

INTARCOOL

Refrigeration units

Product catalogue & selection guide
2012 edition





INTARCON

innovative refrigeration solutions

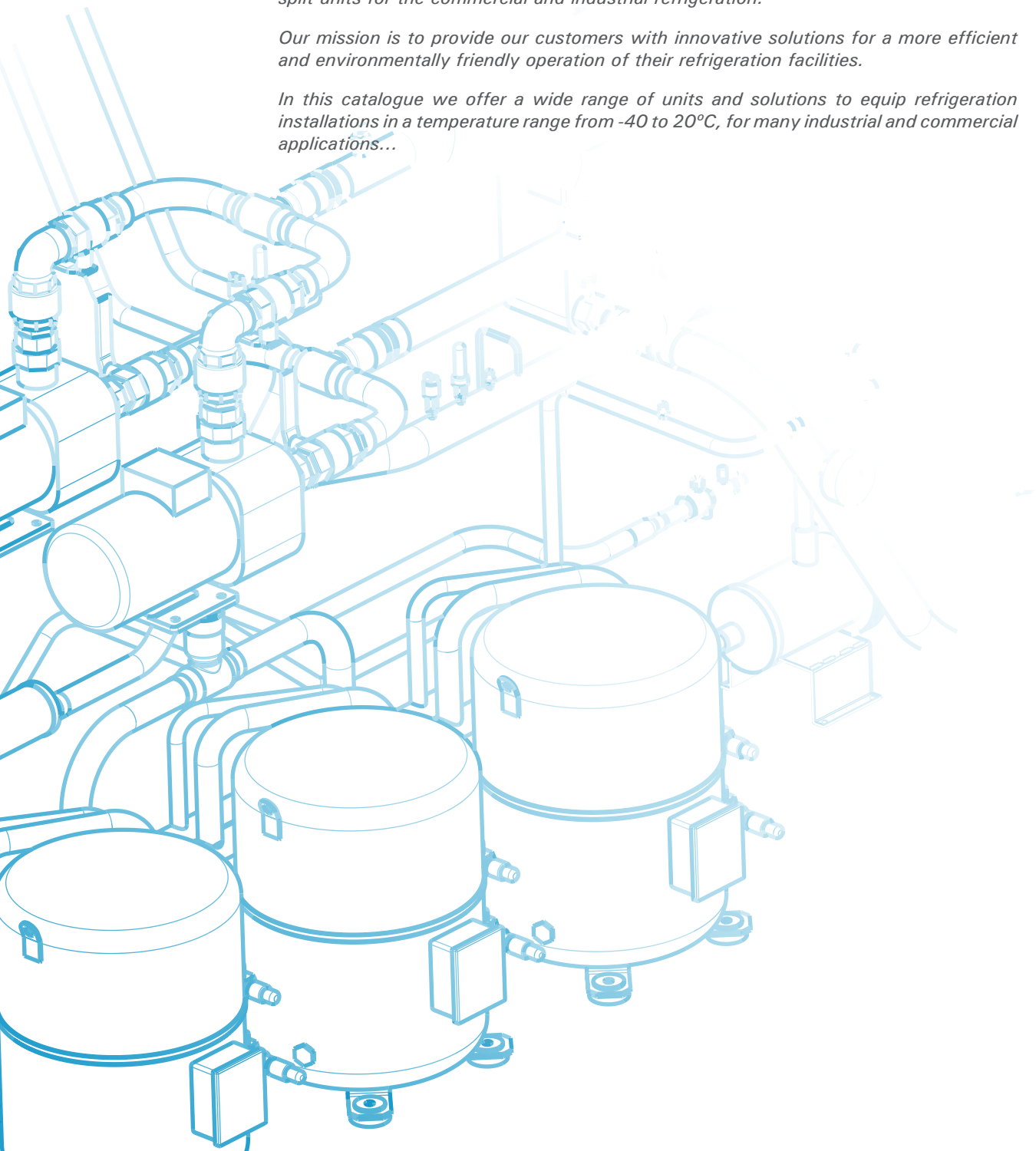
INTARCON was born in 2007 as a common initiative of a group of entrepreneurs from leading companies in the refrigeration sector.

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.

Intarcon's human team, 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 -40 to 20°C, for many industrial and commercial applications...





Restoration and hotel industry

INTARCON offers the market a wide range of compact 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's shops

*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.*

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.

Cold logistics

***superblock** monoblock units and **intarPACK** split units are the most appropriate option to cover the great cooling needs of the largest cold rooms at positive and negative temperature, as well as loading docks.*

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.

Food distribution

***intarPACK**, air-condensed refrigeration plants, give high cooling capacity to centralized installations with several evaporating units.*

Their self-contained and low noise construction lets their installation on the roof of the building or in an engine room with minimum space needs, being the most suitable option in urban environments.

Refrigeration installations with several evaporating units

*In installations with several evaporating units such as small and medium size cold rooms and other refrigerated furniture pieces (refrigerated racks, showcases...), the most practical solution is to centralize the cooling production in a single-compressor condensing unit **Sigilus-multi**.*

The evaporating units for cold rooms are easily integrated in the installation as one more service of it.

Supermarchés

In installations with several evaporating units such as small and medium size cold rooms and other refrigerated furniture pieces (refrigerated racks, showcases...), the most practical and efficient solution is the centralisation of cooling power in one refrigeration plant equipped with the Variable Refrigeration Capacity system, able to modulate the cooling capacity according to the demand of the evaporating units.

*The **intarPACK** refrigeration plants, in their axial and centrifugal versions, integrate this system for an optimum adaptation to the supermarket refrigeration installations.*

Glycol water refrigeration

*The chillers **intarPACK** for glycol water refrigeration are the answer for glycol water and brine production for positive and negative refrigeration applications in a closed circuit, process machinery refrigeration, plastic injection moulds or beer tanks refrigeration.*

Other applications

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



2012 edition

Current edition until a new edition is issued.

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Commercial Range Catalogue refrigeration units

Quick calculation of cold rooms

COMMERCIAL MONOBLOCK UNITS

- | | |
|--|-----------------|
| • intarblock axial monoblock | MCV-NF / BCV-NF |
| • intarblock centrifugal monoblock | MCV-CF / BCV-CF |
| • intarblock high performance monoblock | MCV-EF / BCV-EF |
| • intartop axial roof-top monoblock | MCR-NF / BCR-NF |
| • intartop centrifugal roof-top monoblock | MCR-CF / BCR-CF |



COMMERCIAL SPLIT UNITS

- | | |
|---|--------------------------------------|
| • intarsplit vertical split units | MSV-NF / BSV-NF |
| • intarsplit horizontal split units | MSH-NF / BSH-NF
MSH-QF / BSH-QF |
| • intarsplit centrifugal split units | MSH-CF / BSH-CF
MSH-CQF / BSH-CQF |
| • Sigilus low-noise split units | MSF-NF / BSF-NF
MSF-QF / BSF-QF |



SPECIAL APPLICATION SPLIT UNITS

HIGH TEMPERATURE

- | | |
|---|---------|
| • Sigilus low-noise split units | ASF-DF |
| • intarsplit horizontal split units | ASH-DF |
| • intarsplit centrifugal split units | ASH-CDF |



QUASI-STATIC

- | | |
|---|---------|
| • Sigilus low-noise split units | MSF-UF |
| • intarsplit centrifugal split units | MSH-CUF |



HIGH RELATIVE HUMIDITY

- | | |
|---|---------|
| • Sigilus low-noise split units | HSF-DF |
| • intarsplit centrifugal split units | HSH-CDF |



WINE CELLARS

- | | |
|--|---------|
| • Sigilus low-noise split units | VSF-GF |
| • intarsplit centrifugal split units | VSH-CGF |
| • intartop roof-top monoblock | VCR-NF |
| • intartop centrifugal roof-top monoblock | VCR-CF |



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Cold room quick 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 (m³)	Recommended cooling needs for process handling rooms and cold storage rooms (W)					
	HIGH TEMPERATURE (+12°C)		POSITIVE TEMPERATURE (0°C)		NEGATIVE TEMPERATURE (-20°C)	
	Non insulated floor		Isolated floor	Non insulated floor		
	80 mm panel	Non insulated walls	80 mm panel thickness		100 mm panel thickness	
Commercial cold rooms	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	
Industrial cold rooms	150	8 000	12 500	8 000	10 500	6 100
	200	10 500	16 000	10 000	13 000	7 800
	250	12 500	19 000	12 000	15 000	9 100
	300	15 000	22 500	14 000	18 000	10 400
	400	19 000	28 000	18 000	22 000	12 800
	500	24 000	35 000	22 000	27 000	15 200
	700	29 000	43 000	30 000	35 000	20 000
	1000	38 000	56 000	34 000	40 000	25 000
	1500	50 000	74 000	48 000	56 000	31 000
	2000	65 000	95 000	63 000	72 000	40 000
	2500	75 000	110 000	75 000	84 000	47 000
3000	85 000	125 000	85 000	94 000	53 000	

Cold room 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.



www.intarcon.com

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_{fc} represents the corrected cooling capacity, P_f represents non corrected cooling capacity and correction factors F take the following values:

F₁: 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 F_1 can be used:

- Ambient temperature = 40°C: $F_1 = 1,05$
- Ambient temperature = 45°C: $F_1 = 1,10$

F₂: 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 $F_2 = 1,25$

F₃: 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 $F_3 = 1,50$

F₄: 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: $F_4 = 1,10$

Calculation example

Apple conservation in a 1250 m³ 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 m³.

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

- Correct the value with the fruits and vegetable respiration rate factor: $F_2 = 1,25$

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

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/m³
- Product daily rotation depending on cold room volume: 10% ($V \leq 100\text{m}^3$), 8% ($100\text{m}^3 < V < 1000\text{m}^3$), and 6% ($V \geq 1000\text{m}^3$)
- Product specific heat PT: 3,2 kJ/(kg·K), NT: 1,8 kJ/(kg·K)
- Product inlet temperature: 25°C (PT) y -5°C (NT)
- Isolation panel: injected polyurethane with 40 kg/m³ density and 0,025 W/(m·K) conductivity
- 18 hours compressor working time.



superblock

industrial monoblocks

Monoblock refrigeration units designed for large cold room refrigeration at medium, high and low temperature, as well as high humidity applications.

***superblock** series cover compressor power range from 2 to 30 HP in a very compact design, combining the latest refrigeration technologies with traditional effective solutions.*

Each model has been designed to work under extreme ambient conditions with minimum maintenance needs.

***superblock** units are environmentally friendly, providing a high performance, low refrigerant load in an hermetic circuit and low noise level.*

- ✦ Reduced R-404A refrigerant load.
- ✦ Quick installation into the cold room wall frame.
- ✦ Tropicalised design for ambient temperature up to 45 °C.
- ✦ 100% factory tested and adjusted units for the highest performance.
- ✦ Acoustic isolated hermetic compressors.
- ✦ Minimum maintenance needs, with easy access through folding panels.

superblock

Description

Refrigeration monoblock units built in a galvanised steel shell with polyester coating, designed for outdoors installation through a cold room wall, with easy maintenance access through folding panels.

Features

- 400V-III-50Hz power supply.
- R404A refrigerant.
- Hermetic reciprocating or scroll compressors, with noise insulation, discharge muffler (for reciprocating compressor models), mounted on shock absorbers, with internal klixon and crankcase heater.
- Large area condensing coil, in copper pipes and aluminium fins, tropicalised for ambient temperature up to 45 °C.
- High efficiency evaporating coil, in copper pipes and aluminium fins, with 5 mm fin spacing. Stainless steel drain tray.
- Low-speed condensing motor-fans, with internal electronic protection, mounted on nozzles, dynamically balanced blades and external protection grille.
- Long-range evaporating axial motor-fans, mounted on nozzles, dynamically balanced blades and external protection grille.
- Proportional control of condensation temperature by fan speed control.
- Refrigeration circuit equipped with high and low pressure switches, dehydratant ceramic filter and thermostatic expansion valve pre-adjusted at factory.
- Hot gas defrosting for MCH, HCH and BCH series, and air defrosting for ACH series. Electrical heater defrosting available as an option.
- Full control and power panel, with thermal and magnetothermal protection for compressor/s, fan/s and heaters.
- Multifunctional electronic control with remote control keyboard.
- Insulating pad in injected polyurethane with 45 kg/m³ density.

High reliability compressors

Danfoss-Maneurop hermetic reciprocating and scroll compressors are known for their sturdy construction and high reliability operation, and, by being cooled by the refrigerant, they allow a very efficient noise insulation.



Copeland negative temperature scroll compressors with vapour injection EVI system, provide a higher performance of up to 25% related to standard compressors.

Efficient, proportional and low-noise condensation

The tropicalised design of the condensing coil and the low noise motor-fans with speed control function guarantee the proper operation of the unit under high ambient temperature up to 45 °C, and preserve condensation pressure under low ambient temperature while they reduce sound pressure level.

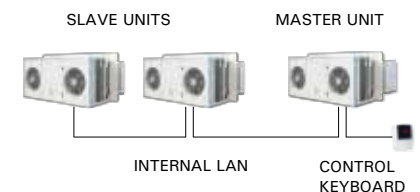


Régulation électronique

superblock units feature as standard an advanced multifunction controller, with an inbuilt electronic board in the power panel and a remote keyboard.



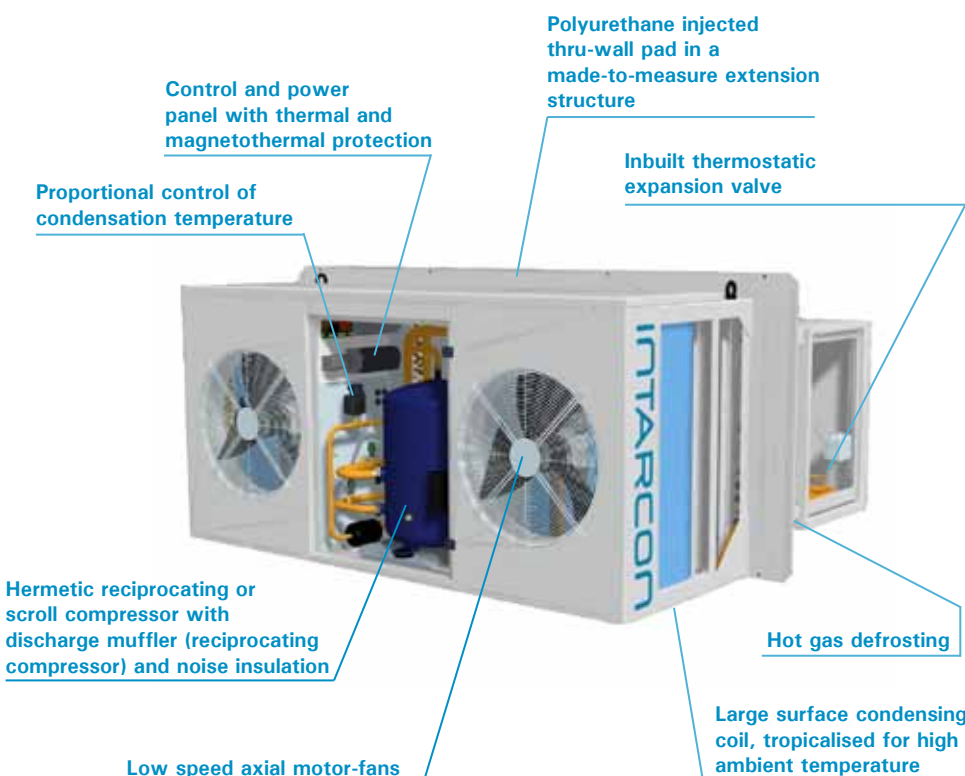
As an option, up to 8 units can be connected in master/slave operation by an internal LAN network, by controlling the units from one single control keyboard.



Reduced refrigerant load

superblock units feature an advanced refrigeration design with a reduced internal volume.

The R-404A refrigerant load is adjusted for an optimum operation.



Series

ACH - High temperature (+9 °C... +15 °C)

Monoblock units designed for high temperature application cold rooms, handling and process rooms, pre cold rooms and refrigerated loading docks.

MCH - Positive temperature (-5 °C... +10 °C)

Monoblock units designed for preservation of generic products at medium temperature cold rooms.

HCH - High relative humidity (0 °C 95% HR... +10 °C 90% HR)

Monoblock units designed for positive temperature cold rooms with high humidity needs, like for applications of preservation of fruits and vegetables.

BCH - Negative temperature (-30 °C... -15 °C)

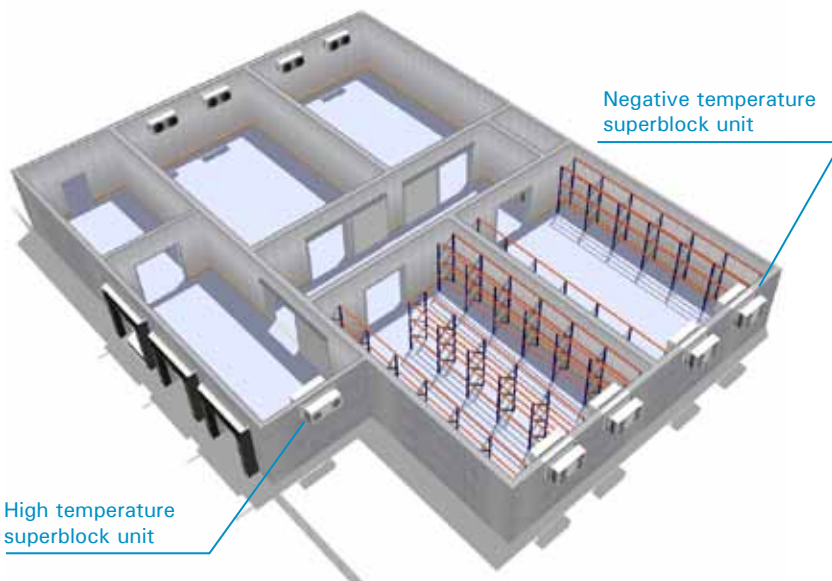
Monoblock units designed for preservation of frozen products at negative temperature cold rooms.

As an option

- Made-on-measure extension structure for trough-wall assembly.
- Anticorrosion coil coating.
- Electrical defrosting by electrical heaters inside the coil.
- Long range air streamer in evaporating fans (for 1 and 3 series).
- Powered motor-fans for textile and fabric ducts with an available pressure of 80 Pa.
- Electronic regulation in a master/slave connection for up to 8 units.
- Optional module for external communication by ModBus protocol and RS485 connection.
- Protection system for voltage drop and phase failure.

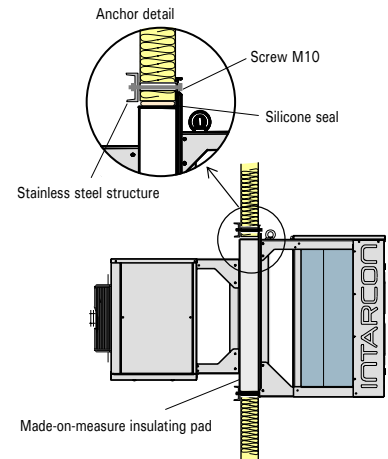
Applications

superblock units have been specifically designed for outdoor installation, through wall in large cold rooms at positive and negative temperature.



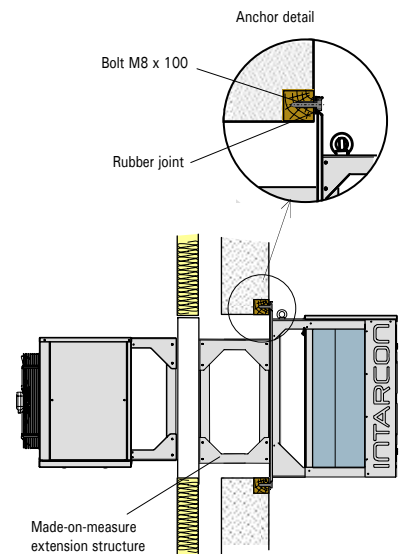
Through-wall assembly

superblock units include a 100 mm polyurethane thickness insulating pad for window assembly into the cold room panel.



Through-wall assembly with extension structure

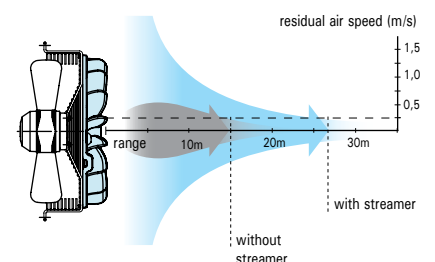
An extension structure can be supplied under request for through-wall assembly.



Long range air streamer (as an option)

As an option, a streamer is installed on the fan outlet to direct the air flow and reaching a longer range.

Only available in Ø450 mm fans.



superblock

Description

Monoblock units designed for high temperature application cold rooms, handling and process rooms, pre cold rooms and refrigerated loading docks.

Special features

- Air defrosting and oversized condenser.



Technical features

400V-III-50 Hz, R-404A

Series / Model	Compressor			Ambient temp.	Cooling capacity (W)			Nominal power consump. (kW) *	Max absorb. current (A)	COP*	Condenser		Evaporator			R-404A load (kg)	Weight (kg)	SPL dB(A)*
	HP	Type*	Model		Cold room temperature						Fan Ø mm	Air flow (m³/h)	Fan Ø mm	Air flow (m³/h)	Range (m)			
					+15 °C	+12 °C	+9 °C											
ACH-NF-1048	2	H	MTZ28	35 °C 45 °C	7.500 6.400	6.850 5.800	6.200 5.250	2,9	9,1	2,83	Ø450	3.700	Ø450	3.800	25	< 3	240	30
ACH-NF-1054	2 1/4	H	MTZ32	35 °C 45 °C	8.300 7.100	7.550 6.400	6.850 5.800	3,2	9,6	2,78	Ø450	3.700	Ø450	3.800	25	< 4	240	30
ACH-NF-1060	3	H	MTZ36	35 °C 45 °C	9.150 7.800	8.350 7.100	7.600 6.450	3,7	10,6	2,59	Ø450	3.700	Ø450	3.800	25	< 4	240	29
ACH-NF-1068	3 1/2	H	MTZ40	35 °C 45 °C	10.300 8.800	9.400 8.000	8.500 7.250	4,3	12,5	2,60	Ø450	5.000	Ø450	3.800	25	< 4	240	31
ACH-NF-2086	4	H	MTZ50	35 °C 45 °C	13100 11200	11.900 10.100	10.800 9.100	5,7	15,2	2,71	2x Ø450	6.500	Ø560	7.500	27	< 4	325	42
ACH-NF-2108	5	H	MTZ64	35 °C 45 °C	15.700 13.400	14.300 12.200	13.000 11.000	7,3	18,2	2,39	2x Ø450	6.500	Ø560	7.500	27	< 5	330	39
ACH-NF-2136	6 1/2	H	MTZ80	35 °C 45 °C	19.100 16.300	17.400 14.900	15.800 13.500	8,9	24,0	2,41	2x Ø450	9.000	Ø560	7.500	27	< 5	330	39
ACH-NF-3136	6 1/2	H	MTZ80	35 °C 45 °C	19.750 16.900	18.000 15.300	16.400 13.900	8,3	22,2	2,45	2x Ø450	7.400	2x Ø450	7.600	25	< 5	355	38
ACH-NF-3160	8	H	MTZ100	35 °C 45 °C	23.000 19.800	21.000 17.900	19.000 16.200	9,7	27,0	2,52	2x Ø450	10.000	2x Ø450	7.600	25	< 6	375	44
ACH-NF-4160	8	H	MTZ100	35 °C 45 °C	26.200 22.300	23.800 20.200	21.600 18.200	10,9	28,4	2,87	4x Ø450	13.000	2x Ø560	15.000	27	< 7	485	44
ACH-SF-4160	8	Sc	SZ100	35 °C 45 °C	25.100 21.600	22.900 19.700	20.800 17.800	9,8	25,4	3,19	4x Ø450	13.000	2x Ø560	15.000	27	< 7	490	36
ACH-NF-4215	10	H	MTZ125	35 °C 45 °C	30.900 26.300	28.100 23.900	25.500 21.600	13,2	33,4	2,66	4x Ø450	13.000	2x Ø560	15.000	27	< 7	475	44
ACH-SF-4215	10	Sc	SZ120	35 °C 45 °C	29.900 25.700	27.300 23.400	24.900 21.300	12,4	35,4	2,79	4x Ø450	13.000	2x Ø560	15.000	27	< 7	485	36
ACH-NF-4271	13	H	MTZ160	35 °C 45 °C	37.700 32.250	34.300 29.300	31.200 26.500	17,2	46,0	2,50	4x Ø450	18.000	2x Ø560	15.000	27	< 8	480	44
ACH-SF-4271	13	Sc	SZ160	35 °C 45 °C	37.300 32.200	34.000 29.300	31.000 26.700	16,0	39,0	2,71	4x Ø450	18.000	2x Ø560	15.000	27	< 8	500	36
ACH-NF-5320	16	H	2x MTZ100	35 °C 45 °C	47.800 40.800	43.500 37.000	39.600 33.500	20,1	53,1	2,58	2x Ø630	15.500	2x Ø560	15.000	27	< 14	715	58
ACH-SF-5320	16	Sc	2x SZ100	35 °C 45 °C	46.150 39.900	42.200 36.400	38.500 33.100	18,0	47,1	2,86	2x Ø630	15.500	2x Ø560	15.000	27	< 14	725	45
ACH-NF-5430	20	H	2x MTZ125	35 °C 45 °C	61.700 52.800	56.200 47.900	51.000 43.250	24,3	66,5	3,25	2x Ø630	26.000	3x Ø560	20.000	27	< 17	725	57
ACH-SF-5430	20	Sc	2x SZ120	35 °C 45 °C	59.600 51.500	54.400 46.900	49.500 42.600	22,7	70,5	3,47	2x Ø630	26.000	3x Ø560	20.000	27	< 17	745	57
ACH-NF-5542	26	H	2x MTZ160	35 °C 45 °C	72.200 61.800	65.800 56.200	59.900 51.000	31,1	84,5	2,73	2x Ø630	26.000	3x Ø560	20.000	27	< 18	735	57
ACH-SF-5542	26	Sc	2x SZ160	35 °C 45 °C	71.500 61.800	65.400 56.400	59.700 51.400	28,8	70,5	3,00	2x Ø630	26.000	3x Ø560	20.000	27	< 18	775	55

As an option

- Made-on-measure extension structure for trough-wall assembly.
- Anticorrosion coil coating.
- Powered motor-fans for textile and fabric ducts with an available pressure of 80 Pa.
- Protection system for voltage drop and phase failure.

* Nominal technical features are related to operation at cold room temperature of 12 °C and 80% RH, under ambient temperature of 35 °C. Oversized evaporator for a difference between evaporating temperature and air inlet temperature of DT1=10 K (±1,0 K). Oversized condenser for a difference between condensing temperature and air inlet temperature of DT1=12 K (±2 K). Compressor C.O.P. at nominal conditions.

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

Compressor type according to the following nomenclature:
H= Hermetic reciprocating compressor
Sc= Scroll compressor

Description

Monoblock units designed for preservation of generic products at medium temperature cold rooms.

Special features

- Hot gas defrosting and oversized evaporator to keep a relative humidity between 80% and 85%.



Technical features

400V-III-50 Hz, R-404A

Series / Model	Compressor			Ambient temp.	Cooling capacity (W)				Nominal power consump. (kW) *	Max absorb. current (A)	COP*	Condenser		Evaporator			R-404A load (kg)	Weight (kg)	SPL dB(A) *	
	HP	Type*	Model		Cold room temperature							Fan Ø mm	Air flow (m³/h)	Fan Ø mm	Air flow (m³/h)	Range (m)				
					+ 10 °C	+ 5 °C	0 °C	- 5 °C												
1 compressor	MCH-NF-1048	2	H	MTZ28	35 °C 45 °C	6.590 5.590	5.560 4.680	4.660 3.860	3.830 3.100	2,5	9,1	2,30	Ø450	3.700	Ø450	3.800	25	< 2,5	240	30
	MCH-NF-1054	2 ¹ / ₄	H	MTZ32	35 °C 45 °C	7.270 6.180	6.150 5.180	5.180 4.310	4.270 3.500	2,7	9,6	2,31	Ø450	3.700	Ø450	3.800	25	< 2,5	240	30
	MCH-NF-1060	3	H	MTZ36	35 °C 45 °C	8.050 6.850	6.820 5.760	5.760 4.820	4.780 3.940	3,2	10,6	2,14	Ø450	3.700	Ø450	3.800	25	< 2,5	240	29
	MCH-NF-1068	3 ¹ / ₂	H	MTZ40	35 °C 45 °C	8.720 7.420	7.420 6.270	6.280 5.260	5.220 4.320	3,6	11,6	2,03	Ø450	3.700	Ø450	3.800	25	< 2,5	240	29
	MCH-NF-2086	4	H	MTZ50	35 °C 45 °C	10.620 8.900	9.000 7.470	7.550 6.150	6.180 4.930	4,8	14,6	2,03	Ø450	4.000	Ø560	7.500	27	< 3	325	39
	MCH-NF-2108	5	H	MTZ64	35 °C 45 °C	13.640 11.540	11.560 9.700	9.740 8.070	8.040 6.530	5,9	18,2	2,09	2x Ø450	6.500	Ø560	7.500	27	< 4	330	36
	MCH-NF-2136	6 ¹ / ₂	H	MTZ80	35 °C 45 °C	15.900 13.470	13.550 11.400	11.490 9.560	9.550 7.840	7,3	22,2	1,89	2x Ø450	6.500	Ø560	7.500	27	< 4	330	35
	MCH-NF-3136	6 ¹ / ₂	H	MTZ80	35 °C 45 °C	17.140 14.550	14.550 12.240	12.280 10.210	10.150 8.300	6,5	22,2	2,20	2x Ø450	7.400	2x Ø450	7.600	25	< 5	355	35
	MCH-NF-3160	8	H	MTZ100	35 °C 45 °C	18.980 16.090	16.150 13.570	13.650 11.350	11.320 9.260	8,0	25,2	1,94	2x Ø450	7.400	2x Ø450	7.600	25	< 5	375	41
	MCH-NF-4160	8	H	MTZ100	35 °C 45 °C	22.580 19.030	18.990 15.850	15.840 13.000	12.900 10.360	8,6	28,4	2,57	4x Ø450	13.000	2x Ø560	15.000	27	< 6	485	41
	MCH-SF-4160	8	Sc	SZ100	35 °C 45 °C	21.740 18.600	18.430 15.670	15.530 13.050	12.850 10.650	8,6	25,4	2,52	4x Ø450	13.000	2x Ø560	15.000	27	< 6	490	33
	MCH-NF-4215	10	H	MTZ125	35 °C 45 °C	26.000 22.600	22.610 18.940	19.010 15.700	15.630 12.650	11,0	33,4	2,21	4x Ø450	13.000	2x Ø560	15.000	27	< 6	475	40
	MCH-SF-4215	10	Sc	SZ120	35 °C 45 °C	26.000 22.240	22.120 18.820	18.770 15.820	15.640 13.010	10,9	35,4	2,21	4x Ø450	13.000	2x Ø560	15.000	27	< 6	485	33
	MCH-NF-4271	13	H	MTZ160	35 °C 45 °C	31.370 26.545	26.680 22.380	22.560 18.720	18.710 15.270	13,0	42,4	2,14	4x Ø450	13.000	2x Ø560	15.000	27	< 7	480	39
	MCH-SF-4271	13	Sc	SZ160	35 °C 45 °C	31.260 26.750	26.780 22.780	22.840 19.300	19.180 16.030	13,9	35,4	1,98	4x Ø450	13.000	2x Ø560	15.000	27	< 7	500	35
2 compressors	MCH-NF-5320	16	H	2x MTZ100	35 °C 45 °C	41.400 35.150	35.050 29.500	29.500 24.500	24.300 19.800	16,8	53,1	2,15	2x Ø630	15.500	2x Ø560	15.000	27	< 12	715	57
	MCH-SF-5320	16	Sc	2x SZ100	35 °C 45 °C	40.200 34.600	34.300 29.350	29.150 24.750	24.350 20.450	15,9	47,1	2,27	2x Ø630	15.500	2x Ø560	15.000	27	< 12	725	47
	MCH-NF-5430	20	H	2x MTZ125	35 °C 45 °C	49.800 42.050	42.400 35.500	35.800 29.650	29.650 24.150	21,6	65,0	2,04	2x Ø630	15.500	3x Ø560	20.000	27	< 15	725	56
	MCH-SF-5430	20	Sc	2x SZ120	35 °C 45 °C	48.700 41.650	41.700 35.450	35.600 30.050	29.850 24.900	21,8	69,0	2,01	2x Ø630	15.500	3x Ø560	20.000	27	< 15	745	50
	MCH-NF-5542	26	H	2x MTZ160	35 °C 45 °C	57.700 48.750	49.450 41.450	42.100 34.950	35.150 28.750	27,6	83,0	1,78	2x Ø630	15.500	3x Ø560	20.000	27	< 16	735	55
	MCH-SF-5542	26	Sc	2x SZ160	35 °C 45 °C	57.800 49.350	49.850 42.350	42.800 36.100	36.200 30.250	28,5	69,0	1,75	2x Ø630	15.500	3x Ø560	20.000	27	< 16	775	54

As an option

- Made-on-measure extension structure for trough-wall assembly.
- Anticorrosion coil coating.
- Long range air streamer in evaporating fans (for 1 and 3 series).
- Protection system for voltage drop and phase failure.

* Nominal technical features are related to operation at cold room temperature of 0 °C and 85% RH, under ambient temperature of 35 °C. Oversized evaporator for a difference between evaporating temperature and air inlet temperature of DT1=7,0 K (±1,0 K). Oversized condenser for a difference between condensing temperature and air inlet temperature of DT1=10 K (±2 K). Compressor C.O.P. at nominal conditions.

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

Compressor type according to the following nomenclature:
H= Hermetic reciprocating compressor
Sc= Scroll compressor

superblock

Description

Monoblock units designed for positive temperature cold rooms with high humidity needs, like for applications of preservation of fruits, vegetables and other kind of products with need for high humidity.



Special features

- Hot gas defrosting and oversized evaporator to keep a relative humidity around 95%.

Technical features

400V-III-50 Hz, R-404A

Series / Model	Compressor			Ambient temp.	Cooling capacity (W)			Nominal power consump. (kW) *	Max absorb. current (A)	COP*	Condenser		Evaporator			R-404A load (kg)	Weight (kg)	SPL dB(A)*
	HP	Type*	Model		Cold room temperature						Fan Ø mm	Air flow (m ³ /h)	Fan Ø mm	Air flow (m ³ /h)	Range (m)			
					+ 10 °C	+ 5 °C	0 °C											
HCH-NF-2048	2	H	MTZ28	35 °C 45 °C	7.250 6.010	6.070 5.050	5.040 4.100	3,1	10,1	2,68	Ø450	4.000	Ø560	7.500	27	< 3	240	30
HCH-NF-2054	2 ¹ / ₄	H	MTZ32	35 °C 45 °C	8.100 6.800	6.800 5.700	5.700 4.650	3,3	10,6	2,70	Ø450	4.000	Ø560	7.500	27	< 4	240	30
HCH-NF-2060	3	H	MTZ36	35 °C 45 °C	9.050 7.600	7.600 6.400	6.400 5.300	3,8	11,6	2,48	Ø450	4.000	Ø560	7.500	27	< 4	240	29
HCH-NF-2068	3 ¹ / ₂	H	MTZ40	35 °C 45 °C	9.900 8.300	8.400 7.000	7.000 5.800	4,2	12,6	2,33	Ø450	4.000	Ø560	7.500	27	< 4	240	29
HCH-NF-4086	4	H	MTZ50	35 °C 45 °C	13.200 11.000	11.000 9.150	9.100 7.540	5,7	17,1	2,71	2x Ø450	8.000	2x Ø560	15.000	27	< 6	445	42
HCH-NF-4108	5	H	MTZ64	35 °C 45 °C	16.300 13.700	13.700 11.450	11.400 9.400	6,8	20,1	2,57	2x Ø450	8.000	2x Ø560	15.000	27	< 6	445	39
HCH-NF-4136	6 ¹ / ₂	H	MTZ80	35 °C 45 °C	19.600 16.500	16.500 13.800	13.850 11.500	8,3	24,1	2,34	2x Ø450	8.000	2x Ø560	15.000	27	< 6	450	38
HCH-NF-4160	8	H	MTZ100	35 °C 45 °C	23.400 19.800	19.700 16.500	16.400 13.600	9,4	28,4	2,44	4x Ø450	13.000	2x Ø560	15.000	27	< 6	465	44
HCH-SF-4160	8	Sc	SZ100	35 °C 45 °C	22.500 19.300	19.000 16.300	16.000 13.600	8,7	25,4	2,63	4x Ø450	13.000	2x Ø560	15.000	27	< 6	470	29
HCH-NF-5215	10	H	MTZ125	35 °C 45 °C	31.000 26.100	26.000 21.800	21.700 18.000	12,7	38,0	2,45	2x Ø630	13.000	3x Ø560	20.000	27	< 8	655	53
HCH-SF-5215	10	Sc	SZ120	35 °C 45 °C	29.700 25.400	25.150 21.400	21.200 17.900	12,3	40,0	2,52	2x Ø630	13.000	3x Ø560	20.000	27	< 8	660	41
HCH-NF-5271	13	H	MTZ160	35 °C 45 °C	37.000 31.200	31.300 26.200	26.200 21.800	15,7	47,0	2,21	2x Ø630	13.000	3x Ø560	20.000	27	< 9	660	52
HCH-SF-5271	13	Sc	SZ160	35 °C 45 °C	36.500 31.100	31.000 26.400	26.300 22.200	15,1	40,0	2,35	2x Ø630	13.000	3x Ø560	20.000	27	< 9	670	45
HCH-SF-5312	15	Sc	SZ185	35 °C 45 °C	40.200 34.300	34.300 29.200	29.200 24.600	16,9	46,0	2,25	2x Ø630	13.000	3x Ø560	20.000	27	< 10	705	45

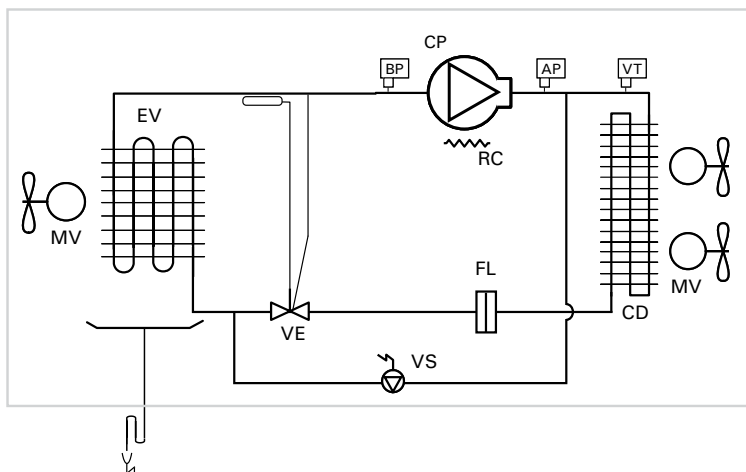
As an option

- Made-on-measure extension structure for trough-wall assembly.
- Anticorrosion coil coating.
- Protection system for voltage drop and phase failure.

* Nominal technical features are related to operation at cold room temperature of 0 °C and 95% RH, under ambient temperature of 35 °C. Oversized evaporator for a difference between evaporating temperature and air inlet temperature of DT1=5,0 K (±1,0 K). Oversized condenser for a difference between condensing temperature and air inlet temperature of DT1=10 K (±2 K). Compressor C.O.P. at nominal conditions.

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

Refrigeration scheme HCH series



Compressor type according to the following nomenclature:
H= Hermetic reciprocating compressor
Sc= Scroll compressor

- CP: COMPRESSOR
- MV: MOTOR-FAN
- EV: EVAPORATOR
- CD: CONDENSER
- FL: DEHYDRATANT FILTER
- VS: SOLENOID VALVE
- AP: HIGH PRESSURE SWITCH
- BP: LOW PRESSURE SWITCH
- VT: VOLTAGE REGULATOR
- VE: THERMOSTATIC EXPANSION VALVE
- RC: CRANKCASE HEATER

Description

Monoblock units designed for preservation of frozen products at negative temperature cold rooms.

Special features

- Hot gas defrosting and draining pipe electrical heater.



