

CE

DHM Range

O.E.M. Installation Instructions

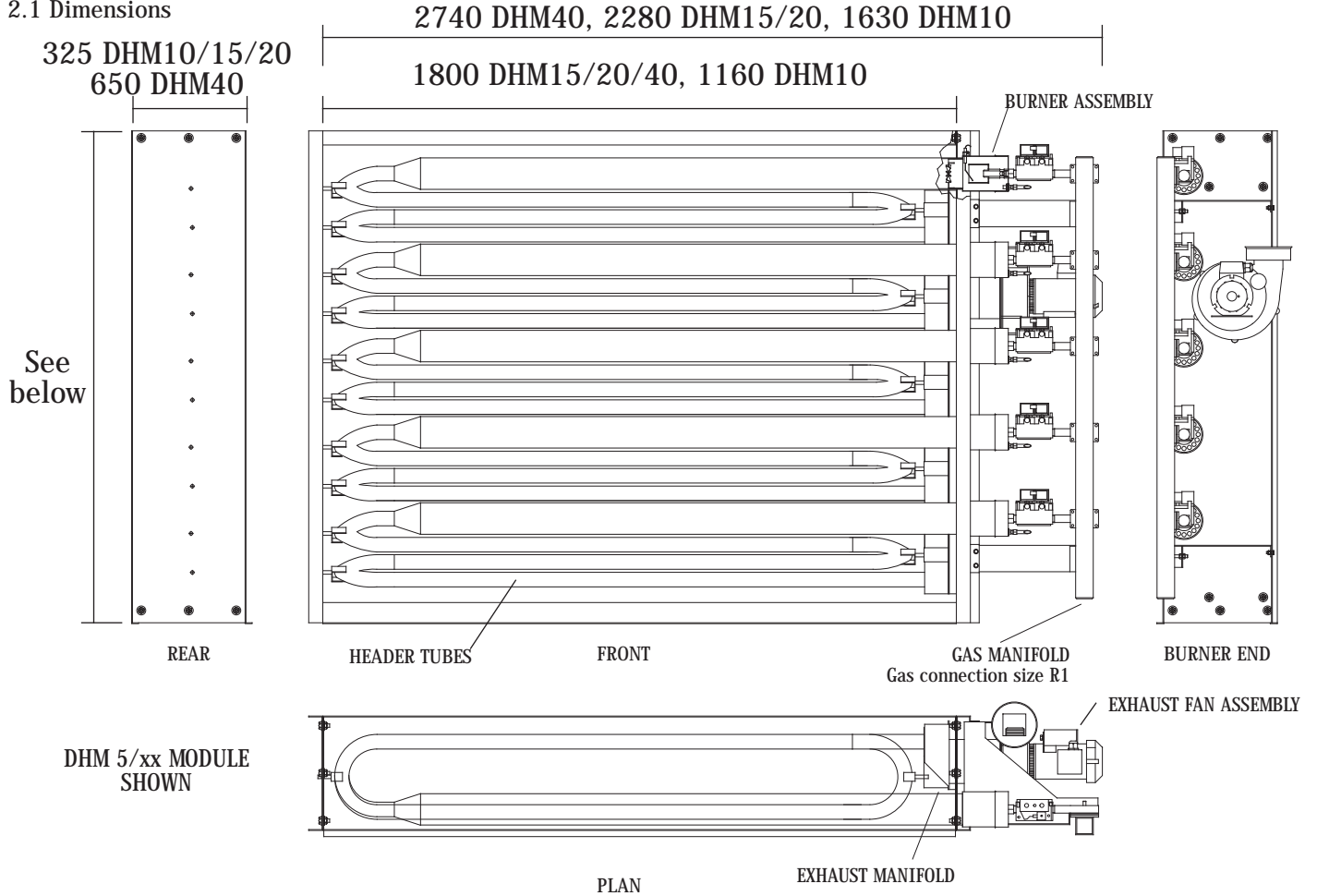
WARNING: THIS APPLIANCE MUST BE EARTHED

1. INTRODUCTION

The Powrmatic DHM range are multiple tube heating modules designed for insertion into duct heaters, air conditioning plant and similar units. Each module comprises a number of gas fired forced draught burners and a single exhaust gas fan venting into a closed flue system. Each burner/tube assembly in a module is rated at 40 kW, 20kW, 15kW or 10kW output. DHM X/20 units are certified for use on Natural Gas, Group H - G20 and Propane - G31 and are Cat II_{2H3P}. (Note: Conversion from one gas to another is factory completed.) DHM X/10, DHM X/15 and DHM X/40 units are certified for use only on Natural Gas, Group H - G20 and are Cat I_{2H}.

2. Technical Data

2.1 Dimensions



Module	3/xx	4/xx	5/xx	6/xx	7/xx
Height	910	1155	1400	1645	1890

- Notes:
- 1 Low fire is with only one of the five burner modules running.
 - 2 Maximum Ambient Temperature - 25°C
 - 3 Maximum Gas Inlet Pressure - 60mbar

