

GB

PLEASE LEAVE THIS INSTRUCTION
WITH THE USER

Dewy 30/50 HE WM

*Installation and
servicing instructions*



WRAS
APPROVED
PRODUCT



Dealing with Condensate

Five suitable drainage points

1. Internal drain stack pipe
2. Waste water pipe *
3. External drain or gully *
4. Rainwater hoppers that carry both rain water and foul water *
5. Purpose-made soakaways

* Care should be taken not to contaminate any "Grey Water Systems"

Pipework

Condensate pipework should be plastic, same as used for standard wastewater plumbing.

Similarly the drainage system where the condensate discharges to should also be resistant to the acidic condensate.

Connection to the internal trap in the boiler can be achieved by using a 20mm solvent weld socket.

Pipework should be kept as short as possible.

External runs should be avoided, but when necessary be a minimum of 3 meters in 32mm diameter pipework and lagged to avoid freezing, this also applies to pipe runs in unheated areas such as garages.

To reduce the possibility of condensate being trapped in the pipe, the number of bends should be kept to a minimum.

Pipework must be angled down from the boiler with a fall of at least 2.5.

The pipework must be supported at a distance of 0.5m for inclined runs and 1.0m for vertical runs.

Condensate traps

Where the condensate drain is not sealed to the discharge connection a trap will be required. The water seal should be 38mm or more for external discharge and 75mm or more for internal discharge. When connecting to an external stack the trap should be located within the building.

Stack Pipes

Condensate connections should be at least 450mm above any bend at the bottom of a stack pipe in a single or multi-story dwelling up to 3 storeys.

There are specific requirements when connecting to a stack pipe serving multi-storey buildings greater than 3 storeys.

All connections to stack pipes should avoid across flow between other Branch pipes.

Soakaways

Any soakaways have to be purpose-made and located as close to the boiler as possible, but clear of the buildings foundations and any buried services. The best option is to purchase a soakaway from a drainage manufacturer and install it to the manufacturer's recommendation.

Code Of Practice

For the installation, commissioning and servicing
of domestic heating and hot water products

Benchmark places responsibilities on both manufacturers and installers.* The purpose is to ensure that customers** are provided with the correct equipment for their needs, that it is installed, commissioned and serviced in accordance with the manufacturer's instructions by competent persons and that it meets the requirements of the appropriate Building Regulations. Installers are required to carry out work in accordance with the following:

Standards of Work

- Be competent and qualified to undertake the work required.
- Install, commission, service and use products in accordance with the manufacturer's instructions provided.
- Ensure that where there is responsibility for design work, the installation is correctly sized and fit for purpose.
- Meet the requirements of the appropriate Building Regulations. Where this involves notifiable work be a member of a Competent Persons Scheme or confirm that the customer has notified Local Authority Building Control (LABC), prior to work commencing.
- Complete all relevant sections of the Benchmark Checklist/Service Record when carrying out commissioning or servicing of a product or system.
- Ensure that the product or system is left in a safe condition and, whenever possible, in good working order.
- Highlight to the customer any remedial or improvement work identified during the course of commissioning or servicing work.
- Refer to the manufacturer's helpline where assistance is needed.
- Report product faults and concerns to the manufacturer in a timely manner.

Customer Service

- Show the customer any identity card that is relevant to the work being carried out prior to commencement or on request.
- Give a full and clear explanation/demonstration of the product or system and its operation to the customer.
- Hand over the manufacturer's instructions, including the Benchmark Checklist, to the customer on completion of an installation.
- Obtain the customer's signature, on the Benchmark Checklist, to confirm satisfactory demonstration and receipt of manufacturer's instructions.
- Advise the customer that regular product servicing is needed, in line with manufacturers' recommendations, to ensure that safety and efficiency is maintained.
- Respond promptly to calls from a customer following completion of work, providing advice and assistance by phone and, if necessary, visiting the customer.
- Rectify any installation problems at no cost to the customer during the installer's guarantee period.



*The use of the word "installer" is not limited to installation itself and covers those carrying out installation, commissioning and/or servicing of heating and hot water products, or the use of supporting products (such as water treatment or test equipment).

**Customer includes householders, landlords and tenants.

The Benchmark Scheme

Sime Ltd is a licensed member of the Benchmark Scheme which aims to improve the standards of installation and commissioning of domestic heating and hot water systems in the UK and to encourage regular servicing to optimise safety, efficiency and performance.

Benchmark is managed and promoted by the Heating and Hotwater Industry Council.
For more information visit www.centralheating.co.uk



Dewy 30/50 HE WM:
Gas Council number 47-719-23

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Important Information

IT IS A STATUTORY REQUIREMENT THAT ALL GAS APPLIANCES ARE INSTALLED BY COMPETENT PERSONS, IN ACCORDANCE WITH THE GAS SAFETY (INSTALLATION AND USE) REGULATIONS (CURRENT EDITION). The manufacturer's instructions must not be taken as overriding any statutory requirements, and failure to comply with these regulations may lead to prosecution.

No modifications to the appliance should be made unless they are fully approved by the manufacturer.

GAS LEAKS: DO NOT OPERATE ANY ELECTRICAL SWITCH, OR USE A NAKED FLAME. TURN OFF THE GAS SUPPLY AND VENTILATE THE AREA BY OPENING DOORS AND WINDOWS CONTACT THE GAS EMERGENCY SERVICE ON 0800111999.



Please refer to commissioning instructions for filling in the checklist of this installation guide.

Note: All Gas Safe registered installers carry a ID Card.
You can check your installer is Gas Safe Registered by calling 0800 408 5577

IMPORTANT

When carrying out commissioning of the boiler, you are highly recommended to perform the following checks:

- Make sure that there are no liquids or inflammable materials in the immediate vicinity of the boiler.
- Make sure that the electrical connections have been made correctly and that the earth wire is connected to a good earthing system.
- Open the gas tap and check the soundness of the connections, including that of the burner.
- Make sure that the boiler is set for operation for the type of gas supplied.
- Check that the flue pipe for the outlet of the products of the combustion is unobstructed and has been properly installed.
- Make sure that any shutoff valves are open.
- Make sure that the system is charged with water and is thoroughly vented.
- Check that the circulating pump is not locked [CAUTION: Remember to release the pump coupled with the control panel, if necessary, to protect the electronic control card].
- Purge the system, bleeding off the air present in the gas pipe by operating the pressure relief valve on the gas valve inlet.
- Check that the syphoned drip is fully filled with water. If necessary, fill it via the special opening.
- Complete the Benchmark checklist in the Use and maintenance section of this manual.

1 DESCRIPTION OF THE BOILER

1.1 INTRODUCTION

“DEWY 30/50 HE WM” with stainless steel hot water tank, boilers are premix condensation thermal appliances which use

microprocessor technology for function control and management. They comply with the european directives 90/396/CEE, 2004/108/CE, 2006/95/CE, 92/42/CEE and with the european speci-

cation EN 483 - EN 625. They may be fuelled by natural gas (methane gas) or propane (G31). The instructions given in this manual are provided to ensure proper installation and perfect operation of the appliance.

1.2 DIMENSIONS

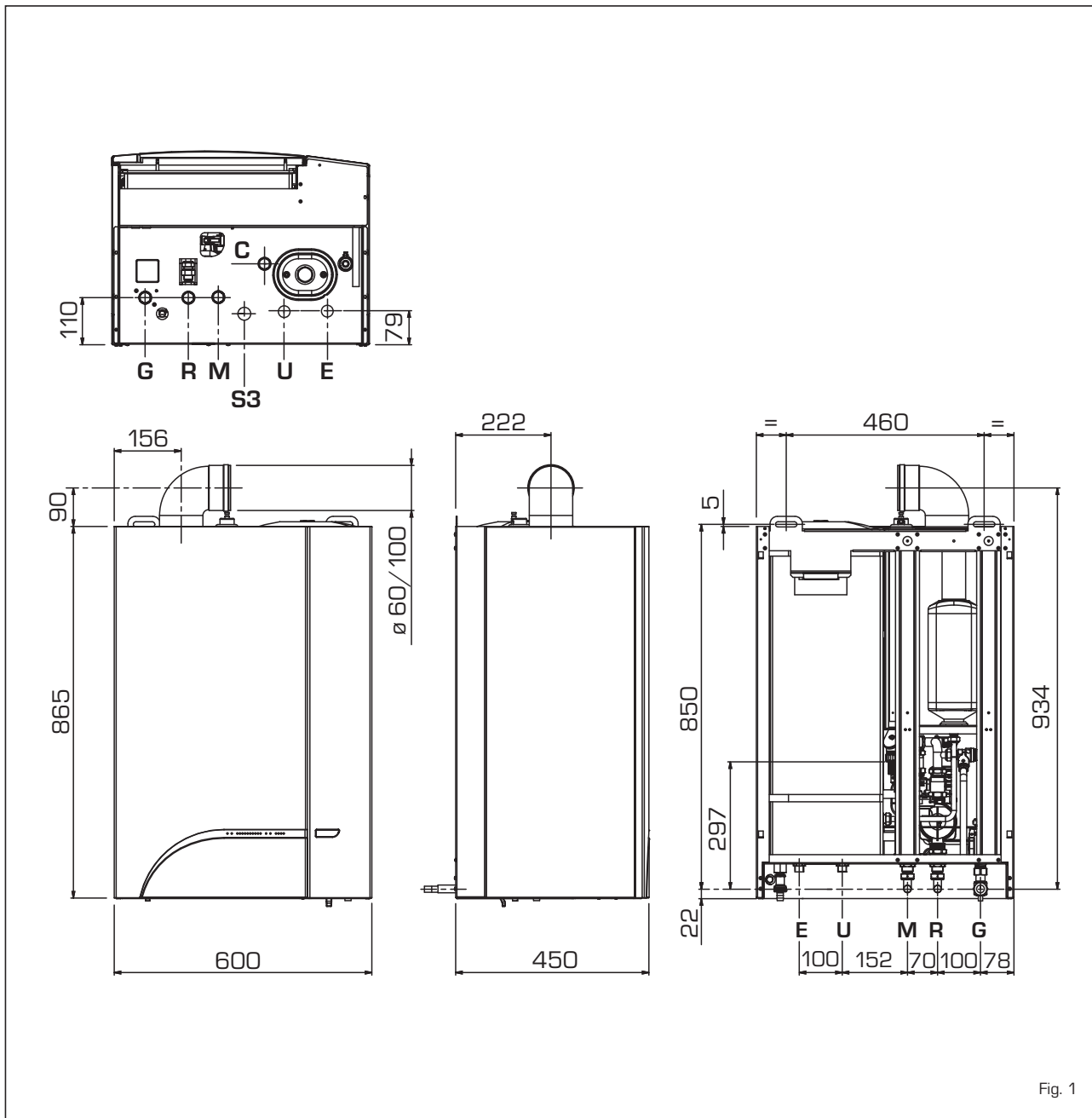


Fig. 1

CONNECTIONS

R	C.H. return	22 mm	Compression
M	C.H. flow	22 mm	Compression
G	Gas connection	15 mm	Compression
E	D.H.W. inlet	22 mm	Compression
U	D.H.W. outlet	15 mm	Compression
C	Ricirculation	15 mm	Compression
S3	Condensation outlet \varnothing 20		

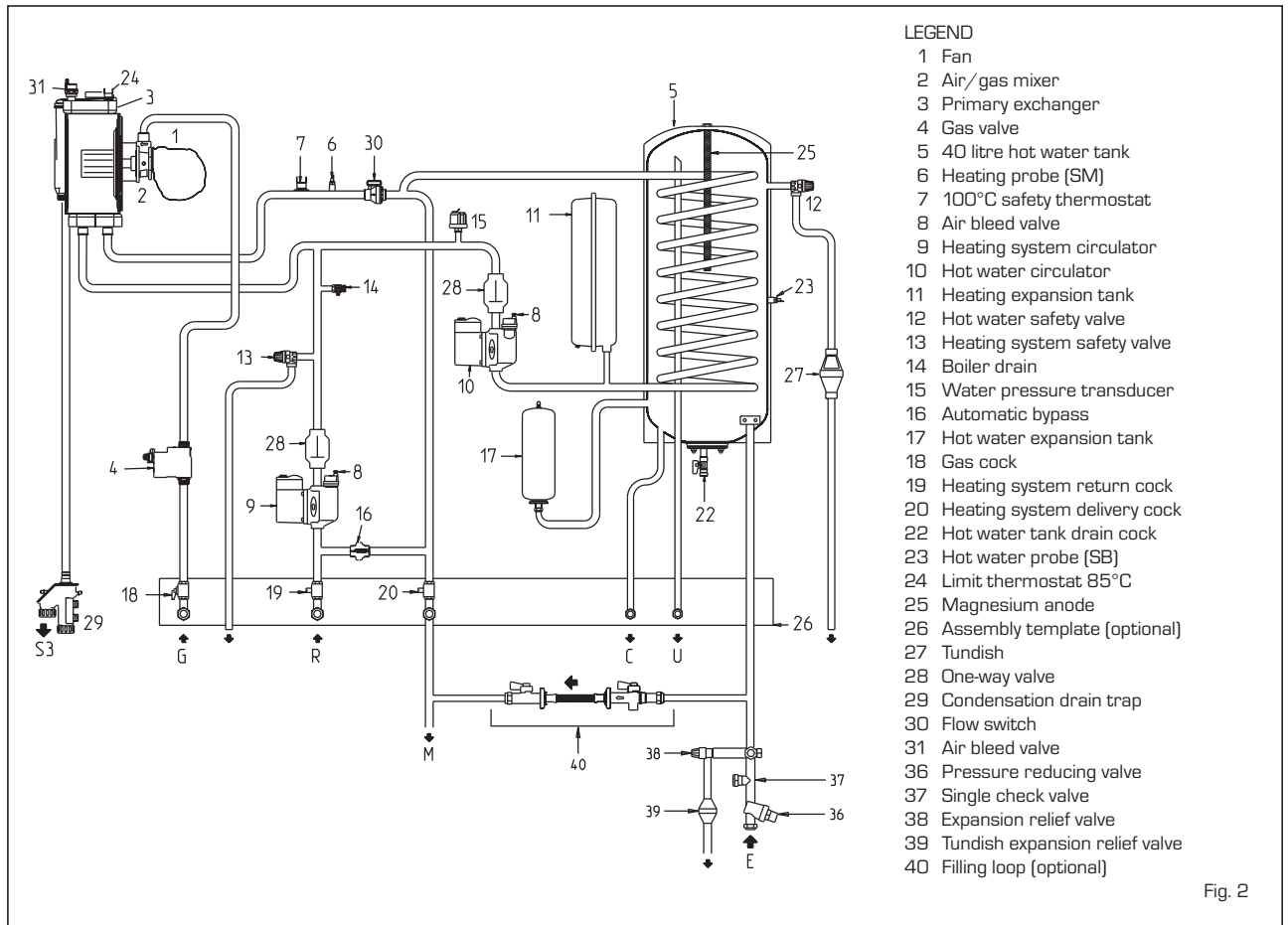
SERVICE CLEARANCES

ABOVE THE APPLIANCE CASING	300 mm
AT THE R.H.S.	20 mm
AT THE L.H.S.	20 mm
BELOW THE APPLIANCE CASING	400 mm
IN FRONT OF THE APPLIANCE	500 mm

