

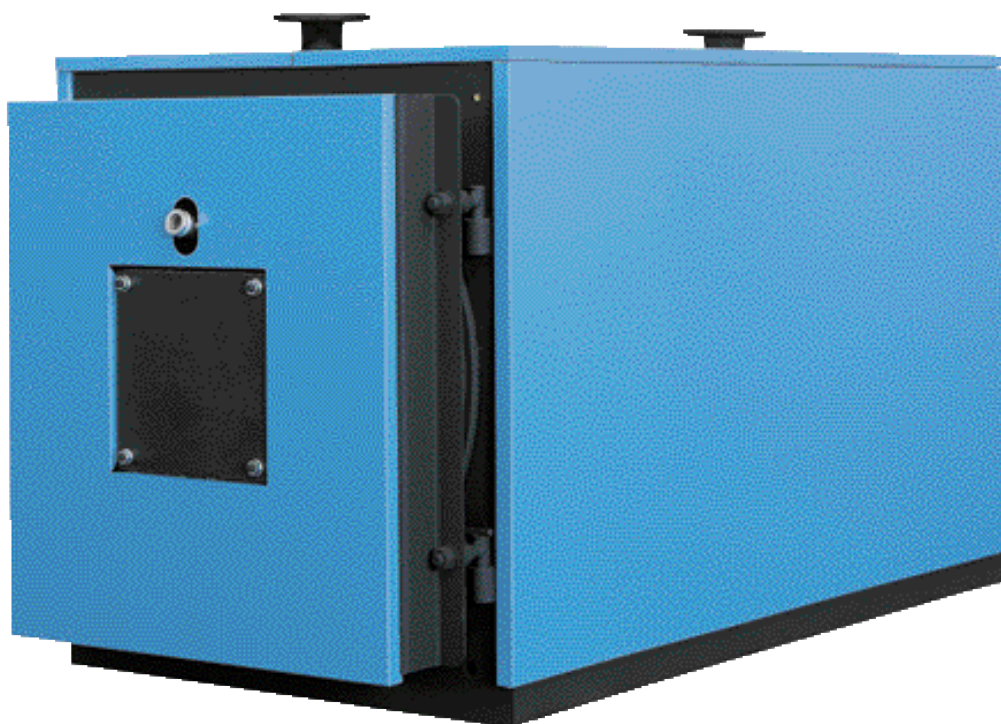


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# TECHNICAL MANUAL

INSTRUCTIONS FOR: INSTALLATION - USE - MAINTENANCE

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**SIMERAC 80-3600 AR**

HOT WATER BOILERS



Dear customer,

Thank you for purchasing this SIME boiler.  
It is essential that the boiler is installed, commissioned and serviced in accordance with these instructions.  
Failure to comply with these guidelines could result in the warranty becoming void.



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# GENERAL

## WARNINGS

This instruction manual is an integral part of the boiler.

Please ensure that the manual remains with the boiler so that it can be consulted by any new owner or service engineer.

The boiler should only be used for the purpose it was intended. Sime will not be responsible for any damage or injury to persons or property resulting from improper installation or use.

Sime will not be responsible for any damage or injury to persons or property resulting from interference or miss use of any safety devices.

On unpacking check the contents. In case of any damage or discrepancies contact the supplier.

Please dispose of the packaging responsibly.

The installation of the boiler must be in compliance with the current standards, by qualified personnel having the correct technical competence.

To guarantee the efficiency of the appliance and for its correct functioning, it is essential that professionally qualified staff carry out the routine maintenance, to the manufacturer indications.

Only original spare parts and accessories should be used.

Should the appliance not be used for prolonged periods it is advisable that the following procedure is done by suitably qualified personnel:

- Turn off and isolate the power supply;
- Close the gas and water isolation valves;
- Drain the heating system should there be any danger of freezing.

## **IMPORTANT SAFETY RULES**

The use of this appliance by children and inexperienced persons is forbidden;

If there is a smell of gas do not operate any appliance, telephone, or switches that may cause a spark.

- immediately open doors and windows to ventilate the area.
- if safe to do so turn off the gas isolation valves.
- contact the gas supplier.

Do not touch or operate the appliance with wet hands or in bare feet.

When conducting maintenance or cleaning operations ensure that the electrical and gas supplies are turned off.

Do not pull, disconnect or twist any cables. Any damaged wiring or cables must be replaced with only original spare parts.

Any openings, ventilation grills or ducts must not be blocked, altered or interfered with.

The appliance must be protected from the weather at all times. It is not to be installed or operated externally. The appliance does not have automatic frost protection. If there is a danger of exposure to frost, appropriate action must be taken.

Other important warnings to comply with:

- Should the electrical power supply cable become damaged, have it replaced by a qualified engineer;
- Do not fasten or allow others to fasten electrical cables to the pipe work or close to the heat exchanger or burner;
- Ensure that the appliance and pipe work is suitably earthed.;
- Avoid contact with any hot surface, in particular the burner door, flue and gas chamber, they will remain hot for a long time after the burner is turned off.
- In case of water leaks, turn off the appliance, isolate the water supply and contact a qualified engineer.

## APPLIANCE DESCRIPTION

The boiler series **SIMERAC AR** is a high yield heat generator for hot water heating systems up to 90 °C and the production of domestic hot water when combined with a cylinder.

Constructed as a single block the heat produced by the burner makes three passes through the heat exchanger, the final section being a tube "bundle".

Here the combustion products are forced by highly efficient turbolators to perform a vortex path that increases the heat exchange by convection. In this way, maximum heat absorption is obtained without damaging heat stresses producing a useful yield above 94%.

Once the combustion products exit the tube bundle they are collected in the rear chamber and conveyed to the chimney.

The boiler will accept either oil or gas burners.

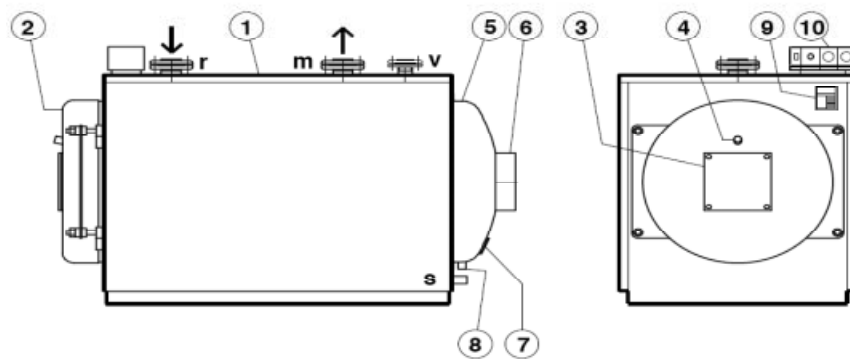
The burner is installed on a hinged door: In this way, the adjustment and maintenance operations of the boiler and the burner can be performed without dismantling.

The heat insulation of the boiler body is obtained through the application of a mineral wool mattress with high insulating properties.

The external finish is given by elegant pre-painted steel panels.

A pre-wired automatic control panel is positioned at the top of the boiler.

Optional climatic control units are available, providing regulation of the boiler based on the outdoor temperature.



### KEY

- |   |   |
|---|---|
| 1 - Boiler body                             |   |
| 2 - Door                                    |   |
| 3 - Burner support plate                    |   |
| 4 - Flame control warning light             |   |
| 5 - Combustion chamber                      |   |
| 6 - Exhaust                                 |   |
| 7 - Cleaning door                           |   |
| 8 - Condensate drain                        |   |
| 9 - Identification plate and technical data |   |
| 10- Instruments panel                       |   |
|   | r - Heating return                              |
|   | m - Heating flow                                |
|   | v - Safety valve connection or expansion vessel |
|   | s - Mud drain                                   |



# TECHNICAL DATA

## PERFORMANCES AND TECHNICAL DATA OF THE SIMERAC AR SERIES BOILERS

According to that requested by P.D. 412/93 and by Standard UNI 10348

model	Power nominal useful (Pn) kW	Power furnace kW	Yield useful nominal (Tm 70°C) %	Yield useful at 30% of the load (Tm 50°C) %	Leaks side Combustion products mbar	Combustion products flow rate (gas/oil) kg/h	Losses at chimney with burner on %	Losses at chimney with burner off %	Leaks at casing (2) %	Temp. combustion products (1) °C
<b>SIMERAC 80 AR</b>	81	86,200	94,000	96,800	0,400	136,800	5,100	0,100	0,900	106,000
<b>SIMERAC 90 AR</b>	91	96,700	94,100	96,900	0,500	154,800	5,000	0,100	0,900	104,000
<b>SIMERAC 130 AR</b>	132	140,000	94,300	97,100	0,900	223,200	4,900	0,100	0,800	102,000
<b>SIMERAC 170 AR</b>	170	179,600	94,700	97,500	0,900	288,000	4,400	0,100	0,800	92,000
<b>SIMERAC 200 AR</b>	203	214,000	94,900	97,700	1,200	342,000	4,300	0,100	0,800	90,000
<b>SIMERAC 250 AR</b>	253	266,000	95,100	97,900	1,800	424,800	4,100	0,100	0,800	85,000
<b>SIMERAC 300 AR</b>	304	320,000	95,000	97,800	2,500	511,200	4,300	0,100	0,700	90,000
<b>SIMERAC 350 AR</b>	354	372,000	95,200	98,000	3,300	594,000	4,100	0,100	0,700	85,000
<b>SIMERAC 400 AR</b>	398	418,000	95,200	98,000	2,700	669,600	4,100	0,100	0,700	85,000
<b>SIMERAC 450 AR</b>	455	477,000	95,400	98,000	3,200	763,200	4,000	0,100	0,600	83,000
<b>SIMERAC 500 AR</b>	505	530,000	95,300	97,900	3,700	849,600	4,100	0,100	0,600	85,000
<b>SIMERAC 600 AR</b>	610	640,000	95,300	97,900	3,600	1026,000	4,100	0,100	0,600	85,000
<b>SIMERAC 700 AR</b>	715	750,000	95,300	97,900	4,500	1202,400	4,100	0,100	0,600	85,000
<b>SIMERAC 800 AR</b>	820	860,000	95,300	97,900	4,400	1375,200	4,100	0,100	0,600	85,000
<b>SIMERAC 900 AR</b>	920	966,000	95,200	97,900	4,800	1548,000	4,200	0,100	0,600	88,000
<b>SIMERAC 1100 AR</b>	1100	1155,000	95,200	97,900	5,400	1850,400	4,200	0,100	0,600	88,000
<b>SIMERAC 1300 AR</b>	1300	1356,000	95,300	97,900	5,600	2185,200	4,200	0,100	0,600	88,000
<b>SIMERAC 1640 AR</b>	1645	1727,000	95,200	97,900	5,800	2764,800	4,100	0,100	0,600	85,000
<b>SIMERAC 1850 AR</b>	1850	1942,000	95,200	97,800	6,000	3106,800	4,100	0,100	0,600	85,000
<b>SIMERAC 2050 AR</b>	2050	2153,000	95,200	97,800	6,500	3445,200	4,200	0,100	0,600	88,000
<b>SIMERAC 2580 AR</b>	2580,00	2709,000	95,200	97,800	6,800	4338,000	4,200	0,100	0,600	88,000
<b>SIMERAC 3100 AR</b>	3100,00	3255,000	95,200	97,800	7,500	5212,800	4,200	0,100	0,600	88,000
<b>SIMERAC 3600 AR</b>	3610,00	3791,000	95,200	97,800	8,400	6069,600	4,200	0,100	0,600	88,000

(1) with burner equipped with lock shutter of the combustion air  
 (2) in calm air, with environmental temperature 20°C  
 minimum temperature of the water return in boiler 50C

diesel oil fuel: CO2 = 13.0 %  
 gas fuel: CO2 = 10.0 %

## **IDENTIFICATION**

It is essential that the TECHNICAL DATA PLATE is positioned at the top right front side of the boiler.

It is essential that the boiler is identified correctly using the TECHNICAL DATA PLATE when requesting technical information, spares or accessories.

**IMPORTANT:** check that the technical plate is applied to the boiler, otherwise demand its application by the installer. If the TECHNICAL DATA PLATE is not fitted, contact the installer.

# USER

## APPLIANCE COMMISSIONING

The boiler must be commissioned by suitably qualified engineer.

Should the boiler have not been used for some time, the following should be checked:

- that the fuel and the heat system's water isolation valves are open;
- that the pressure of the hydraulic system when cold is above 1 bar and below that maximum admitted for the boiler;
- that the position of the regulation thermostat of the boiler is between 60 and 90°C;
- that the room thermostat is "active" and regulated on 20°C;
- that the system's pump are not jammed.

Ensure that the main isolation switch is turned on, then switch on the boiler at the control panel.

The appliance will perform an ignition phase and, once started, will remain ignited until the set temperatures are reached.

Subsequent, functioning is automatic.

In case of ignition or functioning anomalies, switch off the appliance and call professionally qualified staff.

## SWITCH-OFF

In case of temporary absence (weekends, short breaks, etc.) without danger of frost, proceed as follows:

- switch off the main switch of control panel (OFF);
- switch off the system's main switch.

ATTENTION. If there is a danger of frost do not do not turn off the boiler:

- position the environment thermostat at a value of about 10°C.

In case the boiler is not used for a long period, proceed as follows:

- switch off the main switch of control panel (OFF);
- switch off the system's main switch;
- close the fuel and the heat system's water cocks.

**ATTENTION:** if there is a danger of frost, have the heating system drained by professionally qualified staff.

## **CLEANING**

Before carrying out the cleaning operations:

- switch off the main switch of control panel (OFF);
- switch off the system's main switch.

The only cleaning necessary by the user, is that of the external panelling of the boiler, using cloths dampened with soap and water.

In presence of hard stains, dampen with water and denaturised alcohol.  
Do not use sponges or abrasive products; do not clean with water jets.

## **MAINTENANCE**

It is advisable to have the appliance serviced at regular intervals by suitably qualified personnel.

# INSTALLER

## RECEIPT OF PRODUCT

**SIMERAC AR 80 to SIMERAC 900 AR:**

- boiler body without insulation (located in the combustion chamber: the electric board, the documents, the mineral wool to insulate the boiler, the ceramic fibre mattress to close the slot of the burner nozzle);
- n. 1 cardboard box containing the casing's panels.

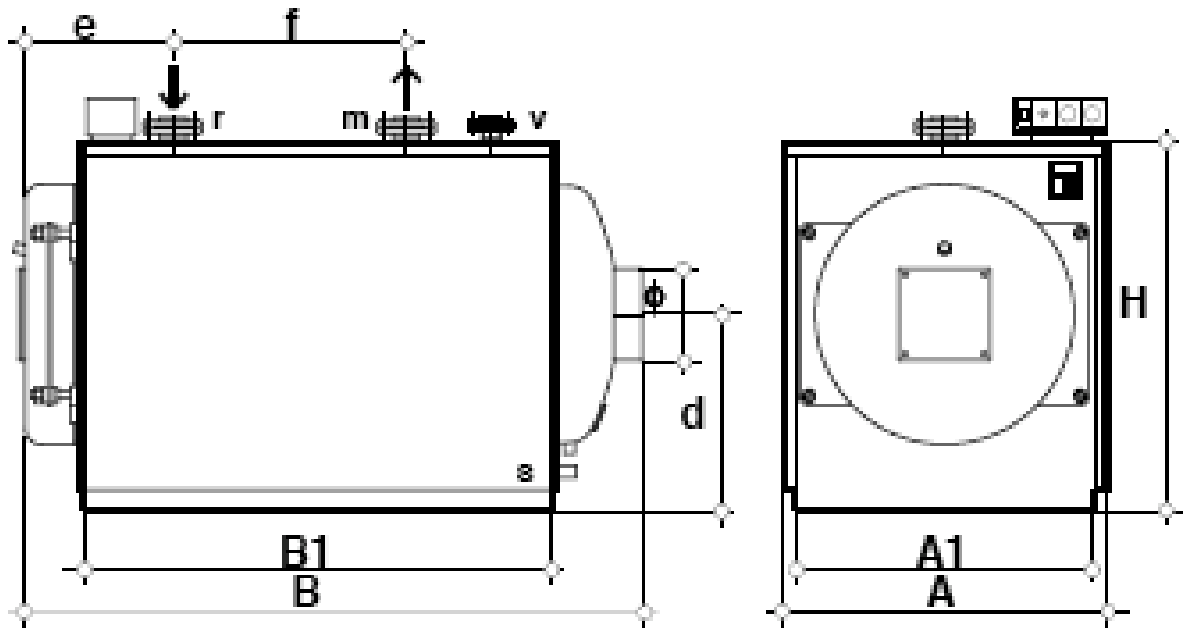
The **SIMERAC 1100 to 3600 AR** boilers are delivered complete with insulation and casing.

The following are located in the combustion chamber: the electric board, the documents and the mattress to close the slot of the burner nozzle.

The handling of the boiler body must be carried out with the aid of suitable equipment, using the hoisting eye bolts of the boiler.

