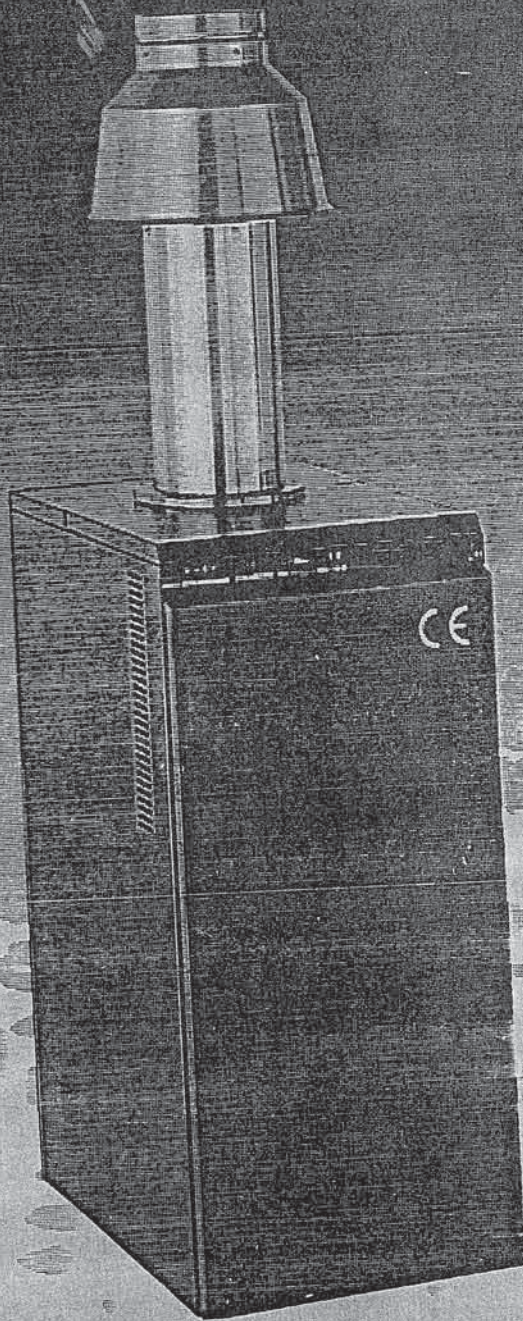


REGENCY SLIMLINE

INSTALLATION AND SERVICING
INSTRUCTIONS



M|H|S
BOILERS

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CONFORMITY STATEMENT

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

INSTALLATION REQUIREMENTS

The installation of Regency Slimline boilers must be in accordance with the relevant requirements of the 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 Byelaws, Local Gas Undertaking Regulations, Local & National Water Byelaws, Fire Authority Regulations and Insurance Company requirements. The following codes of practice are also applicable:

BS6880 Codes of practice for low temperature hot water heating systems of output greater than 45 kW. Parts 1,2 & 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/2Gas 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 60 kW.

British Gas IM/11 Flues for commercial and industrial gas fired boilers and air heaters.

GAS SAFETY (INSTALLATION AND USE) REGULATION

It is the law that all gas appliances are installed by competent persons, i.e. Corgi Registered, in accordance with 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 an 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 DESCRIPTION

1.1 GENERAL REMARK

The REGENCY SLIMLINE are gas fired cast iron sectional boilers whose features are high efficiency and low emissions.

The heat exchanger comprises:

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

connected to each other by means of biconical nipples.

The boiler is fitted with a multi-bar atmospheric gas burner made in stainless steel, for operation with natural gas or LPG.

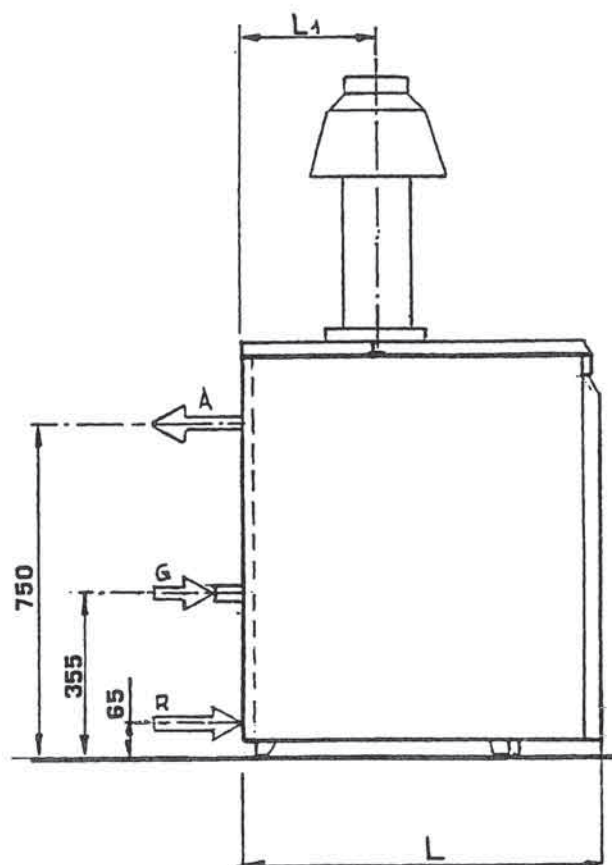
REGENCY SLIMLINE are fully automatic boilers with electronic ignition and ionisation flame detection.

1.2 BOILER MODELS

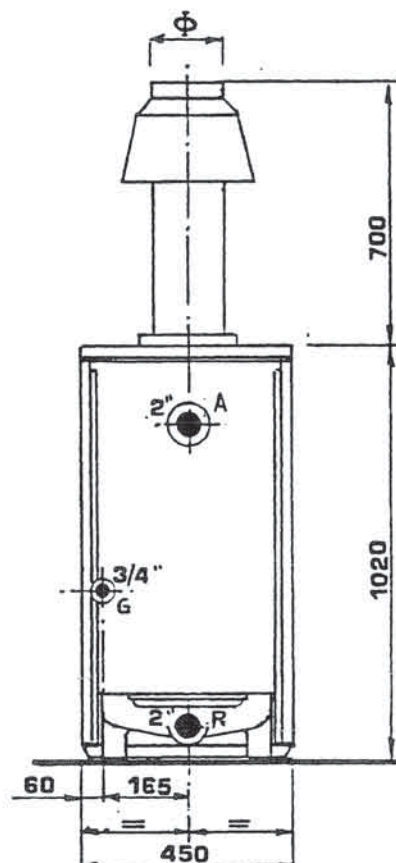
NOMINAL HEAT OUTPUT		
Model	kW	Btu/h
SG200/ 41	41.0	139,892
SG200/ 53	53.1	181,177
SG200/ 66	66.1	225,533
SG200/ 71	71.6	244,298
SG200/ 80	80.1	273,301
SG200/ 92	92.1	314,245
SG200/102	102.6	350,071