Technical features

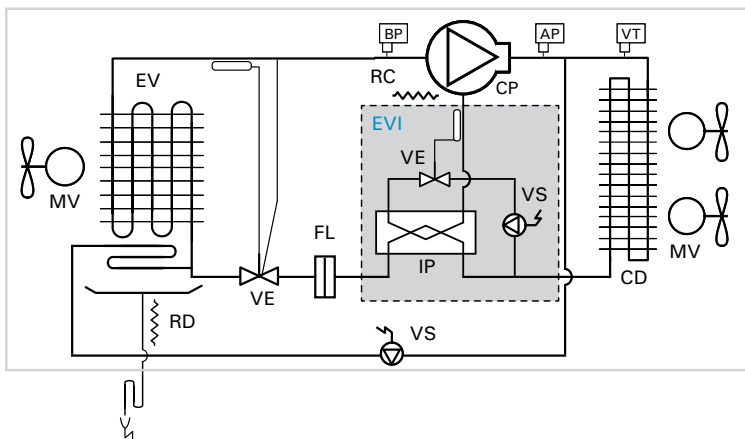
400V-III-50 Hz, R-404A

Series / Model	Compressor			Ambient temp.	Cooling capacity (W)				Nominal power consump. (kW) *	Max absorb. current (A)	COP*	Condenser		Evaporator			R-404A load (kg)	Weight (kg)	SPL dB(A)*	
	HP	Type*	Model		Cold room temperature							Fan Ø mm	Air flow (m³/h)	Fan Ø mm	Air flow (m³/h)	Range (m)				
					-15 °C	-20 °C	-25 °C	-30 °C												
1 compressor	BCH-NF-1096	3 ¹ / ₂	H	NTZ96	35 °C 45 °C	4.365 3.480	3.460 2.610	2.575 1.705	1.655 965	2,9	12,2	1,45	Ø450	3.700	Ø450	3.800	25	< 2,5	250	40
	BCH-NF-1108	4 ¹ / ₃	H	NTZ108	35 °C 45 °C	4.880 3.940	3.915 3.045	3.015 2.120	2.060 1.190	3,2	14,2	1,42	Ø450	3.700	Ø450	3.800	25	< 2,5	250	38
	BCH-NF-1136	5	H	NTZ136	35 °C 45 °C	5.560 4.500	4.500 3.540	3.520 2.620	2.580 1.560	4,2	16,4	1,20	Ø450	3.700	Ø450	3.800	25	< 2,5	250	33
	BCH-NF-2136	5	H	NTZ136	35 °C 45 °C	6.550 5.190	5.200 3.930	3.910 2.730	2.660 1.560	4,9	17,3	1,35	Ø450	4.000	Ø560	7.500	27	< 3	325	33
	BCH-SF-2131	4	Sc EVI	ZF13KVE	35 °C 45 °C	6.660 6.130	5.730 5.250	4.880 4.440	4.070 3.680	4,7	11,5	1,67	Ø450	4.000	Ø560	7.500	27	< 3	330	31
	BCH-NF-2215	7 ¹ / ₂	H	NTZ215	35 °C 45 °C	8.360 6.690	6.770 5.250	5.280 3.820	3.820 2.350	6,6	25,3	1,22	Ø450	4.000	Ø560	7.500	27	< 4	355	40
	BCH-SF-2181	6	Sc EVI	ZF18KVE	35 °C 45 °C	8.700 8.300	7.610 7.310	6.640 6.430	5.760 5.640	6,1	16,2	1,63	2x Ø450	6.500	Ø560	7.500	27	< 4	335	32
	BCH-NF-2271	10	H	NTZ271	35 °C 45 °C	10.470 8.510	8.540 6.770	6.760 5.140	5.090 3.430	8,2	30,6	1,22	2x Ø450	6.500	Ø560	7.500	27	< 4	355	40
	BCH-SF-2241	7 ¹ / ₂	Sc EVI	ZF24KVE	35 °C 45 °C	10.730 10.140	9.420 8.880	8.140 7.670	6.910 6.540	7,5	19,2	1,55	2x Ø450	6.500	Ø560	7.500	27	< 5	335	32
	BCH-SF-3331	10	Sc EVI	ZF33KVE	35 °C 45 °C	14.040 13.310	12.350 11.750	10.760 10.330	9.290 9.050	8,9	24,6	1,62	2x Ø450	7.400	2x Ø450	7.600	25	< 7	370	32
	BCH-SF-4401	13	Sc EVI	ZF40KVE	35 °C 45 °C	18.980 18.000	16.350 15.450	13.860 12.990	11.420 10.530	12,0	33,3	1,76	4x Ø450	13.000	2x Ø560	15.000	27	< 9	480	34
	BCH-SF-4481	15	Sc EVI	ZF48KVE	35 °C 45 °C	21.340 20.070	18.750 17.700	16.350 15.270	14.010 13.060	14,4	36,9	1,61	4x Ø450	13.000	2x Ø560	15.000	27	< 10	480	35
2 compressors	BCH-NF-5540	20	H	2x NTZ271	35 °C 45 °C	26.000 20.850	20.650 15.850	15.100 10.900	10.600 6.500	17,4	63,5	1,44	2x Ø630	15.500	2x Ø560	15.000	27	< 10	735	56
	BCH-SF-5662	20	Sc EVI	2x ZF33KVE	35 °C 45 °C	28.980 27.110	25.400 23.900	22.020 20.980	18.940 18.310	18,2	51,8	1,71	2x Ø630	15.500	2x Ø560	15.000	27	> 10	735	51
	BCH-SF-5802	26	Sc EVI	2x ZF40KVE	35 °C 45 °C	35.310 34.270	30.500 29.100	25.980 23.920	21.470 19.340	23,7	64,9	1,58	2x Ø630	15.500	3x Ø560	20.000	27	> 10	735	51
	BCH-SF-5962	30	Sc EVI	2x ZF48KVE	35 °C 42 °C*	38.930 37.990	34.500 33.500	30.160 29.310	26.020 25.320	28,9	72,1	1,41	2x Ø630	15.500	3x Ø560	20.000	27	> 10	745	52

As an option

- Made-on-measure extension structure for trough-wall assembly.
- Anticorrosion coil coating.
- Protection system for voltage drop and phase failure.
- Bi-temperature operation system (for BCH-SF series).

Refrigeration scheme
BCH-SF series



* Nominal technical features are related to operation at cold room temperature of -20 °C and 85% RH, under ambient temperature of 35 °C. Oversized evaporator for a difference between evaporating temperature and air inlet temperature of DT1=6,5 K (±1,0 K). Oversized condenser for a difference between condensing temperature and air inlet temperature of DT1=10 K (±2 K). Compressor C.O.P. at nominal conditions.

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

Compressor type according to the following nomenclature:
H= Hermetic reciprocating compressor
Sc-EVI= Scroll compressor with vapour injection EVI system

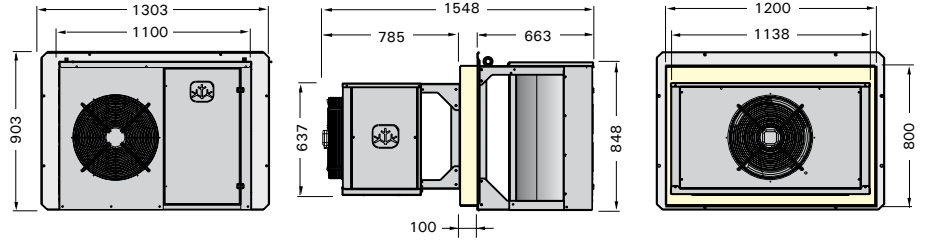
* Model limited to 42 °C ambient temperature.

- | | |
|----------------------------------|----------------------------------|
| CP: COMPRESSOR | AP: HIGH PRESSURE SWITCH |
| MV: MOTOR-FAN | BP: LOW PRESSURE SWITCH |
| EV: EVAPORATOR | VE: THERMOSTATIC EXPANSION VALVE |
| CD: CONDENSER | RC: CRANKCASE HEATER |
| FL: DEHYDRANT FILTER | RD: DRAINING PIPE HEATER |
| VS: SOLENOID VALVE | |
| IP: BRAZED PLATES HEAT EXCHANGER | |
| VT: VOLTAGE REGULATOR | |

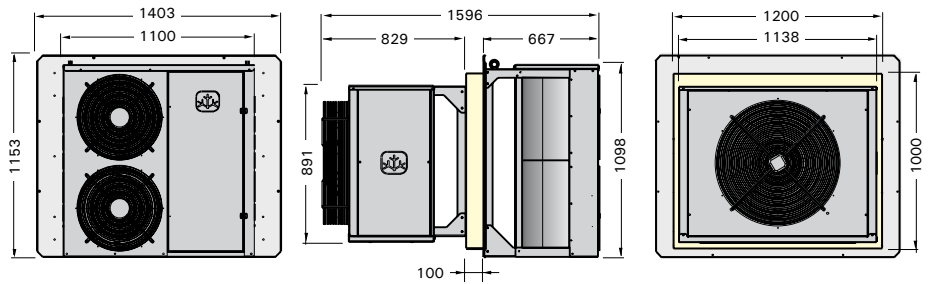
superblock

ACH / MCH / HCH / BCH series

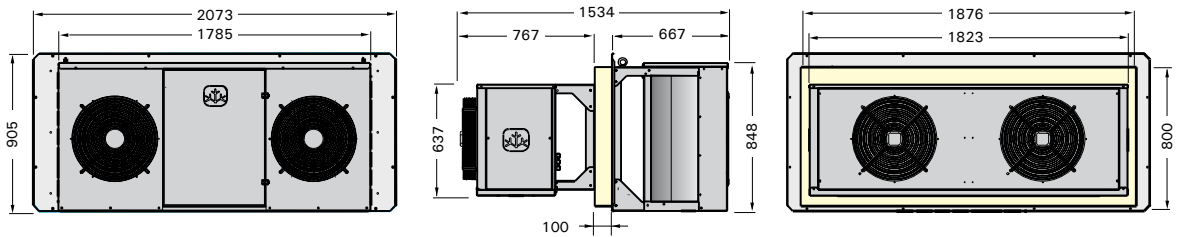
Dimensions
series 1



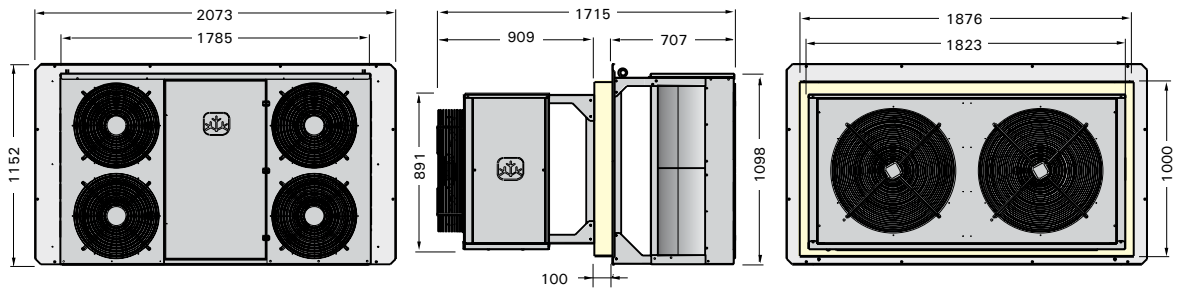
series 2



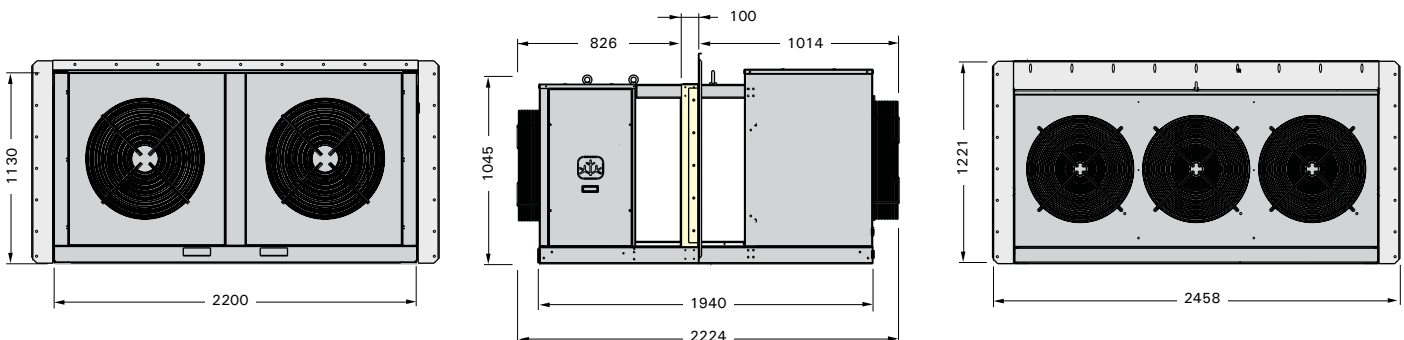
series 3



series 4



series 5





intarPACK

split

intarPACK split refrigeration units are designed for the refrigeration of large cold rooms.

intarPACK split series cover compressor power range from 4 to 60 HP, featuring long range cubic-type evaporating units and air-cooled *intarPACK* condensing units in two different constructions:

intarPACK centrifugal

intarPACK centrifugal condensing units have been designed for indoor installation in an engine room. Medium pressure centrifugal motor-fan is incorporated for a ducted outlet of condenser's hot air.

intarPACK low-noise axial

intarPACK axial condensing units have been developed for outdoor installation. Each model has been designed to run under extreme ambient conditions, featuring acoustic insulated components for lower noise levels.

- ✦ High power in small area.
- ✦ Tropicalised design for high ambient temperature.
- ✦ Rack of hermetic compressors with noise insulation.
- ✦ Minimum maintenance needs, with simple access through removable panels.



intarPACK

centrifugal



Description

Split units for positive and negative temperature cold rooms, with centrifugal condensation fans, full control board and electronic regulation with proportional control of condensation temperature.

Features

- 400V-III-50Hz power supply.
- R-404A refrigerant.

CONDENSING UNIT

- Hermetic reciprocating or scroll compressors, with noise insulation, discharge muffler (for reciprocating compressor models), mounted on shock absorbers, with internal klixon and crankcase heater. Oil separator for negative temperature units with 2 scroll compressors.
- Condensing coil made in copper pipes and aluminium fins, tropicalised for ambient temperature up to 45 °C.
- Medium-pressure centrifugal motor-fans with vertical or horizontal air outlet for a ducted extraction.
- Refrigeration circuit made in copper pipes, equipped with HP and LP switches, service valves, safety valves, liquid receiver and dehydratant filter.
- Proportional control of condensation temperature by fan speed control.
- Full control and power panel, with thermal protection (series 6 and 8) and MCB switch for compressors, motor-fans and defrosting heaters.
- Multifunctional electronic control with remote control keyboard.

EVAPORATING UNIT

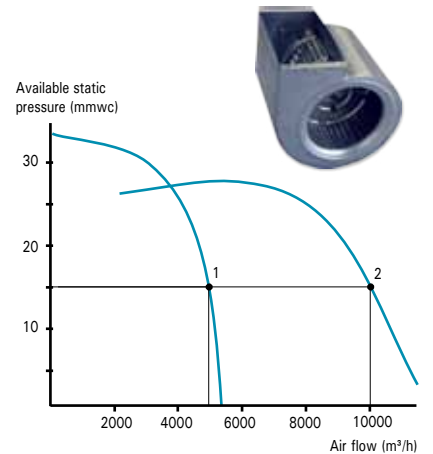
- High performance evaporating coil, in copper pipes and aluminium fins, with 5 mm fin spacing. Stainless steel drain tray.
- Inbuilt thermostatic expansion valve and solenoid valve in the evaporating unit.
- Defrosting by electrical heaters imbricated in coil.
- Long-range axial motor-fans mounted on nozzles, dynamically balanced blades and external protection grille.

As an option

- Horizontal air outlet for condensing unit.
- Oil separator (already included for negative temperature units with 2 scroll compressors).
- Anticorrosion coil coating.
- Module for external communication through ModBus protocol and RS485 connection.
- Bi-temperature operation system (for BSV-SCF units).

Centrifugal motor-fan

intarPACK centrifugal condensing units include centrifugal motor-fans for a ducted outlet of condenser's hot air.



- 5 series: Curve 1
- 6 series: Curve 2
- 8 series: 2x Curve 2

Electronic control

intarPACK centrifugal units feature an advanced electronic controller with XM670K control board and a remote digital keyboard.

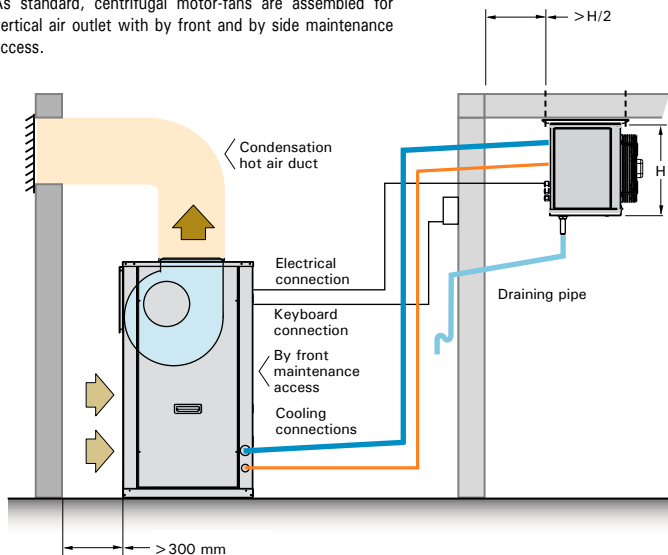


- Electronic board inbuilt in condensing unit to control: compressors, centrifugal condensation fan, liquid solenoid valve, evaporating fans, defrost and alarm signal.
- Cold room temperature and defrosting probes.
- Digital control of condensation temperature.
- Multifunctional electronic keyboard to remote control.
- ModBus communication protocol through RS485 connection (as an option).

Installation

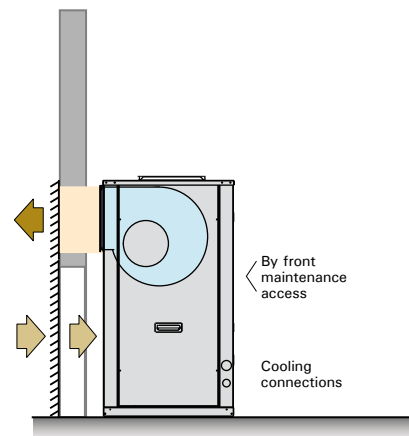
Vertical discharge assembly (standard)

As standard, centrifugal motor-fans are assembled for vertical air outlet with by front and by side maintenance access.



Horizontal discharge assembly (as an option)

Centrifugal motor-fans assembled for horizontal air outlet is an option in these units. This change is possible to be made also in site with no need for special parts.



Condensation hot air duct

Recommended dimensions for metal sheet or fiberglass ducts, depending on equivalent length. 90° elbow estimated equivalent length is also shown.

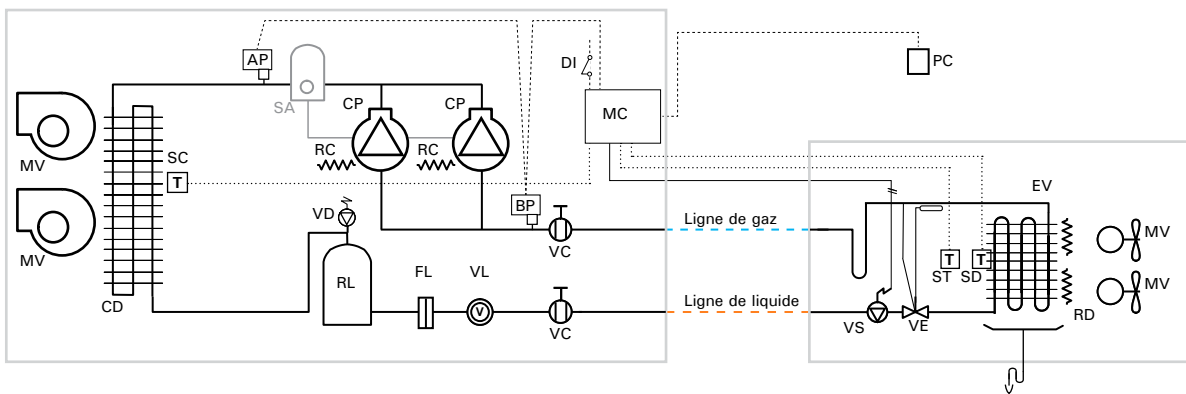
	5 series	6 series	8 series
■ 20m equivalent length:	400 x 300 mm	500 x 400 mm	1000 x 400 mm
■ 40m equivalent length:	400 x 350 mm	600 x 400 mm	1200 x 400 mm
■ 60m equivalent length:	400 x 400 mm	700 x 400 mm	1400 x 400 mm
■ 90° elbow equivalent length:	8 m	10 m	15 m

Air intake and discharge grille

It is recommended to select the grilles for air intake and discharge according to the following instructions:

- air discharge grille with frontal air speed below 5 m/s.
- air intake grille with frontal air speed below 3 m/s.

Refrigeration scheme MSV-CF-8



CONDENSING UNIT

- CP: COMPRESSOR
- RC: CRANKCASE HEATER
- MV: CENTRIFUGAL MOTOR-FAN
- CD: CONDENSER
- FL: DEHYDRATANT FILTER
- VL: SIGHT GLASS
- RL: LIQUID RECEIVER
- VD: SAFETY VALVE
- VC: SERVICE VALVE
- MC: ELECTRONIC MICROCONTROLLER
- SC: CONDENSATION TEMP. PROBE
- DI: DIGITAL INPUT
- SA: OIL SEPARATOR (as an option)

EVAPORATING UNIT

- MV: MOTOR-FAN
- EV: EVAPORATOR
- ST: COLD ROOM TEMP. PROBE
- SD: DEFROSTING PROBE
- VS: SOLENOID VALVE
- VE: THERMOSTATIC EXPANSION VALVE
- RC: DEFROSTING HEATER

PC: CONTROL KEYBOARD

intarPACK

centrifugal

MSV / BSV series

Description

intarPACK centrifugal split units designed for positive and negative temperature cold rooms, with centrifugal condensing unit for indoors installation in an engine room.

The split unit, composed of an evaporating unit and a condensing unit, integrates every component needed in an installation, with control and power board and electronic controller.



Technical features

400V-III-50 Hz, R-404A

Series / Model	Compressor			Cooling capacity (W)					Nominal power consump. (kW) *	Max absorb. current (A)	COP*	Condenser			Evaporator				Liq-Gas cooling connection	SPL dB(A) *	
	HP	Type*	Model	Ambient temp.	Cold room temperature							Available static pressure* (mmwc)	Air flow (m³/h)	Weight (kg)	Fan Ø mm	Air flow (m³/h)	Defrosting heater power (kW)	Weight (kg)			
					+10 °C	+5 °C	0 °C	-5 °C													
MEDIUM AND HIGH TEMPERATURE	MSV-CF-50086	4	H	MTZ50	35 °C 45 °C	11.090 9.315	9.400 7.900	7.940 6.670	6.570 5.520	4,6	20,6	2,20	20	5.000	168	2x Ø350	5.200	4,8	64	1/2"-7/8"	67
	MSV-CF-50108	5	H	MTZ64	35 °C 45 °C	13.540 11.375	11.530 9.685	9.790 8.225	8.160 6.855	5,8	24,2	2,09	20	5.000	169	3x Ø350	6.900	4,8	64	1/2"-7/8"	65
	MSV-CF-50136	6 1/2	H	MTZ80	35 °C 45 °C	16.090 13.515	13.780 11.575	11.755 9.875	9.860 8.285	7,5	28,8	1,88	20	5.000	173	4x Ø350	9.200	6,0	76	1/2"-1 1/8"	63
	MSV-CF-60160	8	H	MTZ100	35 °C 45 °C	20.610 17.315	17.470 14.675	14.710 12.355	12.175 10.230	9,2	29,3	2,35	15	10.000	266	2x Ø450	7.600	7,2	130	5/8"-1 1/8"	73
	MSV-CF-60215	10	H	MTZ125	35 °C 45 °C	26.735 22.460	22.685 19.055	19.175 16.110	15.870 13.330	12,3	36,2	2,31	15	10.000	270	2x Ø560	15.000	9,6	150	5/8"-1 3/8"	73
	MSV-CF-60271	13	H	MTZ160	35 °C 45 °C	31.200 26.210	26.640 22.380	22.630 19.010	18.850 15.835	15,3	45,2	2,01	15	10.000	275	2x Ø560	15.000	12,0	150	5/8"-1 3/8"	73
	MSV-CF-80320	16	H	2x MTZ100	35 °C 45 °C	41.200 34.610	34.900 29.315	29.400 24.695	24.350 20.455	18,3	58,6	2,33	15	2x 10.000	520	4x Ø450	15.200	14,4	250	7/8"-1 5/8"	76
	MSV-CF-80430	20	H	2x MTZ125	35 °C 45 °C	53.400 44.855	45.300 38.050	38.300 32.175	31.700 26.630	24,7	72,4	2,31	15	2x 10.000	530	4x Ø560	30.000	19,2	290	7/8"-1 5/8"	76
	MSV-CF-80542	26	H	2x MTZ160	35 °C 45 °C	62.400 52.415	53.300 44.775	45.300 38.055	48.700 40.910	30,6	90,4	2,01	15	2x 10.000	630	4x Ø560	30.000	24,0	290	7/8"-2 1/8"	76
NEGATIVE TEMPERATURE						-15 °C	-20 °C	-25 °C													
	BSV-SCF-50131	4	Sc EVI	ZF13KVE	35 °C 45 °C	6.580 6.110	5.680 5.240	4.850 4.430	4,4	17,6	1,72	20	5.000	175	2x Ø350	5.200	4,8	64	1/2"-1 1/8"	59	
	BSV-CF-50215	7 1/2	H	NTZ215	35 °C 45 °C	8.700 6.700	7.060 5.435	5.540 4.265	6,5	31,9	1,31	20	5.000	195	3x Ø350	6.900	4,8	64	1/2"-1 1/8"	68	
	BSV-SCF-50181	6	Sc EVI	ZF18KVE	35 °C 45 °C	8.760 8.350	7.670 7.330	6.680 6.460	6,1	22,7	1,60	20	5.000	180	4x Ø350	9.200	6,0	76	1/2"-1 1/8"	60	
	BSV-CF-50271	10	H	NTZ271	35 °C 45 °C	10.230 7.880	8.405 6.470	6.720 5.175	8,3	37,2	1,20	20	5.000	195	4x Ø350	9.200	6,0	76	1/2"-1 1/8"	68	
	BSV-SCF-60241	7 1/2	Sc EVI	ZF24KVE	35 °C 45 °C	11.850 11.100	10.350 9.740	8.950 8.430	8,8	23,3	1,85	15	10.000	250	2x Ø450	7.600	7,2	130	1/2"-1 3/8"	72	
	BSV-SCF-60331	10	Sc EVI	ZF33KVE	35 °C 45 °C	15.950 15.050	13.950 13.150	12.050 11.350	11,7	30,6	1,89	15	10.000	275	2x Ø560	15.000	9,6	150	1/2"-1 3/8"	72	
	BSV-SCF-60401	13	Sc EVI	ZF40KVE	35 °C 45 °C	18.650 17.450	16.350 15.300	14.150 13.350	13,8	36,2	1,73	15	10.000	275	2x Ø560	15.000	9,6	150	1/2"-1 3/8"	72	
	BSV-SCF-60481	15	Sc EVI	ZF48KVE	35 °C 45 °C	21.200 20.000	18.600 17.250	16.200 14.850	16,2	39,8	1,57	15	10.000	285	2x Ø560	15.000	9,6	150	1/2"-1 5/8"	72	
	BSV-SCF-80662	20	Sc EVI	2x ZF33KVE	35 °C 45 °C	31.900 30.100	27.900 26.300	24.100 22.700	23,5	61,2	1,89	15	2x 10.000	595	4x Ø560	30.000	19,2	290	5/8"-2 1/8"	75	
	BSV-SCF-80802	26	Sc EVI	2x ZF40KVE	35 °C 45 °C	37.300 34.900	32.700 30.600	28.300 26.700	27,6	72,4	1,73	15	2x 10.000	595	4x Ø560	30.000	19,2	290	5/8"-2 1/8"	75	
BSV-SCF-80962	30	Sc EVI	2x ZF48KVE	35 °C 45 °C	42.400 40.000	37.200 34.500	32.400 29.700	32,4	79,6	1,57	15	2x 10.000	595	4x Ø560	30.000	19,2	290	5/8"-2 1/8"	75		

As an option

- Horizontal discharge mounting of condensing centrifugal motor-fans.
- Oil separator (already included for negative temperature units featuring two scroll compressors).
- Anti-corrosion coil coating.
- Module for external communication through ModBus protocol and RS485 connection.
- Bi-temperature operation system (for BSV-SCF units)

* Nominal technical features are related to operation at cold room temperature of 0 °C and -20 °C under ambient temperature of 35 °C. Compressor C.O.P. at nominal conditions.

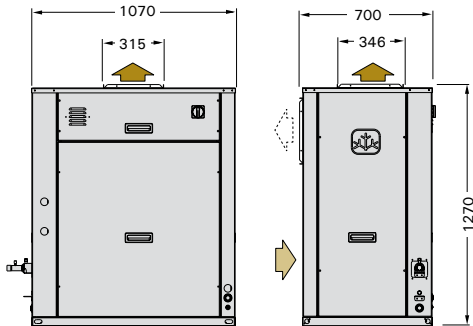
* Available static pressure in extraction ducts.

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

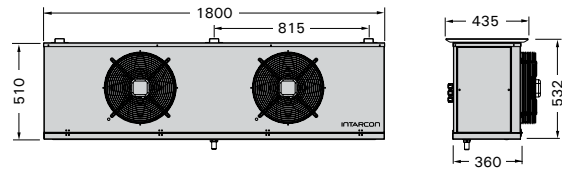
Compressor type according to the following nomenclature:
H = Hermetic reciprocating compressor
Sc-EVI = Scroll compressor with vapour injection EVI system

MSV / BSV series

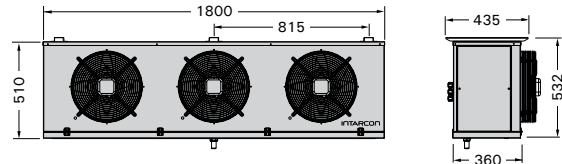
Dimensions series 5



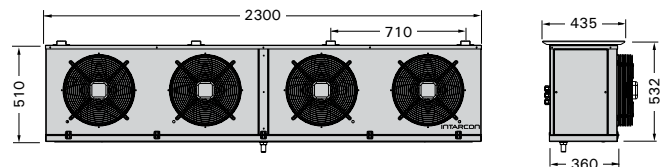
models
MSV-CF-50086
BSV-SCF-50131



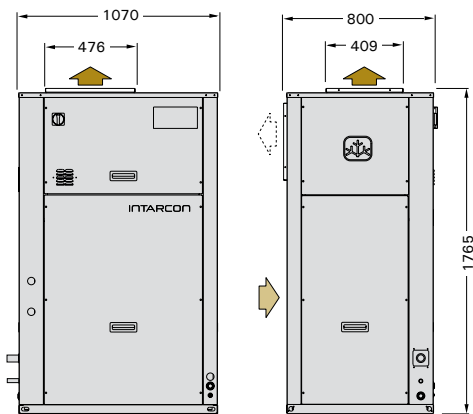
models
MSV-CF-50108
BSV-CF-50215



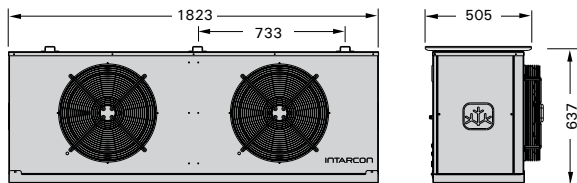
models
MSV-CF-50136
BSV-SCF-50181
BSV-CF-50271



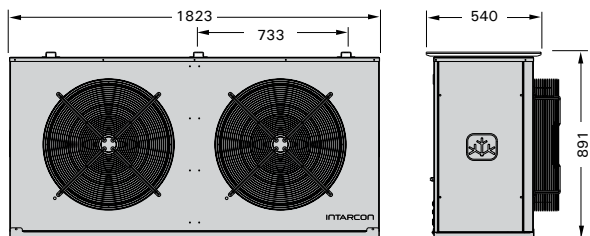
series 6



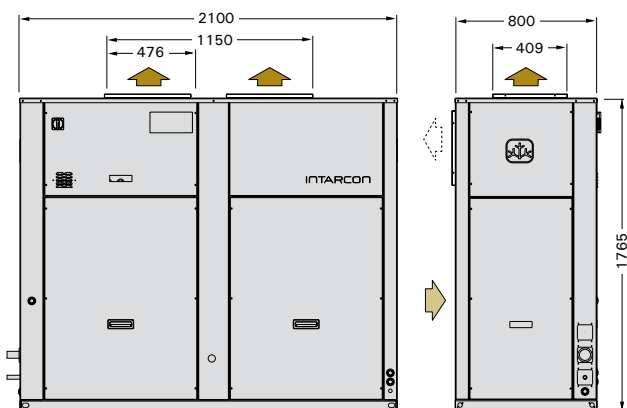
models
MSV-CF-60160
BSV-SCF-60241



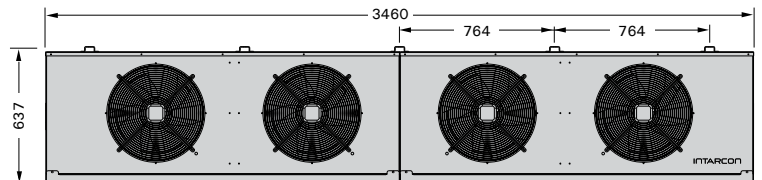
models
MSV-CF-60215
MSV-CF-60271
BSV-SCF-60331
BSV-SCF-60401
BSV-SCF-60481



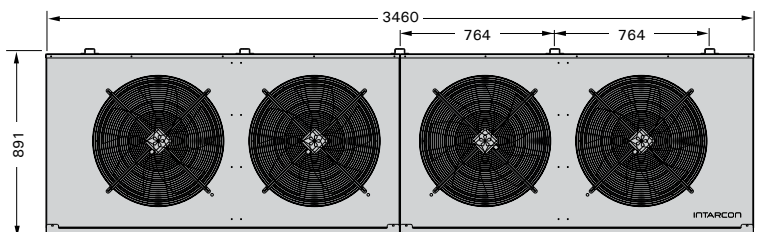
series 8



model MSV-CF-80320



models MSV-CF-80430 BSV-SCF-80662
MSV-CF-80540 BSV-SCF-80802
BSV-SCF-80962



intarPACK



Description

Split units for positive and negative temperature applications, built in a galvanised steel shell with polyester coating, featuring one or two industrial cubic-type evaporating units and an air-cooled condensing unit designed for outdoor installation.

Features

- 400V-III-50Hz power supply.
- R-404A refrigerant.

CONDENSING UNIT

- Hermetic reciprocating or scroll compressors, with noise insulation, discharge muffler (for reciprocating compressor models), mounted on shock absorbers, with internal klixon and crankcase heater. Oil separator for negative temperature units with 2 or 4 scroll compressors.
- U-shaped large area condensing coil made in copper pipes and aluminium fins, tropicalised for ambient temperature up to 45 °C.
- Low-speed axial motor-fans, mounted on nozzles, dynamically balanced blades and external protection grille.
- Refrigeration circuit with single or double suction line, made in copper pipes, equipped with HP and LP switches, service valves, safety valves, liquid receiver, dehydratant filter and sight glass.
- Full control and power panel, with thermal protection and MCB switch for motors and defrosting heaters, and circuit breaker for each refrigeration circuit (series 5).
- Electronic regulation through power stages, proportional control of condensing temperature and remote control keyboard.

EVAPORATING UNIT(S)

- High performance evaporating coil, in copper pipes and aluminium fins, with 5 mm fin spacing. Stainless steel drain tray.
- Inbuilt thermostatic expansion valve and solenoid valve in the evaporating unit.
- Defrosting by electrical heaters imbricated in coil.
- Long-range axial motor-fans mounted on nozzles, dynamically balanced blades and external protection grille.

As an option

- Oil separator (already included for negative temperature units with 2 or 4 scroll compressors).
- Anticorrosion coil coating.
- Two evaporating units (series 1 to 4).
- Module for external communication through ModBus protocol and RS485 connection.
- Bi-temperature operation system (for BSE-SF units).

High reliability compressors

Danfoss-Maneurop hermetic reciprocating and scroll compressors are known for their sturdy construction and high reliability operation, and, by being cooled by the refrigerant, they allow a very efficient noise insulation.



Copeland negative temperature scroll compressors with vapour injection EVI system, provide a higher performance of up to 25% related to standard compressors.

Régulation électronique

intarPACK axial units feature as standard, at the power panel, an advanced electronic controller XM670K and a remote keyboard.



- Inbuilt electronic board in condensing unit to control: compressor/s, condensing fan/s, liquid solenoid valve, evaporating fans, defrosting and alarm signal.
- Cold room and defrosting temperature probes.
- Control of condensing temperature.
- Multifunctional electronic keyboard to remote control.
- ModBus communication protocol through RS485 connection (as an option).

MSE / BSE series

Versions

MSE - High and medium temperature (-5 °C...+ 10 °C)

Low-noise axial split refrigeration systems for positive temperature cold rooms.

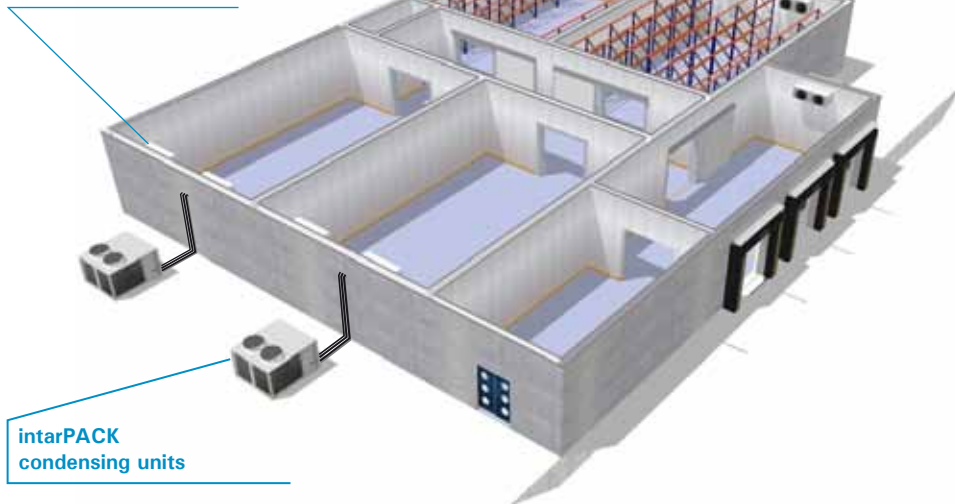
BSE - NEGATIVE TEMPERATURE (-25 °C ...-15 °C)

Low-noise axial split refrigeration systems for negative temperature preservation in cold rooms.

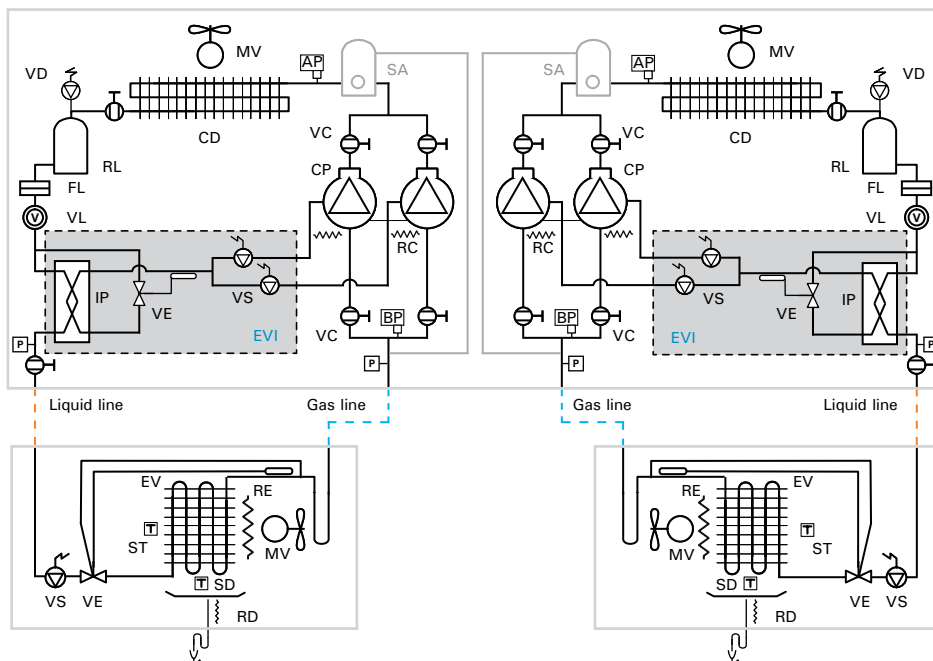
Applications

intarPACK are specifically designed systems for large cold room applications at positive and negative temperature.

Evaporating units



**Refrigeration scheme
BSE-SF 5 series**



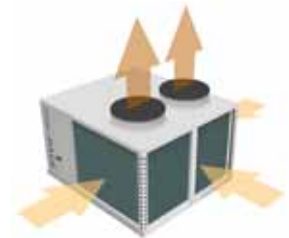
Efficient, proportional and low-noise condensation

Low-noise condensing motor-fans operating at 900 rpm, with variable speed function, preserve condensation pressure under low ambient temperature while they reduce sound pressure level.



U-shaped tropicalised condensing coil

intarPACK axial split systems feature a condensing unit with an U-shaped large area condensing coil to guarantee the proper operation under high ambient temperature.



Inbuilt regulation valves

The evaporating units included for **intarPACK** split systems feature inbuilt thermostatic expansion and solenoid valves, adjusted from factory for an optimum operation.

- CP: COMPRESSOR
- MV: MOTOR-FAN
- VC: SERVICE VALVE
- CD: CONDENSER
- RC: CRANKCASE HEATER
- VD: SAFETY VALVE
- RL: LIQUID RECEIVER
- FL: DEHYDRATANT FILTER
- VL: SIGHT GLASS
- IP: BRAZZED PLATES HEAT EXCHANGER
- VE: THERMOSTATIC EXPANSION VALVE
- VS: SOLENOID VALVE
- AP: HP SWITCH
- BP: LP SWITCH
- P: PRESSURE TRANSDUCER
- SA: OIL SEPARATOR
- RE: DEFROSTING HEATER
- ST: COLD ROOM TEMPERATURE PROBE
- SD: DEFROSTING PROBE
- MV: MOTOR-FAN
- EV: EVAPORATOR
- RD: DRAINING PIPE HEATER

Description

High and medium temperature refrigeration split systems, built in a galvanised steel shell with polyester coating, composed of one or two evaporating units and an air-cooled hermetic compressor condensing unit.



