INSTALLER INSTRUCTIONS

CONTENTS

1	DESCRIPTION OF THE BOILER	page	82
2	INSTALLATION	page	84
3	CHARACTERISTICS	page	93
4	USE AND MAINTENANCE	page	96

FONDERIE SIME S.p.A. of Via Garbo 27 - Legnago (VR) - Italy declares that its hot water boilers, which bear the CE mark under Gas Directive 90/396/CEE and are fitted with a safety thermostat calibrated to a maximum of $110^{\circ}C$, **are not subject** to application of PED Directive 97/23/CEE as they meet the requirements of article 1 paragraph 3.6 of the Directive.

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 syphened drip is fully filled with water. If necessary, fill it via the special opening.

1 DESCRIPTION OF THE BOILER

1.1 INTRODUCTION

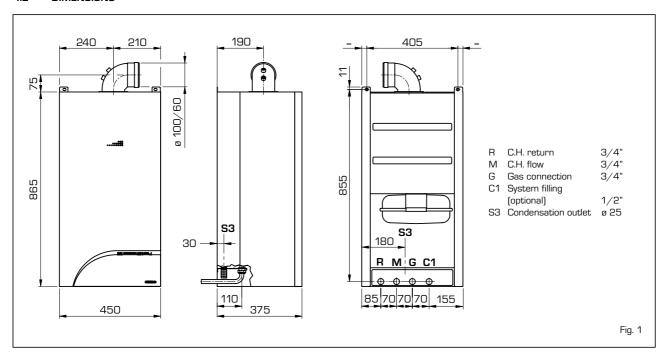
"PLANET DEWY 30 BFR" boilers are premix condensation thermal appliances intended for heating only, integrated in modular units of three or four boilers independent of one another installed in a sequence or in cascade. They comply with the european directives 90/396/CEE, 89/336/CEE, 73/23/CEE, 92/42/CEE and with the european specification EN 483.

In the case of installation in modular units, two kit are supplied for hydraulic and electrical connection and release of flue gases for three boilers in sequences, including assembly instructions:

- kit code 8101300 for connection of three boilers in sequence.
- kit code 8101400 for connection of four boilers in sequence.

The instructions given in this manual are provided to ensure proper installation and perfect operation of the appliance.

1.2 DIMENSIONS

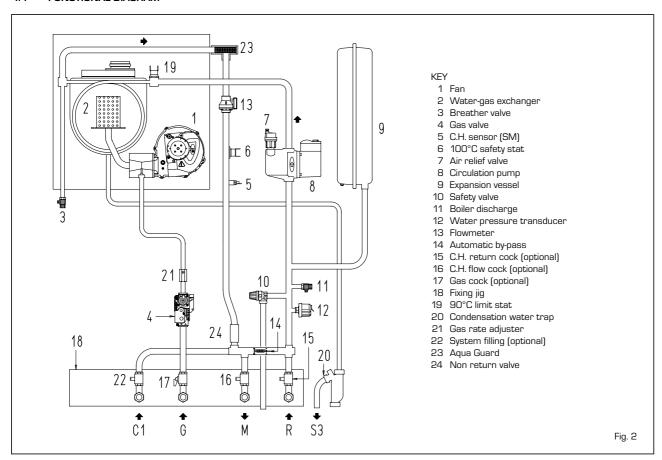


1.3 TECHNICAL FEATURES

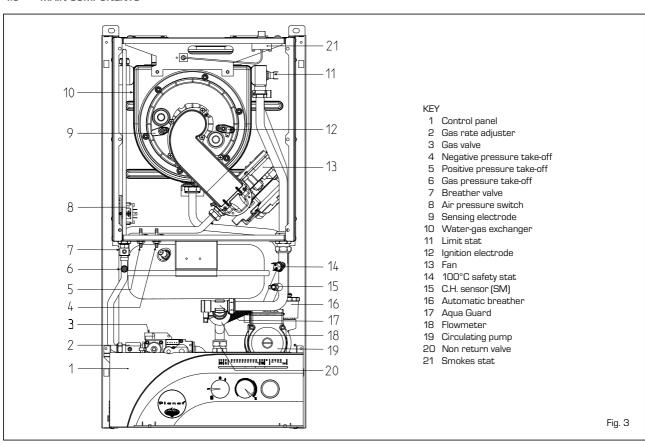
		30 BFR
Heat output		
Nominal (80-60°C)	kW (kcal/h)	28,3 (24.300)
Minimum (80-60°C)	kW (kcal/h)	10,4 (9.000)
Nominal (50-30°C)	kW (kcal/h)	31,0 (27.000)
Minimum (50-30°C)	kW (kcal/h)	11,4 (9.800)
Heat input		
Nominal/Minimum	kW	29,0/10,8
Efficiency (80-60°C)		
Nominal/Minimum output	%	97,7/96,7
Efficiency (50-30°C)		
Nominal/Minimum output	%	106,8 / 105,8
Water content	I	6,0
Adsorbed power consumption	ı W	175
Electrical protection grade		IP X4D
Maximum water head	bar	4
Maximum temperature	°C	85
Expansion vessel		
Capacity	I	8
Preloading pressure	bar	1
C.H. setting range	°C	20÷80

		30 BFR
Smokes temperature		
Maximum/ Minimum (80-60°C)	°C	70 / 69
Maximum/ Minimum (50-30°C)	°C	48 / 45
Smokes flow	kg/h	47,5
Category		II2H3P
Туре		B23 - C13-33-43-53-83
Weight	kg	49
Main burner nozzles		
Quantity	n°	1
G20	ø mm	6,0
G31	ø mm	4,3
Gas consumption		
Nominal / Minimum (G20)	m³st/h	3,06 / 1,14
Nominal / Minimum (G31)	kg/h	1,18 / 0,44
Gas supply pressure		
G20	mbar	20
G31 (Propan)	mbar	37
CO2 % methane (G20)	min/max	9,2 / 9,3
CO2 % propan (G31)	min/max	10,1 / 10,3
CO emissions	ppm	27
NOx emissions (Class 5)	ppm	35

1.4 FUNCTIONAL DIAGRAM



1.5 MAIN COMPONENTS



2 INSTALLATION

The boiler must be installed in a fixed location and only by specialized and qualified firms in compliance with all instructions contained in this manual.

Furthermore, the installation must be in accordance with current standards and regulations.

2.1 BOILER ROOM

The "PLANET DEWY 30 BFR" version boilers can be installed in any domestic environment without any location restrictions or comburent air requirements.

The following optional accessories are available to facilitate water and gas connection of the boiler with the heating system:

- fixing jig code 8081205
- codos kit code 8075418
- cock kit code 8091806
- system filling kit code 8094010
- kit for replacement of other brands' wallmounted units code 8093900.

Detailed instructions for assembly of the unions are provided with the kits.

2.2 INSTALLATION OF MULTIPLE BOILERS IN MODULAR UNITS USING THE SUITABLE KIT

Installation of modular plants consisting of three or four appliances for the same use in the same room or in adjoining rooms with a total input of over 70 kW, is considered part of a single plant, meaning that the size and characteristics of the boiler room must comply with current safety regulations.

