

R-134a

Glycol water



Hydronic systems

with glycol chiller

Indirect cooling systems for cold rooms at positive and high temperature consisting of an air condensed glycol chiller plus an air cooler unit with glycol as secondary fluid.

- ❄ Operating with propylene glycol.
- ❄ R-134a low refrigerant charge.
- ❄ Control board and hydraulic group.
- ❄ Tropicalised design for ambient temperature up to 50 °C.
- ❄ Electronic control with additional remote control.

Hydronic systems



Description

Hydronic cooling equipment for cold rooms are indirect cooling systems consisting of an air condensed glycol chiller plus an air cooler unit with glycol as secondary fluid, built-in a common control board with electronic regulation.

Features

Refrigeration unit:

- Self-supporting glycol chiller casing built in galvanized steel sheet and polyester paint coating.
- Hermetic reciprocating compressor insulated with acoustic jacket, discharge muffler, mounted on shock absorbers, with internal klixon.
- Condensing coil in L, with copper pipes and aluminium fins, tropicalised for ambient temperature up to 50 °C.
- Low-speed condensing motor fans, with internal electronic protection, mounted on nozzles, dynamically balanced blades and external protection grille.
- Proportional control of condensing pressure (three-phase models).
- Stainless steel plate heat exchanger.
- R-134a cooling circuit, equipped with HP and LP switches, filter dryer and thermostatic expansion valve.
- Hydraulic group with glycol circulation pump, expansion tank, safety valve, strainer, air vent and filling valve.
- Electronic control board with electronic control for cold room set point temperature, glycol water temperature, defrost cycles, compressor protection and anti-ice protection.

Air cooler:

- Air cooler with glycol water, self-supporting casing built in galvanized steel sheet and polyester paint coating.
- High performance cooling coil, built in copper pipes and aluminium fins.
- High-flow axial motor fans.
- Bottom cover with removable defrost drain pan in stainless steel.
- Air defrost for high temperature and electrical defrost for positive temperature.

- ❄ Glycol indirect cooling system.
- ❄ Circuit free of refrigerant leaks.
- ❄ Easy installation on polyethylene pipe.

Electronic regulation

Hydronic equipment is equipped with electronic regulation for the joint management of the system:

- Cold room temperature control, with maximum and minimum temperature registration.
- Refrigerant circuit control with compressor protection and high and low pressure limiters.
- Secondary circuit control with circulating pump management, control of water inlet and outlet temperatures and frost protection.
- Air cooler control with automatic defrost cycle management.
- Control command for remote wiring with temperature display.

R-134a + glycol water

Hydronic systems use a solution of propylene glycol as a secondary refrigerant, and ecological R-134a as refrigerant fluid in a compact circuit with very low refrigerant charge.

Propylene glycol 35 %:

- Food-safe compatibility.
- Innocuous to the environment.
- In liquid state under pressure and ambient temperature.
- Thermophysical properties similar to water.
- Freezing temperature: -18 °C.
- Biodegradable.
- Economical.



Hydraulic connection

This type of connection benefits from the following advantages:

- Easy installation and assembly.
- Low working pressure at 1 kg / cm².
- Circuit without risk of refrigerant leaks.
- Economical installation.
- Quick start-up and easy maintenance.

