

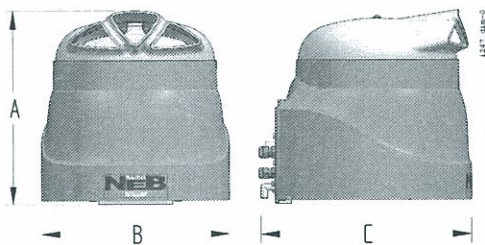
## 1. Technical features

### 1.1. Technical data table

Atomization Capacity	1 L/hour at 50 Hz, 1.2 L/hour at 60 Hz
Power Supply	230 V, 50/60 Hz
Nominal Power	23 W at 50 Hz, 30 W at 60 Hz
Nominal Current	0.13 A at 50 Hz, 0.15 A at 60 Hz
Air Flow	80 m <sup>3</sup> /hour
Feed Water Pressure	100 kPa ... 1.000 kPa
Water Supply Tank Capacity	0,055 L
Working Temperatures	+1 °C ... +35 °C
Working Relative Humidity	0 ... 100% R.H.

Tab. 1.1.1

### 1.2. Weight and dimensions



A	312 mm
B	302 mm
C	339 mm
Weight	4,3 Kg

Tab. 1.2.1

## 2. Introduction

The MININEB is a room humidifier, working by the principle of atomizing water by mean of centrifugal force. The machine must be feeded by tap water or fully demineralized water. For a correct functioning of the machine, it's very important to follow the below installation rules.

### 2.1. General safety rules

The machine must be connected to an electric installation that complies the local regulations, by an electric control box including all safety and control devices.

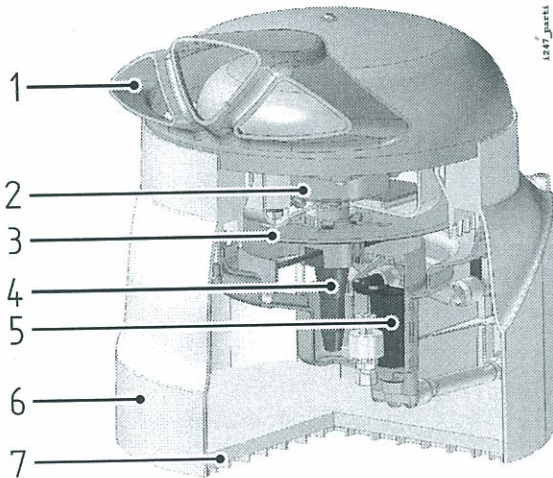
Before starting any kind of intervention on the machine, remember to disconnect the electrical power supply, using the main switch located in the electrical control box.

After any kind of intervention on the machine, be sure, after completing the work, that no tools of any kind are left inside before restart. Installation and maintenance of the machine must be made by expert, qualified personnel able to do the work following the instructions written on this manual.

This machine has been designed for air humidification, and any other use different from this is strongly not recommended. Any utilization different from the one described in the present manual is to be considered improper, and potentially dangerous and harmful.

Keep those instructions in a safe place for future reference.

### 2.2. Main components



- |   |                |
|---|----------------|
| 1 | Air Diffuser   |
| 2 | Electric Motor |
| 3 | Atomizing Disk |
| 4 | Suction Cone   |
| 5 | Drain Siphon   |
| 6 | Body           |
| 7 | Air Filter     |

Tab. 2.2.1

### 3. Installation

#### 3.1. Preliminary operations

To put in operation the MININEB it's necessary to have :

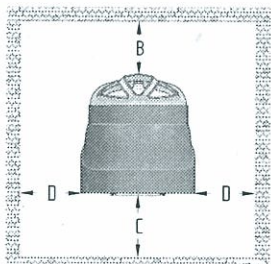
- Electrical Power Supply 230V/60Hz grounded and with protection devices.
- Water supply connection
- Water Drain connection

The installation must comply the requisites provided by the local safety regulations.

