

REGENCY 2

LOW POWER FILLED



GUIDE TO INSTALLATION SERVICE & CLEANING



MHS
BOILERS



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1.0 general

These instructions are designed to assist the installation and servicing engineer with the installation and maintenance of the Regency 2/G100IE series central heating boilers.

These atmospheric gas fired boilers are floor standing and suitable for heating large dwellings, commercial or industrial buildings. They are designed for use on pumped circulation systems, hot water production through calorifiers, indirect cylinders, plate heat exchangers or any other indirect method of hot water generation.

The Regency 2 G100IE series boilers, are open flued, low profile, natural draught central heating appliances, with outputs ranging from 32 to 126 kW.

Models G100IE are fully automatic spark ignited appliances with flame safeguard via flame ionisation. Models G100/90IE and G100/110IE are two stage high/low firing appliances.

conformity statement

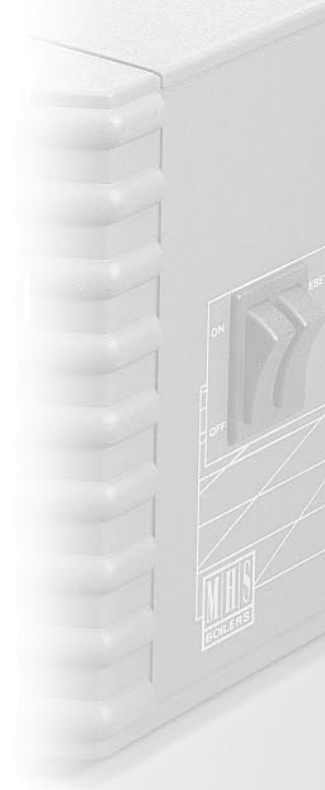
Regency 2 boilers are manufactured to the highest standard of quality, performance and safety, in accordance with EC standards. The Regency 2 boilers carry the CE mark.

installation requirements

The installation of Regency 2 boilers must be in accordance with the relevant requirements of Gas Safety (Installation and Use) Regulations 1994, Health & Safety at Work Act, Building Regulations, I.E.E. Regulations, Construction (Design & Management) Regulations 1994, Local Authority Bye-Laws, Local and National Water Bye-Laws, Fire Authority Regulations and Insurance Company requirements.

The following Codes of Practice are also applicable:-

- BS6798: 1987 Specification for installation of gas fired hot water boilers of rated input not exceeding 60kW.
- BS6880 Code of Practice for low temperature, hot water heating systems of output greater than 45kW. Parts 1, 2 and 3: 1988.
- CP342 Part 2: 1974 Code of Practice for centralised hot water supply.
- BS6644 1991 specification for gas fired hot water boilers of rated inputs between 60 kW and 2 MW.
- IGE/UP/2 Gas installation pipework, boosters and compressors on industrial and commercial premises.
- CIBSE Guide Reference sections B7, B11 and B13.
- BS5440 Installation of flues and ventilation for gas appliances of rated input not exceeding 60kW. Part 1: 1990 Specification for the installation of flues.
- BS5440-2: 2000 Installation and maintenance of flues and ventilation for gas appliances of rated input not exceeding 70kW net (1st, 2nd and 3rd family gases) Part 2: Specification for installation and maintenance of ventilation for gas appliances.
- British Gas IM/11 Flues for commercial industrial gas fired boilers and air heaters.



REGENCY 2

L O W P R O F I L E

gas safety (installation and use) regulation

It is the law that all gas appliances are installed by competent persons - ie: CORGI Registered, in accordance with the above Regulations.

Failure to comply with Regulations could lead to prosecution. It is in your own interest and that of safety, to ensure that the law is complied with.

location

The location chosen for the boiler must permit the provision of a satisfactory flue and adequate space for servicing and air circulation around the boiler. The boiler room, whether specifically constructed or a modification of an existing space, should be designed in accordance with BS6644. The boiler house must be kept clean and the boilers must not be permitted to operate during the installation of lagging materials or during dust making operations.

1.1 general *remark*

The Regency 2 series are gas fired cast iron sectional boilers whose features are high efficiency; low emissions and compact dimensions. The heat exchanger comprises:-

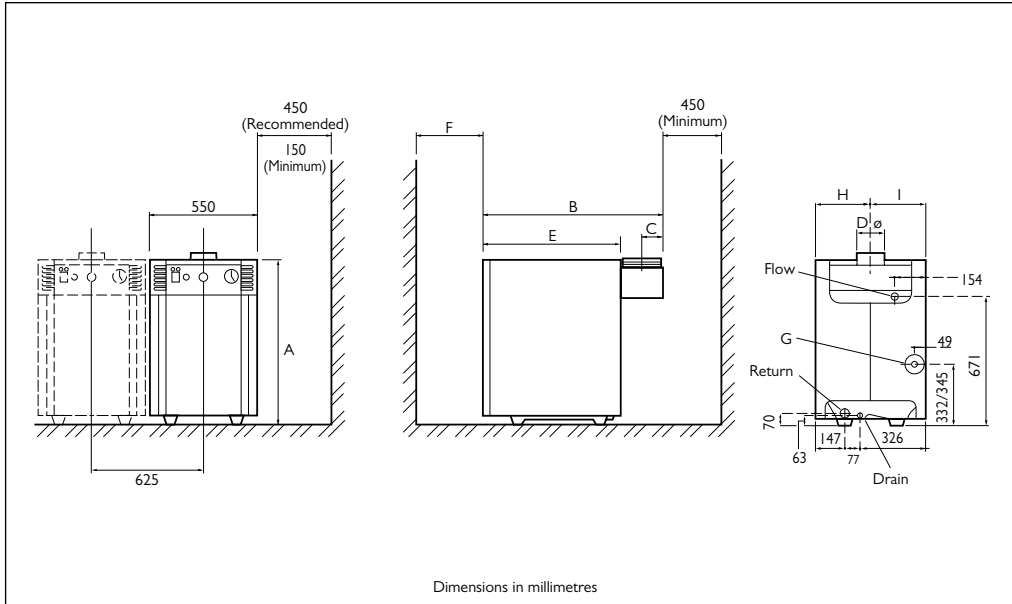
- one front section
- a variable number of intermediate sections
- one rear section

connected to each other, by means of bi-conical nipples. The boiler is fitted with a multi bar atmospheric gas burner made in stainless steel, for operation with natural gas, Lpg and town gas.

1.2 boiler *models*

Boiler Model	Nominal Heat Output	
	kW	Btu/h
G100/30IE	32.7	111,572
G100/40IE	44.4	151,493
G100/50IE	56.2	191,754
G100/70IE	80	272,960
G100/90IE	103	351,436
G100/110IE	126	429,912

1.3 dimensional data *clearances*



Models	G100/30 IE	G100/40 IE	G100/50 IE	G100/70 IE	G100/90 IE	G100/110 IE
A - Boiler Height - mm	850	850	953	953	1005	1005
B - Boiler Depth - mm	918	1026	1084	1260	1483	1659
C - Boiler Rear/Centre Flue - mm	113	113	120	120	144	144
D - Flue Outlet Size - mm	155	155	202	202	254	254
E - Casing Depth - mm	638	725	812	986	1160	1334
F - Front Clearance - mm	450	450	450	450	600	700
G - Gas Connection Size - BSP	1/2"	1/2"	1/2"	3/4"	1"	1"
H - Side to Flue - mm	255	255	275	275	275	275
I - Side to Flue - mm	295	295	275	275	275	275
Flow Connection - BSP F	2"	2"	2"	2"	2"	2"
Return Connection - BSP	1"M	1"M	1"M	2"F	2"F	2"F
G - Gas Connection Size - BSP Towns Gas	3/4"	1"	1"	1 1/2"	1 1/2"	1 1/2"

