



# **Commercial Dehumidifier**

## **FSW 96 – Fan Coil Type**



**USER AND MAINTENANCE MANUAL**

# DECLARATION OF CONFORMITY



(Community directives Low Voltage and Electro-magnetic Compatibility)

**FRAL** Company s.r.l. Viale dell'Industria e dell'Artigianato 22/c – 35010 Carmignano di Brenta – PD – hereby declares that the following products:

## ***Dehumidifier FSW96***

Have been designed, manufactured and distributed by according to safety and electro-magnetic compatibility to European Norms and Regulations:

MACHINES NORMS (2006/42/CE) ;  
SECURITY REGULATIONS FOR LOW TENSION APPLIANCES 2006/95/CE;  
ELECTROMAGNETIC COMPATIBILITY (EMC) – 2004/108/CE.

It is hereby certified that this Dehumidifier conform to the:  
IEC Regulations CEI-EN 60335-2-40, CEI-EN 55014-1, 55014-2.  
The machine is built according to RoHS European Norms

**Machine is *IPX2***



The Legal Agent  
**Ing. Alberto Gasparini**

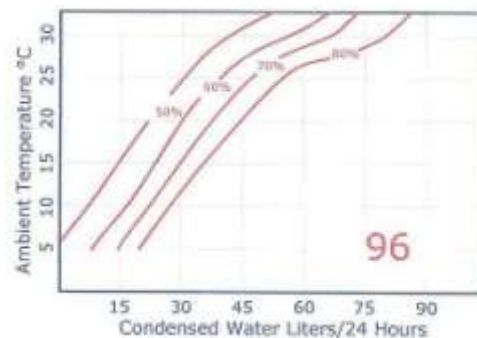
# TECHNICAL DATA

## CONDENSED WATER AT DIFFERENT AMBIENT TEMPERATURE AND HUMIDITY CONDITIONS

10°C 60%	10°C 80%	15°C 60%	15°C 80%	20°C 60%	20°C 80%	25°C 60%	25°C 80%	27°C 65%	27°C 80%	30°C 80%	32°C 90%
18 l/d	26 l/d	24 l/d	37 l/d	30 l/d	45 l/d	36 l/d	52 l/d	45 l/d	56 l/d	80 l/d	96 l/d

## TECHNICAL DATA

Power Consumption (at 27°C, 65% rh)	1200 w (hard wired)
Power Consumption (at 35°C, 95% rh)	1550 w (hard wired)
Absorbed Current (at 35°C, 95% rh) standard ver.	13 A
Start Current – Full Load Amp Standard Version	29
Air Flow	750 cm/h
Noise level (at 3 meters)	49 dB
Refrigerant	R407c
Standard Defrosting Control System	Electronic
Continuous Drainage Pipe (male)	19mm
Temperature Range standard version	7-35° C
Relative Humidity Range	40-99%
Condensation Capacity (at 30°C, 80% rh)	80 l/24 hr
Condensation Capacity (at 32°C, 90% rh)	96 l/24 hr
Weight	55 kg
Dimensions	175cm x 50cm x 29cm
Water Heating Coil Capacity (ambient 27°C, Water 70/60°C)	4.5 kW
Electric Heater Capacity	4 kW
Heat Recovery in Water	2 kW



# SAFETY

FRAL Company declines any responsibility for any danger or damage whenever this norm is not complied with.

### Inspection:

After receiving the unit, immediately check its integrity. The unit left the factory in perfect condition; any eventual damage must be questioned to the carrier and recorded on the Delivery Note before it is signed. Moisture Cure must be informed within 7 days of the extent of damage.

The customer should prepare a written statement on any severe damage.

### Lifting and Handling:

When unloading the unit, it is highly recommended to avoid any sudden moves in order to protect refrigerant circuit, copper tubes or any other unit component.

When the unit is connected to the power supply, it must be in a vertical position and moving should be avoided. Moving whilst connected to power could cause water to come into contact with electrical parts. It is therefore recommended to remove the plug from the socket before moving the unit.

