



FAN AIR MODULE FAM 6000-I 400-3+N-50 Hz
Operating and Service Manual



 **MADE IN ITALY** 

PRESENTATION

This service manual gives all information requested for the knowledge, the correct use and the correct maintenance of all devices described in this Extraction Air Device.

In case of no observance of the Manual's contents, the Manufacturer will stop any guarantee on the damaged product.

In case of very difficult maintenance or revision, it is recommended to request the direct intervention of the Manufacturer - that is, however, always at disposal for any suggestion finalized to the solution of the problem.

WARRANTY

All our products are guaranteed for 12 months after purchase's date. The reparations under warranty do not change the warranty period. The warranty concerns defects of materials that compromise the function of product, reducing the efficiency or cancelling the effect of the device. The warranty is recognised if the fault is reported within 2 days after the appearance.

The warranty does not include faults provoked by:

- 1 - physical/chemical characteristics of the ambient in which the device operates.
- 2 - not correct application of our instructions reported in this manual.
- 3 - storage conditions non in accordance with this manual.
- 4 - reparations carry out by not authorised service personnel.

And than, the warranty is also not applicable if:

- 5 - the Serial Number is not readable.
- 6 - the Customer has not complied to all obligations with the Manufacturer, updated to the service intervention.

WARRANTY EXCLUSIONS

The warranty is void in case of:

- 1 - error handling of the operator.
- 2 - damage due to uncorrected service operation.
- 3 - replacement of not original spare parts.
- 4 - the operator did not follow the information indicated in this manual.

Also damages due to negligence, neglect, bad and inappropriate use of the machine exclude the warranty. The elimination of safety devices will cause, automatically, the void of warranty and of any responsibility from the Manufacturer.

LEGISLATION REFERENCES

The machines, object of this Service Manual, have been made in accordance with EU Directives, reported in the rear page of this Manual.

Climatel (Padova)
di Giuseppe Giraldo



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Note 1

The technical characteristics of FAM could be changed by the Manufacturer without notice.
To size the electrical cables and for service interventions it is necessary to follow this Service Manual, annexed to the machine.

Note 2

All activities, as: Installation, Start-up/Adjustment and Maintenance, must be done by skilled workers or, as choice, by Service of Manufacturer or by there representatives.

FAN AIR MODULE FAM 6000-I

- Using outdoor air for cooling of technological rooms
- Distributes the environment air, in UNDER or DISPLACEMENT version (see figures below)

Fig. 1

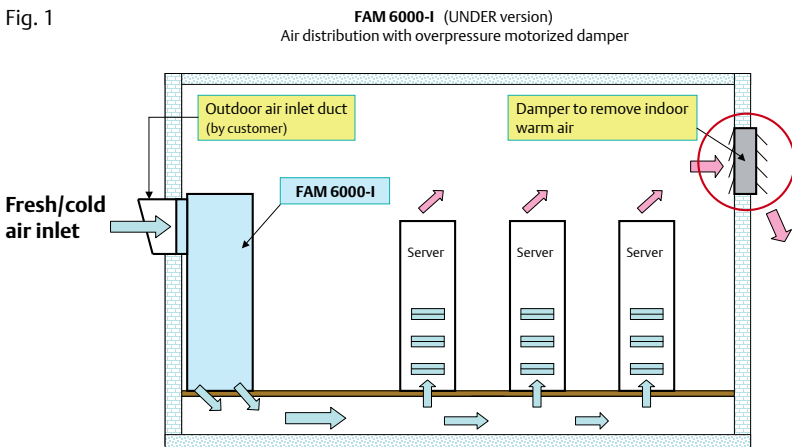
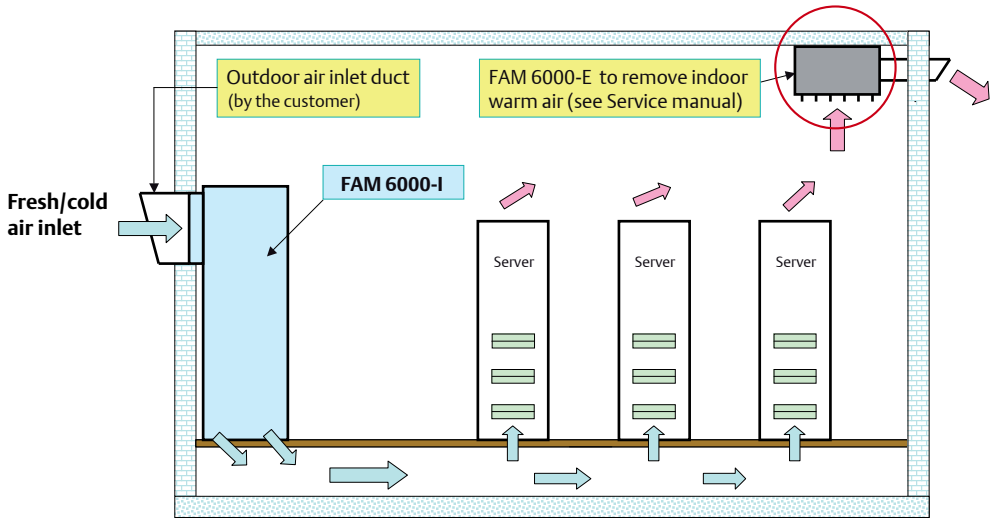