Technical features

400V-III-50 Hz, R-404A

Series / Model	Compressor			Ambient temp.	Cooling capacity (W)				Nominal power consump. (kW) *	Max absorb. current (A)	COP*	Condenser			Évaporateur				Liq-Gas cooling connection	SPL dB(A) *	
	HP	Type *	Model		Cold room temperature							Fan Ø mm	Air flow (m³/h)	Weight (kg)	Fan Ø mm	Air flow (m³/h)	Defrosting heater power (kW)	Weight (kg)			
					+10 °C	+5 °C	0 °C	-5 °C													
1 compressor / 1 refrigeration circuit	MSE-NF-10160	8	H	MTZ100	35 °C 45 °C	20.100 17.200	17.100 14.400	14.400 12.000	11.900 9.800	7,9	26,6	2,12	Ø630	10.000	250	2x Ø450	7.600	7,2	130	5/8"-1 1/8"	42
	MSE-SF-10160	8	Sc	SZ100	35 °C 45 °C	19.600 17.000	16.700 14.400	14.200 12.100	11.900 -	7,5	23,6	2,21	Ø630	10.000	255	2x Ø450	7.600	7,2	130	5/8"-1 1/8"	37
	MSE-NF-10215	10	H	MTZ125	35 °C 45 °C	26.000 21.900	22.000 18.400	18.600 15.300	15.400 12.400	11,1	33,5	2,07	Ø630	10.000	255	2x Ø560	15.000	9,6	150	5/8"-1 3/8"	42
	MSE-SF-10215	10	Sc	SZ120	35 °C 45 °C	25.300 21.600	21.600 18.300	18.400 15.400	15.300 -	11,1	35,5	2,06	Ø630	10.000	265	2x Ø560	15.000	9,6	150	5/8"-1 3/8"	37
	MSE-NF-20271	13	H	MTZ160	35 °C 45 °C	33.000 28.000	27.900 23.500	23.500 19.600	19.400 15.900	13,9	43,7	2,05	Ø800	22.000	310	2x Ø560	15.000	12,0	150	5/8"-1 3/8"	44
	MSE-SF-20271	13	Sc	SZ160	35 °C 45 °C	32.700 28.100	27.900 23.800	23.700 20.100	19.800 -	13,6	36,7	2,13	Ø800	22.000	335	2x Ø560	15.000	12,0	150	5/8"-1 3/8"	42
	MSE-SF-20312	15	Sc	SZ185	35 °C 45 °C	35.800 30.900	30.700 26.200	26.100 22.200	21.900 -	15,4	42,7	2,01	Ø800	22.000	345	2x Ø560	15.000	12,0	150	7/8"-1 5/8"	42
2 compressors / 1 refrigeration circuit	MSE-NF-40320	16	H	2x MTZ100	35 °C 45 °C	40.700 34.800	34.400 29.200	28.900 24.300	23.900 19.700	15,9	51,7	2,10	Ø800	23.000	420	4x Ø450	15.200	14,4	260	7/8"-1 5/8"	48
	MSE-SF-40320	16	Sc	2x SZ100	35 °C 45 °C	39.500 34.200	33.700 29.000	28.600 24.500	23.900 -	15,1	45,7	2,25	Ø800	23.000	430	4x Ø450	15.200	14,4	260	7/8"-1 5/8"	44
	MSE-NF-40430	20	H	2x MTZ125	35 °C 45 °C	52.700 44.500	44.600 37.300	37.500 31.000	30.900 25.000	22,3	65,5	2,11	Ø800	23.000	425	4x Ø560	30.000	19,2	290	7/8"-1 5/8"	47
	MSE-SF-40430	20	Sc	2x SZ120	35 °C 45 °C	51.300 43.800	43.700 37.100	37.100 31.200	31.000 -	22,1	69,5	2,10	Ø800	23.000	445	4x Ø560	30.000	19,2	290	7/8"-1 5/8"	44
	MSE-NF-40542	26	H	2x MTZ160	35 °C 45 °C	64.000 54.400	54.400 45.900	46.000 38.400	38.200 31.300	27,5	83,5	1,98	Ø800	22.000	465	4x Ø560	30.000	24,0	290	7/8"-2 1/8"	47
	MSE-SF-40542	26	Sc	2x SZ160	35 °C 45 °C	63.600 54.700	54.400 46.600	46.500 39.500	39.000 -	27,2	69,5	2,03	Ø800	22.000	505	4x Ø560	30.000	24,0	290	7/8"-2 1/8"	45
	MSE-SF-40624	30	Sc	2x SZ185	35 °C 45 °C	69.500 59.800	59.700 51.100	51.000 43.400	43.000 -	31,1	81,5	1,92	Ø800	22.000	525	4x Ø560	30.000	24,0	290	1 1/8"-2 1/8"	45
4 compressors / 2 refrigeration circuits	MSE-NF-50640	32	H	2x MTZ100	35 °C 45 °C	81.400 69.500	68.800 58.300	57.900 48.500	47.800 39.300	31,8	103,4	2,10	2x Ø800	46.000	945	2x 4x Ø450	2x 15.200	2x 14,4	2x 260	2x 7/8"-1 5/8"	51
	MSE-SF-50640	32	Sc	2x SZ100	35 °C 45 °C	79.100 68.500	67.400 58.000	57.200 48.900	47.900 40.500	30,1	91,4	2,25	2x Ø800	46.000	965	2x 4x Ø450	2x 15.200	2x 14,4	2x 260	2x 7/8"-1 5/8"	47
	MSE-NF-50860	40	H	2x MTZ125	35 °C 45 °C	105.000 88.900	89.200 74.600	75.100 61.900	61.800 50.000	44,5	131,0	2,11	2x Ø800	46.000	965	2x 4x Ø560	2x 30.000	2x 19,2	2x 290	2x 7/8"-1 5/8"	50
	MSE-SF-50860	40	Sc	2x SZ120	35 °C 45 °C	103.000 87.600	87.400 74.300	74.200 62.500	61.900 51.500	44,3	139,0	2,10	2x Ø800	46.000	1.000	2x 4x Ø560	2x 30.000	2x 19,2	2x 290	2x 7/8"-1 5/8"	47
	MSE-NF-51084	52	H	2x MTZ160	35 °C 45 °C	128.000 109.000	109.000 91.700	92.000 76.700	76.400 62.700	55,1	167,0	1,98	2x Ø800	44.000	980	2x 4x Ø560	2x 30.000	2x 24,0	2x 290	2x 7/8"-2 1/8"	50
	MSE-SF-51084	52	Sc	2x SZ160	35 °C 45 °C	127.000 109.000	109.000 93.100	92.900 78.900	78.100 -	54,4	139,0	2,03	2x Ø800	44.000	1.065	2x 4x Ø560	2x 30.000	2x 24,0	2x 290	2x 7/8"-2 1/8"	48
	MSE-SF-51248	60	Sc	2x SZ185	35 °C 45 °C	139.000 120.000	119.000 102.000	102.000 86.800	86.000 -	62,2	163,0	1,92	2x Ø800	44.000	1.105	2x 4x Ø560	2x 30.000	2x 24,0	2x 290	2x 1 1/8"-2 1/8"	48

As an option

- Oil separator.
- Anti-corrosion coil coating.
- Two evaporating units (series from 1 to 4).
- Module As an option pour la communication externe avec protocole Modbus and connexion RS485.

* Nominal technical features are related to operation at cold room temperature of 0 °C under ambient temperature of 35 °C. C.O.P. at nominal conditions.

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

Compressor type according to the following nomenclature:
H = Hermetic reciprocating compressor
Sc = Scroll compressor

Description

Low temperature refrigeration split systems, built in a galvanised steel shell with polyester coating, composed of one or two evaporating units and an air-cooled hermetic compressor condensing unit.



Technical features

400V-III-50 Hz, R-404A

Series / Model	Compressor			Cooling capacity (W)			Nominal power consump. (kW) *	Max absorb. current (A)	COP*	Condenser			Evaporator				Liq-Gas cooling connection	SPL dB(A) *		
	HP	Type *	Model	Ambient temp.	Cold room temperature					Fan Ø mm	Air flow (m³/h)	Weight (kg)	Fan Ø mm	Air flow (m³/h)	Defrosting heater power (kW)	Weight (kg)				
					-15 °C	-20 °C													-25 °C	
1 compressor / 1 refrigeration circuit	BSE-NF-10215	7 1/2	H	NTZ215	35 °C 45 °C	9.700 7.800	7.700 5.900	5.800 4.000	6,7	27,3	1,36	Ø630	10.000	250	Ø560	7.500	6,3	95	5/8"-1 3/8"	39
	BSE-SF-10181	6	Sc EVI	ZF18KVE	35 °C 45 °C	8.810 8.440	7.720 7.420	6.710 6.500	6,0	17,5	1,77	Ø630	10.000	235	Ø560	7.500	6,3	95	1/2"-1 1/8"	37
	BSE-NF-10271	10	H	NTZ271	35 °C 45 °C	11.400 9.300	9.200 7.400	7.200 5.400	8,2	32,0	1,32	Ø630	10.000	255	Ø560	7.500	6,3	95	5/8"-1 3/8"	39
	BSE-SF-10241	7 1/2	Sc EVI	ZF24KVE	35 °C 45 °C	11.800 11.050	10.300 9.670	8.920 8.420	7,2	20,5	1,81	Ø630	10.000	235	2x Ø450	7.600	9,6	130	1/2"-1 3/8"	37
	BSE-SF-10331	10	Sc EVI	ZF33KVE	35 °C 45 °C	15.900 14.900	13.850 13.000	12.000 11.250	10,2	27,8	1,85	Ø630	10.000	255	2x Ø560	15.000	12,0	150	1/2"-1 3/8"	37
	BSE-SF-10401	13	Sc EVI	ZF40KVE	35 °C 45 °C	18.500 17.300	16.200 15.000	14.100 12.500	12,3	33,4	1,68	Ø630	10.000	255	2x Ø560	15.000	12,0	150	1/2"-1 3/8"	38
	BSE-SF-10481	15	Sc EVI	ZF48KVE	35 °C 42 °C*	21.000 20.000	18.500 17.700	16.150 15.450	14,9	37,0	1,52	Ø630	10.000	255	2x Ø560	15.000	12,0	150	1/2"-1 5/8"	42
2 compressors / 1 ref. circuit	BSE-NF-30430	15	H	2x NTZ215	35 °C 45 °C	18.900 15.100	15.000 11.400	11.300 7.900	13,4	52,8	1,31	Ø800	22.000	390	2x Ø560	15.000	12,0	150	5/8"-1 5/8"	46
	BSE-NF-30542	20	H	2x NTZ271	35 °C 45 °C	22.600 18.300	18.200 14.300	14.200 10.400	16,7	62,2	1,26	Ø800	22.000	395	2x Ø560	15.000	12,0	150	5/8"-2 1/8"	46
	BSE-SF-30662	20	Sc EVI	2x ZF33KVE	35 °C 45 °C	31.300 29.200	27.400 25.800	23.700 22.300	22,1	54,3	1,74	Ø800	22.000	400	4x Ø560	30.000	24,0	290	5/8"-2 1/8"	42
	BSE-SF-40802	26	Sc EVI	2x ZF40KVE	35 °C 45 °C	37.200 34.900	32.600 30.100	28.300 26.700	25,1	65,5	1,72	Ø800	23.000	460	4x Ø560	30.000	24,0	290	5/8"-2 1/8"	45
	BSE-SF-40962	30	Sc EVI	2x ZF48KVE	35 °C 45 °C	42.800 40.400	37.600 35.400	32.700 30.900	29,0	72,7	1,66	Ø800	22.000	460	4x Ø560	30.000	24,0	290	5/8"-2 1/8"	45
4 compressors / 2 ref. circuits	BSE-NF-50860	30	H	2x NTZ215	35 °C 45 °C	38.600 30.900	30.500 23.200	23.000 15.800	27,3	105,5	1,41	2x Ø800	46.000	905	2x 2x Ø560	2x 15.000	2x 12,0	2x 150	2x 5/8"-1 5/8"	49
	BSE-NF-51084	40	H	2x NTZ271	35 °C 45 °C	46.200 37.600	37.200 29.300	29.000 21.300	33,8	124,3	1,34	2x Ø800	46.000	910	2x 2x Ø560	2x 15.000	2x 12,0	2x 150	2x 5/8"-2 1/8"	49
	BSE-SF-51324	40	Sc EVI	2x ZF33KVE	35 °C 45 °C	63.800 60.200	55.800 52.400	48.200 45.400	41,9	108,6	1,89	2x Ø800	46.000	915	4x 2x Ø560	2x 30.000	2x 24,0	2x 290	2x 5/8"-2 1/8"	47
	BSE-SF-51604	52	Sc EVI	2x ZF40KVE	35 °C 45 °C	74.400 69.800	65.200 60.200	56.600 53.400	50,1	131,0	1,72	2x Ø800	46.000	915	4x 2x Ø560	2x 30.000	2x 24,0	2x 290	2x 5/8"-2 1/8"	48
	BSE-SF-51924	60	Sc EVI	2x ZF48KVE	35 °C 42 °C*	84.400 80.800	74.400 71.400	64.800 62.200	59,9	145,4	1,56	2x Ø800	44.000	915	4x 2x Ø560	2x 30.000	2x 24,0	2x 290	2x 5/8"-2 1/8"	48

As an option

- Oil separator (already included for negative temperature units featuring two or four scroll compressors).
- Anti-corrosion coil coating.
- Two evaporating units (series from 1 to 4).
- Module As an option pour la communication externe avec protocole Modbus and connexion RS485.
- Bi-temperature operation system (for BSE-SF units)

* Nominal technical features are related to operation at cold room temperature of -20 °C under ambient temperature of 35 °C. C.O.P. at nominal conditions.

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

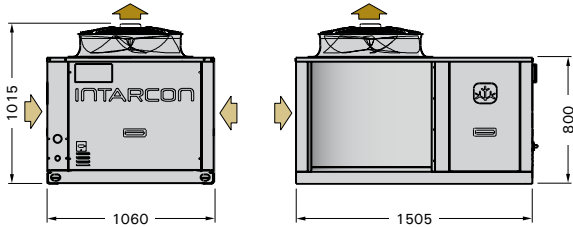
Compressor type according to the following nomenclature:
H = Hermetic reciprocating compressor
Sc-EVI = Scroll compressor with vapour injection EVI system

* Model limited to 42 °C ambient temperature.

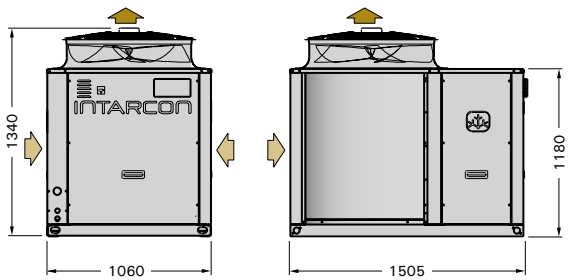
intarPACK

MSE / BSE series

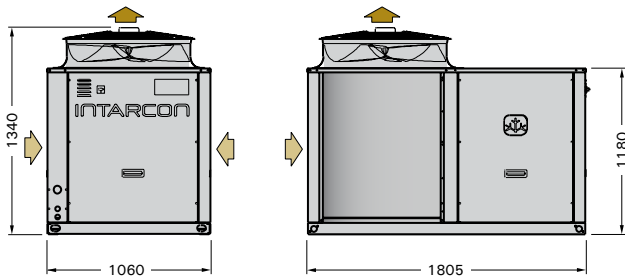
Dimensions
Condensing unit
series 1



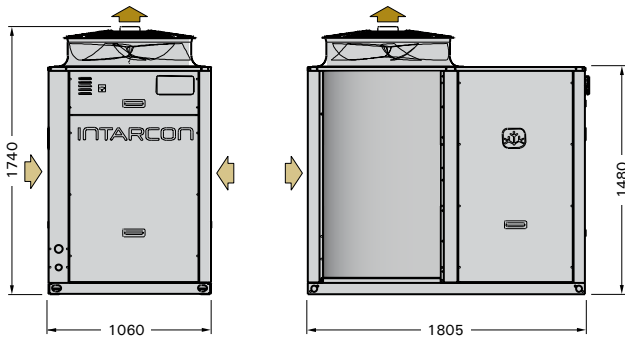
series 2



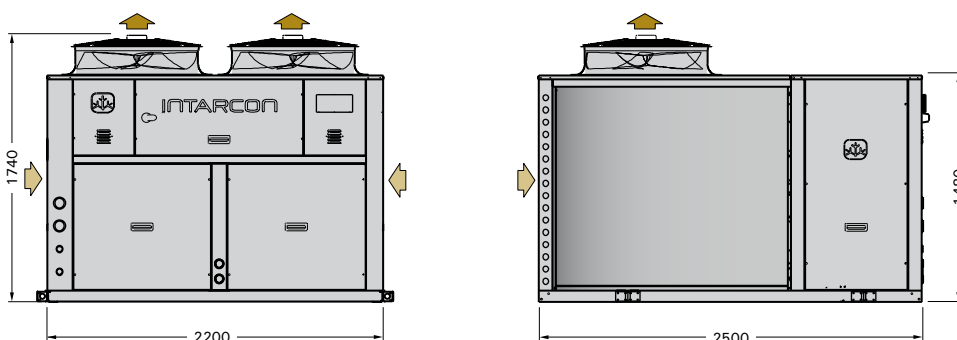
series 3



series 4

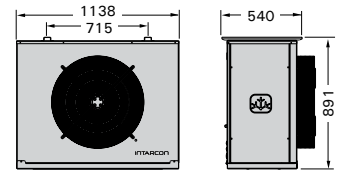


series 5

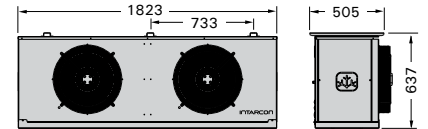


Evaporating unit

models
BSE-10215
BSE-10181
BSE-10271



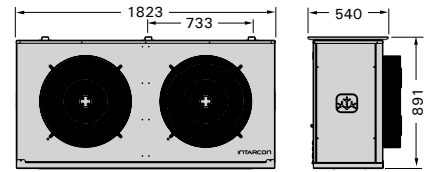
models
MSE-10160
BSE-10241



models
MSE-10215
MSE-20271
MSE-20312

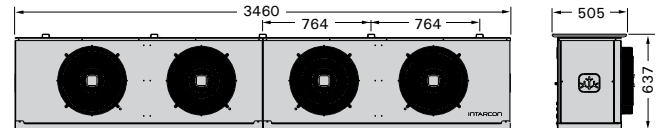
BSE-10331
BSE-10401
BSE-10481
BSE-30430
BSE-30542

BSE-50860
BSE-51084 } 2 x



models
MSE-40320

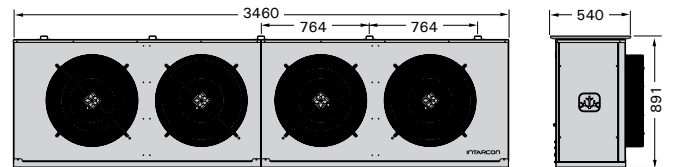
MSE-50640 } 2 x



models
MSE-40430
MSE-40542
MSE-40624
BSE-30662
BSE-40802
BSE-40962

MSE-50860
MSE-51084
MSE-51248
BSE-51324
BSE-51604
BSE-51924

} 2 x



JB-NF / JD-NF / JC-NF / JH-NF series



evaporating units

Evaporating units for refrigeration applications at high, medium and low temperature.

Each evaporating unit consists of a ventilated evaporator with inbuilt regulation valves and thermostatic expansion valve, and controlled by a prewired electronic control board.

Every model has been designed and adjusted in order to optimize the R-404A refrigerant dry expansion, in a wide range of temperature applications.

- ✦ High efficiency coils.
- ✦ Inbuilt thermostatic expansion and solenoid valves.
- ✦ Electronic control.
- ✦ 100% factory tested and adjusted units for the highest performance.
- ✦ Minimum maintenance needs, with simple access through folding panels.
- ✦ Operation with R-404A and R-507A refrigerants.

MJB-NF / BJB-NF series

Slim-type commercial evaporating units.

AJD-NF series

Double-flow low-profile evaporating units.

MJC-NF / BJC-NF series

Cubic-type evaporating units.

MJH-NF / BJH-NF series

Industrial cubic-type evaporating units.



Slim-type evaporating unit



Description

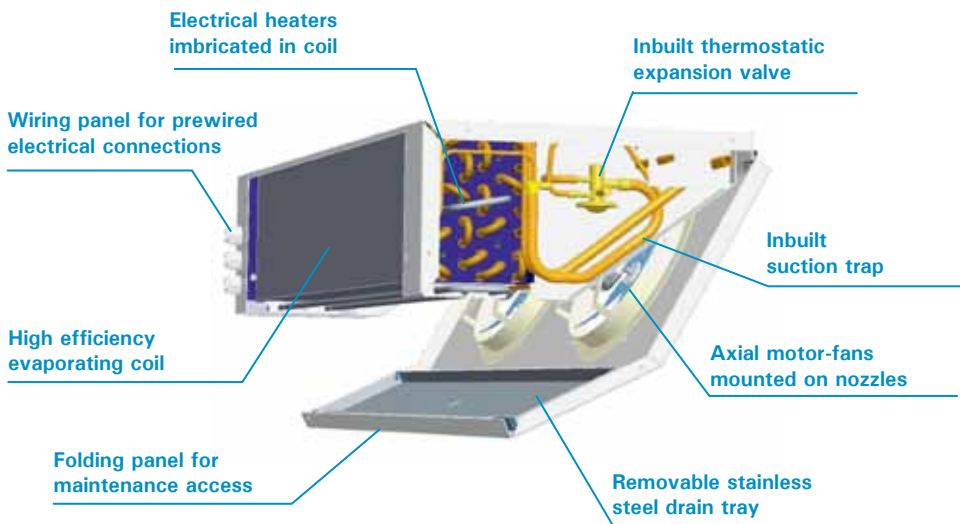
Slim-type commercial evaporating units, with inbuilt regulation valves and prewired electronic control, built in galvanised steel shell with polyester coating, for positive and negative temperature cold rooms.

Features

- 230V-I-50Hz power supply.
- High efficiency coils, built in copper pipes and aluminium fins, with 5 or 6 mm fin spacing.
- Stainless steel folding drain tray.
- Defrosting heaters in drain tray and imbricated in coil for negative temperature models and air defrosting for positive temperature models (electrical heater defrosting as an option).
- Flexible drain pipe heater (for negative temperature models).
- High flow axial motor-fans.
- Refrigeration circuit optimized for R-404A and R-507A refrigerants.
- Refrigeration circuit optimized for R404A and R507C refrigerants.
- Ready-to-solder cooling connections, with inbuilt suction trap.
- Electronic controller with relays for fan, solenoid valve coil and electrical heaters, and temperature probes, with 5 metres long electrical connection wires and 3 metres long power supply wires.

As an option

- Electrical heater defrosting (for MJB-NF series operating between -5 °C and +5 °C).
- Electronic fans.
- Anti-corrosion coil coating.



- ✦ High efficiency coils.
- ✦ Inbuilt thermostatic expansion and solenoid valves.
- ✦ 100% factory tested and adjusted units for the highest performance.
- ✦ Prewired electronic control.
- ✦ Operation with R-404A and R-507A.

Electronic control

The compact microcontroller includes every control element without the need for an electrical panel:

- 3 relays for: liquid solenoid valve, motor-fan, and defrosting (16A).
- Cold room temperature probe and defrosting temperature probe.
- Configurable digital input.

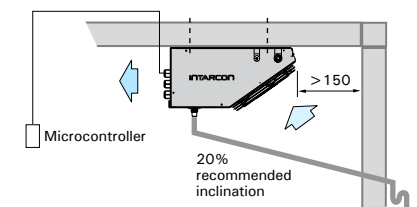


High efficiency coils

The efficiency of a finned coil is an indication of the use of its exchange area, which is associated to a greater temperature homogeneity. INTARCON's coils efficiency is rated from 85% to 90%.

Installation diagram

The following recommendations should be observed for the installation of the evaporating units inside a cold room:



- Place the unit at the end of the cold room, and avoid placing it above the door. Preferably place the unit so the air flows lengthwise along the cold room and crosswise to the entrance door.
- Respect the air flow direction, keeping a 150 mm separation to the wall panel.
- Install a draining pipe and place a water trap on the outside of the cold room.
- In negative temperature cold rooms it is recommended to insulate the drain pipe with thermal insulation fabrics, giving a 20% inclination to the pipe and getting sure that the flexible heater cable covers the full length of the pipe.

MJB-NF / BJB-NF series

Series

MJB-NF - Medium and high temperature (-5 °C... +15 °C)

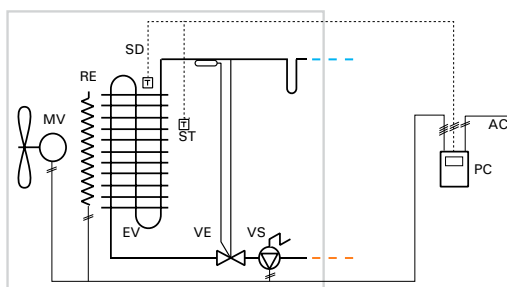
Evaporating units designed for positive temperature applications at small size cold rooms, featuring air defrosting (electrical heater defrosting as an option).

BJB-NF - Low temperature (-30 °C... -15 °C)

Evaporating units designed for negative temperature applications at small size cold rooms, featuring electrical heater defrosting.



Refrigeration and electric scheme



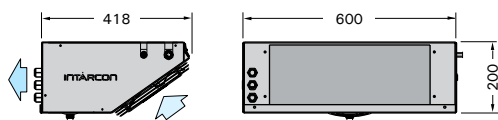
- MV: MOTOR-FAN
- EV: EVAPORATOR
- PC: ELECTRONIC CONTROL
- AC: POWER SUPPLY
- VS: SOLENOIDE VALVE
- VE: THERMOSTATIC EXPANSION VALVE
- ST: COLD ROOM TEMPERATURE PROBE
- SD: DEFROSTING TEMPERATURE PROBE
- RE: DEFROSTING HEATER (AS AN OPTION FOR MJB-NF SERIES)

Technical features

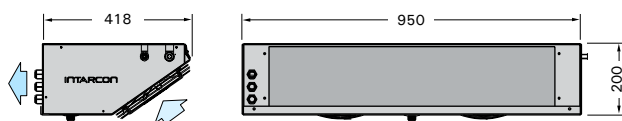
230V-I-50 Hz, R-404A / R-507A

Series / Model	Cooling capacity* (W) at cold room temperature				Fans				Liq-Gas cooling connection	Defrosting power (W)*	Max. absorbed current (A)		Coil area (m ²)	Internal volume (l)	Weight (kg)
	DT1	0 °C 85% RH	10 °C 85% RH	ENV328 SC2 / SC1	Air flow (m ³ /h)	Nx Ø (mm)	Power (W)	Air range (m)			Air defrost	Electrical defrost			
MJB-NF-1010	8K	1.230	1.360	1.070	550	1x Ø200	62	4	1/4"-1/2"	900	0,3	4,0	4,1	0,9	16
MJB-NF-1015	10K	1.500	1.670	1.240	550	1x Ø200	62	4	1/4"-1/2"	900	0,3	4,0	4,1	0,9	16
MJB-NF-2020	8K	2.150	2.450	1.870	1.050	2x Ø200	124	4	3/8"-5/8"	1.400	0,6	6,3	6,2	1,6	24
MJB-NF-2030	10K	2.620	3.000	2.225	1.050	2x Ø200	124	4	3/8"-5/8"	1.400	0,6	6,3	6,2	1,6	24
MJB-NF-3040	8K	4.280	5.240	3.720	2.325	3x Ø254	210	6	3/8"-7/8"	2.400	1,5	10,8	11,7	3,1	45
MJB-NF-3050	10K	5.210	6.430	4.760	2.325	3x Ø254	210	6	3/8"-7/8"	2.400	1,5	10,8	11,7	3,1	45
	DT1	-25 °C 95% HR	-18 °C 95% HR	ENV328 SC4 / SC3							Electrical defrost				
BJB-NF-1015	6K	670	855	670	550	1x Ø200	62	4	1/4"-1/2"	900	4,0		4,1	0,9	16
BJB-NF-1025	7K	770	1.000	950	550	1x Ø200	62	4	1/4"-1/2"	900	4,0		4,1	0,9	16
BJB-NF-2030	6K	1.085	1.400	1.085	1.050	2x Ø200	124	4	3/8"-5/8"	1.400	6,3		6,2	1,6	24
BJB-NF-2050	7K	1.250	1.630	1.550	1.050	2x Ø200	124	4	3/8"-5/8"	1.400	6,3		6,2	1,6	24
BJB-NF-3070	6K	2.635	2.680	2.635	2.325	3x Ø254	210	6	3/8"-7/8"	2.400	10,8		11,7	3,1	45
BJB-NF-3090	7K	3.030	3.125	2.975	2.325	3x Ø254	210	6	3/8"-7/8"	2.400	10,8		11,7	3,1	45

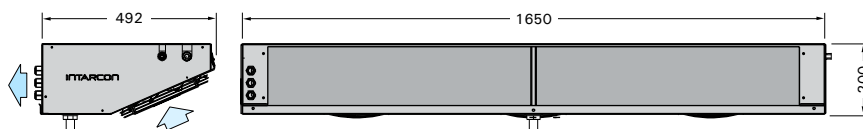
Dimensions series 1



series 2



series 3



* Cooling capacity at room temperature and relative humidity, calculated from dry cooling capacity according to ENV328 standard, applying the following empirical factors:

Conditions	Referenced to	DT1=8K	DT1=10K
0° C 85% RH	ENV328 SC2	1,15	1,40
10 °C 85% RH	ENV328 SC1	1,10	1,35
		DT1=6K	DT1=7K
-18 °C 95% RH	ENV328 SC3	0,90	1,05
-25 °C 95% RH	ENV328 SC4	1,00	1,15

where DT1 is the difference between evaporating temperature and air inlet temperature.

* Electrical defrosting as an option

MJB-NF series are also available featuring electrical heater defrosting as an option, for their operation at cold room temperature between -5 °C and +5 °C.

Low-profile double-flow evaporating units

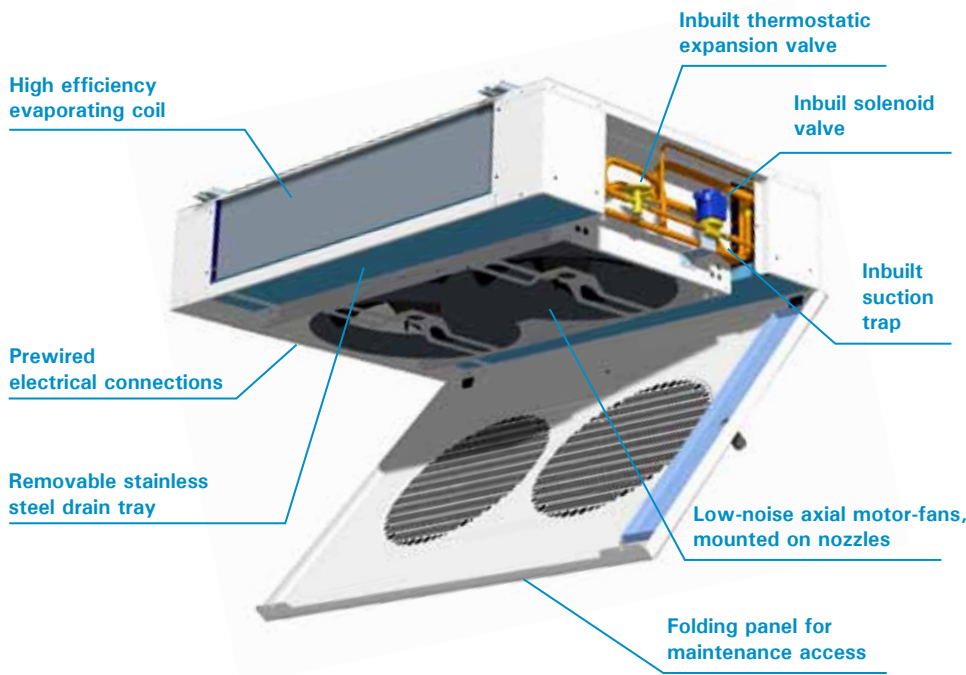


Description

Double-flow evaporating units, in a low-profile design, with inbuilt regulation valves, and prewired electronic control, built in galvanised steel shell with polyester coating.

Features

- 230V-I-50Hz power supply.
- High efficiency coils, in copper pipes and aluminium fins, with 5 or 6 mm fin spacing.
- Defrosting by air (electrical heater defrosting as an option).
- Low-speed and low-noise axial motorfans.
- Refrigeration circuit optimized for R-404A and R-507A refrigerants.
- Inbuilt solenoid valve in liquid line and factory-adjusted thermostatic expansion valve.
- Ready-to-solder cooling connections, with inbuilt suction trap.
- Electronic controller with fan, solenoid valve, electrical heaters relays and temperature probes, with 5 m long electrical connection wires and 3 m long power supply wires.



- ✦ High efficiency coils.
- ✦ Inbuilt thermostatic expansion and solenoid valves.
- ✦ 100% factory tested and adjusted units for the highest performance.
- ✦ Prewired electronic control.
- ✦ High comfort: Low-noise level and laminar air flow.
- ✦ Operation with R-404A and R-507A.

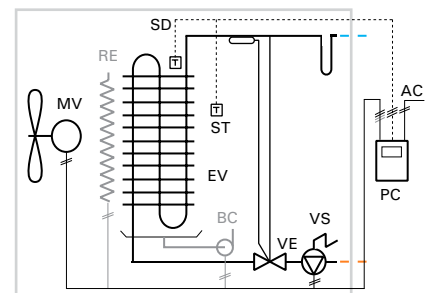
Electronic control

Compact microcontroller including every control element without the need for an electrical panel:

- 3 relays for: liquid solenoid valve, motor-fan, and defrosting (16A).
- Cold room temperature probe and defrosting temperature probe.
- Configurable digital input.



Refrigeration and electric scheme



- MV: MOTOR-FAN
- EV: EVAPORATOR
- PC: ELECTRONIC CONTROL
- AC: POWER SUPPLY
- VS: SOLENOID VALVE
- VE: THERMOSTATIC EXPANSION VALVE
- ST: COLD ROOM TEMPERATURE PROBE
- SD: DEFROSTING TEMPERATURE PROBE
- RE: ELECTRICAL HEATER (AS AN OPTION)
- BC: CONDENSED WATER PUMP (AS AN OPTION)

Series

AJD-NF - High temperature (+ 5 °C... + 15 °C)

Double-flow evaporating units for positive temperature applications, with a low turbulence level, featuring air defrosting (electrical heater defrosting as an option).

As an option

- Electrical heater defrosting (for operation between -5 °C and + 5 °C).
- Inbuilt condensed water pump.
- G3 filter for fans.
- Inbuilt humidification kit.
- Deshumidification / heating kit.
- Anti-corrosion coil coating.



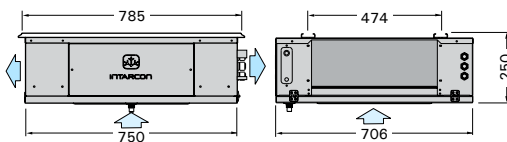
Technical features

230V-I-50 Hz*, R-404A / R-507A

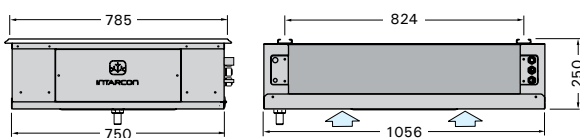
Series / Model	Cooling capacity* (W) at cold room temperature				Fans				Liq-Gas cooling connection	Defrosting power (as an option) (W)*	Max. absorbed current (A)		Coil area (m ²)	Internal volume (l)	Weight (kg)	SPL* dB(A)
	DT1	0 °C	10 °C	ENV328 SC2 / SC1	Air flow (m ³ /h)	Nx Ø (mm)	Power (W)	Air range (m)			Air defrost	Electrical defrost				
		85% RH	85% RH													
AJD-NF-1015	8K	2.415	3.005	2.100	1.200	1x Ø360	85	2x 4	1/4"-1/2"	900	0,4	4,0	8,2	1,8	32	33
AJD-NF-1020	10K	2.940	3.686	2.730	1.200	1x Ø360	85	2x 4	1/4"-1/2"	900	0,4	4,0	8,2	1,8	32	33
AJD-NF-2025	8K	4.324	5.710	3.760	2.400	2x Ø360	170	2x 4	3/8"-5/8"	1.400	0,8	6,1	12,6	3,3	45	36
AJD-NF-2035	10K	5.264	7.007	5.190	2.400	2x Ø360	170	2x 4	3/8"-5/8"	1.400	0,8	6,1	12,6	3,3	45	36
AJD-NF-3040	8K	8.326	9.930	7.240	3.975	3x Ø360	255	2x 6	1/2"-7/8"	3.200	1,2	14,0	23,6	6,2	65	38
AJD-NF-3050	10K	10.140	12.191	9.030	3.975	3x Ø360	255	2x 6	1/2"-7/8"	3.200	1,2	14,0	23,6	6,2	65	38
AJD-NF-4060	8K	9.718	11.410	8.450	5.100	3x Ø360	345	2x 6	1/2"-7/8"	3.200	1,7	14,0	23,6	6,2	65	42
AJD-NF-4070	10K	11.830	14.000	10.370	5.100	3x Ø360	345	2x 6	1/2"-7/8"	3.200	1,7	14,0	23,6	6,2	65	42
AJD-NF-5090*	8K	14.766	17.600	12.840	7.800	3x Ø450	425	2x 6	5/8"-1 1/8"	4.000	1,9	5,8	36,2	9,8	70	44
AJD-NF-5110*	10K	17.980	21.590	16.000	7.800	3x Ø450	425	2x 6	5/8"-1 1/8"	4.000	1,9	5,8	36,2	9,8	70	44

Dimensions

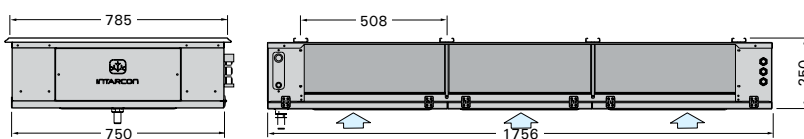
series 1



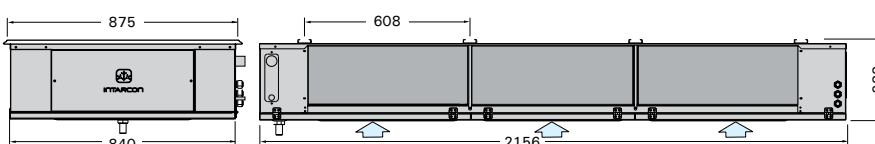
series 2



series 3 and 4



series 5



* Sound pressure level inside a semi-reverberant room (reverberation rate R=250).

* Cooling capacity at room temperature and relative humidity, calculated from dry cooling capacity according to ENV328 standard, applying the following empirical factors:

Conditions	Referenced to	DT1=8K	DT1=10K
0 °C 85% RH	ENV328 SC2	1,15	1,40
10 °C 85% RH	ENV328 SC1	1,10	1,35

where DT1 is the difference between evaporating temperature and air inlet temperature.

* Electrical heater defrosting (as an option)

AJD-NF series are also available featuring electrical heater defrosting as an option, for operation at cold room temperature between -5 °C and + 5 °C.

AJD-NF-5090 and AJD-NF-5110 models, with electrical heater defrosting option, unlike the other models of AJD series, require 400V-III power supply and they feature a XLR-1170 control and power panel.

Cubic-type industrial evaporating units



Description

Cubic-type evaporating units, with inbuilt regulation valves, for positive and negative temperature cold rooms, built in galvanised steel shell with polyester coating.

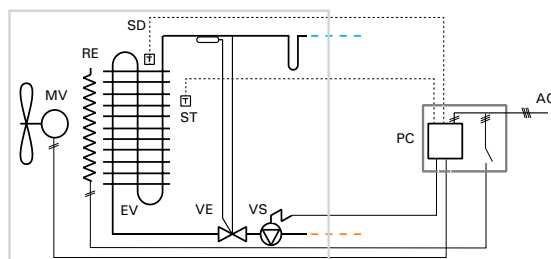
Features

- 400V-III-50Hz power supply.
- High efficiency coils, in copper pipes and aluminium fins, with 5 mm fin spacing.
- Stainless steel folding drain tray.
- Electrical heater defrosting with drain tray heater for negative temperature models, and air defrosting for positive temperature models (electrical heater defrosting as an option).
- Flexible draining pipe heater (for negative temperature models).
- High-flow axial motor-fans operating at 1300 rpm.
- Refrigeration circuit optimized for R-404A and R-507A refrigerants.
- Solenoid valve in liquid line and factory-adjusted thermostatic expansion valve, both inbuilt in the unit.
- Ready-to-solder cooling connections, with inbuilt suction trap.
- Control and power board with electronic microcontroller and digital display, with MCB protection for heaters and motor-fans, 6 relays for control, cold room temperature probe and defrosting, and operation leds.

As an option

- Electrical heater defrosting (for MJC-NF and MJH-NF series operating between -5 °C and +5 °C).
- Inbuilt humidification kit.
- Deshumidification / heating kit.
- Anti-corrosion coil coating.
- Long-range fan streamer (for Ø350 and Ø450 fans).

Refrigeration and electrical scheme



- | | |
|---------------------------|--------------------------------------|
| MV: MOTOR-FAN | VE: THERMOSTATIC EXPANSION VALVE |
| EV: EVAPORATOR | ST: COLD ROOM TEMPERATURE PROBE |
| PC: CONTROL BOARD | SD: DEFROSTING TEMPERATURE PROBE |
| AC: ELECTRICAL CONNECTION | RE: ELECTRICAL HEATER |
| VS: SOLENOID VALVE | (AS AN OPTION FOR MJC-NF AND MJH-NF) |

- ✦ High efficiency coils.
- ✦ Inbuilt thermostatic expansion and solenoid valves.
- ✦ 100% factory tested and adjusted units for the highest performance.
- ✦ Minimum maintenance needs, with simple access through folding panels.
- ✦ Operation with R-404A and R-507A.

Control board

Advanced multifunction controller, consisting of an electronic board integrated in the electrical panel and a digital control keyboard.



Humidification kit (as an option)

An humidification kit is integrated in the evaporating unit as an option. It works by water steam with 3 kg/h capacity, it is composed by: water steam diffuser, submerged electrodes generator cylinder with water supply and purge valves, and an electronic controller to control relative humidity inside the cold room.

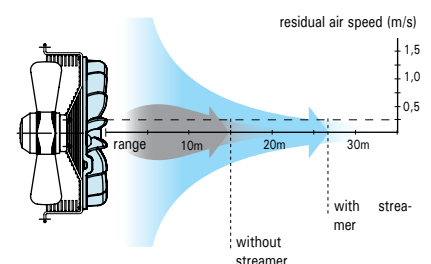


This system is only to be used with water whose conductivity is between 125 y 1250 µS/cm, and a total hardness between 50 y 400 mg/l CaCO₃, and greater than twice the content of Cl.

Long range air streamer (as an option)

ptionally, a streamer is installed on the fan outlet to get a longer range.

Only available in Ø350 and Ø450 mm fans.