1.3 DIMENSIONAL DRAWINGS AND LIST

REGENCY SLIMLINE SIDE VIEW



REGENCY SLIMLINE REAR VIEW



Boiler model	L mm	L1 mm	Ø mm
SG200/ 41	560	210	150
SG200/ 53	655	255	175
SG200/ 66	755	305	175
SG200/ 71	850	350	200
SG200/ 80	945	400	200
SG200/ 92	1040	450	225
SG200/102	1135	495	225

1.4 TECHNICAL DATA

BOILER MODEL		SG200/	41	53	66	71	80	92	102
Nominal heat input	Btu/hr		159.000	203.700	253.600	271.300	303.700	349.100	389.100
	kW		46.6	59.7	74.3	79.5	89.0	102.3	114.0
Nominal heat output	Btu/hr		139.900	181.200	225.600	244.400	273.400	314.300	350.200
	kW		41.0	53.1	66.1	71.6	80.1	92.1	102.6
Inlet pressure mbar	Natural gas		20	20	20	20	20	20	20
	LPG G 30		30	30	30	30	30	30	30
	LPG G 31		37	37	37	37	37	37	37
Burner pressure mbar	Natural gas		11.5	11.5	11.5	11.5	11.5	11.5	11.5
	LPG G 30		28	28	28	28	28	28	28
	LPG G 31		36	36	36	36	36	36	36
Pilot injectors Ø mm	Natural gas		0.35/0.70	0.35/0.70	0.35/0.70	0.35/0.70	0.35/0.70	0.35/0.70	0.35/0.70
	LPG G 30		0.24/0.50	0.24/0.50	0.24/0.50	0.24/0.50	0.24/0.50	0.24/0.50	0.24/0.50
	LPG G 31		0.24/0.50	0.24/0.50	0.24/0.50	0.24/0.50	0.24/0.50	0.24/0.50	0.24/0.50
Burner injectors Ø mm	Natural gas 3x		3.40	3.80	4.20	4.50	4.80	5.0	5.30
	LPG G 30 3x		2.00	2.25	2.40	2.65	2.85	3.05	3.20
	LPG G 31 3x		2.00	2.25	2.40	2.65	2.85	3.05	3.20
Gas rate (15°C 1013 mbar)	Natural gas m³/h		4.9	6.32	7.86	8.41	9.42	10.83	12.07
	LPGL G 30 kg/h		3.68	4.71	5.87	6.28	7.03	8.08	9.00
	LPG G 31 kg/h		3.61	4.63	5.77	6.17	6.91	7.94	8.85
Water content	l		20	25	30	35	40	45	50
Ø Flow/return connections			2"	2"	2"	2"	2"	2"	2"
Ø Gas connection			3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"
Drop - loss waterside at Δt=10°C	mm w.c.		135	165	195	230	268	308	344
Volume of combustion chamber	m³		0.020	0.025	0.030	0.035	0.040	0.045	0.050
Heat exchange surface	m²		2.10	2.80	3.50	4.20	4.90	5.60	6.30

Remarks: LPG G30 = Butane
LPG G31 = Propane

1.5**GAS VALVE USED**

Model	Valve for both LPG and natural Gas
SG200/ 41	SIT NOVA 822
SG200/ 53	SIT NOVA 822
SG200/ 66	SIT NOVA 822
SG200/ 71	SIT NOVA 822
SG200/ 80	ROBERTSHAW 24 V
SG200/ 92	ROBERTSHAW 24 V
SG200/102	ROBERTSHAW 24 V

