

# DST

## Air destratifiers TECHNICAL and INSTALLATION MANUAL

GB



CE

COMPANY  
WITH QUALITY SYSTEM  
CERTIFIED BY DNV  
=ISO 9001/2000=

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**DECLARATION OF CONFORMITY **

Galletti S.p.A. whose main office is located at 12/a via Romagnoli, 40010 Bentivoglio (BO) - Italy, hereby declares, under its own responsibility, that the destratifiers belonging to the DST series, conform to the specifications of EEC Directives 73/23, 89/392, 91/368, /93/44, 93/68, 89/336, 83/97 and subsequent modifications.

Bologna 30/05/2003

Luigi Galletti  
President



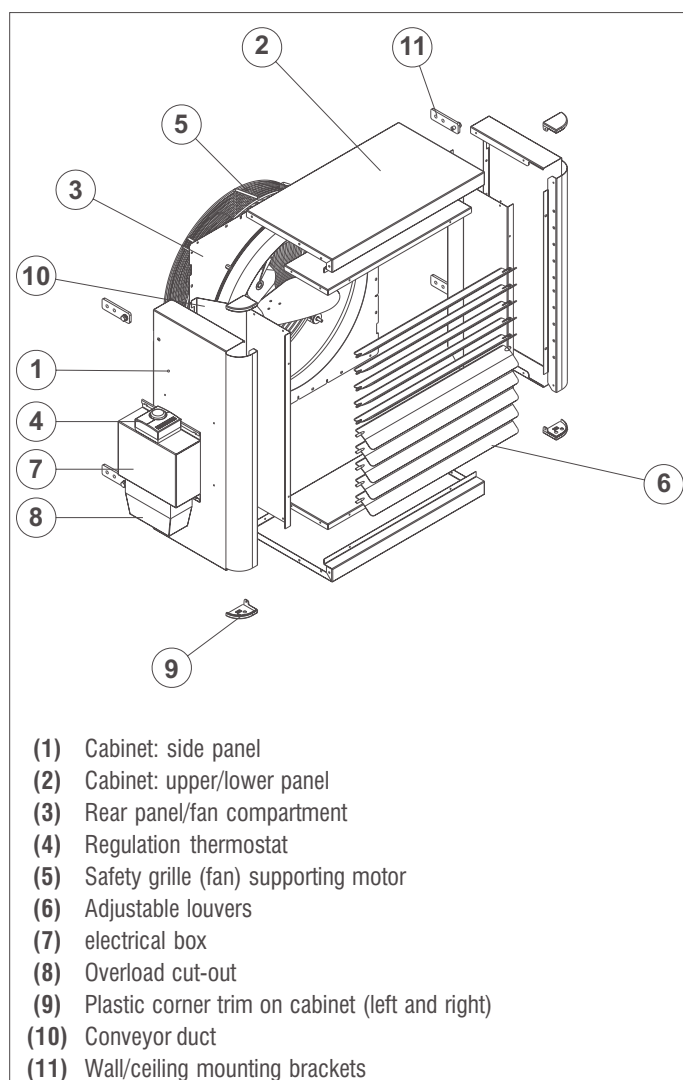
## 1 MAIN FEATURES

In working environments heated with hot air systems the need to keep the temperature at approximately 18°C, causes the air to stratify at the top of the room, with much of the heat remaining unused, which is destined to flow toward the atmosphere.

The **DST** destratifier eliminates this problem by generating a vertical flow of air to reduce the difference between the temperature at the floor and the temperature at the ceiling to about 3°C.

In the hot season the **DST** destratifier may be used to obtain a good ventilation.