MJC-NF / BJC-NF series

Series

MJC-NF - Medium and high temperature (-5 °C... + 10 °C)

Evaporating units designed for positive temperature applications at medium and large size cold rooms, featuring air defrosting (electrical heater defrosting as an option).

BJC-NF - NEGATIVE TEMPERATURE (-30 °C... -15 °C)

Evaporating units designed for negative temperature applications at medium and large size cold rooms, featuring air defrosting.

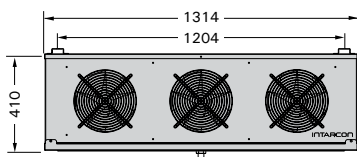


Technical features

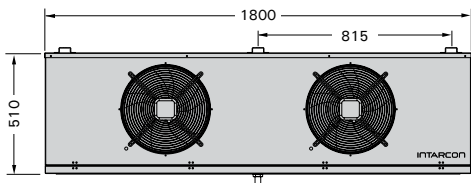
400V-III-50 Hz, R-404A / R-507A

Series / Model	Cooling capacity* (W) at cold room temperature				Fans				Liq-Gas cooling connection	Defrosting power (W)*	Max. absorbed current (A)		Coil area (m ²)	Internal volume (l)	Weight (kg)
	DT1	0 °C 85% RH	10 °C 85% RH	ENV328 SC2 / SC1	Air flow (m ³ /h)	Nx Ø (mm)	Power (W)	Air range (m)			Air defrost	Electrical defrost			
MJC-NF-1040	8K	4.310	5.710	3.750	2.400	3x Ø254	3x 70	12	3/8"-7/8"	2.400	1,5	3,5	14,4	3,5	42
MJC-NF-1060	10K	5.250	7.010	5.190	2.400	3x Ø254	3x 70	12	3/8"-7/8"	2.400	1,5	3,5	14,4	3,5	42
MJC-NF-2070	8K	8.625	11.330	7.500	5.200	2x Ø350	2x 130	15	1/2"-7/8"	4.800	1,2	7,0	24,9	6,2	62
MJC-NF-2090	10K	10.500	13.905	10.300	5.200	2x Ø350	2x 130	15	1/2"-7/8"	4.800	1,2	7,0	24,9	6,2	62
MJC-NF-3100	8K	10.925	13.310	9.500	6.900	3x Ø350	3x 130	15	1/2"-7/8"	4.800	1,8	7,0	24,9	6,2	67
MJC-NF-3120	10K	13.300	16.335	12.100	6.900	3x Ø350	3x 130	15	1/2"-7/8"	4.800	1,8	7,0	24,9	6,2	67
MJC-NF-4130	8K	13.110	17.325	11.400	9.200	4x Ø350	4x 130	15	1/2"-1 1/8"	6.000	2,4	8,7	33,1	8,2	79
MJC-NF-4140	10K	15.960	21.260	15.750	9.200	4x Ø350	4x 130	15	1/2"-1 1/8"	6.000	2,4	8,7	33,1	8,2	79
	DT1	-25 °C 95% RH	-18 °C 95% RH	ENV328 SC4 / SC3							Electrical defrost				
BJC-NF-1040	6K	2.650	2.660	2.650	2.400	3x Ø254	3x 70	12	3/8"-7/8"	2.400	3,5		14,4	3,5	42
BJC-NF-1060	7K	3.050	3.108	2.960	2.400	3x Ø254	3x 70	12	3/8"-7/8"	2.400	3,5		14,4	3,5	42
BJC-NF-2070	6K	5.500	5.750	5.500	5.200	2x Ø350	2x 130	15	1/2"-1 1/8"	4.800	7,0		24,9	6,2	62
BJC-NF-2090	7K	6.325	6.710	6.390	5.200	2x Ø350	2x 130	15	1/2"-1 1/8"	4.800	7,0		24,9	6,2	62
BJC-NF-3100	6K	6.440	7.110	6.440	6.900	3x Ø350	3x 130	15	1/2"-1 1/8"	4.800	7,0		24,9	6,2	67
BJC-NF-3120	7K	7.400	8.295	7.900	6.900	3x Ø350	3x 130	15	1/2"-1 1/8"	4.800	7,0		24,9	6,2	67
BJC-NF-4130	6K	7.160	8.370	7.160	9.200	4x Ø350	4x 130	15	1/2"-1 1/8"	6.000	8,7		33,1	8,2	79
BJC-NF-4140	7K	8.230	9.765	9.300	9.200	4x Ø350	4x 130	15	1/2"-1 1/8"	6.000	8,7		33,1	8,2	79

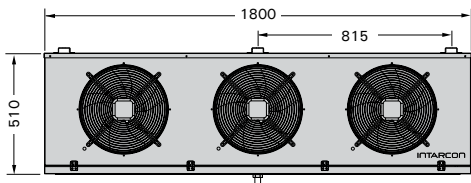
Dimensions series JC 1



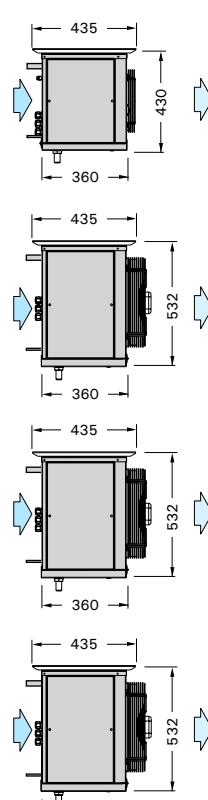
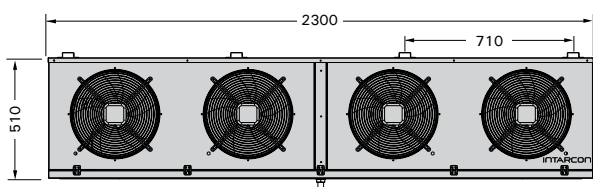
series JC 2



series JC 3



series JC 4



* Cooling capacity at room temperature and relative humidity, calculated from dry cooling capacity according to ENV328 standard, applying the following empirical factors:

Conditions	Related to	DT1 = 8K	DT1 = 10K
0 °C 85% RH	ENV328 SC2	1,15	1,40
10 °C 85% RH	ENV328 SC1	1,10	1,35
		DT1 = 6K	DT1 = 7K
-18 °C 95% RH	ENV328 SC3	0,90	1,05
-25 °C 95% RH	ENV328 SC4	1,00	1,15

where DT1 is the difference between evaporating temperature and air inlet temperature.

* Electrical defrosting as an option

MJC-NF series are also available featuring electrical heater defrosting as an option, for their operation at cold room temperature between -5 °C and +5 °C.

Series

MJH-NF - Medium and high temperature (-5 °C...+ 10 °C)

Evaporating units designed for positive temperature applications at large size cold rooms, featuring air defrosting (electrical heater defrosting as an option).

BJH-NF - NEGATIVE TEMPERATURE (-30 °C... -15 °C)

Evaporating units designed for negative temperature applications at large size cold rooms, featuring air defrosting.



Technical features

400V-III-50 Hz, R-404A / R-507A

Series / Model	Cooling capacity* (W) at cold room temperature				Fans				Liq-Gas cooling connection	Defrosting power (W)*	Max. absorbed current (A)		Coil area (m²)	Internal volume (l)	Weight (kg)
	DT1	0 °C 85% RH	10 °C 85% RH	ENV328 SC2 / SC1	Air flow (m³/h)	Nx Ø (mm)	Power (W)	Air range (m)			Air defrost	Electrical defrost			
MJH-NF-1060	8K	6.405	7.650	5.570	3.800	1x Ø450	460	25	1/2"-7/8"	2.100	1,0	3,0	27,4	7,5	90
MJH-NF-1080	10K	7.800	9.400	6.960	3.800	1x Ø450	460	25	1/2"-7/8"	2.100	1,0	3,0	27,4	7,5	90
MJH-NF-2100	8K	11.020	13.440	9.585	7.500	1x Ø560	1.030	27	5/8"-1 1/8"	4.200	1,9	6,1	39,6	11	95
MJH-NF-2120	10K	13.420	16.490	12.215	7.500	1x Ø560	1.030	27	5/8"-1 1/8"	4.200	1,9	6,1	39,6	11	95
MJH-NF-3140	8K	12.720	15.220	11.065	7.600	2x Ø450	2x 460	25	5/8"-1 1/8"	7.200	1,9	10,4	54,8	15	130
MJH-NF-3160	10K	15.500	18.780	13.840	7.600	2x Ø450	2x 460	25	5/8"-1 1/8"	7.200	1,9	10,4	54,8	15	130
MJH-NF-4210	8K	22.050	26.900	19.170	15.000	2x Ø560	2x 1.030	27	5/8"-1 3/8"	9.600	3,8	13,9	79,2	22	150
MJH-NF-4270	10K	26.840	33.000	24.450	15.000	2x Ø560	2x 1.030	27	5/8"-1 3/8"	9.600	3,8	13,9	79,2	22	150
MJH-NF-5280	8K	25.450	30.450	22.130	15.200	4x Ø450	4x 460	25	7/8"-1 5/8"	14.400	3,8	20,8	110	30	260
MJH-NF-5320	10K	30.980	37.350	27.680	15.200	4x Ø450	4x 460	25	7/8"-1 5/8"	14.400	3,8	20,8	110	30	260
MJH-NF-6420	8K	44.100	53.800	38.340	30.000	4x Ø560	4x 1.030	27	1 1/8"-2 1/8"	19.200	7,6	27,8	158	43	290
MJH-NF-6540	10K	53.700	66.000	48.900	30.000	4x Ø560	4x 1.030	27	1 1/8"-2 1/8"	19.200	7,6	27,8	158	43	290
	DT1	-25 °C 95% RH	-18 °C 95% RH	ENV328 SC4 / SC3							Electrical defrost				
BJH-NF-1100	6K	3.660	3.960	3.660	3.800	1x Ø450	460	25	1/2"-7/8"	2.100	3,0		27,4	7,5	90
BJH-NF-1120	7K	4.210	4.620	4.400	3.800	1x Ø450	460	25	1/2"-7/8"	2.100	3,0		27,4	7,5	90
BJH-NF-2150	6K	6.500	7.580	6.500	7.500	1x Ø560	1.030	27	5/8"-1 3/8"	4.200	6,1		39,6	11	95
BJH-NF-2160	7K	7.475	8.840	8.420	7.500	1x Ø560	1.030	27	5/8"-1 3/8"	4.200	6,1		39,6	11	95
BJH-NF-3250	6K	7.260	8.530	9.480	7.600	2x Ø450	2x 460	25	5/8"-1 5/8"	7.200	10,4		54,8	15	130
BJH-NF-3300	7K	8.350	9.950	8.740	7.600	2x Ø450	2x 460	25	5/8"-1 5/8"	7.200	10,4		54,8	15	130
BJH-NF-4400	6K	13.060	15.270	13.060	15.000	2x Ø560	2x 1.030	27	5/8"-2 1/8"	9.600	13,9		79,2	22	150
BJH-NF-4480	7K	15.020	17.820	16.970	15.000	2x Ø560	2x 1.030	27	5/8"-2 1/8"	9.600	13,9		79,2	22	150
BJH-NF-5500	6K	14.520	17.060	14.520	15.200	4x Ø450	4x 460	25	7/8"-2 1/8"	14.400	20,8		110	30	260
BJH-NF-5600	7K	16.700	19.900	18.950	15.200	4x Ø450	4x 460	25	7/8"-2 1/8"	14.400	20,8		110	30	260
BJH-NF-6800	6K	26.120	30.550	26.120	30.000	4x Ø560	4x 1.030	27	1 1/8"-2 1/8"	19.200	27,8		158	43	290
BJH-NF-6960	7K	30.040	35.640	33.940	30.000	4x Ø560	4x 1.030	27	1 1/8"-2 1/8"	19.200	27,8		158	43	290

As an option

- Electrical heater defrosting (for MJH-NF series operating between -5 °C and + 5 °C).
- Inbuilt humidification kit.
- Deshumidification / heating kit.
- Anti-corrosion coil coating.
- Long-range fan streamer (for Ø350 and Ø450 fans).
- Wall-mounting angular structure.

* Cooling capacity at room temperature and relative humidity, calculated from dry cooling capacity according to ENV328 standard, applying the following empirical factors:

Conditions	Référence	DT1=8K	DT1=10K
0 °C 85% RH	ENV328 SC2	1,15	1,40
10 °C 85% RH	ENV328 SC1	1,10	1,35
		DT1=6K	DT1=7K
-18 °C 95% RH	ENV328 SC3	0,90	1,05
-25 °C 95% RH	ENV328 SC4	1,00	1,15

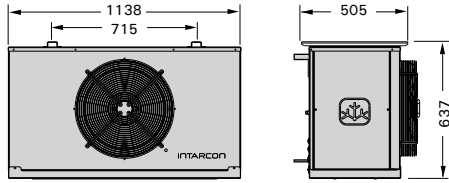
where DT1 is the difference between evaporating temperature and air inlet temperature.

* Electrical defrosting as an option

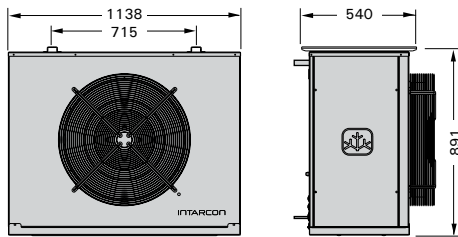
MJH-NF series are also available featuring electrical heater defrosting as an option, for their operation at cold room temperature between -5 °C and + 5 °C.

MJH-NF / BJH-NF series

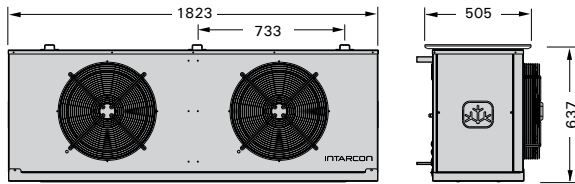
Dimensions
serie JH 1



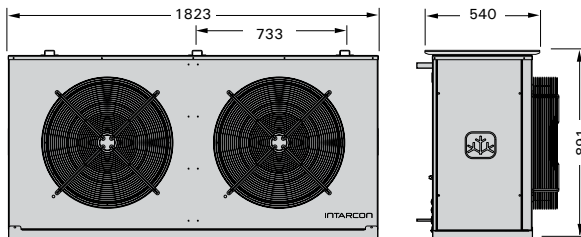
serie JH 2



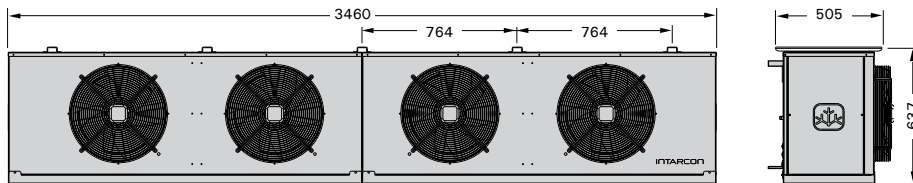
serie JH 3



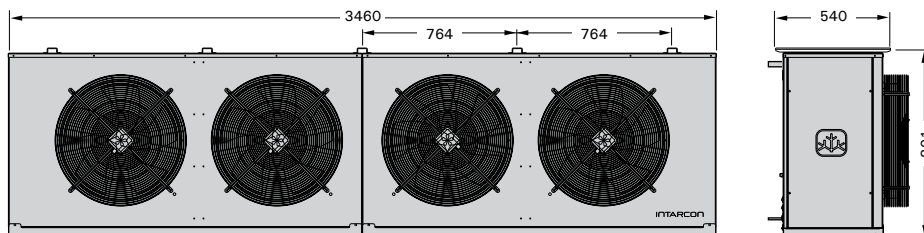
serie JH 4



serie JH 5

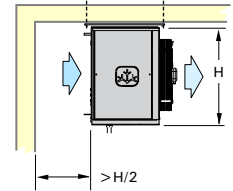


serie JH 6



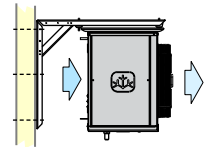
Ceiling mounting (standard)

The evaporating units are ready to be fixed to cold room roof panel.



Wall mounting (as an option)

As an option, a wall-mounting angular structure is supplied to fix the evaporating unit to the cold room wall.



Control and power panel

Micro-controller

Description Compact control board to control evaporating units up to 3200 W defrosting power. As standard for our evaporating units from JB-NF, and JD-NF series.

- Features**
- Onboard mounting with reduced dimensions.
 - 230V-I-50Hz power supply.
 - Electronic microcontroller with digital display, three relays for solenoid valve, defrosting (16A) and motor-fans.
 - Cold room temperature and defrosting temperature probes.
 - Configurable digital input.



- ★ Self-contained microcontroller as standard for MJB, BJB, AJD and MJD series.
- ★ Very compact design for a quick installation.

Control and power panel

Description Control and power board for one or two evaporating units at positive and negative temperature applications, with electronic controller and digital display. As standard for JC-NF and JH-NF series.

- Features**
- Box made in a galvanised steel shell painted in white, with key.
 - 400V-III-50Hz power supply.
 - Electronic microcontroller with digital display, six relays for compressor, defrosting, motor-fans, cold room light, alarm signal and configurable auxiliary relay; cold room temperature and defrosting temperature probes.
 - 3-phase contactors and MCB switches for heater and motor-fans.
 - Operation leds.
 - Electrical wiring panel.



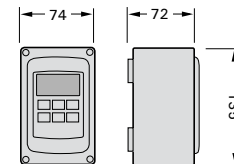
- ★ Control and power board in a compact design, as standard for MJC, BJC, MJH and BJH series.
- ★ Independent control for one or two evaporating units.
- ★ Control of temperature and humidity as an option.

- As an option**
- Real time clock for programming defrosting cycles and temperature set point.
 - External communication through ModBus protocol and RS485 connection.

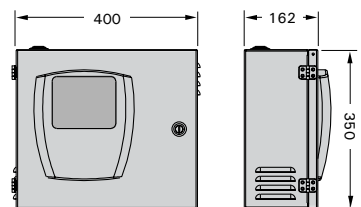
Technical features

Series / Model	Application	Power supply	Max. defrosting power (W)	Max. absorbed current (A)	Electrical wiring					
					Probes	Solenoid valve	Motor-fan	Defrosting	Klixon	
XW-0060	1 evaporating unit JB and JD series	230V-I	3.200 W	14 A	3x1mm ²	2x1mm ²	2x2,5mm ² +G	-		
CONTROL BOARDS	XLR-1170	1 evaporating unit JC and JD 5 series	400V-III	6.000 W	9 A	4x1mm ²	3x1mm ²	3x1,5mm ² +G	-	
	XLR-2170	1 evaporating unit JH 1 and 2 series	400V-III	4.200 W	6,5 A	4x1mm ²	2x1mm ²	3x1mm ²	3x1,5mm ² +G	2x1mm ²
	XLR-3170	1 evaporating unit JH 3 series	400V-III	7.200 W	10,5 A	4x1mm ²	2x1mm ²	3x1,5mm ²	3x2,5mm ² +G	2x1mm ²
	XLR-4170	1 evaporating unit JH 4 series	400V-III	9.600 W	14 A	4x1mm ²	2x1mm ²	3x1,5mm ²	3x4mm ² +G	2x1mm ²
	XLR-5170	1 evaporating unit JH 5 series	400V-III	14.400 W	21 A	4x1mm ²	2x1mm ²	2x 3x1,5mm ²	2x 3x2,5mm ² +G	2x1mm ²
	XLR-6170	1 evaporating unit JH 6 series	400V-III	19.200 W	28 A	4x1mm ²	2x1mm ²	2x 3x1,5mm ²	2x 3x4mm ² +G	2x1mm ²
	XLR-7170	2 evaporating units JH 3 series	400V-III	2x 7.200 W	21 A	4x1mm ²	2x 2x1mm ²	2x 3x1,5mm ²	2x 3x2,5mm ² +G	2x 2x1mm ²
	XLR-8170	2 evaporating units JH 4 series	400V-III	2x 9.600 W	28 A	4x1mm ²	2x 2x1mm ²	2x 3x1,5mm ²	2x 3x4mm ² +G	2x 2x1mm ²
	XLR-2470	Double set point 2x JH 1 and 2	400V-III	2x 4.200 W	12,5 A	2x 4x1mm ²	2x 2x1mm ²	2x 3x1mm ²	2x 3x1,5mm ² +G	2x 2x1mm ²
	XLR-3470	Double set point 2x JH 3	400V-III	2x 7.200 W	21 A	2x 4x1mm ²	2x 2x1mm ²	2x 3x1,5mm ²	2x 3x2,5mm ² +G	2x 2x1mm ²
	XLR-4470	Double set point 2x JH 4	400V-III	2x 9.600 W	28 A	2x 4x1mm ²	2x 2x1mm ²	2x 3x1,5mm ²	2x 3x4mm ² +G	2x 2x1mm ²
XLH-1260	1 evaporating unit JC series with humidity control	400V-III	6.000 W	9 A	4x1mm ² 3x1mm ²	3x1mm ² 3x1mm ²	3x1,5mm ² +G 2x1,5mm ²	-		

Micro-controller dimensions



Control panel dimensions



MDH / BDH / MDF / BDF series

condensing units

intarbox *centrifugal*

Air-cooled centrifugal condensing units from 1/2 to 5 HP, with inbuilt control board and electronic or electromechanical versions.

Sigilus

Air-cooled low noise condensing units from 1/2 to 10 HP for outdoor installation, with inbuilt control board and electronic or electromechanical versions.

*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 up to 50 °C.*



*Air-cooled low noise condensing units **Sigilus-multi** up to 10 HP, and air-cooled centrifugal condensing units **intarbox-multi** up to 5 HP, featuring **VRC system** for cooling capacity modulation to centralize the cooling production of a set of evaporating units.*

- ✦ Centrifugal motor-fan.
 - ✦ Inbuilt power board.
 - ✦ Electronic control with remote keyboard for evaporating unit control (as an option).
-
- ✦ Tropicalised design for ambient temperature up to 50 °C.
 - ✦ Triple acoustic insulation.
 - ✦ Inbuilt power board.
 - ✦ Electronic control with remote keyboard for evaporating unit control (as an option).
-
- ✦ VRC system for gradual cooling capacity regulation from 100% to 10% of nominal capacity.

intarbox

Description

Air-cooled condensing units for positive and negative temperature applications, featuring centrifugal condensing fan.

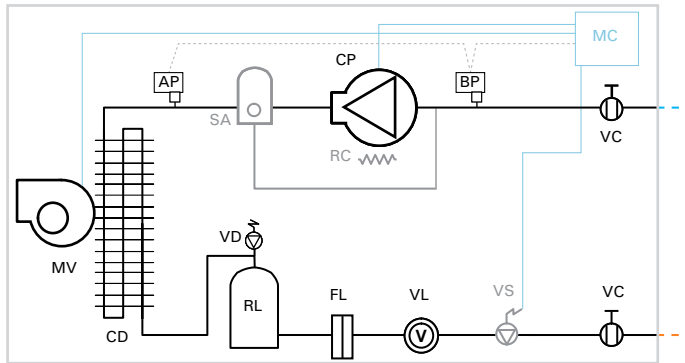
Features

- R-404A refrigerant.
- Hermetic reciprocating compressor, mounted on shock absorbers, with discharge muffler (series 3 and 4) and internal klixon.
- Condensing coil made in copper pipes and aluminium fins.
- Centrifugal motor-fan with available static pressure for a ducted outlet of condenser's hot air.
- Refrigeration circuit equipped with high and low pressure switches, ceramic dehydratant filter, liquid receiver and sight glass.
- Electrical power panel with MCB switch for compressor and motor-fan.
- Digital control of condensing pressure (series 1 to 3) and proportional control of condensing pressure (series 4).

As an option

- Oil separator.
- Crankcase heater.
- Inbuilt solenoid valve.
- Anti-corrosion coil coating.
- Back-flow damper in fan outlet.
- Rectangular to circular duct adaptor.

Refrigeration scheme



STANDARD FEATURES

- CP: COMPRESSOR
MV: CENTRIFUGAL MOTOR-FAN
CD: CONDENSER
FL: DEHYDRATANT FILTER
VL: SIGHT GLASS
RL: LIQUID RECEIVER
VD: SAFETY VALVE
VC: 3-WAY SERVICE VALVE
(connections up to 3/4")

ELECTRONIC VERSION FEATURES (MDH-CF AND BDH-CF SERIES)

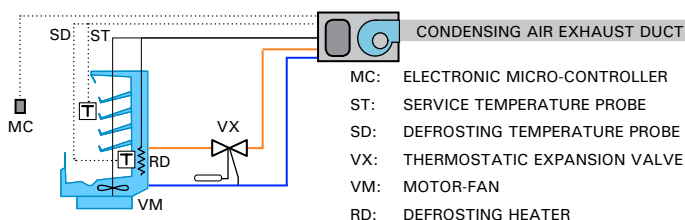
- MC: ELECTRONIC MICRO-CONTROLLER

AS AN OPTION

- SA: OIL SEPARATOR
RC: CRANKCASE HEATER
VS: SOLENOID VALVE

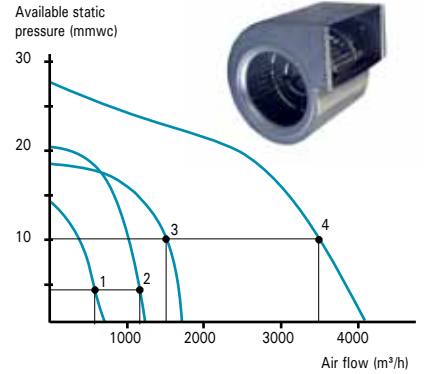
Installation electronic version

intarbox condensing units, in their electronic version, are designed to give service to an evaporating unit, with the possibility as an option of including every regulation and control element, except for the thermostatic expansion valve.



Centrifugal motor-fan

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



Back-flow damper (as an option)

A back-flow damper in each unit allows the connection of all extraction air outlets to a common duct.



MDH-CF and BDH-CF series (electronic version)

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.



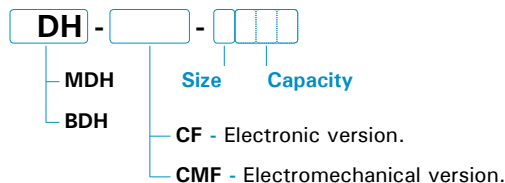
- Inbuilt Electronic board with 6 relays to control: compressor, centrifugal condensing fan, liquid solenoid valve, evaporating fan, defrosting and alarm signal.
- Multifunctional electronic keyboard.

MDH-CMF and BDH-CMF series (electromechanical version)

intarbox condensing units, in their electromechanical version, are designed for on/off operation according to low suction pressure (pump down), so the installation is much more simple with no wiring from the condensing unit to the evaporating unit/s.

MDH / BDH series

Codification

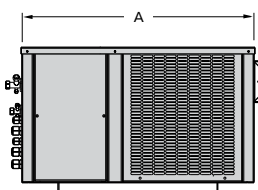
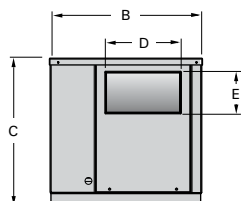


Technical features

50 Hz, R-404A

Series / Model	Compressor				Cooling capacity (W) EN13215 * Evap. Temp.: -10 °C	Ambient temp.	Cooling capacity (W)*				Nominal power consump. (kW)*	Max. absorbed current (A)	Condenser			Liq-Gas cooling connection	SPL dB(A)*	
	HP	Type *	Model	Power supply			Evaporating temperature						Available static pressure* (mmwc)	Air flow (m³/h)	Weight (kg)			
							0 °C	-5 °C	-10 °C	-15 °C								
MEDIUM AND HIGH TEMPERATURE	MDH-CF-1014	1/2	H	CAE9470Z	230V-I	1.095	35 °C 45 °C	1.290 1.060	1.075 890	885 730	720 595	0,68	6,8	4,5	575	42	1/4"-1/2"	47
	MDH-CF-1016	5/8	H	CAJ9480Z	230V-I	1.242	35 °C 45 °C	1.440 1.170	1.200 1.020	990 800	800 650	0,75	7,7	4,5	575	50	1/4"-1/2"	51
	MDH-CF-1018	3/4	H	CAJ9510Z	230V-I	1.474	35 °C 45 °C	1.710 1.420	1.430 1.150	1.180 950	960 770	0,92	9,0	4,5	575	51	1/4"-1/2"	52
	MDH-CF-2024	1	H	CAJ9513Z	230V-I	1.971	35 °C 45 °C	2.400 1.760	1.995 1.460	1.630 1.190	1.310 935	1,08	11,7	4,5	1.150	54	3/8"-5/8"	52
	MDH-CF-2026	1 1/4	H	CAJ4517Z	230V-I*	2.295	35 °C 45 °C	2.730 2.010	2.260 1.675	1.850 1.360	1.475 1.060	1,30	12,1	4,5	1.150	55	3/8"-5/8"	55
	MDH-CF-2034	1 1/2	H	CAJ4519Z	230V-I*	2.651	35 °C 45 °C	3.355 2.630	2.800 2.060	2.300 1.690	1.995 1.350	1,73	16,7	4,5	1.150	55	3/8"-5/8"	57
	MDH-CF-3034	1 1/2	H	CAJ4519Z	230V-I*	2.896	35 °C 45 °C	3.710 2.815	3.090 2.350	2.550 1.935	2.060 1.550	1,74	16,9	10	1.500	74	3/8"-5/8"	57
	MDH-CF-3038	1 3/4	H	MTZ22	400V-III	3.065	35 °C 45 °C	4.175 3.090	3.420 2.530	2.760 2.030	2.175 1.595	1,63	7,7	10	1.500	71	3/8"-5/8"	58
	MDH-CF-4048	2	H	MTZ28	400V-III	4.270	35 °C 45 °C	6.050 4.730	4.890 3.780	3.880 2.960	3.010 2.250	2,42	12,7	10	3.500	95	3/8"-3/4"	58
	MDH-CF-4054	2 1/4	H	MTZ32	400V-III	4.938	35 °C 45 °C	6.895 5.380	5.615 4.345	4.500 3.450	3.540 2.670	2,61	13,2	10	3.500	96	3/8"-3/4"	58
	MDH-CF-4060	3	H	MTZ36	400V-III	5.512	35 °C 45 °C	7.580 5.890	6.220 4.810	5.020 3.860	3.970 3.025	3,06	14,2	10	3.500	97	3/8"-3/4"	58
	MDH-CF-4068	3 1/2	H	MTZ40	400V-III	6.269	35 °C 45 °C	8.510 6.650	7.030 5.480	5.725 4.445	4.580 3.530	3,42	15,2	10	3.500	98	1/2"-3/4"	57
NEGATIVE TEMPERATURE						EN13215 Evap. Temp.: -30 °C												
	BDH-CF-1026	3/4	H	CAJ2446Z	230V-I	743	35 °C 45 °C	920 680	640 450	420 270	0,77	8,5	4,5	575	51	1/4"-1/2"	55	
	BDH-CF-1034	1 1/4	H	CAJ2464Z	230V-I	918	35 °C 45 °C	1.010 720	790 555	600 415	1,00	11,0	4,5	575	52	1/4"-1/2"	58	
	BDH-CF-2034	1 1/4	H	CAJ2464Z	230V-I	1.017	35 °C 45 °C	1.160 860	890 650	660 470	1,06	11,5	4,5	1.150	55	3/8"-5/8"	58	
	BDH-CF-2054	1 3/4	H	FH2480Z	230V-I*	1.403	35 °C 45 °C	1.640 1.150	1.200 795	825 485	1,55	17,5	4,5	1.150	68	3/8"-5/8"	59	
	BDH-CF-2074	2 1/2	H	FH2511Z	230V-I*	1.802	35 °C 45 °C	2.040 1.410	1.535 1.015	1.100 670	1,92	25,5	4,5	1.150	68	3/8"-5/8"	59	
	BDH-CF-3074	2 1/2	H	FH2511Z	230V-I*	1.965	35 °C 45 °C	2.235 1.600	1.695 1.165	1.235 795	1,97	25,7	10	1.500	87	3/8"-5/8"	59	
	BDH-CF-3086	3	H	NTZ68	400V-III	2.271	35 °C 45 °C	2.580 1.930	2.030 1.500	1.545 1.125	1,95	10,1	10	1.500	73	3/8"-5/8"	55	
	BDH-CF-3096	3 1/2	H	NTZ96	400V-III	2.612	35 °C 45 °C	3.020 2.030	2.290 1.500	1.690 1.070	2,25	11,8	10	1.500	85	3/8"-3/4"	63	
	BDH-CF-4108	4 1/4	H	NTZ108	400V-III	3.467	35 °C 45 °C	4.120 2.950	3.100 2.200	2.240 1.520	3,00	17,3	10	3.500	107	3/8"-7/8"	62	
BDH-CF-4136	5	H	NTZ136	400V-III	4.205	35 °C 45 °C	4.950 3.630	3.750 2.690	2.760 1.910	3,97	19,5	10	3.500	107	3/8"-7/8"	58		

Dimensions



Dimensions (mm)	A	B	C	D	E
series 1	665	435	416	215	118
series 2	835	435	500	216	126
series 3	925	580	515	236	266
series 4	1000	615	585	305	266

Exhaust duct dimension

Recommended size for 20 m long steel, PVC or fiberglass ducts (each 90° turn equals 5 m length).

series 1	series 2	series 3	series 4
200x200 mm or Ø 200 mm	250x250 mm or Ø 250 mm	300x250 mm or Ø 300 mm	400x300 mm or Ø 400 mm

* Units available in 400V - III power supply.

Conditions based on UNE-EN 13215 regulation: 32 °C ambient temperature, evaporating temperature -10 °C (PT) and -30 °C (NT), superheating 20K and subcooling 3K.

Cooling capacity at nominal conditions of evaporating temperature -10 °C (PT) and -30 °C (NT), ambient temperature 35 °C, superheating 10K and subcooling 3K.

Available static pressure in extraction ducts.

SPL: Sound pressure level shown in dB(A) at 1 metre distance from the source in free field.

Compressor type according to the following nomenclature:
H = Hermetic reciprocating compressor.

Sigilus

Description

Air-cooled low-noise condensing units for positive and negative temperature applications, featuring hermetic reciprocating compressor with noise insulation, compact condensing coil and low-speed axial motor-fan.

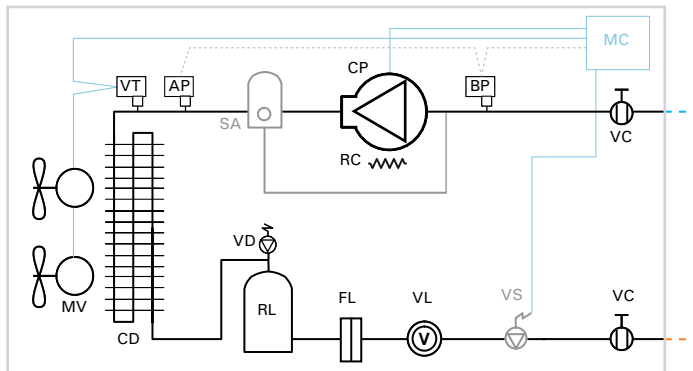
Features

- R-404A refrigerant.
- Hermetic reciprocating compressor, mounted on shock absorbers, with discharge muffler (from 1 HP models), crankcase heater and internal klixon.
- Large-area condensing coil made in copper pipes and aluminium fins, tropicalised for ambient temperature up to 50 °C.
- Low-speed motor-fans, mounted on nozzles, dynamically balanced blades and external protection grille.
- Proportional control of condensing temperature by fan speed control (except for models up to 1034).
- Refrigeration circuit equipped with high and low pressure switches, ceramic dehydratant filter, liquid receiver and sight glass.
- Electrical power panel with protection for compressor and motor-fan.

As an option

- Oil separator.
- Inbuilt solenoid valve.
- Anti-corrosion coil coating.
- Coil protection grille.
- Proportional control of condensing temperature by fan speed control (for models up to 1034).

Refrigeration scheme



Large area L-shaped condensing coil

Antivibratory structure to hold the motor-fan

Low-speed and low-noise axial motor-fan

Acoustic insulated compressor compartment

Electrical power panel with protection

Proportional control of condensing temperature by fan speed control

Discharge muffler

Noise insulated hermetic reciprocating compressor

MDF-NF and BDF-NF series (electronic version)

Sigilus 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.



- Inbuilt Electronic board with 6 relays to control: compressor, centrifugal condensing fan, liquid solenoid valve, evaporating fan, defrosting and alarm signal.
- Multifunctional electronic keyboard.

MDF-MF and BDF-MF series (electromechanical version)

Sigilus condensing units, in their electromechanical version, are designed for on/off operation according to low suction pressure (pump down), so the installation is much more simple with no wiring from the condensing unit to the evaporating unit/s.

Oil separator (As an option)

Sigilus condensing units, when connected to a single evaporating unit, do not usually need an oil separator. Nevertheless, it is recommended for large piping length (>30m), and in every case it is necessary an adequate circuit design to guarantee the oil return.

STANDARD FEATURES

- CP: COMPRESSOR
- MV: AXIAL MOTOR-FAN
- CD: CONDENSER
- FL: DEHYDRATANT FILTER
- VL: SIGHT GLASS
- RL: LIQUID RECEIVER
- RC: CRANKCASE HEATER
- VC: SERVICE VALVE
- VD: SAFETY VALVE (from 1 HP compressor power)
- VT: VOLTAGE REGULATOR
- AP: HIGH PRESSURE SWITCH
- BP: LOW PRESSURE SWITCH

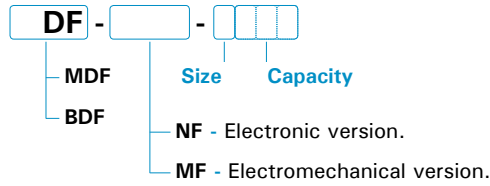
ELECTRONIC VERSION FEATURES (MDF-NF AND BDF-NF SERIES)

- MC: ELECTRONIC MICRO-CONTROLLER

AS AN OPTION

- SA: OIL SEPARATOR
- VS: SOLENOID VALVE

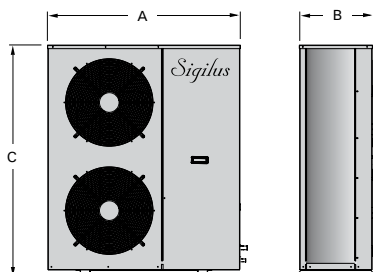
Codification



Technical features
50 Hz, R-404A

Series / Model	Compressor				Cooling capacity (W) EN13215 * Evap. Temp.: -10 °C	Cooling capacity (W)*				Nominal power consump. (kW)*	Max. absorbed current (A)	Condenser			Liq-Gas cooling connection	SPL dB(A)*	
	HP	Type *	Model	Power supply		Ambient temp.	Evaporating temperature					Available static pressure* (mmwc)	Air flow d' air (m³/h)	Weight (kg)			
							0 °C	-5 °C	-10 °C								-15 °C
MDF-NF-1014	1/2	H	CAE9470Z	230V-I	1.243	35 °C 45 °C	1.615 1.290	1.290 1.020	1.015 800	790 610	0,71	6,2	Ø360	1.700	59	1/4"-1/2"	20
MDF-NF-1016	5/8	H	CAJ9480Z	230V-I	1.449	35 °C 45 °C	1.870 1.480	1.490 1.170	1.170 910	910 670	0,76	7,1	Ø360	1.700	67	1/4"-1/2"	23
MDF-NF-1018	3/4	H	CAJ9510Z	230V-I	1.751	35 °C 45 °C	2.185 1.710	1.780 1.390	1.430 1.110	1.140 880	0,92	8,4	Ø360	1.700	68	1/4"-1/2"	24
MDF-NF-1024	1	H	CAJ9513Z	230V-I	2.063	35 °C 45 °C	2.660 2.010	2.160 1.620	1.725 1.275	1.345 970	1,06	10,6	Ø360	1.700	82	3/8"-5/8"	24
MDF-NF-1026	1 1/4	H	CAJ4517Z	230V-I*	2.394	35 °C 45 °C	3.010 2.300	2.440 1.850	1.950 1.460	1.515 1.105	1,26	11,0	Ø360	1.700	83	3/8"-5/8"	27
MDF-NF-1034	1 1/2	H	CAJ4519Z	230V-I*	2.774	35 °C 45 °C	3.710 2.815	3.020 2.280	2.425 1.910	1.905 1.400	1,69	15,6	Ø360	1.700	83	3/8"-5/8"	29
MDF-NF-1038	1 3/4	H	MTZ22	400V-III	3.211	35 °C 45 °C	4.615 3.520	3.700 2.790	2.905 2.170	2.235 1.650	1,60	6,7	Ø450	3.200	82	3/8"-5/8"	30
MDF-NF-2048	2	H	MTZ28	400V-III	4.084	35 °C 45 °C	5.780 4.475	4.665 3.590	3.690 2.780	2.850 2.105	2,09	8,2	Ø450	3.700	84	3/8"-3/4"	30
MDF-NF-2054	2 1/4	H	MTZ32	400V-III	4.732	35 °C 45 °C	6.590 5.080	5.360 4.095	4.290 3.240	3.360 2.500	2,29	8,7	Ø450	3.700	85	3/8"-3/4"	30
MDF-NF-2060	3	H	MTZ36	400V-III	5.512	35 °C 45 °C	7.580 5.890	6.220 4.810	5.020 3.860	3.970 3.025	2,70	9,7	Ø450	3.700	88	3/8"-3/4"	29
MDF-NF-2068	3 1/2	H	MTZ40	400V-III	6.148	35 °C 45 °C	8.320 6.460	6.880 5.320	5.600 4.320	4.480 3.430	3,10	10,7	Ø450	3.700	88	1/2"-3/4"	29
MDF-NF-3086	4	H	MTZ50	400V-III	7.197	35 °C 45 °C	10.200 7.800	8.260 6.260	6.570 4.950	5.130 3.830	3,37	12,7	Ø450	4.000	115	1/2"-7/8"	39
MDF-NF-3108	5	H	MTZ64	400V-III	9.434	35 °C 45 °C	13.090 10.080	10.550 8.050	8.590 6.330	6.540 4.870	4,50	16,3	2x Ø450	6.500	120	1/2"-7/8"	37
MDF-NF-4136	6 1/2	H	MTZ80	400V-III	11.944	35 °C 45 °C	16.170 12.600	13.270 10.285	10.740 8.270	8.550 6.530	5,99	20,3	2x Ø450	7.000	135	1/2"-1 1/8"	36
					EN13215 Evap. Temp.: -30 °C			-25 °C		-30 °C							
BDF-NF-1026	3/4	H	CAJ2446Z	230V-I	804	35 °C 45 °C	925 680	700 505	510 360		0,81	7,9	Ø360	1.700	67	1/4"-1/2"	27
BDF-NF-1034	1 1/4	H	CAJ2464Z	230V-I	1.041	35 °C 45 °C	1.195 995	910 670	675 485		1,04	10,4	Ø360	1.700	83	3/8"-5/8"	30
BDF-NF-1054	1 3/4	H	FH2480Z	230V-I*	1.445	35 °C 45 °C	1.605 1.200	1.240 835	860 520		1,54	16,4	Ø360	1.700	93	3/8"-5/8"	32
BDF-NF-1074	2 1/2	H	FH2511Z	230V-I*	1.965	35 °C 45 °C	2.300 1.660	1.695 1.165	1.190 750		1,92	24,4	Ø360	1.700	93	3/8"-5/8"	33
BDF-NF-1086	3	H	NTZ68	400V-III	2.271	35 °C 45 °C	2.650 1.990	2.030 1.505	1.500 1.090		1,94	9,1	Ø450	3.200	84	3/8"-5/8"	27
BDF-NF-2096	3 1/2	H	NTZ96	400V-III	2.690	35 °C 45 °C	3.220 2.220	2.370 1.575	1.690 1.070		2,25	10,8	Ø450	3.700	97	3/8"-3/4"	40
BDF-NF-2108	4 1/4	H	NTZ108	400V-III	3.287	35 °C 45 °C	3.890 2.775	2.915 2.020	2.095 1.380		2,65	12,8	Ø450	3.700	97	3/8"-7/8"	38
BDF-NF-2136	5	H	NTZ136	400V-III	4.098	35 °C 45 °C	4.820 3.500	3.640 2.585	2.670 1.825		3,62	15,0	Ø450	3.700	97	3/8"-7/8"	34
BDF-NF-3215	7 1/2	H	NTZ215	400V-III	6.515	35 °C 45 °C	7.660 5.430	5.780 3.930	4.200 2.670		5,30	23,6	2x Ø450	6.500	147	1/2"-1 1/8"	40
BDF-NF-3271	10	H	NTZ271	400V-III	8.755	35 °C 45 °C	10.245 7.475	7.835 5.600	5.800 4.025		7,00	28,3	2x Ø450	6.500	147	1/2"-1 1/8"	40

Dimensions



Dimensions (mm)	A	B	C
series 1	1030	373	577
series 2	1080	416	827
series 3	1150	481	1097
series 4	1150	481	1347

* Units available in 400V - III power supply.

