



Instantaneous gas-fired water heater for domestic use

MINI E

USER, INSTALLATION AND MAINTENANCE MANUAL



EN



**It is compulsory
to read the
instructions.**

Visit our website:
www.sime.it



**WARNINGS**

- After having removed the packaging make sure that the product supplied is integral and complete in all its parts. If this is not the case, please contact the Dealer who sold the appliance.
- The appliance must be used as intended by **Sime** who is not responsible for any damage caused to persons, animals or things, improper installation, adjustment, maintenance and improper use of the appliance.
- In the event of water leaks, disconnect the appliance from the mains power supply, close the water mains and promptly inform professionally qualified personnel.
- Regularly check that the operating pressure of the hydraulic system, when cold, **equals 0.2 bar** (the minimum water flow rate is 2,5 l/min), so that the system can be used in residential areas with a low water pressure. Should this not be the case, please contact professionally qualified personnel.
- If the appliance is not used for a long period of time, at least one of the following operations must be carried out:
 - *set the main system switch to "OFF";*
 - *close the gas and water valves of the water heating system;*
 - *drain the system if there is the risk of freezing.*
- In order to ensure optimal efficiency of the appliance, **Sime** recommends performing maintenance/inspections on an **ANNUAL** basis.
- The system's power connection is of the "Y" type, so the power cable may only be replaced by the manufacturer or the service department.
- The concentration of CO in combustion by-products must always comply with the installation regulations of the country where the appliance is installed.

**WARNINGS**

- **All operators should** read this manual carefully in order to use the appliance in a safe and logical manner.
- **This manual** is an integral part of the appliance. It must therefore be stored with care for future reference and must always accompany the appliance whenever the latter is transferred or sold to another owner or user or is installed on another system.
- **Installation and maintenance** of the appliance must be carried out by an authorised company or by professionally qualified personnel, in accordance with the instructions contained in this manual. At the end of installation operations, these subjects must issue a statement of compliance with national and local technical standards and laws in force in the country where the appliance is used.
- **Any repairs on the appliance** must be carried out solely by professionally qualified personnel, using original spare parts only. Failure to comply with these instructions can jeopardise the appliance's safety and void the warranty with immediate effect.
- **Fonderie SIME S.p.A.** reserves the right to make improvements to its products at any time without prior notice, without compromising their essential characteristics. The graphic illustrations and/or images in this document may show optional accessories that vary according to the country in which the appliance is used.
- **The installer must explain to the User** the appliance's operation and the safety instructions. Moreover, the installer must hand the use and maintenance instructions to the User after completing the installation.

RESTRICTIONS



IT IS FORBIDDEN

- To allow children under the age of 8 to use the appliance. The appliance can be used by children at least 8 years old and by people with reduced physical, sensory or mental abilities, or who lack experience or the necessary knowledge, provided that they are supervised or have been instructed on how to use the appliance safely and understand the risks associated with it.
- To allow children to play with the appliance.
- To allow unsupervised children to perform user maintenance and cleaning.
- To use electrical devices or appliances such as switches, electrical appliances etc if you can smell fuel. If this should happen:
 - *open the doors and windows to air the room;*
 - *close the gas isolation device;*
 - *promptly call for professional assistance.*
- To touch the appliance with bare feet or with any wet part of the body.
- To perform any technical intervention or cleaning operation before having disconnected the appliance from the mains power by setting the main switch to "OFF", and closing the gas supply.
- To modify the safety or adjustment devices without the necessary authorisation and instructions from the appliance's manufacturer.



IT IS FORBIDDEN

- To modify or plug the condensate outlet (if present).
- To pull, detach or twist the electrical cables coming out of the appliance, even if the latter is disconnected from the mains power supply.
- To block or reduce the size of the ventilation openings (if present) of the room where the appliance is installed.
- To disconnect the mains power and fuel supply from the appliance if the outdoor temperature could fall below ZERO (risk of freezing).
- To leave containers and flammable substances in the room where the appliance is installed.
- To drink the water in the water heater. The water contained in the water heater is not drinkable.
- To disperse the packaging material in the environment as it may be a potential source of danger. It must be disposed of according to the laws in force in the country where the appliance is used.
- To modify or intervene on sealed components.

LIST OF ABBREVIATIONS USED IN THE MANUAL

Below is a list of abbreviations that can be used in the diagrams in the manual.

ABBREVIATION	DESCRIPTION
*	Optional
0/10V	0/10 V input
ACS	Domestic hot water
AIN	Inertial storage
AL	Power supply
ALIM	Power supply
APDC	Heat pump power supply
AR	Remote alarm
ARM	Cabinet
ASF	Flame signal amplifier
AUX	Auxiliary output
BK	Black
BL	Blue
BO	Tank
BR	Brown
BRU	Burner
C	Domestic hot water recirculation attachment
CAA	Boiler air inlet duct
CALDAIA	Boiler
CI	System filling
CMI	Microprocessors controller
CN	Connector
COID	Hydraulic manifold / hydraulic disconnect
COMP	Compressor
COND	Capacitor
COS	Solar collector
CPDC	Heat pump controller
CR	Remote control / command
CRI	Heater consent
CSFU	Smoke outlet duct
CSFUC	Coaxial flue gas exhaust duct
CSFUS	Separate flue gas exhaust duct
CTP	Programmer timer-controlled thermostat
DA	Active dehumidifier
DAL	Alarm device
DF	Dirt separator
DP	Polyphosphate dosing unit
DPS	Overvoltage protection device
E	Domestic hot water inlet
E/I	Summer / Winter switch
EA	Electrode on
EAR	Ignition / detection electrode
EL	Electrical connections
EMC	Boiler emergency activation at boiler TA2
ER	Flame detection electrode
EV	Solenoid valve
EVAT	High-temperature solenoid valve
EVC	Fuel solenoid valve
EVCA	Automatic charging solenoid valve
EVD	Diverter solenoid valve
EVG	Gas solenoid valve

ABBREVIATION	DESCRIPTION
EVMS	DHW mix solenoid valve
EVZ	Zone solenoid valve
EXP	Expansion card
FA	Noise filter
FAST	Combined boiler (instantaneous DHW + technical water)
FE	Ferrite ring
FL	Flow switch
FLM	Flow meter
FR	Line filter
FU	Fuse
FV	Photovoltaic
FY	Y Filter
G	Gas supply
GI	Expansion joint
GN	Green
GR	Grey
GS	Solar unit
GSM	Phone dialler
HiT2	Cascade manager
HP	HP high pressure switch
HYBW	Hybrid Wall
I	Inductance
ID	Digital input configurable
IDFV	Photovoltaic digital input
IG	Main switch
IMP	System
INAIL	INAIL safety unit
JP	Jumper
KA	Relè
KAP	Circulator relay
KARA	DHW heating element relay
KARI	System heating element relay
KAV	Fan relay
KIT HYBRID	Hybrid kit
L	Line / Live
LBL	Light Blue
LGR	Refrigerant gas line
LP	HP low pressure switch
LR	Refrigerant fluid line
M	System delivery
MA	Pressure gauge
MB	Hot water tank delivery
MCA	Boiler delivery
MCB	Magneto-thermal switch
MEQ	Terminals external to panel
MIQ	Terminal block inside the panel
MMI	Control interface
MO	Generic motor
MODBUS	Connections for MOD-BUS input
MPDC	Delivery from heat pump
MR	Terminal block
MSOL	Solar delivery