## 2 UNIT DESCRIPTION



## 3 CONSTRUCTIVE FEATURES

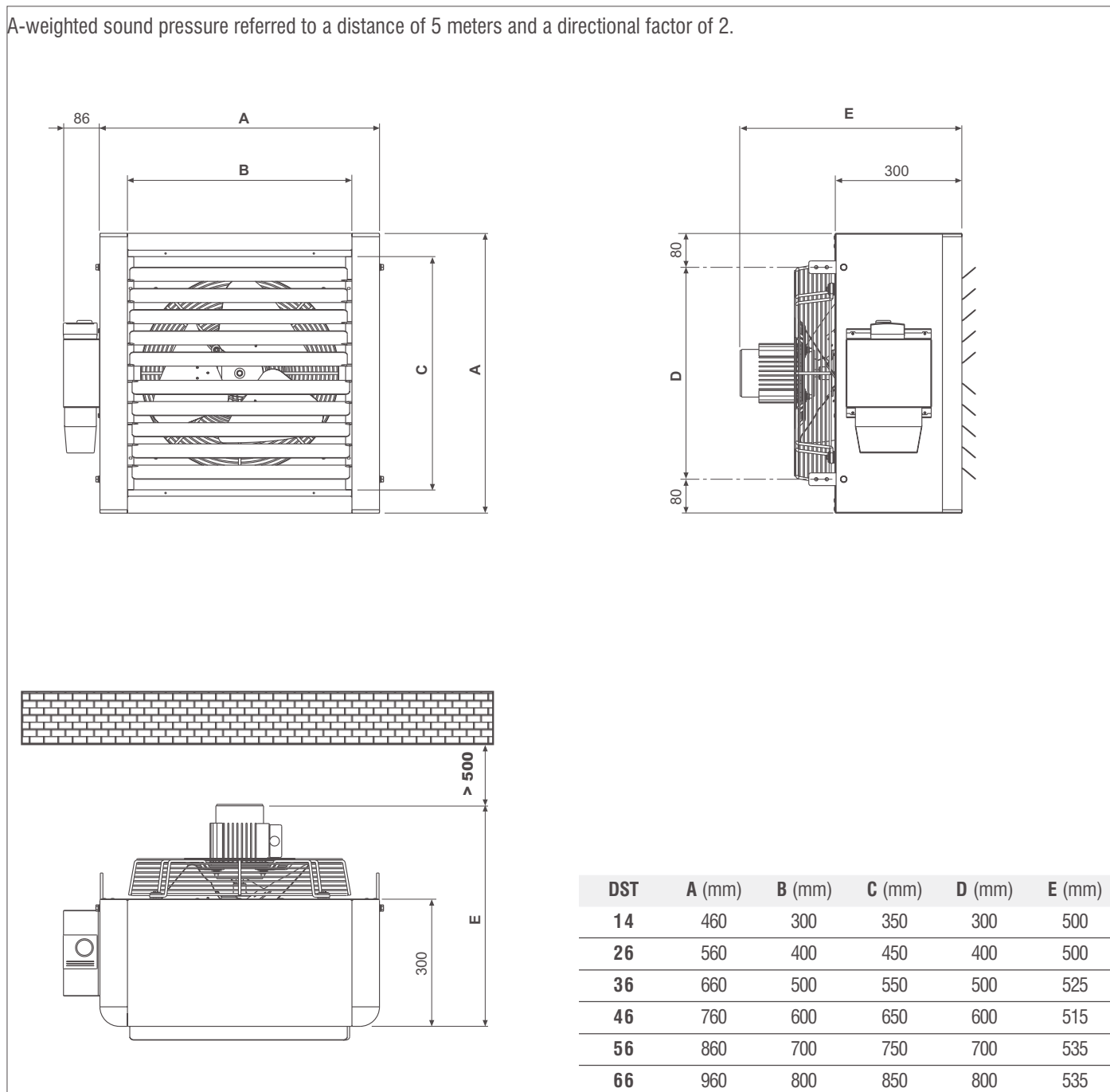
- **Cabinet:** made of prepainted sheet metal complete with ABS corner trim, is complete with adjustable aluminium louvers (spring operated) placed on the air outlet which allow an optimal distribution of the air.
- **Axial fan** with statically balanced sickle blades housed in a specially designed compartment that enhances ventilation and reduces noise emission.
- **Safety grille** made of electrogalvanised steel wire: it supports the motor and is fixed to the cabinet by means of vibration damping supports.
- **Motor:** standard equipped with:
  - two speeds
  - power supply 400V - 3 - 50Hz
  - delta-star type
  - 4 poles operation for model **DST 16**
  - 6 poles operation for all the models from **26 to 66**
  - tropicalized
  - internal thermal protection (klixon)
  - IP 55 grade of protection
  - Class F windings
- **Overload cut-out** with manual reset for motor protection
- **Thermostat:** connected to the overload cut-out to start and stop the DST destratifier at the set temperature
- **Suspending brackets:** made of stainless steel metal, for the suspending the unit from the ceiling.

## 4 RATED TECHNICAL DATA

Model		DST 16	DST 26	DST 36	DST 46	DST 56	DST 66
Fan speed		1400	900	900	900	900	900
Air flow	m <sup>3</sup> /h	1750	2750	3800	5000	6650	9500
Min. installation height	m	3	3,5	4,5	5	7	6,5
Max installation height	m	5	5,5	7	7,5	9	10
Power supply	V - ph - Hz	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50
Power input	W	67	178	294	471	860	540
Current Absorbed	A	0,21	0,4	0,58	0,85	1,37	1,18
Sound power	dB A	66	63	65	69	73	77
Sound pressure	dB A	44	41	43	47	51	51
Weight	kg	16	21	28	35	42	48

## 5 OVERALL DIMENSIONS

A-weighted sound pressure referred to a distance of 5 meters and a directional factor of 2.



