

ZONTRAL

2025

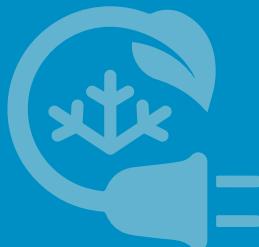
REFRIGERATION UNITS COMMERCIAL RANGE



INTARCON, is a Spain-based company dedicated to designing, manufacturing, marketing commercial and industrial refrigeration units.

Our mission at INTARCON is to develop and offer the market a wide range of innovative solutions for the most reliable, efficient and sustainable operation of refrigeration facilities.

The INTARCON team has valuable experience in the field of refrigeration, focusing its R&D efforts on the development of a wide range of long-term energy-efficient and zero-greenhouse gas solutions.



more than
70.000
supplied units

at more than
50
countries

with more than
400
employees



Reliability Efficiency Sustainability

Production capacity

Adaptive flexibility in the manufacture of different products contributes to our customer service. Our factory is located in Lucena, in the south of Spain, with a total surface area of 18 000 m².



Quality and environment

We supply products that exceed our customer's expectations, developing environmentally friendly products with optimal management of production waste.

Technology

Engineering excellence is in our corporate DNA. Our innovative strategy combines technology development based on well-known solutions, with innovative projects in new technologies.



Team

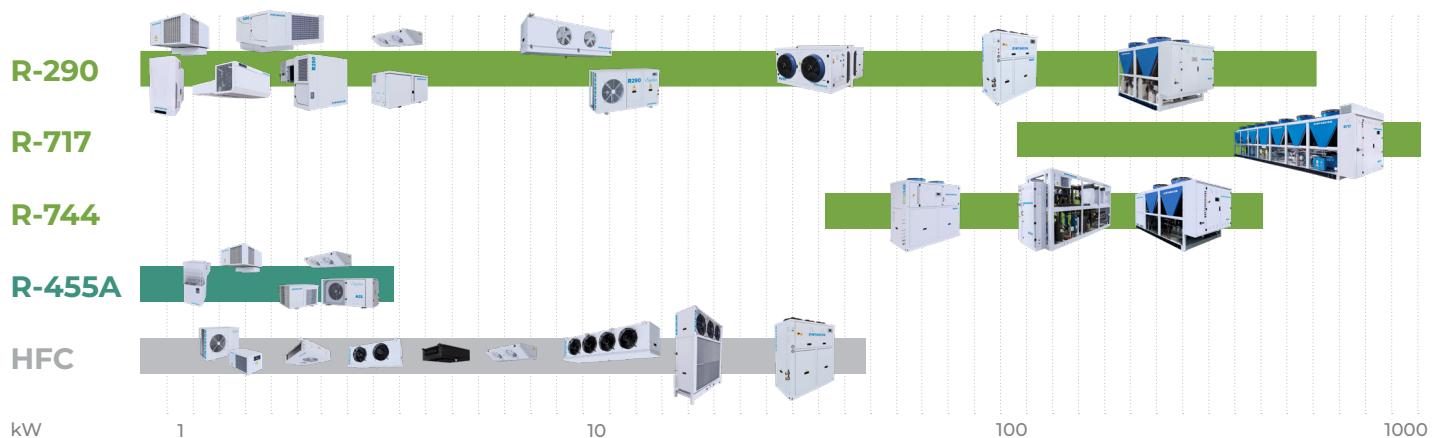
The commitment, know-how and experience of our employees is our greatest strength, with more than 25 % of our staff being university trained engineer, which makes us a highly technological company.

Markets and clients

Present on five continents and with subsidiaries in the Netherlands, Turkey, France and Switzerland, we develop and promote the dissemination of knowledge to create and reinvent markets through a strong focus on the customer and their needs.

Service

With a great technical capacity and a high knowledge of refrigeration systems and installations, we give international and national customer service.



PROPANE COMMERCIAL RANGE

R-290 commercial monoblocks

- The PRO compact range has been designed by and for technicians.
- New PRO wall-mounted compact units with cubic aluminium evaporator.
- New PRO roof compacts, simple assembly, manufactured in two parts that allow opening and quick access to the inside of the evaporator from the roof of the chamber.
- Ultra-compact refrigeration units for mini cold rooms.
- Easy Plug & Play installation directly on the ceiling, door or wall of the cold room.



R-290 waterloop system

- R-290 water-cooled condensing units. Waterloop evaporator units with compressor for installation inside small cold rooms, designed with natural refrigerant R-290 and waterloop condensed.
- Compact rooftop PRO range of R-290 water cooled condensing units.
- R-290 water cooled condensing evaporator.
- R-290 low noise air-condensing chillers.
- Air-coolers with hydraulic group.



A2L commercial range

A2L monoblocks

- Refrigeration units for medium and small cold rooms.
- Easy and Plug & Play installation for wall, door or roof-top installation.
- R-455A low greenhouse refrigerant.



A2L split system

- Split system for medium and small cold rooms.
- R-455A pre-charge units.
- Low noise units and de relative condensation units with slim-type evaporator.



HFC COMMERCIAL RANGE

HFC split system

- Split system for medium and small cold rooms.
- Pre-charge units exempt from leak checks.
- Moderate-greenhouse refrigerants R-134a and R-449A.
- Low noise units and de relative condensation units.



HFC condensing units

- Tropicalised design, low noise and centrifugal fan.
- Ecodesign certification.
- Versions with electronic controller and multiservice.



HFC waterloop system

- R-134a and R-449A water-cooled condensing units for installation on the furniture, on the floor or anchored at the wall.





Refrigeration solutions that adapt to the needs of the most demanding sectors

Commercial refrigeration

Modern industrial kitchens in hotels, restaurants and hospitals have a variety of medium and low temperature cold rooms, together with a certain refrigeration demand in high temperature processing rooms, to which must be added the important refrigeration requirements of blast chillers in cold line kitchens. The refrigeration installations for this type of application must not only supply the necessary cold at different temperatures, but must also often have a low noise level.



Dani García Group
Spain

Amarande Hotel
Cyprus



Alestis Aerospace
Spain



Cooperl
France

Industrial refrigeration

Industrial refrigeration installations are an essential part of the food and beverage processing industries, so the reliability and precision of the equipment is key to the quality of the process. In bakery industries, for example, cooling is essential for optimal product preparation and preservation.



Aldi
Europe

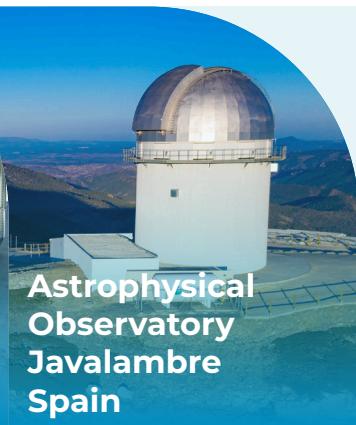
Carrefour
Dominican Republic

Supermarkets

Supermarkets are characterised by a high number of small refrigeration services at medium and low temperatures, together with significant thermal requirements for the air-conditioning of the sales room. INTARCON offers integral solutions that meet the cooling and air conditioning needs of the supermarket, taking advantage of the synergies of refrigeration production in summer and heat recovery in winter heat recovery.



CEIS laboratories
Spain



**Astrophysical
Observatory**
Javalambre
Spain

Other applications

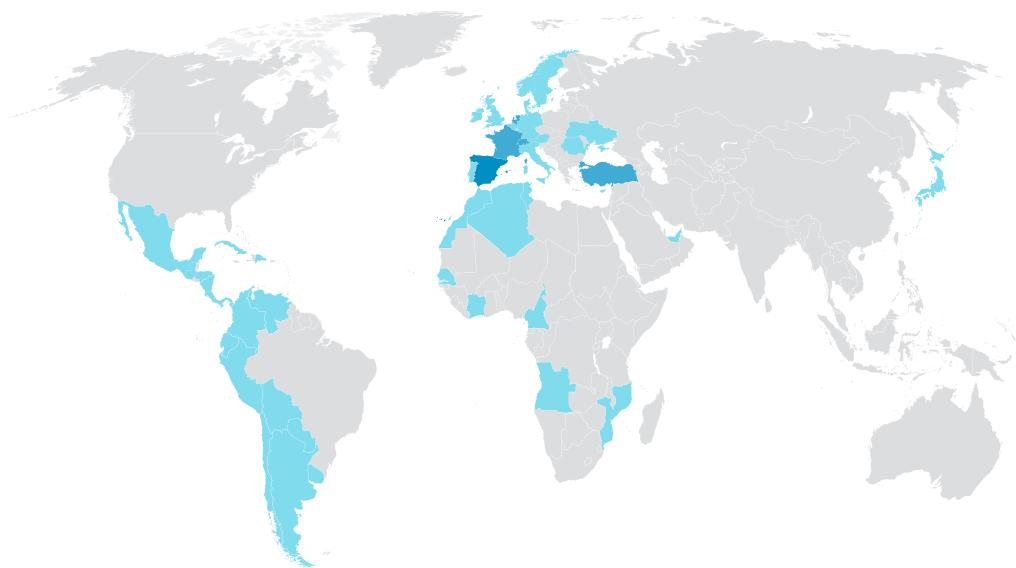
Sometimes refrigeration technology goes beyond food preservation or freezing applications or industrial processes to cover the most remote and unexpected needs, the original design philosophy of manufacturing (ODM) is the method for success.

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**Europe**

Austria Norway
Belgium Portugal
Denmark Romania
France Spain
Germany Sweden
Ireland Switzerland
Italy Turkey
Netherlands United Kingdom

America

Argentina El Salvador
Bolivia Honduras
Chile Mexico
Colombia Panama
Costa Rica Paraguay
Cuba Peru
Dominican Rep. Uruguay
Ecuador Venezuela

Africa

Angola Morocco
Algeria Mozambique
Cameroon Tunisia
Ivory Coast



**Maximum *quality* in our products
and excellence in our *services***

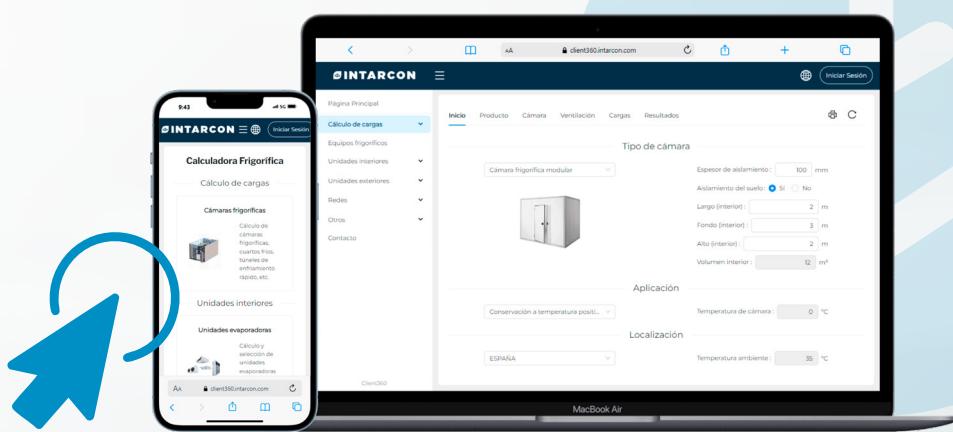
www.intarcon.com



A new ecosystem in the **comprehensive management** of refrigeration projects

CLIENT³⁶⁰

client360.intarcon.com
REFRIGERATION CALCULATION SOFTWARE



SING UP ADVANTAGES

■ Integrated project management

Create, track and manage all your projects in one place.

■ Real-time collaboration

Share your projects quickly and easily with your local sales representative and work together in real time, optimising coordination and efficiency.

■ Calculation and document storage

Save all calculations relative to your projects, including data sheets, cold room calculations, pipe runs and more, for instant access.

■ Automatic calculation summary

Get an automatic summary table of all your calculations sorted by type, with details such as calculation conditions, cooling capacity, equipment selection, and more functionalities...

■ Quick edit and duplicate calculations

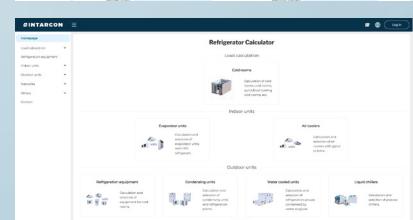
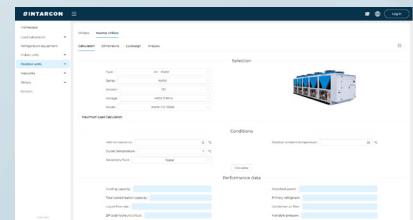
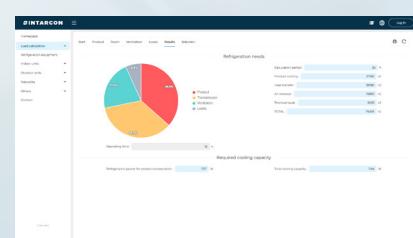
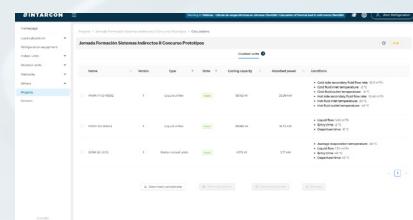
Easily modify or duplicate calculations, accelerating the update process and allowing you to quickly adapt to any changes in your works.

■ Centralisation of documentation

Upload layout, specifications, reports and all documentation related to your projects in one place for greater organisation and accessibility.

■ Customisation and shortcuts

Customise the language, unit system and create shortcuts to your favourite website sections and external webs, all from your account.



What is Client360?

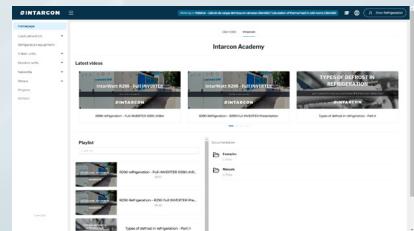
Client360 is a new software developed by INTARCON for the integrated management of your refrigeration projects. This platform is designed to offer a more intuitive, efficient and customised experience during the refrigeration calculation.

What are its advantages?

Our new software incorporates a series of functionalities that make it a necessary tool for your projects:

■ Improved and more attractive interface

Enjoy a new look and feel and organisation of elements that make Client360 more intuitive and easier to use.



■ Advanced chiller calculations

Our full inverter chiller plant models with R-290 now allow part-charge calculations for a given power limit, optimising performance under all conditions.

■ New inverter chiller models

Add to your projects the new WK-FHD water-cooled R290 inverter models, design for negative, positive and high temperature applications. Automatic monthly update.

■ Automatic monthly updates

Including improvements and new functionalities.

**Engineering excellence
is in our corporate DNA**
REFRIGERATION CALCULATION SOFTWARE

INTARCON

With Client360, you not only take your work efficiency to the next level, but also transform the organisation and management of all your projects.

Sign up and discover all that our platform has to offer!

**CLIENT
360**



Icon legend

REFRIGERANT TYPE



R-290

R-744

R-717

R-455A

HFC

POWER SUPPLY

50Hz
230V/400V50Hz
230V50Hz
400V

COMPRESSOR TYPE



Hermetic

Semihermetic

Rotary

Scroll

Scroll
Inverter

Screw

EXPANSION TYPE

Thermostatic
valveElectronic
valveCapillary
expansion

FAN TYPE



Axial

Axial EC

Centrifugal

Radial

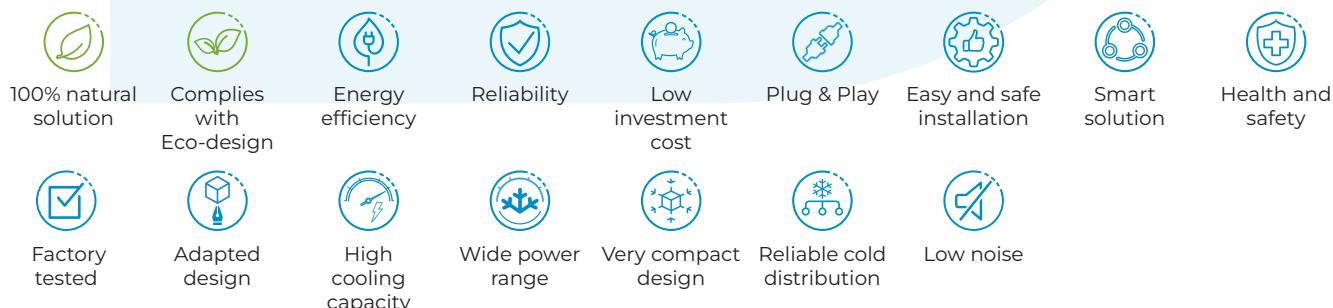
DEFROST TYPE

Electric
defrostAir
defrostHot gas
defrost

OTHER FEATURES



ADVANTAGES AND BENEFITS



PRODUCT RANGE BY REFRIGERANT TYPE



Natural

A2L

HFC



Product codification



Application

- Positive temperature
- Negative temperature
- High temperature
- High relative humidity
- Wine cellar
- Dry-cooler

SERIE

M
D
M
M
B
A
H
V
C

VERSION

N
D

MODEL

1
017

A

Configuration

- Compact
- Split system
- Condensing unit
- Chiller
- Evaporating unit

C
S
D
W
J

Structure

- Vertical
- Roof-top
- Door
- Horizontal
- Low noise
- Wall-type
- Double flow
- Commercial cubic-type
- Slim type evaporating unit

V.
R
P
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B

Version

- Axial vertical condensation (PRO range)
- Axial vertical condensation
- Centrifugal condensation
- Water condensation
- Weatherproof
- Ultra-slim
- Cubic-type evaporator
- Double flow evaporator
- Quasi-static evaporator
- Wine cellar evaporator
- Scroll compressor, axial condensation
- Scroll compressor, centrifugal condens.
- Rotary compressor
- VRC system, axial condensation
- VRC system, centrifugal condensation

NP
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CV

Refrigerant

- R-134a
- R-290
- R-449A
- R-452A
- R-455A

Y
D
G
B
N

Model

- Construction size
- Compressor capacity

A
B

Product range

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Sales network

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CLIENT360

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Product codification

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Quick cold room calculation

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R-290 monoblocks

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- CV-NPD
- CR-NPD
- CV-LD
- CR-ND
- CP-ND

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R-290 waterloop system

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- DM-ND / -SD
- JB-ND
- CV-NPD
- CR-NPD
- CC-ND / -SD
- WF-SD
- CWF

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A2L monoblocks

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- CR-NN

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A2L condensing units

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- SF-NN
- SH-NN
- A2L cooling connections

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HFC condensing units

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- SF-NY / -NG
- SF-QY / -QG / -QB
- SF-DY / -DG
- SH-NY / -CY / -NG / -CG / -NB / -CB
- SH-QY / -CQY / -QG / -CQG / -QB / -CQB
- SH-DY / -CDY / -DG / -CDG
- Meat units
- High humidity
- Wine cellar and mini drying rooms
- HFC cooling connection

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HFC condensing units

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- DF-NY / -NG
- DH-NY / -CY / -NG / -CG

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HFC waterloop system

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- DM-PY / -PG / -SY / -SG

81

Electronic regulation

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Sales terms

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Package dimensions

84

Quick cold room calculation

The chart below shows recommended cooling needs for high temperature process rooms and cold rooms at positive and negative temperature according to the calculation basis.

Cold room volume (m ³) COMMERCIAL COLD ROOMS	Recommended cooling needs for standard process handling rooms and cold storage rooms (W)				
	HIGH TEMPERATURE (12 °C)		POSITIVE TEMPERATURE (0 °C)		NEGATIVE TEMP. (-20 °C)
	No floor panel 50 mm insulation	Without insulation	Floor panel 80 mm insulation	No floor panel 100 mm insulation	
5			700	900	700
10	1300	2 300	1 200	1 500	1 100
15	1 600	2 700	1 600	2 000	1 400
20	1 900	3 400	1 900	2 400	1 700
25	2 300	4 000	2 300	2 800	2 000
30	2 600	4 500	2 600	3 300	2 200
40	3 200	5 600	3 200	4 000	2 700
50	3 800	6 600	3 800	4 800	3 100
60	4 400	7 600	4 400	5 400	3 600
75	5 100	9 000	5 100	6 400	4 200
100	6 400	11 100	6 400	8 000	5 100
125	7 500	13 100	7 500	9 400	5 900
150	8 600	15 100	8 600	10 800	6 700
175	9 700	16 900	9 700	12 100	7 500
200	10 700	18 700	10 700	13 300	8 200
250	12 600	22 100	12 600	15 800	9 600

Unit capacity correction

Cooling capacity indicated in this catalogue are based on the cooling performance of the unit with 35 °C ambient temperature.

To obtain cooling capacity of the unit under other ambient temperature values it is recommended to apply the following correction factors:

	Ambient temperature	20 °C	25 °C	30 °C	35 °C	40 °C	45 °C
POSITIVE TEMP.	F _a : Cooling capacity factor	1.23	1.15	1.08	1.00	0.92	0.84
	F _b : Input power factor	0.81	0.88	0.94	1.00	1.07	1.13
NEGATIVE TEMP.	F _a : Cooling capacity factor	1.33	1.22	1.11	1.00	0.89	0.77
	F _b : Input power factor	0.85	0.91	0.96	1.00	1.03	1.05

$$\text{Cooling capacity} = F_a \times P_{\text{frig}}|_{35^\circ\text{C}}$$

$$\text{Input power} = F_b \times P_{\text{input}}|_{35^\circ\text{C}} \quad \text{Cooling capacity}|_{35^\circ\text{C}} = \frac{\text{Corrected cooling capacity}}{F_a}$$

Cooling needs calculation basis for cooling needs

Cooling needs shown for each cold room volume in product technical features charts in this catalogue have been calculated according to the following assumptions:

- Ambient temperature: 35 °C.
- Charge density: 250 kg/m³.
- Daily rotation rate depending on cold room volume: 10 % (V≤100 m³), 8 % (100 m³<V).
- Product specific heat PT: 3,2 kJ/(kg·K), NT: 1,8 kJ/(kg·K).
- Product inlet temperature: 25 °C (PT) y -5 °C (NT).
- Insulation panel: Injected polyurethane with 40 kg/m³ density and 0,025 W/(m·K) conductivity, 80 mm (PT) and 100 mm (NT) thick and floor panel.
- 18 daily hours compressor operation time.

Correction of refrigeration needs

To obtain the corrected cooling charge for a cold room with special characteristics, the application of a series of correction factors is proposed, based on the following:

$$\begin{aligned} \text{Qcorrected cooling capacity} \\ = Q_{\text{cooling capacity}} \times F_1 \times F_2 \times F_3 \times F_4 \end{aligned}$$

Where correction factors adopt the following values:

F1: Ambient temperature

The following correction factors can be used to obtain the cooling charge at an ambient temperature other than the calculation temperature of 35 °C:

- Ambient temperature of 40 °C: F1 = 1,05
- Ambient temperature of 45 °C: F1 = 1,10

F2: Breathing of fruit and vegetable products

The ripening process of fruit and vegetable products in positive temperature storage produces a considerable amount of heat. This breathing heat can represent, depending on the type of product, up to 50 % additional cooling charge.

For indicative purposes, we suggest a factor: F2 = 1,25

F3: High product turnover rate

The cooling capacities indicated in the table have been obtained with a conventional product rotation, according to calculation basis. A high product turnover of twice the rotation rate considered can represent up to an additional 50 % of refrigeration needs. F3 = 1,50

F4: Reduced insulation thickness

A lower insulation thickness than the recommended values means a small increase in the cooling load. As a guideline, reducing the insulation thickness by 20 mm: F4 = 1,10

Calculation example

Calculation of an 80 m³ apple conservation cold room, isolated with an 80 mm thickness refrigeration panel, with uninsulated floor:

- From the values in the table, the reference refrigeration charge for 80 m³ is interpolated.

$$Q_{\text{cooling capacity}} = 7 200 \text{ W}$$

- The correction factor for the heat of respiration of fruit and vegetable products is applied: F2 = 1,25

$$\begin{aligned} \text{Qcorrected cooling capacity} \\ = Q_{\text{cooling capacity}} \times 1,25 = 9 000 \text{ W} \end{aligned}$$



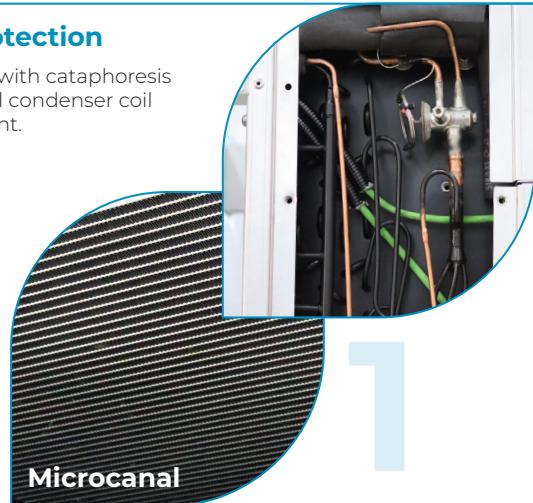
Compact refrigeration units for wall, door or roof-top installation

Commercial monoblocks

R290

Exchangers with protection

Tube and fin evaporator coil with cataphoresis treatment and microchannel condenser coil with polyester paint treatment.

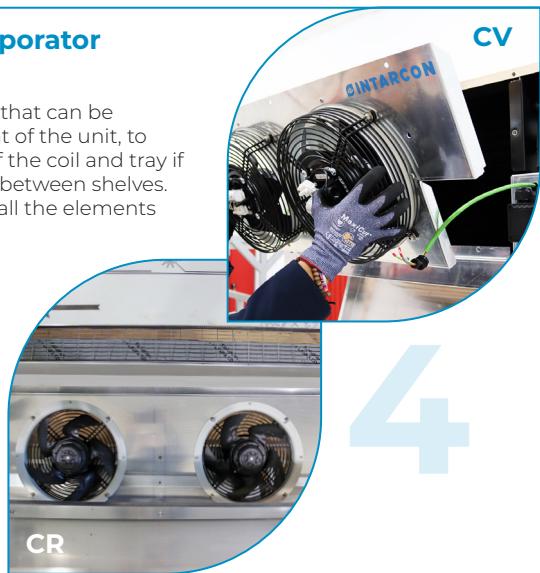


Microcanal

1

Removable evaporator front register

Front panel with fans that can be opened from the front of the unit, to access the cleaning of the coil and tray if the unit is positioned between shelves. Easy maintenance of all the elements of the unit.