Manual handling is not recommended given the significant weight.

# DIMENSIONS



MODEL SIMERAC AR		80	90	130	170	200	250	300	350	
dimensions	A	790	790	790	940	940	940	940	940	mm
	B	1110	1110	1360	1405	1405	1655	1655	1905	mm
	H	880	880	880	990	990	990	990	990	mm
	A1	750	750	750	900	900	900	900	900	mm
	B1	760	760	1010	1010	1010	1260	1260	1510	mm
	d	460	460	460	510	510	510	510	510	mm
	e	430	430	430	465	465	465	465	465	mm
	f	260	260	510	450	450	700	700	950	mm
connections	r/ m	2"	2"	2"	65	65	65	65	65	DN
	v	1" 1/4	1" 1/4	1" 1/4	1" 1/2	1" 1/2	1" 1/2	1" 1/2	1" 1/2	DN
	s	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	DN
	∅	200	200	200	220	220	220	220	220	mm
contained water boiler	-	119	119	155	228	228	285	276	329	dm <sup>3</sup>
dry weights	-	250	270	310	460	480	540	550	610	kg

MODEL SIMERAC AR		400	450	500	600	700	800	900	1100	
dimensions	A	1040	1040	1040	1240	1240	1240	1240	1380	mm
	B	1990	1990	2290	2345	2545	2545	2795	2950	mm
	H	1150	1150	1150	1280	1280	1280	1280	1500	mm
	A1	1000	1000	1000	1200	1200	1200	1200	1380	mm
	B1	1512	1512	1812	1814	2014	2014	2264	2416	mm
	d	595	595	595	640	640	640	640	810	mm
	e	625	625	625	625	625	625	625	430	mm
f	792	792	1092	974	1174	1174	1424	1700	mm	
connections	r/ m	80	80	80	100	100	100	100	125	DN
	v	2"	2"	2"	65	65	65	65	80	DN
	s	¾"	¾"	¾"	¾"	¾"	¾"	¾"	1" 1/2	DN
	∅	250	250	250	350	350	350	350	400	mm
contained water boiler	-	402	402	476	697	795	733	817	1277	dm <sup>3</sup>
dry weights	-	870	890	940	-	-	-	-	-	kg

MODEL SIMERAC AR		1300	1640	1850	2050	2580	3100	3600	
dimensions	A	1380	1610	1610	1610	1800	1800	2000	mm
	B	3200	3245	3535	3535	3955	4255	4790	mm
	H	1500	1800	1800	1800	2000	2000	2210	mm
	A1	1380	1610	1610	1610	1800	1800	2000	mm
	B1	2666	2680	2970	2970	3320	3620	4024	mm
	d	810	965	965	965	1070	1070	1700	mm
	e	430	430	430	430	510	510	522	mm
f	1950	1440	1730	1730	1700	2000	2200	mm	
connections	r/ m	125	150	150	150	200	200	200	DN
	v	80	100	100	100	125	125	125	DN
	s	1" 1/2	1" 1/2	1" 1/2	1" 1/2	1" 1/2	1" 1/2	1" 1/2	DN
	∅	400	450	450	450	500	500	600	mm
contained water boiler	-	1372	2010	2125	2163	3155	3292	4839	dm <sup>3</sup>
dry weights	-	-	-	-	-	-	-	-	kg

## **INSTALLATION POSITION**

The boiler must be installed in a fixed location by qualified engineers in compliance with these instructions. Furthermore, the installation must be in accordance with current standards and regulations.

The boiler must be installed as a CLASS B device, in boiler rooms with air vents direct to the outside and sized accordingly.

Free inlet area of louvres required for ventilation and combustion air should be as follows:- 60mm<sup>2</sup>/kW rating (30in<sup>3</sup> per therm) (1m<sup>2</sup> per 1500kW boiler rating). The inlet opening should be at low level with a further ventilation opening of half that area at high level.

The support plan of the boiler must be horizontal.

It is recommended that the support plan be overhead compared to the floor.

**ATTENTION: When used with LPG, all electrical connections and component should be a min of 0.5m above the floor.**

The boiler must not be installed externally.

## **DISCHARGE OF COMBUSTION PRODUCTS**

Chimney sizes and height will need to take into account the following:

- 1) Clean Air Act.
- 2) Local Regulations.
- 3) Environmental Protection Act 1990.
- 4) Considerations to adjacent buildings.
- 5) Transmission of noise, particularly low frequency sound pressure levels in quiet periods of the day or night from natural gas fired plant if dwellings are very close.
- 6) Flue gases discharged to the atmosphere which contribute to health dangers should be minimised by maintaining the burner and boiler to ensure correct combustion and high efficiency to reduce running time to a minimum and to maintain low levels of CO<sub>2</sub> (Greenhouse effect); CO and NO<sub>x</sub> (dangerous gases). Current regulations for NO<sub>x</sub> limits (1993) are maximum 260 mg/kWh (148ppm at 0% O<sub>2</sub>)

It is essential that the correct flue is used in relation to the type of burner fitted.

The FLUE (CHIMNEY) must be resistant to heat and condensation, thermally insulated, with hermetic seal, without restrictions or occlusion, as vertical as possible and installed according to the current standards.



The CONNECTION BETWEEN BOILER AND CHIMNEY must be fitted in accordance with the current standards, with rigid pipes, resistant to temperature, to condensation, to mechanical stresses and hermetically sealed.

For the joints' seal, use materials resistant to at least 250°C.

Incorrectly fitted or dimensioned chimneys, flues or connectors can amplify combustion noise, effect the combustion performance and generate condensation problems.

**ATTENTION: non-insulated drain piping is a potential source of danger.**

## **HYDRAULIC CONNECTIONS**

The choice and installation of the system components is the competence of the installer, who must install the equipment according to the legislation in force. Below are some recommendations:

- The pipe work and connections to the boiler must be supported to avoid undue stress on the connections.
- Do NOT position any isolation valves between the boiler and any expansion vessels or safety valves.
- The expansion vessel must be correctly sized to avoid unnecessary opening of the safety valves. The system should only be filled from one point.
- Ensure that any discharge from the safety valves will be safely and adequately drained, avoiding any flooding. Sime will not be responsible for any injury or damage resulting from any safety discharge.
- System pipe work must not be used as a ground for any electrical appliance.
- Ensure that the heating system is correctly flushed and cleaned prior to connection of the boiler.
- Ensure that the system is correctly teated to avoid corrosion. Sime recommend the use of Fernox products.
- If required a filter should be included in the system.
- Avoid any cross contamination between the system water and any domestic potable water.

After connection to the hydraulic system, ensure that it is completely deaerated. It is recommended to insulate the piping of the heating system to avoid heat waste.

## ELECTRIC PLANT

The electric system must be installed in compliance with the standards in force and by professionally qualified personell.

Sime will not be responsible for any injury or damage resulting from the failure to provide adequate earthing of the appliance and its associated pipe work.

The power supply and wiring must be sized and installed by qualified personell.

The power supply must 230 v - 50 Hz single phase through a fused main switch fused at 5 amps with at least 3mm spacing between contacts.

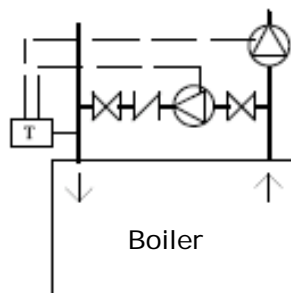
## CONDENSATION

Condensation will occur in the exhaust flue, particularly when the temperature of the return water from the heating system is below 50 deg C. It will be particularly significant during ignitions after the boiler has been idle for some time ie overnight.

Condensation is acidic and corrosive, and over time will damage the steel sections of the boiler.

To avoid the formation of condensation, install a anti condensation pump as described below.

A thermostat set at 55 deg C, with a change over contact is positioned on the return connection at the boiler.



When the return temperature sensed by the thermostat is reached the contacts change over, turning off the anti condensation pump and turning onn the system pump.

To completely eliminate the problem, ensure that the return temperature to the boiler is aintained at a minimum temperature (of 55°C). This will ensure a longer life span of the boiler.

The anti-condensation pump capacity is usually 25-30% of the capacity of the system's pump, it is only required to overcome only the resistance of the boiler and of the valves.

On the exhaust chamber of the **SIMERAC AR** is a connection for the draining of any condensation formed during start up.

It is recommended that a trap of at least 75mm is incorporated into the drain, and the condensate is passed via a neutralisation system, bringing the acidity level to between 6.5 and 9 pH, to a suitable drain.

## **FUEL SUPPLY**

The fuel line must be installed in compliance with the current standards in force and by professionally qualified personell.

Before connection to the boiler it is recommended that the pipe work is cleaned.

Ensure that the required safety devices are installed and that the pipe work is not used to earth other appliances.

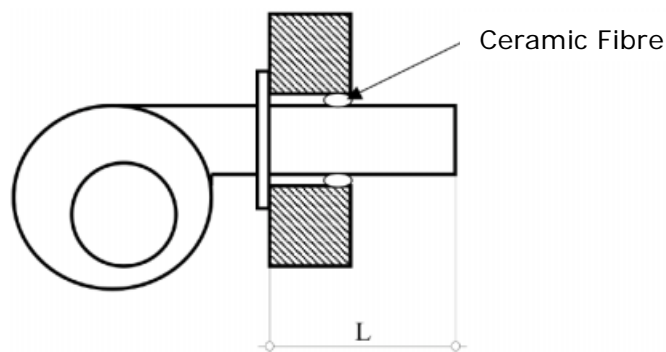
Confirm that the boiler is designed to be used on the fuel being supplied.

## **BURNER CONNECTION**

For the burner installation, the electric connections and the regulations necessary, consult the instructions manual of the burner.

Verify the correct choice of the burner for the boiler, checking the technical data of both.

The burner nozzle must have the following dimensions:



Boiler <b>SIMERAC AR</b>	Burner nozzle min/max L mm
80 ÷ 130	220 / 280
170 ÷ 350	250 / 330
400 ÷ 900	320 / 400
1100 ÷ 2050	350 / 420
2580 ÷ 3600	370 / 500

The burner must be securely fitted to the burner door using the fixing plate, and should be positioned so that the flame is parallel and central inside the combustion chamber.

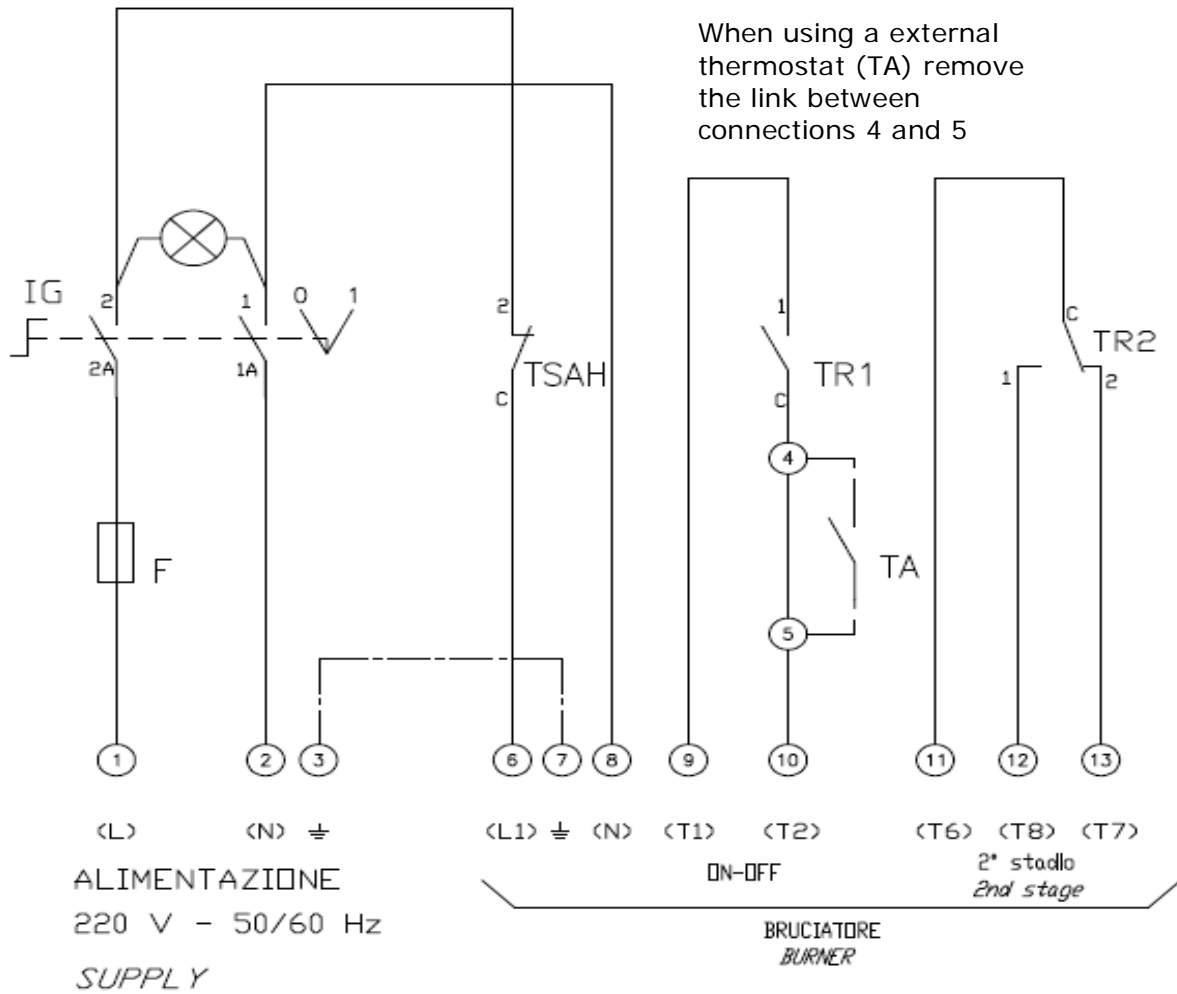
**IMPORTANT:** after having installed the burner, the space between the nozzle and the door opening must be filled with material resistant to 1000C (ceramic fibre mattress). This will avoid overheating and distortion of the door.

If the burner has an air intake, connect it using a rubber pipe, to the socket on the flame warning light: in this way the glass will remain clear.

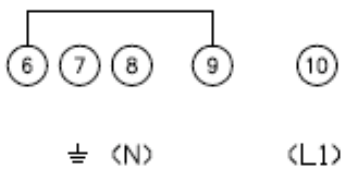
If the burner is without an air intake, remove the socket on the flame warning light and close the hole with a  $\varnothing$  1/8" GAS cap.

The connections to the burner must be positioned in a way to allow the complete opening of the door of the boiler with the burner assembled.

# ELECTRIC LAYOUT WITH DUAL-LEVEL BURNER



If the burner has only three connections, connect as shown below.



KEY

MW Main switch  
F Fuse 4A

TSAH Safety thermostat  
TR1/2 Working thermostat  
ET Environmental thermostat

## GTG DIESEL OIL HEAT UNITS TECHNICAL DATA

### SIMERAC GTG TECHNICAL DATA

80 - 90 AR

TYPE	394T1
Flow rate - Heat power	5,5/7 ÷ 15 kg/h - 65/83 ÷ 178kW
Fuel	Diesel oil, viscosity 4 ÷ 6 mm <sup>2</sup> s at 20°C
Electric power supply	Single phase, 230V ± 10% ~ 50Hz
Motor	2A absorbed- 2730 r/min - 286 rad/s
Condenser	6.3 µF
Ignition transformer	Secondary 8kV - 16 mA
Pump	Pressure: 8 ÷ 15 bar
Absorbed electric power	0.39 kW

### SIMERAC GTG TECHNICAL DATA

130 - 170 AR

TYPE	397T1
Flow rate - Heat power	9/11 ÷ 20 kg/h - 106/130 ÷ 237kW
Fuel	Diesel oil, viscosity 4 ÷ 6 mm <sup>2</sup> s at 20°C
Electric power supply	Single phase, 230V ± 10% ~ 50Hz
Motor	2A absorbed- 2730 r/min - 286 rad/s
Condenser	6.3 µF
Ignition transformer	Secondary 8kV - 16 mA
Pump	Pressure: 8 ÷ 15 bar
Absorbed electric power	0.39 kW

### SIMERAC GTG TECHNICAL DATA

200 AR

TYPE	398T1
Flow rate - Heat power	8/12 ÷ 25 kg/h - 95/142 ÷ 296kW
Fuel	Diesel oil, viscosity 4 ÷ 6 mm <sup>2</sup> s at 20°C
Electric power supply	Single phase, 230V ± 10% ~ 50Hz
Motor	2.1A absorbed- 2730 r/min - 286 rad/s
Condenser	8 µF
Ignition transformer	Secondary 8kV - 16 mA
Pump	Pressure: 8 ÷ 15 bar
Absorbed electric power	0.47 kW

MODEL		RL 34 MZ	RL 44 MZ
TYPE		972T	973T
POWER (1)	2nd Stage Kw	154 - 395	235 - 485
FLOW RATE (1)	Mcal/h	132 - 340	204 - 418
	kg/h	13 - 33,6	20 - 41
	1st Stage Kw	97 - 154	155 - 235
	Mcal/h	83 - 133	133 - 204
	kg/h	8,3 - 13	13 - 20
FUEL		DIESEL OIL	
- lower heating power	kWh/kg	11,8	
	Mcal/kg	10.2 (10.200 kcal/kg)	
- density	kg/dm <sup>3</sup>	0,82 - 0,85	
- viscosity at 20°C	mm <sup>2</sup> /s max	6 (1.5 °E - 6 cSt)	
FUNCTIONING		- Intermittent (min. 1 stop in 24 hours) - Dual-level (high and low flame) and single-level (all - nothing)	
NOZZLES	number	2	
ENVIRONMENT TEMPERATURE	°C	0-40	
COMBUSTION AIR TEMPERATURE	°C max	60	
ELECTRIC POWER SUPPLY	V	230 ~ +/-10%	230 - 400 with neutral ~ +/-10%
	Hz	50/60 - single phase	50/60 - three phase
ELECTRIC MOTOR	rpm	2800	2800
	W	300	450
	V	220 - 240	220/240 - 380/415
	A	2,4	2,0 - 1,2
MOTOR CONDENSER	µ F/V	12,5/450	
IGNITION TRANSFORMER	V1 - V2	230 V - 2 x 12kV	
	I1 - I2	0.2 A - 30 mA	
PUMP	Flow rate (at 12 bar) pressure field fuel temperature	kg/h bar °C max	45 7 - 14 60
			67 10 - 20 60
ABSORBED ELECTRIC POWER	W max	600	750
PROTECTION DEGREE		IP40	IP40
CE DIRECTIVES CONFORMITY		98/37 - 90/396 - 89/336 - 2004/108 - 73/23 - 2006/95 - 92/42	
NOISE (2)	dba	70	72
APPROVAL	CE	0036 0383/07	

(1) Conditions of reference: Environment temperature 20°C - Barometric pressure 1013 mbar - Altitude 0 m a.s.l.

