

# INSTALLATION & OPERATING MANUAL FOR THE BENSON RECOUPAK DE-STRATIFICATION FAN.



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## WARNINGS

All installations should be in accordance with the relevant requirements of Building Regulations, Local Authority Byelaws and I.E.E. Regulations and Units should be wired by a competent, qualified Electrician.



## Technical Information.

		R1750	R2500	R3250	R4500	R6300
Mounting Height	m	4 - 8	6 - 12	6 - 12	10 - 18	10 - 18
Approx Mounting Centres <sup>1</sup>	m	13 - 16	15 - 20	15 - 20	16 - 21	17 - 23
Air Volume	m <sup>3</sup> /h	3000	4250	6500	7650	11000
	c.f.m	1765	2500	3826	4500	6475
Maximum Throw	m	8	12	12	18	18
Velocity	m/s	3.77	3.63	4.72	6.53	5.73
Electrical Supply		230V 50Hz 1Pha				
Motor Size	W	160	230	245	600	725
Operating Current	A	0.7	0.8	1.1	2.0	3.5
Starting Current	A	1.5	1.9	2.4	6	6.7
Fuse Rating	A	6	6	6	10	10
Thermostatic Control		Included				
Net Weight	kg	15	23	20	23	30
Sound Pressure Level <sup>2</sup>	Lp db (A)	51	54	56	62	65

Notes: <sup>1</sup> Mounting centres based on mounting height. (i.e. the lower the unit, the further they are apart.) <sup>2</sup> Sound level @ 4m.

## Dimensions.

Model	A	B	C	D	E	F
R1750	470	470	330	330	325	200
R2500/R3250/R4500	570	570	370	370	400	260
R6300	720	720	602	462	400	260

## General information.

Benson Recoupak De-Stratification fans are a self contained unit incorporating adjustable four way louvre discharge, a high efficiency axial fan and an integral pre-wired thermostat mounted on the side of the unit.

Care should be taken to ensure that the unit is not sited in areas where it would be undesirable to recirculate high level air because of fumes, etc, or where corrosive atmospheres may attack the fan unit.

To obtain maximum benefit, destratification fans should be sited in the higher part of the building, close to the apex, approximately one metre below the peak.

Fans located over heat generating machinery or lighting maximise the benefits of 'free heat' whilst fans positioned close to doorways help to quickly restore comfortable conditions after door operation.

Fans should not be sited adjacent to large expanses of wall or roof glazing, or in close proximity to open flued heater units, as the airflow could adversely affect flue performance.

The destratification fan is equipped with four eyebolt suspension points, one on each corner, and may be suspended using chains or wires.

Each destratification fan is equipped with a cable gland mains input positioned on an electrical box on top of the main fan. Each unit will require a fused 230V 50Hz voltage supply to operate.

For safety and maintenance purposes, each fan should be fitted with an isolator located adjacent to the unit.

The information contained in this technical bulletin is designed to aid a qualified or competent service technician in the instruction it is intended for.

## Tools required.

The following tools and equipment will be required to complete this task:

1. Lengths of chain or suspension wire, accessories, and relevant tools.
2. Length of 3 core 1.0mm<sup>2</sup> cable.
3. Wire Strippers/cutters.
4. Electrical screwdriver.
5. Multi-meter.

## Step by step instructions.

### ! CAUTION – HEAVY ITEM!

The destratification fan is equipped with four suspension points, one on each corner. These connections take the form of an eyebolt.

Using either chain or wire rope, connect each point to a rigid construction i.e. unistrut, girders etc.

! Ensure the framework is adequate to take the weight of the particular destratification unit. Once the destratification fan is in position, the wiring can commence.

The destratification fan is despatched in a cardboard box. Remove component from box.

Remove the terminal box lid by unscrewing the self tapping screws to reveal the terminal block.

The correct connection terminals are denoted as L (live), N (neutral) and E (earth)

Locate mains 3 core insulated cable of not less than 1.0mm<sup>2</sup>, ensuring it is long enough to reach a suitable fused spur (or other device).

Using wire stripper, strip ends back of all wires. Feed the cable through the strain relief gland,

then using an electrical screwdriver, locate and fix wires into their correct positions in the connector block refer fig 1 and fig 2.