ABBREVIATION	DESCRIPTION
MV	Fan motor
MVG	Gas valve modulator
N	Neutral
NC	Condensate neutraliser
OP	Mechanical timer
OR	Orange
OT	OpenTherm communication protocol
OV	Thermostatic diverter mixer valve
P	Circulator
PAC	Water pressure switch
PAR	Air pressure switch
PB	Calorifier circulator
PCP	Main control panel
PDC	Heat pump
PE	Earth Protection
PFU	Flue gas pressure switch
PGM	Gas low pressure switch (methane / LPG)
PI	System circulator pump
PIAT	High-temperature circulator
PIBT	Low-temperature system circulator pump
PK	Pink
PM	System modulating circulator
Pmax	High pressure switch
Pmin	Low pressure switch
PR	Re-starter circulating pump
PRC	Recirculation circulator
PRIACS	Domestic hot water instantaneous preparer
PS	Domestic hot water circulator
PSAUX	Auxiliary DHW storage tank circulating pump
PSOL	Solar system circulator
PSRO	Burner remote unlock button
PUFFER	Puffer
PUFW	Puffer Wall
QE	Electrical panel
QE MEM	MEM electrical panel
R	System return
RB	Hot water tank return
RC	Recirculation
RCA	Boiler return
RCO	Fuel return
RD	Red
RDT	Radiator
RE	Electrical resistance
REACS	DHW heating element
REAG	Antifreezing device
REimp	System heating element
RGDC	Heat pump regulator
RGOL	Solar controller
RISCO	Fuel heater
RPDC	Return to heat pump

ABBREVIATION	DESCRIPTION
RPSOL	Solar circulator return
RRF	Radio-frequency receiver
RSOL	Solar return
S	Generic temperature sensor
SA	Voltage indicator light
SAE	External air intake probe
SAUX	Auxiliary sensor
SB	Calorifier drainage outlet
SBB	Burner lock-out indicator light
SBL	Calorifier sensor (DHW)
SBLA	Storage Tank High Sensor ACS
SBLAUX	Auxiliary hot water storage tank sensor
SBLB	Storage Tank Low Sensor ACS
SBS	Solar hot water tank sensor
SBT	Low temperature sensor
SC	Condensate outlet
SCC	Boiler board
SCI	Hydronic board
SCM	Control board
SCMM	Master control board
SCV	Fan control probe
SDE	Junction box
SE	Outdoor air temperature probe
SEP	Pressure sensor
SF	Flame sensor
SFU	Smoke flue gas probe
SGR	Refrigerant gas sensor
SI	System drainage outlet
SIA	Air inlet probe
SID	Hydraulic separator
SL	Level sensor
SLB	Battery liquid sensor
SM	Delivery sensor
SMC	Boiler delivery sensor
SMCA	Cascade delivery probe
SMG	Generators delivery probe
SMI	System delivery sensor
SP	Plate heat exchanger
SPAC	Water pressure switch activation indicator light
SPS	Domestic hot water preheating sensor
SPU	Puffer probe (technical water - no DHW)
SR	Return sensor (SR)
SRC	Boiler return sensor
SRE	Relay board
SRE2	2-relay board
SRI	System return probe
SRRF	Radiofrequency sensor

ABBREVIATION	DESCRIPTION
SS	Domestic hot water sensor
SSC	Compressor discharge sensor
SSIC	Boiler inlet DHW probe
SSOL	Solar manifold probe
SSP	Plate heat exchanger liquid temperature probe
SSR	Solid state relay
STC	Condenser temperature sensor
SUA	Water outlet sensor
SVB	Tank relief valve
SVI	System relief valve drainage outlet
SVS	Safety valve outlet
T	Thermometer
TA	Room thermostat
TA230	Room thermostat 230 V
TAC	Heating room thermostat
TACS	Domestic water thermostat
TAF	Cooling room thermostat
TAZ	Zone room thermostat
TBL	Hot water tank thermostat
TC	Boiler thermostat
TFU	Smoke thermostat
TFUS	Thermal fuse
TL	Temperature-limit thermostat
TMIN	Minimum-temperature thermostat
TPAC	Water pressure transducer
TR	Heating thermostat
TRA	Ignition transformer
TS	Safety thermostat
U	Domestic hot water outlet
UE	External unit
UG	Nozzle
UI	Internal unit
UR	Humidistat
V	Fan
V3W	3-way valves
V4W	4-way valve
V5W	5-way valve
VBP	By-pass valve
VC	Automatic filling valve
VCC	Fan coil unit (heating only)
VCF	Fan coil unit (heating/cooling)
VD	Diverter valve

ABBREVIATION	DESCRIPTION
VD I/E	Summer / Winter diverter valve
VDAUX	DHW storage tank diverter valve
VDCF	Hot/cold diverter valve
VEE	Electronic expansion valve
VEM	Mechanical expansion valve
VES	Expansion vessel
VESOL	Solar expansion vessel
VF	Fan coil unit (cooling only)
VGP	Pilot gas valve
VI	Violet
VIC	Fuel shut-off valve
VMIX	System mixer valve (no DHW)
VMIXS	DHW mixer valve
VP	Pressostatic valve
VR	Check valve
VS	Relief valve
VSA	Automatic bleed valve
VT	Thermal flywheel
VZ	Zone valve
W1	Remote Control Connector (CR)
W2	Connector for Room Thermostat (TA2) - External Probe (SE)
W3	Power supply connector
W4	Boiler connector (gas side) - Main control panel
W5	HP-main control panel connector
WH	White
WIFI	WiFi antenna board
Y	Yellow
YG	Yellow/Green
ZBT	Low-temperature zone (heating only)
ZBTC	Low-temperature zone (heating only)
ZBTF	Low-temperature zone (cooling only)

Dear Customer,
thank you for purchasing a **Sime MINI E** gas-fired water heater, a new-generation device endowed with technical and performance features that allow you to satisfy your instant domestic hot water requirements with the utmost safety and limited running costs.

We suggest getting the **Sime MINI E** appliance started within 30 days from the date of installation by professionally qualified personnel, so that you can benefit from both the legal warranty and the conventional **Sime** warranty included at the end of this manual.

