



powrmatic



DHM SL Range

OEM Instructions

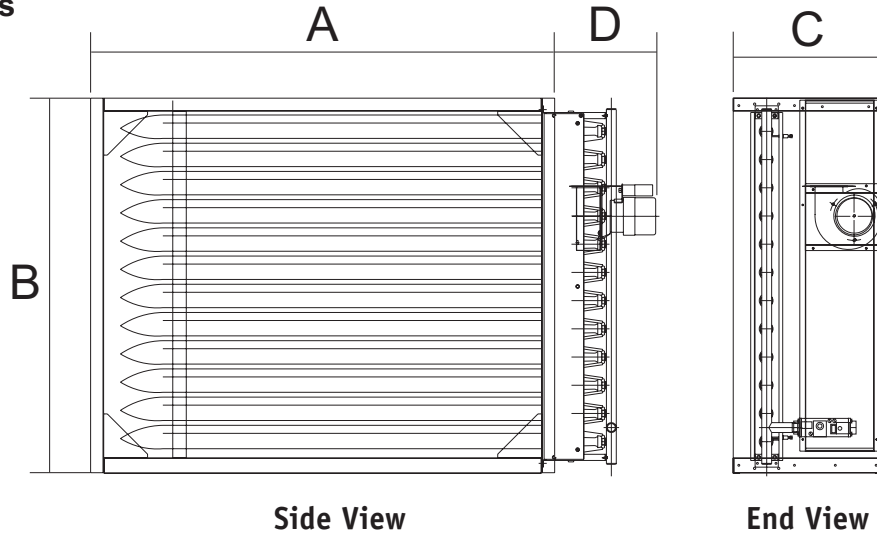
WARNING: THIS APPLIANCE MUST BE EARTHED

1. Introduction

The DHM SL Range comprises gas-fired in-line heaters covering a range of heat outputs from 30.0kW to 100.0kW in 6 sizes. The heaters are based on aluminised mild steel tube heat exchanger elements with each tube having a dedicated inshot type burner, and a closed combustion circuit, that is fan assisted, with fully automatic controls. Units are available as On/Off, High/Low or fully Modulating with a low fire rate for the latter two options of 30%. Units are supplied less controls housing for insertion into air handling units and similar. Each unit is fitted with a condense drain point and solenoid valve. Optional items include a controls housing and 316 stainless steel heat exchanger tubes. DHM SL units are certified for use on Natural Gas, Group H - G20 and Propane - G31 and are Cat I_{2H} or Cat I_{3P} respectively. (Note: Conversion from one gas to another is factory completed.)

2. TECHNICAL DATA

2.1 Dimensions



Model	A	B	C	D
DHM SL 30	1250	555	400	390
DHM SL 45	1250	783	400	390
DHM SL 50	1850	590	400	390
DHM SL 60	1250	1011	400	390
DHM SL 75	1850	839	400	390
DHM SL 100	1850	1088	400	390

Note: Models 75 and 100 require, in the burner section, an additional 60mm to the right of the unit as seen in the end view to allow for the width of the exhaust fan.

2.2 Performance Data

Model	No of Burners	Output High kW	Input High kW	Gas Rate High m ³ /h	Min Air Flow m ³ /s	Output Low kW	Input Low kW	Gas Rate Low m ³ /h	Flue Ø mm
DHM SL 30	6	30	32.97	3.49	1.052	9.0	10.7	1.13	100
DHM SL 45	9	45	49.45	5.23	1.578	13.5	16.1	1.70	100
DHM SL 50	6	50	54.95	5.81	1.753	15.0	17.9	1.89	100
DHM SL 60	12	60	65.93	6.98	2.104	18.0	21.4	2.26	130
DHM SL 75	9	75	82.42	8.72	2.630	22.5	26.8	2.83	130
DHM SL 100	12	100	109.9	11.63	3.506	30.0	35.7	3.77	130