Fig. 1a Motorized damper



Fig. 2

FAM 6000-I (UNDER version)
Air distribution with **FAM 6000-E**



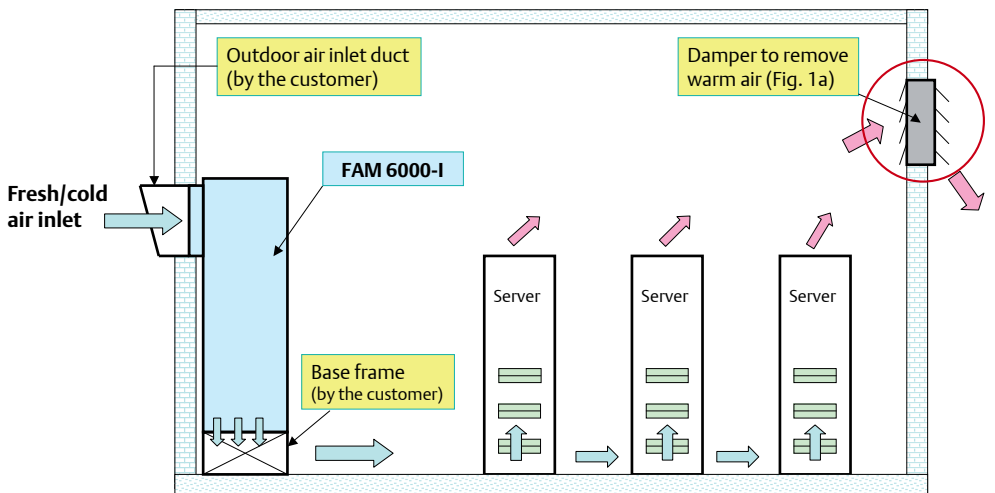
FAM 6000-E



Fig. 2a

Fig. 3

FAM 6000-I (DISPLACEMENT version)
Air distribution with overpressure motorized damper