RANGE

MODEL	CODE
MINI 11 E (Methane)	8112670
MINI 11 E (LPG)	8112671
MINI 16 E (Methane)	8112672
MINI 16 E (LPG)	8112673



CAUTION

Optional accessories can be ordered separately. The relevant codes and technical specifications can be found in the currently valid price list.

COMPLIANCE

Our company declares that the **Sime MINI E** product conforms to the essential requirements of the following directives:

- Gas Appliances EU Regulation 2016/426
- Low Voltage Directive 2014/35/EU
- Electromagnetic Compatibility Directive 2014/30/EU
- Ecodesign Directive 2009/125/EC
- Regulations (EU) Nos. 812/2013 - 814/2013
- Energy labelling Regulation (EU) No. 2017/1369

Refer to the technical data plate for the serial number and year of manufacture.



STRUCTURE OF THE MANUAL

This manual is organised as follows.

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CONTENTS 13

INSTALLATION AND MAINTENANCE INSTRUCTIONS

CONTENTS 19

ANNEXES

SYMBOLS



WARNING

To indicate actions which, if not carried out correctly, can result in injury of a general nature or may damage or cause the appliance to malfunction; these actions therefore require particular caution and adequate preparation.



ELECTRICAL HAZARD

To indicate actions which, if not carried out correctly, could lead to injury of an electrical nature; these actions therefore require particular caution and adequate preparation.



IT IS FORBIDDEN

To indicate actions which MUST NOT BE carried out.



CAUTION

To indicate particularly important and useful information.

INSTRUCTIONS FOR USE

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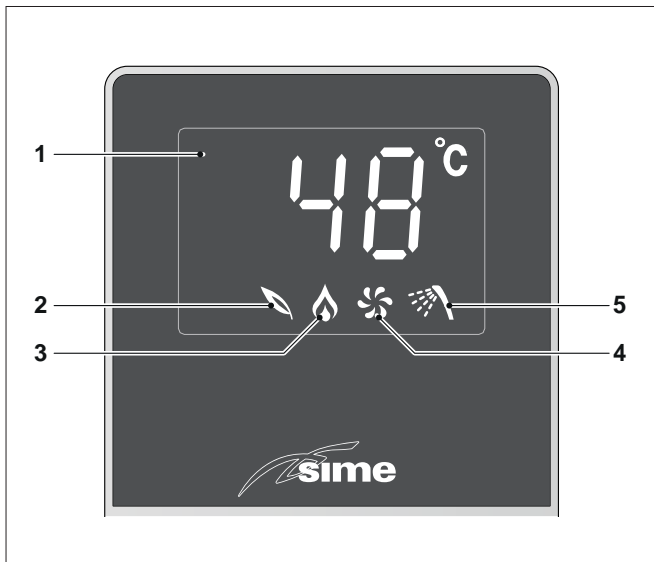
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1 OPERATING WITH THE WATER HEATER

1.1 Presentation

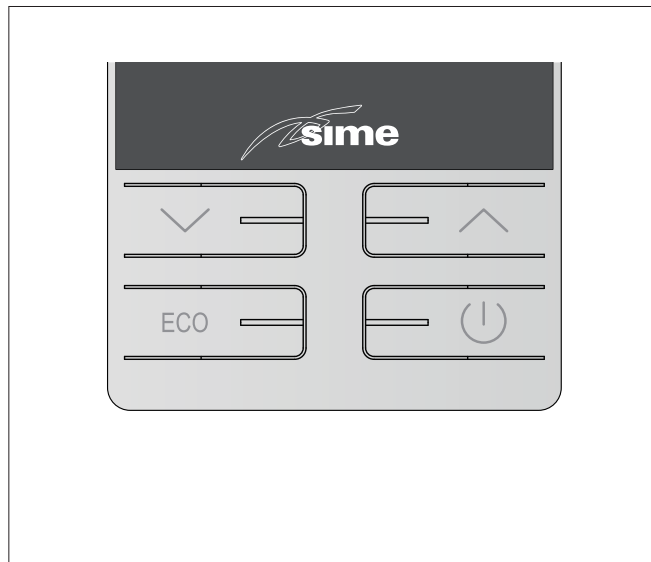
Sime MINI E is a domestic gas instantaneous water heater with low pollutant emissions and a nominal heat input (Hi) of 19,8 and 29,6 kW. Sealed chamber version with forced flue. Interface with multifunction LED display. AUTO, ECO and NORMAL operating modes (system default). Digital control to automatically maintain a constant outlet water temperature. Protection system with self-check function, flame failure protection, overheating protection, protection against accidental power interruption and excessive temperatures. Designed for connection to solar thermal systems.




Display



- 1 **“Main area of the digital display”**. During normal operation of the water heater it shows the set temperature. In case of abnormal operation, the error code is displayed.
- 2 **“ECO”**. This symbol appears when the water heater is working in energy saving mode.
- 3 **“Flame”**. This symbol appears when the water heater is running.
- 4 **“Fan”**. This symbol appears when the fan is running.
- 5 **“Domestic hot water delivery”**. This symbol appears when an incoming water flow is detected.

Function keys



-  **On/Off key**
Pressing this key switches the water heater on and off. If there is no demand for hot water, the water heater enters the **“Stand-by”** mode.
-  **Up key**
During normal operation, pressing this key increases the temperature or the water flow. In “parameter setting/display” mode, pressing this key allows the user to modify the parameter setting or value (increasing it).
-  **Down key**
During normal operation, pressing this key decreases the temperature or the water flow. In “parameter setting/display” mode, pressing this key allows the user to modify the parameter setting or value (decreasing it).
- ECO ECO key**
Pressing this key allows the user to select the ECO operating mode for the appliance.

1.2 Preliminary checks



WARNING

- Should it be necessary to access the zones in the lower part of the appliance, make sure that the system's components or pipes are not too hot (risk of burns).
- Before replenishing the heating system, wear protective gloves.

The initial start-up of the **Sime MINI E** water heater must be carried out by professionally qualified personnel, after which the water heater can function automatically. It may be necessary for the user to restart the appliance autonomously, without contacting the technician; for example, after a holiday.

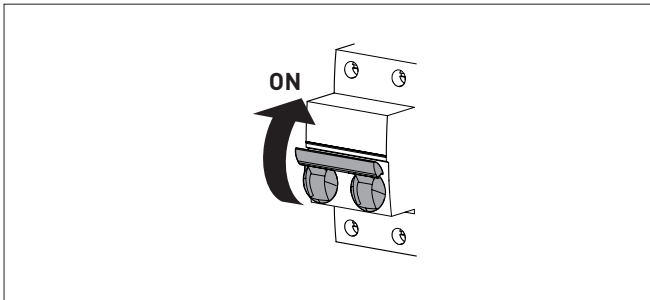
Preliminary operations upon start-up:


- make sure that the gas used matches the one indicated on the appliance's label;
- check that the fuel and water circuit shut-off valves are open.

