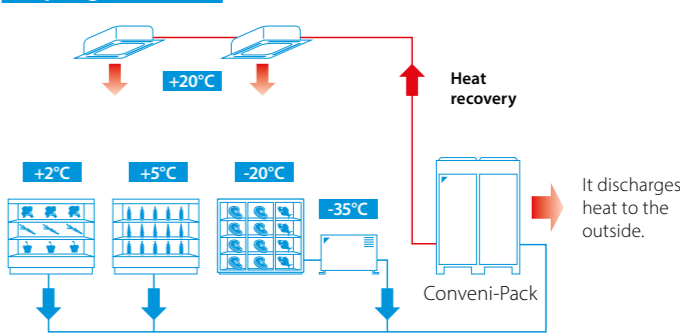
- › Silent mode: improved acoustic thanks to the night mode functioning, inverter control and inverter-driven fans with optimized blades and grids.
- › High-quality soundproofing in both panels and compressors.
- › Fan blades specially designed to reduce sound emissions.
- › 4 low sound operating modes, night mode included.
- › The heat recovered from refrigeration and freezing display cases can be used to supply heating to the store.



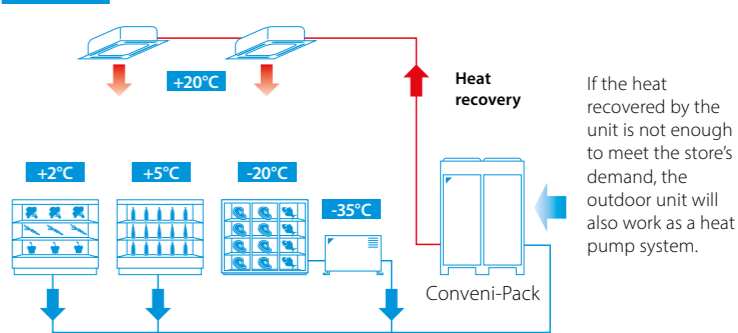
#### Summer



#### Springtime/Fall

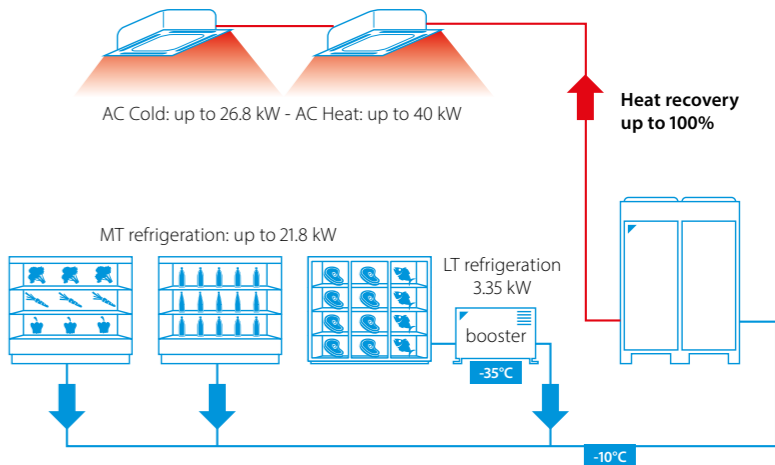


#### Winter



## Energy-efficient heat recovery system

- › Conveni-Pack recovers up to 100% of the heat extracted from the supermarket refrigeration units and reuses it to heat the store and improve the store's comfort at no additional cost (heat recovery system).
- › Up to 50% savings in energy cost.
- › Daikin inverter scroll compressor with energy-saving technology.



# Conveni Pack

All-in-one solutions in a compact CO<sub>2</sub> system

**CONVENI PACK** is a low sound system for medium temperature, space cooling and heating, with heat recovery and heat pump function. All these functions are combined in a compact system.

- › UP TO 50% REDUCTION IN ENERGY CONSUMPTION
- › REDUCED CO<sub>2</sub>-RELATED EMISSIONS
- › FOR SMALL AND MEDIUM DIMENSIONS
- › IT SAVES SPACE AND PROVIDES FLEXIBILITY TO THE INSTALLATION
- › IMPROVED COMFORT
- › LOW NOISE LEVEL
- › HEAT RECOVERY
- › INTEGRATED HEAT PUMP FUNCTION

- › SMALL AND MEDIUM-SIZED FOOD STORES
- › COMMERCIAL KITCHENS
- › FARMS AND ORGANIC STORES
- › SOLUTIONS FOR RETAIL GAS STATION



Refrigerant	Type	CO <sub>2</sub>
Cooling capacity	Air conditioning	11.0 kW
	Refrigeration	14.5 kW
Heating capacity	Air conditioning	22.0 kW
	Refrigeration	14.5 kW
Compressor	Type	Hermetic Swing Daikin
Dimensions	Height x width x depht	1.680 x 1.930 x 765
Temperature	Outdoor	-20 °C ~43 °C
Weight	Kg	563 kg

### Placement of the system

- ✓ A limited number of ducts can be connected to the Conveni-pack unit to allow the installation inside of a building.
- ✓ Possibility of installing the Conveni-pack in a control room.
- ✓ The static condenser fan pressure can be increased up to 78 Pa.
- ✓ The connection of ducts to the condensing unit is allowed.
- ✓ Installation can be carried out on top of or below the evaporators.
- ✓ Expansion capacity: if your original refrigeration requirements were 14.5kW (or less), adding a Q-up module would increase the capacity to 21.0 kW. A 45% increase in refrigeration load added to the original CO<sub>2</sub> package.
- ✓ The new energy efficient cooling requires a lower minimum refrigeration capacity to ensure a stable temperature regulation.

Up to 35 m over the indoor unit or room.  
Up to 130 m from the indoor unit or the most remote room.  
Up to 10 m below the indoor unit or room.



- ✓ Do rising weather temperatures worry you? You can rely on Daikin innovation through the use of a Q-up module. Q-up provides state-of-the-art safety, as it guarantees the refrigeration capacity of the system, even in high ambient temperature conditions.

### Features and management systems



Model	Cooling capacity*	Capacity yHR	Model	Cooling capacity*	Capacity HR
DAIKIN CO <sub>2</sub> CVP AC10	3 - 14.5kW	22kW	DAIKIN CO <sub>2</sub> CVP AC10 + Q-up	3 - 21 kW	22kW

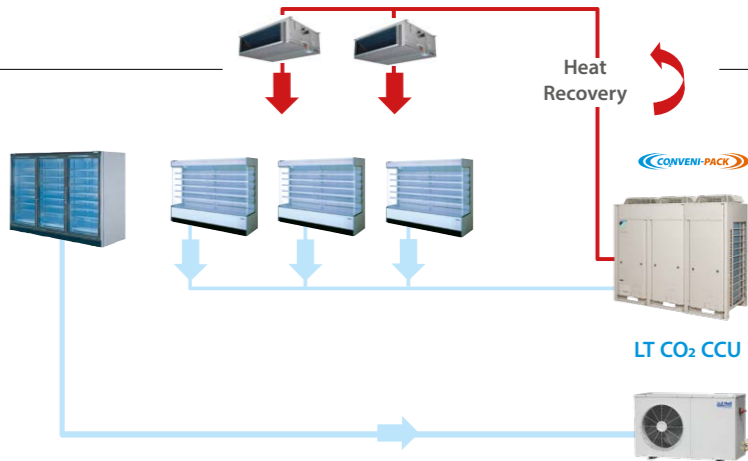
\* Refrigeration capacity given under the following conditions: Et = -10 ° C, 10 K SH and Room temperature = 32 ° C.

### Monitoring and management systems for refrigeration

Sistemas de control	Descripción
<b>D-checker</b>	A powerful service tool used to monitor, record, playback, chart, import and export operational data, as well as to edit data labels, detailed client information and languages.
<b>Daikin Configurator</b>	It is used to load the language and settings of the user interface. You can download all unit settings for direct or off line inquiries.
<b>Mobile Monitoring Tool</b>	It is used for collecting data in real time, as well as for recording, playback and export.
<b>E-doctor</b>	Mobile app that guides service technicians while they solve problems or verify and repair components.

### Heat recovery

- › The heat recovered from the refrigeration display cases or evaporators can be reused to comfortably heat the store.



### Swing compressor

Daikin's exclusive SWING CO<sub>2</sub> SWING compressor provides an isentropic efficiency greater than 69.5%, the best performing hermetic compressor available on the market.