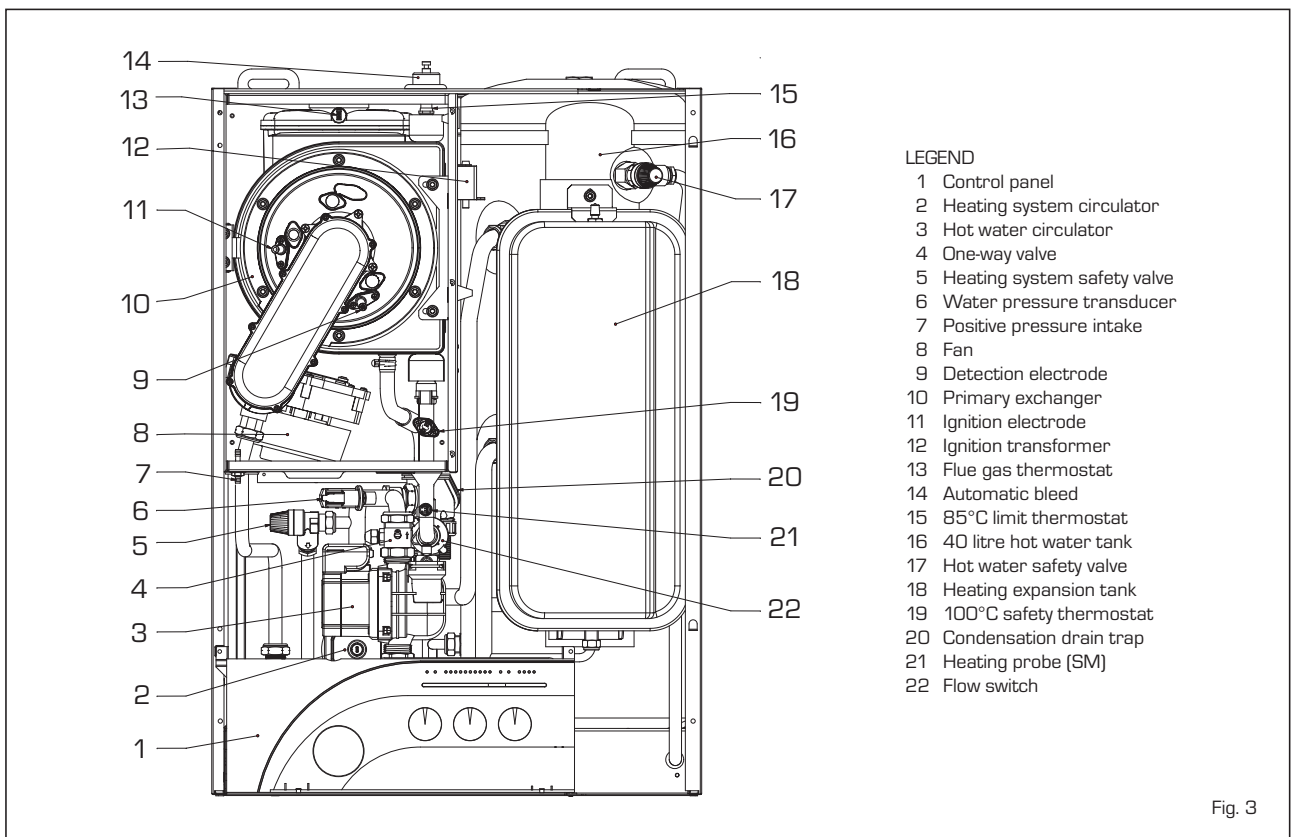
1.3 TECHNICAL FEATURES

DEWY 30/50 HE WM		
Heat output nominal (80-60°C)	kW (kcal/h)	29.2 (25,112)
Heat output nominal (50-30°C)	kW (kcal/h)	32.2 (27,690)
Heat output minimum (80-60°C)	kW (kcal/h)	7.6 (6,540)
Heat output minimum (50-30°C)	kW (kcal/h)	8.4 (7,220)
Nominal heat output	kW (kcal/h)	30.0 (25,800)
Minimum heat output	kW (kcal/h)	8.0 (6,880)
Efficiency nominal/minimum output (80-60°C)	%	94.5 - 97.2
Efficiency nominal/minimum output (50-30°C)	%	104.9 - 107.2
30% yield (50-30°C)	%	106.7
Thermal efficiency (CEE 92/42 directive)		★★★★
Class NOx		5
Smokes temperature maximum (80-60°C)	°C	68
Smokes temperature minimum (80-60°C)	°C	69
Smokes temperature maximum (50-30°C)	°C	47.3
Smokes temperature minimum (50-30°C)	°C	46.9
Smokes flow	kg/h	50.2
CO ₂ maximum/minimum G20	%	9.1/9.1
CO ₂ maximum/minimum G31	%	10.0/10.0
Electrical supply		230V 50 Hz Fuse et 1.6AT
Absorbed power consumption	W	160
Electrical protection grade	IP	X4D
CE certification	n°	1312BP4098
Category		II2H3P
Type		B23-53/C13-33-43-53-83
C.H.		
Pressure relief valve setting	bar	3
Maximum C.H. working pressure	bar	2.5
Maximum temperature	°C	85
Water content boiler	l	10.0
C.H. setting range	°C	20/80
Expansion vessel capacity	l	10
Expansion vessel pressure	bar	1
Gas consumption nominal/minimum G20	m ³ /h	3.17/0.84
Gas consumption nominal/minimum G31	kg/h	2.33/0.62
D.H.W.		
Maximum supply pressure	bar	10
Operating pressure	bar	3.5
Maximum pressure	bar	6.0
D.H.W. flow rate (EN 625)	l/min	16.0
Continuous D.H.W. flow rate Δt 30°C	l/min	14.1
Hot water tank contents	l	40
Tank heating time between 15 and 60°C	min	7' 30"
Recuperation time between 25 and 55 °C	min	3' 45"
Recuperation time to raise 70% of volume to 60°C	min	3' 35"
D.H.W. setting range	°C	30/60
Capacity of hot water expansion tank	l	2
Expansion tank charge pressure	bar	3.5
Expansion relief valve setting	bar	6
Combined temperature & pressure relief valve setting	bar	7
Combined temperature & pressure relief valve setting	°C	90
Gas consumption nominal/minimum G20	m ³ /h	3.17/0.84
Gas consumption nominal/minimum G31	kg/h	2.33/0.62
GAS PRESSURE END NOZZLES		
Gas supply pressure G20	mbar	20
Gas supply pressure G31	mbar	37
Nozzles quantity	n°	1
Nozzles diameter G20	ø	7.0
Nozzles diameter G31	ø	5.0
WEIGHT		
WEIGHT (FULL)	kg	70.1
WEIGHT (FULL)	kg	120.1
MAX FLUE LENGTHS		
Max. horizontal length of coaxial flue duct	m	4,6
Max. vertical length of coaxial flue duct	m	7
Max. horizontal length of twin flue ducts	m	19 + 19

1.4 FUNCTIONAL DIAGRAM



1.5 MAIN COMPONENTS



2 INSTALLATION

Where no specific instructions are given, the installation should be in accordance with the relevant recommendations in the current editions of the following British Standards and Codes of Practice: BS 5440-1, BS 5440-2, BS 5449, BS 5482 (propane installations), BS 5546, BS 6700, BS 6798, BS 6891, Institute of Gas Engineer document IGE/UP-7, BS 7074 (expansion vessel), and to other relevant British Standards or code of Practice as necessary. It is a **Statutory Requirement** that the installation conforms to the appropriate Building Regulations either The Building Regulations, The Building Regulations (Scotland), Building Regulations (Northern Ireland), the Water Fitting Regulations or Water Byelaws in Scotland, and the current I.E.E Wiring Regulations. When handling, due consideration should be given to the appliance weight. If the appliance is not to be installed immediately it should be stored in a clean dry place.

2.1 VENTILATION REQUIREMENTS

Detailed recommendations for air supply are given in BS5440:2. The following notes are for general guidance:

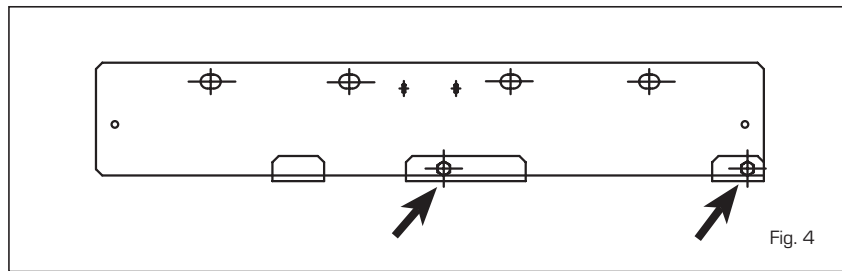


Fig. 4

- It is not necessary to have a purpose provided air vent in the room or compartment in which the appliance is installed *without any location restrictions*, other than the load bearing capacity of the wall where the appliance is to be sited, (consult section 1.3 for weight), or "Combustion" air requirements. However, suitable clearances for maintenance and servicing should be provided, see fig. 1.

- Fix the bracket to the wall with appropriate dowels.
- Check with a spirit level that it is perfectly in horizontal plane.
- To fix the boiler with the lives evidenced in figure.

2.2.1 Installation plate (optional)

The installation plate code 8081216 is supplied with an instruction sheet for the fixing.

2.2 BOILER SUPPORT BRACKET

For the mounting of the support bracket of the boiler, which is supplied, observe the following instructions (fig. 4):

2.3 HOW TO FIT C.H. AND D.H.W. FITTINGS AND GAS COCK (fig. 5)

- C.H. CONNECTIONS (R & M)

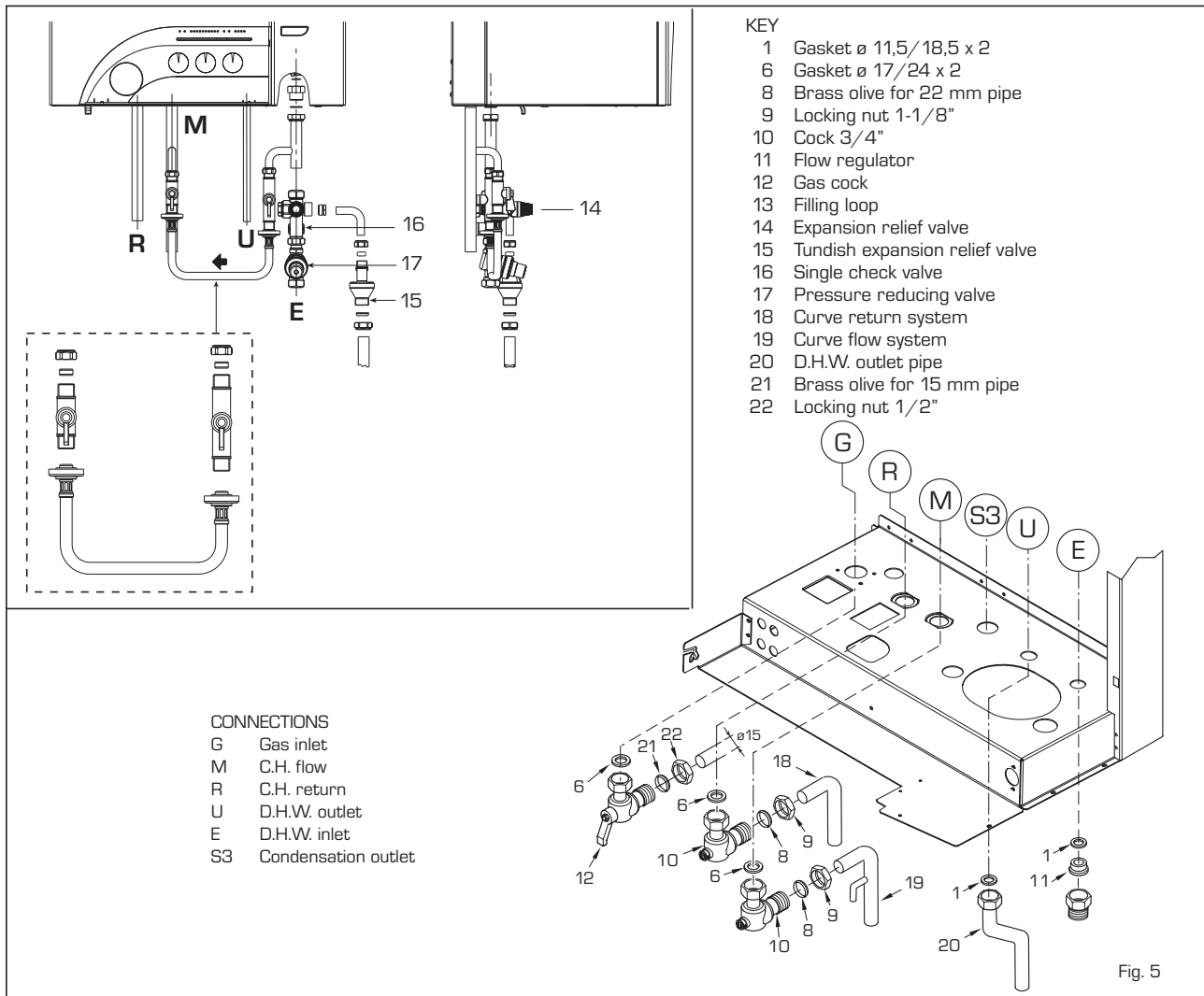


Fig. 5

Fit the two isolation valves (10) using the gasket supplied (6). Fit the C.H. filling loop (13) in a suitable location between the C.H. and D.H.W. circuits.

- D.H.W. CONNECTION (E & U)

Fit the supplied; pressure reducing valve (17), check valve (16), and expansion relief valve assembly (14) with its associated tundish (15), in the D.H.W. supply to the appliance, the flow from this assembly should be connected to the cold water inlet (E) via the flow regulator housing supplied. Ensure flow regulator (11) and gasket (1) supplied, are fitted in the flow regulator housing.

See fig. 5 and fig. 6 for installation details. It is important that no isolating valve is fitted between the expansion relief valve and the inlet to the D.H.W. tank. Any additional D.H.W. drain down tap fitted should be positioned as low as possible to ensure that at least 80% of the D.H.W. tank's capacity can be drained. If installed in a Hard Water area, then a suitable device should be fitted to treat the mains supply to the appliance (Contact your Water Distribution Company for advice on suitable devices). Fit the quarter bend (2) to the hot water outlet (U) using the gasket supplied (1).

- GAS CONNECTION (C)

Fit the gas cock (12) to the gas connection (R) using the gasket supplied (6).

2.4 WATER SYSTEMS - GENERAL

This appliance is designed for connection to sealed central heating water systems. Check that the mains water flow is sufficient to produce the required DHW flow rate but does not exceed 4 bar pressure.

Where the pressure exceeds 4 bar, a mains pressure reducer must be fitted to the incoming water supply near to the stop cock and set to 4 bar.

2.4.1 Treatment of Water Circulating Systems

- All recirculatory systems will be subject to corrosion unless an appropriate water treatment is applied. This means that the efficiency of the system will deteriorate as corrosion sludge accumulates within the system, risking damage to pump and valves, boiler noise and circulation problems.
- For optimum performance after installation this boiler and its associated central heating system must be flushed in accordance with the guidelines given in BS 7593 "Treatment of water in domestic hot water central heating systems".
- This must involve the use of a proprietary cleanser, such as Sentinel X300 or X400, or Fernox Superfloc. Full

instructions are supplied with the products, but for immediate information please contact GE Betz (0151 420 9563) or Fernox (01799 550 811) directly.

- For long term protection against corrosion and scale, after flushing it is recommended that an inhibitor such as Sentinel X100, or Fernox MB-1 or Copal is dosed in accordance with the guidelines given in BS 7593.

Failure to flush and add inhibitor to the system may invalidate the appliance warranty.

- It is important to check the inhibitor concentration after installation, system modification and at every service in accordance with the manufacturer's instructions. (Test kits are available from inhibitor stockists).

on the following information:

- The available pump head is given in fig. 20.
- The burner starts when the C.H. flow reaches 400-450 l/h. This safety condition is ensured by the flow switch.
- The appliance is equipped with an internal by-pass that operates with system heads (H) greater than 3 m. The maximum flow through the by-pass is about 300 l/h. If thermostatic radiator valves are to be installed, at least one radiator should be without a thermostatic valve (usually the bathroom radiator).
- A sealed system must only be filled by a competent person using one of the approved methods shown in fig. 6. The system design should incorporate the connections appropriate to one of these methods.