2.0 technical *data*

Module size G100		30 IE	40 IE	50 IE	70 IE	90 IE	110 IE		
Water Details	Heat Output to Water Max	kW Btu/h	32.7 111,572	44.4 151,492	56.2 191,754	80 272,960	103 351,436	126 429,912	
	Low Fire Output	kW Btu/h	— —	— —	— —	— —	51.5 175,718	63 214,956	
	Heat Input Gross	kW Btu/h	39.98 136,443	54.17 184,853	68.34 233,208	96.76 330,151	124.30 424,140	151.90 518,285	
	Water Content	L UK Gal	14.4 3.16	18.0 3.95	21.6 4.75	28.8 6.33	36.0 7.91	43.2 9.50	
	Design Flow Rate at Δt 11°C	L/sec UK Gal/min	0.70 9.34	0.96 12.68	1.21 16.05	1.73 22.85	2.22 29.42	2.72 36.00	
	Waterside Pressure Drop at Δt 11°C	m bar in wg	7.4 2.91	10.2 4.0	14.0 5.5	18.0 7.08	20.5 8.07	22.5 8.85	
	Minimum Flow Rate at Δt 20°C	L/sec UK Gal/min	0.38 5.13	0.52 6.97	0.66 8.83	0.95 12.56	1.22 16.18	1.5 19.79	
	Maximum Water Pressure	bar psi	5.0 72.5	5.0 72.5	5.0 72.5	5.0 72.5	5.0 72.5	5.0 72.5	
	Factory Test Pressure	bar psi	10 145	10 145	10 145	10 145	10 145	10 145	
	Gas Details	Input Rate Nat Gas G20	m ³ /h ft ³ /h	3.73 131.82	5.05 178.60	6.38 225.32	9.03 318.98	11.60 409.79	14.17 500.75
		Nominal Gas Inlet Pressure Nat Gas	m bar in wg	20.0 8.0	20.0 8.0	20.0 8.0	20.0 8.0	20.0 8.0	20.0 8.0
		Burner Setting Pressure Nat Gas	m bar in wg	11.0 4.33	11.0 4.33	12.4 4.88	11.1 4.37	11.0 4.33	10.9 4.29
		Approx Flue Gas Volume at NTP (primary flue) Nat Gas	m ³ /h ft ³ /h	49.60 1751	67.34 2378	85.23 3010	121.34 4285	156.22 5516	191.11 6749
Approx Flue Gas Temp (primary flue)		°C °F	230 446	230 446	230 446	230 446	230 446	230 446	
Connection Sizes	Flow Connection	in BSPF	2"	2"	2"	2"	2"	2"	
	Return Connection	in BSP	1"M	1"M	1"M	2"F	2"F	2"F	
	Gas Connection Nat Gas	in BSP M	1/2"	1/2"	1/2"	3/4"	1"	1"	
	Draught Diverter Connection Size	mm in	155 6.10	155 6.10	202 8.00	202 8.00	254 10.00	254 10.00	
	Weight	kg lbs	132 291	161 354	191 421	248 546	305 672	361 795	
	Electrical Supply	240V 50Hz Single phase							
Number of Sections			4	5	6	8	10	12	
Number of Burners			3	3	3	3	3	3	

2.1 technical data

a. gas inlet pressure (mbar)

Town Gas G110	Nat Gas G20	Butane Gas G30	Propane Gas G31
8	20	28-30	37

b. burner setting pressure (mbar)

Boiler Model	Nat Gas G20	Butane Gas G30	Propane Gas G31
G100/30IE	11	26.3	33.6
G100/40IE	11	27.5	35.1
G100/50IE	12.4	26.02	33.2
G100/70IE	11.1	26.1	33.3
G100/90IE	11	23.5	30
G100/110IE	10.9	22.65	28.9

c. size of burner injector (mm)

Boiler Model	Nat Gas	Lpg
G100/30IE	2.95	1.82
G100/40IE	3.4	2.1
G100/50IE	3.8	2.35
G100/70IE	4.5	2.75
G100/90IE	5.1	3.2
G100/110IE	5.8	3.7

d. size of diaphragm (mm)

Boiler Model	Nat Gas	Lpg
G100/30IE	-	8
G100/40IE	-	-
G100/50IE	-	10.3
G100/70IE	-	-
G100/90IE	6.5 / - *	4.7 / 9.5 *
G100/110IE	7.5 / - *	5.3 / 11 *

1st Valve / 2nd Valve *

Note

Data 2.1 a, b & c above is relevant only to appliances with standard burner assembly. For boilers equipped with optional low NOx burners, refer to data supplied separately with burner kit.

Town gas only available on Piezo/Permanent pilot ignition G100 boilers.

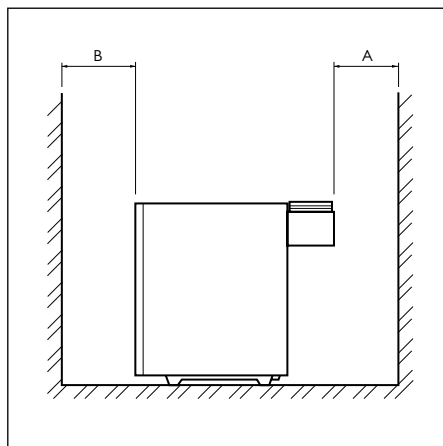
Size of Pilot Injector (mm)	Size of Burner Injector (mm)		Burner Setting
	Boiler Model	Injector	mbar
Town Gas 2 x 0.55	G100/30GN	5.8	3.5
	G100/40GN	6.25	4.5
	G100/50GN	7.5	3.5
	G100/70GN	10	2.7
	G100/90GN	10.9	4.0
	G100/110GN	12.6	4.0

3.0 installation and *operating instructions*

Siting of the boiler should be such that adequate space is provided at the front of the unit to facilitate the withdrawal of the burner bars during servicing. Sufficient headroom over the boiler should be allowed to facilitate servicing with a minimum requirement of 1000mm.

Allow minimum of 25mm at sides of boiler for assembly.

Boiler Model	"A" Rear	"B" Front
G100/30IE	450mm	450mm
G100/40IE	450mm	450mm
G100/50IE	450mm	450mm
G100/70IE	450mm	450mm
G100/90IE	450mm	600mm
G100/110IE	450mm	700mm



The boiler is delivered on a wooden pallet and covered by a polythene envelope. It is supplied complete with casing, fascia and draught diverter in a separate box. The opening around this draught diverter must not be restricted in any way (i.e. boxing in boiler in alcove, etc.)

The boiler should be mounted on a level base of non-combustible material. A split collar should be fitted immediately above the draught diverter to allow boiler removal.

3.1 gas *supply*

The availability of an adequate gas supply or the suitability of an existing supply and metering equipment should be established by reference to the Local Gas Undertaking before installation. Gas supply pipework should be fitted in accordance with IGE/UP/2. Do not use pipes of a smaller size than the boiler connection.

3.2 flue system

Detailed recommendations of the flue are shown in BS6644, BS5440 and IM/11. The following notes are intended for guidance only.

The area of the flue serving the boiler, must not be less than the area of the boiler flue outlet. Nominal flue pipe diameters between the boiler and chimney should be in accordance with the following table:-

Boiler Model	Diameter (mm)	Diameter (in)
G100/30IE	155	6
G100/40IE	155	6
G100/50IE	202	8
G100/70IE	202	8
G100/90IE	254	10
G100/110IE	254	10

Flue pipes and fittings should be constructed from aluminium, stainless steel or suitable flue material. Any double walled flue pipe must be acceptable to current regulations. Chimneys should be lined with non-porous acid resistant material in accordance with BS5854, such as stainless steel flexible flue liner or a similar approved material. The internal diameter of the liner must not be less than the recommended flue pipe and the number of joints should be kept to a minimum. Any joints between the flexible liner and the flue pipe from the boiler, should be effected by means of a purpose built adaptor plate.

Existing flues should be thoroughly swept before use and any register plates or dampers should be removed. The flue should be fitted with a approved terminal on boiler sizes G100, G100/30IE and G100/40IE. On boiler sizes G100/50IE, G100/70IE, G100/90IE and G100/110IE, the flue outlet should be fitted with a wire mesh to protect against blockage. The terminal should not be sited adjacent to any opening window, air vent or other ventilation opening and should be situated at least 1m above the roof surface. All should be in accordance with BS6644 or BS5440 as appropriate.

3.3 air supply

Detailed recommendations for air supply are given in BS6644 or BS5440 as appropriate. The following notes are given as guidance.

air supply by natural ventilation

The purpose built space housing the boiler(s), must have permanent air vents communicating directly with the outside air at high level and at low level. Where communications with the outside air is possible only by means of high level air vents, ducting down to floor level for the lower vents(s) should be used. For an exposed boiler house, air vents should be fitted, preferably on all four sides, but at least on two sides. Air vents should have negligible resistance and must not be sited in any position where they are likely to be easily blocked or flooded or in any position adjacent to an extraction system, which is carrying inflammable vapour.



air supply by natural ventilation (contd)

Grilles or louvres should be designed so that high velocity air streams do not occur within the space housing the boiler(s).

The air supply requirements stated below are related to the maximum rated heat INPUT of the boiler(s) and are equivalent to those specified in BS6644 or BS5440 as appropriate.