CO<sub>2</sub>/HFC CONVENI-PACK EXTRAS

> Indoor air conditioning units compatible with Conveni Pack



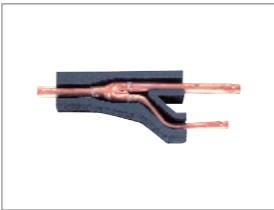
Load Index of indoor units		MAXIMUM		MINIMUM		NUMBER OF INDOOR UNITS			NUMBER OF AREAS		
		300		200		More than 6			3		
		50	63	71	80	100	125	140	200	250	
4 ways Round Flow ceiling Cassette unit FXFQ Series		✓	✓		✓	✓	✓				
Visible 4 ways Cassette unit FXUQ Series				✓		✓					
Ceiling 2 ways Cassette unit FXCQ Series		✓	✓		✓		✓				
Duct units FXSQ Series		✓	✓		✓	✓	✓	✓			
High-pressure duct units FXMQ Series		✓	✓		✓	✓	✓				
Ceiling Horizontal unit FXHQ Series			✓			✓					
Floor unit FXLQ Series		✓	✓								
Air curtains Horizontal, ducts and cassette					✓	✓	✓	✓	✓	✓	✓

> Remote controls



> Refnet joints

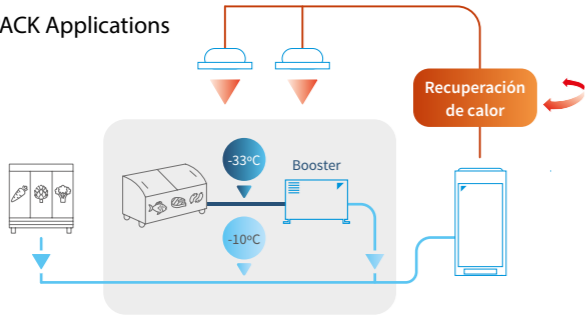
Refnet joints (derivations and collectors) are Y-shaped joints, recommended for ZEAS and Conveni-pack installations, since they have less pressure drops. They are also used in the VRV Air conditioning systems.



> Low temperature Booster units

They allow the connection of display cases or low temperature rooms to the outside medium temperature ZEAS unit, or to a Conveni-Pack (from -20°C to -45°C).

> CONVENI-PACK Applications



Booster unit



> Capacity table

Ambient temperature	Power of Booster unit (kW)											
	Suction temperature											
	-45°C		-40°C		-35°C		-30°C		-25°C		-20°C	
	Q (Kw)	P(Kw)	Q (Kw)	P(Kw)	Q (Kw)	P (Kw)	Q(Kw)	P (Kw)	Q (Kw)	P (Kw)	Q (Kw)	P(Kw)
20°C	1,85	1,53	2,45	1,6	3,35	1,68	4,12	2,01	5,27	2,34	6,62	2,75
27°C	1,85	1,53	2,45	1,6	3,35	1,68	4,12	2,01	5,27	2,34	6,62	2,75
32°C	1,85	1,53	2,45	1,6	3,35	1,68	4,12	2,01	5,27	2,34	6,62	2,75
38°C	1,77	1,53	2,28	1,6	3,11	1,68	3,85	2,01	4,95	2,34	6,25	2,75
43°C	1,72	1,53	2,19	1,6	2,95	1,68	3,85	2,01	4,76	2,34	6,04	2,75

Booster dimensions

Height x Length x Width 480 x 680 x 310



Control systems intelligent Tablet Controller & intelligent Touch Controller

New centralized control for stores, with optional wired touch screen, capable of controlling up to 32 indoor units. Compatible with VRV, Sky Air, Domestic, HRV and DX shades.

Intelligent Tablet Controller

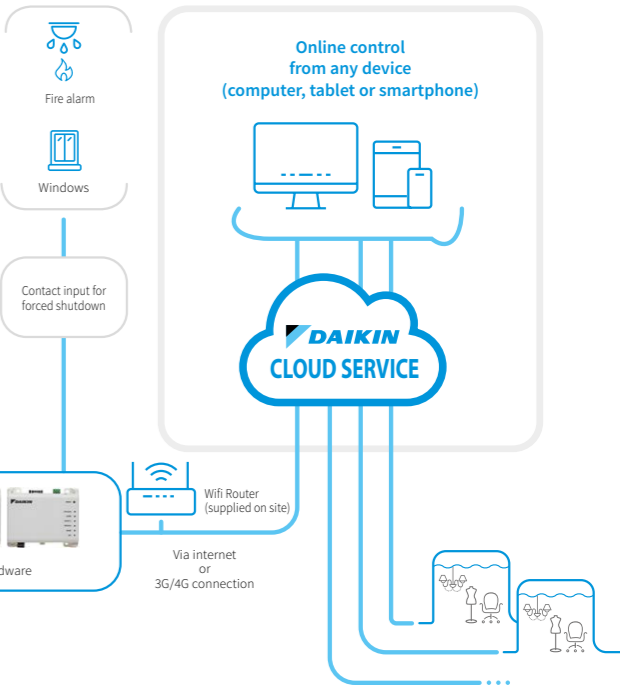
- > Control parameter: on/off, room temperature, fault signals, programming, etc.
- > Wired touch screen model AL-CCD07- VESA-1 (optional).
- > Monitoring, remote control and multi-site (optional).
- > Energy manager (optional).

Control parameters

- > Basic monitoring: on/off, set point, airflow direction and fan speed, room temperature, fault signals and filters.
- > Advanced functions: programming (weekly), emergency stop, temperature restriction by unit and mode.



VRV, Sky Air, Split, HRV, ventilation, curtains



Cloud Service extras (contact us)

- > Monitorization and remote control.
- > Multiple buildings control (multi-site).
- > Energy manager: automatic operation with energy saving functions.

AL-CCD07-VESA	Wired screen (optional)
Cloud service	
ES.SBDCS_LICEN_2X1	First 2 years DCS connection license
ES.SBDCS_LICEN_001	Annual DCS connection license
ES.SBDCS_LICEN_005	5-year DCS connection license
ES.SBDCS_LICEN_007	7-year DCS connection license
ES.SBDCS_LICEN_010	10-year DCS connection license

Intelligent Touch Controller

This controller allows an easy and detailed control and monitoring of Daikin air conditioning systems (up to 64 indoor units).



intelligentTouchController is a centralized management system with a 5.7" color touch screen and a simple and intuitive user interface. All this grants an easy control and supervision of Daikin air conditioning units, individually, by zones or for the entire installation. It's the perfect choice for all types of small and medium-sized installations.

The most outstanding features are:

- > Individualized control and supervision of each parameter of the indoor units: Start/stop, status, error, set point, mode, temperature, fan speed and filter signal.
- > User configurable control groups.
- > Configuration for automatic hot/cold changes, even for VRV HP.
- > Minimum night temperature of the building.
- > Individualized restriction of local BRC controls: On/off, cold/heat, set point.
- > Access to the screen and menu by password.
- > Control of VAM enthalpy recuperators.

- > Integration with fire panel.
  - > Ready for ACNSS service.
  - > Optional HTTP (DCS007A51): Communication through the open http protocol (not Web Server).
- With the DEC101A51 and DEC102A51 BMS modules, it is possible to monitor and control other elements such as extractors, luminaries, filters, pumps, through digital inputs/outputs.

DCS601C51	Intelligent Touch Controller (up to 64 indoor units)
DCS007A51	Communication via http protocol (not Web Server)
DEC102A51	BMS module (run, stop, status, error) x 4
DEC101A51	BMS module (status, error) x 8

RETAIL STORES  
< 400 m<sup>2</sup>SUPERMARKETS  
400-1500 m<sup>2</sup>BIG SUPERMARKET  
1500-3000 m<sup>2</sup>HYPERMARKET  
3000-5000 m<sup>2</sup>BIG HYPERMARKET  
5000-10000 m<sup>2</sup>CO<sub>2</sub>

# GM Full Duplex CO<sub>2</sub> refrigeration & AC solutions

Tewis

The **GM Full** family brings together the most innovative Tewis solutions that along with MT / MT + LT refrigeration provide air conditioning services. All of this using CO<sub>2</sub> as the only refrigerant for the installation.

► FOOD RETAIL  
► SUPERMARKETS

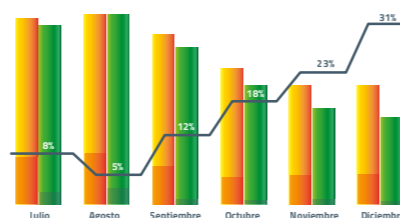
The **GM FULL Duplex** are big machines for high powers that meet the most demanding requirements.

The refrigeration + air conditioning combination is especially optimal for supermarkets and franchises since they have a high demand

for both services and this feature guarantees greater efficiency by interconnecting both cycles.

Cooling capacity: **120 to 210 kW**Application: **800 to 2.500 m<sup>2</sup>**

## Energy savings



> More than 30% energy savings in the supermarket.

## Control software

Compatible with all **Global Market** systems, it allows to access and manage the installation equipments. It connects with each of the units via Ethernet, allowing real time data transmission and dump on the personalized document manager, available to each client from the web.



