MWE / BWE series

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 brazzed plates heat exchanger.
- Operation with glycol water and brine..
- Inbuilt hydraulic circuit (as an option).

INTARCON
innovative refrigeration solutions

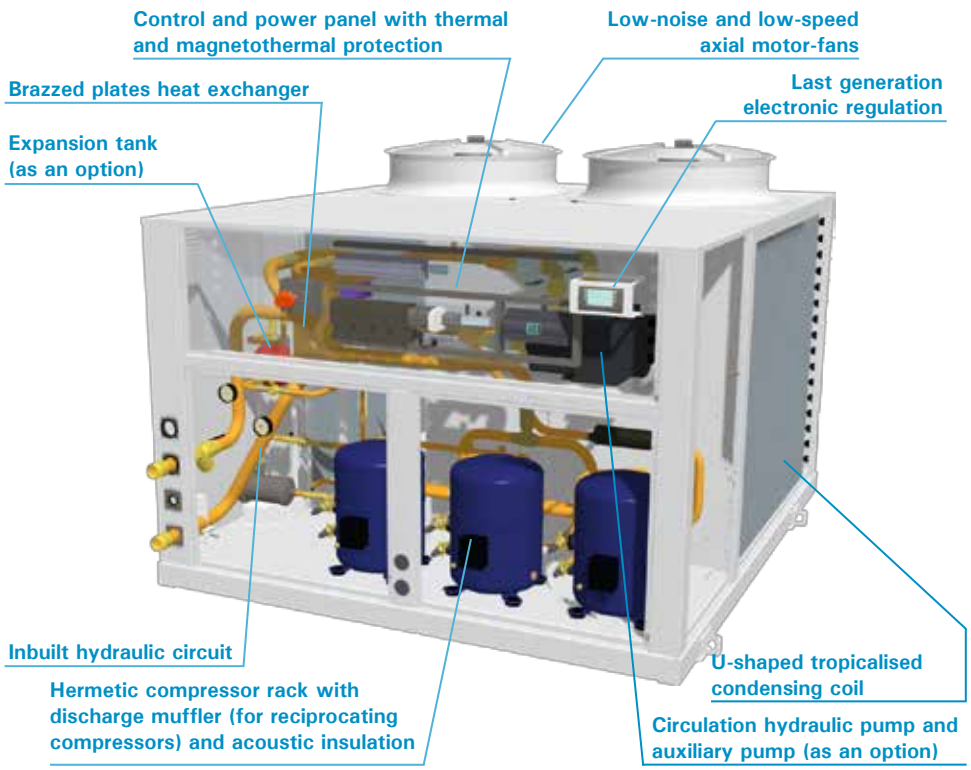
intarPACK
chillers

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 nossles, dynamically balanced blades and external protection grille.
- Proportional control of condensing pressure.
- Brazzed 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

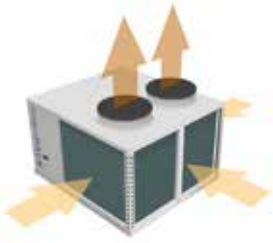
The low-noise condensation motor-fans operating at 900 rpm, with speed control, preserve condensation pressure under low ambient temperature while they reduce the sound pressure level.

Brazzed plates heat exchanger

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

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

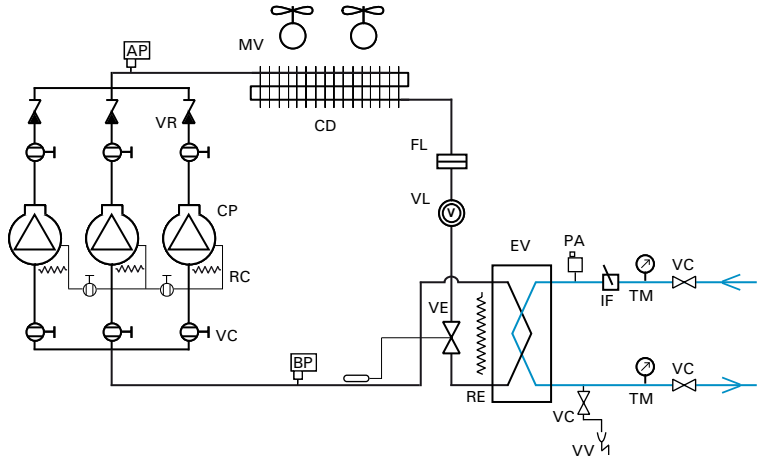
As an option, intarPACK chillers feature a defrosting system for air blowers by heating of the glycol water.

