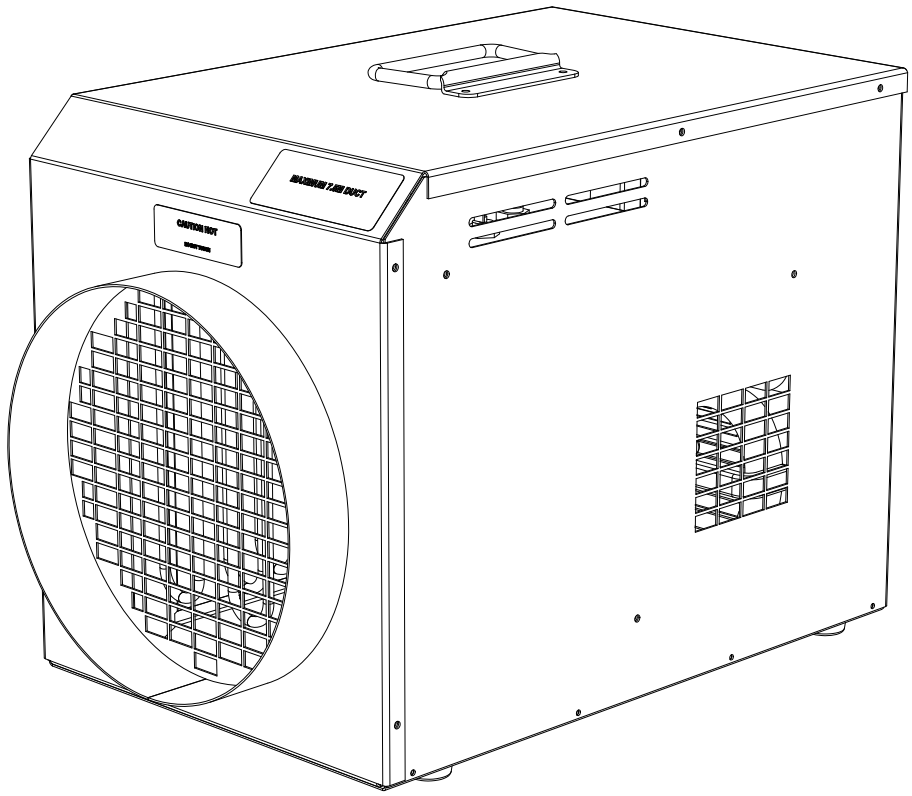
FF13



FF13
3 PHASE 400V ELECTRIC HEATER

PRODUCT MANUAL

WARNINGS

These instructions should be read by:

The specifying engineer.
The installation engineer.
The user.
The service engineer.

- **Failure to follow these instructions may result in risk of personal injury or damage to the equipment.**
- **Damage due to a failure to follow these instructions will invalidate the warranty.**
- **The appliance must be commissioned & serviced by qualified engineers in compliance with local regulations.**
- **The appliance must be switched off and disconnected from the power supply before any work is carried out.**
- **There are no user controls inside the appliance casing.**
- **Do not place anything on top of the appliance.**
- **Do not use in the vacinity of a pool, bath or shower.**
- **An air gap of at least 300mm should be allowed at the sides of the unit to ensure a clear airflow. Do not site the unit close to soft fabrics or combustible materials.**
- **Allow the unit to cool by running fan only for a minimum of 5 minutes before switching off.**
- **Do not disconnect the appliance from the supply under load.**
- **For internal use only. Do not use out of doors.**
- **Extension cables should be correctly rated for the load,fully unwound and never run through water or over sharp edges.**
- **Ensure that locking castors are engaged before running the unit.**
- **This unit can operate with a maximum of 7.5M of 250mm duct. Ducting should be kept as taught and straight as possible.**
- **The machine is not phase rotationally sensitive and does not require a neutral.**

Specifications:

The FF13 is a 13Kw 3 phase industrial electric fan heater.

The appliance is connected to a 16Amp 3 ~ 50Hz power supply and comes fitted with the appropriate plug A neutral is not required. A five pin plug can be fitted with no neutral connected.

The machine is not phase rotationally sensitive !

The FF13 is fitted with a high quality forward curved motorised impellor which will allow it to operate with up to 7.5M of 250mm duct.

The FF13 is fitted with an internal thermostat as standard.