(2) Sound pressure measured in the manufacturer's combustion laboratory, with burner working on test boiler at maximum power, at a distance of 1 m and frequency of 50 Hz.

### CONSTRUCTIVE VERSIONS

MODEL	LENGTH NOZZLE mm
RL 34 MZ	351
RL 44 MZ	351

## SIMERAC GTG TECHNICAL DATA

400 - 450 - 500 AR

<b>MODEL</b>		<b>RL 64 MZ</b>	
<b>TYPE</b>		<b>974 T</b>	
<b>POWER (1)</b>	2nd Stage	<b>kW</b>	391 - 830
<b>FLOW RATE (1)</b>		<b>Mcal/h</b>	336 - 714
		<b>kg/h</b>	33 - 70
	1st Stage	<b>kW</b>	206 - 391
		<b>Mcal/h</b>	177 - 296
		<b>kg/h</b>	17,4 - 33
<b>FUEL</b>		<b>DIESEL OIL</b>	
- lower heating power		<b>kWh/kg</b>	11,8
		<b>Mcal/kg</b>	10.2 (10.200 kcal/kg)
- density		<b>kg/dm<sup>3</sup></b>	0,82 - 0,85
- viscosity at 20 °C		<b>mm<sup>2</sup>/s max</b>	6 (1.5 °E - 6 cSt)
<b>FUNCTIONING</b>		- Intermittent (min. 1 stop in 24 hours) - Dual-level (high and low flame) and single-level (all - nothing)	
<b>NOZZLES</b>		<b>number</b>	2
<b>ENVIRONMENT TEMPERATURE</b>		<b>°C</b>	0 - 40
<b>COMBUSTION AIR TEMPERATURE</b>		<b>°C max</b>	60
<b>ELECTRIC POWER SUPPLY</b>		<b>V</b>	230 - 400 with neutral ~ +/- 10%
		<b>Hz</b>	50/60 Hz - three phase
<b>ELECTRIC MOTOR</b>		<b>rpm</b>	2800
		<b>W</b>	1500
		<b>V</b>	220/240 - 380/415
		<b>A</b>	4,7 - 2,7
<b>IGNITION TRANSFORMER</b>		<b>V1 - V2</b>	230 V - 2 x 12 kV
		<b>I1 - I2</b>	0.2 A - 30 mA
<b>PUMP</b>	Flow rate (at 12 bar)	<b>kg/h</b>	107
	pressure field	<b>bar</b>	10-20
	fuel temperature	<b>°C max</b>	60
<b>ABSORBED ELECTRIC POWER</b>		<b>W max</b>	1500
<b>PROTECTION DEGREE</b>		IP 44	
<b>CEE DIRECTIVES CONFORMITY</b>		89/336 - 2004/108 - 73/23 - 2006/95 - 92/42 - 98/37	
<b>NOISE (2)</b>		<b>dba</b>	76
<b>APPROVAL</b>		<b>CE</b>	0036 0382/07

(1) Conditions of reference: Environment temperature 20°C - Barometric pressure 1013 mbar - Altitude 0 m a.s.l.

(2) Sound pressure measured in manufacturer combustion laboratory, with burner working on test boiler at maximum power.



MODEL			RL 70	RL 100
TYPE			660T1	661T1
POWER (1)	2nd Stage	Kw	474 - 830	711 - 1186
FLOW RATE (1)		Mcal/h	408 - 714	612 - 1020
	1st Stage	kg/h	40 - 70	60 - 100
		kw	255 - 474	356 - 711
		Mcal/h	219 - 408	306 - 612
		kg/h	21,5 - 40	30 - 60
FUEL			DIESEL OIL	
- lower heating power		kWh/kg	11,8	
		Mcal/kg	10.2 (10.200 kcal/kg)	
- density		kg/dm <sup>3</sup>	0,82 - 0,85	
- viscosity at 20		mm <sup>2</sup> /s max	6 (1.5 °E - 6 cSt)	
FUNCTIONING			- Intermittent (min. 1 stop in 24 hours) - Dual-level (high and low flame) and single-level (all - nothing)	
NOZZLES		number	2	
ENVIRONMENT TEMPERATURE		°C	0-40	
COMBUSTION AIR TEMPERATURE		°C max	60	
ELECTRIC POWER SUPPLY		V	230 - 400 with neutral ~ +/-10%	
		Hz	50 - three phase	
ELECTRIC MOTOR		rpm	2800	2800
		W	1100	1500
		V	220/240 - 380/415	220/240 - 380/415
		A	4,7 - 2,7	6,4 - 3,7
IGNITION TRANSFORMER		V1 - V2	230 V - 2 x 5kV	
		I1 - I2	1.9 A - 30 mA	
PUMP	Flow rate (at 12 bar)	kg/h	107	220
	pressure field	bar	10 - 20	10 - 20
	fuel temperature	°C max	60	60
ABSORBED ELECTRIC POWER		W max	1400	1800
PROTECTION DEGREE			IP44	IP44
CE DIRECTIVES CONFORMITY			89/336 - 73/23 - 89/392	
NOISE (2)		dBA	75,00	77,00

(1) Conditions of reference: Environment temperature 20°C - Barometric pressure 1013 mbar - Altitude 0 m a.s.l.

(2) Sound pressure measured in manufacturer combustion laboratory, with burner working on test boiler at maximum power.

### CONSTRUCTIVE VERSIONS

MODEL	CODE	POWER SUPPLY ELECTRIC	LENGTH NOZZLE mm
RL 70	3475031	THREE PHASE	385
RL 100	3475231	THREE PHASE	385

# GTS GAS HEAT UNITS TECHNICAL DATA

## SIMERAC GTS TECHNICAL DATA

80 AR

90 - 130 -170 – 200 AR

TYPE		915 T1	917T1	918T1
Heat power	kW	16/19 ÷ 52	65/80 ÷ 200	110/140 ÷ 250
	Mcal/h	13,8/16,3 ÷ 44,7	55,9/68,8 ÷ 172	94,6/120,4 ÷ 215
Natural gas (Family 2)		Pci: 8 ÷ 12 kW/hm = 7000 ÷ 10.340 kcal/m Pressure: min. 20 mbar / max. 100 mbar		
MOTOR		0.8A absorbed	1.8A absorbed	1.9A absorbed
		2750 r/min. 288 rad/s	2800 r/min. 294 rad/s	2720 r/min. 288 rad/s
CONDENSER		4µF	6.3µF	8µF
ELECTRIC POWER SUPPLY		Single phase, 230V ± 10% ~ 50Hz		
TRANSFORMER		Primary 230 V - 0.2 A		
IGNITION		Secondary 8 kV - 12 mA		
POW. ABSORBED ELECTRIC		0.15 kW	0.35 kW	0.53 kW

(1) Conditions of reference: Environment temperature 20°C - Gas temperature 15°C - Barometric pressure 1013 mbar - Altitude 0 m a.s.l.

## SIMERAC GTS TECHNICAL DATA

250 - 300 AR

350 - 400 AR

MODEL		RS 34 MZ	RS 44 MZ
TYPE		883 T	884 T
POWER (1)	2nd stage	Kw 130 - 390	200 - 550
		Mcal/h 108 - 336	172 - 473
	min 1st stage	Kw 70	100
		Mcal/h 60	86
FUEL		NATURAL GAS: G20	
- lower heating power	kWh/Sm <sup>3</sup> - Mcal/Sm <sup>3</sup>	9,45 - 8,2	9,45 - 8,2
- absolute density	kg/Sm <sup>3</sup>	0,71	0,71
- maximum flow rate	Sm <sup>3</sup> /h	41	58
- pressure at maximum capacity (2)	mbar	15,4	15,9
FUNCTIONING		- Intermittent (min. 1 stop in 24 hours). - Dual-level (high and low flame) and single-level (all - nothing)	
ENVIRONMENT TEMPERATURE		°C	0 - 40
COMBUSTION AIR TEMPERATURE		°C max	60
ELECTRIC POWER SUPPLY		V	230 ~ +/-10%
		Hz	50/60 - single phase
ELECTRIC MOTOR		rpm	2800/3400
		W	300
		V	220/240
BREAKAWAY STARTING CURRENT		A	15
FUNCTIONING CURRENT		A	3,2
MOTOR CONDENSER		µF/V	12,5/400
IGNITION TRANSFORMER		V1 - V2	230 V - 1 x 15 kV
		I1 - I2	1 A - 25 mA
ABSORBED ELECTRIC POWER		W max	600
PROTECTION DEGREE			IP40
CE DIRECTIVES CONFORMITY			90/396 - 89/336 - 2004/108 - 73/23 - 2006/95 - 98/37 - 92/42
NOISE (3)		dBA	70
APPROVAL		CE	0085BR0381

(1) Conditions of reference: Environment temperature 20°C - Gas temperature 15°C - Barometric pressure 1013 mbar - Altitude 0 m a.s.l.

(2) Pressure to socket 7 (A) p.3 with zero pressure in combustion chamber.

(3) Sound pressure measured in the manufacturer's combustion laboratory, with burner working on test boiler at maximum power, at a distance of 1 m and frequency of 50Hz.

## SIMERAC GTS TECHNICAL DATA

450 - 500 - 600 AR

<b>MODEL</b>		<b>RS 64 MZ</b>	
<b>TYPE</b>		<b>885 T</b>	
<b>POWER (1)</b>	2nd stage	<b>Kw</b>	400 - 850
		<b>Mcal/h</b>	345 - 730
	min 1st stage	<b>Kw</b>	150
		<b>Mcal/h</b>	130
<b>FUEL</b>		<b>NATURAL GAS: G20</b>	
- lower heating power		<b>kWh/Sm<sup>3</sup></b>	9,45
		<b>Mcal/Sm<sup>3</sup></b>	8,2
- absolute density		<b>kg/Sm<sup>3</sup></b>	0,71
- maximum flow rate		<b>Sm<sup>3</sup>/h</b>	90
- pressure at maximum capacity (2)		<b>mbar</b>	10,7
<b>FUNCTIONING</b>		- Intermittent (min. 1 stop in 24 hours) - Dual-level (high and low flame) and single-level (all - nothing)	
<b>ENVIRONMENT TEMPERATURE</b>		<b>°C</b>	0 - 40
<b>COMBUSTION AIR TEMPERATURE</b>		<b>°C max</b>	60
<b>ELECTRIC POWER SUPPLY</b>		<b>V</b>	230 - 400 with neutral ~ +/-10%
		<b>Hz</b>	50 - three phase
<b>ELECTRIC MOTOR</b>		<b>rpm</b>	2800
		<b>W</b>	1100
		<b>V</b>	220/240 - 380/415
<b>FUNCTIONING CURRENT</b>		<b>A</b>	4,8 - 2,8
<b>BREAKAWAY STARTING CURRENT</b>		<b>A</b>	22 - 13
<b>IGNITION TRANSFORMER</b>		<b>V1 - V2</b>	230 V - 1x 5kV
		<b>I1 - I2</b>	1 A - 25 mA
<b>ABSORBED ELECTRIC POWER</b>		<b>W max</b>	1500
<b>PROTECTION DEGREE</b>		IP40	
<b>CE DIRECTIVES CONFORMITY</b>		90/396 - 89/336 - 2004/108 - 73/23 - 2006/95 - 92/42	
<b>NOISE (3)</b>		<b>dBA</b>	76
<b>APPROVAL</b>		<b>CE</b>	0085BR0558

(1) Conditions of reference: Environment temperature 20°C - Gas temperature 15°C - Barometric pressure 1013 mbar - Altitude 0 m a.s.l.

(2) Pressure to socket 7 (A) p.3 with zero pressure in combustion chamber.

(3) Sound pressure measured in the manufacturer's combustion laboratory, with burner working on test boiler at maximum power, at a distance of 1 m and frequency of 50Hz.

## SIMERAC GTS TECHNICAL DATA

700 AR

800 - 900 AR

MODEL		RS 70	RS 100
TYPE		821 T1	822 T2
POWER (1)	2nd stage	Kw 465 - 814	698 - 1163
	min 1st stage	Mcal/h 400 - 700	600 - 1000
		Kw 192	232
		Mcal/h 165	200
FUEL		NATURAL GAS: G20	
- lower heating power		kWh/N m <sup>3</sup> 10	10
		Mcal/ Nm <sup>3</sup> 8,6	8,6
- absolute density		kg/Nm <sup>3</sup> 0,71	0,71
- maximum flow rate		Nm <sup>3</sup> /h 81	116
- pressure at maximum capacity (2)		mbar 10,3	9,3
FUNCTIONING		<ul style="list-style-type: none"> <li>- Intermittent (min. 1 stop in 24 hours).</li> <li>- Dual-level (high and low flame) and single-level (all - nothing).</li> </ul>	
ENVIRONMENT TEMPERATURE	°C	0 - 40	0 - 40
COMBUSTION AIR TEMPERATURE	°C max	60	60
ELECTRIC POWER SUPPLY		V 230 - 400 with neutral ~ +/-10% Hz 50 - three phase	
ELECTRIC MOTOR	rpm	2800	2800
	W	1100	1500
	V	220/240 - 380/415	220/240 - 380/415
	A	4,8 - 2,8	5,9 - 3,4
IGNITION TRANSFORMER	V1 - V2	230 V - 1x8kV	
	I1 - I2	1 A - 20 mA	
ABSORBED ELECTRIC POWER	W max	1400	1800
PROTECTION DEGREE		IP44	IP44
CE DIRECTIVES CONFORMITY		90/396 - 89/336 - 2004/108 - 73/23 - 2006/95	
NOISE (3)	dBA	75	77
APPROVAL	CE	0085AP0944	0085AP0945

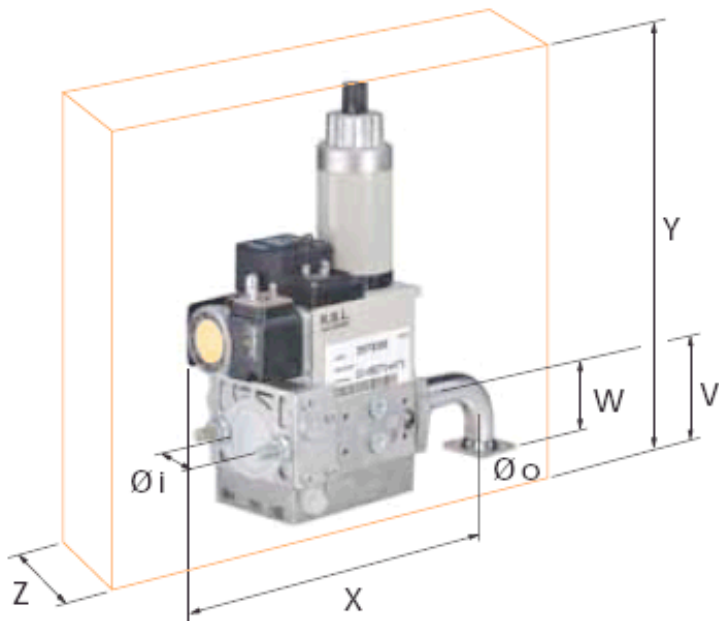
(1) Conditions of reference: Environment temperature 20°C - Barometric pressure 1000 mbar - Altitude 100 m a.s.l.