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.

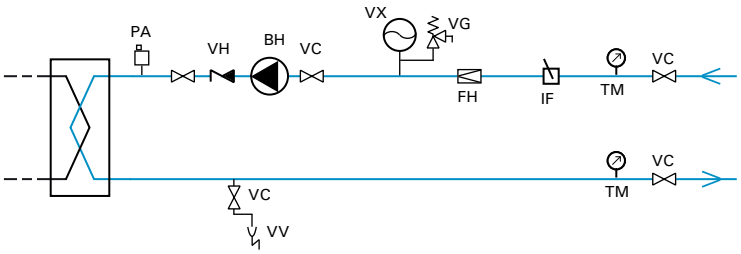
Standard refrigeration and hydraulic scheme



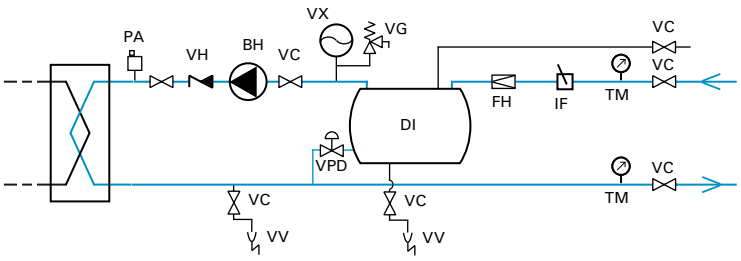
REFRIGERATION CIRCUIT COMPONENTS

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

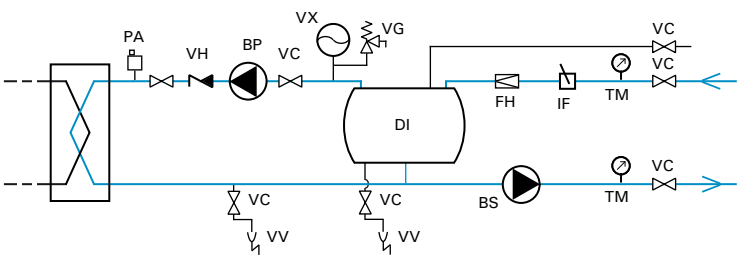
Option 1 Hydraulic system



Option 2 Hydraulic system with buffer tank



Option 3 Hydraulic system with secondary circuit



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

INTARCON
innovative refrigeration solutions

intarPACK chillers

positive temperature

MWE series

Nomenclature

MWE - [ ] - [ ][ ][ ][ ]

Series — Size — Capacity

NF/SF - Electronic version.

Technical features

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

	Series / Model	Compressor			Cooling capacity (kW)					Nominal power consump. (kW) *	Max absorb. current (A)	Condenser			Fluid flow (m³/h)	Pressure drop (m.w.c.)*	Available pressure (m.w.c.)	Hydraulic connection	Sound pressure level dB(A)*
		HP	Type *	Model	Ambient temp.	Fluid outlet temperature (°C) % propileneglycol (volume)						Fan Ø mm	Air flow (m³/h)	Weight (kg)			With hydraulic system*		
						+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 propilene 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.

BWE series

Nomenclature

BWE - [ ] - [ ][ ][ ][ ]

Series — Size — Capacity

NF/SF - Electronic version.

