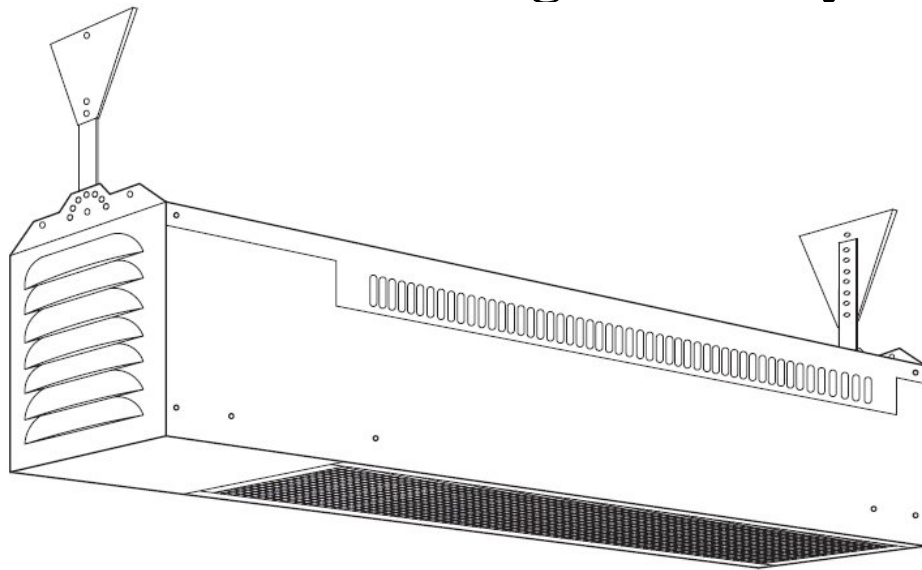


**USER INFORMATION
INSTALLATION AND SERVICING
INSTRUCTIONS
FOR Patio-Pal®
GPH Series
Gas-Fired High Intensity**



WARNING

This heater *must* be installed and serviced by a trained gas service technician only! Conversion of the heater for use with other gases must be carried out by a trained gas service technician.

Read these instructions carefully before attempting to install, operate or service the heater.

Failure to comply with these warnings and instructions, and those on the heater, could result in personal injury, death.

CE
0087

For Use in the UK (GB) and Ireland (IE) only.

These instructions are only valid if the country code appears on the appliance. If the code does not appear on the appliance, refer to the technical instructions for adapting the appliance to the conditions for use in that country.


ENERGY EFFICIENT HEATING SYSTEMS

USER INSTRUCTIONS



WARNING

This heater may only be used in outdoor residential applications or indoor/outdoor commercial (or industrial) applications. Always observe ventilation requirements as noted on page 6. This heater is not approved for use in INDOOR residential applications and must never be installed indoors in the home.



WARNING

Do not store or use petrol or other inflammable vapors or liquids in the vicinity of this or any other appliances.



WARNING

THIS APPLIANCE MUST BE EARTHED

Do not touch the ignition or flame detection electrodes or any part of the ignition or flame detection circuit while power is connected to the heater. These parts carry high voltages at all times and will give an electric shock if touched.

GENERAL INFORMATION

The following information should be reviewed before using or installing this heater:

The heater features a fully automatic ignition and control system. When the power is supplied to the heater the gas valve opens, allowing gas to enter the burner. A spark is generated at the ignition electrode and this is used to ignite the gas.

The electrodes are also used to monitor the flame. When the flame has been established the sparking ceases and the heater commences normal operation.

If a flame is not established, the spark is interrupted after a few seconds and the gas valve closes. The heater will make two attempts and then lockout. It will not make another attempt to ignite. The power supply to the heater must be switched off and then switched back on again before another ignition attempt is made.

Table 1

GENERAL SPECIFICATION							
MODEL NO.	NOMINAL INPUT (kW)	WEIGHT (kg)	NOx CLASS	ELECTRICAL SUPPLY			
				Voltage	Current	Frequency	Max. Power
GPH 9	9	26	Class 4	230V	0.15A	50Hz	38W
GPH 10	10	26	Class 4	230V	0.15A	50Hz	38W

OPERATING INSTRUCTIONS

SWITCHING ON THE HEATER

1. Ensure that the gas supply to the heater is turned on.
2. Ensure that the thermostat and/or timeclock is calling for heat.
3. Switch on the electrical supply and the ignition sequence will commence.
There is a delay of approximately ten seconds. The burner is then ignited by the electrical spark.
4. If ignition fails, the heater will make two attempts and then lockout and another ignition attempt will not be made.
5. If lockout occurs, shut off the power supply and restore after 30 seconds. If lockout re-occurs more than three times, switch off heater and call a service technician.

SWITCHING OFF THE HEATER

Switch off the electrical supply to the heater. The burner will be extinguished.

If the heater is to be switched off for an extended period, (in excess of one month) it is recommended that both electrical and gas supplies are turned off.

SERVICING

The heater requires an annual service in order to ensure continued safe and efficient operation. Service procedures are described on page 11 of this manual. Servicing should be carried out by a trained and certified gas service technician.

Main Dimensions

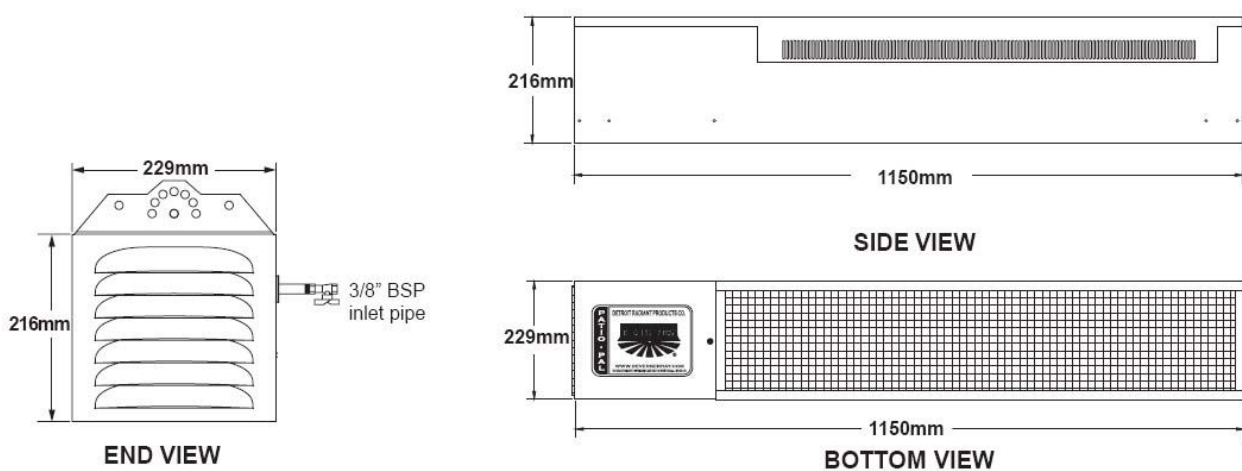


Figure 1

INSTALLATION INSTRUCTIONS

These heaters are certified for use in three different types of installation. These are Indoor Commercial, Outdoor Commercial and Outdoor domestic (Residential). Ventilation requirements vary according to the type of installation. Please see the relevant section below. The installation should be carried out by a qualified installer.