Setup and operation:

To start:

- **Please note ! the control panel is at the rear of the appliance.**
- **Site the appliance on a firm level surface.**
- **connect to a 16 Amp 400v power supply.**
- **Switch the fan rocker switch to I. (please note! the heater rocker switch will not operate the heating elements unless the fan switch is on).**
- **Switch the heater rocker switch to I.**
- **Set the thermostat to the desired temperature.**

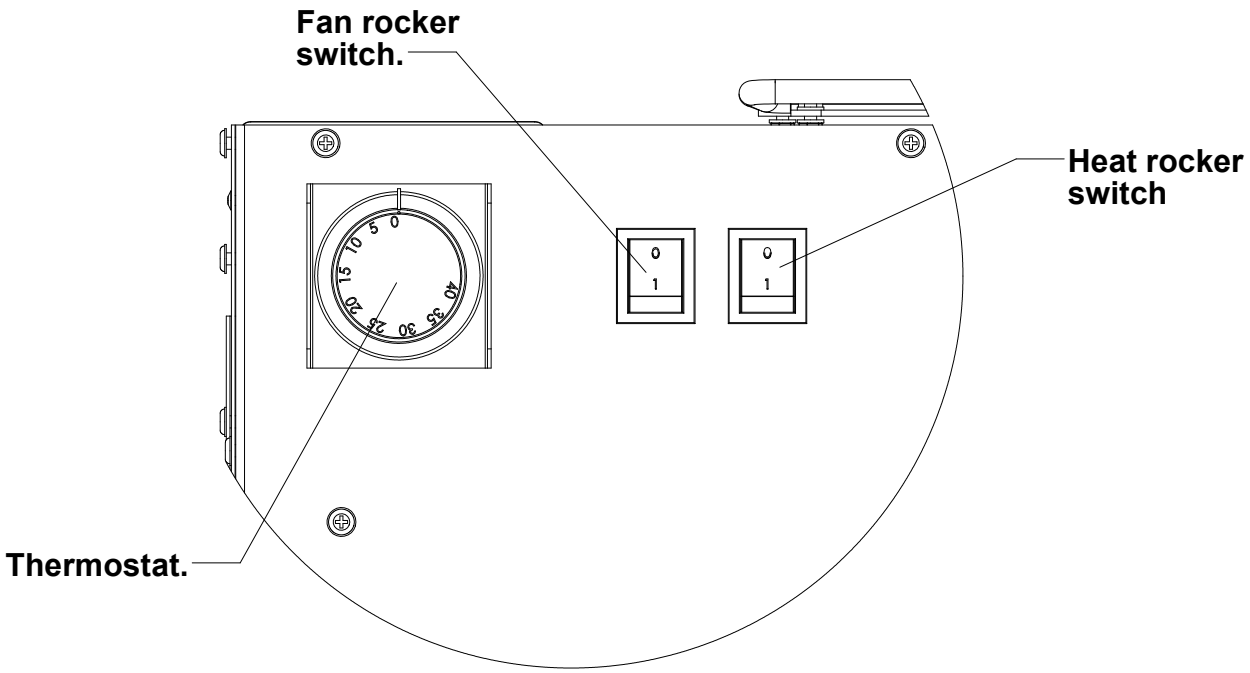
To stop:

- **Switch the heater rocker switch to 0 and allow the fans to run for a minimum of five minutes to cool the machine. Failure to follow this procedure will damage sensitive components and invalidate the warranty.**
- **Switch the fan rocker switch to 0 when the heat has dissipated.**
- **If the heater is not in regular daily use disconnect from the power supply.**