Technical features

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

	Series / Model	Compressor			Cooling capacity (kW)					Nominal power consump. (kW) *	Max absorb. current (A)	Condenser			Fluid flow (m³/h)	Pressure drop (m.w.c.)*	Available pressure (m.w.c.)	Hydraulic connection	Sound pressure level dB(A)*
		HP	Type *	Model	Temp. ambiante	Fluid outlet temperature (°C) % ethyleneglycol (volume)						Fan Ø mm	Air flow (m³/h)	Weight (kg)			With hydraulic system*		
						-10 °C 35%	-15 °C 40%	-20 °C 45%	-25 °C 50%										
1 compressor	BWE-NF-10215	7,5	H	NTZ215	35 °C 45 °C	14,2 11,5	11,6 9,3	9,1 7,2	6,8 5,2	6,1	26,5	Ø630	10.000	280	1,2	1,9	15,3	1 1/4"	39
	BWE-SF-10181	6	Sc EVI	ZF18KVE	35 °C 45 °C	12,4 11,7	10,5 9,9	8,9 8,4	7,5 7,1	5,2	17,0	Ø630	10.000	265	1,6	1,8	15,3	1 1/4"	37
	BWE-NF-10271	10	H	NTZ271	35 °C 45 °C	17,2 14,0	14,3 11,5	11,5 9,1	8,8 6,9	7,7	31,2	Ø630	10.000	285	1,6	2,4	14,1	1 1/2"	39
	BWE-SF-10241	7,5	Sc EVI	ZF24KVE	35 °C 45 °C	16,4 14,9	14,1 12,9	11,9 10,9	10,0 9,2	6,5	20,1	Ø630	10.000	265	2,2	2,5	13,9	1 1/2"	37
	BWE-SF-10331	10	Sc EVI	ZF33KVE	35 °C 45 °C	21,0 19,4	18,0 16,6	15,3 14,1	12,8 12,0	8,2	25,7	Ø630	10.000	290	2,8	2,7	12,2	1 1/2"	37
	BWE-SF-10401	13	Sc EVI	ZF40KVE	35 °C 45 °C	25,4 23,2	21,8 20,0	18,5 17,1	15,6 14,5	10,4	30,6	Ø630	10.000	290	3,3	2,6	11,8	1 1/2"	38
	BWE-SF-10481	15	Sc EVI	ZF48KVE	35 °C 42 °C*	29,6 26,0	25,6 23,2	21,9 20,6	18,4 17,5	13,1	32,4	Ø630	10.000	290	3,9	3,3	10,8	2"	42
2 compressors	BWE-SF-30662	20	Sc EVI	2x ZF33KVE	35 °C 45 °C	41,0 37,5	35,3 32,3	30,1 27,8	25,3 23,5	18,3	50,1	Ø800	22.000	370	5,4	3,7	18,7	2"	42
	BWE-SF-40802	26	Sc EVI	2x ZF40KVE	35 °C 45 °C	51,2 47,0	44,0 40,5	37,3 34,4	31,3 29,1	21,6	59,9	Ø800	23.000	470	6,6	3,6	15,2	2 1/2"	45
	BWE-SF-40962	30	Sc EVI	2x ZF48KVE	35 °C 45 °C	61,6 56,5	52,9 48,7	44,8 41,4	37,7 35,1	25,8	63,5	Ø800	22.000	470	8,0	3,9	13,3	2 1/2"	45
4 compressors	BWE-SF-51324	40	Sc EVI	4x ZF33KVE	35 °C 45 °C	84,8 78,4	72,5 67,2	61,4 57,0	51,4 44,0	37,6	99,4	2x Ø800	46.000	1.015	10,8	3,8	21,6	DN80	45
	BWE-SF-51604	52	Sc EVI	4x ZF40KVE	35 °C 45 °C	102,4 93,9	88,0 81,0	74,8 68,9	62,7 58,2	42,8	119,1	2x Ø800	46.000	1.015	13,2	4,0	17,7	DN80	48
	BWE-SF-51924	60	Sc EVI	4x ZF48KVE	35 °C 45 °C	123,3 113,1	105,8 97,3	89,7 82,9	75,4 70,1	52,4	127,9	2x Ø800	44.000	1.015	16,0	4,3	20,1	DN80	48

As an option

- Defrosting cycle of air blowers by glycol heating.
- 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 -25 °C ethylene glycol outlet temperature, 50% 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.

