

***LENNOX***<sup>®</sup>

**INSTALLATION  
OPERATING &  
MAINTENANCE MANUAL**



PROVIDING **GLOBAL SYSTEM SOLUTIONS**

**Comfair  
HC/HT**

ENGLISH  
MARCH 04



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**INTRODUCTION**

This installation, operation and maintenance booklet should always accompany the fan coil for ready consultation by the installer or user if necessary.

The appliance should be installed in compliance with the regulations in force in each country and according to the manufacturer's or qualified installer's instructions.

The manufacturer cannot be held liable for any damage to property or injury to persons and animals caused by incorrect installation of the appliance.

Only qualified persons should install the appliance and connect it to the mains electricity supply. Before carrying out any work on the appliance, ensure that it is disconnected from the electricity supply. Read this instruction booklet before installing the appliance.

**RECOMMENDATIONS**

The appliance is easy to use, but it is important to read this guide completely before using for the first time. This will help you to:

- use the appliance in all safety;
- obtain best performance;
- avoid errors;
- respect the environment:

Do not allow children or unassisted handicapped persons to use the appliance.

Do not touch the appliance with wet parts of the body or if barefoot.

Do not tug, pull or twist electrical cables attached to the appliance, even when disconnected from the electricity supply.

Do not open the flaps giving access to the internal parts of the appliance without having first put the system on-off switch to "off".

Do not introduce sharp pointed objects through the air intake and outlet grilles.

Do not leave packing material (cardboard, staples, plastic bags, etc.) within reach of children since they could be a source of danger. Dispose of correctly.

Do not sit or climb on the appliance or rest any type of object on it.

Do not spray or throw water directly on the appliance.

Do not use the appliance in places with suspended dust/powder or in potentially explosive atmospheres, in very damp environments or in the presence of oil in suspension or in particularly aggressive atmospheres.

Do not cover the appliance with objects or drapes that even partially obstruct the air flow.

The appliance works by electricity at mains voltage (230 Vac, 50 Hz). Always bear in mind that mains voltage is potentially dangerous and any appliance connected to it should be used with caution. Before carrying out any work on the appliance, disconnect it from the electricity supply (by pulling out the plug from the mains socket or isolating the supply line by putting the on-off switch to off).

If the appliance is not to be used for long periods, make sure that the controls are in the position 0 (off). If the appliance is not going to be used in winter when temperatures are near to freezing, drain the system and ensure that the appliance heat exchanger has no water in it in order to prevent the formation of ice and consequent breakage.

To make the appliance inoperable, disconnect it totally from the electricity supply.

It is unsafe to alter or try to alter the characteristics of this product. Any tampering or alteration renders the warranty null and void.

In the event of malfunction or failure, do not try to repair the appliance yourself; contact a qualified technician. Repairs carried out by unqualified persons could cause damage or accidents.

Always keep the appliance clean. In particular clean the air filter periodically (at least once a month).



**FAILURE TO COMPLY WITH THE ASSEMBLY INSTRUCTIONS GIVEN IN THIS GUIDE RELIEVES LENNOX OF ALL AND ANY LIABILITY. INCORRECT INSTALLATION COULD CAUSE MALFUNCTIONING OR FAILURE OF THE APPLIANCE. IT COULD ALSO REPRESENT A HAZARD FOR THE USER.**

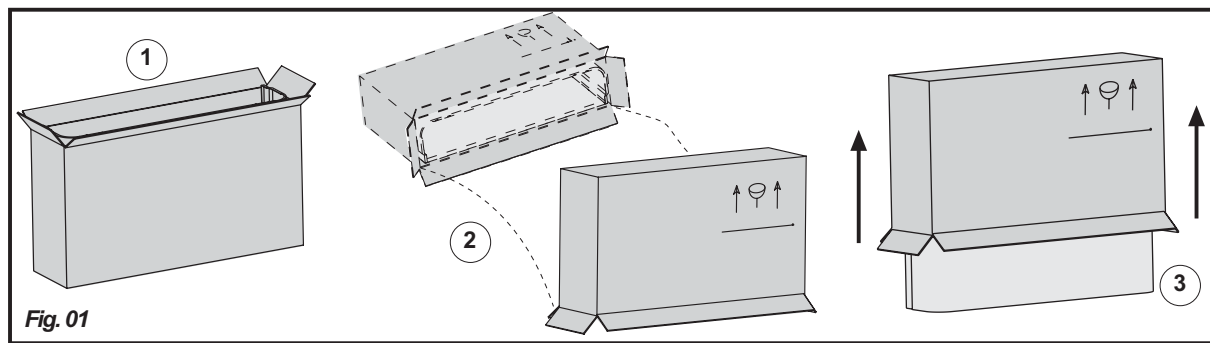
## TRANSPORTATION, RECEIVING, HANDLING

The appliance is dispatched enclosed in special protective packaging, which should be kept intact until the appliance is positioned in the final place of installation.

The appliance should be handled with extreme care, always keeping it in its original packaging. One pallet may hold 11 fan coils model HC/HT 10-60 (9 in vertical + 2 in horizontal) or 9 fan coils model HC 70-90 (9 in vertical).

To take the appliance out of the packaging, proceed as follows (fig. 1):

1. Turn the fan coil box upside down and open the bottom.
2. Remove the polystyrene filling and keep it.
3. Keeping the bottom of the box open, turn the pack 180°, taking care that the contents are firmly held before resting it gently on the ground. Lift off the packaging from the appliance.



## SAFETY RULES



Secure packs during transportation.



Do not expose to the elements.



Do not tread on packs.



Protect hands with work gloves when dismantling the appliance.



Work in PAIRS if the appliance weighs more than 25 kg.

APPLIANCE DESCRIPTION

GENERAL TECHNICAL DATA

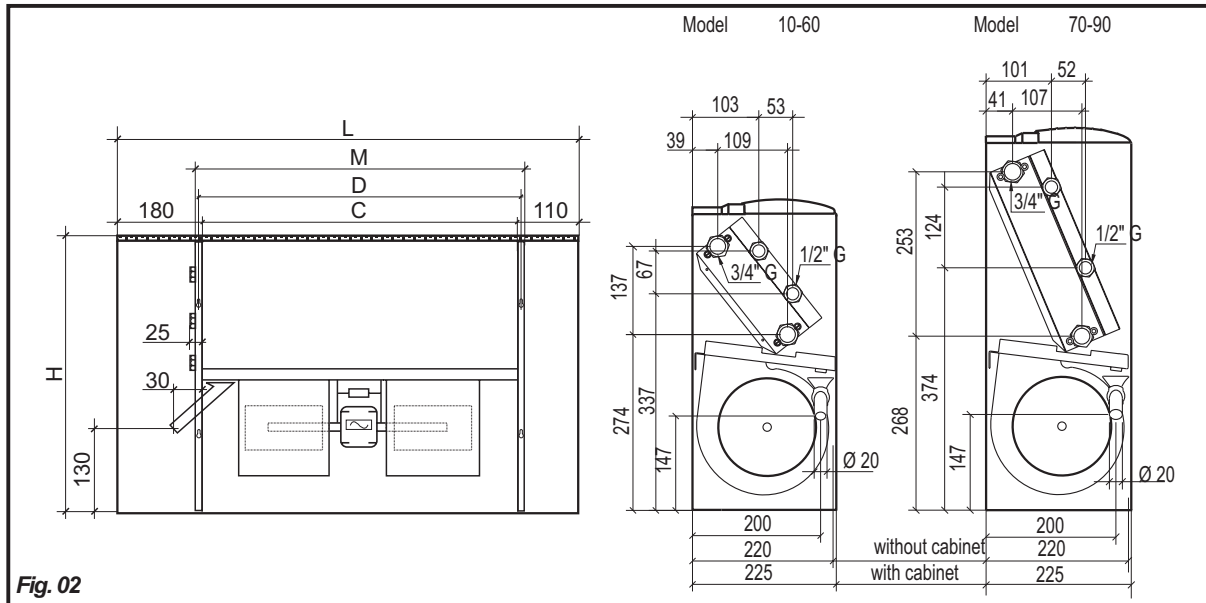


Fig. 02

MODEL			HC10	HC20	HC30	HC40	HC50	HC60	HC70	HC80	HC90
Fans	No.		1					2		3	
Standard coil	Rows	No.						3			
	Fittings	Ø						3/4"			
Auxiliary coil	Rows	No.						1			
	Fittings	Ø						1/2"			
Condensate drain fitting	Ø mm							20			
Height with housing (H)	mm		480							585	
Height without housing	mm		460							565	
Width with housing	mm		660	860	1.060		1.260		1.460		
	(M)	mm	420	620	820		1.020		1.220		
	(C)		370	570	770		970		1.170		
	(D)		395	595	795		995		1.195		
Depth with housing (S)	mm							225			
Depth with housing	mm							220			
Net weight	Kg		14	17	22	23	27	28	30	35	36
Max. electric fan power	W		38	54	60	61	99		97	210	207
Max. electric fan current	A		0,18	0,25	0,28	0,28	0,45		0,45	0,96	0,95

Electricity supply 230V/1/50 Hz

Tab. 1

MAIN PARTS

LOAD-BEARING STRUCTURE

Galvanised (8/10) sheet metal insulated even in those parts that are not in direct contact with the heat-transfer fluid. Condensate collecting tray in insulated, galvanised sheet metal complete with fittings for condensate drainage. Sides with knock-outs for fast fixing of accessories. Wall-mounting slots for easy fixing and levelling of appliance.

HEAT EXCHANGE COIL

Coils in copper piping expanded into aluminium fins in continuous block. Brass headers with female fittings (gas thread) and easily accessible air valves. Water fittings positioned on the left (facing the appliance).

ELECTRIC FAN UNIT

Double inlet centrifugal fans with statically and dynamically balanced horizontally-oriented aluminium impellers. Single-phase asynchronous electric motor with overload cutout. 6 speeds of rotation (3 connected). The motor is directly coupled to the fans and cushioned with flexible mountings to ensure low noise.