## GMS Air

**Air treatment unit (UTA)**  
4.000 - 18.000 m<sup>3</sup>/H  
from 22 to 114 KW (Cold), from 14 to 60KW (Heat)  
With battery for heat recovery



## Refrigeration & AC extras

### SOLUTIONS THAT HAVE AN IMPACT ON OUR CUSTOMERS

	<b>PROPORTIONAL MODULATION</b> It adapts the cooling capacity to a specific moment demand, saving energy and prolonging the machine's life.		<b>HEAT RECOVERY [OPTIONAL]</b> A smart way to take advantage of the heat generated by the compressor rack, for example, in DHW applications, air conditioning.
	<b>ELECTRONIC CONTROL</b> Process automation that manages regulation, control, security and energy efficiency. It includes a monitoring and control web application.		<b>PLUG &amp; PLAY</b> The compressor racks are prepared for a quick start-up at a mechanical and electronic level thanks to the electrical panel incorporated.
	<b>F-GAS FREE</b> It complies with the F-GAS regulation on fluorinated gases reducing the impact on the climate.		<b>ELECTRICAL PANEL</b> The electrical panels on the frame, with complete wiring, protect and control the elements of the compressor racks.
	<b>SECURITY MODE</b> In case of failure of the controller or its sensors, the unit is automatically controlled by pressure switches. Control returns to electronic mode once the issue is solved. An exclusive Tewis design.		<b>REDUCTION OF MAINTENANCE COSTS</b> Our systems are based on open standards, so our clients do not depend on a single manufacturer or installer. This significantly reduces maintenance and repair costs.

We recover the heat from refrigeration systems for DHW, air conditioning or other industrial processes

All the CO<sub>2</sub> refrigeration systems generate high discharge temperatures, which is an excellent heat source to take advantage of.

The **RHX OPTIONAL** uses a welded plate exchanger located at the discharge of the refrigeration compressor rack that allows working in these modes:

- » **HEAT RECOVERY**
- » **HEAT GENERATION**
- » **PLUS HEAT GENERATION**

## Tewis exclusive security mode



### VALVE WITH ELECTRIC ACTUATOR

In the event of failure in the electronic control unit or any of its components, this valve allows the refrigeration unit to continue operating in electro-mechanical mode without interrupting the service. (Extra equipment of compressor racks).

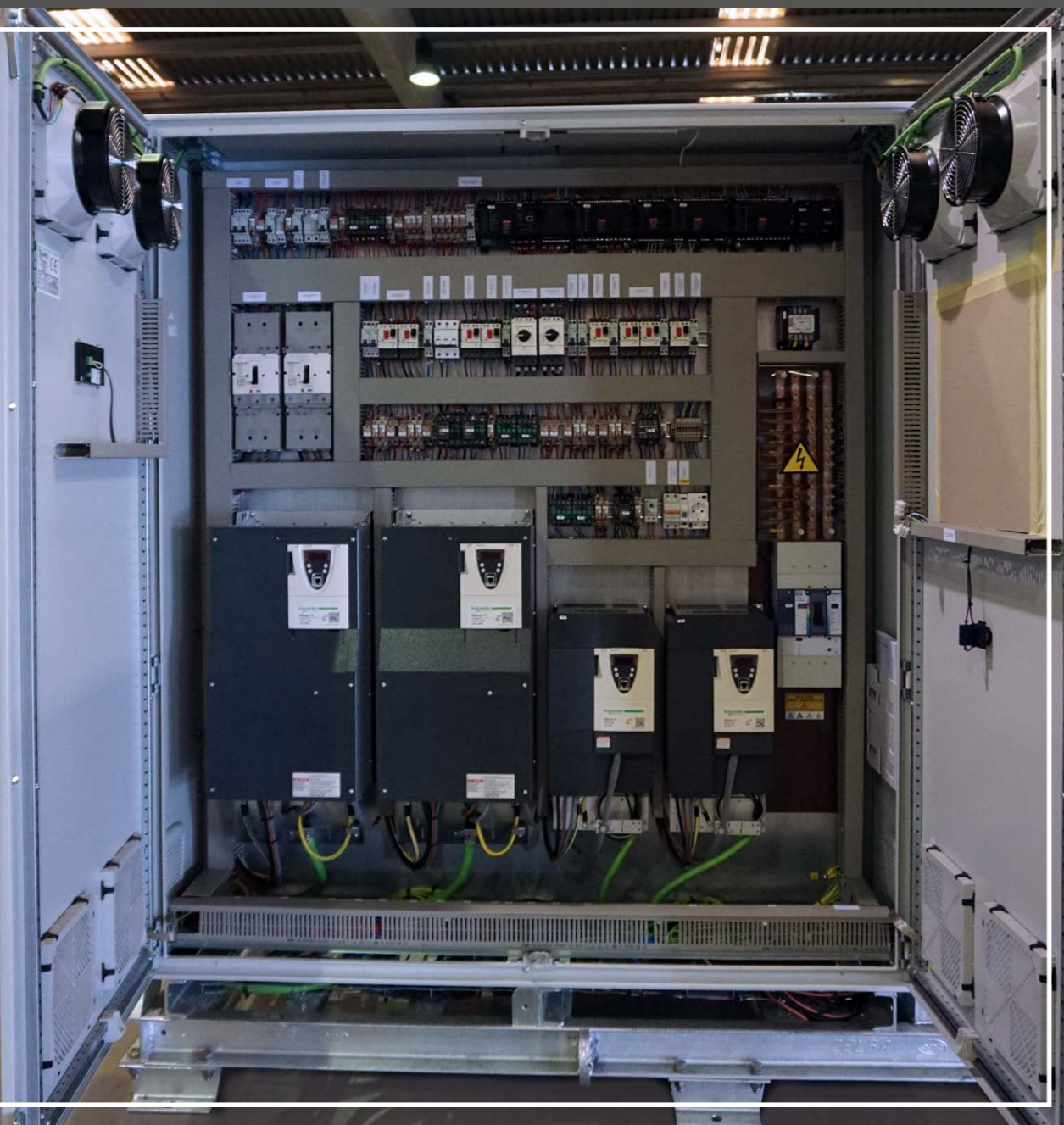
## Other security modes

**Systems against power failures.** The entire FULL range integrates an uninterruptible power supply (UPS) that allows the electronic controller and its devices to prepare to safely shut down the system. If the lack of supply persists and the pressure in the liquid receiver turns too high, the emergency equipment becomes operational. With an independent supply and connected to a generator set (not included), it will allow the plant pressure to be kept at a stable level.

**Double function of parallel compressors.** If the optional parallel compression is included, in the event of a medium temperature compressor failure, it can fulfil MT services and avoid a system shutdown.

**Electronic back pressure and flash-gas valves.** Each of these valves can include, for safety, another parallel pressostatic valve, ensuring its operation even in emergency cases. (Optional).

## » Industrial solutions



» Industrial solutions

» Industrial solutions CO<sub>2</sub>

» CUO  
LT subcritical condensing units

» CUO Unit  
LT subcritical industrial condensing units

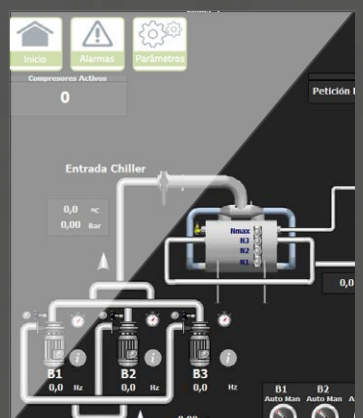
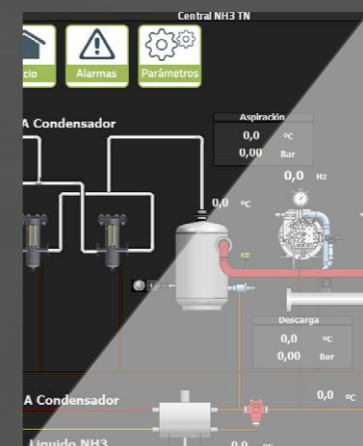
» CO Rack  
LT subcritical cycle compressor racks

» CN Unit  
NH<sub>3</sub> industrial compressor racks

» CN Chiller  
NH<sub>3</sub> Glycol chiller compressor racks

» CN rack  
NH<sub>3</sub> industrial compressor racks

» Optionals



# INDUSTRIAL SOLUTIONS

The range of **Tewis industrial solutions** consists of families of refrigeration equipments that cover all the requirements of the industry. We offer NH<sub>3</sub> multi-compressor units, NH<sub>3</sub> Chillers, CO<sub>2</sub> Condensing Units and multi-suction transcritical CO<sub>2</sub> compressor racks that always use natural refrigerants. We serve different services such as freezing tunnels, freezing rooms, refrigeration rooms and working rooms.



**SOLUTION A**

COMP. RACK NH<sub>3</sub> CHILLER + COMP. RACK CO<sub>2</sub> DIRECT. EXP.

**NH<sub>3</sub> Chiller compressor rack** that provides **Glycol at -8°C** to the refrigerated food services and at the same time is used for the condensation of the subcritical CO<sub>2</sub> refrigeration rack that serves the frozen food services.

Both the Chiller and the CO<sub>2</sub> racks are **fully finished units ready to be connected and operate**.

REFRIGERATED (75%) • FROZEN (25%)

**SOLUTION C**

COMP. RACK NH<sub>3</sub> CHILLER + COND. UNIT CO<sub>2</sub> DIRECT. EXP.

**NH<sub>3</sub> Chiller compressor rack** that provides **Glycol at -8°C** to the refrigerated food services and at the same time is used for the condensation of the subcritical CO<sub>2</sub> condensing units that serve the frozen food services. Usually, these facilities have few frozen storage rooms so **two units are placed in each room** to ensure service, each with a power of around **70%** of the requirements. They are also useful when the frozen products rooms are not adjacent and require a separate condensing unit for each one of them. Both the Chiller and the CO<sub>2</sub> racks are **fully finished units ready to be connected and operate**.