4

CR

Electrical panel

Electrical panel with front access. All the protection and electronic control elements are integrated. Terminal block for connecting the elements.



6

CV

Connectors

All electrical elements use connectors for easy replacement.

Electronic fans

Electronic fans with condenser speed regulation, minimising energy consumption and noise.

New developments

R290

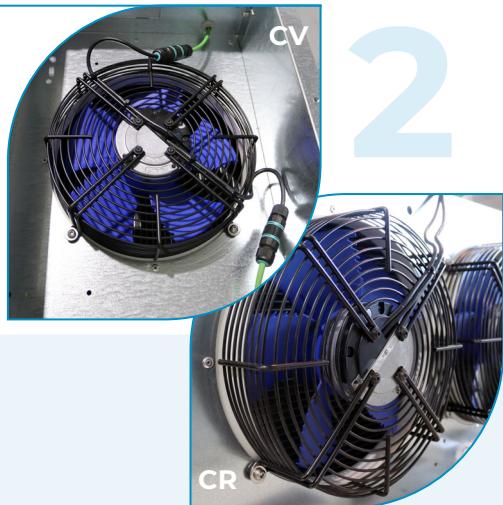


**intarblock PRO
CV-NPD**

Through-wall insulation pad

In ceiling-mounted units, 80 mm thick through-wall insulation pad injected in polyurethane foam and covered in aluminium. Manufactured in two parts that allows its opening and quick access to the inside of the evaporator from the roof of the chamber, simply with 3 screws.

Assembly of the ventilation kit (telescopic to adapt to different thicknesses) from inside the chamber, to facilitate the assembly of the unit.



2

Washable air filter

Accessible from the outside to prevent soiling of the condenser and the inside of the unit.



3

Design for and by technicians



**intartop PRO
CR-NPD**

Defrost

Hot gas defrost with liquid line shut-off, reducing defrosting time and consequently reducing start-up time and unit consumption.



5



7

Drain pan

Condensate evaporation drain pan, accessible from the outdoor unit and removable. Built-in stainless steel. Allows cleaning, as well as the evaporation coil. Overflow for evacuation of excess condensate water.



8

intarblock PRO



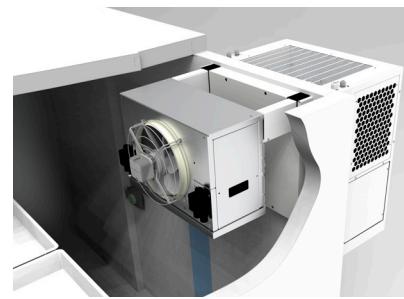
New range of R-290 self-contained slim monoblock designed by and for technicians. For small and medium refrigeration and conservation cold rooms. Units for wall-mount installation.

FEATURES

R-290 refrigerant charge.	<input checked="" type="checkbox"/>
Refrigeration circuit independent per compressor.	<input checked="" type="checkbox"/>
Hermetic reciprocating compressors mounted on rails to reduce vibrations.	<input checked="" type="checkbox"/>
Condensing coil in microchannel with polyester paint treatment.	<input checked="" type="checkbox"/>
AC evaporator fans, and EC condenser fans.	<input checked="" type="checkbox"/>
High pressure switch.	<input checked="" type="checkbox"/>
Removable stainless steel drain pan for cleaning and stainless steel coil.	<input checked="" type="checkbox"/>
Washable suction screen filtering mesh.	<input checked="" type="checkbox"/>
Drainage resistance in self-regulating NT models.	<input checked="" type="checkbox"/>
Wall-mount installation 80-150 mm.	<input checked="" type="checkbox"/>
Access to electrical panel with hinged register.	<input checked="" type="checkbox"/>
Hot gas defrosting.	<input checked="" type="checkbox"/>
Thermostatic expansion valve.	<input checked="" type="checkbox"/>
Aluminium plates covered with film for protection during transport in evaporator.	<input checked="" type="checkbox"/>
Multifunction electronic regulation.	<input checked="" type="checkbox"/>
Cold room LED light.	<input checked="" type="checkbox"/>
EC radial fan with vertical discharge (only for standard air-condensed units).	<input type="checkbox"/> + 10 %
Bi-temperature adaption.	<input type="checkbox"/> + 10 %
Condensation with water at a temperature between 5 and 50 °C.	<input type="checkbox"/> + 5 %
Condensation with glycol water at a temperature between -10 and 5 °C (only in NT models). Includes automatic pressostatic water valve controlled by condensing pressure, with direct drive.	<input type="checkbox"/> + 9 %
Water solenoid valve for installation outside the unit.	<input type="checkbox"/> + 183 €
Unit adaptation for outdoor installation.	<input type="checkbox"/> + 30 %
Halogen-free supply connection (5 m).	<input type="checkbox"/> + 2 %
Male and female schuko electrical connector base.	<input type="checkbox"/> + 77 €
Low voltage protection (single-phase models).	<input type="checkbox"/> + 189 €
Low voltage and phase sequence protection (three-phase models).	<input type="checkbox"/> + 251 €
Change to 230V 50Hz power supply in three-phase models.	<input type="checkbox"/> + 8 %
Drain resistance (for room temperature < 0 °C in PT models).	<input type="checkbox"/> + 88 €
Master-slave (alternative + simultaneous).	<input type="checkbox"/> + 82 €

As standard Optional

Installation example



Aluminium cubic evaporator

Aluminium provides better heat transfer than other materials and optimum low temperature operation.

Cubic type evaporators have a greater air range than ceiling type evaporators.

Electronic control

intarblock PRO units incorporate as standard the advanced XM670K electronic control.

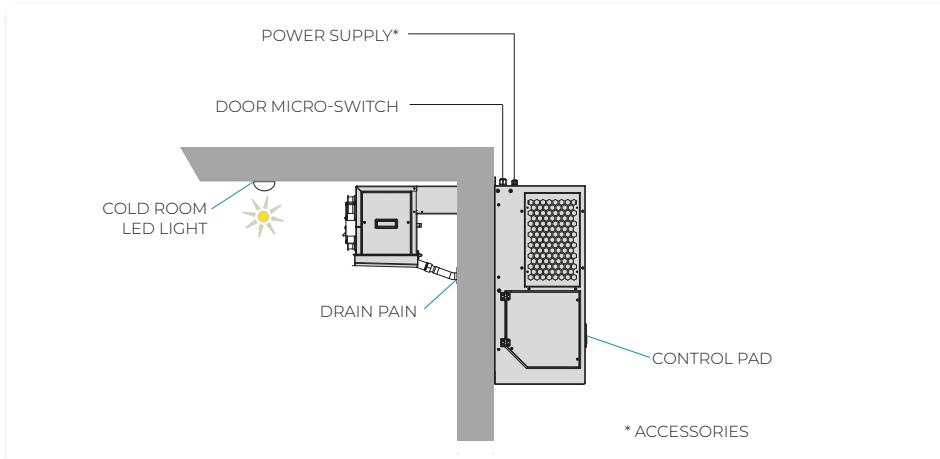


- ▶ Remote control keyboard with digital display.
- ▶ Internal clock for programming of energy saving cycles and defrost.
- ▶ Possibility of interconnection and synchronization of up to 8 devices by LAN, managed from a single control.

Accessories CV-NPD units

- ▶ Hopper for adaptation to circular duct (+ 127 €).
- ▶ Through-wall insulation pad 100 mm (+ 4 %).
- ▶ Through-wall insulation pad 150 mm (+ 6 %).
- ▶ Non-return damper (+ 69 €).
- ▶ Door micro-switch (+ 65 €).
- ▶ 5 metres of electrical supply hose (+ 2 %).

Installation scheme



Radial fan (optional)

intarblock units with optional radial fans feature a centrifugal motor fan with Available Static Pressure of 100 Pa, to duct hot condensation airflow outdoors.



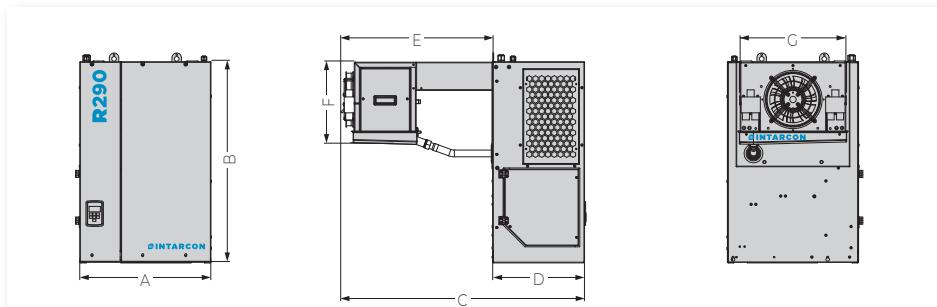
230V I+N ~ 50Hz / 400V 3N ~ 50Hz | Positive temperature | Hermetic compressor | R-290

Refrigerant	Series / Model	Power supply	Compressor (HP)	Cooling capacity / Cold room volume, according to cold room temperature ⁽¹⁾						Input power (W)	Max. current (A)	Evap. air flow (m³/h)	Condens. air flow [Opt. radial] (m³/h)	Refrigerant charge per circuit (g) ⁽²⁾	Weight (kg)	SPL dB(A) ⁽³⁾	Price (€)
				0 °C		5 °C		10 °C									
				W	m³	W	m³	W	m³								
R-290	MCV-NPD-1008A	230V I+N ~ 50Hz	1/3	720	5	851	10	995	16	464	4.1	750	1450	<150	68	43	2 621
	MCV-NPD-1012A	230V I+N ~ 50Hz	1/2	958	8	1144	14	1345	24	635	6.5	750	1450	<150	68	43	2 981
	MCV-NPD-1018A	230V I+N ~ 50Hz	3/4	1220	12	1447	20	1688	33	759	5.8	750	1450	<150	72	43	3 512
	MCV-NPD-2026A	230V I+N ~ 50Hz	1	1733	19	2 086	32	2 491	53	1107	11.2	1350	1600	<150	109	41	4 327
	MCV-NPD-2034A	230V I+N ~ 50Hz	1	2 251	26	2 668	43	3 119	70	1 491	14.8	1350	1600	<150	109	42	4 845
	MCV-NPD-2035A	230V I+N ~ 50Hz	2x 3/4	2 432	29	2 847	47	3 302	75	1 459	11.1	1350	1600	<150	116	41	5 597
	MCV-NPD-3052A	400V 3N ~ 50Hz*	2x 1	3 578	47	4 329	78	5 065	140	2 309	9.3	2 800	3 000	<150	142	44	6 078
	MCV-NPD-3069A	400V 3N ~ 50Hz*	2x 1	4 505	62	5 329	100	6 180	180	3 091	12.9	2 800	3 000	<170	142	45	6 740

230V I+N ~ 50Hz / 400V 3N ~ 50Hz | Negative temperature | Hermetic compressor | R-290

Refrigerant	Series / Model	Power supply	Compressor (HP)	Cooling capacity / Cold room volume, according to cold room temperature ⁽¹⁾						Input power (W)	Max. current (A)	Evap. air flow (m³/h)	Condens. air flow [Opt. radial] (m³/h)	Refrigerant charge per circuit (g) ⁽²⁾	Weight (kg)	SPL dB(A) ⁽³⁾	Price (€)
				-25 °C		-20 °C		-15 °C									
				W	m³	W	m³	W	m³								
R-290	BCV-NPD-1018A	230V I+N ~ 50Hz	3/4	469	1	584	3	706	5	588	5.8	750	1450	<150	72	43	3 620
	BCV-NPD-2026A	230V I+N ~ 50Hz	3/4	703	3	867	6	1 085	11	907	9.6	1350	1600	<150	109	41	3 732
	BCV-NPD-2034A	230V I+N ~ 50Hz	3/4	955	6	1 166	10	1 423	18	1 141	11.5	1350	1600	<150	109	41	4 244
	BCV-NPD-3052A	230V I+N ~ 50Hz	2x 3/4	1 406	12	1 776	21	2 249	36	1 926	18.1	2 800	3 000	<150	142	44	5 486
	BCV-NPD-3054A	230V I+N ~ 50Hz	1	1 367	11	1 787	21	2 323	38	1 732	18.2	2 800	3 000	<150	131	45	5 225
	BCV-NPD-3068A	230V I+N ~ 50Hz ⁽⁴⁾	11/4	1 665	15	2 173	28	2 792	49	2 028	23.9	2 800	3 000	<150	131	44	5 810
	BCV-NPD-3069A	400V 3N ~ 50Hz*	2x 3/4	1 905	19	2 372	32	2 898	52	2 402	11.9	2 800	3 000	<150	142	46	5 991

DIMENSIONS



Dimensions (mm)	A	B	C	D	E	F	G	H	I	J	K	L
1 series	556	853	1 023	390	693	348	468	448	56	341	129	450
2 series	706	853	1 173	455	720	448	618	640	56	491	129	560
3 series	906	853	1 101	455	686	455	878	890	56	761	129	560

⁽¹⁾ Nominal performances refer to operation with cold room temperatures of 0 °C (PT) and -20 °C (NT), ambient temperature of 35 °C. Estimated cold room volume according to conditions of the calculation bases (page 12).

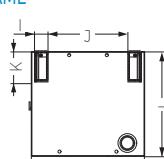
⁽²⁾ A3 refrigerant charge below 500 g, simplified compliance with EN378.

⁽³⁾ Condenser sound pressure level, with directivity 1, measured at 10 m from the unit (non-binding value calculated from sound power).

* 230V 50Hz available model.

* Power supply change by demand.

DROP-IN FRAME



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REFRIGERATION CALCULATION SOFTWARE

intartop PRO



New range of R-290 self-contained slim monoblock designed by and for technicians. For small and medium refrigeration and conservation cold rooms. Units for ceiling panel installation.

FEATURES

R-290 refrigerant charge.	<input checked="" type="checkbox"/>
Refrigeration circuit independent per compressor.	<input checked="" type="checkbox"/>
Hermetic reciprocating compressors mounted on rails to reduce vibrations.	<input checked="" type="checkbox"/>
Condensing coil in microchannel with polyester paint treatment.	<input checked="" type="checkbox"/>
AC evaporator fans, and EC condenser fans.	<input checked="" type="checkbox"/>
High pressure switch.	<input checked="" type="checkbox"/>
Removable stainless steel drain pan for cleaning and copper steel coil with epoxy paint.	<input checked="" type="checkbox"/>
Washable suction screen filtering mesh.	<input checked="" type="checkbox"/>
Drainage resistance in NT models.	<input checked="" type="checkbox"/>
Removable insulation pad with fixed part, for 80 mm pipe and wiring entry.	<input checked="" type="checkbox"/>
Access to electrical panel with hinged register.	<input checked="" type="checkbox"/>
Hot gas defrosting.	<input checked="" type="checkbox"/>
Thermostatic expansion valve.	<input checked="" type="checkbox"/>
Aluminium plates covered with film for protection during transport in evaporator.	<input checked="" type="checkbox"/>
Multifunction electronic regulation with remote control and halogen-free supply connection (5 m).	<input checked="" type="checkbox"/>
Cold room LED light.	<input checked="" type="checkbox"/>
Radial fan with vertical or horizontal discharge option (only for standard air-condensed units).	<input type="checkbox"/> + 10 %
Bi-temperature adaption.	<input type="checkbox"/> + 10 %
Male and female schuko electrical connector base.	<input type="checkbox"/> + 77 €
Low voltage protection (single-phase models).	<input type="checkbox"/> + 189 €
Low voltage and phase sequence protection (three-phase models).	<input type="checkbox"/> + 251 €
Change to 230V 50Hz power supply in three-phase models.	<input type="checkbox"/> + 8 %
Condensation with water at a temperature between 5 and 50 °C.	<input type="checkbox"/> + 5 %
Condensation with glycol water at a temperature between -10 and 5 °C (only in NT models). Includes automatic pressostatic water valve controlled by condensing pressure, with direct drive.	<input type="checkbox"/> + 9 %
Drain resistance (for room temperature < 0 °C in PT models).	<input type="checkbox"/> + 88 €
Master-slave (alternative + simultaneous).	<input type="checkbox"/> + 82 €

As standard Optional

Installation example



Adaptation to different ceiling thicknesses

The new compact commercial for ceiling panel installation units are supplied with a separate evaporator fan box and can be mounted telescopically, thus adapting to ceiling panels from 80 to 150 mm thick.

Electronic control

intartop PRO units incorporate as standard the advanced XM670K electronic control.



- ▶ Remote control keyboard with digital display.
- ▶ Internal clock for programming of energy saving cycles and defrost.
- ▶ Possibility of interconnection and synchronization of up to 8 devices by LAN, managed from a single control.

Accessories CR-NPD units

- ▶ Hopper for adaptation to circular duct (+ 127 €).
- ▶ Air suction kit (+ 120 €).
- ▶ Non-return damper (+ 69 €).
- ▶ Door micro-switch (+ 65 €).
- ▶ 5 metres of electrical supply hose (+ 2 %).

intarblock



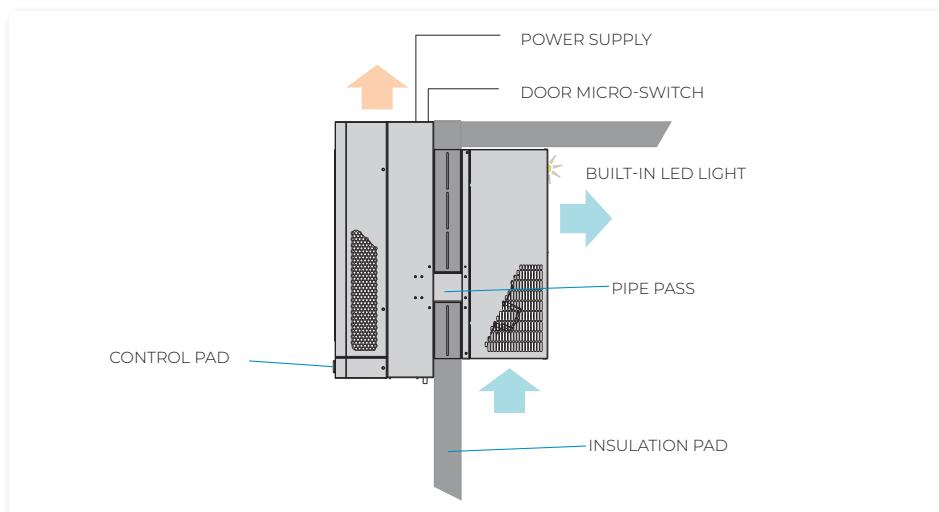
Self-contained slim monoblock units for small cold rooms for refrigeration and freezing, for wall-mount installation.

FEATURES

R-290 refrigerant charge.	<input checked="" type="checkbox"/>
Hermetic reciprocating compressor.	<input checked="" type="checkbox"/>
EC motor fans.	<input checked="" type="checkbox"/>
High and low pressure switches.	<input checked="" type="checkbox"/>
Thermostatic expansion valve.	<input checked="" type="checkbox"/>
Hot gas defrost.	<input checked="" type="checkbox"/>
Stainless steel drain pan.	<input checked="" type="checkbox"/>
Evaporation of condensed water.	<input checked="" type="checkbox"/>
Cold room LED light and door micro-switch.	<input checked="" type="checkbox"/>
Removable through-wall insulation pad included.	<input checked="" type="checkbox"/>
Multifunction electronic control.	<input checked="" type="checkbox"/>
Evaporator coil epoxy anti-corrosion treatment.	<input type="checkbox"/> + 6 %
Condenser coil polyurethane anti-corrosion treatment.	<input type="checkbox"/> + 4 %

As standard Optional

INSTALLATION SCHEME



Installation example



Electronic control

XW60LH electronic control, as standard on our commercial monoblock units, is an advanced small size controller, which includes the following functions:



- ▶ Temperature control with maximum and minimum temperature value recording.
- ▶ Quick cooling function Jet Cool.
- ▶ Night operation mode.
- ▶ 4 output relays for: compressor, fan, defrost and light.
- ▶ 3 temperature NTC probes for cold room, defrost and condensation.

Built-in cold room LED light

High efficiency cold room LED light, built-in in the unit hat is automatically activated when the cold room door is opened.

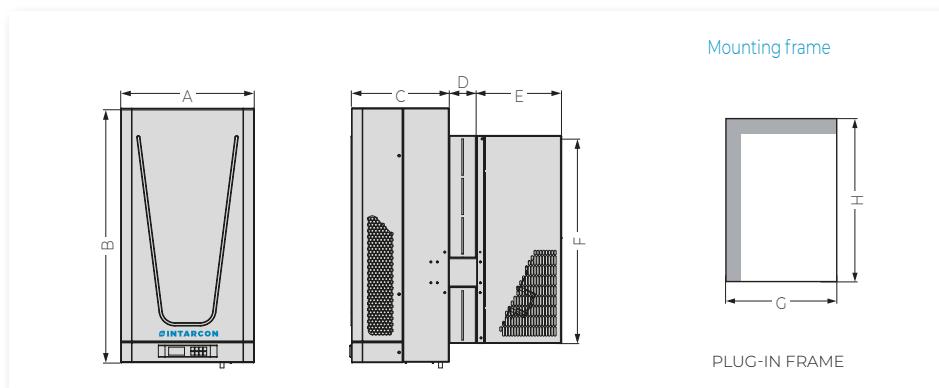
230V I+N ~ 50Hz | Positive temperature | Hermetic compressor | R-290

Refrigerant	Series / Model	Power supply	Compressor (HP)	Cooling capacity / Cold room volume, according to cold room temperature ⁽¹⁾						Input power (W)	Max. current (A)	Evap. air flow (m³/h)	Refrigerant charge per circuit (g) ⁽²⁾	Weight (kg)	SPL dB(A) ⁽³⁾	Price (€)							
				0 °C		5 °C		10 °C															
				W	m³	W	m³	W	m³														
R-290	MCV-LD-0009A	230V I+N ~ 50Hz	1/3	635	5	740	7	850	12	400	3,5	300	<100	38	29	2 193							
	MCV-LD-1012A	230V I+N ~ 50Hz	1/2	1050	9	1220	15	1410	27	520	3,3	500	<150	56	29	2 639							
	MCV-LD-1017A	230V I+N ~ 50Hz	3/4	1340	14	1560	21	1780	36	680	4,3	500	<150	57	31	2 942							
	MCV-LD-2026A	230V I+N ~ 50Hz	1	1824	21	2170	34	2540	58	940	5,9	950	<150	86	35	3 734							
	MCV-LD-2034A	230V I+N ~ 50Hz	1	2215	27	2618	43	2960	70	1310	9,0	950	<200	86	35	4 680							

230V I+N ~ 50Hz | Negative temperature | Hermetic compressor | R-290

Refrigerant	Series / Model	Power supply	Compressor (HP)	Cooling capacity / Cold room volume, according to cold room temperature ⁽¹⁾						Input power (W)	Max. current (A)	Evap. air flow (m³/h)	Refrigerant charge per circuit (g) ⁽²⁾	Weight (kg)	SPL dB(A) ⁽³⁾	Price (€)							
				-25 °C		-20 °C		-15 °C															
				W	m³	W	m³	W	m³														
R-290	BCV-LD-0014A	230V I+N ~ 50Hz	3/4	370	1	440	2	520	4	380	3,6	300	<100	38	29	2 603							
	BCV-LD-1017A	230V I+N ~ 50Hz	3/4	540	2	660	5	790	8	480	4,3	500	<100	57	29	2 892							
	BCV-LD-1028A	230V I+N ~ 50Hz	11/4	770	4	920	9	1090	15	730	5,6	500	<150	64	31	3 184							
	BCV-LD-2034A	230V I+N ~ 50Hz	3/4	985	7	1210	14	1470	25	970	9,3	950	<200	86	34	3 417							

DIMENSIONS



Dimensions (mm)	A	B	C	D	E	F	G	H
0 series	420	803	237	86	207	596	400	600
1 series	420	803	307	86	270	656	400	660
2 series	620	764	343	106	310	676	600	680

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REFRIGERATION CALCULATION SOFTWARE



intartop



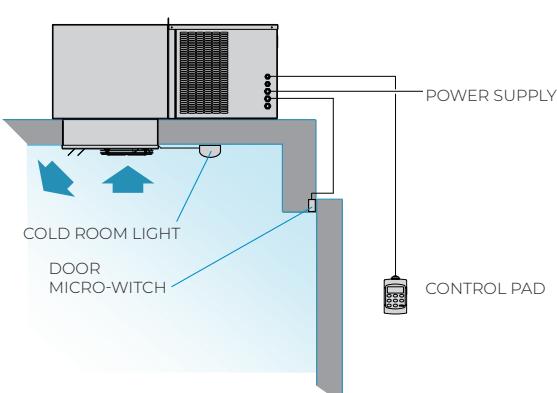
Self-contained slim monoblock units for small cold rooms for refrigeration and freezing, for ceiling panel installation.