**Table 1
Injector Sizes & Burner Pressure Natural Gas - Group H - G20 Net CV (Hi) = 34.02MJ/m³**

		30	45	50	60	75	100
Gas Rate (Max)	m ³ /h	3.43	5.21	5.78	6.95	8.69	11.59
Burner Pressure	mbar	13.2	13.0	12.9	13.6	13.4	13.6
Gas Rate (Min)	m ³ /h	1.1	1.69	1.89	2.24	3.04	3.98
Burner Pressure	mbar	1.5	1.5	1.5	1.5	1.7	1.7
Injector size	mm	1.94	1.94	2.46	1.94	2.46	2.46
Marked		500	500	700	500	700	700

**Inlet pressure
20mbar**

**Table 2
Injector Sizes & Burner Pressure Propane - G31 Net CV (Hi) = 88.00MJ/m³**

		30	45	50	60	75	100
Gas Rate (Max)	m ³ /h	1.33	2.01	2.23	2.69	3.36	4.48
Burner Pressure	mbar	21.5	21.5	19.5	21.5	20.5	20.5
Gas Rate (Min)	m ³ /h	0.7	1.08	1.18	1.44	1.79	2.36
Burner Pressure	mbar	6.0	6.5	5.5	6.0	5.4	5.3
Injector size	mm	1.36	1.36	1.79	1.36	1.79	1.79
Marked		240	240	440	240	440	440

**Inlet Pressure
37mbar**

3. General Requirements

3.1 Related Documents

The installation of the module must be in accordance with the rules in force and the relevant requirements of the Gas Safety Regulations and the I.E.E. Regulations for Electrical Installations.

3.2 Electrical Supply

The module requires 230V - 1ph, 50Hz fused at 5A. The method of connection to the main electricity supply must facilitate the complete electrical isolation of the module.

The isolator must have a contact separation of at least 3mm in all poles.

See the accompanying wiring diagram for the module electrical connections.

3.3 Gas Connection

A servicing valve and downstream union must be fitted at the inlet to the module gas controls assembly to facilitate servicing. The gas supply to the module must be completed in solid pipework and be adequately supported.

Warning: When completing the final gas connection to the module do not place undue strain on the gas pipework of the module.

3.4 Combustion Air Supply

When the DHM SL module(s) is installed in an air handling unit the casing of the air handling unit that forms the burner/controls enclosure must be provided with grilles to admit air for combustion. The total minimum free area shall not be less than 2cm² per kilowatt of the total rated heat input.

The air vent(s) should have negligible resistance and must not be sited in any position where they are likely to be easily blocked or in any position adjacent to an extraction system which is carrying flammable vapour.

Grilles or louvres should be so designed that high velocity air streams do not occur within the burner/controls section and they should be evenly distributed over the area of the burner/controls section door or access panel.

4. Installation of Module

4.1 General

IMPORTANT

DHM SL modules are for installation only in duct systems and air handling units by original equipment manufacturers. Each unique application should be discussed with Powrmatic Ltd.

4.2 Fitting the Module

DHM SL modules are supplied fully assembled and factory tested and only require fitting and connection to gas and electricity supplies and completion of external control circuits. The module should slide into a purpose designed housing within the main body of the duct heater or air handling unit that will facilitate easy module withdrawal for servicing or replacement purposes.

