

Monobloc Internal Air Conditioner

with optional Free cooling integrated

MB series are mono-block direct expansion Close Control air conditioners for indoor installation. Designed for technical application like computers rooms, data centers, digital telephone exchangers, switch rooms, weather stations, technical containers and shelters as well as any other application with sensible heat to be dissipated without effecting on the relative humidity. Design criteria is to minimize their footprint and assure full frontal access for easy inspection and service. Available with up or down flow version with a complete range of accessories. Reduced noise level and fined tuned regulation by using scroll compressors and last generation of the EC plug-in radial fans.

STANDARD VERSION

- CASING :** Painted galvanized steel. External panels and doors painted with epoxy powder. Doors are mounted on hinges and equipped with easy to open lock with safety key. Lateral and rear panels removable without special tools.
- ACOUSTIC :** Internal acoustic and thermal insulation, made with polyurethane, class 1 self-extinguishing anti dripping (UL94-HF1), density of 30 Kg/m³ and thermal conductivity of 0,033 W/m°C. Insulation thickness of 20mm on external panels, 15mm on internal panel. Air tight gasket made of dual density polyurethane.
- CONDENSATE :** Dry pan of stainless steel.
- COILS :** Direct expansion coil made of copper tubes, aluminium fins with hydrophilic treatment. Scroll type.
- COMPRESSOR R410a :** G4 efficiency as per EN779, washable manufactured in synthetic fibre, with stainless steel frame.
- AIR FILTER :** EC plug in fan type, single inlet, backward blades composite impeller; directly coupled to electric motor external rotor type Electronically Commuted for low energy consumption and 50/60 Hz application. Equipped with air flow pressure switch.
- COOLING CIRCUIT :** Refrigerant deshydrating filter, Liquid sight glass with indicator, mechanical expansion valve, safety over pressure valve, liquid receiver, globe valves. Copper piping.



OPTIONS & ACCESSORIES

Free cooling, High temperature to condenser, vibration insulation, different voltage, aluminium made, salt atmosphere treatment, Fresh air kit, electronic expansion valve, humidifier, any kind of alarms.

		MB11-M01	MB21-M01	MB31-M02	MB41-M02	MB51-M02
Total Capacity (1)	kW	7,0	9,3	11,5	14,1	16,8
Sensible Capacity (1)	kW	6,8	7,8	10,8	12	14,9
Total Capacity (2)	kW	8,5	9,7	12,9	15,5	17,6
Sensible Capacity (2)	kW	8,3	9,0	12,5	14,7	16,9
Air inlet condition	°C	22+30	22+30	22+30	22+30	22+30
Internal humidity	%	30+80	30+80	30+80	30+80	30+80
Max external conditions	°C	48	48	48	48	48
Total Air Flow	³ m /h	2000	2000	3000	3000	3600
External Static Pressure	Pa	100	100	100	100	80
Electrical heaters	kW	1,5	3	4,5	4,5	6
Electrical heaters stages	Nr.	1	1	1	1	1
Fan Number	n	1	1	1	1	1
Fan motor power Input	kW	0,5	0,5	0,6	0,6	0,75
Compressor number	n	1	1	1	1	1
Compressor power (1)	kW	1,6	2,4	2,7	3,6	4,1
Condenser Fan Number	n	1	1	1	1	1
Condenser Fan motor power Input	kW	0,7	0,7	1,1	1,1	1,25
Condenser air flow	³ m /h	3000	3000	5000	5000	5700
Refrigerant		R410A	R410A	R410A	R410A	R410A
Electrical supply	V/Ph./Hz	400+N/3/50	400+N/3/50	400+N/3/50	400+N/3/50	400+N/3/50
Emergency supply	V	48Vdc 230Vac 1Ph	48Vdc 230Vac 1Ph	48Vdc 230Vac 1Ph	48Vdc 230Vac 1Ph	48Vdc 230Vac 1Ph
SPL at 2 mt	dB(A)	56	56	60	60	64
Length	mm	650	650	850	850	850
Width	mm	670	670	670	670	670
Height	mm	1980	1980	1980	1980	1980
Operating Weight	kg	180	210	230	245	260

Capacities referred to:

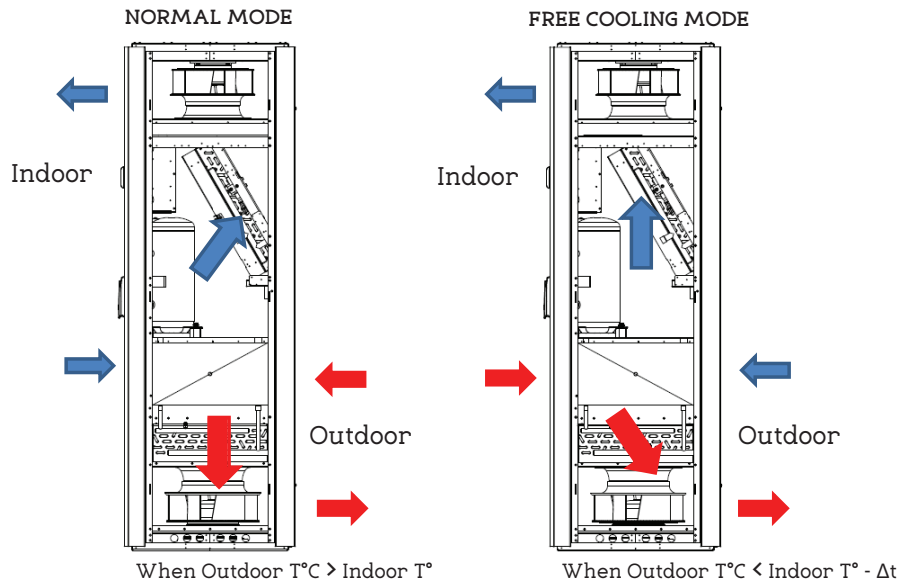
(1) Room air conditions +27°C/ 47%RH
External air temperature 35°C BS

(2) Room air conditions +30°C/ 45%RH
External air temperature +35°C B

(3) Sound pressure level measured a 2 mt from the machine, 1 m from the ground, in free field conditions, nominal air flow 20Pa ESP. The fan power input has not been subtracted from the capacities indicated above.

FREE COOLING MODE

Here you can find the cross section of the internal air flow in normal mode and using the free cooling mode.



INDUSTRIAL QUALITY MADE

Electrical and automation conception.

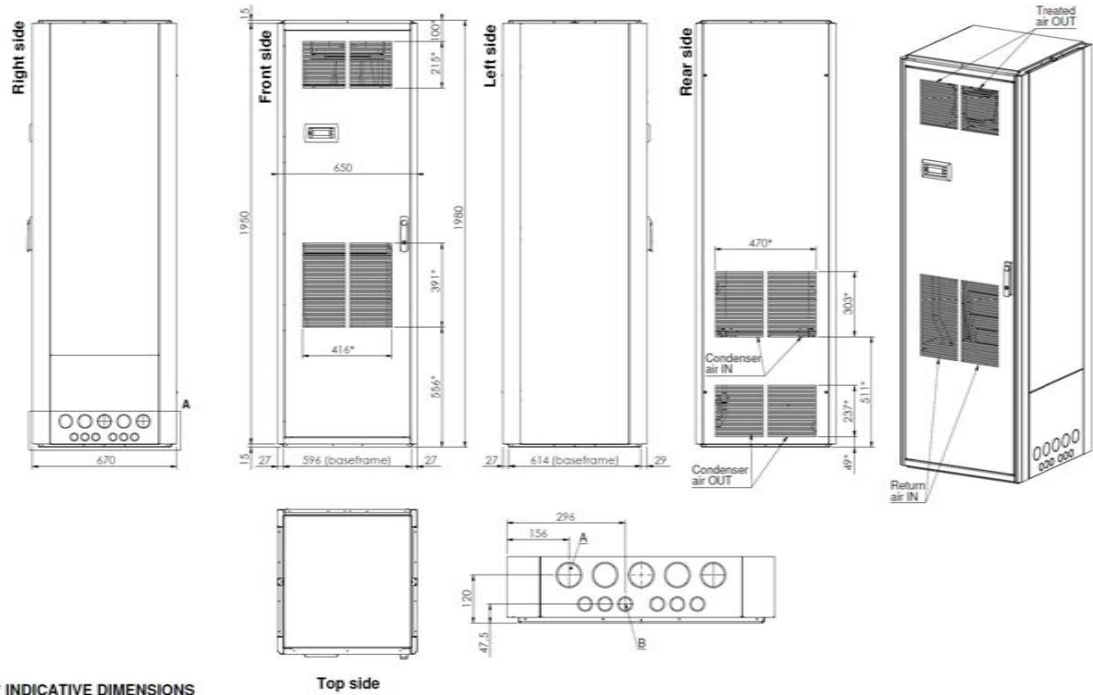
ELECTRICAL CONTROL PANEL complete with :
Main interlocking power switch.
Circuits breaker protections for each single load.
Fan motor Automatic switch.
Transformer for auxiliary services.
Components and wiring in compliance with applicable IEC Norms.

MICROPROCESSOR CONTROL, for unit management :
Room air temperature control with an accuracy of +/-0.5°K by the start/stop of the compressor/s or modulating the three-way valve or activating the electric heaters (the latter two are options)
Supply air temperature limit (optional)
Management of all alarm conditions Remote start-stop
General alarm
LAN connection
Password

USER INTERFACE, to display the unit conditions, status and operating parameters, with the following characteristics :
Room temperature and temperature set-point for supply air Operating parameters
Control keyboard with two levels of "menu" under "password" Alarm reset and unit set-up

ACCESSORIES and OPTIONS :
Clock module
On/Off safety switch Watchdog function
Other protocol communication cards

DIMENSIONS M01 for size 11 and 21



DIMENSIONS M02 for size 31, 41 and 51