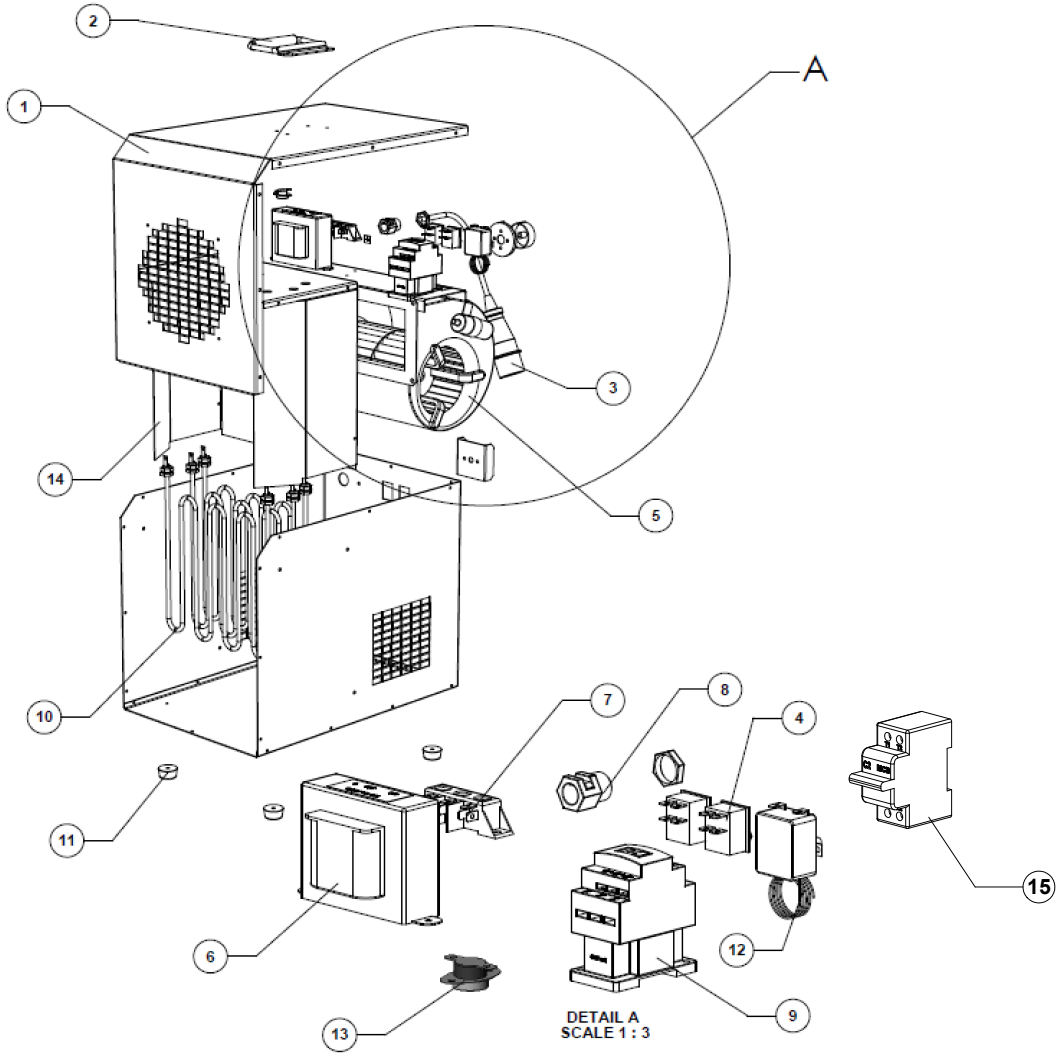
Protective /safety devices:

- **The FF13 is fitted with a safety limit thermostat. Should the maximum design operating temperature be exceeded it will shut down the heating elements and leave the fans running. This device will automatically reset as the temperature reduces.**

Rear view. Control Panel



Exploded view:



Spare parts:

Drawing #	Description	Part Number
1	Outer case set	BW020239
2	Trunk handle	ME040316
3	Mains cable c/w 4pin 16a 3ph plug	EL020122
4	2 postion rocker switch	EL0303235
5	133 Fan Assembly	
6	Transformer	EL030611
7	40a Terminal block	EL020415
8	Cable gland	ME040204
9	16A 400v Contactor	EL010219
10	2650w heating element	HE010114
11	Rubber foot	ME040315
12	Heating thermostat	EL030409
13	80°C Thermal cut out	EL010301
14	Inner chassis set	BW020242
15	2A 2 Pole MCB	