REFRIGERATED (75%) • FROZEN (≤ 25%)

**SOLUTION B**

COMP. RACK NH<sub>3</sub> CHILLER + COMP. RACK CO<sub>2</sub> FLOODED PUMPED

**NH<sub>3</sub> Chiller compressor rack** that provides **Glycol at -8°C** to the refrigerated food services and, at the same time, is used for the condensation of the subcritical CO<sub>2</sub> refrigeration rack that works on a particle separator and from which **it pumps CO<sub>2</sub>** to the frozen food services.

This installation requires a **high degree of professionalism**. Its efficiency with frozen food is higher than that the efficiency of the direct expansion system. However, the cost of machinery and installation is also higher. In addition, the risks are increased since it stores a huge amount of CO<sub>2</sub>.

REFRIGERATED (50%) • FROZEN (≥ 50%)

**SOLUTION D**

COMP. RACK NH<sub>3</sub> FLOODED PUMPED + COMP. RACK NH<sub>3</sub> LOW TEMP. FLOODED PUMPED

**NH<sub>3</sub> multiple compressor racks** that operate both in refrigerated and frozen food services. Each one of these units works on its own particle separator from which **NH<sub>3</sub> is pumped to the evaporators**.

This installation requires a **high degree of professionalism**. Maximum efficiency is granted, since **it avoids intermediate exchanges**. The cost of machinery and installation, as well as the **risk of storing huge amounts of NH<sub>3</sub>**, are higher than in all the previous units.

Their use is not recommended for unpackaged products.

REFRIGERATED • FROZEN

## Tewis' solutions for the industrial sector

Among all the Tewis industrial solutions, we manufacture particle separators with their pumping group for flooded systems, (NH<sub>3</sub>/CO<sub>2</sub>), hydraulic groups (included on the frame) to make the installation easier, and so on.



**SOLUTION E**

COMP. RACK NH<sub>3</sub> FLOODED CO<sub>2</sub> PUMPED + COMP. RACK CO<sub>2</sub> DIRECT. EXP. FLOODED CO<sub>2</sub> PUMPED

**NH<sub>3</sub> multi compressor racks** that condense CO<sub>2</sub> and store it in a particle separator from which the liquid CO<sub>2</sub> is pumped to the MT evaporators. **The CO<sub>2</sub> compressor rack serves the LT services** that discharge in the separator. This installation requires a **high degree of professionalism**. Maximum efficiency is granted, since it avoids intermediate exchanges. The cost of machinery and installation, as well as the **risk of storing huge amounts of CO<sub>2</sub>**, are higher than in all the previous units. **This technology needs to be handled very carefully due to the risk associated with the generation of ammonium carbonate in case of communication between circuits**.

REFRIGERATED • FROZEN

### Booster Dx

**SOLUTION G**

COMP. RACK CO<sub>2</sub> DIRECT. EXP. + COMP. RACK CO<sub>2</sub> DIRECT. EXP.

**CO<sub>2</sub> compressors racks** (in transcritical cycle) by direct expansion (Dx) that operate both in refrigerated and frozen food services. The start-up and maintenance of this installation requires an **average professionalism** of the technicians. The efficiency/cost ratio of machinery and installation is quite competitive and **the risk related to CO<sub>2</sub> storage is minimum**. These racks are recommended for any food product, packaged or not. We offer units with up to 4 different suctions in order to meet the requirements of tunnels and rooms. Adapting of the suction temperature to the temperature of the room significantly improves the efficiency of the installation.

REFRIGERATED • FROZEN

### Booster

**SOLUTION F**

COMP. RACK CO<sub>2</sub> FLOODED CO<sub>2</sub> PUMPED + COMP. RACK CO<sub>2</sub> FLOODED CO<sub>2</sub> PUMPED

**CO<sub>2</sub> compressor racks** (in transcritical cycle) that operate both in refrigerated and frozen food services. These units work on their own medium and low temperature particle separators from which **CO<sub>2</sub> is pumped to the evaporators**.

This installation requires a **high degree of professionalism**. Maximum efficiency is granted since **it prevents overheating** when using flooded systems. The cost of machinery and installation, as well as the **risk of storing huge amounts of CO<sub>2</sub>**, is very high. Recommended for any food product, packaged or not.

REFRIGERATED • FROZEN

### Cascade

**SOLUTION H**

COMP. RACK HFC + COMP. RACK CO<sub>2</sub> FLOODED CO<sub>2</sub> PUMPED

**NH<sub>3</sub> multi compressor racks that condense CO<sub>2</sub>** and store it in a particle separator from which the liquid CO<sub>2</sub> is pumped to the MT evaporators.

**The CO<sub>2</sub> compressor rack serves the LT services** and works as a Booster, discharging compressors in the MT separator.

This installation requires an **average professionalism** and its efficiency is optimal.

REFRIGERATED • FROZEN

# CO<sub>2</sub> INDUSTRIAL SOLUTIONS

The Tewis CO<sub>2</sub> range of industrial solutions consists of a series of powerful machines, with natural refrigerants, chassis and features widely customizable, which respond to the different requirements of particularly demanding installations.

CO<sub>2</sub>

- > INDUSTRIAL PROCESSES
- > LOGISTIC PLATFORMS
- > MANIPULATION ROOMS
- > FREEZING TUNNELS
- > REFRIGERATED FOOD WAREHOUSES
- > HYPERMARKETS



- > **Integrated electrical panel.** Easy to use, with touch screen and exclusive control software (see next page).
- > **Parallel compressor** (optional) that significantly increases the system's efficiency.
- > **Up to 9 compressors** can be integrated.
- > **Low, medium and high temperature compressors.**
- > **Up to four different suction lines** + parallel functioning.
- > **Economizer:** it makes the MT compressor transfer part of its power to the LT compressors, increasing thus the efficiency of the system.
- > **Proportional modulation:** a frequency inverter in each group of compressors adapts its functioning to the specific requirements of each moment, saving energy and extending the life of the installation.
- > **Subcooling mechanical exchanger,** connected to an auxiliary unit that cools down the transcritical refrigerant discharge, reducing steam and increasing the efficiency of the system.
- > All pipes are made of **stainless steel.**

## Tewis' solutions for the industrial sector



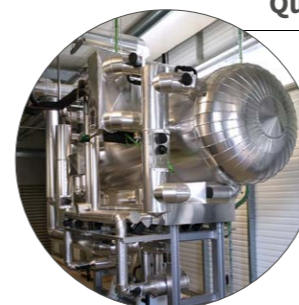
### Modular design and phases

✓ Our design allows modular adaptation, which is very useful in case of renovation of an existing installation or for the planning of the growth phases of a industry.

✓ It is a very important advantage over traditional solutions that use big compressors and machine rooms that make renovations difficult and limiting the expansion of the facilities due to initial overinvestment or space.



### Quality of the performances



#### Machine room

✓ As they are factory-finished products, both the quality standard certified during manufacturing and the full guarantee of the installed machinery are preserved.

#### Electrical installation

✓ The on-board electrical panel allows to deliver

the equipment tested, fully connected and with a warranty.

#### Installation

✓ Using Tewis equipment, the installation is much simpler and therefore it is much easier to control its quality and execution time.

### Management

#### Cost saving

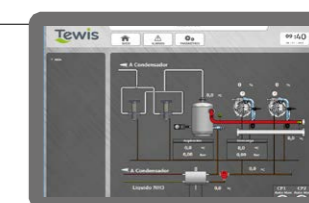
Our technology partners, specialized in HVAC and refrigeration control, provide specially designed controllers for the control of industrial facilities at a very competitive cost and with easy maintenance.

#### Standardization

Tewis has its own software development department where different types of solutions are standardized and the programming of the equipment is simplified, making this solution cheaper than others.

#### Monitoring and remote management

In Spain, there are more than 5,000 remote management and monitoring systems that support us. High quality systems with simple start-up and operation.



### Costs saving

#### Machine room

The CI-Box bodywork unit is installed outside, so it does not require a traditional machine room. This provides economic savings and greater surface available for other uses. Plug & Play system.

#### Electrical installation

The electrical panel is mounted and wired to the refrigerating compressor rack, avoiding expensive electrical installations.

#### Installation

The costs of the installation are controlled and reduced in terms of time, materials used and contingency.

## CUO LT subcritical condensing units

Tewis

The **CUO condensing units** integrate subcritical CO<sub>2</sub> technology within the reach of any industrial installation. They have been designed to operate at low temperatures in industrial installations.

Cooling capacity: **3 to 11 kW**



1 Semihermetic compressor



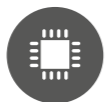
Outdoor mounting [Optional]



Electric panel



Framework [Optional]



Electronic control



Proportional modulation [Optional]



Security mode



F-gas free

- ✓ On-board security unit.
- ✓ Condensation exchanger.
- ✓ Receiver with security exchanger.
- ✓ Integrated electrical panel and gas cooler.
- ✓ Designed for proper loading and transportation.