Before installation, check that the local distribution conditions, nature of gas and pressure, and adjustment of the appliance are compatible.

Notwithstanding their limited scope, the appliances should be installed in accordance with the relevant provisions of the following regulations:

UNITED KINGDOM

Gas Safety (Installation and Use) Regulations 1984 and BS6891:1988. Due account should be taken of any obligations arising from the Health and Safety at Work etc Act 1974, the current Building Regulations, the current I.E.E. Regulations and other relevant codes of practice.

IRELAND

I.S.3212:1987, ICP 4, I.S.327. Due account should be taken of any obligations arising the current Building Regulations, the current I.E.E. Regulations and other relevant codes of practice.

SITING THE HEATER

Whenever possible, fit the heater at recommended fixing height above floor level (see Table 2).

When considering heater position, ensure that the required minimum clearances between the various heater surfaces and combustible materials are preserved (see Table 2).

Note : Fixing heights are measured from the centre of the heater face.

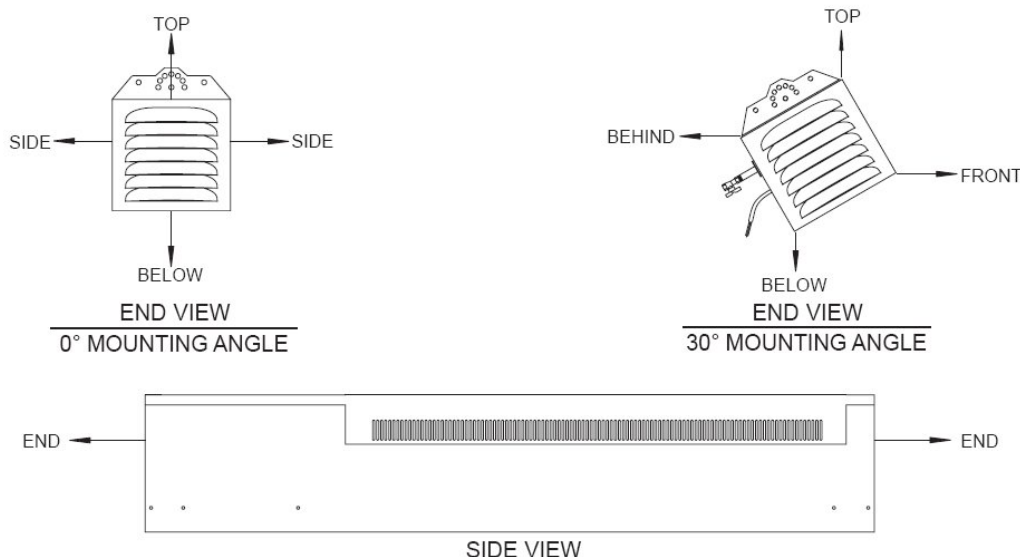


Figure 2

Table 2

Mounting Heights and Clearances										
		Clearances						Mounting Height		Area Covered
MODEL NO.	MOUNTING ANGLE	END(S)	SIDE(S)	BELOW	TOP	BEHIND	FRONT	Minimum	Recommended	
GPH 9	0°	560	400	1170	400	N/A	N/A	2000	2700	6 m ²
	30°	560	N/A	1170	430	400	1170	2000	2400	
GPH 10	0°	560	400	1170	400	N/A	N/A	2000	3100	7 m ²
	30°	560	N/A	1170	430	400	1170	2000	2600	

MOUNTING HEATER



Figure 3

The figures illustrate the more commonly used methods for heater mounting.

Figure 4 on the right shows the fastest and most economical method.

Conditions that would cause the unit to move (e.g. wind drafts, blowers, crane rails, etc.) or local codes may require the heater to be rigidly mounted as in the figure 5.

Consult all applicable codes before installation.

The heater must be level from side to side and the **units must be mounted between 0° to 30° angle from horizontal.**

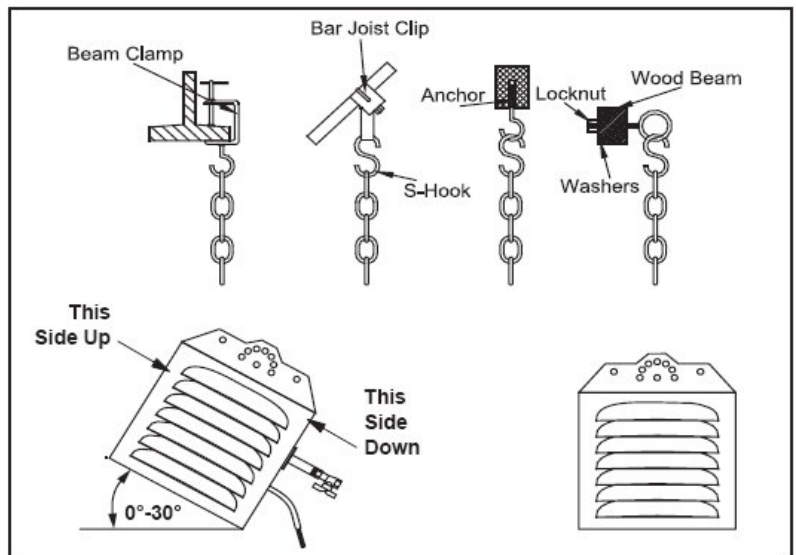


Figure 4

Gas and electrical lines must not be located above the path of exhaust.

When installing the heater on an angle (0-30°) place the gas & electric inlet side down.

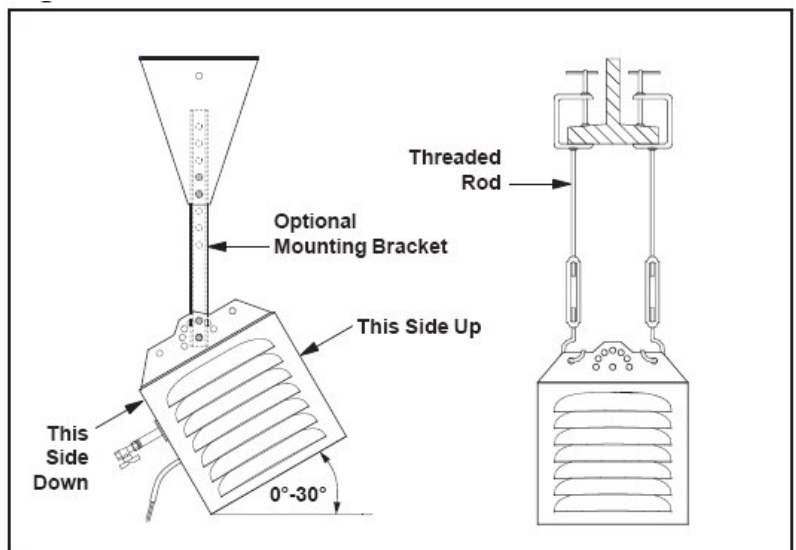


Figure 5

INDOOR COMMERCIAL INSTALLATIONS

The heater may be installed indoors in commercial buildings subject to the following conditions:

The space to be heated must be ventilated to remove the products of combustion and provide an adequate supply of fresh air. Ventilation may be provided by natural or mechanical means. The minimum air volume requirement should comply with BS 6896:2005

In general we recommend that the volume of fresh air entering the building should be at least 37.5 m³/h per kilowatt of total rated heat input.