The distance between the walls of the room and the external points of the boiler (right, left and rear panels) must not be less than 0.5 m. To ensure adequate airing of the room, ventilation inlets with the surface areas laid down by the UNE 60-601 standard must be made in the external walls.

2.3 CONNECTING UP SYSTEM

Before proceeding to connect up the boiler, you are recommended to make the air circulating in the piping in order to eliminate any foreign bodies that might be detrimental to the operating efficiency of the appliance. When making the hydraulic connections, make sure that the dimensions indicated in fig. 1 are respected.

The discharge pipe of the safety valve must be connected to a collector funnel for channelling away any discharge if the safety valve goes into action.

Gas connections must comply with UNI 7129/92 and UNI7131/99 standards. When sizing gas piping, from the meter to the boiler, take into account both the volume flow rates (consumption) in m³/h and the relative density of the gas in question. The sections of the piping making up the system must be such as to guarantee a

supply of gas sufficient to cover the maximum demand, limiting pressure loss between the gas meter and any apparatus being used to not greater than 1.0 mbar for family II gases (natural gas).

An adhesive data plate is sticked inside the front panel; it contains all the technical data identifying the boiler and the type of gas for which the boiler is arranged.

2.3.1 Connection of condensation water trap

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

2.3.2 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 CHARACTERISTICS OF FEEDWATER

To prevent lime scale and damage to the tap water exchanger, the water supplied should have a hardness of no more than 20°F. In all cases the water used should be

tested and adequate treatment devices should be installed. To prevent lime scale or deposits on the primary exchanger, the water used to supply the heating circuit should must be treated in accordance with UNI-CTI 8065 standards.

It is absolutely essential that the water is to be treated in the following cases:

- Very extensive system (with high contents of feedwater).
- Frequent addition of makeup water into the system.
- Should it be necessary to empty the system either partially or totally.

2.5 SYSTEM FILLING

The charge pressure, with the system cold, must be **1 bar**.

Filling must be done slowly so as to allow any air bubbles to be bled off through the air valves. A system filling kit may be supplied on request containing assembly instructions

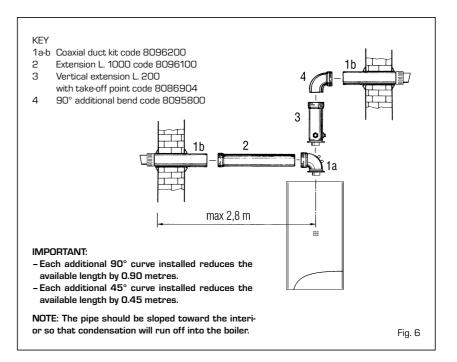
2.6 COAXIAL DUCT ø 60/100

The air inlet-smoke outlet assembly, code 8096200, 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 illustred in fig. 6.

With the pipe bend included in the kit, the maximum length of the piping should not



exceed 2.8 meter.

When the vertical extension code 8086904 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. 7.

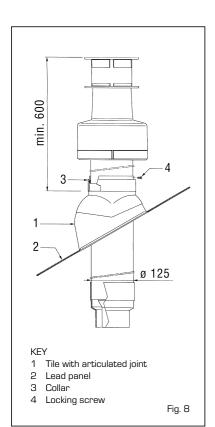
2.6.3 Coaxial duct outlet on the roof

The roof discharge terminal L. 1284 cannot be shortened and when positioning the tile, the minimum distance from the discharge head terminal must not be less than 600 mm (fig. 8).

The accessories to be used for this type of installation and some of the connecting systems that may be adopted are illustrated in fig. 9.

It is possible to insert up to a maximum of three extensions and reach a maximum rectilinear distance of 3.7 meter.

Should it be necessary to make two changes of direction in the pipe development, the maximum length of the pipe must not exceed 2 meter.



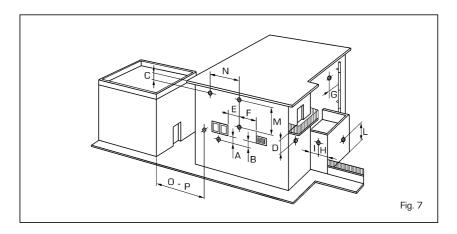
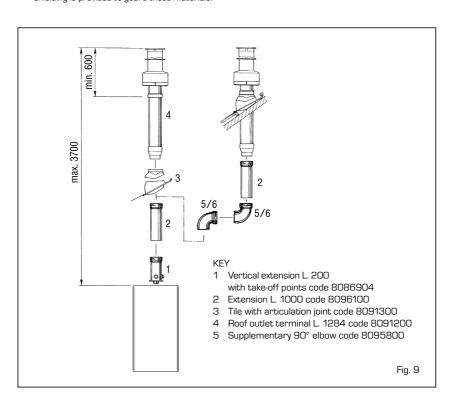


TABLE 1

Siting of terminal	Appliances from 7 to 35 kW
	(distances in mm)
A - below openable window	600
B - below ventilation opening	600
C - below eaves	300
D - below balcony (1)	300
E - from adjacent window	400
F - from adjacent ventilation opening	600
G - from horizontal or vertical soil or drain pipes (2)	300
H - from corner of building	300
I - from recess in building	300
L - from ground level or other treadable surface	2500
M - between two terminals set vertically	1500
N - between two terminals set horizontally	1000
O - from a surface facing without openings or terminals	2000
P - as above but with openings and terminals	3000

- 1) Terminals below a practicable balcony must be located in such a way that the total path of the smoke from its outlet point from the terminal to its outlet point from the external perimeter of the balcony, including the height of possible railings, is not less than 2000 mm.
- 2) When siting terminals, where materials that may be subject to the action of the combustion products are present in the vicinity, e.g., eaves, gutters and downspouts painted or made of plastic material, projecting timberwork, etc., distances of not less than 1500 mm must be adopted, unless adequate shielding is provided to guard these materials.



2.7 SEPARATE PIPES ø 80

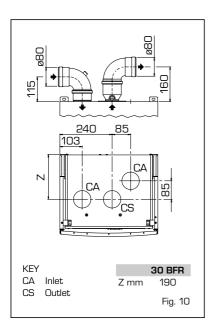
A special kit may be used to separate the flue gas outlet from the fresh air intake.

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. 10 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 15,5 mm $\rm H_2O$.

For head losses in the fittings, refer to ${f Table~2}$.



2.7.1 Separate pipe accessories

Kit code 8089903 is supplied for this purpose (fig. 11).

The sectored diaphragm is to be used according to the maximum head loss allowed in both pipes, as given in fig. 12.