1.3 Start-up

After completing the preliminary checks, to start up the water heater:

- insert the plug into the power outlet
- shift the plant's main switch to "ON"





- press the  (On/Off) key on the control panel: the screen will display the factory setting of the hot water temperature.



CAUTION

If the appliance does not work, make sure that the gas and/or cold water valves are open. Make sure that the appliance is electrically powered and on. When the gas valve is closed, the appliance switches off automatically and the flame symbol disappears from the display.

1.4 Temperature adjustment

To increase or decrease the water temperature, press the  or  keys; the minimum temperature that can be set is 35°C, the maximum temperature is 65°C.




WARNING

Water at a temperature exceeding 50°C causes serious burns. Always check the water temperature before use.

Whenever the keys are pressed, the temperature increases or decreases depending on the range within which the appliance is operating:

- **35-48°C**, the temperature varies by **1°C**
- **48-50°C**, the temperature varies by **2°C**
- **50-65°C**, the temperature varies by **5°C**

In stand-by mode, press the  key.



CAUTION



The temperature shown on the screen is the setting temperature, while the water output temperature can vary depending on the length of the piping and the seasonal conditions. It is therefore always necessary to refer to the actual water temperature.



1.5 Child safety function

The setting temperature, after the power supply has been shut or interrupted, will drop to 48°C if it was initially at least 48°C or will stay the same if it was initially below 48°C. The appliance must be switched off to reset the temperature so that the temperature setting value returns to within the 35-48°C range, in order to protect children who could get burned due to unexpectedly hot water.

1.6 Operation


Opening the hot water valve

The  symbol will appear on the display. After a few seconds the fan will start running, the start-up device activates and the  symbol appears on the display. Hot water will start coming out. The display will show the output water temperature setting.

Press the  or  key to set the hot water temperature. The new value will appear on the display. The temperature can be increased to 65°C. To set the water temperature, refer to the paragraph "**Temperature adjustment**".






CAUTION

If the hot water valve is opened but the water heater is off (Off mode), only cold water will come out. To make hot water come out, press the  (On/Off) key.

Closing the hot water valve

Closing the hot water valve causes the water heater to switch off but the fan will continue to cool the combustion chamber for a few seconds. When the hot water valve is re-opened, the appliance will display the latest temperature set.

1.7 ECO mode

To activate the ECO mode, press the corresponding key (the indicator on the display  will switch on). Press the  or  keys to increase or decrease the temperature.

In the energy saving mode, the micro-computer automatically regulates the amount of gas supplied, compared to other more economical modes, depending on the gas consumed to heat water, it not only helps to save gas but also guarantees a constant water supply for satisfying the users' needs. In saving mode, the user is free to select the water temperature but without quitting the energy saving mode.


To exit this mode, the User must once again press the **ECO** key.

1.8 Fault e malfunction codes

If, during the water heater's operation, an anomaly/fault occurs, the display will show the anomaly code flashing (e.g. "11").

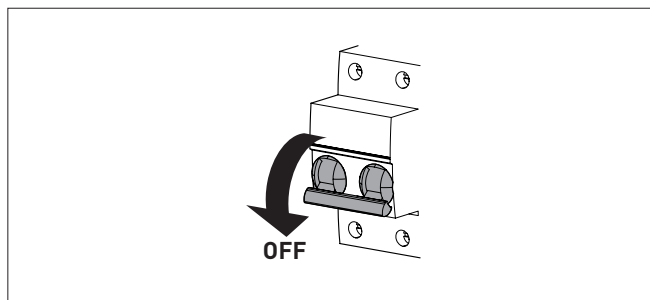


It is possible to proceed as follows:

- close the water valve and re-open it;
- press the  (On/Off) key until the appliance switches off and then switch it back on;
- close the gas valve and disconnect the power supply, refill the appliance and switch it back on after a few minutes.

If this operation is unsuccessful, **PERFORM A SECOND ATTEMPT ONLY** then:

- close the gas shut-off valve;
- shift the plant's main switch to "OFF"
- contact qualified technical personnel.



CAUTION

For the full list of anomaly codes, consult the section "Troubleshooting".



CAUTION

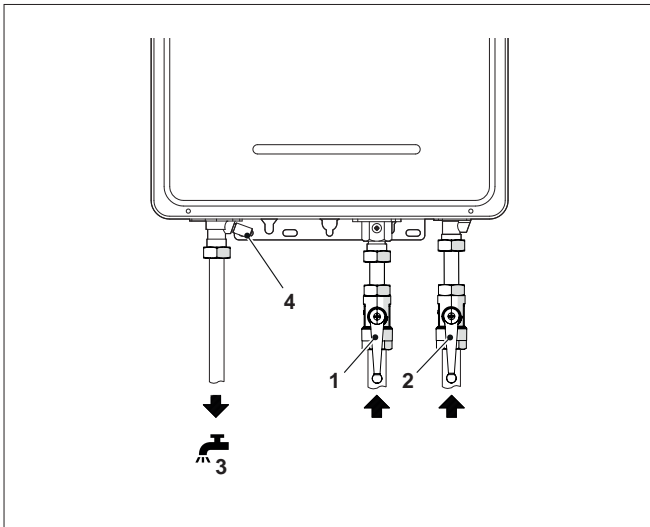
Should you see an alarm not described here, contact a qualified technical professional.

2 SAFETY PRECAUTIONS



CAUTION

To prevent possible accidents and damages to the appliance, the User must rigorously observe the following safety precautions!



2.1 Anti-freeze prevention

This appliance is designed for being installed outdoors and it thus exposed to freezing winter temperatures. It is equipped with an anti-freeze protection device; do not disconnect the appliance from the mains power supply or the anti-freeze protection device will not work.

If the appliance is installed in a place where the piping could potentially freeze and the ambient temperature is near or below 0°C, we recommend draining the appliance to prevent ice from building up.

Proceed as follows:

- shift the plant's main switch to "OFF"
- close the gas supply valve (1) present on the line
- close the cold water supply (2)
- open the valve on the hot water outlet (3)
- unscrew and remove the drainage valve (4)
- mount the drainage valve back on after the residual water has been completely drained.

To fill the appliance once again, open the shut-off valves of the water circuit, open the cold water supply and open the hot water valves until water comes out.



WARNING

The gas valve must be kept closed during the water filling process, or there is a risk of dry burning that could damage the heat exchanger.

2.2 Preventing fires due to gas leaks



WARNING

If a gas leak is detected:

- strictly avoid starting flames
 - do not press the switch of any electrical device
 - do not insert or pull out any power plug
- Any flame or spark could cause an explosion.

In case of prolonged non-use, switch the appliance off as explained in the chapter "Shutdown".

To prevent potential fires due to gas leaks, perform the following checks as described in the paragraph "Periodic checks":

- check that the gas connectors are not subject to leakages;
- check the gas pipe and, if necessary, replace it to prevent potential gas leaks.