(2) Pressure at socket 16 (A) p.3 with zero pressure in combustion chamber, with gas ring nut 2 (B) p.7 open and at maximum burner power.

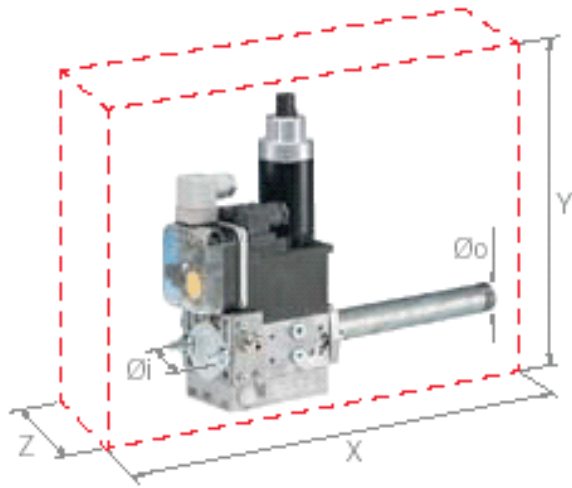
(3) Sound pressure measured in manufacturer combustion laboratory, with burner working on test boiler and at maximum power.

## COMBINATIONS BURNERS - GAS RAMPS

RAMP	Code	DUAL-LEVEL BURNER					
		SIMERAC 80	SIMERAC 90-170	SIMERAC 200	SIMERAC 250	SIMERAC 300-400	SIMERAC 450-500
		BS2D 8107310	BS3D 8107311	BS4D 8107312	RS34 MZ TL 8107313	RS44 MZ TL 8107314	RS64 MZ TL 8107315
MB ZR DLE 405 F2	8107401	X					
MB ZR DLE 407 F2	8107413	X					
MB ZR DLE 407 F3	8107402		X	X			
MB ZR DLE 410	8107404		X	X			
MB ZR DLE 412	8107411		X	X			
MBD 407	8107405				X	X	X
MBD 410	8107403				X	X	X
MBD 412	8107407				X	X	X
MBD 415	8107409				X	X	X
MBD 420	8107412				X	X	X



RAMP	Code	Ø i	Ø o	X mm	Y mm	Z mm	W mm	V mm	mbar max
MB ZR DLE 405 F2	8107401	3/4"	FLANGE 2	236	257	120	47	46	300
MB ZR DLE 407 F2	8107413	3/4"	FLANGE 2	236	257	120	47	46	300
MB ZR DLE 407 F3	8107402	3/4"	FLANGE 3	236	257	120	47	46	300
MB ZR DLE 410	8107404	1" 1/4	FLANGE 3	259	315	145	47	55	300
MB ZR DLE 412	8107411	1" 1/4	FLANGE 3	259	315	145	47	55	300



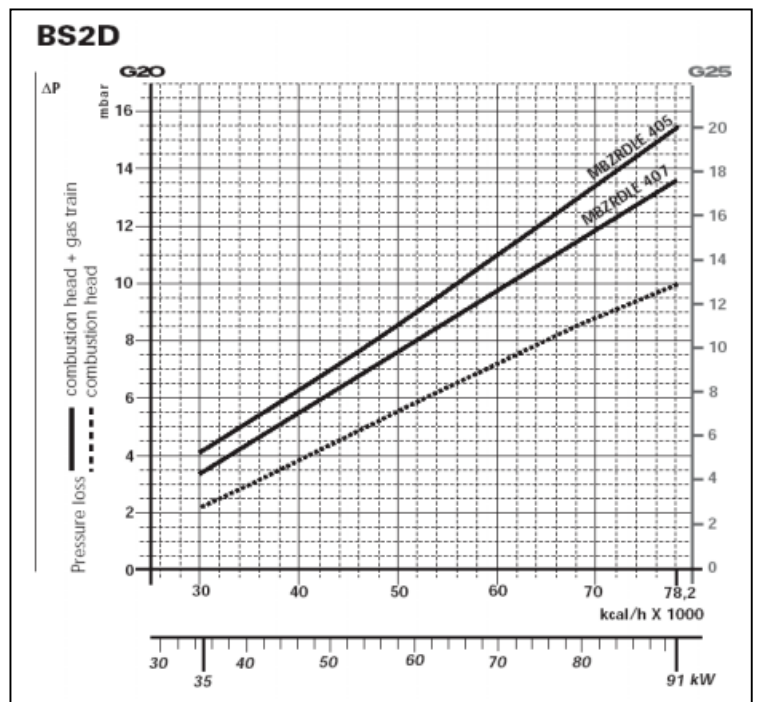
RAMP	Code	Ø I	Ø O	X mm	Y mm	Z mm	PRESSURE OUTLET (mbar)
MBD 407	8107405	3/4"	3/4"	371	196	120	4 - 20
MBD 410	8107403	1"	3/4"	405	217	145	4 - 20
MBD 412	8107407	1"1/4	1"1/4	433	217	145	4 - 20
MBD 415	8107409	1"1/2	1"1/2	523	250	100	4 - 33
MBD 420	8107412	2"	2"	523	300		4 - 33

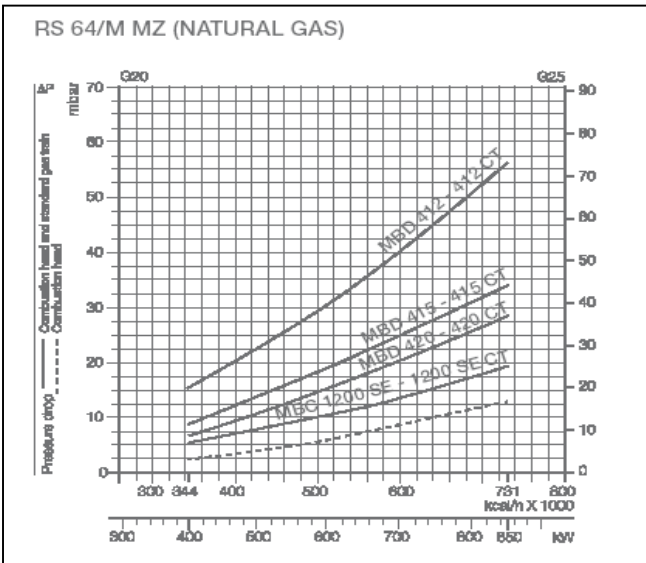
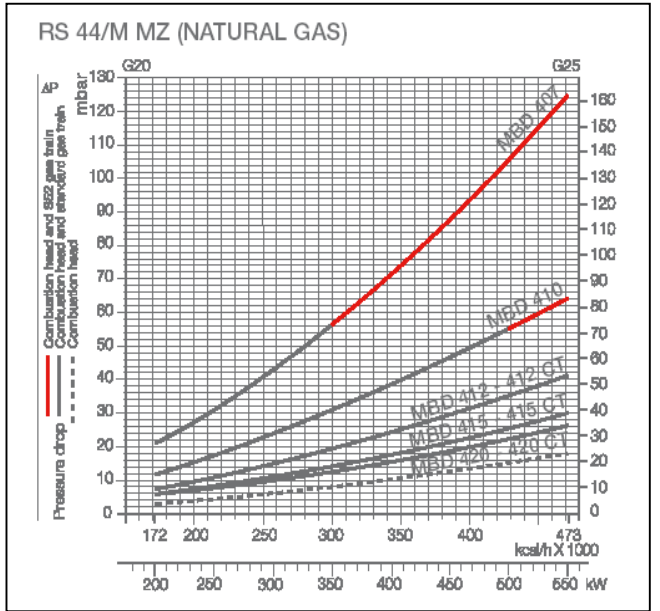
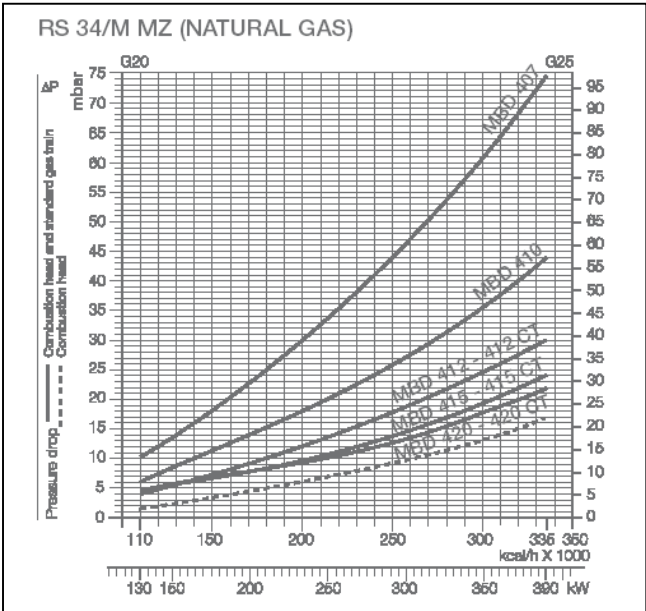
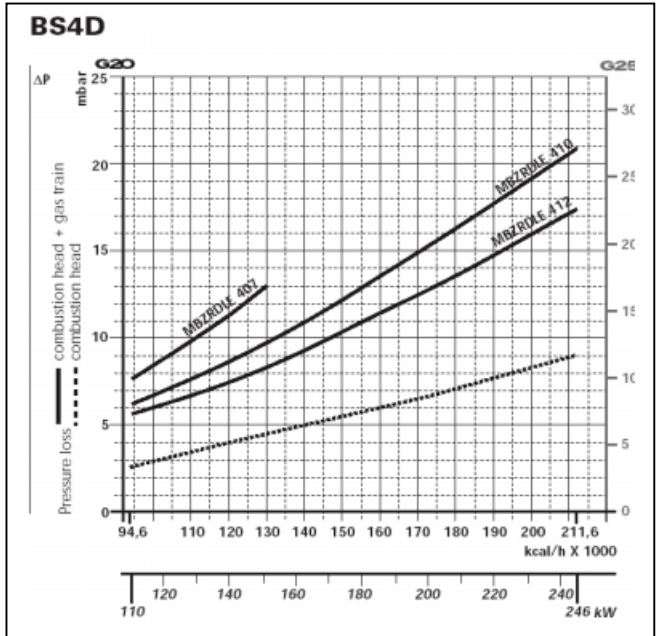
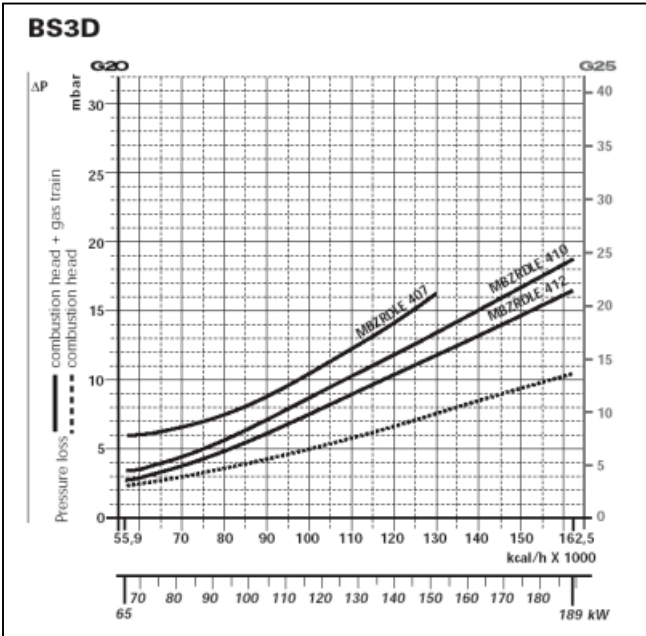
## GAS RAMPS

The values indicated by the various diagrams, represent the load loss of the burner combined with the various gas ramp models. To the identified value, add the eventual pressure in the combustion chamber.

The calculated value represents the **minimum pressure** that must be guaranteed at gas ramp inlet. Reported below is the dimensioning method of the gas line to guarantee such pressure.



RAMP	Code
MB ZR DLE 405 F2	8107401
MB ZR DLE 407 F2	8107413
MB ZR DLE 407 F3	8107402
MB ZR DLE 410	8107404
MB ZR DLE 412	8107411
MBD 407	8107405
MBD 410	8107403
MBD 412	8107407
MBD 415	8107409
MBD 420	8107412








## ADAPTORS

Depending on the model of RS burner and the chosen gas ramp, an adaptor fitting may be necessary. In case the chosen ramp does not appear in the burner square, it means the adaptor is not required to connect the ramp to the burner.

▶ RS 34/M MZ	MBD 405 - 407 - 410	 3/4" 1" 1/2	3000824
	MBD 420	 2" 1" 1/2	3000822

▶ RS 44/M MZ	MBD 405 - 407 - 410	 3/4" 1" 1/2	3000824
	MBD 420	 2" 1" 1/2	3000822

▶ RS 64/M MZ	MBD 407 - 410	 3/4" 1" 1/2	3000824
		 1" 1/2 2"	+
	MBD 412 - 415	 1" 1/2 2"	3000843

## DIMENSIONING OF THE GAS LINE

The following diagram is used to identify the load loss of a pre-existing gas line and/or to choose the gas ramp.

The diagram is also useful to dimension a new gas line knowing the fuel capacity and its length.

The piping diameter is established according to the wanted pressure drop. The gas of reference is methane G20.

Remember that in dimensioning the gas ramp, the counter pressure in the combustion chamber must be taken into consideration.

### Check of pressure drop in an existing line or dimensioning of a new gas line.

Identify the methane flow rate, in the upper axis of the diagram, move vertically downwards until the line relating to the diameter of the piping is crossed; now move horizontally to the left, until the line relating to the length of the gas line is crossed.

Now move vertically downwards until the lower axis is crossed. This is the identified value of the pressure loss in mbar.

By subtracting the value identified in the diagram from the pressure measured on the gas meter, the correct value for the choice of the ramp is calculated.



## EXAMPLE

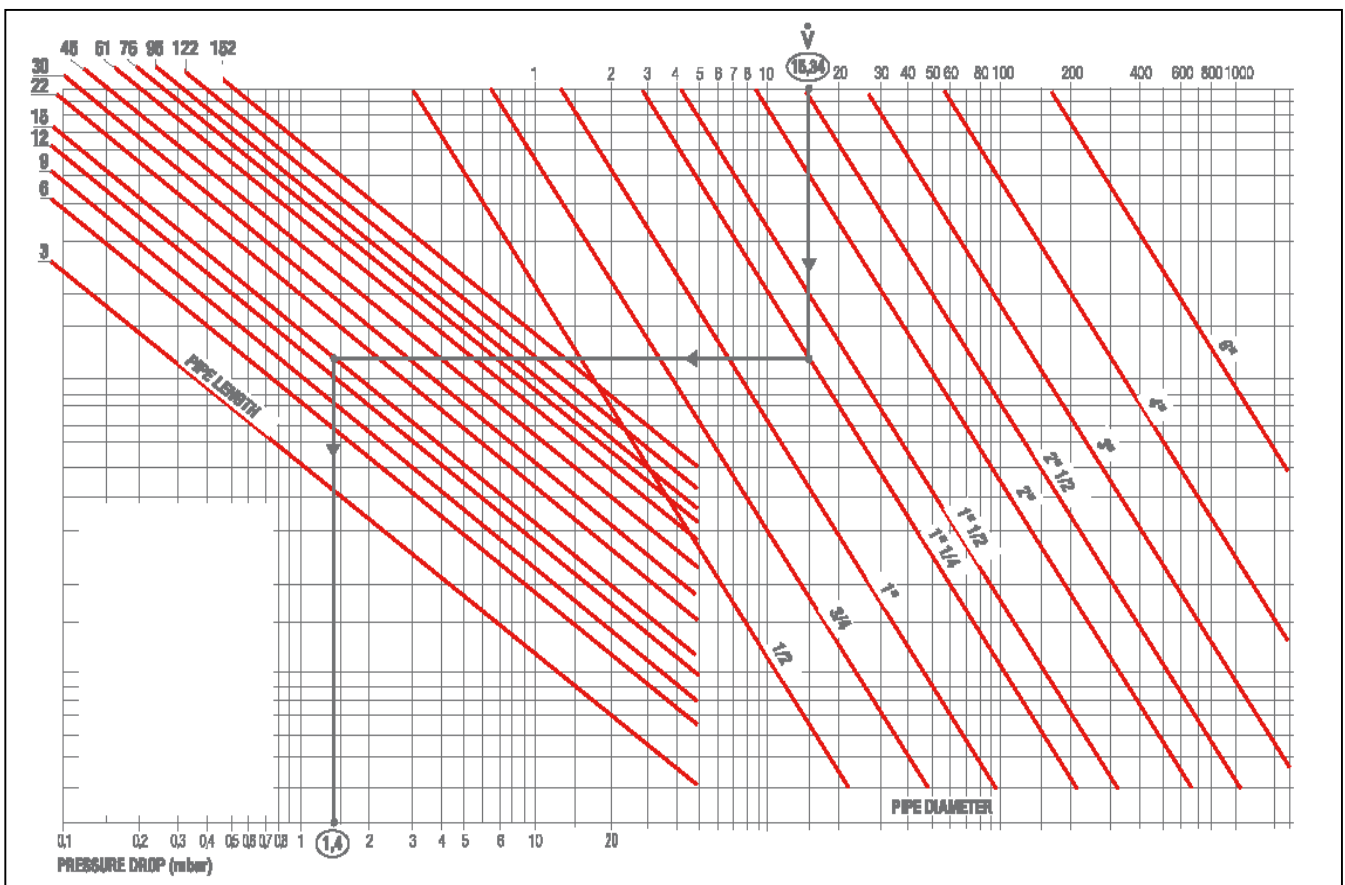
Methane capacity 15.34 mc/h

Pressure at meter 20 mbar

Line length 15 m

- Identify the value 15.34 in the upper axis (flow rate), move vertically until the line relating to diameter 1"1/4 is crossed (the chosen diameter for the piping);
- From here move horizontally to the left until the piping length line is met: 15 m;
- Move vertically towards the lower axis, the value of the load loss is met at the crossing: 1.4 mbar;
- Subtract the found value from the gas pressure measured on meter, the correct value to choose the ramp will be:  $20 - 1.4 = 18.6$  mbar.