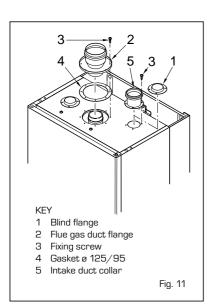
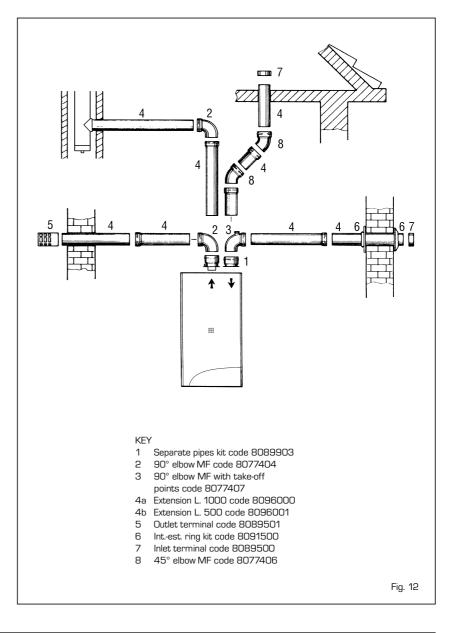


TABLE 2

Accessories ø 80	Total head loss (mm H2O)		
	Inlet	Outlet	Roof outlet
90° elbow MF	0,30	0,50	-
45° elbow MF	0,20	0,40	-
Extension L. 1000 (horizontal)	0,20	0,40	_
Extension L. 1000 (vertical)	0,30	0,30	-
Outlet terminal	_	0,40	_
Inlet terminal	0,10	-	-
Doubler fitting	0,30	_	_
Roof outlet terminal L.1390	-	-	0,60

Example of allowable installation calculation in that the sum of the head losses of the single fittings is less than 15,5 mm H2O: $\frac{1}{2} = \frac{1}{2} \left(\frac{1}{2} + \frac{1}{2} \right) \left(\frac{1}{2} + \frac{1}{2} + \frac{1}{2} \right) \left(\frac{1}{2} + \frac{1$

	Inlet	Outlet		
7 m horizontal pipe ø 80 x 0,20	1,40		-	
7 m horizontal pipe ø 80 x 0,30	-		2,10	
n° 2 90° elbows ø 80 x 0,30	0,60		-	
n° 2 90° elbows ø 80 x 0,40	-		0,80	
n° 1 terminal ø 80	0,10		0,30	
Total head loss	2,10	+	3,20	= 5,3 mm H2O



2.7.2 Connection with existing flues

The \emptyset 80 flue gas pipe may be connected to an existing flue.

When the "PLANET DEWY 30 BFR" boiler is running at a low temperature, a regular flue may be used under the following conditions:

- No other boiler must be using the flue.
- The flue interior must be shielded from direct contact with condensation from the boiler.

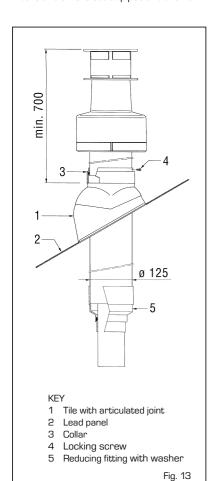
The products of combustion must be conveyed through a flexible or rigid plastic pipe around 100 to 150 mm in diameter, and condensation must be siphoned off at the foot of the pipe.

The usable height of the water trap must be at least 150 mm.

2.7.3 Separate-pipes roof outlet

The roof outlet terminal L. 1390 cannot be shortened and when positioning the tile, the minimum distance from the discharge head terminal must not be less than 700 mm (fig. 13). The accessories to be used for this type of installation and some of the connecting systems that may be adopted are illustrated in fig. 14.

There is the possibility of doubling the airintake and smoke-outlet pipes and then brin-



KEY Separate pipes kit code 8089903 2 90° elbow MF code 8077404 3 90° elbow MF with take-off points code 8077407 4 a Extension L. 1000 code 8096000 4 b Extension L. 500 code 8096001 Int.-est. ring kit code 8091500 Inlet terminal code 8089500 9 Doubler fitting code 8091400 10 Tile with articulated joint code 8091300 11 Roof outlet terminal L. 1390 code 8091201 12 Extension L. 135 min. with take-off points code 8077304 10 Fig. 14

ging them back together again so as to obtain a concentric discharge by using the doubler fitting (9 fig. 14).

In these cases, when assembling, recover the silicone gasket used on the terminal adapter [5 fig. 13], which is to be replaced by the doubler, and insert it into the seat made in the doubler. For this type of discharge the sum of the maximum rectilinear development allowed for the pipes must not exceed 15,5 mm $\rm H_2O$.

When calculating the lengths of pipe, take into account the parameters given in the **Table 2**.

2.8 ø 60 PIPING SYSTEM

A special kit allows to separate smoke outlet and air intake pipes.

The Ø 80 intake pipe may be installed to the right or left of the Ø 60 smoke pipe, indifferently. Both pipes may be oriented in any direction. Refer to fig. 10 for positioning of boiler connections.

Maximum total length, obtained by adding together the lengths of intake and flue pipes, is determined by the load loss of individual accessories inserted and must be no more than 15.5 mm $H_{\rm p}$ 0.

Refer to **Table 2** for head loss of ø 80 intake pipe accessories; refer to **Table 2/a** for head loss of ø 60 exhaust pipe accessories.

TABLE 2/a

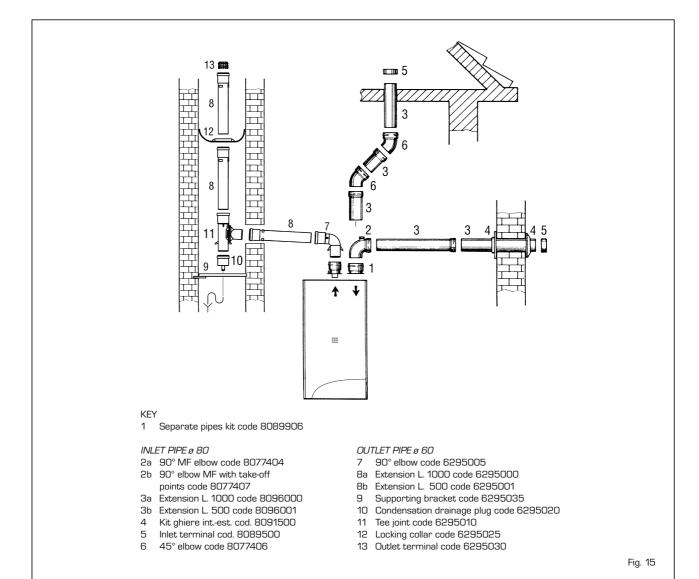
Total head loss (mm H ₂ O)
1,3
0,9
0,8
1,6

2.8.1 Accessories completing installation

The complete range of accessories required for this type of installation is shown in fig. 15.

WARNING:

The smoke safety stat kit code 8089815 is required for protection if there is a ø 60 exhaust pipe. Refer to the wiring diagram in fig. 17.



2.9 ELECTRICAL CONNECTION

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 things, resulting from the failure to provide for proper earthing of the appliance.

2.9.1 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 conector (3) will irreparably damage the control board. Make sure that any connections to be made are not carrying mains voltage.

2.9.2 "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.