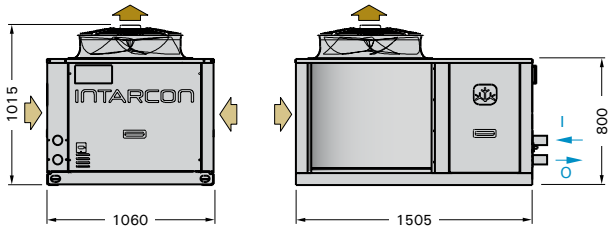
Sound pressure level shown in dB(A) at 10 metres distance from the source in free field.

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

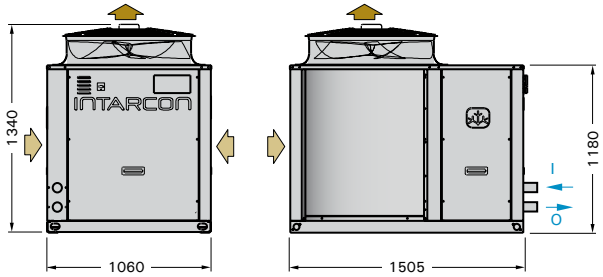
intarPACK chillers

MWE / BWE series

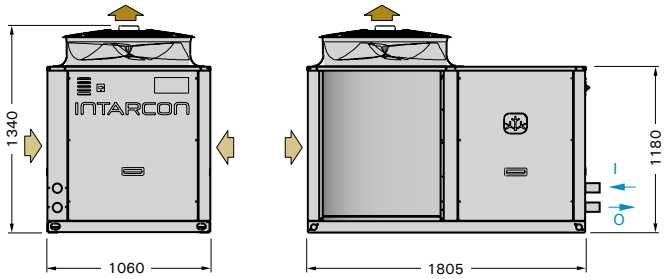
Dimensions
series 1



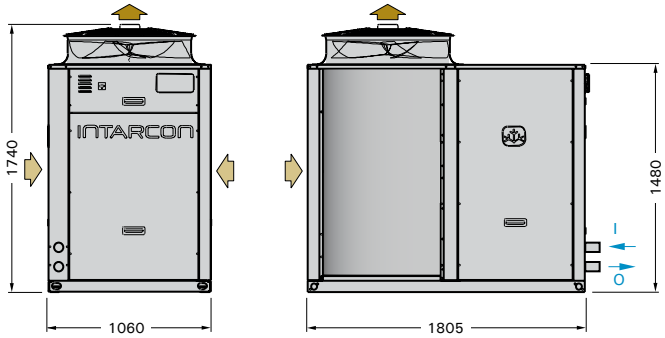
series 2



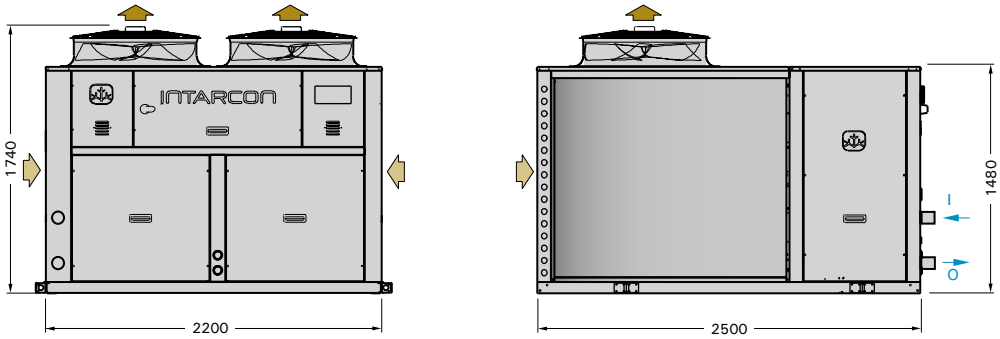
series 3



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

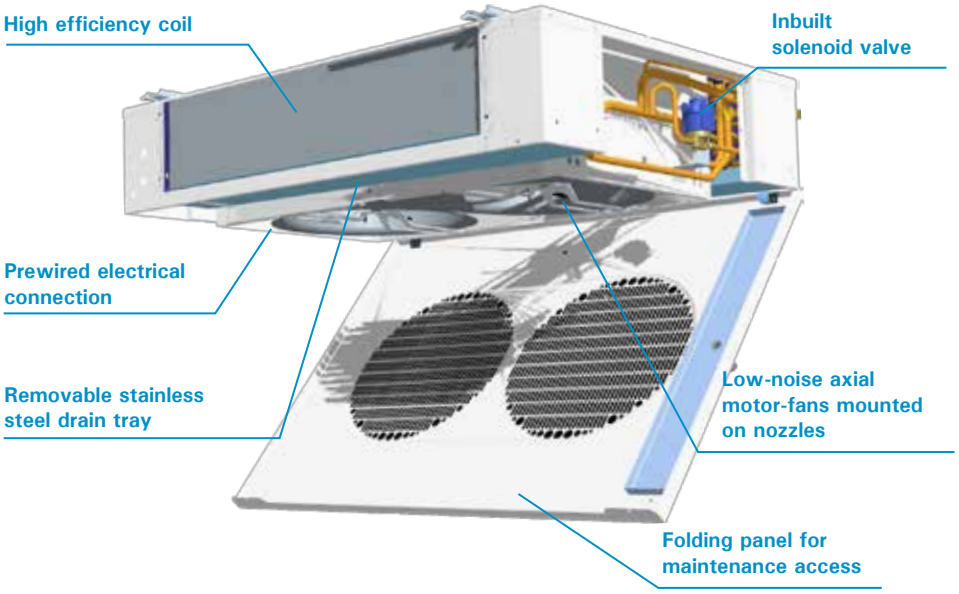
- High efficiency coils.
- Inbuilt solenoid valve.
- Electronic control.
- 100% factory tested and adjusted units for the an optimal operation with intarPACK chillers.
- High comfort: Low-noise level and laminar air flow.
- Operation with glycol water and brine.