The calculated value must not be below the minimum pressure value identified in the various combination diagrams ramp - burner.



## CASING ASSEMBLY (only SIMERAC 80 ÷ 900 AR)

**IMPORTANT: assemble the casing after having completed installation.**

Extract the mineral wool insulation (1) from the furnace and wrap it around the boiler's shell, starting from the top. Fixing it into position and making holes for the pipe work connections where required.

Secure it to the shell using the clamps provided.

Start assembly with the left side panel (3), being careful to position the lower part first and then the upper part of the panel on the corners of the boiler structure.

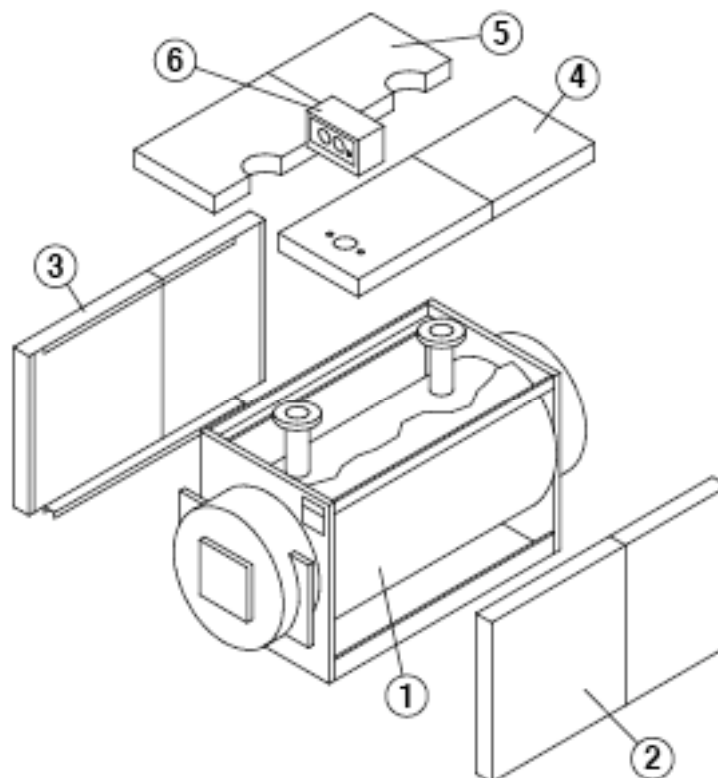
Assemble the right side panel (2) in the same way.

Position the upper panels (4) (5) on the boiler.

Before joining them, prepare the control unit (6) See **ASSEMBLY OF THE CONTROL UNIT** and fasten it to the right upper panel as follows: extend the thermostat and thermometer capillaries then pass them through the panel hole and insert them in the sockets near the flow pipe.

Fix the control unit to the panel.

Join the upper panels to the side panels.



## **ASSEMBLY OF THE CONTROL UNIT**

The control panel is inside a box placed in the burner compartment of the boiler.  
Power supply voltage 220 V - 50 Hz.

Open the the control unit by removing the self tapping screws.

Extend the thermostat and thermometer capillaries then being careful not to damage them and pass them through the hole at the bottom of the control unit.

For models **SIMERAC 1100 ÷ 3600 AR**, fix the control unit in the most suitable position (at the side or above the boiler) using the bracket provided.

**ATTENTION:** It is essential that the capillaries of the thermostat and thermometer are positioned correctly in the socket.

Make all the electrical connections as shown in the wiring diagram supplied.

Do not secure any wiring to the body of the boiler, n the combustion chamber or the combustion chamber door.

Finally close the control unit.

# ASSISTANCE AND MAINTENANCE

## PRELIMINARY OPERATIONS UPON FIRST IGNITION

### Before start-up:

- ensure that the capillaries from the control unit are correctly fitted in the sockets and that the flue is correctly fitted;
- ensure that the turbolators are fitted correctly;
- check that the system is full of water, deaerated and with a pressure of at least 1 bar and lower to the maximum pressure for the appliance.
- check that all control and safety devices are operational and correctly calibrated;
- check that the combustion chamber is clean and free from debris;
- check that the refractory coating of the door is not damaged;
- check that the space around the burner nozzle has been correctly filled (see page 20);
- check that the door is adjusted and correctly fitted (see page 38);
- check that the shut-off valves of the system are completely open and that the pumps turn correctly;
- confirm that fuel is available, the necessary tests have been completed and the isolation valves are open.

## FIRST IGNITION

After having carried out the preliminary check, to start the boiler it is necessary:

- regulate the boiler thermostat(s) located on the control panel at 60 and 90°C, depending on the type of heating system;
- regulate the environment thermostat at a temperature of about 20°C;
- place the main switch "on";
- press the main switch on the control panel (the warning light in the button switches on).

The appliance will perform an ignition phase and, once started, will remain functioning until the set temperatures are reached. Subsequently, functioning is automatic.

## **CHECK DURING AND AFTER FIRST IGNITION**

After the initial ignition, it must be confirmed that the boiler will stop and restart.

- turn down the boiler thermostat does the burner stop?
- turn off the main switch, does the boiler stop?
- turn down the environment thermostat does the burner turn off?

Check all the water, fuel and flue connections and seals.

It is essential that the door and combustion chamber seals are checked for spillage of products of combustion.

It is advisable to tighten the door fixings while the boiler is hot.

Reconfirm the integrity of the flue and flue seals.

Ensure that the pumps are oriented correctly.

Confirm that the system shuts down when the main switch is turned off.

Ensure that the burner is commissioned and calibrated correctly and that a satisfactory combustion analysis achieved.

The optimal temperature of the combustion products during normal functioning is of about 110 ÷ 120 °C.

Confirm that the pressure when the system is hot is within the allowed pressure of the boiler.

## **MAINTENANCE**

Routine maintenance is essential for the safety, operation and performance of the appliance.

Repairs and maintenance can only be done by suitably qualified personnel.

It is recommended that a combustion analysis is conducted before and after any routine maintenance.

After having carried out fuel combustion analysis and before any operation:

- remove the electric power supply by switching off the main switch of the system;

- close the shut-off fuel cocks;
- examine the boiler casing for signs of damage, corrosion or other deterioration;
- examine the flue and gaskets for signs of damage, corrosion or deterioration;
- examine the seals at the rear of the combustion chamber for signs of damage or deterioration;
- examine the door and burner seals for signs of deterioration or damage and leakage of products of combustion;
- examine the condensate drain is clear;
- examine the fuel supply pipe work and valves;
- examine the system pipe work and connections for leaks;
- check that the ventilation provided for the appliance is not blocked or restricted;

## **DOOR OPENING AND ADJUSTMENT**

The door can be opened from both sides (excluding models **SIMERAC 2580 ÷ 3600 AR**).

Usually the opening is from left to right.

To open the door, remove the fixing nuts from the left part.

To amend the opening direction of the door with the aid of hoisting appliances, operate as follows:

- hook the door to the hoist using two holes provided on the upper part;
  - remove the four fastening nuts;
  - remove the door;
  - loosen the two lock-nuts on the tie-rods and tighten them on the tie-rods on the other side;
  - re-assemble the door being careful to place the seats of the lock-nuts inside the door bushing of the door;
  - tighten the four fastening nuts.
- To adjust fastening:
  - tighten the adjusting lock-nuts without having them come out of the seat of the bushing of the door;
  - tighten the locking nuts with cross system enough to guarantee hermetic and even closing;
  - ensure the locknuts are secure.

The door adjustment must be checked at every service or maintenance visit.

## **CLEANING THE BOILER**

The boiler must be cleaned at least once a year to remove any carbon deposits, from the combustion chamber surfaces.

To carry it out, open the door, open the rear cleaning door and remove the turbolators.

Clean the piping with a scraper and remove any soot from the rear cleaning door.

## **CHECKS AFTER CLEANING THE BOILER**

After having carried out the maintenance and cleaning operations, repeat the preliminary grounding checks (see page 37,38 & 39), check calibration of the burner and carry out an conduct a flue gas analysis to confirm correct combustion.

Check the hydraulic system for leaks that would require topping up of the system, The need to introduce more water to the system increases the risk of lime scale forming within the boiler.

If it is required, the flushing and cleaning of the boiler and heating system should only be done by specialist companies.

It is essential that the system water is tested at regular intervals to confirm that the treatment is adequate.

# POSSIBLE FAULTS AND THEIR SOLUTIONS

## Oil Burner Fault Finding Chart

NOTE: Rectification of any internal burner component must be done by a qualified burner engineer.

<i>Symptom</i>	<i>Possible Cause</i>	<i>Action</i>
<b>A. Burner will not start</b>	1. Electrical supply failure	1. Check the following: a) Main isolating switch of the burner is on. b) Overload protective device of the burner motor.
	2. Control thermostat time or water pressure switches or other boiler systems controls at fault	2. Check that power is available at the control panel and all switches are closed.
	3. Manual reset on limit thermostat tripped (when fitted)	3. Reset and check also control thermostat setting and operation.
	4. When using heavy oil temperatures incorrect in oil piping or in burner preheater	4. Check temperatures: ensure preheating equipment is operating.
<b>B. Burner starts i.e. burner motor runs but will not light and burner goes to 'lockout'.</b>	1. No ignition spark.	1. Switch off burner. Check spark plug gap. Check H.T. leads and connections. Check and clean ignition electrode(s) and insulator
	2. No oil spray into combustion chamber but pressure indicated on burner gauge (if fitted).	2. Open door and check whether oil has been sprayed into combustion chamber; if no evidence of spray, clean or replace burner nozzle(s).
	3. No oil spray into combustion chamber and no pressure indicated on the oil gauge.	3. Check as above. If no spray, check the following: a) There is oil in the fuel tank. b) All necessary valves are open. c) The oil filter is clear. d) There is no airlock in the fuel pump (listen for any unusual sound from pump). e) For air leakage into the fuel feed pump. f) The fire valve or fire link has not closed in oil line.
<b>C. Burner lights but rapidly extinguishes.</b>	1. Dirty photocell (causing 'lockout' action).	1. Remove cell, clean and refit.
	2. Faulty photocell (causing 'lock-out' action).	2. Replace cell with new.



## Oil Burner Fault Finding Chart / 2

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NOTE: Rectification of any internal burner component must be done by a qualified burner engineer.

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<i>Symptom</i>	<i>Possible Cause</i>	<i>Action</i>
D. <b>Smoky flame and/or fumes from burner. Flame shape alters from normal. Boiler door becomes hotter than usual.</b>	1. Air inlet damper accidentally masked or other obstruction to airflow.	1. Clear obstruction.
	2. Alteration to air inlet damper position.	2. Reset damper and make a combustion check (special instruments required).
	3. Burner nozzle(s) dirty or badly fitted.	3. Replace nozzle(s).
	4. Incorrect nozzle(s).	4. Replace with correct nozzle(s).
	5. Excessive oil pressure.	5. Reset pump pressure regulator.
	6. Boiler tubes, flue or chimney blocked or restricted. Flue damper closed.	6. Clean tubes. Open flue damper and check why it became closed. Clear blockage or restriction.
	7. Burner draught tube or flameplate misplaced or faulty.	7. Call Service Engineer to correct and replace if necessary.
	8. Door refractory failure.	8. Check for damage, replace if damage severe.

## Gas Burner Fault Finding Chart

NOTE: Rectification of any internal burner component must be done by a qualified burner engineer.

<i>Symptom</i>	<i>Possible Cause</i>	<i>Action</i>
<b>A. Burner will not start</b>	1. Electrical supply failure.	1. Check: a) Main isolator switch is on and power is available at the control panel. b) Overload protective devices of burner motors (if fitted).
	2. Air pressure switch on burner not operating.	2. Switch contacts must be in the burner start position. Check switch is not stuck in the satisfied position.
	3. Control thermostat, time, water pressure switches or other boiler system controls at fault.	3. Check: a) That all switches are closed b) Booster is not locked out due to low inlet gas pressure and that pressure switches function correctly.
		4. Reset and check. Also check and control thermostat setting and operation.
<b>B. Burner starts i.e. burner motor runs but will not light and burner control box goes to 'lockout'.</b>	1. No ignition spark.	1. See action B1. (Oil Burners)
	2. Gas starvation.	2. Purge gas pipe, check pilot valve operation.
	3. Ultra-violet cell fault.	3. Remove, clean and check connections and replace if necessary.
<b>C. Burner motor starts but stops and re-cycles.</b>	1. Air pressure switch on the burner.	1. Check: a) burner damper is open to usual extent. b) air inlet to switch is not blocked. c) switch is not stuck. d) electrical connection.
<b>D. Burner shuts down during operation and recycles.</b>	As C1 above.	As C1 above.
<b>E. Burner shuts down during operation and goes to 'lockout'.</b>	1. Flame failure	1. Check gas supply and pressure.
	2. Ultra-violet cell fault.	2. As B3 above.

## Gas Burner Fault Finding Chart / 2

NOTE: Rectification of any internal burner component must be done by a qualified burner engineer.