1.6**EXPLODED DRAWINGS AND PART LIST****1.6.1****BOILER PART LIST**

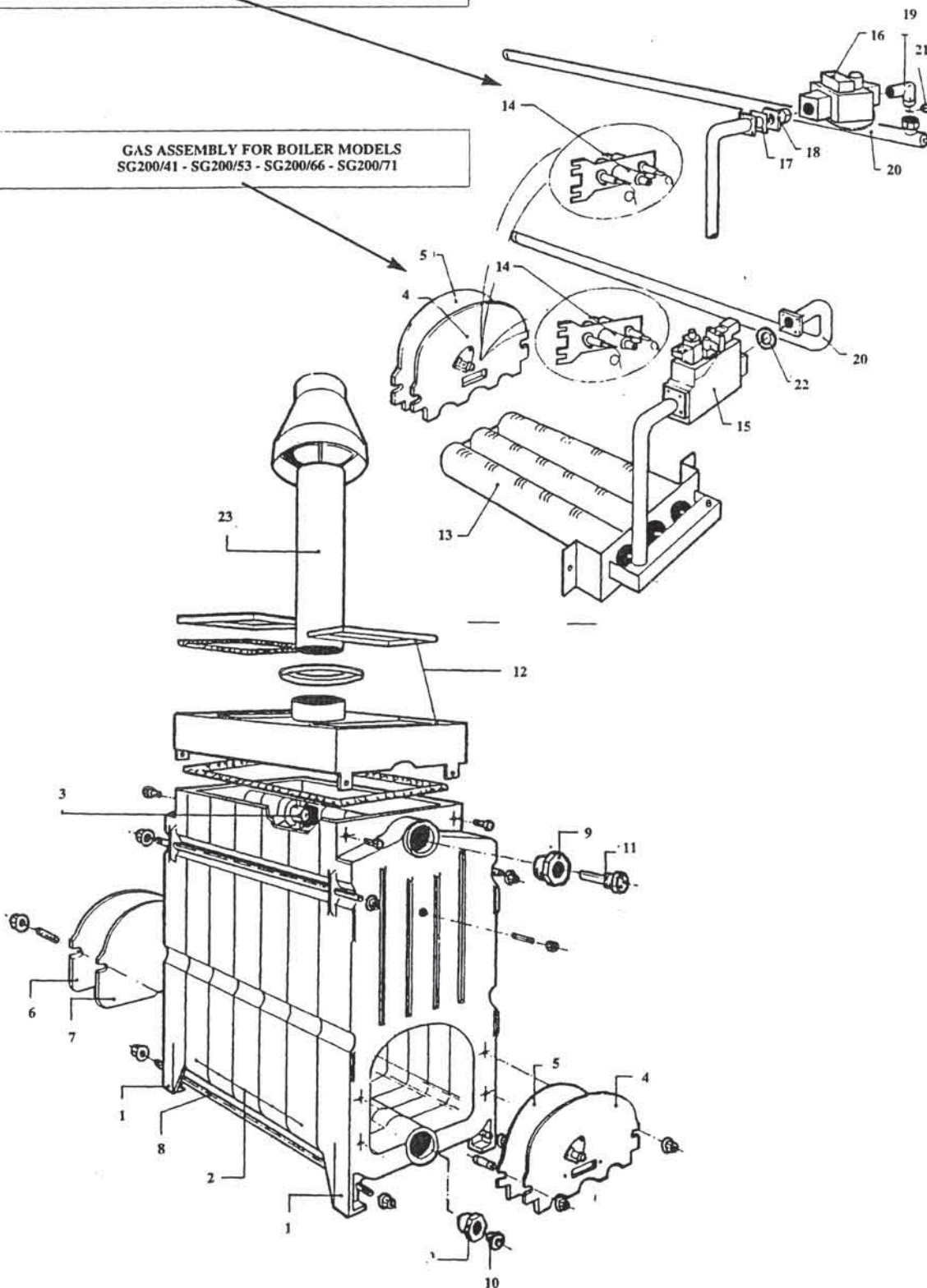
No.Description	SG200/	41	53	66	71	80	92	102
1 FRONT/REAR SECTION		1630000	1630000	1630000	1630000	1630000	1630000	1630000
2 INTERMEDIATE SECTION		1630500	1630500	1630500	1630500	1630500	1630500	1630500
3 BICONICAL NIPPLE 2"		8589501	8589501	8589501	8589501	8589501	8589501	8589501
4 CAST IRON BURNER PLATE		1633001	1633001	1633001	1633001	1633001	1633001	1633001
5 CERAMIC FIBRE BURNER PANEL		1666501	1666501	1666501	1666501	1666501	1666501	1666501
6 CAST IRON REAR PLATE		1633100	1633100	1633100	1633100	1633100	1633100	1633100
7 CERAMIC FIBRE REAR PANEL		1666600	1666600	1666600	1666600	1666600	1666600	1666600
8 TIE ROD		8584104	8584105	8584106	8584107	8584108	8584109	8584110
9 REDUCING BUSH 2 x 1.2		8588802	8588802	8588802	8588802	8588802	8588802	8588802
10 BLIND PLUG 1.2		8589604	8589604	8589604	8589604	8589604	8589604	8589604
11 THERMOSTAT POCKET 1.2 x 150		8564200	8564200	8564200	8564200	8564200	8564200	8564200
12 FLUE HOOD		1046104	1046105	1046106	1046107	1046108	1046109	1046110
13 GAS BURNER		1655004	1655005	1655006	1655007	1655008	1655009	1655010
14 PILOT BURNER BRAHMA BP2MC70		0660101	0660101	0660101	0660101	0660101	0660101	0660101
15 GAS VALVE SIT NOVA 822		1756000	1756000	1756000	1756000			
16 GAS VALVE ROBERTSHAW 24 V						0656002	0656002	0656002
17 RUBBER SQUARE GASKET 37 x 37		0466101	0466101	0466101	0466101	0466101	0466101	0466101
18 CONNECTION PIPE FOR ROBERTSHAW VALVE						0454000	0454000	0454000
19 ELBOW GAS FEED PIPE						0653310	0653310	0653310
20 MAIN GAS FEED PIPE		0451605	0451606	0451607	0451608	0451609	1651609	1651610
21 GASKET 22 x 30						0666000	0666000	0666000
22 RUBBER GASKET 24 x 35 x 4		0166301	0166301	0166301	0166301			
23 DOWN DRAUGHT DIVERTER		1647013	1647015	1647015	16470017	1647017	1647019	1647019

1.6.2

EXPLODED VIEW OF BOILER BLOCK AND GAS ASSEMBLY

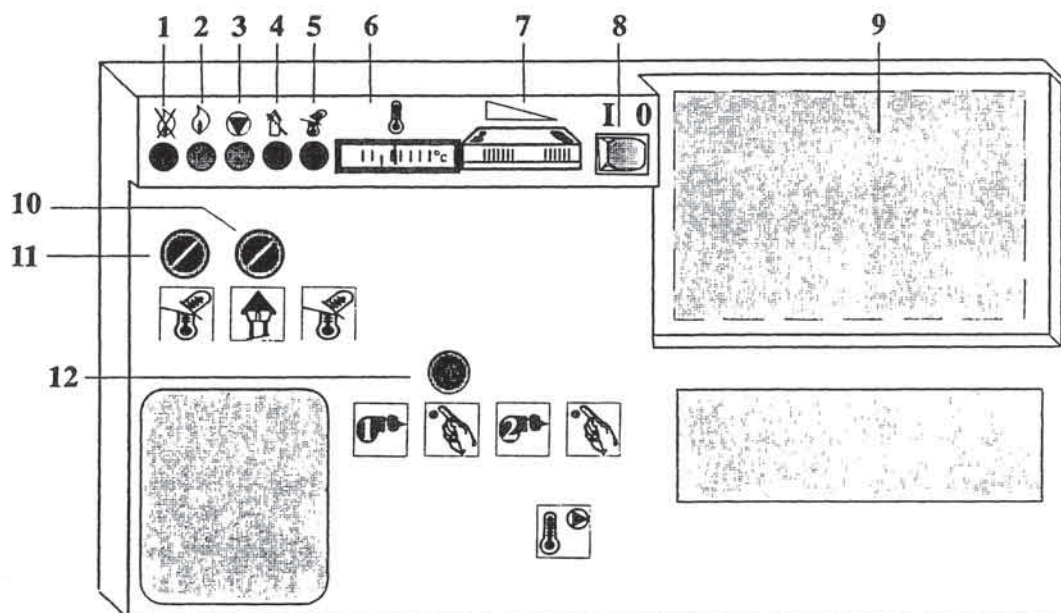
GAS ASSEMBLY FOR BOILER MODELS
SG200/80 - SG200/92 - SG200/102