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.

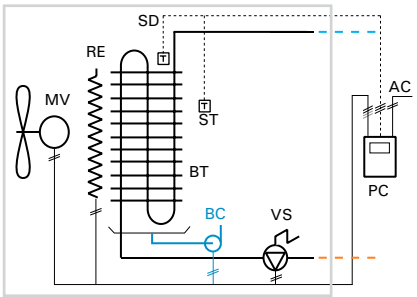


Electronic control

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

AJD-NH series

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.

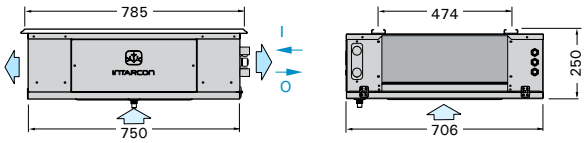
Technical features

230V-I-50 Hz*, Glycol

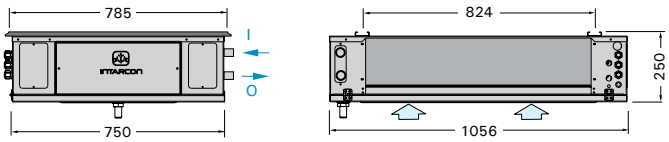
	Series / Model	Cooling capacity* (W) at cold room temperature and water inlet/outlet temperature (I/O)			Ventilateurs				Water flow (m³/h)	Pressure drop (m.w.c.)	Hydraulic connection	Defrosting power (as an option) (W)*	Max. absorbed current (A)*	Coil area (m²)	Internal volume (l)	Weight (kg)	SPL* dB(A)
		+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)									
HIGH TEMP.	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