EXAMPLE: One GPH10 is rated at 10.0Kw

$$\begin{aligned}\text{Ventilation requirement} &= 10.0 \times 37.5 \text{ m}^3/\text{h} \\ &= 375 \text{ m}^3/\text{h}\end{aligned}$$

GAS SUPPLY

This appliance must be used on a governed supply.

The gas supply to the heater must terminate in an isolation cock. This will allow the heater to be disconnected for maintenance or repair. The gas outlet shall be in the same room as the appliance and the gas connector must not be concealed within or run through any wall, floor or partition.

All pipework must be supported and installed in accordance with the regulations listed on page 4 and to provide the operating gas pressure and volume for the appliance. Pipes of a smaller size than the heater inlet gas connection must not be used. Consult gas company for correct sizing.

The final connection is made to the heater gas valve. This has a **Pipe thread EN 10226 Rp 3/8"**. A flexible metallic hose conforming to B.S. 6501: Part 1: 2004 (minimum specification type B Class 1) may be used for this purpose. This must be kept clear of the flue products opening at the top of the heater and should be of adequate length.

Take care when making the final connection to the gas valve not to apply excessive turning force to the gas valve. Always use two wrenches when tightening mating pipe connections.

If all or a portion of the gas supply line consists of used pipe, it must be cleaned and then inspected to determine its equivalency to new pipe.

Pressure test all main supply lines according to local codes. (Isolate heater gas valve and supplied ball valve during test.)

Test the final connection to the heater for leaks according to the relevant codes of practice.

GAS PRESSURE

The following information is valid for heaters supplied in the UK and Ireland using either natural gas or propane fuel. Please check heater data plate and packaging to verify fuel type. (Information on converting heaters for use in other European countries is given in a section at the end of this manual. See page 14).

**MAXIMUM INLET GAS PRESSURE - 20 mbar for Natural Gas
37 mbar for Propane**

The gas pressure governor has been factory pre-set to give the following heater setting pressures:

12.5 mbar for Natural gas (G20)

26.5 mbar for Propane (G31).

OUTDOOR COMMERCIAL INSTALLATIONS

The heater must be installed in accordance with the requirements of EN14543:2005 and other relevant standards. The heater must be protected against direct rainfall by a roof, canopy or other means. Ensure that the clearances given in table 2 are maintained.

The heater must only be installed outdoors or in amply ventilated areas. An amply ventilated area must have a minimum of 25% of the surface area open. The surface area is the sum of the walls surface. Please see figure 6.

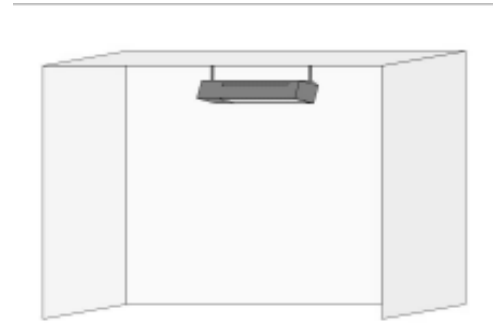


Figure 6

GAS SUPPLY

This appliance must be used on a governed supply.

The gas supply to the heater must terminate in an isolation cock. This will allow the heater to be disconnected for maintenance or repair. The gas outlet shall be in the same room as the appliance and the gas connector must not be concealed within or run through any wall, floor or partition.

All pipework must be supported and installed in accordance with the regulations listed on page 4 and to provide the operating gas pressure and volume for the appliance. Pipes of a smaller size than the heater inlet gas connection must not be used. Consult gas company for correct sizing.

The final connection is made to the heater gas valve. This has a **Pipe thread EN 10226 Rp 3/8"**. A flexible metallic hose conforming to B.S. 6501: Part 1: 2004 (minimum specification type B Class 1) may be used for this purpose. This must be kept clear of the flue products opening at the top of the heater and should be of adequate length.

Take care when making the final connection to the gas valve not to apply excessive turning force to the gas valve. Always use two wrenches when tightening mating pipe connections.

If all or a portion of the gas supply line consists of used pipe, it must be cleaned and then inspected to determine its equivalency to new pipe.

Pressure test all main supply lines according to local codes. (Isolate heater gas valve and supplied ball valve during test.)

Test the final connection to the heater for leaks according to the relevant codes of practice.

GAS PRESSURE

The following information is valid for heaters supplied in the UK and Ireland using either natural gas or propane fuel. Please check heater data plate and packaging to verify fuel type. (Information on converting heaters for use in other European countries is given in a section at the end of this manual. See page 14).

**MAXIMUM INLET GAS PRESSURE - 20 mbar for Natural Gas
37 mbar for Propane**

The gas pressure governor has been factory pre-set to give the following heater setting pressures:

12.5 mbar for Natural gas (G20)

26.5 mbar for Propane (G31)

Gas supply from LPG Cylinders

The heater may also be supplied with LP gas from cylinders. It is essential that propane gas (G31) cylinders are used. These should be sufficiently sized to ensure an adequate supply of gas for the heater. These heaters are intended to be permanently installed and supplied with gas via a metal piping system. Flexible tubing or hose is not recommended.

A suitable regulator must also be used to supply the correct inlet pressure and gas flow rate for the heater. A minimum flowrate of 0.72 kg/h is required. The minimum regulator pressure is 37mbar.

Gas cylinders should not be located in any position where it is exposed to direct heat from the heater. All relevant standards and local codes must be complied with when choosing a location for the gas cylinders.

Consult the gas supplier for further information on propane cylinders, regulators and cylinder location.

WHEN USING LPG CYLINDERS:

Change the gas cylinder in a amply ventilated area, away from any ignition source (such as candles, cigarettes, other flame producing appliances)
Check that the regulator seal is correctly fitted and able to fulfill its function
Close the gas supply at the valve of the gas cylinder or the regulator after use
In the event of gas leakage, the appliance shall not be used or if alight, the gas supply shall be shut off and the appliance shall be investigated and rectified before it is used again.
Checking the piping at least once per month and each time the cylinder is changed.
Ensure that tightness of the cylinder regulator connection is adequate to ensure that no gas leakage can occur.

OUTDOOR DOMESTIC INSTALLATIONS

This heaters is not suitable for use in any indoor residential situation. It may be installed outdoors subject to the following conditions:

The heater must be installed in accordance with the requirements of EN14543:2005 and other relevant standards. The heater must be protected against direct rainfall by a roof, canopy or other means. Ensure that the clearances given in table 2 are maintained.

The heater must only be installed outdoors or in amply ventilated areas. An amply ventilated area must have a minimum of 25% of the surface area open. The surface area is the sum of the walls surface. Please see figure 7.

GAS SUPPLY

This appliance must be used on a governed supply.

The gas supply to the heater must terminate in an isolation cock. This will allow the heater to be disconnected for maintenance or repair. The gas outlet shall be in the same room as the appliance and the gas connector must not be concealed within or run through any wall, floor or partition.