230 V-I-50 / 400 V-III-50 Hz | High temperature | Hermetic reciprocating compressor | R-134a

Series / Model	Compressor			Cooling capacity (W)			Input power (kW) ⁽¹⁾	Max. current (A)	Air blower		Hydraulic connection	Weight (kg)	SPL dB(A) ⁽²⁾	Price (€)
	HP	Power supply	Model	Cold room temperature (°C)					Fan n° x ø mm	Air flow (m³/h)				
				15 °C	10 °C	5 °C								
AHF-DY-51 033	1	230 V-I	CAJ4511Y	2 535	2 180	1 890	1.1	11	1x Ø 360	1100	3/4"	77 + 32	22	4 324
AHF-DY-51 053	1 1/2	230 V-I	FH4518Y	2 975	2 560	2 250	1.4	14	1x Ø 360	1100	3/4"	92 + 32	27	4 831
AHF-DY-52 074	2	230 V-I	FH4525Y	3 980	3 500	3 040	1.8	18	2x Ø 360	1800	3/4"	95 + 45	28	5 308
AHF-DY-62 086	4	400 V-III	MTZ-50	5 270	4 600	4 090	2.3	14	2x Ø 360	1800	1"	115 + 45	39	6 806
AHF-DY-63 108	5	400 V-III	MTZ-64	6 580	5 790	5 040	2.8	18	3x Ø 360	3150	1"	118 + 65	37	7 616
AHF-DY-63 136	6 1/2	400 V-III	MTZ-80	8 350	7 360	6 420	3.5	21	3x Ø 360	3150	1"	119 + 65	36	7 729
AHF-DY-74 171	8	400 V-III	MTZ-100	10 900	9 560	8 410	4.2	25	2x Ø 450	4000	1 1/4"	144 + 70	40	9 649
AHF-DY-75 215	10	400 V-III	MTZ-125	12 900	11 400	10 000	5.5	30	3x Ø 450	5700	1 1/4"	145 + 77	40	10 817
AHF-DY-75 271	13	400 V-III	MTZ-160	14 800	13 000	11 500	6.7	40	3x Ø 450	5700	1 1/4"	148 + 77	40	11 909



230 V-I-50 / 400 V-III-50 Hz | Positive temperature | Hermetic reciprocating compressor | R-134a

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	HP	Power supply	Model	Cold room temperature (°C)					Fan n° x ø mm	Air flow (m³/h)				
				10 °C	5 °C	0 °C								
MHF-NY-52 026	3/4	230 V-I	CAJ4492Y	1 380	1 200	1 030	0.9	9	2x Ø 200	1 050	3/4"	78 + 24	22	3 808
MHF-NY-53 033	1	230 V-I	CAJ4511Y	2 260	1 940	1 650	1.3	10.0	3x Ø 254	2 350	3/4"	77 + 45	22	4 405
MHF-NY-53 053	1 1/2	230 V-I	FH4518Y	2 680	2 290	1 980	1.6	13	3x Ø 254	2 350	3/4"	92 + 45	27	4 911
MHF-NY-54 074	2	230 V-I	FH4525Y	3 510	3 060	2 620	2.0	18	4x Ø 300	3 100	3/4"	95 + 55	28	5 531
MHF-NY-64 086	4	400 V-III	MTZ-50	4 640	4 120	3 420	2.5	15	4x Ø 300	3 100	1"	115 + 55	39	7 030



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	HP	Power supply	Model	Cold room temperature (°C)					Fan n° x ø mm	Air flow (m³/h)				
				10 °C	5 °C	0 °C								
MHF-DY-52 033	1	230 V-I	CAJ4511Y	2 280	1 950	1 650	1.2	10	2x Ø 360	2 100	3/4"	77 + 45	22	4 850
MHF-DY-52 053	1 1/2	230 V-I	FH4518Y	2 700	2 310	1 990	1.5	14	2x Ø 360	2 100	3/4"	92 + 45	27	5 357
MHF-DY-53 074	2	230 V-I	FH4525Y	3 630	3 160	2 710	2.0	18	3x Ø 360	3 600	3/4"	95 + 65	28	5 987
MHF-DY-63 086	4	400 V-III	MTZ-50	4 840	4 180	3 630	2.4	14	3x Ø 360	3 600	1"	115 + 65	39	7 486
MHF-DY-63 108	5	400 V-III	MTZ-64	5 510	4 900	4 140	2.7	18	3x Ø 360	3 600	1"	118 + 65	37	7 799
MHF-DY-64 136	6 1/2	400 V-III	MTZ-80	7 590	6 610	5 770	3.7	21	2x Ø 450	4 650	1"	119 + 70	36	8 996
MHF-DY-75 171	8	400 V-III	MTZ-100	9 300	7 970	7 010	4.4	25	3x Ø 450	6 200	1 1/4"	144 + 77	40	10 164
MHF-DY-75 215	10	400 V-III	MTZ-125	10 600	9 490	8 070	5.4	30	3x Ø 450	6 200	1 1/4"	145 + 77	40	11 132