2.3 Fire prevention

- Do not leave the water heater unsupervised while it is running.
- Do not leave containers and flammable substances in the room where the appliance is installed.
- Do not place towels or clothing above the water heater.
- If the power supply or mains water is interrupted, close the gas valve (1) and the water valves on the water circuit (2).
- If a gas cylinder is used, it must not be tilted or turned over as the gas can easily flow into the water heater and trigger a fire.



WARNING

Prevent any alterations to the watertight components sealed by the Manufacturer: a fire or explosion can cause damage to objects, personal injury or death.

2.4 How to damage abnormal situations

In the event of abnormal combustion (e.g. flame return, switching off or black smoke, etc.), unusual smells, noise or other abnormal conditions, keep calm and close the gas valve. Subsequently, contact expert personnel or the gas supply company for the necessary repairs or adjustments.


2.5 Preventing burns

- Be careful not to get burned by excessively hot water when opening the tap.
- To prevent burns during use, and immediately afterwards, do not touch any part of the water heater, in particular the flame inspection window or the front panel, with the exception of the knob and control panel.

3 SHUTDOWN

3.1 Temporary shutdown

To shut down the water heater temporarily:


- press the  (On/Off) key
- the display switches off.

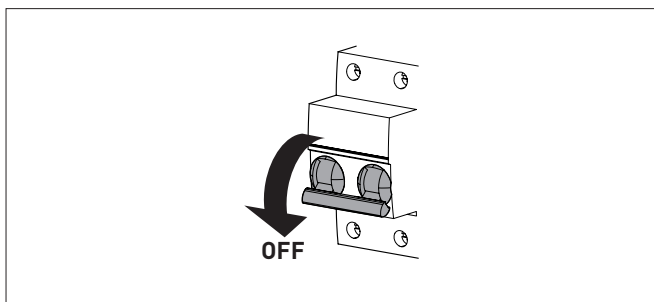


ELECTRICAL HAZARD

The water heater remains powered electrically.

If the user is away temporarily, for a weekend, short trips, etc., and if the outside temperature is above ZERO:

- press the  (On/Off) key to put the water heater in **Stand-by mode**;
- set the system's main switch to "OFF";
- close the gas valve;
- check that the burner flame is off.




CAUTION

- If the outdoor temperature can drop to below ZERO:
- complete the entire shutdown procedure described above
 - completely drain the water present in the water heater circuit - consult the paragraph "**Refilling and emptying**".

3.2 Shutting down for long periods

If the water heater will not be used for an extended period of time, perform the following procedures:

- press the  (On/Off) key to put the water heater in **Stand-by mode**;
- set the system's main switch to "OFF";
- close the gas valve;
- check that the burner flame is off;
- close the hot water system shut-off valves;
- drain the system if there is the risk of freezing - consult the paragraph "**Refilling and emptying**".



CAUTION

Contact qualified technical personnel if the procedure described above cannot be easily implemented.

4 MAINTENANCE

4.1 Adjustments

For the appliance to operate correctly and efficiently, the User should entrust a professionally qualified technician to carry out maintenance on the appliance on an **ANNUAL** basis.



CAUTION

Maintenance interventions must **ONLY** be carried out by professionally qualified personnel who will follow the indications provided in the **INSTALLATION AND MAINTENANCE MANUAL**.

4.2 External cleaning



WARNING

- Should it be necessary to access the zones in the lower part of the appliance, make sure that the system's components or pipes are not too hot (risk of burns).
- Before performing cleaning operations, wear protective gloves.

4.2.1 Cleaning the shell

When cleaning the shell, use a cloth dampened with soap and water, or water and methylated spirits in case of stubborn stains.



IT IS FORBIDDEN

to use abrasive products.

5 DISPOSAL

5.1 Disposal of the appliance (Directive 2012/19/EU)



The product and electrical and electronic equipment coming from households may not be disposed of as normal mixed urban waste at the end of their service life but must be disposed of, pursuant to Directives 2012/19/EU and Italian Legislative Decree 49/2014, in appropriate withdrawal and collection facilities. For further information on the authorised collection facilities, please contact the municipality where you reside or the retailer. Each country may have its own specific regulations for the treatment of WEEE. Check your local and national regulations before disposing of the appliance.

DESCRIPTION OF THE APPLIANCE

CONTENTS

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6 DESCRIPTION OF THE APPLIANCE

6.1 Characteristics

Sime MINI E is a domestic gas instantaneous water heater with low pollutant emissions and a nominal heat input (Hi) of 19,8 and 29,6 kW. Sealed chamber version with forced flue. Interface with multifunction LED display. AUTO, ECO and NORMAL operating modes (system default). Digital control to automatically maintain a constant outlet water temperature. Protection system with self-check function, flame failure protection, over-heating protection, protection against accidental power interruption and excessive temperatures. Designed for connection to solar thermal systems.

Other distinctive features of **Sime MINI E** water heaters include:

- **Installation flexibility.** Particularly compact dimensions, especially depth-wise, which make them suited to any available space.
- **Maximum comfort.** Automatic electronic power-up and flame modulation based on the water flow to obtain and correct and constant temperature, even with pressure variations in the network. The LCD indicates the water temperature that can be selected, between 35°C and 65°C, and the possible malfunctions.
- **Maximum safety.** The **Sime MINI E** water heater is equipped with various safety protections.
- **Configuration for pairing with a solar thermal heating system.** The **Sime MINI E** water heater can receive from a solar heating system pre-heated water at a temperature between 35°C and 65°C. Depending on the chosen set-point and inlet water temperature, the power is modulated to obtain improved comfort and prevent unnecessary power-ups.

6.2 Supply

Sime MINI E appliances are delivered as a single item protected by cardboard packaging.

The plastic bag found inside the packaging contains the following:

- instruction manual
- energy efficiency label
- bag containing:
 - screws and wall plugs

6.3 Symbols on the appliance

The appliance is marked with the following symbols:

SYMBOL	DESCRIPTION
	Indicates the presence of particularly dangerous zones in the appliance.
	Indicates the presence of live electrical parts in the appliance.
	Indicates that information concerning the appliance is available, for example the instruction manual.
	Indicates that personnel assigned to perform maintenance on the appliance must operate in accordance with the instruction manual.
	Indicates that the instruction manual must be read.
	Indicates that the appliance must be connected to an earthing system.