2.4.2 Requirements for sealed water systems

The heating system design should be based

2.4.3 Discharge Pipes and fittings

The position of any tundish must be visible to the occupants and any tundish, drain valve and discharge pipe and must be sited

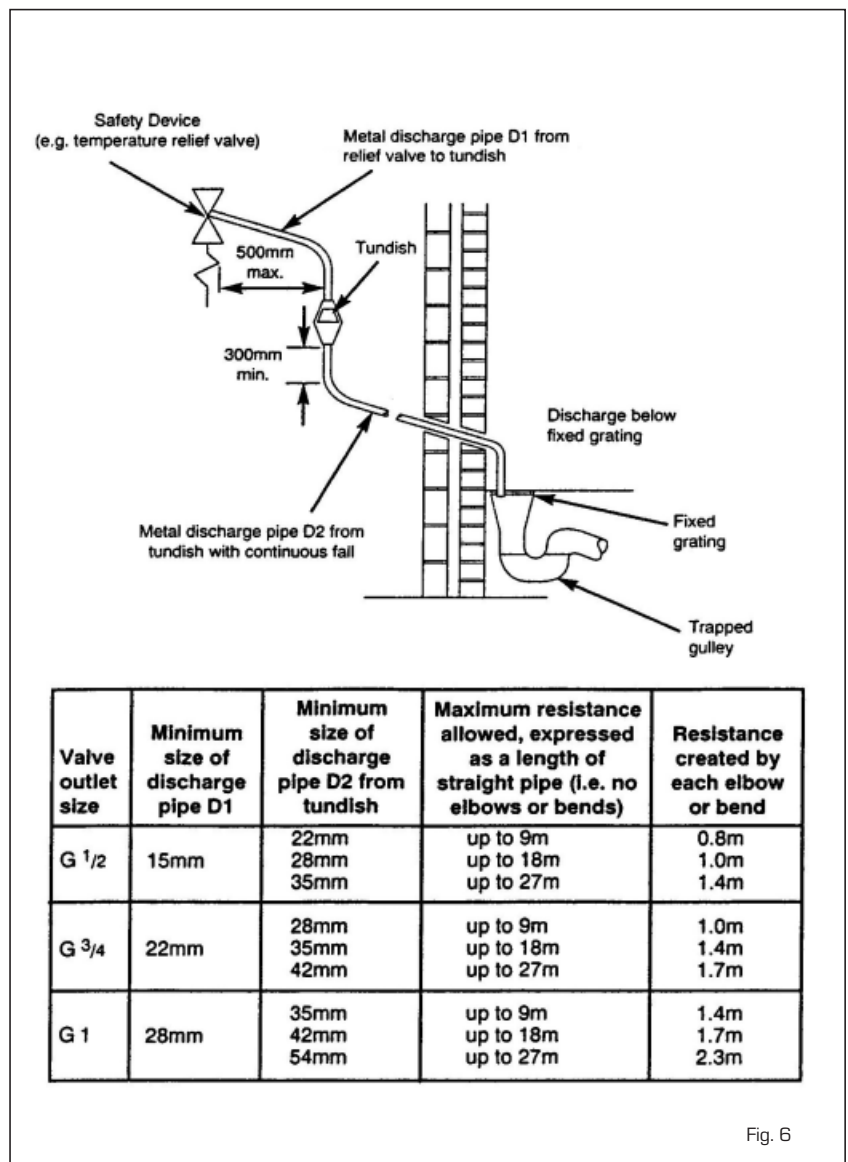


Fig. 6

away from any electrical components. The connections to the expansion relief valve and temperature and pressure relief valve should not be used for any other purpose. See fig. 6 for example of the discharge pipe(s) for the temperature and pressure relief valve, and expansion relief valve terminations. Note: it is permitted to connect discharge pipes together provided that the joint pipe is sized to accommodate the combined flow.

2.4.4 Expansion Vessel (C.H. only)

C.H. EXPANSION VESSEL - The integral expansion vessel is pre-charged to a pressure of 1.0 bar, which should be checked before the C.H. water system is filled. This vessel is suitable for correct operation of system capacities up to 82 litre capacity. If the actual C.H. system volume is greater, then an additional vessel must be fitted to the system. For systems where the volume is greater, the additional expansion vessel

volume can be determined by multiplying the volume in excess of that which can be accommodated by the appliance by the factor 0.901. BS 7074 gives further details regarding C.H. expansion vessel sizing.

2.4.5 Connection of condensation water trap

The drip board and its water trap must be connected to a civil drain through a pipe

KEY

- 1a-b Coaxial duct kit code 8096250
- 2a Extension L. 1000 code 8096150
- 2b Extension L. 500 code 8096151
- 3 Vertical extension L. 140 with take-off point code 8086950
- 4a 90° additional bend code 8095850
- 4b 45° additional bend code 8095950

NOTE: Place the duct horizontally.

IMPORTANT:

Each additional 90° curve installed reduces the available length by 0.90 metres.
Each additional 45° curve installed reduces the available length by 0.45 metres.

NOTE: Before installing accessories, lubricate the internal part of gaskets with silicon-based products. Avoid using oils and greases.

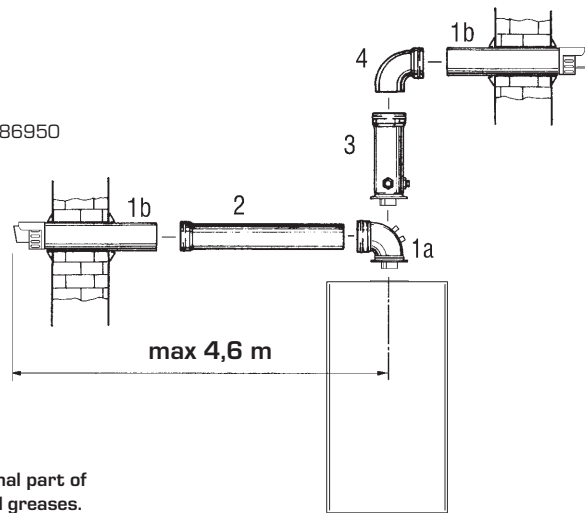


Fig. 7

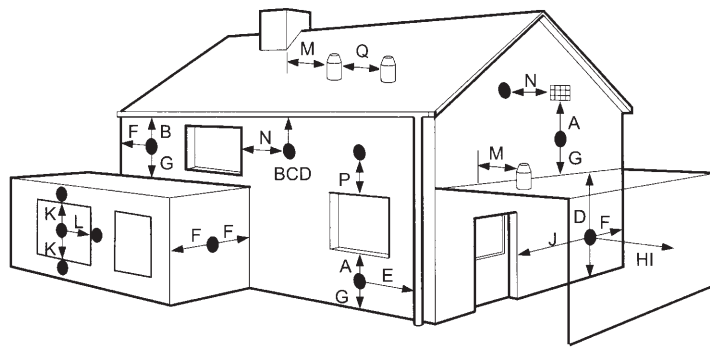


TABLE 1

Terminal position	Minimum spacing
A Directly below an openable window, air vent or any other ventilation opening	300 mm 12 in
B Below guttering, drain pipes or soil pipes	75 mm 3 in
C/D Below eaves, balconies or carport roof	200 mm 8 in
E From vertical drain pipes or soil pipes	75 mm 3 in
F From internal or external corners	300 mm 12 in
G Above adjacent ground, roof or balcony level	300 mm 12 in
H From a surface facing the terminal	600 mm 24 in
I From a terminal facing the terminal	1,200 mm 48 in
J From an opening in the carport (eg door; window into dwelling)	1,200 mm 48 in
K Vertically from a terminal on the same wall	1,500 mm 60 in
L Horizontally from a terminal on the same wall	300 mm 12 in
M Horizontally from a vertical terminal to a wall	300 mm 12 in
N Horizontally from an openable window or other opening	300 mm 12 in
P Above an openable window or other opening	300 mm 12 in

- If the terminal discharges into a pathway or passageway check that combustion products will not cause nuisance and that the terminal will not obstruct the passageway.
- Where the lowest part of the terminal is fitted less than 2 m (78 in) above ground, above a balcony or above a flat roof to which people have access, the terminal MUST be protected by a purpose designed guard. Terminal guards are available from Quinnell, Barrett, and Quinnell, Old Kent Road, London. State model C2, (G.C. Part No 382946).
- Where the terminal is fitted within 850 mm (34 in) of a plastic or painted gutter, or 450 mm (18 in) of painted eaves, an aluminium shield at least 1,500 mm (59 in) long must be fitted to the underside of the painted surface.
- The air inlet/ outlet flue duct MUST NOT be closer than 25 mm (1 in) to combustible material.
- In certain weather conditions the terminal may emit a plume of steam. This is normal but positions where this would cause a nuisance should be avoided.

Fig. 8

with a slope of at least 5 mm per metre to ensure drainage of condensation water.

The plastic pipes normally used for civil drains are the only type of pipe which is appropriate for conveying condensation to the building's sewer pipes.

2.4.6 Filter on the gas pipe

The gas valve is supplied ex factory with an inlet filter; which, however, is not adequate to entrap all the impurities in the gas or in gas main pipes. To prevent malfunctioning of the valve, or in certain cases even to cut out the safety device with which the valve is equipped, install an adequate filter on the gas pipe.

2.4.7 Discharge Pipe

See fig. 6 for example discharge pipe terminations.

2.5 FILLING AND COMMISSIONING

2.5.1 D.H.W. circuit

Before filling the D.H.W. system, ensure appliance selector knob is in the "Off" position, then open the hot water tap nearest the appliance. Open the D.H.W. supply isolating valve to the appliance, once water

starts to flow from the tap close it, and then open and close each hot water tap in turn to ensure that all the air is removed from the pipework. Open the hot water tap furthest away from the appliance and let water flow for about 10 minutes, or for sufficient time to flush out the system. Check for leaks.

2.5.2 C.H. circuit

Once the D.H.W. circuit is commissioned the C.H. circuit can be filled via the external filling loop. Ensure both the D.H.W. and C.H. temperature controls are set to minimum, and that there is no room thermostat demand. Turn on the electrical supply to the appliance, (see Section 2.10), and turn the selector knob to the summer position. Open the filling loop's C.H. isolating valve and then the D.H.W. double check isolating valve (See fig. 2 & 5/a). Once the green "1 bar" led lights up close both isolating valves, and disconnect the flexible hose from the D.H.W. double check isolating valve. Check for leaks and free rotation of the circulating pumps. The appliance can then be commissioned by following the User Instructions.

2.6 COAXIAL DUCT \varnothing 60/100

The air inlet-smoke outlet assembly, code

8096250, is included in the standard supply of the appliance complete with mounting instructions.

2.6.1 Coaxial duct accessories

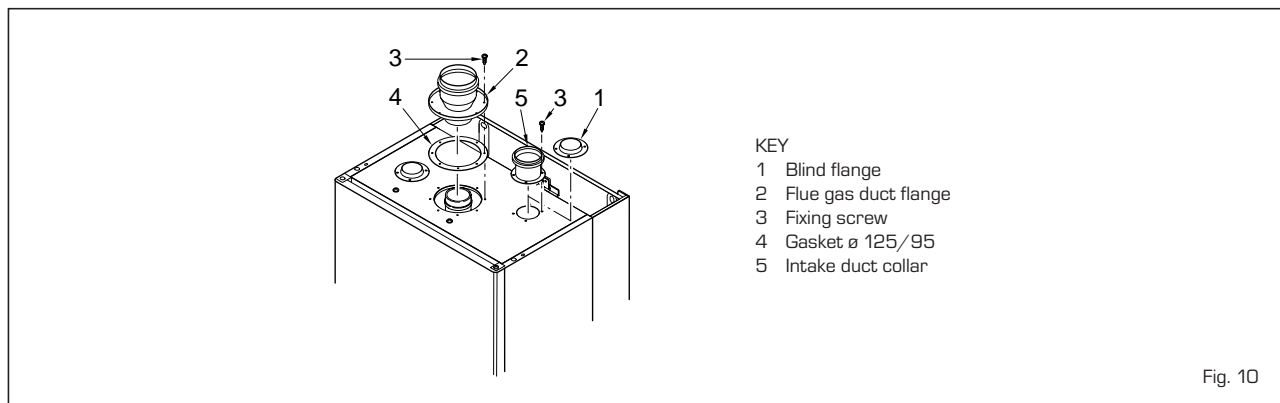
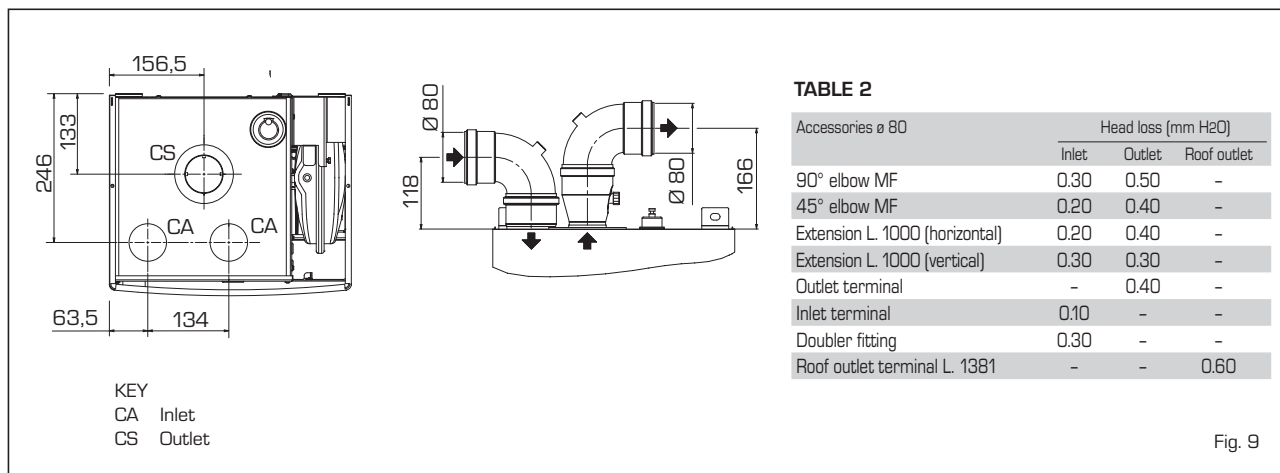
The accessories to be used for this type of installation and some of the connecting systems that may be adopted are illustrated in fig. 7. **With the pipe bend included in the kit, the maximum length of the piping should not exceed 4.6 meter.** When the vertical extension code 8086950 is used, the terminal part of the pipe must always come out horizontally.

2.6.2 Positioning the outlet terminals

The outlet terminals for forced-draught appliances may be located in the external perimeter walls of the building. To provide some indications of possible solutions, **Table 1** gives the minimum distances to be observed, with reference to the type of building shown in fig. 8.

2.7 SEPARATE PIPES \varnothing 80

A special kit may be used to separate the flue gas outlet from the fresh air intake. The intake may be installed to the right or left of the flue gas outlet.



Both ducts may be oriented in any direction. Refer to fig. 9 for positioning. **The maximum overall length of the intake and exhaust ducts depends on the head losses of the single fittings installed (excluding the doublers) and must not be greater than 13 mm H₂O.** For head losses in the fittings, refer to **Table 2**.

2.7.1 Separate pipe accessories

Kit code 8089911 is supplied for this purpose (fig. 10).

2.10 ELECTRICAL CONNECTION

Wiring external to the appliance must be in accordance with the current I.E.E Wiring regulations (BS 7671) for electrical installation and any local regulations, which apply. Connection to the mains supply must facilitate complete electrical isolation of the appliance. Either a 3A fused three pin plug and un-switched shuttered socket outlet, both complying with BS 1363, or a 3A fused double pole switch having a 3 mm contact separation in both poles and serving only the appliance (and its external controls) may be used.

The boiler is supplied with an electric cable. Should this require replacement, it must be purchased exclusively from SIME. The electric power supply to the boiler must be

230V - 50Hz single-phase through a fused main switch, with at least 3 mm spacing between contacts. Respect the L and N polarities and the earth connection.

NOTE: SIME declines all responsibility for injury or damage to persons, animals or property, resulting from the failure to provide for proper earthing of the appliance.

2.10.1 Room stat connection (fig. 15 pos. A)

To gain access to the electronic board connector (3), remove the control panel cover and connect the room stat to the terminals TA after having removed the jumper.

The thermostat or timer-thermostat, recommended for better room temperature control, must be class II as specified by standard EN 60730.1 (clean contact).

WARNING: Applying mains voltage to the terminals of connector (3) will irreparably damage the control board. Make sure that any connections to be made are not carrying mains voltage.

2.10.2 "Logica Remote Control" connection (fig. 15 pos. B)

The electrical plant must comply with local standards and all cables must comply with

low safety voltage requirements of EN 60730. For lengths up to 25 m, use cables of section 0.25 mm², for longer lengths up to 50 m use cables of section 0.5 mm².

First of all, assemble and wire the socket (2), then insert the equipment which will start-up as soon as it receives current.

To gain access to connector (3) remove the control panel cover and connect the climate regulator to terminals CR (6-7).

WARNING: External voltage must not be connected to terminals 1-2-3-4 of the "Logica Remote Control".

A telephone remote switch with a zero potential contact or a window contact can be connected to terminals 3-4.