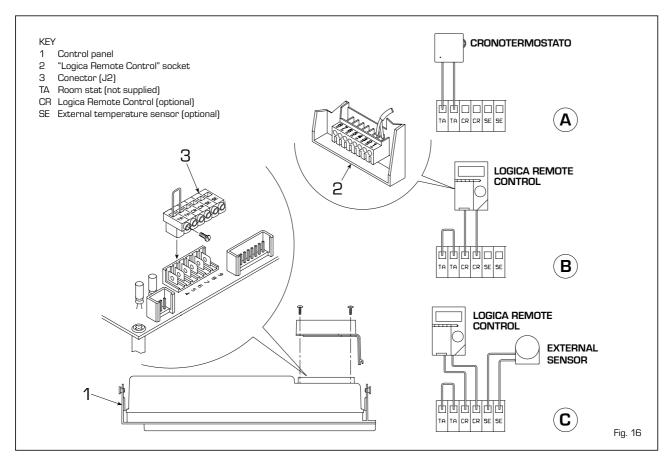
Equipment for the checking of civil plants via a telephone line includes the model TEL 30.4 LANDIS & STAEFA.

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

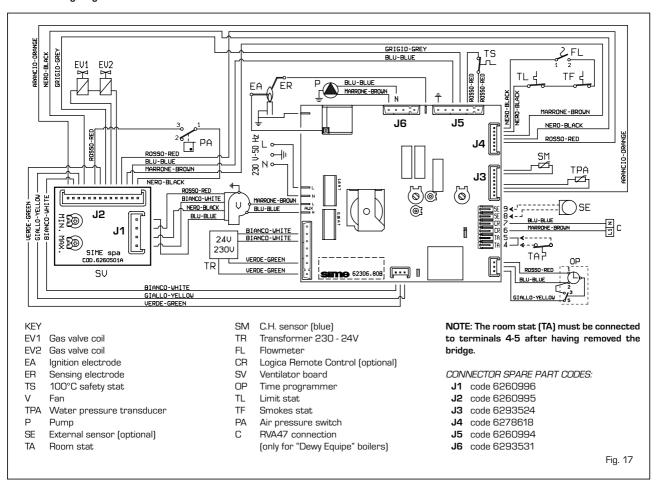
The cables must comply with low safety voltage requirements of EN 60730.

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 (8-9).



2.9.4 Wiring diagram



2.10 LOGICA REMOTE CONTROL

All the boiler's functions can be managed by a 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 pre-

- 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 \(\begin{align*} \text{and} \ \begin{align*} \text{least 5} \) 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. $% \label{eq:control_eq}$

Type of control:

O = 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 O (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 The delivery temperature is limited to the maximum set value. 55 temperature The increase per minute of the prescribed delivery temperature value sent Variation of the maximum speed of the delivery temperature in °C is limited to the imposed value. Activation of adaptation 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 If the switch-on time optimisation is active, the "Logica Remote Control" modi-58 switch-on time fies the heating gradient until it finds the optimum heating point 1 = on Heating gradient The "Logica Remote Control" selects the switch-on time such that the set 59 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: $1.5 \, \text{K} \, \text{x} \, 30 \, \text{min/K} =$ 45 minutes 00 means that the switch-o time has not been pre-set (function disabled). Presetting switch-off If the switch-off time optimisation is active (value > 0), the "Logica Remote 50 time (00 = off)Control" modifies the pre-set time until it finds the optimum switch-off time.. DOMESTIC HOT WATER SETTINGS Reduced domestic hot The reduced pre-set value of the temperature of the domestic hot water allow 51 water pre-set value the required water temperature to be obtained outside the programmed usage times (daily programme 8). Domestic hot water load **0** = 24 hours/ day - Hot water is always available at the temperature set 162 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 This block (1) can be activated to display all the parameters without 63 programming block modifying them. Pressing buttons - or + displays "OFF".

The activation block can be deactivated temporarily by pressing buttons

At this point press simultaneously the buttons \blacksquare and \blacktriangledown for at least 5

and + simultaneously; a confirmation sign appears on the display.

To permanently remove the activation block, set parameter 63 on O.

Input function terminal 3-4



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 preset value of the ambient temperature".
- 3 = With an external contact, it is possible to switch-over to "reduced preset value of the antifreeze ambient temperature" (short circuit 0 0 0 or interruption _ _ _). The display shows the current status of the external contact.

Modo de acção do contacto externo



Se a entrada (bornes 3 e 4 do ropadé) está ligada a um contacto externo de potencial zero (parâmetro 64 = 2 ou 3), pode ser determinado o modo de acção do contacto (tele-interruptor do telefone ou contacto janela). O modo de acção especifica o estado de contacto no qual a função desejada está activa.

Display: modo de acção fechado (curto-circuito) 0 0 0 modo de acção aberto (interrupção) _ _ _ _

Influxo das sondas ambiente + externa



Determina o coeficiente de mistura entre a sonda ambiente interna e externa, quando o parâmetro 64 = 1.

0 % = activa só a sonda interna (0% externa - 100% interna)

50 % = valor médio da sonda externa + interna

100 % = activa só a sonda externa

Para a regulação ambiente e a visualização, é utilizada a mistura programada. Se a sonda externa apresenta um curto-circuito ou uma interrupção prossegue-se com a sonda interna.

Anti-bacterial function (if tank unit "BT100" is installed)



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 .

O = not active 1 = active

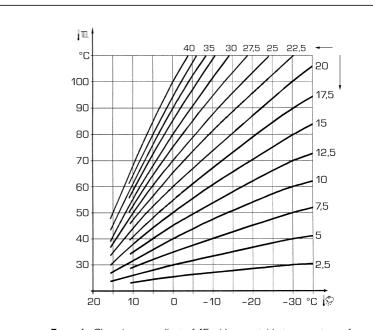
2.10.3 Gradient of the characteristic heating curve

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. 18, the delivery temperature increases in correspondence to the outside temperature.

2.11 EXTERNAL TEMPERATURE SENSOR

The "Logica Remote Control" can be connected to an external temperature sensor available a an optional extra (code 8094100). This configuration ensures and maintains the required temperature constant in the room. The ambient temperature is, in fact, indicted 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.



Example: Choosing a gradient of 15 with an outside temperature of -10° C we shall have a delivery temperature of 60° C.

Fig. 18

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. sensor, external temperature sensor (optional), modulator, flow switch safety valve, water pressure transducer, water pressure switch, 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 $+60^{\circ}$ C.

3.1.1 Fault finding

The indicator leds signalling irregular and/or incorrect operation of the equipment are indicated in fig. 19.

3.1.2 Devices

- "POT. RISC." trimmer (10 fig. 20)

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. 20)

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. 20)

When the connector is not connected up the boiler is ready to operate on METHANE; when the connector is connected up the boiler is ready to operate on PROPANE.

- "ANN. RIT." connector (5 fig. 20)

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 reignition will depend on a temperature difference of 5°C detected by the SM sensor (heating flow sensor).

- "Albatros" connector (15 fig. 20)

In single installations, the connector is disconnected. Where multiple boilers are installed in a sequence/cascade, the connector is used for connection with regulator RVA47.320.