GAS ASSEMBLY FOR BOILER MODELS
SG200/41 - SG200/53 - SG200/66 - SG200/71



1.6.3

CONTROL PANEL



1	RED LAMP FOR BURNER "TRIPPED" INDICATION
2	GREEN LAMP FOR BURNER "ON" INDICATION
3	GREEN LAMP FOR PUMP OPERATING INDICATION
4	RED LAMP FOR FLUE THERMOSTAT "TRIPPED" INDICATION
5	RED LAMP FOR LIMIT THERMOSTAT "TRIPPED" INDICATION
6	BOILER THERMOMETER
7	BOILER THERMOSTAT
8	ON/OFF SWITCH - RED LAMP FOR EL. SUPPLY INDICATION
9	KNOCKOUT FOR OPTIONAL CLIMATIC CONTROLLER
10	FLUE THERMOSTAT RESET BUTTON
11	LIMIT THERMOSTAT RESET BUTTON
12	ILLUMINATED LOCKOUT RESET BUTTON

COMPONENTS OF THE CONTROL PANEL

Ref. No.	Description
1649454	COMPLETE CONTROL PANEL (for models SG200/41-/53-/66-/71)
1649458	COMPLETE CONTROL PANEL (for models SG200/80-/92-/102)
1872204	PANEL FRONT PLASTIC COVER
1872200	PANEL REAR PLASTIC COVER
8584747	HINGE 4x40 FOR COVER
1672701	P.C.B. - MAIN
1672702	P.C.B. - PUMP OVERRUN TIMER
1672703	P.C.B. - REMOTE ALARM BMS RELAY
1871700	THERMOSTAT KNOB
1872207	PLASTIC CABLE CLAMP
1272501	FLAME CONTROLLER
8562703	LIMIT THERMOSTAT 100°C 220 V
8562800	BOILER THERMOSTAT
8562858	THERMOMETER
8572525	CONTROL FLAME RESET
8572539	RED LENS F 6
8572540	GREEN LENS F 6
8572541	RED LAMP
8572542	GREEN LAMP
8572557	BIPOLAR SWITCH WITH LED
8562705	FLUE THERMOSTAT

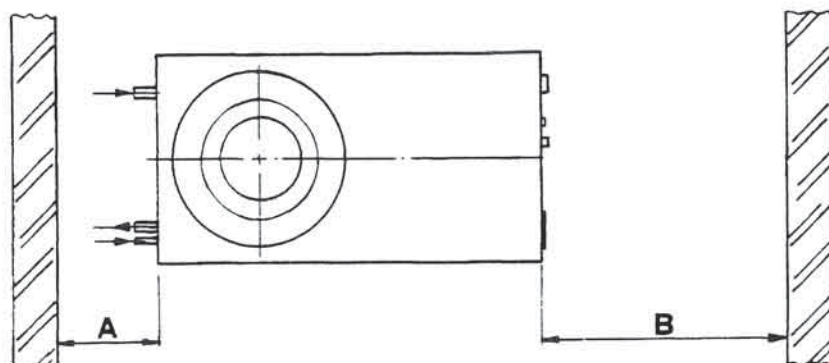
2

INSTALLATION AND OPERATING INSTRUCTIONS

2.1

BOILER INSTALLATION

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 1000 mm.



Allow minimum of 33 mm at sides of boiler for assembly

	A	B
SG200/41	175 mm	460 mm
SG200/53	175 mm	555 mm
SG200/66	175 mm	655 mm
SG200/71	175 mm	750 mm
SG200/80	175 mm	845 mm
SG200/92	175 mm	940 mm
SG200/102	175 mm	1.000 mm

Note : A rear clearance of 600 mm is required when the boiler is installed with a pump kit.

The boiler is delivered in a wooden crate and polythene envelope. It is supplied complete with a draught diverter (in a separate carton) which must be fitted. The opening around this draught diverter must not be restricted in any way (i.e. boxing in boiler in alcove, etc.).

The draught diverter should be fitted into the flue outlet and sealed with suitable sealant material or fire cement. 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 servicing of the heat exchanger.

2.2

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 CP.331:3. Do not use pipes of a smaller size than the boiler gas connection.

2.3

FLUE SYSTEM

Detailed recommendations for the flue are detailed in BS6644 and IM/11. The following notes are intended for your guidance.

The area of the flue serving the boiler must be not 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:

SG200/ 41	150 mm	(6")
SG200/ 53	175 mm	(7")
SG200/ 66	175 mm	(7")

SG200/ 71	200 mm	(8")
SG200/ 80	200 mm	(8")
SG200/ 92	225 mm	(9")
SG200/102	225 mm	(9")

Flue pipes and fittings should be constructed from aluminium, stainless steel or acid resistant vitreous enamel lined cast iron. Any double walled flue pipe, must be acceptable to British Gas. Chimneys should be lined with non-porous acid resistant material in accordance with BS5854, such as stainless steel flexible flue liner or similar British Gas 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, restrictor plates or dampers should be removed.

The flue should be fitted with a British Gas approved terminal on boilers sizes 41, 53 & 66. On boiler sizes 71, 80, 92 & 102 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 1 m above the roof surface. All should be in accordance with BS6644 or BS5440 as appropriate.

2.4 AIR SUPPLY

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

2.4.1 AIR SUPPLY BY NATURAL VENTILATION

The purpose provided 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 vent(s) should be used. For an exposed boilerhouse, 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. Grilles or louvres should be so designed 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.

The total minimum free area requirements of the air vent are as follows:

Total input rating of boiler installation	Position of Air vent(s)	Air Vent areas (Air direct from outside)
UP TO 2 MW	High level (outlet)	270 cm ² plus 2.25 cm ² per kilowatt in excess of 60 kW total rated input
(6.824.000 Btu / h)	Low level (inlet)	540 cm ² plus 4.5 cm ² per kilowatt in excess of 60 kW total rated input

The actual minimum effective areas of the air vents required are as follows:

BOILER MODEL	POSITION OF AIR VENT	AREA OF VENT (air direct from outside)
SG200/41	High Level	457 cm ² per boiler (71 in ² per boiler)
	Low Level	915 cm ² per boiler (142 in ² per boiler)
SG200/53	High Level	283 cm ² per boiler (43 in ² per boiler)
	Low Level	566 cm ² per boiler (87 in ² per boiler)
SG200/66	High Level	319 cm ² per boiler (50 in ² per boiler)
	Low Level	639 cm ² per boiler (100 in ² per boiler)
SG200/71	High Level	332 cm ² per boiler (51 in ² per boiler)
	Low Level	665 cm ² per boiler (103 in ² per boiler)
SG200/80	High Level	356 cm ² per boiler (55 in ² per boiler)
	Low Level	712 cm ² per boiler (110 in ² per boiler)
SG200/92	High Level	389 cm ² per boiler (60 in ² per boiler)
	Low Level	778 cm ² per boiler (120 in ² per boiler)
SG200/102	High Level	418 cm ² per boiler (65 in ² per boiler)
	Low Level	836 cm ² per boiler (130 in ² per boiler)

2.4.2 AIR SUPPLY BY Mechanical VENTILATION

Mechanical ventilation systems serving the area containing the boiler should be designed with an extraction air rate of 0.45 m³/sec. per 1000 kW total rated input, and an inlet air rate of 1.1 m³ sec per 1000 kW total rated heat input.

