

INTEGRATED

**Refrigeration units**  
Commercial Range

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**Product catalogue**  
2014 edition





**INTARCON is the Spanish leader in manufacturing of self-contained commercial refrigeration units and systems.**

*Our engineering and manufacturing facilities, based on the South of Spain, take profit of the synergies from a long-established technological cluster of equipment manufacturing industries operating in the refrigeration and air conditioning sectors.*

*The human team at INTARCON, with a valuable experience in these sectors, focuses its effort to the development and manufacturing of a new range of self-contained compact and split units for the commercial and industrial refrigeration.*



*Our mission is to provide our customers with innovative solutions for a more efficient and environmentally friendly operation of their refrigeration facilities.*

*In this catalogue we offer a wide range of units and solutions to equip refrigeration installations in a temperature range from -25 °C to 15 °C, for many industrial and commercial applications...*

#### **Hotels and restaurants industry**

*Hotel and restaurant industry needs to keep the best performance all long the cold chain.*

*INTARCON offers the market a wide range of monoblock and split units for the refrigeration of small and medium size cold rooms, to keep the cold chain for the best preservation of food products.*



#### **Grocery**

*As specialised is the product to preserve as specialised and reliable is to be the refrigeration solution.*

*INTARCON has developed special refrigeration solutions for the special needs for the preservation of unpacked products, such as the quasi-static units for meat conservation, or the units with humidity control for the preservation of fruits and vegetables.*



#### **Handling and process rooms**

*In process rooms, the refrigeration of the product is as important as the comfort of the people working inside the room.*

*To this objective we have designed our split units with double flow evaporating units, operating at low speed to provide the installation with a laminar air flow inside the room with very low turbulence level, preserving the health of the workers.*

#### **Self-service and small supermarkets**

*In order to keep the food cold chain it is, sometimes, the best choice to decentralised the refrigeration of small cold rooms.*

*The wide range of systems and motocondensing units from INTARCON covers the decentralised refrigeration production for small cold rooms and refrigerated services.*



#### **Wine preservation**

*The new generation monoblock and split units, specially designed for wine cellar refrigeration, are the solution for wine preservation in their optimum temperature and humidity requirements.*

#### **Other applications**

*INTARCON's unit have a wide range of applications: refrigeration of laboratories, morgue conditioning, pharmaceutical industry...*

2014 edition

Current edition until a new edition is issued.

Edited by INTARCON S.L.








































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#### **Custom development**














*The Engineering Department at INTARCON is at your disposal for studying, developing and manufacturing of customised refrigeration units and systems.*

# Units and systems preselection

— Not appropriated  
 + Appropriate  
 ++ Recommended

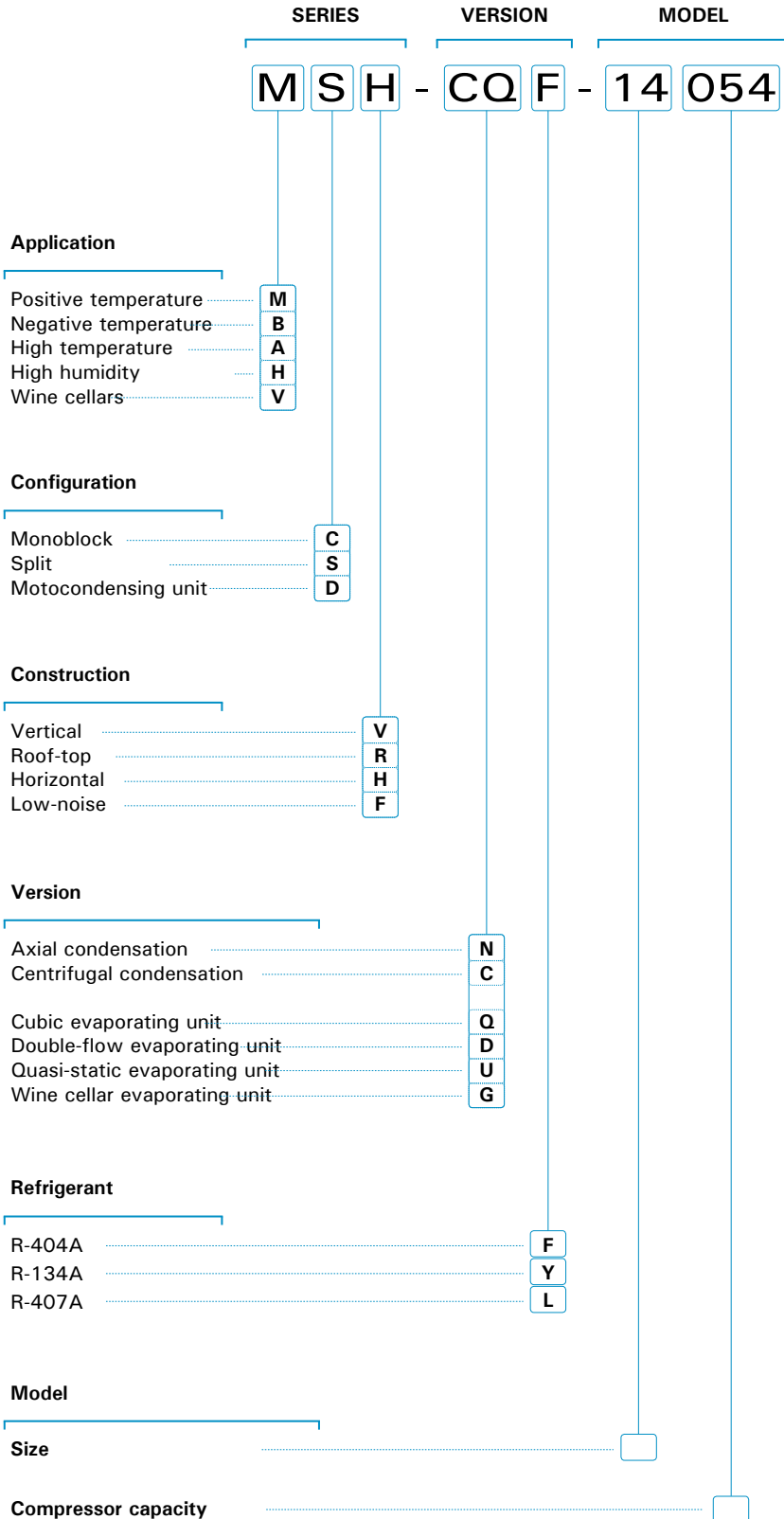
	Series	Cold room volume	Nominal cooling capacity (kW)			Instalación		Aplicaciones							Page
			HIGH temperature T: +15 to 9 °C	POSITIVE temperature T: +10 to -5°C	NEGATIVE temperature T: -15 to -25°C	Indoor	Outdoor	Packaged products	Meat	Fish	Fruits, vegetables and flowers	Wine in bottles	Cheese and cold meat	Process room/s	
EQUIPOS COMPACTOS MONOBLOCK	 MCR-N	4 - 35 m³		0,5 - 2,5 kW		+	-	++	+	+	+	+	+	-	3
	 BCR-N	2 - 20 m³			0,4 - 1,7 kW	+	-	++	+	+	+	-	-	-	
	 MCR-C	5 - 35 m³		0,8 - 2,5 kW		++	-	++	+	+	+	+	+	-	3
	 BCR-C	2 - 20 m³			0,5 - 1,7 kW	++	-	++	+	+	+	-	-	-	
	 MCV-N	4 - 40 m³		0,5 - 3,0 kW		+	-	++	+	+	+	+	+	-	5
	 BCV-N	2 - 30 m³			0,4 - 2,5 kW	+	-	++	+	+	+	-	-	-	
 MCV-C	5 - 30 m³		0,8 - 3,0 kW		++	-	++	+	+	+	+	+	-	5	
 BCV-C	2 - 20 m³			0,5 - 2,5 kW	++	-	++	+	+	+	-	-	-		
 MCV-I	7 - 41 m³		0,8 - 3,0 kW		+	++	++	+	+	+	+	+	-	6	
 BCV-I	2 - 32 m³			0,5 - 2,5 kW	+	++	++	+	+	+	-	-	-		
EQUIPOS SEMICOMPACTOS COMERCIALES	 MSH-N	5 - 75 m³	0,8 - 6,8 kW	0,6 - 4,8 kW		+	+	++	+	+	+	+	+	+	9
	 BSH-N	2 - 70 m³			0,5 - 4,1 kW	+	+	++	+	+	+	-	-	-	
	 MSH-C	5 - 75 m³	1,5 - 6,8 kW	1,0 - 4,8 kW		++	-	++	+	+	+	+	+	+	9
	 BSH-C	5 - 70 m³			0,7 - 4,1 kW	++	-	++	+	+	+	-	-	-	
	 MSH-Q	40 - 115 m³	4,4 - 9,3 kW	3,0 - 6,7 kW		+	+	++	+	+	+	+	+	-	10
	 BSH-Q	25 - 85 m³			2,1 - 4,9 kW	+	+	++	+	+	+	-	-	-	
	 MSH-CQ	40 - 115 m³	4,4 - 9,3 kW	3,0 - 6,7 kW		++	-	++	+	+	+	+	+	-	10
	 BSH-CQ	25 - 85 m³			2,1 - 4,9 kW	++	-	++	+	+	+	-	-	-	
	 ASH-D	15 - 115 m³	1,3 - 9,4 kW			+	+	-	-	-	+	+	+	++	11
	 ASH-CD	20 - 115 m³	1,9 - 9,4 kW			++	-	-	-	-	+	+	+	++	
	 MSF-N	5 - 70 m³	0,9 - 6,5 kW	0,6 - 4,6 kW		+	++	++	+	+	+	+	+	+	13
	 BSF-N	2 - 60 m³			0,5 - 3,8 kW	+	++	++	+	+	+	-	-	-	
	 MSF-Q	50 - 250 m³	5,0 - 17 kW	3,4 - 12,3 kW		+	++	++	+	+	+	+	+	-	14
	 BSF-Q	25 - 240 m³			2,1 - 8,6 kW	+	++	++	+	+	+	-	-	-	
	 ASF-D	25 - 190 m³	2,2 - 15,3 kW			+	++	-	-	-	+	+	+	++	15
SPECIAL APPLICATIONS	 MSF-U	13 - 120 m³		1,3 - 7,1 kW		+	++	+	++	+	+	-	+	-	17
	 MSH-CU	12 - 93 m³		1,2 - 5,7 kW		++	-	+	++	+	+	-	+	-	
	 HSF-D	15 - 140 m³		1,4 - 8,2 kW		+	++	+	+	++	++	+	++	-	19
	 HSH-CD	10 - 115 m³		1,1 - 6,8 kW		++	-	+	+	++	++	+	++	-	
	 VSF-G	25 - 450 m³	2,1 - 10 kW			+	++	+	-	+	+	++	+	+	21
	 VSH-CG	25 - 450 m³	2,1 - 10 kW			++	-	+	-	+	+	++	+	+	
 VCR-N	15 - 90 m³	1,3 - 3,0 kW			+	-	+	-	+	+	++	+	+	22	
 VCR-C	15 - 90 m³	1,3 - 3,0 kW			++	-	+	-	+	+	++	+	+		
MOTOCONDENSING UNITS	Series	Application		Tev: -10°C				Construction	Compressor	Power regulation		Control		Page	
	 MDF-M	1 or 2 services		0,6 - 6,2 kW		+	++	Low-noise	Hermetic	1 step		Mechanical		25	
	 MDF-N	1 or 2 services		0,6 - 6,2 kW		+	++	Low-noise	Hermetic	1 step		Electronical			
	 MDF-V	Multiservice		3,2 - 11,9 kW		+	++	Low-noise	Hermetic	Proportional 10-100%		VRC			
	 MDH-CM	1 or 2 services		1,1 - 6,3 kW		++	-	Centrifugal	Hermetic	1 etapa		Mechanical		26	
	 MDH-C	1 or 2 services		1,1 - 6,3 kW		++	-	Centrifugal	Hermetic	1 etapa		Electronical			
 MDH-CV	Multiservice		4,3 - 6,3 kW		++	-	Centrifugal	Hermetic	Proportional 10-100%		VRC				

# Industrial range product

	Series	Cold room volume	Nominal cooling capacity (kW)			Construction features					
			HIGH temperature T: +12 °C	POSITIVE temperature T: +10 to -5°C	NEGATIVE temperature T: -15 to -25°C	Type of construction	Type of compressor	Type of evaporator	Type of condenser and control	Control	
<b>MONOBLOCK AND SPLIT</b>		<b>ACH</b>	100 - 2000 m <sup>3</sup>	7,0 - 60 kW			Monoblock	H reciprocating and scroll	Cubic	Axial proportional	Electronical
		<b>MCH</b>	50 - 1000 m <sup>3</sup>		4,5 - 43 kW		Monoblock	H reciprocating and scroll	Cubic	Axial proportional	Electronical
		<b>HCH</b>	50 - 700 m <sup>3</sup>		5,0 - 29 kW		Monoblock	H reciprocating and scroll	Cubic High humidity	Axial proportional	Electronical
		<b>BCH</b>	50 - 1500 m <sup>3</sup>			3,5 - 34 kW	Monoblock	H reciprocating and scroll	Cubic	Axial proportional	Electronical
		<b>MSV</b>	50 - 1000 m <sup>3</sup>	11 - 65 kW	8,0 - 45 kW		Centrifugal split	H reciprocating and scroll	Cubic	Centrifugal proportional	Electronical
		<b>BSV</b>	100 - 2000 m <sup>3</sup>			5,9 - 37 kW	Centrifugal split	H reciprocating and scroll	Cubic	Centrifugal proportional	Electronical
		<b>MSE</b>	300 - 4000 m <sup>3</sup>	20 - 150 kW	14 - 100 kW		Centrifugal split	H reciprocating and scroll	1x and 2x Cubic	Axial proportional	Electronical
	<b>BSE</b>	200 - 5000 m <sup>3</sup>			7,7 - 74 kW	Centrifugal split	HH reciprocating and scroll	1x and 2x Cubic	Axial proportional	Electronical	
<b>EVAPORATING UNITS</b>	Series	Cold room volume	HIGH temperature T: +12 °C	POSITIVE temperature T: +10 to -5°C	NEGATIVE temperature T: -15 to -25°C	Type of construction	Type of defrosting	Type of fan and range	Regulation	Control pad	
		<b>MJB</b>	5 - 70 m <sup>3</sup>		0,7 - 8,4 kW		Ceiling	Air or electrical heaters	Helicoïdal 5 m	Expansion valve Solenoid valve	Electronical controller
		<b>BJB</b>	5 - 50 m <sup>3</sup>			0,4 - 4,4 kW	Ceiling	Air or electrical heaters	Helicoïdal 5 m	Expansion valve Solenoid valve	Electronical controller
		<b>AJD</b>	25 - 400 m <sup>3</sup>	2,6 - 27 kW			Low-profile double-flow	Air or electrical heaters	Low-noise 2x 5m	Expansion valve Solenoid valve	Electronical controller
		<b>MKC</b>	50 - 400 m <sup>3</sup>		4,5 - 18 kW		Cubic	Air or electrical heaters	Long range 15 m	Expansion valve Solenoid valve	Electronical 3-phases
		<b>BKC</b>	30 - 300 m <sup>3</sup>			2,8 - 12 kW	Cubic	Air or electrical heaters	Long range 15 m	Expansion valve Solenoid valve	Electronical 3-phases
		<b>AKH</b>	100 - 2000 m <sup>3</sup>	15,4 - 86 kW			Cubic	Air or electrical heaters	Long range 25 m	Expansion valve Solenoid valve	Electronical 3-phases
		<b>MKH</b>	50 - 1500 m <sup>3</sup>		9,3 - 53 kW		Cubic	Air or electrical heaters	Long range 25 m	Expansion valve Solenoid valve	Electronical 3-phases
		<b>BKH</b>				6,6 - 37 kW	Cubic	Electrical heaters	Long range 25 m	Expansion valve Solenoid valve	Electronical 3-phases
		<b>UKH</b>				4,3 - 22 kW	Cubic	Electrical heaters	Long range 25 m	Expansion valve Solenoid valve	Electronical 3-phases
	<b>UKV</b>				9,0 - 46 kW	Mural	Electrical heaters	Axial High available pressure	Expansion valve Solenoid valve	Electronical 3-phases	
<b>MOTOCONDENSING UNITS AND PLANTS</b>	Series	Application	HIGH temperature Tev: 0 °C	POSITIVE temperature Tev: -10°C	NEGATIVE temperature Tev: -30°C	Type of construction	Type and max number of compressors	Type of condensing temp control	Power control	Control	
		<b>MDH-C</b>	1 - 2 services or multiservice	1,3 - 8,5 kW	0,9 - 5,7 kW		Centrifugal	1x H reciprocating	Centrifugal digital	1 step or proport. 10-100%	Mechanical or electronical
		<b>BDH-C</b>	1 - 2 services or multiservice			0,6 - 3,8 kW	Centrifugal	1x H reciprocating	Centrifugal digital	1 step or proport. 10-100%	Mechanical or electronical
		<b>MDF-N</b>	1 - 2 services or multiservice	1,6 - 16 kW	1,0 - 11 kW		Low-noise weatherproof	1x H reciprocating	Axial proportional	1 step or proport. 10-100%	Mechanical or electronical
		<b>BDF-N</b>	1 - 2 services or multiservice			0,7 - 7,8 kW	Low-noise weatherproof	1x H reciprocating	Axial proportional	1 step or proport. 10-100%	Mechanical or electronical
		<b>MDV</b>	Refrigeration plant	10 - 58 kW	7 - 38 kW		Centrifugal	3x Reciprocating or scroll	Centrifugal proportional	33-66-100% or proport. 5-100%	Mechanical or electronical
	<b>BDV</b>	Refrigeration plant			5 - 43 kW	Centrifugal	3x Reciprocating or scroll	Centrifugal proportional	33-66-100% or proport. 5-100%	Mechanical or electronical	
	<b>MDE</b>	Refrigeration plant	21 - 150 kW	14 - 100 kW		Low-noise Roof-top	4x Reciprocating or scroll	Axial proportional	25-50-75-100% or proport. 5-100%	Mechanical or electronical	
	<b>BDE</b>	Refrigeration plant			6 - 71 kW	Low-noise Roof-top	4x Reciprocating or scroll	Axial proportional	25-50-75-100% or proport. 5-100%	Mechanical or electronical	
<b>CHILLERS</b>	Series	Application	HIGH temperature Toutlet: +7 °C	POSITIVE temperature Toutlet: -5 °C	NEGATIVE temperature Toutlet: -25 °C	Type of construction	Type and max number of compressors	Type of condensing temp control	Power control	Control	
		<b>MWE</b>	Glycol chiller	21 - 150 kW	14 - 100 kW		Low-noise Roof-top	4x Reciprocating or scroll	Axial proportional	25-50-75-100% or proport. 5-100%	Mechanical or electronical
	<b>BWE</b>	Glycol chiller			7 - 75 kW	Low-noise Roof-top	4x Reciprocating or scroll	Axial proportional	25-50-75-100% or proport. 5-100%	Mechanical or electronical	
<b>AIR BLOWERS</b>	Series	Cold room volume	HIGH temperature Tc: +12 °C	POSITIVE temperature Tc: +10 a -5°C	NEGATIVE temperature Tc: -15 a -25°C	Type of construction	Type of defrosting	Type of fan and range	Regulation	Control pad	
		<b>AJD-NH</b>	25 - 400 m <sup>3</sup>	2 - 15 kW			Air	Low-noise 2x 5m	Solenoid valve	Electronical controller	
		<b>MJD-NH</b>	25 - 400 m <sup>3</sup>		2 - 8 kW		Low-profile double-flow	Electrical heaters	Low-noise 2x 5m	Solenoid valve	Electronical controller
		<b>MKC-NH</b>	50 - 400 m <sup>3</sup>	4 - 12 kW	3 - 12 kW		Cubic	Air or electrical heaters	Long range 15 m	Solenoid valve	Electronical 3-phases
		<b>BKC-NH</b>	30 - 300 m <sup>3</sup>			1 - 3 kW	Cubic	Electrical heaters	Long range 15 m	Solenoid valve	Electronical 3-phases
	<b>MKH-NH</b>	100 - 2000 m <sup>3</sup>	5 - 50 kW	4 - 30 kW		Cubic	Air or electrical heaters	Long range 25 m	Solenoid valve	Electronical 3-phases	
	<b>BKH-NH</b>	50 - 1500 m <sup>3</sup>			2 - 10 kW	Cubic	Electrical heaters	Long range 25 m	Solenoid valve	Electronical 3-phases	

# Codification

INTARCON units and systems are identified according to their code, giving information about the model description.



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# Cold room simple calculation

## Cooling needs quick calculation

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

Cold room size (m <sup>2</sup> )	Recommended cooling needs for process handling rooms and cold storage rooms (W)				
	HIGH TEMPERATURE (+12°C)		POSITIVE TEMPERATURE (0°C)		NEGATIVE TEMPERATURE (-20°C)
	No floor panel		With floor panel	No floor panel	
	80 mm panels	No isolation panels	80 mm panels		100 mm panels
5			800	1 100	850
10	1 200	2 300	1 100	1 700	1 200
15	1 500	3 000	1 500	2 300	1 500
20	1 800	3 700	1 900	2 800	1 800
25	2 100	4 300	2 200	3 300	2 100
30	2 500	4 800	2 600	3 800	2 400
40	3 100	6 100	3 200	4 700	2 900
50	3 600	7 000	3 800	5 300	3 300
70	4 800	9 000	5 000	6 800	4 200
100	5 600	11 000	6 000	8 000	5 000
125	6 800	12 000	7 000	9 500	5 800
150	8 000	12 500	8 000	10 500	6 700
175	9 000	14 500	9 000	12 000	7 500
200	10 500	16 000	10 000	13 000	8 500
225	11 500	17 500	11 000	14 000	9 200
250	12 500	19 000	12 000	15 000	10 000

## Refrigeration calculator

For a more accurate calculation we recommend the use of our on-line cold room calculator, available at <http://www.intarcon.com>

By entering basic design data, such as cold room type, application, dimensions and insulation thickness, you will get a quick estimation based on other standard assumptions. You will also be able to customise your calculation by entering further data and to select the most suitable refrigeration unit according to your needs.



## Correction of unit cooling capacity

Cooling capacity of each model in this catalogue is given for 35 °C ambient temperature.

For other ambient temperature use the chart below:

		Ambient temperature					
		20 °C	25 °C	30 °C	35 °C	40 °C	45 °C
TEMP. GEMP.	F <sub>a</sub> : Cooling capacity factor	1,23	1,15	1,08	1,00	0,92	0,84
	F <sub>b</sub> : Absorbed power factor	0,81	0,88	0,94	1,00	1,07	1,13
	F <sub>a</sub> : Cooling capacity factor	1,33	1,22	1,11	1,00	0,89	0,77
	F <sub>b</sub> : Absorbed power factor	0,85	0,91	0,96	1,00	1,03	1,05

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

$$\text{Absorbed power} = F_b \times P_{\text{abs.}|35^\circ\text{C}}$$

$$P_{\text{frig.}|35^\circ\text{C}} = \frac{Q_{\text{frig. condition}}}{F_a}$$

## Cooling needs correction factors

We suggest the application of some correction factors in order to get the cooling needs for a non-standard cold room:

$$P_{fc} = P_f \times F_1 \times F_2 \times F_3 \times F_4$$

where P<sub>fc</sub> represents the corrected cooling capacity, P<sub>f</sub> represents non corrected cooling capacity and correction factors F take the following values:

### F<sub>1</sub>: Ambient temperature

To get the cooling need at an ambient temperature other than 35°C as shown in calculation basis, the following values for the correction factor F1 can be used:

- Ambient temperature = 40°C: **F<sub>1</sub> = 1,05**
- Ambient temperature = 45°C: **F<sub>1</sub> = 1,10**

### F<sub>2</sub>: Fruits and vegetables respiration rate

Fruits and vegetables ripening process inside positive temperature cold rooms produces heat. This respiration heat could be assessed in up to 50% additional cooling needs depending of the product typology.