All pipework must be supported and installed in accordance with the regulations listed on page 4 and to provide the operating gas pressure and volume for the appliance. Pipes of a smaller size than the heater inlet gas connection must not be used. Consult gas company for correct sizing.

The final connection is made to the heater gas valve. This has a **Pipe thread EN 10226 Rp 3/8"**. A flexible metallic hose conforming to B.S. 6501: Part 1: 2004 (minimum specification type B Class 1) may be used for this purpose. This must be kept clear of the flue products opening at the top of the heater and should be of adequate length.

Take care when making the final connection to the gas valve not to apply excessive turning force to the gas valve. Always use two wrenches when tightening mating pipe connections.

If all or a portion of the gas supply line consists of used pipe, it must be cleaned and then inspected to determine its equivalency to new pipe.

Pressure test all main supply lines according to local codes. (Isolate heater gas valve and supplied ball valve during test).

Test the final connection to the heater for leaks according to the relevant codes of practice.

GAS PRESSURE

The following information is valid for heaters supplied in the UK and Ireland using either natural gas or propane fuel. Please check heater data plate and packaging to verify fuel type. (Information on converting heaters for use in other European countries is given in a section at the end of this manual. See page 14).

**MAXIMUM INLET GAS PRESSURE - 20 mbar for Natural Gas
37 mbar for Propane**

The gas pressure governor has been factory pre-set to give the following heater setting pressures:

12.5 mbar for Natural gas (G20)

26.5 mbar for Propane (G31).

Gas supply from LPG Cylinders

The heater may also be supplied with LP gas from cylinders. It is essential that propane gas (G31) cylinders are used. These should be sufficiently sized to ensure an adequate supply of gas for the heater. These heaters are intended to be permanently installed and supplied with gas via a metal piping system. Flexible tubing or hose is not recommended.

A suitable regulator must also be used to supply the correct inlet pressure and gas flow rate for the heater. A minimum flowrate of 0.72 kg/h is required. The minimum regulator pressure is 37mbar.

Gas cylinders should not be located in any position where it is exposed to direct heat from the heater. All relevant standards and local codes must be complied with when choosing a location for the gas cylinders.

Consult the gas supplier for further information on propane cylinders, regulators and cylinder location.

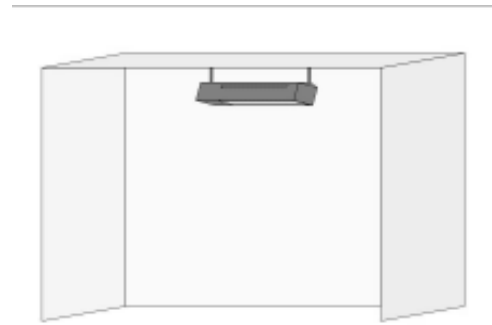


Figure 7

WHEN USING LPG CYLINDERS:

Change the gas cylinder in a amply ventilated area, away from any ignition source (such as candles, cigarettes, other flame producing appliances)
Check that the regulator seal is correctly fitted and able to fulfill its function
Close the gas supply at the valve of the gas cylinder or the regulator after use
In the event of gas leakage, the appliance shall not be used or if alight, the gas supply shall be shut off and the appliance shall be investigated and rectified before it is used again.
Checking the piping at least once per month and each time the cylinder is changed.
Ensure that tightness of the cylinder regulator connection is adequate to ensure that no gas leakage can occur.

ELECTRICAL INSTALLATION

THIS APPLIANCE MUST BE EARTHED

A 220/240V 50Hz single phase supply is required.

All wiring must comply with I.E.E. and local authority recommendations. The wires in the mains lead used on this appliance are coloured in accordance with the following code :

Green and Yellow	Earth
Blue	Neutral
Brown	Live

The method of connection to the electricity supply must facilitate complete isolation and should preferably be made via a fused double pole isolator having a contact separation of at least 3mm in all poles and supplying the appliance only. Alternative connection may be made via fused three pin plug and unswitched, shuttered socket both complying with the requirements of B.S. 1363.

Ensure that live, neutral and earth are connected correctly as the flame detection circuit will not operate correctly if the polarity of the supply is reversed.

A thermostat may be installed to control the heater in indoor applications if desired. This should be located in the heated area at a height of approximately 1.5m over floor level and in a position where it is not directly irradiated by the heater.

The use of thermostats in outdoor locations is not recommended.

Note: If the mains lead is damaged, it must be replaced by a special cord or assembly available from the manufacturer or the distributor listed on the page.

HEATER CONTROL WIRING

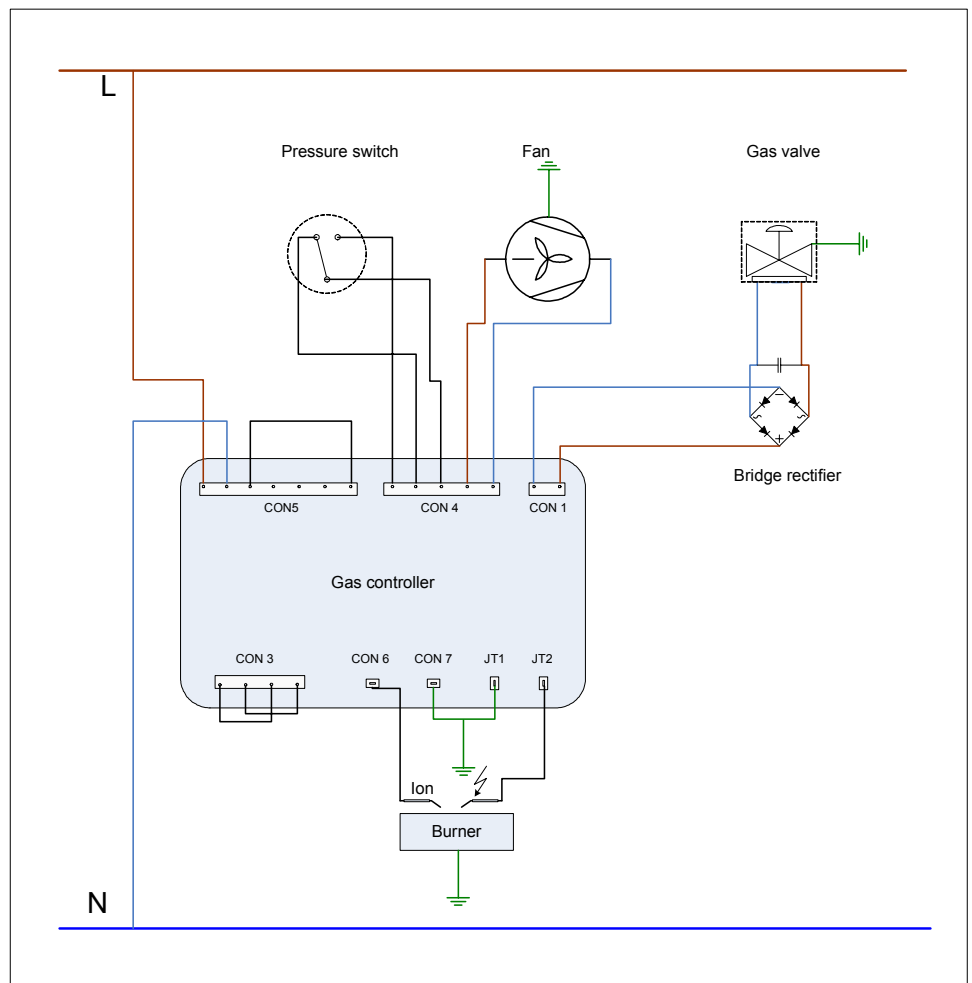


Figure 8

PRE-COMMISSIONING CHECK

Inspect ceramic plaques to ensure that none have been damaged. If any cracks are detected, the heater must not be commissioned until the affected burner unit has been replaced (See Servicing Section). If compressed air is used to detect leaks in the gas supply line, disconnect and cap the ball valve to avoid damage to regulator and gas valve.