Conditions based on UNE-EN 13215 regulation: 32 °C ambient temperature, evaporating temperature -10 °C (PT) and -30 °C (NT), superheating 20K and subcooling 3K.

Cooling capacity at nominal conditions of evaporating temperature -10 °C (PT) and -30 °C (NT), ambient temperature 35 °C, superheating 10K and subcooling 3K.

SPL: Sound pressure level shown in dB(A) at 1 metre distance from the source in free field.

H = Hermetic reciprocating compressor.

Multi-service condensing units

Description

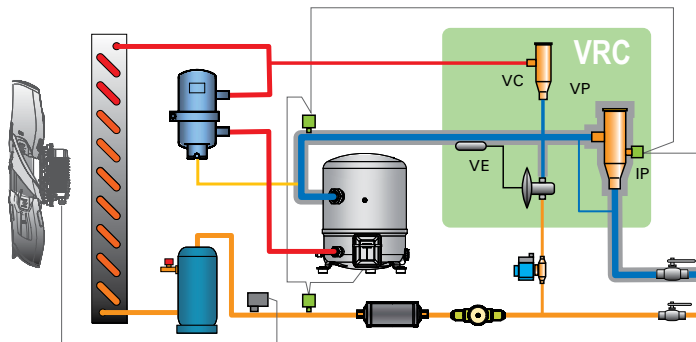
Multi-service air-cooled condensing units featuring VRC system (Variable Refrigerant Capacity) for cooling capacity adaptation to the installation needs on hermetic reciprocating compressors, composed by:

- Suction pressure valve (VP).
- By-pass pressure valve (VC).
- Thermostatic expansion valve for liquid injection (VE).
- Pressure control switch (IP).

Versions of the multi-service condensing units:

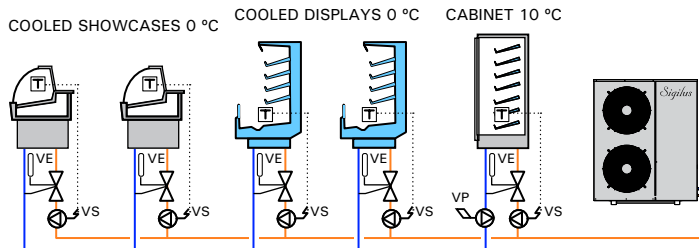
- Sigilus-multi series MDF-VF and BDF-VF.
- intarbox-multi series MDH-CVF and BDH-CVF.
- intarPACK centrifugal series MDV-CVF 5 and BDV-CVF 5.

Principle scheme



Installing example

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



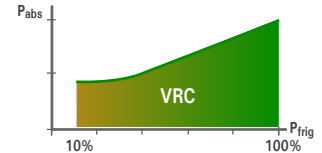
T: THERMOSTAT VS: SOLENOID VALVE
VE: EXPANSION VALVE VP: CONSTANT PRESSURE VALVE

Quick selection chart

	Low-noise axial version	Centrifugal version	Compressor (HP)	Showcase length (500 W/ml)		Display length (1.500 W/ml)
				Total	Smaller service	
POSITIVE TEMPERATURE	MDF-VF-1038		1 ³ / ₄	5,0 - 6,0 m	1 m	2,0 - 2,5 m
	MDF-VF-2048	MDH-CVF-4048	2	6,0 - 7,5 m	1 m	2,5 - 3,0 m
	MDF-VF-2054	MDH-CVF-4054	2 ¹ / ₄	7,0 - 9,0 m	1 m	3,0 - 3,5 m
	MDF-VF-2060	MDH-CVF-4060	3	8,5 - 10 m	1,5 m	3,5 - 4,0 m
	MDF-VF-2068	MDH-CVF-4068	3 ¹ / ₂	10 - 12 m	1,5 m	4,0 - 5,0 m
	MDF-VF-3086	MDV-CVF-50097	4	12 - 16 m	2 m	4,5 - 6,0 m
	MDF-VF-3108	MDV-CVF-50109	5	16 - 20 m	2,5 m	5,5 - 7,5 m
		MDV-CVF-50120	6	18 - 22 m	2 m	6,0 - 8,0 m
	MDV-CVF-50137	6 ¹ / ₂	20 - 24 m	2,5 m	7,0 - 9,0 m	
NEGATIVE TEMP.	BDF-VF-1086		3	6,5 - 8,0 m	1,0 m	-
	BDF-VF-2096		3 ¹ / ₂	8,0 - 10 m	1,5 m	-
	BDF-VF-2108	BDH-CVF-4108	4 ¹ / ₄	10 - 12 m	1,5 m	-
	BDF-VF-2136	BDH-CVF-4136	5	12 - 15 m	2,0 m	-
	BDF-VF-3215	BDV-CVF-50192	7 ¹ / ₂	15 - 20 m	2,5 m	-
		BDV-CVF-50216	8 ¹ / ₂	18 - 22 m	2,5 m	-
		BDV-CVF-50272	10	20 - 25 m	2,5 m	-

VRC system: Variable Refrigerant Capacity

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.

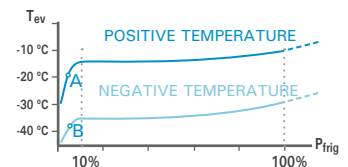


The VRC system is composed by a set of pressure and temperature regulation valves able to progressively change compressor's cooling capacity from 100% to 10% of its nominal capacity, while reducing the absorbed electrical power and protects the compressor as its operation is kept between its safety margins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

VRC system features:

- exclusively composed by mechanical components with great reliability,
- it keeps constant the evaporation pressure,
- it protects the compressor from motor reheat risk,
- it keeps the compressing ratio between the secure operating margins.

Condensing units, equipped with VRC system, are able to centralize the cooling production of several services, keeping constant the refrigerant pressure and temperature in every evaporating unit.



VRC system can be easily set for a minimum evaporation pressure. Our factory settings give the following minimum evaporation temperatures:

- positive temperature units: -13 °C
- negative temperature units: -35 °C

When the cooling demand is under 10% of the nominal capacity, the evaporation pressure curve falls to the minimum value allowed by the compressor, switching the low pressure switch off (A and B points) and switching off the compressor.

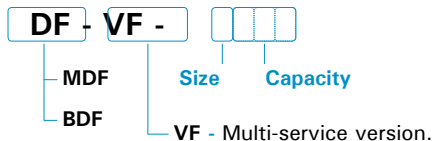
VRC system condensing units are designed to switch on and off the unit depending on the low pressure value (pump-down).

The compressor run can be also controlled by an external on/off switch.

Different temperature evaporating units

When there are several services operating at different temperature values in the same refrigeration circuit, the evaporating units operating at higher temperature should be equipped with constant pressure valves (VP) in their suction lines.

Codification



As an option

- Anti-corrosion coil coating.
- Coil protection grille.

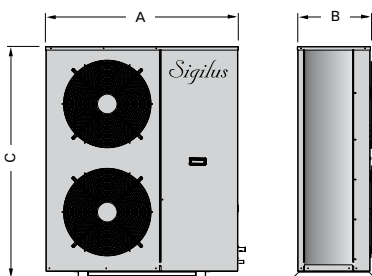
Technical features

400V-III-50 Hz, R-404A



Series / Model	Compressor				Cooling capacity (W) EN13215 * Evap. Temp.: -10 °C	Cooling capacity (W)*					Nominal power consump. (kW)*	Max. absorbed current (A)	Condenser			Liq-Gas cooling connection	SPL dB(A)*	
	HP	Type*	Model	Power supply		Ambient temp.	Evaporating temperature						Fan Ø mm	Air flow d'air (m³/h)	Weight (kg)			
							0 °C	-5 °C	-10 °C	-15 °C								
POSITIVE TEMPERATURE	MDF-VF-1038	1 ³ / ₄	H	MTZ22	400V-III	2.774	35 °C 45 °C	4.615 3.520	3.700 2.790	2.905 2.170	2.235 1.650	1,60	6,7	Ø450	3.200	82	3/8"-5/8"	30
	MDF-VF-2048	2	H	MTZ28	400V-III	3.211	35 °C 45 °C	5.780 4.475	4.665 3.590	3.690 2.780	2.850 2.105	2,09	8,2	Ø450	3.700	84	3/8"-3/4"	30
	MDF-VF-2054	2 ¹ / ₄	H	MTZ32	400V-III	4.084	35 °C 45 °C	6.590 5.080	5.360 4.095	4.290 3.240	3.360 2.500	2,29	8,7	Ø450	3.700	85	3/8"-3/4"	30
	MDF-VF-2060	3	H	MTZ36	400V-III	4.732	35 °C 45 °C	7.580 5.890	6.220 4.810	5.020 3.860	3.970 3.025	2,70	9,7	Ø450	3.700	88	3/8"-3/4"	29
	MDF-VF-2068	3 ¹ / ₂	H	MTZ40	400V-III	5.512	35 °C 45 °C	8.320 6.460	6.880 5.320	5.600 4.320	4.480 3.430	3,10	10,7	Ø450	3.700	88	1/2"-3/4"	29
	MDF-VF-3086	4	H	MTZ50	400V-III	6.148	35 °C 45 °C	10.200 7.800	8.260 6.260	6.570 4.950	5.130 3.830	3,37	12,7	Ø450	4.000	115	1/2"-7/8"	39
	MDF-VF-3108	5	H	MTZ64	400V-III	9.434	35 °C 45 °C	13.090 10.080	10.550 8.050	8.590 6.330	6.540 4.870	4,50	16,3	2x Ø450	6.500	120	1/2"-7/8"	37
	MDF-VF-4136	6 ¹ / ₂	H	MTZ80	400V-III	11.944	35 °C 45 °C	16.170 12.600	13.270 10.285	10.740 8.270	8.550 6.530	5,99	20,3	2x Ø450	7.000	135	1/2"-1 1/8"	36
NEGATIVE TEMPERATURE						EN13215 Evap. Temp.: -30 °C		-25 °C	-30 °C	-35 °C								
	BDF-VF-1086	3	H	NTZ68	400V-III	2.271	35 °C 45 °C	2.650 1.990	2.030 1.505	1.500 1.090		1,94	9,1	Ø450	3.200	84	3/8"-5/8"	27
	BDF-VF-2096	3 ¹ / ₂	H	NTZ96	400V-III	2.690	35 °C 45 °C	3.220 2.220	2.370 1.575	1.690 1.070		2,25	10,8	Ø450	3.700	97	3/8"-3/4"	40
	BDF-VF-2108	4 ¹ / ₄	H	NTZ108	400V-III	3.287	35 °C 45 °C	3.890 2.775	2.915 2.020	2.095 1.380		2,65	12,8	Ø450	3.700	97	3/8"-7/8"	38
	BDF-VF-2136	5	H	NTZ136	400V-III	4.098	35 °C 45 °C	4.820 3.500	3.640 2.585	2.670 1.825		3,62	15,0	Ø450	3.700	97	3/8"-7/8"	34
	BDF-VF-3215	7 ¹ / ₂	H	NTZ215	400V-III	6.515	35 °C 45 °C	7.660 5.430	5.780 3.930	4.200 2.670		5,30	23,6	2x Ø450	6.500	147	1/2"-1 1/8"	40
	BDF-VF-3271	10	H	NTZ271	400V-III	8.755	35 °C 45 °C	10.245 7.475	7.835 5.600	5.800 4.025		7,00	28,3	2x Ø450	6.500	147	1/2"-1 1/8"	40

Dimensions



Dimensions (mm)	A	B	C
series 1	1030	373	577
series 2	1080	416	827
series 3	1150	481	1097
series 4	1150	481	1347

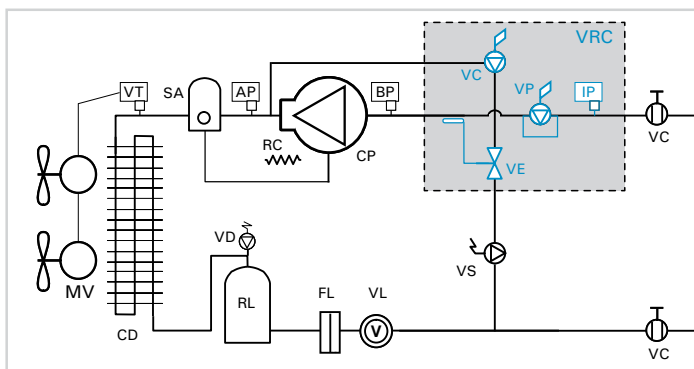
* Conditions based on UNE-EN 13215 regulation: 32 °C ambient temperature, evaporating temperature -10 °C (PT) and -30 °C (NT), superheating 20K and subcooling 3K.

Cooling capacity at nominal conditions of evaporating temperature -10 °C (PT) and -30 °C (NT), ambient temperature 35 °C, superheating 10K and subcooling 3K.

SPL: Sound pressure level shown in dB(A) at 1 metre distance from the source in free field.

H = Hermetic reciprocating compressor.

Refrigeration scheme



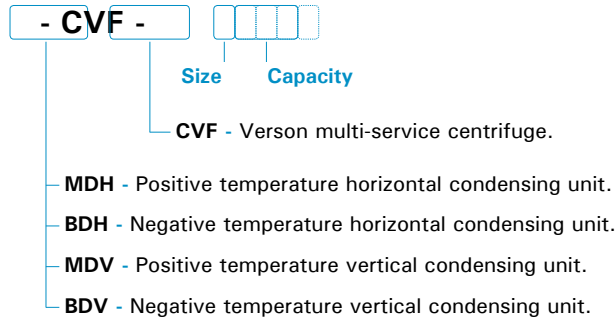
VRC SYSTEM

- VC: BY-PASS PRESSURE VALVE
- VP: SUCTION PRESSURE VALVE
- VE: THERMOSTATIC EXPANSION VALVE FOR LIQUID INJECTION
- IP: PRESSURE CONTROL SWITCH

- CP: COMPRESSOR
- MV: AXIAL MOTOR-FAN
- VT: VOLTAGE REGULATOR
- CD: CONDENSER
- VD: SAFETY VALVE
- RL: LIQUID RECEIVER
- FL: DEHYDRANT FILTER
- VL: SIGHT GLASS
- VS: SOLENOID VALVE
- VC: SERVICE VALVE
- SA: OIL SEPARATOR
- RC: CRANKCASE HEATER
- AP: HIGH PRESSURE SWITCH
- BP: LOW PRESSURE SWITCH

MDH-CVF / MDV-CVF / BDH-CVF / BDV-CVF series

Codification



As an option

- Anti-corrosion coil coating.
- Back-flow damper in fan outlet.
- Rectangular to circular duct adaptor.

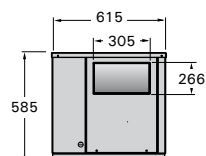
Technical features

400V-III-50 Hz, R-404A

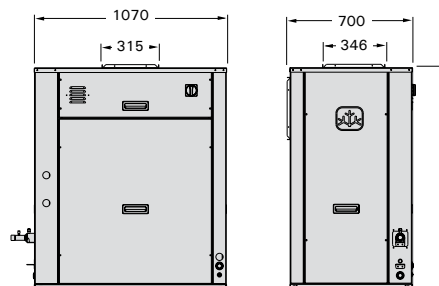
Series / Model	Compressor				Cooling capacity (W) EN13215 * Evap. Temp.: -10 °C	Ambient temp.	Cooling capacity (W) *				Nominal power consump. (kW) *	Max. absorbed current (A)	Condenser			Liq-Gas cooling connection	SPL dB(A) *	
	HP	Type*	Model	Power supply			Evaporating temperature						Available static pressure* (mmwc)	Air flow (m³/h)	Weight (kg)			
							0 °C	-5 °C	-10 °C	-15 °C								
POSITIVE TEMPERATURE	MDH-CVF-4048	2	H	MTZ28	400V-III	4.270	35 °C 45 °C	6.050 4.730	4.890 3.780	3.880 2.960	3.010 2.250	2,42	12,7	10	3.500	95	3/8"-3/4"	58
	MDH-CVF-4054	2 1/4	H	MTZ32	400V-III	4.938	35 °C 45 °C	6.895 5.380	5.615 4.345	4.500 3.450	3.540 2.670	2,61	13,2	10	3.500	96	3/8"-3/4"	58
	MDH-CVF-4060	3	H	MTZ36	400V-III	5.512	35 °C 45 °C	7.580 5.890	6.220 4.810	5.020 3.860	3.970 3.025	3,06	14,2	10	3.500	97	3/8"-3/4"	58
	MDH-CVF-4068	3 1/2	H	MTZ40	400V-III	6.269	35 °C 45 °C	8.510 6.650	7.030 5.480	5.725 4.445	4.580 3.530	3,42	15,2	10	3.500	98	1/2"-3/4"	57
	MDV-CVF-50086	4	H	MTZ50	400V-III	7.619	35 °C 45 °C	10.450 8.380	8.670 6.850	6.910 5.500	5.470 4.340	3,91	19,4	20	5.000	168	1/2"-7/8"	67
	MDV-CVF-50097	4	H	2x MTZ28	400V-III	8.354	35 °C 45 °C	11.280 9.080	9.320 7.340	7.460 5.820	5.860 4.500	4,60	22,4	20	5.000	179	1/2"-7/8"	60
	MDV-CVF-50108	5	H	MTZ64	400V-III	9.262	35 °C 45 °C	12.630 10.230	10.420 8.300	8.380 6.630	6.710 5.200	4,94	22,4	20	5.000	169	1/2"-7/8"	65
	MDV-CVF-50109	4,5	H	2x MTZ32	400V-III	9.256	35 °C 45 °C	12.420 10.000	10.340 8.440	8.460 6.580	6.720 5.260	5,04	23,4	20	5.000	180	1/2"-7/8"	60
	MDV-CVF-50120	6	H	2x MTZ36	400V-III	10.576	35 °C 45 °C	13.800 11.100	11.600 9.340	9.580 7.600	7.760 6.140	5,94	25,4	20	5.000	182	1/2"-1 1/8"	60
	MDV-CVF-50136	6,5	H	MTZ80	400V-III	11.593	35 °C 45 °C	14.910 12.240	12.670 10.280	10.490 8.520	8.550 6.830	6,43	26,4	20	5.000	173	1/2"-1 1/8"	63
MDV-CVF-50137	7	H	2x MTZ40	400V-III	11.810	35 °C 45 °C	14.800 12.160	12.680 10.340	10.700 8.500	8.740 6.960	6,74	27,4	20	5.000	185	1/2"-1 1/8"	59	
NEGATIVE TEMPERATURE					EN13215+ Evap. Temp.: -30 °C			-25 °C	-30 °C	-35 °C								
	BDH-CVF-4108	4 1/4	H	NTZ108	400V-III	3.467	35 °C 45 °C	4.120 2.950	3.100 2.200	2.240 1.520		3,00	17,3	10	3.500	107	3/8"-7/8"	62
	BDH-CVF-4136	5	H	NTZ136	400V-III	4.205	35 °C 45 °C	4.950 3.630	3.750 2.690	2.760 1.910		3,97	19,5	10	3.500	107	3/8"-7/8"	58
	BDV-CVF-50192	7	H	2x NTZ96	400V-III	5.380	35 °C 45 °C	6.520 4.840	4.980 3.620	3.700 2.620		4,96	27,6	20	5.000	205	1/2"-1 1/8"	70
	BDV-CVF-50215	7,5	H	NTZ215	400V-III	6.515	35 °C 45 °C	7.440 5.650	5.870 4.310	4.420 3.130		5,75	29,7	20	5.000	195	1/2"-1 1/8"	68
	BDV-CVF-50216	8,5	H	2x NTZ108	400V-III	6.574	35 °C 45 °C	7.560 5.780	5.920 4.400	4.400 3.180		5,74	31,6	20	5.000	205	1/2"-1 1/8"	69
	BDV-CVF-50272	10	H	2x NTZ136	400V-III	8.196	35 °C 45 °C	9.100 7.140	7.280 5.580	5.520 4.160		7,68	36,0	20	5.000	205	1/2"-1 1/8"	65
BDV-CVF-50271	10	H	NTZ271	400V-III	8.765	35 °C 45 °C	9.560 7.470	7.730 5.940	5.970 4.560		7,46	34,4	20	5.000	195	1/2"-1 1/8"	72	

Dimensions

DH-CVF-4



DV-CVF-5



* Conditions based on UNE-EN 13215 regulation: 32 °C ambient temperature, evaporating temperature -10 °C (PT) and -30 °C (NT), superheating 20K and subcooling 3K.

Cooling capacity at nominal conditions of evaporating temperature -10 °C (PT) and -30 °C (NT), ambient temperature 35 °C, superheating 10K and subcooling 3K.

Available static pressure in extraction ducts.

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

H = Hermetic reciprocating compressor.



intarPACK

refrigeration centrals

Self-contained air-cooled refrigeration centrals, designed for indoor or outdoor installation, with minimum space needs.

intarPACK centrals range covers compressor capacity from 4 to 60 HP at positive and negative temperature, in two different constructions:

intarPACK centrifugal

intarPACK centrifugal air-cooled centrals have been designed for indoor installation at an engine room. They feature medium pressure centrifugal motor-fans to duct outdoors the hot condensing air flow.

intarPACK axial

intarPACK axial air-cooled centrals have been developed for outdoor installation. Each model has been designed to operate under extreme ambient conditions, featuring acoustic insulated components for lower noise level.

- ✦ High power in small place.
- ✦ Tropicalised design for ambient temperature up to 45 °C.
- ✦ Rack of hermetic reciprocating or scroll compressors with noise insulation.
- ✦ Minimum maintenance needs, with simple access through removable panels.



intarPACK

centrifugal



Description

Self-contained air-cooled refrigeration centrals, from 1 to 3 compressors, for positive and negative temperature applications, featuring control board and electronic regulation (depending on the version) with control of condensing temperature.

Features

- R-404A refrigerant.
- Hermetic reciprocating or scroll compressors, noise insulated, with discharge muffler (for reciprocating compressor models), mounted on shock absorbers, internal klixon and crankcase heater.
- Condenser coil made in copper pipes and aluminium fins.
- Medium-pressure centrifugal motor-fans for vertical or horizontal air discharge for a ducted outlet of condensing hot air.
- Proportional control of condensation temperature by fan speed control.
- Refrigeration circuit equipped with high and low pressure switches, ceramic dehydratant filter, liquid receiver and sight glass.
- Full control and power panel, with differential switch for each compressor (in 2 or more compressors units) and for each motor-fan (in 2 motor-fans units), MCB switch for compressor/s and motor-fan/s, and electronic regulation (depending on the version).

As an option

- VRC system for cooling capacity modulation.
- Oil separator (already included for 2 scroll compressors negative temperature units).
- Anti-corrosion coil coating.
- Back-flow damper in fan outlet.
- Protection system for voltage drop and phase failure.

Very compact design with 800 mm maximum width

New generation electronic regulation (depending on the version)



High reliability compressors

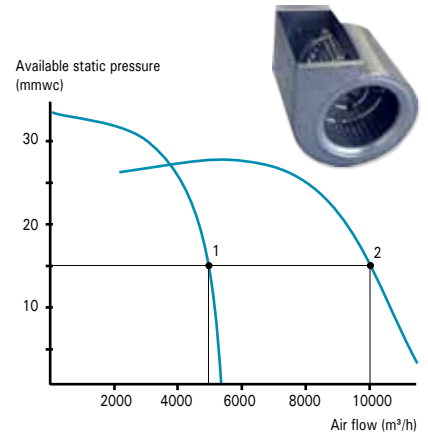
Danfoss-Maneurop hermetic reciprocating and scroll compressors are known for their sturdy construction and high reliability operation, and, by being cooled by the refrigerant, they allow a very efficient noise insulation.



Copeland negative temperature scroll compressors with vapour injection EVI system, provide a higher performance of up to 25% related to standard compressors.

Centrifugal motor-fan

intarPACK centrifugal air-cooled centrals include centrifugal motor-fans for a ducted outlet of condenser's hot air.

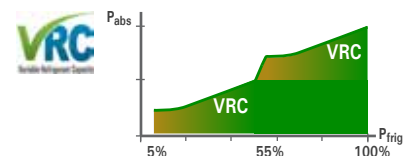


- Series 5: Curve 1
- Series 6: Curve 2
- Series 8: 2x Curve 2

MDV-CVF and BDV-CVF version (featuring cooling capacity modulation)

intarPACK centrifugal air-cooled centrals can be equipped with the VRC system (Variable Refrigerant Capacity), which adapts the refrigerant flow to the demand of the evaporating units, keeping constant the pressure in suction line.

VRC system is composed by a set of pressure and temperature regulation valves able to progressively change compressor cooling capacity from 100% to 10% of its nominal capacity, while reducing the absorbed electrical power.

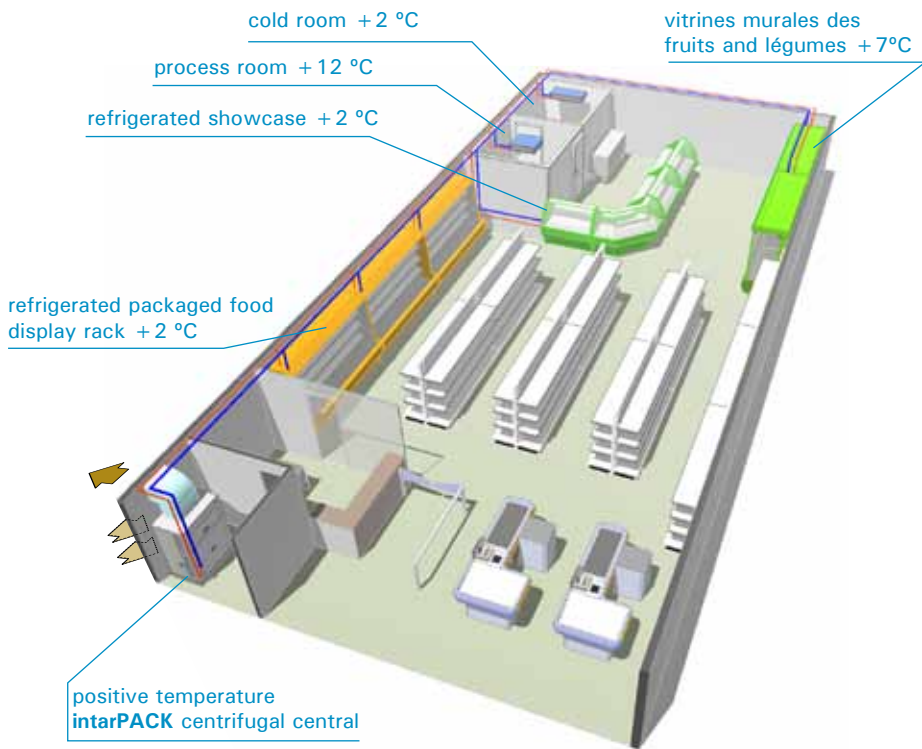


MDV / BDV series

Applications

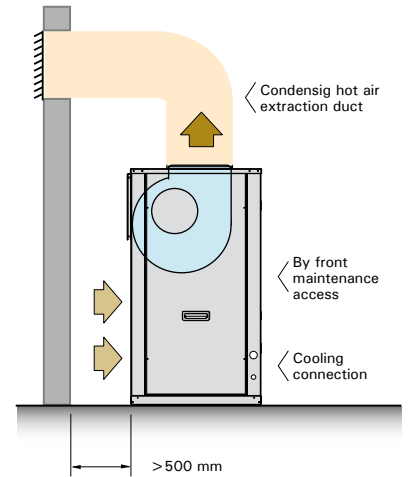
intarPACK centrifugal air-cooled centrals have been designed to centralize the cooling production of a set of evaporating units.

They have been developed to be installed indoors at an engine room and extracting outdoors the condensation hot air through ducts.



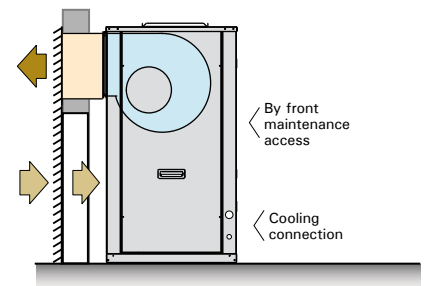
Vertical discharge assembly (standard)

As standard, centrifugal motor-fans are assembled for vertical air outlet with by front and by side maintenance access.

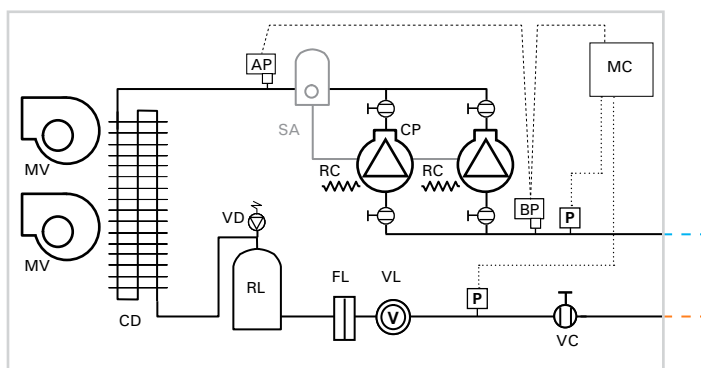


Horizontal discharge assembly (as an option)

Centrifugal motor-fans assembled for horizontal air outlet is an option in these units. This change is possible to be made also in site with no need for special parts.



Refrigeration scheme MDV-CF-8



Refrigeration scheme legend

- CP: COMPRESSOR
- RC: CRANKCASE HEATER
- MV: CENTRIFUGAL MOTOR-FAN
- CD: CONDENSER
- FL: DEHYDRATANT FILTER
- VL: SIGHT GLASS
- RL: LIQUID RECEIVER
- VD: SAFETY VALVE
- VC: SERVICE VALVE
- MC: ELECTRONIC MICROCONTROLLER
- P: PRESSURE TRANSDUCER
- AP: HIGH PRESSURE SWITCH
- BP: LOW PRESSURE SWITCH
- SA: OIL SEPARATOR (as an option)

Extraction duct dimensions

Recommended dimensions for metal sheet or fibreglass ducts, depending on equivalent length. 90° elbow estimated equivalent length is also shown.

	5 series	6 series	8 series
■ 20m equivalent length:	400 x 300 mm	500 x 400 mm	1000 x 400 mm
■ 40m equivalent length:	400 x 350 mm	600 x 400 mm	1200 x 400 mm
■ 60m equivalent length:	400 x 400 mm	700 x 400 mm	1400 x 400 mm
■ 90° elbow equivalent length:	8 m	10 m	15 m

It is recommended to select the grilles for air intake and discharge according to the following instructions:

- air outlet grille for an air speed not greater than 5 m/s (equivalent to an airflow surface of 0,3 m² for series 5, of 0,5 m² for series 6 and of 1 m² for series 8).
- air inlet grille for an air speed not greater than 3 m/s (equivalent to an airflow surface of 0,5 m² for series 5, of 1 m² for series 6 and of 2 m² for series 8).

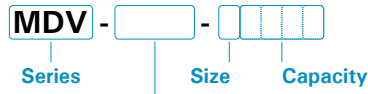
intarPACK

centrifugal

positive temperature

MDV series

Codification



Series

Size

Capacity

- **CF** - Electronic version.
- **CMF** - Electromechanical version (only for series 5).
- **CVF** - Cooling capacity modulation version.



Technical features

400V-III-50 Hz, R-404A

Series / Model	Compressor			Ambient temp.	Cooling capacity (kW)*								Nominal power consump. (kW)*	Max. absorbed current (A)	Condenser			Liq-Gas cooling connection	SPL dB(A)*	
	HP	Type*	Model		Evaporating temperature										Available static pressure* (mmwc)	Air flow (m ³ /h)	Weight (kg)			
					+5 °C	0 °C	-5 °C	-10 °C	-15 °C	-20 °C	-25 °C	-30 °C								
1 compressor	MDV-CF-50086	4	H	MTZ50	35 °C 45 °C	12,6 10,1	10,5 8,4	8,7 6,9	6,9 5,5	5,5 4,3	4,2 3,3	3,2 2,4	2,3 1,6	3,9	19,4	20	5.000	168	1/2"-7/8"	67
	MDV-CF-50108	5	H	MTZ64	35 °C 45 °C	15,1 12,3	12,6 10,2	10,4 8,3	8,4 6,6	6,7 5,2	5,2 4,0	3,9 2,9	2,8 2,0	4,9	22,4	20	5.000	169	1/2"-7/8"	65
	MDV-CF-50136	6,5	H	MTZ80	35 °C 45 °C	17,3 -	14,9 12,2	12,7 10,3	10,5 8,5	8,6 6,8	6,8 5,4	5,3 4,1	3,9 3,0	6,4	26,4	20	5.000	173	1/2"-1 1/8"	63
	MDV-CF-60160	8	H	MTZ100	35 °C 45 °C	24,2 19,8	20,4 16,6	16,8 13,7	13,7 11,1	10,9 8,6	8,3 6,5	6,2 4,7	4,4 3,0	8,5	27,4	15	10.000	266	5/8"-1 1/8"	73
	MDV-CF-60215	10	H	MTZ125	35 °C 45 °C	29,3 23,9	25,0 20,1	20,6 16,5	16,9 13,4	13,5 10,6	10,6 8,3	8,1 6,2	6,0 4,5	10,2	32,4	15	10.000	270	5/8"-1 3/8"	73
	MDV-CF-60271	13	H	MTZ160	35 °C 45 °C	34,4 -	29,6 23,9	24,8 20,1	20,6 16,7	16,8 13,4	13,5 10,7	10,4 8,2	7,8 5,9	13,0	41,4	15	10.000	275	5/8"-1 3/8"	73
2 compressors	MDV-CF-50097	4	H	2x MTZ28	35 °C 45 °C	13,5 11,0	11,3 9,1	9,3 7,3	7,5 5,8	5,9 4,5	4,5 3,3	3,2 2,3	2,2 1,4	4,6	22,4	20	5.000	179	1/2"-7/8"	60
	MDV-CF-50109	4,5	H	2x MTZ32	35 °C 45 °C	14,7 11,9	12,4 10,0	10,3 8,4	8,5 6,6	6,7 5,3	5,2 4,0	3,9 2,9	2,8 1,9	5,0	23,4	20	5.000	180	1/2"-7/8"	60
	MDV-CF-50120	6	H	2x MTZ36	35 °C 45 °C	16,2 -	13,8 11,1	11,6 9,3	9,6 7,6	7,8 6,1	6,1 4,8	4,6 3,5	3,3 2,4	5,9	25,4	20	5.000	182	1/2"-1 1/8"	60
	MDV-CF-50137	7	H	2x MTZ40	35 °C 45 °C	17,3 -	14,8 12,2	12,7 10,3	10,7 8,5	8,7 7,0	7,0 5,5	5,4 4,2	4,0 3,0	6,7	27,4	20	5.000	185	1/2"-1 1/8"	59
	MDV-CF-60172	8	H	2x MTZ50	35 °C 45 °C	25,4 19,9	21,2 16,7	17,2 13,5	14,0 10,7	10,9 8,4	8,4 6,3	6,4 4,6	4,8 3,1	8,9	29,4	15	10.000	276	5/8"-1 1/8"	74
	MDV-CF-60216	10	H	2x MTZ64	35 °C 45 °C	30,6 24,5	25,6 20,5	21,1 16,8	17,0 13,5	13,4 10,6	10,5 8,1	7,8 5,9	5,7 4,0	10,2	35,4	15	10.000	280	5/8"-1 3/8"	73
	MDV-CF-60272	13	H	2x MTZ80	35 °C 45 °C	35,1 -	30,2 24,5	25,6 20,6	21,2 17,0	17,3 13,9	13,7 10,9	10,6 8,2	7,9 6,0	13,2	43,4	15	10.000	286	5/8"-1 3/8"	73
	MDV-CF-80320	16	H	2x MTZ100	35 °C 45 °C	48,3 39,6	40,8 33,0	33,7 27,3	27,3 22,1	21,7 17,3	16,6 13,0	12,3 9,4	8,8 6,0	16,9	54,8	15	2x 10.000	495	7/8"-1 5/8"	76
	MDV-CF-80430	20	H	2x MTZ125	35 °C 45 °C	58,6 47,8	50,0 40,2	41,1 33,0	33,8 26,7	27,0 21,2	21,2 16,6	16,3 12,4	12,0 8,9	20,4	64,8	15	2x 10.000	505	7/8"-1 5/8"	76
MDV-CF-80542	26	H	2x MTZ160	35 °C 45 °C	68,7 -	59,1 47,8	49,7 40,2	41,2 33,4	33,6 26,8	26,9 21,4	20,8 16,4	15,6 11,8	26,1	82,8	15	2x 10.000	515	7/8"-2 1/8"	76	
3 compressors	MDV-CF-80258	12	H	3x MTZ50	35 °C 45 °C	40,4 33,0	33,6 26,9	27,2 21,7	21,8 17,2	17,0 13,4	13,1 10,2	9,7 7,2	6,8 4,8	13,0	46,8	15	2x 10.000	480	5/8"-1 3/8"	76
	MDV-CF-80324	15	H	3x MTZ64	35 °C 45 °C	49,1 39,5	39,2 32,9	33,2 26,8	26,7 21,1	21,2 16,6	15,2 12,5	12,1 9,2	8,7 6,1	16,1	55,8	15	2x 10.000	485	7/8"-1 5/8"	76
	MDV-CF-80408	20	H	3x MTZ80	35 °C 45 °C	57,1 47,0	49,1 39,9	41,2 33,1	33,7 27,0	27,2 21,7	21,5 17,0	16,4 12,8	12,2 9,1	20,4	67,8	15	2x 10.000	495	7/8"-1 5/8"	76
	MDV-CF-80480	24	H	3x MTZ100	35 °C 45 °C	65,1 53,7	55,8 44,9	46,6 37,6	38,2 30,4	30,7 24,0	23,8 18,3	17,8 13,6	12,7 9,0	24,1	76,8	15	2x 10.000	555	7/8"-2 1/8"	77
	MDV-CF-80645	30	H	3x MTZ125	35 °C 45 °C	77,7 -	66,3 -	55,9 44,7	46,5 36,6	37,6 29,6	29,8 23,4	24,0 18,0	17,2 13,0	29,5	91,8	15	2x 10.000	570	1 1/8"-2 1/8"	77

As an option

- Oil separator.
- Anticorrosion coil coating.
- Back-flow damper in fan outlet.

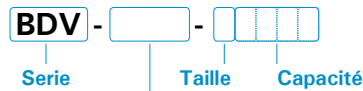
* Cooling capacity at nominal conditions of evaporating temperature -10 °C (PT), ambient temperature 35 °C, superheating 10K and subcooling 3K.

Available static pressure in extraction ducts.

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

Compressor type according to the following nomenclature:
H = Hermetic reciprocating compressor.

Codification



- **CF/SCF** - Electronic version.
- **CMF/SCMF** - Electromechanical version (only for series 5).
- **CVF** - Cooling capacity modulation version (only for reciprocating compressor models).