## 6 HOW TO CHOOSE THE DESTRATIFIER

- 1) Set the units installation height in the environment.
- 2) Calculate the volume above the units and consider 5 volumes/hour of air recirculation.
- 3) Select the unit with air flow rate equal or higher than the overall volume to recirculate and the proper installation height.

### EXAMPLE

dimensions of the building :

- width 40 m

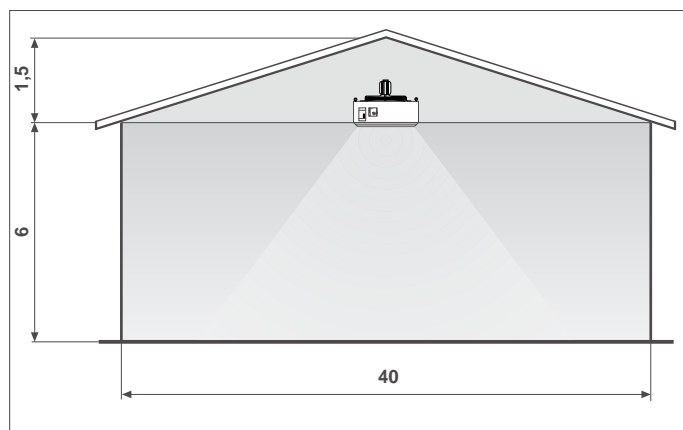
- length 100 m

- height 7.5 m

Destratifier installation height 6 m

The volume above the destratifier is of 3000 sqm; recirculated air flow should be at least  $3000 \times 5 = 15000$  sqm/h.

The best choice is no. 3 DST 46.



## 7 BEFORE STARTING INSTALLATION

Carefully read this manual.

Installation and maintenance may be carried out solely by qualified technicians specifically trained for this type of equipment, in conformity with current regulations.

On receiving the equipment, check that it has not undergone any damage during transport.

## 8 INTENDED USE AND OPERATING LIMITS

**Galletti S.p.A.** will not accept any liability for damage or injury caused as a result of:

- installation by non-qualified personnel;
- improper use or use in conditions not allowed by the manufacturer;
- failure to perform the maintenance prescribed in this manual;
- use of spare parts other than original factory parts.

The operating limits are:

Air inlet temperature: from  $-10^{\circ}\text{C}$  to  $+40^{\circ}\text{C}$

Supply voltage:  $\pm 10\%$

usage outside the stated limits is to be considered improper.

## 9 INSTALLATION

When choosing an installation site, you should observe the following rules:

- do not install the unit in places where inflammable gases are present;
- do not expose the unit directly to sprays of water;
- install the unit on walls or ceilings able to withstand its weight; use accessories suited to the purpose and suitable screw anchors.

Store the unit in its packing container until you are ready to install it to prevent dust from infiltrating inside it.

**Installation, maintenance and cleaning jobs may be carried out only with the power supply disconnected.**

**Do not modify the indoor electrical connections and the components of the unit.**

Set the working temperature on the thermostat before lifting the unit.

Using suitable lifting equipment (a forklift truck is recommended), convey the unit to the installation site and rest it on the floor with the fins facing down. Use the suspending brackets on the back of the cabinet to support the de-stratifier; before securing the unit to the ceiling ensure that the supporting chains, the studs and the surface used are able to support it.

Maintain adequate space around the de-stratifier to allow it to operate correctly and to allow routine and reactive maintenance to be performed.