APPLIANCE DESCRIPTION

GENERAL TECHNICAL DATA

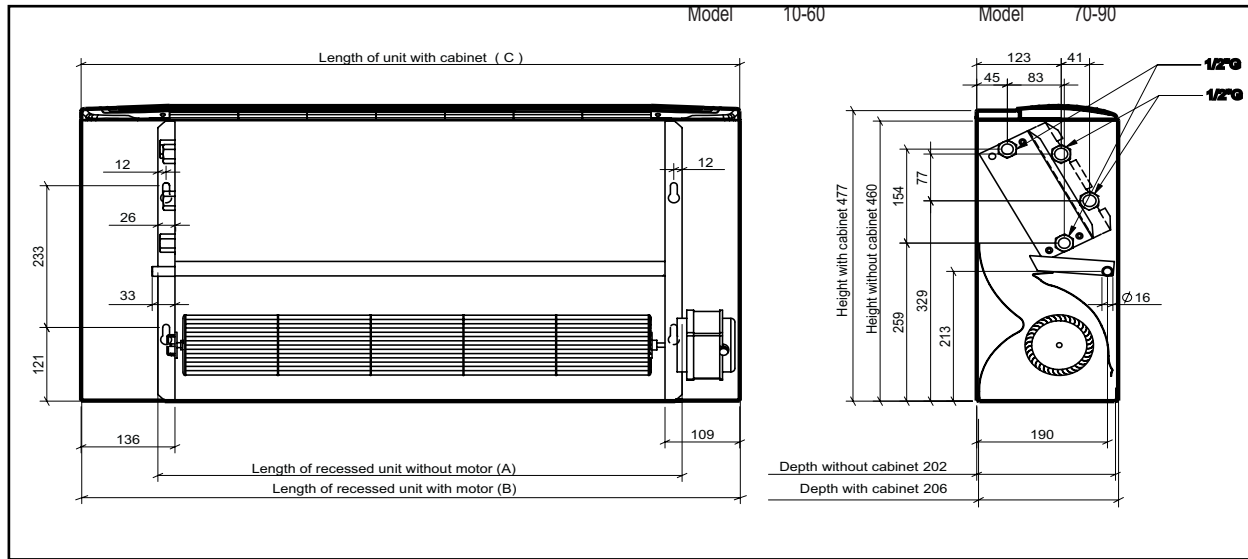


Fig. 02

MODEL			HT100	HT200	HT300	HT400	HT600
Fan	No,		1	1	1	1	1
Standard coil	Rows	No,	2	3			
	Fittings	Φ	1/2"				
Auxiliary coil	Rows	No,	1				
	Fittings	Φ	1/2"				
Condensats drain fitting	Φ	16					
Height with housing	mm	480					
Height without housing	mm	460					
Width with the housing	mm	760	760	960	1160	1360	
Width without the housing without the motor (A)	mm	640	640	840	1040	1240	
Width without the housing with the motor (B)	mm	740	740	940	1140	1340	
Depth with the housing	mm	206					
Depth without the housing	mm	202					
Net Weight	kg	14	16	21	26	30	
Max. electric fan power	W	29	29	36	39	50	
Max. electric fan current	A	0,14	0,14	0,17	0,17	0,23	

Electrical supply 230V/1/50Hz

Tab. 1

MAIN PARTS

LOAD-BEARING STRUCTURE

Galvanised (8/10) sheet metal insulated even in those parts that are not in direct contact with the heat-transfer fluid. Condensate collecting tray in insulated, galvanised sheet metal complete with fittings for condensate drainage. Sides with knock-outs for fast fixing of accessories. Wall-mounting slots for easy fixing and levelling of appliance.

HEAT EXCHANGE COIL

Coils in copper piping expanded into aluminium fins in continuous block. Brass headers with female fittings (gas thread) and easily accessible air valves. Water fittings positioned on the left (facing the appliance).

ELECTRIC FAN UNIT

Tangential fans with statically and dynamically balanced horizontally-oriented aluminium impellers. Single-phase asynchronous electric motor with overload cutout. 3 speeds of rotation. The motor is directly coupled to the fans.

## MAIN PARTS

### HOUSING

Modern, elegant design that blends in with any environment. Made in hot-galvanised sheet metal covered by a PVC film to ensure high resistance to rust, corrosion, chemical agents, solvents and alcohols. Grilles and airflow louvers in ABS as well as the control panel protective flap are to be found in the top part.

### CONTROL PANEL

Protected by the flap, the control panel is housed in the side opposite the water fittings. It comprises a power switch and the three-speed setting switch; it may include a room temperature thermostat (optional).

### AIR FILTER

Easily removable, the filter is housed in the lower part of the appliance on the air intake prior to the fan. It comprises a frame containing a filtering acrylic membrane that may be regenerated by vacuuming and washing.

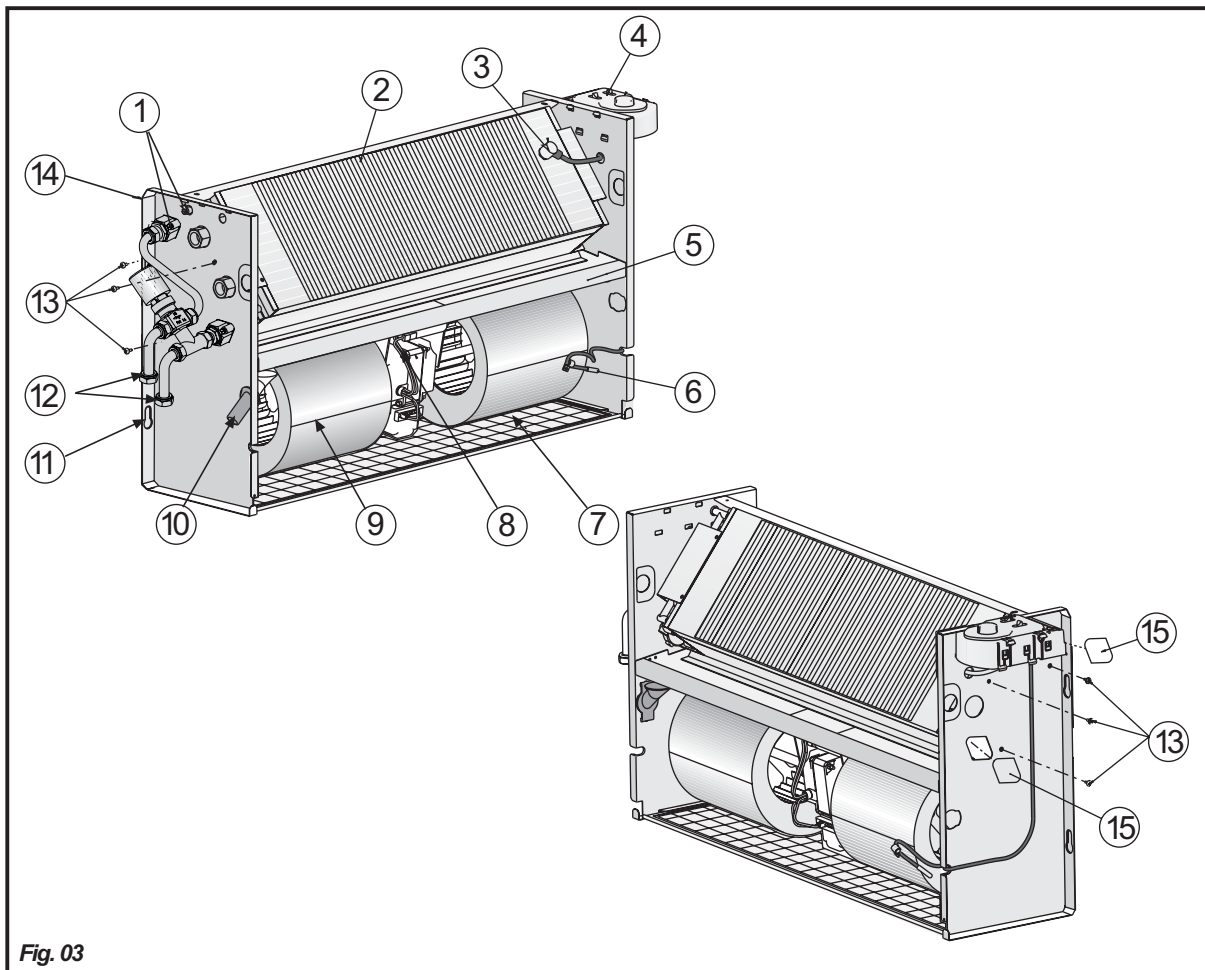


Fig. 03

### LEGEND

- |                              |                           |
|------------------------------|---------------------------|
| 1 Air valve                  | 9 Fan                     |
| 2 Exchange coil              | 10 Condensate drain       |
| 3 Minimum water temp. sensor | 11 Wall-mounting slots    |
| 4 Control panel              | 12 Water connections      |
| 5 Condensate collecting tray | 13 Coil fixing screws     |
| 6 Room thermostat sensor     | 14 Load-bearing structure |
| 7 Air filter                 | 15 Knockouts              |
| 8 Electric motor             |                           |





## APPLIANCE INSTALLATION

### RECOMMENDATIONS FOR INSTALLATION!

Before installing the appliance, ensure that:

- 1) the place of installation has sufficient space for carrying out installation as well as routine and extraordinary maintenance work (see fig. 4);
- 2) there are no obstructions for air intake and delivery;
- 3) the water connections are of the sizes, in the position and spaced apart as required by the appliance (see Dimensions);
- 4) the system pressure does not exceed 8 bar for the water versions;
- 5) the electricity supply corresponds to the data on the appliance rating plate and that there is a safety switch readily accessible to the user to cut off the power supply whenever necessary.
- 6) the safety switch is in the OFF position so that there is no voltage on the appliance supply line.