As indication, we suggest a value **F<sub>2</sub> = 1,25**

### F<sub>3</sub>: Product high rotation rate

Cooling needs shown in charts are calculated with a product standard rotation rate, according to calculation basis. A double rotation rate represents an additional 50% cooling needs, so **F<sub>3</sub> = 1,50**

### F<sub>4</sub>: Thin isolation panel

An isolation panel thickness thinner than the recommended thickness means a small increase in cooling needs. As indication, an insulation panel **20mm** thinner than standard gives the following values for the correcting factor:

- 20 mm thinner panel: **F<sub>4</sub> = 1,10**

## Calculation example

Apple conservation in a 1250 m<sup>3</sup> industrial cold room, insulated with 100 mm thickness panel and non insulated floor:

- From the values in the chart, interpolate the value of cooling needs relative to 1250 m<sup>3</sup>.

$$P_f = 48.000 \text{ W}$$

- Correct the value with the fruits and vegetable respiration rate factor: **F<sub>2</sub> = 1,25**

$$P_{fc} = P_f \times 1,25 = 60.000 \text{ W}$$

## Cooling needs calculation basis

Cooling needs shown for each cold room volume have been calculated according to the following hypothesis:

- Ambient temperature: 35°C
- Product density: 250 kg/m<sup>3</sup>
- Product daily rotation depending on cold room volume: 10% (V ≤ 100m<sup>3</sup>), 8% (100m<sup>3</sup> < V < 1000m<sup>3</sup>), and 6% (V ≥ 1000m<sup>3</sup>)
- Product specific heat PT: 3,2 kJ/(kg·K), NT: 1,8 kJ/(kg·K)
- Product inlet temperature: 25°C (PT) and -5°C (NT)
- Isolation panel: injected polyurethane with 40 kg/m<sup>3</sup> density and 0,025 W/(m·K) conductivity
- 18 hours compressor working time.

## Commercial monoblocks



- \* Refrigerant load below 2,5 kg.
- \* Tropicalised design for ambient temperature up to 45 °C.
- \* Thermostatic expansion valve.
- \* Hot gas defrosting.
- \* New refrigerants R-134A and R-407A.

## intartop

*Self-contained monoblock refrigeration units for wall-mounting installation in small cold rooms at positive and negative temperature.*

*Available in standard, centrifugal and high performance versions, with drop-in or plug-in mounting through the cold room wall.*

- \* Simple installation on the roof of the cold room.
- \* Centrifugal version for a ducted outlet of hot condensing air.

## intarblock

*Self-contained monoblock refrigeration units for roof-top installation in small cold rooms at positive and negative temperature.*

*Available in standard and centrifugal versions, with mounting on the roof of the cold room.*

- \* Simple installation through the wall of the cold room.
- \* Centrifugal version for a ducted outlet of hot condensing air.
- \* Weatherproof version.

# intartop



## Description

Roof-top monoblock units for small-size chiller and freezer cold rooms, for their installation on the roof.

## Technical features

- 230V-I-50Hz ór 400V-III-50Hz power supply.
- R-404A or R-134A refrigerant load, below 2,5 kg.
- Hermetic reciprocoating compressor.
- High and low pressure switches.
- Thermostatic expansion valve (except for MCR lower than 1,5 HP featuring capillary expansion).
- Magnetothermal protection.
- Hot gas defrosting.
- Stainless steel drain tray.
- Condensed water evaporation.
- Cold room light and door microswitch cable.
- Door heater cable (only for BCR series).
- Evaporator case made in sandwich panel, with 50 mm polyurethane insulation, internally covered in steel sheet.
- Multifunctional electronic control.

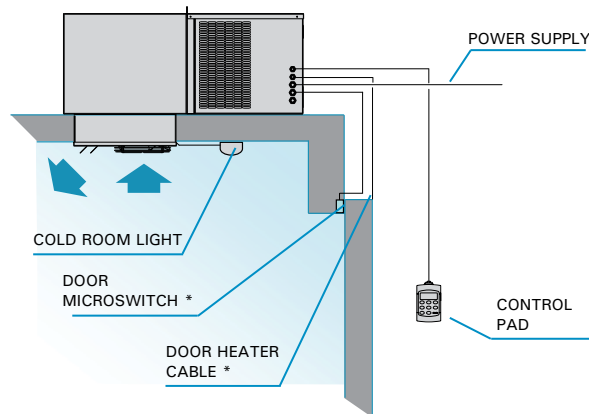
## Series CR-N

Roof-top monoblock refrigeration units, with axial condensing fans, for installation on the cold room ceiling.

## Series CR-C

Centrifugal version units featuring a centrifugal motor-fan for a ducted outlet of condenser's hot air.

## Installation scheme



- \* Door heater cable only in negative temperature series.
- \* Door microswitch not included.

- ❄ Tropicalised design for high ambient temperature up to 45°C.
- ❄ Thermostatic expansion valve.
- ❄ Hot gas defrosting with evaporator temperature control.
- ❄ Monoblock unit with refrigerant load lower than 2,5 kg.

## Installation



## Control pad

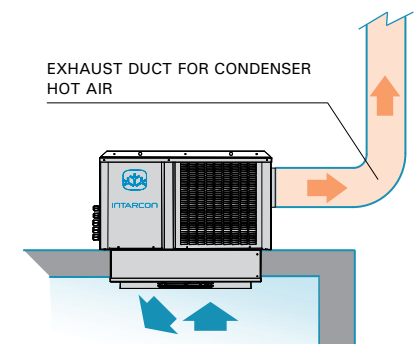
intartop units feature an advanced XWING electronic control as standard.



- Remote control keyboard and display.
- Temperature control with maximum and minimum temperature value recording.
- Fast-freezing function.
- Night operation mode.

## Centrifugal version

intartop centrifugal units feature a centrifugal motor-fan to duct outdoors the hot condensation air flow.





Positive temperature

Axial version		Compressor		Cooling capacity / Cold room volume, according to cold room temp. <sup>(1)</sup>						Nominal absorbed power (kW)	Max. absorb. Intensity (A)	Evap. air flow (m³/h)	Cond. air flow (m³/h)	Refrig. load (kg)	Weight (kg)	Sound pressure level dB(A) <sup>(2)</sup>	Price (€) axial	Centrifugal version		
Axial Series / Model	HP	Power supply	0 °C		5 °C		10 °C		Centrifugal Series / Model									A.s.p. <sup>(2)</sup> (mmca)	Price (€) centrif.	
			W	m³	W	m³	W	m³												
R-134A	MCR-NY-0 010	3/8	230V - I	605	4,0	751	7,0	902	12	0,43	4,5	300	375	< 1,0	62	30	1 446	MCR-CY-0 010	12	1 591
	MCR-NY-0 015	1/2	230V - I	788	6,1	956	10	1134	18	0,53	5,5	300	375	< 1,0	65	30	1 654	MCR-CY-0 015	12	1 820
	MCR-NY-1 015	1/2	230V - I	999	8,2	1231	12	1490	23	0,58	5,6	600	575	< 1,0	73	28	1 762	MCR-CY-1 015	12	1 938
	MCR-NY-1 026	3/4	230V - I	1265	12	1549	19	1853	30	0,93	9,3	600	575	< 1,0	82	34	2 149	MCR-CY-1 026	12	2 364
	MCR-NY-1 033	1	230V - I	1502	16	1817	26	2153	41	1,05	9,5	600	575	< 1,0	83	34	2 426	MCR-CY-1 033	12	2 668
	MCR-NY-2 033	1	230V - I	1911	24	2363	37	2846	61	1,21	10,3	1150	1150	< 1,5	98	35	2 759	MCR-CY-2 033	12	3 035
	MCR-NY-2 053	1 1/2	230V - I <sup>(4)</sup>	2352	33	2882	50	3455	75	1,67	12,9	1150	1150	< 1,5	99	39	3 269	MCR-CY-2 053	12	3 596
	MCR-NY-2 074	2	230V - I <sup>(4)</sup>	2940	40	3560	60	4211	90	1,83	16,9	1150	1150	< 1,5	110	41	3 618	MCR-CY-2 074	12	3 980
R-404A	MCR-NF-0 008	1/3	230V - I	612	4,0	720	7,0	851	12	0,47	4,5	300	375	< 1,0	62	30	1 418	MCR-CF-0 008	12	1 574
	MCR-NF-0 010	3/8	230V - I	738	5,3	901	8,8	1055	15	0,58	5,9	300	375	< 1,0	64	30	1 520	MCR-CF-0 010	12	1 687
	MCR-NF-0 012	1/2	230V - I	838	6,1	1012	10	1163	18	0,65	6,7	300	375	< 1,0	65	30	1 622	MCR-CF-0 012	12	1 800
	MCR-NF-1 014	1/2	230V - I	1087	10	1275	16	1479	26	0,80	6,7	600	675	< 1,0	73	32	1 784	MCR-CF-1 014	12	1 986
	MCR-NF-1 016	5/8	230V - I	1194	12	1402	19	1628	30	0,87	7,6	600	675	< 1,0	82	34	1 945	MCR-CF-1 016	12	2 149
	MCR-NF-1 018	3/4	230V - I	1378	14	1579	22	1828	35	1,02	8,9	600	675	< 1,0	83	35	2 107	MCR-CF-1 018	12	2 313
	MCR-NF-1 024	1	230V - I	1478	16	1782	26	2062	41	1,18	11,1	600	675	< 1,0	83	35	2 378	MCR-CF-1 024	12	2 587
	MCR-NF-2 024	1	230V - I	2020	24	2402	37	2888	61	1,36	11,6	1150	1150	< 1,5	98	36	2 705	MCR-CF-2 024	12	3 020
	MCR-NF-2 026	1 1/4	230V - I <sup>(4)</sup>	2223	27	2646	42	3077	66	1,47	12,0	1150	1150	< 1,5	99	38	3 027	MCR-CF-2 026	12	3 347
	MCR-NF-2 034	1 1/2	230V - I <sup>(4)</sup>	2527	33	2987	50	3380	75	1,95	16,6	1150	1150	< 1,5	99	40	3 350	MCR-CF-2 034	12	3 675

Negative temperature

Axial version		Compressor		Cooling capacity / Cold room volume, according to cold room temp. <sup>(1)</sup>						Nominal absorbed power (kW)	Max. absorb. Intensity (A)	Evap. air flow (m³/h)	Cond. air flow (m³/h)	Refrig. load (kg)	Weight (kg)	Sound pressure level dB(A) <sup>(2)</sup>	Price (€) axial	Centrifugal version		
Axial Series / Model	HP	Power supply	-25 °C		-20 °C		-15 °C		Centrifugal Series / Model									A.s.p. <sup>(2)</sup> (mmca)	Price (€) centrif.	
			W	m³	W	m³	W	m³												
R-404A	BCR-NF-0 018	5/8	230V - I	405	0,6	515	1,5	618	2,8	0,63	4,7	300	375	< 1,0	65	33	1 928	BCR-CF-0 018	12	2 102
	BCR-NF-1 026	3/4	230V - I	565	2,0	734	4,1	908	7,7	0,91	8,5	600	575	< 1,0	84	38	2 247	BCR-CF-1 026	12	2 459
	BCR-NF-1 034	1 1/4	230V - I	699	3,2	876	5,8	1051	10	1,14	11,0	600	575	< 1,0	84	40	2 367	BCR-CF-1 034	12	2 577
	BCR-NF-2 034	1 1/4	230V - I	840	3,8	1102	7,8	1366	14	1,19	11,5	1150	1150	< 1,5	135	41	2 690	BCR-CF-2 034	12	3 005
	BCR-NF-2 054	1 3/4	230V - I <sup>(4)</sup>	1116	6,9	1443	13	1733	22	1,69	17,5	1150	1150	< 1,5	145	42	3 017	BCR-CF-2 054	12	3 336
	BCR-NF-2 074	2 1/2	230V - I <sup>(4)</sup>	1425	11	1689	17	2088	30	2,01	25,5	1150	1150	< 1,5	145	43	3 408	BCR-CF-2 074	12	3 733

As an option

- R-407A refrigerant. to consult
- Change to 400 V-III-50 Hz power supply. <sup>(4)</sup> + 5%
- Thermostatic expansion valve (positive temperature models below 1,5 HP). + 120 €
- Door micro-switch. + 50 €
- Back-flow damper in fan outlet (centrifugal models). + 25 €

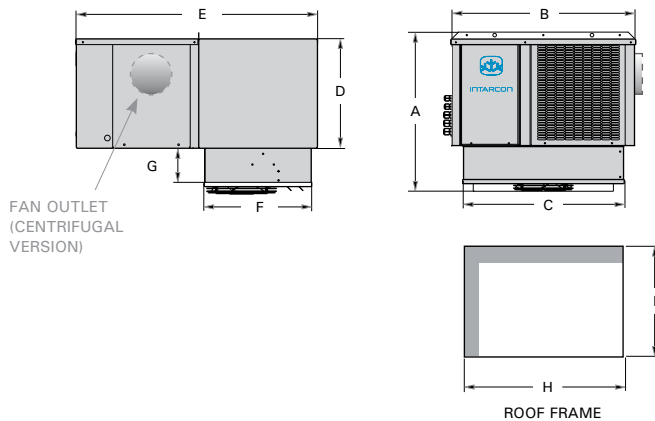
<sup>(1)</sup> Nominal technical features are related to 0 °C (PT) and -20 °C (NT) cold room temperature and 35 °C ambient temperature. Cold room size estimated according to calculation basis (page IV).

<sup>(2)</sup> Available static pressure in extraction ducts.

<sup>(3)</sup> SPL: Sound pressure level shown in dB(A) on open field at 10 m. from the source.

<sup>(4)</sup> Units available with 400V - III - 50 Hz power supply.

Dimensions



Exhaust duct

Recommended size for 20 m long steel, PVC or fiberglass ducts (each elbow equals 5 m length). For flexible or semi-flexible duct use a larger size.

- series 0: Ø 150 mm.
- series 1: < 20m Ø 150 mm. > 20m Ø 200 mm.
- series 2: Ø 200 mm or 150 x 200 mm.

Dimensions (mm)	A	B	C	D	E	F	G	H	I	Fan outlet
series 0	480	600	430	330	790	375	100	435	380	Ø 150
series 1	574	665	582	385	850	379	135	588	385	Ø 150
series 2	677	835	756	469	850	379	135	762	385	Ø 150

# intarblock



## Description

Self-contained monoblock units for wall-mounting installation in small cold rooms at positive and negative temperature.

## Technical features

- 230V-I-50Hz or 400V-III-50Hz power supply.
- Minimal R-404A or R-134A refrigerant load.
- Hermetic reciprocating compressor.
- High and low pressure switches.
- Thermostatic expansion valve (except for MCV lower than 1,5 HP featuring capillary expansion).
- Magnetothermal protection.
- Hot gas defrosting.
- Stainless steel drain tray.
- Condensed water evaporation.
- Cold room light and door microswitch cable.
- Door heater cable (only for BCV series).
- Removable trough-wall insulation pad included.
- Multifunctional electronic control.

## Series CV-N

Monoblock units ready for quick installation with plug-in or drop-in mounting.

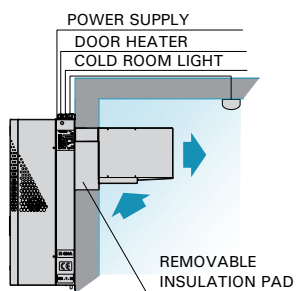
## Series CV-C

Centrifugal version units featuring a centrifugal motor-fan for a ducted outlet of condenser hot air.

## Series CV-I

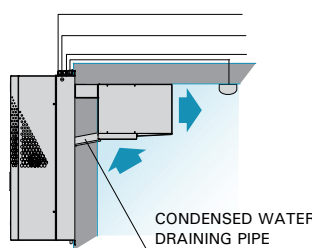
Weatherproof units for positive and negative temperature cold rooms placed outside the building.

## Installation scheme



### Plug-in mounting

A removable insulation pad is included for direct installation through a window in the cold room wall.



### Drop-in mounting (except for series 0)

Just by making a frame in the cold room wall for drop-in mounting, it is easy to install the unit before placing the cold room roof panel.

- ❄ Tropicalised design for high ambient temperature up to 45°C.
- ❄ Thermostatic expansion valve.
- ❄ Hot gas defrosting with evaporator temperature control.
- ❄ Monoblock unit with refrigerant load lower than 2,5 kg.

## Installation



## Control pad

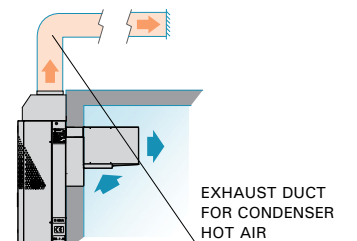
intarblock units feature an advanced XWING electronic control as standard.



- Temperature control with maximum and minimum temperature value recording.
- Fast-freezing function.
- Night operation mode.

## Centrifugal version

intarblock centrifugal units feature a centrifugal motor-fan for a ducted outlet of condenser's hot air.



## Exhaust duct

Recommended size for 20 m long steel, PVC or fiberglass ducts (each elbow equals 5 m length). For flexible or semi-flexible duct use a larger size.

- series 0: Ø 150 mm.
- series 1: < 20m Ø 150 mm.  
> 20m Ø 200 mm.
- series 2: Ø 200 or 150 x 200 mm.
- series 3: Ø 250 or 150 x 300 mm.

Positive temperature

Axial version		Compressor		Cooling capacity / Cold room volume, according to cold room temp. <sup>(1)</sup>				Nominal absorbed power (kW)	Max. absorb. Intensity (A)	Evap. air flow (m³/h)	Cond. air flow (m³/h)	Refrig. load (kg)	Weight (kg)	Sound pressure level dB(A) <sup>(2)</sup>	Price (€) axial	Centrifugal version				
Axial Series / Model	HP	Power supply	0 °C		5 °C		10 °C									Centrifugal Series / Model	A.s.p. <sup>(3)</sup> (mmca)	Price (€) centrif.		
			W	m³	W	m³	W												m³	
R-134A	MCV-NY-0 010	3/8	230V - I	610	4,0	758	7,0	907	12	0,43	4,5	300	375	< 1,0	36	28	1 342	MCV-CY-0 010	12	1 477
	MCV-NY-0 015	1/2	230V - I	794	6,0	961	10	1139	18	0,53	5,5	300	375	< 1,0	38	29	1 550	MCV-CY-0 015	12	1 705
	MCV-NY-1 015	1/2	230V - I	972	7,2	1199	14	1453	23	0,57	5,6	500	575	< 1,0	60	29	1 710	MCV-CY-1 015	12	1 880
	MCV-NY-1 026	3/4	230V - I	1281	12	1565	19	1859	30	0,81	9,3	500	575	< 1,0	69	34	1 908	MCV-CY-1 026	12	2 099
	MCV-NY-1 033	1	230V - I	1454	16	1743	25	2037	41	0,92	9,5	500	575	< 1,0	70	34	2 016	MCV-CY-1 033	12	2 217
	MCV-NY-2 033	1	230V - I	1790	23	2163	36	2573	57	1,09	10,3	950	950	< 1,5	88	35	2 482	MCV-CY-2 033	12	2 730
	MCV-NY-2 053	1 1/2	230V - I <sup>(4)</sup>	2153	31	2609	41	3103	72	1,46	12,9	950	950	< 1,5	89	39	2 780	MCV-CY-2 053	12	3 058
	MCV-NY-3 053	1 1/2	230V - I <sup>(4)</sup>	2489	35	3103	53	3743	83	1,51	13,1	1300	1250	< 2,0	117	38	3 212	MCV-CY-3 053	12	3 662
	MCV-NY-3 074	2	230V - I <sup>(4)</sup>	3239	36	3938	70	4667	97	1,89	17,1	1300	1250	< 2,0	114	41	3 489	MCV-CY-3 074	12	3 978
	MCV-NY-3 108	5	400V-III	3927	42	4725	110	5539	130	2,48	18,6	1300	1250	< 2,0	116	43	3 716	MCV-CY-3 108	12	4 236
R-404A	MCV-NF-0 008	1/3	230V - I	610	4,0	738	7,0	860	12	0,47	4,5	300	375	< 1,0	35	30	1 316	MCV-CF-0 008	12	1 461
	MCV-NF-0 010	3/8	230V - I	728	5,2	871	8,7	1012	15	0,57	5,9	300	375	< 1,0	37	30	1 418	MCV-CF-0 010	12	1 574
	MCV-NF-0 012	1/2	230V - I	808	6,0	961	10	1118	18	0,64	6,7	300	375	< 1,0	38	30	1 520	MCV-CF-0 012	12	1 687
	MCV-NF-1 014	1/2	230V - I	1077	10	1270	16	1485	27	0,80	7,1	500	575	< 1,0	60	32	1 729	MCV-CF-1 014	12	1 911
	MCV-NF-1 016	5/8	230V - I	1184	12	1386	19	1615	30	0,87	8,0	500	575	< 1,0	69	34	1 781	MCV-CF-1 016	12	1 964
	MCV-NF-1 018	3/4	230V - I	1347	14	1570	22	1806	35	1,02	9,3	500	575	< 1,0	70	35	1 871	MCV-CF-1 018	12	2 054
	MCV-NF-1 024	1	230V - I	1468	16	1739	25	2039	41	1,18	12,3	500	575	< 1,0	70	35	1 976	MCV-CF-1 024	12	2 159
	MCV-NF-2 024	1	230V - I	1917	23	2296	36	2726	57	1,36	11,9	950	950	< 1,5	88	36	2 433	MCV-CF-2 024	12	2 719
	MCV-NF-2 026	1 1/4	230V - I <sup>(4)</sup>	2149	26	2526	40	2945	63	1,47	12,3	950	950	< 1,0	89	38	2 574	MCV-CF-2 026	12	2 856
	MCV-NF-2 034	1 1/2	230V - I <sup>(4)</sup>	2391	31	2801	46	3247	72	1,95	16,9	950	950	< 1,5	89	40	2 716	MCV-CF-2 034	12	2 999
	MCV-NF-3 034	1 1/2	230V - I <sup>(4)</sup>	2690	35	3200	53	3730	83	2,07	17,1	1300	1250	< 2,0	117	39	2 974	MCV-CF-3 034	12	3 411
	MCV-NF-3 038	1 3/4	400V - III	3020	41	3580	62	4220	97	1,97	7,9	1300	1250	< 2,0	114	40	3 231	MCV-CF-3 038	12	3 675

Negative temperature

Axial version		Compressor		Cooling capacity / Cold room volume, according to cold room temp. <sup>(1)</sup>				Nominal absorbed power (kW)	Max. absorb. Intensity (A)	Evap. air flow (m³/h)	Cond. air flow (m³/h)	Refrig. load (kg)	Weight (kg)	Sound pressure level dB(A) <sup>(2)</sup>	Price (€) axial	Centrifugal version				
Axial Series / Model	HP	Power supply	-25 °C		-20 °C		-15 °C									Centrifugal Series / Model	A.s.p. <sup>(3)</sup> (mmca)	Price (€) centrif.		
			W	m³	W	m³	W												m³	
R-404A	BCV-NF-0 018	5/8	230V - I	379	0,6	479	1,5	591	2,8	0,62	4,7	300	375	< 1,0	38	33	1 826	BCV-CF-0 018	12	1 990
	BCV-NF-1 026	3/4	230V - I	548	2,1	720	4,3	877	7,6	0,91	8,5	550	575	< 1,0	60	38	2 106	BCV-CF-1 026	12	2 291
	BCV-NF-1 034	1 1/4	230V - I	668	3,2	866	6,1	1023	10	1,14	11,0	550	575	< 1,0	60	40	2 164	BCV-CF-1 034	12	2 344
	BCV-NF-2 034	1 1/4	230V - I	793	3,8	1048	7,7	1297	14	1,19	11,9	950	950	< 1,5	89	41	2 311	BCV-CF-2 034	12	2 598
	BCV-NF-2 054	1 3/4	230V - I <sup>(4)</sup>	963	5,6	1349	12	1655	21	1,69	17,9	950	950	< 1,5	102	42	2 638	BCV-CF-2 054	12	2 924
	BCV-NF-2 074	2 1/2	230V - I <sup>(4)</sup>	1338	10	1633	17	1963	28	2,01	25,9	950	950	< 1,5	102	43	2 890	BCV-CF-2 074	12	3 173
	BCV-NF-3 074	2 1/2	230V - I <sup>(4)</sup>	1430	11	1930	21	2320	35	2,38	26,0	1300	1250	< 2,0	131	43	3 231	BCV-CF-3 074	12	3 675
	BCV-NF-3 086	3	400V - III	1630	14	2270	28	2810	48	2,32	10,4	1300	1250	< 2,0	117	40	3 373	BCV-CF-3 086	12	3 817
	BCV-NF-3 096	3 1/2	400V - III	1890	18	2460	32	3040	54	2,64	12,1	1300	1250	< 1,5	129	50	3 588	BCV-CF-3 096	12	4 033

As an option

- R-407A refrigerant. to consult
- Change to 400 V-III-50 Hz power supply. <sup>(4)</sup> + 5%
- Thermostatic expansion valve (positive temperature models below 1,5 HP). + 120 €
- Door micro-switch. + 50 €
- Back-flow damper in fan outlet (centrifugal models). + 25 €

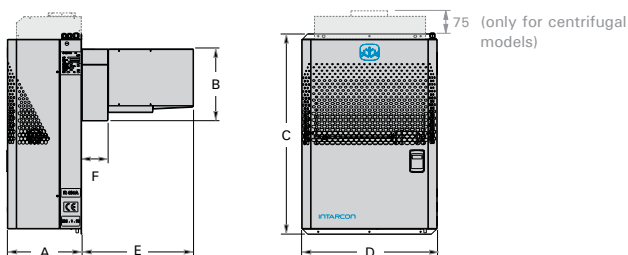
<sup>(1)</sup> Nominal technical features are related to 0 °C (PT) and -20 °C (NT) cold room temperature and 35 °C ambient temperature. Cold room size estimated according to calculation basis (page IV).