230 V-I-50 / 400 V-III-50 Hz | Positive temperature | Hermetic reciprocating compressor | R-134a

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	HP	Power supply	Model	Cold room temperature (°C)					Fan n° x ø mm	Air flow (m³/h)				
				10 °C	5 °C	0 °C								
MHF-QY-51 074	2	230 V-I	FH4525Y	3 450	3 000	2 620	2.1	18	1x Ø 350	2 350	3/4"	95 + 56	28	5 200
MHF-QY-61 086	4	400 V-III	MTZ-50	4 520	3 910	3 340	2.4	13	1x Ø 350	2 350	1"	115 + 56	39	6 699
MHF-QY-62 108	5	400 V-III	MTZ-64	5 500	4 890	4 140	2.9	15	2x Ø 350	4 150	1"	118 + 72	37	7 550
MHF-QY-62 136	6 1/2	400 V-III	MTZ-80	6 870	6 020	5 210	3.7	17	2x Ø 350	4 150	1"	119 + 72	36	7 664
MHF-QY-73 171	8	400 V-III	MTZ-100	8 810	7 900	6 640	4.5	22	2x Ø 350	4 700	1 1/4"	144 + 89	40	8 962
MHF-QY-73 215	10	400 V-III	MTZ-125	10 300	9 030	7 840	5.4	31	3x Ø 350	6 200	1 1/4"	145 + 94	40	10 137
MHF-QY-74 271	13	400 V-III	MTZ-160	12 300	10 700	9 500	7.1	41	4x Ø 350	8 300	1 1/4"	148 + 118	40	11 889



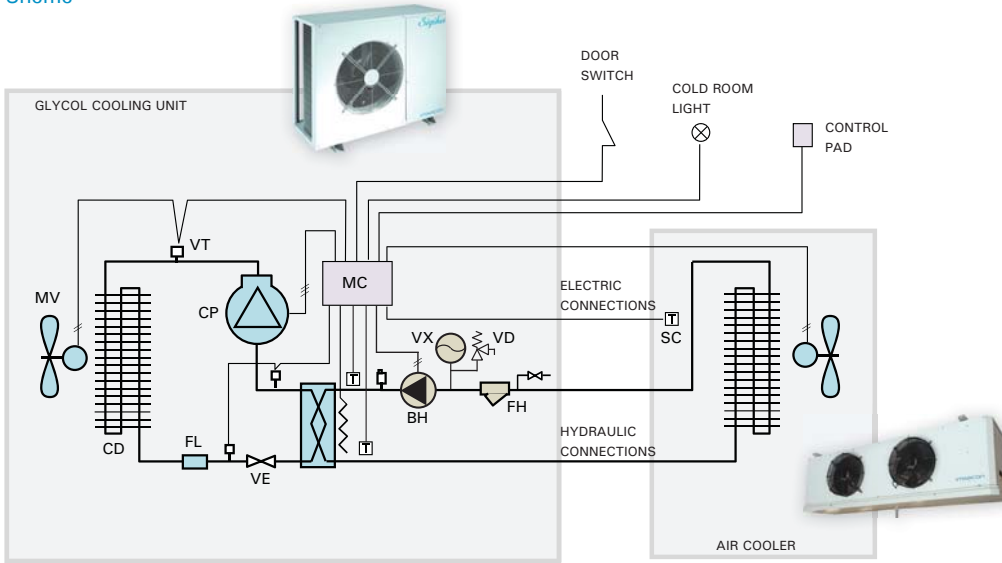
Options

- Change to 400 V-III-50 Hz power supply. + 8 %
- Proportional control of condensing pressure (single-phase models). + 250 €
- Evaporator coil epoxy anti-corrosion treatment. + 6 %
- Condenser coil polyurethane anti-corrosion treatment. + 4 %
- Coil protection grille. + 90 €
- Refrigerant R-290. By request

⁽¹⁾ Rated data refer to cold room operation temperature of 10 °C (HT) and 0 °C (PT) with a propylene glycol concentration of 25 % and 35 % respectively for an ambient temperature of 35 °C.