Systems employing an extract fan only must not be used, whereas the use of a single inlet fan, or an inlet together with an extract fan, is acceptable.

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 SLIMLINE range of boilers:

	INLET AIR (Combustion, ventilation)	EXTRACT AIR (ventilation)
SG200/ 41	0.056 m ³ /s	0.022 m ³ /s
SG200/ 53	0.072 m ³ /s	0.029 m ³ /s
SG200/ 66	0.090 m ³ /s	0.036 m ³ /s
SG200/ 71	0.096 m ³ /s	0.039 m ³ /s
SG200/ 80	0.110 m ³ /s	0.044 m ³ /s
SG200/ 92	0.120 m ³ /s	0.050 m ³ /s
SG200/102	0.140 m ³ /s	0.056 m ³ /s

2.5**GAS CONNECTION**

The gas inlet connection at the rear of the boiler terminates with a R 3/4" (3/4 BSP Male Tapered) thread. A gas cock (supplied separately in plastic bag) should be fitted between this point and the gas supply in an easily accessible position to facilitate servicing.

2.6**WATER CONNECTION**

All REGENCY SLIMLINE boilers are provided with flow and return connections at the rear of the back section. The connections are 2" BSP Female and the connection pipework should incorporate unions to allow easy disconnection of the boiler.

2.6.1 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 capability 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 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 Ltd., strongly recommends correct treatment of the system fill water after proper initial system cleansing and flushing.

For specific guidance on water treatment direct contact is advised with:

Grace Dearborn Limited
Widnes
Cheshire
WA8 8UD
Telephone: 151-4951861

The boiler requires a 220/240 volts to 50 Hz Ac electrical supply. Fuse rating is 4 amps. The method of connection to the mains electrical isolation of the boiler, preferably by means of un-switched shuttered socket outlet in conjunction with a fuse 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. All wiring external to the boiler must be installed in accordance with the latest and current I.E.E. and Local Authority regulations.

The boiler is supplied prewired with heat resistant cables (H05 VV-F) tested to a maximum temperature of 160°C and suitable for working temperatures not exceeding 70°C.

The cables terminating in connection plugs are fixed by means of a bracket which is positioned on the front apron of the boiler. Each plug is marked with a label, depending on connection:

- a 1st plug for electrical supply
- b 2nd plug for circulating pump
- c 3rd plug for room thermostat

Three more connection plugs, not provided, can be added on the same bracket, upon request, to indicate:

- d possible "lock-out" of flue or limit thermostat
- e possible "lock-out" of ionisation control
- f burner operation.

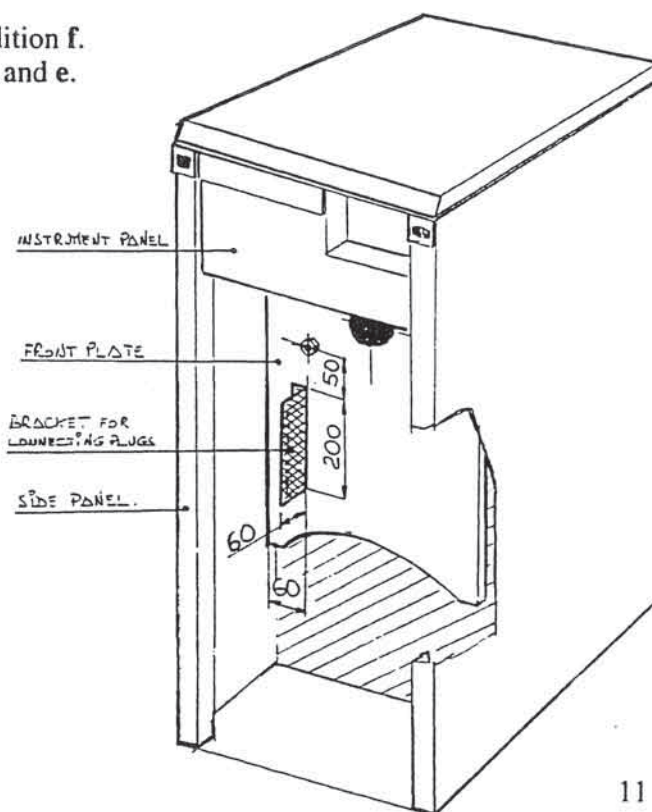
The plugs have volt-free contacts.

Contacts shall switch on for the following reasons:

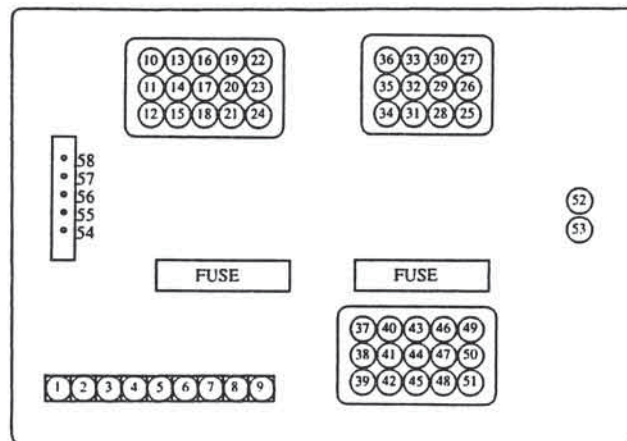
- d "lock-out" is due to the intervention of flue or limit thermostat
- e "lock-out" is due to a lack of gas or ionisation
- f burner is running.

Conditions d and/or e switch off condition f.