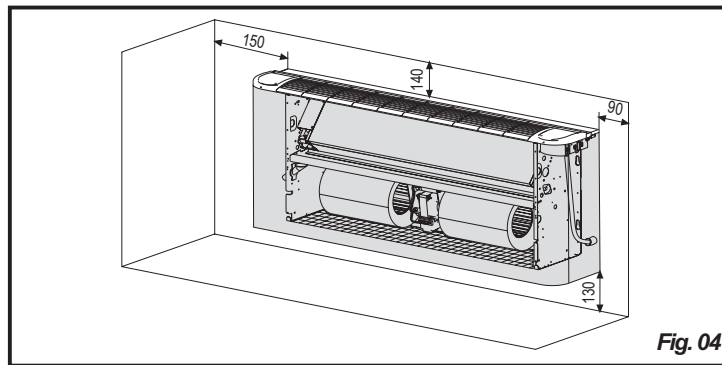


Fig. 04

### FAN COIL INSTALLATION

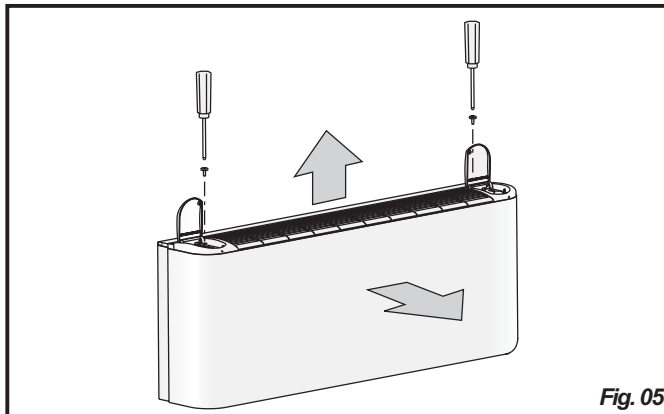


Fig. 05

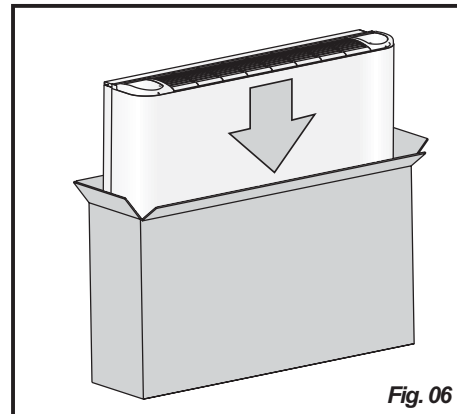


Fig. 06

Before installing the appliance, remove the housing (if present). Raise the flaps covering the control panel and the water connections. Remove the two screws fixing the housing to the fan coil load-bearing structure. Gripping the rear of the housing, remove it as shown in fig. 5 (N.B.: be careful of the lugs on the front part of the load-bearing structure, as shown in fig. 10). Put the housing in the packing box to prevent it from being soiled or damaged (fig. 6).

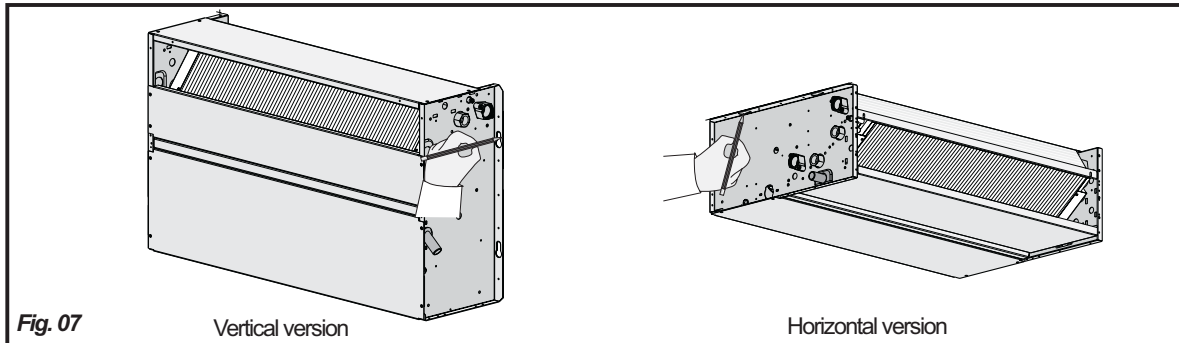


Fig. 07

Vertical version

Horizontal version

Offer the appliance up to the required point of installation and mark, through the fixing holes, the points on the wall where the holes should be drilled for the 4 screw anchors, as shown in fig. 7.

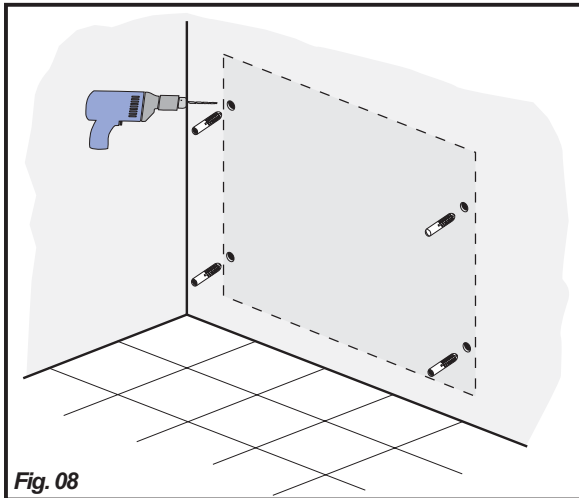


Fig. 08

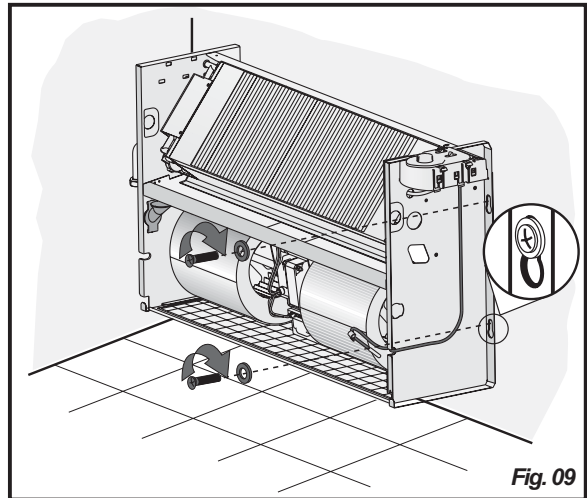


Fig. 09

Remove the appliance from the point of installation, drill the holes where marked on the wall (see fig. 8) and insert the screw anchors. Place the appliance against the wall and fix it by tightening the screws into the anchors (see fig. 9). Carry out the water and electrical connections as described in the relevant paragraphs. To replace the housing, proceed according to instructions given below.

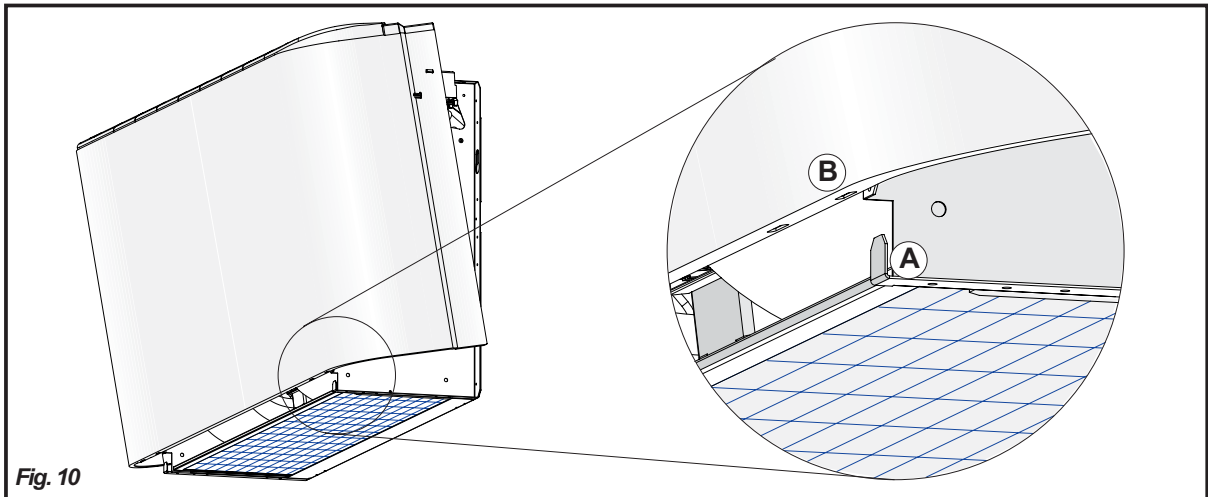


Fig. 10

Take the housing from the packing box. Standing in front of the fan coil, lift the housing, holding it by the sides, and tilt it (fig. 10).

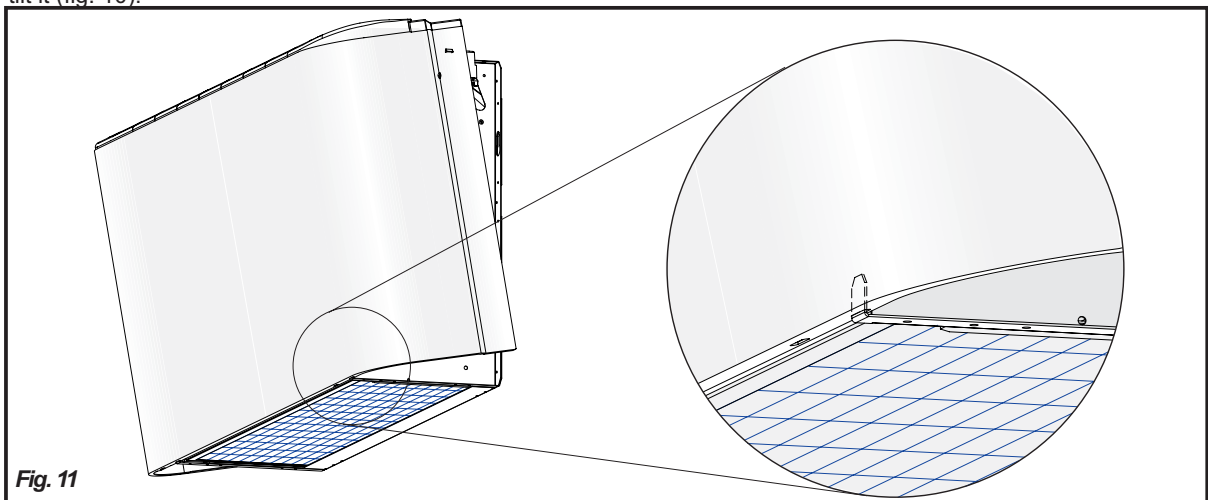


Fig. 11

Insert the lugs **A** into the relative slots **B** (fig. 11). Pivot the housing on its base until it is aligned with the wall. Raise the flaps covering the control panel and the water connections and tighten the two fixing screws (fig. 5).