FEATURES

R-290 refrigerant charge.	<input checked="" type="checkbox"/>
Hermetic reciprocating compressor.	<input checked="" type="checkbox"/>
High and low pressure switch.	<input checked="" type="checkbox"/>
Thermostatic expansion valve.	<input checked="" type="checkbox"/>
MCB protection.	<input checked="" type="checkbox"/>
Hot gas defrost.	<input checked="" type="checkbox"/>
Stainless steel drain pan.	<input checked="" type="checkbox"/>
Evaporation of condensed water.	<input checked="" type="checkbox"/>
Cold room LED light and micro-switch.	<input checked="" type="checkbox"/>
Evaporator case made in sandwich panel, with 50 mm polyurethane insulation, internally covered in steel sheet.	<input checked="" type="checkbox"/>
Multifunction electronic control.	<input checked="" type="checkbox"/>
Evaporator coil epoxy anti-corrosion treatment.	<input type="checkbox"/> + 6 %
Condenser coil polyurethane anti-corrosion treatment.	<input type="checkbox"/> + 4 %

As standard Optional

INSTALLATION SCHEME



Installation example



Electronic control

XW270K electronic control, as standard on our intartop commercial monoblock units, is an advanced small size controller, which includes the following functions:



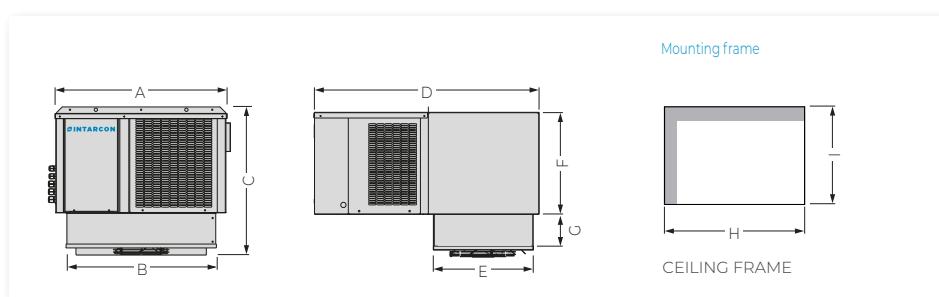
- ▶ Multi-function remote digital control.
- ▶ Temperature control with maximum and minimum temperature value recording.
- ▶ Quick cooling function Jet Cool.
- ▶ Night operation mode.

230V I+N ~ 50Hz | Positive temperature | Hermetic compressor | R-290

Refrigerant	Series / Model	Power supply	Compressor (HP)	Cooling capacity / Cold room volume, according to cold room temperature ⁽¹⁾						Input power (W)	Max. current (A)	Evap. air flow (m³/h)	Refrigerant charge per circuit (g) ⁽²⁾	Weight (kg)	SPL dB(A) ⁽³⁾	Price (€)
				0 °C		5 °C		10 °C								
				W	m³	W	m³	W	m³							
R-290	MCR-ND-0009A	230V I+N ~ 50Hz	1/3	670	5	780	7	900	12	390	3,6	300	<100	63	29	2 310
	MCR-ND-1012A	230V I+N ~ 50Hz	1/2	1060	9	1240	15	1435	27	530	3,4	600	<100	73	29	2 804
	MCR-ND-1017A	230V I+N ~ 50Hz	3/4	1370	14	1585	21	1815	36	680	4,5	600	<150	73	31	3 127
	MCR-ND-2026A	230V I+N ~ 50Hz	1	1850	21	2200	34	2577	58	980	5,9	1150	<150	96	35	4 175
	MCR-ND-2034A	230V I+N ~ 50Hz	1	2240	27	2650	43	2995	70	1350	9,0	1150	<200	96	35	5 251

230V I+N ~ 50Hz | Negative temperature | Hermetic compressor | R-290

Refrigerant	Series / Model	Power supply	Compressor (HP)	Cooling capacity / Cold room volume, according to cold room temperature ⁽¹⁾						Input power (W)	Max. current (A)	Evap. air flow (m³/h)	Refrigerant charge per circuit (g) ⁽²⁾	Weight (kg)	SPL dB(A) ⁽³⁾	Price (€)
				-25 °C		-20 °C		-15 °C								
				W	m³	W	m³	W	m³							
R-290	BCR-ND-0014A	230V I+N ~ 50Hz	3/4	385	1	460	2	550	4	390	3,3	300	<100	65	29	2 721
	BCR-ND-1017A	230V I+N ~ 50Hz	3/4	540	2	660	5	800	8	490	3,5	600	<100	73	29	3 056
	BCR-ND-1028A	230V I+N ~ 50Hz	11/4	770	4	925	9	1100	15	730	6,0	600	<150	80	31	3 348
	BCR-ND-2034A	230V I+N ~ 50Hz	3/4	985	7	1215	14	1475	25	990	9,3	1150	<200	96	34	4 112

DIMENSIONS

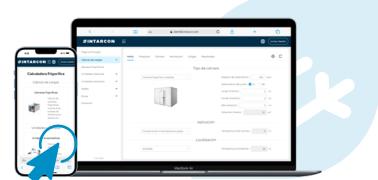
⁽¹⁾ Nominal performances refer to operation with cold room temperatures of 0 °C (PT) and -20 °C (NT), ambient temperature of 35 °C. Estimated cold room volume according to conditions of the calculation bases (page 12).

⁽²⁾ A3 refrigerant charge below 500 g, simplified compliance with EN378.

⁽³⁾ Condenser sound pressure level, with directivity 1, measured at 10 m from the unit (non-binding value calculated from sound power).

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REFRIGERATION CALCULATION SOFTWARE



door intarblock



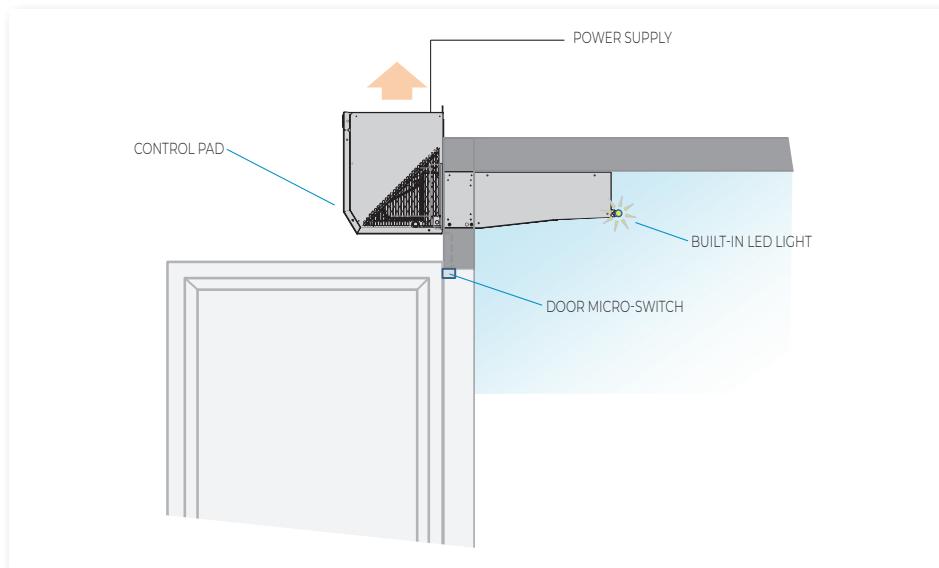
R-290 self-contained slim monoblock units for small cold rooms for refrigeration and freezing, for assembly in the door panel of the cold room.

FEATURES

R-290 refrigerant charge.	<input checked="" type="checkbox"/>
Hermetic reciprocating compressor.	<input checked="" type="checkbox"/>
High and low pressure switch.	<input checked="" type="checkbox"/>
Thermostatic expansion valve.	<input checked="" type="checkbox"/>
MCB protection.	<input checked="" type="checkbox"/>
Hot gas defrost.	<input checked="" type="checkbox"/>
Stainless steel drain pan.	<input checked="" type="checkbox"/>
Evaporation of condensed water.	<input checked="" type="checkbox"/>
Cold room LED light and door micro-switch.	<input checked="" type="checkbox"/>
Multifunction electronic control.	<input checked="" type="checkbox"/>
Evaporator coil epoxy anti-corrosion treatment.	<input type="checkbox"/> + 6 %
Condenser coil polyurethane anti-corrosion treatment.	<input type="checkbox"/> + 4 %

As standard Optional

INSTALLATION SCHEME



Installation example



Built-in cold room LED light

High efficiency cold room LED light, built-in in the unit that is automatically activated when the cold room door is opened.

Electronic control

XW60LH, electronic control, as standard on our door intarblock units, is an advanced small size controller, which includes the following functions:



- ▶ Temperature control with maximum and minimum temperature value recording.
- ▶ Quick cooling function Jet Cool.
- ▶ Night operation mode.
- ▶ Energy Saving function.
- ▶ 4 output relays for: compressor, fan, defrost and light.
- ▶ 3 temperature NTC probes for cold room, defrost and condensation.

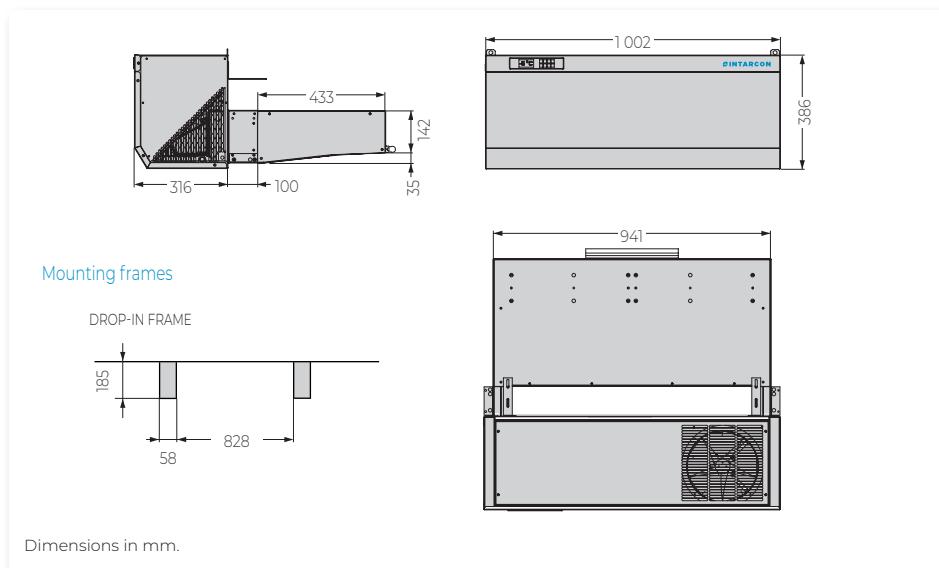
230V I+N ~ 50Hz | Positive temperature | Hermetic compressor | R-290

Refrigerant	Series / Model	Power supply	Compressor (HP)	Cooling capacity / Cold room volume, according to cold room temperature ⁽¹⁾						Input power (W)	Max. current (A)	Evap. air flow (m³/h)	Refrig. charge (g) ⁽²⁾	Weight (kg)	SPL dB(A) ⁽³⁾	Price (€)
				0 °C		5 °C		10 °C								
				W	m³	W	m³	W	m³							
MCP-ND-0009A	230V I+N ~ 50Hz	1/3	640	6	810	8	945	13	340	3,1	275	< 100	61	29	2 351	
MCP-ND-1012A	230V I+N ~ 50Hz	1/2	969	9	1235	15	1430	27	520	4,3	550	< 100	67	29	2 847	
MCP-ND-1017A	230V I+N ~ 50Hz	3/4	1209	14	1530	20	1765	35	720	4,5	550	< 100	67	31	3 219	

230V I+N ~ 50Hz | Negative temperature | Hermetic compressor | R-290

Refrigerant	Series / Model	Power supply	Compressor (HP)	Cooling capacity / Cold room volume, according to cold room temperature ⁽¹⁾						Input power (W)	Max. current (A)	Evap. air flow (m³/h)	Refrig. charge (g) ⁽²⁾	Weight (kg)	SPL dB(A) ⁽³⁾	Price (€)
				-25 °C		-20 °C		-15 °C								
				W	m³	W	m³	W	m³							
BCP-ND-0014A	230V I+N ~ 50Hz	3/4	420	1	464	2,5	590	5	300	3,3	275	< 100	62	29	2 736	
BCP-ND-1017A	230V I+N ~ 50Hz	3/4	575	2	639	6	825	9	340	4,3	550	< 170	67	29	3 095	
BCP-ND-1028A	230V I+N ~ 50Hz	11/4	750	4	833	9	1070	15	640	6,0	550	< 150	74	31	3 493	

DIMENSIONS



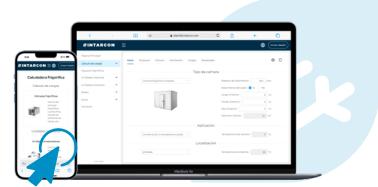
⁽¹⁾ Nominal performances refer to operation with cold room temperatures of 0 °C (PT) and -20 °C (NT), ambient temperature of 35 °C. Estimated cold room volume according to conditions of the calculation bases (page 12).

⁽²⁾ A3 refrigerant charge below 500 g, simplified compliance with EN378.

⁽³⁾ Condenser sound pressure level, with directivity 1, measured at 10 m from the unit (non-binding value calculated from sound power).

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REFRIGERATION CALCULATION SOFTWARE



Success story: Hospital San Juan de Dios (Seville, Spain)



Refrigeration requirement

Refrigeration of medium and low temperature cold rooms for foodstuffs in the hospital kitchen.

Proposed solution

- ▶ PRO propane compacts in vertical construction model BCV-NPD-2034A with optional vertically driven radial condensation fan for condensation air extraction to the outside for the low temperature chamber operating at -20 °C with a cooling capacity of 1174 W.
- ▶ MCR-ND-10T7A ceiling-mounted propane compact for the preservation chamber, operating at 1370 W with a temperature of 0 °C.

Benefits compared to other solutions

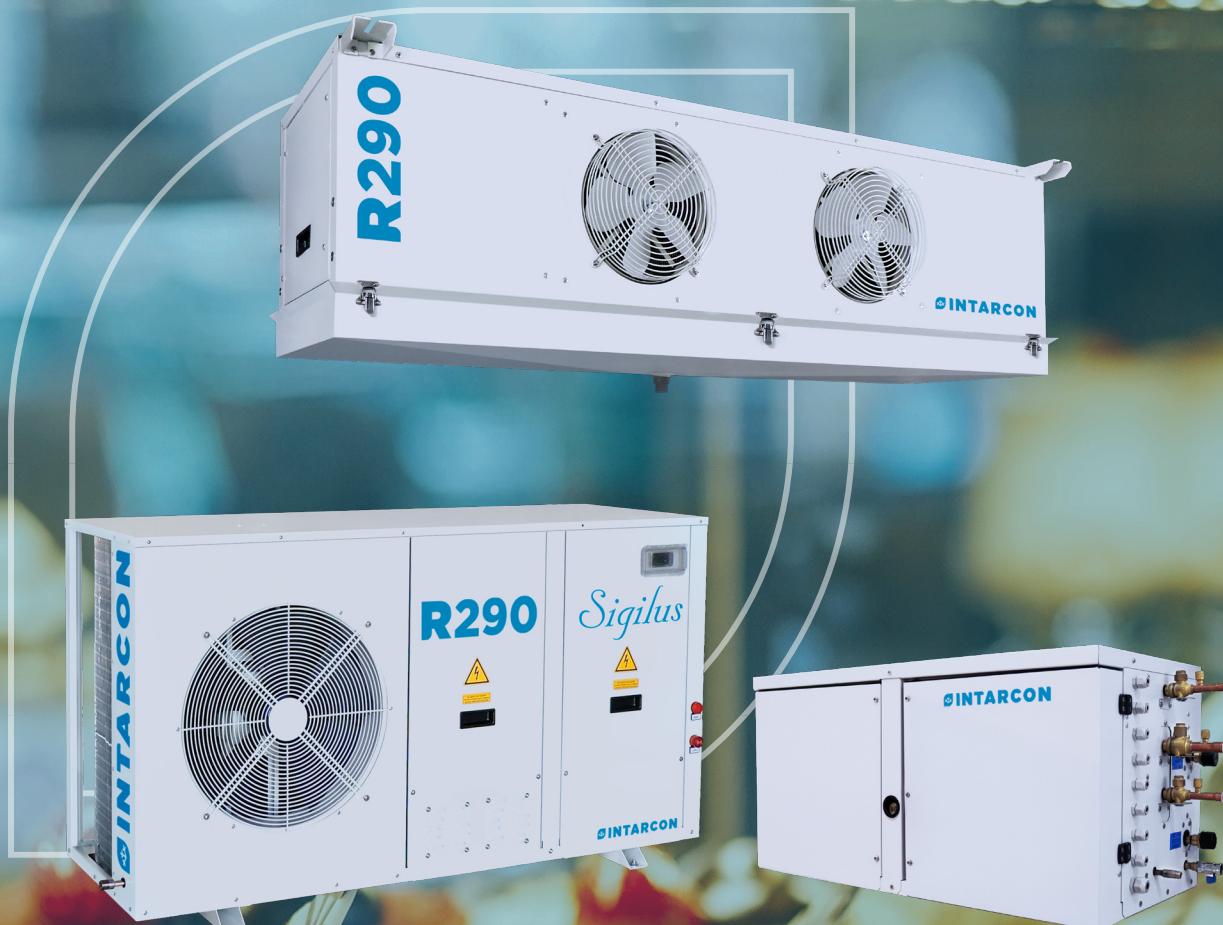
- ▶ Minimal refrigerant charge in the refrigeration circuit of less than 150 g. A highly efficient solution that complies with current standards.
- ▶ Ease of maintenance has been prioritised through excellent accessibility to the electrical panel and the use of quick connectors, allowing quick and safe replacement of electrical and electronic components.
- ▶ The compact vertical PRO model includes a cubic evaporator with removable register, making inspection, cleaning and maintenance significantly easier.
- ▶ The system features a finished mounting design, which allows convenient access to the evaporator coil, ensuring efficient maintenance and prolonging the life of the equipment.

BCV-NPD-2034A



MCR-ND-10T7A





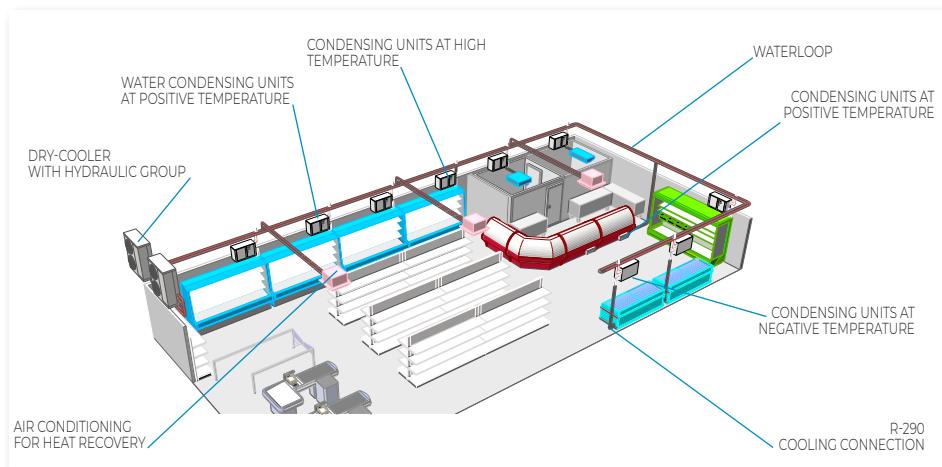
Indirect condensation system by waterloop
Waterloop system
R290

Waterloop system

Waterloop is a commercial refrigeration system, consisting of: DX cooling units distributed, with indirect condensation by a water circuit; and one or more units in parallel air-cooler connected to the condensation heat dissipation.

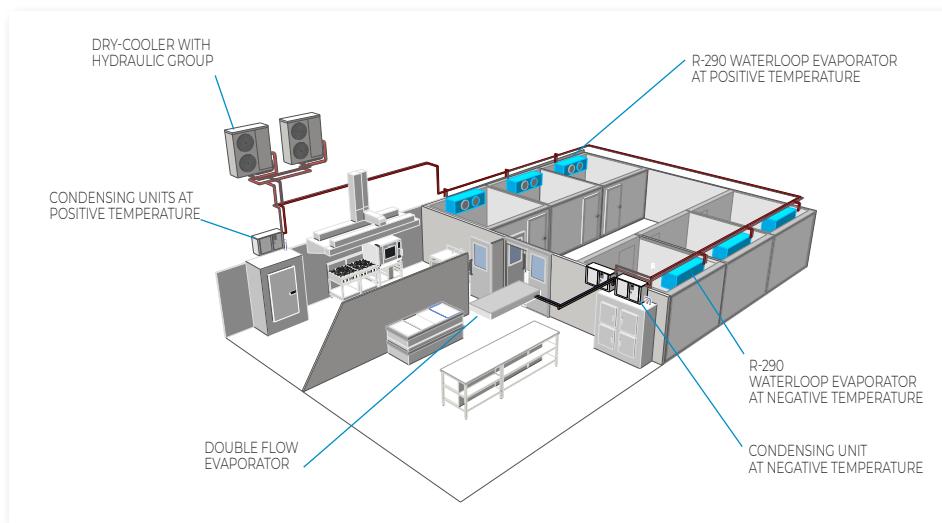
SUPERMARKETS AND FOOD STORES APPLICATIONS

Waterloop system allows distributed cooling production at different temperatures, with a single condensing water loop. Condensation heat recovery from the cooling units can easily be carried out in air conditioners or fan coils.



APPLICATION IN INDUSTRIAL KITCHENS

Waterloop system makes possible to centralise a set of cold rooms and process rooms. The use of compact R-290 waterloop units in cold rooms and process rooms is a 100 % ecological solution free of greenhouse gases.



Ecology

Distributed cooling production allows to reduce and fractionate the charge of HFC refrigerant in the installation, so that the risk of leakage is reduced.



Safety

Decentralization of the cooling production contributes a greater operation security of the installation, that guarantees a high availability of the system when faced with the isolated failure of a single unit.

The installation of a double air-cooler or dry-cooler in parallel, provides a greater operational security.

The condensation water loop contains only closed-circuit water working at low hydraulic pressure.



Simple installation

Waterloop system is very easy to install, thanks to its condensed water units pre-charged with refrigerant, and air-coolers or dry-coolers with inbuilt hydraulic unit/circuit.



Precision

Distributed cooling production allows adaptation of working temperatures to the needs of each service, thus obtaining an adequate degree of humidity for the best preservation of each product, and optimizing the performance of the systems.



Energy saving

Condensing units incorporate high-efficiency scroll compressors with R-290 refrigerant for positive temperature and negative temperature.

Air-coolers or dry-coolers incorporate hydraulic group with electronic pump of variable flow, that adapts its functioning speed to the demand of the installation.

Motor fans are equipped with speed regulators to reduce their consumption in low ambient temperatures or low charge.



Versatility

Waterloop system is applicable both in new installations and in existing centralized direct expansion facilities, where the update of refrigeration installation is desired. In fact, existing refrigerating displays are usable and easily converted to new refrigerants.



Flexible installation

The waterloop system is easily adaptable to changes in service layout. The condensing waterloop is normally built-in PVC or PPR pipe allowing it to be easily modified and extended.



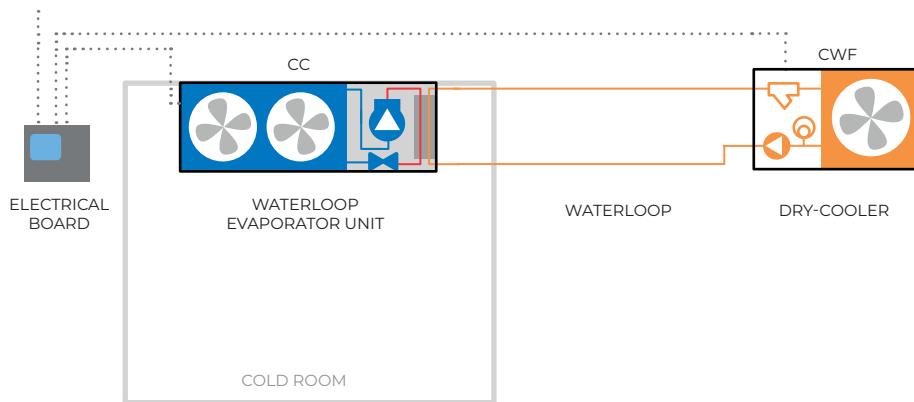
Tropicalised design

Unlike other systems on the market, the waterloop system is designed to work properly even with extreme ambient temperatures of up to 45 °C, with condensation water temperatures of up to 55 °C.

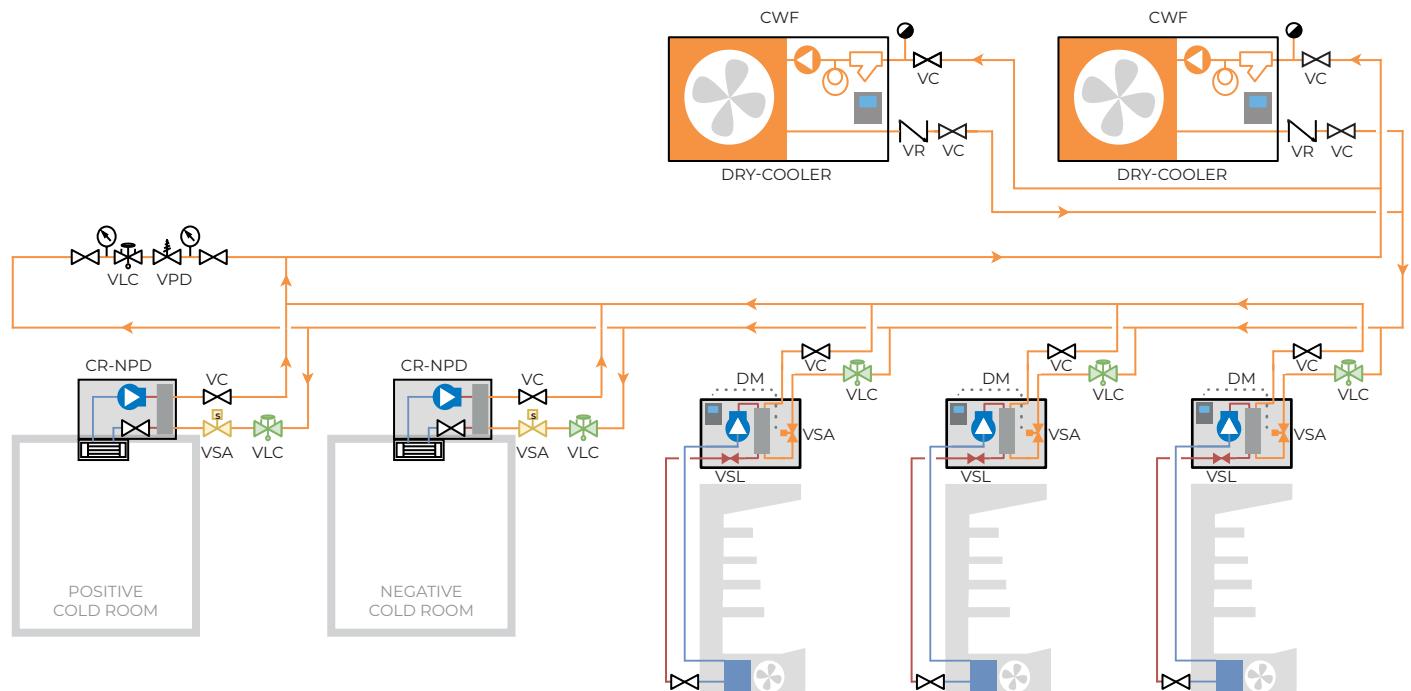
WATERLOOP INSTALLATION SCHEME PRINCIPLE

Waterloop system allows different configurations from a simple cold room up to a set of rooms and other refrigeration services at different temperatures.