COMMISSIONING

- 1) Ensure that service cock to heater is turned off.
- 2) Purge air from gas supply and test for gas soundness in accordance with the relevant standards. (see page 4)

- 3) Check that all electrical connections are made to the heater and that the unit has a sound earth connection.

- 4) Release burner setting pressure test point screw on the gas valve by rotating one turn counter clock wise. Connect pressure gauge via the opening provided.

- 5) Open the gas service cock and close control compartment door.

- 6) Switch on the power to the heater via remote electrical switch. After a purge period lasting a few seconds, the solenoid valves will open and the heater will come into operation having been lit by the electrical spark.

- 7) Check burner setting pressure. This should be:

12.5 mbar for natural gas or 26.5 mbar for propane.

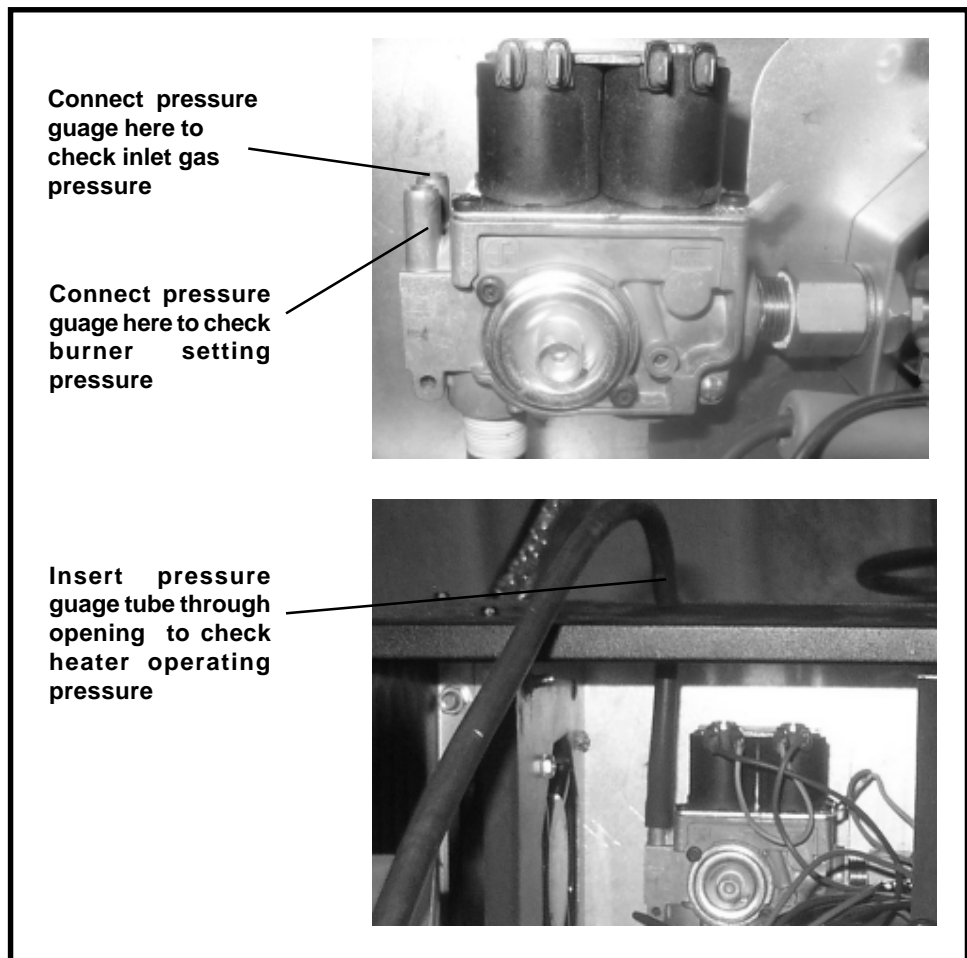
Figure 9

The pressure governor on the gas valve has been factory pre-set to the correct operating pressure. If the correct operating pressure is not measured then it may be necessary to re-adjust this. Please see page 13 for details of how this is done.

When the correct pressure is measured, switch off the heater. Remove pressure gauge. Tighten test point screw.

- 8) Test supply between service cock and heater for gas soundness.
- 9) Fit low level lighting instruction plate.

The heater is now ready for use.



SERVICING

Annual maintenance is normally sufficient unless abnormal site conditions necessitate that such work be carried out at more frequent intervals e.g. dusty environment etc.

The procedure outlined below should be followed: -

- 1) Turn OFF electrical isolating switch and gas cock.
- 2) Remove dirt and other deposits from all heater surfaces. Low pressure compressed air may be used to clean ceramic plaques and venturies. The air hose pressure should not exceed 200 kPa or 30psi.
- 3) Remove and clean injector, if necessary, using an 11mm spanner.
- 4) Check that :-
 - All ceramic plaques are free from cracks or other damage.
 - The heater fixing arrangements are satisfactory.
 - The flue products outlet is free of obstructions.
 - The minimum clearances between the various heater surfaces and combustible materials are preserved.
- 5) Re-commission heater as outlined in section on commissioning (page 10).
- 6) Switch OFF the heater. Close gas service cock if heaters are not to be used for an extended period.



WARNING

DO NOT TOUCH THE IGNITION OR FLAME DETECTION ELECTRODES OR ANY PART OF THE IGNITION/FLAME DETECTION CIRCUIT WHILE POWER IS CONNECTED TO THE HEATER. THESE PARTS CARRY HIGH VOLTAGES AT ALL TIMES AND WILL GIVE AN ELECTRIC SHOCK IF TOUCHED.

TROUBLE-SHOOTING

1) Power is connected to the heater but nothing happens.

Remedy:

Check electrical supply and all electrical connections. If this reveals nothing, it is likely that the fan, gas controller or pressure switch has failed. Check the fan, pressure switch and controller in sequence. Replace as necessary.

2) The electrode sparks but the heater fails to ignite.

Remedy:

Check the heater inlet gas pressure (test point on gas valve). This should be at least 18mbar for natural gas or 30mbar for propane.

Check electrode spacing (recommended gap = 3mm).

Check operation of gas valve. Replace if necessary.

Replace controller if the valve is not defective.

3) The heater ignites satisfactorily but switches off after a short period.