Total Input of Boiler Installation	Position of Air Vent(s)	Air Vent Area (air direct from outside)
Up to 2MW (6,824,000 Btu/h)	High Level (outlet)	270cm ² plus 2.25cm ² per kilowatt in excess of 60kW total rated input
	Low Level (inlet)	540cm ² plus 4.5cm ² per kilowatt in excess of 60kW total rated input

The actual minimum effective areas of the air vents required for boilers installed in a room or internal space are as follows:-

Boiler Model	Position of Air Vent	Air Vent Area (air direct from outside)
G100/30IE	See BS 5440 Part 2	143cm ² per boiler
G100/40IE	See BS 5440 Part 2	204cm ² per boiler
G100/50IE	See BS 5440 Part 2	267cm ² per boiler
G100/70IE	High Level Low Level	353cm ² per boiler 706cm ² per boiler
G100/90IE	High Level Low Level	414cm ² per boiler 828cm ² per boiler
G100/110IE	High Level Low Level	478cm ² per boiler 955cm ² per boiler

For compartment ventilation, refer to relevant standard.

air supply by mechanical ventilation

Mechanical ventilation systems serving the area containing the boiler should be designed with a supply rate of 1.1m³/sec. per 1000 kW of total rated input extraction air rate of 0.45 m³/sec. per 1000kW total rated input. Systems employing an extract fan only, must not be used.

- a) Using a fan to supply air to a low level opening with natural discharge through a high level opening.
- b) Using a fan to supply air to a low level opening and a fan to extract air at a high level opening.

All air inlet and extract fans should be electrically interlocked to cause safety shut-down or lock-out of the boiler in the event of malfunction of either fan.

The requirements of mechanical ventilation schemes is fully outlined in BS6644.

The following table gives the minimum mechanical ventilation rates for the Regency 2 range of boilers:-

Boiler Model	Inlet Air (Combustion Ventilation)	Extract Air (Ventilation)
G100/30IE	0.044m ³ /sec	0.018m ³ /sec
G100/40IE	0.059m ³ /sec	0.024m ³ /sec
G100/50IE	0.075m ³ /sec	0.030m ³ /sec
G100/70IE	0.106m ³ /sec	0.043m ³ /sec
G100/90IE	0.136m ³ /sec	0.055m ³ /sec
G100/110IE	0.167m ³ /sec	0.068m ³ /sec

3.4 gas connection

The gas inlet connection at the rear of the boiler terminates with a BSP male tapered thread. A gas cock (supplied separately in a plastic bag) should be fitted between this point and the gas supply in an easily accessible position to facilitate servicing.

3.5 water connection

All Regency 2 boilers are provided with flow and return connections at the rear of the boiler. The connection pipework should incorporate unions to allow easy disconnection of the boiler.

system water treatment

In almost all heating and indirect hot water systems, there is a need to treat the circulating water, particularly where the system type is open-vented. The fill water will almost always produce a scale deposit on the waterways of the boiler. This deposit will reduce the heat transfer capabilities of the boiler by insulating the metal of the heat exchanger from the system water. Water loss from the system is inevitable even when there is no obvious leakage. This is caused by surface evaporation from the feed tank. Over a heating season, water replenishment can be considerable. Make up water will, naturally, contribute to scale formation in the boiler. The rise and fall of water levels through expansion and contraction of the water on heating and cooling, allows dissolved oxygen to be drawn continuously into the system promoting corrosion.

Corrosion debris can be carried into and laid down in the boiler, increasing the potential for fouling which will severely reduce boiler efficiency and can lead to premature boiler failure. It is for this reason that MHS Boilers Limited, strongly recommends correct treatment of the system fill water, after proper initial system cleansing and flushing with an ongoing system maintenance program.

For specific guidance on water treatment, direct contact is advisable with:-

Betz Dearborn Limited
Widnes
Cheshire
WA8 8UD

Telephone: 0151 495 186

Fernox
Tandem House
Marlowe Way
Croydon
Surrey
CR0 4XS

Telephone: 0208 665 6666



3.6 electrical supply & connection

The boiler requires a 230 volts 50Hz Ac electrical supply - fuse rating is 5 amps: preferably by means of un-switched shuttered socket outlet in conjunction with a fused three pin plug, both complying with the requirements of BS1363. Alternatively, a fused double pole switch or fused spur box connection to the mains, should be readily accessible and adjacent to the boiler.

The boiler should be connected using heat resisting cable. The method of cable entry should be from the rear left hand side of the boiler with the cables being retained in the cable tray/bracket attached to the side of the panel.

All wiring external to the boiler must be installed in accordance with the latest and current I.E.E. and Local Authority Regulations.

control panels and electrical connection

There are a number of differing control panels which are supplied with the Regency2 range of boilers. Please refer to the following list for the correct matching of control fascia for the chosen boiler.

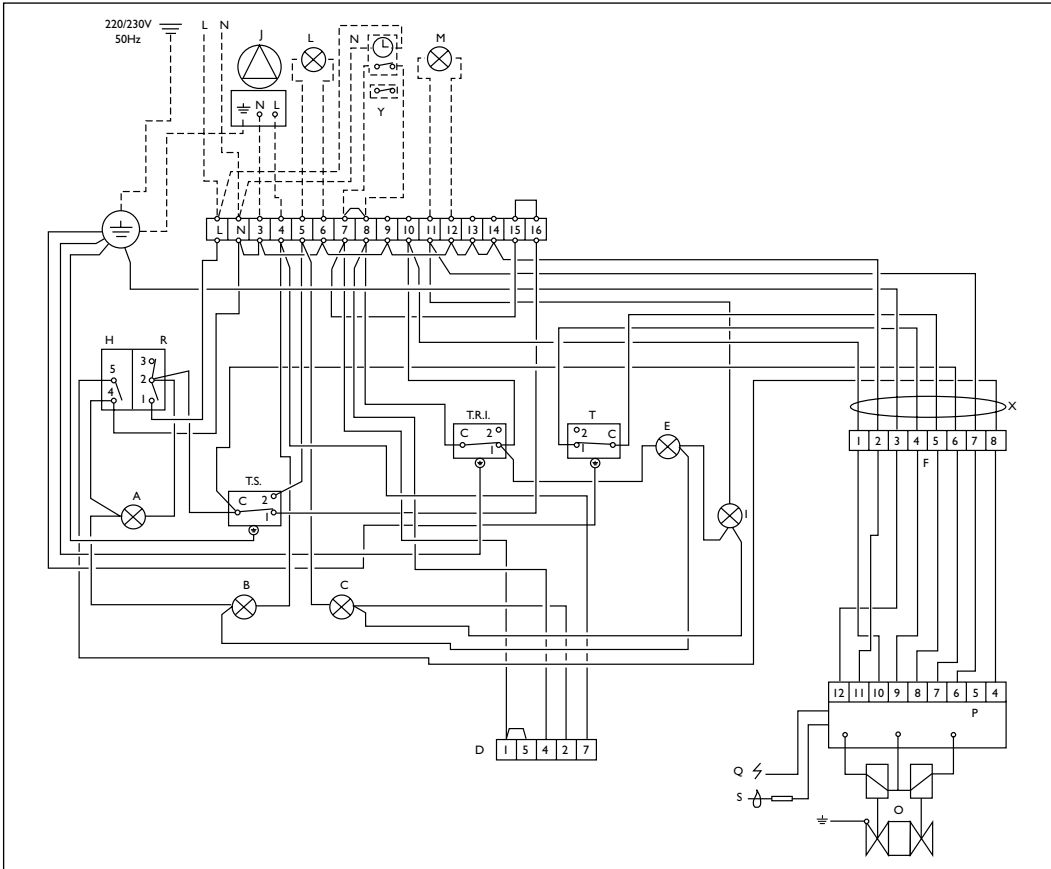
Boiler Model Fully Automatic Versions	Control Panel Type
G100, 30, 40, 50IE	CC 147
G100/70IE	CC 148
G100/90, 110IE	CC 149