*They have been designed to operate in a subcritical cycle. They need another refrigeration circuit to condense the CO<sub>2</sub>. They condense with direct expansion or glycol. They have an electrical panel with electronic control to manage condensation, connections to an integrated or remote gas cooler to stabilize the discharge temperature and an integrated or remote emergency unit.*

## CUO unit LT subcritical industrial condensing units

The **CUO Unit condensing units** are freezing condensing units with CO<sub>2</sub> technology.

Cooling capacity: **14 to 50 kW**



1 Semihermetic compressor



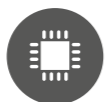
Outdoor mounting [Optional]



Electric panel



Framework [Optional]



Electronic control



Proportional modulation [Optional]



Security mode



F-gas free

- ✓ On-board security unit.
- ✓ They minimize risks in the installation using small independent units.
- ✓ Condensation exchanger.
- ✓ Security exchanger.
- ✓ Integrated or remote electrical panel and gas cooler.
- ✓ Designed for proper loading and transportation.
- ✓ On-board security unit.
- ✓ SH/SC exchanger.



*They have been designed to operate in a subcritical cycle. They need another refrigeration circuit to condense the CO<sub>2</sub>. They condense with direct expansion or glycol. They have an electrical panel with electronic control to manage condensation, connections to an integrated or remote gas cooler to stabilize the discharge temperature and an integrated or remote emergency unit.*

## CO rack LT subcritical cycle compressor racks

Tewis

The **CO Rack** represent the range of freezing compressor racks with subcritical CO<sub>2</sub> technology. They are delivered fully equipped to work with this refrigerant.

Cooling capacity: **3 to 285 kW**



1 Semihermetic compressor



CI-BOX bodywork



Electric panel



Electronic control



Security mode



F-gas free

- ✓ Security exchanger.
- ✓ Connections to gas cooler.
- ✓ Liquid receiver.
- ✓ Condensation through double plate exchanger.
- ✓ Condensation through HFC or Glycol.
- ✓ Design pressure: 45 bar.
- ✓ Integrated or supplied emergency unit, depending on the model.



### CO Rack applications

#### COMMERCIAL REFRIGERATION

They are used in commercial refrigeration, when there is a refrigeration production for existing MT, either by direct expansion or by means of a chiller.

#### INDUSTRIAL REFRIGERATION

Installations with dry expansion system.

A refrigeration production is always necessary to carry out the condensation.



Maximum safety

Double/triple oversized condenser

Exchanger

SH/SC: it subcools the liquid and reheats the suction

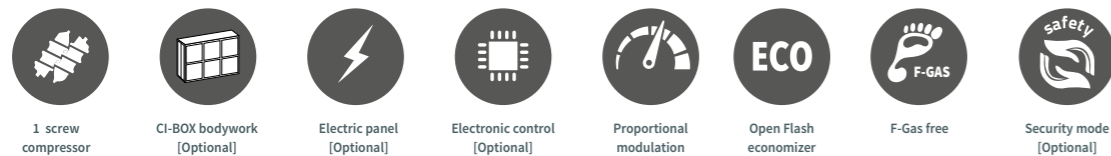
Plate exchanger dedicated to safety

*They have been designed to operate in a subcritical cycle. They need another refrigeration circuit to condense the CO<sub>2</sub>. They condense with direct expansion or glycol. They have an electrical panel with electronic control to manage condensation, connections to an integrated or remote gas cooler to stabilize the discharge temperature and an integrated or remote emergency unit.*

## CN unit NH<sub>3</sub> industrial compressor racks

Tewis

The **CN Unit range** of compressor racks exploits the full potential of NH<sub>3</sub>.



Cooling capacity: 33 to 355 kW

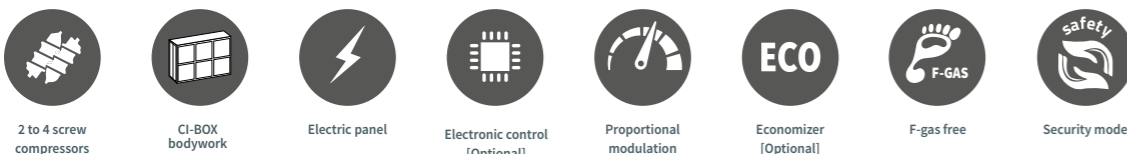
- ✓ Open screw compressors.
- ✓ Second oil screening with coalescing separators.
- ✓ Primary oil separator.
- ✓ Oil cooler by thermosyphon or glycol brine.
- ✓ Pressurized oil system. Does not require a pump.
- ✓ All pipes are made of stainless steel.



*They have a single compressor but still a significant capacity, since they use big compressors that cover a wide range of powers.*

## CN Chiller NH<sub>3</sub> Glycol chiller compressor racks

The **CN Chiller** are NH<sub>3</sub> refrigerant compressor racks that include a secondary fluid chiller.



Cooling capacity: 80 to 1250 kW

- ✓ Open screw compressors.
- ✓ Glycol water chiller (low NH<sub>3</sub> load).
- ✓ Oil cooler by thermosyphon or glycol brine.
- ✓ All pipes are made of stainless steel.
- ✓ Second oil screening with coalescing separators.
- ✓ Available in a water-condensed version for a reduced refrigerant charge.



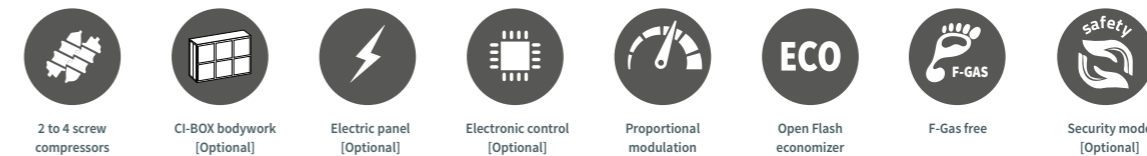
*The necessary accessories to chill glycol water are included. Its design reduces to the minimum the ammonia load, which can also be further reduced if water condensation is integrated.*

- › PRESERVATION OF REFRIGERATED FOOD > 0°C
- › INDUSTRIAL PROCESSES
- › LOGISTIC PLATFORMS
- › TEMPERATURE CHILLING CHAMBERS

Tewis

## CN rack NH<sub>3</sub> industrial compressor racks

The **CN RACK range** of compressor racks exploits the full potential of NH<sub>3</sub>.



Cooling capacity: 65 to 1400 kW

- ✓ Open screw compressors.
- ✓ Second oil screening with coalescing separators.
- ✓ Primary oil separator.
- ✓ Oil cooler by thermosyphon.
- ✓ Pressurized oil system. Does not require a pump.
- ✓ All pipes are made of stainless steel.



*R717 is a natural, ecological and tax-free refrigerant with GWP = 0 that complies with the F-GAS regulation. It offers a wide range of powers and high capacity of partialization, which allows adjusting*

*the unit to the requirements of the installation.*

*Instead of a high-power, partial load compressor, one or more compressors work at 100%.*

*A greater number of compressors operating in parallel increases the reliability and efficiency of the installation with partial loads.*

### Applications of ammonia **CN Rack** and **CN Unit** series





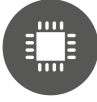





- › PRESERVATION OF REFRIGERATED FOOD > 0°C
- › PRESERVATION OF FROZEN FOOD < -18°C
- › INDUSTRIAL PROCESSES
- › LOGISTIC PLATFORMS
- › MANIPULATION ROOMS > 7°C
- › STATIC/CONTINUOUS FREEZING TUNNELS

### CI BOX (optional)

*The three ranges of Ammonia, **CN Rack**, **CN Unit** and **CN Chiller** are compatible with **CI-BOX** bodywork, soundproofed and suitable for industrial and outdoor use.*



● Industrial solutions optionals

SOLUTIONS THAT HAVE AN IMPACT ON OUR CUSTOMERS			
	<b>PROPORTIONAL MODULATION</b> It adapts the cooling capacity to a specific moment demand, saving energy and prolonging the machine's life.		<b>HEAT RECOVERY [OPTIONAL]</b> A smart way to take advantage of the heat generated by the compressor rack, for example, in DHW applications, air conditioning.
	<b>ELECTRONIC CONTROL</b> Process automation that manages regulation, control, security and energy efficiency. It includes a monitoring and control web application.		<b>PLUG &amp; PLAY</b> The compressor racks are prepared for a quick start-up at a mechanical and electronic level thanks to the electrical panel incorporated.
	<b>F-GAS FREE</b> It complies with the F-GAS regulation on fluorinated gases reducing the impact on the climate.		<b>ELECTRICAL PANEL</b> The electrical panels on the frame, with complete wiring, protect and control the elements of the compressor racks.
	<b>SECURITY MODE</b> In case of failure of the controller or its sensors, the unit is automatically controlled by pressure switches. Control returns to electronic mode once the issue is solved. An exclusive Tewis design.		<b>REDUCTION OF MAINTENANCE COSTS</b> Our systems are based on open standards, so our clients do not depend on a single manufacturer or installer. This significantly reduces maintenance and repair costs.