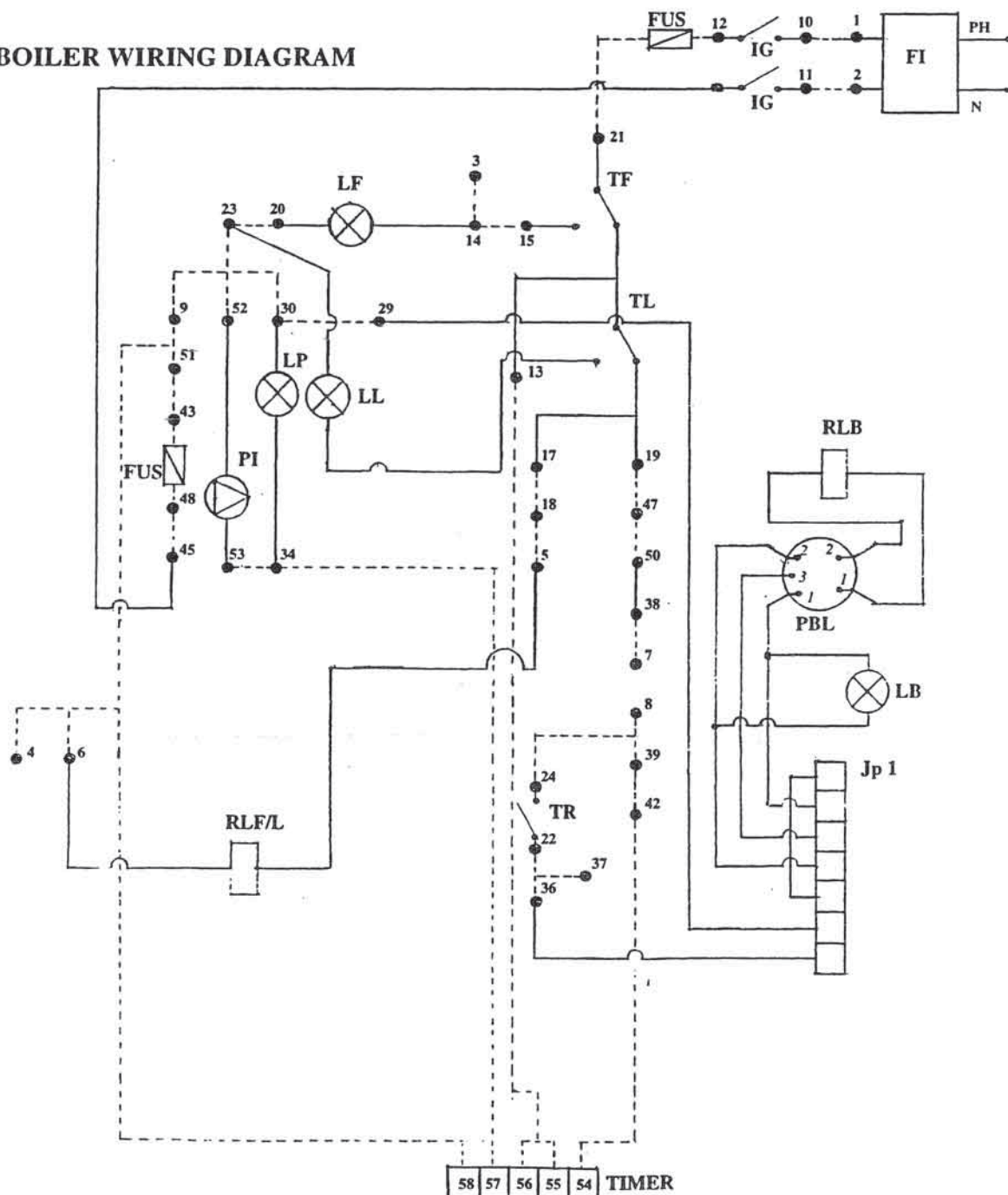
Condition f switches off conditions d and e.

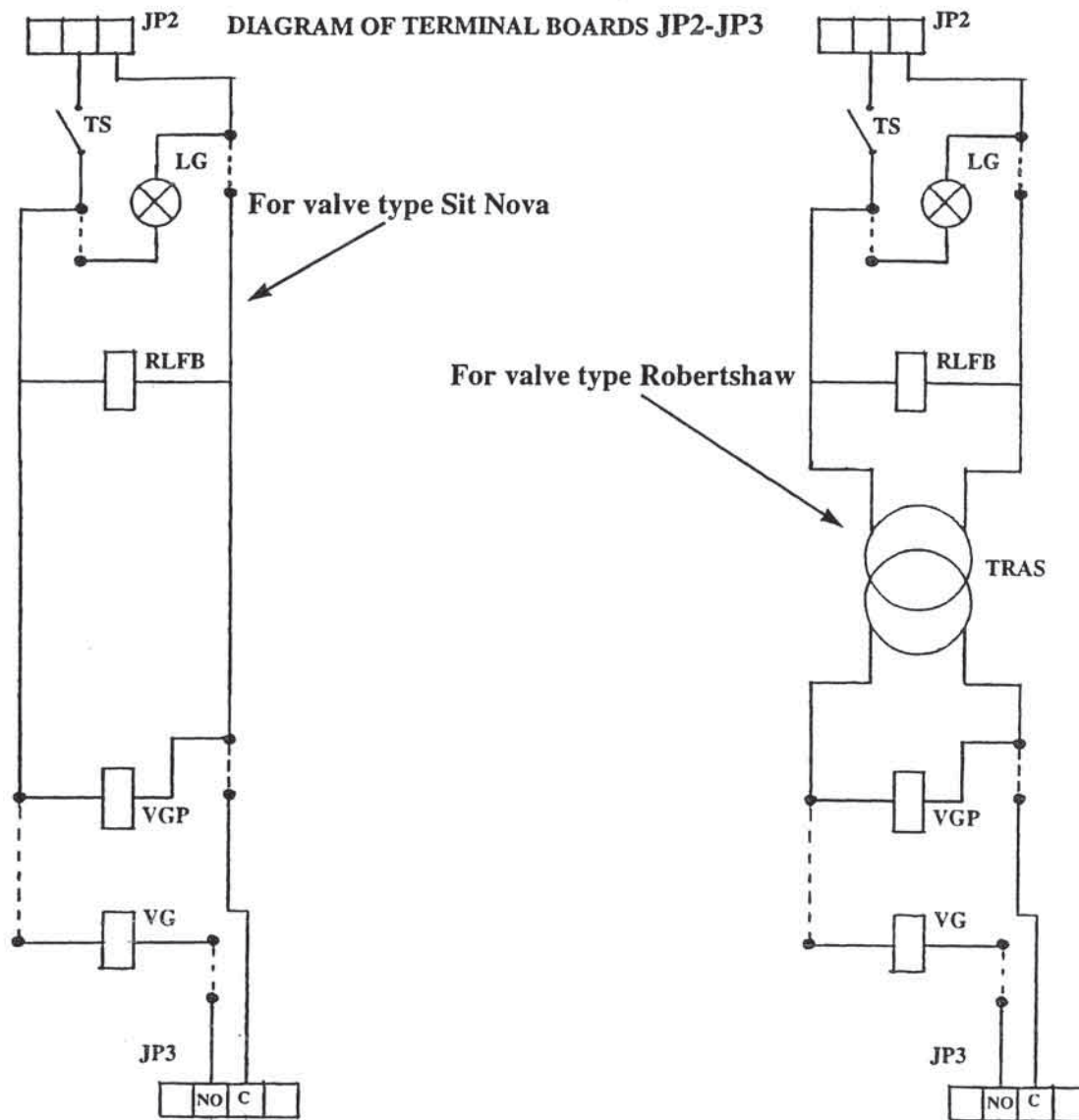


VIEW OF PRINTED CIRCUIT BOARD WITH REFERENCE NUMBERS FOR THE WIRING DIAGRAM



BOILER WIRING DIAGRAM





LEGEND :