legend of control panel components

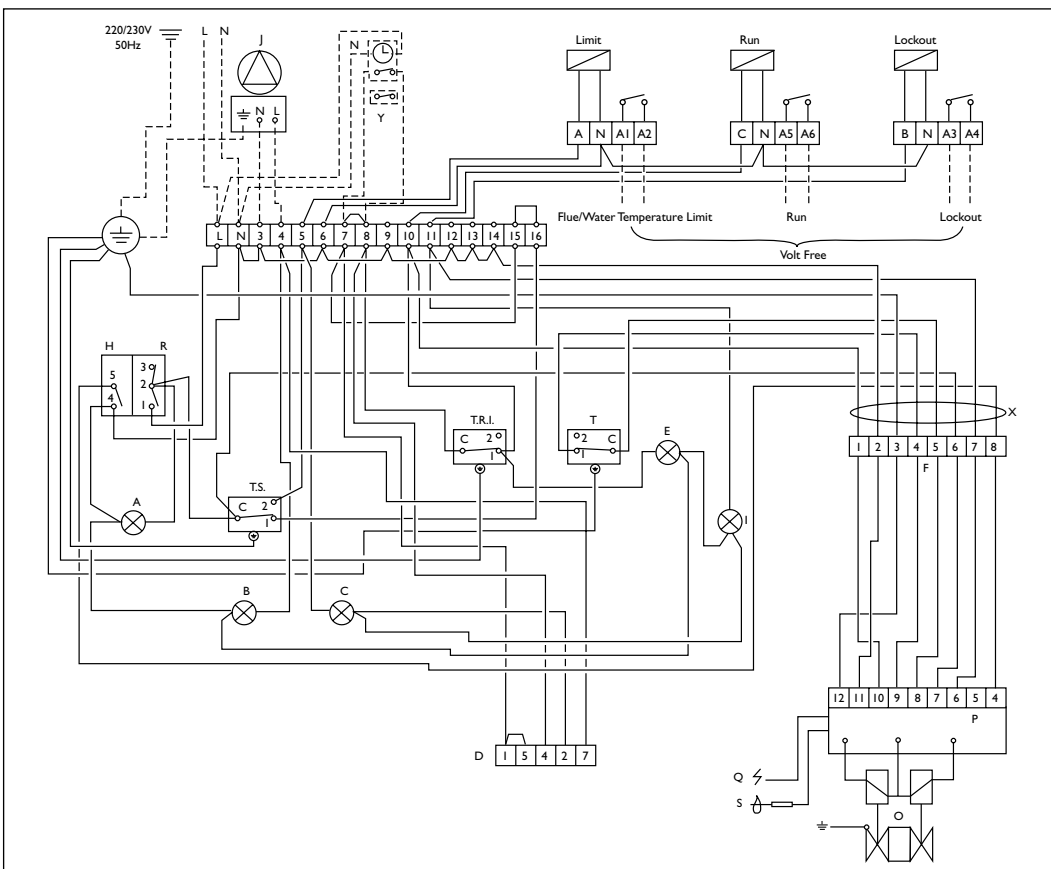
A	Power On Lamp
B	Pump Run Lamp
C	High Limit Lamp
D	Pump Run On Timer (Eberle Type)
E	Boiler Run Lamp
F	Gas Valve Connections
G	External Controls Contacts (volt free) High/Low
H	Reset
I	Lockout Lamp
J	Boiler Pump
K	High Fire Lamp
L	Remote Overheat Trip Indicator Lamp
M	Remote Burner Lockout Indicator Lamp
N	External Clock (motor)
O1 & O2	Gas Valves
P	Control Box
Q	Ignition Probe
R	On/Off Switch
S	Detection Probe
T	Flue Limit Thermostat
T.R.I.	Control Thermostat
T.R.II.	High/Low Thermostat
T.S.	Limit Thermostat
X	Cable + PLUG Connections
Y	External Controls Contacts (volt free) On/Off
-----	Denotes Field Wiring by Installer

Note: Configuration of BMS relays subject to alteration without notice.
3 way relay boards supplied when all BMS outputs are required.

Regency 2 GI00 (30, 40, 50IE) CCI47



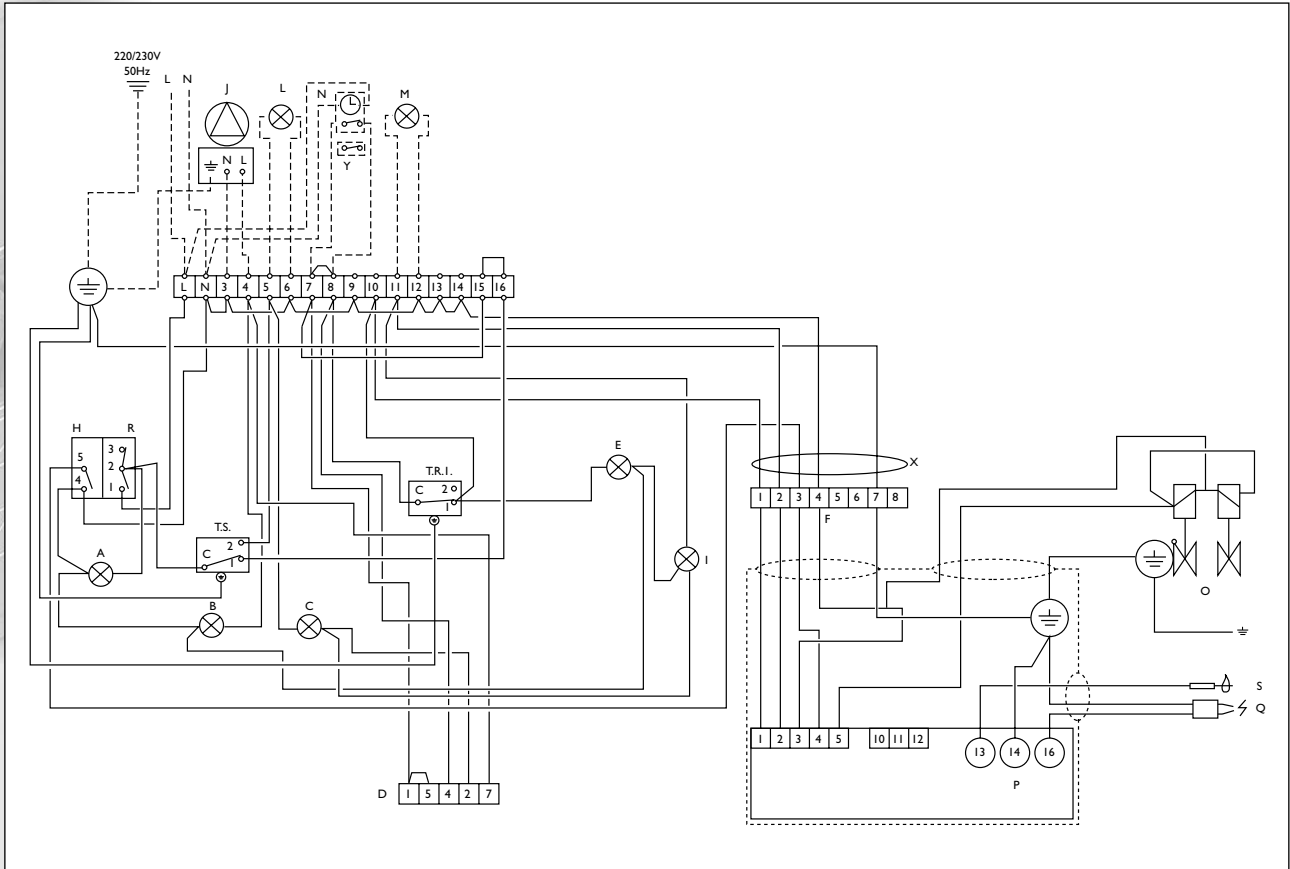
Regency 2 (BMS Relay) GI00 (30, 40, 50IE) CCI47