Equipment for the checking of civil plants via a telephone line includes the model TEL 30.4 LANDIS & STAFA.

2.10.3 External temperature sensor connection (fig. 15 pos. C)

The cables must comply with low safety voltage requirements of EN 60730.

For lengths up to 25 m, use cables of section 0.25 mm², for longer lengths up to 50 m use cables of section 0.5 mm².

To gain access to boiler connector (3) remove the control panel cover and connect the external temperature sensor to terminals SE (9-10).

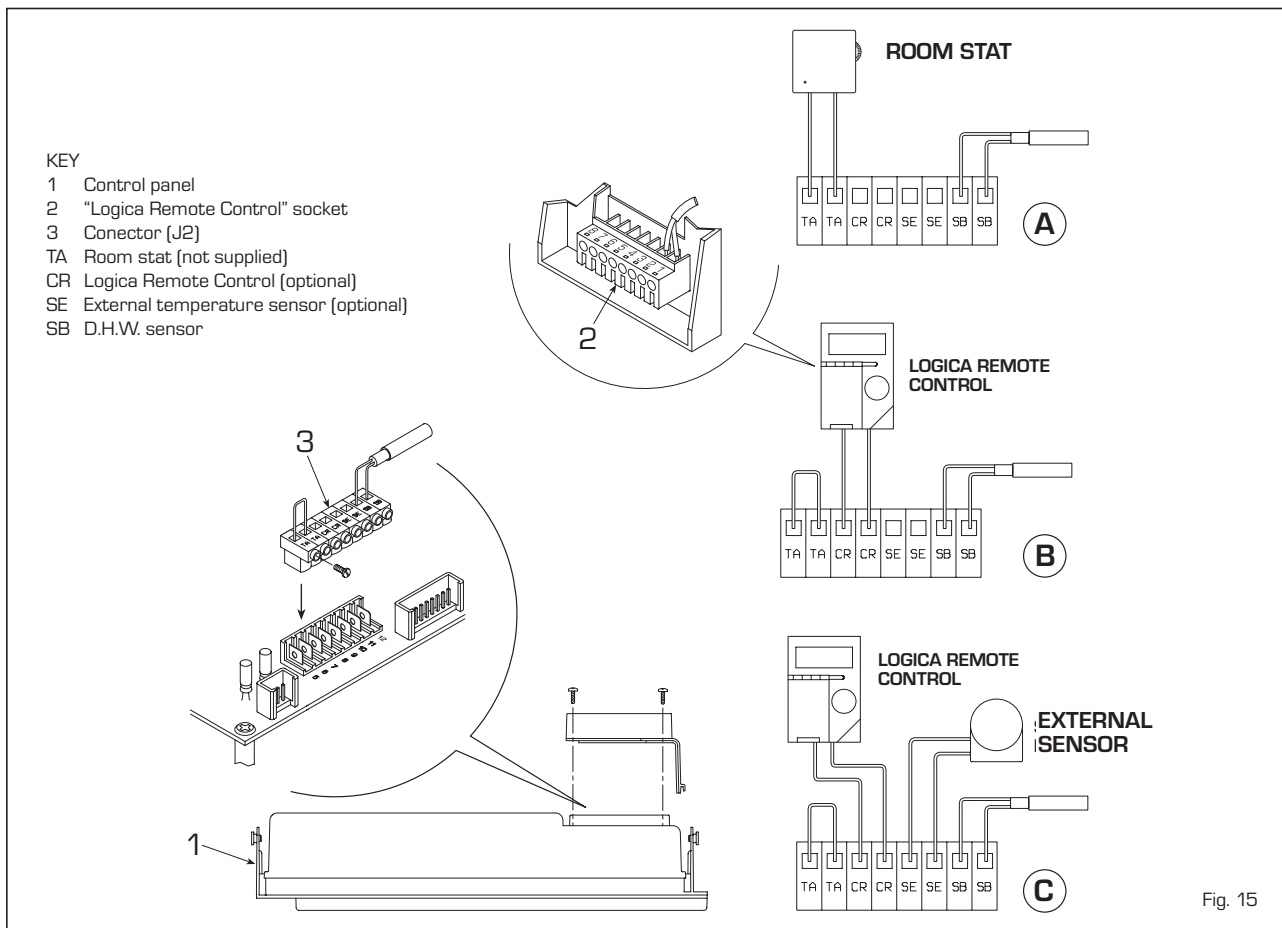


Fig. 15

2.10.4 Wiring diagram

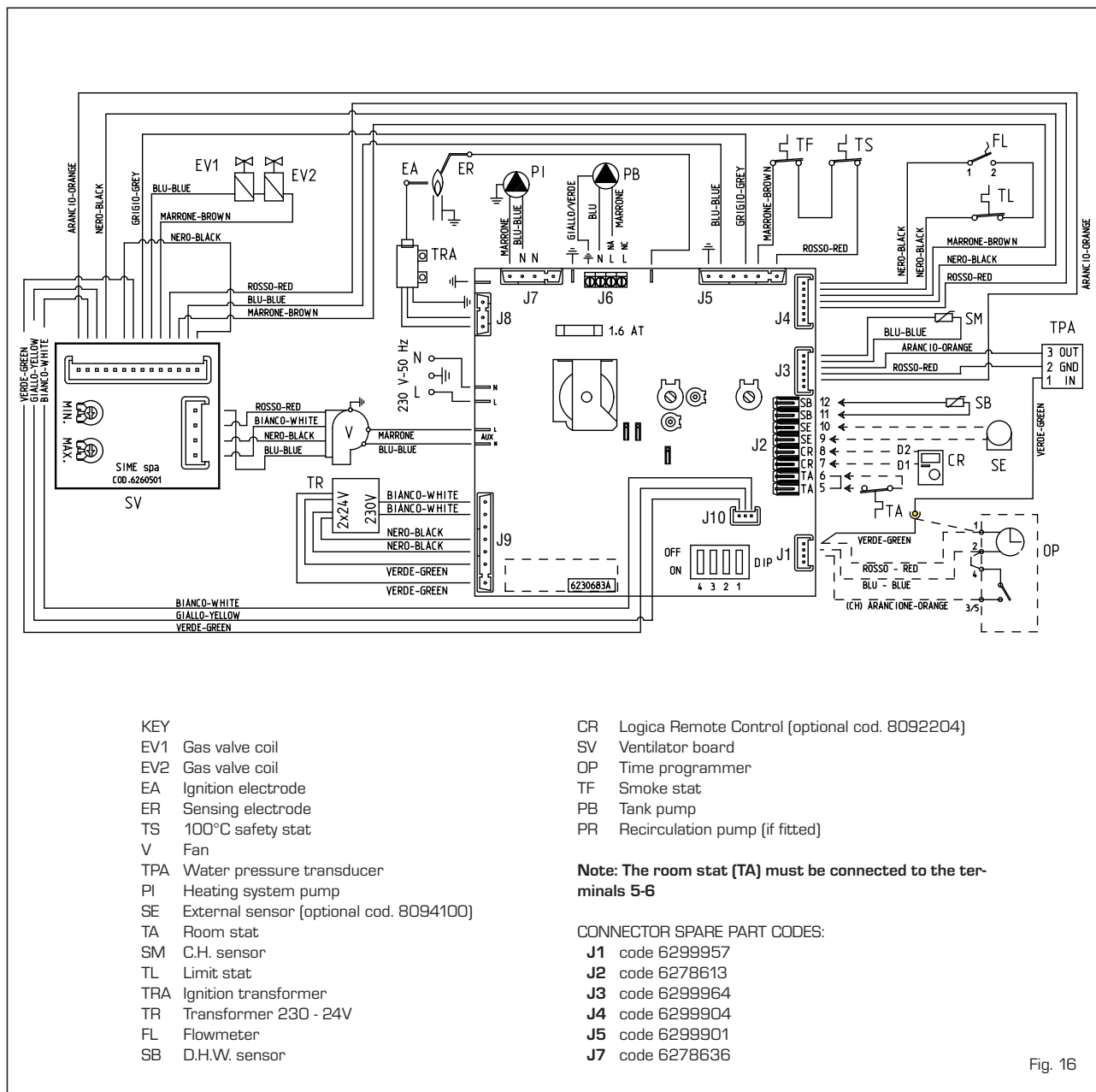


Fig. 16

2.10.5 Time programmer

The control panel is designed to allocate a timer-programmer, code 8092205 mechanical or code 8092206 digital, which can be supplied upon request. To fit the timer, remove the housing blanking piece from the control panel and, with the panel open, fit the timer to the panel using the screws supplied therein (fig. 16/a). Connect the unit as shown in the wiring diagram (fig. 16).

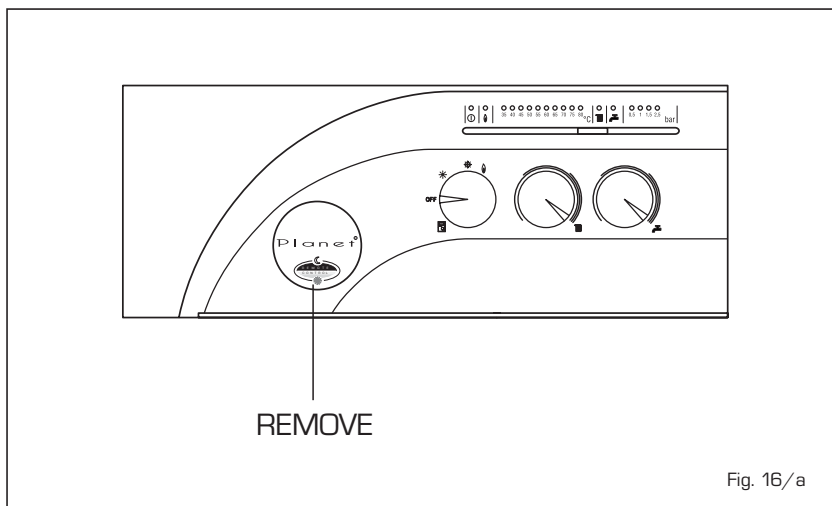


Fig. 16/a

2.11 LOGICA REMOTE CONTROL

All the boiler's functions can be managed by an optional digital multifunctional device code 8092204 for the remote of the boiler itself and for regulating room climatic conditions with an operational reserve of 12 hours.

The heating circuit is controlled by the room temperature sensor built-in the equipment or by the atmospheric conditions, with or without environmental inflow, if the boiler is connected to an external sensor.

Characteristics:

- Ergonomic control unit divided according to function (control levels).
- Clear division of basic functions:
 - operating regime, correction of set value and presence button are directly accessible;
 - Different real current values are accessible through the "info" button;
 - other functions can be programmed after the cover has been opened;
 - special service level with protected access;
- Each setting or modification is displayed and confirmed.
- Tome setting (special line for changing BST/CET).
- Heating programme with max. 3 heating periods per day, individually selectable.
- Copy function for easy transfer of heating programme to the next or previous day.

vious day.

- Holiday programme: the programme is interrupted for the holiday period and automatically restarted on returning home.
- Option to return the heating program to default values.
- Programming lock (child safety).


Functions:

- Delivery temperature control guided by the atmospheric conditions, taking into account the dynamics of the building.
- Delivery temperature control guided by atmospheric conditions with influence of ambient temperature.
- Ambient temperature control only.
- Adjustable influence of ambient temperature shift .
- Switch-on and switch-off optimisation.
- Rapid lowering.
- ECO functions (daily heating limiter, automatic summer/winter switch-over).
- Controllable maximum delivery temperature limit (specifically for floor plants).
- Limitation of increase in pre-set delivery temperature.
- Anti-freeze protection for buildings.
- Hourly programming of the tank unit temperature on two levels: comfort and reduced.
- Domestic hot water control with nominal value requirement and enable.
- Connection to room sensor or switching of operating regime through the telepho-

ne system with external contact or through a window contact.

- Anti-bacterial.





2.10.1 Installation

The unit must be installed in the main living room. For installation, follow the assembly instructions inserted in the package. At this point, with the selector knob on , the installer can adjust the basic parameters settings according to the individual needs (point 2.10.2). **If there is a thermostatic radiator valve fitted, this must be set to maximum.**





2.10.2 Installation settings

The settings for the basic operating parameters for individual needs are reported in the instruction leaflet supplied with the "Logica Remote Control" and in the section reserved for the user in this manual.

For further adjustments which can be carried out by the installer, the "Logica Remote Control" offers a level of service and parameterising which can only be accessed through a special combination of buttons.

To activate this level of service or parameterising press buttons  and  least 5 seconds. This will activate the parameterising level. Then use the same arrow buttons to select the individual input lines and adjust the values with  or .

HEATING CIRCUIT SETTINGS

Antifreeze protection "Pre-set ambient temperature value"		Heating takes place up to this pre-set value if the plant is activated in standby (e.g. holidays). In this way, the building antifreeze function is active, preventing an excessive lowering of the ambient.
Summer/Winter switch-over temperature		This parameter regulates the temperature of the automatic summer/winter switch-over.
Type of control: 0 = with ambient influence 1 = without ambient influence		This parameter de-activates the ambient influence and as a result all the optimisations and adaptations. If a valid external temperature is not transmitted, the controller switches to the pure ambient control guide variable.
Influence of ambient temperature		If the ambient controller is used only as a remote control (placed in the reference room and without an external sensor connected), the value must be set at 0 (zero). If the change in ambient temperature from the pre-set value remains high during the entire day, the influence must be increased. If the ambient temperature is around the pre-set value (control oscillation), the influence must be reduced.

Note: If the ambient temperature influence constant is set at 0, the adaptation of the heating curve is deactivated. In this case, parameter 57 will have no effect at all.

Maximum limit of delivery temperature	55	The delivery temperature is limited to the maximum set value.
Variation of the maximum speed of the delivery temperature	56	The increase per minute of the prescribed delivery temperature value sent in °C is limited to the imposed value.
Activation of adaptation	57	With the activation of the adaptation, the pre-set value transmitted to the boiler regulator is adapted to the effective heat need. The adaptation functions with both the atmospheric guide with ambient influence and with pure ambient control. If the "Logica Remote Control" is set as a remote control only, the adaptation must be is deactivated.
Optimisation of switch-on time	58	If the switch-on time optimisation is active, the "Logica Remote Control" modifies the heating gradient until it finds the optimum heating point 0 = off 1 = on
Heating gradient	59	The "Logica Remote Control" selects the switch-on time such that the set value has more or less been reached at the start of the usage time. The more severe the night-time cooling, the earlier the heating time starts. Example: Current ambient temperature 18.5°C Nominal ambient temperature 20°C Heating gradient 30 min/K Presetting of switch-on time: 1.5 K x 30 min/K = 45 minutes 00 means that the switch-o time has not been pre-set (function disabled).
Presetting switch-off time (00 = off)	60	If the switch-off time optimisation is active (value > 0), the "Logica Remote Control" modifies the pre-set time until it finds the optimum switch-off time..

DOMESTIC HOT WATER SETTINGS

Reduced domestic hot water pre-set value	61	The reduced pre-set value of the temperature of the domestic hot water allow the required water temperature to be obtained outside the programmed usage times (daily programme 8).
Domestic hot water load	62	0 = 24 hours/ day - Hot water is always available at the temperature set with user parameter n°3. 1 = standard - Hot water according to the daily heating programme. In the comfort areas of heating the temperature of the boiler unit is regulated to the value set with user parameter n° 3. In the reduced areas of heating the temperature of the boiler unit is regulated to the value set with parameter n° 61 of the service level. 2 = service disconnected 3 = second daily programme (8) - Every day of the week the temperature of the hot water is set according to programme 8. In this case there is a single programming for all the days of the week and three time zones are available. In the time spans set the temperature of the boiler unit is regulated according to that set in parameter n°3. In the remaining hours the boiler unit is controlled to the temperature set with parameter n° 61 the of service level.

SERVICE VALUES

Final user level 2 programming block	63	This block (1) can be activated to display all the parameters without modifying them. Pressing buttons \square or \square displays "OFF". WARNING: The activation block can be deactivated temporarily by pressing buttons \blacktriangle and \square simultaneously; a confirmation sign appears on the display. At this point press simultaneously the buttons \blacktriangle and \blacktriangledown for at least 5 seconds. To permanently remove the activation block, set parameter 63 on 0.
---	-----------	---

Input function terminal 3-4

64

The freely programmable input (terminals 3-4) allows three different functions to be activated. The parameter has the following significance:

- 1** = If an external sensor is connected, the display will show the temperature of the external sensor (_ _ = no sensor connected, function disabled).
- 2** = With an external contact, it is possible to switch-over to "reduced pre-set value of the ambient temperature".
- 3** = With an external contact, it is possible to switch-over to "reduced pre-set value of the antifreeze ambient temperature" (short circuit 0 0 0 or interruption _ _ _). The display shows the current status of the external contact.