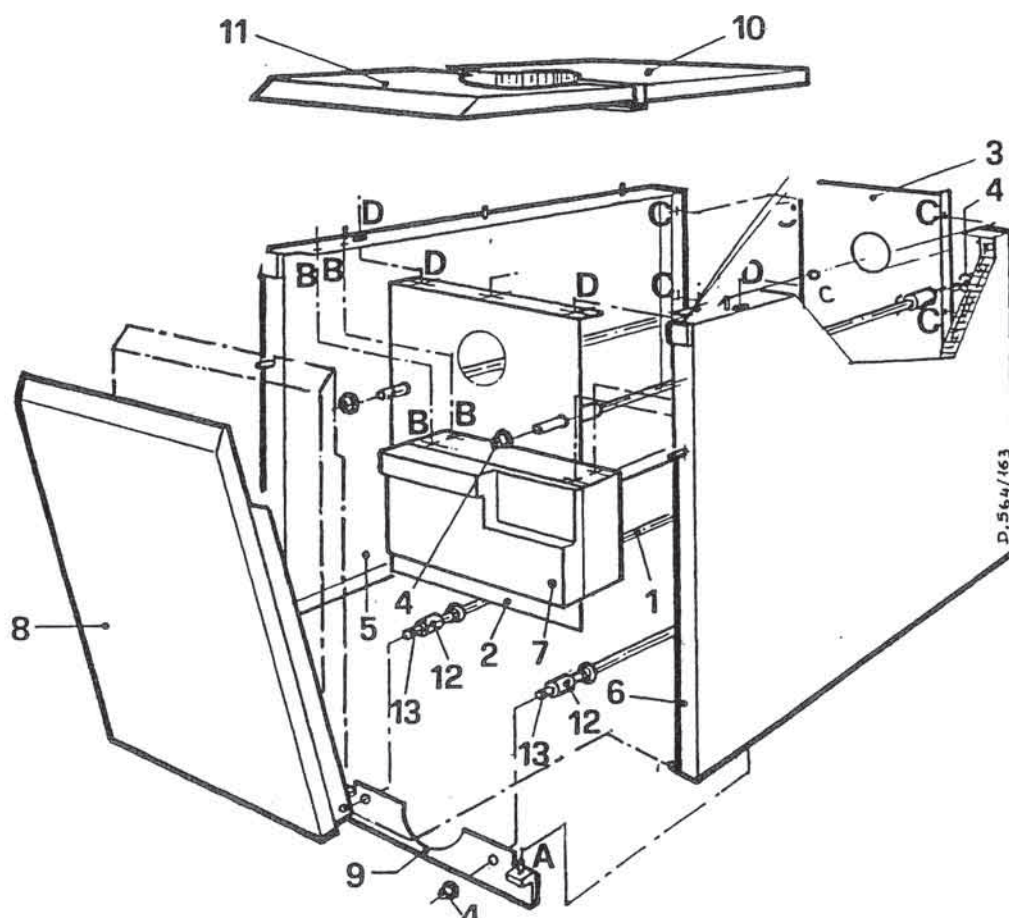
C	C - Contact (common) to switch on the main burner
FI	Filter anti-interference
FUS	Fuse
IG	Main switch
JP1	Terminal board ionisation control
JP2	Terminal board ionisation control
JP3	Terminal board ionisation control
LB	Trip indicator lamp for lack of gas or ionisation
LF	Trip indicator lamp for flue thermostat
LG	Burner run indicator lamp
LL	Trip indicator lamp for limit thermostat
LP	Pump running indicator lamp
N	Neutral
NO	NO - Contact (normal open) for lighting the main burner
PBL	Reset button for ionisation control and trip indicator lamp
PH	Phase
PI	Circulating pump
RLB	Relay "tripped" indication for lack of gas or ionisation
RLF/L	Relay "tripped" indication of flue or limit thermostat
RLFB	Burner run indicator relay
TF	Flue thermostat
TL	Limit thermostat
TR	Regulating thermostat
TRAS	Transformer 220V -24V
TS	Safety thermostat
VGP	Pilot burner gas valve
VG	Main burner gas valve

The casing of REGENCY SLIMLINE boilers is supplied in a separate carton.

The boiler is already fitted with front (2) and rear (3) aprons.

Assemble the casing in the following manner:

- secure the front bracket (9) to the bottom tie bars and fix it with the lock nuts (4) provided: the spacers should be positioned between fixing bracket and boiler
- locate the side panels (5) and (6) for fixing them in the corresponding holes of the front apron using the self-tapping screws F 4,2 x 9,5 (position D)
- locate the rear apron (3) over the holes (position C) of both side panels and fix it using the self-tapping screws F 4,2 x 9,5 and nuts (4) provided
- secure the side panels to the fixing bracket (9) using the M5 screws (position A)
- cut the fastener which provisionally held the fascia panel to the front apron and secure the control fascia to the side panels using the four self-tapping screws F 4,2 x 13 (position B)
- hook the bottom edge of the front panel (8) over the legs on the base
- insert the draught diverter into the cut-out on the top panel
- proceed with the thermostat assembly as listed below (2.6.1)
- locate the two top panels (10) and (11) on the top and press down to secure.



Following operations must be carried out before assembling the two top panels of the outer case:

- cut the fastener securing the flue thermostat kit to the draught diverter
- uncoil the capillary
- let the capillary sheath run along the top of LH side panel and the bottom of flue hood (sheath should lay under the (10) top panel)
- let the thermostat run downward between front apron and control panel
- swing the facia panel upwards to allow the passage of the thermostat into it
- remove the cover and the retaining nut of the reset push button
- fit the thermostat in its cut-out on the facia panel (marked with flue thermostat symbol)
- refit retaining nut and cover of the reset push button
- connect the supply conductors of the thermostat (two green connectors)
- thermostat shall be correctly earthed to the brass earth stud provided.