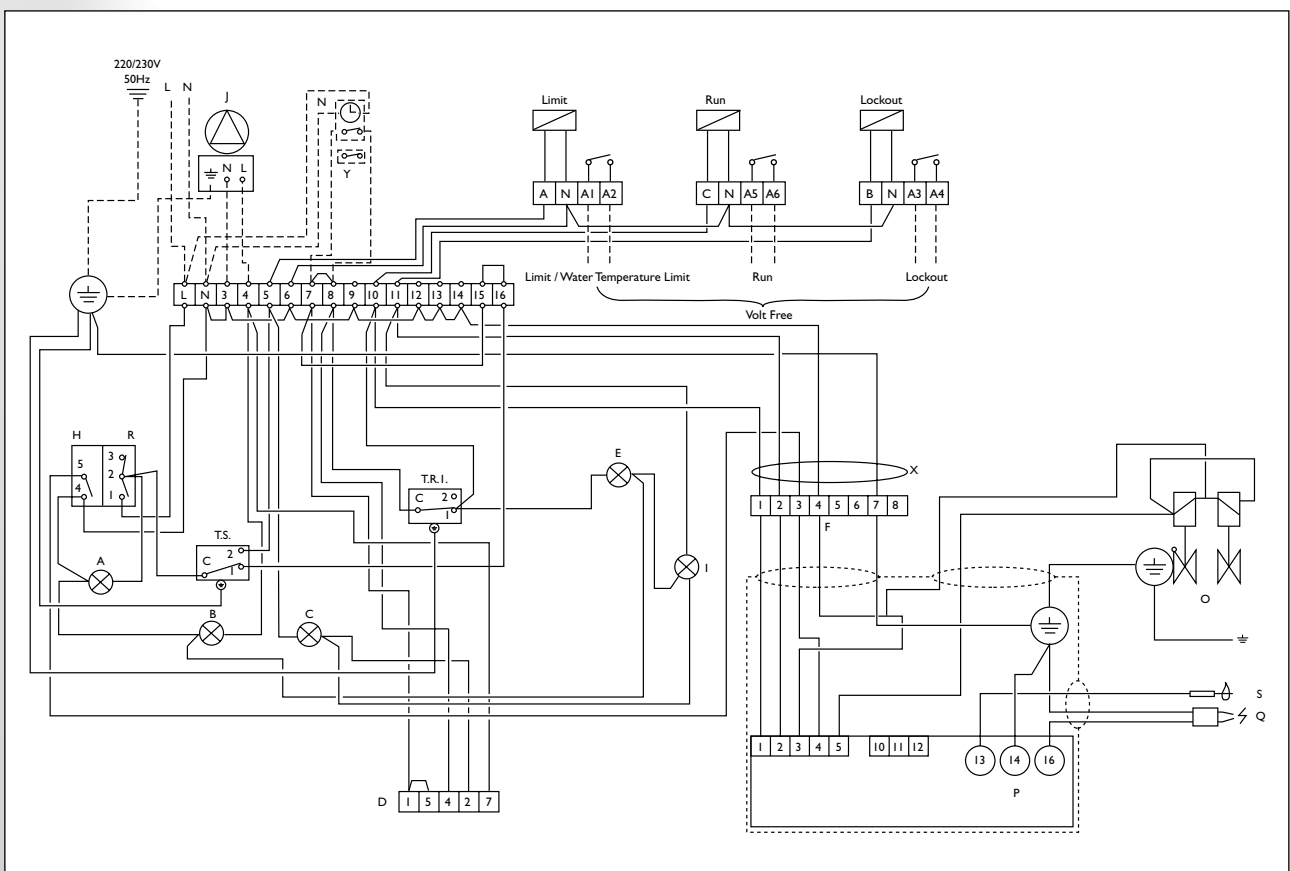
REGENCY 2

LOW PROFILE

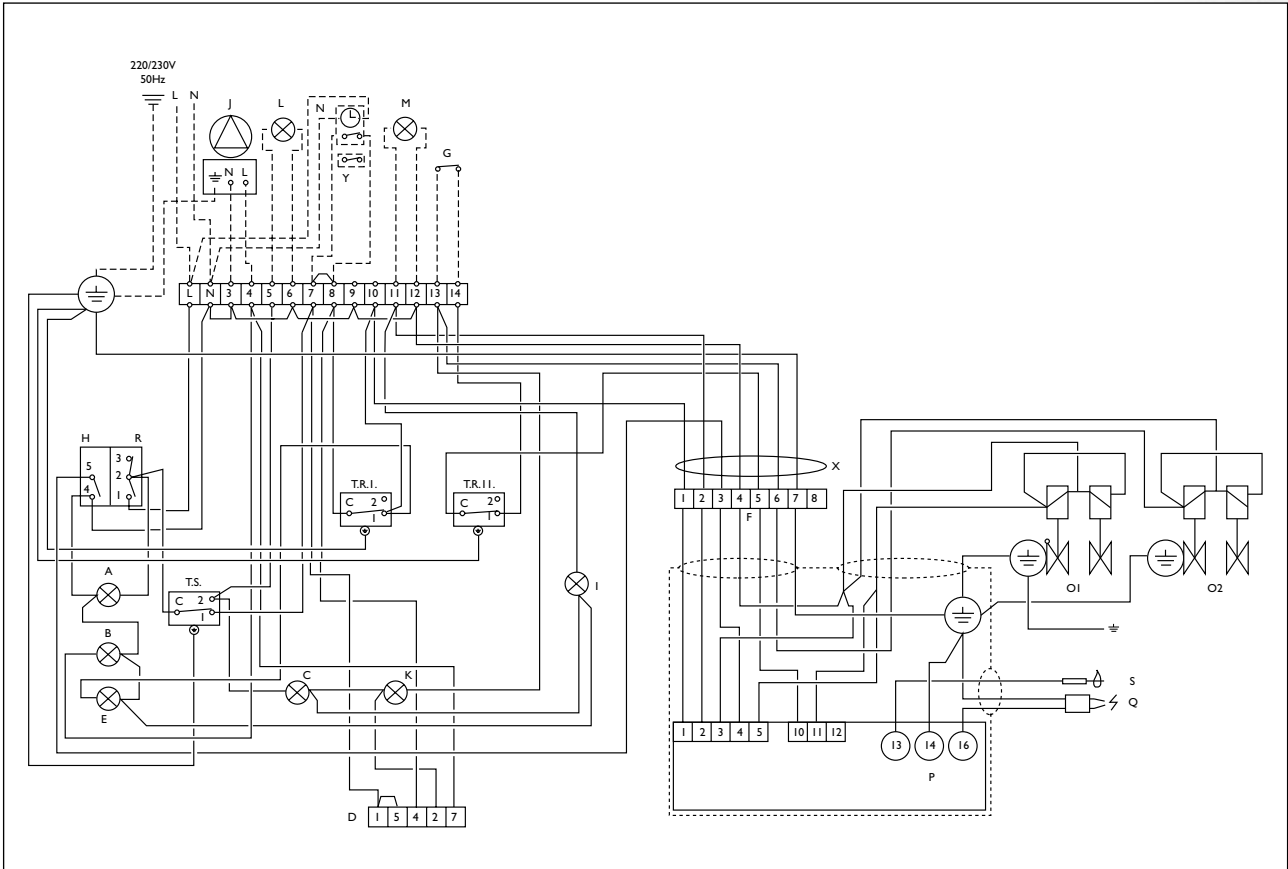
Regency 2 GI00 (70IE) CCI48



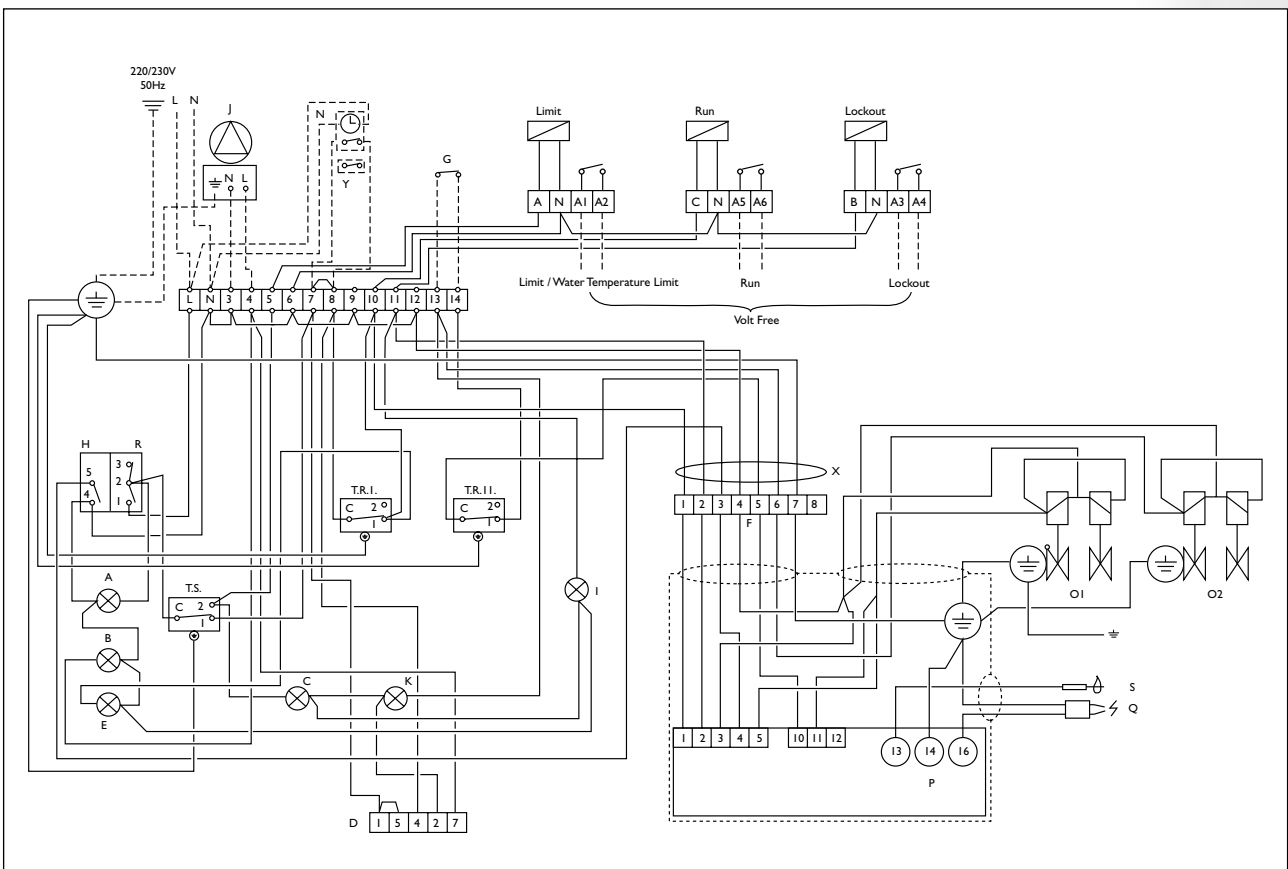
Regency 2 (BMS Relay) GI00 (70IE) CCI48



Regency 2 GI00 (90+110IE) CCI49



Regency 2 (BMS Relay) GI00 (90+110IE) CCI49



3.7 final boiler assembly

Position the boiler onto a level fire proof base, capable of supporting the weight of the boiler when full of water.