Example of 1+1 simple installation of a R-290 waterloop system.



Example of installation of a R-290 waterloop system, where there are different refrigeration units distributed, in addition to storage cold rooms in PT and freezing cold rooms in NT, and 1 or several air-cooling units on the roof for condensation heat evacuation. Hydraulic circuit with reverse return.



NOTE: We recommend the installation of automatic air vents at the highest points of the installation and air traps and drain valves at the lowest points.

VSA:	WATER SOLENOID VALVE	OUTWARD CIRCUIT
VC:	SHUT-OFF VALVE	RETURN CIRCUIT
VPD:	DIFFERENTIAL PRESSURE VALVE	MANOMETER
VLC:	FLOW RESTRICTOR VALVE	AUTOMATIC BLEEDER
VR:	NON-RETURN VALVE	Thermometer
VSL:	LIQUID SOLENOID VALVE	

R-290 water-cooled condensing units



Water-cooled condensing units for positive and negative temperature refrigeration with very compact size and quiet operation, designed for on-wall or on refrigerated service.

WHAT'S NEW

Removable front register

Front access panel for access to the main components of the unit: compressor, boiler, valves and starter kit.



DM-ND/SD

Independent access to the electrical panel

Electrical panel with front access. All the protection and electronic control elements are integrated. Connection terminal block.

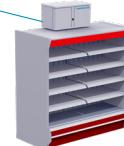
Connections on the right outside

Welded connections for liquid line, suction and defrost (optional). Threaded connections for hydraulic circuit. Safety valve line.



Installation example

INSTALLED ON THE FURNITURE



ANCHORED AT THE WALL



Electronic control (optional)

DM-ND/SD units can feature XM670K electronic control.

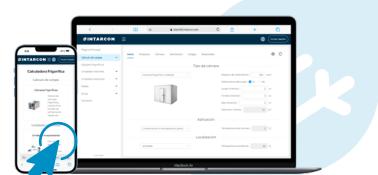


- ▶ Remote control keyboard with digital display.
- ▶ Internal clock for programming energy saving cycles and defrosting.
- ▶ Possibility of interconnection and synchronization of up to 8 devices by LAN, managed from a single control.

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REFRIGERATION CALCULATION SOFTWARE



FEATURES

Unit supplied without refrigerant charge.	<input checked="" type="checkbox"/>
Acoustically insulated scroll compressor, mounted on shock absorbers.	<input checked="" type="checkbox"/>
Casing in pre-painted galvanized steel sheet, with noise insulation, with removable front panel for access to the compressor and the electrical panel.	<input checked="" type="checkbox"/>
Stainless steel brazed plates heat exchanger. Cooling circuit with liquid receiver, filter, sight glass, high and low pressure switches, and valves to be welded. Safety valve led to the outside.	<input checked="" type="checkbox"/>
Hydraulic condensation circuit made of copper pipe with threaded connections.	<input checked="" type="checkbox"/>
Electromechanic control panel with thermomagnetic protection.	<input checked="" type="checkbox"/>
Hot gas defrosting.	<input type="checkbox"/> + 450 €
Electrical defrosting.	<input type="checkbox"/> + 0 €
Condensation water temperature 5 °C / -10 °C.	<input type="checkbox"/> + 775 €
Built-in water solenoid valve.	<input type="checkbox"/> + 183 €
Built-in liquid solenoid valve with body and coil.	<input type="checkbox"/> + 183 €
Built-in thermostatic expansion valve.	<input type="checkbox"/> + 100 €
Crankcase heater.	<input type="checkbox"/> + 77 €
Low voltage protection (single-phase models).	<input type="checkbox"/> + 189 €
Low voltage and phase sequence protection (three-phase models).	<input type="checkbox"/> + 251 €

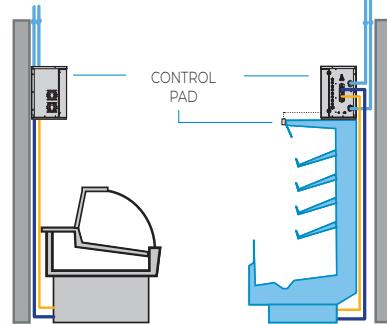
As standard Optional

Accessories DM-ND/SD units

- Water solenoid valve supplied separately (+ 183 €).
- Balance and control valve supplied separately (by demand).
- Door micro-switch (+ 65 €).
- Cold room LED light (+ 40 €).

Installation scheme

Waterloop series motor condensers can be installed on the furniture or anchored at the wall.



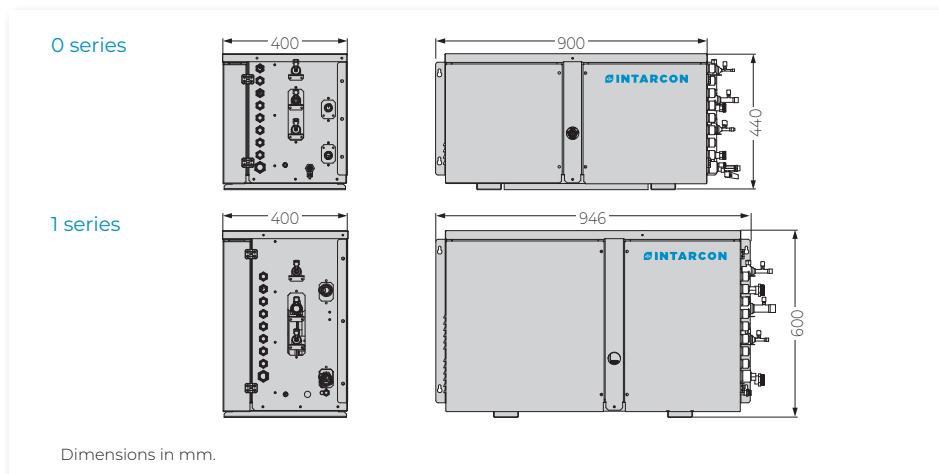
230V I+N ~ 50Hz / 400V 3N ~ 50Hz | Positive temperature | Hermetic or scroll compressor | R-290

Refrigerant	Compressor	Series / Model	Power supply	Compressor (CV)	Cooling capacity (W) ⁽¹⁾ Evaporation temperature			Input power (W)	Max. current (A)	Condens. air flow (litre/hour)	Liq-Gas cooling connection	Hydraulic connection	Pressure drop (kPa) ⁽²⁾	Refrig. charge (g) ⁽³⁾	Weight (kg)	SPL dB(A) ⁽⁴⁾	Price (€)
R-290	Hermetic	MDM-ND-0006A	230V I+N ~ 50Hz	1/4	399	482	583	250	5,2	115	3/16" - 3/8"	1/2"	2,1	< 500	66	21	1 973
		MDM-ND-0008A	230V I+N ~ 50Hz	1/3	575	674	799	304	5,8	155	3/16" - 3/8"	1/2"	2,7	< 500	66	25	2 007
		MDM-ND-0015A	230V I+N ~ 50Hz	1/2	907	1 050	1 262	496	6,0	240	1/4" - 1/2"	3/4"	2,7	< 500	72	20	2 233
		MDM-ND-0018A	230V I+N ~ 50Hz	3/4	1 126	1 326	1 582	624	6,6	300	1/4" - 1/2"	3/4"	3,4	< 500	73	20	2 533
		MDM-ND-0034A	230V I+N ~ 50Hz	1	1 962	2 404	2 985	1 273	12,9	555	1/4" - 5/8"	3/4"	3,1	< 500	80	36	2 918
	Scroll	MDM-SD-1012A	400V 3N ~ 50Hz	2	2 729	3 266	3 906	1 347	6,4	700	3/8" - 7/8"	3/4"	8,1	< 500	91	38	4 800
		MDM-SD-1017A	400V 3N ~ 50Hz	2 1/2	3 805	4 483	5 366	1 798	7,4	960	3/8" - 7/8"	1"	5,9	< 500	94	38	5 010

230V I+N ~ 50Hz / 400V 3N ~ 50Hz | Negative temperature | Hermetic or scroll compressor | R-290

Refrigerant	Compressor	Series / Model	Power supply	Compressor (CV)	Cooling capacity (W) ⁽¹⁾ Evaporation temperature				Input power (W)	Max. current (A)	Condens. air flow (litre/hour)	Liq-Gas cooling connection	Hydraulic connection	Pressure drop (kPa) ⁽²⁾	Refrig. charge (g) ⁽³⁾	Weight (kg)	SPL dB(A) ⁽⁴⁾	Price (€)
R-290	Herm.	BDM-ND-0020A	230V I+N ~ 50Hz	3/4	379	492	590	722	464	7,1	165	3/16" - 1/2"	1/2"	3,6	< 500	70	21	2 172
		BDM-ND-0034A	230V I+N ~ 50Hz	3/4	576	853	1 078	1 360	843	10,5	295	1/4" - 5/8"	3/4"	1,3	< 500	78	28	2 641
	Scroll	BDM-SD-1017A	400V 3N ~ 50Hz	2 1/2	1 177	1 554	1 912	2 398	1 515	7,4	525	1/4" - 7/8"	3/4"	6,5	< 500	94	38	4 902
		BDM-SD-1025A	400V 3N ~ 50Hz	4	1 600	2 222	2 786	3 513	2 360	9,4	785	3/8" - 7/8"	3/4"	6,4	< 500	106	42	6 148
		BDM-SD-1037A	400V 3N ~ 50Hz	6	2 313	3 182	3 988	5 033	3 498	12,0	1 145	3/8" - 11/8"	1"	8,0	< 500	108	44	6 647

DIMENSIONS



Dimensions in mm.

⁽¹⁾ Cooling capacity at nominal performances refer to operation at evaporation temperature -10 °C (PT) and -30 °C (NT), water temperature of 40 °C, super-heating 6 K and 5 K sub-cooling.

⁽²⁾ Condenser pressure drop in the water circuit.

⁽³⁾ A3 refrigerant charge below 500 g, simplified compliance with EN378.

⁽⁴⁾ Condenser sound pressure level, with directivity 1, measured at 10 m from the unit (non-binding value calculated from sound power).

R-290 slim-type evaporating units



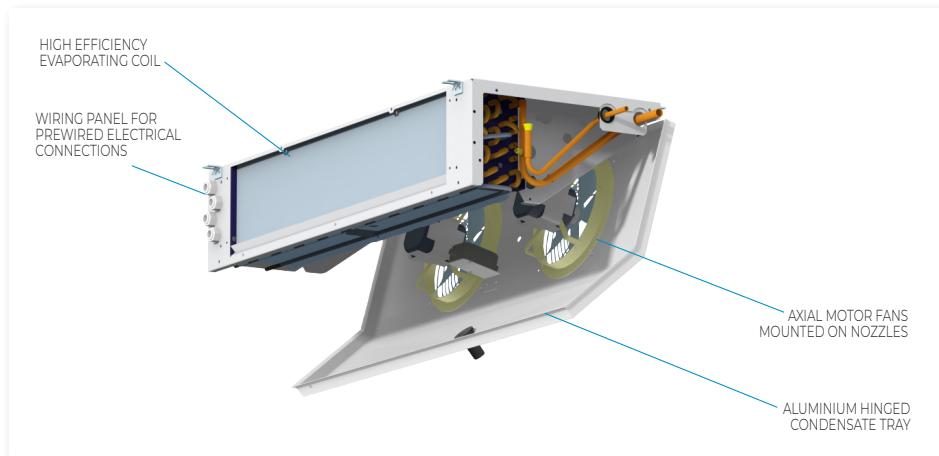
R-290 slim-type evaporating units, built in aluminium structure and casing with polyester paint, for small cold rooms.

FEATURES

High-flow axial motor fans.	<input checked="" type="checkbox"/>
Air-cooled high efficiency coils, built in copper pipes and aluminium fins, with 6 mm fin spacing.	<input checked="" type="checkbox"/>
Ready-to-solder cooling connections, with built-in suction trap.	<input checked="" type="checkbox"/>
Aluminium hinged condensate tray.	<input checked="" type="checkbox"/>
Flexible drainage resistance (only for negative temperature models).	<input checked="" type="checkbox"/>
Air defrost.	<input checked="" type="checkbox"/>
Hot gas defrosting.	<input type="checkbox"/> + 5 %
EC electronic fans.	<input type="checkbox"/> + 25 %
Anti-corrosion coil coating.	<input type="checkbox"/> + 15 %

As standard Optional

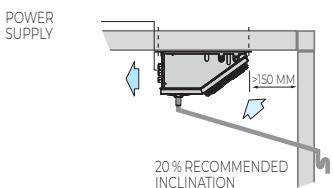
COOLING DETAIL



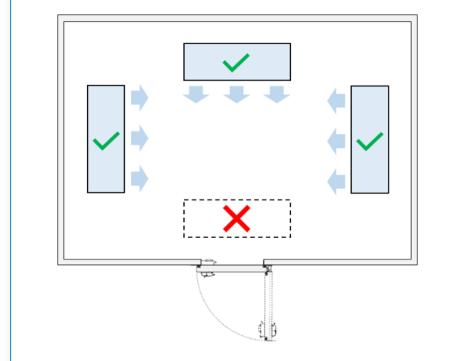
Installation example



Installation recommendations



Place the unit at the end of the cold room, and avoid placing it above the door. It is preferable to place the unit so the air flows lengthwise along the cold room and crosswise to the entrance door.



230V I+N ~ 50Hz | Positive temperature | Negative temperature | R-290

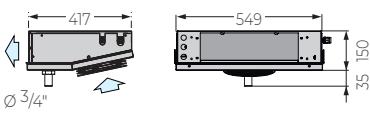
Refrigerant	Application	Series / Model	Power supply	Cooling capacity (W) ⁽¹⁾ cold room temperature				Coil	Fans				Liq-Gas cooling connection	Weight (kg)	Price (€)			
				SC1 10 °C 85 % HR DTI = 10 K	SC2 0°C 85 % HR DTI = 8 K	SC3 -18 °C 95 % HR DTI = 7 K	SC4 -25 °C 95 % HR DTI = 6 K		Fin spacing (mm)	Area (m ²)	Vol. (litre)	Air flow (m ³ /h)	Nx Ø (mm)	Power (W)	I max. (A)	Air range (m)		
R-290	Positive / Negative	MJB-ND-0117A BJB-ND-0117A	230V I+N ~ 50Hz	780	520	370	300	6	2,10	0,34	330	1x ø 172	62	0,3	3	1/4"-3/8"	11	662
		MJB-ND-1120A BJB-ND-1120A	230V I+N ~ 50Hz	1290	850	630	490	6	3,58	0,57	500	1x ø 200	70	0,3	4	1/4"-3/8"	12	896
		MJB-ND-2220A BJB-ND-2220A	230V I+N ~ 50Hz	2 410	1 580	1 150	920	6	6,37	1,01	950	2x ø 200	140	0,5	4	1/4"-1/2"	18	1145
		MJB-ND-3325A BJB-ND-3325A	230V I+N ~ 50Hz	4 010	2 630	1 950	1530	6	11,94	1,9	1 450	3x ø 254	210	1,4	6	1/4"-5/8"	33	1493

⁽¹⁾ Cooling capacity at room temperature and relative humidity, calculated from dry cooling capacity according to EN 328 standard, applying the following empirical factors:

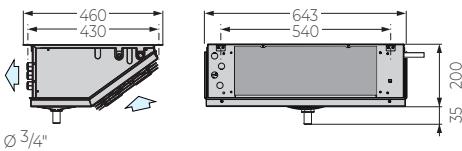
Conditions	Reference	Rate
10 °C 85 % HR	EN 328	1.35
0°C 85 % HR	EN 328	1.15
-18 °C 95 % HR	EN 328	1.05
-25 °C 95 % HR	EN 328	1.00

DIMENSIONS

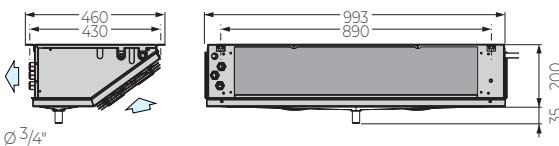
0 series



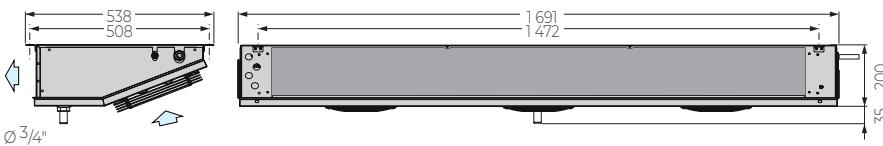
1 series



2 series



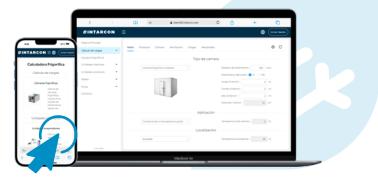
3 series



Dimensions in mm.

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R-290 evaporator with built-in compressor



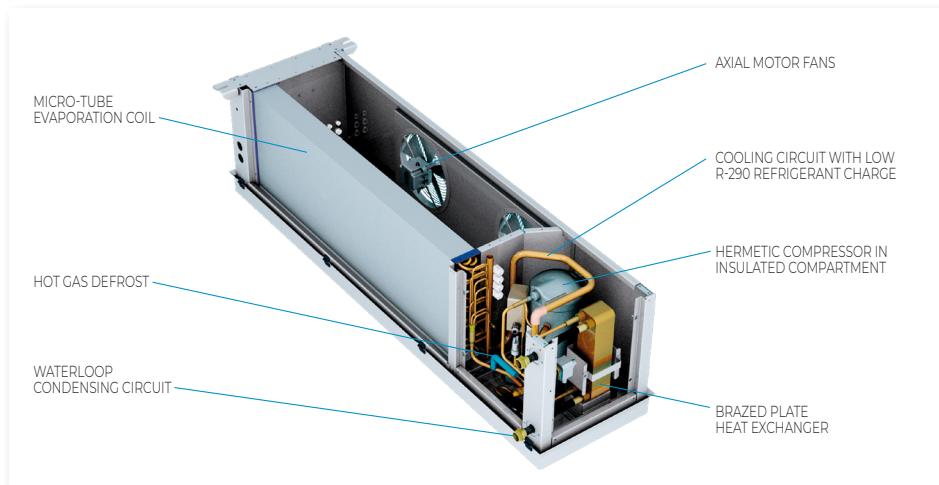
Waterloop evaporator units with compressor are compact units for installation inside small coldrooms, designed with natural refrigerant R-290 and waterloop condensed.

FEATURES

R-290 refrigerant charge.	<input checked="" type="checkbox"/>
Bodywork in aluminium sheet and structure in galvanised steel lacquered in polyester paint.	<input checked="" type="checkbox"/>
Alternative hermetic or scroll compressor integrated in thermally insulated compartment, with crankcase heater.	<input checked="" type="checkbox"/>
Refrigeration circuit in annealed copper tube, with high and low pressure switches, filter drier and charge valve.	<input checked="" type="checkbox"/>
Evaporation coil in copper pipes and aluminium fins, thermostatic expansion valve and hot gas defrost.	<input checked="" type="checkbox"/>
Axial motor fans.	<input checked="" type="checkbox"/>
Stainless steel brazed plates heat exchanger.	<input checked="" type="checkbox"/>
Threaded hydraulic connections.	<input checked="" type="checkbox"/>
Control panel in white lacquered sheet metal cabinet, with MCB protection and multifunction electronic control. RS485 Modbus communication connector. Interconnection cables (3 m).	<input checked="" type="checkbox"/>
Water solenoid valve for multi-equipment waterloop installation (without assembly).	<input checked="" type="checkbox"/>
Evaporator coil epoxy anti-corrosion treatment	<input type="checkbox"/> + 6 %

As standard Optional

COOLING DETAIL



Installation example



Compact R-290 system

The waterloop evaporator units are hermetically sealed compact systems with a minimum charge of R-290.

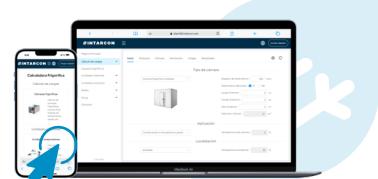
They have a minimum R-290 refrigerant charge lower than the practical limit of the refrigerated volume.

Electrical board

Electrical power and control board for outside installation.

- ▶ MCB protection of compressor and manoeuvre
- ▶ Temperature control with maximum and minimum temperature value recording
- ▶ Quick cooling function Jet Cool.
- ▶ Energy saving function
- ▶ Optional air condenser management with waterloop temperature control and frost protection.

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230V I+N ~ 50Hz / 400V 3N ~ 50Hz | Positive temperature | Hermetic or scroll compressor | R-290

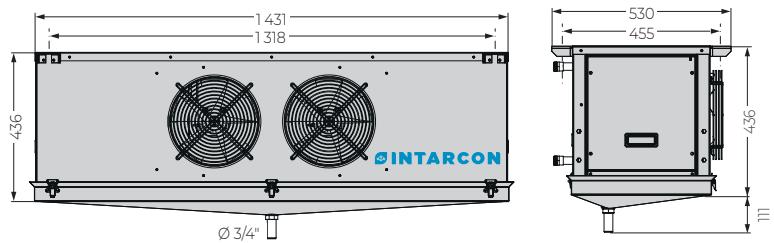
Refrigerant	Compressor	Series / Model	Power supply	Compressor (HP)	Cooling capacity (W) ⁽¹⁾ Cold room temperature 0 °C	Input power (W)	Max. current (A)	Evap. air flow (m³/h)	Condens. water flow (litre/hour)	Pressure drop (kPa) ⁽²⁾	Hydraulic connection	Refrig. charge (g)	Weight (kg)	Price (€)
R-290	Herm.	MCC-ND-1017A	230V I+N ~ 50Hz	3/4	1 430	572	7,7	1600	350	3	3/4"	210	50	4 333
		MCC-ND-1034A	230V I+N ~ 50Hz	1 1/2	2 640	1060	16,4	1600	650	3	3/4"	170	59	4 847
		MCC-SD-1012A	400V 3N ~ 50Hz	1 1/2	3 410	860	7,7	1600	750	5	3/4"	265	62	6 324
		MCC-SD-2017A	400V 3N ~ 50Hz	2	3 930	1070	9,0	1700	875	5	1"	240	72	7 477
		MCC-SD-2020A	400V 3N ~ 50Hz	3 1/2	5 172	1510	10,7	2 400	1175	5	1"	280	72	7 667

230V I+N ~ 50Hz / 400V 3N ~ 50Hz | Negative temperature | Hermetic or scroll compressor | R-290

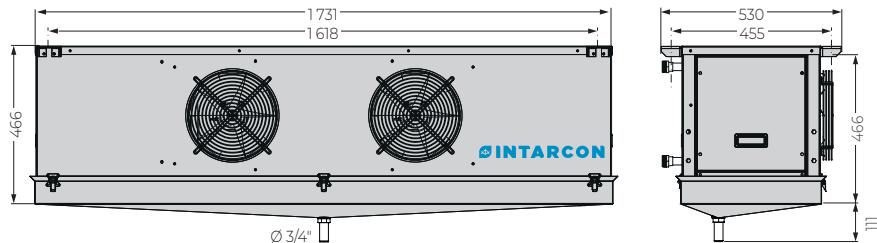
Refrigerant	Compressor	Series / Model	Power supply	Compressor (HP)	Cooling capacity (W) ⁽¹⁾ Cold room temperature -20 °C	Input power (W)	Max. current (A)	Evap. air flow (m³/h)	Condens. water flow (litre/hour)	Pressure drop (kPa) ⁽²⁾	Hydraulic connection	Refrig. charge (g)	Weight (kg)	Price (€)
R-290	Scroll	BCC-ND-1034A	230V I+N ~ 50Hz	1	847	800	11,0	1600	300	3	3/4"	150	59	4 813
		BCC-SD-1012A	400V 3N ~ 50Hz	1 1/2	1 480	770	7,6	1600	400	3	3/4"	160	68	6 268
		BCC-SD-2017A	400V 3N ~ 50Hz	2	1 980	1000	8,9	1700	525	3	1"	180	72	7 287
		BCC-SD-2020A	400V 3N ~ 50Hz	3 1/2	2 130	1370	10,9	2 400	650	3	1"	220	73	7 667

DIMENSIONS

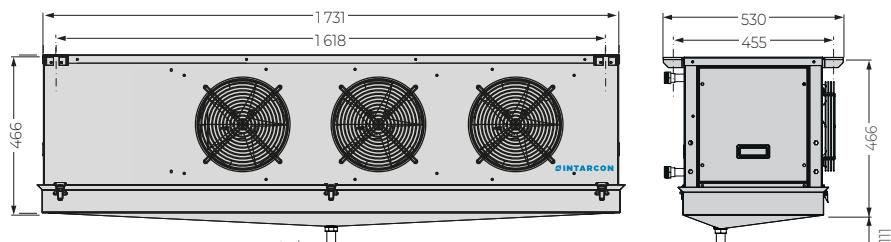
1 series



2 017 series



2 020 series



Dimensions in mm.