<sup>(2)</sup> SPL: Sound pressure level shown in dB(A) on open field at 10 m. from the source.

<sup>(3)</sup> Available static pressure in extraction ducts.

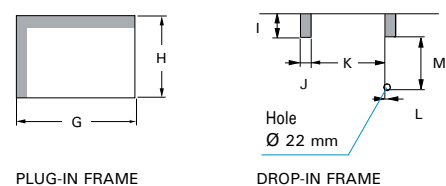
<sup>(4)</sup> Units available with 400V - III - 50 Hz power supply.

Dimensions



Dimensions (mm)	A	B	C	D	E	F	Fan outlet
series 0	306	510	683	420	250	50	Ø 150
series 1	340	330	880	400	514	122	Ø 150
series 2	340	330	920	620	514	122	Ø 150
series 3	365	470	940	735	514	122	2x Ø 150

Mounting frames



Dimensions	G	H	I	J	K	L	M
series 0	405	515			n/a		
series 1	380	335	75	41	295	13	233
series 2	600	335	75	36	523	13	233
series 3	710	475	75	41	611	22	356

Positive temperature

Series / Model	Compressor		Cooling capacity / Cold room volume, according to cold room temp. <sup>(1)</sup>								Nominal absorbed power (kW)	Max. absorb. Intensity (A)	Evap. air flow (m³/h)	Cond. air flow (m³/h)	Refrig. load (kg)	Weight (kg)	Sound pressure level dB(A) <sup>(2)</sup>	Price (€)
	HP	Power supply	-5 °C		0 °C		5 °C		10 °C									
			W	m³	W	m³	W	m³	W	m³								
<b>MCV-IF-1 010</b>	3/8	230V - I	630	3,5	<b>799</b>	<b>6,4</b>	966	11	1157	19	0,65	5,5	500	575	< 1,0	59	32	<b>2 192</b>
<b>MCV-IF-1 012</b>	1/2	230V - I	767	4,9	<b>930</b>	<b>8,2</b>	1118	14	1317	23	0,67	6,5	500	575	< 1,0	60	30	<b>2 262</b>
<b>MCV-IF-1 01 4</b>	1/2	230V - I	893	6,3	<b>1077</b>	<b>10</b>	1270	16	1485	27	0,80	7,1	500	575	< 1,0	60	32	<b>2 334</b>
<b>MCV-IF-1 016</b>	5/8	230V - I	985	7,4	<b>1184</b>	<b>12</b>	1386	19	1615	30	0,87	8,0	500	575	< 1,0	69	34	<b>2 404</b>
<b>MCV-IF-1 018</b>	3/4	230V - I	1138	9,3	<b>1347</b>	<b>14</b>	1570	22	1806	35	1,02	9,3	500	575	< 1,0	70	35	<b>2 525</b>
<b>MCV-IF-1 024</b>	1	230V - I	1207	10	<b>1468</b>	<b>16</b>	1739	25	2039	41	1,18	12,3	500	575	< 1,0	70	35	<b>2 667</b>
<b>MCV-IF-2 024</b>	1	230V - I	1554	14	<b>1917</b>	<b>23</b>	2296	36	2726	57	1,36	11,9	950	950	< 1,5	88	36	<b>3 284</b>
<b>MCV-IF-2 026</b>	1 1/4	230V - I <sup>(4)</sup>	1795	17	<b>2149</b>	<b>26</b>	2526	40	2945	63	1,47	12,3	950	950	< 1,0	89	38	<b>3 476</b>
<b>MCV-IF-2 034</b>	1 1/2	230V - I <sup>(4)</sup>	1996	20	<b>2391</b>	<b>31</b>	2801	46	3247	72	1,95	16,9	950	950	< 1,5	89	40	<b>3 667</b>
<b>MCV-IF-3 034</b>	1 1/2	230V - I <sup>(4)</sup>	2230	23	<b>2690</b>	<b>35</b>	3200	53	3730	83	2,07	17,1	1300	1250	< 2,0	117	39	<b>4 015</b>
<b>MCV-IF-3 038</b>	1 3/4	400V - III	2500	27	<b>3020</b>	<b>41</b>	3580	62	4220	97	1,97	7,9	1300	1250	< 2,0	114	40	<b>4 362</b>

Negative temperature

Series / Model	Compressor		Cooling capacity / Cold room volume, according to cold room temp. <sup>(1)</sup>						Nominal absorbed power (kW)	Max. absorb. Intensity (A)	Evap. air flow (m³/h)	Cond. air flow (m³/h)	Refrig. load (kg)	Weight (kg)	Sound pressure level dB(A) <sup>(2)</sup>	Price (€)
	HP	Power supply	-25 °C		-20 °C		-15 °C									
			W	m³	W	m³	W	m³								
<b>BCV-IF-1 018</b>	5/8	230V - I	383	1,0	<b>489</b>	<b>2,0</b>	655	4,4	0,67	7,3	500	575	< 1,0	59	33	<b>2 787</b>
<b>BCV-IF-1 026</b>	3/4	230V - I	548	2,1	<b>720</b>	<b>4,3</b>	877	7,6	0,91	8,5	500	575	< 1,0	60	38	<b>2 844</b>
<b>BCV-IF-1 034</b>	1 1/4	230V - I	668	3,2	<b>866</b>	<b>6,1</b>	1023	10	1,14	11,0	500	575	< 1,0	60	40	<b>2 922</b>
<b>BCV-IF-2 034</b>	1 1/4	230V - I	793	3,8	<b>1048</b>	<b>7,7</b>	1297	14	1,19	11,9	950	950	< 1,5	89	41	<b>3 120</b>
<b>BCV-IF-2 054</b>	1 3/4	230V - I <sup>(4)</sup>	963	5,6	<b>1349</b>	<b>12</b>	1655	21	1,69	17,9	950	950	< 1,5	102	42	<b>3 561</b>
<b>BCV-IF-2 074</b>	2 1/2	230V - I <sup>(4)</sup>	1338	10	<b>1633</b>	<b>17</b>	1963	28	2,01	25,9	950	950	< 1,5	102	43	<b>3 901</b>
<b>BCV-IF-3 074</b>	2 1/2	230V - I <sup>(4)</sup>	1430	11	<b>1930</b>	<b>21</b>	2320	35	2,38	26,0	1300	1250	< 2,0	131	43	<b>4 362</b>
<b>BCV-IF-3 086</b>	3	400V - III	1630	14	<b>2270</b>	<b>28</b>	2810	48	2,32	10,4	1300	1250	< 2,0	117	40	<b>4 554</b>
<b>BCV-IF-3 096</b>	3 1/2	400V - III	1890	18	<b>2460</b>	<b>32</b>	3040	54	2,64	12,1	1300	1250	< 1,5	129	50	<b>4 844</b>

As an option

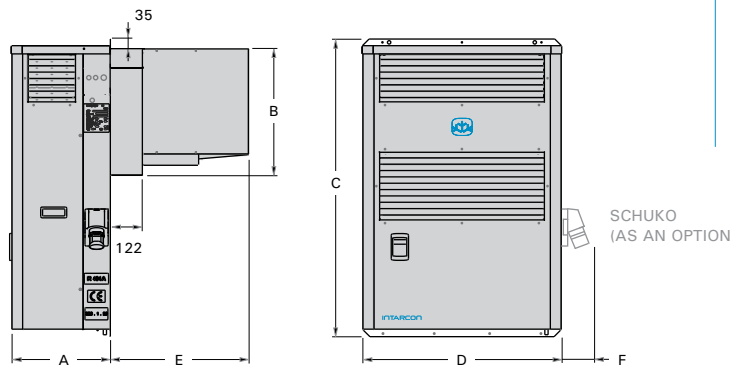
- R-407A refrigerant. to consult
- Change to 400 V-III-50 Hz power supply. <sup>(4)</sup> + 5 %
- Door micro-switch. + 50 €
- Condenser coil polyurethane anti-corrosion treatment. + 4 %
- Evaporator coil epoxy anti-corrosion treatment. + 6 %
- Male base and female schuko electrical connector. + 60 €

<sup>(1)</sup> Nominal technical features are related to 0 °C (PT) and -20 °C (NT) cold room temperature and 35 °C ambient temperature. Cold room size estimated according to calculation basis (page IV).

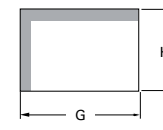
<sup>(2)</sup> SPL: Sound pressure level shown in dB(A) on open field at 10 m. from the source.

<sup>(3)</sup> Units available with 400V - III - 50 Hz power supply.

Dimensions



Mounting frame



PLUG-IN FRAME

Dimensions (mm)	G	H
series 1	380	335
series 2	600	335
series 3	710	475

Dimensions (mm)	A	B	C	D	E	F
series 1	340	330	1060	400	514	115
series 2	340	330	1100	620	514	115
series 3	365	470	1100	735	514	115

## Commercial split systems



- \* Refrigerant load below 10 kg.
- \* R-134A or R-404A refrigerant.
- \* Systems tested at factory with no need for test on site.

*Split refrigeration systems for small and medium size cold rooms for preservation of refrigerated and frozen products. Featuring a slim-type or a cubic-type evaporating unit and multifunction electronic control with digital remote keyboard and digital condensing temperature control.*

## intarsplit

*Split systems consisting of a condensing unit in vertical or horizontal construction, with axial or centrifugal motor-fans, and a slim-type or cubic-type evaporating unit.*

- \* Tropicalised design for ambient temperature up to 45 °C.
- \* Thermostatic expansion valve.
- \* Centrifugal version for a ducted outlet of condenser hot air.

## Sigilus

*Split systems consisting of a low noise condensing unit for outdoor installation and a slim-type or cubic-type evaporating unit.*

*Thanks to their triple acoustic insulation **Sigilus** units are among the most silent units in the market, and thanks to their tropicalised design they are really suitable to operate under extreme ambient conditions.*

- \* Tropicalised design for high ambient temperature up to 50°C.
- \* Low noise condensing units with low speed fans.
- \* Thermostatic expansion valve.

# intarsplit



## Description

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 or cubic-type evaporating unit.

## Technical features

- 230V-I-50Hz or 400V-III-50Hz power supply.
- Reduced R-134A or R-404A refrigerant load..
- Hermetic reciprocating compressor (with noise insulation in 3-phases models).
- High and low pressure switches.
- Liquid receiver.
- Refrigerant preload for 15 m piping.
- Thermostatic expansion valve.
- Electrical heater defrosting.
- Stainless steel drain tray.
- Flare-type cooling connections with service valves.
- 10 metres electrical wiring included (except for series 4/43/44).
- Magnetothermal protection for motors.
- Multifunctional electronic control with remote keyboard and digital regulation of condensing temperature.

## Series · SH-N

Split systems with axial condensing unit and slim-type evaporating unit.

## Series · SH-Q

Split systems with axial condensing unit and cubic evaporating unit.

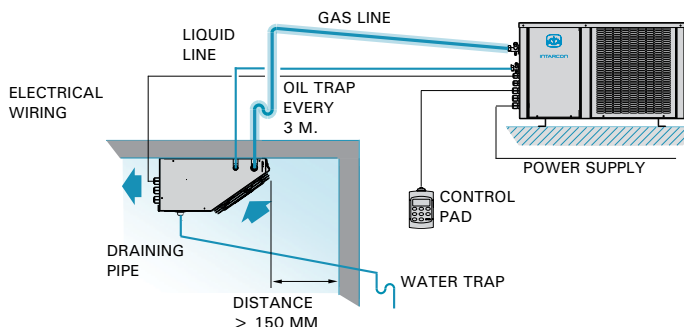
## Series · SH-C

Split systems with centrifugal condensing unit and slim-type evaporator.

## Series · SH-CQ

Split systems with centrifugal condensing unit and cubic evaporator.

## Installation scheme



Maximum vertical distance between units of 15 metres in case the condensing unit is placed at a higher place than the evaporating unit, and of 6 metres otherwise.

20% minimum inclination of draining pipe for negative temperature series.

- ❄ Systems tested at factory with no need for test on site.
- ❄ Tropicalised design for ambient temperature up to 45 °C.
- ❄ Thermostatic expansion valve.
- ❄ Refrigerant preloaded.

## Control pad

intarsplit units feature an advanced XWING electronic control as standard.



- Multifunction digital keyboard.
- Temperature control with maximum and minimum temperature value recording.
- Fast-freezing function and night operation mode.

## Digital control of condensing temperature

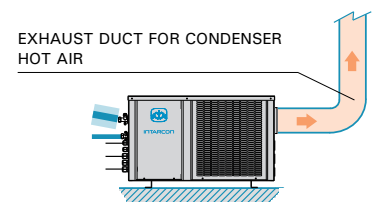
As standard for intarsplit series, it protects the unit against low ambient temperatures. We recommend the installation of a proportional control of condensing temperature if the unit will operate under low ambient temperature for long time periods (as an option for NF 3 and 4 and NY 33, 43 and 44).

## Crankcase heater (as an option)

We recommend to include the optional crankcase heater in all condensing units installed outdoors.

## Centrifugal version

intarsplit centrifugal units feature a centrifugal motor-fan to duct outdoors the hot condensation air flow.



## Electrical wiring

intarsplit systems include as a standard 10 m long electrical wiring for connection between units (except for series 4 and 40 to 44).

Power supply	230V - I - 50Hz	400V - III - 50Hz
Probes	4 x 1 mm <sup>2</sup>	
Valves & fans	2 x 1 mm <sup>2</sup> +	3 x 1 mm <sup>2</sup>
Defrosting	2 x 1,5 mm <sup>2</sup> + G	4 x 1,5 mm <sup>2</sup> + G
Control pad	2 x 1 mm <sup>2</sup>	
Door switch*	2 x 1 mm <sup>2</sup> (+ 2 x 1 mm <sup>2</sup> en BT)	
Light *	2 x 1 mm <sup>2</sup> + G	

\* not included



Positive temperature

Axial version	Compressor		Cooling capacity / Cold room volume, according to cold room temp. <sup>(1)</sup>						Nominal absorbed power (kW)	Max. absorb. Intensity (A)	Evap. air flow (m³/h)	Cond. air flow (m³/h)	Connection pipes Liq - Gas	Refrig. load (kg)	Weight (kg)	Sound pressure level dB(A) <sup>(2)</sup>	Price (€) axial	Centrifugal version			
			0 °C		5 °C		10 °C											Centrifugal Series / Model	A.s.p. <sup>(3)</sup> (mmca)	Price (€) centrif.	
			W	m³	W	m³	W	m³													
R-134A	MSH-QY-30 068	3 1/2	400V - III	3854	59	4646	54	5513	84	2,00	12,0	2000	1500	1/4"-3/4"	< 10,0	74+43	48	4 389	MSH-CQY-30 068	12	4 872
	MSH-QY-40 086	4	400V - III	4431	68	5418	63	6500	100	2,35	14,3	2000	3500	3/8"-7/8"	< 10,0	107+43	49	5 131	MSH-CQY-40 086	10	5 695
	MSH-QY-41 108	5	400V - III	5324	80	6500	71	7775	110	2,77	17,3	2150	3500	3/8"-7/8"	< 10,0	109+56	50	6 528	MSH-CQY-41 108	10	7 246
	MSH-QY-42 136	6 1/2	400V - III	7235	110	8773	180	10474	280	3,85	22,0	4000	3500	3/8"-1 1/8"	< 10,0	112+72	50	7 126	MSH-CQY-42 136	10	7 910
R-404A	MSH-QF-30 034	1 1/2	230V - I <sup>(4)</sup>	3287	39	3911	62	4610	99	1,65	16,3	2000	1500	3/8"-5/8"	< 10,0	74+43	39	3 959	MSH-CQF-30 034	12	4 338
	MSH-QF-30 038	1 3/4	400V - III	3539	46	4200	70	4930	110	1,86	7,1	2000	1500	3/8"-5/8"	< 10,0	71+43	40	4 064	MSH-CQF-30 038	12	4 445
	MSH-QF-40 048	2	400V - III	4652	67	5555	99	6547	159	2,52	9,8	2000	3500	3/8"-3/4"	< 10,0	95+43	41	4 751	MSH-CQF-40 048	10	5 141
	MSH-QF-40 054	2 1/4	400V - III	5093	76	6064	113	7124	178	2,72	10,3	2000	3500	3/8"-3/4"	< 10,0	96+43	41	5 067	MSH-CQF-40 054	10	5 462
	MSH-QF-41 060	3	400V - III	5892	86	6993	128	8174	198	3,19	11,3	2125	3500	1/2"-3/4"	< 10,0	97+56	38	5 490	MSH-CQF-41 060	10	5 891
	MSH-QF-41 068	3 1/2	400V - III	6363	113	7534	163	8778	253	3,58	12,3	2125	3500	1/2"-3/4"	< 10,0	98+56	39	6 598	MSH-CQF-41 068	10	7 015

Negative temperature

Axial version	Compressor		Cooling capacity / Cold room volume, according to cold room temp. <sup>(1)</sup>						Nominal absorbed power (kW)	Max. absorb. Intensity (A)	Evap. air flow (m³/h)	Cond. air flow (m³/h)	Connection pipes Liq - Gas	Refrig. load (kg)	Weight (kg)	Sound pressure level dB(A) <sup>(2)</sup>	Price (€) axial	Centrifugal version			
			-25 °C		-20 °C		-15 °C											Centrifugal Series / Model	A.s.p. <sup>(3)</sup> (mmca)	Price (€) centrif.	
			W	m³	W	m³	W	m³													
R-404A	BSH-QF-30 074	2 1/2	230V - I <sup>(4)</sup>	1890	15	2510	25	3150	41	2,30	25,1	2000	1500	3/8"-5/8"	< 10,0	87+43	43	4 160	BSH-CQF-30 074	12	4 391
	BSH-QF-30 086	3	400V - III	2048	19	2672	32	3308	52	2,23	9,5	2000	1500	3/8"-5/8"	< 10,0	73+43	40	4 323	BSH-CQF-30 086	12	4 552
	BSH-QF-30 096	3 1/2	400V - III	2205	22	2888	36	3586	61	2,56	11,2	2000	1500	3/8"-3/4"	< 10,0	85+43	50	4 514	BSH-CQF-30 096	12	4 927
	BSH-QF-41 108	4 1/4	400V - III	2893	34	3791	58	4725	99	3,18	14,4	2125	3500	3/8"-7/8"	< 10,0	107+56	51	5 880	BSH-CQF-41 108	10	6 286
	BSH-QF-42 136	5	400V - III	3833	51	5061	85	6321	144	4,55	17,3	4000	3500	3/8"-7/8"	< 10,0	107+72	46	7 020	BSH-CQF-42 136	10	7 443

As an option

- R-407A refrigerant. to consult
- Change to 400 V-III-50 Hz power supply. <sup>(4)</sup> + 5%
- Crankcase heater. + 60 €
- Proportional control of condensing temperature  
Axial version (Q): + 250 €  
Centrifugal version (CQ): series 40/41/42 + 400 €
- Evaporator EC fans. + 6%

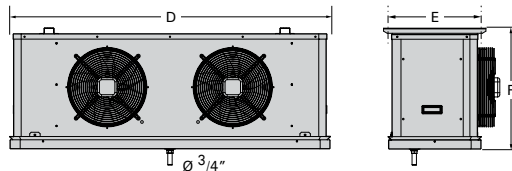
<sup>(1)</sup> Nominal technical features are related to 0 °C (PT) and -20 °C (NT) cold room temperature and 35 °C ambient temperature. Cold room size estimated according to calculation basis (page IV).

<sup>(2)</sup> SPL: Sound pressure level shown in dB(A) on open field at 10 m. from the source.

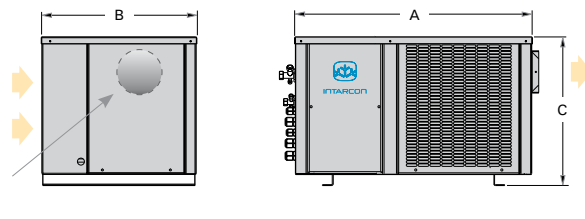
<sup>(3)</sup> Available static pressure in extraction ducts.

<sup>(4)</sup> Units available in 400V - III - 50Hz power supply.

Dimensions Evaporator



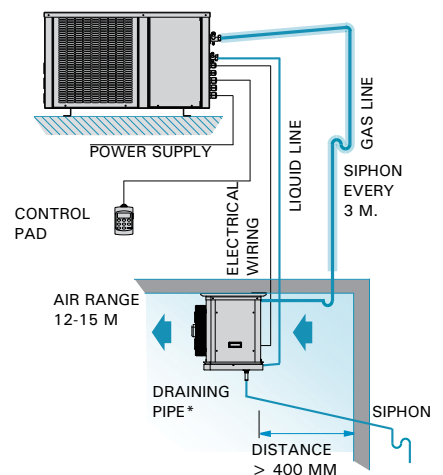
Dimensions Condenser



FAN OUTLET (CENTRIFUGAL VERSION)

Dimensions (mm)	A	B	C	D	E	F	Evaporator fans	Fan outlet
series 30	925	580	515	882	465	575	1 x Ø 350	236 x 266
series 40	1000	615	585	882	465	575	1 x Ø 350	305 x 266
series 41	1000	615	585	1232	465	575	1 x Ø 350	305 x 266
series 42	1000	615	585	1534	465	575	2 x Ø 350	305 x 266

Detalle de instalación



\* Pendiente mínima del tubo de desagüe del 20% en modelos de baja temperatura.