Make the flow and return connections tapping 1 and 2: Fig. 1.

Install a drain cock into the 3/4" drain port (No. 3 Fig. 1.)

The return connections on the G100/30IE-50IE boilers have a 2" x 1" cone, whilst G100/90 - 110IE, are equipped with a 2" x 2" distributor.

Install the non return valve for the pressure gauge (packed with the control panel) into the port (No. 4. Fig. 2.) on the front section of the boiler.

Fill, test and flush, then re-fill the system. (maximum 5 bar), checking for and ensuring no water leaks.

Rest the smoke hood (No. 5. Fig. 2.) on the boiler and secure it to the front and back sections by means of the nuts and bolts provided - (use M8 x 25).

Flue outlet located to the back.

Position the boiler insulating blanket around the boiler body hold in place with ties supplied ensuring that the apertures in the fixing points and the blanket overlaps the front of the boiler. Fasten the front bracket casing (No. 6. Fig. 3.) to the front section with 2 x M8 x 10mm screws through the top locating holes.

Use M12 nut and washer to secure the bracket to the bottom right hand side (No. 7. Fig. 3.) and with M8 nut and washer, fasten the front casing to the spacer which has previously been screwed to the left (No. 8. Fig. 3.), through the lower left hand side.

Fasten the side bracket/casing supports to the top of the back section by means of M8 x 20mm bolts. The angles should face inwards and the slotted hole to the right. (See No. 9. Fig. 1.) Secure the other side bracket to the holes in the back section using M8 x 40mm bolts. The angles should face inwards and the slotted hole to the right. (See No. 10. Fig. 1.)

Hang the side panels using the support pin on the front of the side panels, locating into the hole on the front casing bracket.

Locate the hook at the rear of the side panel on to the brackets mounted on the rear section. Fix side covers in place with wing screws located bottom front left and right hand sides.

Hang the control panel on the two cut-outs at the top of the side panels. Insert the thermostat and thermometer probes through the slotted hole (see No. 12. Fig. 3.) in the top left hand side of the front bracket casing.

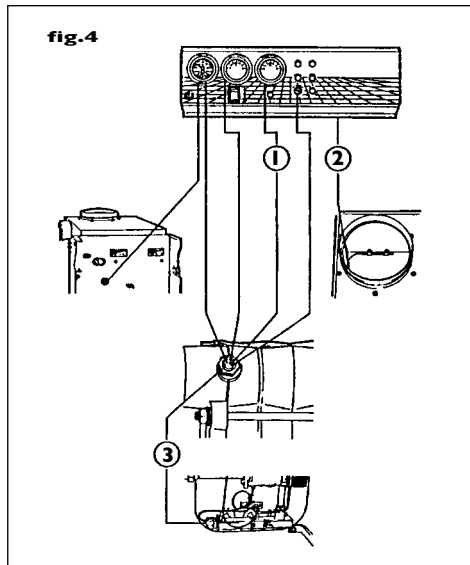
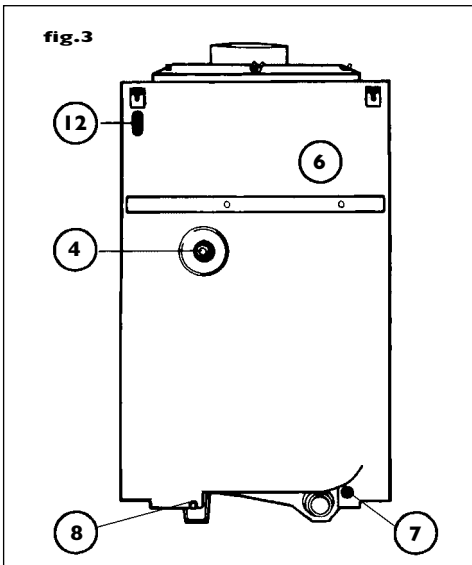
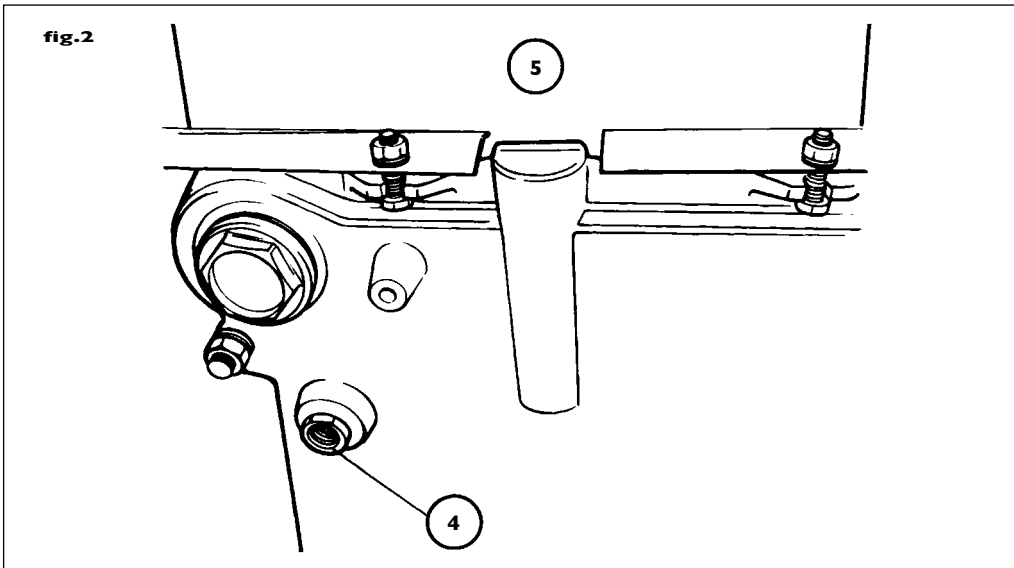
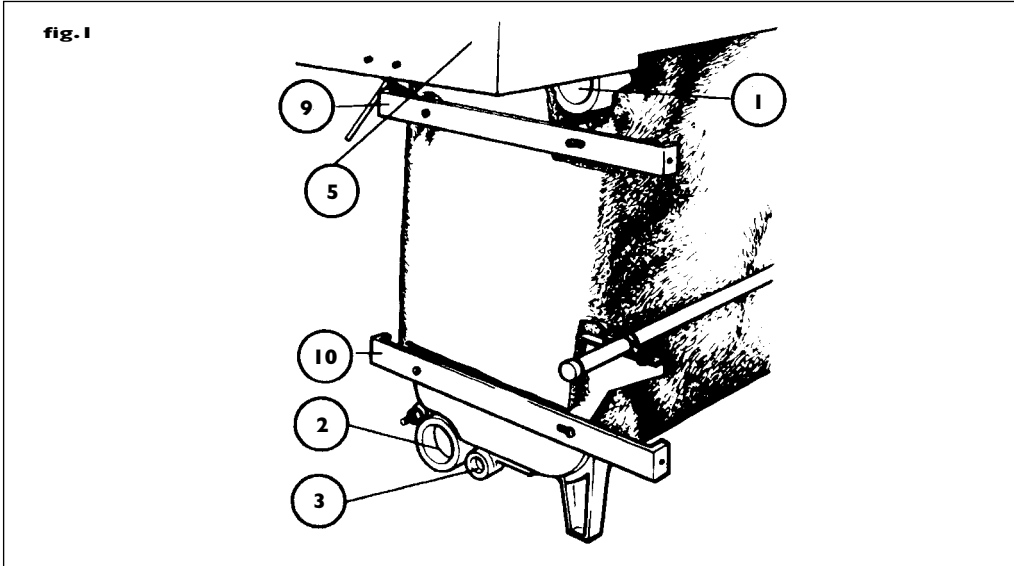
Screw the pressure gauge into the non return assembly (previously installed) (See No. 4. Fig. 2.)

Insert the thermostat bulb (two on the G100/90 and 110IE) and the safety limit thermostat bulbs into the pocket, in the back section and fasten the capillaries with the clip provided for this purpose.

Note: The water temperature thermometer bulb (smallest bulb) must be inserted first and located centrally and pushed carefully to the base of the pocket (See No. 4. Fig. 3.)

On the G100, 30, 40 and 50 boilers, a flue spillage detection thermostat is fitted. Locate the bulb and capillary of the detection stat along the left hand side of the boiler and secure the bulb into the cradles provided in the rear of the draught diverter skirt. (See No. 2. Fig. 4.)

Note: The cables can be run down the left hand side of the boiler via the cable glands. Once all the cables are in place, put the top panel in place. Secure via 2 self tapping screws at the rear of the boiler casing. Connect the gas valve lead plugs to the corresponding socket in the under side of the control fascia. Mount the rear casing engaging the hooks on the rear panel into the slots in the rear edges of the side panels.



