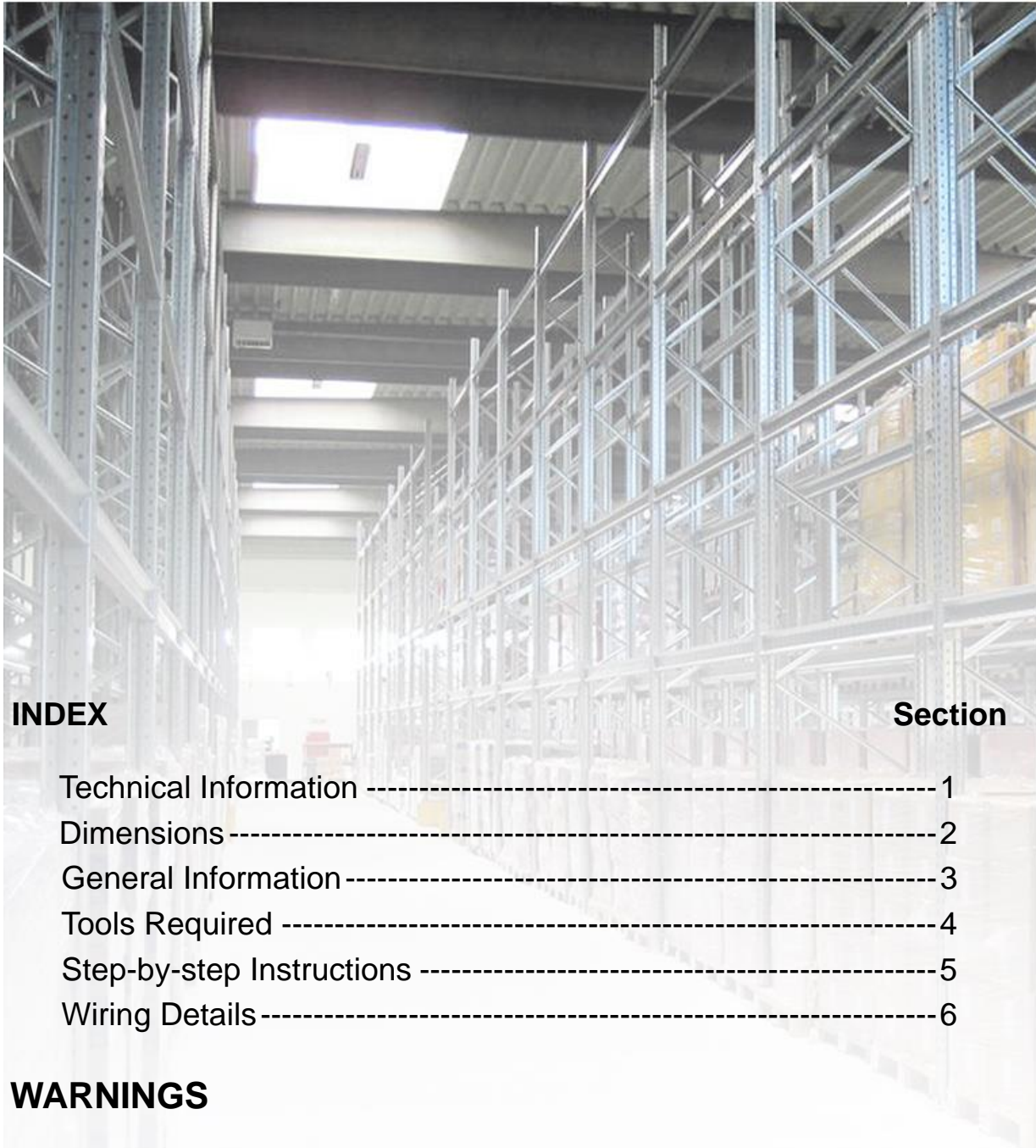


BENSON DS RANGE

DE-STRATIFICATION FAN

INSTALLATION AND OPERATING MANUAL



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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.

		DS3	DS4	DS6	DS8	DS10
Mounting Height	m	4 - 8	6 - 12	6 - 12	10 - 18	10 - 18
Approx Mounting Centres ¹	m	13 - 16	15 - 20	15 - 20	16 - 21	17 - 23
Air Volume	m ³ /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 ²	Lp db (A)	51	54	56	62	65

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

Dimensions.

Model	A	B	C	D	E	F
DS3	470	470	358	358	325	200
DS4/DS6/DS8	570	570	370	370	400	260
DS10	720	720	602	462	400	260

General information.

Benson destratification 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 from these using chains or wires.

Each destratification fan is equipped with a cable gland mains input positioned on the terminal box on top of the main fan. Each unit will require a 230V 50Hz 1ph fused 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 1.0mm² 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 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 three free wiring connection blocks have standard screw terminations.