Exhaust duct

Recommended size for 20 m long steel, PVC or fiberglass ducts (each elbow equals 5 m length).

- series 0: Ø 150 mm.
- series 1: Ø 150 mm.
- series 2: Ø 200 mm.
- series 3: Ø 250 or 200 x 300 mm.
- series 4: Ø 400 or 300 x 400 mm.

For flexible or semi-flexible duct use a larger size.



High temperature

Axial version	Compressor		Cooling capacity / Cold room volume, according to cold room temp. <sup>(1)</sup>						Nominal absorbed power (kW)	Max. absorb. intensity (A)	Evap. air flow (m³/h)	Cond. air flow (m³/h)	Connection pipes Liq - Gas	Refrig. load (kg)	Weight (kg)	Sound pressure level dB(A) <sup>(2)</sup>	Price (€) axial	Centrifugal version			
			9 °C		12 °C		15 °C											Centrifugal Series / Model	A.s.p. <sup>(3)</sup> (mmca)	Price (€) centrif.	
			W	m³	W	m³	W	m³													
R-134A	ASH-DY-11 015	1/2	230V - I	1555	14	1733	19	1928	26	0,75	5,9	1100	575	1/4"-1/2"	< 2,5	48+32	27	2 625	ASH-CDY-11 015	12	2 914
	ASH-DY-11 026	3/4	230V - I	1985	18	2221	24	2462	33	0,99	9,6	1100	575	1/4"-5/8"	< 2,5	51+32	33	2 840	ASH-CDY-11 026	12	3 152
	ASH-DY-11 033	1	230V - I	2378	22	2636	29	2903	40	1,37	9,8	1100	575	1/4"-5/8"	< 2,5	51+32	34	3 188	ASH-CDY-11 033	12	3 539
	ASH-DY-22 033	1	230V - I	2961	28	3329	38	3717	51	1,30	10,7	1800	1150	1/4"-5/8"	< 2,5	54+45	34	3 499	ASH-CDY-22 033	12	3 883
	ASH-DY-22 053	1 1/2	230V - I <sup>(4)</sup>	3738	35	4169	48	4625	63	2,04	13,3	1800	1150	3/8"-3/4"	< 10,0	55+45	39	4 073	ASH-CDY-22 053	12	4 521
	ASH-DY-33 053	1 1/2	230V - I <sup>(4)</sup>	4211	42	4709	56	5234	76	2,05	13,6	3150	1500	3/8"-3/4"	< 10,0	74+65	39	4 311	ASH-CDY-33 053	12	4 786
	ASH-DY-33 074	2	230V - I <sup>(4)</sup>	5502	58	6148	77	6830	104	2,74	17,6	3150	1500	3/8"-3/4"	< 10,0	71+65	39	5 129	ASH-CDY-33 074	12	5 693
	ASH-DY-43 086	4	400V - III	7124	74	8001	98	8915	131	3,16	15,4	3150	3500	3/8"-7/8"	< 10,0	107+65	41	5 985	ASH-CDY-43 086	10	6 644
	ASH-DY-43 108	5	400V - III	8216	85	9177	111	10206	148	3,76	18,4	3150	3500	3/8"-7/8"	< 10,0	109+65	43	6 263	ASH-CDY-43 108	10	6 952
	ASH-DY-44 108	5	400V - III	8873	92	9954	121	11062	160	4,08	18,4	5700	3500	3/8"-7/8"	< 10,0	112+70	43	6 864	ASH-CDY-44 108	10	7 620
	ASH-DY-44 136	6 1/2	400V - III	10988	114	12206	148	13498	195	4,57	22,4	5700	3500	1/2"-1 1/8"	< 10,0	112+70	45	7 551	ASH-CDY-44 136	10	8 382
R-404A	ASH-DF-1 010	3/8	230V - I	1185	10	1305	14	1465	19	0,77	5,2	1100	575	1/4"-3/8"	< 2,5	42+32	32	2 469	ASH-CDF-1 010	12	2 790
	ASH-DF-1 012	1/2	230V - I	1340	12	1495	16	1645	22	0,83	6,2	1100	575	1/4"-3/8"	< 2,5	43+32	28	2 574	ASH-CDF-1 012	12	2 909
	ASH-DF-2 014	1/2	230V - I	1710	16	1930	22	2100	29	0,97	7,4	1100	1150	1/4"-1/2"	< 2,5	45+32	32	2 679	ASH-CDF-2 014	12	3 026
	ASH-DF-2 016	5/8	230V - I	1890	18	2130	24	2370	33	1,06	8,3	1100	1150	1/4"-1/2"	< 2,5	54+32	34	2 784	ASH-CDF-2 016	12	3 136
	ASH-DF-2 018	3/4	230V - I	2230	22	2435	28	2710	38	1,27	9,6	1100	1150	1/4"-1/2"	< 2,5	55+32	35	2 942	ASH-CDF-2 018	12	3 299
	ASH-DF-2 024	1	230V - I	2810	27	3130	36	3400	47	1,63	11,8	1800	1150	3/8"-5/8"	< 10,0	55+45	36	3 309	ASH-CDF-2 024	12	3 677
	ASH-DF-3 026	1 1/4	230V - I <sup>(4)</sup>	3320	33	3620	42	4025	57	1,79	11,7	1800	1500	3/8"-5/8"	< 10,0	74+45	38	3 551	ASH-CDF-3 026	12	3 982
	ASH-DF-3 034	1 1/2	230V - I <sup>(4)</sup>	4100	41	4570	54	4970	72	2,32	16,5	1800	1850	3/8"-5/8"	< 10,0	74+45	41	3 992	ASH-CDF-3 034	12	4 433
	ASH-DF-3 038	1 3/4	400V - III	4640	47	5210	62	5820	85	2,19	7,3	1800	1850	3/8"-5/8"	< 10,0	71+45	40	4 518	ASH-CDF-3 038	12	4 975
	ASH-DF-4 048	2	400V - III	6350	66	7000	86	7700	115	3,05	10,2	3150	3500	1/2"-3/4"	< 10,0	95+65	41	4 980	ASH-CDF-4 048	10	5 453
	ASH-DF-4 054	2 1/4	400V - III	7000	73	7700	95	8470	125	3,33	10,7	3150	3500	1/2"-3/4"	< 10,0	96+65	41	5 285	ASH-CDF-4 054	10	5 758
	ASH-DF-4 060	3	400V - III	7920	82	8710	105	9550	140	4,02	12,2	4000	3500	1/2"-7/8"	< 10,0	97+65	35	5 799	ASH-CDF-4 060	10	6 272
	ASH-DF-4 068	3 1/2	400V - III	8600	89	9440	115	10340	150	4,55	13,2	4000	3500	1/2"-7/8"	< 10,0	98+65	39	6 356	ASH-CDF-4 068	10	6 829

As an option

- Proportional control of condensing temperature  
Axial version (D): series 3/33 and 4/43/44 + 250 €  
Centrifugal version (CD): series 4/43/44 + 400 €
- Change to 400 V-III-50 Hz power supply. <sup>(4)</sup> + 5%
- Crankcase heater. + 60 €

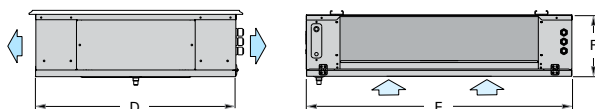
<sup>(1)</sup> Nominal technical features are related to 12 °C (HT) and 35 °C ambient temperature. Cold room size estimated according to calculation basis (page IV).

<sup>(2)</sup> SPL: Sound pressure level shown in dB(A) on open field at 10 m. from the source.

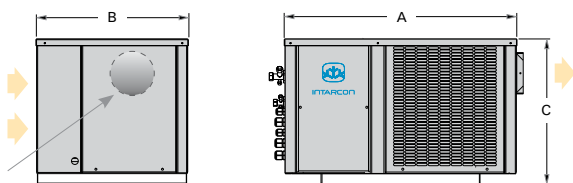
<sup>(3)</sup> Available static pressure in extraction ducts.

<sup>(4)</sup> Units available in 400V - III - 50Hz power supply.

Dimensions Evaporador



Dimensions Condensador



	Dimensions (mm)	A	B	C	D	E	F	Evaporator fans	Fan outlet
R-134A	series 11	665	435	416	765	706	243	1x Ø 360	Ø 150
	series 21	835	435	500	765	706	243	1x Ø 360	Ø 150
	series 22	835	435	500	765	1056	243	2x Ø 360	Ø 150
	series 33	925	580	515	765	1756	243	3x Ø 360	236 x 266
	series 43	1000	615	585	765	1756	243	3x Ø 360	305 x 266
	series 44	1000	615	585	852	2156	293	3x Ø 450	305 x 266
R-404A	series 1	665	435	416	765	706	243	1x Ø 360	Ø 150
	ASH-DF 2014 - 2018	835	435	500	765	706	243	1x Ø 360	Ø 150
	ASH-DF 2024	835	435	500	765	1056	243	2x Ø 360	Ø 150
	series 3	925	580	515	765	1056	243	2x Ø 360	236 x 266
series 4	1000	615	585	765	1756	243	3x Ø 360	305 x 266	

# Sigilus



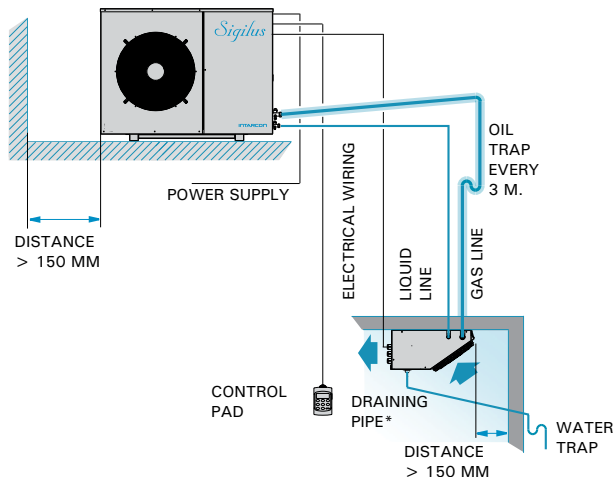
## Description

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

## Technical features

- 230V-I-50Hz or 400V-III-50Hz power supply.
- Reduced R-404A or R-134A refrigerant load..
- Hermetic reciprocating compressor.
- Double noise insulation for compressor.
- L-shape large surface condensing coil (straight for series 0 and 1).
- Low-speed and low-noise condensing motor-fans.
- Proportional control of condensing temp. (as an option for -N version).
- High and low pressure switches.
- Discharge muffler (from 1 HP) and crankcase heater.
- Liquid receiver.
- Refrigerant preloaded for 15 m pipes length.
- Evaporator: slim-type (version -N) or cubic-type (version -Q)
- Inbuilt thermostatic expansion and solenoid valves.
- Electric heater defrosting.
- Stainless steel drain tray.
- Flare-type cooling connections (up to 1/2"-3/4") and service valves.
- Magnetothermal protection.
- Multifunctional electronic control with remote keyboard and digital regulation of condensing temperature.

## Installation scheme



Maximum vertical distance between units of 15 metres in case the condensing unit is placed at a higher place than the evaporating unit, and of 6 metres otherwise.

20% minimum inclination of drain pipe in negative temperature series.

- ❄ Systems tested at factory with no need for test on site.
- ❄ Low-noise condensing unit.
- ❄ Tropicalised design for ambient temperature up to 50 °C.
- ❄ Thermostatic expansion valve.
- ❄ Proportional control of condensing temperature (as an option NF and NY versions).
- ❄ Refrigerant preloaded.

## Control pad

**Sigilus** units feature an advanced XWING electronic control as standard.



- Multifunction digital keyboard.
- Temperature control with maximum and minimum temperature value recording.
- Fast-freezing function and night operation mode.

## Triple noise insulation

**Sigilus** condensing units feature a triple noise insulation:

- Noise insulated compressor compartment, not placed in the air flow.
- Hermetic compressor with insulated cover and discharge muffler.
- Low noise fans operating at low speed, mounted on antishock structure.

## Proportional control of condensing temperature

The proportional control of condensing temperature for long time operation under ambient low temperature is an standard for **Sigilus** series (as an option for split units with slim-type evaporating unit).

## Electrical wiring

The following electrical wiring should be planned to connect condensing and evaporating units:

Power supply	230V - I - 50Hz	400V - III - 50Hz
Probes	4 x 1 mm <sup>2</sup>	
Valves & fans	2 x 1 mm <sup>2</sup> +	3 x 1 mm <sup>2</sup>
Defrosting	2 x 1,5 mm <sup>2</sup> + G	4 x 1,5 mm <sup>2</sup> + G
Control pad	2 x 1 mm <sup>2</sup>	
Door switch *	2 x 1 mm <sup>2</sup> (+ 2 x 1 mm <sup>2</sup> en BT)	
Light *	2 x 1 mm <sup>2</sup> + G	

\* not included

Positive temperature

Series / Model	Compressor		Cooling capacity / Cold room volume, according to cold room temp. (1)								Nominal absorbed power (kW)	Max. absorb. Intensity (A)	Evap. fans	Evap. air flow (m³/h)	Cond. air flow (m³/h)	Connection pipes Liq - Gas	Refrig. load (kg)	Weight (kg)	Sound pressure level dB(A) (2)	Price (€)
	HP	Power supply	-5 °C		0 °C		5 °C		10 °C											
			W	m³	W	m³	W	m³	W	m³										
<b>R-134A</b>																				
MSF-NY-00 010	3/8	230V - I	497	2,9	637	5,0	788	8,8	945	13	0,41	4,2	1xØ172	300	350	1/4"-3/8"	< 2,5	46+12	20	1 989
MSF-NY-00 015	1/2	230V - I	653	3,6	832	7,4	1004	11	1188	16	0,51	5,2	1xØ172	300	350	1/4"-3/8"	< 2,5	49+12	19	2 193
MSF-NY-11 015	1/2	230V - I	805	4,7	1031	10	1296	14	1582	28	0,56	5,6	1xØ200	475	1700	1/4"-1/2"	< 2,5	57+16	19	2 295
MSF-NY-11 026	3/4	230V - I	1076	9,0	1412	16	1738	25	2084	40	0,80	9,2	1xØ200	475	1700	1/4"-1/2"	< 2,5	65+16	22	2 789
MSF-NY-12 033	1	230V - I	1475	13	1859	20	2289	35	2741	57	1,02	9,7	2xØ200	950	1700	1/4"-5/8"	< 2,5	67+24	22	3 485
MSF-NY-12 053	1 1/2	230V - I (3)	1811	22	2347	33	2872	50	3439	79	1,42	12,3	2xØ200	950	1700	1/4"-5/8"	< 2,5	77+24	27	4 087
MSF-NY-13 074	2	230V - I (3)	2772	30	3528	50	4363	76	5229	125	1,94	17,2	3xØ254	1500	1700	1/4"-3/4"	< 10,0	79+45	28	4 451
MSF-NY-23 086	4	400V - III	3355	39	4384	65	5376	108	6437	160	2,18	14,1	3xØ254	1500	3700	3/8"-7/8"	< 10,0	96+45	39	4 836
MSF-NY-24 108	5	400V - III	4347	58	5649	90	6920	138	8316	220	2,83	18,2	4xØ254	2550	3700	3/8"-7/8"	< 10,0	98+45	37	5 685
MSF-NY-24 136	6 1/2	400V - III	5486	75	6899	110	8363	150	9949	280	3,55	22,2	4xØ254	2550	3700	3/8"-1 1/8"	< 10,0	101+55	36	7 105
MSF-NY-34 171	8	400V - III	6080	88	7613	130	9240	200	10978	350	4,16	25,2	4xØ300	2550	4000	3/8"-1 1/8"	< 10,0	140+55	36	8 099
<b>R-404A</b>																				
MSF-NF-0 008	1/3	230V - I	569	2,9	701	5,0	815	8,8	980	13	0,44	5,1	1xØ172	300	350	1/4"-1/2"	< 2,5	47+12	20	1 950
MSF-NF-0 010	3/8	230V - I	689	3,6	835	6,1	995	10	1155	15	0,55	4,8	1xØ172	300	350	1/4"-3/8"	< 2,5	49+12	21	2 150
MSF-NF-0 012	1/2	230V - I	795	4,7	957	7,4	1115	12	1305	21	0,65	5,6	1xØ172	300	350	1/4"-3/8"	< 2,5	50+12	20	2 250
MSF-NF-1 014	1/2	230V - I	1020	8,0	1245	12	1490	20	1765	34	0,78	6,5	1xØ200	475	1700	1/4"-1/2"	< 2,5	59+16	20	2 509
MSF-NF-1 016	5/8	230V - I	1130	10	1380	15	1640	24	1940	40	0,83	7,4	1xØ200	475	1700	1/4"-1/2"	< 2,5	67+16	23	2 734
MSF-NF-1 018	3/4	230V - I	1315	12	1590	19	1880	28	2220	45	0,97	8,7	1xØ200	475	1700	1/4"-1/2"	< 2,5	68+16	24	3 040
MSF-NF-2 024	1	230V - I	1535	14	1890	22	2260	35	2700	57	1,28	11,1	2xØ200	950	1700	3/8"-5/8"	< 2,5	82+24	24	3 417
MSF-NF-2 026	1 1/4	230V - I (3)	1690	16	2070	25	2475	39	2950	64	1,47	11,5	2xØ200	950	1700	3/8"-5/8"	< 2,5	83+24	27	3 570
MSF-NF-2 034	1 1/2	230V - I (3)	2070	21	2500	33	2965	50	3500	79	1,87	16,1	2xØ200	950	1700	3/8"-5/8"	< 2,5	83+24	29	3 784
MSF-NF-3 038	1 3/4	400V - III	2675	29	3320	46	3990	71	4760	112	1,96	8,1	3xØ254	1500	3200	3/8"-5/8"	< 10,0	82+45	30	4 121
MSF-NF-4 048	2	400V - III	3300	39	4140	62	4950	92	5880	145	2,41	9,6	3xØ254	1500	3700	3/8"-3/4"	< 10,0	84+45	30	4 478
MSF-NF-4 054	2 1/4	400V - III	3760	47	4560	70	5440	105	6450	160	2,62	10,1	3xØ254	1500	3700	3/8"-3/4"	< 10,0	85+45	30	4 682

Negative temperature

Series / Model	Compressor		Cooling capacity / Cold room volume, according to cold room temp. (1)						Nominal absorbed power (kW)	Max. absorb. Intensity (A)	Evap. fans	Evap. air flow (m³/h)	Cond. air flow (m³/h)	Connection pipes Liq - Gas	Refrig. load (kg)	Weight (kg)	Sound pressure level dB(A) (2)	Price (€)		
	HP	Power supply	-25 °C		-20 °C		-15 °C													
			W	m³	W	m³	W	m³												
<b>R-404A</b>																				
BSF-NF-0 018	5/8	230V - I	462	1,1	601	2,3	708	4,1	0,53	4,7	1xØ172	300	350	1/4"-1/2"	< 2,5	50+12	25	2 350		
BSF-NF-1 026	3/4	230V - I	690	3,2	940	7,0	1180	13	0,88	8,5	1xØ200	550	1700	1/4"-1/2"	< 2,5	67+16	27	2 861		
BSF-NF-2 034	1 1/4	230V - I	805	3,9	1075	8,1	1330	15	1,22	11,3	1xØ200	1050	1700	3/8"-5/8"	< 2,5	83+16	30	3 035		
BSF-NF-2 054	1 3/4	230V - I (3)	1060	6,8	1400	13	1720	23	1,73	17,3	2xØ200	1050	1700	3/8"-5/8"	< 2,5	93+24	32	3 545		
BSF-NF-2 074	2 1/2	230V - I (3)	1460	12	1800	20	2130	32	2,00	25,3	2xØ200	1050	1700	3/8"-5/8"	< 2,5	93+24	33	3 733		
BSF-NF-3 074	2 1/2	230V - I (3)	1725	15	2130	25	2580	41	2,08	26,2	3xØ254	2325	1700	3/8"-5/8"	< 10,0	93+45	33	4 004		
BSF-NF-3 086	3	400V - III	1790	16	2500	32	2980	52	2,39	10,9	3xØ254	2325	3200	3/8"-5/8"	< 10,0	84+45	27	4 463		
BSF-NF-4 096	3 1/2	400V - III	1980	19	2810	39	3540	68	2,70	12,0	3xØ254	2325	3700	3/8"-3/4"	< 10,0	97+45	40	5 314		
BSF-NF-4 108	4 1/4	400V - III	2540	29	3310	50	3910	78	3,05	14,6	3xØ254	2325	3700	3/8"-7/8"	< 10,0	97+45	38	5 753		
BSF-NF-4 136	5	400V - III	2960	37	3790	61	4690	100	3,97	16,8	3xØ254	2325	3700	3/8"-7/8"	< 10,0	100+45	34	6 207		

As an option

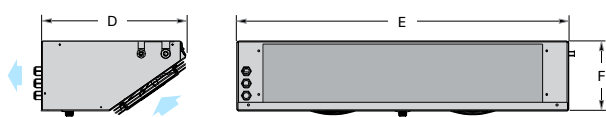
- R-407A refrigerant. to consult
- Proportional control of condensing temperature through fan speed variator (except for series O). + 250 €
- Change to 400 V-III-50 Hz power supply. (4) + 5 %
- Coil protection grille. + 90 €
- Evaporator EC fans. + 5 %

(1) Nominal technical features are related to 0 °C (PT) and -20 °C (NT) cold room temperature and 35 °C ambient temperature. Cold room size estimated according to calculation basis (page IV).

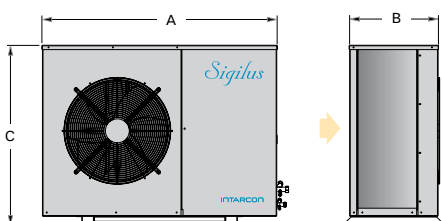
(2) SPL: Sound pressure level shown in dB(A) on open field at 10 m. from the source.

(3) Units available in 400V - III -50Hz power supply.