Carefully run the cable through suitable conduit to a fused spur. Connect wires in accordance with the manufacturers instructions.

Adjust all outlet louvres to achieve desired air distribution and ensure blades are not resonating.

Turn the power/spur on.

The destratification fan will now operate and automatically switch off when the set temperature has been reached.

To check operation of the Destrat unit, rotate room stat dial to min setting - fan should operate. Rotate room stat dial to max setting - fan should turn off. Finally turn the room stat to approx 2° - 3° above the desired room temperature. If the fan does not operate in this order, check wiring details in fig.3 or fig.4

Unit is now ready for operation.

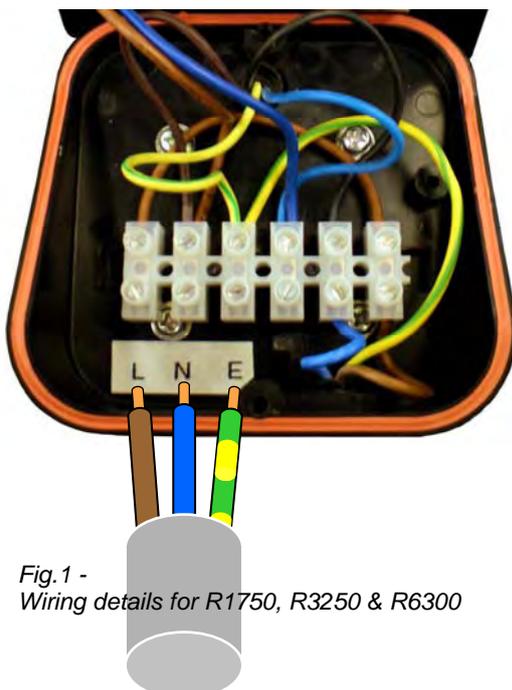


Fig.1 -  
Wiring details for R1750, R3250 & R6300

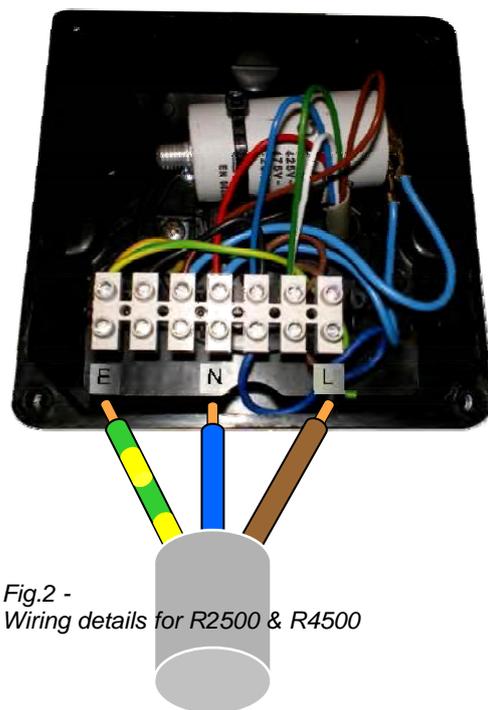
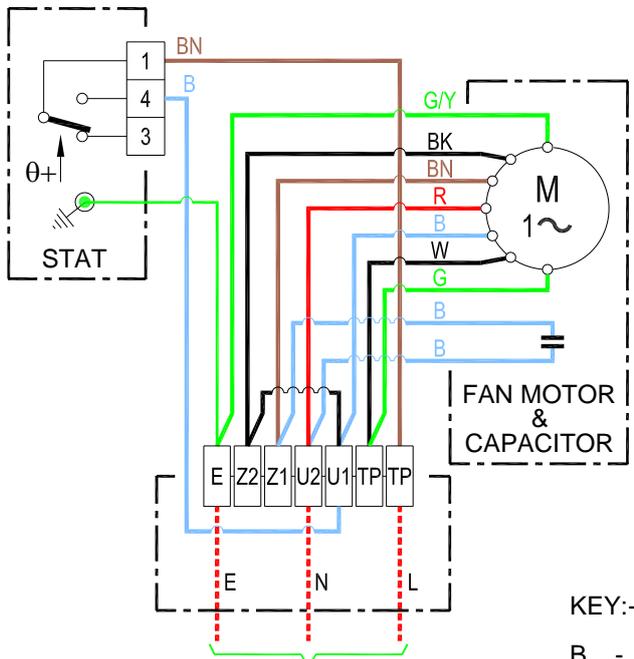