### Unpacking:

When unpacking the unit, be careful not to damage it. The packaging is made up of different materials; wood, paper, nylon, etc. It is a good rule to keep them separately and deliver to the proper collection centre in order to reduce their environmental impact.

### Location and Clearances:

Consideration must be given to the following points when determining the most suitable site for the unit installation:

- location must ensure adequate air flow (no narrow spaces)
- location of power supply
- accessibility for servicing/maintenance and repair of the unit and/or its components
- floor loading strength and ability to support the operating weight of the unit
- possible objection to operating noise

Absolute care must be taken to ensure adequate air volume to the air intake and fan discharge, and to avoid air recirculation through the unit that will reduce its performances.

Air filter suction side – 1 metre  
Exhaust vent – 1 metre

The dehumidifier must not be covered.

For use in indoor swimming pool areas, keep distances from water according to safety norms.

**Installation and Servicing:**

This unit must always be connected using earthed electrical plugs as required for all electrical appliances;

When installing or servicing the unit, it is necessary to strictly follow the rules reported in this manual, to conform to all the specifications of the labels on the unit and to take all possible precautions.



Pressure in refrigerant circuit and electrical equipment present in the unit can be hazardous when installing or servicing the unit.

Any intervention on the unit using any instrument must be carried out only by a qualified technician.

Installing the unit:

Use holes in the top side of back panel for attaching the unit to the wall using screws to make it stable.

Rear Grill

Front Grill



# ELECTRICAL CONNECTIONS

Before every operation on the electrical section, ensure that electricity supply is disconnected

Main supply must be protected with a differential switch.

Main supply must be close to the unit.

The electricity supply must correspond to that of the unit reported on the label in the front panel of the unit.

Power connections must consist of a 3 wire cable – phase cable (active), neutral wire and ground cable (earth).

The line voltage fluctuations must not be more than  $\pm 5\%$  of the nominal value

# MAINTENANCE

The outside of the unit must not be cleaned using water. To clean the unit, use a wet cloth. Remember to disconnect the plug from the socket beforehand.

How to remove and clean air filter: The filter is located behind the grill. To remove the filter, remove the grill.

The filter should be cleaned periodically (normally every month). It can be washed under a faucet. In dusty rooms it should be cleaned more often. Remember that when the filter is dirty, the air circulation and consequently, the machines performance is reduced.

# CONTINUAL DRAINAGE OPTION

The machine is connected directly to a waste pipe.

In this case, use the male  $\frac{3}{4}$ : (19mm) connection.

Exit is similar to electric version.



# CONTROL PANEL

## Turn ON the unit

After the unit is connected to the power, press ON/OFF switch (lower left side) and the unit will start. The WORK LED will indicate that the unit is working. Whilst the unit is running, the WORK LED will remain on. During the defrost cycle, or when starting is delayed, this will blink.

## Humidity Reading

The 8 LED indicators in the centre of the control panel indicate the ambient relative humidity. Eg: the 45% LED is blinking means that the actual relative humidity is 40% (+/- 2.5%) or lower. If for example 50% LED is ON it means that the actual relative humidity is 50% (better if it is between 47.5% and 52.5%), and so on until 80%. If 80% LED is blinking, relative humidity in room is over 82.5%.

## Setting Humidity

To set the desired humidity, press SET + or SET - button to increase or decrease the setting. When you make a selection, the corresponding LED will blink. After a few seconds the LED will stop blinking and once setting is accepted the LED will indicate.

## Alarm

With units that have a tank, the ALARM LED will only come on when the tank is either full or not inserted correctly.