Operating mode of external contact

65

If the entrance (terminals 3 and 4 of the base) is connected to a zero potential external contact (parameter 64 = 2 or 3), the operating mode of the contact can be determined (remote telephone switch or window contact). The operating mode specifies the status of the contact in which the required function is active.

Display: Operating mode closed (short circuit) 0 0 0
Operating mode open (interruption) _ _ _

External and ambient sensor influence

66

Determines the mix ratio between the internal and external ambient sensor when parameter 64 = 1.

- 0 %** = internal sensor only active (0% external - 100% internal)
- 50 %** = mean value of external + internal sensor
- 100 %** = external sensor only active

The set mix is used for ambient control and display.
If the external sensor is short circuited or interrupted, the operation continues with the internal sensor.

Anti-bacterial function (with storage capacity boiler unit)

69

This function allows the hot water to be brought to a high temperature once a week in order to eliminate eventual pathogenic agents. It is active every Monday for a maximum duration of 2.5 hours at a delivery temperature of 65°C.

- 0** = not active
- 1** = active

2.11.3 Gradient of the characteristic heating curve

The gradient of the characteristic heating curve is imposed on the current value "15" of Logica. Increasing the gradient as shown in the drawing of fig. 17, the delivery temperature increases in correspondence to the outside temperature.

2.12 EXTERNAL TEMPERATURE SENSOR

The "Logica Remote Control" can be connected to an external temperature sensor available as an optional extra (code 8094100). This configuration ensures and maintains the required temperature constant in the room. The ambient temperature is, in fact, indicated and evaluated as the calculated mean of the value measured inside and outside the dwelling. For installation, follow the assembly instructions inserted in the package.

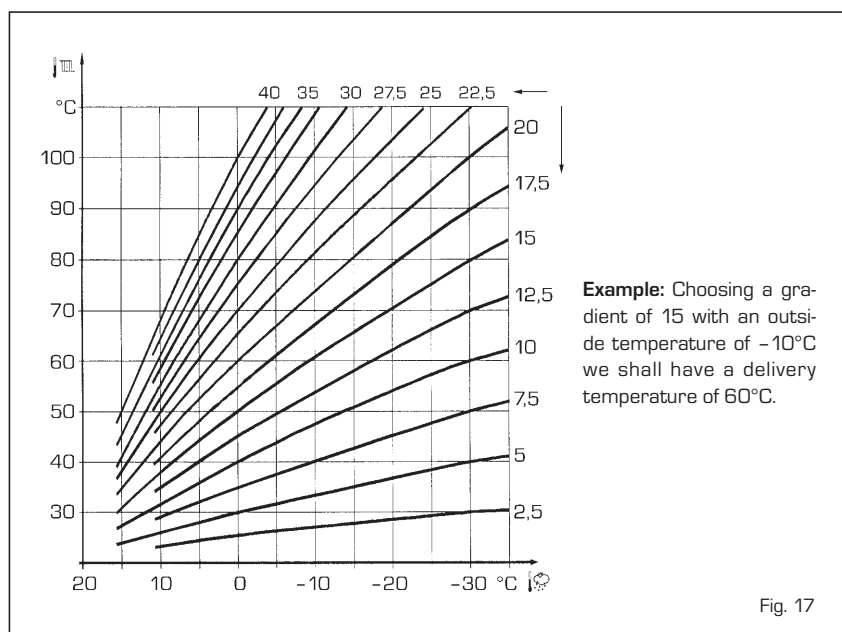


Fig. 17

3 CHARACTERISTICS

3.1 ELECTRONIC BOARD

The electronic boards are manufactured in compliance with the EEC 73/23 low-voltage directives. They are supplied with 230V and, through a built-in transformer, send a voltage of 24V to the following components: gas valve, safety stat, C.H. and D.H.W. sensor; external temperature sensor (optional), modulator; flow switch safety valve, water pressure transducer; flue gas thermostat, room stat or "Logica Remote Control".

An automatic and continuous modulation system enables the boiler to adjust the heat output to the various system requirements or the User's needs. The electronic components are guaranteed against a temperature range of 0 to +60°C.

3.1.1 Fault finding

The indicator leds signalling irregular and/or incorrect operation of the equipment are indicated in fig. 18.

3.1.2 Devices

The electronic board is equipped with the following devices:

- "POT. RISC." trimmer (10 fig. 19)
Sets the maximum heating power value. To increase the value turn the trimmer clockwise; to reduce the value turn the trimmer anticlockwise.

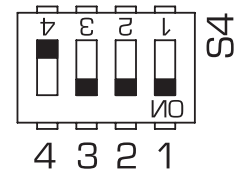
- "POT. ACC." trimmer (6 fig. 19)
Trimmer to vary the pressure level upon ignition (STEP), of the gas valve. According to the type of gas for which the boiler is equipped, the trimmer must be regulated so as to obtain a pressure of approx. 3 mbar at the burner for methane gas and 7 mbar for propane gas (G31). To increase pressure, turn the trimmer clockwise; to reduce pressure, turn the trimmer counterclockwise. The slow ignition pressure level can be set during the first 3 seconds following burner ignition.
After setting the pressure level upon ignition (STEP) according to the type of gas, check that the pressure for heating is still at the value previously set.

- "MET-GPL" connector (7 fig. 19)
When the connector is not connected up the boiler is ready to operate on NATURAL GAS. With connector installed for PROPANE fuelled operation.

- "ANN. RIT." connector (5 fig. 19)
In the heating phase, the electronic board is programmed to include a burner technical delay interval of approx. 90 seconds, which occurs both at system cold starting and at subsequent re-ignitions. The aim is to overcome the problem of repeated ignitions and turning off with very short time intervals between. This could occur in particular in systems presenting high head losses. At each restart after the period of slow ignition, the boiler

will set itself for about 1 minute at the minimum modulation pressure, and will then move to the heating pressure value set. When the connecting link is inserted, both the programmed technical pause and the period of operation at minimum pressure in the startup phase will be cancelled. In this case, the times elapsing between turning off and subsequent re-ignition will depend on a temperature difference of 5°C detected by the SM sensor (heating flow sensor).

- DIP SWITCH (13 fig. 19)
Check that the cordless plugs are inserted in the position indicated:



- "Modureg Sel." connector (14 fig. 19)
The bridge must always be **connected**.
- "Albatros" connector (15 fig. 19)
The bridge must always be **disconnected**. It is **connected** only when multiple boilers are installed in a sequence/cascade.

ATTENTION: It is essential that the operations described above be carried out by authorized technical staff.

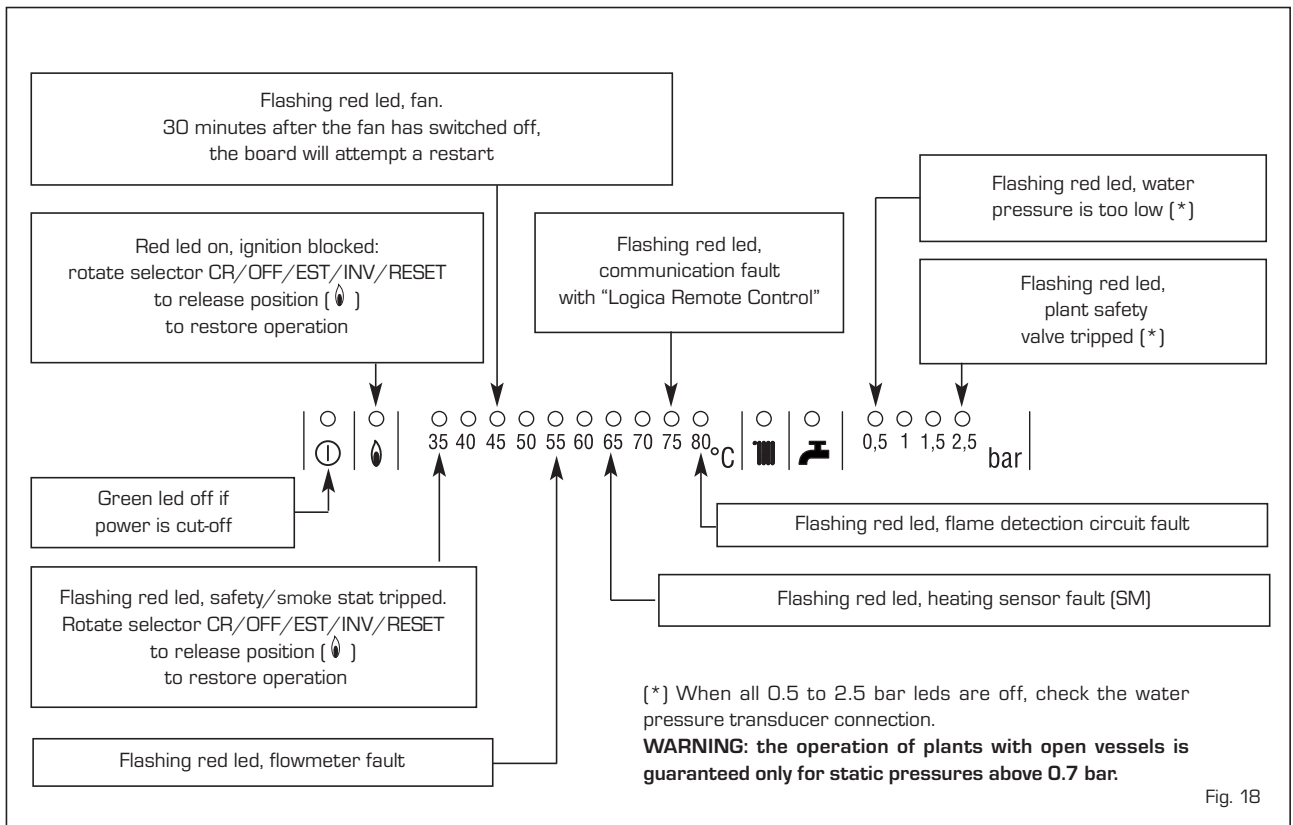


Fig. 18

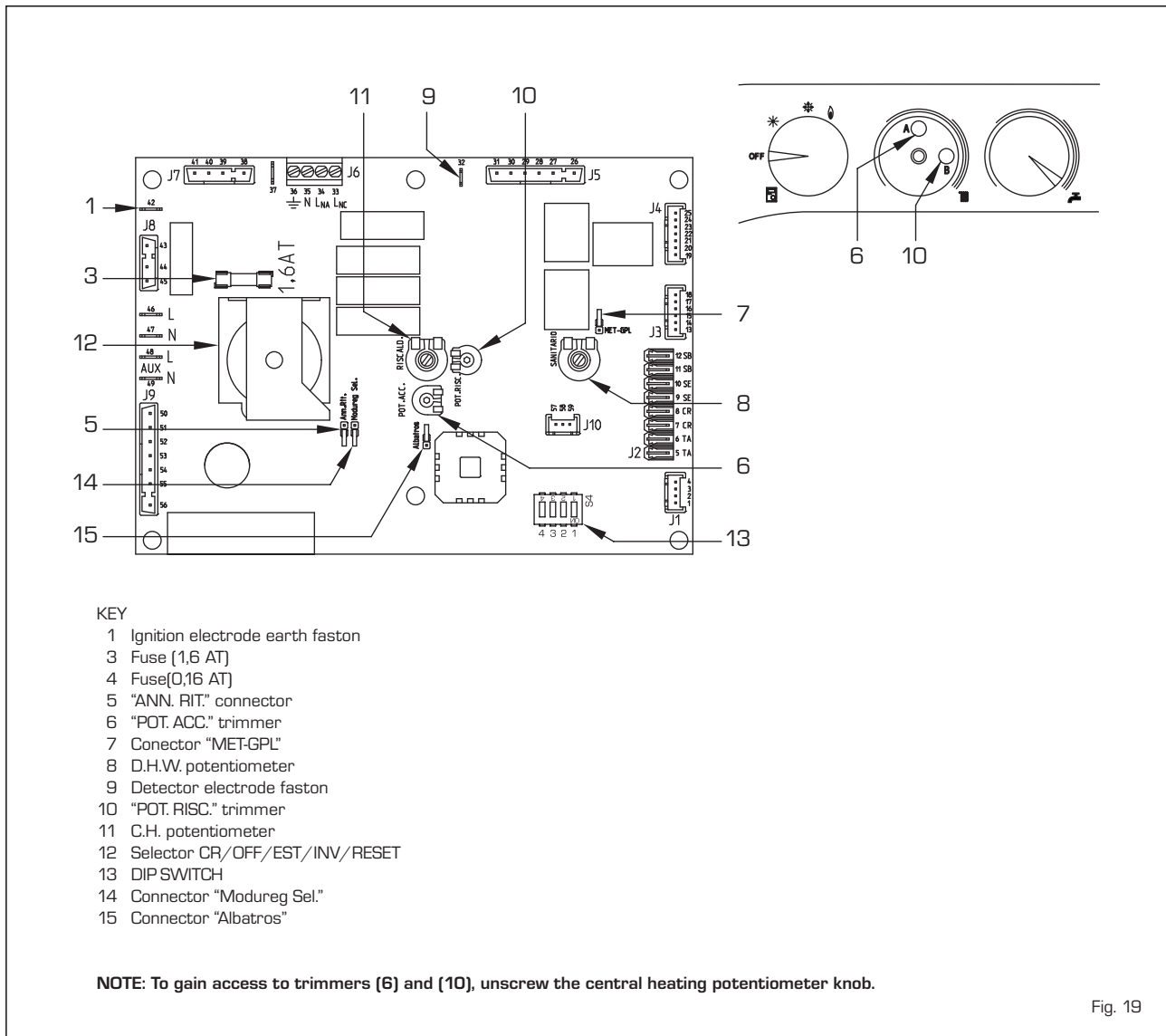


Fig. 19

3.2 TEMPERATURE SENSOR AND WATER PRESSURE TRANSDUCER

Antifreeze system made up of the NTC heating sensor that activates when the water temperature reaches 5°C.

Tables 3 - 3/a show the resistance values (Ω) that are obtained on the sensor as the temperature varies and the transducer values obtained as the pressure varies.

When sensor (SM) is interrupted, neither of the boiler's heating services will function. With D.H.W. (SB) sensor interrupted, the boiler will only work in heating mode.

TABLE 3 (Sensors)

Temperature (°C)	Resistance (Ω)
20	12.090
30	8.313
40	5.828
50	4.161
60	3.021
70	2.229
80	1.669

TABLE 3/a (Transducer)

Pressure (bar)	Resistance (Ω)	
	min	máx
0	297	320
0,5	260	269
1	222	228
1,5	195	200
2	167	173
2,5	137	143
3	108	113
3,5	90	94

3.3 ELECTRONIC IGNITION

Ignition and flame detection is controlled by two electrodes located on the burner. These guarantee maximum safety with intervention times, for accidental switching off or gas failure, of within one second.

3.3.1 Operating cycle

Rotate the selector knob to summer or winter, and verify that green led (Ⓛ) lights up to

confirm the presence of voltage.

The boiler is now ready to start working upon demand for heating or drawing off of D.H.W.; a discharge current is sent to the ignition electrode through the programmer, and the gas valve opens at the same time. The burner must be ignited within 10 seconds. However, it is possible for ignition failures to occur, with consequent activation of signal indicating that the control box has "locked out".

- Gas failure

The control box runs through the cycle normally sending electric power to the ignition electrode. The electrode continues spark discharge for a maximum of 10 sec. If the burner does not light, the lock-out indicator will light up.

This may occur upon first ignition or after long periods of boiler lay-off when there is air in the pipes. It may be caused by the gas cock being closed or by one of the valve coils having a break in the winding, so that the valve cannot open.

- Ignition electrode fails to spark

In the boiler, only the gas to the burner is seen to open. After 10 sec. the warning light indicating equipment "lock-out" lights up.

This may be due to a break in the wire of the electrode or to the wire not properly fastened to the electric terminal of the control box;

- No detection of flame

The continuous spark discharge of the electrode is noted starting from ignition even though the burner is lit.