Fig.2 -  
Wiring details for R2500 & R4500

# Wiring details.

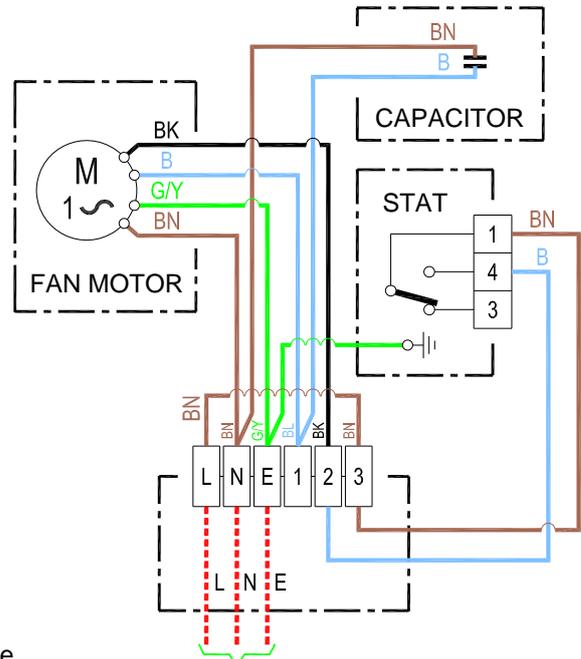
Fig.3 - Internal wiring Recoupak destrat fan R2500 and R4500 only



POWER SUPPLY }  
230V 1 Pha 50Hz }  
Must be taken from the switched  
side of the fused isolator.

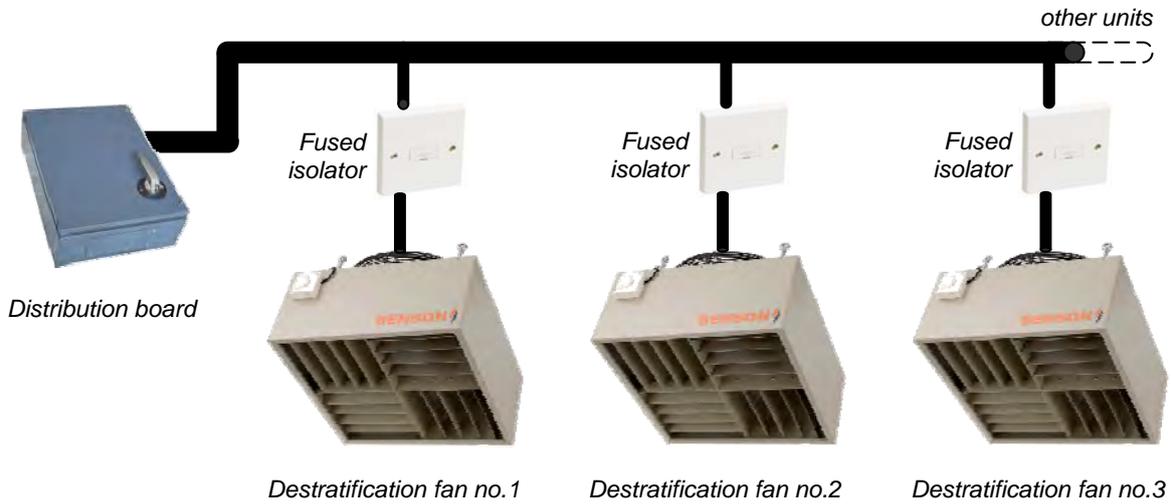
KEY:-  
B - Blue  
BK - Black  
BN - Brown  
R - Red  
W - White  
G/Y - Grn/Yel

Fig.4 - Internal wiring Recoupak destrat fan R1750, R3250 and R6300 only



POWER SUPPLY }  
230V 1 Pha 50Hz }  
Must be taken from the switched  
side of the fused isolator.

Fig.5 - Typical schematic wiring Recoupak destratification fan



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