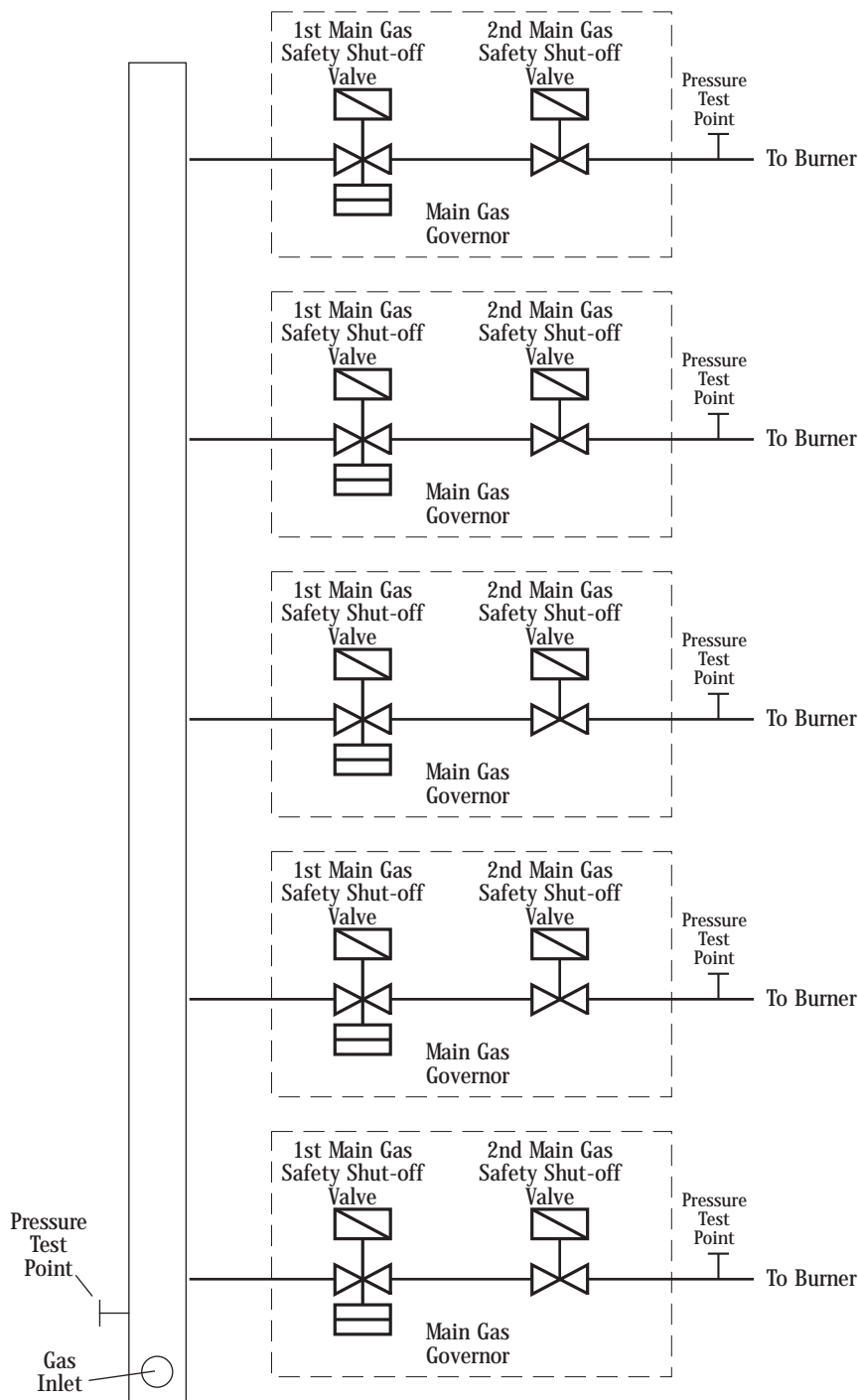
2.2 Performance Data

		3/10	4/10	5/10	6/10	7/10	3/15	4/15	5/15	6/15	7/15
Heat Input (Max)	kW	33.3	44.4	55.5	66.6	77.7	48.9	65.2	81.5	97.8	114.1
Heat Output (Max)	kW	30.0	40.0	50.0	60.0	70.0	45.0	60.0	75.0	90.0	105.0
Heat Input (Min)	kW	11.1					16.3				
Heat Output (Min)	kW	10.0					15.0				
Power Input	kW	0.11					0.11				
Start Current	Amps	0.63					0.63				
Run Current	Amps	0.5					0.48				
Min air flow rate	m ³ /s	0.86	1.14	1.43	1.72	2.0	1.215	1.62	2.025	2.43	2.83
Weight	kg	64	85	106	128	150	98	131	164	197	230

		3/20	4/20	5/20	6/20	7/20	3/40	4/40	5/40	6/40	7/40
Heat Input (Max)	kW	66.0	88.0	110.0	132.0	154.0	131.8	175.8	219.8	263.7	307.7
Heat Output (Max)	kW	60.0	80.0	100.0	120.0	140.0	120.0	160.0	200.0	240.0	280.0
Heat Input (Min)	kW	22.0					44.0				
Heat Output (Min)	kW	20.0					38.0				
Power Input	kW	0.21					0.6				
Start Current	Amps	2.8					10.0				
Run Current	Amps	0.9					4.0				
Min air flow rate	m ³ /s	1.62	2.16	2.7	3.24	3.78	3.24	4.32	5.4	6.48	7.56
Weight	kg	98	131	164	197	230	196	262	328	394	460

2.3 Gas Controls Schematic

Fig 1



DHM 5/xx MODULE SHOWN

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

		3/10	4/10	5/10	6/10	7/10	3/15	4/15	5/15	6/15	7/15
Gas Rate (Max)	m ³ /h	3.52	4.69	5.87	7.07	8.22	5.17	6.89	8.62	10.33	12.06
Burner Pressure	mbar	12.0 at each burner					10.0 at each burner				
Injector size	mm	2.8					3.59				
		3/20	4/20	5/20	6/20	7/20	3/40	4/40	5/40	6/40	7/40
Gas Rate (Max)	m ³ /h	6.98	9.3	11.63	13.96	16.28	13.96	18.6	23.26	27.92	32.56
Burner Pressure	mbar	10.6 at each burner					10.0 at each burner				
Injector size	mm						4.1				

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

		3/20	4/20	5/20	6/20	7/20
Gas Rate (Max)	m ³ /h	2.70	3.60	4.50	5.40	6.30
Burner Pressure	mbar	24.0 at each burner				
Injector size	mm	2.6				

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.

4. Installation of Module

4.1 General

IMPORTANT

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

4.2 Fitting the Module

DHM modules are supplied fully assembled and factory tested and only require fitment 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.

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 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 460mm.
 - ii) An access door or panel that is the full width and height of the burner/controls section.
 - b)

The door/panel referred to in a)ii) above must be provided with:-

- i) High and low level ventilation for the controls section each having a free area of 150cm²
- ii) Ventilation for the exhaust fan section having a total free area of 400cm².



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