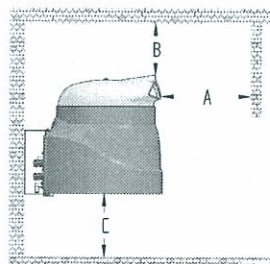
#### 3.2. Positioning

The MININEB must be fitted as in Pic. 3.2.1, Pic. 3.2.2, Pic. 3.2.3, in horizontal position, with the air filter directed below, leaving a correct space from the ground. Any other positioning compromises the correct performance of the machine.

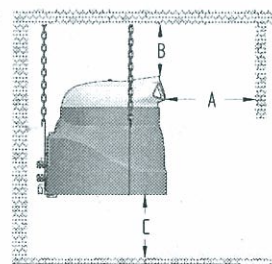
##### 3.2.1. Minimal distances



Pic. 3.2.1



Pic. 3.2.2



Pic. 3.2.3

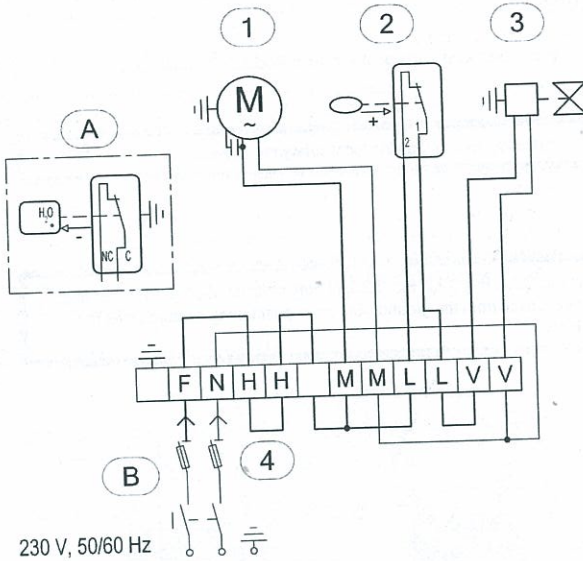
	A	B	C	D
minimal	2 m	0,5 m	0,05 m	0,8 m
suggested	3 m	1 m	1,5 m	1,5 m

Tab. 3.2.1



### 3.3. Electrical connections

#### 3.3.1. Electrical wiring diagram



1	Humidifier motor
2	Floating switch
3	Solenoid Valve
4	External Humidistat Bridge
A	External Humidistat 230V. 50/60 Hz. 0.2A (Optional)
B	Line Protection (Not Supplied)

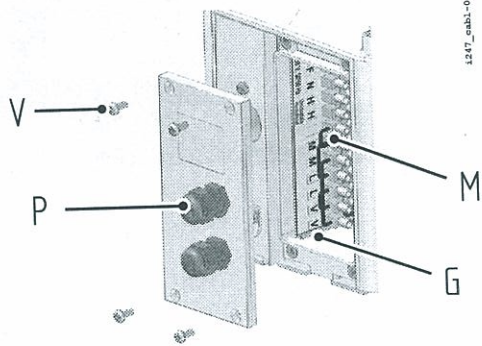
Tab. 3.3.1

Pic. 3.3.1 - Wiring diagram

#### 3.3.2. Cabling

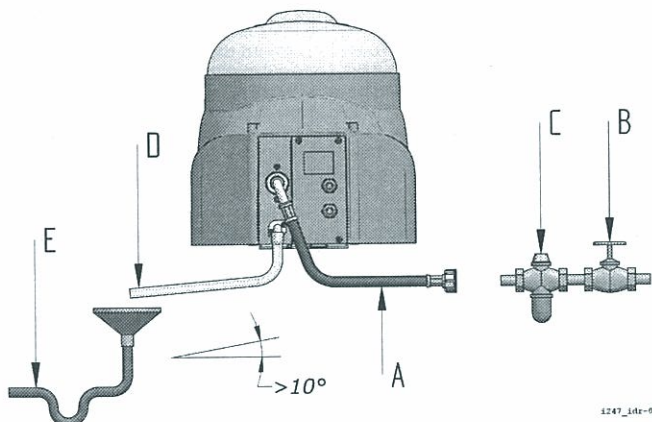
Referring to Pic. 3.3.2:

- Remove the cover of the electrical connection box, located on the rear of the machine, unscrewing the four screws V.
- Pass the electrical power supply cable through the cable holder P.
- Take off the terminal board M from the box.
- Connect phase, neutral and earth cable on the first three terminals of the terminal board.
- Put the terminal board back into the electrical box carefully inserting the metal bracket into the slides G.
- Close the electrical connection box.