⁽²⁾ Sound pressure in dB (A) in open field at 10 m from the unit.

Scheme



- BH: HYDRAULIC PUMP
- CD: CONDENSER
- CP: COMPRESSOR
- FH: HYDRAULIC FILTER
- FL: FILTER
- MC: MICROCONTROLLER
- MV: MOTOR FAN
- SC: TEMPERATURE PROBE
- VD: SECURITY VALVE
- VE: EXPANSION VALVE
- VT: VOLTAGE REGULATOR
- VX: BUFFER TANK

Installation recommendations

Threaded connections are recommended, and a minimum elastomeric insulation with 25 mm shell, protected from the weather in the sections located outside.

A concentration of 35 % propylene glycol is recommended for medium temperature cold rooms, and 25 % for high temperature cold rooms.

A filling pressure of 2,5 bar is recommended to compensate for fluid contraction.

Installing the air cooler drain with PVC pipe is recommended with a minimum slope of 10 %, and install a trap on the outside of the cold room.

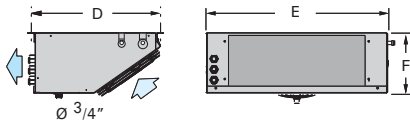
Calculation of hydraulic connections

Visit our easy and intuitive online software to calculate the hydraulic pipes of the system.

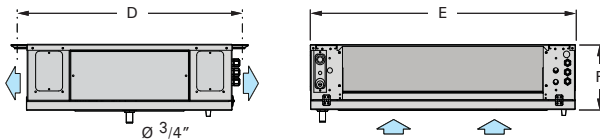
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Dimensions

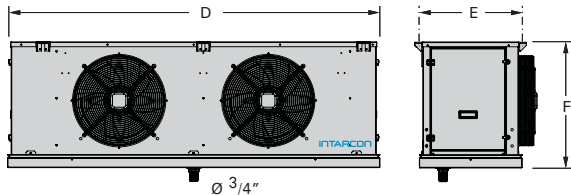
Air cooler -NY



Air cooler -DY



Air cooler -QY



Version NY

Dimensions (mm)	D	E	F
series 52	430	950	200
series 53	508	1 650	200
series 54, 64	508	2 020	265

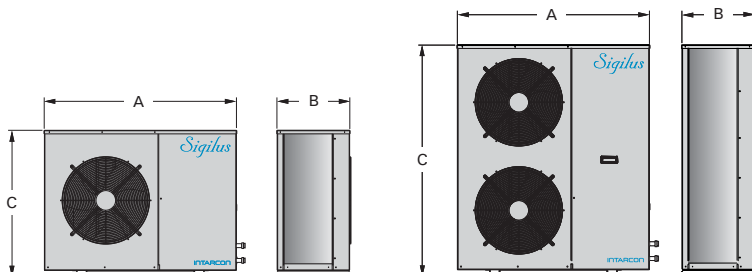
Version DY

Dimensions (mm)	D	E	F
series 51	798	706	245
series 52, 62	798	1 056	245
series 53, 63	798	1 756	245
series 64, 74, 75	888	2 156	295

Version QY

Dimensions (mm)	D	E	F
series 51, 61	1 231	455	553
series 62	1 531	455	553
series 73	1 932	455	553
series 84	2 432	455	553

Cooling unit



Dimensions (mm)	A	B	C
series 51-54	1 480	460	580
series 61-64	1 480	460	830
series 73-75	1 600	580	1 100
series 84-85	1 600	587	1 350