6.4 Control and safety devices

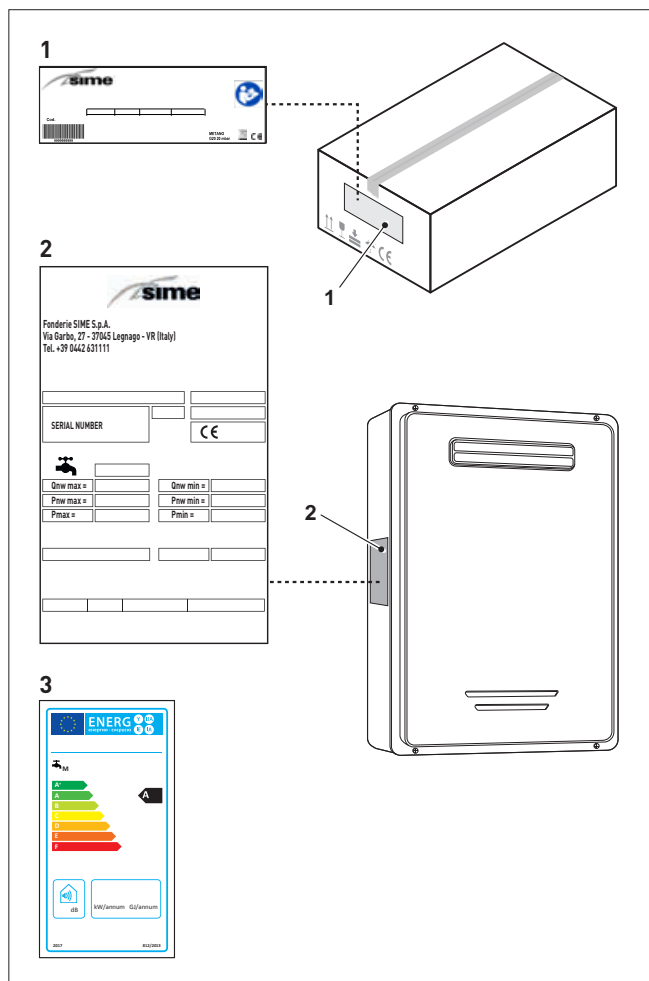
Sime MINI E water heaters are equipped with the following safety devices:

- protection for the auto-check system
- protection against auto power-off
- protection against overheating
- protection against accidental power outages
- protection against excessive temperatures.

6.5 Identification

Sime MINI E water heaters can be identified through:

- 1 Packaging label:** located on the outside of the packaging, it includes the code and serial number of the water heater in addition to the barcode.
- 2 Technical data plate:** it is located on the right-hand side of the appliance and includes the technical data, appliance performance data and any other information required by law in the country where the appliance will be used.
- 3 Energy efficiency label:** it is contained in the document bag and indicates to the User the energy saving and lower environmental pollution levels that the appliance reaches.



6.6 Technical data plate

1 Name
2 Serial Number
3 Year of manufacture
4 DHW content
5 Max DHW heat input
6 Max DHW useful power
7 Maximum DHW operating pressure
8 Power supply-maximum absorbed power
9 Countries of intended installation
10 Appliance category
11 Code
12 PIN no.
13 Min DHW heat input
14 Min DHW useful power
15 Minimum DHW operating pressure
16 Type of gas and supply pressures
17 Electrical protection rating
18 Appliance classification



CAUTION

Tampering with or removing the identification plates, or their absence, or whatever else does not allow for safely identifying the product, may hinder installation and maintenance operations.

6.7 Functional elements of the appliance

MINI 11 E

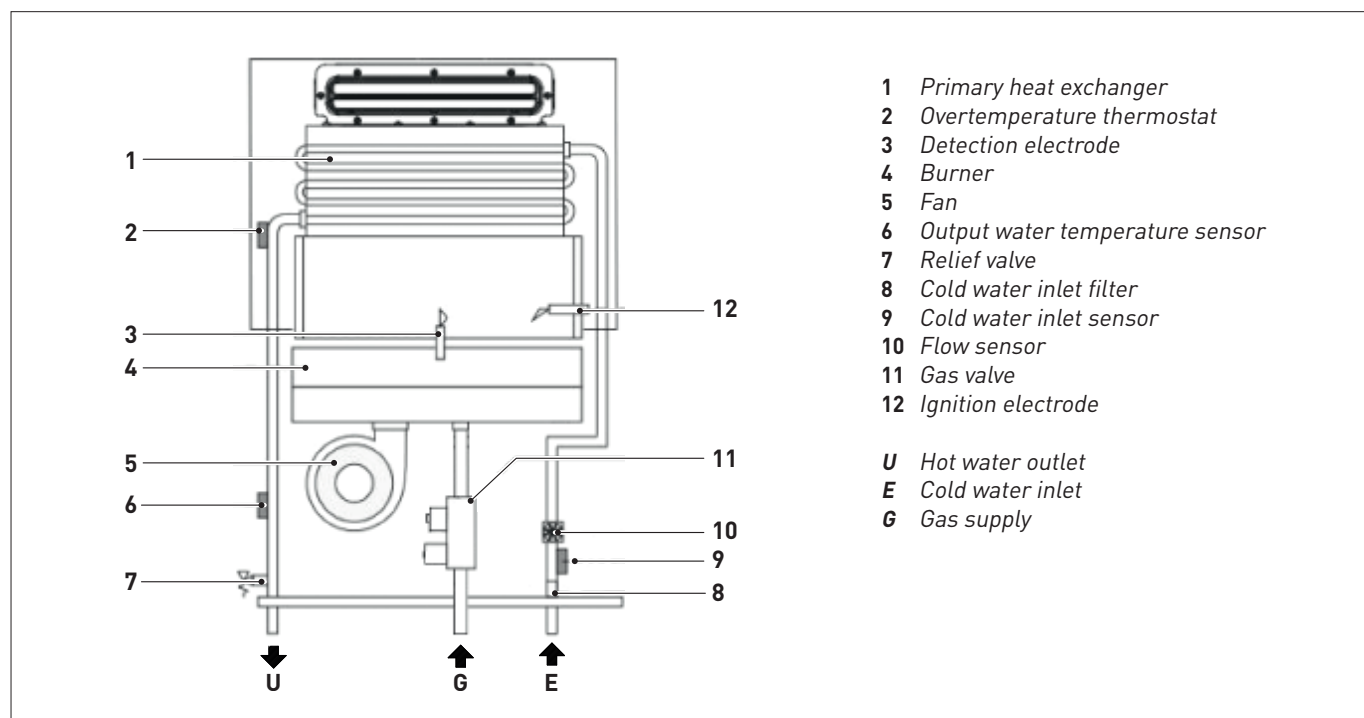
MINI 16 E

1 Safety thermostat
2 Anti-freeze device
3 Fan
4 Output water temperature sensor
5 Water capacity sensor
6 Input water temperature sensor
7 Gas valve
8 Gas manifold
9 Spark generator
10 Flame ignition/detection electrodes
11 Combustion chamber
12 Heat exchanger
13 Electronic board
14 Fume manifold