<i>Symptoms</i>	<i>Possible Cause</i>	<i>Action</i>
<b>F. Burner lights on pilot but burner locks out after 3 - 4 seconds.</b>	<ol style="list-style-type: none"> <li>1. Ultra-violet cell faulty</li> <li>2. Ultra-violet cell is not receiving a sufficient signal from the flame</li> </ol>	<ol style="list-style-type: none"> <li>1. As B3</li> <li>2. Clean cell and check correctly inserted facing the flame</li> </ol>
<b>G. Smell of gas local to the appliance.</b>	<ol style="list-style-type: none"> <li>1. Leakage from pipe line joints or pilot or that the main gas valves are not gas tight.</li> </ol>	<ol style="list-style-type: none"> <li>1. Switch OFF burner and check pipe line joints with soap solution.</li> <li>2. Close pilot manual valve and then main manual valve at the burner to see if this isolates the problem. Call gas engineer to check the automatic valves. Do not operate until this has been done.</li> </ol>
<b>H. Combustion noise becomes louder, flame becomes yellow. Boiler door becomes hotter than usual.</b>	<ol style="list-style-type: none"> <li>1. Air inlet accidentally masked.</li> <li>2. Air inlet damper position moved.</li> <li>3. Burner head parts have moved, become worn or overheated.</li> <li>4. Gas pressure alteration.</li> <li>5. Boiler tubes, flue or chimney blocked or restricted.</li> <li>6. Door refractory failed.</li> </ol>	<ol style="list-style-type: none"> <li>1. Clear obstruction.</li> <li>2. Call Service Engineer to reset and make a combustion check.</li> <li>3. Call Service Engineer to adjust or replace and make combustion check.</li> <li>4. Check and find cause.</li> <li>5. Check and clear restriction.</li> <li>6. Replace if damage is severe.</li> </ol>

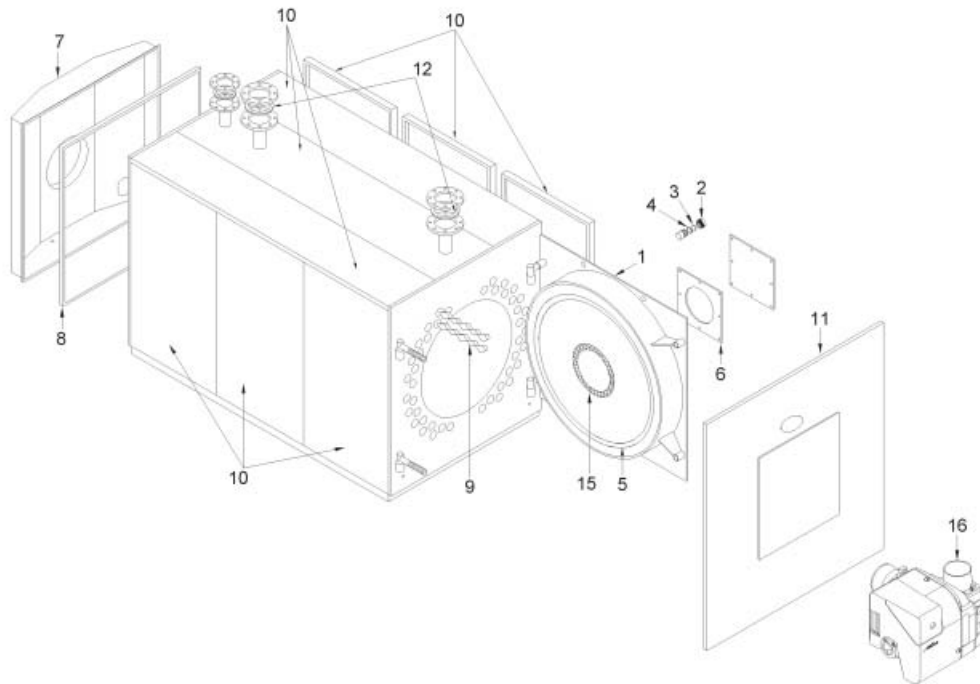
General and System Fault Finding Chart

<u>Symptom</u>	<u>Possible Cause</u>	<u>Action</u>
A. The safety thermostat intervenes	1. Check the positions of the sensing capillaries	1. Refit and secure in correct position
B. Smell of unburnt products	1. Faulty or damaged seals or gaskets	1. Check the door, burner plate and flue seals for damage or leakages rectify as required. 2. Check the hose holder on the flame warning light is correctly connected
C. The boiler is at the working temperature but the system is cold	1. Isolation valves closed 2. Pump not circulating 3. Air in system	1. Check that all isolation valves are open Ensure that any motorised valves are operating 1. Check operation of the pump 2. Confirm power supply to the pump 1. Check the system for air locks
D. Frequent operation or constant leakage from safety valves	1. Incorrect filling pressure 2. Incorrect sizing of expansion vessel. 3. Expansion vessel lost charge 4. Faulty or damaged safety valve.	1. Ensure that the filling pressure is correct- ensure that the pressure when cold is 1 bar 1. Recalculate required size and change if Required 1. Re pressurise or replace expansion Vessel 1. Replace faulty valve.
E. Water on floor around boiler	1. Leakage from pipe work 2. Incorrectly fitted or blocked condensate drain 3. Excessive condensation	1. Check and rectify 1. Re fit / unblock condensate drain. 1. Ensure that the return temperature is maintained over 50°C 2. Check operation of, or install an anti condensation device. See the condensation section of this manual.

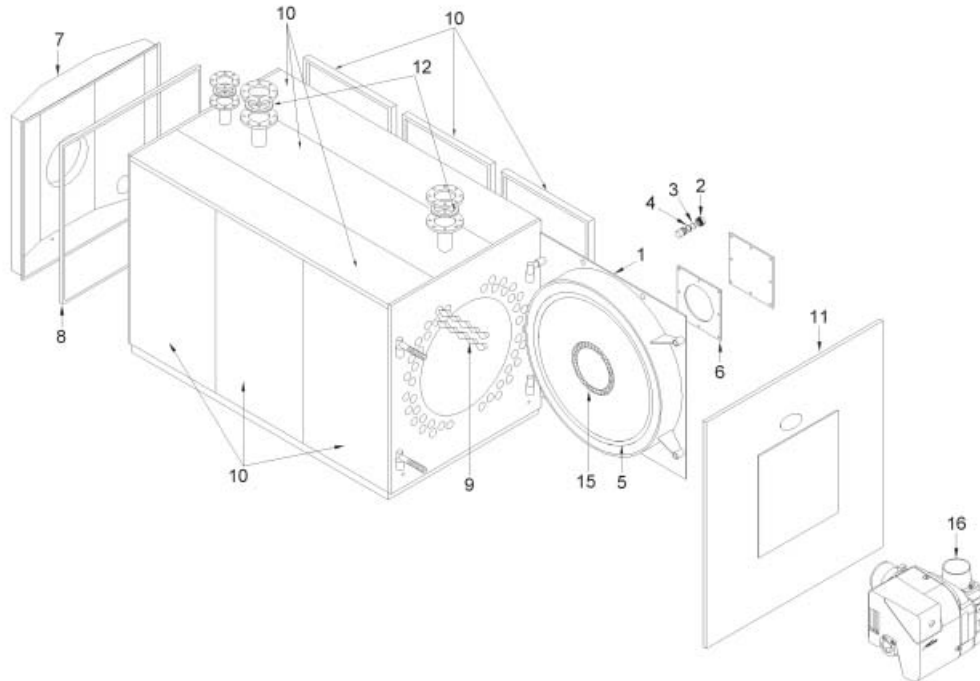
# SPARE PARTS

## PARTS LIST SIMERAC/GTS SIMERAC/GTG SIMERAC 80 – 500AR

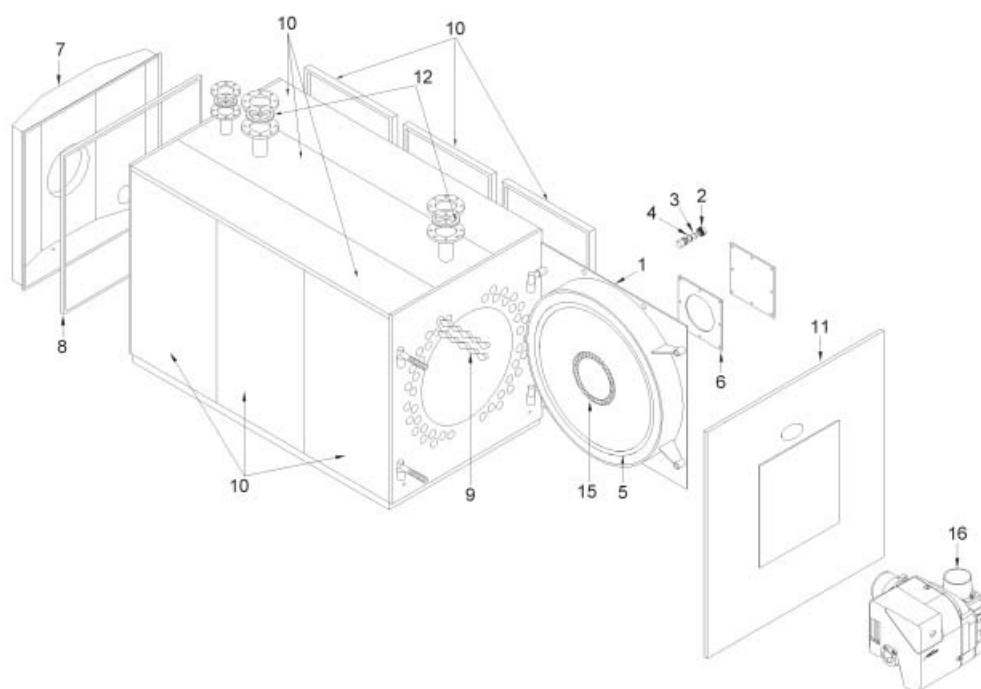
SIMERAC 80 AR - GTG SIMERAC 80AR - GTS SIMERAC 80AR



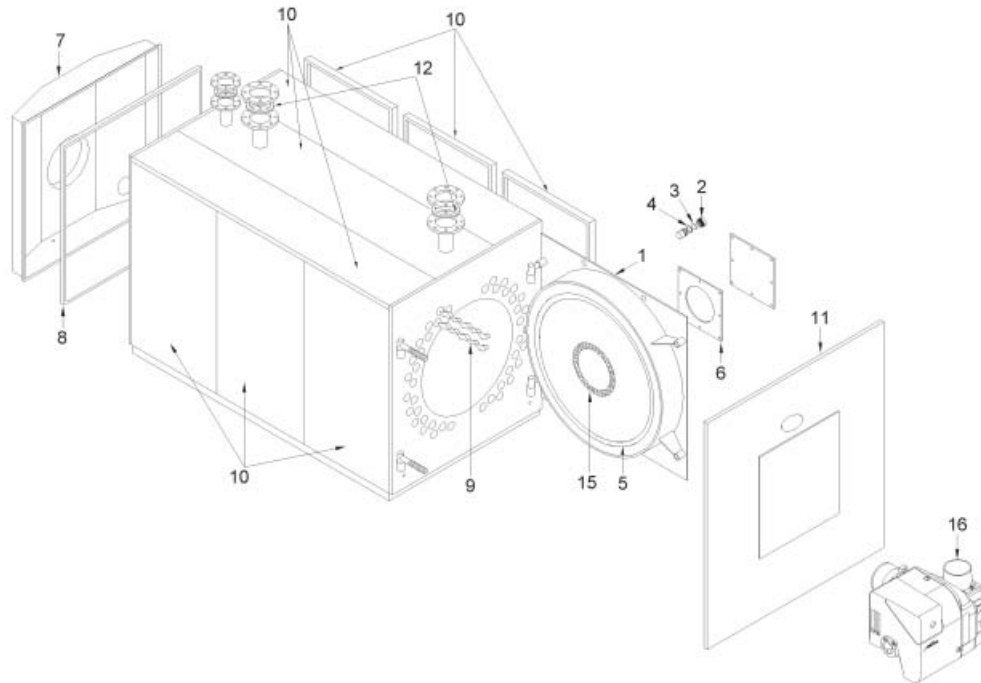
Posiz.	Codice	Descrizione	
002	6323201	Galvanized rim 1"	
003	6323202	Diam.30 sight glass	
004	6323203	Sight glass gasket	
005	6323204	Braid gasket diam.20 L=2050	
006	6323205	Burner plate gasket	
007	6323206	Smoke chamber	
008	6323207	Smoke chamber gasket	
009	6323208	Buffle	
010	6323209	Complete casing	
010G	6323248	Complete casing	DA MATR. 100000
011	6323210	Front panel	
012	6323220	Flow/return gasket	
015	6323260	Ceramic fiber thickness 25 mm	METRI Q.-SQUARE METR
016	8107320	Burner GTG	
016	8107310	Burner GTS	
700	6323236	Round thermometer	
701	6323237	Exercise thermostat	
702	6323238	Safety thermostat	
703	6323239	Main switch	
704	6323240	Fuse holder	
705	6323241	Thermometer 0-120°C	
710	6323246	Minimum thermostat	
711	6323247	Relè	
712	6317047	D.H.W sensor Housing 1/2" x95	
713	6277100	External probe QAC 31/101	
714	6277110	Plunged Probe QAZ21/5220	
716	8107401	Gas ramp GTS	
715	6272803	Kit regulaiton RVA 43	
722	8108800	Long head kit GTS	
725	5197820	Complete control panel	
728	8108803	Long head kit GTG	



Posiz.	Codice	Descrizione	
002	6323201	Galvanized rim 1"	
003	6323202	Diam.30 sight glass	
004	6323203	Sight glass gasket	
005	6323204	Braid gasket diam.20 L=2050	
006	6323205	Burner plate gasket	
007	6323206	Smoke chamber	
008	6323207	Smoke chamber gasket	
009	6323208	Buffle	
010	6323209	Complete casing	
010G	6323248	Complete casing	DA MATR. 100000
011	6323210	Front panel	
012	6323220	Flow/return gasket	
015	6323260	Ceramic fiber thickness 25 mm	METRI Q.-SQUARE METR
016	8107320	Burner GTG	
016	8107311	Burner GTS	
700	6323236	Round thermometer	
701	6323237	Exercise thermostat	
702	6323238	Safety thermostat	
703	6323239	Main switch	
704	6323240	Fuse holder	
705	6323241	Thermometer 0-120°C	
710	6323246	Minimum thermostat	
711	6323247	Relè	
712	6317047	D.H.W sensor Housing 1/2" x95	
713	6277100	External probe QAC 31/101	
714	6277110	Plunged Probe QAZ21/5220	
715	6272803	Kit regulaiton RVA 43	
717	8107402	Gas ramp GTS	
725	5197820	Complete control panel	
728	8108803	Long head kit	
723	8108801	Long head kit GTS	

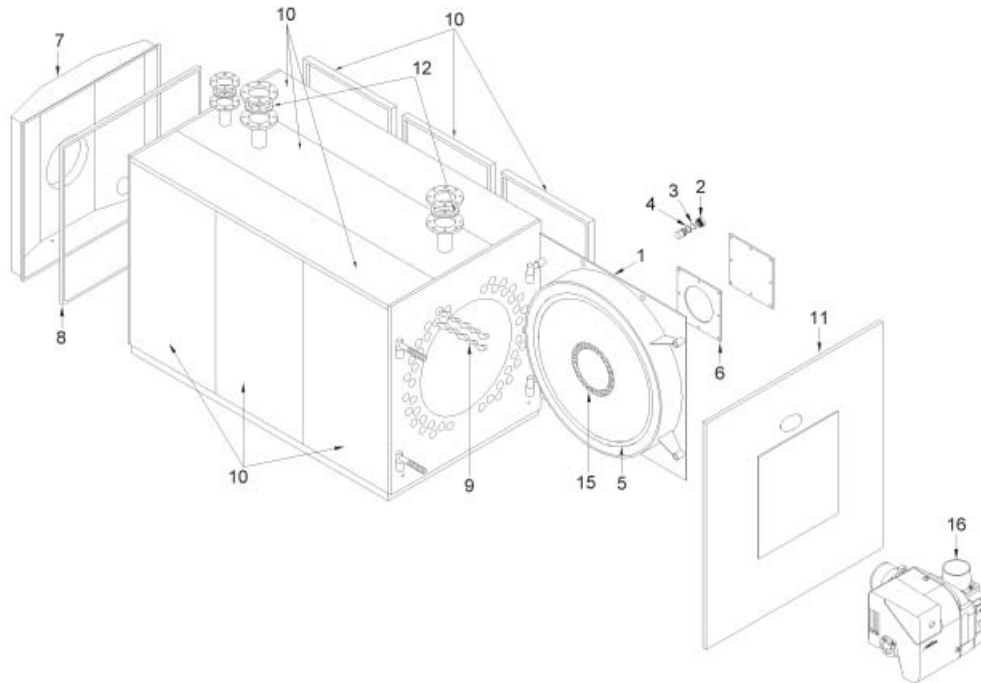


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002	6323201	Galvanized rim 1"	
003	6323202	Diam.30 sight glass	
004	6323203	Sight glass gasket	
005	6323204	Braid gasket diam.20 L=2050	
006	6323205	Burner plate gasket	
007	6323206	Smoke chamber	
008	6323207	Smoke chamber gasket	
009A	6323211	Buffe	
010A	6323212	Complete casing	
010H	6323249	Complete casing	DA MATR. 100000
011	6323210	Front panel	
012	6323220	Flow/return gasket	
015	6323260	Ceramic fiber thickness 25 mm	METRI Q.-SQUARE METR
016	8107321	Burner GTG	
016	8107311	Burner GTS	
700	6323236	Round thermometer	
701	6323237	Exercise thermostat	
702	6323238	Safety thermostat	
703	6323239	Main switch	
704	6323240	Fuse holder	
705	6323241	Thermometer 0-120°C	
710	6323246	Minimum thermostat	
711	6323247	Relè	
712	6317047	D.H.W sensor Housing 1/2" x95	
713	6277100	External probe QAC 31/101	
714	6277110	Plunged Probe QAZ21/5220	
715	6272803	Kit regulaiton RVA 43	
717	8107402	Gas ramp GTS	
723	8108801	Long head kit GTS	
725	5197820	Complete control panel	
729	8108804	Long head kit	