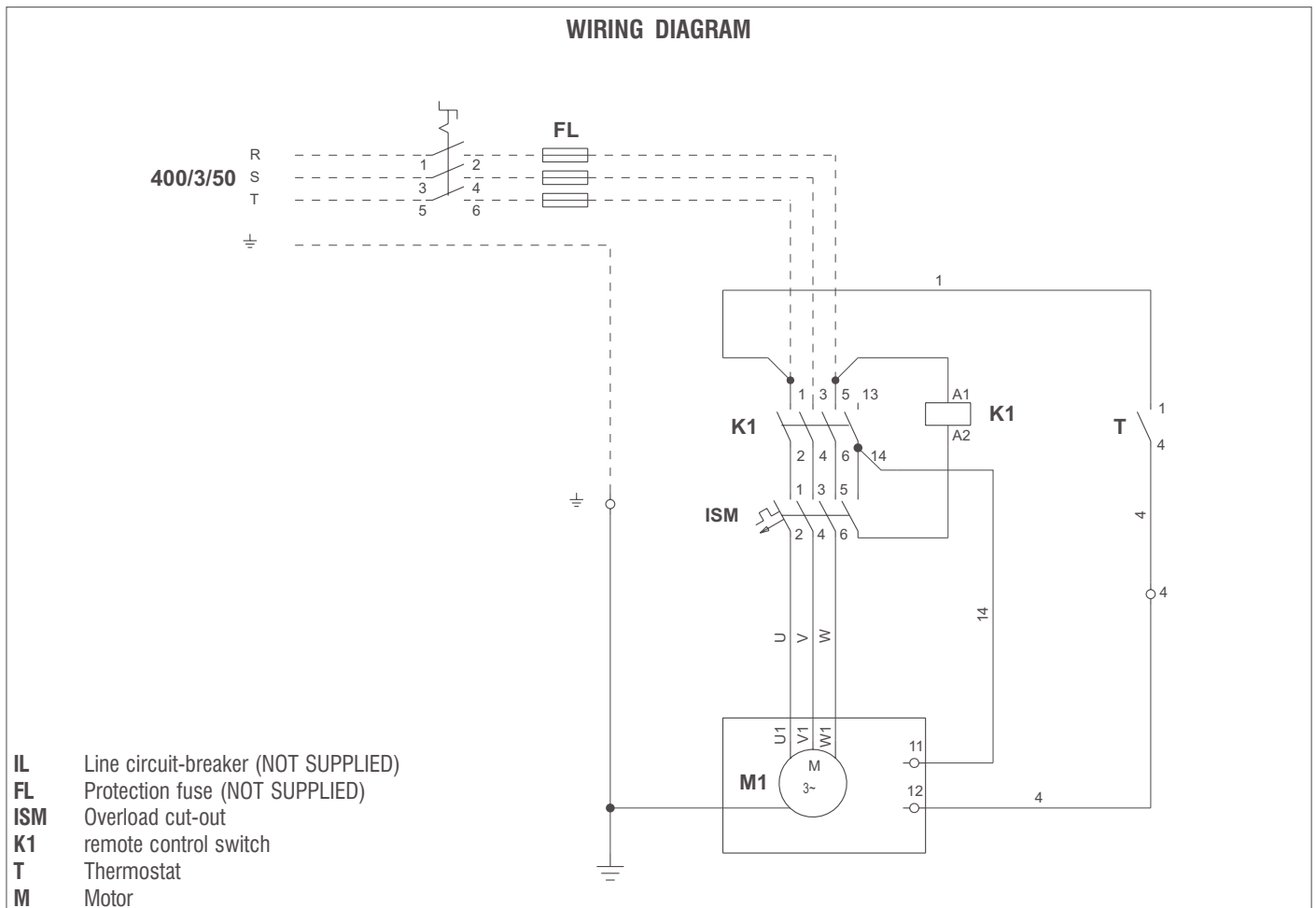
When the installation has been finished, check the chains fastening to the ceiling, check that the electrical wiring have been thightened, open the deflecting baffles and connect the unit to power supply in order to check its operation.

Make the electrical connections with the power supply disconnected, in accordance with current safety regulations. All the wiring must be done by qualified personnel.

Scrupulously follow the wiring diagram provided.

Check that the mains electricity supply is compatible with the voltage shown on the unit rating plate.

Each unit requires a switch (IL) on the feeder line with a distance of at least 3 mm between the opening contacts, and a suitable safety fuse (FL).



## 10 MAINTENANCE

Special care should be taken when carrying out maintenance work. Some metal parts may cause injuries; wear protective gloves. For safety reasons, before carrying out any maintenance or cleaning jobs, put the main switch of the unit off to disconnect the power supply. type with self-lubricating bearings. The final user can modify the direction of the adjustable aluminium louvers manually and the regulation temperature set on the thermostat as well. Maintenance may be performed exclusively by specialised personnel; contact your dealer or installer. The electric motor requires no maintenance as it is of the closed Stop the fan and disconnect the unit from the power supply before working on it.

## 11 TROUBLESHOOTING

If the unit is not working properly, before calling a service engineer carry out the checks indicated in the table below. If the problem cannot be solved, contact the dealer or service centre.

Problem	Cause	Solution
The destratifier does not work	<b>1</b> No power supply <b>2</b> The motor overload cutout has tripped <b>3</b> The thermostat has stopped the fan <b>4</b> The main switch is on off	<b>1</b> Restore the power supply <b>2</b> Contact a service engineer <b>3</b> Wait for the thermostat operation <b>4</b> Switch on the power supply



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