Technical features

400V-III-50 Hz, R-404A

Series / Model	Compressor			Ambient temp.	Cooling capacity (kW)*								Nominal power consump. (kW)*	Max. absorbed current (A)	Condenser			Liq-Gas cooling connection	SPL dB(A)*
	HP	Type*	Model		Evaporating temperature										Available static pressure* (mmwc)	Air flow (m ³ /h)	Weight (kg)		
					-10 °C	-15 °C	-20 °C	-25 °C	-30 °C	-35 °C	-40 °C								
1 compressor	BDV-SCF-50131	4	Sc EVI	ZF13KVE	35 °C 45 °C	9,7 8,9	8,3 7,6	7,1 6,4	5,9 5,4	4,9 4,4	3,9 3,5	3,1 2,7	3,9	16,4	20	5.000	175	1/2"-1 1/8"	59
	BDV-CF-50215	7,5	H	NTZ215	35 °C 45 °C	13,4 -	11,2 9,3	9,3 6,7	7,4 5,2	5,9 3,9	4,4 2,8	3,2 1,9	5,8	29,7	20	5.000	195	1/2"-1 1/8"	68
	BDV-SCF-50181	6	Sc EVI	ZF18KVE	35 °C 45 °C	13,3 12,4	11,3 10,6	9,6 9,0	8,2 7,7	6,9 6,6	5,8 5,7	4,9 4,9	5,3	20,4	20	5.000	180	1/2"-1 1/8"	60
	BDV-CF-50271	10	H	NTZ271	35 °C 45 °C	16,0 -	13,7 -	11,6 9,0	9,6 7,5	7,7 5,9	6,0 4,6	4,4 3,2	7,5	34,4	20	5.000	195	1/2"-1 1/8"	68
	BDV-SCF-60241	7,5	Sc EVI	ZF24KVE	35 °C 45 °C	18,1 16,4	15,6 14,2	13,3 12,2	11,3 10,4	9,4 8,7	7,7 7,3	6,2 5,4	7,7	21,4	15	10.000	250	1/2"-1 3/8"	72
	BDV-SCF-60331	10	Sc EVI	ZF33KVE	35 °C 45 °C	23,1 21,0	20,0 18,5	17,1 15,8	14,5 13,5	11,7 11,3	10,1 9,4	8,3 7,9	9,9	26,8	15	10.000	275	1/2"-1 3/8"	72
	BDV-SCF-60401	13	Sc EVI	ZF40KVE	35 °C 45 °C	27,9 25,5	24,1 22,2	20,7 19,1	17,6 16,3	14,8 13,7	12,3 10,0	10,1 8,4	11,3	32,4	15	10.000	275	1/2"-1 3/8"	72
BDV-SCF-60481	15	Sc EVI	ZF48KVE	35 °C 42 °C*	32,6 30,7	28,3 26,7	24,4 23,0	20,8 19,7	17,6 16,7	14,6 13,6	12,1 10,9	13,8	36,0	15	10.000	275	1/2"-1 5/8"	72	
2 compressors	BDV-CF-50192	7	H	2x NTZ96	35 °C 45 °C	13,1 10,3	10,5 8,1	8,4 6,3	6,5 4,8	5,0 3,6	3,7 2,6	2,6 1,6	5,0	27,6	20	5.000	205	1/2"-1 1/8"	70
	BDV-CF-50216	8,5	H	2x NTZ108	35 °C 45 °C	13,7 -	11,4 8,9	9,4 7,3	7,6 5,8	5,9 4,4	4,4 3,2	3,1 2,0	5,7	31,6	20	5.000	205	1/2"-1 1/8"	69
	BDV-CF-50272	10	H	2x NTZ136	35 °C 45 °C	16,0 -	13,7 -	11,6 9,0	9,6 7,5	7,7 5,9	6,0 4,6	4,4 3,2	7,5	36,0	20	5.000	205	1/2"-1 1/8"	65
	BDV-SCF-60262	8	Sc EVI	2x ZF13KVE	35 °C 45 °C	19,5 17,8	16,7 15,2	14,1 12,8	11,8 10,7	9,7 8,7	7,8 7,0	6,2 5,4	7,9	32,8	15	10.000	285	1/2"-1 3/8"	72
	BDV-SCF-60362	12	Sc EVI	2x ZF18KVE	35 °C 45 °C	26,5 24,8	22,6 21,2	19,2 18,0	16,3 15,4	13,8 13,2	11,6 11,3	9,8 9,8	10,7	40,8	15	10.000	285	1/2"-1 3/8"	72
	BDV-SCF-80482	15	Sc EVI	2x ZF24KVE	35 °C 45 °C	36,1 32,8	31,1 28,4	26,6 24,4	22,5 20,7	18,8 17,5	15,5 14,5	12,5 10,8	15,3	42,8	15	10.000	550	1/2"-1 5/8"	75
	BDV-SCF-80662	20	Sc EVI	2x ZF33KVE	35 °C 45 °C	46,2 42,0	39,9 36,9	34,2 31,6	28,9 26,9	23,4 22,6	20,1 18,8	16,5 15,8	19,8	53,6	15	10.000	600	5/8"-2 1/8"	75
	BDV-SCF-80802	26	Sc EVI	2x ZF40KVE	35 °C 45 °C	55,8 51,0	48,2 44,4	41,4 38,1	35,2 32,5	29,6 27,4	24,6 20,0	20,2 16,8	22,7	64,8	15	2x 10.000	600	5/8"-2 1/8"	75
	BDV-SCF-80962	30	Sc EVI	2x ZF48KVE	35 °C 42 °C*	65,2 61,4	56,6 53,4	48,8 46,0	41,6 39,4	35,1 33,3	29,2 27,1	24,1 21,8	27,6	72,0	15	2x 10.000	600	5/8"-2 1/8"	75
3 compressors	BDV-CF-80645	23	H	3x NTZ215	35 °C 45 °C	44,0 35,1	36,8 28,3	30,0 22,8	23,9 18,3	18,7 13,8	13,9 9,8	9,8 6,0	18,7	76,9	15	2x 10.000	565	7/8"-2 1/8"	75
	BDV-SCF-80543	18	Sc EVI	3x ZF18KVE	35 °C 45 °C	40,7 38,3	34,7 32,6	29,4 27,6	24,8 23,5	20,9 20,0	17,6 17,1	14,7 14,6	17,6	49,8	15	2x 10.000	590	5/8"-2 1/8"	75
	BDV-CF-80813	30	H	3x NTZ271	35 °C 45 °C	57,7 47,4	46,7 38,1	38,2 30,1	31,1 23,3	24,5 17,5	18,7 12,6	13,8 8,5	23,7	91,0	15	2x 10.000	570	7/8"-2 1/8"	75
	BDV-SCF-80723	23	Sc EVI	3x ZF24KVE	35 °C 45 °C	51,9 46,5	45,2 40,5	38,9 35,1	33,0 30,0	27,7 25,5	22,9 20,4	18,6 16,1	21,8	58,8	15	2x 10.000	590	7/8"-2 1/8"	75
	BDV-SCF-80993	30	Sc EVI	3x ZF33KVE	35 °C 42 °C*	66,3 62,4	57,5 54,2	49,5 46,7	42,2 39,9	35,6 33,8	29,6 28,2	24,5 23,7	27,1	75,0	15	2x 10.000	660	7/8"-2 1/8"	75
	BDV-SCF-81203	39	Sc EVI	3x ZF40KVE	35 °C 42 °C*	78,3 -	68,4 65,1	59,3 56,6	50,7 48,6	43,1 41,3	36,0 30,9	24,4 25,9	34,4	91,8	15	2x 10.000	660	7/8"-2 1/8"	75

As an option

- Oil separator (already included for 2 scroll compressors and 3 compressors models).
- Anticorrosion coil coating.
- Back-flow damper in fan outlet.

* Cooling capacity at nominal conditions of evaporating temperature -30 °C (NT), ambient temperature 35 °C, superheating 10K and subcooling 3K.

Available static pressure in extraction ducts.

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

Compressor type according to the following nomenclature:
H = Hermetic reciprocating compressor.
Sc-EVI = Scroll compressor with EVI vapour injection system.

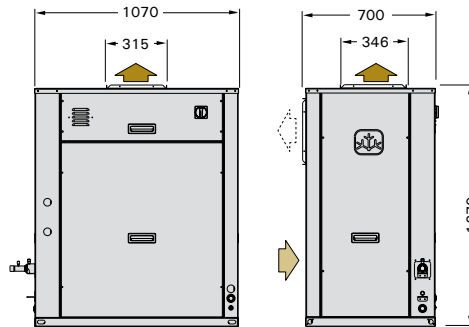
* Restricted model to 42 °C ambient temperature.

intarPACK

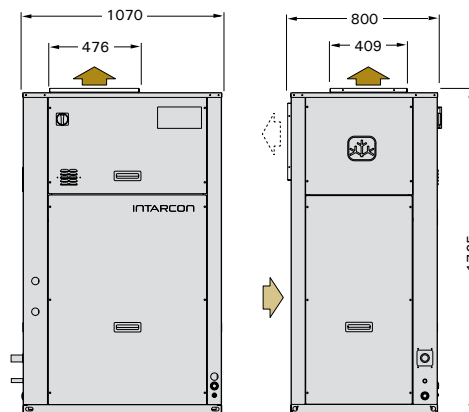
centrifugal

MDV / BDV series

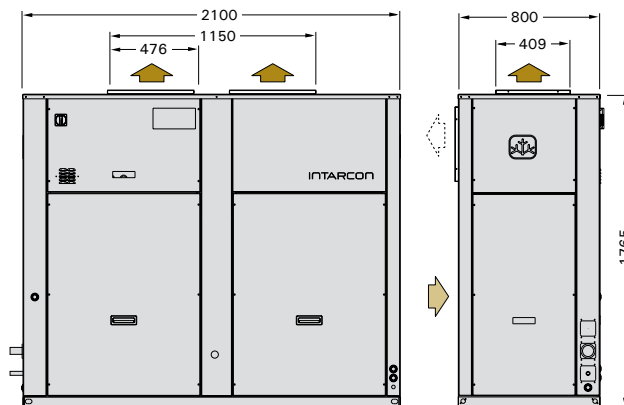
Dimensions
series 5



series 6



series 8



Electronic
regulation

Standard electronic regulation for intarPACK centrifugal centrals in their CF and SCF versions, for compressor/s and motor-fan/s control.

- Control of up to 3 power steps with suction pressure set point.
- Proportional control of condensing temperature by fan/s speed variator.
- External communication module through ModBus protocol and RS485 connection (as an option).

Electronic regulation





Cooling capacity modulation

Multi-service centrifugal centrals, series MDV-CVF and BDV-CVF, featuring VRC system (Variable Refrigerant Capacity) for cooling capacity modulation on hermetic reciprocating compressors, composed by:

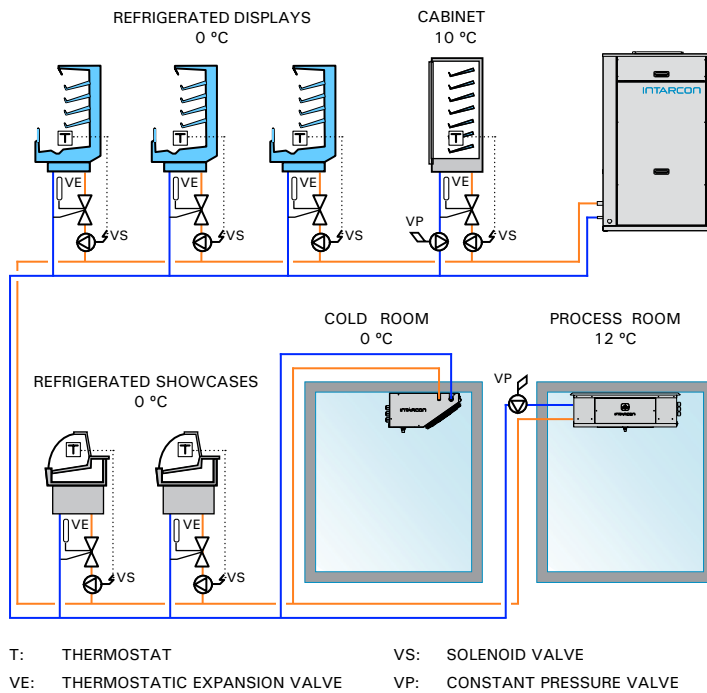
- Suction pressure valve (VP).
- By-pass pressure valve (VC).
- Thermostatic expansion valve for liquid injection (VE).
- Pressure control switch (IP).

Versions of the multi-service centrifugal centrals:

- intarPACK centrifugal series MDV-CVF 6 and 8. series BDV-CVF 6 and 8.

Installing example

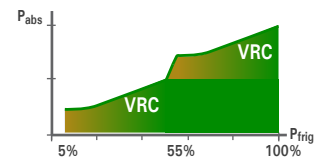
Multi-service air-cooled centrals are specifically designed for cooling production centralization of a set of positive or negative temperature evaporating units.



VRC system: Variable Refrigerant Capacity

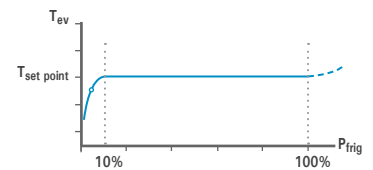
The VRC system adjusts the refrigerant flow to the demand of the evaporating units, keeping constant the pressure in suction line.

For refrigeration centrals with two or more compressors, the VRC system is installed on one of the compressors, which modulates progressively its cooling capacity, while the other compressors are operating as power steps for a progressive modulation of all the unit cooling capacity.



The VRC system for two or more compressors features:

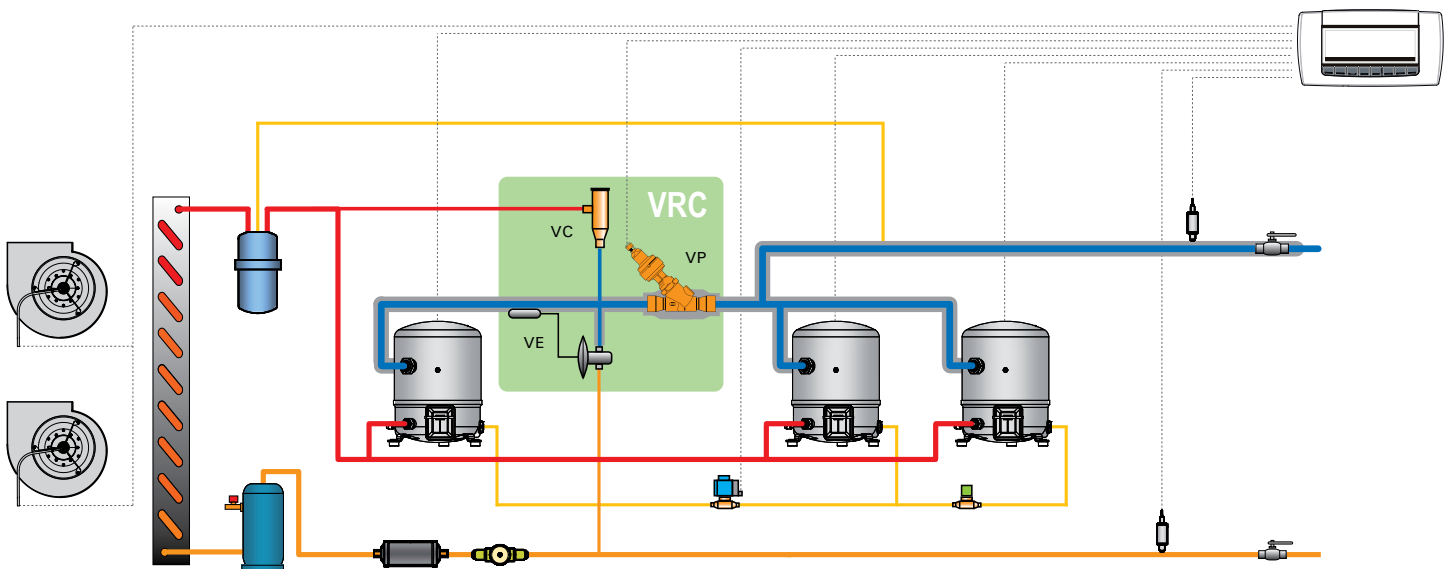
- progressive control of cooling capacity, with no pressure pulses,
- PI electronic regulation to keep constant the evaporation pressure to the set point,
- it protects the compressor from motor reheat risk,
- it keeps the compressing ratio between the secure operating margins.



VRC system can be easily set, through a digital display, for a minimum suction pressure/temperature.

The system is designed for compressors stop in case of low pressure (pump down) under the minimum set point.

Principle scheme



intarPACK

Description

Air-cooled refrigeration centrals, in a low-noise construction, built in a galvanised steel shell with polyester coating, designed for outdoor installation.

Features

- 400V-III-50Hz power supply.
- R-404A refrigerant.
- Rack of hermetic reciprocating or scroll compressors, with noise insulation, service valves, discharge muffler (for reciprocating compressor models), mounted on shock absorbers, with internal klixon and crankcase heater.
- U-shaped large area condensing coil made in copper pipes and aluminium fins, tropicalised for ambient temperature up to 45 °C.
- Low-speed electronic axial motor-fans (except for series 1) of low energy consumption at variable speed, with internal protection, mounted on nozzles, dynamically balanced blades and external protection grille.
- Refrigeration circuit with single or double suction line, made in copper pipes, equipped with HP and LP switches, service valves, safety valves, liquid receiver, dehydratant filter and sight glass.
- Full control and power panel, with differential switch for each compressor (for two or more than two compressors units) and for each motor-fan (for two motor-fans units), thermal and MCB switches for compressor/s and motor-fan/s.
- 4 power step electronic regulation, with one or two suction temperature set points, high and low pressure transducers, proportional control of condensing pressure and digital control keyboard.

High reliability compressors

Danfoss-Maneurop hermetic reciprocating and scroll compressors are known for their sturdy construction and high reliability operation, and, by being cooled by the refrigerant, they allow a very efficient noise insulation.



Copeland negative temperature scroll compressors with vapour injection EVI system, provide a higher performance of up to 25% related to standard compressors.

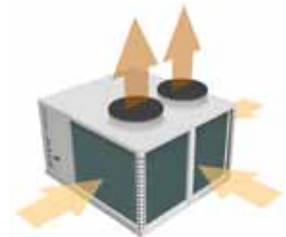
Efficient, proportional and low-noise condensation

Low-noise condensing motor-fans operating at 900 rpm, with variable speed function, preserve condensation pressure under low ambient temperature while they reduce sound pressure level.



U-shaped tropicalised condensing coil

intarPACK axial centrals feature an U-shaped large area condensing coil to guarantee the proper operation under high ambient temperature.



Double suction line

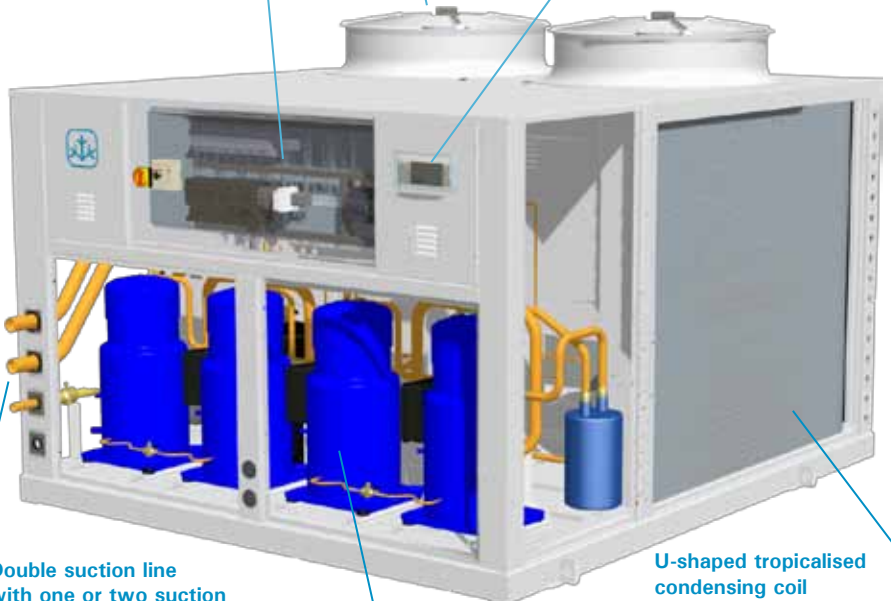
intarPACK axial centrals from series 5 feature two independent suction circuits, with common coil and liquid line.

Its operation can be set to a double or single suction set point.

Low-speed and low-noise axial motor-fans

New generation electronic regulation

Control and power board with thermal and MCB switches



Double suction line with one or two suction pressure set points

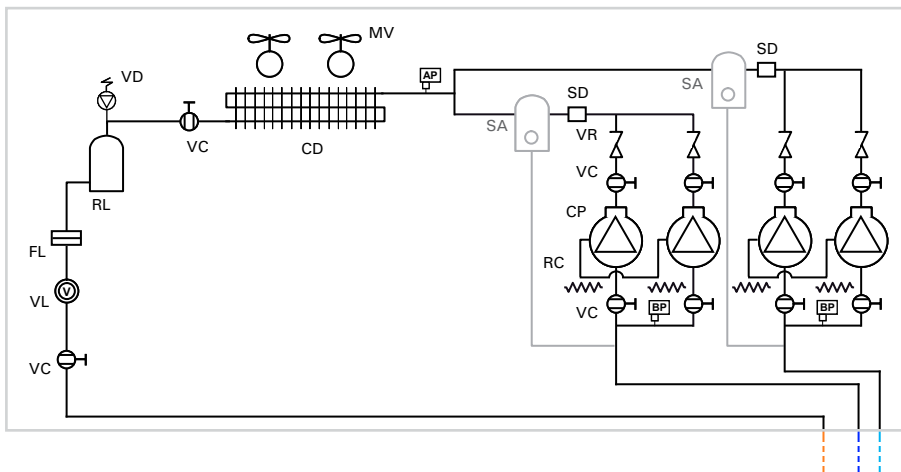
U-shaped tropicalised condensing coil

Hermetic compressors rack with noise insulation, discharge muffler (for reciprocating compressors) and oil balance line

As an option

- Oil separator (already included for negative temperature units with 2 scroll compressors or 3 compressors).
- Anticorrosion coil coating.
- Module for external communication through ModBus protocol and RS485 connection.
- Brazed plates heat exchanger for condensation heat recovery and hot water production.
- Protection system for voltage drop and phase failure.

Refrigeration scheme
MDE-NF-5

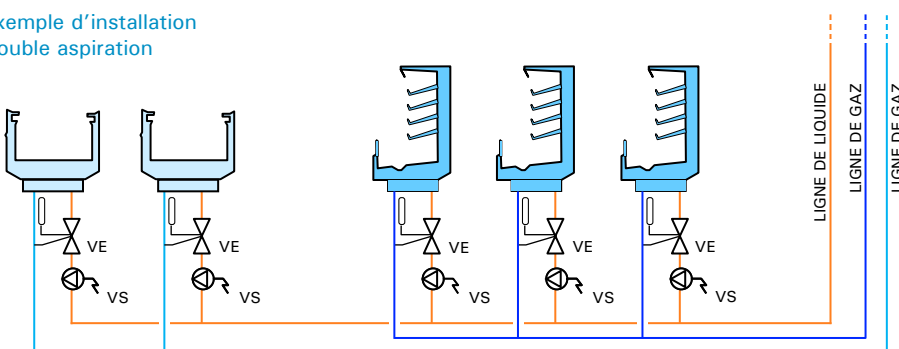


Applications

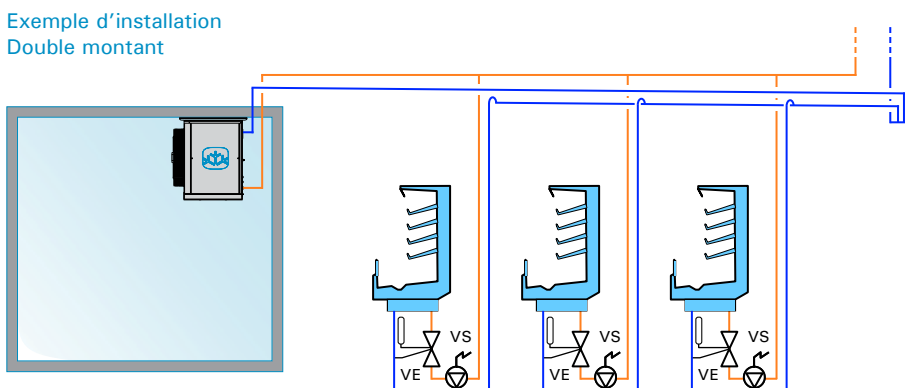
intarPACK axial air-cooled centrals are designed to give service to a set of evaporating units and other applications at positive and/or negative temperature:

- Installation of a set of evaporating units with common liquid line and single or double suction line for two different evaporating temperatures, and compressors cooling capacity control.

Exemple d'installation
Double aspiration



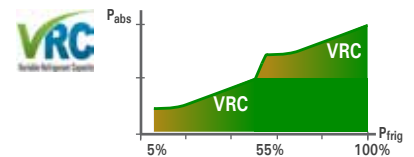
Exemple d'installation
Double montant



VRC Variable Refrigeration Capacity system

intarPACK air-cooled centrals can be equipped with the VRC (Variable Refrigerant Capacity) system, which adapts the refrigerant flow to the demand of the evaporating units, by keeping constant the pressure in suction line.

VRC system is composed by a set of pressure and temperature regulation valves able to progressively change compressor cooling capacity from 100% to 10% of its nominal capacity, while reducing the absorbed electrical power.



Double suction line

Refrigeration centrals from series 5 feature double suction line for their operation with two different suction pressure set points.

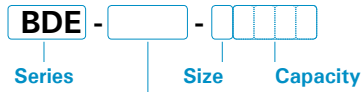
Double vertical piping

The double suction line works as a double vertical piping to assure the oil return.

Refrigeration scheme legend

- CP: COMPRESSOR
- MV: MOTOR-FAN
- CD: CONDENSER
- RC: CRANKCASE HEATER
- VS: SOLENOID VALVE
- VE: THERMOSTATIC EXPANSION VALVE
- AP: HIGH PRESSURE SWITCH
- BP: LOW PRESSURE SWITCH
- P: PRESSURE TRANSDUCER
- RL: LIQUID RECEIVER
- FL: DEHYDRATANT FILTER
- VL: SIGHT GLASS
- VC: SERVICE VALVE
- VD: SAFETY VALVE
- SD: DISCHARGE MUFFLER (FOR RECIPROCATING COMPRESSOR UNITS)
- VR: CHECK VALVE (FOR RECIPROCATING COMPRESSOR UNITS)
- SA: OIL SEPARATOR
- VE: THERMOSTATIC EXPANSION VALVE
- VS: SOLENOID VALVE

Codification



NF/SF - Electronic version.

VF - Cooling capacity modulation version (only for reciprocating compressor models).



Technical features

400V-III-50 Hz, R-404A

Series / Model	Compressor			Cooling capacity (kW)*								Nominal power consump. (kW)*	Max. absorbed current (A)	Condenser			Liq-Gas cooling connection	SPL dB(A)*	
	HP	Type*	Model	Ambient temp.	Evaporating temperature						Fan Ø mm			Air flow (m³/h)	Weight (kg)				
					-10 °C	-15 °C	-20 °C	-25 °C	-30 °C	-35 °C						-40 °C			
1 compressor	BDE-NF-10215	7,5	H	NTZ215	35 °C 45 °C	16,1 12,5	13,0 9,9	10,4 7,7	8,1 5,9	6,1 4,3	4,5 3,0	3,1 1,9	5,5	25,0	Ø630	10.000	250	5/8"-1 3/8"	39
	BDE-SF-10181	6	Sc EVI	ZF18KVE	35 °C 45 °C	13,8 13,0	11,7 11,0	9,9 9,3	8,4 7,9	7,0 6,7	5,9 5,7	4,9 4,9	4,8	15,6	Ø630	10.000	235	1/2"-1 1/8"	37
	BDE-NF-10271	10	H	NTZ271	35 °C 45 °C	21,6 16,8	17,6 13,5	14,1 10,7	11,1 8,3	8,5 6,3	6,3 4,6	4,5 3,1	7,2	29,7	Ø630	10.000	255	5/8"-1 3/8"	39
	BDE-SF-10241	7,5	Sc EVI	ZF24KVE	35 °C 45 °C	17,9 16,2	15,5 14,1	13,3 12,1	11,2 10,3	9,4 8,7	7,7 6,9	6,2 5,4	6,1	18,6	Ø630	10.000	235	1/2"-1 3/8"	37
	BDE-SF-10331	10	Sc EVI	ZF33KVE	35 °C 45 °C	22,9 21,1	19,8 18,3	17,0 15,7	14,4 13,3	12,1 11,3	10,0 9,4	8,2 7,9	7,7	24,0	Ø630	10.000	260	1/2"-1 3/8"	37
	BDE-SF-10401	13	Sc EVI	ZF40KVE	35 °C 45 °C	27,5 -	23,9 21,8	20,5 18,8	17,5 16,1	14,7 13,7	12,3 9,8	10,1 8,3	9,9	29,6	Ø630	10.000	260	1/2"-1 3/8"	38
	BDE-SF-10481	15	Sc EVI	ZF48KVE	35 °C 42 °C*	32,0 -	27,9 26,2	24,1 22,6	20,6 19,4	17,4 16,5	14,5 13,4	11,6 10,8	12,5	33,2	Ø630	10.000	260	1/2"-1 5/8"	42
2 compressors	BDE-NF-30430	15	H	2x NTZ215	35 °C 45 °C	31,5 24,2	25,5 19,2	20,2 14,9	15,7 11,3	11,9 8,2	8,7 5,7	6,0 3,5	11,2	48,5	Ø800	22.000	390	5/8"-1 3/8"	46
	BDE-NF-30542	20	H	2x NTZ271	35 °C 45 °C	41,3 31,6	33,6 25,3	26,8 20,1	21,0 15,5	16,1 11,7	11,9 8,4	8,5 5,7	14,6	57,9	Ø800	22.000	395	5/8"-2 1/8"	46
	BDE-SF-30482	15	Sc EVI	2x ZF24KVE	35 °C 45 °C	34,9 25,6	30,3 21,8	26,0 18,5	22,1 15,7	18,5 13,4	15,3 11,4	12,4 9,8	13,5	35,9	Ø800	22.000	325	1/2"-1 5/8"	42
	BDE-SF-30662	20	Sc EVI	2x ZF33KVE	35 °C 45 °C	44,4 -	38,6 35,3	33,2 30,4	28,3 26,2	23,8 22,1	19,8 18,8	16,3 15,9	17,0	46,7	Ø800	22.000	370	5/8"-2 1/8"	42
	BDE-SF-40802	26	Sc EVI	2x ZF40KVE	35 °C 45 °C	55,6 51,0	48,2 44,2	41,4 38,1	35,1 32,4	29,5 27,4	24,6 19,9	20,2 16,9	20,2	57,9	Ø800	23.000	460	5/8"-2 1/8"	45
	BDE-SF-40962	30	Sc EVI	2x ZF48KVE	35 °C 45 °C	67,0 61,4	58,0 53,2	49,8 45,8	42,2 39,0	35,5 33,0	29,5 26,6	24,3 21,4	24,3	65,1	Ø800	22.000	460	4/8"-2 1/8"	45
3 compressors	BDE-NF-50645	23	H	3x NTZ215	35 °C 45 °C	49,3 38,5	40,0 30,7	31,9 24,0	24,9 18,3	18,9 13,5	13,9 9,4	9,8 6,0	17,4	74,7	2x Ø800	46.000	845	7/8"-2 1/8"	50
	BDE-NF-50813	30	H	3x NTZ271	35 °C 45 °C	66,2 51,8	53,9 41,8	43,2 33,2	34,0 25,8	26,1 19,5	19,5 14,2	14,0 9,8	22,2	88,8	2x Ø800	46.000	845	7/8"-2 1/8"	50
	BDE-SF-50993	30	Sc EVI	3x ZF33KVE	35 °C 45 °C	70,8 65,7	60,9 56,7	51,9 48,5	44,0 41,0	36,8 34,4	30,5 25,4	24,9 23,6	24,1	72,0	2x Ø800	46.000	850	7/8"-2 1/8"	47
	BDE-SF-51203	39	Sc EVI	3x ZF40KVE	35 °C 45 °C	85,8 79,5	74,1 68,7	63,3 58,8	53,6 50,0	45,0 42,0	37,2 31,2	30,6 29,0	30,0	88,8	2x Ø800	46.000	850	7/8"-2 1/8"	48
	BDE-SF-51443	45	Sc EVI	3x ZF48KVE	35 °C 45 °C	101,4 93,3	87,6 80,7	75,0 69,3	63,6 59,0	53,6 49,8	44,4 40,2	36,5 32,3	36,7	99,6	2x Ø800	46.000	850	7/8"-2 1/8"	48
4 compressors Double suction line	BDE-NF-50860	30	H	4x NTZ215	35 °C 45 °C	64,5 49,9	52,1 39,7	41,5 31,0	32,4 23,5	24,6 17,2	18,0 11,9	12,5 7,5	22,4	97,0	2x Ø800	46.000	905	7/8" - 2x 1 5/8"	49
	BDE-NF-51084	40	H	4x NTZ271	35 °C 45 °C	86,4 67,1	70,3 54,1	56,3 42,8	44,2 33,3	34,0 25,1	25,3 18,2	18,1 12,5	31,0	115,8	2x Ø800	46.000	910	7/8" - 2x 2 1/8"	49
	BDE-SF-51324	40	Sc EVI	4x ZF33KVE	35 °C 45 °C	92,4 85,2	79,8 73,8	68,2 63,2	57,8 53,6	48,4 41,4	40,2 37,6	33,0 31,6	32,0	93,4	2x Ø800	46.000	915	7/8" - 2x 2 1/8"	45
	BDE-SF-51604	52	Sc EVI	4x ZF40KVE	35 °C 45 °C	111,2 102,0	96,4 88,4	82,8 76,2	70,2 64,8	59,0 54,8	49,2 39,9	40,4 33,8	40,4	115,8	2x Ø800	46.000	915	7/8" - 2x 2 1/8"	48
	BDE-SF-51924	60	Sc EVI	4x ZF48KVE	35 °C 45 °C	134,0 122,8	116,0 106,4	99,6 91,6	84,4 78,0	71,0 66,0	59,0 53,2	48,6 42,8	48,6	130,2	2x Ø800	44.000	915	7/8" - 2x 2 1/8"	48

As an option

- Oil separator (already included for negative temperature units with 2 scroll compressors or 3 compressors).
- Anticorrosion coil coating.
- Module for external communication through ModBus protocol and RS485 connection.
- Brazed plates heat exchanger for condensation heat recovery and hot water production.

* Cooling capacity at nominal conditions of evaporating temperature -30 °C (NT), ambient temperature 35 °C, superheating 10K and subcooling 3K.

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

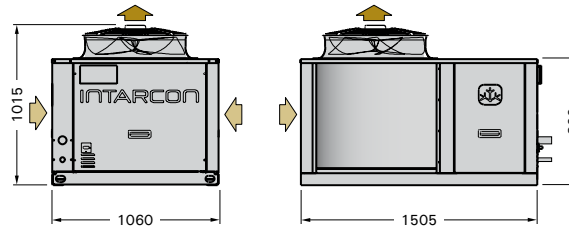
Compressor type according to the following nomenclature:
H = Hermetic reciprocating compressor.
Sc-EVI = Scroll compressor with EVI vapour injection system.

* Restricted model to 42 °C ambient temperature.

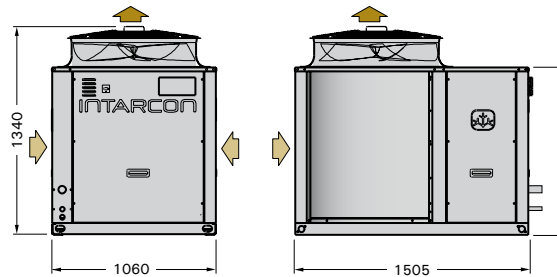
intarPACK

MDE / BDE series

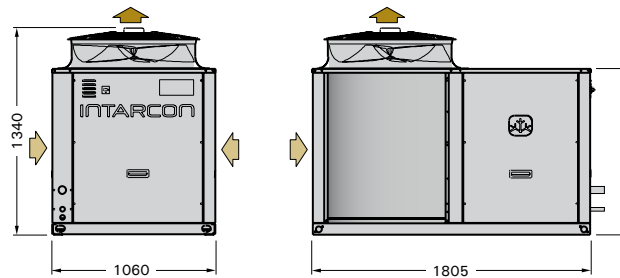
Dimensions
series 1



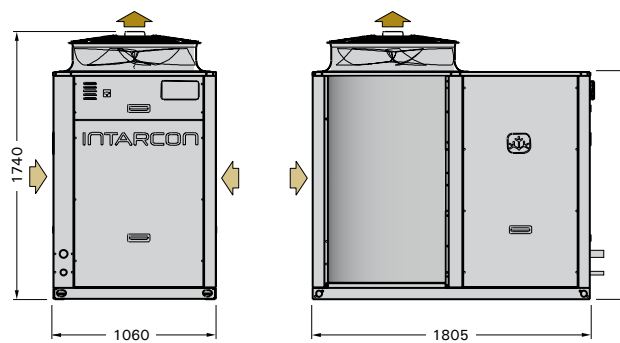
series 2



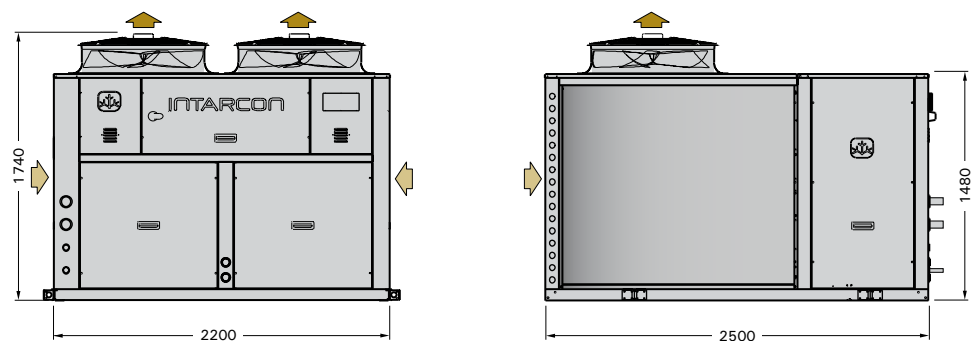
series 3



series 4



series 5



MDE-NF / BDE-NF versions

Electronic regulation

intarPACK axial centrals feature as standard an electronic digital controller for compressor rack and motor-fan/s.

- Control of up to 4 power steps with single or double suction pressure set point.
- Motor-fan speed control with PID control of condensing pressure.
- Compressor time control to equilibrate operation time.
- Condensing pressure protection against extreme ambient temperature, by reducing to a lower power step.
- System temperature and pressure digital input.
- Energy saving mode by temperature set point programmation.
- Alarm management.
- Module for external communication through ModBus protocol and RS485 connection (as an option).

Régulation électronique



cooling capacity modulation

MDE-VF / BDE-VF versions

Description

Multi-service axial centrals, series MDE-VF and BDE-VF, featuring VRC system (Variable Refrigerant Capacity) for cooling capacity modulation on hermetic reciprocating compressors, composed by:

- Suction pressure valve (VP).
- By-pass pressure valve (VC).
- Thermostatic expansion valve for liquid injection (VE).

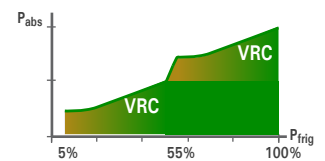
Versions of the multi-service axial centrals:

- intarPACK axial series MDE-VF and BDE-VF.

VRC system: Variable Refrigerant Capacity

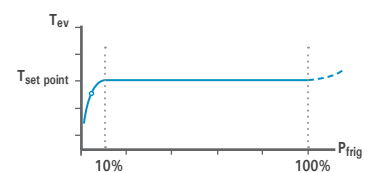
The VRC system adjusts the refrigerant flow to the demand of the evaporating units, keeping constant the pressure in suction line.

For refrigeration centrals with two or more compressors, the VRC system is installed on one of the compressors, which modulates progressively its cooling capacity, while the other compressors are operating as power steps for a progressive modulation of all the unit cooling capacity.



The VRC system for two or more compressors features:

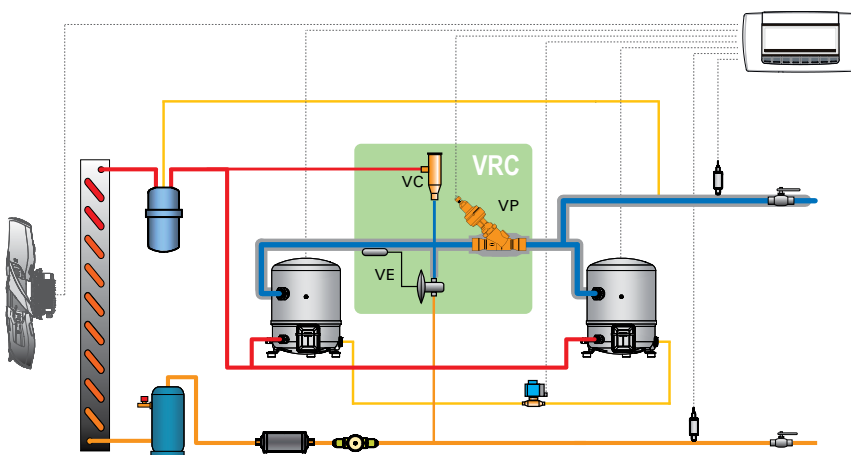
- progressive control of cooling capacity, with no pressure pulses,
- PI electronic regulation to keep constant the evaporation pressure to the set point,
- it protects the compressor from motor reheat risk,
- it keeps the compressing ratio between the secure operating margins.



VRC system can be easily set, through a digital display, for a minimum suction pressure/temperature.

The system is designed for compressors stop in case of low pressure (pump down) under the minimum set point.

Principle scheme



Calculation of cooling pipes

Selection chart

The following chart shows maximum and minimum cooling capacity recommended for each suction line (gas line) pipe, as well as the average cooling capacity recommended for liquid line pipes.