⁽¹⁾ Nominal performances refer to operation with cold room temperatures of 0 °C (PT) and -20 °C (NT) and water inlet condensation temperature of 7 °C. Estimated cold room volume according to conditions of the calculation bases (page 12).

⁽²⁾ Condenser pressure drop in the water circuit.

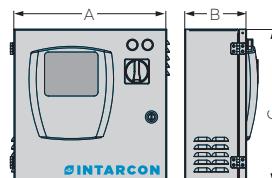
⁽³⁾ Recommended air cooler model to combine with the evaporator unit.

Electrical interconnections

For the electrical interconnection from the electrical panel to the unit and to the air condenser (optional), the following interconnection cables must be provided:

Cabinet - Evaporator	Connection
Compressor for single-phase units (except MCC-ND-1034)*	3 x 1,5 mm² + T
Compressor for three-phase units and MCC-ND-1034	3 x 2,5 mm² + T
Manoeuvre	7 x 1 mm²
Probes	5 x 1 mm²
Cabinet - Dry-cooler	Connexion
Pump (I+I system)	2 x 1,5 mm² + T
Fan (I+I system)	3 x 1 mm²
Probes (I+I system)	3 x 1 mm²
Pumping permit (multi system)	2 x 1 mm²

Electrical board dimensions



Dimensions (mm)	A	B	C
Electrical board CC-ND	600	162	400
Electrical board CC-SD	400	162	400

Sigilus | R-290 chillers



Chillers in silent air-condensed construction for commercial refrigeration applications, using a low propane charge as the primary refrigerant contained in the chiller, and water or glycol as the secondary refrigerant for cold transport.

FEATURES

Minimal R-290 refrigerant charge.	<input checked="" type="checkbox"/>
Scroll hermetic compressor mounted on shock absorbers and acoustically insulated, with internal klixon and crankcase heater.	<input checked="" type="checkbox"/>
Large area condensing coil, in copper pipes and aluminium fins, tropicalised for ambient temperature up to 45 °C.	<input checked="" type="checkbox"/>
Motor fan with proportional condensing pressure control by speed variation.	<input checked="" type="checkbox"/>
Refrigeration circuit made of annealed copper tube equipped with ATEX high and low pressure switches, safety valves and filter.	<input checked="" type="checkbox"/>
Hydraulic circuit made of copper pipe, with threaded connections, fill/drain valve, air vent, flow switch, thermometers and inlet/outlet pressure gauges.	<input checked="" type="checkbox"/>
Electric power and control panel, with general differential protection, motor fan circuit breaker and compressor circuit breaker and thermistor.	<input checked="" type="checkbox"/>
Electronic regulation with digital control interface.	<input checked="" type="checkbox"/>
Acoustic and light alarm.	<input checked="" type="checkbox"/>
Built-in hydraulic group.	<input type="checkbox"/>
Protective grille for external coil.	<input type="checkbox"/>
Polyurethane coating on the condensing coil.	<input type="checkbox"/>
Scroll protection system for voltage drops and phase failures.	<input type="checkbox"/>
Very low temperature condensation control.	<input type="checkbox"/>

As standard Optional

COOLING DETAIL



Installation example



Propane

Propane or R-290 is a hydrocarbon used as a refrigerant in small commercial refrigeration units. It has a low environmental impact and excellent thermodynamic properties:

- ▶ Global-warming potential GWP = 0.02 according to IPCC AR6
- ▶ Boiling point at 1.013 bar (°C): -42.10
- ▶ Temperature slip (°C): 0
- ▶ Safety classification: A3. Not toxic but extremely flammable.

Compressors

Hermetic scroll compressors are characterised by their great robustness and reliability of operation, and as they are cooled exclusively by the refrigerant gas, they provide effective soundproofing.



Triple noise insulation

Sigilus units incorporate triple noise insulation as standard:

- ▶ Insulated compressor compartment separated from air flow
- ▶ Acoustic compressor jacket (only for standard three-phase models (Danfoss)) and discharge muffler.
- ▶ Low-noise and low-speed fans, mounted on shock absorbers.

400V 3N 50Hz | High temperature | Scroll compressor | R-290

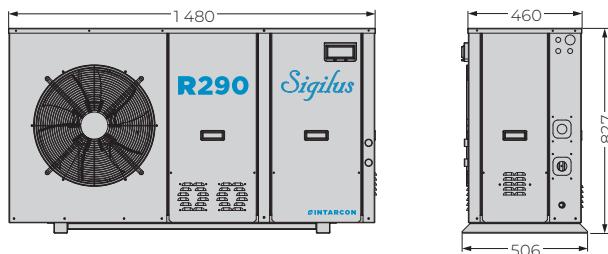
Refrigerant	Series / Model	Power supply	Compressor		Cooling capacity (W) ⁽¹⁾ Water I/O temperature 12/7 °C	Input power (W)	Ecodesign SERP ⁽³⁾	Max. current (A)	Condenser		Refrig. charge (kg)	Water flow (m³/h)	Hydraulic connection	Weight (kg)	SPL dB(A) ⁽⁴⁾	Price (€)
			HP	Model					Fan Ø (mm)	Air flow (m³/h)						
R-290	AWF-SD-6017A	400V 3N ~ 50Hz	2 1/2	ZB17KCU	7 000	2 000	5,2	7,2	1x Ø 450	4 250	< 0,7	1,2	1"	140	23	By demand
	AWF-SD-6025A	400V 3N ~ 50Hz	4	ZB25KCU	9 800	2 800	5,6	9,2	1x Ø 450	4 250	< 0,7	1,7	1 1/4"	160	27	By demand
	AWF-SD-7037A	400V 3N ~ 50Hz	6	ZB37KCU	13 700	4 200	5,9	11,8	1x Ø 450	4 500	< 0,7	2,4	1 1/4"	190	29	By demand
	AWF-SD-7049A	400V 3N ~ 50Hz	8	ZB49KCU	17 000	5 300	5,5	19,8	2x Ø 450	7 000	< 0,7	2,9	1 1/4"	200	33	By demand

400V 3N 50Hz | Positive temperature | Scroll compressor | R-290

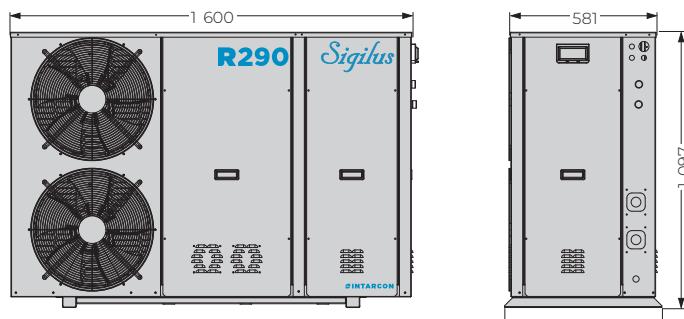
Refrigerant	Series / Model	Power supply	Compressor		Cooling capacity (W) ⁽²⁾ 35 % propylene glycol I/O temperature -2/-8 °C	Input power (W)	Ecodesign SERP ⁽³⁾	Max. current (A)	Condenser		Refrig. charge (kg)	Water flow (m³/h)	Hydraulic connection	Weight (kg)	SPL dB(A) ⁽⁴⁾	Price (€)
			HP	Model					Fan Ø (mm)	Air flow (m³/h)						
R-290	MWF-SD-6017A	400V 3N ~ 50Hz	2 1/2	ZB17KCU	4 100	1 800	3,5	7,2	1x Ø 450	4 250	< 0,7	0,6	1"	140	23	By demand
	MWF-SD-6025A	400V 3N ~ 50Hz	4	ZB25KCU	5 800	2 500	3,8	9,2	1x Ø 450	4 250	< 0,7	0,9	1"	160	27	By demand
	MWF-SD-7037A	400V 3N ~ 50Hz	6	ZB37KCU	8 300	3 600	4,1	11,8	1x Ø 450	4 500	< 0,7	1,3	1 1/4"	190	29	By demand
	MWF-SD-7049A	400V 3N ~ 50Hz	8	ZB49KCU	10 400	4 600	4,0	19,8	2x Ø 450	7 000	< 0,7	1,6	1 1/4"	200	33	By demand

DIMENSIONS

6 series



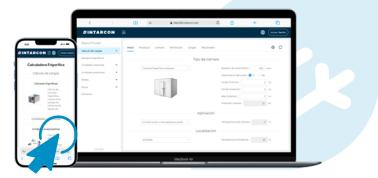
7 series



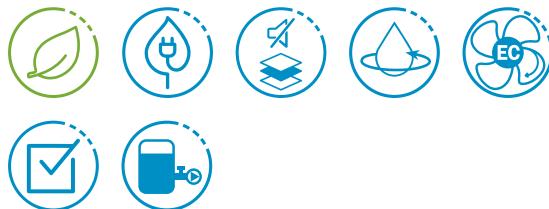
Dimensions in mm.

⁽¹⁾ Nominal performance high temperature: 35 °C ambient temperature with water inlet/outlet at 12/7 °C.⁽²⁾ Nominal performance positive temperature: 35 °C ambient temperature with glycol inlet/outlet at -2/-8 °C, with a propylene glycol concentration of 35 %.⁽³⁾ Seasonal Energy Performance Ratio (SEPR) according to (UE) 2015/095 and (UE) 2016/2281.⁽⁴⁾ Sound pressure level, with directivity 1, measured at 10 m from the unit (non-binding value calculated from sound power).

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REFRIGERATION CALCULATION SOFTWARE



Dry-cooler with built-in hydraulic group



Dry-coolers with built-in hydraulic group, in a low-noise construction, designed for heat dissipation of the refrigeration equipment condensation waterloop.

FEATURES

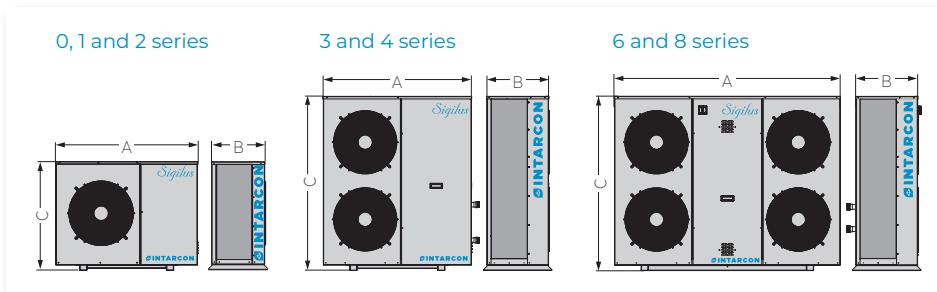
EC axial motor fans (except CWF-0 and 1).	<input checked="" type="checkbox"/>
High efficiency water coils with copper pipes and aluminium fins.	<input checked="" type="checkbox"/>
Hydraulic group with variable flow electronic pump, expansion tank, security valve, filter, thermomanometers and auto-fill valve included.	<input checked="" type="checkbox"/>
Threaded hydraulic connections.	<input checked="" type="checkbox"/>
Electric power panel with protection of hydraulic pump, fan motor and frequency variator.	<input checked="" type="checkbox"/>
Water coil anti-corrosion polyurethane coating.	<input type="checkbox"/> + 8 %
Coil protection grille. 0 up to 4 series: 6 up to 8 series:	<input type="checkbox"/> + 117 € <input type="checkbox"/> + 204 €

As standard Optional

230V I+N ~ 50Hz | Positive temperature | Water

Series / Model	Power supply	Flow control	Exchange capacity (W) ⁽¹⁾	Air flow (m³/h)	Fan (N x Ø mm)	Water flow (litre/hour)	Input power (kW)	Max. current (A)	Pressure drop (kPa) ⁽²⁾	Hydraulic connection	Weight (kg)	SPL dB(A) ⁽³⁾	Price (€)
CWF-0A	230V I+N ~ 50Hz	Constant	3 000	1 700	1x Ø 360	500	0,14	1,1	100	3/4"	76	30	2 631
CWF-1A	230V I+N ~ 50Hz	Constant	4 700	3 200	1x Ø 450	750	0,22	1,8	100	3/4"	79	26	3 907
CWF-2A	230V I+N ~ 50Hz	Variable	6 000	3 700	1x Ø 450	1 000	0,24	2,0	100	1"	81	26	5 037
CWF-3A	230V I+N ~ 50Hz	Variable	10 000	6 500	2x Ø 450	1 500	0,44	3,6	100	1"	101	29	6 257
CWF-4A	230V I+N ~ 50Hz	Variable	12 000	7 000	2x Ø 450	2 000	0,48	3,9	100	1 1/4"	113	29	6 705
CWF-6A	230V I+N ~ 50Hz	Variable	20 000	13 000	4x Ø 450	3 000	0,88	7,0	100	1 1/2"	160	32	10 520
CWF-8A	230V I+N ~ 50Hz	Variable	24 000	14 000	4x Ø 450	4 000	0,96	7,5	100	1 1/2"	185	32	11 639

DIMENSIONS



Electronic control

Waterloop dry-coolers incorporate an electronic control with the next functions:

- ▶ Variation of the water pump flow adapting to the demand, depending on the impulsion pressure (except 0-1 series).
- ▶ Waterloop temperature control by fan speed variation, with floating set-point.
- ▶ Frost protection.

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REFRIGERATION CALCULATION SOFTWARE

⁽¹⁾ Estimated heat exchange power with air temperature of 35 °C, and water inlet/outlet temperature of 45/40 °C.

⁽²⁾ Available circuit pressure.

⁽³⁾ Condenser sound pressure level, with directivity 1, measured at 10 m from the unit (non-binding value calculated from sound power).

Dimensions (mm)	A	B	C
0 and 1 series	1030	380	577
2 series	1080	410	827
3 series	1150	481	1 097
4 series	1150	481	1 347
6 series	1748	481	1 097
8 series	1748	481	1 347

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Compact refrigeration units for wall or roof-top installation

Commercial monoblocks

A2L

A2L intarblock



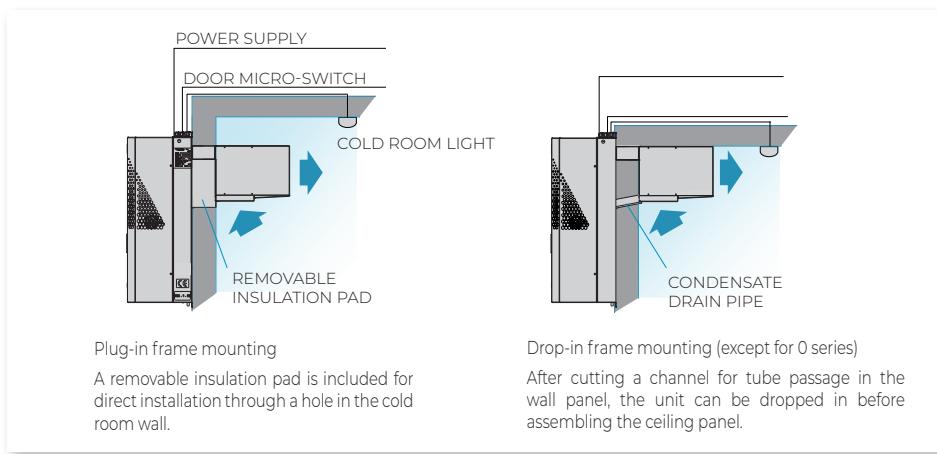
New A2L Self-contained slim monoblock units for small cold rooms for refrigeration and freezing, for wall-mount installation.

FEATURES

R-455A refrigerant charge.	<input checked="" type="checkbox"/>
Hermetic reciprocating compressor.	<input checked="" type="checkbox"/>
High pressure switch.	<input checked="" type="checkbox"/>
Thermostatic expansion valve.	<input checked="" type="checkbox"/>
MCB protection.	<input checked="" type="checkbox"/>
Hot gas defrost.	<input checked="" type="checkbox"/>
Drain pan.	<input checked="" type="checkbox"/>
Evaporation of condensed water.	<input checked="" type="checkbox"/>
Cold room LED and door micro-switch cable.	<input checked="" type="checkbox"/>
Evaporation drawer of 50 mm sandwich panel made of polyurethane foam, internally coated with pre-lacquered steel plate.	<input checked="" type="checkbox"/>
Multifunction electronic control.	<input checked="" type="checkbox"/>
Change to 400V 3N 50Hz power supply.	<input type="checkbox"/> + 5 %
Centrifugal condensing fan with vertical discharge.	<input type="checkbox"/> + 15 %
Evaporator coil epoxy anti-corrosion treatment.	<input type="checkbox"/> + 6 %
Condenser coil polyurethane anti-corrosion treatment.	<input type="checkbox"/> + 4 %
Low voltage protection (single-phase models).	<input type="checkbox"/> + 189 €
Low voltage and phase sequence protection (three-phase models).	<input type="checkbox"/> + 251 €
Master-slave (alternative + simultaneous).	<input type="checkbox"/> + 82 €

As standard Optional

INSTALLATION SCHEME



Installation example



Electronic control

intarblock units feature XW270K electronic control as standard:

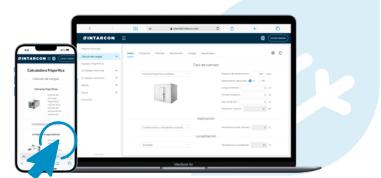


- ▶ Multi-function remote digital control
- ▶ Temperature control with maximum and minimum temperature value recording.
- ▶ Quick cooling function Jet Cool.
- ▶ Night operation mode.

Accessories CV-NN units

- ▶ Hopper for adaptation to circular duct (+ 127 €).
- ▶ Non-return damper (+ 69 €).
- ▶ Door micro-switch (+ 65 €).

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REFRIGERATION CALCULATION SOFTWARE



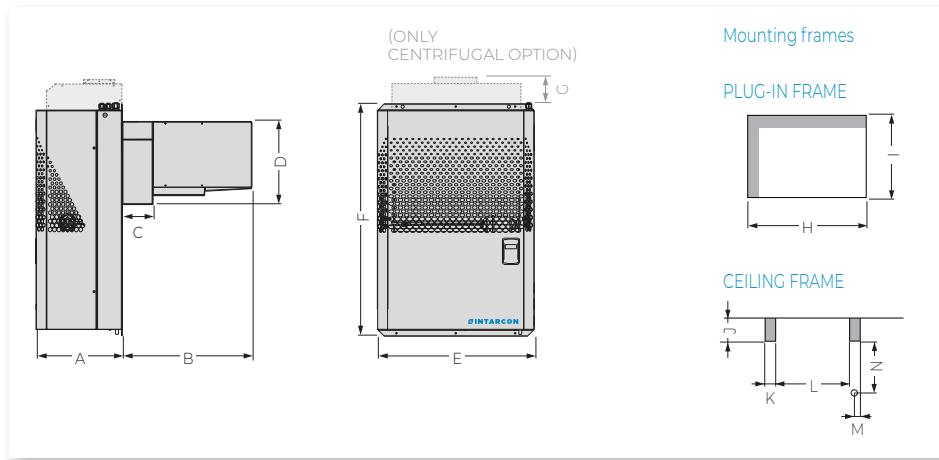
230V I+N ~ 50Hz / 400V 3N ~ 50Hz | Positive temperature | Hermetic compressor | R-455A

Refrigerant	Series / Model Axial	Power supply	Compressor (HP)	Cooling capacity / Cold room volume, according to cold room temperature ⁽¹⁾						Input power (W)	Max. current (A)	Evap. air flow (m³/h)	Cond. air flow (m³/h)	ASP (Pa) ⁽²⁾	Refrig. charge (g)	Weight (kg)	SPL dB(A) ⁽³⁾	Price (€)
				0 °C		5 °C		10 °C										
				W	m³	W	m³	W	m³									
R-455A	MCV-NN-0010A	230V I+N ~ 50Hz	1/3	691	5	818	9	938	15	480	7,1	400	375	80	<1,0	37	34	1993
	MCV-NN-1016A	230V I+N ~ 50Hz	3/4	1083	10	1271	17	1470	27	740	9,4	425	575	80	<1,0	70	34	2501
	MCV-NN-2024A	230V I+N ~ 50Hz	1	1766	19	2094	32	2428	51	1122	14,7	800	950	130	<1,5	89	35	3413
	MCV-NN-2026A	230V I+N ~ 50Hz	11/2	1869	21	2215	34	2561	55	1225	15,4	800	950	130	<1,5	89	36	3612
	MCV-NN-3034A	230V I+N ~ 50Hz*	11/2	2357	28	2810	46	3291	75	1550	20,4	1100	1150	80	<2,0	101	38	4171
	MCV-NN-3038A	400V 3N ~ 50Hz	13/4	2522	30	3007	50	3505	81	1654	9,5	1100	1150	80	<2,0	101	40	4532

230V I+N ~ 50Hz | Negative temperature | Hermetic compressor | R-455A

Refrigerant	Series / Model Axial	Power supply	Compressor (HP)	Cooling capacity / Cold room volume, according to cold room temperature ⁽¹⁾						Input power (W)	Max. current (A)	Evap. air flow (m³/h)	Cond. air flow (m³/h)	ASP (Pa) ⁽²⁾	Refrig. charge (g)	Weight (kg)	SPL dB(A) ⁽³⁾	Price (€)
				-25 °C		-20 °C		-15 °C										
				W	m³	W	m³	W	m³									
R-455A	BCV-NN-0018A	230V I+N ~ 50Hz	3/4	375	1	468	2	573	3	502	8,4	400	375	80	<0,5	47	31	2626
	BCV-NN-1034A	230V I+N ~ 50Hz	11/2	677	3	836	6	989	10	993	12,6	425	575	80	<1,0	71	33	3110
	BCV-NN-2034A	230V I+N ~ 50Hz	11/2	848	5	1065	9	1303	15	1110	13,4	800	950	130	<1,0	90	35	3320
	BCV-NN-2055A	230V I+N ~ 50Hz	2	1090	8	1377	14	1678	23	1398	19,5	800	950	130	<1,5	96	41	3973
	BCV-NN-3068A	230V I+N ~ 50Hz*	3	1562	14	1936	24	2358	38	2013	23,5	1100	1150	80	<1,5	113	44	4842

DIMENSIONS



Dimensions (mm)	A	B	C	D	E	F	G	H	I	J	K	L	M	N	Fan outlet
0 series	306	250	100	510	420	683	90	405	515	n/a	n/a	n/a	n/a	n/a	185 x 115
1 series	340	514	122	330	400	880	42	380	335	75	38	295	21	218	185 x 115
2 series	340	514	122	330	620	920	140	600	335	75	30	522	16	218	230 x 130
3 series	365	514	122	470	735	940	50	715	475	75	45	607	20	356	2x185 x 115

⁽¹⁾ Nominal performances refer to operation with cold room temperatures of 0 °C (PT) and -20 °C (NT), ambient temperature of 35 °C. Estimated cold room volume according to conditions of the calculation bases (page 12).

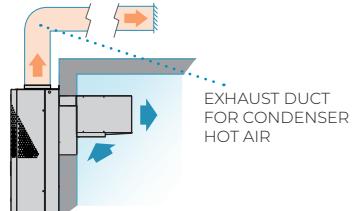
⁽²⁾ Available Static Pressure of condensation.

⁽³⁾ Condenser sound pressure level, with directivity 1, measured at 10 m from the unit (non-binding value calculated from sound power).

* Units available with 400V 3N 50Hz power supply.

Centrifugal version

Intarblock centrifugal units feature a centrifugal motor fan to duct hot condensation airflow outdoors.



Exhaust duct

Recommended size for 20 m long steel, PVC or fibreglass ducts (each elbow at 90° equals 5 m in length). For flexible or semi-flexible ducts use a larger size:

- 0 series: 200 x 150 mm or Ø 150 mm
- 1 series: 200 x 200 mm or Ø 150 mm
- 2 series: 250 x 150 mm or Ø 200 mm
- 3 series: 300 x 200 mm or Ø 250mm

intartop A2L



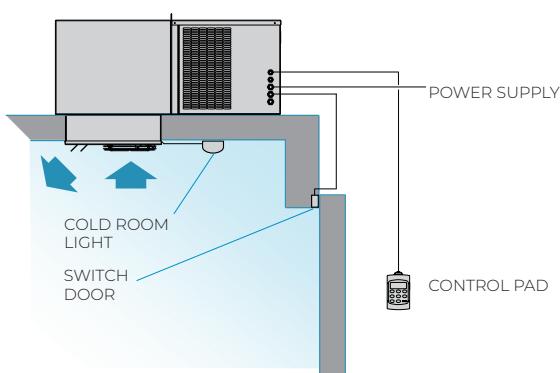
Self-contained slim monoblock for small and medium refrigeration and conservation cold rooms, units for ceiling panel installation.

FEATURES

R-455A refrigerant charge.	<input checked="" type="checkbox"/>
Hermetic reciprocating compressor.	<input checked="" type="checkbox"/>
High pressure switch.	<input checked="" type="checkbox"/>
Thermostatic expansion valve.	<input checked="" type="checkbox"/>
MCB protection.	<input checked="" type="checkbox"/>
Hot gas defrost.	<input checked="" type="checkbox"/>
Stainless steel drain pan and evaporation of condensed water.	<input checked="" type="checkbox"/>
Cold room LED light and micro-switch cable.	<input checked="" type="checkbox"/>
Evaporator case made in sandwich panel, with 50 mm polyurethane insulation, internally covered in steel sheet.	<input checked="" type="checkbox"/>
Multifunction electronic control.	<input checked="" type="checkbox"/>
Change to 400V 3N 50Hz power supply.	<input type="checkbox"/> + 5 %
Centrifugal condensing fan with horizontal discharge.	<input type="checkbox"/> + 15 %
Centrifugal condensing fan with vertical discharge.	<input type="checkbox"/> + 15 %
Evaporator coil epoxy anti-corrosion treatment.	<input type="checkbox"/> + 6 %
Condenser coil polyurethane anti-corrosion treatment.	<input type="checkbox"/> + 4 %
Low voltage protection.	<input type="checkbox"/> + 189 €
Master-slave (alternative + simultaneous).	<input type="checkbox"/> + 82 €

As standard Optional

INSTALLATION SCHEME



Installation example



Electronic control

intarblock units feature XW270K electronic control as standard:



- ▶ Multi-function remote digital control
- ▶ Temperature control with maximum and minimum temperature value recording.
- ▶ Quick cooling function Jet Cool.
- ▶ Night operation mode.