6.8 Technical characteristics

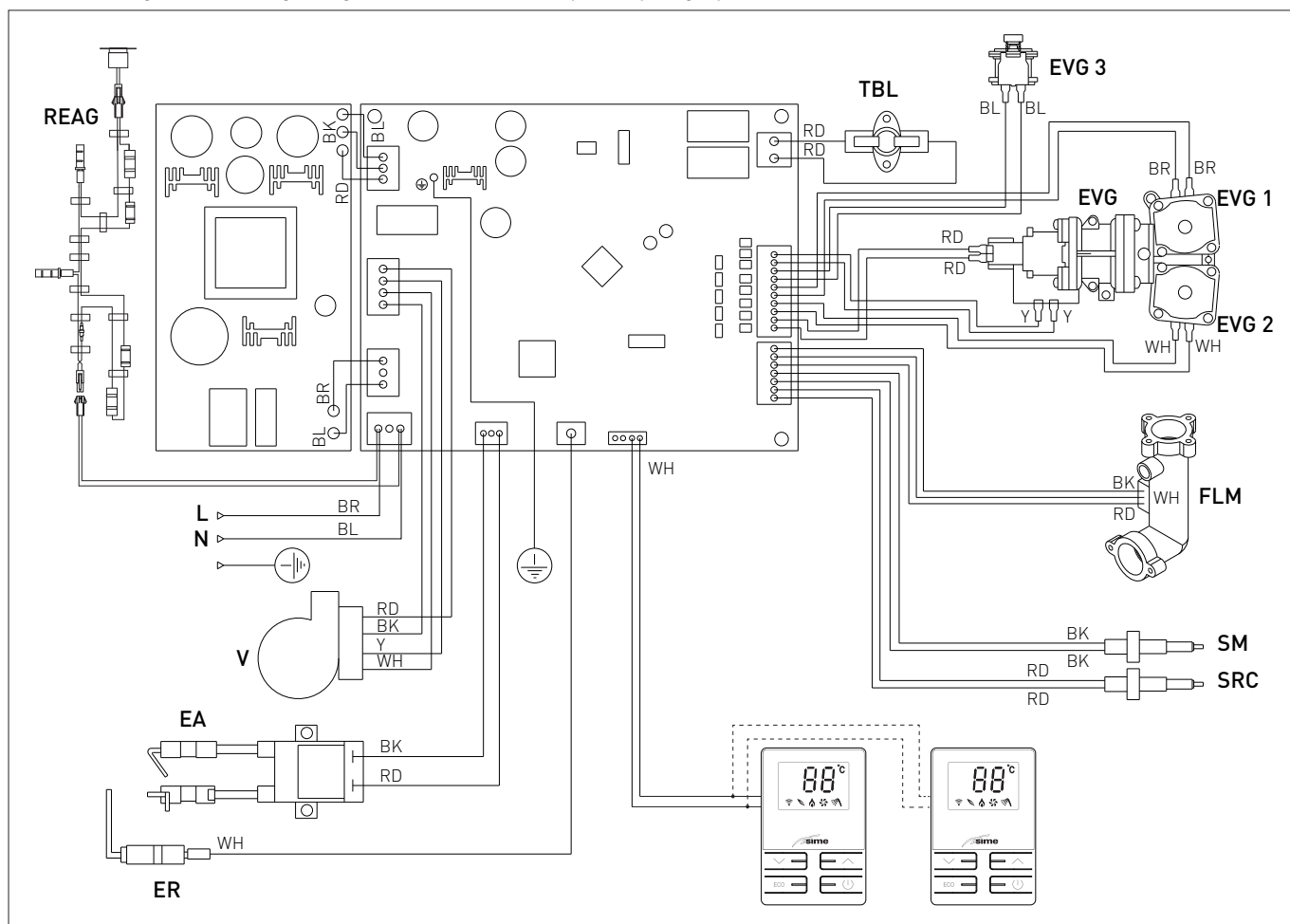
DESCRIPTION		Sime MINI E	
		11	16
CERTIFICATION			
Countries of intended installation		IT - EN - ES	
Fuel		2H - G20 - 20 mbar 3B - G30 - 29 mbar 3P - G31 - 37 mbar	
PIN number		1336DP030	
Category		II2H3P - II2H3B/P	
Appliance classification	G20	A3	
	G30	A3	
	G31	A3	
DHW PERFORMANCES			
Rated heat input (Hi)	kW	22,0	32,0
Rated heat input (Q _{nw} max)	G20	19,8	29,6
	G30	19,8	29,6
	G31	19,8	28,5
Minimum heat input (Q _{nw} min)	G20	8,0	9,5
	G30	8,0	8,5
	G31	8,0	8,5
Minimum heat output	G20	7,6	8,8
	G30	7,2	7,6
	G31	7,2	7,6
Continuous DHW flow rate (ΔT 25°C)	kg/min	11,0	16,0
Max / Min DHW pressure (P _{mw})	bar	10 / 0,2	10 / 0,2
Maximum domestic hot water temperature	°C	65,0	65,0
Minimum domestic hot water temperature	°C	35,0	35,0
Rated water flow rate	l/min	11,0	16,0
Minimum water flow rate	l/min	3,0	3,0
Maximum water pressure	bar	10,0	10,0
Minimum water pressure	bar	0,2	0,2
Maximum flue gas flow rate	g/s	18,55	25,38
Minimum flue gas flow rate	g/s	10,77	9,81
Flue gas temperature at the maximum rated heat input	°C	162,0	120,0
Flue gas temperature at the minimum rated heat input	°C	40,0	65,0
ELECTRICAL DATA			
Power supply voltage	VAC	230	
Frequency	Hz	50	
Absorbed electrical power (Q _n)	W	37	44
Protection rating	IP	IPX5	
Power-up method	Automatic power-up with impulse controlled directly by the opening of the water		
PIPE COUPLINGS			
Gas inlet		1/2" G	1/2" G
Cold water inlet		1/2" G	1/2" G
Hot water outlet		1/2" G	1/2" G

6.9 Main hydraulic circuit



6.10 Wiring diagram

NB: see the legend at the beginning of the manual in the specific paragraph "LIST OF ABBREVIATIONS USED IN THE MANUAL".



CAUTION

It is compulsory:

- Mount an omnipolar residual-current circuit breaker conforming to EN standards **that allows for completely disconnecting the system in overvoltage category III conditions (that is, with a gap of at least 3 mm between the open contacts).**
- Keep the power cables always separate from the signal cables. To avoid interference problems, always use shielded signal cables
- Respect the connection L (Live) - N (Neutral).
- To connect the earth wire to an effective earthing system.



CAUTION

It is compulsory:

- The system's power connection is of the "Y" type, so the power cable may only be replaced by the manufacturer or the service department.



CAUTION

The manufacturer is not responsible for any damage caused by failure to earth the appliance or failure to observe the information provided in the wiring diagrams.



IT IS FORBIDDEN

To use the water pipes to earth the appliance.