Pic. 3.3.2

### 3.4. Hydraulic connections



Pic. 3.4.1 - Hydraulic connections

The installation of the machines requires the connections to the hoses for water feeding and discharge. The hoses, included with the humidifier, must be fitted as described below. The water supply hose A, supplied as standard, has on both extremities a threaded bush G  $\frac{3}{4}$ .

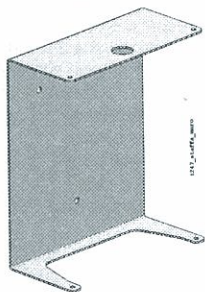
Connect the L-shaped end to the solenoid valve of the MININEB, and the other end (the straight one) directly to a tap (B) or an extension. It's suggested to connect a mechanical water filter (C) downstream the tap B.

Concerning the water discharge, use the hose D, supplied as standard, or an analogue one having an internal diameter of 10mm. The hose must be installed as represented in Pic. 3.4.1 with a minimal gradient of  $10^\circ$ , to guarantee the correct water discharge.

An eventual siphon E must be on the main discharge and not on the hose connected to the machine.

To guarantee a regular and efficient water discharge, carefully check that the discharge hose is fitted with a gradient and stright, without elbows or bottlenecks of any kind.

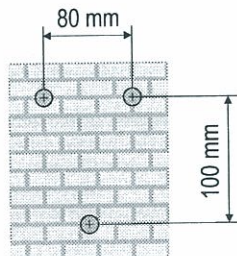
### 3.5. Wall installation



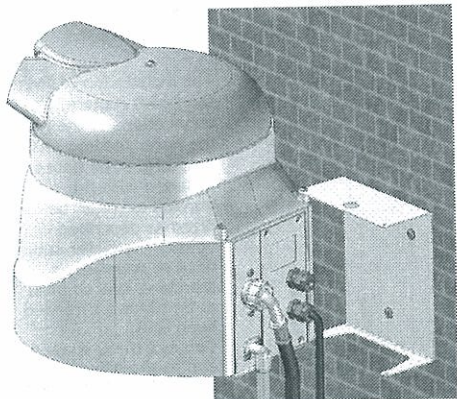
Pic. 3.5.1 - Wall mounting bracket

Use the supplied metal bracket shown on Pic. 3.5.1 with screws to install the machine to a wall. The special bracket can be used as a template to mark the holes to be made on the wall, as in Pic. 3.5.2.

- Observe the minimal distances written at the Par. 3.2;
- Check that the extremities of the bracket are perfectly horizontal before holing.
- Check that the wall where the machine will be installed is able to sustain the weight in operative conditions.



Pic. 3.5.2 - Holes on the wall



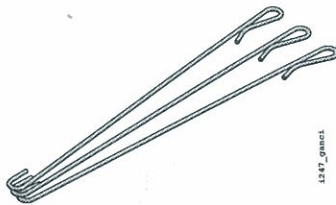
Pic. 3.5.3 - Wall installation

- Make three holes diameter 6mm and 3mm deep on the wall, as in Pic. 3.5.2; Clean the holes internally.  
Insert the three screw anchors keeping the expansion fins on the vertical plane; fasten the bracket with the three screws.
- Screw without tightening two of the four screws necessary to fit the mini NEB to the bracket, as represented in Pic. 3.5.3.
- Rotate the machine until the remaining two holes on the machine coincide with the holes on the bracket: the hoses and the power supply cable must pass between the bracket and the machine, in the dedicated space.
- Screw the last two screws, and finally fasten all the four screws.
- Check the installation solidity.

### 3.6. Hang up installation

The Hang up installation can be made using the supplied, special shaped hooks (Pic. 3.6.1). It is necessary to prearrange three support chains where to hang up the machine.