Note Motorized damper see Fig. 1a

FAN AIR MODULE FAM 6000-I

Fig. 4



Fig. 5a FAM 6000-I rear air inlet

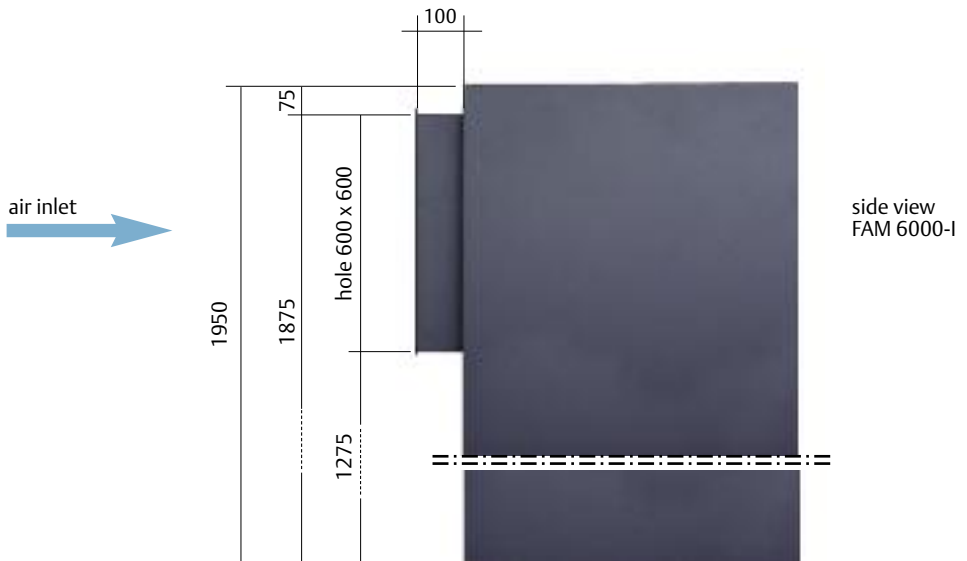


Fig. 5b FAM 6000-I
Fan and motorized grille



Fig. 5c FAM 6000-I
air filters and pre-filter



Premise

Before installing the machine, we recommend to read the instruction reported on page 0 of this manual.

Use conditions

The air inlet module, FAM 6000-I, is a standalone unit that draws cold/fresh air from outdoor to achieves a freecooling effect that removes the heat produced in the technological room. The warm air will be expelled outdoor.

Installation and connections

The module is located in the proximity of a wall (Fig. 1, 2, 3).

The air intake is via duct (by the customer).

The expulsion of the air can occur in two ways:

- with a motorized damper (Fig. 1, 1a, 3)
- by extractor FAM 6000-E (Fig. 2, 2a)

For the wiring, see Fig. 7. **Note: Use a differential switch class B 300 mA.**

To install the machine it is mandatory to use suitable Protective Equipment, as:



wear appropriate
work clothes



wear protective gloves



wear safety shoes

Description of FAM 6000-I

The module is made by a steel box (see Fig. 4), stove varnished, that includes:

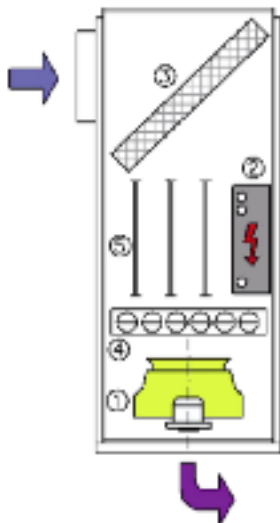
- EC Centrifugal fan**, directly coupled to a variable speed motor, with different air flows and head pressure (see TAB.1). This motor is equipped with internal thermal relay, with automatic reset, that intervenes in case of: electrical, electronic control, thermal overload or mechanical troubles.
- Microprocessor** control device.
- Optimization of Air flow** through **continuous speed regulator**, 0-10 VDC.
- Direct cooling** with outside air.
- Structure in sandwich panels**, class A0 / A1
- Pocket high capacity filter**, preceded by a **metal prefilter**

TAB. 1 - TECHNICAL CHARACTERISTICS OF FAM 6000-I 400-3+N-50 Hz + earth

Characteristics	Unit of measure	Value
Air flow (at 21 °C, density = 1.2 kg/m ³)	m ³ /h	6000 (nominal)
ESP (External Static Pressure)	Pa	200
Cooling capacity (*)	kW	24,9
Electronically controlled Fan (EC Fan)	n°	1
Electric Supply (VAC +/- 10%) (EN 60204-1)	V / Ph /Hz	400 / 3+N / 50
Max Operative Power input	kW	1,51
Min Electric absorption	A	0,1
Max Electric absorption FLA	A	4,0
Dimensions (W x D x H)	mm	750x750x1950
Weight	kg	220
Limits of use	°C	-20 ÷ +50

* Cooling capacity refers to the following conditions: Outdoor Temp. 12°C and Indoor Temp. 24 °C

Fig. 6 - Functional diagram

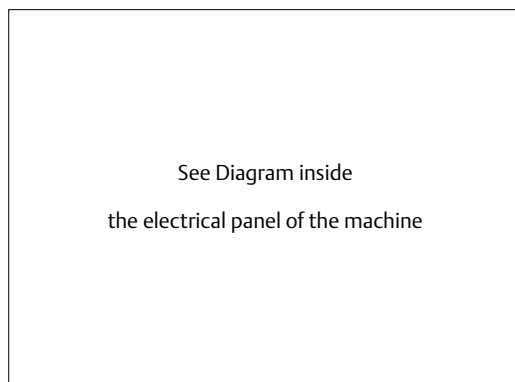


LEGEND

- 1) Fan
- 2) Electrical panel
- 3) Air filter + metal prefilter
- 4) Damper
- 5) Noise absorption partitions