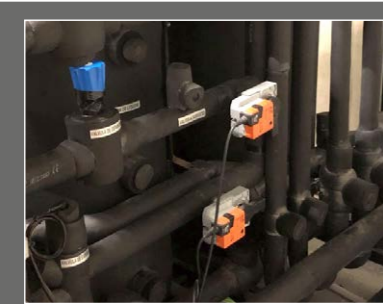
We recover the heat from refrigeration systems for DHW, air conditioning or other industrial processes

All the CO<sub>2</sub> refrigeration systems generate high discharge temperatures, which is an excellent heat source to take advantage of.

The **RHX OPTIONAL** uses a welded plate exchanger located at the discharge of the refrigeration compressor rack that allows working in these modes:

- » **HEAT RECOVERY**
- » **HEAT GENERATION**
- » **PLUS HEAT GENERATION**

● Tewis exclusive security mode



**VALVE WITH ELECTRIC ACTUATOR**

In the event of failure in the electronic control unit or any of its components, this valve allows the refrigeration unit to continue operating in electro-mechanical mode without interrupting the service. (Extra equipment of compressor racks).

● Other security modes

**Systems against power failures.** The entire FULL range integrates an uninterruptible power supply (UPS) that allows the electronic controller and its devices to prepare to safely shut down the system. If the lack of supply persists and the pressure in the liquid receiver turns too high, the emergency equipment becomes operational. With an independent supply and connected to a generator set (not included), it will allow the plant pressure to be kept at a stable level.

**Double function of parallel compressors.** If the optional parallel compression is included, in the event of a medium temperature compressor failure, it can fulfil MT services and avoid a system shutdown.

**Electronic back pressure and flash-gas valves.** Each of these valves can include, for safety, another parallel pressostatic valve, ensuring its operation even in emergency cases. (Optional).



High-power industrial equipments, customizable for the most demanding requirements.

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

## » Others



- » **NOVA18**  
HFC commercial condensing units
- » **BUC**  
Compression groups
- » **CC**  
HFC industrial refrigeration compressor racks
- » Zanotti compact units
- » Alfa-Luve evaporators
- » Güntner condensers
- » Taver refrigerated rooms
- » AHT Refrigerated display cases
- » Extras
- » Electronics and electrical panel



# NOVA 18

## HFC commercial condensing units

Units with 1 or 2 compressors, mounted on a frame with a one-fan condenser. The radial solution allows to integrate in a very small space the perfect equipment to convey the air of the condenser outside the building.

- 1 piston compressor
- 1 or 2 scroll compressors
- Axial AC/EC version
- Radial AC/EC version
- Outdoor Mounting [Axial]
- Protective Bodywork
- Low sound level [Optional]
- Electrical panel
- Electronic control [Optional]
- Proportional Modulation [Optional]

Cooling capacity: **3 to 12 kW**



Axial:  
830 x 830 x 1508 mm

Radial:  
830 x 830 x 1740 mm

- ✓ One EC radial fan to convey the air outside the machine room.
- ✓ Designed to make loading, transport and maintenance easier and accessible from 360°.
- ✓ Manufacturing in two independent modules.
- ✓ Flow rate: 3.750 m³/h.
- ✓ Available pressure: 100 Pa.

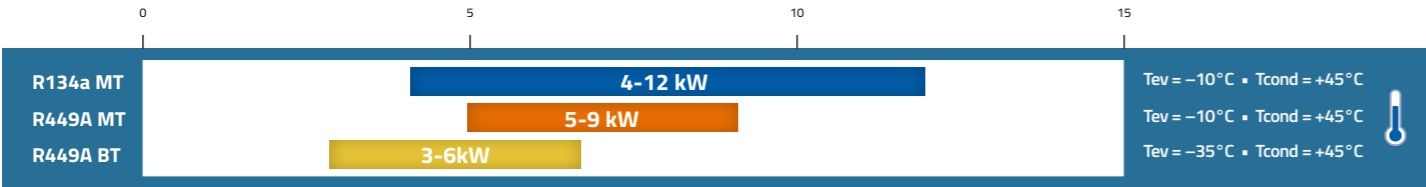


Bitzer Ecoline



Copeland Scroll

NOVA 18 capacity range



# BUC

## Compression groups

The **BUC range** is the easiest solution for low demand refrigeration or freezing applications.

- 1 piston compressor
- 1 or 2 scroll compressors
- Electrical panel [Optional]
- Electronic control [Optional]
- Proportional Modulation [Optional]
- Economizer [Optional]
- Indoor Mounting

Cooling capacity: **1 to 39 kW**

- ✓ Tandem compressors.
- ✓ Extras.
- ✓ Integrated electrical panel.
- ✓ Receiver.
- ✓ Reduced dimensions.



Bitzer Ecoline



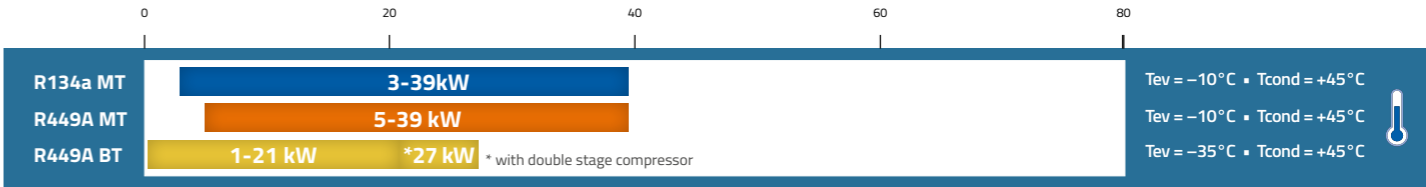
Copeland Stream



Copeland Scroll



BUC capacity range



RETAIL STORES  
< 400 m<sup>2</sup>SUPERMARKETS  
400-1500 m<sup>2</sup>BIG SUPERMARKET  
1500-3000 m<sup>2</sup>HYPERMARKET  
3000-5000 m<sup>2</sup>BIG HYPERMARKET  
5000-10000 m<sup>2</sup>

Tewis



## HFC industrial refrigeration compressor racks

HFC

The range of **CC** compressor racks is designed to adapt to their work environment. They can be equipped with or without bodywork, with soundproofing so that they can be placed in a machine room or with a suitable finish so that they can be placed outdoor.

- › CONVENIENCE STORES
- › SUPERMARKETS
- › REFRIGERATED FOOD WAREHOUSES
- › SMALL INDUSTRY

2 TO 5 PISTON  
COMPRESSORSOUTDOOR  
MOUNTING  
[OPTIONAL]BODYWORK  
[OPTIONAL]LOW NOISE LEVEL  
[OPTIONAL]SECURITY MODE  
[OPTIONAL]ELECTRONIC  
CONTROL  
[OPTIONAL]Cooling capacity: **15 to 39 kW (HFC)**Application: **(HFC) 250 to 800 m<sup>2</sup>**

- ✓ Liquid receiver.
- ✓ Maximum flexibility and adaptation to its work environment.
- ✓ Designed for proper loading and transportation.
- ✓ Cutting-edge technology semi-hermetic compressors.
- ✓ Visible general pressure gauges and pressure switches.
- ✓ Integrated electrical panel.
- ✓ Ideal outdoor solution with minimal sound level.
- ✓ Ample dimensions for easy maintenance.
- ✓ AISI 304L stainless steel.



- Its height (1405 mm) is one of the smallest one compared to others on the market.

## Data &amp; features

- ✓ Optional: first compressor inverter or pulse.
- ✓ Optional: electrical panel for protection and control.
- ✓ Remote or mounted electrical panel. Also available electric hose for connection to remote panel.



Bitzer Ecoline

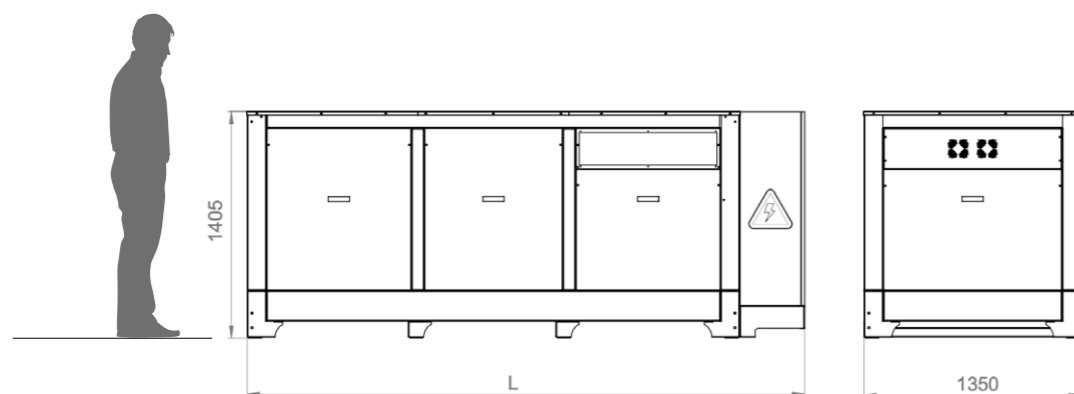


Copeland Stream

HFC model	Length	Cooling capacity		
		R134a	R449A-MT	R449A-LT
CC*E	2.120 mm	15 ... 39 kW	26 ... 39 kW	15 kW
CC*F	2.660 mm	—	—	30 ... 39 kW

\* Calculation conditions: Tev MT -10°C, Tev LT -35°C, Tcond +45°C.