After 10 seconds have elapsed, the sparks cease, the burner goes out, and the warning light indicating equipment "lock-out" lights up.

There could have a break in the wire of the sensing electrode or the electrode itself is touching earth: the electrode is worn out and needs replacing. The control box is defective.

When there is a sudden voltage failure, the burner shuts out immediately; when power supply returns, the boiler will start up again automatically.

3.4 SYSTEM AVAILABLE HEAD

The head available for the heating plant is shown as a function of the flow in graph in fig. 20.

3.5 FLOW SWITCH SAFETY VALVE

A flow switch safety valve intervenes,

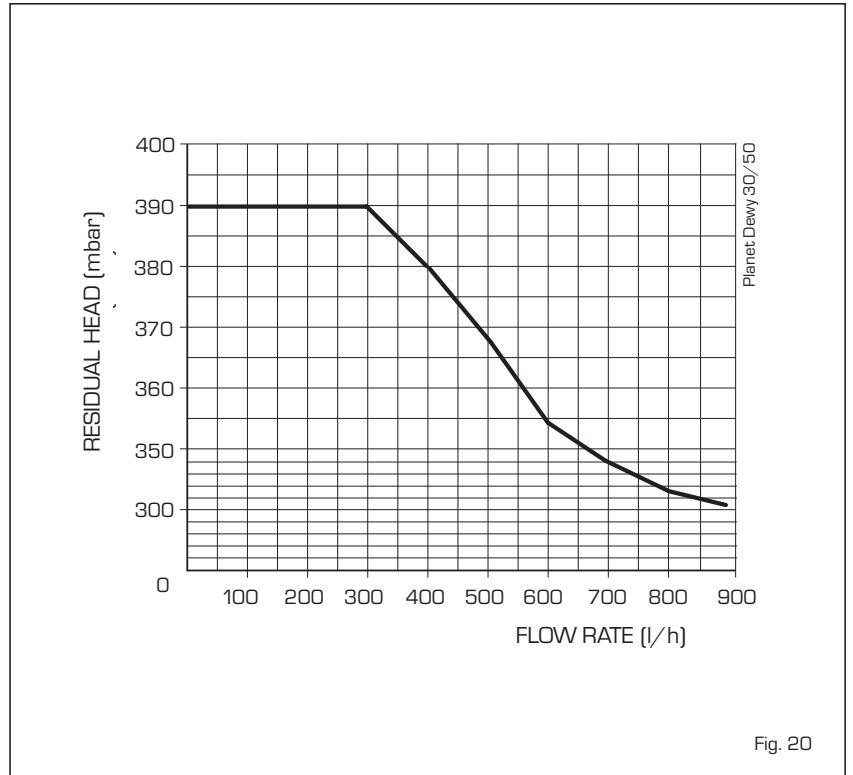


Fig. 20

blocking the operation of the burner if the boiler is without water due to the formation of an air lock in the heat exchanger or if the circulator is not working.

NOTE: If replacing the flow switch valve, make sure that the arrow stamped on the valve points in the same direction as the flow of water.

3.6 MAINS ELECTRICITY CONNECTION

Use a separate electricity supply to connect the room stats and relative zone valves. The micro or relay contact connection is made to TA-CR-SE (J2) connector of the circuit board after having removed the jumper (fig. 21).

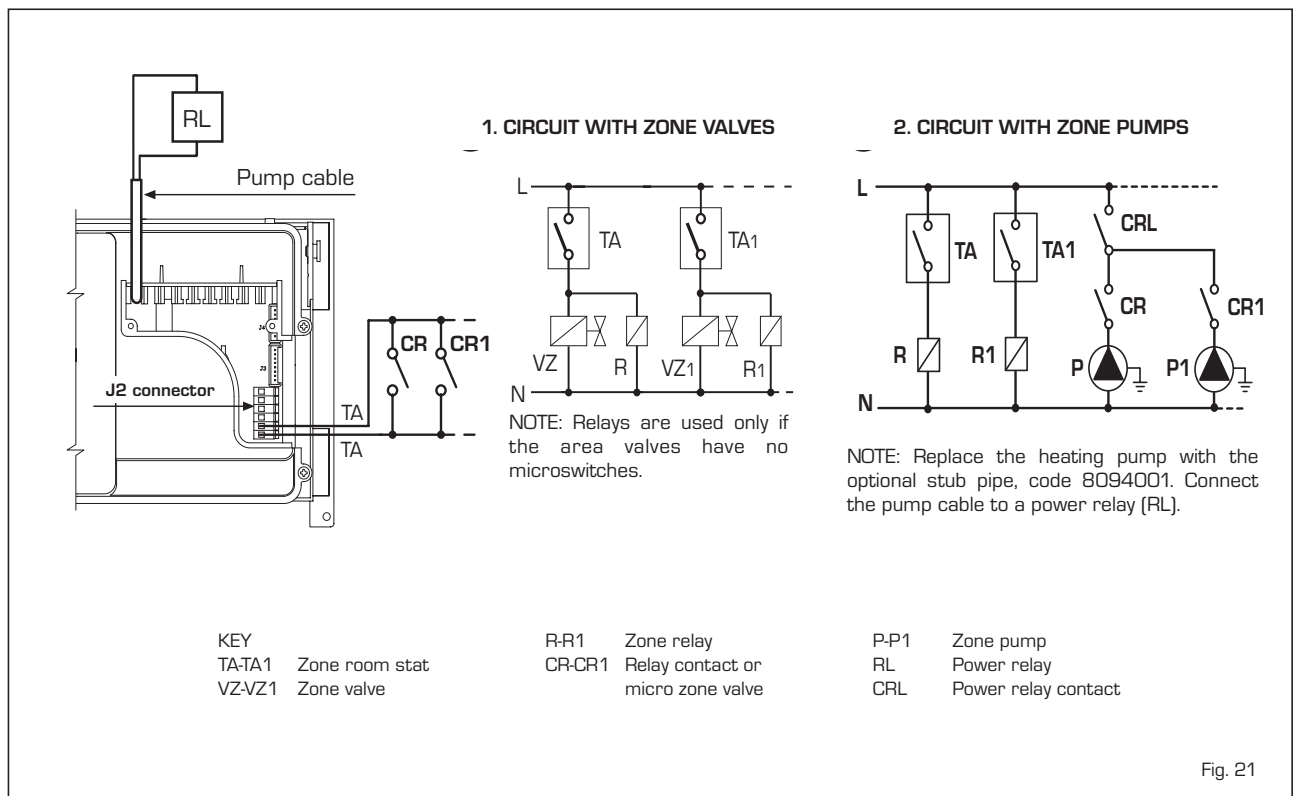


Fig. 21

4 USE AND MAINTENANCE

4.1 D.H.W. PRODUCTION

The preparation of hot water is guaranteed by the glass storage tank unit with magnesium anode for the protection of the boiler unit and inspection flange for its control and cleaning.

The magnesium anode must be checked annually and substituted when it is worn.

It is advisable to place a sluice gate at the entrance of the D.H.W. tank unit which, apart from the total closure, allows the regulation of the supply capacity.

If the boiler does not produce hot water, make sure that the air has been released by pressing on the manual vents after having switched off the main switch.

The temperature and pressure relief valve and expansion relief valves should not be used for venting air out the system.

To drain the D.H.W. circuit, turn off the gas and electricity supplies and close the D.H.W. supply isolating valve to the appliance. Connect a hose to the D.H.W. discharge cock (See fig. 2) and feed to a suitable drain. Open a hot water tap, and then open the D.H.W. discharge cock, to drain the tank.

4.2 GAS VALVE

The boiler is equipped standard with the SIT 848 SIGMA gas valve (fig. 22).

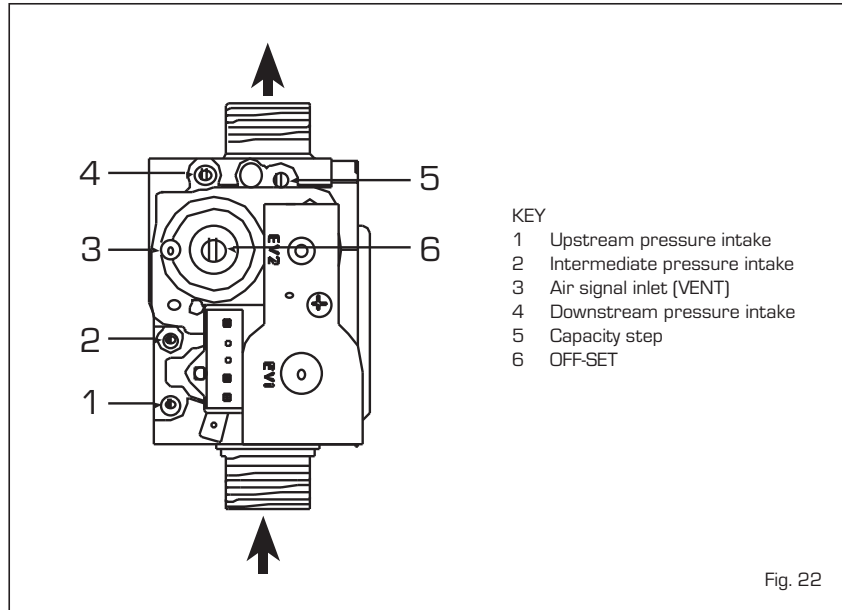


Fig. 22

4.3 ADJUSTMENT OF HEAT OUTPUT FOR HEATING

To adjust boiler heat output for heating purposes, i.e., modifying the setting made at the factory which is approximately 17 kW, use a screwdriver to adjust the heating heat output trimmer (8 fig. 23).

To increase working pressure, turn the trim-

mer clockwise; to reduce pressure, turn the trimmer counterclockwise.

To determine boiler heat output setting, check energy consumption by observing the meter and then compare with the values shown in **Table 4**; or checked with a digital pressure gauge connected (segno +) alla presa (7 fig. 23). Compare values with those shown in **Table 4**.

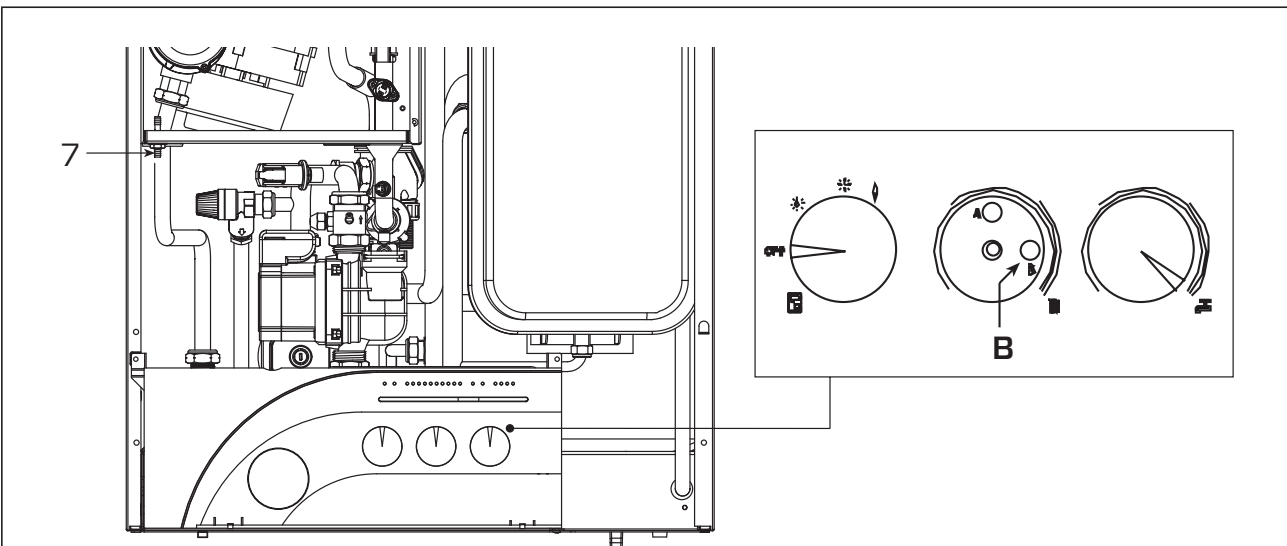


TABLE 4

Pressure mbar	Variable heat output		Gas consumption* G20 m ³ /h	Gas consumption* G31 kg/h
	(80-60°C) kW	(50-30°C) kW		
9,18	29,2	32,2	3,17	2,33
6,37	24,1	26,7	2,64	1,94
4,08	19,2	21,2	2,12	1,55
2,30	14,3	15,8	1,59	1,17
1,11	9,5	10,5	1,06	0,78
0,80	7,6	8,4	0,85	0,62

* The gas consumptions refer to the calorific value at standard conditions at 15°C - 1013 mbar.

Fig. 23

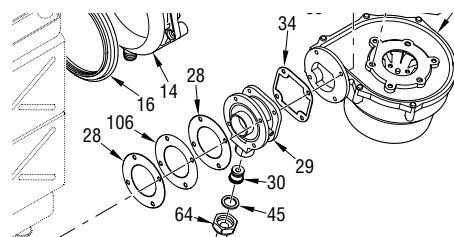
4.4 BOILER CALIBRATION

GAS CONVERSION

- Close the gas cock.
- Replace the injector (pos. 30) and the relevant gasket (pos. 45).
- Cut the specified resistance on the fan control board.
- Test for soundness all the gas

connections using soapy water or appropriate products.
DO NOT USE NAKED FLAMES.

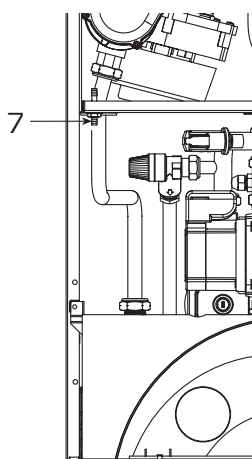
- Stick onto the casing panel the plate showing the relevant feeding gas.
- Proceed with air and gas calibration as described below.



Adjustment and control operations must be performed with the heater in operation while heating is underway

AIR CALIBRATION

Electrically disconnect the heating probe (SM) and connect the wires to another similar free probe. Turn the heating potentiometer knob to the maximum setting, remove the knob and connect the differential manometer (+ sign) to the air pressure intake [7 - Drawing 1].



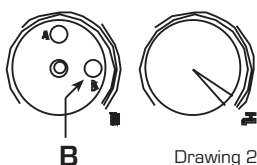
Drawing 1

Sequence of operations:

- 1) Turn on a hot water tap to bring the boiler up to maximum hot water power.

- 2) Calibrate the air signal using the maximum fan power adjustment trimmer [MAX. - Drawing 3] to obtain the figure in mmH₂O shown in the table:

30/50 BF	
G20	85/95
G31	89/101

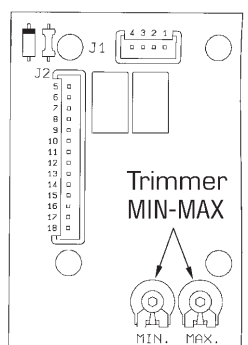


Drawing 2

- 3) Turn the heating power trimmer anticlockwise to the bottom of the scale [B - Drawing 2].

- 4) Calibrate the air signal using the minimum fan power adjustment trimmer [MIN. - Drawing 3] to obtain the figure in mmH₂O shown in the table:

30/50 BF	
G20	7,6/8,0
G31	7,3/7,6



Drawing 3

GAS CALIBRATION

Connect the differential manometer (+ sign) with decimal scale in mm or Pascal to the gas intake [4 - Drawing 4].

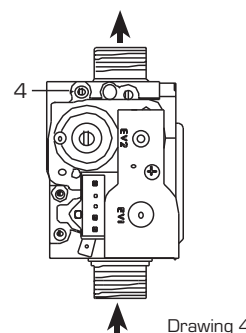
Sequence of operations:

- 1) Turn the heating power adjustment trimmer anticlockwise to the bottom of the scale [B - Drawing 5].

- 2) Open the gas capacity step all the way [5 - Drawing 6].