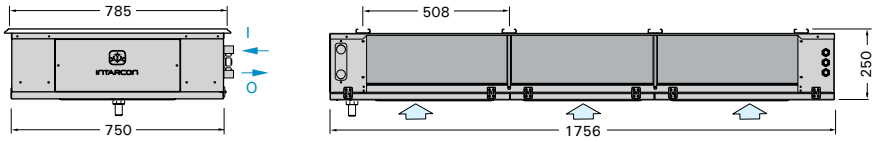
series 1



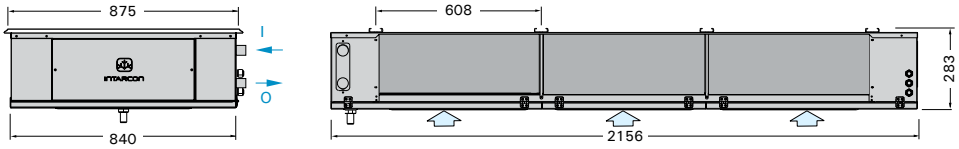
series 2



series 3 and 4



series 5



* Cooling capacity related to operation with propilene 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 propileneglycol 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

- 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.

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.

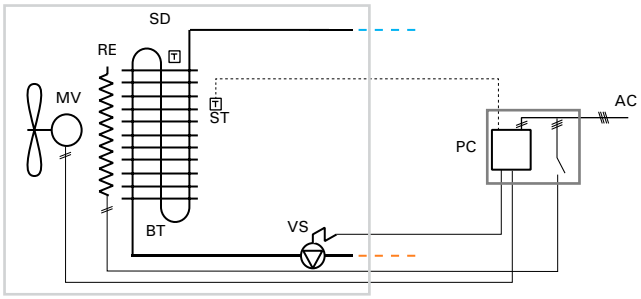
Features

- 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 ºC and +5 ºC).
- 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		

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)

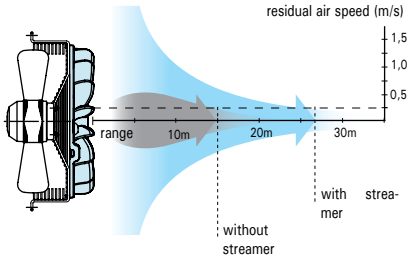
An humidification kit is integrated in the evaporating unit as an option. It works by water steam with 3 kg/h capacity, it is composed by: water steam diffuser, submerged electrodes generator cylinder with water supply and purge valves, and an electronic controller to control relative humidity inside 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 $CaCO_3$, 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.

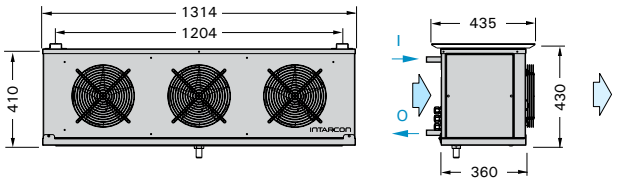
Technical features

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

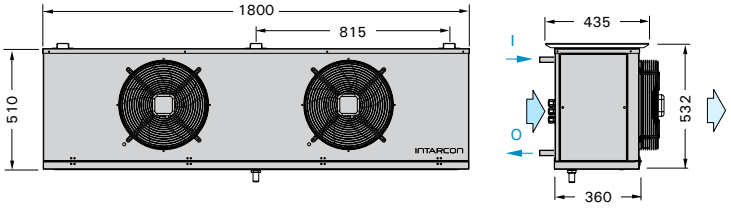
	Series / Model	Cooling capacity* (W) at cold room temperature and water inlet/outlet temperature (I/O)	Motor-fans				Water flow (m³/h)	Pressure drop (m.w.c.)	Hydraulic connection	Defrosting power (W)*	Max. absorbed current (A)*		Coil area (m²)	Internal volume (l)	Weight (kg)
		+5 °C / 85% RH (-5 °C / 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