## CC Dimensions



CC4E L: 2520 mm / CC4G L: 3460 mm



## ZANOTTI – COMPACT UNITS FOR REFRIGERATION

The Zanotti range includes compact equipments and split units for commercial use. The goal is the preservation of fresh and frozen food.

They are suitable for small, medium and large volume refrigerated rooms.

**R290 range (propane):** R290 refrigerant, both in the wall version (GM) and the ceiling version (SB). Equipments with a refrigerant load lower than 150 g. as set by the EN 60335-2-89 standard, R290 being a refrigerant with a GWP of 3.

**Ecodesign :** condensing units and multicompressor racks with built-in condenser already complying with the ErP ecodesign 2015/1095 / EU standard.

GM

ECO  
R290

Uni-block system for wall mounting (optional through wall) in small and medium refrigerated rooms.  
**R-290 propane natural refrigerant.**

SB

ECO  
R290

Uni-block system for wall mounting (optional through wall) in small and medium refrigerated rooms.  
**R-290 propane natural refrigerant.**

AS



Uni-block system for wall mounting in medium refrigerated rooms.

GS



Bi-block system for wall mounting.

SPO



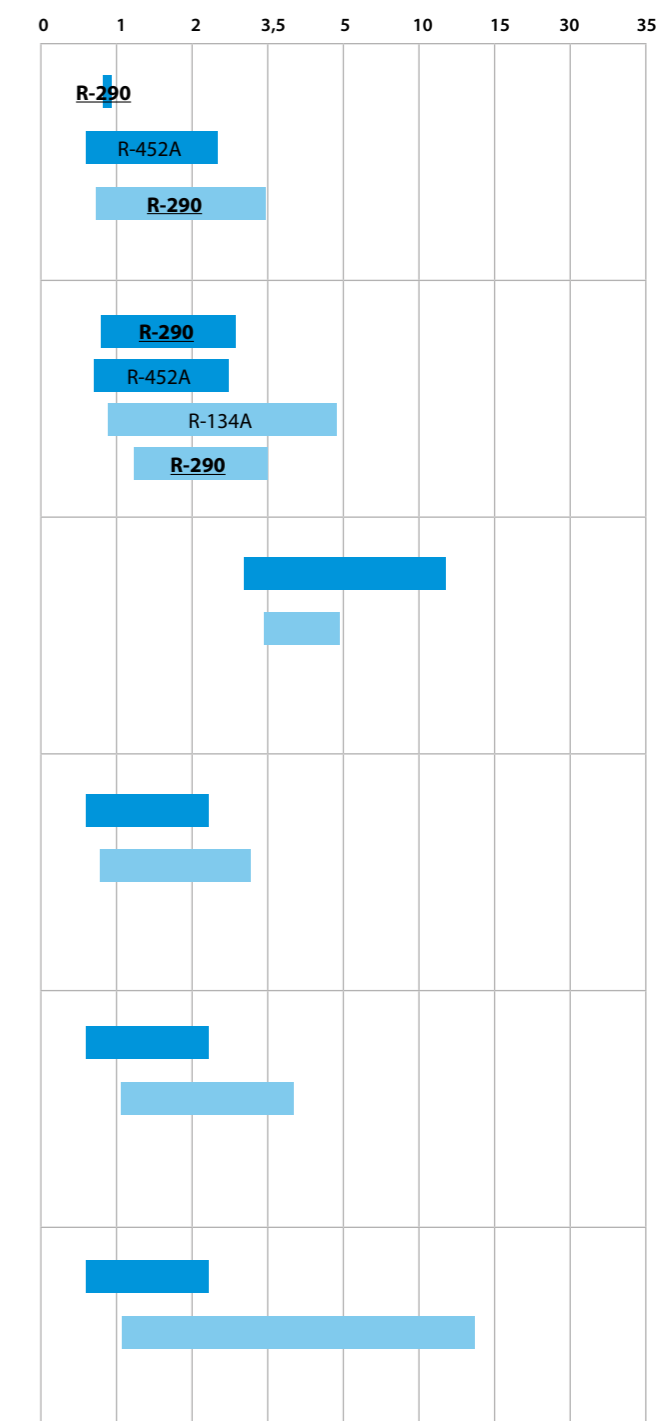
Bi-block system for floor or ceiling installation with capillary expansion system.

DBO



Bi-block system for floor or ceiling installation with thermostatic expansion valve.

Capacity (kW)



Low temperature (-20°C / +35°C) Medium temperature (0°C / +35°C) High Temperature (+20°C / +10°C)

## ● ALFABLUE – GAS COOLERS AND CONDENSERS

### Alfablue JR

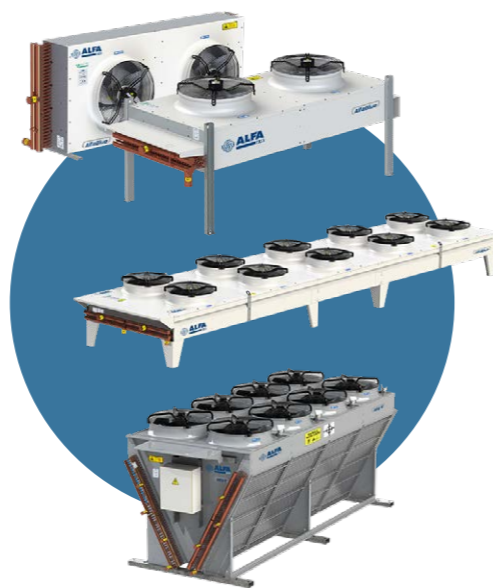
High-performance condensers, easy-to-install and perfectly integrated with other components. Their highly efficient fan motors combine excellent sound characteristics and low power consumption. These equipments can be used in commercial refrigeration installations.

### Alfablue BC

These condensers are available for both horizontal and vertical air direction, either in single (BCM) or dual (BCD) execution.

### Alfablue V

V-shape condensers for high powers in reduced dimensions.



## ● ARCTIGO series – RANGE OF INDUSTRIAL EVAPORATORS



**Arctigo IS** is a flexible range of single flow industrial evaporators for refrigerating and freezing applications in medium to large cold rooms. It is optimal to keep fresh and frozen food from +10 to -40°C, with high or low humidity content.

**Arctigo ID** is a range of compact and high-performance double-flow industrial evaporators.

*The Arctigo range offers a wide variety of evaporators configurations and several extras*



## ● OPTIGO series – RANGE OF COMMERCIAL EVAPORATORS

**Optigo CC**, range is suitable for application in small to medium cooling and freezing rooms.

**Optigo CD** is a commercial double-flow evaporators range for application in small to medium-sized cooling, freezing and working rooms. Its low air speed and sound level make it especially suitable for refrigerated working & processing rooms.

**Optigo CS** is a commercial evaporators range suitable for applications in small to medium-sized cooling and freezing rooms. The low silhouette design (only 15 cm for CS200) allows an efficient use of the refrigerated room space.



## ● COMPACT series – COMMERCIAL RANGE

The **GCHC** and **GCVC** ranges are condensers for HFC, CO<sub>2</sub>, propane and water/glycol for commercial refrigeration, available for either horizontal or vertical installation.

The **GCDC** is a range of V-shape condensers that are available as fluid coolers, condensers and gas coolers.

The **GADC** (Dual Compact) range are optimized designs for HFC and CO<sub>2</sub> refrigerants, with 4mm and 7mm fin spacing for normal and low temperature refrigeration applications. Capacities vary from 2 to 25 kW.

The **GASC** are a range of finned heat exchangers. Rapid refrigeration application for food storage. Max. operating pressure up to 80 bar (only CX-units) Quick and easy to clean. Capacities vary from 0.6 to 14 kW.

The **GACC** are a range of finned heat exchangers. Rapid refrigeration application for food storage. Max. operating pressure up to 80 bar (CX-units only). Compact manufacturing. Optimized casing dimensions for transport and storage. Capacities vary from 1 to 6 kW.



## ● VARIO series – INDUSTRIAL RANGE

The **GVD** are a range of V-shape condensers, whose capacities vary from 75 to 2,148 kW.

The **GCHV** are a range of flat condensers, whose capacities vary from 40 to 1,450 kW.

The **GCHV** are a range of Dual evaporators, whose capacities vary from 40 to 1,450 kW.

The **GACV**, **GHN** and **GHF** series are evaporators with a robust cubic design, easy to install, clean and maintain. They are manufactured with materials suitable for the food chain. Capacities from 1 to 335 kW.

The **DHN** series are Dual evaporators, whose capacities vary from 4 to 80 kW.



# coldrooms & plug-in

## COLD ROOMS

Standard features offered in our cold rooms:

- > INSTACLACK® system: Refrigeration panels with mechanical union system.
- > Galvanized white lacquered Z200 steel sheet finish.
- > In freezing: pressure balancing valve and door with heated resistance in the frame.
- Sandwich panel with 70, 100 and 155 mm insulation.
- > Pivot door with key lock and interior unlocking system.