Dimensions Evaporator



Dimensions Condenser



Dimensions (mm)	A	B	C	D	E	F	Evaporator fans
series 0 and 00	670	305	440	407	520	150	1 x Ø 172
series 1 and 11	1030	373	577	418	600	200	1 x Ø 200
series 2 and 12	1030	373	577	418	950	200	2 x Ø 200
series 3 and 13	1030	373	577	492	1650	200	3 x Ø 254
series 4 and 23	1080	410	827	492	1650	200	3 x Ø 254
series 24	1080	410	827	522	1980	250	4 x Ø 300
series 34	1150	481	1097	522	1980	250	4 x Ø 300

Positive temperature

Series / Model	Compressor		Cooling capacity / Cold room volume, according to cold room temp. <sup>(1)</sup>								Nominal absorbed power (kW)	Max. absorb. Intensity (A)	Evap. fans	Evap. air flow (m³/h)	Cond. air flow (m³/h)	Connection pipes Liq - Gas	Refrig. load (kg)	Weight (kg)	Sound pressure level dB(A) <sup>(2)</sup>	Price (€)	
	HP	Power supply	-5 °C		0 °C		5 °C		10 °C												
			W	m³	W	m³	W	m³	W	m³											
R-134A	MSF-QY-10 068	3 1/2	400V - III	3281	42	4106	60	4998	69	5985	110	1,98	12,8	1xØ350	2000	3200	1/4"-3/4"	< 10,0	82+43	36	5 202
	MSF-QY-20 086	4	400V - III	3523	45	4442	65	5429	75	6515	120	2,19	14,8	1xØ350	2000	3700	3/8"-7/8"	< 10,0	96+43	39	5 629
	MSF-QY-21 108	5	400V - III	4226	58	5334	81	6521	130	7807	210	2,56	16,3	1xØ350	2125	3700	3/8"-7/8"	< 10,0	98+56	37	6 138
	MSF-QY-22 136	6 1/2	400V - III	5749	80	7277	120	8831	186	10553	290	3,63	21,1	2xØ350	4000	3700	3/8"-1 1/8"	< 10,0	101+72	36	7 399
	MSF-QY-33 171	8	400V - III	6746	100	8484	172	10295	197	12306	354	4,42	24,1	2xØ350	4450	4000	3/8"-1 1/8"	< 10,0	140+89	39	8 433
	MSF-QY-33 215	10	400V - III	8426	130	10563	241	12857	268	15419	440	5,24	30,5	3xØ350	6000	6500	3/8"-1 1/8"	< 10,0	147+94	35	9 282
	MSF-QY-34 271	13	400V - III	11099	165	13776	256	16622	346	19777	550	7,19	40,2	4xØ350	8000	6500	1/2"-1 3/8"	< 10,0	152+118	35	11 755
R-404A	MSF-QF-10 038	1 3/4	400V - III	3119	31	3833	48	4599	75	5460	120	1,84	7,4	1xØ350	2000	3200	3/8"-5/8"	< 10,0	82+43	30	4 817
	MSF-QF-20 048	2	400V - III	3801	43	4641	63	5544	95	6542	150	2,31	8,8	1xØ350	2000	3700	3/8"-3/4"	< 10,0	84+43	30	5 212
	MSF-QF-20 054	2 1/4	400V - III	4179	48	5093	72	6069	110	7130	170	2,49	9,4	1xØ350	2000	3700	3/8"-3/4"	< 10,0	85+43	30	5 437
	MSF-QF-21 060	3	400V - III	4851	61	5891	89	6998	130	8190	200	2,97	10,4	1xØ350	2125	3700	3/8"-3/4"	< 10,0	88+56	29	5 930
	MSF-QF-21 068	3 1/2	400V - III	5261	78	6363	110	7539	160	8799	250	3,35	11,4	1xØ350	2125	3700	1/2"-3/4"	< 10,0	88+56	29	6 851
	MSF-QF-32 086	4	400V - III	6552	91	7949	130	9450	190	11078	300	4,31	13,6	2xØ350	4000	4000	1/2"-7/8"	< 10,0	115+72	39	7 808
	MSF-QF-32 108	5	400V - III	8201	125	9954	175	11823	255	13860	400	5,29	16,7	2xØ350	4000	6500	1/2"-7/8"	< 10,0	120+72	37	8 594
MSF-QF-43 136	6 1/2	400V - III	10626	160	12836	220	15204	320	17526	500	6,94	21,5	3xØ350	6000	7000	1/2"-1 1/8"	< 10,0	135+89	36	10 222	

Negative temperature

Series / Model	Compressor		Cooling capacity / Cold room volume, according to cold room temp. <sup>(1)</sup>						Nominal absorbed power (kW)	Max. absorb. Intensity (A)	Evap. fans	Evap. air flow (m³/h)	Cond. air flow (m³/h)	Connection pipes Liq - Gas	Refrig. load (kg)	Weight (kg)	Sound pressure level dB(A) <sup>(2)</sup>	Price (€)	
	HP	Power supply	-25 °C		-20 °C		-15 °C												
			W	m³	W	m³	W	m³											
R-404A	BSF-QF-10 074	2 1/2	230V - I <sup>(3)</sup>	1869	15	2510	25	3161	44	2,29	25,1	1xØ350	2100	1700	3/8"-5/8"	< 10,0	93+43	33	4 609
	BSF-QF-10 086	3	400V - III	2163	17	2835	32	3554	56	2,23	9,8	1xØ350	2100	3200	3/8"-5/8"	< 10,0	84+43	27	5 098
	BSF-QF-20 096	3 1/2	400V - III	2394	20	3192	43	4022	74	2,57	11,5	1xØ350	2100	3700	3/8"-3/4"	< 10,0	97+43	40	6 123
	BSF-QF-21 108	4 1/4	400V - III	2940	28	3885	50	4851	86	3,00	13,5	1xØ350	2350	3700	3/8"-7/8"	< 10,0	97+56	38	6 591
	BSF-QF-22 136	5	400V - III	3817	53	5082	83	6353	130	4,38	16,4	2xØ350	4150	3700	1/2"-1 1/8"	< 10,0	97+72	34	7 840
	BSF-QF-33 215	7 1/2	400V - III	5717	87	7592	130	8148	200	6,12	25,8	3xØ350	6200	6500	1/2"-1 1/8"	< 10,0	147+94	40	9 910
	BSF-QF-34 271	10	400V - III	7392	120	9734	185	11234	300	7,81	28,2	4xØ350	8300	6500	1/2"-1 3/8"	< 10,0	147+118	40	12 121

As an option

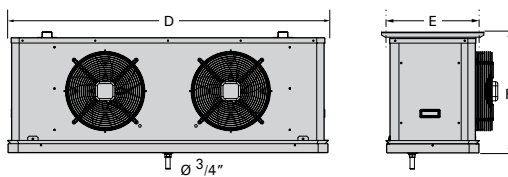
- R-407A refrigerant. to consult
- Change to 400 V-III-50 Hz power supply. <sup>(4)</sup> + 5%
- Coil protection grille. + 90 €

<sup>(1)</sup> Nominal technical features are related to 0 °C (PT) and -20 °C (NT) cold room temperature and 35 °C ambient temperature. Cold room size estimated according to calculation basis (page IV).

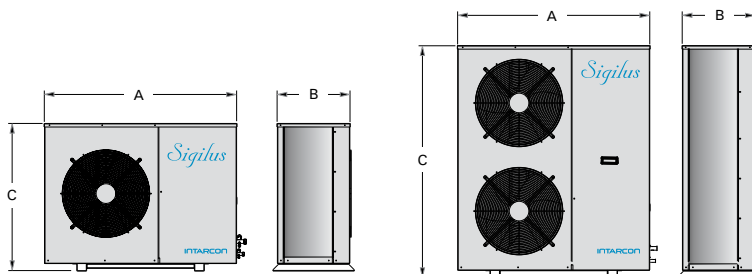
<sup>(2)</sup> SPL: Sound pressure level shown in dB(A) on open field at 10 m. from the source.

<sup>(3)</sup> Units available in 400V - III -50Hz power supply.

Dimensions Evaporator



Dimensions Condenser



Dimensions (mm)	A	B	C	D	E	F
series 10	1030	373	577	882	465	576
series 20	1080	410	827	882	465	576
series 21	1080	410	827	1232	465	576
series 22	1080	410	827	1534	465	576
series 32	1150	481	1097	1534	465	576
series 33	1150	481	1097	1933	465	576
series 34	1150	481	1097	2432	465	576
series 43	1150	481	1347	1933	465	576

Alta temperatura

Series / Model	Compressor		Cooling capacity / Cold room volume, according to cold room temp. <sup>(1)</sup>						Nominal absorbed power (kW)	Max. absorb. Intensity (A)	Evap. air flow (m <sup>3</sup> /h)	Cond. air flow (m <sup>3</sup> /h)	Connection pipes Liq - Gas	Carga refrig. (kg)	Weight (kg)	Sound pressure level dB(A) <sup>(2)</sup>	Price (€)	
	HP	Power supply	+ 9 °C		+ 12 °C		+ 15 °C											
			W	m <sup>3</sup>	W	m <sup>3</sup>	W	m <sup>3</sup>										
R-134A	ASF-DY-11 015	1/2	230V - I	1687	16	1922	21	2160	29	0,69	4,7	1100	1700	1/4"-1/2"	< 2,5	57+32	20	3 035
	ASF-DY-11 026	3/4	230V - I	2342	23	2678	30	2977	41	1,05	8,4	1100	1700	1/4"-1/2"	< 2,5	65+32	22	3 253
	ASF-DY-12 033	1	230V - I	2840	27	3176	36	3533	48	1,33	10,4	1800	1700	1/4"-5/8"	< 10,0	67+45	22	3 661
	ASF-DY-13 053	1 1/2	230V - I <sup>(3)</sup>	4226	42	4730	56	5271	72	2,04	13,6	3150	1700	3/8"-3/4"	< 10,0	77+65	27	4 602
	ASF-DY-13 074	2	230V - I <sup>(3)</sup>	6053	62	6825	83	7634	112	2,61	17,6	3150	3200	3/8"-3/4"	< 10,0	79+65	28	5 351
	ASF-DY-23 086	4	400V - III	7151	75	8033	99	8957	131	2,90	14,4	3150	3700	3/8"-7/8"	< 10,0	96+65	39	5 843
	ASF-DY-24 108	5	400V - III	8936	99	10028	122	11146	165	3,80	17,5	5700	3700	3/8"-7/8"	< 10,0	98+70	37	6 478
	ASF-DY-24 136	6 1/2	400V - III	11093	128	12332	168	13645	224	5,00	21,2	5700	3700	1/2"-1 1/8"	< 10,0	98+70	36	8 911
	ASF-DY-34 171	8	400V - III	13424	146	14989	186	16669	251	5,88	25,2	5700	6500	1/2"-1 1/8"	< 10,0	120+70	40	9 838
	ASF-DY-44 215	10	400V - III	15771	171	17593	218	19546	294	6,61	30,2	5700	7000	1/2"-1 3/8"	< 10,0	120+70	40	10 821
R-404A	ASF-DF-1 016	5/8	230V - I	2040	19	2250	25	2530	35	1,00	7,5	1100	1700	1/4"-1/2"	< 2,5	67+32	23	2 975
	ASF-DF-1 018	3/4	230V - I	2380	23	2620	30	3040	42	1,20	8,8	1100	1700	1/4"-1/2"	< 2,5	68+32	24	3 189
	ASF-DF-1 024	1	230V - I	3050	29	3400	39	3700	51	1,56	11,3	1800	1700	3/8"-5/8"	< 10,0	82+45	24	3 589
	ASF-DF-1 026	1 1/4	230V - I <sup>(3)</sup>	3620	35	3950	46	4430	63	1,78	12,0	1800	3200	3/8"-5/8"	< 10,0	83+45	27	3 751
	ASF-DF-1 034	1 1/2	230V - I <sup>(3)</sup>	4335	43	4880	58	5385	77	2,29	16,6	1800	3200	3/8"-5/8"	< 10,0	83+45	29	4 261
	ASF-DF-1 038	1 3/4	400V - III	5140	52	5685	68	6260	91	2,25	7,8	3150	3200	3/8"-5/8"	< 10,0	82+65	30	4 702
	ASF-DF-2 048	2	400V - III	6455	67	7120	87	7840	115	2,82	9,3	3150	3700	1/2"-3/4"	< 10,0	84+65	30	5 207
	ASF-DF-2 054	2 1/4	400V - III	7140	75	7870	97	8645	130	3,10	9,8	3150	3700	1/2"-3/4"	< 10,0	85+65	30	5 410
	ASF-DF-3 060	3	400V - III	8875	94	9430	115	10400	155	3,79	11,9	4000	6500	1/2"-7/8"	< 10,0	88+65	29	5 998
	ASF-DF-3 068	3 1/2	400V - III	9330	98	10300	125	11130	165	4,28	12,9	4000	6500	1/2"-7/8"	< 10,0	88+65	29	7 070
	ASF-DF-4 086	4	400V - III	11330	120	12500	155	13750	205	5,10	15,2	5700	7000	5/8"-1 1/8"	< 10,0	115+70	39	8 251
	ASF-DF-4 108	5	400V - III	13800	150	15320	190	16940	255	6,52	18,2	5700	7000	5/8"-1 1/8"	< 10,0	120+70	37	9 109

As an option

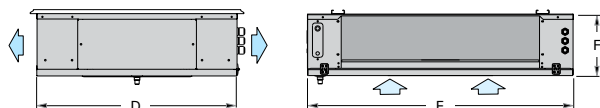
- Proportional control of condensing temperature through fan speed variator (already included for series 2/23 and higher) + 250 €
- Change to 400 V-III-50 Hz power supply. <sup>(4)</sup> + 5%
- Coil protection grille. + 90 €

<sup>(1)</sup> Nominal technical features are related to 12 °C (HT) and 35 °C ambient temperature. Cold room size estimated according to calculation basis (page IV).

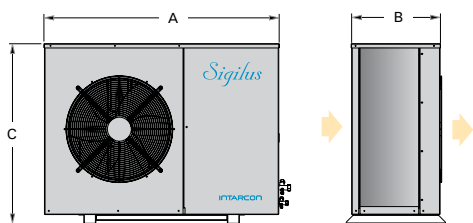
<sup>(2)</sup> SPL: Sound pressure level shown in dB(A) on open field at 10 m. from the source.

<sup>(3)</sup> Units available in 400V - III - 50Hz power supply.

Dimensions Evaporator



Dimensions Condenser



Dimensions (mm)	A	B	C	D	E	F	Evaporator fans	
R-134A	series 11	1030	373	577	762	706	243	1x Ø 360
	series 12	1030	373	577	762	1056	243	2x Ø 360
	series 13	1030	373	577	762	1756	243	3x Ø 360
	series 23	1080	410	827	762	1756	243	3x Ø 360
	series 24	1080	410	827	852	2156	293	3x Ø 450
	series 34	1150	481	1097	852	2156	293	3x Ø 450
	series 44	1150	481	1347	852	2156	293	3x Ø 450
R-404A	ASF-DF-1016 and 1018	1030	373	577	762	706	243	1x Ø 360
	ASF-DF-1024 - 1034	1030	373	577	762	1056	243	2x Ø 360
	ASF-DF-1038	1030	373	577	762	1756	243	3x Ø 360
	series 2	1080	410	827	762	1756	243	3x Ø 360
	series 3	1150	481	1097	762	1756	243	3x Ø 360
	series 4	1150	481	1347	852	2156	293	3x Ø 450

# Quasi-static split systems



## Description

Split refrigeration systems for positive temperature applications, featuring a quasi-static evaporating unit in a low-profile construction, and a condensing unit in low noise or centrifugal construction.

## Technical features

- 230V-I-50Hz or 400V-III-50Hz power supply.
- Reduced R-404A or R-134A refrigerant load.
- Hermetic reciprocating compressor.
- Quasi-static evaporating unit with double air flow and axial motor-fans operating at very low speed.
- High and low pressure switches.
- Solenoid valve.
- Thermostatic expansion valve.
- Electrical heaters defrosting.
- Stainless steel drain tray.
- Flare-type cooling connections (up to 1/2"-3/4") and service valves.
- Magnetothermal protection.
- Liquid receiver.
- Refrigerant preloaded for 15 m pipe length.
- Multifunctional electronic control with remote keyboard and digital regulation of condensing temperature.

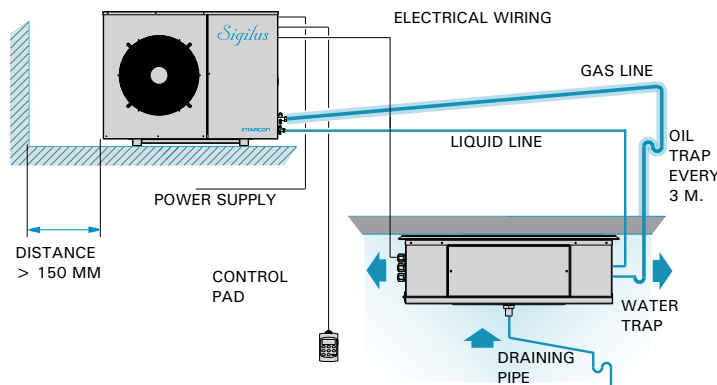
## Version MSF-U

Split systems composed by a low noise condensing unit and a quasi-static evaporating unit in a low-profile construction.

## Version MSH-CU

Split systems composed by a centrifugal condensing unit and a quasi-static evaporating unit in a low-profile construction.

## Installation scheme



Maximum vertical distance between units of 15 metres in case the condensing unit is placed at a higher place than the evaporating unit, and of 6 metres otherwise.

- ❄️ Quasi-static double-flow evaporating unit at very low speed, specifically designed for meat preservation.
- ❄️ Systems tested at factory with no need for test on site.
- ❄️ Refrigerant preloaded.

## Meat preservation

The quasi-static split systems, thanks to the configuration of their evaporating units, are specifically recommended for unpacked meat conservation at cold rooms at a temperature around 0°C.

Double air flow evaporating units feature fans adjusted to operate at a minimum speed to emulate the natural convection of air inside the cold room, just as an static evaporating unit.

By operating this way, a minimum air speed prevents moisture losses from the product and keeps a correct humidity value inside the cold room to prevent bacterial growth on the product surface.



## Control pad

The split systems feature an advanced XWING electronic control as standard.

- Multifunction digital keyboard.
- Temperature control with maximum and minimum temperature value recording.
- Fast-freezing function and night operation mode.

## Crankcase heater

Standard in **Sigilus** MSF series and as an option for **intarsplit** MSH series. We recommend to include it in all condensing units installed outdoors.

## Electrical wiring

The following electrical wiring should be planned to connect condensing and evaporating units (10 m wires included for MSH-UF series).

Power supply	230V - I - 50Hz	400V - III - 50Hz
Probes	4 x 1 mm <sup>2</sup>	
Valves & fans	3 x 1 mm <sup>2</sup>	
Defrosting	2 x 1,5 mm <sup>2</sup> + G	4 x 1,5 mm <sup>2</sup> + G
Control pad	2 x 1 mm <sup>2</sup>	
Door switch *	2 x 1 mm <sup>2</sup>	
Light *	2 x 1 mm <sup>2</sup> + G	

\* not included

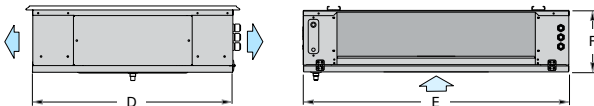
Positive temperature - Quasi-static

Series / Model	Compressor		Cooling capacity / Cold room volume, according to cold room temp. <sup>(1)</sup>								Nominal absorbed power (kW)	Max. absorb. Intensity (A)	Evap. air flow (m³/h)	Cond. air flow (m³/h)	Connection pipes Liq - Gas	Carga refrig. (kg)	Weight (kg)	Sound pressure level dB(A) <sup>(2)</sup>	Price (€)
	HP	Power supply	-5 °C		0 °C		5 °C		10 °C										
			W	m³	W	m³	W	m³	W	m³									
<b>R-134A</b> MSF-UY-11 015	1/2	230V - I	842	5,1	1075	11	1328	17	1615	30	0,59	5,7	600	1700	1/4"-1/2"	< 2,5	57+32	20	2 886
MSF-UY-11 026	3/4	230V - I	1145	7,6	1449	15	1785	24	2153	41	0,83	9,4	600	1700	1/4"-1/2"	< 2,5	65+32	22	3 130
MSF-UY-12 033	1	230V - I	1428	12	1764	20	2147	34	2562	53	0,96	10,0	700	1700	1/4"-5/8"	< 2,5	67+45	22	3 730
MSF-UY-13 053	1 1/2	230V - I <sup>(3)</sup>	2100	22	2657	40	3255	56	3938	86	1,50	12,6	1325	1700	1/4"-3/4"	< 10,0	77+65	27	4 663
MSF-UY-13 074	2	230V - I <sup>(3)</sup>	2741	30	3434	48	4190	74	5009	120	1,86	16,9	1325	1700	1/4"-3/4"	< 10,0	79+65	28	5 327
MSF-UY-23 086	4	400V - III	3308	40	4158	62	5114	99	6132	154	2,08	13,4	1325	3700	3/8"-7/8"	< 10,0	96+65	39	5 685
MSF-UY-24 108	5	400V - III	4431	54	5576	87	6825	134	8243	209	2,74	16,9	2600	3700	3/8"-7/8"	< 10,0	98+65	37	6 495
MSF-UY-24 136	6 1/2	400V - III	5444	72	6815	108	8306	162	10038	268	3,44	20,9	2600	3700	3/8"-1 1/8"	< 10,0	101+65	36	7 292
MSF-UY-34 171	8	400V - III	11151	153	7539	123	9293	181	11146	299	4,06	23,9	2600	4000	3/8"-1 1/8"	< 10,0	140+65	40	8 641
<b>R-404A</b> MSF-UF-1 014	1/2	230V - I	1050	7,9	1300	13	1550	21	1850	35	0,79	6,6	600	1700	1/4"-1/2"	< 2,5	59+32	20	2 829
MSF-UF-1 016	5/8	230V - I	1180	9,5	1440	15	1720	25	2040	40	0,86	7,5	600	1700	1/4"-1/2"	< 2,5	67+32	23	3 069
MSF-UF-1 018	3/4	230V - I	1380	12	1670	19	1990	30	2340	48	1,00	8,8	600	1700	1/4"-1/2"	< 2,5	68+32	24	3 527
MSF-UF-1 024	1	230V - I	1600	15	1940	24	2320	37	2730	59	1,16	11,0	700	1700	3/8"-5/8"	< 10,0	82+43	24	3 787
MSF-UF-1 026	1 1/4	230V - I <sup>(3)</sup>	1780	18	2160	27	2560	42	3000	66	1,27	11,4	700	1700	3/8"-5/8"	< 10,0	83+43	27	3 985
MSF-UF-1 034	1 1/2	230V - I <sup>(3)</sup>	2170	23	2620	35	3100	54	3630	84	1,79	16,0	700	1700	3/8"-5/8"	< 10,0	83+43	29	4 318
MSF-UF-1 038	1 3/4	400V - III	2750	31	3350	47	4010	72	4740	115	1,80	7,4	1325	3200	3/8"-5/8"	< 10,0	82+63	30	4 932
MSF-UF-2 048	2	400V - III	3370	41	4110	62	4890	92	5770	145	2,23	8,9	1325	3700	3/8"-3/4"	< 10,0	84+63	30	5 264
MSF-UF-2 054	2 1/4	400V - III	3710	47	4510	70	5340	105	6300	160	2,33	9,4	1325	3700	3/8"-3/4"	< 10,0	85+63	30	5 462
MSF-UF-2 060	3	400V - III	4360	58	5250	84	6210	125	7300	190	2,84	10,4	1325	3700	3/8"-3/4"	< 10,0	88+63	29	6 014
MSF-UF-2 068	3 1/2	400V - III	4730	64	5680	93	6700	135	7860	205	3,28	11,4	1325	3700	1/2"-3/4"	< 10,0	88+63	29	6 752
MSF-UF-3 086	4	400V - III	5880	83	7080	120	8370	175	9815	270	4,13	13,9	2600	4000	1/2"-7/8"	< 10,0	115+66	39	8 001

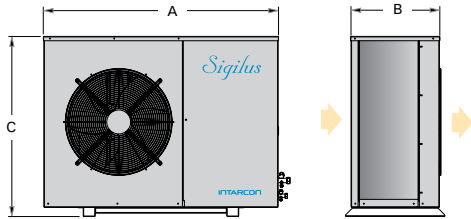
As an option

- Proportional control of condensing temperature through fan speed variator (already included for series 2/23 and higher). + 250 €
- Change to 400 V-III-50 Hz power supply. <sup>(4)</sup> + 5%
- Coil protection grille. + 90 €

Dimensions Evaporator



Dimensions Condenser



Dimensions (mm)		A	B	C	D	E	F	Evaporator fans
<b>R-134A</b>	series 11	1030	373	577	762	706	243	1x Ø 360
	series 12	1030	373	577	762	1056	243	1x Ø 360
	series 13	1030	373	577	762	1756	243	2x Ø 360
	series 23	1080	410	827	762	1756	243	2x Ø 360
	series 24	1080	410	827	852	2156	293	2x Ø 450
	series 34	1150	481	1097	852	2156	293	2x Ø 450
<b>R-404A</b>	MSF-UF-1014 - 1018	1030	373	577	762	706	243	1x Ø 360
	MSF-UF-1024 - 1034	1030	373	577	762	1056	243	1x Ø 360
	MSF-UF-1038	1030	373	577	762	1756	243	2x Ø 360
	MSF-UF-2048 - 2068	1080	410	827	762	1756	243	2x Ø 360
	MSF-UF-3086	1150	481	1097	852	2156	293	2x Ø 450

<sup>(1)</sup> Nominal technical features are related to 0 °C and 35 °C ambient temperature. Cold room size estimated according to calculation basis (page IV).