**INSTALLATION OF THE WHITE PRE-ENAMELLED SHEET METAL PANEL:  
VERSION 7**

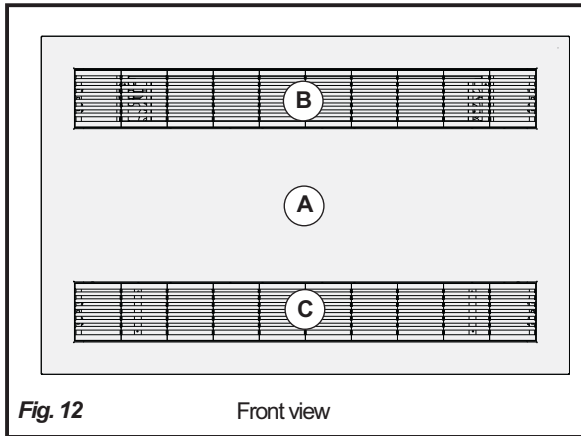
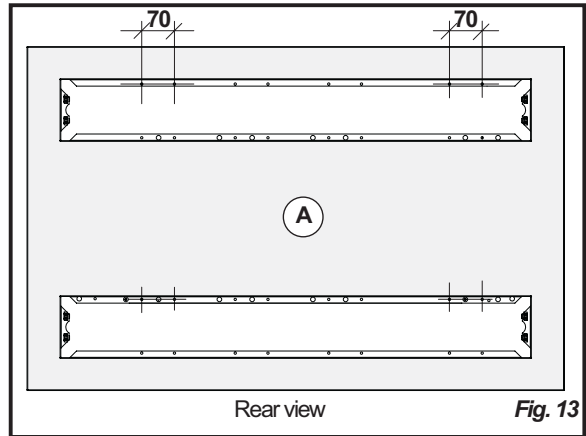


Fig. 12 Front view



Rear view Fig. 13

Legend:

- A. Panel in white pre-enameled sheet metal
- B. Outlet louvres
- C. Intake grille with filter

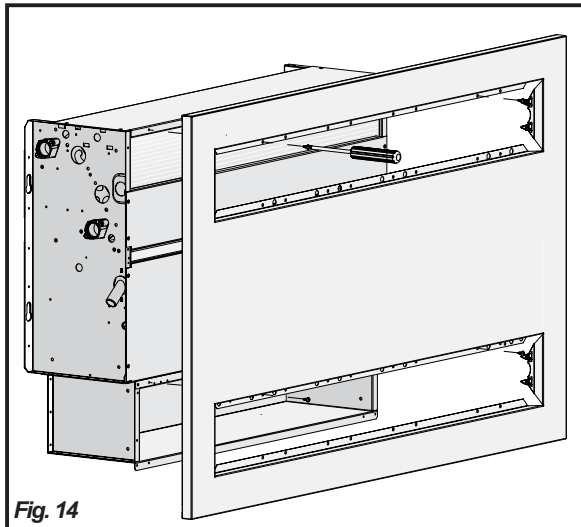


Fig. 14

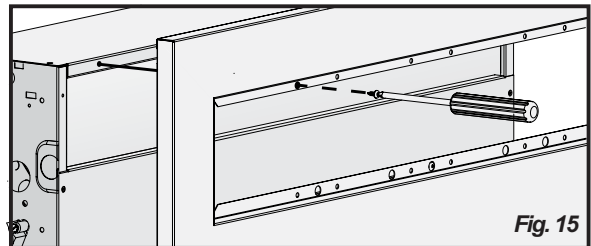


Fig. 15

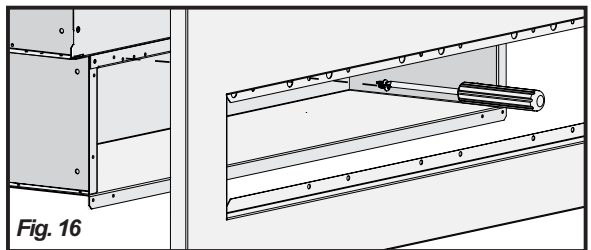


Fig. 16

Offer up the white pre-enameled sheet metal panel to the built-in fan coil and fix it by tightening the screws in the relative holes, as shown in figs. 14-15-16.

Ensure that the panel surface is perfectly parallel to the wall.

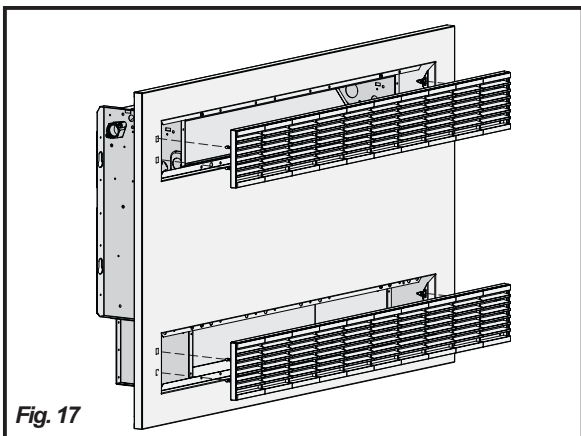


Fig. 17

Insert the intake grille with filter (bottom) and the outlet louvres (top), pressing them onto the relative catches (see fig. 17).

**N.B.: THE PROCEDURE IS IDENTICAL FOR THE CEILING-MOUNTED VERSIONS**

**INSTALLATION OF THE WHITE PRE-ENAMELLED SHEET METAL PANEL:  
VERSIONS 2 AND 3**

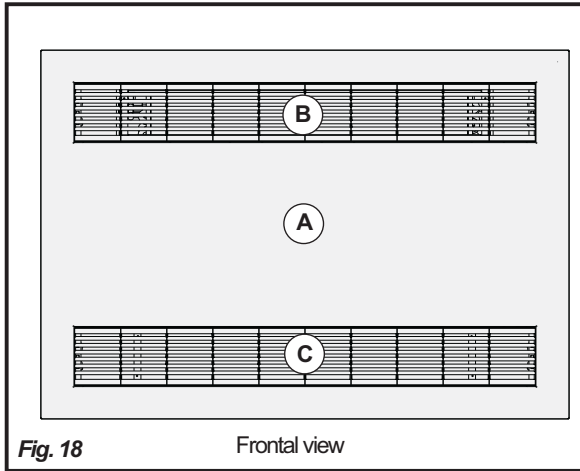
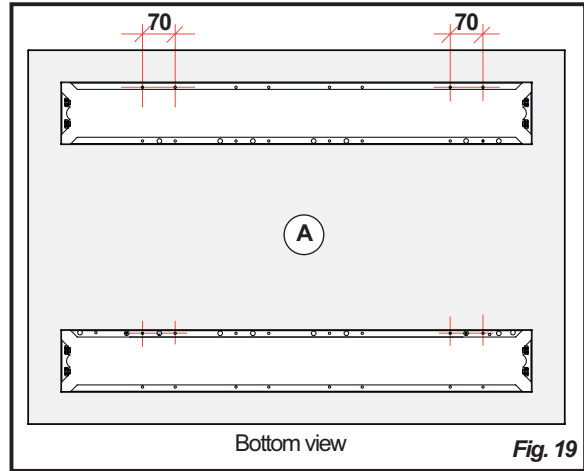


Fig. 18 Frontal view



Bottom view Fig. 19

Legend:

- A Panel in white pre-enameled sheet metal
- B Outlet louvres
- C Intake grille with filter

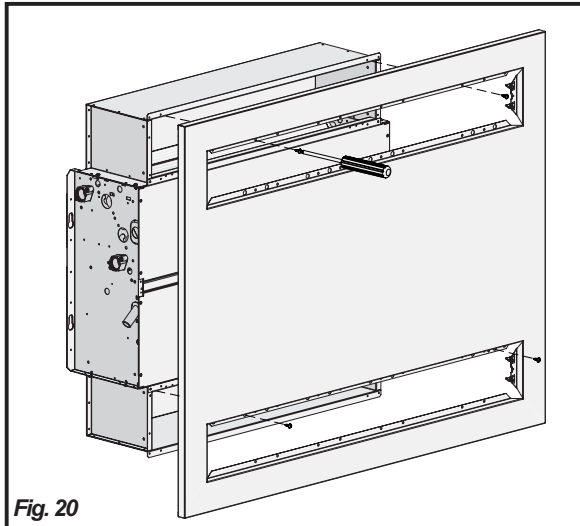


Fig. 20

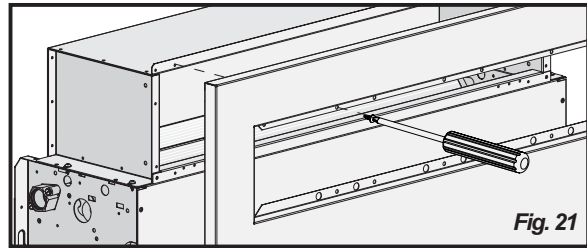


Fig. 21

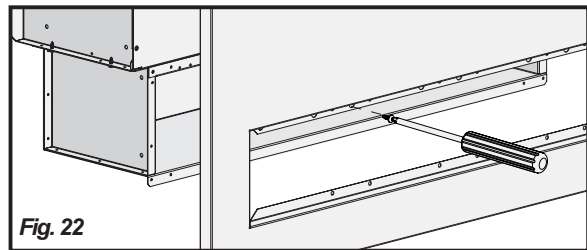


Fig. 22

Offer up the white pre-enameled sheet metal panel to the built-in fan coil and fix it by tightening the screws in the relative holes, as shown in figs. 20-21-22

Ensure that the panel surface is perfectly parallel to the wall.