Accessories CR-NN units

- ▶ Hopper for adaptation to circular duct (+ 127 €).
- ▶ Non-return damper (+ 69 €).
- ▶ Door micro-switch (+ 65 €).

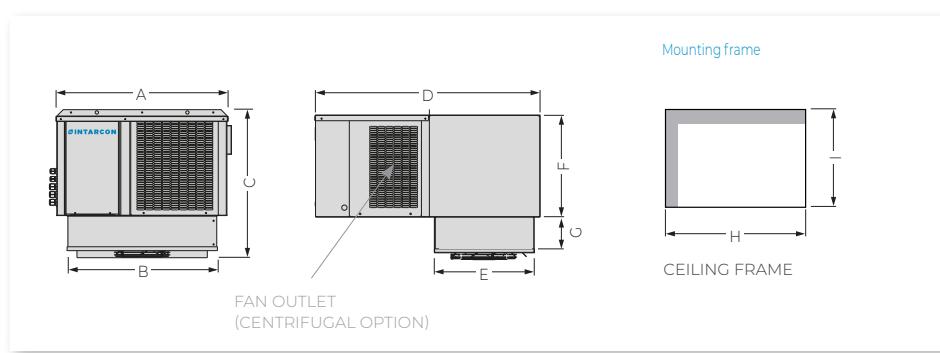
230V I+N ~ 50Hz | Positive temperature | Hermetic compressor | R-455A

Refrigerant	Series / Model Axial	Power supply	Compressor (HP)	Cooling capacity / Cold room volume, according to cold room temperature ⁽¹⁾						Input power (W)	Max. current (A)	Evap. air flow (m³/h)	Cond. air flow (m³/h)	ASP (Pa) ⁽²⁾	Refrig. charge (g)	Weight (kg)	SPL dB(A) ⁽³⁾	Price (€)
				0 °C		5 °C		10 °C										
				W	m³	W	m³	W	m³									
R-455A	MCR-NN-0010A	230V I+N ~ 50Hz	1/3	691	5	821	9	950	15	480	7,07	400	375	80	<1,0	63	34	2 135
	MCR-NN-1016A	230V I+N ~ 50Hz	3/4	1095	10	1286	17	1489	28	741	9,37	575	575	80	<1,0	83	34	2 729
	MCR-NN-2024A	230V I+N ~ 50Hz	1	1850	20	2 210	34	2 592	56	1100	14,41	1050	1 000	120	<1,5	97	35	3 794
	MCR-NN-2026A	230V I+N ~ 50Hz*	11/2	1964	22	2 340	37	2 732	59	1201	15,11	1050	1 000	120	<2,0	97	36	4 245

230V I+N ~ 50Hz | Negative temperature | Hermetic compressor | R-455A

Refrigerant	Series / Model Axial	Power supply	Compressor (HP)	Cooling capacity / Cold room volume, according to cold room temperature ⁽¹⁾						Input power (W)	Max. current (A)	Evap. air flow (m³/h)	Cond. air flow (m³/h)	ASP (Pa) ⁽²⁾	Refrig. charge (g)	Weight (kg)	SPL dB(A) ⁽³⁾	Price (€)
				-25 °C		-20 °C		-15 °C										
				W	m³	W	m³	W	m³									
R-455A	BCR-NN-0018A	230V I+N ~ 50Hz	3/4	378	1	464	2	574	3	500	8,4	400	375	80	<0,5	73	31	2 706
	BCR-NN-1034A	230V I+N ~ 50Hz	11/2	672	3	801	5	1 013	10	965	12,6	575	575	80	<1,0	84	33	3 322
	BCR-NN-2055A	230V I+N ~ 50Hz*	2	1 186	9	1 475	15	1 813	26	1 389	19,2	1 050	1 000	120	<1,5	104	41	4 438
	BCR-NN-3068A	230V I+N ~ 50Hz*	3	1 617	15	1 965	24	2 363	38	1 928	22,9	1 300	1 500	140	<1,5	144	44	5 580

DIMENSIONS



Dimensions (mm)	A	B	C	D	E	F	G	H	I	Fan outlet	Hopper
0 series	600	430	480	790	375	330	100	435	385	185 x 115	Ø 150
1 series	665	582	574	850	379	385	135	590	385	185 x 115	Ø 150
2 series	835	756	677	850	379	469	135	760	385	230 x 130	Ø 200
3 series	925	843	680	1070	454	485	145	850	460	266 x 236	Ø 250

⁽¹⁾ Nominal performances refer to operation with cold room temperatures of 0 °C (PT) and -20 °C (NT), ambient temperature of 35 °C. Estimated cold room volume according to conditions of the calculation bases (page 12).

⁽²⁾ Available Static Pressure of condensation.

⁽³⁾ Condenser sound pressure level, with directivity 1, measured at 10 m from the unit (non-binding value calculated from sound power).

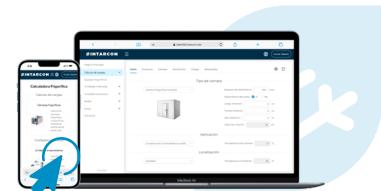
* Available units in 400V 3N 50Hz power supply.

Exhaust duct

Recommended size for 20 m long steel, PVC or fibreglass ducts (each elbow at 90° equals 5 m in length). For flexible or semi-flexible ducts use a larger size:

- ▶ 0 series: 200 x 150 mm or Ø 150 mm
- ▶ 1 series: 200 x 200 mm or Ø 150 mm
- ▶ 2 series: 250 x 150 mm or Ø 200 mm
- ▶ 3 series: 200 x 200 mm or Ø 250 mm

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Units composed by condensing and evaporator unit

Split systems **A2L**

Removable left grille

All panels/registers are removable, allowing for easier and safer maintenance of the unit.



1

Independent access to the electrical panel

The electrical panel is located in a separate compartment, improving access to disconnect the unit from the power supply.



2

A2L

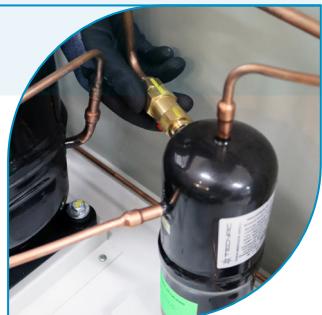
New developments

**intarsplit A2L SH-NN****Connections on the left side**

The new A2L units are equipped with Flare connections providing a quicker and easier assembly process.



3

Integrated safety valve in the boiler

4

Removable front grille

For optimal maintenance, the fan guard grille can be removed for cleaning and access to the fan.



1

Removable fan and connectors

For better maintenance, the condensing unit is equipped with quick connectors for easy and safe disconnection and removal of the fan.



2

*Sigilus A2L
SF-NN***R455A****Independent access to the electrical panel**

The electrical panel is located in a separate compartment, improving access to disconnect the unit from the power supply.



5

Integrated safety valve in the boiler

Access to the boiler through the back panel.



3

Connections on the left side

The new A2L units are equipped with Flare connections providing a quicker and easier assembly process.

Threaded connection for safety valve conduit.



4

Sigilus A2L



Split systems for small and medium size cold rooms, composed by a low-noise condensing unit and a slim-type evaporator with A2L refrigerant, with low GWP.

FEATURES

Hermetic reciprocating compressor.	<input checked="" type="checkbox"/>
High and low pressure switches.	<input checked="" type="checkbox"/>
Liquid receiver.	<input checked="" type="checkbox"/>
Refrigerant pre-charge for 10 m piping.	<input checked="" type="checkbox"/>
Thermostatic expansion valve.	<input checked="" type="checkbox"/>
Electrical heater defrost.	<input checked="" type="checkbox"/>
Drain pan.	<input checked="" type="checkbox"/>
Flare-type connections (up to 3/8"-3/4") and service valves.	<input checked="" type="checkbox"/>
MCB protection.	<input checked="" type="checkbox"/>
Drain resistance in NT units.	<input checked="" type="checkbox"/>
Multifunctional electronic control with remote keyboard and digital condensation control.	<input checked="" type="checkbox"/>
Crankcase heater.	<input checked="" type="checkbox"/>
Conducted safety valve.	<input checked="" type="checkbox"/>
Hot gas defrost.	<input type="checkbox"/> + 5 %
Sight gauge.	<input type="checkbox"/> + 117 €
Master-slave (alternative + simultaneous).	<input type="checkbox"/> + 82 €
Low voltage protection (single-phase models).	<input type="checkbox"/> + 189 €
Low voltage and phase sequence protection (three-phase models).	<input type="checkbox"/> + 251 €
Condensing control for very low ambient temperature.	<input type="checkbox"/> + 734 €
Larger sized multifunction electronic control.	<input type="checkbox"/> + 192 €
Built-in oil separator.	<input type="checkbox"/> + 745 €
Anti-corrosion evaporator coil coating.	<input type="checkbox"/> + 6 %
Anti-corrosion condenser coil coating.	<input type="checkbox"/> + 4 %

As standard Optional

Installation example



Electronic control

Sigilus units feature XM670K electronic control as standard:



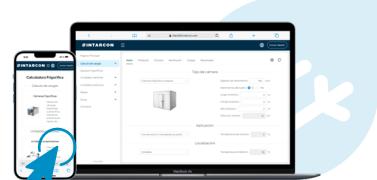
- ▶ Multi-function remote digital control.
- ▶ Internal clock for programming of energy saving cycles and defrost.
- ▶ Possibility of interconnection and synchronization of up to 8 devices by LAN, managed from a single control.

Accessories SF-NN units

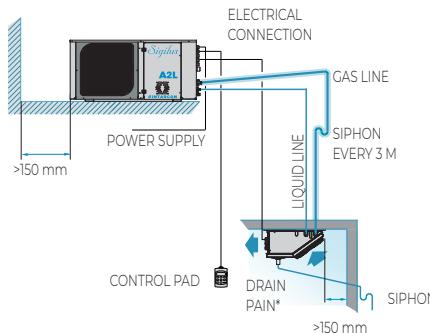
- ▶ Cold room LED light (+ 40 €).
- ▶ Door micro-switch (+ 65 €).
- ▶ Electrical supply hose (5 m) and interconnection hose (10 m) (+ 3 %).

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INSTALLATION SCHEME



Triple noise insulation

Sigilus units incorporate triple noise insulation as standard:

- ▶ Insulated compressor compartment separated from air flow
- ▶ Acoustic compressor jacket (only for standard three-phase models (Danfoss)) and discharge muffler.
- ▶ Low-noise and low-speed fans, mounted on shock absorbers.

Maximum vertical distance between units of 15 m if the condensing unit is placed at a higher level than the evaporating unit, and 6 m otherwise.
*20 % minimum slope of draining pipe for negative temperature models.

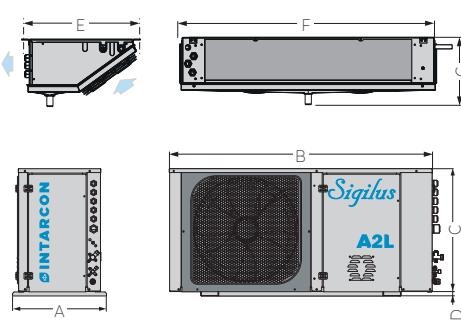
230V I+N ~ 50Hz | Positive temperature | Hermetic compressor | R-455A

Refrigerant	Series / Model	Power supply	Compressor (HP)	Cooling capacity / Cold room volume, according to cold room temperature ⁽¹⁾						Input power (W)	Max. current (A)	Evap. flow (m³/h)	Cond. air flow (m³/h)	Liq-Gas Cooling Connection	Refrig. charge (kg) ⁽²⁾	Weight (kg)	SPL dB(A) ⁽³⁾	Price (€)									
				0 °C		5 °C		10 °C																			
				W	m³	W	m³	W	m³																		
R-455A	MSF-NN-11009A	230V I+N ~ 50Hz	1/3	874	7	1042	13	1225	22	579	5,8	475	1700	1/4"-3/8"	< 1,5	65+12	37	3 281									
	MSF-NN-11012A	230V I+N ~ 50Hz	1/2	1101	10	1305	17	1505	28	732	6,8	475	1700	1/4"-3/8"	< 2,0	65+12	38	3 495									
	MSF-NN-12018A	230V I+N ~ 50Hz	3/4	1672	18	2049	31	2450	52	1010	9,9	950	1700	1/4"-1/2"	< 2,5	76+18	38	4 289									
	MSF-NN-12026A	230V I+N ~ 50Hz	11/2	2151	25	2607	42	3095	69	1252	13,5	950	1700	1/4"-1/2"	< 3,0	77+18	38	4 660									
	MSF-NN-12034A	230V I+N ~ 50Hz*	11/2	2503	30	2983	49	3488	80	1506	19,2	950	1700	1/4"-1/2"	< 3,5	78+18	40	5 003									
	MSF-NN-13040A	230V I+N ~ 50Hz*	2	3 370	44	4 093	73	4 831	135	1828	17,1	1500	3 200	3/8"-5/8"	< 4,0	86+33	43	5 922									

230V I+N ~ 50Hz / 400V 3N ~ 50Hz | Negative temperature | Hermetic compressor | R-455A

Refrigerant	Series / Model	Power supply	Compressor (HP)	Cooling capacity / Cold room volume, according to cold room temperature ⁽¹⁾						Input power (W)	Max. current (A)	Evap. flow (m³/h)	Cond. air flow (m³/h)	Liq-Gas Cooling Connection	Refrig. charge (kg) ⁽²⁾	Weight (kg)	SPL dB(A) ⁽³⁾	Price (€)									
				-25 °C		-20 °C		-15 °C																			
				W	m³	W	m³	W	m³																		
R-455A	BSF-NN-11026A	230V I+N ~ 50Hz	11/4	615	2	795	5	1002	10	850	9,4	475	1700	1/4"-3/8"	< 1,0	63+12	31	4 039									
	BSF-NN-12034A	230V I+N ~ 50Hz	11/2	983	6	1238	11	1505	19	1204	11,5	950	1700	1/4"-3/8"	< 1,5	71+18	31	4 782									
	BSF-NN-12054A	230V I+N ~ 50Hz	2	1307	10	1661	18	1966	29	1480	17,7	950	1700	1/4"-1/2"	< 2,0	79+18	33	5 671									
	BSF-NN-13068A	400V 3N ~ 50Hz*	3	1962	20	2 470	34	3 020	55	2 258	11,1	1500	3 200	3/8"-5/8"	< 2,5	95+33	35	6 691									

DIMENSIONS



Dimensions (mm)	A	B	C	D	E	F	G
11 series	425	1189	555	25	430	643	235
12 series	425	1189	555	25	430	993	235
13 series	425	1189	555	25	508	1 691	235

⁽¹⁾ Nominal performances refer to operation with cold room temperatures of 0 °C (PT) and -20 °C (NT), ambient temperature of 35 °C. Estimated cold room volume according to conditions of the calculation bases (page 12).

⁽²⁾ According to EN-378, split systems with a refrigerant charge of less than 3 kg is exempted from obligatory periodic leakage checks, due to their lower environmental and safety impact. However, it is essential to ensure that the safety conditions of the equipment and its location are adequate.

⁽³⁾ Sound pressure level, with directivity 1, measured at 10 m from the unit (non-binding value calculated from sound power).

* Available units with 230V / 400V 3N 50Hz power supply.

Electrical interconnections (SF-NN models)

For the interconnection of the condenser and evaporator units, the following cable sections must be provided for a length of 10 m:

Power supply	230V 50Hz	400V 3N 50Hz
Probes	3 x 1 mm ²	
Manoeuvre	2 x 1 mm ²	
Fans	2 x 1 mm ² + T	
Defrost	2 x 1,5 mm ² + T	
Control pad	2 x 1 mm ²	
Switch door*	2 x 1 mm ²	

* Optional not included.

To know electrical interconnections of each model: see technical manual.

intarsplit A2L



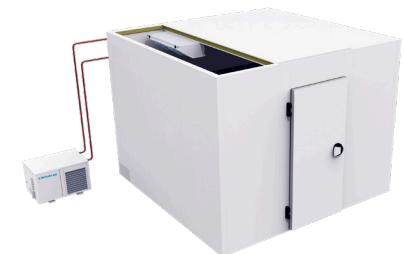
Split systems for small and medium size cold rooms, composed by a condensing unit in horizontal construction and a slim-type evaporating unit with A2L refrigerant, with low GWP.

FEATURES

Hermetic reciprocating compressor.	<input checked="" type="checkbox"/>
High and low pressure switches.	<input checked="" type="checkbox"/>
Liquid receiver.	<input checked="" type="checkbox"/>
Refrigerant pre-charge for 10 m piping.	<input checked="" type="checkbox"/>
Thermostatic expansion valve.	<input checked="" type="checkbox"/>
Electrical heater defrost.	<input checked="" type="checkbox"/>
Drain pan.	<input checked="" type="checkbox"/>
Flare-type connections (up to 3/8"-3/4") and service valves.	<input checked="" type="checkbox"/>
MCB protection.	<input checked="" type="checkbox"/>
Drain resistance in NT units.	<input checked="" type="checkbox"/>
Multifunctional electronic control with remote keyboard and digital condensation control.	<input checked="" type="checkbox"/>
Conducted security valve.	<input checked="" type="checkbox"/>
Crankcase heater.	<input checked="" type="checkbox"/>
Centrifugal fan.	<input type="checkbox"/> + 20 %
Hot gas defrost.	<input type="checkbox"/> + 5 %
Sight gauge.	<input type="checkbox"/> + 117 €
Master-slave (alternative + simultaneous).	<input type="checkbox"/> + 82 €
Low voltage protection (single-phase models).	<input type="checkbox"/> + 189 €
Low voltage and phase sequence protection (three-phase models).	<input type="checkbox"/> + 251 €
Condensing control for very low ambient temperature.	<input type="checkbox"/> + 734 €
Cold water condensation (glicol inlet temperature: -10 up to 5 °C).	<input type="checkbox"/> + 5 %
Water condensation (water inlet temperature: 5 up to 50 °C).	<input type="checkbox"/> + 9 %
Water solenoid valve (supplied separately from the unit).	<input type="checkbox"/> + 183 €
Water solenoid valve (integrated in the unit).	<input type="checkbox"/> + 183 €
Larger sized multifunction electronic control.	<input type="checkbox"/> + 192 €
Built-in oil separator.	<input type="checkbox"/> + 745 €
Anti-corrosion evaporator coil coating.	<input type="checkbox"/> + 6 %
Anti-corrosion condenser coil coating.	<input type="checkbox"/> + 4 %

As standard Optional

Installation example



Electronic control

intarsplit units feature XM670K electronic control as standard:



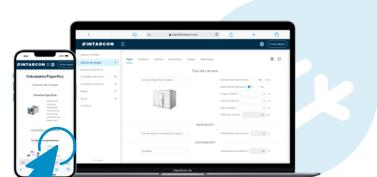
- ▶ Multi-function remote digital control.
- ▶ Internal clock for programming of energy saving cycles and defrost.
- ▶ Possibility of interconnection and synchronization of up to 8 devices by LAN, managed from a single control.

Accessories SH-NN units

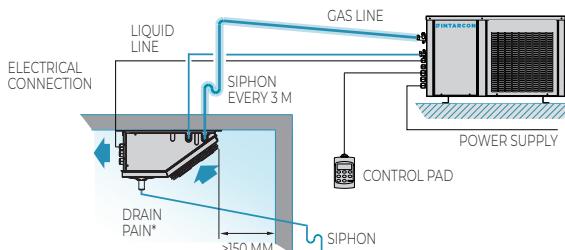
- ▶ Cold room LED light (+ 40 €).
- ▶ Door micro-switch (+ 65 €).
- ▶ Electrical supply hose (5 m) and interconnection hose (10 m) (+ 3 %).

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REFRIGERATION CALCULATION SOFTWARE

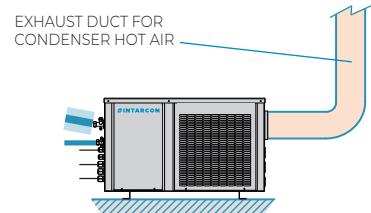


INSTALLATION SCHEME



Centrifugal version (optional)

The units of the centrifugal intarsplit series incorporates a centrifugal turbine that allows the condensation hot air to be transported outside by means of air ducts.



Maximum vertical distance between units of 15 m if the condensing unit is placed at a higher level than the evaporating unit, and 6 m otherwise.

*20 % minimum slope of draining pipe for negative temperature models.

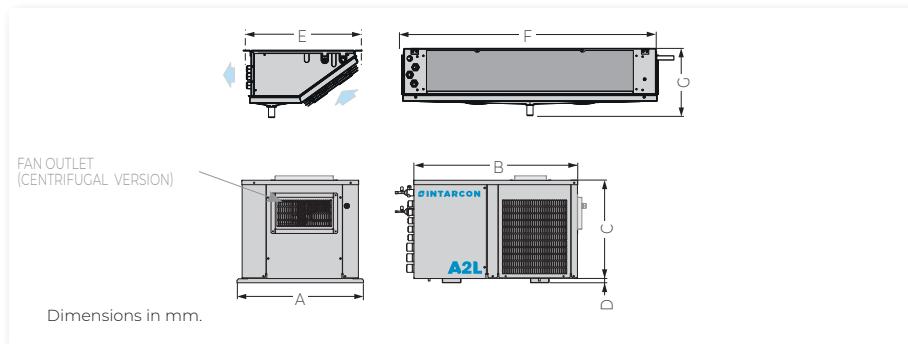
230V I+N ~ 50Hz | Positive temperature | Hermetic compressor | R-455A

Refrigerant	Series / Model	Power supply	Compressor (HP)	Cooling capacity / Cold room volume, according to cold room temperature (1)								Input power (W)	Max. current (A)	Evap. flow (m³/h)	Cond. air flow (m³/h)	Liq-Gas Cooling Connection	Refrig. charge (kg) (2)	Weight (kg)	SPL dB(A) (3)	Price (€)					
				0 °C		5 °C		10 °C		W	m³	W	m³	W	m³										
				W	m³	W	m³	W	m³																
R-455A	MSH-NN-11009A	230V I+N ~ 50Hz	1/3	810	6	949	11	1099	19	537	5,4	475	575	1/4"-3/8"	<1,5	51+12	34	2 962							
	MSH-NN-11012A	230V I+N ~ 50Hz	1/2	992	9	1160	15	1332	24	705	6,4	475	575	1/4"-3/8"	<2,0	52+12	35	3 211							
	MSH-NN-22018A	230V I+N ~ 50Hz	3/4	1562	16	1909	28	2268	47	1045	9,7	950	1400	1/4"-1/2"	<2,5	71+12	40	4 177							
	MSH-NN-22026A	230V I+N ~ 50Hz	11/2	1971	22	2368	37	2778	61	1304	13,3	950	1400	1/4"-1/2"	<3,0	72+18	40	4 676							
	MSH-NN-33034A	230V I+N ~ 50Hz*	11/2	2 685	33	3212	54	3771	88	1701	19,2	1500	1700	3/8"-5/8"	<3,5	83+18	42	5 650							
	MSH-NN-33040A	230V I+N ~ 50Hz*	2	3 080	39	3702	65	4329	110	1753	16,4	1500	1700	3/8"-5/8"	<4,0	91+33	45	6 309							

230V I+N ~ 50Hz / 400V 3N ~ 50Hz | Negative temperature | Hermetic compressor | R-455A

Refrigerant	Series / Model	Power supply	Compressor (HP)	Cooling capacity / Cold room volume, according to cold room temperature (1)								Input power (kW)	Max. current (A)	Evap. flow (m³/h)	Cond. air flow (m³/h)	Liq-Gas Cooling Connection	Refrig. charge (kg) (2)	Weight (kg)	SPL dB(A) (3)	Price (€)					
				-25 °C		-20 °C		-15 °C		W	m³	W	m³	W	m³										
				W	m³	W	m³	W	m³																
R-455A	BSH-NN-11026A	230V I+N ~ 50Hz	11/4	574	2	714	4	874	8	804	9,0	475	575	1/4"-3/8"	<1,0	63+12	31	3 611							
	BSH-NN-22034A	230V I+N ~ 50Hz	11/2	973	6	1186	11	1407	17	1219	11,3	950	1400	1/4"-1/2"	<1,5	71+18	31	4 549							
	BSH-NN-22054A	230V I+N ~ 50Hz	2	1221	9	1510	16	1788	25	1510	17,5	950	1400	1/4"-1/2"	<2,0	79+18	33	5 185							
	BSH-NN-33068A	400V 3N ~ 50Hz*	3	1788	17	2 249	30	2735	48	2183	10,3	1500	1700	3/8"-5/8"	<2,5	95+33	35	6 626							

DIMENSIONS



Dimensions (mm)	A	B	C	D	E	F	G
11 series	598	776	485	25	430	643	235
22 series	598	902	485	25	430	993	235
33 series	698	1032	535	25	508	1691	235

(1) Nominal performances refer to operation with cold room temperatures of 0 °C (PT) and -20 °C (NT), ambient temperature of 35 °C. Estimated cold room volume according to conditions of the calculation bases (page 12).

(2) According to EN-378, split systems with a refrigerant charge of less than 3 kg is exempted from obligatory periodic leakage checks, due to their lower environmental and safety impact. However, it is essential to ensure that the safety conditions of the equipment and its location are adequate.

(3) Sound pressure level, with directivity 1, measured at 10 m from the unit (non-binding value calculated from sound power).

* Available units with 230V / 400V 3N 50Hz power supply. Available static pressure of condensation: 100 Pa.

Electrical interconnections (SH-NN models)

For the interconnection of the condenser and evaporator units, the following cable sections must be provided for a length of 10 m:

Power supply	230V 50Hz	400V 3N 50Hz
Probes	3 x 1 mm ²	
Manoeuvre	2 x 1 mm ²	
Fans	2 x 1 mm ² + T	
Defrost	2 x 1.5 mm ² + T	
Control pad	2 x 1 mm ²	
Switch door	2 x 1 mm ²	

* Optional not included.