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

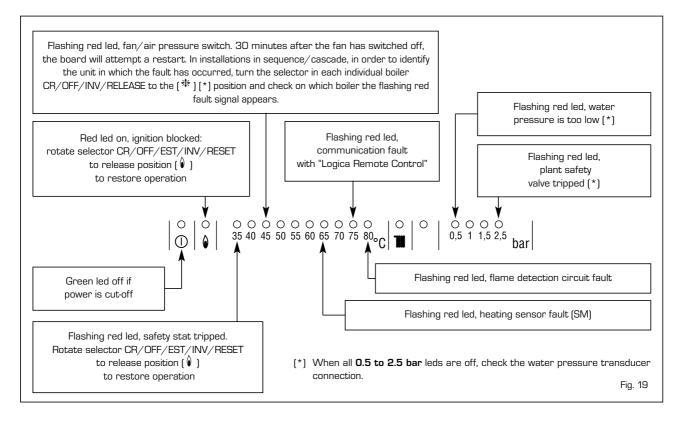
3.2 TEMPERATURE SENSOR AND WATER PRESSURE TRANSDUCER

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 the sensor (SM) is disabled, the boiler will not work.

TABLE 3 (Sensor)

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



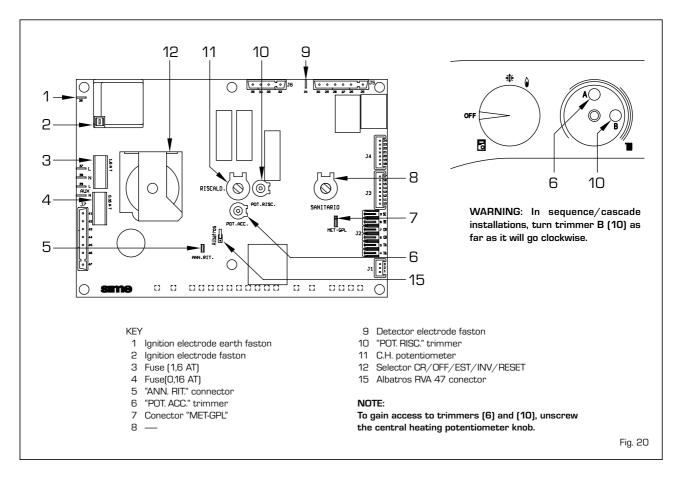


TABLE 3/a (Transducer)

Pressure	Resista	nce (Ω)
(bar)	min	max
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 (\bigcirc) lights up to confirm the presence of voltage.

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 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 or the ignition transformer.

- 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 AIR PRESSURE SWITCH

The air pressure switch is factory set to the values 40-57 Pa to guarantee boiler functioning even with intake and flue pipes at the maximum permitted length.

The value of the signal to the pressure switch is measured using a special instrument connected to the pressure intake [5-4 fig. 3].

3.5 FLOW SWITCH SAFETY VALVE

A flow switch safety valve (18 fig. 3) intervenes, 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, or because the "Aqua Guard" filter is obstructed with impurities.

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.

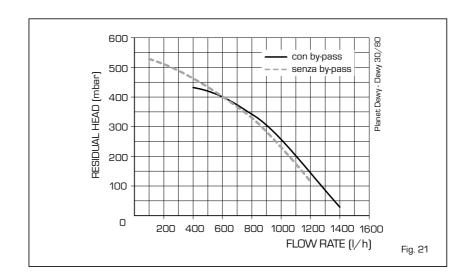
3.6 SYSTEM AVAILABLE HEAD

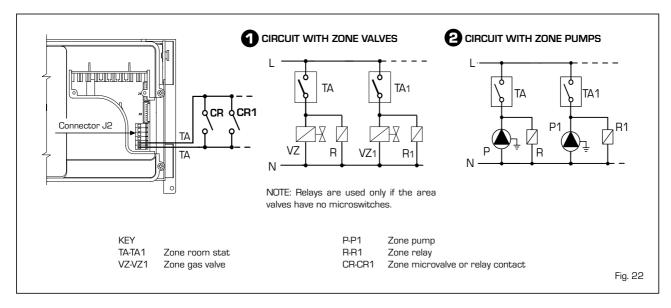
The head available for the heating plant is shown as a function of the flow in graph in fig. 21.

3.7 MAINS ELECTRICITY CONNECTION

Use a separate electricity supply to connect the room stats and relative zone valves or pumps.

The micro or relay contact connection is made to TA-CR-SE (J2) connector of the circuit board after having removed the jumper (fig. 22).

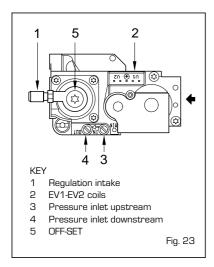




4 USE AND MAINTENANCE

4.1 GAS VALVE

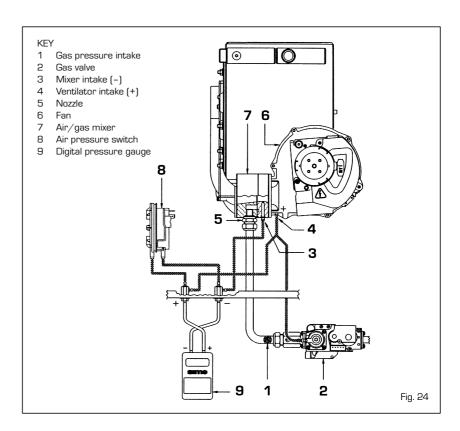
The boiler, is equipped standard with the HONEYWELL VK 8115M gas valve (fig. 23).



4.2 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 (10 fig. 20).

To increase working pressure, turn the trim-



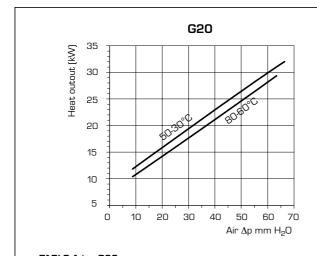
mer clockwise; to reduce pressure, turn the trimmer counterclockwise.

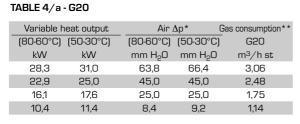
To determine boiler heat output setting, check energy consumption by observing the meter and then compare with the values

shown in Tables 4 - 4/a - 4/b; or measure "air Δp " with a digital pressure gauge connected up as shown in fig. 24.

Compare values with those shown in **Tables** 4 - 4/a - 4/b.

4.2.1 Diagram illustrating heat output in relation to "air Δp "





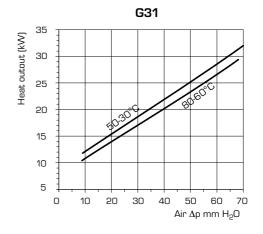


TABLE 4/b - G31

Variable h	eat output	Air	Δ p*	Gas consumption * *
(80-60°C)	(50-30°C)	(80-60°C)	(50-30°C)	G31
kW	kW	mm H ₂ O	mm H ₂ O	m³/h st
28,3	31,0	68,4	70,4	1,52
21,8	23,4	45,0	45,0	1,19
15,4	16,6	25,0	25,0	0,84
10,4	11,4	9,2	9,5	0,55

- * Air Δp is measured during boiler operation using a differential pressure gauge connected to the ventilator intake.
- ** The gas consumptions refer to the calorific value at standard conditions at 15°C 1013 mbar.