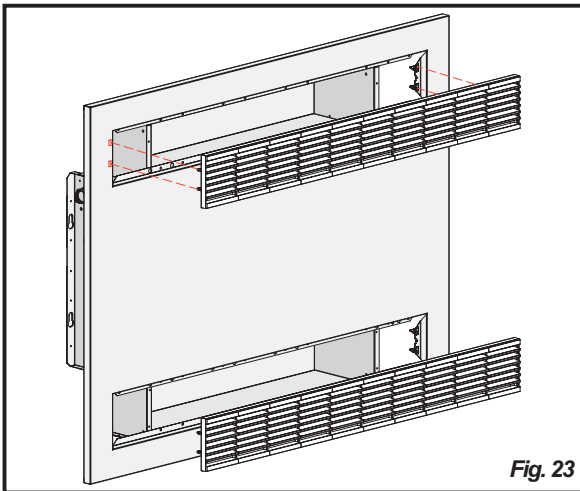


Fig. 23

Insert the intake grille with filter (bottom) and the outlet louvres (top), pressing them onto the relative catches (see fig. 23).

**N.B.: THE PROCEDURE IS IDENTICAL FOR THE CEILING-MOUNTED VERSIONS**

INSTALLATION OF THE WHITE LACQUERED WOOD PANEL

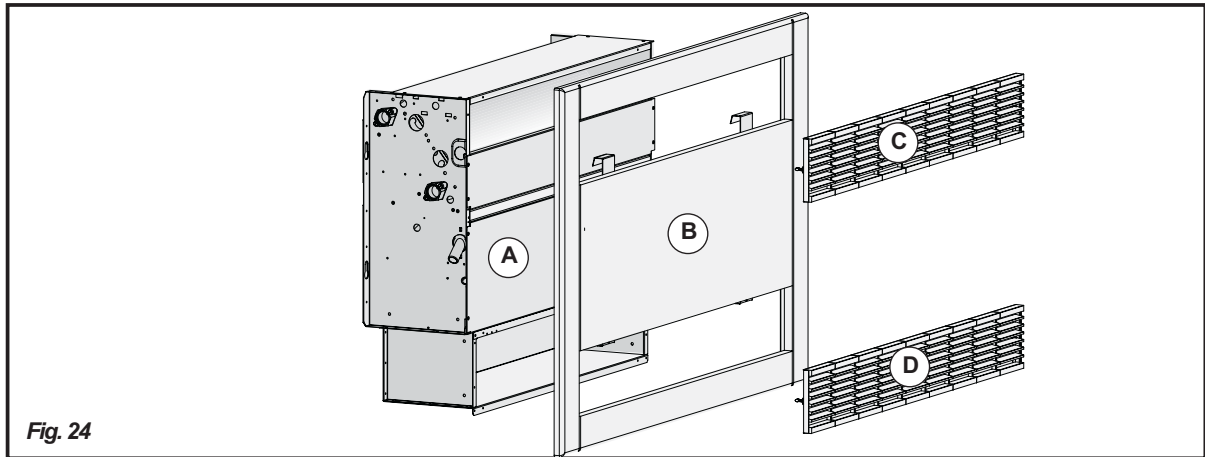


Fig. 24

Legend:

- A. Built-in fan coil
- B. White lacquered wood panel
- C. Outlet louvres
- D. Intake grille with filter

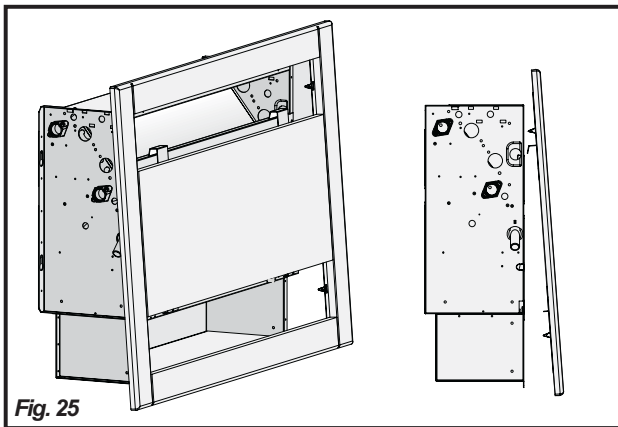


Fig. 25

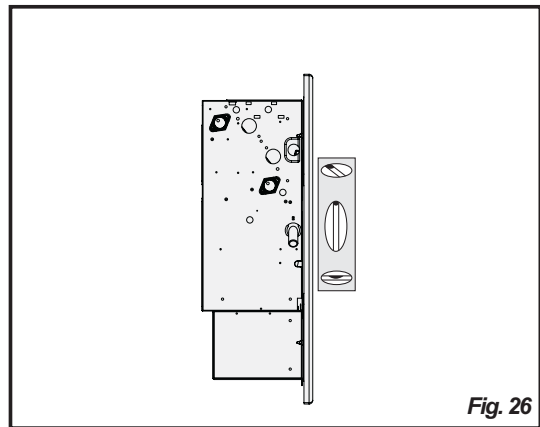


Fig. 26

Offer up the white lacquered wood panel, tilt it (fig. 25) and fix it with the relative catches to the load-bearing structure of the built-in fan coil.

Ensure that the panel surface is perfectly parallel to the wall (fig. 26).

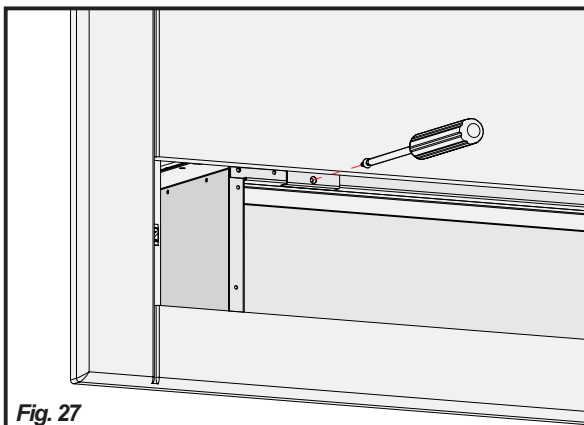


Fig. 27

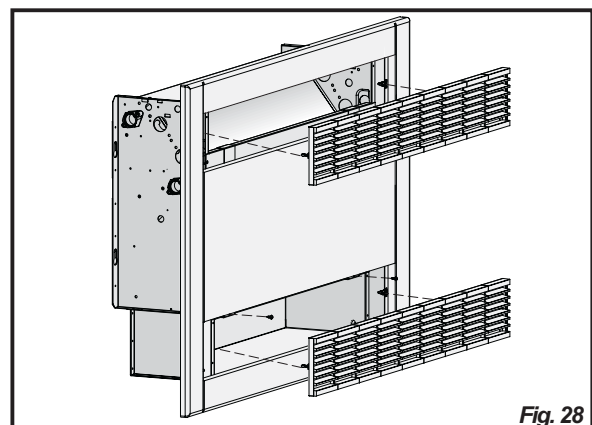


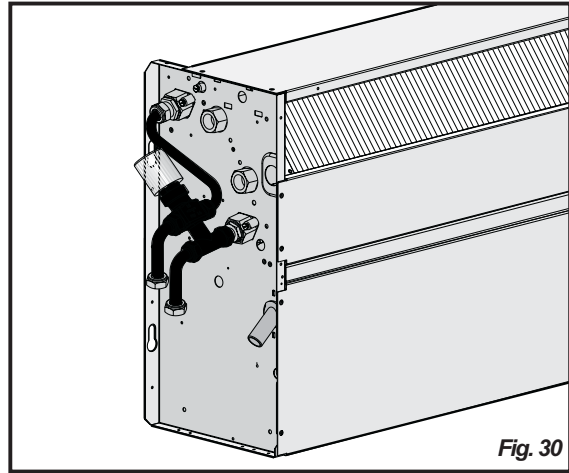
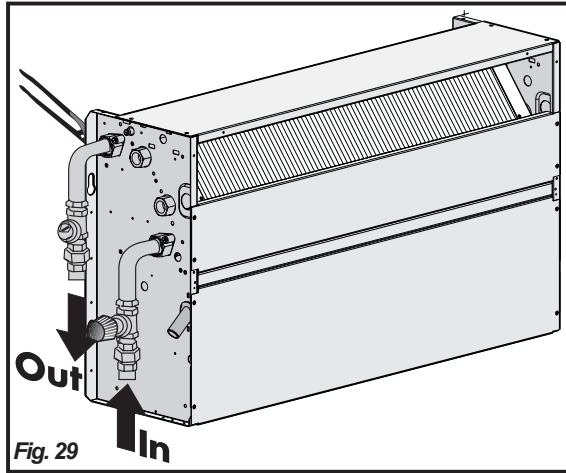
Fig. 28

Use 2 screws to fix the panel to the fan coil (fig. 27). Insert the intake grille (with filter) and the outlet louvres into the relative openings (see fig. 28).

**N.B.: NOT AVAILABLE IN CEILING-MOUNTED VERSIONS!**

## WATER CONNECTIONS

### CONNECTION TO THE WATER MAINS



CAUTION!