<sup>(2)</sup> SPL: Sound pressure level shown in dB(A) on open field at 10 m. from the source.

<sup>(3)</sup> Units available with 400V - III - 50 Hz power supply.

Centrifugal version, series MSH-CU.

Quasi-static split systems are also available with centrifugal condensing unit.

Series / Model	HP	Cooling cap.		Price (€)
		0 °C / 35 °C	W	
<b>R-134A</b> MSH-CUY-11 015	1/2	1026	10	2 833
MSH-CUY-11 026	3/4	1281	12	2 940
MSH-CUY-11 033	1	1517	15	3 576
MSH-CUY-22 033	1	1811	22	3 820
MSH-CUY-22 053	1 1/2	2174	28	4 214
MSH-CUY-33 053	1 1/2	2657	35	4 618
MSH-CUY-33 074	2	3402	47	5 169
MSH-CUY-43 086	4	4153	70	6 067
MSH-CUY-43 108	5	5219	84	6 629
MSH-CUY-44 108	5	5555	89	7 136
MSH-CUY-44 136	6 1/2	6773	108	8 848
<b>R-404A</b> MSH-CUF-1 014	1/2	1190	12	2 777
MSH-CUF-1 016	5/8	1310	13	2 882
MSH-CUF-1 018	3/4	1500	16	3 506
MSH-CUF-2 024	1	1920	23	3 745
MSH-CUF-2 026	1 1/4	2120	27	3 902
MSH-CUF-2 034	1 1/2	2550	34	4 276
MSH-CUF-3 038	1 3/4	3170	44	4 786
MSH-CUF-4 048	2	4100	62	5 306
MSH-CUF-4 054	2 1/4	4500	69	5 618
MSH-CUF-4 060	3	5240	84	6 138
MSH-CUF-4 068	3 1/2	5670	93	6 607

Technical features of condensing unit as in pages 9 to 11.

# High humidity split systems



## Description

Split refrigeration systems featuring relative humidity control, composed by a condensing unit in low-noise or centrifugal construction and an evaporating unit in a low-profile construction with double air flow, oversized for high humidity refrigeration applications.

## Technical features

- 230V-I-50Hz or 400V-III-50Hz power supply.
- Reduced R-404A or R-134A refrigerant load.
- Hermetic reciprocating compressor.
- High and low pressure switches.
- Evaporador de plafón con doble flujo de aire dimensionado para una regulación de humedad relativa del 60% al 95%\*.
- Inbuilt thermostatic expansion and solenoid valves in the evaporating unit.
- Air defrosting.
- Stainless steel drain tray.
- Flare-type cooling connections (up to 1/2"-3/4") and service valves.
- Magnetothermal protection.
- Liquid receiver.
- Refrigerant preloaded for 15 m pipe length.
- Multifunctional electronic dual control for temperature and humidity, and remote keyboard.

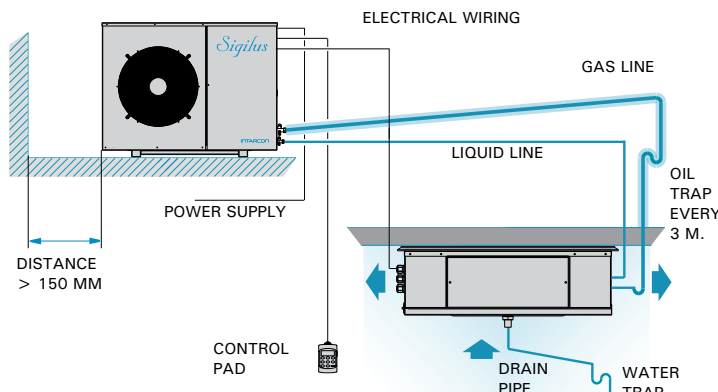
## Version HSF-D

Split systems composed by a low noise condensing unit and a low-profile double-flow evaporating unit for high humidity applications.

## Version HSH-CD

Split systems composed by a centrifugal condensing unit and a low-profile double-flow evaporating unit for high humidity applications.

## Installation scheme



Maximum vertical distance between units of 15 metres in case the condensing unit is placed at a higher place than the evaporating unit, and of 6 metres otherwise.

- \* **Low-profile double-flow evaporating unit, oversized for high relative humidity applications..**
- \* **Passive humidity control (regulation between 60% and 95%)\*.**
- \* **Systems tested at factory with no need for test on site.**
- \* **Refrigerant preloaded.**

## Controlled humidity preservation

The correct preservation of some goods, like fruits, vegetables or flowers, requires to control the humidity inside the cold room.

These split systems with humidity control are adjusted for high humidity applications and they are specifically recommended for positive temperature cold rooms for horticultural products preservation.

The evaporating units have double air flow trough oversized coils to be able to get a relative humidity value inside the cold room of about 95%, avoiding the loss of moisture and weight from the product.



## Temperature and humidity control

The units feature an advanced electronic controller to control both, temperature and humidity inside the cold room.

- Multifunctional remote keyboard with digital display showing temperature and relative humidity.
- Relative humidity control with set point between 60% and 95%\*.
- Active humidification kits with water vapour addition and dehumidification / heating kits are available as an option.

\* Control of relative humidity inside the cold room is done in a passive way, by regulating the air flow of the evaporating unit, without adding water vapour. The real regulation range of relative humidity depends on the real conditions of the cold rooms, ambient absolute humidity and kind of product.

## Electrical wiring

The following electrical wiring should be planned to connect condensing and evaporating units (10 m long connections are included in HSH series as standard).

Power supply	230V - I - 50Hz	400V - III - 50Hz
Probes	2 x 1 mm <sup>2</sup> + 3 x 1 mm <sup>2</sup>	
Valves & fans	4 x 1 mm <sup>2</sup> + G	
Control pad	2 x 1 mm <sup>2</sup>	



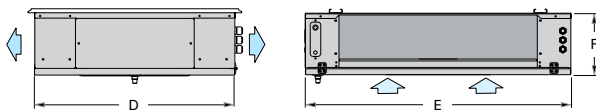
Positive temperature - High humidity

Series / Model	Compressor		Cooling capacity / Cold room volume, according to cold room temp. <sup>(1)</sup>						Nominal absorbed power (kW)	Max. absorb. Intensity (A)	Caudal máximo evap. (m³/h)	Cond. air flow (m³/h)	Connection pipes Liq - Gas	Carga refrig. (kg)	Weight (kg)	Sound pressure level dB(A) <sup>(2)</sup>	Price (€)	
	HP	Power supply	0 °C RH 95%		5 °C RH 95%		10 °C RH 95%											
			W	m³	W	m³	W	m³										
R-134A	HSF-DY-12 015	1/2	230V - I	1220	13	1544	22	1906	38	0,74	6,5	1800	1700	1/4"-1/2"	< 2,5	57+32	20	3 046
	HSF-DY-12 026	3/4	230V - I	1701	19	2116	32	2594	53	1,06	10,2	1800	1700	1/4"-1/2"	< 2,5	65+32	22	3 290
	HSF-DY-13 033	1	230V - I	2105	25	2620	43	3192	73	1,30	11,0	3150	1700	1/4"-1/2"	< 10,0	67+45	22	4 048
	HSF-DY-13 053	1 1/2	230V - I <sup>(3)</sup>	2814	37	3486	64	4237	103	1,90	13,6	3150	1700	1/4"-5/8"	< 10,0	77+65	27	4 821
	HSF-DY-14 074	2	230V - I <sup>(3)</sup>	3980	57	4977	91	6090	148	2,57	17,7	5700	1700	1/4"-3/4"	< 10,0	79+65	28	5 664
	HSF-DY-24 086	4	400V - III	5465	56	6773	134	8311	217	2,87	14,5	5700	3700	3/8"-7/8"	< 10,0	96+65	39	6 236
	HSF-DY-24 108	5	400V - III	6389	102	7865	158	9713	263	3,40	17,5	5700	3700	3/8"-7/8"	< 10,0	98+65	37	6 832
	HSF-DY-24 136	6 1/2	400V - III	7985	136	9870	202	11960	331	4,44	21,5	5700	3700	3/8"-1 1/8"	< 10,0	101+70	36	8 978
R-404A	HSF-DF-1 014	1/2	230V - I	1420	15	1720	25	2060	41	0,86	6,6	1100	1700	1/4"-1/2"	< 2,5	59+32	20	2 986
	HSF-DF-1 016	5/8	230V - I	1600	18	1920	29	2290	47	0,94	7,5	1100	1700	1/4"-1/2"	< 2,5	67+32	23	3 225
	HSF-DF-1 018	3/4	230V - I	2030	24	2450	38	2930	62	1,23	9,1	1800	1700	1/4"-1/2"	< 2,5	68+45	24	3 839
	HSF-DF-1 024	1	230V - I	2310	30	2770	46	3280	75	1,41	11,3	1800	1700	3/8"-5/8"	< 10,0	82+45	24	4 099
	HSF-DF-1 026	1 1/4	230V - I <sup>(3)</sup>	2610	35	3100	54	3650	86	1,55	16,3	1800	1700	3/8"-5/8"	< 10,0	83+45	27	4 297
	HSF-DF-1 034	1 1/2	230V - I <sup>(3)</sup>	2960	43	3500	64	4110	100	2,10	5,9	1800	1700	3/8"-5/8"	< 10,0	83+45	29	4 630
	HSF-DF-1 038	1 3/4	400V - III	3860	55	4660	85	5570	135	2,05	7,8	3150	3200	3/8"-5/8"	< 10,0	82+65	30	5 244
	HSF-DF-2 048	2	400V - III	4910	76	5880	115	7000	175	2,58	7,9	3150	3700	3/8"-3/4"	< 10,0	84+65	30	5 576
	HSF-DF-2 054	2 1/4	400V - III	5470	87	6530	130	7760	200	2,83	9,8	3150	3700	3/8"-3/4"	< 10,0	85+65	30	5 774
	HSF-DF-2 060	3	400V - III	6250	100	7440	150	8800	230	3,37	11,3	3800	3700	3/8"-3/4"	< 10,0	88+65	29	6 326
	HSF-DF-2 068	3 1/2	400V - III	6850	115	8120	165	9600	260	3,84	12,3	3800	3700	1/2"-3/4"	< 10,0	88+65	29	7 065
	HSF-DF-3 086	4	400V - III	8200	140	9770	200	11530	320	4,84	14,5	5700	4000	1/2"-7/8"	< 10,0	115+70	39	8 313

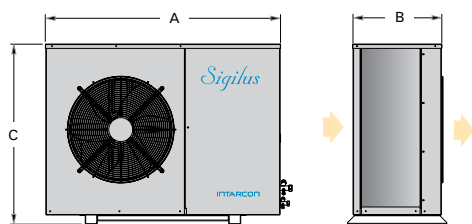
As an option

- Proportional control of condensing temperature through fan speed variator (already included for HSF series 2/22 and higher). + 250 €
- Change to 400 V-III-50 Hz power supply. <sup>(4)</sup> + 5%
- Coil protection grille. + 90 €
- Inbuilt active humidification kit. to consult
- Dehumidification and heating kit. to consult

Dimensions Evaporator



Dimensions Condenser



	Dimensions (mm)	A	B	C	D	E	F	Evaporator fans
R-134A	series 12	1030	373	577	762	1056	243	2x Ø 360
	series 13	1030	373	577	762	1756	243	3x Ø 360
	series 14	1030	373	577	852	2156	293	3x Ø 450
	series 24	1080	410	827	852	2156	293	3x Ø 450
R-404A	HSF-DF-1014 and 1016	1030	373	577	762	706	243	1x Ø 360
	HSF-DF-1018 a 1034	1030	373	577	762	1056	243	2x Ø 360
	HSF-DF-1038	1030	373	577	762	1756	243	3x Ø 360
	HSF-DF-2048 a 2068	1080	410	827	762	1756	243	3x Ø 360
	HSF-DF-3086	1150	481	1097	852	2156	293	3x Ø 450

<sup>(1)</sup> Nominal technical features are related to 5°C, 95% relative humidity inside the cold room and 35 °C ambient temperature. Cold room size estimated according to calculation basis (page IV).

<sup>(2)</sup> SPL: Sound pressure level shown in dB(A) on open field at 10 m. from the source.

<sup>(3)</sup> Units available in 400V - III - 50Hz power supply.

Centrifugal version, series HSH-CD.

High humidity split units are also available in a version featuring a centrifugal condensing unit.

Series / Model	CV	Cooling cap.		Price (€)	
		5 °C RH 95% W	m³		
R-134A	HSH-CDY-12 015	1/2	1415	21	2 961
	HSH-CDY-12 026	3/4	1859	28	3 401
	HSH-CDY-12 033	1	2242	32	3 735
	HSH-CDY-23 033	1	2746	45	3 980
	HSH-CDY-23 053	1 1/2	3507	64	4 383
	HSH-CDY-23 074	2	4526	82	5 450
	HSH-CDY-34 074	2	5140	93	5 730
	HSH-CDY-44 086	4	6741	134	6 348
	HSH-CDY-44 108	5	7817	158	6 910
HSH-CDY-44 136	6 1/2	9791	200	8 568	
R-404A	HSH-CDF-1 014	1/2	1345	20	2 903
	HSH-CDF-1 016	5/8	1540	22	3 007
	HSH-CDF-2 018	3/4	2400	38	3 662
	HSH-CDF-2 024	1	2790	46	3 902
	HSH-CDF-2 026	1 1/4	3120	54	4 058
	HSH-CDF-3 034	1 1/2	3900	71	4 432
	HSH-CDF-3 038	1 3/4	4210	77	5 046
	HSH-CDF-4 048	2	5920	116	5 566
	HSH-CDF-4 054	2 1/4	6650	132	5 878
	HSH-CDF-4 060	3	7410	149	6 398
	HSH-CDF-4 068	3 1/2	8090	164	6 867

Technical features of condensing unit as in pages 9 to 11.

# Wine cellar refrigeration



## Description

Refrigeration systems for cellars conditions, in low-noise axial or centrifugal condensation, and double-flow low-profile evaporating unit (for split systems) with heating function, humidification / dehumidification system and condensed water pump, and in monoblock construction with axial or centrifugal condensation.

## Applications

- Bottled wine preservation.
- Cigars conservation.
- Cold meat small-sized drying.
- Cheese drying.
- Wine in barrel preservation.
- Refrigeration of other kind of areas requiring high temperature and humidity control.

## Series VSF-G

Low-noise axial systems for wine cellar refrigeration.

## Series VSH-CG

Centrifugal systems for wine cellar refrigeration.

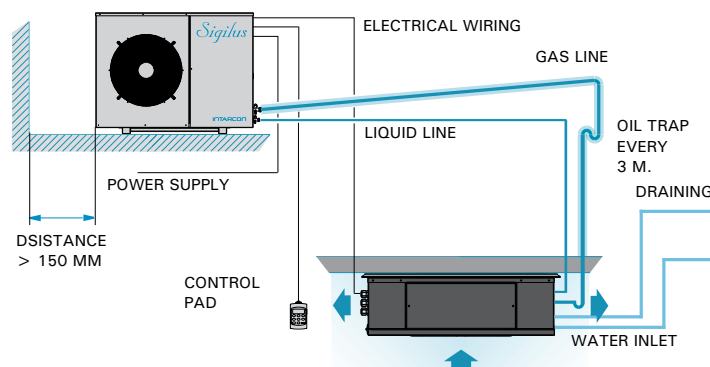
## Series VCR-N

Axial monoblock for wine cellar refrigeration.

## Series VCR-C

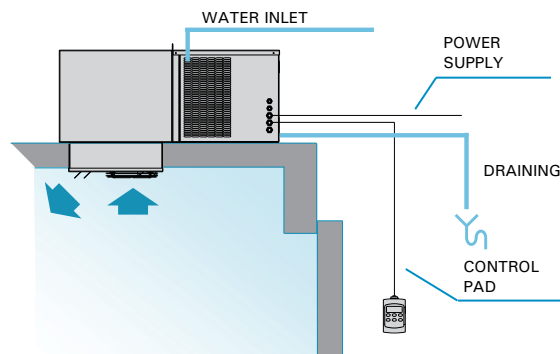
Centrifugal monoblock for wine cellar refrigeration.

## Installation scheme split systems



Maximum vertical distance between units of 15 metres in case the condensing unit is placed at a higher place than the evaporating unit, and of 6 metres otherwise.

## Installation scheme monoblocks



- ❄ Specifically designed for wine preservation in cellars.
- ❄ Active humidity control
- ❄ Active heating system.
- ❄ Systems tested at factory with no need for test on site.
- ❄ Refrigerant preloaded.

## Wine in bottle preservation

Wine bottles require controlled temperature and humidity conditions in order to avoid the drying of the cork and the appearance of damp on the labels.

The wine cellars refrigeration systems guarantee the optimum conditions for the preservation of wine bottles.



## Wine in barrel preservation

The humidity level inside the cellar takes a very high importance for conservation of wine in barrels, and it must be controlled for avoiding the transfer of moisture from the ambient to the barrel and so avoiding the less weight or the water absorption of the wine.



## Electrical wiring (split systems)

The following electrical wiring should be planned to connect condensing and evaporating units (10 m long connections are included in VSH series as standard).

Power supply	230V - I - 50Hz	400V - III - 50Hz
Probes	2 x 1 mm <sup>2</sup> + 2 x 1 mm <sup>2</sup>	
Valves & fans	10 x 1 mm <sup>2</sup>	10 x 1 mm <sup>2</sup>
Heaters	2 x 2,5 mm <sup>2</sup> + G	4 x 1,5 mm <sup>2</sup> + G
Control pad	2 x 1 mm <sup>2</sup>	

Technical features

- 230V-I-50Hz or 400V-III-50Hz power supply.
- Reduced R-134A or R-404A refrigerant load.
- Hermetic reciprocating compressor.
- High and low pressure switches.
- Double-flow low-profile evaporating unit with heaters and humidification / dehumidification active system.
- Anticorrosion coated evaporation coil.
- Air defrosting.
- Inbuilt thermostatic expansion and solenoid valves in the evaporating unit.
- Stainless steel drain tray and condensed water pump.
- Flare-type cooling connections (up to 1/2"-3/4") and service valves.
- Magnetothermal protection.
- Liquid receiver with refrigerant preload for 15 m piping length.
- Proportional control of condensing temperature (series VSF and VSH 4/43) and digital control of condensing temperature (series VSH 2/22 and 3/33).
- Multifunctional electronic dual control for temperature and humidity, and remote keyboard.
- Air filter.



Series VSF - G



Series VSH -CG

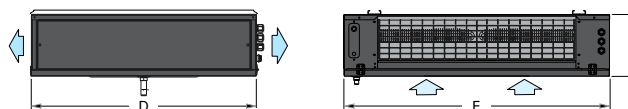
Wine cellars

Series / Model	Compressor		Volumen bodega (m³)		Cooling capacity at 15 °C 70% HRH (W) <sup>(1)</sup>	Heating capacity (W)	Nominal absorbed power (kW)	Max. absorb. Intensity (A)	Evap. flow (m³/h)	Cond. flow (m³/h)	Connection pipes Liq - Gas	Refrig. load (kg)	Weight (kg)	Sound pressure level dB(A) <sup>(2)</sup>	Price (€)	
	HP	Power supply	sin aislar	aislada												
R-134A	VSF-GY-00 010	3/8	230V - I	15	37	1242	1000	1,52	8,8	500	550	1/4"-3/8"	< 2,5	46+30	20	4 386
	VSF-GY-10 015	1/2	230V - I	22	53	1820	1000	1,67	6,2	500	1700	1/4"-1/2"	< 2,5	57+30	21	4 998
	VSF-GY-11 033	1	230V - I	45	100	3281	1500	2,76	16,3	1100	1700	1/4"-5/8"	< 10,0	67+42	22	6 018
	VSF-GY-12 053	1 1/2	230V - I <sup>(3)</sup>	74	168	4683	3000	4,93	39,1	1800	3200	3/8"-3/4"	< 10,0	77+52	27	7 452
	VSF-GY-23 074	2	230V - I <sup>(3)</sup>	129	297	7497	6000	8,60	43,7	3150	3700	3/8"-3/4"	< 10,0	79+75	28	9 828
	VSF-GY-33 108	5	400V - III	138	444	9944	6000	9,50	26,1	3150	4000	3/8"-7/8"	< 10,0	98+75	30	11 232
R-404A	VSF-GF-0 008	1/3	230V - I	14	35	1188	1000	1,12	8,4	500	550	1/4"-3/8"	< 2,5	48+30	20	4 300
	VSF-GF-1 014	1/2	230V - I	25	60	2065	1500	2,46	13,5	1100	1700	1/4"-1/2"	< 2,5	59+42	20	4 900
	VSF-GF-1 024	1	230V - I	45	100	3270	3000	4,65	24,9	1800	1700	3/8"-5/8"	< 10,0	82+52	24	5 900
	VSF-GF-1 034	1 1/2	230V - I <sup>(3)</sup>	75	170	4725	3000	5,36	29,9	1800	3200	3/8"-5/8"	< 10,0	83+52	29	6 900
	VSF-GF-2 048	2	400V - III	130	300	7580	6000	8,88	17,9	3150	3700	1/2"-3/4"	< 10,0	84+75	30	9 100
	VSF-GF-3 060	3	400V - III	170	450	10080	6000	10,50	19,5	3800	6500	1/2"-7/8"	< 10,0	88+75	29	10 400

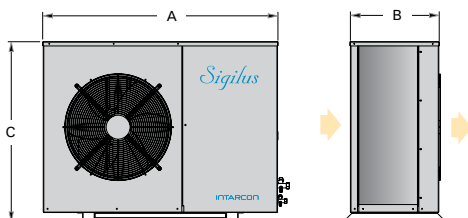
As an option

- Change to 400 V-III-50 Hz power supply. <sup>(4)</sup> + 5%

Dimensions evaporator



Dimensions condenser



Dimensions (mm)	A	B	C	D	E	F	Evaporator fans
series 0 and 00	670	305	440	738	627	203	1x Ø 254
series 10	1030	373	577	738	627	203	1x Ø 254
series 11 and VSF-GF-1014	1030	373	577	860	706	253	1x Ø 360
series 12 and VSF-GF-1024 and 1034	1030	373	577	860	1056	253	2x Ø 360
series 2 and 23	1080	410	827	860	1756	253	3x Ø 360
series 3 and 33	1150	481	1097	860	1756	253	3x Ø 360

<sup>(1)</sup> Nominal technical features are related to 15°C, 70% relative humidity inside the cold room and 35 °C ambient temperature.

Bar and restaurant cold room volume is estimated with no insulation and cellar volume is estimated with 30 mm insulation.

\* SPL: Sound pressure level shown in dB(A) at 10 metres distance from the source in free field.

<sup>(3)</sup> Units available in 400V - III - 50Hz power supply.

Centrifugal version, series VSH -CG.

The split system for cellars are also available in a version featuring a centrifugal condensing unit.