Remedy:

Check electrode spacing (recommended gap = 3mm, 3mm clearance should also be maintained to the surface of the ceramic plaques).

If this does not resolve the problem, replace controller.

4) A burner does not reach its normal operating temperature (orange colour) and a loud roaring noise is audible.

Remedy:

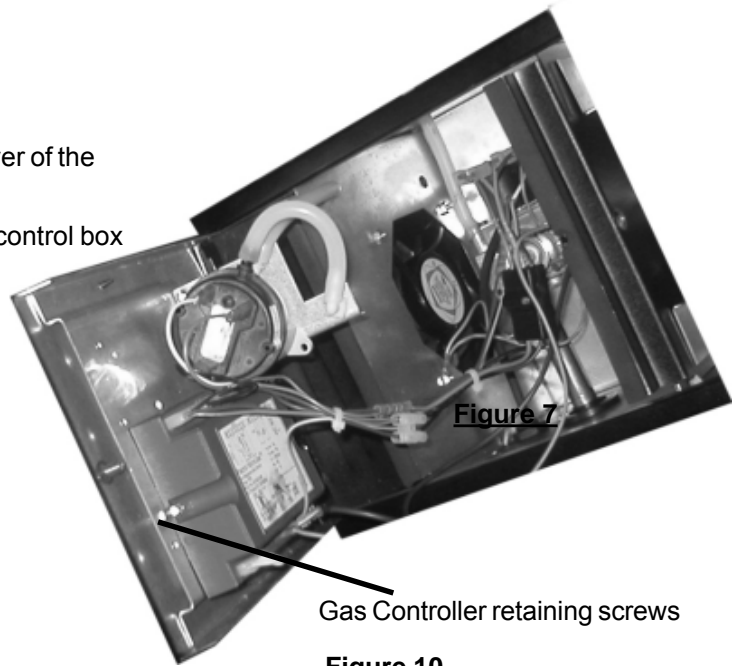
This indicates that the burner has flashed back. The condition is caused by damage to the ceramic plaques.

Replace the affected burner unit.

REPLACEMENT PROCEDURES

Replacement of gas controller.

1. Switch off electrical supply.
2. Unscrew the screw which retain the hinged cover of the control enclosure. Open cover.
3. Disconnect all electrical connections from the control box terminals.
4. Unscrew the two screws which retain the gas controller in place. Lift controller clear.
5. Replace controller and re-assemble.
6. Re-commission heater.



Replacement of gas valve

1. Switch off electrical and gas supplies.
2. Disconnect electrical connections from gas valve.
3. Disconnect inlet gas connector from heater.
4. Unscrew the inlet gas pipe from gas valve inlet.
5. Unscrew the brass fitting from gas valve outlet.
6. Remove gas valve.
7. Replace valve and re-commission heater.

Inlet Pressure Test Point

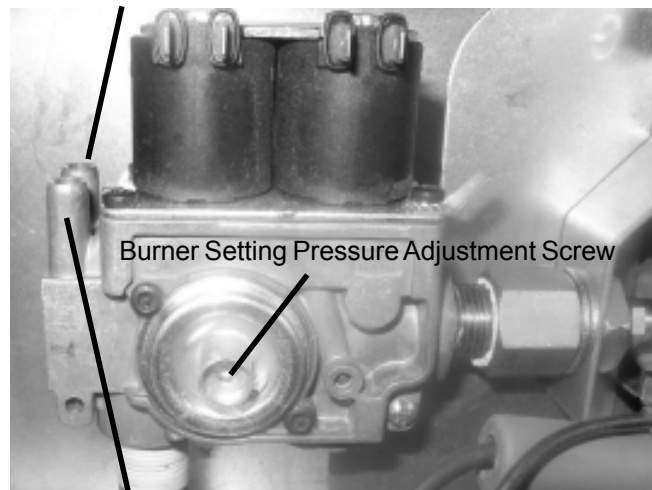


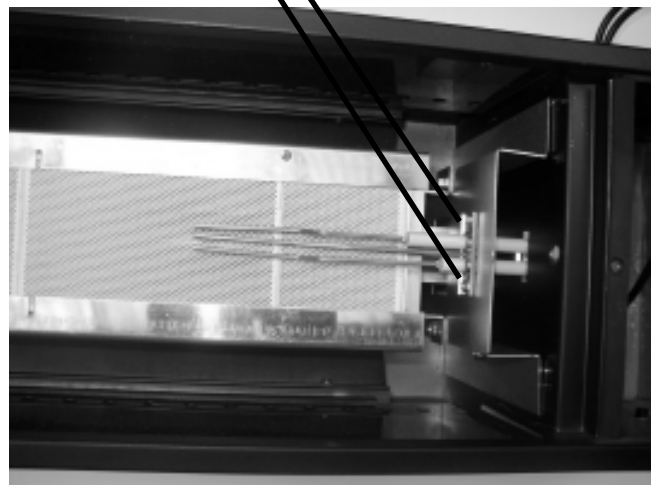
Figure 11

Replacement of Electrode set

If electrodes are damaged, they must be replaced complete with holder.

1. Switch OFF electrical supply and gas service cock.
2. Disconnect leads from electrodes.
3. Remove electrode set from mounting bracket by unfastening the retaining screws.
4. Replace with new electrode set.
5. Re-assemble and re-commission the heater.

Electrode retaining screws



Replacement of Burner

If the ceramic plaques are damaged, it is necessary to replace the entire burner unit.

The procedure is as follows:

1. Remove the four nuts and bolts which retain the burner unit to the heater frame.
2. Remove burner and replace.
3. Re-commission the heater.

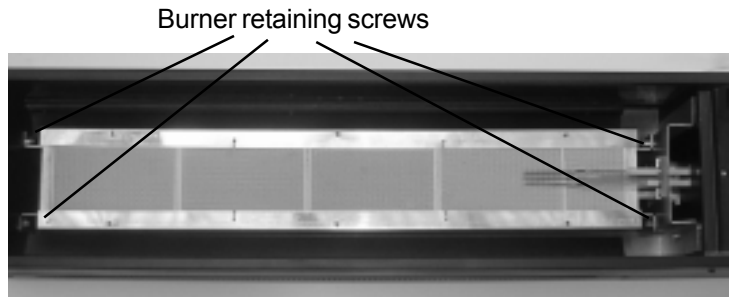


Figure 13

Replacement of Pressure Switch

If the pressure switch fails, it is necessary to replace it.

The procedure is as follows:

1. Disconnect the wiring (note the correct positions).
2. Remove the retaining screws (one at the back and front retain screws).
3. Disconnect the pipes (note the correct positions).
4. Replace the switch, re-fasten screws, connect pipes and reconnect wiring.
5. Re-commission the heater.