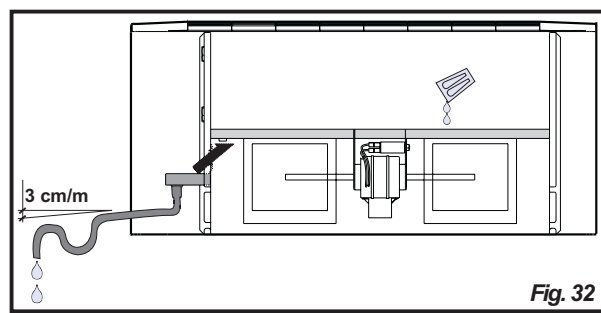
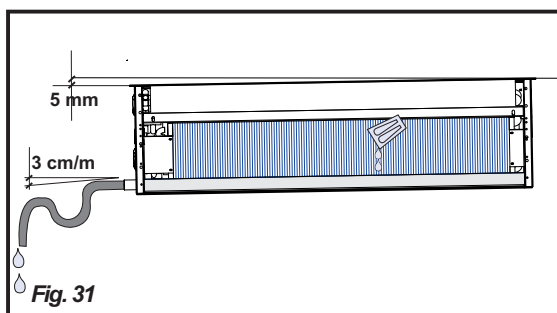
Always use a wrench and nose key for connection of the coil to the pipes (fig. 29). If the solenoid valve is installed, suitably insulate the valve body with insulating material (fig. 30).

Connect the water inlet and outlet pipes, observing the indications given on the side of the appliance. Correctly insulate the water supply pipes to prevent dripping during the cooling mode of operation. A shutoff valve should be inserted on the water supply pipe and a balancing valve on the outlet pipe. The valve body and balancing valve should also be properly insulated to prevent dripping. It is the installer's responsibility to insulate properly and the manufacturer cannot be held liable for any insulation work.

**N.B.:** It is always advisable to install the solenoid valve.

In the heating mode of operation the solenoid valve reduces consumption because upon reaching the set temperature the circulation of water is stopped to avoid wasting energy (the fan coil would otherwise continue to heat like a radiator, even with the motor at a standstill).

In the cooling mode of operation the solenoid valve stops the circulation of water when the set temperature is reached, thus stopping the internal exchanger from continuing to condense water with possible undesirable dripping onto the floor. It also reduces chiller operation with consequent energy saving.



### CONDENSATE WATER DRAINAGE

The condensate drain pipe should slope downwards by at least 3 cm/m and should not have ascending or throttled sections in order to ensure a regular flow of water. It is advisable for a trap to be fitted. The condensate drain pipe should be connected to a rainwater drainage system. Do not use sewage systems to avoid possible odours in the event of evaporation of the water in the trap. Upon completion of work, check that the condensate flows out properly by pouring water into the tray (see figs. 31 and 32). The condensate water drainage system should be fabricated in a workmanlike manner and should be periodically checked.

**The manufacturer cannot be held liable for any damage caused by dripping in the absence of a solenoid valve or of periodic maintenance of the drainage system.**



**RECOMMENDATIONS**

**ELECTRICAL CONNECTIONS**



Before carrying out electrical connections, ensure that the electricity supply to the supply line has been cut off, checking that the on-off switch is in the OFF position.

Only qualified electricians should carry out the electrical connections.

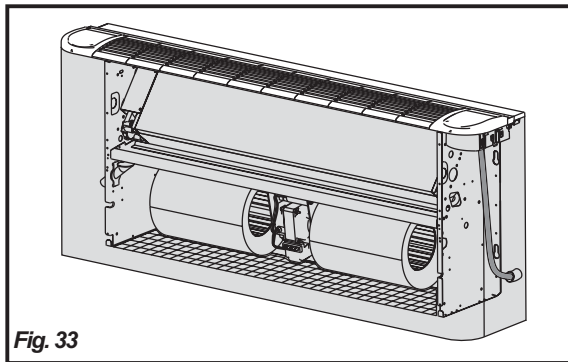
Check that the mains supply is single-phase 230 Vac/1/50 Hz (± 10%).

Operating the appliance with voltages outside the above limits could cause malfunction and renders the warranty null and void.

The fan coil power supply line should be fitted with at least a switch isolator in conformity with European standard EN60947-3.

Make sure that the electrical system is suitable for providing not only the working current required by the appliance, but also the necessary current for powering household and other electrical appliances already in use. Any electrical and mechanical alterations or tampering render the warranty null and void.

The motor and accessories power cables in channels or ducts should remain inside the same until they are inside the appliances.



**The cables should be sufficiently long so that they are not permanently taut or create throttling or pressure on metal parts** (see fig. 33).

The power cables should be sufficiently long so that in the event of accidental tugging the active wires are subjected to stress before the earth wire.

Connect the earth wire to the relative terminal marked with the symbol  $\perp$

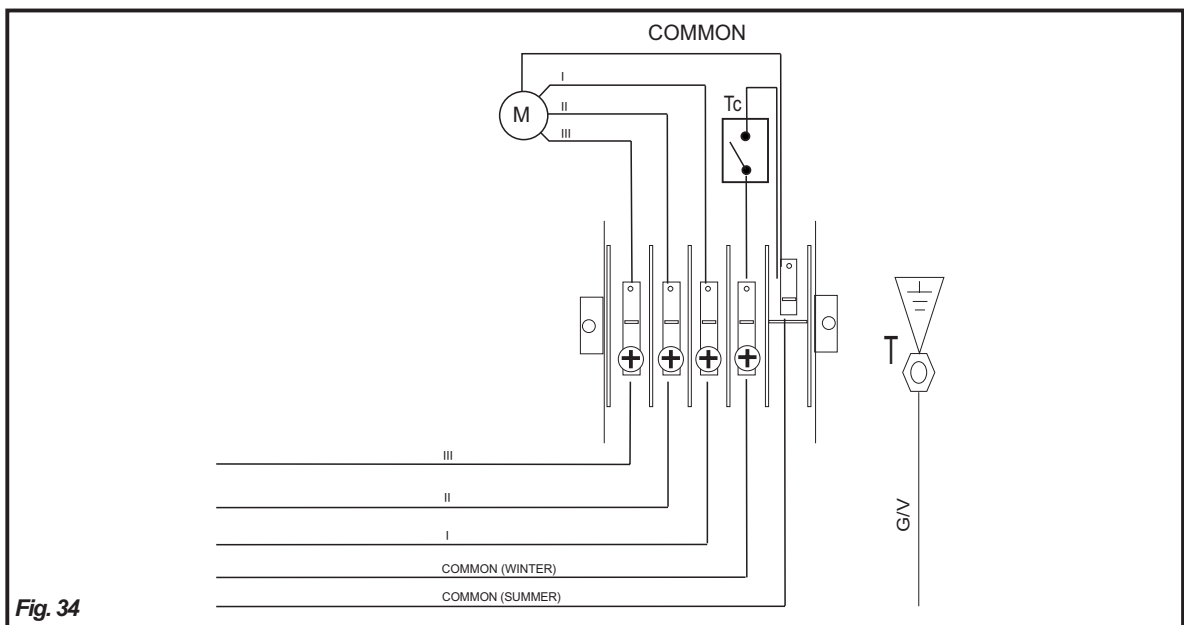
Check the earth connection.

**Comply with the safety regulations in force in the country of installation.**

**CONNECTIONS TO THE TERMINAL BLOCKS**

**Models without control panel**

The electrical connections should be made to the terminal block on the side of the appliance. Each terminal is identified by the label to be found on the terminal block.



**Models with control panel**

The electrical connections should be made directly to the control panel, as shown by the relative wiring diagram. If the control panel has an electronic temperature sensor (NTC), this sensor will be powered by mains voltage (230Vac/1/50 Hz) and is therefore provided with double insulation.

**CAUTION!**  
**FAILURE TO COMPLY WITH THE INDICATED CONNECTIONS MAY CAUSE MOTOR BURNOUT!**

**CHANGING THE MOTOR SPEEDS OF ROTATION**

The fan coil motor has 6 speed settings, 3 of which are connected in the factory (red, blue and black wires connected to the motor auto-transformer). To use other speeds than those wired up in the factory, the red (minimum), blue (medium) and black (maximum) wires may be connected onto 3 of the 6 numbered terminals (1...6), taking into account that the speeds follow a sequence as shown in fig. 35.

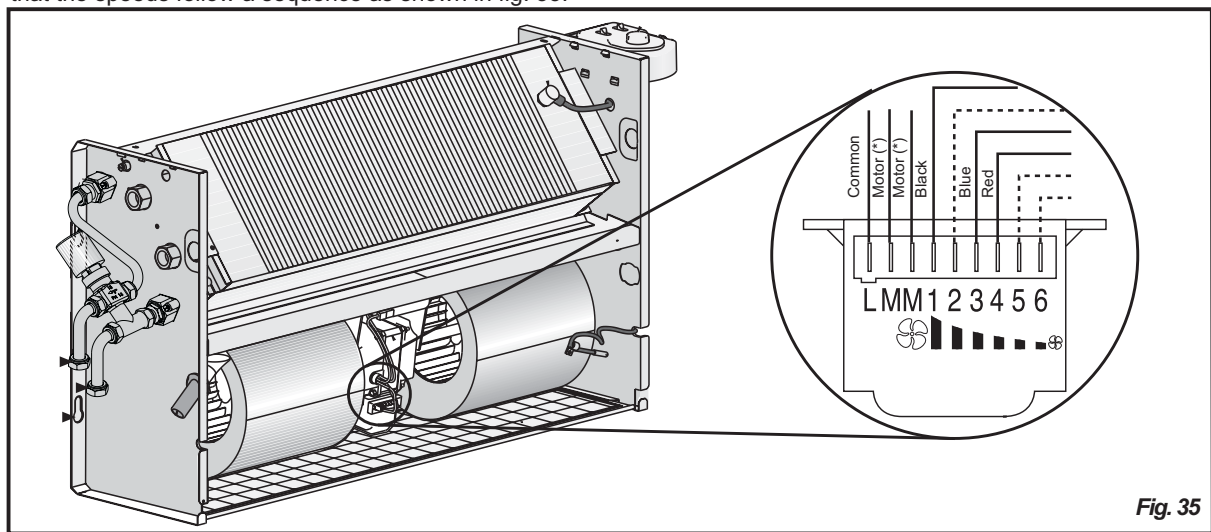


Fig. 35

**\* CAUTION! UNDER NO CIRCUMSTANCES SHOULD THE CONNECTIONS TO THE TERMINALS L, M, M BE CHANGED!**

**TESTING THE FAN COIL**

Upon completion of installation, scrupulously check both the water and the electrical connections before switching on the appliance.