Fig. 7 - Electrical Diagram for FAM 6000-I

Note: Use a differential switch Class B 300 mA

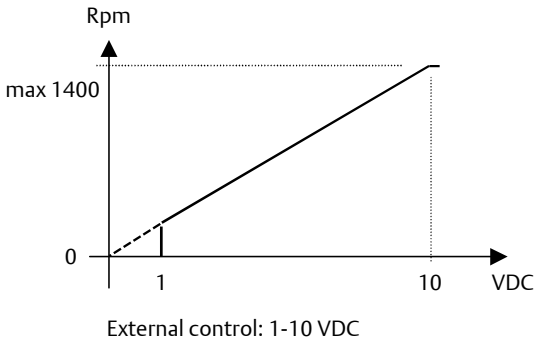


Variable speed fan with digital control

The module FAM 6000-I is equipped with a special high efficiency fan which allows to contain significantly consumption and energy costs operation, making it even more convenient to the Freecooling effect it produces. EC fans (electronically commutated DC motors) have the additional advantage of being adjustable, thus allowing the following benefits, according to the actual demands of the individual user:

- Control of the air flow;
- Control of available static pressure;
- Optimization of sound output;
- Optimization of power consumption.

Fig. 8 - Electrical diagram of Fan speed Regulator



Start up

After connecting FAM module, in accordance with electric diagram inside the machine, start the FAM closing the power switch QS (see electrical diagram).

Adjust the fan speed by applying a signal between 1 and 10 VDC depending on the needs of the environment, as well as the pressure drop of the outdoor air intake and of the expulsion air module.