- 3) Calibrate minimum gas pressure using the OFF-SET adjustment screw [6 - Drawing 6] to obtain the figure in mmH₂O shown in the table:

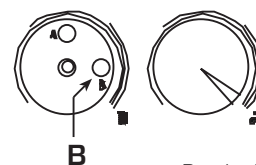
30/50 BF	
G20	7,2/7,5
G31	7,3/7,6



Drawing 4

- 4) Close the gas capacity step [5 - Drawing 6] to obtain the value in mmH₂O shown in the table:

30/50 BF	
G20	6,9/7,2
G31	7,2/7,5

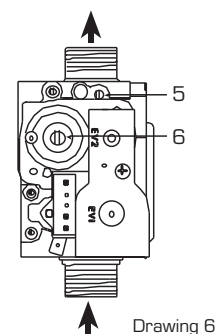


Drawing 5

- 5) Turn on a hot water tap to bring the boiler up to maximum hot water power.

- 6) Calibrate the maximum gas pressure using the gas capacity step [5 - Drawing 6] to obtain the figure in mmH₂O shown in the table:

30/50 BF	
G20	77/87
G31	86/96



Drawing 6

After completion of calibration operations, check CO₂ values using a combustion analyser. If discrepancies are found with respect to the values appearing in the tables, correct as necessary:

"Planet Dewy 30/50 BF"		
	CO ₂ (Methane)	CO ₂ (Propane)
"MIN" power	9,0 ±0,3	10,0 ±0,2
"MAX" power	9,0 ±0,3	10,0 ±0,2

- Use the OFFSET screw [6 - Drawing 6] to correct CO₂ at "MIN" output.
- Use the capacity step to correct CO₂ at "MAX" output [5 - Drawing 6].

Fig. 24

4.5 DISASSEMBLY OF EXPANSION VESSEL

To disassemble the expansion vessel, proceed as follows:

- Make sure that the water has been emptied out of the boiler.
- Unscrew the connection and the locknut.
- Remove the expansion vessel.

Before refilling the system, using a pressure gauge attached to the valve make sure that the expansion vessel is preloaded at a pressure of 0.8 to 1 bar.

4.6 CLEANING AND MAINTENANCE

Preventive maintenance and checking of efficient operation of equipment and safety devices must be carried out exclusively by authorized technical personnel.

During maintenance operations the authorised technician must check that the syphoned drip is full of water (this check is of importance particularly when the generator has been out of use for a long period of time). Filling is done via the special opening (fig. 24/a).

4.6.1 Chimney sweep function

To carry out the verification of combustion in the boiler, turn the selector and stop on the position (☹) until the orange led (III) starts to flash intermittently (fig. 25).

From that moment the boiler will start functioning in heating mode at the maximum power, with switching off at 80°C and restarting at 70°C.

Before activating the chimney sweep function make sure that the radiator valves or eventual zone valves are open.

The test may be carried out also during hot water functioning.

To do so it is enough, after having activated the chimney sweep function, to take some hot water from one or more taps; after a few minutes the request of the hot-water service feeler is activated and it automatically switches on the led (☹).

Even in this condition the boiler functions at the maximum temperature always with the primary controlled between 80°C and 70°C. During the entire duration of the testing the hot water taps must remain open. After verifying the combustion the boiler should be switched off by placing the selector on the (OFF) position; then return the selector to the desired function.

ATTENTION: After about 15 minutes the chimney sweep function automatically deactivates.

4.7 ROUTINE SERVICING

To ensure continued efficient operation of the appliance, it is recommended that it is

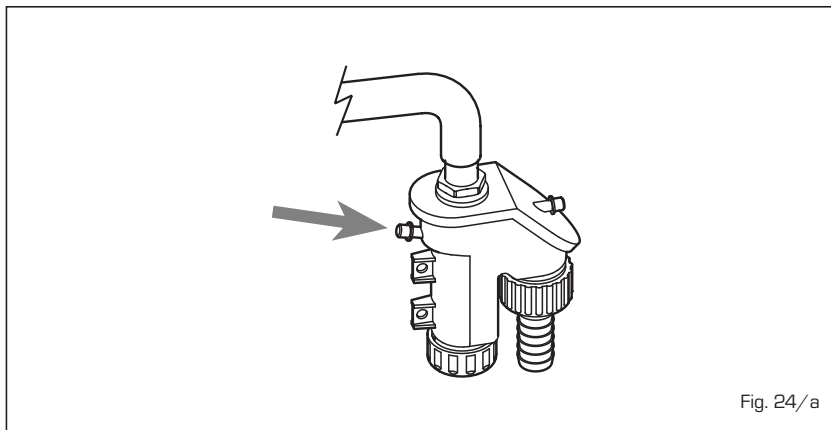


Fig. 24/a

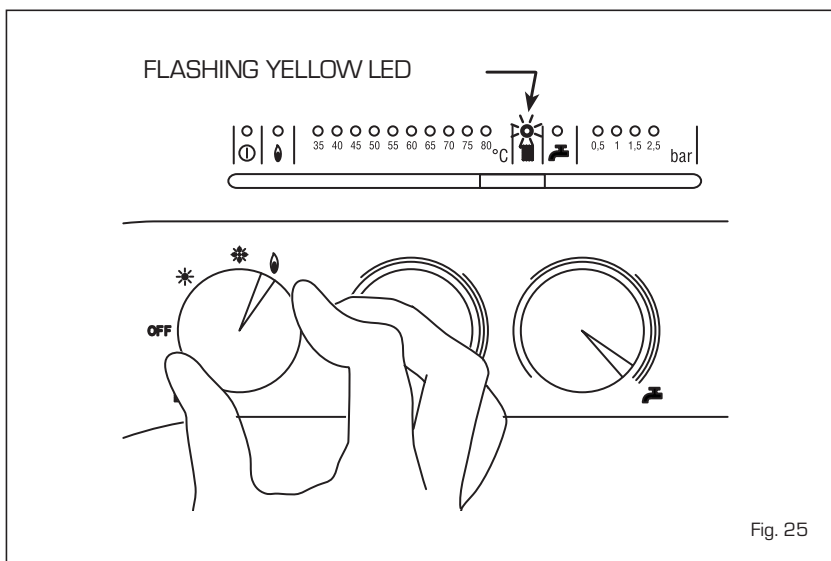


Fig. 25

checked and serviced at regular intervals. The frequency of service will depend on the particular installation and conditions of usage, but in general once a year should be adequate.

It is the law that a competent person such as a Gas Safe Register registered engineer, must carry out any service work.

4.7.1 Combustion Check

Incorporated into the flue elbow or vertical adaptor is a sampling point.

The grey plastic cap should be unscrewed and the flue gas sampled using a flue gas analyser.

During the test the boiler can be operated in "chimney sweep mode" see 4.6.1.

The correct CO₂ reading can be found in section 4.4.

4.7.2 Burner inspection

Remove the burner as described in section 5.5.

Inspect the burner and if necessary clean using a soft brush, taking care not to damage the front insulation.

Check the Ignition/ionisation electrode,

check the gap (4mm+/- 0.5mm)

Before reassembly inspect all seals and replace as required.

4.7.3 Combustion Chamber

Remove any loose debris from the combustion chamber using a soft brush and a vacuum cleaner.

Take care not to damage the rear insulation panel.

4.7.4 Condensate Trap

The condensate trap would not normally require removal during service, but can be checked whilst the burner assembly is removed.

Carefully pour water into the heat exchanger and check that it flows freely to the drain. Should it require removal, firstly remove the two wire clips securing the condensate drain rubber pipe to the heat exchanger and the condensate trap.

Remove the pipe.

Remove the 1/2 " nut securing the condensate trap to the combustion compartment.

Disconnect the drain pipe from the trap.

Clean the trap and refit in reverse order.

SERVICE RECORD

It is recommended that your heating system is serviced regularly and that the appropriate Service Record is completed.

Service Provider

Before completing the appropriate Service Record below, please ensure you have carried out the service as described in the manufacturer's instructions.

Always use the manufacturer's specified spare part when replacing controls.

SERVICE 1 Date

Energy Efficiency Checklist completed? Yes No

Engineer Name _____

Company Name _____

Telephone Number _____

GAS SAFE REGISTER ID Number _____

Comments _____

Signature _____

SERVICE 2 Date

Energy Efficiency Checklist completed? Yes No

Engineer Name _____

Company Name _____

Telephone Number _____

GAS SAFE REGISTER ID Number _____

Comments _____

Signature _____

SERVICE 3 Date

Energy Efficiency Checklist completed? Yes No

Engineer Name _____

Company Name _____

Telephone Number _____

GAS SAFE REGISTER ID Number _____

Comments _____

Signature _____

SERVICE 4 Date

Energy Efficiency Checklist completed? Yes No

Engineer Name _____

Company Name _____

Telephone Number _____

GAS SAFE REGISTER ID Number _____

Comments _____

Signature _____

SERVICE 5 Date

Energy Efficiency Checklist completed? Yes No

Engineer Name _____

Company Name _____

Telephone Number _____

GAS SAFE REGISTER ID Number _____

Comments _____

Signature _____

SERVICE 6 Date

Energy Efficiency Checklist completed? Yes No

Engineer Name _____

Company Name _____

Telephone Number _____

GAS SAFE REGISTER ID Number _____

Comments _____

Signature _____

SERVICE 7 Date

Energy Efficiency Checklist completed? Yes No

Engineer Name _____

Company Name _____

Telephone Number _____

GAS SAFE REGISTER ID Number _____

Comments _____

Signature _____

SERVICE 8 Date

Energy Efficiency Checklist completed? Yes No

Engineer Name _____

Company Name _____

Telephone Number _____

GAS SAFE REGISTER ID Number _____

Comments _____

Signature _____

SERVICE 9 Date

Energy Efficiency Checklist completed? Yes No

Engineer Name _____

Company Name _____

Telephone Number _____

GAS SAFE REGISTER ID Number _____

Comments _____

Signature _____

SERVICE 10 Date

Energy Efficiency Checklist completed? Yes No

Engineer Name _____

Company Name _____

Telephone Number _____

GAS SAFE REGISTER ID Number _____

Comments _____

Signature _____

MAINS PRESSURE HOT WATER STORAGE SYSTEM COMMISSIONING CHECKLIST

This Commissioning Checklist is to be completed in full by the competent person who commissioned the storage system as a means of demonstrating compliance with the appropriate Building Regulations and then handed to the customer to keep for future reference.

Failure to install and commission this equipment to the manufacturer's instructions may invalidate the warranty but does not affect statutory rights.

Customer Name _____ Telephone Number _____
 Address _____
 Cylinder Make and Model _____
 Cylinder Serial Number _____
 Commissioned by (*print name*) _____ Registered Operative ID Number _____
 Company Name _____ Telephone Number _____
 Company Address _____
 _____ Commissioning Date _____

To be completed by the customer on receipt of a Building Regulations Compliance Certificate*:

Building Regulations Notification Number (*if applicable*) _____

ALL SYSTEMS PRIMARY SETTINGS (indirect heating only)

Is the primary circuit a sealed or open vented system? Sealed Open
 What is the maximum primary flow temperature? _____ °C

ALL SYSTEMS

What is the incoming static cold water pressure at the inlet to the system? _____ bar
 Has a strainer been cleaned of installation debris (if fitted)? Yes No
 Is the installation in a hard water area (above 200ppm)? Yes No
 If yes, has a water scale reducer been fitted? Yes No
 What type of scale reducer has been fitted? _____
 What is the hot water thermostat set temperature? _____ °C
 What is the maximum hot water flow rate at set thermostat temperature (measured at high flow outlet)? _____ l/min
 Time and temperature controls have been fitted in compliance with Part L of the Building Regulations? Yes
 Type of control system (if applicable) Y Plan S Plan Other
 Is the cylinder solar (or other renewable) compatible? Yes No
 What is the hot water temperature at the nearest outlet? _____ °C
 All appropriate pipes have been insulated up to 1 metre or the point where they become concealed Yes

UNVENTED SYSTEMS ONLY

Where is the pressure reducing valve situated (if fitted)? _____
 What is the pressure reducing valve setting? _____ bar
 Has a combined temperature and pressure relief valve and expansion valve been fitted and discharge tested? Yes No
 The tundish and discharge pipework have been connected and terminated to Part G of the Building Regulations Yes
 Are all energy sources fitted with a cut out device? Yes No
 Has the expansion vessel or internal air space been checked? Yes No

THERMAL STORES ONLY

What store temperature is achievable? _____ °C
 What is the maximum hot water temperature? _____ °C

ALL INSTALLATIONS

The hot water system complies with the appropriate Building Regulations Yes
 The system has been installed and commissioned in accordance with the manufacturer's instructions Yes
 The system controls have been demonstrated to and understood by the customer Yes
 The manufacturer's literature, including Benchmark Checklist and Service Record, has been explained and left with the customer Yes

Commissioning Engineer's Signature _____

Customer's Signature _____
 (*To confirm satisfactory demonstration and receipt of manufacturer's literature*)

*All installations in England and Wales must be notified to Local Authority Building Control (LABC) either directly or through a Competent Persons Scheme. A Building Regulations Compliance Certificate will then be issued to the customer.



5 REPLACEMENT OF PARTS

5.1 DHW expansion vessel

- Turn off power supply
- Remove boiler cover
- Isolate cold water supply
- Drain storage cylinder
- Disconnect DHW expansion pipe
- Remove expansion vessel locking nut
- Lift out expansion vessel
- Check pressure in new vessel (3 bar)
- Refit in reverse order.

5.2 CH expansion vessel

- Turn off power supply
- Remove boiler cover
- Remove front panel
- Isolate flow and return valves
- Drain boiler using drain vents(do not use pressure relief valve)
- Disconnect expansion pipe
- Remove expansion vessel locking nut
- Loosen fixing bracket screws
- Remove expansion vessel
- Check pressure in new vessel (1bar)
- Refit in reverse order.

5.3 Ignition electrode

- Turn off power supply
- Remove boiler cover
- Remove sealed cover
- Disconnect electrode from ignition transformer
- Pull lead through grommet
- Remove electrode fixing screws
- Remove electrode
- Refit in reverse order.

5.4 Ionisation electrode

- Turn off power supply
- Remove boiler cover
- Remove sealed chamber cover
- Disconnect lead from ionisation electrode
- Remove electrode fixing screws
- Remove electrode
- Refit in reverse order

5.5 Main burner

- Turn off power supply
- Isolate the gas supply
- Remove boiler cover
- Remove sealed chamber cover
- Disconnect gas connection at burner
- Disconnect air sensing tube
- Disconnect two plugs at fan
- Disconnect Ignition electrode at ignition transformer
- Pull lead through grommet
- Disconnect ionisation electrode
- Remove 6 x 10 mm nuts securing burner to heat exchanger
- Carefully lift out burner assembly
- Refit in reverse order

- Test for gas soundness.

5.6 Main heat exchanger

- Turn off power supply
- Isolate gas supply
- Isolate flow and return valves
- Drain boiler using drain vent(do not use pressure relief valve)
- Remove main burner as described in 5.5
- Disconnect 90° stat
- Remove auto air vent
- Disconnect condensate drain from burner
- Disconnect flow and return connections
- Remove two fixing brackets
- Carefully remove heat exchanger, to avoid damage to rear seal
- Refit in reverse order
- Re commission boiler
- Test for gas soundness.

5.7 95° Smoke stat

- Turn off power supply
- Remove boiler cover
- Remove sealed chamber cover
- Disconnect 95° stat
- Unscrew stat from smoke chamber
- Refit in reverse order.

5.8 90° limit stat (dry pocket)

- Turn off power supply
- Remove boiler cover
- Remove sealed chamber cover
- Disconnect wiring to the 90° stat
- Unscrew the 90° stat
- Refit in reverse order.

5.9 100° Safety stat

- Turn off power supply
- Remove boiler cover
- Remove sealed chamber cover
- Disconnect wiring to 100° stat
- Remove fixing screws
- Refit in reverse order.

5.10 Thermister (SM sensor) (wet pocket)

- Turn off power supply
- Remove boiler cover
- Isolate flow and return valves
- Drain boiler using drain vent(do not use pressure relief valve)
- Disconnect thermister
- Remove thermister(catch any water lost)
- Refit in reverse order.

5.11 Gas valve

- Turn off power supply

- Isolate gas supply
- Remove boiler cover
- Remove 2 screws securing control panel
- Lower control panel to horizontal position
- Disconnect electrical wiring
- Disconnect sensing tube
- Disconnect gas connection to gas valve
- Remove gas valve securing nut
- Disconnect burner connection
- Refit in reverse order ensuring seals are replaced as required
- Recommission boiler
- Check for gas soundness.