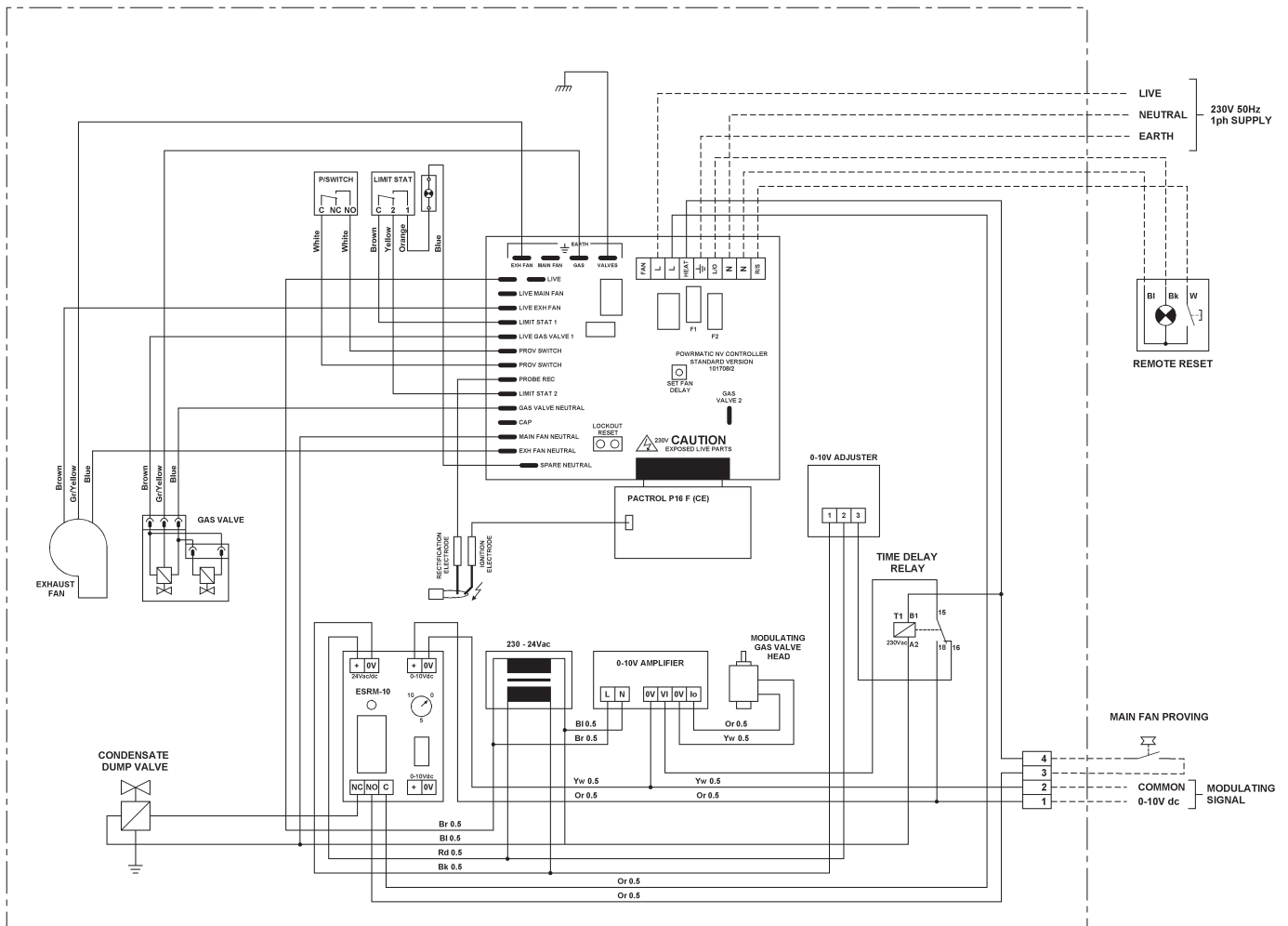
Particular attention must be paid to the following:-

- i) That the burner/controls section of the module is sealed from the main air flow through the duct heater/air handling unit.
- ii) The main air flow fan must be interlocked with the duct heater module so that if the main air fan is not running, or ceases to run, the DHM unit will not fire or be shut down. *See wiring diagram*
- iii) The DHM unit must be fitted with the supplied flue system. In the case of units intended for outdoor installation where this passes through the casing of the air handling unit a weather proof flashing must be

- fitted.
- iv) The casing/outer structure of the duct heater/air handling unit that covers and forms the enclosure of the burner/controls section must :-
- a)
 - i) Have internal dimension that are not less than the height and width of the module and a depth, front to back, not less than 450mm.
 - ii) An access door or panel that is the full width and height of the burner/controls section.

The supplied warning label, Ref SK833, must be applied, in a prominent position, to the outside of the panel or door that gives access to the heater module(s)

5. Wiring Diagram



Modulating Unit shown

**HEATING DIVISION
Hort Bridge
Ilminster, Somerset TA19 9PS
Tel: 01460 53535 Fax: 01460 52341**

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