Ensure that system and boiler are water filled and perfectly vented.

Ensure that boiler has been adjusted for operating with the available type of gas, otherwise apply to paragraph 2.7.3 (Changing gas type).

Shut the gas valve, remove the inlet pressure test point screw on the valve and connect a pressure gauge. Open service cock and check with pressure gauge at inlet pressure point, that pressure value is as quoted in technical data sheet (paragraph 1.4).

Warning: if pressure value is not stable or more than required it would be necessary to fit a reducing valve at gas inlet or to apply to a qualified Gas Service Engineer.

Turn on the boiler main switch.

Turn the boiler thermostat knob to the required temperature setting: as soon as gas flows out from pilot burner, the ignition electrode shall spark for 10 seconds for lighting the main burner. The ignition electrode shall stop sparking.

Should the pilot burner not light in spite of electrode sparking ensure that:

- gas system is completely vented
- gas control valve is energised

Should the pilot burner light and ignition electrode should continue to spark, and if after a few seconds the burner should "lockout", then check:

- on control panel phase is connected to pole 1 and neutral to pole 2
- the ionisation electrode is not broken or incorrectly positioned or malfunctioning because of humidity
- installation has been correctly earthed and the earth cable connected to the burner is adequately secured.

Turn off the main switch. Remove the pressure gauge and refit inlet test screw. Move the pressure gauge to the burner pressure test point. Turn on the main switch and once the burner is fully ignited, set the gas pressure to the burner following the technical data table according to the gas type used.

Switch off the burner. Wait 30 seconds at least. Re-light the burner and check the slow ignition (approx. value: 20 mm w.c. for natural gas; 60 mm w.c. for LPG).

2.9.1**CHANGING GAS TYPE**

REGENCY SLIMLINE boilers are designed for use on Gas Type G20 (Natural Gas). Each appliance is equipped with injectors for changing from Natural Gas to LPG.

Changing from Natural Gas to LPG**kit provided**

Exchange the injectors of main burner and pilot burner (see Technical Data table 1.4). Gas valve types are listed on paragraph 1.5 in accordance with boiler model.

When using a gas valve type **SIT NOVA** remove the pressure regulator cap and set the gas pressure turning the adjustment screw (see Technical Data table 1.4). Replace regulator cap.

When using a gas valve type **ROBERTSHAW** remove the pressure regulator and install the cover provided for the non-regulated models (see Technical Data table 1.4).

Stick the data plate "appliance for use on LPG" replacing the previous one.

Changing from LPG to Natural Gas

Exchange the injectors of main burner and pilot burner (see Technical Data table 1.4).

Gas valve types are listed on paragraph 1.5 in accordance with boiler model.

When using a gas valve type **SIT NOVA** remove the pressure regulator cap and set the gas pressure turning the adjustment screw (see Technical Data table 1.4). Replace regulator cap.

When using a gas valve type **ROBERTSHAW** replace the pressure regulator with the part provided for the regulated models (see Technical Data table 1.4).

Stick the data plate "appliance for use on Natural Gas" replacing the previous one.

2.9.2**CHECKING THE FLUE THERMOSTAT**

It is recommended to ascertain the efficient and safe operation of the flue thermostat checking as follows:

- temporarily obstruct the flue above the draught diverter with insulating material enduring temperatures of approx. 300°C
- open all the windows of boiler room for ensuring air circulation before lighting the boiler
- burner should stop within 2 minutes and signal lamp indicating chimney should light (if not, flue thermostat should be replaced)
- turn off the main switch, turn off gas supply at the gas service cock
- refit the flue duct
- remove the temporary flue obstruction
- wait until thermostat phial is cooled
- reset the flue thermostat
- re-light the boiler.

SHOULD THE FLUE THERMOSTAT SIGNAL LAMP LIGHT AT ANY TIME DURING INTENDED NORMAL OPERATION, CHECK CHIMNEY DRAUGHT.

The only operations that user can do on the boiler are the following:

- check the water quantity of boiler and installation (once a week at least)
- reset of limit thermostat and burner when boiler is "tripped"
- should the boiler go to lockout for more than three times, apply to a Qualified Gas Service Engineer.

3.1 SWITCHING THE BOILER ON

Open gas cock.

Turn main switch ON.

Adjust boiler thermostat knob to the required temperature.

As soon as gas flows out from pilot burner, the ignition electrode shall spark for 10 seconds for lighting the main burner. The ignition electrode shall stop sparking.

In case of faulty operation after having proceeded correctly apply to Qualified Gas Service Engineer.

3.2 SWITCHING THE BOILER OFF

Turn main switch OFF.

Turn OFF gas supply.

3.3 WARNING

Servicing must be carried out by a Qualified Gas Service Engineer on a regular basis with periods not exceeding 12 months, for ensuring boiler efficiency and accurate cleaning of the appliance.

3.4 CLEANING THE BOILER

- Disconnect and remove the burner and clean it thoroughly using a vacuum cleaner and dusting brush.
- Dismantle the flue hood for cleaning.
- Clean the fins/flue passes of the heat exchanger using flue brush.
- Clean the chimney/check for obstructions.

To clean the boiler outer case use a humid dusting cloth only.

WARNING: Always turn off the electrical supply before proceeding.

Do not use detergents or solvents. To remove particularly resistant stains, use alcohol.

Re-check the position of thermostats and reconnect the boiler to electrical supply.

Turn on and test the boiler checking the gas rate and correct operation of all of the controls.

Check the ventilation provision to the boiler plant room.

3.5

FLUE SAFETY THERMOSTAT

The intervention of the flue safety thermostat is indicated by a red signal lamp on the control facia corresponding to the symbol "chimney obstructed".

To bring again the boiler into function proceed as follows:

- turn off power supply
- remove the front panel of the outer case to expose the flue thermostat reset button
- remove plastic cover on the reset button
- push down the red reset button
- refit the plastic cover and re-assemble the casing front panel
- turn on power supply.

WARNING: should the thermostat trips more than three times it is absolutely necessary to call a Qualified Service Engineer for checking the possible cause of failure. Should the chimney draught be inadequate then corrective action must be taken.

PROHIBITION: flue safety thermostat has been pre-setted and its sensor positioned in such a way that the device trips in time to warrant safety, according to the Regulations in force. Therefore it is absolutely forbidden to change either phial position or electrical connection. It is also forbidden to replace the flue safety thermostat with another non-original part.