### Numerous extras

The rooms are offered with all the necessary options to complete the assembly, such as:

- > Exterior protections as required (minimum advisable: a bollard).
- > Trapped person alarm box, with certified thermometer.
- > Galvanized steel exterior protection for room sides of different dimensions.
- > Panel protection with aluminum checkerboard sheets of different dimensions.
- > 1 m interior lining of the room with checkerboard aluminum sheets. Standard thickness 70 mm.
- > Sanitary profiles.
- > Galvanized tubular protection at the back of the room.
- > Leak detector.
- > Certified recorder.
- > Wide range of shelves.

**Taver**



## PLUG-IN (DISPLAY CASES AND ISLANDS)

**AHT**



AHT develops, manufactures and sells refrigeration and freezing display cases especially suitable for food retailers. AHT leads the market of the "plug-in" display case segment by launching new products that accompany the evolution of store designs.

In addition, through its technology capabilities and business resources, AHT gives service to big accounts that include major food retail chains around the world.

A complete range of plug-in products offering great sales potential in small spaces, ideal for the hospitality industry segment.

### Horizontal freezers

- > They create a new definition of saving and raise product presentation to a new level.
- > They maximize the sales space while minimizing the maintenance.

### Ice cream counters

- > Excellent product visibility due to low counter height.

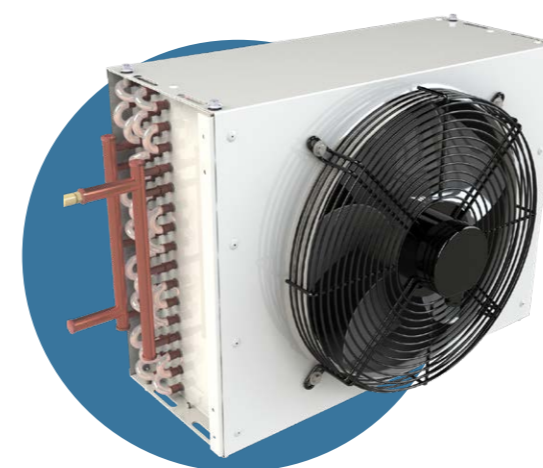
### Refrigerated display counters

- > A combination of style and functionality in an elegant design to boost sales.

# extras

## SOLUTIONS THAT HAVE AN IMPACT ON OUR CUSTOMERS

	<b>PARALLEL COMPRESSOR</b> Improves the performance and efficiency of the CO <sub>2</sub> compressor rack.		<b>COOLING OF TRANSCRITICAL FLUID</b> Improves system efficiency by cooling CO <sub>2</sub> up to 20°C. A CO <sub>2</sub> refrigeration compressor rack is achieved with smaller compressors.
	<b>RADIAL/AXIAL FANS</b> Axial fans for outdoor mounting and radial fans for indoor mounting with directed air-outlet.		<b>COOLING EXCHANGER</b> Exchanger for transcritical fluid cooling. It prevents the compressor rack from suffering a cooling capacity loss due to external temperatures.
	<b>LOW SOUND LEVEL</b> Compressors with sound insulation covers that allow to lower the noise threshold.		<b>PLATE EXCHANGER</b> Plate exchanger that cools the liquid CO <sub>2</sub> down, preventing the flash gas from getting into the installation. Improves the performances of the freezing compressor rack.



## Desuperheaters = + Protection

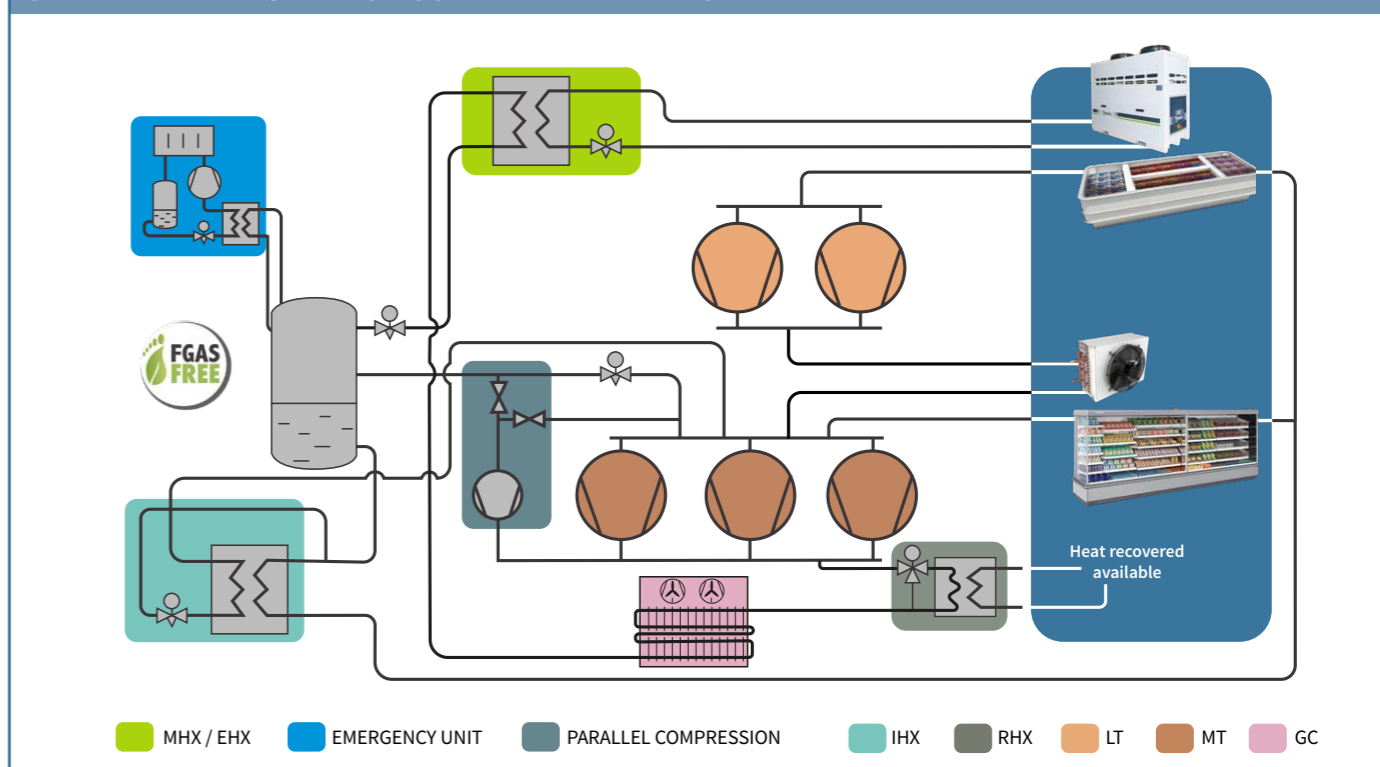
They protect the medium temperature compressors from the high temperatures generated by the low temperature compressors.

Air coolers with a battery designed to withstand a PS 60 bar, avoiding the loss of fluid pressure as much as possible. They can be prepared for either horizontal or vertical airflow.

Capacities vary from 4,5 to 50 kW.

Air Temperature 35°C; PT. gas in/out 72/40°C.

## STANDARD REFRIGERATION SCHEME WITH EXTRAS



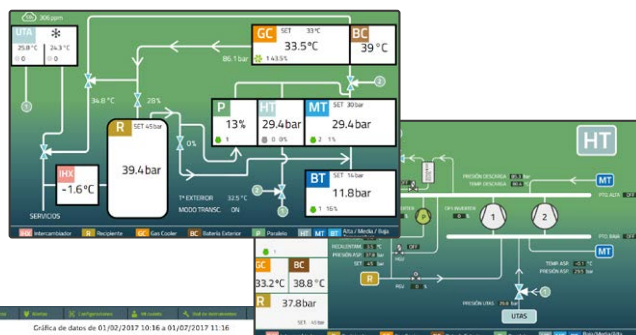
# electronics and electrical panel

## ELECTRICAL PANEL = MAXIMUM EFFICIENCY

- Electrical panel mounted on frame, with complete wiring.
- 400V/3f+n/50Hz power supply.
- Frequency inverter on the first compressor in LT, MT and parallel sections.
- Remote gas cooler and booster components electrically protected against overloads and short circuits.
- Electrical power connections to the auxiliary unit. (optional)



## Tewis electronics for managing parameters and performance



- It represents the best option for CO<sub>2</sub> solutions with a Booster circuit and also allows managing up to two circuits for heat recovery.
- Touch screen with synoptics and real time data. (Mod. RACK and DUPLEX).
- Selectors and indicator lights.
- Compatible with the Televis System and open for the integration of Modbus RTU/TCP or BACnet MS/TP systems (optional).
- Data and alarm software with intuitive interface on plant or through remote management.
- Monitoring with graphs and tables of historical data.



Compatible with the **GM SMART** system, which expands its configuration and solution options.



## OTHER ELECTRICAL BRANDS

- Available with Danfoss and Carel controllers.
- This solution is not available with touch screen.
- Compatible with Danfoss and Carel control systems.

**CAREL** *Danfoss*



*a member of **DAIKIN** group*

**Tewis Smart Systems, S.L.U.**

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# #TEWISCOOL