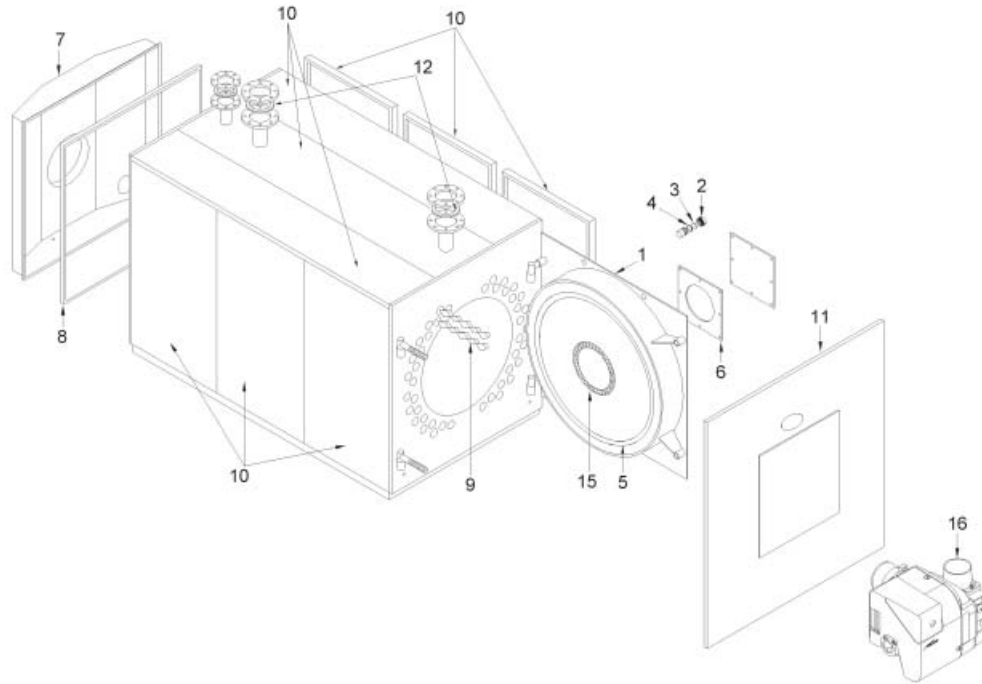


Posiz.	Codice	Descrizione
001A	6323213	Door
002	6323201	Galvanized rim 1"
003	6323202	Diam.30 sight glass
004	6323203	Sight glass gasket
005A	6323214	Braid gasket diam.20 L=2500
006A	6323215	Burner plate gasket
007A	6323216	Smoke chamber
008A	6323217	Smoke chamber gasket
009A	6323211	Buffle
010B	6323218	Complete casing
010I	6323250	Complete casing
011A	6323219	Front panel
012	6323220	Flow/return gasket
015	6323260	Ceramic fiber thickness 25 mm
016	8107321	Burner GTG
016	8107311	Burner GTS
700	6323236	Round thermometer
701	6323237	Exercise thermostat
702	6323238	Safety thermostat
703	6323239	Main switch
704	6323240	Fuse holder
705	6323241	Thermometer 0-120°C
710	6323246	Minimum thermostat
711	6323247	Relè
712	6317047	D.H.W sensor Housing 1/2" x95
713	6277100	External probe QAC 31/101
714	6277110	Plunged Probe QAZ21/5220
715	6272803	Kit regulaiton RVA 43
717	8107402	Gas ramp GTS
725	5197820	Complete control panel
723	8108801	Long head kit GTS
730	8108805	Long head kit

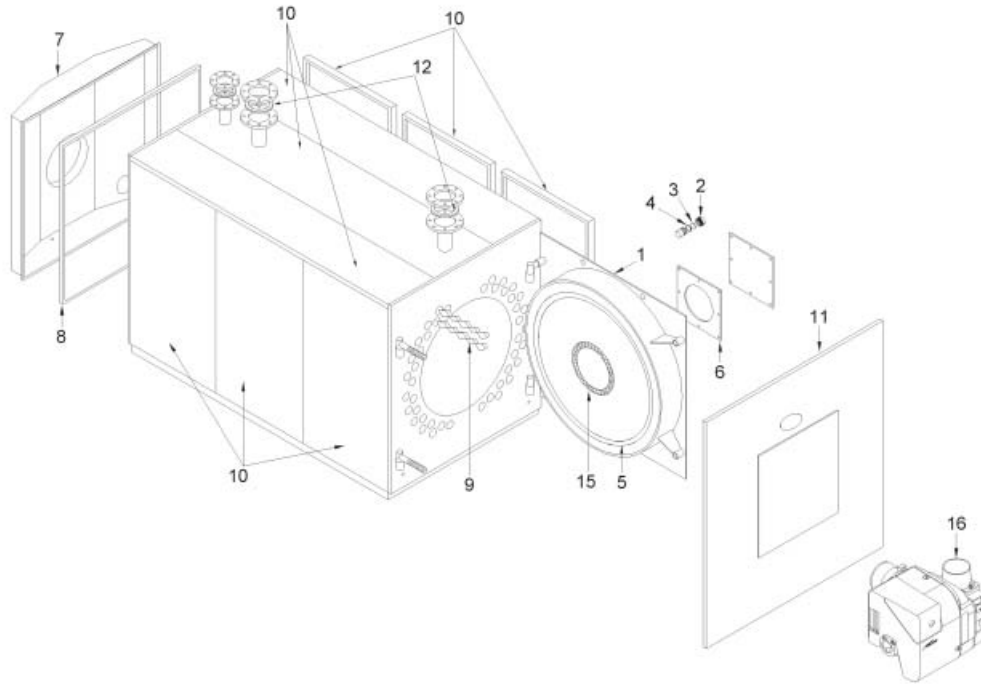




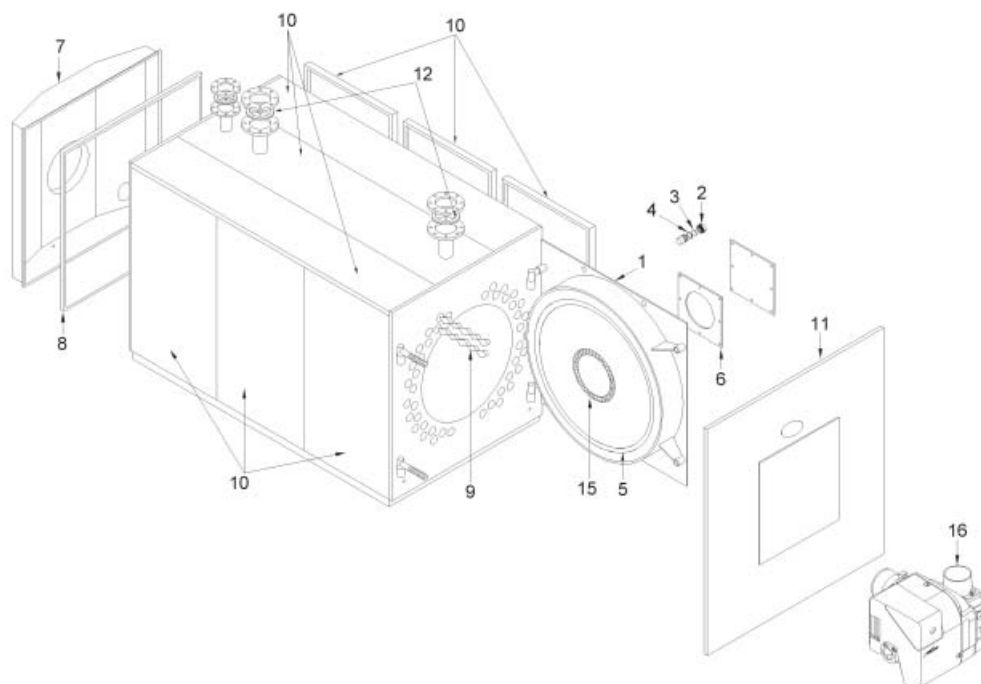
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007A	6323216	Smoke chamber
008A	6323217	Smoke chamber gasket
009A	6323211	Buffle
010B	6323218	Complete casing
010I	6323250	Complete casing
011A	6323219	Front panel
012	6323220	Flow/return gasket
015	6323260	Ceramic fiber thickness 25 mm
016	8107322	Burner GTG
016	8107312	Burner GTS
700	6323236	Round thermometer
701	6323237	Exercise thermostat
702	6323238	Safety thermostat
703	6323239	Main switch
704	6323240	Fuse holder
705	6323241	Thermometer 0-120°C
710	6323246	Minimum thermostat
711	6323247	Relè
712	6317047	D.H.W sensor Housing 1/2" x95
713	6277100	External probe QAC 31/101
714	6277110	Plunged Probe QAZ21/5220
715	6272803	Kit regulaiton RVA 43
718	8107404	Gas ramp GTS
724	8108802	Long head kit GTS
725	5197820	Complete control panel
731	8108806	Long head kit



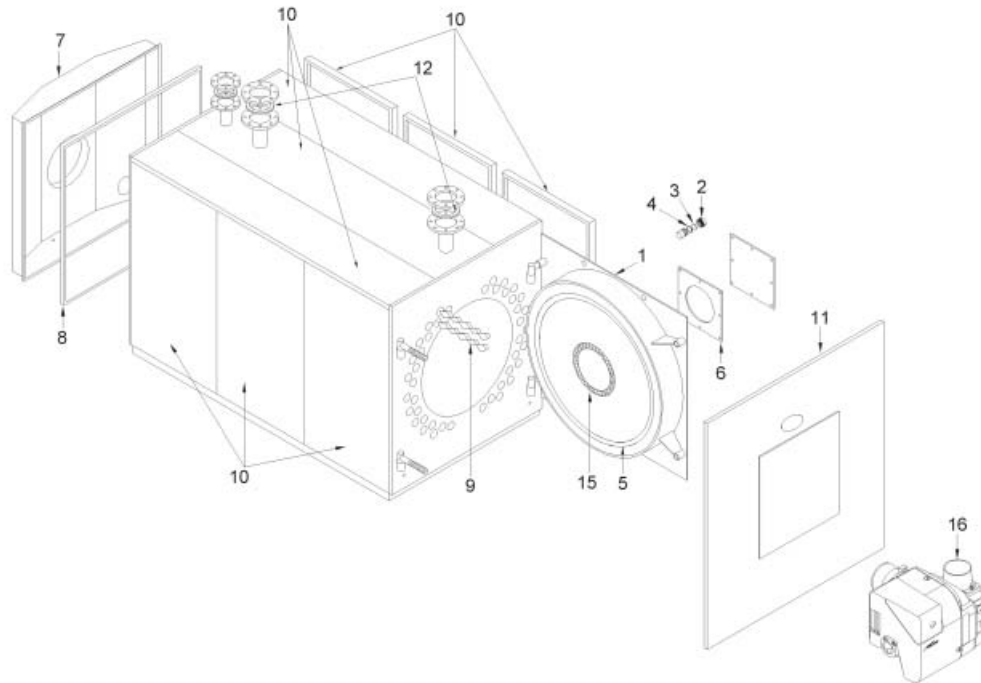
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006A	6323215	Burner plate gasket
007A	6323216	Smoke chamber
008A	6323217	Smoke chamber gasket
009B	6323221	Buffle
010C	6323222	Complete casing
010L	6323251	Complete casing
011A	6323219	Front panel
012	6323220	Flow/return gasket
015	6323260	Ceramic fiber thickness 25 mm
016	8107323	Burner GTG
016	8107313	Burner GTS
700	6323236	Round thermometer
701	6323237	Exercise thermostat
702	6323238	Safety thermostat
703	6323239	Main switch
704	6323240	Fuse holder
705	6323241	Thermometer 0-120°C
710	6323246	Minimum thermostat
711	6323247	Relè
712	6317047	D.H.W sensor Housing 1/2"x95
713	6277100	External probe QAC 31/101
714	6277110	Plunged Probe QAZ21/5220
715	6272803	Kit regulaiton RVA 43
719	8107405	Gas ramp GTS
725	5197820	Complete control panel
726	8108810	Spacer GTG



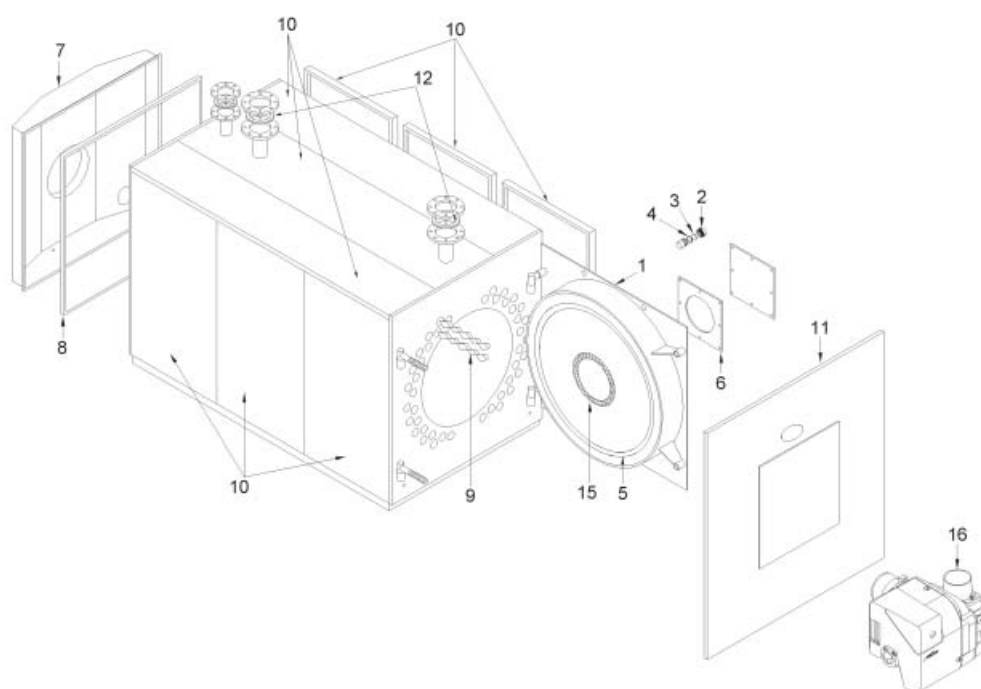
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006A	6323215	Burner plate gasket
007A	6323216	Smoke chamber
008A	6323217	Smoke chamber gasket
009B	6323221	Buffle
010C	6323222	Complete casing
010L	6323251	Complete casing
011A	6323219	Front panel
012	6323220	Flow/return gasket
015	6323260	Ceramic fiber thickness 25 mm
016	8107324	Burner GTG
016	8107314	Burner GTS
700	6323236	Round thermometer
701	6323237	Exercise thermostat
702	6323238	Safety thermostat
703	6323239	Main switch
704	6323240	Fuse holder
705	6323241	Thermometer 0-120°C
710	6323246	Minimum thermostat
711	6323247	Relè
712	6317047	D.H.W sensor Housing 1/2"x95
713	6277100	External probe QAC 31/101
714	6277110	Plunged Probe QAZ21/5220
715	6272803	Kit regulaiton RVA 43
720	8107403	Gas ramp GTS
725	5197820	Complete control panel
726	8108810	Spacer



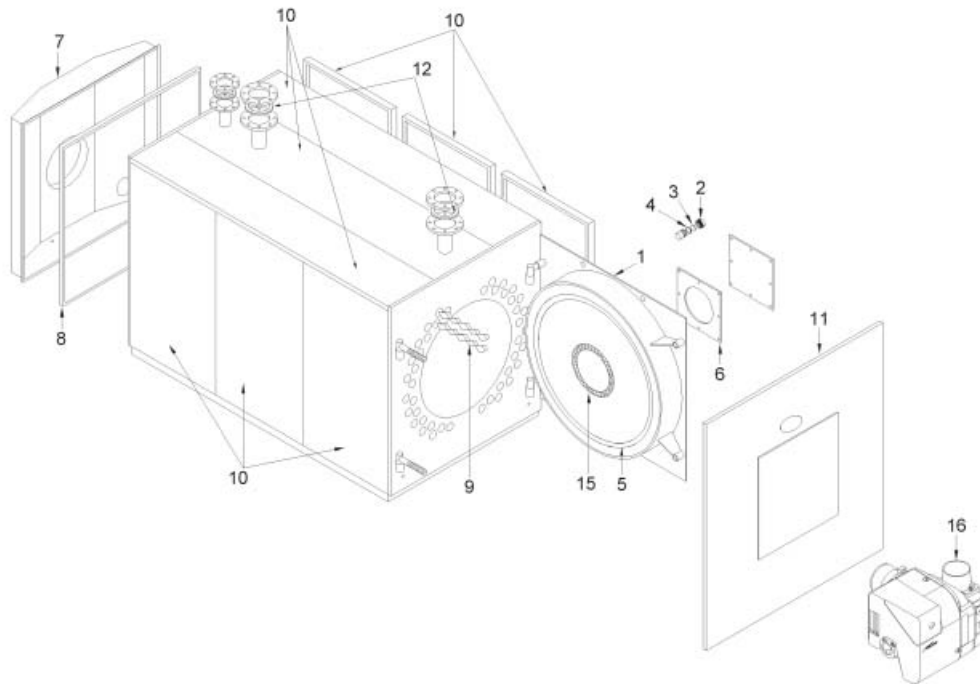
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005A	6323214	Braid gasket diam.20 L=2500
006A	6323215	Burner plate gasket
007A	6323216	Smoke chamber
008A	6323217	Smoke chamber gasket
009C	6323223	Buffle
010D	6323224	Complete casing
010M	6323252	Complete casing
011A	6323219	Front panel
012	6323220	Flow/return gasket
015	6323260	Ceramic fiber thickness 25 mm
016	8107324	Burner GTG
016	8107314	Burner GTS
700	6323236	Round thermometer
701	6323237	Exercise thermostat
702	6323238	Safety thermostat
703	6323239	Main switch
704	6323240	Fuse holder
705	6323241	Thermometer 0-120°C
710	6323246	Minimum thermostat
711	6323247	Relè
712	6317047	D.H.W sensor Housing 1/2"x95
713	6277100	External probe QAC 31/101
714	6277110	Plunged Probe QAZ21/5220
715	6272803	Kit regulaiton RVA 43
720	8107403	Gas ramp GTS
725	5197820	Complete control panel
726	8108810	Spacer