To know electrical interconnections of each model: see technical manual.

A2L cooling connections

INTARCON commercial range split units are delivered pre-adjusted in factory, with R-455A refrigerant charge enough for up to 10 m of cooling pipes.

Condensing units feature service valves and Flare-type connections for a flared copper pipe for diameters up to 3/4" and ready-to-solder connections for diameters from 7/8".

We recommend using the following nominal pipe diameters for both, liquid and gas lines, according to the length of the cooling pipes. For total length longer than 10 m some extra refrigerant and polyester oil (POE) charge must be added as indicated in the following table:

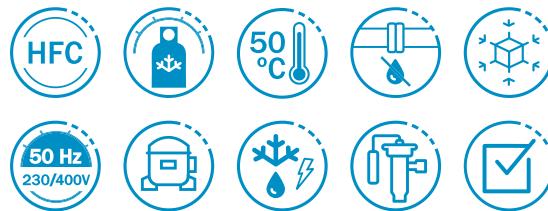
Model	Connexions	Connection and recommended liquid-gas pipe diameter depending on pipe length						Additional charge in grams of refrigerant / oil			
		5 m	10 m	15 m	20 m	25 m	30 m	15 m	20 m	25 m	30 m
-009	Flare 1/4"-3/8"	1/4"-3/8"	1/4"-3/8"	1/4"-3/8"				90/80			
-012	Flare 1/4"-3/8"	1/4"-3/8"	1/4"-3/8"	1/4"-1/2"	1/4"-1/2"			90/80	180/160		
-018	Flare 1/4"-1/2"	1/4"-1/2"	1/4"-1/2"	1/4"-1/2"	1/4"-1/2"			90/80	180/160	270/240	
-026	Flare 1/4"-1/2"	1/4"-1/2"	1/4"-1/2"	1/4"-5/8"	1/4"-5/8"	1/4"-5/8"		90/80	180/160	270/240	360/320
-034	Flare 1/4"-1/2"	1/4"-1/2"	1/4"-1/2"	1/4"-5/8"	1/4"-5/8"	1/4"-5/8"		90/80	180/160	270/240	360/320
-040	Flare 3/8"-5/8"	3/8"-5/8"	3/8"-5/8"	3/8"-3/4"	3/8"-3/4"	3/8"-3/4"		150/130	300/260	450/400	590/520
-026	Flare 1/4"-3/8"	1/4"-3/8"	1/4"-1/2"	1/4"-1/2"	1/4"-1/2"	1/4"-1/2"		90/90	180/190	260/270	350/370
-034	Flare 1/4"-1/2"	1/4"-1/2"	1/4"-1/2"	1/4"-5/8"	1/4"-5/8"	1/4"-5/8"		90/90	180/190	260/270	350/370
-054	Flare 1/4"-1/2"	1/4"-1/2"	1/4"-5/8"	1/4"-5/8"	1/4"-3/4"	1/4"-3/4"		90/90	180/190	270/280	350/370
-068	Flare 3/8"-5/8"	3/8"-5/8"	3/8"-3/4"	3/8"-3/4"	3/8"-3/4"	3/8"-7/8"		150/160	290/300	440/460	590/620
-124	Flare 3/8"-5/8"	3/8"-5/8"	3/8"-3/4"	3/8"-7/8"	3/8"-7/8"	3/8"-7/8"		150/160	290/300	440/460	590/620



Units composed by condensing and evaporator unit

Split systems HFC

Sigilus



Split systems for small and medium size cold rooms at positive and negative temperature, composed of a low-noise condensing unit and a slim-type, cubic-type or double-flow evaporating unit.

FEATURES

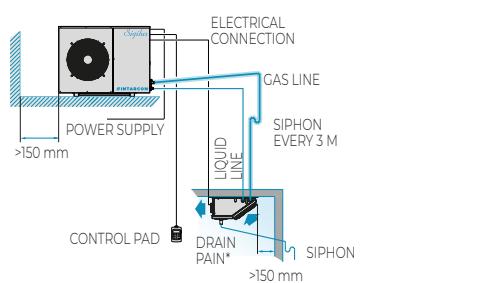
Compressor sound insulation only on standard three-phase units (DANFOSS compressor).	<input checked="" type="checkbox"/>
Large surface L-shape condensing coil (straight for series 0 and 1).	<input checked="" type="checkbox"/>
Low-speed condensing motor fans.	<input checked="" type="checkbox"/>
Proportional control of condensing pressure (optional for -N version).	<input checked="" type="checkbox"/>
Proportional control (except 0 series).	<input type="checkbox"/> + 317 €
High and low pressure switches.	<input checked="" type="checkbox"/>
Discharge muffler (for models 1 HP or more) and crankcase heater.	<input checked="" type="checkbox"/>
Liquid receiver.	<input checked="" type="checkbox"/>
Refrigerant pre-charge for 10 m piping.	<input checked="" type="checkbox"/>
Built-in thermostatic expansion valves and solenoid valves.	<input checked="" type="checkbox"/>
Electrical heater defrost (except ASF series).	<input checked="" type="checkbox"/>
Drain pan.	<input checked="" type="checkbox"/>
Flare-type connections (up to 1/2"-3/4") and service valves.	<input checked="" type="checkbox"/>
MCB protection.	<input checked="" type="checkbox"/>
Multifunctional electronic control with remote keyboard and digital condensation control.	<input checked="" type="checkbox"/>
Liquid injection system for negative temperature models with R-449A.	<input checked="" type="checkbox"/>
Change to 400V 3N 50Hz power supply.	<input type="checkbox"/> + 5 %
Coil protection grille.	<input type="checkbox"/> + 117 €
Built-in oil separator.	<input type="checkbox"/> + 745 €
Anti-corrosion evaporator coil coating.	<input type="checkbox"/> + 6 %
Anti-corrosion condenser coil coating.	<input type="checkbox"/> + 4 %
Larger sized multifunction electronic control.	<input type="checkbox"/> + 192 €

As standard Optional

INSTALLATION SCHEME

Maximum vertical distance between units of 15 m if the condensing unit is placed at a higher level than the evaporating unit, and 6 m otherwise.

*20 % minimum slope of draining pipe for negative temperature models.



Electronic control

Sigilus split systems feature XM670K electronic control as standard:



- ▶ Multi-function remote digital control.
- ▶ Internal clock for programming of energy saving cycles and defrost.
- ▶ Possibility of interconnection and synchronization of up to 8 devices by LAN, managed from a single control.

Triple noise insulation

Sigilus condensing units feature triple noise insulation:

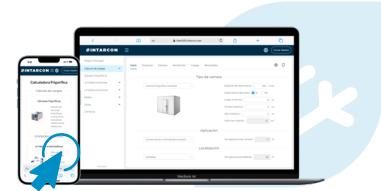
- ▶ Noise insulated compressor compartment, separated from the air flow.
- ▶ Hermetic reciprocating compressor with insulation cover (three-phase models) and discharge muffler.
- ▶ Low-noise and low-speed fan on shock absorbing structure.

Proportional control of condensing pressure

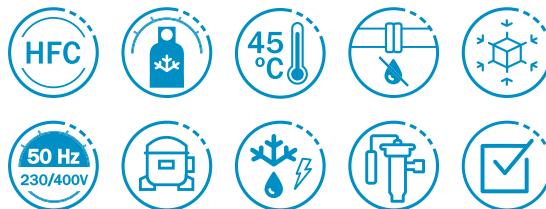
Proportional control of condensing pressure, for prolonged operation at under low ambient temperature, standard for Sigilus series (optional for slim-type).

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REFRIGERATION CALCULATION SOFTWARE



intarsplit



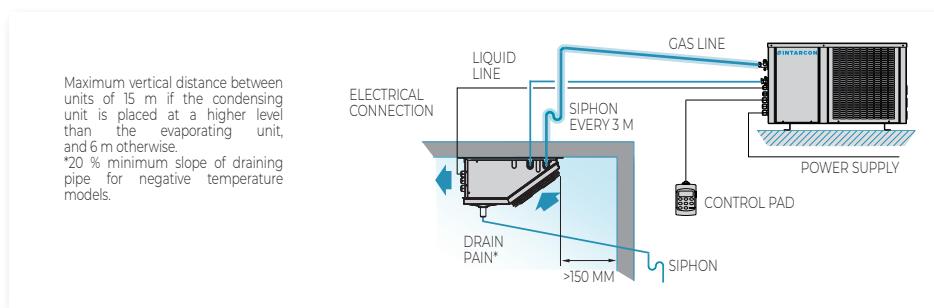
Split systems for small and medium size cold rooms at positive and negative temperature, composed by a condensing unit in horizontal construction and a slim-type, cubic-type or double-flow evaporating unit.

FEATURES

Hermetic reciprocating compressor (noise insulation in 3-phases models).	<input checked="" type="checkbox"/>
High and low pressure switches.	<input checked="" type="checkbox"/>
Liquid receiver.	<input checked="" type="checkbox"/>
Refrigerant pre-charge for 10 m piping.	<input checked="" type="checkbox"/>
Thermostatic expansion valve.	<input checked="" type="checkbox"/>
Electrical heater defrost (except ASH series).	<input checked="" type="checkbox"/>
Drain pan.	<input checked="" type="checkbox"/>
Flare-type connections (up to 3/8"-3/4") and service valves.	<input checked="" type="checkbox"/>
10 m of electrical connections included (except for 4 and 40 up to 54 series).	<input checked="" type="checkbox"/>
MCB protection.	<input checked="" type="checkbox"/>
Multifunction electronic control with remote keyboard and digital regulation of condensing pressure.	<input checked="" type="checkbox"/>
Liquid injection system for negative temperature models with R-449A.	<input checked="" type="checkbox"/>
Vertical discharge (centrifugal version).	<input type="checkbox"/> + 0 €
Larger sized multifunction electronic control.	<input type="checkbox"/> + 192 €
Change to 400V 3N 50Hz power supply.	<input type="checkbox"/> + 5 %
Crankcase heater.	<input type="checkbox"/> + 77 €
Adaptation of air discharge to circular duct.	<input type="checkbox"/> + 127 €
Built-in oil separator.	<input type="checkbox"/> + 745 €
Anti-corrosion evaporator coil coating.	<input type="checkbox"/> + 6 %
Anti-corrosion condenser coil coating.	<input type="checkbox"/> + 4 %
Proportional control of condensing pressure:	
Axial version: N, Q and D series 3/33 models onwards.	<input type="checkbox"/> + 317 €
Centrifugal version: C, CQ and CD series 4/43 models onwards.	<input type="checkbox"/> + 506 €

As standard Optional

INSTALLATION SCHEME



Electronic control

intarsplit systems feature XM670K electronic control as standard.



- Multi-function remote digital control.
- Internal clock for programming of energy saving cycles and defrost.
- Possibility of interconnection and synchronization of up to 8 devices by LAN, managed from a single control.

Digital condensing control

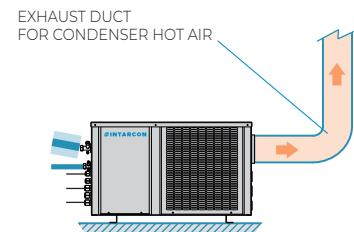
Standard as intarsplit series, it protects the unit against occasional low ambient temperatures. For prolonged operations with negative temperature outside it is recommended to install the proportional condensation control (optional in series 3 and 33 onwards).

Crankcase heater (optional)

The inclusion of the optional crankcase heater is recommended in all outdoor units.

Centrifugal version

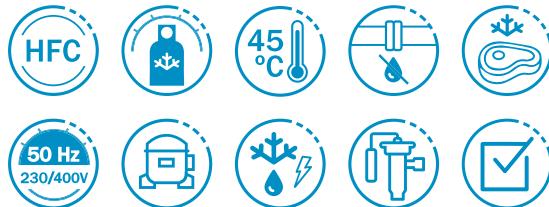
Centrifugal intarsplit units incorporates a centrifugal turbine that allows the condensation hot air to be transported outside by means of air ducts.



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REFRIGERATION CALCULATION SOFTWARE

System for meat preservation and maturation



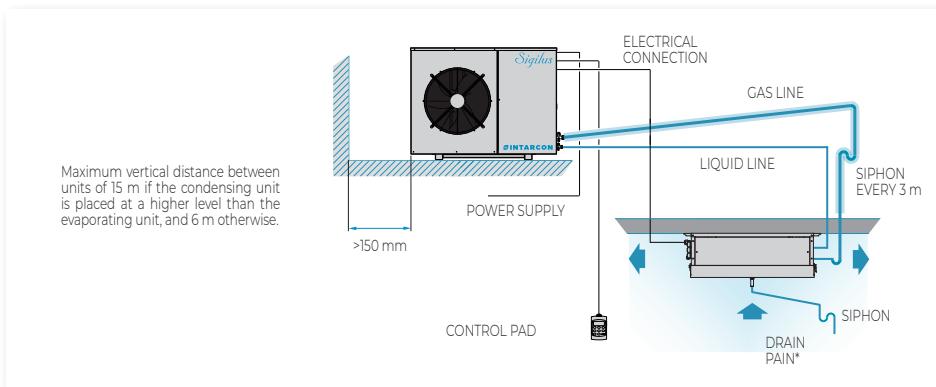
Split refrigeration systems for positive temperature applications, featuring a quasi-static evaporating unit with double air flow, and an axial low-noise or centrifugal condensing unit.

FEATURES

Quasi-static evaporating unit with double air flow and axial motor fans at very low speed.	<input checked="" type="checkbox"/>
High and low pressure switches.	<input checked="" type="checkbox"/>
Built-in solenoid valve.	<input checked="" type="checkbox"/>
Built-in thermostatic expansion valve.	<input checked="" type="checkbox"/>
Electrical heater defrost.	<input checked="" type="checkbox"/>
Drain pan.	<input checked="" type="checkbox"/>
Flare-type connections (up to 1/2"-3/4") and service valves.	<input checked="" type="checkbox"/>
MCB protection.	<input checked="" type="checkbox"/>
Liquid receiver.	<input checked="" type="checkbox"/>
Refrigerant pre-charge for 10 m piping.	<input checked="" type="checkbox"/>
Multifunctional electronic control with remote keyboard and digital condensation control.	<input checked="" type="checkbox"/>
Change to 400V 3N 50Hz power supply.	<input type="checkbox"/> + 5 %
Proportional control of condensing pressure through fan speed variation (already included in 2/23 series and above).	<input type="checkbox"/> + 317 €
Coil protection grille.	<input type="checkbox"/> + 117 €
Built-in oil separator.	<input type="checkbox"/> + 745 €
Condenser coil polyurethane anti-corrosion treatment.	<input type="checkbox"/> + 4 %
Control for maturation of meat with humidification and dehumidification functions.	By request
VTIPG touch screen display.	

As standard Optional

INSTALLATION SCHEME



Meat preservation

Quasi-static split systems are specifically recommended for unpacked meat preservation in cold rooms at temperature around 0 °C.

Double airflow evaporating units feature fans operating at a minimum speed to emulate the natural air convection inside the cold room, just as in a static evaporating unit.

Minimum air speed prevents moisture loss from the stored goods and keeps the correct level of humidity inside the cold room to prevent bacterial growth on the meat surface.

Meat maturation (optional)

Maturation of meat requires the control of the relative humidity of the cold room in a certain range.

Units for maturation of meat, are configured for cold rooms in the environment of 0 °C and in the range of 40 % to 95 % of relative humidity.

These units incorporate an advanced electronic regulation to control of the temperature and humidity inside the cold room, with dehumidification and humidification and functions with steam humidification of 3 kg / h capacity, consisting of: steam lances integrated in the evaporator unit, a submerged electrode generating cylinder with feed and water purge valves, and electronic relative humidity controller in the cold room.



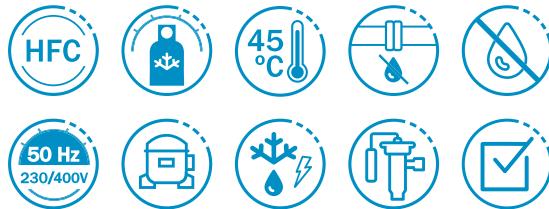
Crankcase heater (optional)

As standard on MSF and optional on MSH series. Its inclusion in outdoor units is recommended.

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High humidity



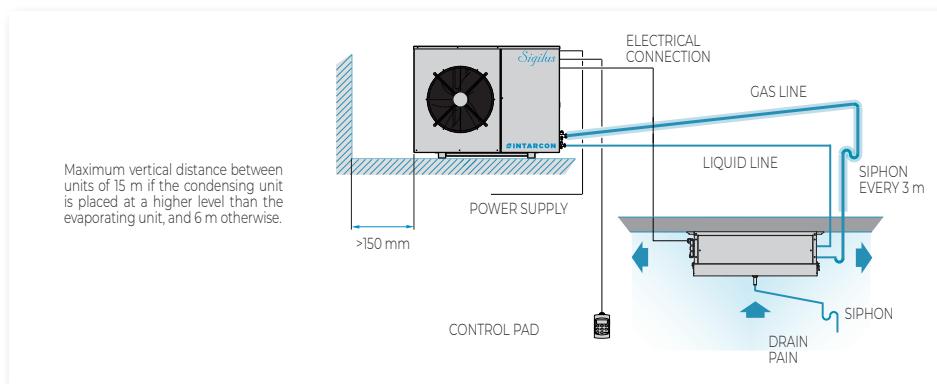
Split refrigeration systems for high relative humidity applications in a positive temperature range, featuring an evaporating unit with double air flow, and a low-noise or centrifugal condensing unit.

FEATURES

Oversized double air flow evaporating unit designed for relative humidity control between 60 % and 95 %*.	<input checked="" type="checkbox"/>
High and low pressure switches.	<input checked="" type="checkbox"/>
Evaporator built-in solenoid and thermostatic expansion valves.	<input checked="" type="checkbox"/>
Air defrost.	<input checked="" type="checkbox"/>
Drain pan.	<input checked="" type="checkbox"/>
Flare-type connections (up to 1/2"-3/4") with service valves.	<input checked="" type="checkbox"/>
MCB protection.	<input checked="" type="checkbox"/>
Liquid receiver.	<input checked="" type="checkbox"/>
Refrigerant pre-charge for 10 m piping.	<input checked="" type="checkbox"/>
Multifunction electronic control with temperature and humidity control and remote control.	<input checked="" type="checkbox"/>
Change to 400V 3N 50Hz power supply.	<input type="checkbox"/> + 5 %
Proportional control of condensing pressure through fan speed variation (already included in 2/22 series and above).	<input type="checkbox"/> + 317 €
Coil protection grille.	<input type="checkbox"/> + 117 €
Built-in oil separator.	<input type="checkbox"/> + 745 €
Anti-corrosion evaporator coil coating.	<input type="checkbox"/> + 6 %
Anti-corrosion condenser coil coating.	<input type="checkbox"/> + 4 %
Built-in active humidification kit.	By request
Dehumidification and heating kit.	By request

As standard Optional

INSTALLATION SCHEME



Conservation at controlled relative humidity

The preservation of certain products, such as fruits, vegetables or cut flowers, requires control of the relative humidity in the cold room within a certain range. These units adjusted for high relative humidity are especially suitable for fruit and vegetable products preservation cold room.

The evaporators have a double air discharge through oversized coils to obtain up to a high level of relative humidity inside the chamber at around 95 %, avoiding loss of humidity and weight of the product.



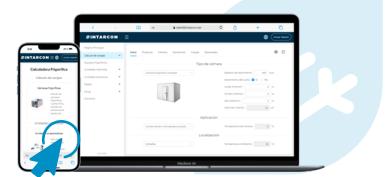
Electronic temperature and humidity control

The unit incorporates an advanced electronic regulation for the control of the temperature and humidity inside the cold room.

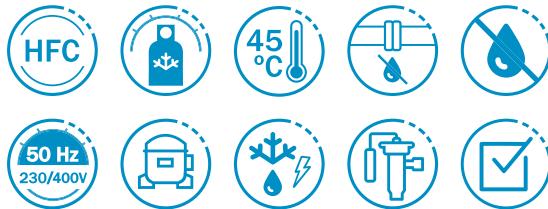
- ▶ Multifunction remote digital control with temperature and relative humidity display.
- ▶ Relative humidity control in the regulation range from 60 to 95 %.
- ▶ Optionally, active humidification kits with steam lances and dehumidification and stove kits are integrated.

* The humidity regulation in the cold room is carried out passively, acting on the evaporator flow, without water vapour. The actual range of humidity regulation depends largely on the conditions of the cold room, absolute outside humidity and type of product.

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Wine, cheese and mini drying rooms units

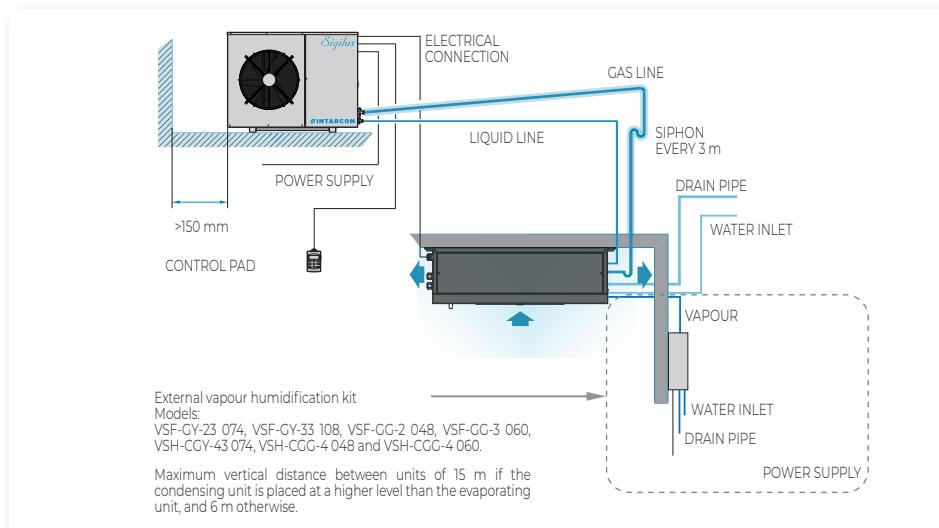


Wine cellar refrigeration split systems with low-noise axial or centrifugal condensing unit and double-flow evaporating unit with heating function, humidification / dehumidification system and condensed water pump, and compact ceiling construction with axial or centrifugal condensation.

APPLICATIONS

- Bottled wine preservation.
- Refrigeration at high temperature with humidity control.
- Preservation of wine in barrels.
- Cheese curing.
- Mini drying rooms.
- Tobacco preservation.

INSTALLATION SCHEME



Conservation of bottled wine

Bottled wine requires temperature and humidity controlled conditions that optimally conserve the product while avoiding both cork drying and label mouldiness.

The wine treatment unit guarantees optimal conditions for the preservation of bottled wine.



Wine conservation in barrel

In the conservation of wine in barrels, the relative humidity inside the cellar is of great importance, which must be adjusted so that there is no transfer of water vapour between the environment of the cellar and the interior of the barrel, avoiding thus wine wastage or water absorption by the content.



External vapour humidification kit

Vapour humidification with 3 kg/h capacity, consisting of: vapour lances integrated in the evaporator unit, a submerged electrode generating cylinder with feed valves and water purge valves.



Electrical interconnection

For the interconnection of the condenser and evaporator units, the following cable sections must be provided for a length of 10 m:

Power supply	230V 50Hz	400V 3N 50Hz
Probes	4 x 1 mm ²	
Manoeuvre	10 x 1 mm ²	
Heating resistance	2 x 2,5 mm ² + T	4 x 1,5 mm ² + T
Control pad	2 x 1 mm ²	
Humidifier	2 x 1 mm ²	

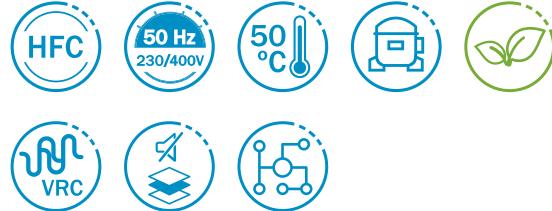
* Optional not included.

To know electrical interconnections of each model: see technical manual.



Condensing units HFC

Sigilus



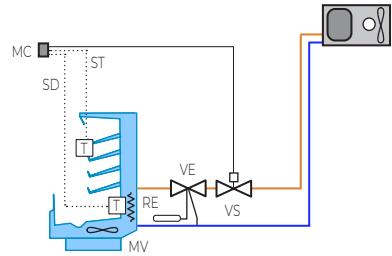
Low noise condensing units for positive and negative refrigeration with hermetic alternative compressor with noise insulation and low speed axial motor fan.

FEATURES

Reciprocating hermetic compressor, mounted on shock absorbers, with discharge muffler, crankcase heater and internal klixon.	<input checked="" type="checkbox"/>
Large-surface condensing coil made of copper tubes and aluminium fins, with tropicalised dimensioning for ambient temperatures up to 50 °C.	<input checked="" type="checkbox"/>
Low speed axial motor fan.	<input checked="" type="checkbox"/>
Refrigeration circuit equipped with high and low pressure switches, ceramic filter, liquid receiver and sight gauge.	<input checked="" type="checkbox"/>
Digital control of condensation pressure with the optional electrical board, and all-nothing condensation control in condensers without electrical panel.	<input checked="" type="checkbox"/>
Proportional control of condensing pressure through fan speed variation (included in three-phase models).	<input checked="" type="checkbox"/>
Full control and power board with compressor and motor fan protection.	<input checked="" type="checkbox"/>
Liquid injection system for negative temperature models with R-449A.	<input checked="" type="checkbox"/>
Change to 400V 3N 50Hz power supply.	<input type="checkbox"/> + 8 %
Built-in oil separator (already included in -V version).	<input type="checkbox"/> + 745 €
Built-in solenoid valve with body and coil (except -V version).	<input type="checkbox"/> + 183 €
Anti-corrosion coil coating.	<input type="checkbox"/> + 8 %
Coil protection grille.	<input type="checkbox"/> + 117 €
Proportional condensation control by fan speed variator (single-phase 1 series).	<input type="checkbox"/> + 317 €
Control and power panel with electronic control unit for management of condenser and evaporator (except BDF-NG-0 018 model). Larger sized multifunction electronic control.	<input type="checkbox"/> + 550 € <input type="checkbox"/> + 192 €
Multi-service version with VRC system (included oil separator). Table models with ^(M) .	<input type="checkbox"/> + 1 274 €

As standard Optional

Installation without electrical board (-N version)



MC: CONTROL PAD
 MV: MOTOR FAN
 RE: DEFROST HEATER
 ST: THERMOSTAT PROBE
 SD: DEFROST PROBE
 VE: EXPANSION VALVE
 VS: SOLENOID VALVE

Triple noise insulation

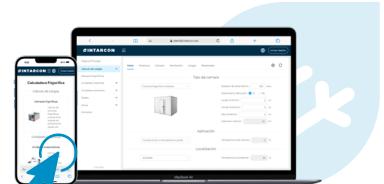
Sigilus condensing units incorporate triple noise insulation as standard:

- ▶ Insulated compressor compartment separated from air flow.
- ▶ Acoustic compressor jacket (three-phase models) and discharge muffler (hermetic models).
- ▶ Low-noise and low-speed fans, mounted on shock absorbers.