4.0 commissioning *testing*

Ensure that the boiler is full of water and the system, boiler is fully vented.

Ensure that the pressure gauge on the boiler control panel reads a minimum of 0.5 bar (5m).

Ensure that an adequate gas supply is available at a working inlet pressure of 20mbar (Nat gas only) and that the gas supply has been properly tested and purged in accordance with current Codes of Practice.

Ensure that the system pumps are running and water is circulating around the system.

fully automatic versions - G100/30-110IE

1. Switch on the on/off switch and ensure that the “green” power on indicator lamp illuminates.
2. Ensure that the external controls are calling for heat and that the “amber” “pump run” indicator lamp illuminates and that the boiler pump (if fitted) is rotating correctly.
3. The spark ignitor should start after a short delay the burner should ignite and the spark should stop.
4. Turn off the boiler at the on/off switch.
5. Attach a manometer to the burner pressure test point and turn on the boiler, ensuring gas pressure is not excessive.
6. Allow the main burner to operate for ten minutes and then check/adjust the burner pressure in accordance with the figure quoted in the technical data, and record combustion readings.
7. Turn off the appliance and remove the manometer. Ensure that the test point screw is firmly tightened.
8. Check correct operation of the control and limit thermostats, and lockout also the flue spillage limit thermostat on models G100/30-50IE.
9. Check connections for water tightness.
10. Check effective operation of the flue.
11. Instruct the user on the safe operation of the appliance and the need for regular maintenance.

Hand over operation instructions.

to turn off the boiler

1. FOR SHORT PERIODS

Switch off the on/off switch. This will leave the pilot burner alight on permanent pilot models (towns gas only) and will obviate the need to carry out the lighting procedure when the boiler is required again.

To operate the appliance again, switch on the on/off switch.

2. FOR LONG PERIODS

Switch off the on/off switch. Turn off the gas supply at the gas isolation valve in the supply pipework to the boiler.

Switch off the power supply at the local isolator.

Drain boiler during periods of potential frost damage.

To operate the appliance again, follow appropriate comm/testing procedure.

4.1 atmospheric boiler service & commissioning report



MHS Boilers Limited
35 Nobel Square
Burnt Mills Industrial Estate
Basildon
Essex
SS13 1LT

ATMOSPHERIC BOILER SERVICE & COMMISSIONING REPORT

BOILERS TEL: 01286 591010 / FAX: 01288 728202

Date:	Engineer:	CORGI Reg No:				
Site:	Client:	Contract Number:	Commissioning: <input type="checkbox"/> Service: <input type="checkbox"/>			
		Emergency: YES <input type="checkbox"/> NO <input type="checkbox"/>	Premium Rate: YES <input type="checkbox"/> NO <input type="checkbox"/>			
		Travel Time: _____	Time of _____			
		Mileage: _____	_____			
BOILER SETTINGS & COMBUSTION READINGS						
BOILER MODEL:	TYPE:	FUEL:	QUANTITY: _____ INPUT: _____			
PRE-COMMISSION CHECKS <small>(To be carried out by or in conjunction with the installer)</small>	YES	NO	N/A			
SYSTEM CHECK LIST						
Boiler house ventilation to relevant standard						
Electrical supply fused, isolated & earthed						
Local isolation available						
External controls connected & operational						
External wiring to boilers completed						
Boiler & system flooded & valves open						
System pumps operational						
Local gas meter fitted and accessible						
Gas pipework sound & purged by installer						
Gas supply on & available at boilers						
Is manual system gas service cock installed						
Is gas service cock accessible						
Flue system complete & functional						
Boilers clean, clear and undamaged						
Plant Access acceptable						
OPERATIONAL SAFETY CHECKS						
Control thermostat operation checked						
Boiler lockout & safety checked						
Flue spillage test carried out						
OTHER COMMENTS ON INSTALLATION						
SETTINGS & COMBUSTION READINGS						
DETAIL	Unit	Boiler 1 / 5	Boiler 2 / 6	Boiler 3 / 7	Boiler 4 / 8	Boiler 5 / 10
Boiler serial number						
Inlet gas pressure with boiler firing	mbar					
Inlet gas pressure with boilers firing	mbar					
Burner operating pressure	mbar					
Co2	%					
o2	%					
Co	ppm					
Nox	ppm					
Flue gas temperature	°C					
Ambient temperature	°C					
Control thermostat set at	°C					
Limit thermostat setting	°C					



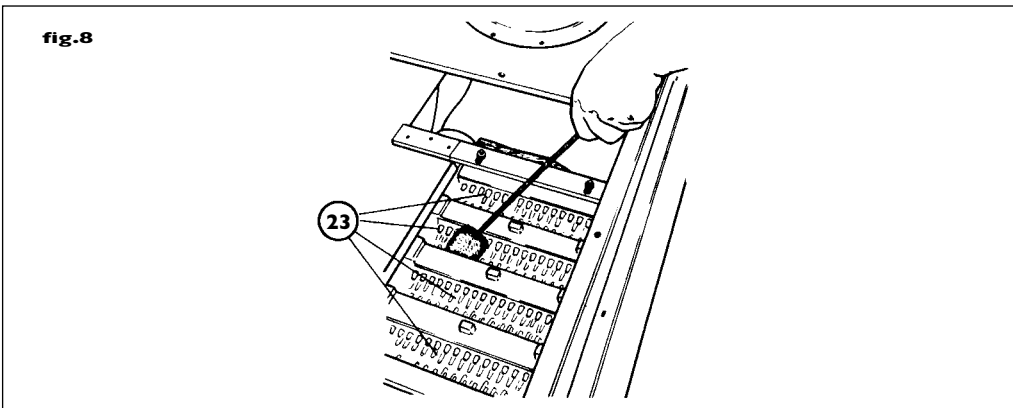
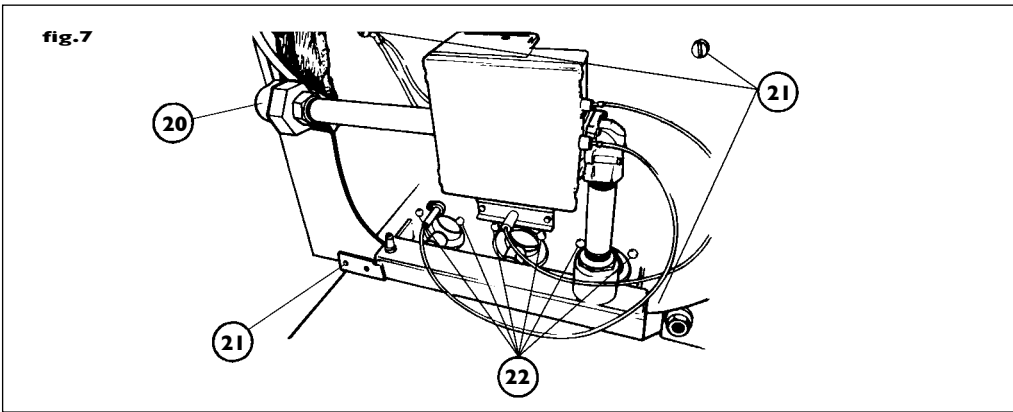
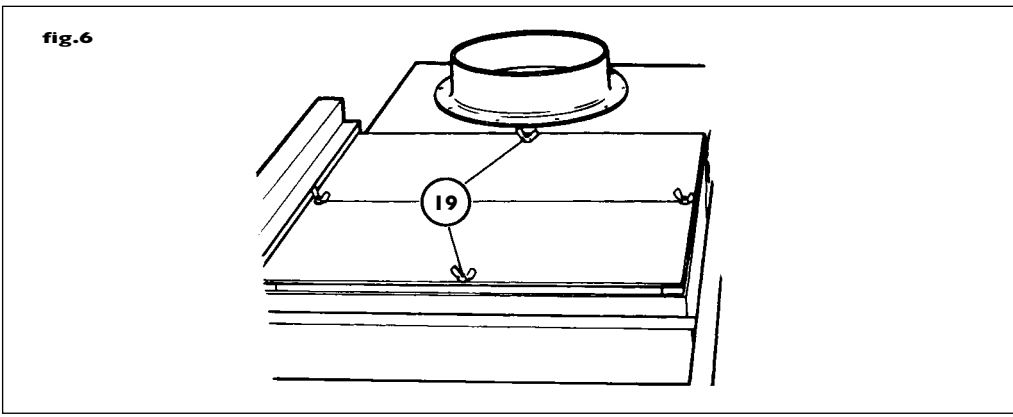
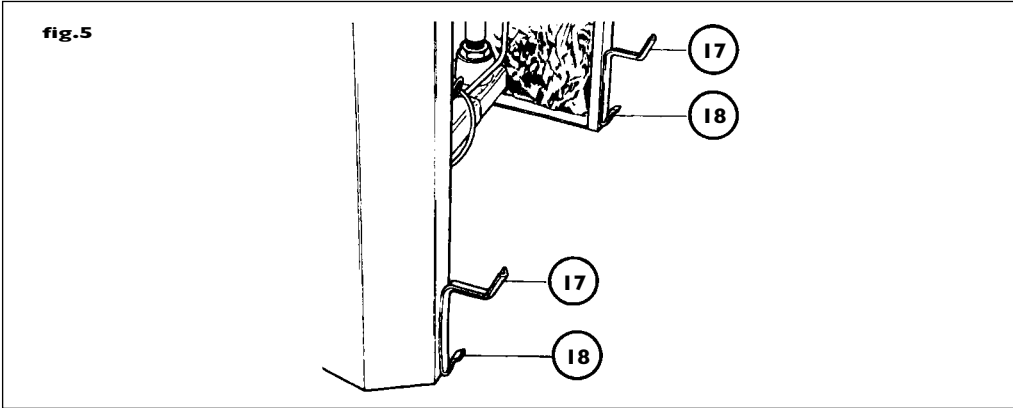
5.0 boiler *servicing*

WARNING: Make sure that the gas supply is always turned OFF at the gas cock, that the electricity supply is switched off and disconnected before attempting to service appliance. Check for gas soundness after servicing gas carrying components.