**Before mounting the housing** (if present), fill the system, bring it up to pressure and bleed. Make the water circulate and check for leaks. **Check correct operation of the fan coil at the 3 speeds, of the solenoid valves and of the minimum temperature thermostat** (if installed). **The housing is covered by a protective film: remove it before fixing the housing to the appliance.** Remount the housing (if present), otherwise the customer has the responsibility of concealing the appliance.

**CAUTION!**  
**Protect the appliance with a cardboard box if building works are still being carried out** (Fig. 36).

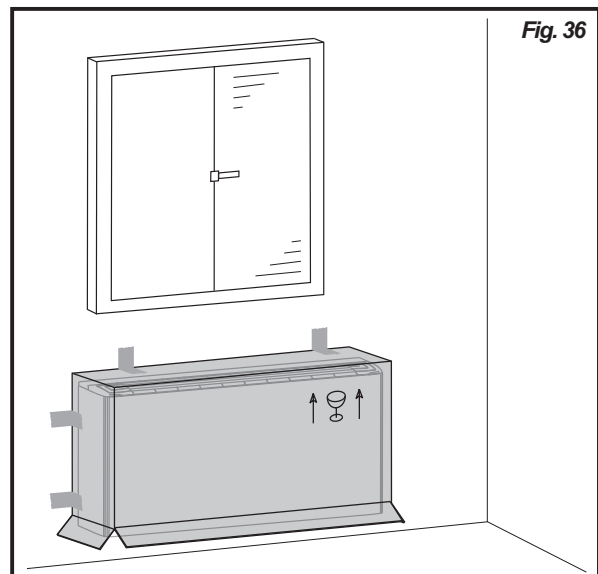
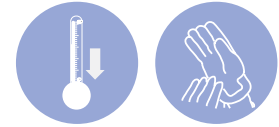


Fig. 36



## TURNING THE COIL



### CAUTION!

The fan may reach the speed of 1,000 rpm. Do not insert objects or hands into the electric fan. The motor becomes hot during operation; wait for it to cool before touching it.

During the heating mode of operation the exchanger and the connecting pipes may become very hot (80°C). Wait for the exchanger to cool before touching it or protect hands with suitable gloves.

**The heat exchange water coils are suitable for working up to a maximum pressure of 8 bar.**

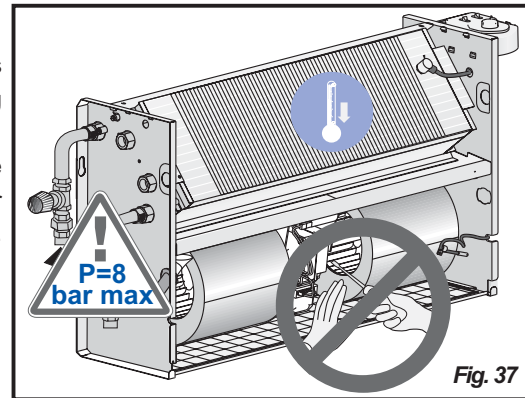


Fig. 37

To turn the coil, proceed as follows:

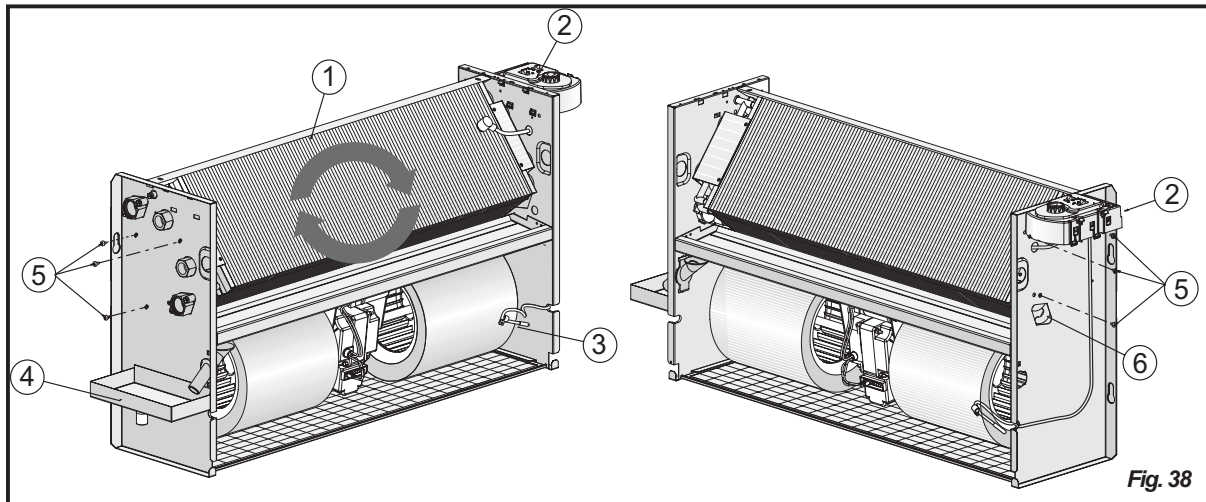


Fig. 38

1. Remove the housing (if present).
2. Disconnect the terminal block or the control panel (2), if present, from the side of the appliance.
3. Remove the condensate collecting tray in horizontal models or the galvanised panels in vertical models (4).
4. Remove the coil fixing screws (5).
5. Take out the coil (1), being careful not to be cut by the fins and not to damage them.
6. Remove the knockouts (6) on the opposite side of the fan coil (using a screwdriver), to allow the coil connections to pass through.
7. Position the coil, turning it without tipping it upside down, so that the fittings are in line with the holes left by the knockouts.
8. Fix the coil using the previously removed screws (5).
9. Shift the control panel (2), if present, or the terminal block (fixing it to the side opposite the water fittings), the motor and sensor cables (3), if present, fixing them with their grips. Ensure that the cables pass through the hole in the side of the appliance, protecting them with the relative grommet. If it proves easier to carry out this operation by separating the wires from the terminal blocks, mark the positions of the wires to avoid making mistakes when reconnecting.
10. Reconnect the wires to the relative terminal blocks or control panel (2), taking care that they are correctly positioned.
11. Replace the condensate collecting tray (4) in horizontal models or the galvanised panels in vertical models.
12. Remount the housing (if present).

**USING THE APPLIANCE**



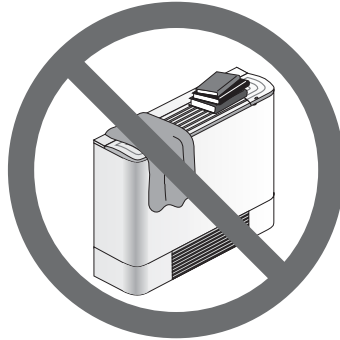
**WARNINGS!**

This appliance should only be used by adults. Make sure that children do not touch the controls or play with the appliance.

This appliance has been designed for use as a heating and cooling appliance in rooms that are clean and frequented by persons (with normal pollution).

Avoid using for any other purpose.

This appliance should not be used in places with suspended dust/powder or in potentially explosive atmospheres, in very damp environments or in the presence of oil in suspension or in particularly aggressive atmospheres.



Do not allow children or unassisted handicapped persons to use the appliance.

Do not touch the appliance with wet parts of the body or if barefoot.

Do not tug, pull or twist electrical cables attached to the appliance, even when disconnected from the electricity supply.

Do not open the flaps giving access to the internal parts of the appliance without having first put the system on-off switch to "off".

Do not introduce sharp pointed objects through the air intake and outlet grilles.

Do not leave packing material (boards, staples, plastic bags, etc.) within reach of children since they could be a source of danger. Dispose of correctly.

Do not sit or climb on the appliance or rest any type of object on it.

Do not spray or throw water directly on the appliance.

Do not use the appliance in places with suspended dust/powder or in potentially explosive atmospheres, in very damp environments or in the presence of oil in suspension or in particularly aggressive atmospheres.

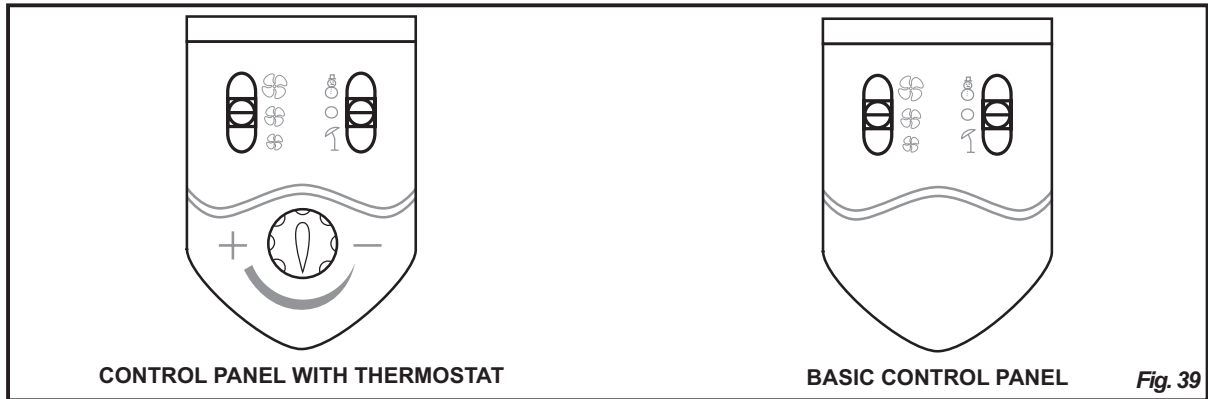
Do not cover the appliance with objects or drapes that even partially obstruct the air flow.

The appliance works by electricity at mains voltage (230 Vac, 50 Hz). Always bear in mind that mains voltage is potentially dangerous and any appliance connected to it should be used with caution. Before carrying out any work on the appliance, disconnect it from the electricity supply (by pulling out the plug from the mains socket or isolating the supply line by putting the on-off switch to off).