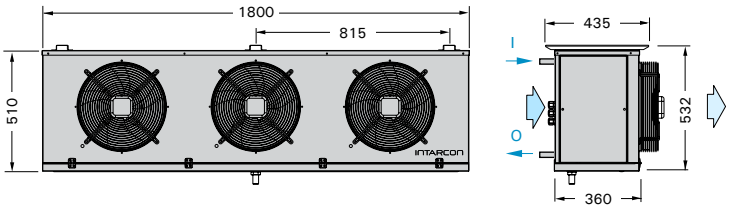
series JC-NH 1



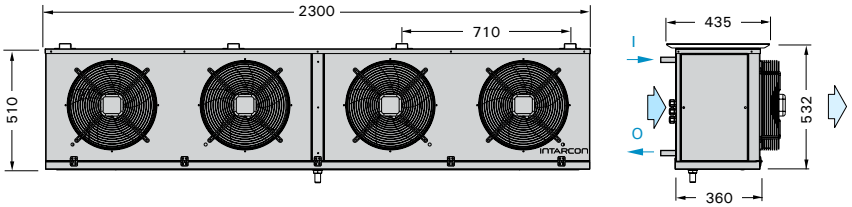
series JC-NH 2



series JC-NH 3



series JC-NH 4



* Cooling capacity related to operation with propilene 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.

INTARCON
innovative refrigeration solutions

MJH-NH / BJH-NH series

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, Propilene 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 TEMP.	MJH-NH-1000	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
		-18 °C / 90% RH (-25 °C / -20 °C)									Electrical defrost				
LOW TEMPERATURE	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 propilene 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.

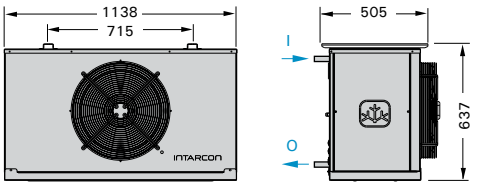
*** Electrical heater defrosting (as an option)**

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.