Posiz.	Codice	Descrizione
001B	6323225	Door
002	6323201	Galvanized rim 1"
003	6323202	Diam.30 sight glass
004	6323203	Sight glass gasket
005B	6323226	Braid gasket diam.28 L=2900
006B	6323227	Burner plate gasket
007B	6323228	Smoke chamber
008B	6323229	Smoke chamber gasket
009D	6323230	Buffle
010E	6323231	Complete casing
010N	6323253	Complete casing
011B	6323232	Front panel
012A	6323233	Flow/return gasket
015	6323260	Ceramic fiber thickness 25 mm
016	8107325	Burner GTG
016	8107314	Burner GTS
700	6323236	Round thermometer
701	6323237	Exercise thermostat
702	6323238	Safety thermostat
703	6323239	Main switch
704	6323240	Fuse holder
705	6323241	Thermometer 0-120°C
710	6323246	Minimum thermostat
711	6323247	Relè
712	6317047	D.H.W sensor Housing 1/2" x95
713	6277100	External probe QAC 31/101
714	6277110	Plunged Probe QAZ21/5220
715	6272803	Kit regulaiton RVA 43
720	8107403	Gas ramp GTS
725	5197820	Complete control panel

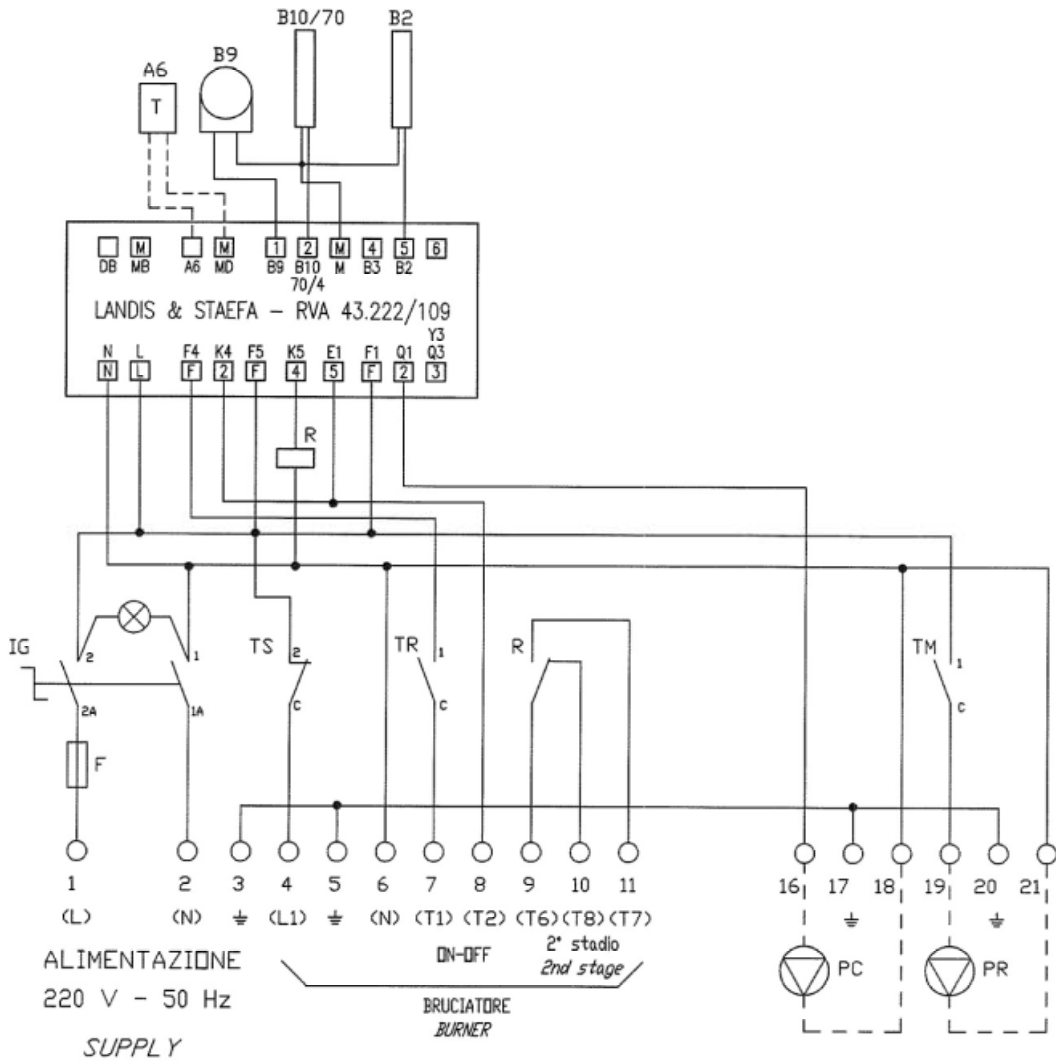


Posiz.	Codice	Descrizione
001B	6323225	Door
002	6323201	Galvanized rim 1"
003	6323202	Diam.30 sight glass
004	6323203	Sight glass gasket
005B	6323226	Braid gasket diam.28 L=2900
006B	6323227	Burner plate gasket
007B	6323228	Smoke chamber
008B	6323229	Smoke chamber gasket
009D	6323230	Buffle
010E	6323231	Complete casing
010N	6323253	Complete casing
011B	6323232	Front panel
012A	6323233	Flow/return gasket
015	6323260	Ceramic fiber thickness 25 mm
016	8107325	Burner GTG
016	8107315	Burner GTS
700	6323236	Round thermometer
701	6323237	Exercise thermostat
702	6323238	Safety thermostat
703	6323239	Main switch
704	6323240	Fuse holder
705	6323241	Thermometer 0-120°C
710	6323246	Minimum thermostat
711	6323247	Relè
712	6317047	D.H.W sensor Housing 1/2" x95
713	6277100	External probe QAC 31/101
714	6277110	Plunged Probe QAZ21/5220
715	6272803	Kit regulaiton RVA 43
721	8107403	Gas ramp GTS
725	5197820	Complete control panel
727	8107502	Adapter 1" 1/2 - 2"



Posiz.	Codice	Descrizione
001B	6323225	Door
002	6323201	Galvanized rim 1"
003	6323202	Diam.30 sight glass
004	6323203	Sight glass gasket
005B	6323226	Braid gasket diam.28 L=2900
006B	6323227	Burner plate gasket
007B	6323228	Smoke chamber
008B	6323229	Smoke chamber gasket
009E	6323234	Buffle
010F	6323235	Complete casing
010O	6323254	Complete casing
011B	6323232	Front panel
012A	6323233	Flow/return gasket
015	6323260	Ceramic fiber thickness 25 mm
016	8107325	Burner GTG
016	8107315	Burner GTS
700	6323236	Round thermometer
701	6323237	Exercise thermostat
702	6323238	Safety thermostat
703	6323239	Main switch
704	6323240	Fuse holder
705	6323241	Thermometer 0-120°C
710	6323246	Minimum thermostat
711	6323247	Relè
712	6317047	D.H.W sensor Housing 1/2" x95
713	6277100	External probe QAC 31/101
714	6277110	Plunged Probe QAZ21/5220
715	6272803	Kit regulaiton RVA 43
721	8107407	Gas ramp GTS
725	5197820	Complete control panel
727	8107502	Adapter 1" 1/2 - 2"

# ELECTRIC DIAGRAM WITH THERMOREGULATOR RVA 43.222



## KEY:

- IG MAIN SWITCH-DISCONNECTOR
- F FUSE
- TS SAFETY THERMOSTAT
- R RELAY
- TR WORKING THERMOSTAT
- B2 BOILER PROBE
- PC BOILER PUMP
- A6 ENVIROMENT PROBE
- B9 OUTSIDE PROBE
- TM MINIMUM THERMOSTAT
- PR BOILER RECIRCULATING PUMP
- B70 RETURN PROBE
- B10 DELIVERY PROBE



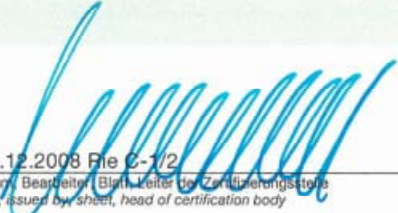
**CE 0085**



**EG-Baumusterprüfbescheinigung**  
**EC type examination certificate**

**CE-0085BS0230**  
Produkt-Identnummer  
product identification no.

<b>Anwendungsbereich</b> <i>field of application</i>	EG-Gasgeräte-richtlinie (90/396/EWG) <i>EC Gas Appliances Directive (90/396/EEC)</i>
<b>Vertreiber</b> <i>distributor</i>	Fonderie Sime S.p.A Via Garbo 27, I-37045 Legnago (VR)
<b>Produktart</b> <i>product category</i>	Gasheizkessel: Heizkessel ohne Brenner (3117)
<b>Produktbezeichnung</b> <i>product description</i>	Heizkessel für Brenner mit Gebläse
<b>Modell</b> <i>model</i>	SIMERAC...AR
<b>Bestimmungsländer</b> <i>countries of destination</i>	AT, BA, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MT, NL, NO, PL, PT, RO, RU, SE, SI, SK, TR, UA
<b>Prüfberichte</b> <i>test reports</i>	Ergänzungsprüfung: 148645aZ2/15884 vom 22.11.2007 (GWI)
<b>Prüfgrundlagen</b> <i>basis of type examination</i>	EU/90/396/EWG (29.06.1990) DIN EN 303-1 (01.12.2003) DIN EN 303-3 (01.10.2004)
<b>Aktenzeichen</b> <i>file number</i>	08-0845-GER

  
 05.12.2008 File C-1/2  
 Datum / Issued by: Blatt / Leiter der Zertifizierungsstelle  
 date / issued by: sheet / head of certification body

DVGW CERT 31. 08/07

DVGW CERT GmbH - von der Deutschen Bundesregierung benannte und von der Europäischen Kommission offiziell registrierte Stelle für die Konformitätsbewertung von Gasgeräten  
DVGW CERT GmbH - notified by the government of the Federal Republic of Germany and officially registered by the European Commission for conformity assessment of gas appliances



ZLS-ZE-527/07

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eMail: info@dvgw-cert.com

**Elektrische Daten:** 230/400 V AC, 50 Hz  
*electrical data*

<b>Installationsarten</b> <i>installation codes</i>	<b>Bestimmungsländer</b> <i>countries of destination</i>	<b>Bemerkungen</b> <i>remarks</i>
B23	AT, BA, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MT, NL, NO, PL, PT, RO, RU, SE, SI, SK, TR, UA	

<b>Typ</b> <i>type</i>	<b>Technische Daten</b> <i>technical data</i>	<b>Bemerkungen</b> <i>remarks</i>
SIMERAC 80 AR	Nennleistung: 81,0 kW Nennwärmebelastung (Hi): 86,2 kW	
SIMERAC 90 AR	Nennleistung: 91,0 kW Nennwärmebelastung (Hi): 96,7 kW	
SIMERAC 130 AR	Nennleistung: 132,0 kW Nennwärmebelastung (Hi): 140,0 kW	
SIMERAC 170 AR	Nennleistung: 170,0 kW Nennwärmebelastung (Hi): 179,6 kW	
SIMERAC 200 AR	Nennleistung: 203,0 kW Nennwärmebelastung (Hi): 214,0 kW	
SIMERAC 250 AR	Nennleistung: 253,0 kW Nennwärmebelastung (Hi): 266,0 kW	
SIMERAC 300 AR	Nennleistung: 304,0 kW Nennwärmebelastung (Hi): 320,0 kW	
SIMERAC 350 AR	Nennleistung: 354,0 kW Nennwärmebelastung (Hi): 372,0 kW	
SIMERAC 400 AR	Nennleistung: 398,0 kW Nennwärmebelastung (Hi): 418,0 kW	
SIMERAC 450 AR	Nennleistung: 455,0 kW Nennwärmebelastung (Hi): 477,0 kW	
SIMERAC 500 AR	Nennleistung: 505,0 kW Nennwärmebelastung (Hi): 530,0 kW	
SIMERAC 600 AR	Nennleistung: 610,0 kW Nennwärmebelastung (Hi): 640,0 kW	
SIMERAC 700 AR	Nennleistung: 715,0 kW Nennwärmebelastung (Hi): 750,0 kW	
SIMERAC 800 AR	Nennleistung: 820,0 kW Nennwärmebelastung (Hi): 860,0 kW	
SIMERAC 900 AR	Nennleistung: 920,0 kW Nennwärmebelastung (Hi): 966,0 kW	

**Verwendungshinweise / Bemerkungen**  
*hints of utilization / remarks*

Die Gerätekategorien und Gasanschlussdrücke richten sich jeweils nach dem zum Einsatz kommenden Gasbrenner mit Gebläse.

Die CE-Kennzeichnung wird in Bosnien-Herzegowina, Kroatien, in der Russischen Föderation und in der Ukraine erst dann als Konformitätsnachweis akzeptiert, wenn Bosnien-Herzegowina, Kroatien, die Russische Föderation bzw. die Ukraine die EG-Gasgeräterichtlinie (90/396/EWG) in nationales Recht umgesetzt haben.

DVGW


# EG-Baumusterprüfbescheinigung

## EC type examination certificate

**CE-0085BS0230**

Produkt-Identnummer  
product identification no.

<b>Anwendungsbereich</b> <i>field of application</i>	EG-Wirkungsgradrichtlinie (92/42/EWG) <i>EC Efficiency Directive (92/42/EEC)</i>
<b>Vertreiber</b> <i>distributor</i>	Fonderie Sime S.p.A Via Garbo 27, I-37045 Legnago (VR)
<b>Produktart</b> <i>product category</i>	Gasheizkessel: Heizkessel ohne Brenner (3117)
<b>Produktbezeichnung</b> <i>product description</i>	Heizkessel für Brenner mit Gebläse
<b>Modell</b> <i>model</i>	SIMERAC...AR
<b>Heizkesseltyp</b> <i>type of boiler</i>	Standardheizkessel
<b>Prüfberichte</b> <i>test reports</i>	Ergänzungsprüfung: 148645aZ2/15884 vom 22.11.2007 (GW)
<b>Prüfgrundlagen</b> <i>basis of type examination</i>	EU/92/42 (21.05.1992)
<b>Aktenzeichen</b> <i>file number</i>	08-0845-GWR



05.12.2008 Rie C-1/2  
Datum, Bearbeiter, Blatt, Leiter der Zertifizierungsstelle  
date, issued by, sheet, head of certification body

DVGW CERT GmbH - vom Deutschen Institut für Bautechnik (DIBt) nach dem Bauproduktengesetz anerkannte und bei der Europäischen Kommission benannte Zertifizierungsstelle für die EG-Heizkessel-Wirkungsgradrichtlinie

DVGW CERT GmbH - recognized by the German Institute for Building Technology (DIBt) and notified at the European Commission as certification body for the EC Boiler Efficiency Directive

**DIBt**

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<b>Typ type</b>	<b>Technische Daten technical data</b>	<b>Energieeffizienzkennz. energy labelling</b>
SIMERAC 80 AR	Nennleistung: 81,0 kW Nennwärmebelastung (Hi): 86,2 kW	***
SIMERAC 90 AR	Nennleistung: 91,0 kW Nennwärmebelastung (Hi): 96,7 kW	***
SIMERAC 130 AR	Nennleistung: 132,0 kW Nennwärmebelastung (Hi): 140,0 kW	***
SIMERAC 170 AR	Nennleistung: 170,0 kW Nennwärmebelastung (Hi): 179,6 kW	***
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SIMERAC 250 AR	Nennleistung: 253,0 kW Nennwärmebelastung (Hi): 266,0 kW	***
SIMERAC 300 AR	Nennleistung: 304,0 kW Nennwärmebelastung (Hi): 320,0 kW	***
SIMERAC 350 AR	Nennleistung: 354,0 kW Nennwärmebelastung (Hi): 372,0 kW	***
SIMERAC 400 AR	Nennleistung: 398,0 kW Nennwärmebelastung (Hi): 418,0 kW	***

#### **Verwendungshinweise / Bemerkungen**

##### **hints of utilization / remarks**

Die vorstehende Energieeffizienzkennzeichnung kann entsprechend den aktuellen, landesspezifischen Festlegungen für die einzelnen Gerätetypen verwendet werden.

Die auf diesem Zertifikat aufgeführte Baureihe wurde unter der Produkt-Identnummer CE-0085BS0230 nach der EG-Gasgeräte-richtlinie (90/396/EWG) zertifiziert.

DVG









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Code **6318112** - 10/11 - rev. 00