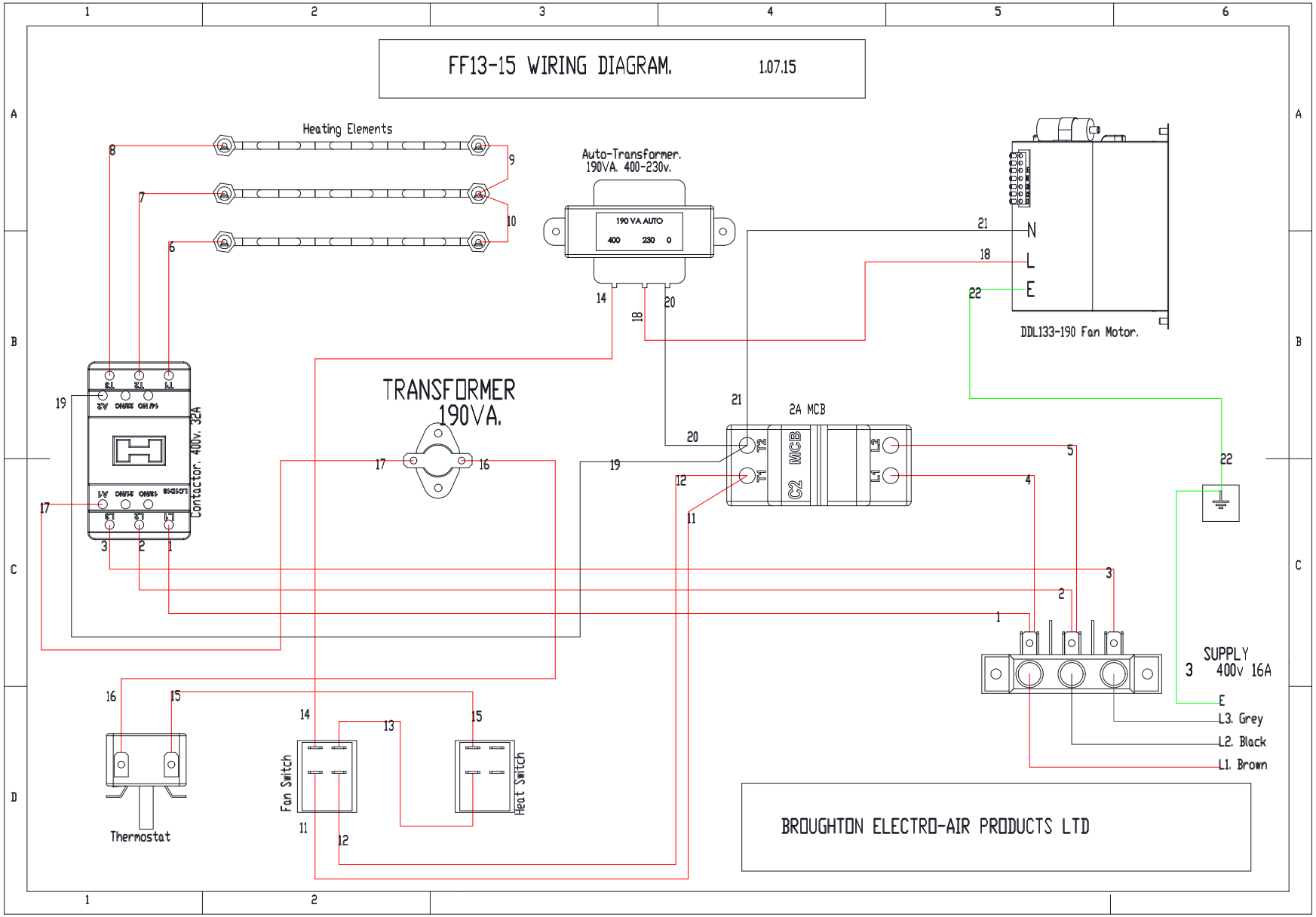
Maintenance:

Fan motors, elements and switch gear are not customer serviceable components. General maintenance should include regular inspection of:

1: Mains cable. Check for signs of damage to the insulation. Replace if necessary.
2: Air intake & outlet grills: ensure grills are free from accumulated debris. blow out with compressed air if required.
3: Fixings: Check all fixings are present and secure.

Fault finding:

FAULT	POSSIBLE CAUSE	SOLUTION
NO HEAT OUTPUT.	FANS AND OR HEATING NOT SWITCHED ON.	CHECK ALL SWITCHES ARE ON.
	THERMOSTAT INCORRECTLY SET.	TURN THERMOSTAT KNOB FULLY CLOCKWISE.
	POWER SUPPLY INTERRUPTED.	CHECK POWER SUPPLY.
	FAULTY ROCKER SWITCH.	CHECK SWITCHES AND REPLACE IF NECESSARY.
	FAULTY THERMOSTAT.	CHECK THERMOSTAT AND REPLACE IF NECESSARY.
	FAULTY CONTACTOR.	CHECK CONTACTOR AND REPLACE IF NECESSARY.
FAN MOTOR NOT RUNNING.	POWER SUPPLY INTERRUPTED.	CHECK POWER SUPPLY.
	FAULTY ROCKER SWITCH.	CHECK SWITCHES AND REPLACE IF NECESSARY.
TEMPERATURE RISE INSUFFICIENT.	THE MACHINE SHOULD DELIVER A TEMPERATURE RISE OF APPROXIMATELY 40ºC ABOVE THE AMBIENT TEMPERATURE. SHOULD THE MACHINE FAIL TO DO THIS CHECK THE POWER SUPPLY AND THAT THE THERMOSTAT IS TURNED FULLY CLOCKWISE. IT SHOULD BE NOTED THAT THE MAXIMUM AMBIENT TEMPERATURE THE MACHINE WILL RUN AT IS 40ºC +/- 3ºC.	


FF13-15 WIRING DIAGRAM. 1.07.15
Heating Elements
Auto-Transformer.
190VA. 400-230v.
190 VA AUTO
400 230 0
DDL133-190 Fan Motor.
N
L
E
TRANSFORMER
190VA.
2A MCB
C2 MCB
Contactor. 400v. 32A
Thermostat
Fan Switch
Heat Switch
SUPPLY
3 400v 16A
L3. Grey
L2. Black
L1. Brown
BROUGHTON ELECTRO-AIR PRODUCTS LTD