If the appliance is not be used for long periods, make sure that the controls are in the position 0 (off). If the appliance is not going to be used in winter when temperatures are near to freezing, drain the system and ensure that the appliance heat exchanger has no water in it in order to prevent the formation of ice and consequent breakage.

To make the appliance inoperable, disconnect it totally from the electricity supply.

**USING THE APPLIANCE WITH CONTROL PANEL**



If the appliance has a built-in control panel, raise the flap and proceed as follows.

**Heating mode**

Put the season selector switch from the off position (O) to the winter position (☸).

The fan starts.

In models with minimum temperature thermostat (optional), the fan starts when the internal heat exchanger is sufficiently hot. If the water is not hot enough, the fan does not start.

**Cooling mode**

Put the season selector switch from the off position (O) to the summer position (☹).

The fan starts immediately.

**Selecting the fan speed**



Put the selector switch to the required speed. The higher the speed the quicker the room will be heated/cooled, although appliance operation will be noisier (fig. 40).

**Automatic temperature adjustment** (for control panel with built-in thermostat)

This control panel has a built-in temperature sensor, which measures the room air temperature. This information is used for the automatic control of the fan or introduction of water into the internal exchanger through the solenoid valve (optional). The appliance thus keeps the room at the temperature set by the user.



The room temperature may be set approx. between 10°C and 30°C. If the appliance does not have a built-in control panel, but is controlled by a wall-mounted thermostat, refer to the thermostat instructions for use.

## CLEANING AND MAINTENANCE



The appliance requires no periodic maintenance. Simple checks by the user to keep it in perfect working order are, however, necessary.



**CAUTION!** Before carrying out any cleaning or maintenance work, disconnect the appliance from the mains electricity supply!

### CLEANING THE AIR FILTER

The appliance is fitted with an air filter on the fan inlet. During normal operation the filter withholds impurities in the air.

The filter should be cleaned periodically to keep its filtering properties and the airflow to the fan unchanged. It is advisable to clean the filter at least once a month, proceeding as follows.

1. Take out the filter.
2. Place the filter on a flat, dry surface and remove the accumulated dust with a vacuum cleaner.
3. Wash the filter with water and detergent (no solvents).
4. Leave the filter to dry in a ventilated place in the sun.
5. Replace the filter when it is perfectly dry.

Clean the filter at the beginning and end of every season.

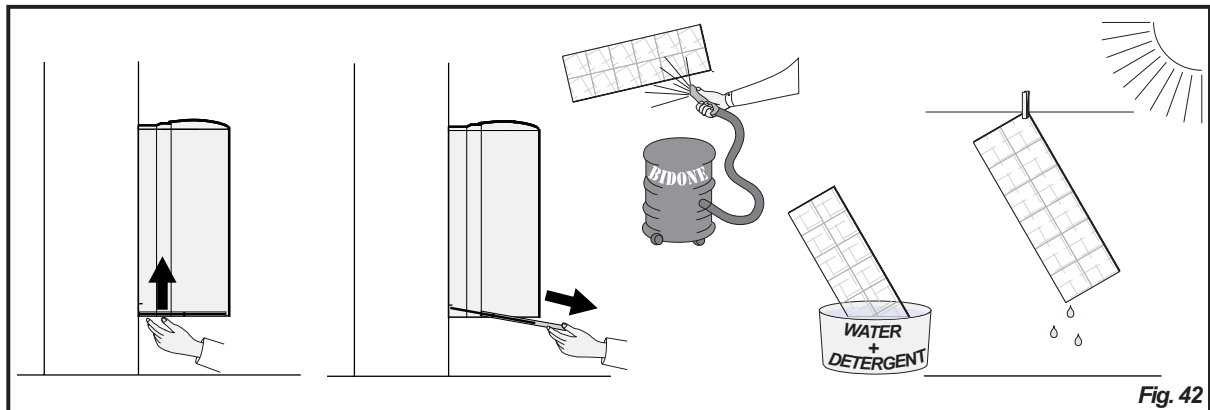


Fig. 42

Description fig. 42

Cleaning of the filter for the lower intake version

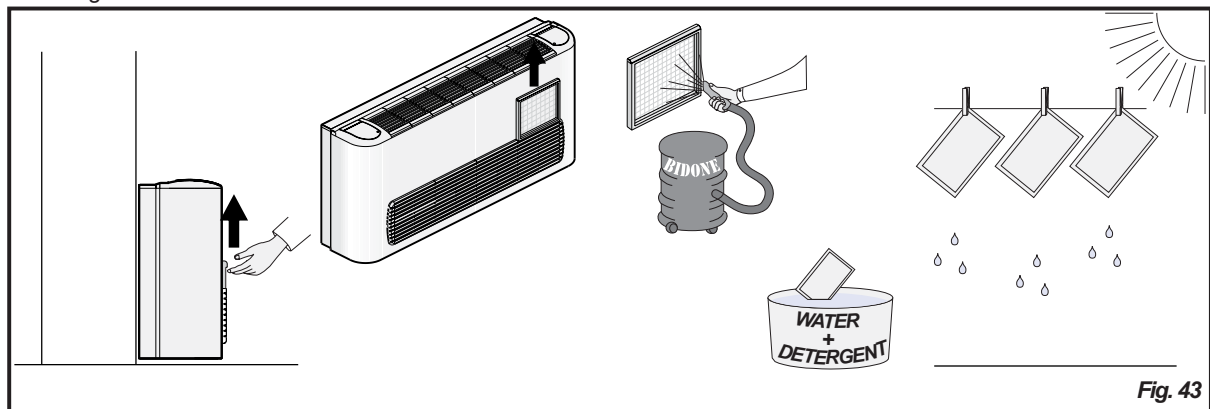


Fig. 43

Description fig. 43

Cleaning of the filter for the front intake version.

**N.B.:** The procedure for ceiling-mounted horizontal versions is the same.

## CLEANING AND MAINTENANCE



**CAUTION!** Before carrying out any cleaning or maintenance work, disconnect the appliance from the mains electricity supply!  
Under no circumstances use water for cleaning!

### CLEANING THE HOUSING AND THE CONTROL PANEL

To clean the housing, use a dry soft cloth to avoid scratching the enamel.

To clean the control panel and the air outlet louvres, use a vacuum cleaner fitted with a soft dusting tool or use a separate brush.

Delicately clean the louvres and the controls by removing dust from the cracks and corners. **Under no circumstances use water.**

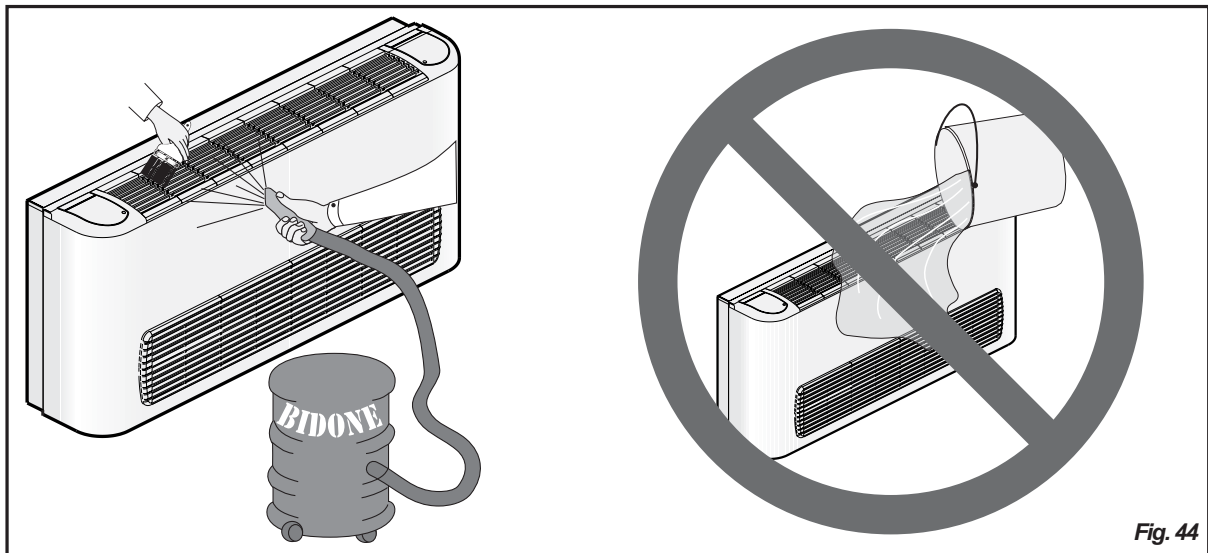




Fig. 44

### TROUBLESHOOTING

EFFECT	POSSIBLE CAUSE	POSSIBLE REMEDY
The fan does not turn.	Power failure.	Check the on-off switch.
	Switch in position 0.	Change position on the control panel.
	Water in the system not hot enough.	Check that the outlet temperature is above 40°C.
Little outflowing air.	Clogged filter.	Clean the filter.
The appliance does not heat.	No hot water in the system.	Check that the boiler and circulating pump are working.
	Incorrectly positioned hot/cold switch.	Check that the switch is on  for heating and  for cooling.
The appliance does not cool.	No cold water in the system.	Check that the chiller and the circulating pump are working.
The appliance heats/cools very little.	Incorrectly regulated thermostat.	Turn the thermostat knob (if installed) left/right
	Air in the pipes.	Bleed by loosening the valve at the heat exchanger inlet.
Water on the floor during cooling.	Blocked condensate drain.	Switch off the appliance and contact the installer to check condensate drainage.

Tab. 2

### DISMANTLING THE APPLIANCE

This appliance is made to last for many years. Qualified personnel are needed to dismantle it in all safety. The first operation to be carried out before dismantling the appliance is to disconnect it totally from the electricity supply. This appliance has been made using recyclable materials (copper, aluminium, brass, plastic) assembled by screws and push-fits to make separation of the parts easy. Contact a firm specialised in differentiated waste disposal; it is the only way to be certain of correct recycling and thereby contribute to protection of the environment.





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