Fig. 25/a

4.3 **BOILER CALIBRATION**

The boiler must always be calibrated while set on heating.

"∆p air" ADJUSTMENT

To measure " Δp air" simply connect a differential pressure gauge with a decimal or Pascal scale to the positive and negative tap, observing the symbols (Drawing 1).

Sequence of operations:

- 1) Turn the heating power control trimmer clockwise as far as it will go (B - Drawing 2) with the fan at its top speed.
- 2) Attempt to achieve the " Δp air" values given in the table by adjusting the MAX trimmer on the fan board (Drawing 3):

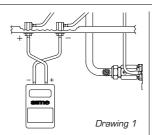
Δp air max.

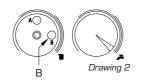
Dewy	25	30
Natural gas (G20)	49,5	63,8
Propane (G31)	49,5	68,4

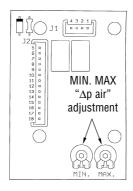
- 3) Turn the heating power control trimmer anti-clockwise as far as it will go (B -Drawing 2) with the fan at its top speed.
- 4) Attempt to achieve the " Δp air" values shown in the table using the "MIN" trimmer on the fan board (Drawing 3):

Δp air min.

Dewy	25	30
Natural gas (G20)	7,1	8,4
Propane (G31)	7,1	9,2







Drawing 3

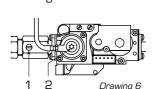
"∆p air-gas" ADJUSTMENT

To measure " Δp air-gas", simply connect the positive tap of the differential pressure gauge to the gas tap and the negative tap to the corresponding tap on the boiler (Drawing 4)

Always adjust gas pressure with the fan at its top speed.

Sequence of operations:

1) Turn the heating power control trimmer anti-clockwise as far as it will go (B -Drawing 5) with the fan at its top speed.



Drawing 5

Drawing 6

Drawing 4

2) Open the gas capacity step [1 - Drawing 6] all the way so that the notch is in a horizontal position.

3) Adjust the gas valve OFFSET regulation (2 - Drawing 6), aiming to achieve the " Δp air- gas" shown in the table:

Capacity step open

Dewy	25	30
Natural gas (G20)	7,3	7,0
Propane (G31)	8,1	10,1

4) Using the capacity step (1 - Drawing 6), attempt to achieve the "Ap air-gas" shown in the table:

Capacity step regulated

Dewy	25	30
Natural gas (G20)	5,3	6,3
Propane (G31)	4,4	9,0

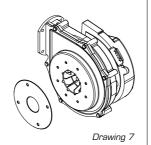
Upon completion of the calibration procedure, check CO2 values using a combustion analyser. If a difference which is more than 0.2 above or below the values indicated in the table is found, it will be necessary to correct it:

	"Dewy 25"		"Dewy 30"	
	CO ₂ (Natural gas)	CO ₂ (Propane)	CO ₂ (Natural gas)	CO ₂ (Propane)
"MIN" output	9,3	10,2	9,0	10,1
"MAX" output	8,9	10,0	9,1	10,3

- Use the OFFSET screw (2 Drawing 6) to correct CO₂ at "MIN" output.
- Use the capacity step to correct CO2 at "MAX" output (1 Drawing 6).

ATTENTION:

- On PROPANE G31 boilers it is a good idea to check that the position of the GPL bridge on the control board is correct.
- Diaphragm code 6028640 (Drawing 7) is assembled on the "Dewy 25" model functioning on PROPANE -G31 only.



If the fan control board code 8260501 is replaced on "Dewy" models running on PROPANE - G31 it is very important to remember to cut the specified resistance (Drawing 8).

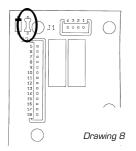


Fig. 26

4.4 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.

4.5 REMOVAL OF OUTER CASING

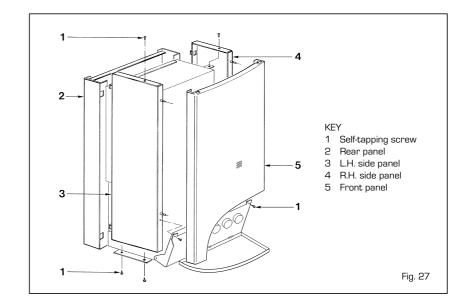
It is possible to completely disassemble the shell for an easy maintenance of the boiler following these simple instructions (fig. 27):

- Pull the front panel (5) forwards so as to release it from the slot-in pins located on the sides.
- Unscrew the two screws fixing the instrument panel to the sides.
- Unscrew the four screws fixing the sides to the instrument panel support.
- Push the sides upwards, sliding them out of their slots.

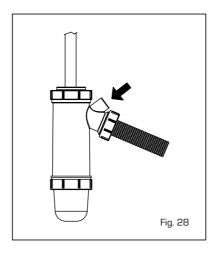
4.6 CLEANING AND MAINTENANCE

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

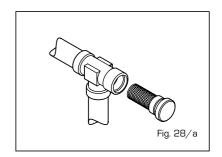


the syphened drip is full of water (this check is of importance particularly when the generator has been out of use for a long period of time). Filling is done via the special opening (fig. 28).



4.6.1 Cleaning the"Aqua Guard" filter (fig. 28/a)

To clean the filter, close the delivery/return on/off taps, turn off the power to the control panel, remove the casing and empty the boiler using the drain provided. Place a container for collection underneath the filter and proceed to clean the filter, removing impurities and limestone deposits. Check the seal o-ring before reassembling the cap with the filter.



USER INSTRUCTIONS

WARNINGS

- In case of fault and/or incorrect equipment operation, deactivate it, without making any repairs or taking any direct action. Contact an authorised technical staff.
- The installation of the boiler and any servicing or maintenance job must be carried out by qualified personnel. Under no circumstances, the devices sealed by the manufacturer can be tampered with.
- It is absolutely prohibited to block the intake grilles and the aeration opening of the room where the equipment is installed.

LIGHTING AND OPERATION

BOILER IGNITION (fig. 1)

Open the gas valve, lower the control panel cover and activate the boiler by rotating the selector knob to the summer positio (*). The lighting-up of the green led (①) will indicate that the apparatus is switched-on and ready.

Once the boiler has reached the value set on the heating potentiometer, it will start to modulate in automatically in order to supply the required power output to the system. The operation of the boiler will be stopped through the intervention of the thermostat or "Logica Remote Control".

TURNING THE BOILER OFF (fig. 1)

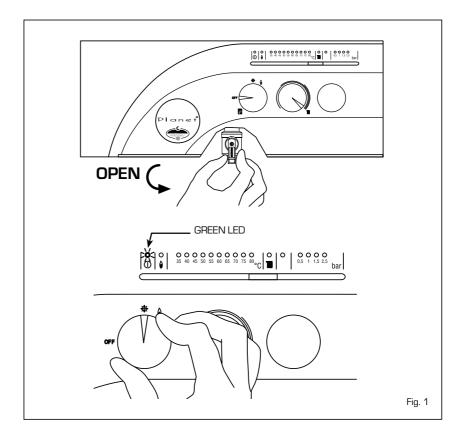
To turn the boiler off place the selector knob on the **OFF** position.