Series / Model	HP	Cond. flow (m³/h)	A.s.p. <sup>(4)</sup> (mmca)	Price (€)	
R-134A	VSH-CGY-10 010	3/8	575	12	3 998
	VSH-CGY-21 015	1/2	1000	12	4 998
	VSH-CGY-22 033	1	1000	12	6 018
	VSH-CGY-33 053	1 1/2	1500	12	7 452
	VSH-CGY-43 074	2	3500	10	9 828
R-404A	VSH-CGF-2 014	1/2	1000	12	4 900
	VSH-CGF-2 024	1	1000	12	5 900
	VSH-CGF-3 034	1 1/2	1500	12	6 900
	VSH-CGF-4 048	2	3500	10	9 100
VSH-CGF-4 060	3	3500	10	10 400	

<sup>(4)</sup> Available static pressure in extraction ducts.

Technical features of condensing unit as in pages 9 to 11.

series VCR-N / VCR-C

Technical features

- R-404A or R-134A refrigerant load lower than 2,5 kg.
- Hermetic reciprocating compressor.
- High and low pressure switches.
- Air defrosting.
- Electrical heaters for heating and humidification / dehumidification inbuilt system
- Anticorrosion coated evaporation coil.
- Water purge system.
- Inbuilt thermostatic expansion valve.
- Evaporator case made in sandwich panel, with 50 mm polyurethane insulation, internally covered in steel sheet.
- Multifunctional electronic dual control for temperature and humidity, and remote keyboard.



Series VCR-N



Series VCR-C

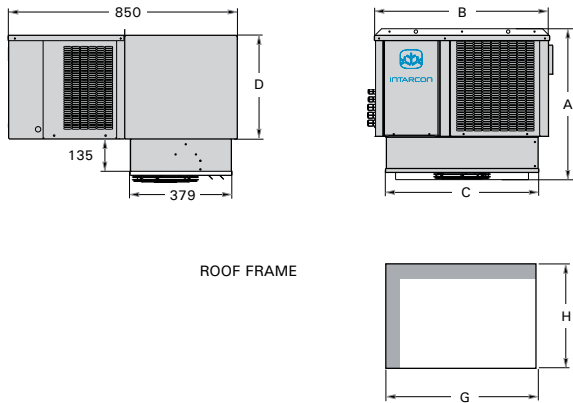
Wine cellars

Series / Model	Compressor		Cellar volume (m <sup>3</sup> )		Cooling capacity at 15 °C 70% RH (W) <sup>(1)</sup>	Heating capacity (W)	Nominal absorbed power (kW)	Max. absorb. Intensity (A)	Evap. flow (m <sup>3</sup> /h)	Cond. flow (m <sup>3</sup> /h)	Refrig. load (kg)	Weight (kg)	Sound pressure level dB(A) <sup>(2)</sup>	Price (€)	
	HP	Power supply	not isolated	isolated											
R-134A	VCR-NY-1 010	3/8	230V - I	15	34	1269	1000	1,55	8,9	600	575	< 2,5	73	30	3 978
	VCR-NY-2 015	1/2	230V - I	25	63	2020	1000	1,83	10,8	1150	1000	< 2,5	88	31	4 284
	VCR-NY-2 033	1	230V - I	42	95	3203	2000	3,37	19,0	1150	1000	< 2,5	98	35	5 151
R-404A	VCR-NF-1 010	3/8	230V - I	15	35	1310	1000	1,71	10,1	600	575	< 2,5	73	32	3 900
	VCR-NF-1 014	1/2	230V - I	20	50	1610	1000	1,93	11,7	600	575	< 2,5	73	32	4 200
	VCR-NF-2 024	1	230V - I	40	90	3030	2000	3,54	21,4	1150	1000	< 2,5	98	36	5 050

As an option

- Back-flow damper in fan outlet (series VCR-C). + 25 €

Dimensions VCR-N



Dimensions (mm)	A	B	C	D	G	H
series 1	574	665	582	385	588	385
series 2	657	835	756	469	762	385

<sup>(1)</sup> Nominal technical features are related to 15°C, 70% relative humidity inside the cold room and 35 °C ambient temperature.

Bar and restaurant cold room volume is estimated with no insulation and cellar volume is estimated with 30 mm insulation.

\* SPL: Sound pressure level shown in dB(A) at 10 metres distance from the source in free field.

Centrifugal version, series VCR-C.

The roof-top monoblock units for cellars are also available in centrifugal version.

Series / Model	HP	Cond. flow (m <sup>3</sup> /h)	A. s. p. <sup>(3)</sup> (mmca)	Price (€)	
R-134A	VCR-CY-1 010	3/8	575	12	4 182
	VCR-CY-2 015	1/2	1000	12	4 590
	VCR-CY-2 033	1	1000	12	5 610
R-404A	VCR-CF-1 010	3/8	575	12	4 100
	VCR-CF-1 014	1/2	575	12	4 500
	VCR-CF-2 024	1	1000	12	5 500

<sup>(3)</sup> Available static pressure in extraction ducts.

Exhaust duct

Recommended size for 20 m long steel, PVC or fiberglass ducts (each elbow equals 5 m length). For flexible or semi-flexible duct use a larger size.

- series 1: < 20m Ø 150 mm.  
> 20m Ø 200 mm.
- series 2: Ø 200 mm or 150 x 200 mm.

## Condensing units



- \* Electronical and mechanical control versions.
- \* Multiservice version with VRC system for cooling capacity modulation.

Refrigeration condensing units, featuring centrifugal condensation for indoor installation or low-noise axial condensation for outdoor installation.

Versions with mechanical, electronical or multiservice control with VRC system for cooling capacity modulation.

## intarbox

*Air-cooled centrifugal condensing units with centrifugal fan for a ducted air outlet, for indoor installation.*

- \* Tropicalised design for ambient temperature up to 45 °C.
- \* Electronical, mechanical and multiservice versions.

## Sigilus

*Air-cooled low noise condensing units for outdoor installation.*

*Due to their triple acoustic insulation, **Sigilus** condensing units are found among the most silent units in the market and, due to their tropicalised design, they can operate under extreme ambient temperature.*

- \* Tropicalised design for ambient temperature up to 50 °C.
- \* Low-noise condensing units with low-speed fans.
- \* Electronical, mechanical and multiservice versions.

# Condensing units



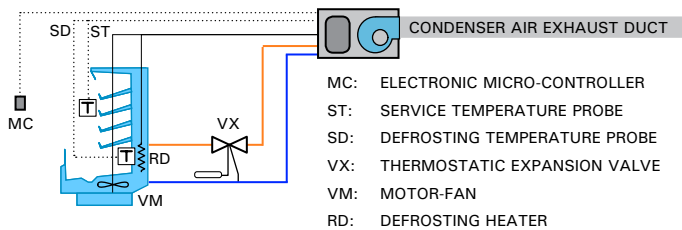
## Description

Air-cooled condensing units for positive temperature applications, in low-noise axial or centrifugal construction, mechanical, electrical and cooling capacity modulation versions

## Technical features

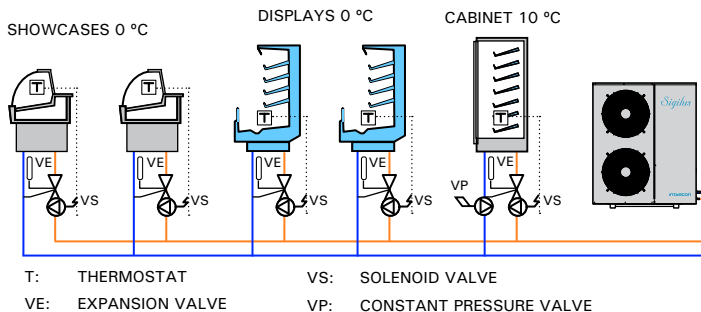
- R-404A or R-134A refrigerant.
- Hermetic reciprocating compressor, mounted on shock absorbers, with discharge muffler (MDF from 1 HP, and MDH series 3 and 4), crankcase heater (series MDF) and internal klixon.
- Condensing coil made in copper pipes and aluminium fins.
- Low-speed axial motor-fan (series MDF).
- Centrifugal motor-fan with available static pressure for a ducted outlet of condenser hot air (series MDH).
- Refrigeration circuit equipped with high and low pressure switches, ceramic dehydratant filter, liquid receiver and sight glass.
- Digital control of condensing temperature (version -N), and on/off control of condensing temperature (version -M).
- Proportional control of condensing temperature through fan speed variator (already included from MDF-NY-2086, MDF-NF-1038 and MDH series 4).
- Full control and power panel, with compressor and motor fan protection.
- Electronic controller for evaporator (version -N).
- Inbuilt oil separator (multiservice version -V).

## Installation



## Multiservice installation

Multi-service condensing units are specifically designed for cooling production centralization of a set of positive or negative temperature evaporating units.



- ❄ Mechanical version with pump-down control.
- ❄ Electrical version with electrical board for the evaporating unit.
- ❄ Multiservice version with VRC cooling capacity modulation system.
- ❄ Tropicalised design for high ambient temperature.

## Version -N (electrical)

**intarbox** condensing units, in their electronic version, feature an advanced XWING electronic controller as standard, to control both, condensing and evaporating units. They feature an inbuilt solenoid valve as an option.

## Version -M (electromechanical)

The electromechanical version is designed for on/off operation depending to low suction pressure (pump down),

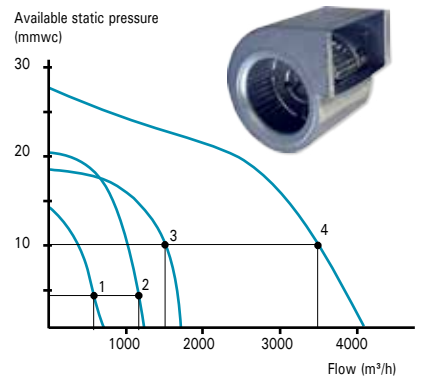
## Version -V (multiservice)

The **multiservice version of the condensing units feature the VRC system** with one only hermetic reciprocating compressor adjusts the refrigerant flow to the demand of the evaporating units, keeping constant the pressure in suction line.

The **VRC system** is composed by a set of pressure and temperature regulation valves able to progressively change compressor's cooling capacity from 100% to 10% of its nominal capacity, while reducing the absorbed electrical power and protects the compressor as its operation is kept between its safety margins for avoiding reheating risk.

## Centrifugal motor-fans

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



## Low-noise axial condensing units for 1 or 2 services

Series / Model	Compressor		Cooling capacity EN13215 <sup>(1)</sup> (W)	Service length (m)			Nominal absorbed power (kW)	Max. absorb. Intensity (A)	Fan Ø mm	Flow (m³/h)	Connection pipes Liq - Gas	Max. pipe length <sup>(3)</sup> (m)	Weight (kg)	Sound pressure level dB(A) <sup>(4)</sup>	Price Version MY / MF (€)	Price Version NY / NF (€)	
	HP	Power supply		TeV -10 °C	Showcase												Mural
					Total	Min. service <sup>(2)</sup>											
R-134A	MDF-NY-0 010	3/8	230V - I	610	0,5-1,0	0,5	-	0,29	3,9	Ø 200	350	1/4"-3/8"	14	46	20	1 357	1 492
	MDF-NY-0 015	1/2	230V - I	778	0,8-1,2	0,5	-	0,36	4,9	Ø 200	350	1/4"-3/8"	14	49	20	1 448	1 593
	MDF-NY-1 015	1/2	230V - I	923	1,0-1,5	0,7	-	0,39	5,3	Ø 360	1700	1/4"-1/2"	20	57	20	1 530	1 683
	MDF-NY-1 026	3/4	230V - I	1381	1,8-2,4	1,0	-	0,63	9,0	Ø 360	1700	1/4"-1/2"	22	65	22	1 631	1 794
	MDF-NY-1 033	1	230V - I	1796	2,8-3,2	1,2	1,0	0,74	9,2	Ø 360	1700	1/4"-5/8"	25	67	22	1 855	2 041
	MDF-NY-1 053	1 1/2	230V - I <sup>(5)</sup>	2436	3,5-4,4	2,0	1,0-1,5	1,22	11,8	Ø 360	1700	1/4"-3/4"	30	77	27	2 200	2 420
	MDF-NY-1 074	2	230V - I <sup>(5)</sup>	3486	5,5-6,5	2,5	1,5-2,0	1,54	15,8	Ø 360	1700	1/4"-3/4"	30	79	28	2 770	3 048
	MDF-NY-2 086	4	400V - III	4326	6,5-8,0	3,0	2,0-2,5	1,88	12,6	Ø 450	3700	3/8"-7/8"	30	96	39	3 110	3 421
	MDF-NY-2 108	5	400V - III	5003	7,0-9,0	3,5	2,5-3,0	2,13	15,6	Ø 450	3700	3/8"-7/8"	30	98	37	3 294	3 623
	MDF-NY-2 136	6 1/2	400V - III	6752	10,0-12,0	5,0	3,5-4,0	2,87	19,6	Ø 450	3700	3/8"-1 1/8"	30	101	36	3 778	4 156
	MDF-NY-3 171	8	400V - III	7786	12,0-14,0	6,0	4,0-5,0	3,57	22,6	Ø 450	4000	3/8"-1 1/8"	30	140	40	4 551	5 006
	MDF-NY-3 215	10	400V - III	9833	16,0-18,0	8,0	5,0-6,0	4,12	28,3	2x Ø 450	6500	3/8"-1 1/8"	30	147	39	5 074	5 581
MDF-NY-3 271	13	400V - III	13503	23,0-25,0	12,0	7,5-8,5	5,79	37,3	2x Ø 450	6500	1/2"-1 3/8"	30	152	39	5 643	6 207	
R-404A	MDF-NF-0 008	1/3	230V - I	675	0,8-1,2	0,5	-	0,37	5,1	Ø 200	350	1/4"-3/8"	15	47	20	1 330	1 463
	MDF-NF-0 010	3/8	230V - I	804	1,2-1,7	0,7	-	0,47	4,8	Ø 200	350	1/4"-3/8"	15	49	21	1 420	1 562
	MDF-NF-0 012	1/2	230V - I	945	1,4-2,1	0,8	-	0,56	5,6	Ø 200	350	1/4"-3/8"	20	50	20	1 500	1 650
	MDF-NF-1 014	1/2	230V - I	1243	1,8-2,3	1,0	-	0,71	5,1	Ø 360	1700	1/4"-1/2"	20	59	20	1 599	1 759
	MDF-NF-1 016	5/8	230V - I	1449	2,0-2,5	1,0	-	0,76	5,6	Ø 360	1700	1/4"-1/2"	25	67	23	1 728	1 901
	MDF-NF-1 018	3/4	230V - I	1751	2,5-3,0	1,2	1,0	0,92	6,7	Ø 360	1700	1/4"-1/2"	25	68	24	1 819	2 001
	MDF-NF-1 024	1	230V - I	2063	2,7-3,5	1,5	1,0-1,5	1,06	8,5	Ø 360	1700	3/8"-5/8"	30	82	24	1 992	2 191
	MDF-NF-1 026	1 1/4	230V - I <sup>(5)</sup>	2394	3,0-4,0	1,5	1,3-1,8	1,26	9,2	Ø 360	1700	3/8"-5/8"	30	83	27	2 037	2 241
	MDF-NF-1 034	1 1/2	230V - I <sup>(5)</sup>	2774	4,0-5,0	2,0	1,5-2,0	1,69	12,4	Ø 360	1700	3/8"-5/8"	30	83	29	2 107	2 318
	MDF-NF-1 038	1 3/4	400V - III	3211	5,0-6,0	2,5	2,0-2,5	1,60	4,6	Ø 450	3200	3/8"-5/8"	30	82	30	2 565	2 822
	MDF-NF-2 048	2	400V - III	4084	6,0-7,5	3,0	2,5-3,0	2,09	6,3	Ø 450	3600	3/8"-3/4"	30	84	30	2 880	3 168
	MDF-NF-2 054	2 1/4	400V - III	4732	7,0-9,0	3,5	3,0-3,5	2,29	6,8	Ø 450	3600	3/8"-3/4"	30	85	30	3 050	3 355
	MDF-NF-2 060	3	400V - III	5512	8,5-10,0	4,0	3,5-4,0	2,70	7,8	Ø 450	3600	3/8"-3/4"	30	88	29	3 328	3 661
	MDF-NF-2 068	3 1/2	400V - III	6148	10,0-12,0	5,0	4,0-5,0	3,10	9,2	Ø 450	3600	1/2"-3/4"	30	88	29	3 498	3 848

## Low-noise axial multiservice condensing units

Series / Model	Compressor		Cooling capacity EN13215 <sup>(1)</sup> (W)	Service length (m)			Nominal absorbed power (kW)	Max. absorb. Intensity (A)	Fan Ø mm	Flow (m³/h)	Connection pipes Liq - Gas	Max. pipe length <sup>(3)</sup> (m)	Weight (kg)	Sound pressure level dB(A) <sup>(4)</sup>	Price Version VY / VF (€)	
	HP	Power supply		TeV -10 °C	Showcase											Mural
					Total	Min. service <sup>(2)</sup>										
R-134A	MDF-VY-2 086	4	400V - III	4326	6,5-8,0	1,0	2,0-2,5	1,88	12,6	Ø 450	3700	3/8"-7/8"	30	96	39	4 957
	MDF-VY-2 108	5	400V - III	5003	7,0-9,0	1,0	2,5-3,0	2,13	15,6	Ø 450	3700	3/8"-7/8"	30	98	37	5 486
	MDF-VY-2 136	6 1/2	400V - III	6752	10,0-12,0	1,5	3,5-4,0	2,87	19,6	Ø 450	3700	3/8"-1 1/8"	30	101	36	6 059
	MDF-VY-3 171	8	400V - III	7786	12,0-14,0	2,0	4,0-5,0	3,57	22,6	Ø 450	4000	3/8"-1 1/8"	30	140	40	6 995
	MDF-VY-3 215	10	400V - III	9833	16,0-18,0	2,0	5,0-6,0	4,12	28,3	2x Ø 450	6500	1/2"-1 1/8"	30	147	39	7 491
MDF-VY-3 271	13	400V - III	13503	23,0-25,0	2,5	7,5-8,5	5,79	37,3	2x Ø 450	6500	1/2"-1 3/8"	30	152	39	8 141	
R-404A	MDF-VF-1 038	1 3/4	400V - III	3211	5,0-6,0	1,0	2,0-2,5	1,60	4,6	Ø 450	3200	3/8"-5/8"	30	80	30	4 072
	MDF-VF-2 048	2	400V - III	4084	6,0-7,5	1,0	2,5-3,0	2,09	6,3	Ø 450	3600	3/8"-3/4"	30	80	30	4 386
	MDF-VF-2 054	2 1/4	400V - III	4732	7,0-9,0	1,0	3,0-3,5	2,29	6,8	Ø 450	3600	3/8"-3/4"	30	82	30	4 590
	MDF-VF-2 060	3	400V - III	5512	8,5-10,0	1,5	3,5-4,0	2,70	7,8	Ø 450	3600	3/8"-3/4"	30	88	29	5 080
	MDF-VF-2 068	3 1/2	400V - III	6148	10,0-12,0	1,5	4,0-5,0	3,10	9,2	Ø 450	3600	1/2"-3/4"	30	88	29	5 610
	MDF-VF-3 086	4	400V - III	7197	12,0-16,0	2,0	4,5-6,0	3,37	9,6	Ø 450	4000	1/2"-7/8"	30	115	39	6 477
	MDF-VF-3 108	5	400V - III	9434	16,0-20,0	2,0	5,5-7,5	4,50	13,0	2x Ø 450	6500	1/2"-7/8"	30	120	37	6 936
	MDF-VF-4 136	6 1/2	400V - III	11944	20,0-24,0	2,5	7,0-9,0	5,99	16,4	2x Ø 450	7000	1/2"-1 1/8"	30	135	36	7 538

## As an option

- Change to 400 V-III-50 Hz power supply. <sup>(5)</sup> + 8 %
- Inbuilt oil separator (already included for version -V). + 590 €
- Inbuilt solenoid valve (versions -N and -M). + 145 €
- Anticorrosion coil coating. + 8 %
- Coil protection grille. + 90 €
- Proportional control of condensing temperature through fan speed variator (models up to 1074 with R134A, and models up to 1034 with R404A). + 250 €

<sup>(1)</sup> Conditions based on UNE-EN 13215 regulation: 32 °C ambient temperature, evaporating temperature -10 °C (PT), suction temperature 20 °C and subcooling 3K.

<sup>(2)</sup> Minimal service length is the minimal length of a service the condensing unit can operate with (version -V). The maximum number of services for versions -N and -M is two, of a similar capacity.

<sup>(3)</sup> Consult for pipe length over 30 m.

<sup>(4)</sup> SPL: Sound pressure level shown in dB(A) on open field at 10 m. from the source.

<sup>(5)</sup> Units available in 400V-III-50Hz power supply.

Every service needs to have thermostatic expansion valve and solenoid valve controlled by a thermostat.