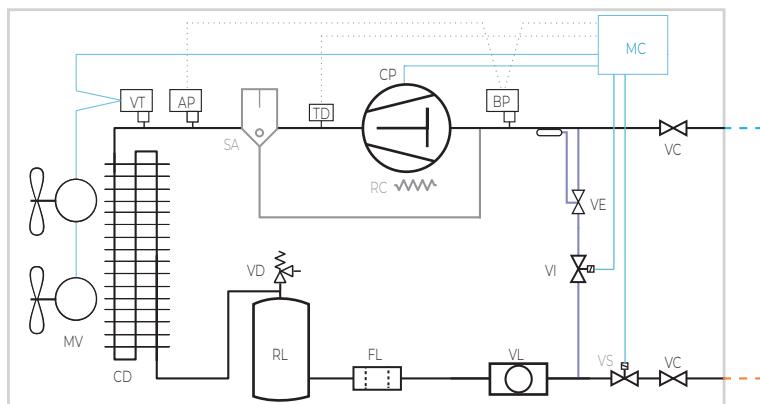
Proportional condensation control

Sigilus condensing units incorporate proportional condensation control by speed variation for prolonged running times at low ambient temperature.

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REFRIGERATION SCHEME



AS STANDARD

AP: HIGH PRESSURE SWITCH

BP: LOW PRESSURE SWITCH

CD: CONDENSER

CP: COMPRESSOR

FL: FILTER

MV: MOTOR FAN

RL: LIQUID VESSEL

RC: CRANKCASE HEATER

VC: SERVICE VALVE

VD: SECURITY VALVE (UP TO 1 HP)

VL: SIGHT GAUGE

VT: VOLTAGE REGULATOR

OPTIONAL

SA: OIL SEPARATOR

VS: SOLENOID VALVE

LIQUID INJECTION SYSTEM (ONLY BDF-G)

TD: DISCHARGE THERMOSTAT

VE: THERMOSTATIC EXPANSION VALVE

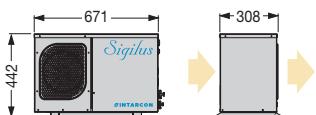
VI: LIQUID SOLENOID VALVE

OPTIONAL-N VERSION

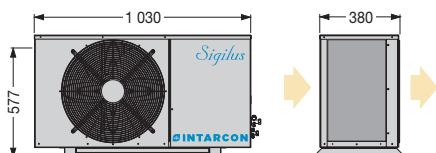
MC: ELECTRONIC MICRO-CONTROLLER

DIMENSIONS

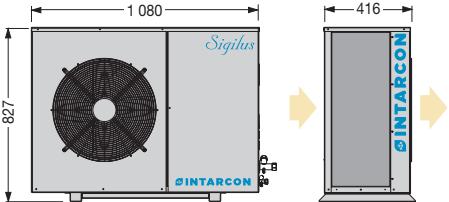
0 series



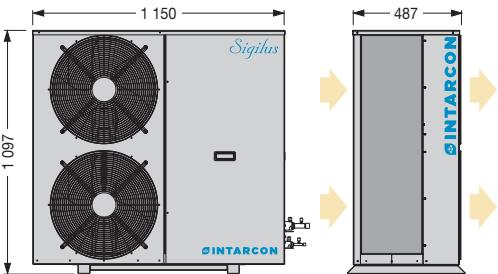
1 series



2 series



3 series



Dimensions in mm.

MDF-N and BDF-N version N (with optional electronic control)

Sigilus condensing units with optional electronic control incorporate an advanced electronic controller XM670K for the management of the condensing unit and the evaporator, being able to optionally integrate the solenoid valve.



- ▶ Multifunction remote digital control.
- ▶ Electronic board integrated in the condensing unit for 6 control relays for: compressor, condensing fan, evaporator fan, defrost, light and alarm.
- ▶ Possibility of interconnection and synchronization of up to 8 devices by LAN, managed from a single control.

Liquid injection system

Negative temperature condensing units incorporate a safety cooling system for the motor by liquid injection into the compressor suction.

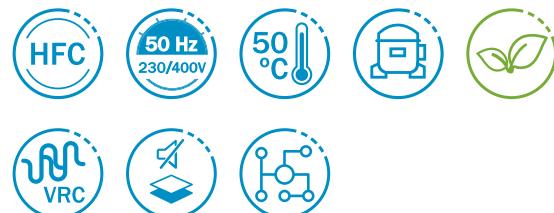
R-449A refrigerant has high gas discharge temperature under conditions of high compression ratio and high suction gas superheat.

To protect the motor windings and preserve oil stability, compressor cooling is necessary in certain situations.

Oil separator (optional)

Sigilus condensing units connected to a single evaporator usually not require an oil separator. This is recommended for long pipe lengths (> 30 m) being necessary for a suitable circuit design to ensure oil return.

intarbox



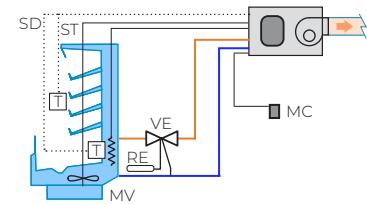
Air-cooled packaged condensing units at positive or negative temperature, in horizontal construction with an alternative hermetic compressor, and low speed axial or centrifugal motor fan.

FEATURES

Reciprocating hermetic or scroll compressor, mounted on shock absorbers, with discharge muffler, crankcase heater and internal klixon.	
High performance condensing coil in copper pipes and aluminium fins.	
Centrifugal motor fan with available static pressure for a ducted outlet of condenser hot air (centrifugal version).	
Refrigeration circuit equipped with high and low pressure switches, ceramic filter, liquid receiver and sight gauge.	
Digital control of condensation pressure with the optional electrical board, and all-nothing condensation control in condensers without electrical panel.	
Proportional control of condensing pressure through fan speed variation (included in MDH series 4 and above).	
Full control and power board with compressor and motor fan protection.	
Electronic regulation with evaporator control pad (-N version with optional electrical board).	
Liquid injection system for negative temperature models with R-449A.	
Change to 400V 3N 50Hz power supply.	<input type="checkbox"/> + 8 %
Proportional control of condensing pressure through speed variation (3 axial series, and 0 up to 3 centrifugal series).	<input type="checkbox"/> + 317 €
Built-in oil separator (already included in -V version).	<input type="checkbox"/> + 745 €
Crankcase heater.	<input type="checkbox"/> + 77 €
Built-in solenoid valve with body and coil (except -V version).	<input type="checkbox"/> + 183 €
Anti-corrosion coil coating.	<input type="checkbox"/> + 8 %
Non-return damper (centrifugal version).	<input type="checkbox"/> + 69 €
Adaptation of air discharge to circular duct.	<input type="checkbox"/> + 127 €
Vertical discharge (centrifugal version).	<input type="checkbox"/> + 0 €
Control and power panel with electronic control unit for management of condenser and evaporator.	<input type="checkbox"/> + 550 €
Larger sized multifunction electronic control.	<input type="checkbox"/> + 192 €
Multi-service version with VRC system (included oil separator) Table models with ^M .	<input type="checkbox"/> + 1 274 €

As standard Optional

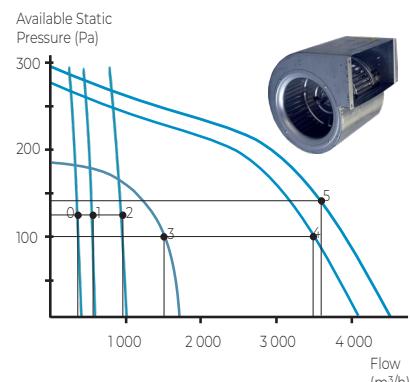
-C version with electronic control installation scheme



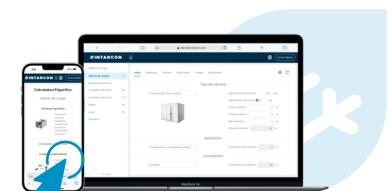
MC: CONTROL PAD
MV: MOTOR FAN
RE: DEFROST HEATER
ST: THERMOSTAT PROBE
SD: DEFROST PROBE
VE: EXPANSION VALVE
VS: EXPANSION VALVE

Centrifugal fan (centrifugal version)

intarbox condensing units feature centrifugal motor fans for a ducted outlet of condenser hot air.

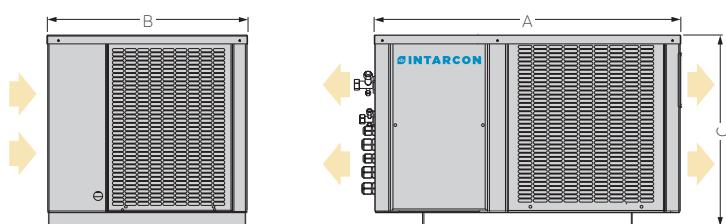


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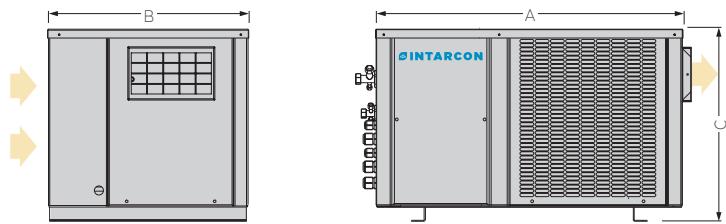
DIMENSIONS

DH - Axial series



Dimensions (mm)	A	B	C
0 series	600	396	355
1 series	665	435	416
2 series	835	435	500
3 series	925	580	515
4 series	1000	615	585
5 series	1289	757	657

DH - Centrifugal series



Dimensions (mm)	A	B	C	Fan outlet	Hopper (optional)
0 series	600	396	355	185 x 115	Ø 150
1 series	665	435	416	185 x 115	Ø 150
2 series	835	435	500	230 x 130	Ø 200
3 series	925	580	515	266 x 236	Ø 250
4 series	1000	615	585	305 x 266	Ø 360
5 series	1289	757	657	305 x 266	Ø 360

MDH-N and BDH-N (with optional electronic control)

Intarbox condensing units with the optional electronic control incorporate an advanced electronic controller XM670K for the management of the condensing unit and the evaporator, being able to optionally integrate the solenoid valve.



- ▶ Multifunction remote digital control.
- ▶ Electronic board integrated in the condensing unit for 6 control relays for: compressor, condensing fan, evaporator fan, defrost, light and alarm.
- ▶ Possibility of interconnection and synchronization of up to 8 devices by LAN, managed from a single control.

Ecodesign of condensing units

Regulation (EU) 2015/1095 establishes a series of Ecodesign requirements. For condensing units up to 5 kW and 2 kW in PT and NT respectively, a minimum value requirement is established for the coefficient of performance COP, while for higher power unit the requirement refers to a normalized seasonal performance SEPR.

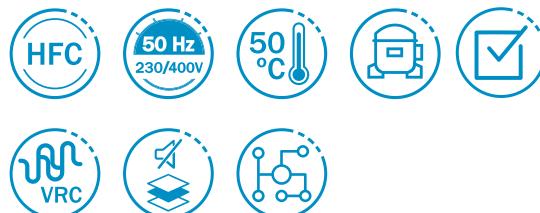
At INTARCON we have redesigned our product range to adapt to the Ecodesign directive, incorporating energy efficiency technologies, electronic motor fans and floating condensation control.

Exhaust duct

Recommended size for 20 m long steel, PVC or fibreglass ducts (each elbow at 90° equals 5 m in length). For flexible or semi-flexible ducts use a larger size:

- | | |
|-------------------|----------------------------|
| ▶ 0 series: | 200 x 150 mm or Ø 150 mm |
| ▶ 1 series: | 200 x 200 mm or Ø 150 mm |
| ▶ 2 series: | 250 x 150 mm or Ø 200 mm |
| ▶ 3 series: | 300 x 200 mm or Ø 250 mm |
| ▶ 4 and 5 series: | 350 x 400 mm oder Ø 360 mm |

Variable Refrigerant Capacity | VRC

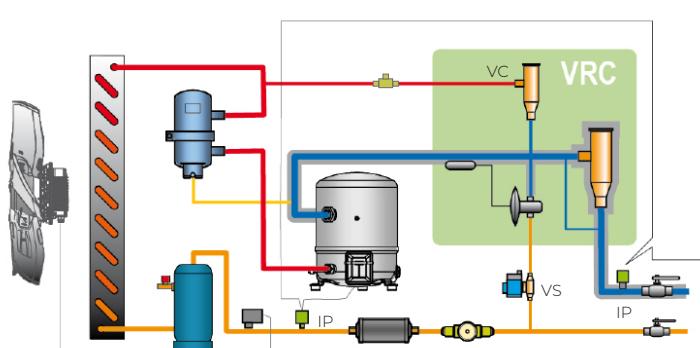


Multi-service version, featuring VRC system (Variable Refrigerant Capacity), of refrigeration capacity control. Designed to centralise the refrigeration production of a set of evaporator units. Applicable to hermetic alternative compressors, consisting of:

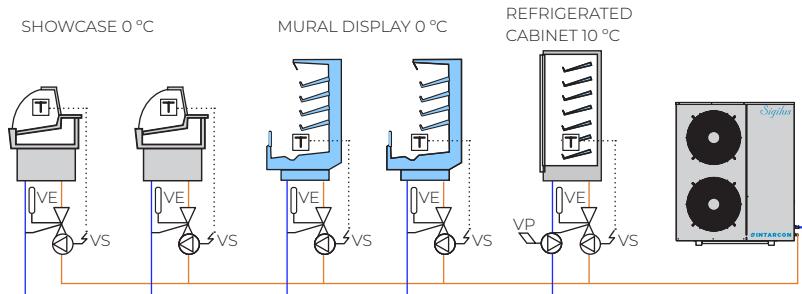
Multi-service versions of condensing units

- ▶ Horizontal axial or centrifugal multi-service version.
intarbox-multi: MDH-CV-/V series.
- ▶ Horizontal axial low-noise multi-service version.
Sigilus-multi: MDF-V series.

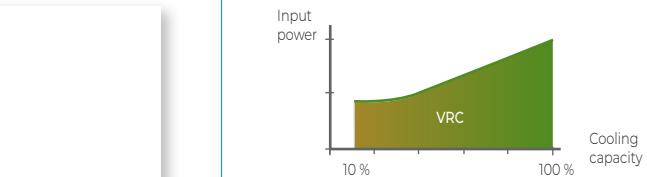
REFRIGERATION SCHEME



INSTALLATION SCHEME



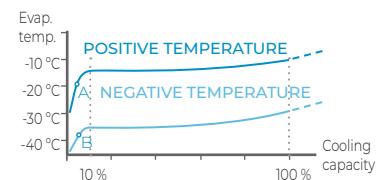
VP: ASPIRATION PRESSOSTATIC VALVE
 VC: BYPASS PRESSOSTATIC VALVE
 VE: THERMOSTATIC LIQUID INJECTION VALVE
 IP: LIQUID INJECTION CONTROL PRESOSTAT



VRC system is characterized by:

- ▶ Consisting exclusively of high reliability mechanical components.
- ▶ Keeps the evaporation pressure constant.
- ▶ Protects the compressor against the risk of engine overheating.
- ▶ Maintains the compression ratio of the compressor within the safety limits.

Condensing units equipped with VRC system allow centralizing the refrigeration production of a set of services, maintaining constant the pressure and temperature of the refrigerant in the evaporators.



VRC system can be easily regulated to set a minimum evaporation pressure. The factory setting provides the following minimum evaporation temperatures:

- ▶ Positive temperature units: -13 °C
- ▶ Negative temperature units: -35 °C

With demand below 10 % of the nominal power, the characteristic of the evaporation pressure curve falls towards the minimum value admitted by the compressor, disconnecting the low pressure switch (points A and B) and stopping the compressor.

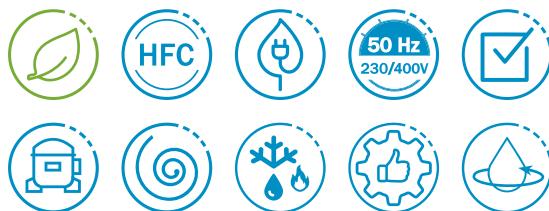
In this way, the multi-service condensing units are designed for low-pressure stop / start control (drop down or pump down).

Alternatively, the compressor running stop can be done through an external open / closed contact.



Water-cooled
condensing units **HFC**

Water-cooled condensing units



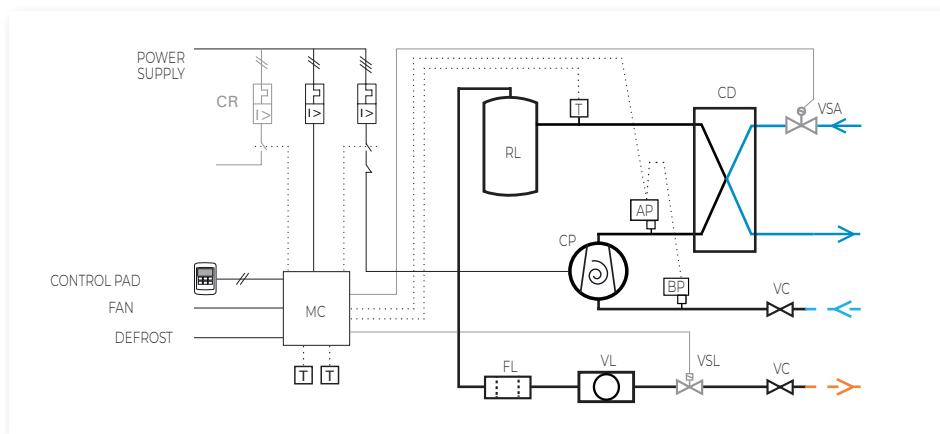
Water-cooled condensing units for positive and negative temperature refrigeration, with very compact size and quiet operation, designed for on-wall or floor installation.

FEATURES

Casing in pre-painted galvanized steel sheet, with noise insulation, with removable front panel for access to the compressor and the electrical panel.	<input checked="" type="checkbox"/>
Acoustically insulated scroll compressor, mounted on shock absorbers.	<input checked="" type="checkbox"/>
Horizontal construction rotary compressor (MDM-P / BDM-P).	<input checked="" type="checkbox"/>
Stainless steel brazed plates heat exchanger. Cooling circuit with ceramic dryer filter, sight glass, high and low pressure switches and services valves.	<input checked="" type="checkbox"/>
Hydraulic condensation circuit made of copper pipe with threaded connections.	<input checked="" type="checkbox"/>
Electromechanic control panel with thermomagnetic protection.	<input checked="" type="checkbox"/>
Liquid injection system for negative temperature models with R-449A.	<input checked="" type="checkbox"/>
Change to 230V 50Hz power supply.	<input type="checkbox"/> + 8 %
Electronic control for evaporator and compressor with temperature probes and control suitable for local or remote control.	<input type="checkbox"/> + 550 €
Refrigerant pre-charge for 5 m piping.	<input type="checkbox"/> + 8 %
Built-in liquid solenoid valve with body and coil.	<input type="checkbox"/> + 183 €
Water solenoid valve.	<input type="checkbox"/> + 183 €
Dynamic balancing valve.	By request
Glycol water condensation.	By request

As standard Optional

REFRIGERATION AND ELECTRICAL SHEME



Installation example



Rotary compressors

Hermetic rotary compressors provide greater reliability, lower noise and maximum design flexibility. Copeland scroll compressors, are characterized by their great robustness and reliability of operation, and being cooled exclusively by the refrigerant gas, allow effective sound proofing.



AS STANDARD
AP: HIGH PRESSURE SWITCH
BP: LOW PRESSURE SWITCH
CD: HEAT EXCHANGER
CP: COMPRESSOR
FL: FILTER
MC: MICRO-CONTROLLER
RL: LIQUID VESSEL
T: PROBE
VC: SHUT-OFF VALVE
VL: SIGHT GAUGE
OPTIONAL
CR: DEFROST CONTACTOR
VSA: WATER SOLENOID VALVE
VSL: LIQUID SOLENOID VALVE
ADDITIONAL WITH ELECTRONIC CONTROL
MC: ELECTRONIC MICRO-CONTROLLER

Electronic regulation

All our units incorporates state-of-the-art electronic controls, which ensures the safety of the cold room and care for the environment and the refrigeration equipment.

Features / Control	XM670K	XW270K	XH240K	XW60LH	IC121CX
Cold room temperature control	●	●	●	●	
Digital control of condensing temperature	●	●		●	
Cold room relative humidity control			●		
Time and temperature fast cooling cycle	●				
Time and temperature defrost cycle	●	●		●	
Stop control with gas collection (pump-down)	●				
Energy save night operating mode	●	●			●
Time program with internal clock	●				
Digital condensing temperature control	●	●			
Proportional control of condensation with floating set-point	●				
Door opening contact	●	●		●	
Recording of max. and min. temperatures		●		●	
Maintenance quick access menu	●				
Available additional functions:					
- Cold room light	●	●			●
- External alarm	●	●			
- Heating resistance control	●	●		●	
- Safety heating	●	●			
Units synchronization	●				
RS485 Modbus connection	●				
TTL Modbus connection (optional XJ485 connector)		●	●	●	●
Glycol/water return temperature control					●
Temperature/condensing pressure control					●
Supply temperature control with activation of frost protection resistor (HFC models only) and/or compressor stop.					●
Energy save mode activated by digital input (without internal clock)					●
Hydraulic group control (1 pump only) with functionalities:					
- Flow detector					
- Pump failure					●
Condensation fan control with functionalities:					
- Analogue output for fan speed				●	
- Fan failure				●	

Complete features of electronic controllers available at: www.intarcon.com



Self-diagnosis

The new XM670K electronics incorporate advanced self-diagnostic algorithms to detect anomalous operation, such as ice accumulation in the evaporator, or lack of gas. It also detects component malfunctions (defrosting resistors, fans or compressor) or probe failures, in anticipation of a potential break in the cold room.

XM670K

Standard / optional* control of:

- ▶ CV-NPD/CR-NPD/DM*/CC/CWF/SF/SH/DF*/DH*



XW270K

Standard control of:

- ▶ CR-ND/CV-NN/CR-NN



XH240K

Standard control of:

- ▶ HSF/VSF/VSH



XW60LH

Standard control of:

- ▶ CV-LD/CP-ND



IC121CX

Standard control of:

- ▶ WF



Sales terms

Except in case of agreement with INTARCON, the following general sales terms prevail.

Price

The prices indicated in this list, except for typographical errors, are retail prices with cash payment, do not include VAT or indirect taxes, and will remain in force during the period of validity of this catalogue or until a new edition.

Installation

The buyer admits that INTARCON's products are capital goods for integration in a refrigeration installation. To that effect, the buyer assumes obedience to any applicable law and to guarantee the quality of the installation, which, in any case, is to be done by an authorised installer.

Orders

The orders are to be placed in writing and to be confirmed by the seller through a pro forma invoice indicating the shipping date. The seller reserves the right to refuse an order. Once manufacturing has started, no cancellations will be accepted.

Packaging

Prices include standard packaging for road transport, not suitable for overseas transport.

Delivery

The delivery of INTARCON goods is according to FCA INTARCON (PI Los Santos, 14900 Lucena - Spain) according to Incoterms 2020 of the ICC. The only accepted delivery claims are those received in written on the delivering note within 24 hours from the delivery.

Refunds

No refunds will be accepted without prior authorisation from the manufacturer and, in any case, an amount no less than 10 % of the purchasing price will be deducted as a return cost.

Warranty

The seller guarantees the product against any manufacturing default for 24 months from delivering date.

During the warranty period the manufacturer will cover the repair of the product in its facilities, the replacement of the product or the supply of spare parts for defective components, which is less burdensome and technically feasible. The cost and taxes on the refrigerant are expressly excluded from the warranty coverage when it has not been supplied by the manufacturer in hermetically sealed appliances. The warranty does not cover on-site labour for the replacement of the product or spare parts, nor the indirect damages or consequential losses that may be attributed to the malfunction of the product. Specifically, the manufacturer may not be responsible for the Tax on Fluorinated Gases stipulated in Law 16/2013, emitted into the atmosphere as a result of a leakage of a refrigeration unit subject to a tightness and resistance test by the refrigeration installer and a periodic leak control according to Regulations 573-2024 on F-Gas.

Payment

Unless agreement with the manufacturer, the payment of the invoices will be in cash. The seller of the goods reserves the right to block delivery of the orders in the case that any risk in payment is perceived.

Lawsuits

INTARCON's product trade is ruled by Spanish laws. Any conflict or argument is to be submitted to the judgment of the Córdoba Chamber of Commerce. In case of disagreement, both parties will relinquish to any jurisdiction to which may pertain and they will submit to the Court of Lucena (Córdoba) Spain.

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INTARCON reserves the right to modify the technical and constructive characteristics of the units without prior notice.

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Notes



www.intarcon.com



 **INTARCON**

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