The chains must be as strictly vertical as possible, and attached to connections able to sustain the weight of the machine (see: Tab. 1.2.1). Use metallic chais, possibly stainless steel made, and anyway made of a matherial not sensitive to humidity. Observe the minimal distances written on Tab. 3.2.1.



Pic. 3.6.1 - Hooks



## 4. Startup, control and switch off.

### 4.1. Checks

Before starting the humidifier, check the following points:

- All connections, both electrical and hydraulic, must be made as is written in the present manual.
- There must be no water dripping in the circuit.
- The air filter must be fitted.
- The water supply tap must be opened.
- The air distribution outlets must be correctly oriented.

### 4.2. Startup

To start the humidifier, close the main switch. The machine starts immediately, and after some seconds it starts nebulizing water. It's suggested to check that during normal operation the water discharge does not work continuously.

In the case that there is a continuous water discharge see the possible solutions written at paragraph par. 8 Problem

### 4.3. Switch off

To switch off the machine, open the main switch. The humidifier will slow down until it stops, meanwhile the water contained in the machine will fall down on the water basin and trigger the siphon, that will discharge it. It's suggested to close the water feed tap..

Between the switch off and the successive start up of the humidifier there must be a time delay of at least 30s, to allow the siphon to discharge the basin completely. If this does not happen the siphon remains triggered, and the water will be continuously discharged during normal operation, with an unnecessary water waste.

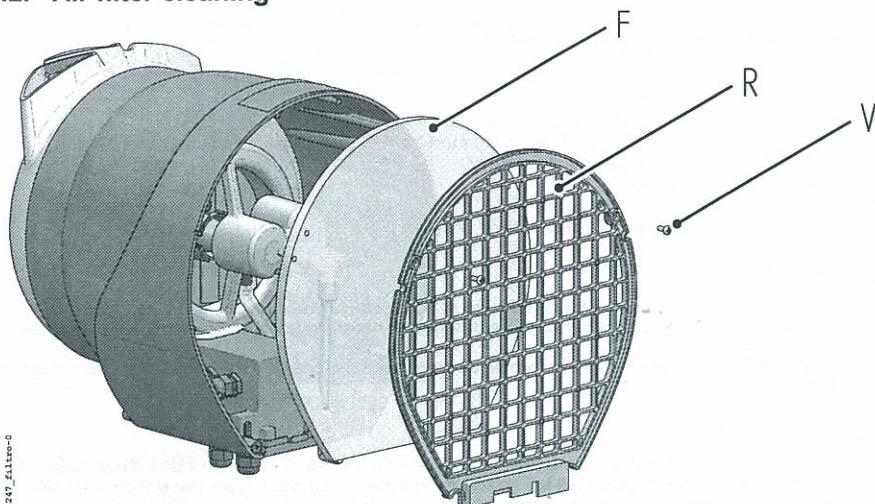
## 5. Maintenance

### 5.1. Introduction

The mini NEB has been designed to guarantee an efficient and free of problems performance for a long time. It's anyway necessary to execute some simple maintenance procedures, the frequency of which depends heavily on the environment conditions where the mini NEB operates, and the quality of the water supply.

**WARNING:** before executing any kind of maintenance operation, open the main switch and wait until the machine completely stops. Close the water supply tap. Follow the general safety rules written on par. 0. Before restarting the machine make all necessary startup checks as written on this manual.

## 5.2. Air filter cleaning



Pic. 5.2.1 - Air filter disassemble

The air filter must be periodically cleaned, as the continuous accumulation of dirt and dust progressively reduce the air flow, and consequently the efficiency of the machine.

Referring to Pic. 5.2.1:

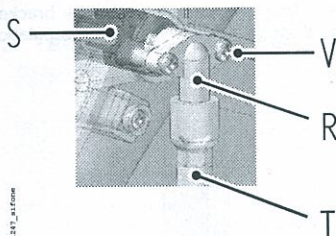
- Disassemble the filter unscrewing the two V screws that keep it in place.
- Remove the net R and the air filter F;
- Clean the air filter F with a vacuum cleaner or by rinsing it into soaped water. Dry it without wringing.

Reassemble all the pieces, carefully checking that the filter is correctly positioned and the net tightened with the screws.