Fig. 9

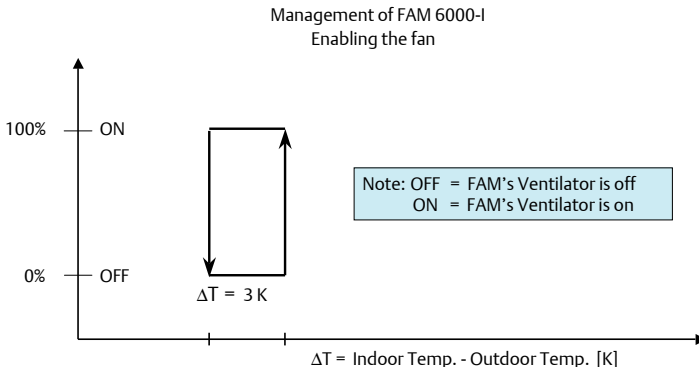


Fig. 10

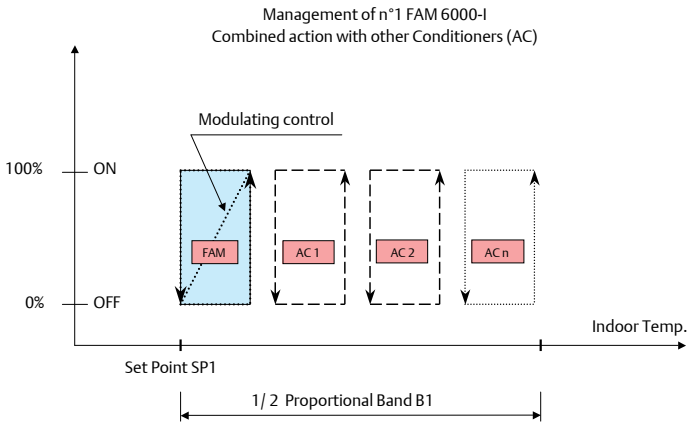


Fig. 11

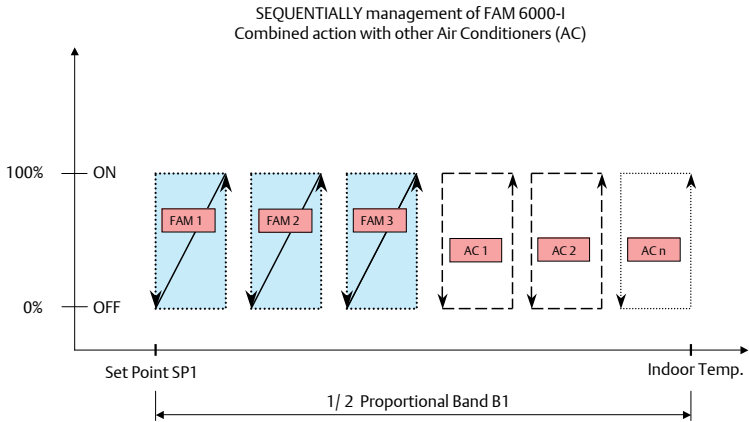
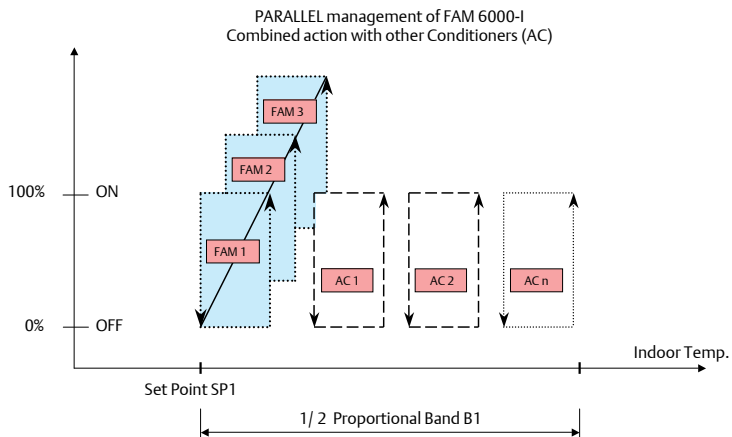


Fig. 12



Shut-off

Open the power switch QS: see electrical diagram inside the machine.

Maintenance



IMPORTANT: it is strongly forbidden to access to the interior part of FAM when the fan is running!



Wear appropriate work clothes



Wear protective gloves



Wear safety shoes



Do not approach the hot surfaces

1- Ordinary maintenance and Control

Check every 6 months at least the fan electrical absorption (to compare with data of TAB.1).

Note: This control must be done without changing the FAM running conditions: openings of cabinet produce air by-pass and amperage modifications.

2- Extraordinary Maintenance (⚠)

Where fan shows to high absorption or to high noise, intervene with expert personnel, as indicate on Note 2, page 1.

Standard Spare Part for FAM 6000-I (*)

EC Fan

Air filter

Air metallic prefilter

Motorized damper

Electronic control

(*) Before requesting spares, check any reference stamped on the component.

Disposal

Disassembly / Scrapping

User, according to CE guidelines or to own country regulations, is responsible of disposal of the whole machine or also part of it.

In case of scrapping the entire machine or parts of it, you should take all safety precautions necessary to avoid the risks associated with the decommissioning of industrial machinery.

This operation must be done following all safety precautions, specially during the following phases:

- Disassembly of machine from the operative site.
- Transportation and movement.
- Disassembly
- Separation of single components.

Separation of materials and their recycling or disposal it is mandatory to apply the National and Regional Rules regarding disposal of solid industrial waste.

ATTENTION

Disposal of components and materials

In case of scrapping, according to local regulations, the customer must use special cautions regarding the disposal of:

- PVC
- ELECTRICAL CABLES
- STEEL

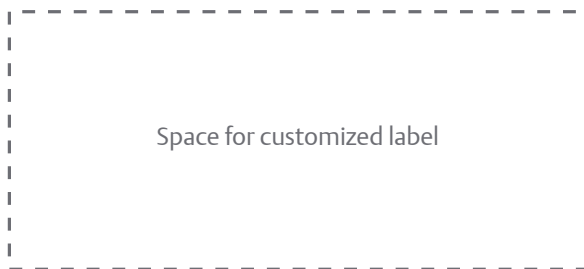
IMPORTANT NOTICE: Toxic or corrosive substances are not present in this machine.

CONFORMITY DECLARATION OF MANUFACTURE

IN ACCORDANCE WITH DIRECTIVE 2006/42/CE

Manufacture	Climatel di Giuseppe Giraldo
Registered / operating seat	Via B. Cristofori n.1; 35020 Vigorovea (PD)

OBJECT OF DECLARATION



DECLARES

The machine in your possession was made in accordance to the following EU Directives:

- **Directive machine 2006/42/CE**
- **Directive low tension 2006/96/CE**
- **Directive electromagnetic compatibility 2004/108/CE**

The person authorized to produce this technical documentation is:
Giuseppe Giraldo, Via B. Cristofori n 1; 35020 Vigorovea (PD)

Climatel di Giuseppe Giraldo

Giuseppe Giraldo
(Legal representative)



Climatel Freecooling 

www.climatelfreecooling.com