5.12 Printed circuit board

- Isolate boiler from power supply
- Remove 2 screws securing control panel
- Lower control panel to horizontal position
- Remove PCB cover
- Disconnect all wiring to PCB
- Remove heat control knobs
- Remove PCB securing screws
- Transfer trimmer spindles to new PCB
- Ensure PCB links and switches on new PCB are in correct positions
- Refit in reverse order
- Recommission boiler

5.13 Fan control board

- As PCB 5.12.

5.14 Pump (same procedure for both pumps)

- Turn off power supply
- Isolate flow and return valves
- Remove boiler cover
- Remove 2 screws securing control panel
- Lower control panel to horizontal position
- Drain boiler (do not use pressure relief valve)
- Protect wiring from any water lost when removing pump
- Remove electrical connection to pump
- Remove pump complete with non return valve and air separator
- Transfer non return valve and air separator to new pump using new washers as required
- Refit in reverse order

5.15 Top Auto air vent

- Turn off power supply
- Remove boiler cover
- Isolate gas supply
- Isolate flow and return valves
- Drain boiler using drain vent(do not use pressure relief valve)

- Remove sealed chamber cover
- Remove auto air vent
- Refit in reverse order

5.16 3 bar pressure relief valve

- Turn off power supply
- Remove boiler cover
- Isolate flow and return valves
- Drain boiler using drain vent
- Protect wiring from any water lost when removing pressure relief valve
- Remove pressure relief valve
- Refit in reverse order using new seals as required.

5.17 7bar pressure and temperature relief valve

- Turn off power supply
- Remove boiler cover
- Remove front panel
- Isolate water supply to boiler
- Open hot tap
- Drain storage vessel
- Protect wiring from any water lost when removing pressure relief valve
- Disconnect pressure relief pipe
- Important Hold securely the hexagonal extension before unscrewing the pressure relief valve
- Unscrew pressure relief valve
- Refit in reverse replacing seals as required.

5.18 Transducer

- Turn off power supply
- Remove boiler cover
- Isolate flow and return valves
- Drain boiler using drain vent (do not use pressure relief valve)
- Protect wiring from any water lost when removing transducer
- Disconnect plug from transducer
- Unscrew transducer from pipework
- Replace O ring seal
- Refit in reverse order.

5.19 Fan

- Remove burner as described in 5.5
- Remove 4 x 8 mm bolts securing fan to burner assembly
- Transfer restrictor from old fan to new fan
- Refit in fan to burner ensuring the arrow on the injector is pointing from the fan to the burner
- Refit in reverse order.

5.20 Storage cylinder

- Turn off power supply
- Remove boiler cover

- Protect wiring from any water lost when removing water connections
- Isolate flow and return valves
- Drain boiler using drain vent
- Isolate water supply to boiler
- Drain cylinder
- Remove front panel
- If possible remove RHS panel
- Remove expansion vessel 5.2
- Disconnect cylinder stat
- Disconnect all pipework from cylinder
- Disconnect water supply
- Disconnect DHW connection
- Remove 2 x locknuts from connections to cylinder
- Carefully lift out cylinder
- Refit in reverse order replacing seals as requires.

5.21 Cylinder stat (DHW sensor)

- Turn off power supply
- Remove boiler cover
- Isolate water supply to boiler
- Drain cylinder
- Remove boiler cover
- Remove front panel
- If possible remove RHS panel, otherwise remove expansion vessel as described in 5.2
- Disconnect DHW sensor
- Unscrew sensor
- Replace in reverse order replacing seals as required.

5.22 Condensate trap

- Turn off power supply
- Isolate the gas supply
- Remove boiler cover
- Remove sealed chamber cover
- Remove wire clip securing condensate pipe to the trap
- Disconnect the pipe
- Disconnect the condensate drain
- Remove nut securing condensate trap to sealed chamber.
- Refit in reverse order.

5.23 Flow switch

- Turn off power supply
- Remove boiler cover
- Isolate flow and return valves
- Drain boiler using drain vent (do not use pressure relief valve)
- Protect wiring from any water lost when removing the flow switch assembly
- Remove flow switch cover
- Remove flow switch microswitch
- Remove 2 x clips securing pipe connections
- Carefully remove pipes
- Refit in reverse order (use silicone grease to ease refitting of pipes to flow switch assembly).

5.24 Ignition transformer

- Isolate boiler from power supply
- Remove 2 screws securing control panel
- Lower control panel to horizontal position
- Remove PCB cover
- Disconnect ignition transformer from PCB
- Disconnect ignition electrode from ignition transformer
- Remove ignition transformer fixing screws
- Refit in reverse order.

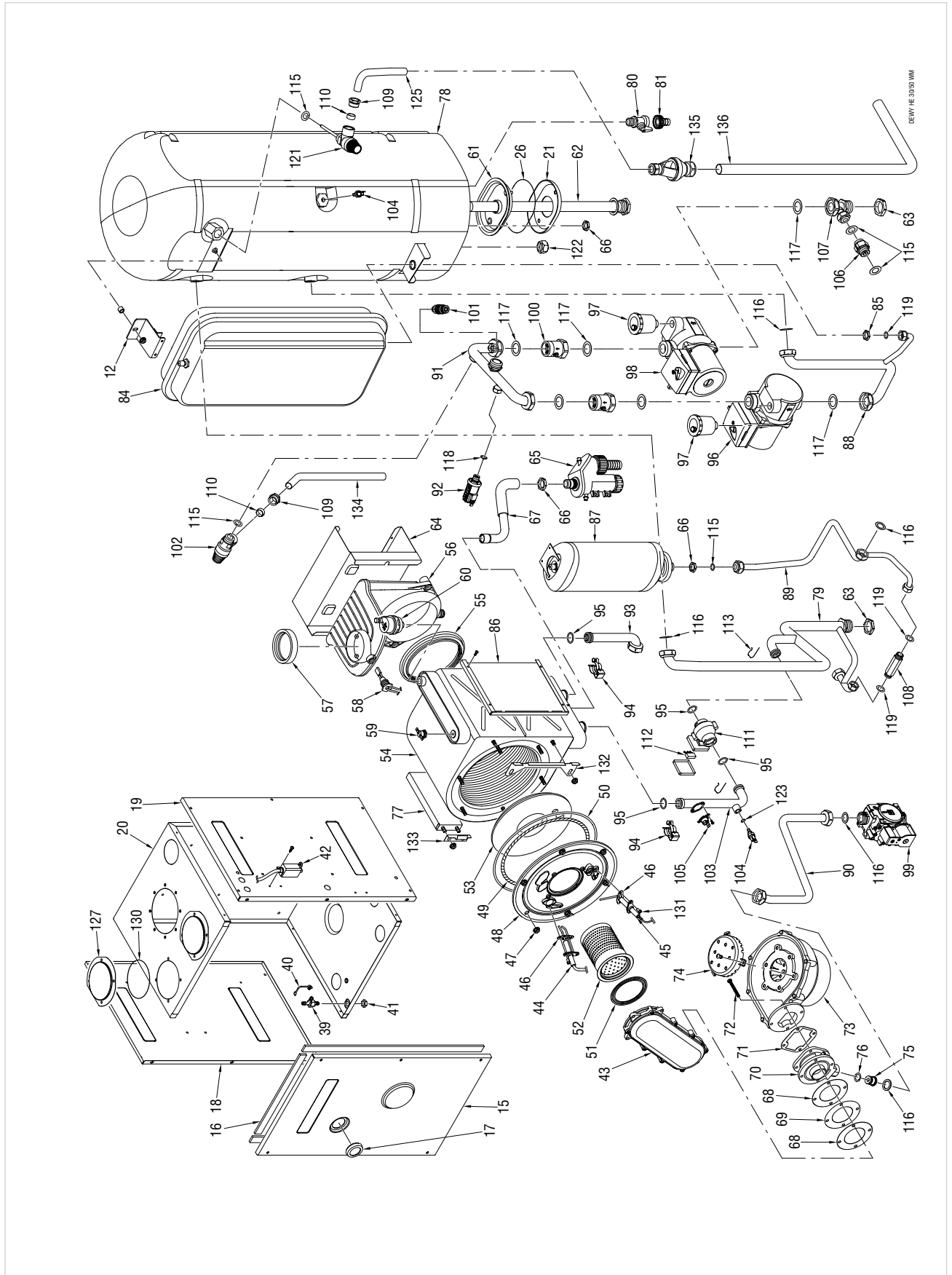
6 EXPLODED VIEWS

COD. 3830011/158

TYPE DEWY HE 30/50 WM

DATE 11.10.2007

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DEWY HE 30/50 WM

POSITION	CODE	DESCRIPTION	MODEL	NOTE
1	6138556	Right/left hand side frame part		
2	6242115	Casing right hand side panel		
3	6242215	Casing left hand side panel		
4	6279605	Casing front panel extension		
5	6273517	Casing front panel		
6	6247328	Cap for time programmer		
7	6267104	Casing front panel fixing bracket		
8	6138711	Frame assembly upper support		
9	6256708	Sealed chamber rear support		
10	6267103	Sealed chamber fixing bracket		
11	6267107	D.H.W. expans. vessel locking bracket		
12	6267105	Expansion vessel locking bracket		
13	6138832	Frame assembly lower side		
14	6250012	Control panel R.H. side supp. bracket		
15	6228865	Sealed chamber front panel		
16	• 5192204	Gasket for sealed chamber		
17	6001210	Peephole		
18	6266122	Sealed chamber left hand side panel		
19	6266123	Sealed chamber right hand side panel		
20	6266037	Sealed chamber rear panel		
21	6258312	D.H.W. cylinder counterflange		
22	6267106	D.H.W. expans. vessel lower support		
23	6272900	Control panel		
24	6273000	Control panel protecting cover		
25	6273100	Room stat cover		
26	6052705	Gasket for D.H.W. cylinder flange		
27	6230921	Knob Ø 40		
28	• 6260501	Fan driver PCB		
29	6273200	Guidelight - 12 ways out		
30	6273201	Guidelight - 6 ways out		
31	6230683	Main PCB with ignition		
32	6201501	Trimmer spindle Ø 5		
33	6201502	Trimmer spindle Ø 6		
34	6201503	Selector spindle		
35	2211610	Earth faston		
36	• 6240703	Transformer 230/24V		
37	6201504	Trimmer spindle Ø 5 L=34		
38	2213230	Spacer h=6.4		
39	6280500	3-ways junct. with press. test nipple		
40	6280550	Cap for 3-ways junction		
41	6146303	Brass Nut. 1/8"		
42	6098309	Ignition transformer		
43	6278802	Air-gas hose		
44	6221626	Ignition electrode		
45	• 6221623	Ionisation electrode		
46	• 6174809	Gasket for ignition electrode		
47	2010183	Nut for exchanger flange		
48	6278852	Main exchanger door		
49	6278968	Glass fibre sealing cord		
50	6278967	Combustion chamber O-ring		
51	• 6174817	Gasket for burner flange		
52	• 6278305	Premix burner		
53	6269007	Main exchanger door insulation		
54	• 6278906	Main exchanger body		
55	6028740	Smoke chamber/exchanger gasket		
56	• 6278701	Smoke chamber		
57	6248851	Smoke chamber outlet gasket		
58	• 5191990	Smoke stat kit		
59	• 6146721	Limit strat		
60	• 6013102	Automatic air vent 1/4"		
61	6258311	D.H.W. cylinder flange		
62	6072708	Magnesium anode + plug 3/4" + OR		
63	6146302	Brass nut 3/4"		
64	6010811	Smoke chamber fixing panel		
65	• 6277204	Water trap		
66	6146301	Brass nut 1/2"		
67	6034152	Condensate drainage rubber pipe		
68	6174812	Mixer/hose gasket		
69	6239206	Mixer closing plate		
70	6274307	Air/gas mixer		
71	6174816	Gasket for fan flange		
72	2000507	Screw TE M5x50		
73	• 6261403	Fan RG128/1300-3612		
74	6028645	Air diaphragm		
75	6274124	Burner nozzle ø 7.00 natural gas		
75 A	6274123	Main burner nozzle Ø 5.00 LPG		

• Recommended stock parts - Componenti da tenere a scorta

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POSITION	CODE	DESCRIPTION	MODEL	NOTE	POSITION	CODE	DESCRIPTION	MODEL	NOTE
76	6226414	O-ring 117 Ø 13,1x2,62 EP851			114	6273301	Flap door		
77	6010813	Main exchanger L.H. side support			115	2030227	Gasket Ø 12x18x2		
78	5194300	Insulated stainless steel tank 50 l			116	2030228	Gasket Ø 17x24x2		
79	6216230	C.H. system flow pipe			117	2030229	Gasket Ø 22x30x2		
80	6179100	Drain cock 3/8"			118	2030225	Gasket Ø 5,5x11x2		
81	6179200	Holder complete with locking nut			119	2030226	Gasket Ø 10,2x14,8x2		
82	6177519	Cock 1/2" x 15			120	2030235	Gasket Ø 13,3x18,3x2		
83	6177526	Gas cock 1/2"			121	6029002	Pressure relief valve 1/2" - 7 bar		
84	5183720	Rectang. expansion vessel 10 l. 3/8" M			122	6229500	Plug 1/2"		
85	6146305	Brass Nut 3/8"			123	6022010	Sensor gasket		
86	6010815	Main exchanger R.H. side support			125	6157620	Tank pressure relief valve drain pipe		
87	6245106	D.H.W. expansion vessel 2 l.			126	2003000	Pin M5 Zn		
88	6216010	D.H.W. cylinder return pipe			127	6029100	Blind inlet flange		
89	6227660	D.H.W. expansion vessel connect. pipe			128	6281402	Water rate adjuster 15 l/min		
90	6277406	Pipe connecting gas valve-mixer			129	2015000	Spring clip MD/AB		
91	6215506	Pump-exchanger connecting pipe			130	6226405	O-ring 66,04x5,33		
92	6273603	Water pressure transducer kit			131	6242605	Screw TE M4x8		
93	6227422	Inlet pipe to the heat exchanger			132	6010812	Main exchanger R.H. fixing bracket		
94	6226601	Spring for heat exchanger connection			133	6010814	Main exchanger L.H. fixing bracket		
95	6226412	O-ring 3068			134	6157618	Pressure relief valve drain pipe		
96	6124808	Circulating pump Grundfos UPS 15-50			135	6269405	Tundish		
97	6013100	Automatic air vent 3/8"			136	6157622	Tank pressure relief valve drain pipe		
98	6124806	Grundfos circulating pump UPS 15-60			137	2013302	Fastener for self tapping screw		
99	6243826	SIT 848 SIGMA gas valve			138	6142330	Quarter bend 1/2" x 15		
100	6238303	Non return valve 1" Mx1" F			139	6177505	Ball cock 3/4" x 22		
101	6017210	Manual air vent 1/4"				5188447	Complete control panel		
102	6040202	Pressure relief valve 1/2" 3 bar				6127210	Main cable L=2000		
103	6277713	Main exchanger outlet pipe				6186588	Ionisation lead L=800		
104	6231351	Plunged sensor				6278613	8 pole cable connector TA-CRSE-SB		
105	6146701	100°C safety stat				6278636	4 pole female cable connector J7		
106	6270900	Bypass				6278699	Circulating pump connector L=720		
107	6227415	C.H. system return pipe				6299900	14 pole main PCB cable connector J2		
108	6268520	Connecting pipe				6299901	6 pole main PCB cable connector J5		
109	6168401	Locking nut for pipe Ø 15				6299902	6 pole main PCB cable connector J3		
110	6100202	Ogive for pipe Ø 15				6299903	4 pole main PCB cable connector J1		
111	6149809	Flow water switch				6299904	7 pole main PCB cable connector J4		
112	6131401	Microswitch for flowmeter				6299905	2 pole Lumberg cable connector		
113	6226602	Pipe fixing spring				5185131	Conversion kit to LPG		

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COD. **3830011/158** TYPE **DEWY HE 30/50 WM** DATE **11.10..2007** PAGE **5/5**

POSITION	CODE	DESCRIPTION	MODEL	NOTE	POSITION	CODE	DESCRIPTION	MODEL	NOTE
	6233506	Fuse T1,6A 250V							
	8085606	90° elbow with take-off points							
	8102110	Gasket and flange kit							
Products reference:									
	8102702	Dewy HE 30_50 WM							
Check the correspondence with the boiler data plate.									

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