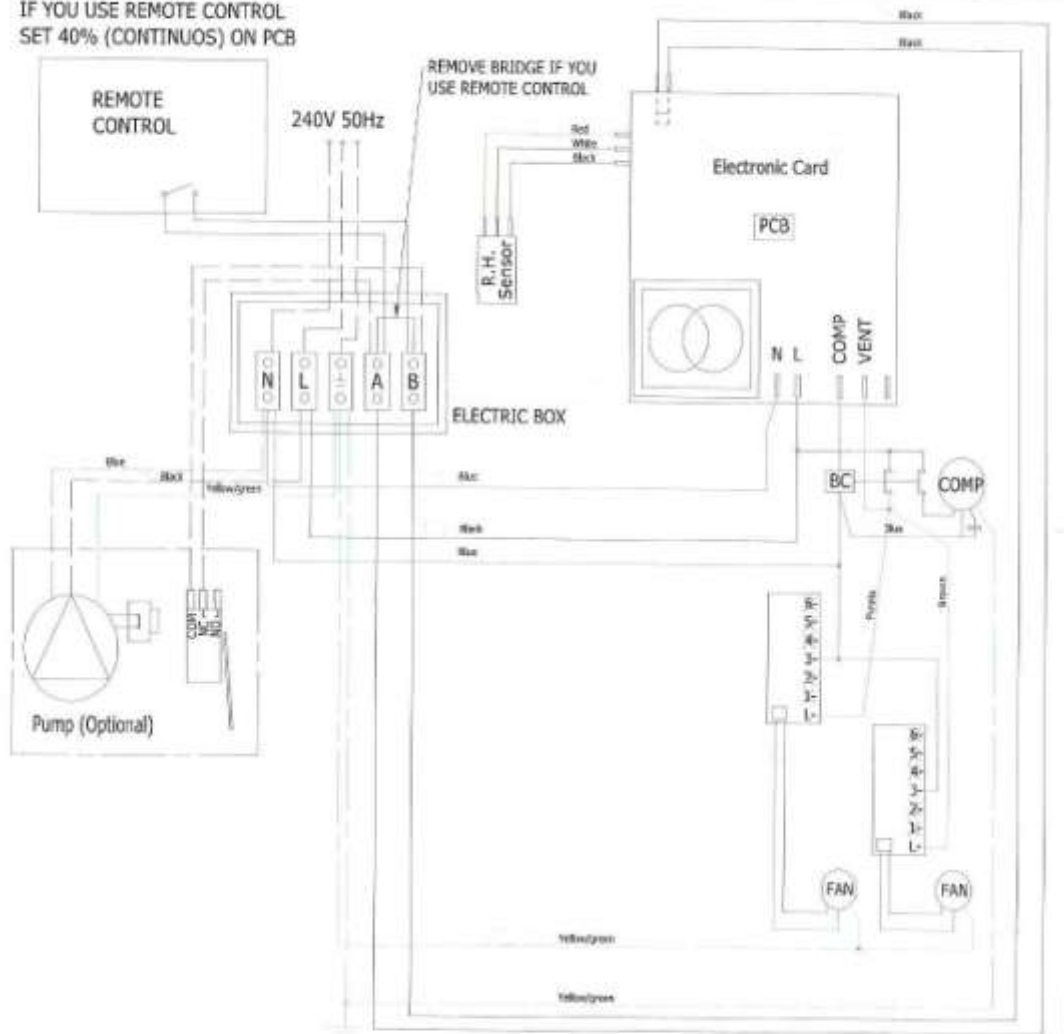
If the control panel doesn't work correctly, switch off power for at least 30 seconds and then start again.

Do not use the control panel with wet hands. Electricity and water do not mix!

# TROUBLE SHOOTING

PROBLEM	LED ON	PROBABLE CAUSE	CORRECTIVE ACTION
Unit does not start	None	Power supply missing	Provide power supply, replace fuses
	Power supply or humidity indicator LED on	Humidistat LED set too high or unit is turned off	Switch the machine on and/or set at a lower setting
	Power supply LED on (humidity indicator) alarm LED	Only in model with tank. Tank is full or not correctly inserted	Empty tank and/or insert it correctly
	Any LED	Electronic board or LED board defective	Replace defective board
Fan starts, compressor does not start	LED in centre blinking	Starting delay or defrosting	After maximum of 4 minutes, the central LED should stay on. Otherwise the electronic card is defective.
	Central LED on	Compressor defective	Replace defective board

IF YOU USE REMOTE CONTROL  
SET 40% (CONTINUOUS) ON PCB



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AUTORE: F. MARRAS			
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