## Centrifugal condensing units for 1 or 2 services

Series / Model	Compressor		Cooling capacity EN13215 <sup>(1)</sup> (W)	Service length (m)			Nominal absorbed power (kW)	Max. absorb. Intensity (A)	A.s.p. <sup>(3)</sup> (mmca)	Flow (m <sup>3</sup> /h)	Connection pipes Liq - Gas	Max. pipe length <sup>(4)</sup> (m)	Weight (kg)	Sound pressure level dB(A) <sup>(5)</sup>	Price Version CMY / CMF (€)	Price Version CY / CF (€)	
	HP	Power supply		Showcase		Mural											
			TeV -10 °C		Total		Min. service <sup>(2)</sup>										
R-134A	MDH-CY-0 010	3/8	230V - I	605	1,0	1,0	-	0,47	5,3	12	375	1/4"-3/8"	15	37	26	1 261	1 327
	MDH-CY-0 015	1/2	230V - I	778	1,0	1,0	-	0,54	6,3	12	375	1/4"-3/8"	15	40	26	1 422	1 496
	MDH-CY-1 015	1/2	230V - I	923	1,5	1,0	-	0,60	6,3	12	575	1/4"-1/2"	15	41	28	1 518	1 597
	MDH-CY-1 026	3/4	230V - I	1286	2,0	1,0	-	0,85	10,0	12	575	1/4"-1/2"	20	48	30	1 622	1 707
	MDH-CY-1 033	1	230V - I	1638	2,5-3,0	1,2	1,0	0,97	10,2	12	575	1/4"-1/2"	25	50	31	1 910	2 010
	MDH-CY-2 033	1	230V - I	1806	2,8-3,2	1,5	1,0	1,08	10,2	12	1000	1/4"-5/8"	30	53	31	2 041	2 148
	MDH-CY-2 053	1 1/2	230V - I <sup>(6)</sup>	2363	3,8-4,2	1,5	1,0-1,5	1,47	12,8	12	1000	1/4"-5/8"	30	63	37	2 327	2 570
	MDH-CY-3 053	1 1/2	230V - I <sup>(6)</sup>	2441	3,5-4,5	2,0	1,0-1,5	1,46	12,8	12	1500	1/4"-3/4"	30	82	37	2 382	2 693
	MDH-CY-3 074	2	230V - I <sup>(6)</sup>	3512	5,5-6,5	2,5	1,5-2,0	1,86	16,7	12	1500	1/4"-3/4"	30	84	34	2 659	2 938
	MDH-CY-4 086	4	400V - III	4326	6,0-8,0	3,5	2,0-2,5	2,79	17,7	10	3500	3/8"-7/8"	30	107	46	3 645	4 003
	MDH-CY-4 108	5	400V - III	5030	7,5-9,5	4,0	2,5-3,0	3,17	20,7	10	3500	3/8"-7/8"	30	109	44	3 978	4 370
MDH-CY-4 136	6 1/2	400V - III	6505	10,0-12,0	5,0	3,0-4,0	3,96	24,7	10	3500	3/8"-1 1/8"	30	112	43	4 919	5 411	
R-404A	MDH-CF-0 008	1/3	230V - I	662	1,2	1,0	-	0,45	4,6	12	375	1/4"-3/8"	15	38	30	1 206	1 269
	MDH-CF-0 010	3/8	230V - I	874	1,5	1,0	-	0,55	5,9	12	375	1/4"-3/8"	15	40	28	1 339	1 409
	MDH-CF-0 012	1/2	230V - I	1028	2,0	1,0	-	0,63	6,7	12	375	1/4"-3/8"	15	41	30	1 431	1 505
	MDH-CF-1 014	1/2	230V - I	1095	2,0	1,0	-	0,64	5,7	12	575	1/4"-1/2"	20	42	30	1 488	1 566
	MDH-CF-1 016	5/8	230V - I	1242	2,0-2,5	1,0	-	0,71	6,2	12	575	1/4"-1/2"	25	50	33	1 590	1 674
	MDH-CF-1 018	3/4	230V - I	1474	2,5-3,0	1,2	1,0	0,87	7,5	12	575	1/4"-1/2"	25	51	34	1 744	1 836
	MDH-CF-2 024	1	230V - I	1971	2,7-3,5	1,5	1,0-1,5	0,98	9,6	12	1000	3/8"-5/8"	30	54	36	2 001	2 106
	MDH-CF-2 026	1 1/4	230V - I <sup>(6)</sup>	2295	3,0-4,0	1,5	1,3-1,8	1,19	10,3	12	1000	3/8"-5/8"	30	55	38	2 155	2 268
	MDH-CF-2 034	1 1/2	230V - I <sup>(6)</sup>	2651	4,0-5,0	2,0	1,5-2,0	1,63	13,5	12	1000	3/8"-5/8"	30	55	40	2 257	2 376
	MDH-CF-3 034	1 1/2	230V - I <sup>(6)</sup>	2896	4,5-5,5	2,0	1,8-2,3	1,59	13,7	12	1500	3/8"-5/8"	30	74	39	2 360	2 484
	MDH-CF-3 038	1 3/4	400V - III	3065	5,0-6,0	2,5	2,0-2,5	1,48	6,0	12	1500	3/8"-5/8"	30	71	40	2 462	2 592
	MDH-CF-4 048	2	400V - III	4270	6,0-7,5	3,0	2,5-3,0	2,42	12,5	10	3500	3/8"-3/4"	30	95	37	3 375	3 532
	MDH-CF-4 054	2 1/4	400V - III	4938	7,0-9,0	3,5	3,0-3,5	2,61	13,0	10	3500	3/8"-3/4"	30	96	37	3 683	3 856
	MDH-CF-4 060	3	400V - III	5512	8,5-10,0	4,0	3,5-4,0	3,06	14,0	10	3500	3/8"-3/4"	30	97	36	4 094	4 288
	MDH-CF-4 068	3 1/2	400V - III	6269	10,0-12,0	5,0	4,0-4,5	3,42	15,4	10	3500	1/2"-3/4"	30	98	36	4 555	4 774

## Centrifugal multiservice condensing units

Series / Model	Compressor		Cooling capacity EN13215 <sup>(1)</sup> (W)	Service length (m)			Nominal absorbed power (kW)	Max. absorb. Intensity (A)	A.s.p. <sup>(3)</sup> (mmca)	Flow (m <sup>3</sup> /h)	Connection pipes Liq - Gas	Max pipe length <sup>(4)</sup> (m)	Weight (kg)	Sound pressure level dB(A) <sup>(5)</sup>	Price Version CVF / CVY (€)	
	HP	Power supply		Showcase		Mural										
			TeV -10 °C		Total		Min. service <sup>(2)</sup>									
R-134A	MDH-CVY-4 086	4	400V - III	4326	6,0-8,0	1,0	2,0-2,5	2,79	17,7	10	3500	3/8"-7/8"	30	107	46	5 178
	MDH-CVY-4 108	5	400V - III	5030	7,5-9,5	1,5	2,5-3,0	3,17	20,7	10	3500	3/8"-7/8"	30	109	44	5 819
	MDH-CVY-4 136	6 1/2	400V - III	6505	10,0-12,0	1,5	3,0-4,0	3,96	24,7	10	3500	3/8"-1 1/8"	30	112	43	6 344
R-404A	MDH-CVF-4 048	2	400V - III	4270	6,0-7,5	1,0	2,5-3,0	2,42	12,5	10	3500	3/8"-3/4"	30	95	37	4 632
	MDH-CVF-4 054	2 1/4	400V - III	4938	7,0-9,0	1,0	3,0-3,5	2,61	13,0	10	3500	3/8"-3/4"	30	96	37	4 956
	MDH-CVF-4 060	3	400V - III	5512	8,5-10,0	1,5	3,5-4,0	3,06	14,0	10	3500	3/8"-3/4"	30	97	36	5 388
	MDH-CVF-4 068	3 1/2	400V - III	6269	10,0-12,0	1,5	4,0-4,5	3,42	15,4	10	3500	1/2"-3/4"	30	98	36	5 874

## As an option

- Change to 400 V-III-50 Hz power supply. <sup>(6)</sup> + 8 %
- Inbuilt oil separator (already included for version -V). + 590 €
- Crankcase heater. + 60 €
- Inbuilt solenoid valve. + 145 €
- Anticorrosion coil coating. + 8 %
- Back-flow damper in fan outlet. + 25 €
- Rectangular to circular duct adaptor (series 3, 4). + 75 €

<sup>(1)</sup> Conditions based on UNE-EN 13215 regulation: 32 °C ambient temperature, evaporating temperature -10 °C (PT), suction temperature 20 °C and subcooling 3K.

<sup>(3)</sup> A.s.p.: Presión estática disponible en conductos de descarga.

<sup>(4)</sup> Consult for pipe length over 30 m.

<sup>(5)</sup> SPL: Sound pressure level shown in dB(A) on open field at 10 m. from the source.

<sup>(6)</sup> Units available in 400V-III-50Hz power supply.

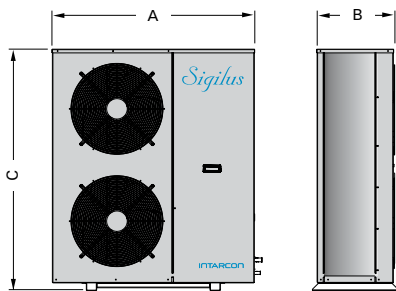
## Exhaust duct

Recommended size for 20 m long steel, PVC or fiberglass ducts (each elbow equals 5 m length). For flexible or semi-flexible duct use a larger size.

- series 0: Ø 150 mm.
- series 1: Ø 150 mm.
- series 2: Ø 200 mm.
- series 3: Ø 250 or 200 x 300 mm.
- series 4: Ø 400 or 300 x 400 mm.

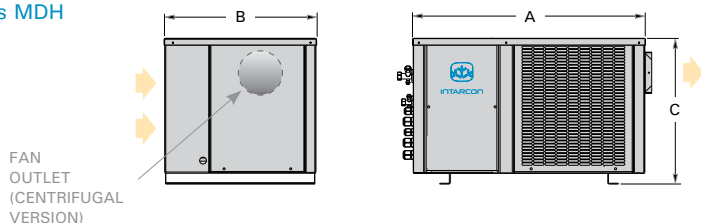


Dimensions MDF



Dimensions (mm)	A	B	C
series 0	670	305	440
series 1	1030	373	577
series 2	1080	410	827
series 3	1150	481	1097
series 4	1150	481	1347

Dimensions MDH



Dimensions (mm)	A	B	C	Fan outlet
series 0	600	395	355	Ø 150
series 1	665	435	416	Ø 150
series 2	835	435	500	Ø 150
series 3	925	580	515	236 266
series 4	1000	615	585	305 266

# Electronic controller

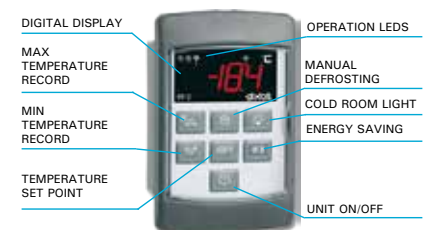
Electronic regulation XW270K

XWING electronic control, as standard in our commercial range units, is an advanced multifunction controller. It features a digital 7-keys keyboard, including the following functions:

- Compressor and motor-fan control, with power protection and pressure limiter.
- Digital control of condensation pressure by on/off switching the fan according to the condensation temperature.
- Cold room temperature control, recording maximum and minimum temperature values.
- Evaporating unit fans and defrosting cycle control with defrosting temperature probe.
- Cold room lamp switch and relay.
- Open door and external alarm inputs.
- Fast-freezing cycle to get quickly the products at its optimum conservation temperature.
- Night-operation mode for energy saving.
- Parameters are set by key stroking or by programming plug-in key.
- Standard ModBUS-RTU communication protocol through an optional RS485 connection.

Composed by an electronic board and a remote digital keyboard. The following inputs and outputs are found on the electronic board:

- 6 relay to control: compressor, condensation fan, evaporator fan, defrosting, light and alarm signal.
- 3 NTC temperature probes (accuracy ±0,5°C) for cold room, defrosting and condensation temperature.
- Digital input for high and low pressure switches.
- Digital input for door microswitch.
- TTL connector for programming plug-in key or external communication through ModBUS protocol.



Electronic regulation Humidity control XH240K

XH240K electronic control, as standard in our high humidity range, is an advanced multifunction dual controller for temperature and humidity, with a digital 6-keys keyboard, including the following functions:

- Compressor and motor-fan control, with power protection and pressure limiter.
- Cold room humidity control.
- Cold room temperature control, recording maximum and minimum temperature values.
- Parameters are set by key stroking or by programming plug-in key.
- External alarm input (as an option).
- Standard ModBUS-RTU communication protocol through an optional RS485 connection.

Composed by an electronic board and a remote digital keyboard. The following inputs and outputs are found on the electronic board:

- 4 relay to control: compressor, fan, defrosting and humidification.
- 1 NTC temperature probe (accuracy ±0,5°C) for cold room temperature.
- 1 humidity probe for cold room humidity.
- Digital input for door microswitch
- TTL connector for programming plug-in key or external communication through ModBUS protocol.



# Cooling connection calculation



## Cooling connection calculation

INTARCON commercial range split units are delivered with a R-404A or R-134A refrigerant load enough for up to 15 m of cooling pipes.

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

We recommend to use the following nominal pipe diameters for both, liquid and gas lines, according to the length of the cooling pipes. For total length longer than 15 metres some extra refrigerant and poliolester oil (POE) load must be added as indicated in the following chart.

Model	Connection and recommended liquid-gas pipe diameter depending on pipe length							Additional refrigerant / oil load		
	Connection	5 m	10 m	15 m	20 m	25 m	30 m	20 m	25 m	30 m
HIGH TEMPERATURE R-134A	- 015	Flare 1/4"-1/2"	1/4"-1/2"	1/4"-1/2"	1/4"-1/2"					
	- 026	Flare 1/4"-1/2"	1/4"-1/2"	1/4"-5/8"	1/4"-5/8"	1/4"-5/8"		125 / 100		
	- 033	Flare 1/4"-5/8"	1/4"-5/8"	1/4"-5/8"	1/4"-3/4"	1/4"-3/4"	1/4"-3/4"	125 / 150	250 / 300	375 / 450
	- 053	Flare 3/8"-3/4"	3/8"-3/4"	3/8"-3/4"	3/8"-3/4"	3/8"-7/8"	3/8"-7/8"	300 / 200	600 / 400	900 / 600
	- 074	Flare 3/8"-3/4"	3/8"-3/4"	3/8"-7/8"	3/8"-7/8"	3/8"-7/8"	3/8"-7/8"	300 / 200	600 / 400	900 / 600
	- 086	Solder 3/8"-7/8"	3/8"-7/8"	3/8"-7/8"	3/8"-7/8"	3/8"-1 1/8"	3/8"-1 1/8"	300 / 250	600 / 500	900 / 750
	- 108	Solder 3/8"-7/8"	3/8"-7/8"	3/8"-1 1/8"	3/8"-1 1/8"	3/8"-1 1/8"	3/8"-1 1/8"	300 / 250	600 / 500	900 / 750
	- 136	Solder 1/2"-1 1/8"	1/2"-1 1/8"	1/2"-1 1/8"	1/2"-1 1/8"	1/2"-1 1/8"	1/2"-1 1/8"	600 / 250	1200 / 500	1800 / 750
	- 171	Solder 1/2"-1 1/8"	1/2"-1 1/8"	1/2"-1 1/8"	1/2"-1 1/8"	1/2"-1 1/8"	1/2"-1 1/8"	600 / 250	1200 / 600	1800 / 900
	- 215	Solder 1/2"-1 3/8"	1/2"-1 3/8"	1/2"-1 3/8"	1/2"-1 3/8"	1/2"-1 3/8"	1/2"-1 3/8"	600 / 300	1200 / 600	1800 / 900
POSITIVE TEMPERATURE R-134A	- 010	Flare 1/4"-3/8"	1/4"-3/8"	1/4"-3/8"	1/4"-1/2"					
	- 0 015	Flare 1/4"-3/8"	1/4"-3/8"	1/4"-3/8"	1/4"-1/2"					
	- 1 015	Flare 1/4"-1/2"	1/4"-1/2"	1/4"-1/2"	1/4"-1/2"	1/4"-5/8"		125 / 100		
	- 026	Flare 1/4"-1/2"	1/4"-1/2"	1/4"-1/2"	1/4"-5/8"	1/4"-5/8"		125 / 100		
	- 033	Flare 1/4"-5/8"	1/4"-5/8"	1/4"-5/8"	1/4"-5/8"	1/4"-5/8"	1/4"-3/4"	125 / 100	250 / 300	
	- 053	Flare 1/4"-5/8"	1/4"-5/8"	1/4"-5/8"	1/4"-5/8"	1/4"-3/4"	1/4"-3/4"	125 / 150	250 / 300	
	- 074	Flare 3/8"-3/4"	3/8"-3/4"	3/8"-3/4"	3/8"-3/4"	3/8"-3/4"	3/8"-7/8"	300 / 150	1200 / 400	1500 / 600
	- 068	Flare 3/8"-3/4"	3/8"-3/4"	3/8"-3/4"	3/8"-3/4"	3/8"-7/8"	3/8"-7/8"	300 / 200	600 / 400	900 / 600
	- 086	Solder 3/8"-7/8"	3/8"-7/8"	3/8"-7/8"	3/8"-7/8"	3/8"-7/8"	3/8"-1 1/8"	300 / 200	600 / 400	900 / 750
	- 108	Solder 3/8"-7/8"	3/8"-7/8"	3/8"-7/8"	3/8"-7/8"	3/8"-7/8"	3/8"-1 1/8"	300 / 200	600 / 500	900 / 750
HIGH TEMPERATURE R-404A	- 010	Flare 1/4"-3/8"	1/4"-3/8"	1/4"-3/8"	1/4"-3/8"			100 / 25		
	- 012	Flare 1/4"-3/8"	1/4"-3/8"	1/4"-3/8"	1/4"-3/8"	1/4"-3/8"		300 / 50	600 / 100	900 / 150
	- 014	Flare 1/4"-1/2"	1/4"-1/2"	1/4"-1/2"	3/8"-1/2"	3/8"-1/2"	3/8"-1/2"	300 / 50	600 / 100	900 / 150
	- 016	Flare 1/4"-1/2"	1/4"-1/2"	1/4"-1/2"	3/8"-1/2"	3/8"-1/2"	3/8"-1/2"	300 / 50	600 / 100	900 / 150
	- 018	Flare 1/4"-1/2"	1/4"-1/2"	3/8"-1/2"	3/8"-1/2"	3/8"-1/2"	3/8"-1/2"	300 / 50	600 / 100	900 / 150
	- 024	Flare 3/8"-5/8"	3/8"-5/8"	3/8"-5/8"	3/8"-5/8"	3/8"-5/8"	3/8"-5/8"	300 / 100	600 / 200	900 / 300
	- 026	Flare 3/8"-5/8"	3/8"-5/8"	3/8"-5/8"	3/8"-5/8"	3/8"-5/8"	3/8"-5/8"	300 / 100	600 / 200	900 / 300
	- 034	Flare 3/8"-5/8"	3/8"-5/8"	3/8"-5/8"	3/8"-5/8"	3/8"-5/8"	3/8"-3/4"	300 / 100	600 / 450	900 / 600
	- 038	Flare 3/8"-5/8"	3/8"-5/8"	3/8"-5/8"	3/8"-5/8"	3/8"-3/4"	3/8"-3/4"	300 / 150	600 / 450	900 / 600
	- 048	Flare 1/2"-3/4"	1/2"-3/4"	1/2"-3/4"	1/2"-3/4"	1/2"-3/4"	1/2"-7/8"	600 / 150	1100 / 300	1700 / 800
POSITIVE TEMPERATURE R-404A	0008	Flare 1/4"-3/8"	1/4"-3/8"	1/4"-3/8"	1/4"-3/8"					
	0010	Flare 1/4"-3/8"	1/4"-3/8"	1/4"-3/8"	1/4"-3/8"					
	0012	Flare 1/4"-3/8"	1/4"-3/8"	1/4"-3/8"	1/4"-1/2"	1/4"-1/2"		100 / 50		
	1014	Flare 1/4"-1/2"	1/4"-1/2"	1/4"-1/2"	1/4"-1/2"	1/4"-1/2"		100 / 50		
	1016	Flare 1/4"-1/2"	1/4"-1/2"	1/4"-1/2"	1/4"-1/2"	1/4"-1/2"	1/4"-1/2"	100 / 50	200 / 100	
	1018	Flare 1/4"-1/2"	1/4"-1/2"	1/4"-1/2"	1/4"-1/2"	1/4"-1/2"	1/4"-1/2"	100 / 50	200 / 100	
	1024	Flare 1/4"-1/2"	1/4"-1/2"	1/4"-1/2"	1/4"-1/2"	3/8"-1/2"	3/8"-1/2"	300 / 50	600 / 100	
	2024	Flare 3/8"-5/8"	3/8"-5/8"	3/8"-5/8"	3/8"-5/8"	3/8"-5/8"	3/8"-5/8"	300 / 100	600 / 200	900 / 300
	2026	Flare 3/8"-5/8"	3/8"-5/8"	3/8"-5/8"	3/8"-5/8"	3/8"-5/8"	3/8"-5/8"	300 / 100	600 / 200	900 / 300
	2034	Flare 3/8"-5/8"	3/8"-5/8"	3/8"-5/8"	3/8"-5/8"	3/8"-5/8"	3/8"-5/8"	300 / 100	600 / 200	900 / 300
NEGATIVE TEMPERATURE R-404A	3034	Flare 3/8"-5/8"	3/8"-5/8"	3/8"-5/8"	3/8"-5/8"	3/8"-5/8"	3/8"-3/4"	300 / 100	600 / 200	900 / 600
	3038	Flare 3/8"-5/8"	3/8"-5/8"	3/8"-5/8"	3/8"-5/8"	3/8"-5/8"	3/8"-3/4"	300 / 100	600 / 450	900 / 600
	4048	Flare 3/8"-3/4"	3/8"-3/4"	3/8"-3/4"	3/8"-3/4"	3/8"-3/4"	3/8"-3/4"	300 / 150	600 / 300	900 / 450
	4054	Flare 3/8"-3/4"	3/8"-3/4"	3/8"-3/4"	3/8"-3/4"	3/8"-3/4"	3/8"-3/4"	300 / 150	600 / 300	900 / 450
	4060	Flare 3/8"-3/4"	3/8"-3/4"	3/8"-3/4"	3/8"-3/4"	3/8"-3/4"	1/2"-7/8"	300 / 150	1100 / 600	1700 / 800
	4068	Flare 1/2"-3/4"	1/2"-3/4"	1/2"-3/4"	1/2"-3/4"	1/2"-7/8"	1/2"-7/8"	600 / 300	1100 / 600	1700 / 800
	5068	Flare 1/2"-3/4"	1/2"-3/4"	1/2"-3/4"	1/2"-3/4"	1/2"-7/8"	1/2"-7/8"	600 / 300	1100 / 600	1700 / 800
	6086	Solder 1/2"-7/8"	1/2"-7/8"	1/2"-7/8"	1/2"-7/8"	1/2"-7/8"	1/2"-7/8"	600 / 300	1100 / 600	1700 / 800
	7108	Solder 1/2"-7/8"	1/2"-7/8"	1/2"-7/8"	1/2"-7/8"	1/2"-1 1/8"	1/2"-1 1/8"	600 / 400	1100 / 800	1700 / 1200
	9136	Solder 1/2"-1 1/8"	1/2"-1 1/8"	1/2"-1 1/8"	1/2"-1 1/8"	1/2"-1 1/8"	1/2"-1 1/8"	600 / 400	1100 / 800	1700 / 1200
NEGATIVE TEMPERATURE R-404A	1018	Flare 1/4"-1/2"	1/4"-1/2"	1/4"-1/2"	1/4"-1/2"					
	1026	Flare 1/4"-1/2"	1/4"-1/2"	1/4"-1/2"	1/4"-1/2"	1/4"-1/2"		100 / 100		
	1034	Flare 1/4"-1/2"	1/4"-1/2"	1/4"-1/2"	3/8"-5/8"	3/8"-5/8"	3/8"-5/8"	300 / 100	600 / 200	
	2034	Flare 3/8"-5/8"	3/8"-5/8"	3/8"-5/8"	3/8"-5/8"	3/8"-3/4"	3/8"-3/4"	300 / 300	600 / 450	900 / 600
	2054	Flare 3/8"-5/8"	3/8"-5/8"	3/8"-5/8"	3/8"-5/8"	3/8"-3/4"	3/8"-3/4"	300 / 300	600 / 450	900 / 800
	2074	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"	300 / 300	600 / 450	900 / 800
	3074	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"	300 / 300	600 / 450	900 / 800
	3086	Flare 3/8"-5/8"	3/8"-5/8"	3/8"-3/4"	3/8"-3/4"	3/8"-7/8"	3/8"-7/8"	300 / 300	600 / 600	900 / 800
	3096	Flare 3/8"-3/4"	3/8"-3/4"	3/8"-3/4"	3/8"-3/4"	3/8"-7/8"	3/8"-7/8"	300 / 300	600 / 600	900 / 800
	4096	Flare 3/8"-3/4"	3/8"-3/4"	3/8"-3/4"	3/8"-7/8"	3/8"-7/8"	3/8"-7/8"	300 / 300	600 / 600	900 / 800
4108	Solder 3/8"-7/8"	3/8"-7/8"	3/8"-7/8"	3/8"-7/8"	3/8"-7/8"	3/8"-1 1/8"	300 / 300	600 / 600	900 / 1200	
4136	Solder 3/8"-7/8"	3/8"-7/8"	3/8"-7/8"	3/8"-7/8"	3/8"-1 1/8"	3/8"-1 1/8"	300 / 400	600 / 800	900 / 1200	
5136	Solder 1/2"-1 1/8"	1/2"-1 1/8"	1/2"-1 1/8"	1/2"-1 1/8"	1/2"-1 1/8"	1/2"-1 1/8"	600 / 400	1100 / 800	1700 / 1200	
7215	Solder 1/2"-1 1/8"	1/2"-1 1/8"	1/2"-1 1/8"	1/2"-1 1/8"	1/2"-1 1/8"	1/2"-1 1/8"	600 / 400	1100 / 800	1700 / 1200	
8271	Solder 1/2"-1 1/8"	1/2"-1 1/8"	1/2"-1 1/8"	1/2"-1 1/8"	1/2"-1 3/8"	1/2"-1 3/8"	600 / 500	1100 / 1000	1700 / 1500	



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