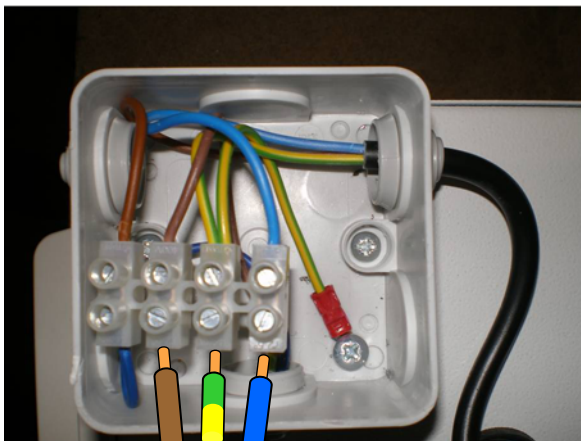


Fig.1 - Wiring

Locate mains 3 core insulated cable of not less than 1.0mm², ensuring it is long

enough to reach a suitable fused spur (or other device).

Using wire stripper, strip back ends 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.

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

The unit is now ready for operation.

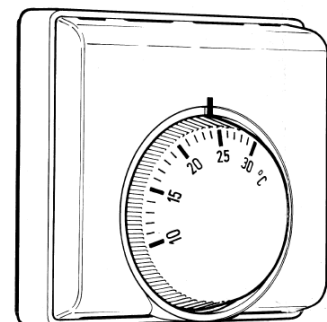
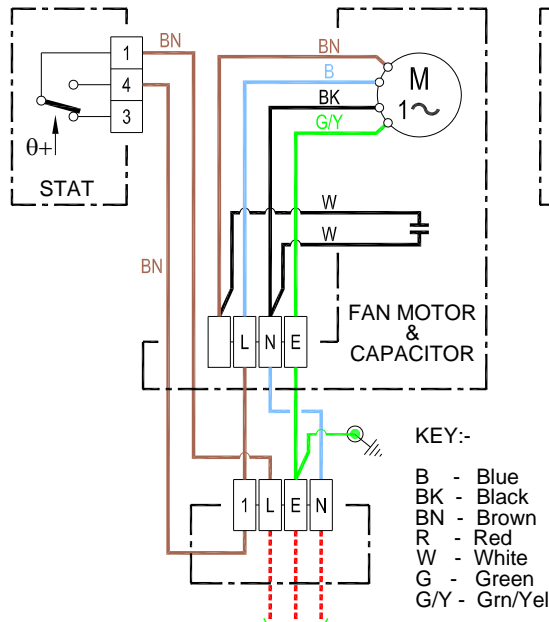


Fig.2 - Thermostat

Wiring details.

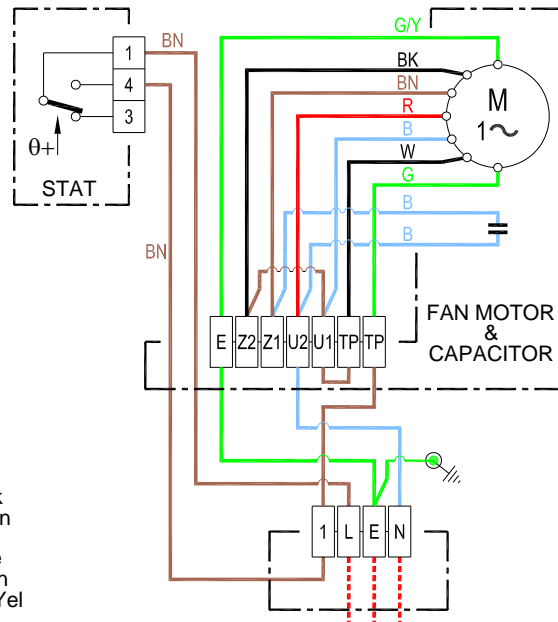
Fig.3 - Internal wiring destrat fan DS3 only



POWER SUPPLY }
230V 1 Pha 50Hz }

Must be taken from the switched side of the fused isolator.

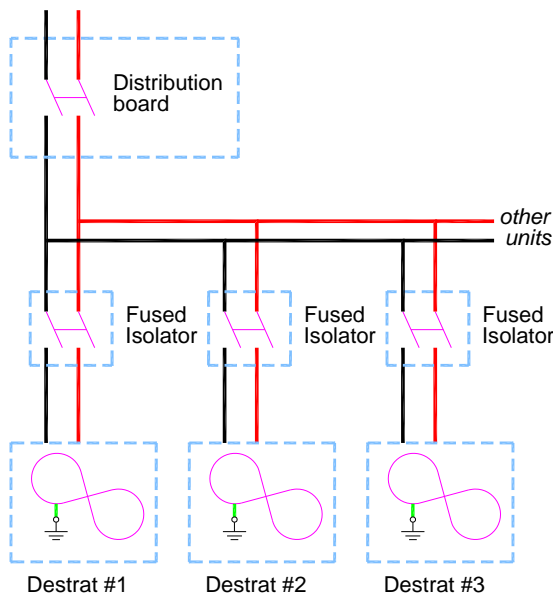
Fig.4 - Internal wiring destrat fan DS4, DS6, DS8 & DS10



POWER SUPPLY }
230V 1 Pha 50Hz }

Must be taken from the switched side of the fused isolator.

Fig.5 - Typical schematic wiring destrat fans



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Registered in England No. 1390934. Registered office: 10 Norwich Street, London, EC4A 1BD

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Document reference number: 36-40-264 Jun 2015 issue 12
Replaces Oct 2014 issue 11