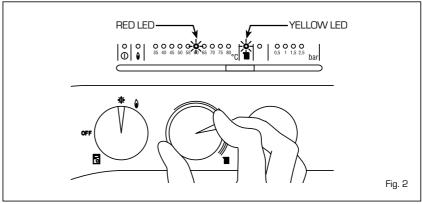
If the boiler is not going to be used for a lengthy period it is advised to turn off the electricity supply, close the gas tap, and if the temperatures foreseen are low, empty the boiler and the hydraulic system to avoid breakage in the tubes due to the freezing of the water

C.H. TEMPERATURE ADJUSTMENT (fig. 2)

The C.H. temperature can be adjusted by turning the knob of the C.H. potentiometer ($\parallel \parallel$). The set temperature is indicated on the red led scale from 35÷80°C and the yellow heating led lights up at the same time ($\parallel \parallel$).

If the temperature of the C.H. return water is lower than around 55° C, condensation of the combustion by-products is obtained, further increasing the efficency of thew thermal exchange.





GAS CONVERSION

Should it be necessary to convert the appliance to a different gas from the one for which the boiler has been equipped, approach the technical staff.

CLEANING AND MAINTENANCE

Preventive maintenance and checking of the efficient operation of the equipment and safety devices must be carried out exclusively by the authorized technical staff. The boiler is supplied with an electric cable. Should this require replacement, contact exclusively with the authorized technical staff.

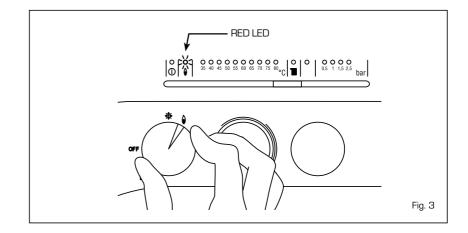
FAULT FINDING

- Ignition lock-out (fig. 3)

If the burners do not ignite, the red led will light-up ($\mbox{\Large 0}$).

To attempt a boiler restart, rotate the selector knob to position () and release it immediately, placing it in the winter () operation position.

If the boiler lock-out re-occurs, contact an authorised Service Centre.

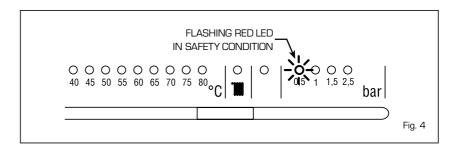


- Insufficient water pressure (fig. 4)

If the red "0.5" bar led starts flashing, the boiler will not function.

To restart operation, rotate the charge valve anticlockwise until the green "1 bar" led lights up.

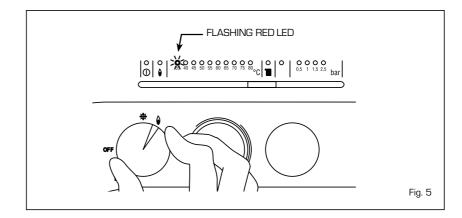
If all the leds are off, call the local authorised Service Centre for technical assistance.



- Safety stat trip (fig. 5)

If the safety thermostat trips, the red "35°C" led will start flashing. In order to attempt a boiler restart, rotate the selector knob to position ($^{\circ}$) and release immediately, returning it to the summer (**) or winter (**) position.

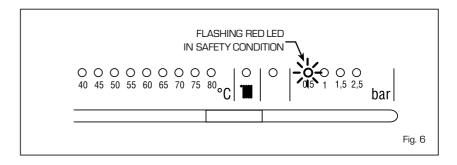
If the boiler lock-out occurs again, call local authorised Service Centre for technical assistance.



- Other anomalies (fig. 6)

When one of the red " $40 \div 80^{\circ}C$ " leds start flashing, switch-off the boiler and then try to ignite again.

After 2 or 3 unsuccessful attempts, do not try again but call authorised technical staff.



INSTALLATION IN MODULAR PLANTS "DEWY EQUIPE 3/3 BOX - DEWY EQUIPE 4/4 BOX"

WHEN THE "PLANET DEWY 30 BFR" IS CONNECTED UP TO CONTROL UNIT RVA 47.320 IN INSTALLATIONS IN SEQUENCE/CASCADE, ALL THE INDIVIDUAL MODULES MAKING UP THE THERMAL PLANT MUST HAVE THE "CR/OFF/INV/RELEASE" SELECTOR IN THE POSITION SHOWN IN FIG. 7

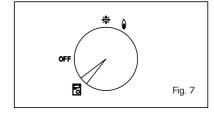
THE HEATING POTENTIOMETER KNOB WILL NO LONGER HAVE ANY CONTROL, AND ALL FUNCTIONS WILL BE CONTROLLED EXCLUSIVELY BY CONTROL UNIT RVA 47.320.

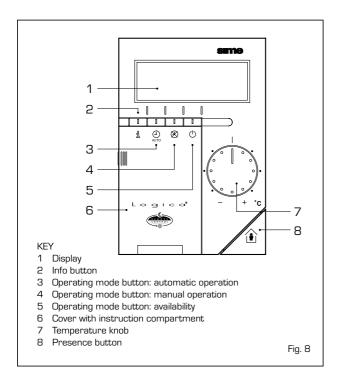
LOGICA REMOTE CONTROL

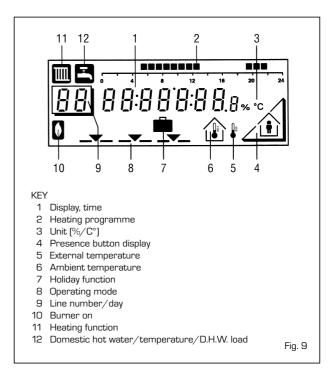
When "PLANET DEWY 30 BFR" is connected to the "Logica Remote Control" regulator, the selector CR/OFF/SUM/WIN/UNBLOCK must be placed in the position []; the knobs of the hot-water service heating potentiometers do not have any effect and all of the functions will be managed by the regulator (fig. 7). If the "Logica Remote

Control" breaks down, the boiler will function by placing the selector on the () position, obviously without consequent control of the room temperature.

No interior da tampa estão indicadas as instruções de funcionamento (fig. 8). Cada programação ou modificação é visualizada e confirmada no display (fig. 9).



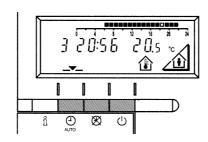




ACTIVATING

During functioning the lid of the regulator must be closed.

 Selection of the operating mode (reference keys grey colour)



The operating mode desired is selected by pressing the relative key with the corresponding symbol. The choice is displayed with the symbol _____



Automatic functioning: the heating functions automatically according to the heating programme entered. The programme may be excluded for brief periods with the on-line key.

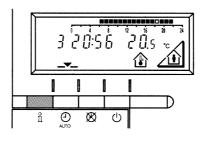


Manual functioning: the heating functions manually according to the choice made with the on-line key.



Availability: the heating is deactivated.