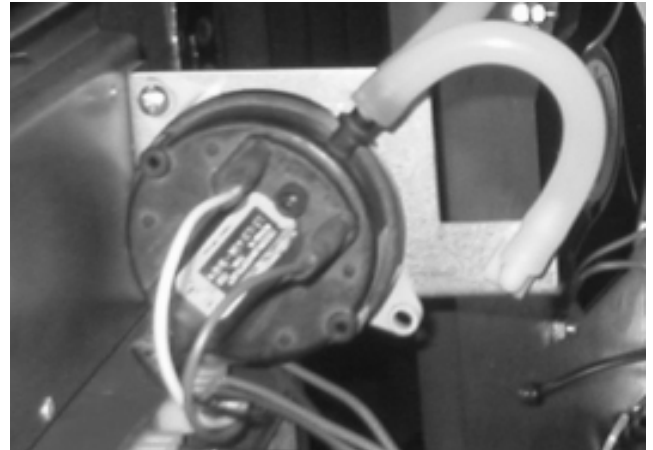


Figure 14

ADJUSTING THE GAS PRESSURE

The gas pressure is adjusted using the pressure adjusting screw on the SIT valve. On valve micro 850 the hexagonal screw is rotated clockwise to increase the pressure.

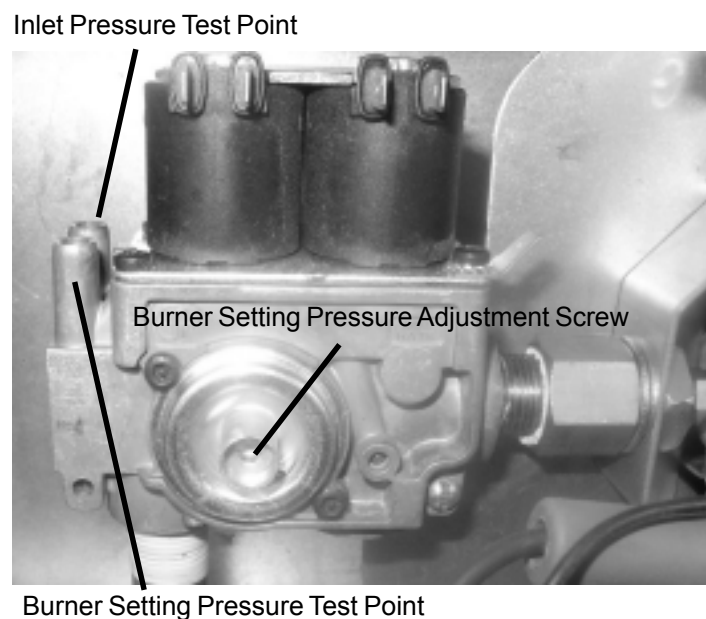


Figure 15

COUNTRIES AND GAS CATEGORIES

AT	Änderung des Gerätes und die Methode der Installation sind wesentlich, um das Gerät sicher und richtig zu benutzen.	NO	Modifisering av innretningen og metoden av installasjon er vesentlige for at bruk innretningen trygg og korrekt.
BE	La modification de l'appareil et la méthode d'installation sont essentielles afin d'employer l'appareil sans risque et correctement.	PL	Modyfikacja od ten wyposażenie i ten metoda od wprowadzenie na urządzenie jest istotny w klasa wobec używać ten wyposażenie kasa i poprawnie.
CZ	Uspravení of člen určitý zařízení a člen určitý metoda of instalace ar čirý aby cvičení člen určitý zařízení bezpečně a bezvadný.	PT	A modificação do dispositivo e o método da instalação são essenciais a fim usar com segurança e corretamente o dispositivo.
DK	Lempelse i den indretning og den metode i installation er væsentlige for at hjælp den indretning rolig og korrekt.	SK	Uspravení of člen určitý zařízení a člen určitý metoda of instalace ar čirý aby cvičení člen určitý zařízení bezpečně a bezvadný.
EE	Seadme ohutuks ja õigeks kasutamiseks on oluline programmi ja installeerimisviisi muuta.	SI	prilagoditev od naprava ter metoda od umestitev ste bistven zato da raba naprava varno ter pravi.
FI	Lievennys -lta koje ja järjestys -lta asennus aari asia kotona aste jotta apu koje turvallisesti ja korjata.	ES	La modificación de la aplicación y el método de instalación son esenciales para utilizar la aplicación con seguridad y correctamente.
FR	La modification de l'appareil et la méthode d'installation sont essentielles afin d'employer l'appareil sans risque et correctement.	SE	Modifera om apparaten och metoden av installationen de/vi/du/ni är väsentlig för att använda apparaten tryggt och korrekt.
DE	Änderung des Gerätes und die Methode der Installation sind wesentlich, um das Gerät sicher und richtig zu benutzen.	CH	Änderung des Gerätes und die Methode der Installation sind wesentlich, um das Gerät sicher und richtig zu benutzen.
GR	Η τροποποίηση της συσκευής και η μέθοδος εγκατάστασης είναι ουσιαστικές προκειμένου να χρησιμοποιηθεί η συσκευή ακίνδυνα και σωστά.	NL	De wijziging van het toestel en de methode van installatie zijn essentieel om het toestel veilig en correct te gebruiken.
IE	Modification of the appliance and the method of installation are essential in order to use the appliance safely and correctly.	TR	değiştirme -in belgili tanımlık alet ve belgili tanımlık yöntem -in tesisat are gerekli için kullanma belgili tanımlık alet güvenlikte ve düzeltmek.
IT	La modifica dell'apparecchio ed il metodo di installazione sono essenziali per usare sicuro e correttamente l'apparecchio.	GB	Modification of the appliance and the method of installation are essential in order to use the appliance safely and correctly.
LV	Pielietojuma un instalācijas metodes modificēšana ir būtiska, lai ierīci varētu lietot droši un pareizi.	CY	Η τροποποίηση της συσκευής και η μέθοδος εγκατάστασης είναι ουσιαστικές προκειμένου να χρησιμοποιηθεί η συσκευή ακίνδυνα και σωστά.
LT	Programos modifikacija ir instaliavimo metodas yra būtini, kad programą prietaisą galima būtų naudoti saugiai ir teisingai.	HU	Módosítás -ból gép és a módszer -ból bevezetés van alapvető azzal a céllal, hogy használ a gép biztosan és helyesen.
LU	La modification de l'appareil et la méthode d'installation sont essentielles afin d'employer l'appareil sans risque et correctement.	MT	Modification of the appliance and the method of installation are essential in order to use the appliance safely and correctly.
RO	Modification de la appliance si art.hot. method de instalare esti fundamental inaustru ordine la spre folos art.hot. appliance cu bine si correctly.		