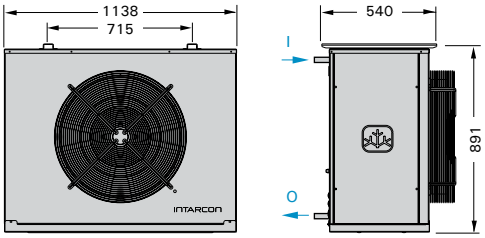
MJH-NH / BJH-NH series

Dimensions

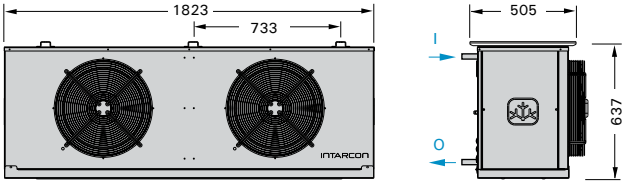
series JH-NH 1



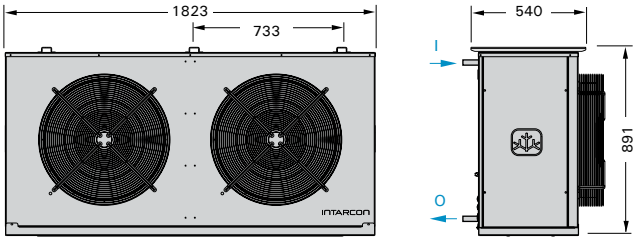
series JH-NH 2



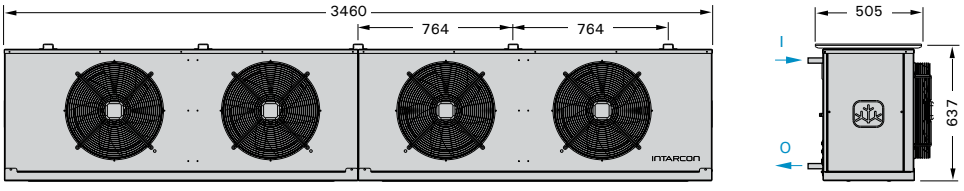
series JH-NH 3



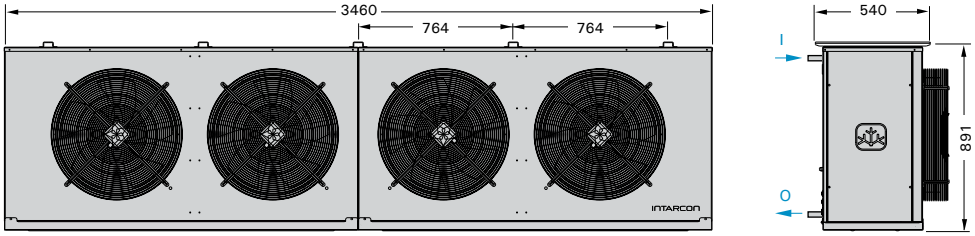
series JH-NH 4



series JH-NH 5

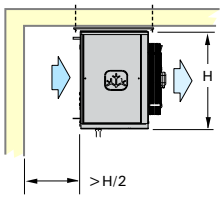


series JH-NH 6



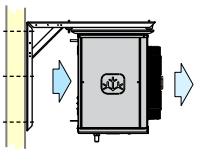
Ceilling mounting (standard)

The air blowers are ready to de 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 scondary 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
Propilene 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
Propilene 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
Propilene 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
Propilene 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
Propilene 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:

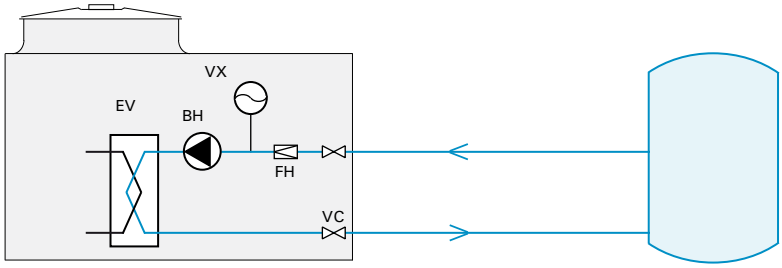
v < 0,5 m/s
0,5 m/s < v < 1 m/s
1m/s < v < 1,5 m/s
1,5 m/s < v < 2 m/s
v > 2 m/s

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 schéme

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.

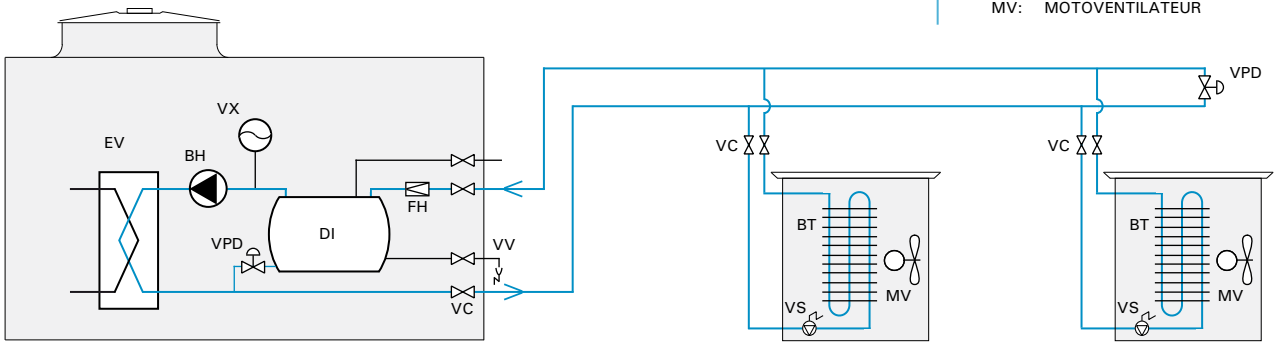
Le groupe d'eau glycolée peut être connecté à plusieures unités de refroidissement d'air avec des vannes à deux voies.

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 inferieure à l'étage de puissance minimale.

Leyende de schéme

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 plusieures 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 schéme

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