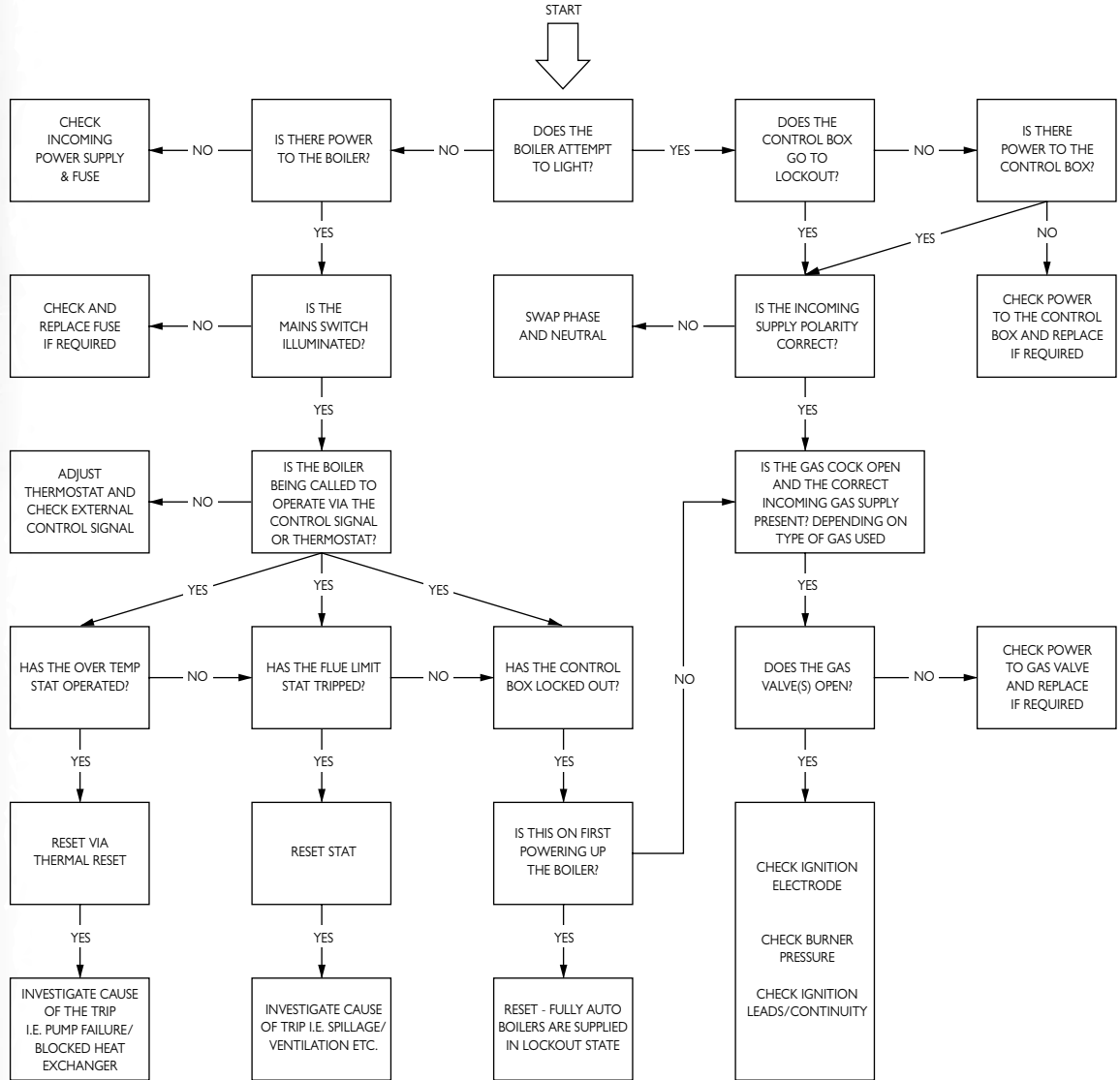
Servicing must be carried out by a qualified Gas Service Engineer and where applicable, a qualified electrician.

Servicing must be on a regular basis with periods not exceeding 12 months.

- Lift off the boiler front casing panel, which is fastened to the sides by means of snap-on locks, withdraw it from the limit stops (No. 17. Fig. 5.), lift it out of the bottom hooks (No. 18. Fig. 5.) and detach it from the sides.
- Loosen the two rear fixing screws which hold the top casing panel, slowly slide it over the side profiles and remove it.
- Unscrew the wing nuts (No. 19. Fig. 6.) that hold the smokehood cleanout cover and remove it.
- Undo the connection between the connector on the wiring from the gas valve and that from the lower side of the control panel.
- Loosen the union adaptor (No. 20. Fig. 7.) on the gas train and remove the screws (No. 21. Fig. 7.) that hold the burner holder plate. Pull out this plate to gain access to the burners.
- Remove the screw (No. 22. Fig. 7.) and detach the burners from the holder plate to be able to clean them with a brush. Ensure that no dirt remains inside the burners or in the flueways.
- Clean the flueways (No. 23. Fig. 8.) with the brush supplied with the boiler. The brush is hung on the right-hand hook of the bracket-casing.
- Remove any residue that may have dropped into the combustion chamber. Use a vacuum cleaner as necessary.
- Examine all parts for signs of wear or damage and replace as necessary, paying particular attention to hardening of insulation on electrical cables.
- Re-assemble boiler in reverse order of above instructions and carry out comm/test procedure.
- Check effectiveness of flue system and inspect ventilation openings into boiler room ensuring they are clean and clear.



6.0 fault finding



6.0 Regency 2 G100 *short spares list*

Description	G100/30IE	G100/40IE	G100/50IE	G100/70IE	G100/90IE	G100/110IE
Control Stat T&G	147037012	147037012	147037012	147037012	147037012	147037012
Limit Stat T&G	141071196	141071196	141071196	141071196	141071196	141071196
Flue Spillage Stat T&G	141071293	141071293	141071293	—	—	—
On/Off & Reset Switch	141071296	141071296	141071296	141071296	141071296	141071296
Eberle Pump Timer	141071366	141071366	141071366	141071366	141071366	141071366
Press/Temp Gauge	147057013	147057013	147057013	147057013	147057013	147057013
Pump Run Lamp	141071332	141071332	141071332	141071332	141071332	141071332
Boiler Run Lamp	141071332	141071332	141071332	141071332	141071332	141071332
Power On Lamp	147037122	147037122	147037122	147037122	147037122	147037122
Lockout Lamp	147037123	147037123	147037123	147037123	147037123	147037123
High Limit Lamp	147037123	147037123	147037123	147037123	147037123	147037123
High Fire Lamp	—	—	—	—	141071332	141071332
Gas Valve VR4605C	—	—	—	141041435	141041435	141041435
Gas Valve VR4605D	—	—	—	—	141041495	141041495
Gas Valve VK4105C	14104608	14104608	14104608	—	—	—
Control Box S4560B	—	—	—	141041510	141041510	141041510
Control Box S4565A	141041503	141041503	141041503	—	—	—
Ionisation Electrode	141041499	141041499	141041499	141041609	141041609	141041609
Ignition Electrode	141041500	141041500	141041500	141041607	141041607	141041607
Front Section	141021001	141021001	141021001	141021001	141021001	141021001
Intermediate Section	141021000	141021000	141021000	141021000	141021000	141021000
Rear Section	141021002	141021002	141021002	141021002	141021002	141021002
Assembly Nipple	141021006	141021006	141021006	141021006	141021006	141021006
Mastic	074098502	074098502	074098502	074098502	074098502	074098502

REGENCY 2

L O W P R O F I L E



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