**Never start the humidifier without the air filter F and the protection net R correctly assembled and tightened with the screws V.**



### 5.3. Inspection and Cleaning of the Discharge Siphon



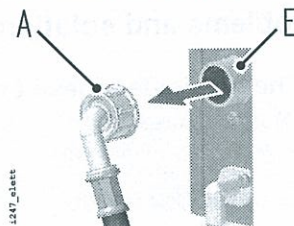
Pic. 5.3.1 - Siphon

It may be necessary to clean periodically the water discharge siphon R (see: Pic. 5.3.1) as the accumulation of dirt inside may compromise its correct and efficient operation. When a cleaning is necessary, see the following steps:

- Extract the hose T from the small pipe R;
  - Take off the screws V;
  - Take off the small pipe R;
  - Carefully clean both the small pipe R and the pipe S, that is located inside the basin;
- Once cleaned, reassemble carefully all the pieces.

### 5.4. Inspection and cleaning of the water feed solenoid valve

The water feed solenoid valve is fitted with an inlet filter that must be periodically checked and cleaned. To access the filter, unscrew the plastic threaded bush A of the water supply hose: the filter is located inside the threaded bush E of the solenoid valve. In case the cleaning frequency becomes too frequent, it is suggested to fit a cartridge filter on the feed water supply of the machine (see: paragraph 3.4 - Hydraulic connections)



Pic. 5.4.1 - Solenoid valve

## 6. Storage

### 6.1. General notes

- Store the machine in a room with a temperature between  $-10^{\circ}\text{C}$  and  $+60^{\circ}\text{C}$ .
- When the machine is into its package, keep the package vertical.
- Do not put on the machine too heavy packages.

### 6.2. Verifications to be made before and after a long working period

#### 6.2.1. Before

- Disconnect all electrical connections and close water feed supply tap.
- Cover the machine to protect it from dust

#### 6.2.2. After

- Check the air intake filter, clean it if necessary.
- Check that the floating switch works correctly, moving it, and check that the fan/disk assembly rotates freely.
- Open the water supply tap.
- Check that all electrical connections are correctly executed, as by instructions.

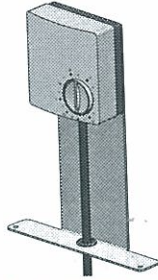
### 6.3. Product disposal

The machine is mainly composed of plastic components, and some metal parts, both recyclable. Before disposing of it, separate the plastic parts (body, cover, grille, etc.) from the metal ones (motor bracket, wall installation bracket, etc.). Remove the electrical cabling and dispose of it as by standard regulations

## 7. Optional devices

### 7.1. Control humidistat

The mini NEB is ready to fit a control humidistat, that switch the machine on only when the humidity value falls below a pre-set value. The humidistat is external, and can be attached to a wall, or fitted on the mini NEB using the special bracket supplied with the kit, as shown on Pic. 7.1.1.



Pic. 7.1.1 - Humidistat with bracket

## 8. Problems and solutions

### 8.1. The humidifier doesn't start

POSSIBLE CAUSES	SOLUTIONS
The power supply is interrupted	Check the electrical connections, starting from the electrical control box to the internal box of the humidifier
The start capacitor is burned	Substitute the capacitor with a new one

### 8.2. Air come out from the air outlet but not nebulized water

POSSIBLE CAUSES	SOLUTIONS
Water does not arrive to the basin	Check that the water supply tap is opened. Check that the water feed solenoid valve filter is not obstructed, and that the hoses are correctly fitted and unobstructed. Finally, check that the floating switch inside the basin is free to move correctly.
The fan cone extremity is obstructed	Clean the cone from the impurities and dirt inside

### 8.3. The Humidifier continuously discharge water

POSSIBLE CAUSES	SOLUTIONS
The siphon is dirty	When dirt accumulates inside the siphon, it is possible that the siphon is triggered during normal operation. Disassemble and clean the siphon accurately, even from small parts of dirt (see: par.5.3 Inspection and Cleaning of the Discharge Siphon)
The machine is installed not vertically	Check that the machine is installed as described on par.3.2 Positioning.