Info key
 (reference key grey colour)



For every operation of the Info key the following list of items, one after the other, are displayed. The thermo-feeler continues to function independently of the display.



Day, hour, room temperature



External temperature*



Hot-water service temperature*

* This data appear only if the relative feeler is connected or if they are transmitted by the regulator of the boiler.

- Adjusting the temperature

Before adjusting the temperature of the regulator, the thermostatic valves, which may be present, have to be regulated to the desired temperature.



If it is too hot or too cold in your apartment, you can easily adjust the fixed temperature with the temperature knob.



If you turn the knob towards the + sign, the fixed temperature is increased by about 1 $^{\circ}\text{C}$ for every notch.



If you turn the knob towards the - sign, the fixed temperature is decreased by about 1 $^{\circ}\text{C}$ for every notch.

Before adjusting it again, however, allow the temperature to stabilise first.

Note: With the temperature knob you can only adjust the fixed temperature, whilst the reduced temperature remains the same.

- On-line key



If the rooms remain unused for a long period of time, the temperature can be reduced with the on-line key, in this way saving energy. When the rooms are occupied again, press the on-line key to re-heat them. The current choice is displayed on the display:



Fixed temperature heating



Reduced temperature heating

NOTA: The choice made will work in a permanent way when manually \bigotimes , carried out, instead, if automatic \bigotimes it will work up to the next switching according to the heating programme.

PROGRAMMING

For the programming the lid of the regulator must be open.

You can set or display the following values:

- Temperatures
- Heating programme
- Day of the week and hour
- Current values
- Vacation period
- Return to the default values

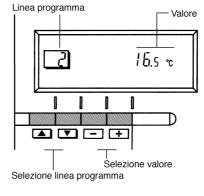












As soon as the cover is open, the display and the key functions are switched on.

The number in the square represents the programme lines that may selected with the arrow keys.

- Temperature regulation

Before proceeding with the adjustment in the temperature on the regulator, the thermostatic valves, which may be present, have to be regulated to the desired temperature.

In automatic mode, the apparatus switches from the fixed temperature to the reduced temperature according to the temporal programme. The manual switching of the temperature is done manually with the on-line key.

٦

Fixed temperature:

temperature when the rooms are occupied (basic setting)



ח

Reduced temperature:

temperature during periods of absence or night



3

Hot-water service temperature:

- desired temperature of hot-water service
- comfort temperature of the hot-water service with storage capacity boiler unit.

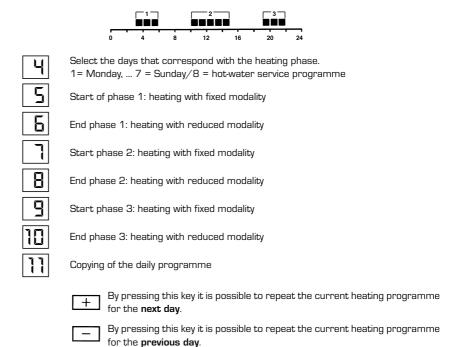




Reduced temperature of hot-water service with storage capacity boiler unit: temperature desired for hot-water service at reduced level.

To have access to the "reduced hot-water service temperature" parameter, press the \blacktriangle and \blacktriangledown keys at the same time for at least 5 seconds and then go along the entered lines with the key \blacktriangledown until parameter 61 is reached. Regulate the value with \blacksquare and \boxdot .

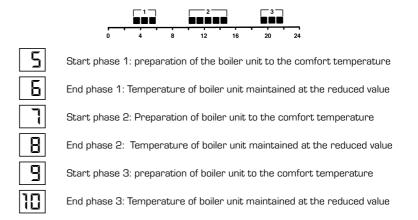
 Heating/hot-water service programme With the heating programme it is possible to set the switching times of the temperature for a period of a week. The weekly programme consists of 7 daily programmes. One daily programme allows 3 phases of heating. Each phase is defined by a starting time and a finishing time. The n. 8 daily programme is for the hot-water service. If a phase is not required, the same starting and finishing time may be entered.



As a confirmation the following day is displayed.

 Programme for hot-water service with storage capacity boiler unit With the Logic Remote Control it is possible to manage the temperature of boiler unit on two levels (a comfort level and one at reduced temperature) in accordance with the programme chosen with parameter 62 (load hot-water service). To have access to the parameter press the And keys for at least 5 seconds and then go along the entered lines with the key until parameter 62 is reached. At this point four different programmes may be selected with 5 of keys, with the following characteristics:

- **0** = 24 hours/ day Hot water always available at the temperature set in parameter 3.
- 1 = standard Hot water according to the daily heating programme. In the comfort periods of the heating the temperature of the boiler unit is regulated at the value set via parameter 61.
- 2 = sservice suspended.
- 3 = second daily programme (8) Everyday of the week the temperature of the hot-water service is set according to programme B. In this case the programming is one for all the days of the week and three periods of time are available. In the periods of time set, the temperature of the boiler unit is controlled via the temperature setting of parameter 61.



- Setting the time	12	To set the current day of the week [1 = Monday/7 = Sunday]
	13	To set the current hour
	14	To set the current minute Once the hour is completed, the setting of the hour changes.
		and keys the current hour is regulated. Pressing these keys together, the n is speeded up in an increasing sense.
- Current values	15	Display and setting of the gradient of the heating characteristics curve. When the room temperature set is not reached choose the gradient indicated in point 2.9.3
	15	Display of the current boiler temperature.
	17	Display of the current power of the burner and of the current operating mode [= = heating/ = hot-water service]
- Vacation function	18	To enter the number of days of absence.
		In the display the vacation symbol will be shown (\blacksquare), on the left the day of activation (1 = Monday/7 = Sunday) and on the right the number of vacation days.
	NOTE:	
		During the vacation the regulator will be on the availability mode.
	AUTO	When the set days have elapsed, the regulator will go on to the automatic function.
	The vaca	tion period may be cancelled by pressing a key of the operating mode.
- Default values	19	To take the setting to the default values, press the and keys at the same time for at least 3 seconds. As confirmation a sign will appear on the display.
	ATTENT	
		es of the following line numbers previously entered will be lost.
		erature and time programme i to iii
	• Vacati	on period [18]
- Error display		
Er 0	tion (🖟)	lock-out elector CR/OFF/EST/INV/RESET on the "PLANET" control panel to the release posi- to reset operation (fig. 3). k-out re-occurs, call an authorised Service Centre.
Er 1	Rotate s	hermostat trip elector CR/OFF/EST/INV/RESET on the "PLANET" control panel to the release posi-) to reset operation (fig. 5). k-out re-occurs, call an authorised Service Centre.

Er 67	Domestic hot water sensor fault Call an authorised Service Centre.
Er 68	Heating sensor fault (SM) Call an authorised Service Centre.
Er 69	Insufficient water pressure Reset operation using the boiler charge valve (fig. 4).
Er 70	Plant overpressure Call an authorised Service Centre.
Er 192	Safety thermostat trips Call an authorised Service Centre.
Er 193	Fan/air pressure switch malfunction Call an authorised Service Centre.
Er 195	No communication between the "Logica Remote Control" and the boiler. Call an authorised Service Centre.