Evap. temp. °C	Nominal diameter for copper refrigerant pipes	LIGNE DE LIQUIDE		GAS SUCTION LINE FROM EVAPORATING UNIT TO COMPRESSOR									
		Recommended average cooling capacity (kW)	R-404A load gr/m	Recommended minimum cooling capacity (kW)	Maximum cooling capacity (kW) for a 1K saturation temperature drop in, depending on the pipes equivalent length.								
					10 m	15 m	20 m	25 m	30 m	40 m	50 m		
HIGH TEMPERATURE Evaporating temp.: +0 °C	1/4"	2	20										
	3/8"	5	50	0,6	1,2	1,0	0,8	0,7	0,7	0,6	0,5		
	1/2"	9	100	1,2	3,0	2,4	2,1	1,8	1,7	1,4	1,2		
	5/8"	15	160	1,9	5,8	4,6	3,9	3,5	3,1	2,7	2,4		
	3/4"	23	240	3,0	9,6	7,7	6,6	5,8	5,3	4,5	4,0		
	7/8"	32	340	4,0	15	12,0	10,3	9,1	8,2	7,0	6,2		
	1"	42	450	5,5	22	17,6	15,0	13,3	12,0	10,3	9,1		
	1 1/8"	55	570	7,0	25	24	20,5	18,2	16,4	14,0	12,4		
	1 3/8"	80	850	10	38	38	35	31	28	24	21		
	1 5/8"	110	1.200	15	54	54	54	49	44	38	34		
2 1/8"	200	2.100	30	95	95	95	95	94	80	71			
POSITIVE TEMPERATURE Evaporating temp.: -10 °C	1/4"	1,7	20										
	3/8"	4,5	50	0,4	0,9	0,7	0,6	0,5	0,5	0,4	-		
	1/2"	9	100	0,8	2,1	1,7	1,4	1,3	1,1	1,0	0,9		
	5/8"	14	160	1,3	4,0	3,2	2,7	2,4	2,2	1,9	1,6		
	3/4"	22	240	2,0	6,7	5,3	4,6	4,0	3,6	3,1	2,7		
	7/8"	30	340	2,8	10,4	8,3	7,1	6,3	5,7	4,9	4,3		
	1"	40	450	3,7	13	12,2	10,4	9,2	8,4	7,1	6,3		
	1 1/8"	50	570	4,7	17	16,7	14,2	12,6	11,4	9,7	8,6		
	1 3/8"	75	850	7,0	25	25	24,1	21,3	19,3	16,5	14,6		
	1 5/8"	110	1.200	10	35	35	35	34	31	26	23		
2 1/8"	200	2.100	18	65	65	65	65	65	56	50			
NEGATIVE TEMPERATURE Evaporating temp.: -30 °C	1/4"	1,5	20										
	3/8"	4	50	0,25	0,4	0,3	0,25						
	1/2"	8	100	0,45	0,9	0,7	0,6	0,5	0,45				
	5/8"	14	160	0,7	1,6	1,3	1,1	1,0	0,9	0,8	0,7		
	3/4"	20	240	1,1	2,8	2,2	1,9	1,7	1,5	1,3	1,1		
	7/8"	30	340	1,5	4,3	3,4	2,9	2,6	2,3	2,0	1,8		
	1"	40	450	2,0	5,8	5,1	4,3	3,8	3,4	2,9	2,6		
	1 1/8"	50	570	2,5	7,3	6,9	5,9	5,2	4,7	4,0	3,6		
	1 3/8"	70	850	4,0	10,5	10,5	10,0	8,8	8,0	6,8	6,0		
	1 5/8"	100	1.200	6,0	15,0	15,0	15,0	14,2	12,8	10,9	9,7		
2 1/8"	170	2.100	10	28	28	28	28	27	23	21			
NEGATIVE TEMP. - VAPOUR INJECTION Evaporating temp.: -30 °C	1/4"	3,5	20										
	3/8"	9	60	0,4	0,7	0,5	0,4	0,4	0,4	0,3	0,3		
	1/2"	18	100	0,8	1,6	1,3	1,1	1,0	0,9	0,7	0,7		
	5/8"	30	180	1,3	3,1	2,5	2,1	1,8	1,7	1,4	1,3		
	3/4"	45	270	1,9	5,1	4,1	3,5	3,1	2,8	2,4	2,1		
	7/8"	60	375	2,5	8,0	6,4	5,5	4,8	4,4	3,7	3,3		
	1"	80	500	3,5	11	9,4	8,0	7,1	6,4	5,5	4,8		
	1 1/8"	100	630	4,5	14	13	11	9,7	8,8	7,5	6,6		
	1 3/8"	150	950	7,0	20	20	19	17	15	13	11		
	1 5/8"	250	1.350	10	30	30	30	26	24	20	18		
2 1/8"	400	2.400	17	50	50	50	50	50	43	38			

Liquid line pipe selection

Given a cooling capacity value at a particular evaporating temperature, select pipe size according to the recommended cooling capacity with a ± 50% margin.

Suction line (gas line) pipe selection

The cooling capacity value at a particular evaporating temperature should be between the recommended minimum cooling capacity and the maximum cooling capacity values of the selected pipe, depending on its equivalent length.

To guarantee a correct oil return through vertical pipes it is recommended to select a pipe diameter for which the cooling capacity is at least a 50% higher than the recommended minimum value.

We recommend not to select values in red color, due to a performance drop higher than 15%.

We recommend not to exceed values in blue colour, corresponding to a maximum gas speed of 15 m/s.

Thermal insulation of suction line pipes

We suggest using thermal insulation in elastomeric materia to avoid any moisture condensation in ambient conditions of 25 °C and 50% RH, with minimum insulation thickness as it follows:

- Positive temperature: 10 mm
- Negative temperature: 20 mm

It is not recommended the liquid line insulation, except for direct sun light or for double stage or vapour injection systems, where a minimum 10 mm insulation must be installed to guarantee the liquid subcooling and to avoid condensation on the pipes.

Base de calcul

This calculation method, developed by INTARCON, is provided as a guideline, being the engineer responsible for making verifications.

The calculation method is only used to calculate R-404A refrigerant pipes made in copper, specifically made for refrigeration purposes.

Maximum cooling capacity shown for each situation is based on a 1 K saturation temperature drop, with a gas speed limit of 15 m/s (values in blue colour).

Minimum cooling capacity recommended in suction line is related to a minimum speed of 4 m/s at positive and high temperature, 5 m/s in negative temperature and 6 m/s at very low temperature.

Les puissances frigorifiques recommandées pour des lignes de liquide correspondent à une vitesse de 1 m/s.

Cooling capacity values have been calculated according to 45 °C condensing temperature, with 10 K superheat and 0 K subcooling or 40 K in case of negative temperature double stage.

Equivalent length

The equivalent length of a refrigeration pipe is usually about 1,2 to 5 times longer than its real length, depending on the number of elbows and chokes in it. As a guideline, the values shown in the following chart can be used to get an approximate calculation:

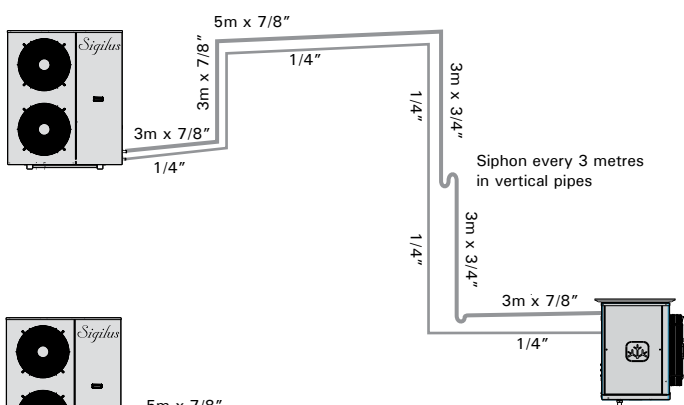
Diamètre nominal de tuyauterie en cuivre pour la réfrigération	Longueur équivalente (m)						
	Coude a 90°	Branchement en T		Réduction	Siphon	Vanne de service angulaire	Vanne de service de clapet
		flux droit	flux dévié				
3/8"	0,7	0,3	0,8	0,3	1,1	1,8	0,2
1/2"	0,8	0,3	0,9	0,4	1,2	2,0	0,2
5/8"	0,9	0,4	1,0	0,5	1,4	2,2	0,3
3/4"	1,0	0,4	1,2	0,6	1,6	2,5	0,3
7/8"	1,1	0,5	1,4	0,6	1,8	3,0	0,3
1"	1,2	0,5	1,5	0,7	2,0	3,5	0,3
1 1/8"	1,4	0,6	1,8	0,8	2,3	4,0	0,4
1 3/8"	1,7	0,7	2,2	1,0	2,7	5,0	0,5
1 5/8"	2,0	0,9	2,7	1,2	3,5	6,0	0,6
2 1/8"	2,5	1,1	3,3	1,5	4,3	8,0	0,7

Recommendation

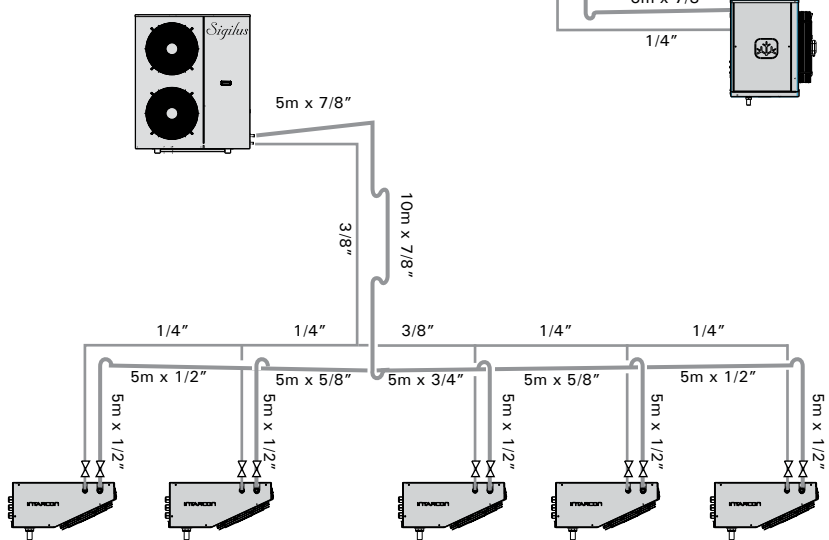
It is recommended to have in mind the following recommendations for a better cooling pipes design:

- Design the pipes as straight as possible, with the lowest number of elbows, couplers and valves.
- Install an oil trap in vertical rises of suction lines every 3 metres.
- Place the horizontal stretch with a little slope towards the compressor.
- Connection from the evaporating unit to the suction line collector should always be undertaken from the upper part of the collector.

Case 1



Case 2



Case 1.- calculation of refrigerant pipes

Sizing up of the cooling pipes to give service to one evaporating unit with a cooling capacity of 1500 W in a -20 °C cold room with DT1 = 7 K.

We size up the liquid pipes according to recommended cooling capacity, it is acceptable a pipe diameter of 1/4".

We accept as premise an equivalent length of 1,5 times longer than real length. In our situation:

$$Leq = 1,5 \times 20 \text{ m} = 30 \text{ m}$$

We accept a pressure drop equivalent to a 1 K saturation temperature drop, we look into 30m column, in negative temperature section (evaporation temp. -30 °C), and we find that:

- 3/4" pipe have a recommended maximum cooling capacity of 1,5 kW, but with a performance drop higher than 15% (value in red colour).
- 7/8" pipe have a recommended minimum cooling capacity of 1,5 kW.

We recommend to use 7/8" size in horizontal and descending piping and 3/4" only in ascending piping.

We can check out that equivalent length estimated is right, indeed:

$$Leq = 20 \text{ m} + 3 \times 1,1 \text{ m (elbow)} + 2 \times 1,6 \text{ m (siphon)} + 2,5 \text{ m (service valve)} = 29 \text{ m}$$

Case 2.- calculation of an installation with several evaporating units

Sizing up of the pipes of an installation with several evaporating units, as seen in the scheme, to give service to 5 evaporating units of 1000 W each one in 0 °C cold rooms with DT1 = 8 K.

We size up the liquid pipes according to the recommended cooling capacity, it is acceptable a pipe diameter of 1/4" for a cooling capacity between 1000 and 2000 W and a pipe diameter of 3/8" for a cooling capacity between 3000 W and 5000 W.

We accept as premise an equivalent length of 1,5 times longer than real length to the further away evaporating unit. In our situation:

$$Leq = 1,5 \times 35 \text{ m} = 52,5 \text{ m}$$

We accept a pressure drop equivalent to a 2 K saturation temperature drop, we look into 25 m column (50m ÷ 2), in positive temperature section (evaporation temp. -10 °C), and we check out that:

- For a cooling capacity of 1000W it is recommended a 1/2" pipe,
- for 2000W it is recommended a 5/8" pipe,
- for 3000W it is recommended a 3/4" pipe,
- and for 5000W it is recommended a 7/8" pipe,

We can check out that equivalent length estimated is right, indeed:

$$Leq = 35 \text{ m} + 1,1 \text{ m (elbow)} + 3 \times 1,8 \text{ m} + 1,2 \text{ m (siphons)} + 0,5 + 0,6 + 0,6 \text{ (chokes)} + 2,5 + 0,2 \text{ (valves)} = 47 \text{ m}$$

Cooling connection calculation

Cooling connections calculation

INTARCON commercial range split units are delivered with a R-404A 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	Recommended connections and diameter of the gas and liquid pipes according to the distance between units							Extra load in grams of refrigerant / oil		
	Connection	5 m	10 m	15 m	20 m	25 m	30 m	20 m	25 m	30 m
- 010	Flare 1/4"-3/8"	1/4"-3/8"	1/4"-3/8"	1/4"-3/8"						
- 012	Flare 1/4"-3/8"	1/4"-3/8"	1/4"-3/8"	1/4"-3/8"	1/4"-3/8"			100 / 25		
- 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"	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"	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"	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"	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"	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"	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"	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"-3/4"	1/2"-7/8"	600 / 150	1100 / 300	1700 / 800
- 054	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"	1/2"-7/8"	600 / 150	1100 / 600	1700 / 800
- 060	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"	1/2"-7/8"	900 / 400	1800 / 800	2700 / 1200
- 068	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"	1/2"-7/8"	900 / 400	1800 / 800	2700 / 1200
- 086	Solder 5/8"-1 1/8"	5/8"-1 1/8"	5/8"-1 1/8"	5/8"-1 1/8"	5/8"-1 1/8"	5/8"-1 1/8"	5/8"-1 1/8"	900 / 400	1800 / 800	2700 / 1200
- 108	Solder 5/8"-1 1/8"	5/8"-1 1/8"	5/8"-1 1/8"	5/8"-1 1/8"	5/8"-1 1/8"	5/8"-1 1/8"	5/8"-1 1/8"	900 / 400	1800 / 800	2700 / 1200
1010	Flare 1/4"-3/8"	1/4"-3/8"	1/4"-3/8"	1/4"-3/8"						
1012	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"	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"	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"	3/8"-5/8"	300 / 100	600 / 200	900 / 300
3034	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"	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"	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"	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"	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"	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"	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"	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"	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"	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"	1/2"-1 1/8"	600 / 400	1100 / 800	1700 / 1200
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"	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"	3/8"-7/8"	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"	3/8"-7/8"	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"-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"	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"	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"	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"-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"	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"	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"	1/2"-1 3/8"	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"	1/2"-1 3/8"	600 / 500	1100 / 1000	1700 / 1500



intarPACK

chiller

Air-cooled chillers, designed for refrigeration applications with glycol water and brine.

intarPACK chiller series covers compressor power from 7,5 to 60 HP at positive and negative temperature ranges.

intarPACK chillers have been developed for outdoor installation, to operate under extreme ambient conditions, featuring acoustic insulated components for lower noise level.

- ✦ High power in a compact design.
- ✦ Tropicalised design for ambient temperature up to 45 °C.
- ✦ Acoustic isolated hermetic compressors.
- ✦ Minimum maintenance needs, with easy access through folding panels.
- ✦ Inbuilt brazed plates heat exchanger.
- ✦ Operation with glycol water and brine..
- ✦ Inbuilt hydraulic circuit (as an option).

intarPACK

chillers

Description

Air-condensed chillers for refrigeration applications with glycol water or brine, low noise operation and compact construction in a galvanised steel shell with polyester coating for outdoor installation.

Features

- 400V-III-50Hz power supply.
- R-404A refrigerant.
- Hermetic reciprocating or scroll compressors, with noise insulation, with rotalock service valves, discharge muffler (for reciprocating compressor models), mounted on shock absorbers, with internal klixon, anti back-flow valves and crankcase heater.
- Large area U-shaped condensing coil, in copper pipes and aluminium fins, tropicalised for ambient temperature up to 45 °C.
- Low-speed electronic axial motor-fans (excepto for series 1) with low energy consumption, avec internal protection, mounted on noselles, dynamically balanced blades and external protection grille.
- Proportional control of condensing pressure.
- Brazed plates heat exchanger featuring inox plates with copper welding, with anti-freezing heater.
- Refrigeration circuit with one or two suction line/s, built in copper piping with high and low pressure switches, pressure transducers, service valves, thermostatic expansion valve, dehydratant ceramic filter and sight glass.
- Hydraulic circuit built in copper piping with flow switch, temperature and pressure gauge, air vent and draining valve. thread connection up to 2 1/2" and DN80 bridle connection from 3".
- Full control and power panel, with thermal and magnetothermal protection for compressor/s, fan/s and water pump.
- Electronic regulation with 4 power stages and glycol inlet temperature set point, HP and LP transducers, anti-freezing protection and digital control keyboard.

High reliability compressors

Danfoss-Maneurop hermetic reciprocating and scroll compressors are known for their sturdy construction and high reliability operation, and, by being cooled by the refrigerant, they allow a very efficient noise insulation.



Copeland negative temperature scroll compressors with vapour injection EVI system, provide a higher performance of up to 25% related to standard compressors.

Efficient, proportional and low-noise condensation

The low-noise condensation motor-fans operating at 900 rpm, with speed control, preserve condensation pressure under low ambient temperature while they reduce the sound pressure level.



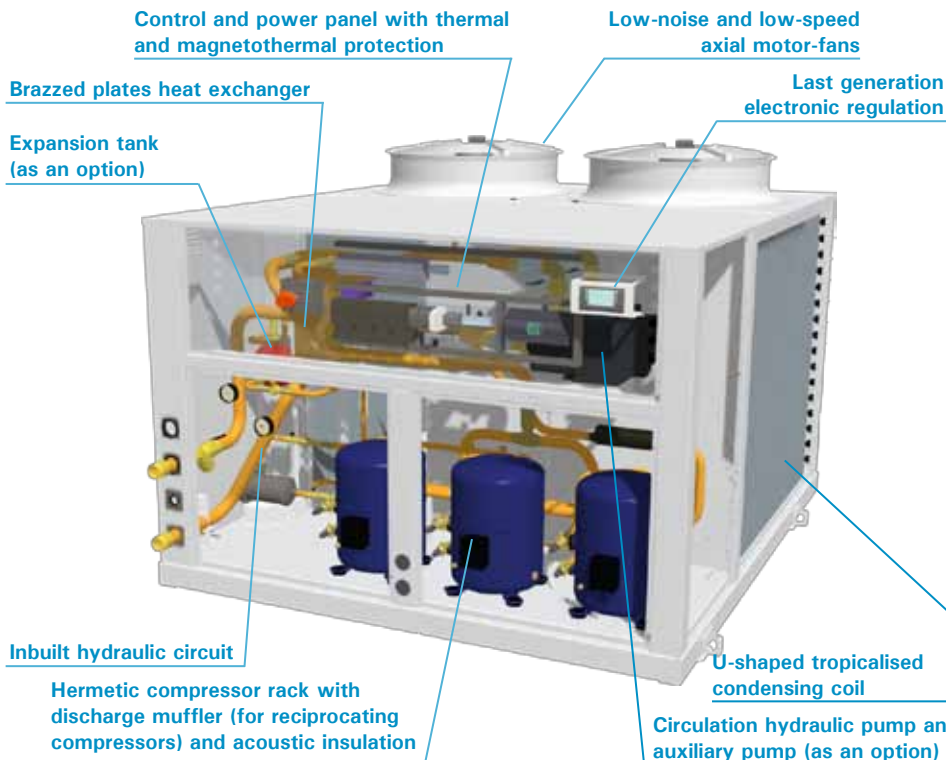
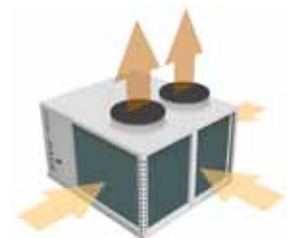
Brazed plates heat exchanger

intarPACK chillers feature a heat exchanger made in inox plates with copper brazing.



Topicalised U-shaped condensing coil

intarPACK chillers feature a large area U-shaped condensing coil to guarantee the proper operation of the unit under high ambient temperature



MWE / BWE series

As an option

- Defrosting cycle of air blowers by glycol heating.
- Freecooling.
- Inbuilt hydraulic system with circulation hydraulic pump (auxiliary hydraulic pump as an option), service valves, anti back-flow valves, expansion tank, safety valve, mesh filter, air vent and draining valve.
- Buffer tank with differential pressure valve (page 99).
- Hydraulic variable displacement pump for secondary circuit (page 99).
- Anticorrosion coil coating.
- External communication by ModBus protocol and RS485 connection.

Glycol heating defrosting

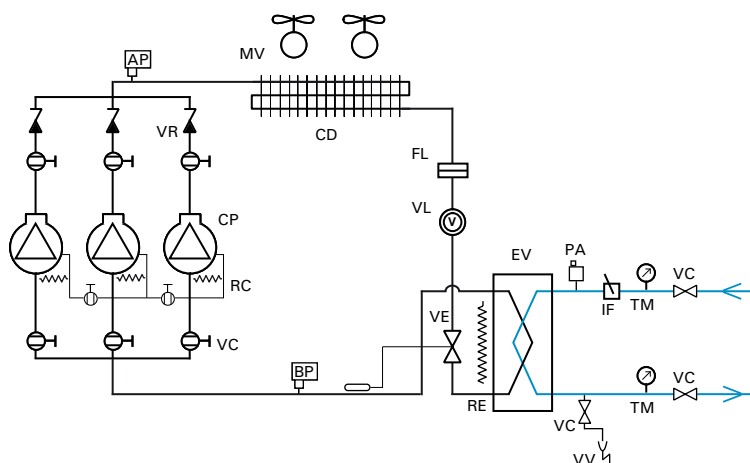
As an option, intarPACK chillers feature a defrosting system for air blowers by heating of the glycol water.

Freecooling

As an option the intarPACK chillers feature a freecooling operation mode.

Its installation is recommended for negative temperature chillers operating under low ambient temperature, to benefit from this temperature for cooling the glycol without compressor operation, getting considerable energy savings.

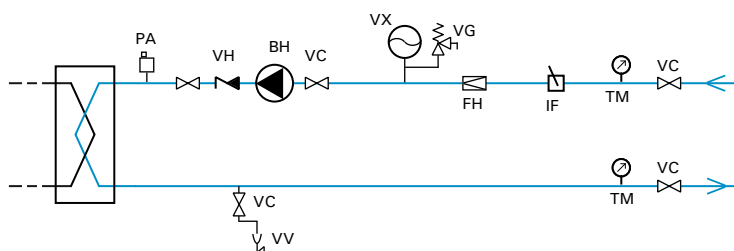
Standard refrigeration and hydraulic scheme



REFRIGERATION CIRCUIT COMPONENTS

- CP: COMPRESSOR
- RC: CRANKCASE HEATER
- CD: CONDENSING COIL
- MV: MOTOR-FAN
- AP: HIGH PRESSURE SWITCH
- BP: LOW PRESSURE SWITCH
- FL: DEHYDRATANT CERAMIC FILTER
- VL: SIGHT GLASS
- VE: THERMOSTATIC EXPANSION VALVE
- EV: BRAZZED PLATES HEAT EXCHANGER
- RE: ANTIFREEZING HEATER
- VC: SERVICE VALVE

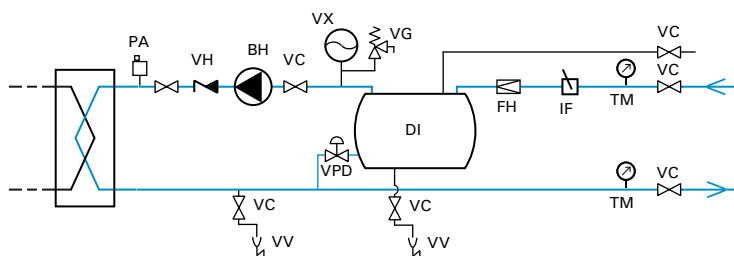
Option 1 Hydraulic system



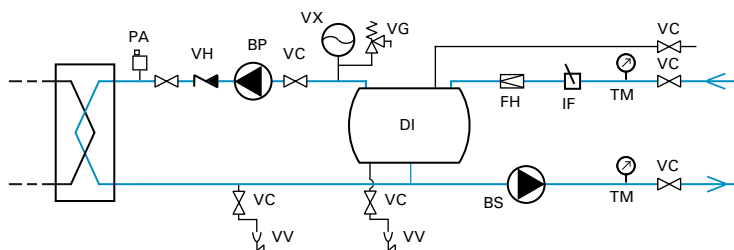
HYDRAULIC CIRCUIT COMPONENTS

- VC: SERVICE VALVE
- VV: DRAINING VALVE
- PA: AIR VENT
- IF: FLOW SWITCH
- TM: TEMPERATURE AND PRESSURE GAUGE
- VH: ANTI BACK-FLOW VALVE
- FH: MESH FILTER
- BH: CIRCULATION HYDRAULIC PUMP
- VE: EXPANSION TANK
- VG: SAFETY VALVE
- DI: BUFFER TANK
- VPD: DIFFERENTIAL PRESSURE VALVE
- BP: PRIMARY CIRCUIT HYDRAULIC PUMP
- BS: SECONDARY CIRCUIT HYDRAULIC VARIABLE DISPLACEMENT PUMP

Option 2 Hydraulic system with buffer tank



Option 3 Hydraulic system with secondary circuit



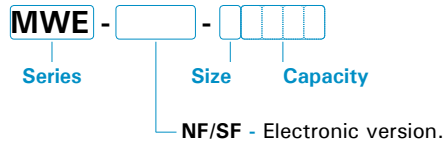
intarPACK

chillers

positive temperature

MWE series

Nomenclature



Technical features

400V-III-50 Hz, R-404A, Propylene glycol

Series / Model	Compressor			Ambient temp.	Cooling capacity (kW)					Nominal power consump. (kW) *	Max absorb. current (A)	Condenser			Fluid flow (m ³ /h)	Pressure drop (m.w.c.)*	Available pressure (m.w.c.) With hydraulic system*	Hydraulic connection	Sound pressure level dB(A)*	
	HP	Type *	Model		Fluid outlet temperature (°C) % propilenglycol (volume)							Fan Ø mm	Air flow (m ³ /h)	Weight (kg)						
					+10 °C 0%	+5 °C 15%	0 °C 20%	-5 °C 30%	-10 °C 40%											
1 compressor	MWE-NF-10160	8	H	MTZ100	35 °C 45 °C	24,7 20,4	21,0 17,3	17,7 14,6	14,5 11,8	11,5 9,3	7,8	26,0	Ø630	10.000	280	2,6	1,7	14,4	1 1/2"	42
	MWE-SF-10160	8	Sc	SZ100	35 °C 45 °C	24,0 20,3	20,5 17,2	17,4 14,6	14,4 12,0	11,7 -	7,4	23,0	Ø630	10.000	285	2,6	1,7	14,4	1 1/2"	37
	MWE-NF-10215	10	H	MTZ125	35 °C 45 °C	28,8 -	24,5 -	20,7 17,0	17,0 14,0	13,8 11,2	9,6	31,0	Ø630	10.000	285	3,1	2,3	13,0	1 1/2"	42
	MWE-SF-10215	10	Sc	SZ120	35 °C 45 °C	28,0 -	24,0 -	20,5 16,8	17,0 -	14,0 -	10,0	33,0	Ø630	10.000	295	3,1	2,3	13,0	1 1/2"	37
	MWE-NF-20271	13	H	MTZ160	35 °C 45 °C	39,5 32,9	33,4 27,8	28,2 23,3	23,1 19,0	18,7 15,2	13,7	41,3	Ø800	22.000	340	4,2	2,6	12,1	2"	44
	MWE-SF-20271	13	Sc	SZ160	35 °C 45 °C	39,4 33,0	33,4 27,9	28,3 24,3	23,4 -	19,1 -	13,5	34,3	Ø800	22.000	365	4,2	2,6	12,1	2"	42
	MWE-SF-20312	15	Sc	SZ185	35 °C 45 °C	43,2 -	36,6 30,6	31,0 25,8	25,7 -	21,1 -	15,2	40,3	Ø800	22.000	375	4,6	3,1	11,3	2"	42
2 compressors	MWE-NF-40320	16	H	2x MTZ100	35 °C 45 °C	48,1 41,2	40,9 34,6	35,2 29,0	28,7 23,5	23,0 18,6	16,1	49,8	Ø800	23.000	450	5,2	3,0	12,3	2"	48
	MWE-SF-40320	16	Sc	2x SZ100	35 °C 45 °C	48,1 40,7	40,9 34,4	34,5 29,0	28,5 23,8	23,2 -	15,2	43,8	Ø800	23.000	460	5,2	3,0	12,3	2"	44
	MWE-NF-40430	20	H	2x MTZ125	35 °C 45 °C	57,6 -	48,8 40,4	41,1 33,9	33,7 27,6	27,1 22,1	19,5	59,8	Ø800	23.000	455	6,1	3,8	11,1	2"	47
	MWE-SF-40430	20	Sc	2x SZ120	35 °C 45 °C	56,1 -	47,8 39,7	40,6 33,6	33,7 -	27,5 -	20,2	63,8	Ø800	23.000	475	6,1	3,8	11,1	2"	44
	MWE-NF-40542	26	H	2x MTZ160	35 °C 45 °C	76,4 -	65,4 53,8	55,4 45,7	45,8 37,6	37,5 30,5	25,9	78,6	Ø800	22.000	495	8,3	2,7	13,1	2 1/2"	47
	MWE-SF-40542	26	Sc	2x SZ160	35 °C 45 °C	76,6 -	65,4 54,4	55,5 46,0	46,2 -	38,4 -	25,9	64,6	Ø800	22.000	535	8,3	2,7	13,1	2 1/2"	45
	MWE-SF-40624	30	Sc	2x SZ185	35 °C 45 °C	83,2 -	71,4 -	60,7 50,0	50,8 -	42,2 -	29,7	76,6	Ø800	22.000	555	9,1	3,1	11,4	2 1/2"	45
3 compressors	MWE-NF-50645	30	H	3x MTZ125	35 °C 45 °C	96,5 80,6	81,2 67,0	67,5 55,6	54,9 45,0	44,2 36,0	30,7	92,8	2x Ø800	46.000	930	9,9	2,4	21,9	2 1/2"	50
	MWE-NF-50813	40	H	3x MTZ160	35 °C 45 °C	113,7 -	96,4 79,7	81,4 67,3	67,1 55,2	54,8 43,5	39,2	119,8	2x Ø800	46.000	940	12,2	2,6	19,2	DN80	49
	MWE-SF-50813	40	Sc	3x SZ160	35 °C 45 °C	113,8 -	96,8 80,3	81,8 67,8	67,7 -	56,2 -	39,2	98,8	2x Ø800	46.000	1.005	12,2	2,6	19,2	DN80	48
	MWE-SF-50936	45	Sc	3x SZ185	35 °C 45 °C	124,5 -	105,9 -	89,3 74,5	74,2 -	61,7 -	44,9	116,8	2x Ø800	46.000	1.035	13,4	3,0	17,5	DN80	48
4 compressors	MWE-NF-51084	52	H	4x MTZ160	35 °C 45 °C	152,8 -	130,8 107,6	110,8 91,4	91,6 75,2	75,0 61,0	57,9	156,4	2x Ø800	44.000	1.010	16,6	3,1	19,7	DN80	50
	MWE-SF-51084	52	Sc	4x SZ160	35 °C 45 °C	153,2 -	130,8 108,8	111,0 92,0	92,4 -	76,8 -	57,9	128,4	2x Ø800	44.000	1.095	16,6	3,1	19,7	DN80	48
	MWE-SF-51248	60	Sc	4x SZ185	35 °C 45 °C	166,4 -	142,8 -	121,4 100,0	101,6 -	84,4 -	65,5	152,4	2x Ø800	44.000	1.135	18,2	3,6	16,6	DN80	48

As an option

- Defrosting cycle of air blowers by glycol heating.
- Freecooling.
- Inbuilt hydraulic system with circulation hydraulic pump (auxiliary hydraulic pump as an option), service valves, anti back-flow valves, expansion tank, safety valve, mesh filter, air vent and draining valve.
- Buffer tank with differential pressure valve (page 99).
- Hydraulic variable displacement pump for secondary circuit (page 99).
- Anticorrosion coil coating.
- External communication by ModBus protocol and RS485 connection.

* Cooling capacity according to nominal conditions and related to -5 °C propylene glycol outlet temperature, 30% volumen concentration and 35 °C ambient temperature.

Pressure drop at the heat exchanger.

Available pressure shown in m.w.c. for chiller with hydraulic system and hydraulic pump. Please, ask us for the pressure drop in case of other hydraulic system configuration.

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

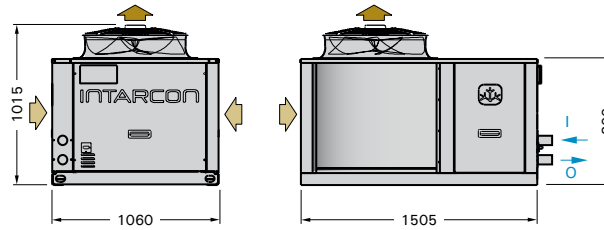
Compressor type according to the following nomenclature:
H = Hermetic reciprocating compressor
Sc = Scroll compressor.

intarPACK

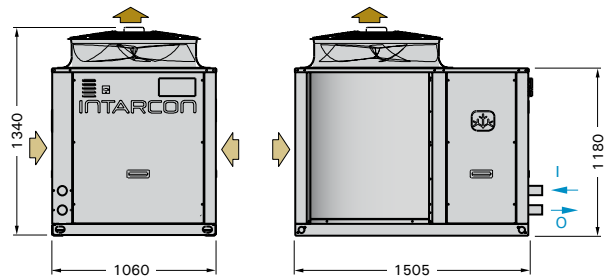
chillers

MWE / BWE series

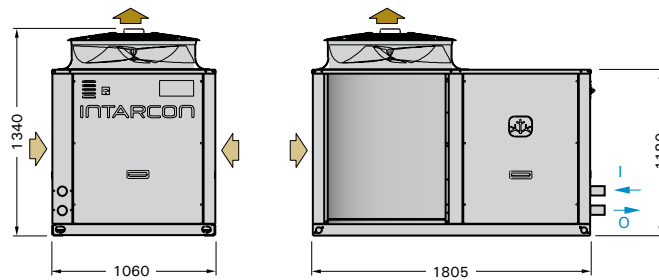
Dimensions
series 1



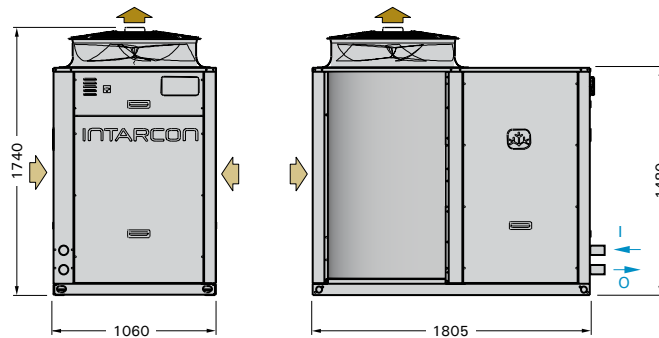
series 2



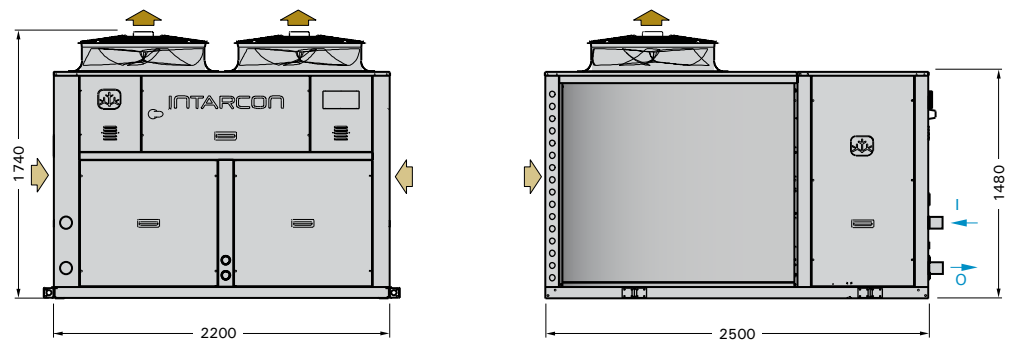
series 3



series 4



series 5



JD-NH / JC-NH / JH-NH series

air blowers for glycol water operation

Air blowers to operate with glycol water or brine to be installed as a whole in indirect refrigeration systems with glycol water chillers for high, medium and low temperature cold rooms.

Each air blower features heat exchange coil and inbuilt regulation valves, with electronic controller.

*Each model has been sized and adjusted in laboratory for an optimal operation in a whole with **intarPACK** series chillers, with their inbuilt hydraulic circuit, in a large range of operation temperature.*

- ✦ High efficiency coils.
- ✦ Inbuilt solenoid valve.
- ✦ Electronic control.
- ✦ 100% factory tested and adjusted units for the an optimal operation with intarPACK chillers.
- ✦ Minimum maintenance needs, with simple access through folding panels.
- ✦ Operation with glycol water and brine.

AJD-NH series

Double-flow low-profile air blowers.

MJC-NH / BJC-NH series

Cubic-type air blowers.

MJH-NH / BJH-NH series

Industrial cubic-type air blowers.



Unités de refroidissement d'air à double flux



Description

Double-flow air blowers, in a low-profile design, for their operation with glycol water or brine, with inbuilt regulation valves, and prewired electronic control, built in galvanised steel shell with polyester coating.

Features

- 230V-I-50Hz power supply (excepto for AJD-NH-5000 model with electric heater defrosting).
- High efficiency coils, in copper pipes and aluminium fins, with 5 or 6 mm fin spacing.
- Defrosting by air (electrical heater defrosting as an option).
- Stainless steel drain tray.
- Low-speed and low-noise axial motorfans.
- Refrigeration circuit optimized to operate with glycol water or brine.
- Inbuilt solenoid valve.
- Connexions hydrauliques à filet.
- Electronic controller with motor-fan, solenoid valve and cold room and defrosting temperature probe.

High efficiency coil

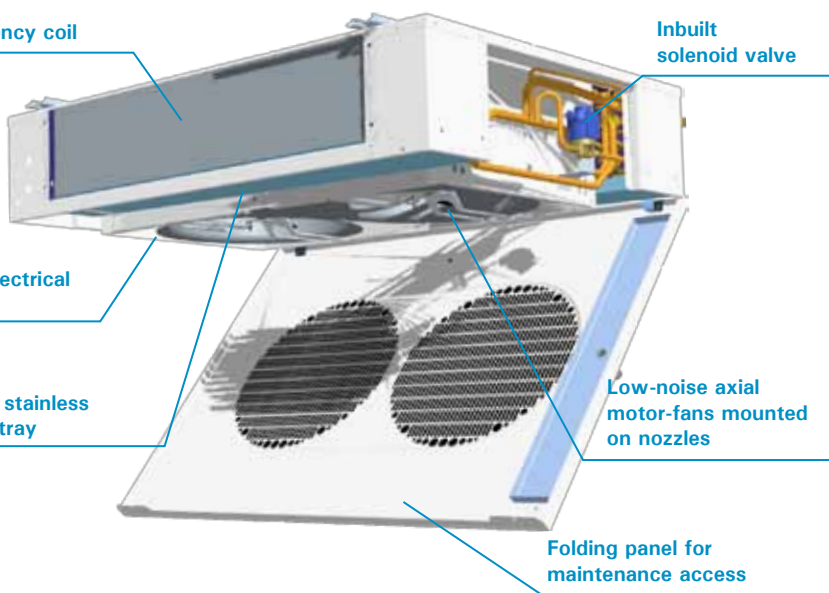
Inbuilt solenoid valve

Prewired electrical connection

Removable stainless steel drain tray

Low-noise axial motor-fans mounted on nozzles

Folding panel for maintenance access



- ★ High efficiency coils.
- ★ Inbuilt solenoid valve.
- ★ Electronic control.
- ★ 100% factory tested and adjusted units for the an optimal operation with intarPACK chillers.
- ★ High comfort: Low-noise level and laminar air flow.
- ★ Operation with glycol water and brine.

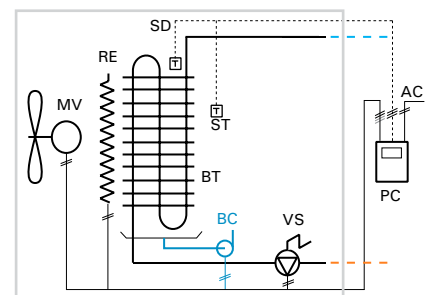
Electronic control

Compact microcontroller including every control element without the need for an electrical panel:

- 3 relays for: liquid solenoid valve, motor-fan, and defrosting (16A).
- Cold room temperature probe and defrosting temperature probe.
- Configurable digital input.



Hydraulic and electronic scheme



- MV: MOTOR-FAN
- BT: HEAT EXCHANGE COIL
- PC: ELECTRONIC CONTROL
- AC: POWER SUPPLY
- VS: SOLENOIDE VALVE
- ST: COLD ROOM TEMPERATURE PROBE
- SD: DEFROSTING TEMPERATURE PROBE
- RE: ELECTRICAL HEATER (AS AN OPTION)
- BC: CONDENSED WATER PUMP

Series

AJD-NH - High temperature (+ 5°C... + 20 °C)

Double-flow air-blowers for high temperature applications with glycol water or brine, with a low turbulence level, featuring air defrosting (electrical heater defrosting as an option).



As an option

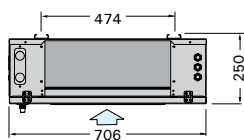
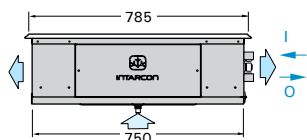
- Electrical heater defrosting (for operation between -5 °C and +5 °C).
- Inbuilt condensed water pump.
- G3 filter for fans.
- Inbuilt humidification kit.
- Deshumidification / heating kit.
- Anti-corrosion coil coating.