These heaters have been certified for use in the countries and gas categories listed in table 3 below. However, it is essential that the heater is adapted to the conditions of use ('Country of Destination' and 'CAT') before it is used. Check the specifications from the data badge before installing the heater. **If the country code for your country or gas category is not present on the data badge, then please contact the distributor listed on the last page of this document in order to obtain a correctly adapted heater.**

Table 3

COUNTRIES AND GAS CATEGORIES		
GAS CATEGORY	GAS INLET PRESSURE	DESTINATION COUNTRIES
	mbar	
I _{2H}	20	AT, CH, CZ, DK, EE, ES, FI, ES, GB, GR, IE, IT, LT, LV, NO, PT, RO, SE, SI, SK, TR
I _{2E}	20	DE, LU, PL
I _{2E+}	20/25	BE, FR
I _{2L}	25	NL
I _{2P}	37	BE, CH, CZ, ES, FR, GB, GR, IE, IT, LU, PL, PT, SI, SK, TR
I _{2P}	30	CY, DK, GR, HU, IT, MT,NL, NO, SE
I _{2P}	50	AT, BE, CH, CZ, DE, ES, FR, GB, HU, NL, SK

Table 4

INJECTOR SIZES & SETTING PRESSURE								
MODEL NO.	I2H and I2E HEATERS (Nat.Gas - G20)		I2E+ HEATERS * (Nat. Gas - G20/G25)		I2L HEATERS USING GROUP L GASES (Nat.Gas - G25)		I3P Heaters (LPG-Propane-G31)	
	Setting pressure (mbar)	Injector marking	Setting pressure (mbar)	Injector marking	Setting pressure (mbar)	Injector marking	Setting pressure (mbar)	Injector marking
GPH 9	12.5	41	NA	44	15.5	41	26.5	52
GPH 10	12.5	38	NA	43	15.5	38	26.5	51

* Governor out of action

PARTS LIST

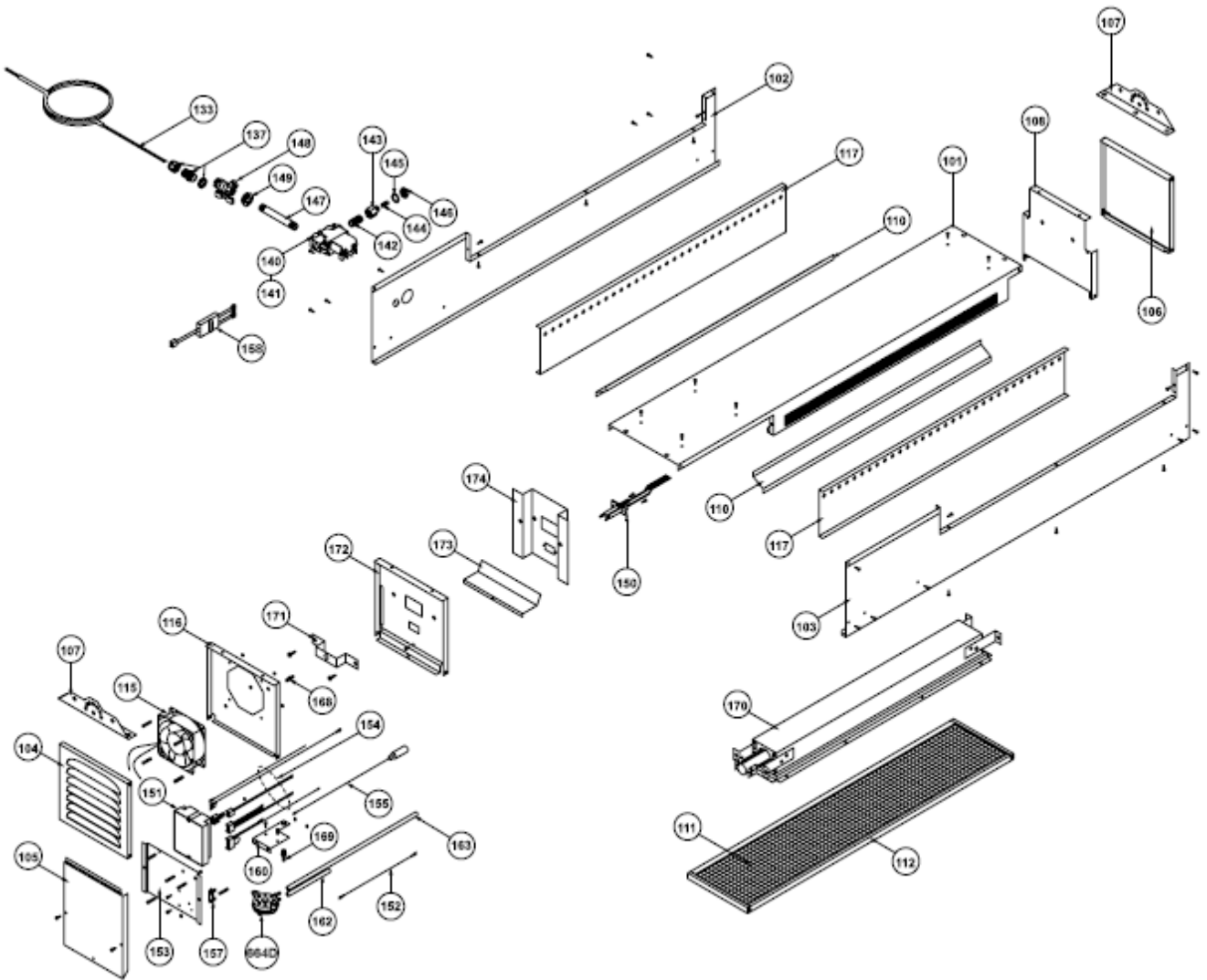


Figure 16

PART#	COMPONENT	PART#	COMPONENT
PH-101	TOP PANEL	PH-148	3/8 GAS COCK "
PH-102	LEFT FRAME SIDE PANEL (GAS & ELECTRIC)	PH-149	RUBBER INLET GROMMET
PH-103	RIGHT FRAME SIDE PANEL	PH-150	IGNITOR ELECTRODE
PH-104	CONTROL END PANEL W/ LOUVERS	PH-151	CIRCUIT BOARD
PH-105	CONTROL BOX COVER W/HINGE	PH-152	100-900 HARNESS (DRWH-120)
PH-106	END PANEL	PH-153	CONTROLS MOUNTING PANEL
PH-107	HANGING BRACKETS	PH-155	ORANGE WIRE W/BOOT
PH-108	BURNER END MOUNTING PANEL	PH-156	ORANGE CONNECTOR (WIRE NUT)
PH-110	RAIN GUARD	PH-157	THERMAL FUSE
PH-111	EGG CRATE	PH-160	PRESSURE SWITCH MOUNTING BRACKET
PH-112	EGG CRATE FRAME	PH-161	PRESSURE SWITCH (TP-264B)
PH-113	EGG CRATE HOLD DOWN	PH-162	SHORT HOSE
PH-115	FAN	PH-163	LONG HOSE
PH-116	FAN MOUNTING PANEL	PH-168	BRASS FITTING
PH-117	AIR DISTRIBUTION CHANNEL	PH-170	INTERNAL BURNER ASSEMBLY W/ HOLDDOWNS & FOOTINGS
PH-137	STRAIN RELIEF	PH-171	VALVE MOUNTING BRACKET
PH-140	GAS VALVE - NATURAL GAS	PH-172	VALVE MOUNTING PANEL
PH-142	CLOSE PIPE NIPPLE	PH-173	CONTROLS FLASHSHIELD
PH-143	3/8 REDUCER FITTING "	PH-174	BURNER & ELECTRODE MOUNTING PANEL
PH-144	GAS ORIFICE	PH-196	3/8 SCREWS "
PH-145	LOCK WASHER	PH-197	3/8 BOLTS "
PH-146	NUT	PH-198	3/8 NUTS "
PH-147	3/8 INCOMING PIPE NIPPLE "	PH-199	TENSION" CLIPS "



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