Technical features

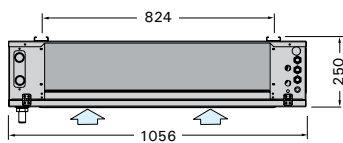
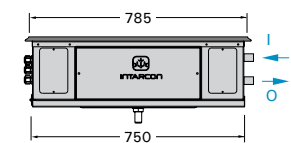
230V-I-50 Hz*, Glycol

Series / Model	Cooling capacity* (W) at cold room temperature and water inlet/outlet temperature (I/O)			Ventilateurs				Water flow (m³/h)	Pressure drop (m.w.c.)	Hydraulic connection	Defrosting power (as an option) (W) *	Max. absorbed current (A) *	Coil area (m²)	Internal volume (l)	Weight (kg)	SPL* dB(A)
	+ 5°C 85% RH (-5°C / 0°C)	12°C 85% RH (0°C / 5°C)	20°C 70% RH (7°C / 12°C)	Air flow (m³/h)	Nx Ø (mm)	Power (W)	Air range (m)									
AJD-NH-1000	1.600	2.350	3.300	1.200	1x Ø360	85	2x 4	0,20	1,00	3/4"	900	4,0	8,2	1,8	32	33
AJD-NH-2000	2.700	3.900	6.080	2.400	2x Ø360	170	2x 4	0,35	1,30	3/4"	1.400	6,1	12,6	3,3	45	36
AJD-NH-3000	4.500	6.400	10.200	3.975	3x Ø360	255	2x 6	1,15	1,10	1"	3.200	14,0	23,6	6,2	65	38
AJD-NH-4000	4.920	7.060	12.100	5.100	3x Ø360	345	2x 6	1,25	1,25	1"	3.200	14,0	23,6	6,2	65	42
AJD-NH-5000*	7.700	11.100	20.000	7.800	3x Ø450	425	2x 6	2,00	1,70	1 1/4"	4.000	5,8	36,2	9,8	70	44

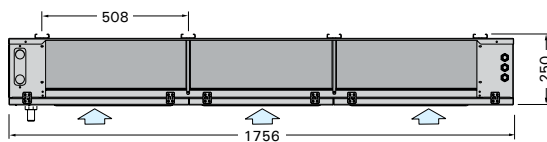
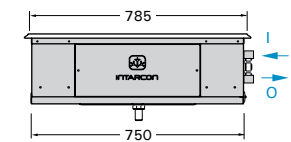
Dimensions series 1



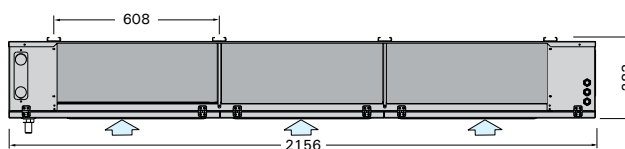
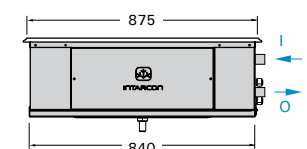
series 2



series 3 and 4



series 5



* Cooling capacity related to operation with propylene glycol in 30% volume concentration with -5 °C / 0 °C inlet/outlet temperature, in 20% volume concentration with 0 °C / 5 °C inlet/outlet temperature and to operation with pure water with 7 °C / 12 °C inlet/outlet temperature.

Sound pressure level produced by the air blower in a semi-reverberating room (reverberation index R=250).

Nominal conditions are related to 12 °C cold room temperature and operation with propilenglycol in 20% volume concentration for 0 °C / 5 °C inlet/outlet temperature.

Maximal absorbed current by air blowers featuring electrical heater defrosting.

* Electrical heater defrosting (as an option)

AJD-NH series are also available featuring electrical heater defrosting as an option, for operation at cold room temperature between -5 °C and +5 °C.

AJD-NH-5000 model, with electrical heater defrosting option, unlike the other models of AJD series, require 400V-III power supply and they feature a XLR-1170 control and power panel.

Industrial cubic-type air blowers



Description

Cubic-type air blowers for glycol water or brine operation, featuring inbuilt regulation valves and electronic controller, built in galvanised steel shell with polyester coating, for high, medium and low temperature refrigeration in cold rooms.

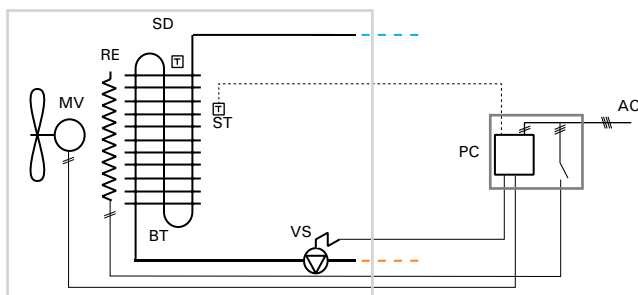
Features

- 400V-III-50Hz power supply.
- High efficiency coils, in copper pipes and aluminium fins, with 5 mm fin spacing.
- Stainless steel folding drain tray.
- Electrical heater defrosting with drain tray heater for negative temperature models, and air defrosting for positive temperature models (electrical heater defrosting as an option).
- Flexible draining pipe heater (for negative temperature models).
- High-flow axial motor-fans operating at 1300 rpm.
- Refrigeration circuit optimized for glycol water and brine.
- Solenoid valve inbuilt in the unit.
- Thread hydraulic connections
- Control and power board with electronic microcontroller and digital display, with MCB protection for heaters and motor-fans, 6 control relays, cold room temperature probe and defrosting, and operation leds.

As an option

- Electrical heater defrosting (for MJC-NF and MJH-NF series operating between -5 °C and + 5 °C).
- Inbuilt humidification kit.
- Deshumidification / heating kit.
- Anti-corrosion coil coating.
- Long-range fan streamer (for Ø350 and Ø450 fans).

Hydraulic and electronic scheme



- | | |
|---------------------------|--|
| MV: MOTOR-FAN | ST: COLD ROOM TEMPERATURE PROBE |
| BT: HEAT EXCHANGING COIL | SD: DEFROSTING TEMPERATURE PROBE |
| PC: CONTROL BOARD | RE: ELECTRICAL HEATER (AS AN OPTION FOR MJC-NH AND MJH-NH) |
| AC: ELECTRICAL CONNECTION | |
| VS: SOLENOID VALVE | |

- ★ High efficiency coils.
- ★ Inbuilt solenoid valve.
- ★ 100% factory tested and adjusted units for the an optimal operation with intarPACK chillers.
- ★ Minimum maintenance needs, with simple access through folding panels.
- ★ Operation with glycol water and brine.

Control board

Advanced multifunction controller, consisting of an electronic board integrated in the electrical panel and a digital control keyboard.



Humidification kit (as an option)

An humidification kit is integrated in the evaporating unit as an option. It works by water steam with 3 kg/h capacity, it is composed by: water steam diffuser, submerged electrodes generator cylinder with water supply and purge valves, and an electronic controller to control relative humidity inside the cold room.

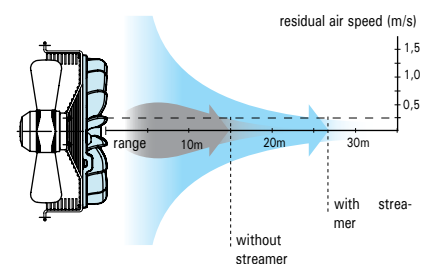


This system is only to be used with water whose conductivity is between 125 y 1250 µS/cm, and a total hardness between 50 y 400 mg/l CaCO₃, and greater than twice the content of Cl.

Long range air streamer (as an option)

ptionally, a streamer is installed on the fan outlet to get a longer range.

Only available in Ø350 and Ø450 mm fans.



MJC-NH / BJC-NH series

Series

MJC-NH - Medium and high temperature (-5 °C... + 10 °C)

Cubic-type air blowers for applications with glycol water or brine in medium and high temperature medium-size cold rooms, featuring air defrosting (electrical heater defrosting as an option).

BJC-NH - Low temperature (-30 °C... -15 °C)

Cubic-type air blowers for applications with glycol water or brine in low temperature medium-size cold rooms, featuring electrical heater defrosting.

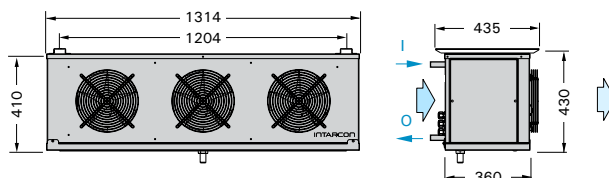


Technical features

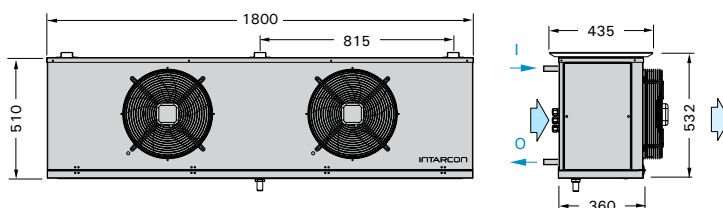
400V-III-50 Hz, Propylene glycol / Ethylene glycol

Series / Model	Cooling capacity* (W) at cold room temperature and water inlet/outlet temperature (I/O)	Motor-fans				Water flow (m³/h)	Pressure drop (m.w.c.)	Hydraulic connection	Defrosting power (W)*	Max. absorbed current (A)*		Coil area (m²)	Internal volume (l)	Weight (kg)	
	+ 5 °C / 85% RH (-5 °C / 0 °C)	Air flow (m³/h)	Nx Ø (mm)	Power (W)	Air range (m)					Air defrost	Electrical defrost				
MEDIUM T.	MJC-NH-1000	2.600	2.400	3x Ø254	3x 70	12	0,50	1,30	3/4"	2.400	1,5	3,5	14,4	3,5	42
	MJC-NH-2000	4.900	5.200	2x Ø350	2x 130	15	0,90	1,80	1"	4.800	1,2	7,0	24,9	6,2	62
	MJC-NH-3000	5.400	6.900	3x Ø350	3x 130	15	1,00	1,95	1"	4.800	1,8	7,0	24,9	6,2	67
	MJC-NH-4000	7.200	9.200	4x Ø350	4x 130	15	1,30	2,35	1 1/4"	6.000	2,4	8,7	33,1	8,2	79
LOW TEMP.		-18 °C / 90% RH (-25 °C / -20 °C)									Electrical defrost				
	BJC-NH-1000	1.100	2.400	3x Ø254	3x 70	12	0,25	1,30	3/4"	2.400	3,5		14,4	3,5	42
	BJC-NH-2000	2.000	5.200	2x Ø350	2x 130	15	0,45	2,50	1"	4.800	7,0		24,9	6,2	62
	BJC-NH-3000	2.250	6.900	3x Ø350	3x 130	15	0,50	2,65	1"	4.800	7,0		24,9	6,2	67
BJC-NH-4000	3.000	9.200	4x Ø350	4x 130	15	0,65	4,40	1 1/4"	6.000	8,7		33,1	8,2	79	

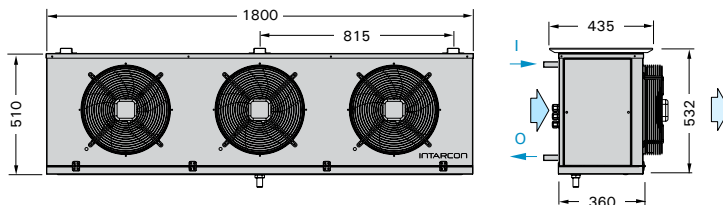
Dimensions series JC-NH 1



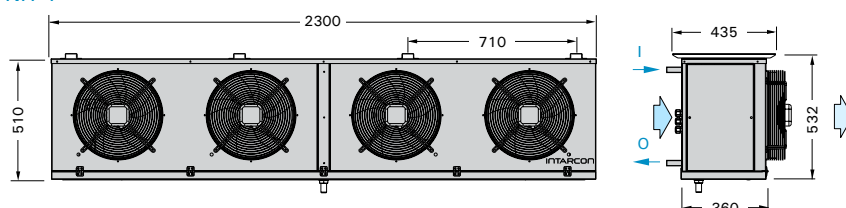
series JC-NH 2



series JC-NH 3



series JC-NH 4



* Cooling capacity related to operation with propylene glycol in 30% volume concentration with -5 °C / 0 °C inlet/outlet temperature (medium temperature), and to operation with ethylene glycol in 50% volume concentration with -25 °C / -20 °C inlet/outlet temperature (low temperature).

Maximal absorbed current by air blowers featuring electrical heater or air defrosting.

* Electrical heater defrosting (as an option)

MJC-NH series are also available featuring electrical heater defrosting as an option, for operation at cold room temperature between -5 °C and +5 °C.

Series

MJH-NH - Medium and high temperature (-5 °C... + 10 °C)

Industrial cubic-type air blowers for applications with glycol water or brine in medium and high temperature large-size cold rooms, featuring air defrosting (electrical heater defrosting as an option).

BJH-NH - Low temperature (-30 °C... -15 °C)

Industrial cubic-type air blowers for applications with glycol water or brine in low temperature large-size cold rooms, featuring electrical heater defrosting.



Technical features

400V-III-50 Hz, Propylene glycol / Ethylene glycol

Series / Model	Cooling capacity* (W) at cold room temperature and water inlet/outlet temperature (I/O)	Motor-fans				Water flow (m³/h)	Pressure drop (m.w.c.)	Hydraulic connection	Defrosting power (W)*	Max. absorbed current (A)*		Coil area (m²)	Internal volume (l)	Weight (kg)		
		Air flow (m³/h)	Nx Ø (mm)	Power (W)	Air range (m)					Air defrost	Electrical defrost					
MEDIUM TEMP.	MJH-NH-1000	+5 °C / 85% RH (-5 °C / 0 °C)	3.900	3.800	1x Ø450	340	25	0,70	1,30	1"	2.100	1,0	3,0	27,4	7,5	90
	MJH-NH-2000		6.650	7.500	1x Ø560	930	27	1,20	2,50	1 1/4"	4.200	1,9	6,1	39,6	11	95
	MJH-NH-3000		7.400	7.600	2x Ø450	2x 340	25	1,35	1,40	1 1/4"	7.200	1,9	10,4	54,8	15	130
	MJH-NH-4000		11.800	15.000	2x Ø560	2x 930	27	2,15	1,80	1 1/4"	9.600	3,8	13,9	79,2	22	150
	MJH-NH-5000		14.800	15.200	4x Ø450	4x 340	25	2,70	1,60	1 1/2"	14.400	3,8	20,8	110	30	260
	MJH-NH-6000		23.600	30.000	4x Ø560	4x 930	27	4,30	1,60	2"	19.200	7,6	27,8	158	43	290
LOW TEMPERATURE		-18 °C / 90% RH (-25 °C / -20 °C)										Electrical defrost				
	BJH-NH-1000		1.600	3.800	1x Ø450	340	25	0,35	1,60	1"	2.100		3,0	27,4	7,5	90
	BJH-NH-2000		2.750	7.500	1x Ø560	930	27	0,60	3,30	1 1/4"	4.200		6,1	39,6	11	95
	BJH-NH-3000		3.100	7.600	2x Ø450	2x 340	25	0,70	1,75	1 1/4"	7.200		10,4	54,8	15	130
	BJH-NH-4000		4.950	15.000	2x Ø560	2x 930	27	1,10	1,80	1 1/4"	9.600		13,9	79,2	22	150
	BJH-NH-5000		6.200	15.200	4x Ø450	4x 340	25	1,40	2,15	1 1/2"	14.400		20,8	110	30	260
BJH-NH-6000		9.900	30.000	4x Ø560	4x 930	27	2,20	2,30	2"	19.200		27,8	158	43	290	

As an option

- Electrical heater defrosting (for MJH-NF series operating between -5 °C and + 5 °C).
- Inbuilt humidification kit.
- Deshumidification / heating kit.
- Anti-corrosion coil coating.
- Long-range fan streamer (for Ø350 and Ø450 fans).
- Wall-mounting angular structure.

* Cooling capacity related to operation with propylene glycol in 30% volume concentration with -5 °C / 0 °C inlet/outlet temperature (medium temperature), and to operation with ethylene glycol in 50% volume concentration with -25 °C / -20 °C inlet/outlet temperature (low temperature).

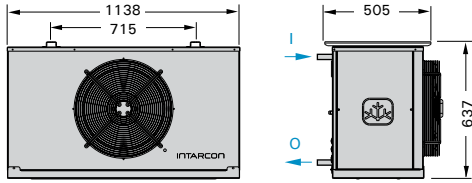
Maximal absorbed current by air blowers featuring electrical heater or air defrosting.

*** Electrical heater defrosting (as an option)**

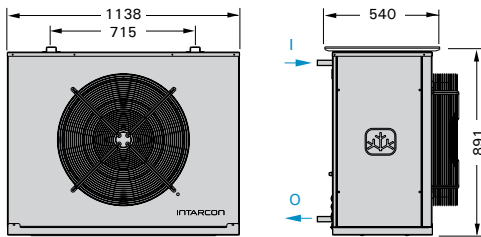
MJH-NH series are also available featuring electrical heater defrosting as an option, for operation at cold room temperature between -5 °C and + 5 °C.

MJH-NH / BJH-NH series

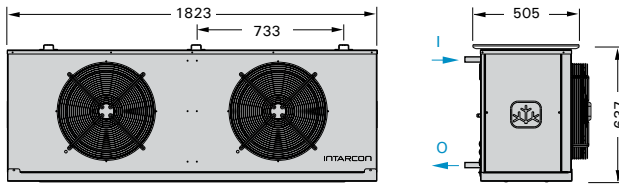
Dimensions series JH-NH 1



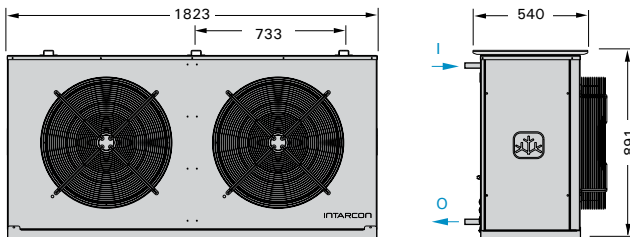
series JH-NH 2



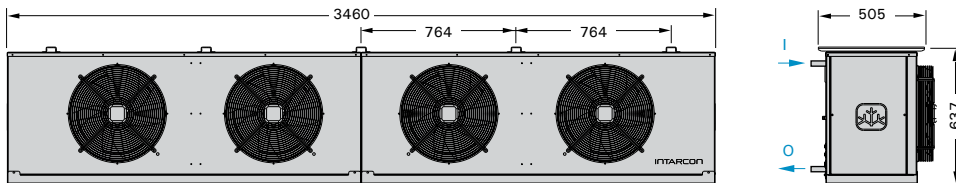
series JH-NH 3



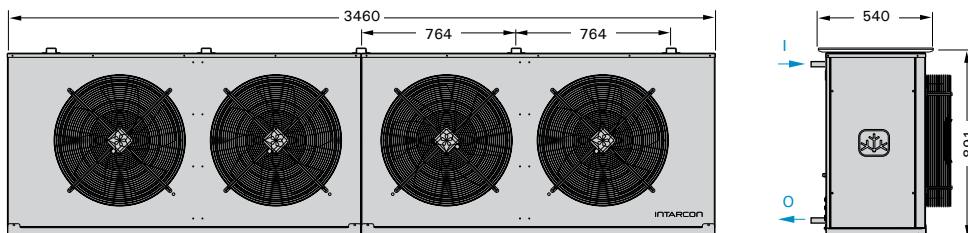
series JH-NH 4



series JH-NH 5

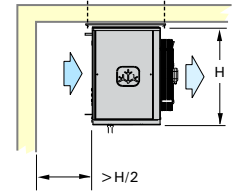


series JH-NH 6



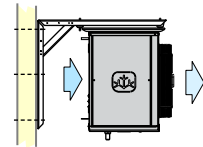
Ceiling mounting (standard)

The air blowers are ready to be fixed to cold room roof panel.



Wall mounting (as an option)

As an option, a wall-mounting angular structure is supplied to fix the air blower to the cold room wall.



Hydraulic piping calculation

Selection chart

The following chart shows the characteristics and properties of the most usual secondary fluids, as well as the maximum cooling capacity for the hydraulic pipe diameters.

Fluid	%	Fluid temperature (°C)	Density (kg/m³)	Specific heat (kJ/kgK)	Dynamic viscosity (mPa.s)	Maximum cooling capacity (kW), recommended for smooth pipes according to their internal diameter (for a temperature drop of 5 K and a pressure drop of 400 Pa/m)													
						10 mm	12 mm	13 mm	14 mm	16 mm	20 mm	26 mm	33 mm	40 mm	52 mm	61 mm	78 mm	98 mm	
Pure water		10	1000	4,20	1,3	0,7	1,2	1,5	1,8	2,6	5	10	19	32	64	98	190	350	
Ethanol	30 %	-10	975	3,65	13	0,1	0,3	0,4	0,5	0,9	2	5	11	19	39	60	119	222	
Propylene glycol	15 %	5	1015	4,04	2,9	0,6	1,0	1,2	1,5	2,2	4	8	16	27	56	86	167	309	
Propylene glycol	25 %	0	1026	3,91	5,6	0,4	0,7	1,0	1,2	1,8	3	7	14	24	49	76	148	276	
Propylene glycol	30 %	-5	1033	3,84	9,1	0,2	0,4	0,6	0,8	1,4	3	6	13	22	45	69	136	253	
Propylene glycol	35 %	-10	1040	3,76	16	0,1	0,3	0,3	0,5	0,8	2	6	11	19	40	62	122	229	
Propylene glycol	40 %	-15	1047	3,68	28	0,1	0,1	0,2	0,3	0,4	1	3	8	16	34	54	108	203	
Ethylene glycol	10 %	5	1018	4,02	2,1	0,6	1,0	1,3	1,6	2,3	4	9	17	29	58	90	174	320	
Ethylene glycol	20 %	0	1036	3,82	3,4	0,5	0,9	1,1	1,4	2,0	4	8	15	26	52	81	157	290	
Ethylene glycol	30 %	-5	1056	3,62	5,8	0,3	0,7	0,9	1,2	1,7	3	7	13	22	46	71	139	258	
Ethylene glycol	35 %	-10	1066	3,51	8,6	0,2	0,4	0,6	0,8	1,4	3	6	12	20	42	65	128	238	
Ethylene glycol	40 %	-15	1077	3,39	13	0,1	0,3	0,4	0,5	0,9	2	5	11	18	38	59	116	217	
Ethylene glycol	45 %	-20	1088	3,27	21	0,1	0,2	0,2	0,3	0,6	1	4	9	16	34	53	104	196	
Ethylene glycol	50 %	-25	1100	3,15	34	0,1	0,1	0,1	0,2	0,3	1	2	6	13	29	46	92	174	
Ethylene glycol	55 %	-30	1112	3,01	57	0,0	0,1	0,1	0,1	0,2	0	1	3	7	21	39	79	151	
Calcium chloride	15 %	0	1086	4,04	2,4	0,6	1,0	1,3	1,6	2,3	4	9	17	29	60	92	178	328	
Calcium chloride	20 %	-5	1117	3,99	3,1	0,6	1,0	1,2	1,5	2,2	4	9	17	28	58	89	172	318	
Calcium chloride	25 %	-20	1143	3,96	9,9	0,2	0,5	0,6	0,9	1,5	3	7	14	23	48	75	147	274	
Calcium chloride	30 %	-30	1278	3,93	9,9	0,2	0,5	0,7	1,0	1,6	3	7	14	25	51	79	155	289	
Sodium chloride	10 %	0	1078	4,12	2,2	0,7	1,1	1,4	1,7	2,5	5	9	18	30	62	95	184	339	
Sodium chloride	15 %	-5	1120	4,08	2,6	0,6	1,1	1,3	1,6	2,4	4	9	18	30	61	93	181	334	
Sodium chloride	20 %	-10	1161	4,05	4,1	0,6	1,0	1,2	1,5	2,2	4	9	17	28	57	89	172	319	
Lithium chloride	10 %	-5	1056	3,60	3,0	0,5	0,9	1,1	1,4	2,0	4	8	15	25	51	78	151	280	
Lithium chloride	15 %	-15	1082	3,35	6,0	0,3	0,6	0,8	1,1	1,6	3	6	12	21	43	66	130	241	
Potassium formate (Freezium 25%)	25 %	-5	1155	3,12	2,7	0,5	0,8	1,0	1,3	1,8	3	7	14	23	47	72	140	258	
Potassium formate (Hycool20, Freezium)	30 %	-10	1206	2,93	3,8	0,4	0,7	0,9	1,1	1,7	3	6	12	21	43	66	129	238	
Potassium formate (Hycool30, Freezium)	35 %	-25	1269	2,73	7,1	0,2	0,5	0,7	0,9	1,4	3	5	11	18	37	58	113	210	
Potassium acetate (Tyfoxit F15)	25 %	-5	1110	3,49	4,4	0,5	0,8	1,0	1,3	1,8	3	7	14	23	47	73	142	263	
Potassium acetate (Tyfoxit F40)	40 %	-25	1218	2,98	20	0,2	0,3	0,5	0,6	1,0	2	5	10	17	35	54	107	199	
Betaine (Thermera AC)		-5	1075	3,12	8,1	0,2	0,4	0,6	0,8	1,3	3	5	11	18	38	59	115	215	
Betaine (Thermera R)		-25	1013	2,86	19	0,0	0,1	0,1	0,1	0,2	1	1	4	8	23	38	76	145	

Fluid speed according to fluid type and pipe diameter:

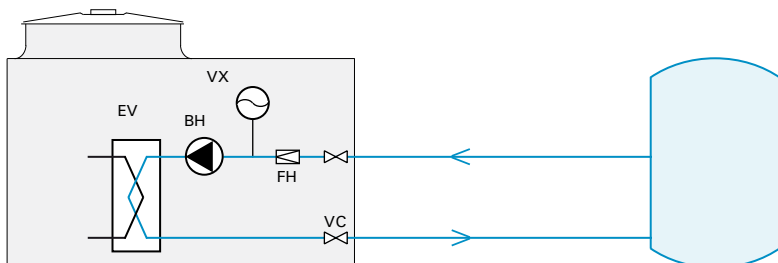
- v < 0,5 m/s
- 0,5 m/s < v < 1 m/s
- 1m/s < v < 1,5 m/s
- 1,5 m/s < v < 2 m/s
- v > 2 m/s

Laminar flow

Installation schemes

Exemple 1

Installation d'une groupe d'eau glycolée avec groupe hydraulique intégrée à pompe d'eau and vase d'expansion, en fonctionnement directe avec la charge à réfrigérer.



Groupe hydraulique intégrée

Les groupes d'eau glycolée **intarPACK** intègrent As an option un circuit hydraulique dans l'unité, avec pompe de circulation d'eau and vase d'expansion.

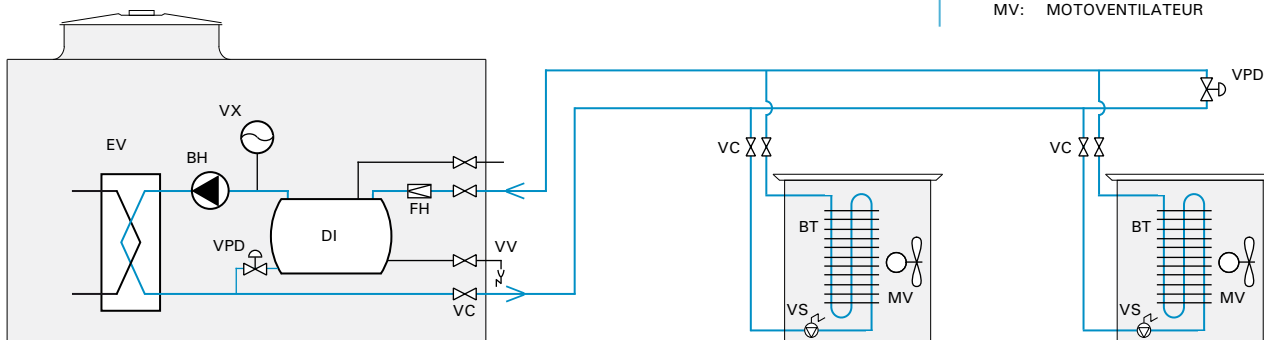
Leyende de schème

EV: ÉVAPORATEUR
BH: POMPE D'EAU
VX: VASE D'EXPANSION
FH: FILTRE À TAMIS
VC: VANNE DE SERVICE

Exemple 2

Installation d'une groupe d'eau glycolée avec groupe hydraulique and bouteille inertielle intégrées.

Le groupe d'eau glycolée peut être connecté à plusieurs unités de refroidissement d'air avec des vannes à deux voies.



Bouteille inertielle

On est recommandé la sélection des groupes avec bouteille inertielle pour des installations à plusieurs services de petites puissances, pour éviter fréquentes arrêtes and oeuvres du compresseur quand la puissance demandée est inférieure à l'étage de puissance minimale.

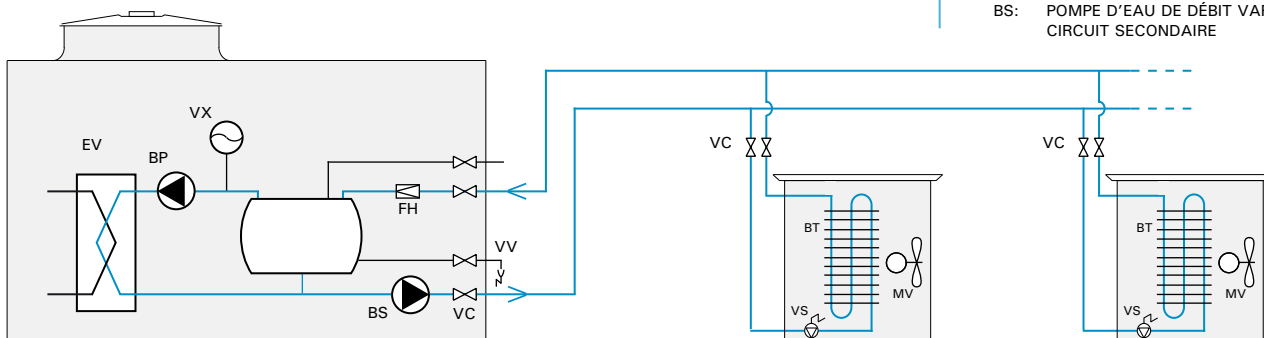
Leyende de schème

DI: BOUTEILLE INERTIELLE
VPD: VANNE DE PRESSION DIFFERENTIELE
VV: VANNE DE VIDANGE
BT: BATTERIE D'ÉCHANGE THERMIQUE
VS: VANNE SOLÉNOÏDE
MV: MOTOVENTILATEUR

Exemple 3

Installation d'une groupe d'eau glycolée avec circuit hydraulique avec pompe de circulation d'eau, bouteille inertielle and pompe d'eau à débit variable de circuit secondaire.

Le groupe d'eau glycolée peut être connecté à plusieurs unités de refroidissement d'air avec des vannes à deux voies.



Pompe d'eau de débit variable de circuit secondaire

Pompe électronique d'eau de débit variable intégrée dans la sortie d'eau du circuit secondaire, recommande pour des économies énergétiques à fonctionnement à charge partielle.

Leyende de schème

BP: POMPE D'EAU DE CIRCUIT PRIMAIRE
BS: POMPE D'EAU DE DÉBIT VARIABLE DE CIRCUIT SECONDAIRE

Systemes de contrôle centralisée

Description

Les modules XWEB 300 and XWEB 500 sont des serveurs électroniques de surveillance and de contrôle d'un ensemble d'équipements sur un réseau RS485 (2 fils), avec capacité de gérer un grand nombre d'unités.

Ils sont disponibles en version rail DIN ou en version console avec écran and clavier incorporé.

Le serveur XWEB permet l'enregistrement, la visualisation and la gestion de toutes les alarmes and paramètres de contrôle à travers un navigateur Web standard de PC connecté au module par le port serie.

Le serveur XWEB en format DIN peut se connecter directement à un réseau Ethernet and intègre un modem GSM avec antenne externe pour la gestion à distance depuis un téléphone mobile.

Le serveur XWEB en format console peut être géré à partir de votre écran and clavier, ou bien par l'intermédiaire d'un modem téléphonique externe.

Le système peut être configuré pour aviser un centre d'assistance en cas de panne ou d'alarme par e-mail, SMS ou fax.

Contrôle centralisé XWEB 300D and 500D

- Dimensions: 10 DIN



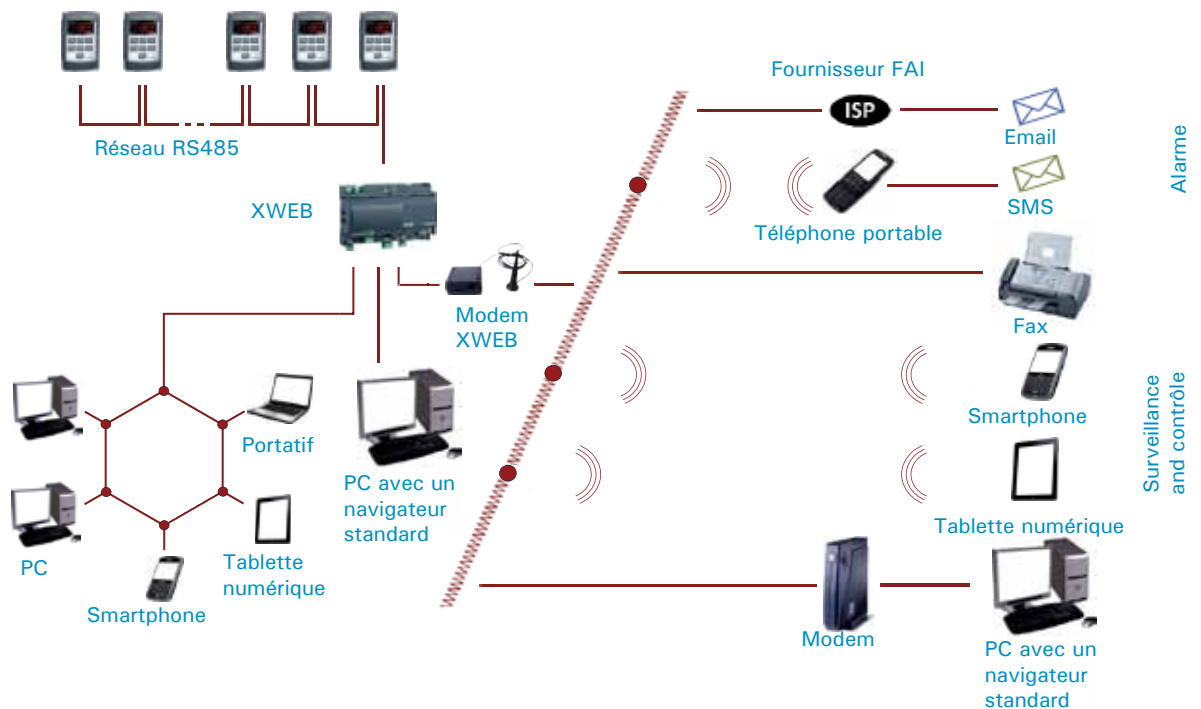
Contrôle centralisé XWEB 500

- Clavier

Système XWEB	Format	Mémoire interne	Numéro de dispositifs	Entrées numériques	Sorties numériques	Connectivité
XWEB 300D/6	DIN	8 Mb	6	-	1	Ethernet
XWEB 300D/18 GSM *	DIN	24 Mb	18	-	1	Ethernet modem GSM
XWEB 500D/36 GSM *	DIN	48 Mb	36	1	3	Ethernet modem GSM
XWEB 500D/100 GSM *	DIN	128 Mb	100	1	3	Ethernet modem GSM
XWEB 500	clavier	128 Mb	100	1	3	Ethernet port serie
XWEB 500 MODEM	clavier	128 Mb	100	1	3	Ethernet modem

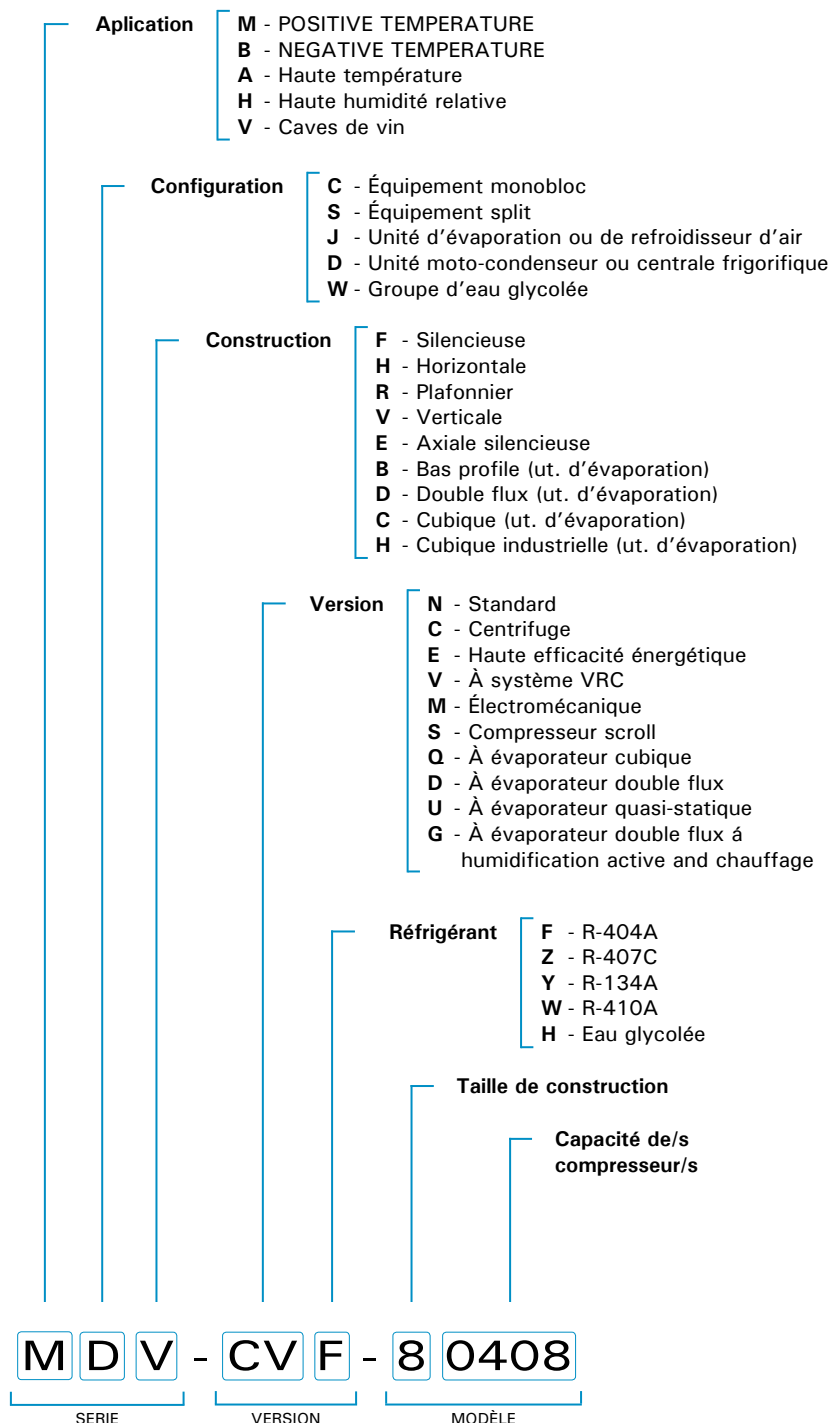
* Modem GSM As an option

Schéma de connexion



Nomenclature des unités

Les unités INTARCON sont identifiées par son nomenclature selon ses Features and typologie de construction:



CONDITIONS GENERALES DE VENTE

Sauf accord expresse avec INTARCON, les conditions suivantes de vente prévalent.

Prix

Les prix indiqués dans le présent tarif, sauf erreur typographique, sont les prix de vente au public à payer au comptant, ils ne comprennent pas de TVA ni les impôts indirects, and resteront en vigueur pendant la période de validité de ce catalogue ou jusqu'à une nouvelle édition.

Features

Les données and les Features contenues dans ce catalogue sont fournies à titre indicatif, sujets à changement sans préavis, and à confirmer en cas de commande.

Commandes

Les commandes seront sollicitées par écrit and doivent être confirmées par le vendeur au moyen d'un accusé de commande indiquant la date d'expédition de l'usine, tout en se réservant le droit de renoncement. Une fois commencée la fabrication de la commande, les annulations ne seront plus admises.

Livraison

Les prix indiqués incluent le transport ordinaire and la livraison du produit en la France continentale ou port continental, dans un endroit accessible sur camion, le long de la journée de travail. Seules seront acceptées les réclamations concernant la livraison demandées par écrit dans le correspondant bon de livraison dans les 24 heures suivantes.

Remboursements

Aucun remboursement de materiel ne sera admis, sauf autorisation expresse du vendeur, and dans tous les cas sera déduit un pourcentage non inférieur au 10% du prix de vente en tant que coûts de transaction.

Emballage

Les prix incluent les frais d'emballage standard pour le transport par route, ne convient pas pour le transport maritime.

Mode de paiement

Sauf accord sur le mode paiement, les factures seront payées au comptant. Le vendeur se réserve le droit de retenir la livraison des commandes en attente, s'il observera des circonstances de risques pour l'accomplissement des paiements en souffrance.

Garantie

Le vendeur garantit les marchandises à l'acheteur contre les défauts de fabrication pour une période de 12 mois à compter de la date de livraison. La garantie couvre exclusivement la réparation du produit dans les installations du vendeur ou le remplacement des produits et/ou des composants défectueux.

Installation

L'acheteur reconnaît que les produits INTARCON sont des équipements destinées à intégrer une installation frigorifique. À cette fin, l'acheteur s'engage à se conformer aux lois applicables and de veiller à la qualité de l'installation qui, en tout cas doit être faite par une entreprise autorisée pour ces installations.

La résolution des conflits

La vente de produits INTARCON est régie par la loi espagnole. Toute controverse ou discussion doit être soumise au droit de l'arbitrage de la Chambre de Commerce de Córdoba. En cas de désaccord, les parties rejettent expressément toute juridiction qui pourrait s'appliquer and soumettre à la juridiction des tribunaux à Lucena (Córdoba) - Espagne.

www.intarcon.com