INSTALLATION AND MAINTENANCE INSTRUCTIONS

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7 INSTALLATION

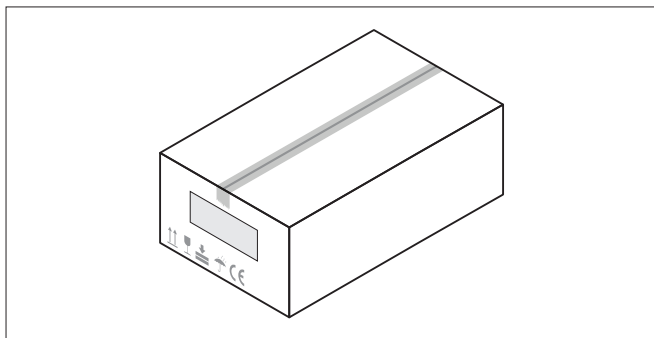


CAUTION

The appliance must only be installed by qualified professionals who **MUST wear suitable** protective safety equipment.

7.1 Receiving the product

Sime MINI E appliances are delivered as a single item protected by cardboard packaging.



The plastic bag found inside the packaging contains the following:

- installation, user and maintenance manual
- energy efficiency label
- screws and wall plugs



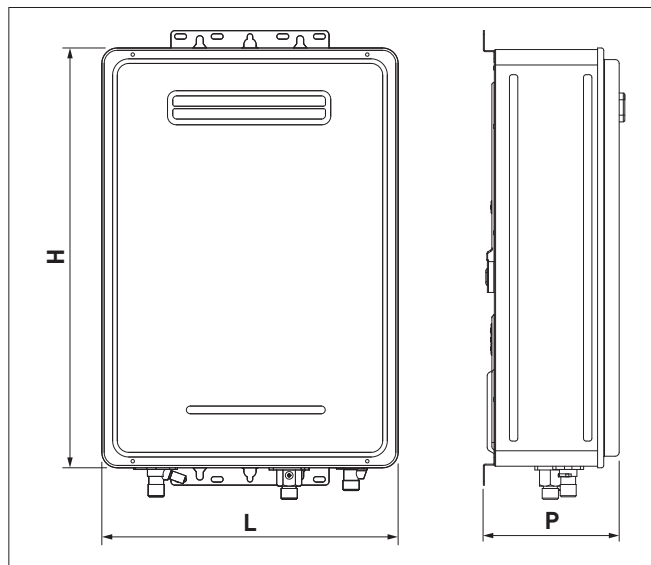
IT IS FORBIDDEN

To leave packaging material around or near children since it could be dangerous. Dispose of it as prescribed by legislation in force.

7.2 Dimensions and weight

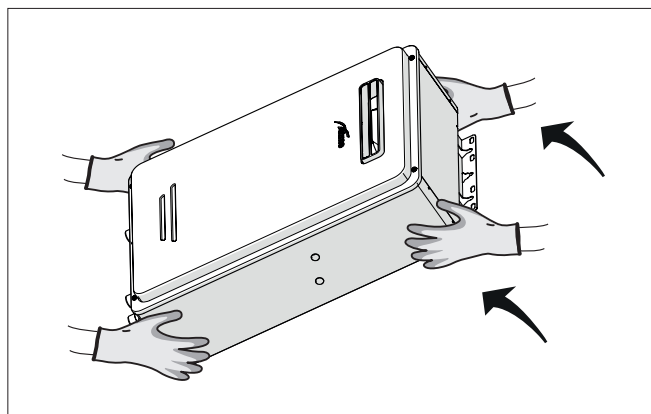
Description	Sime MINI E	
	11	16
L (mm)		384
P (mm)		176
H (mm)		544
Weight (kg)	15,1	15,5

The dimensional data is purely indicative. Refer to the actual product.



7.4 Handling

Once the packaging has been removed, handle the appliance manually by lifting it from the "solid" parts, such as the base and structure.



WARNING

Use suitable tools and accident-prevention devices when removing the packaging and when handling the appliance. Observe the maximum weight that can be lifted per person.

7.5 Installation room

The room where the appliance is to be installed must comply with all applicable technical and legal regulations.

The appliance must be installed exclusively outdoors in a partially covered area and must not be enclosed in any way.

Fumes generated by combustion are discharged through a forced draught system. The appliance must be anchored to a solid, non-flammable and permanent wall to prevent access from the rear. When creating space for the appliance the minimum distances must be observed (that ensure access to all the appliance's components after installation).



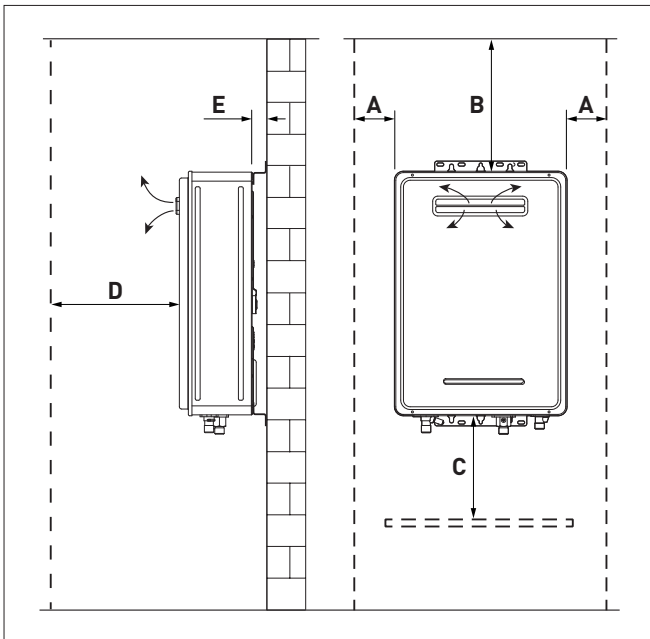
IT IS FORBIDDEN

To mount the appliance inside a house or enclosed in a cabinet or in a niche.

7.6 Safety distances

To define the correct positioning of the appliance:

- keep the gas-fired water heater far from combustible substances
- the horizontal distances between the water heater and any electrical systems must be greater than 400 mm
- do not position the appliance above a cooker or other cooking system, so as to prevent fat from the kitchen vapours from depositing on it, which would cause it to function poorly
- the appliance must never be closed in a cabinet or niche, but must be at a certain minimum distance from side walls, so as to facilitate maintenance operations



Description	Minimum safety distances (from flammable materials)
A - Side (mm)	50 (150)
B - Upper (mm)	350
C - Lower (mm)	300
D - Front (mm)	450
E - Rear (mm)	40



CAUTION

Remember to leave enough space to access the safety/adjustment devices and to carry out maintenance interventions.



WARNING

Heat-sensitive walls (for example wooden walls) must be protected with adequate insulation.

7.7 Installing the water heater



CAUTION

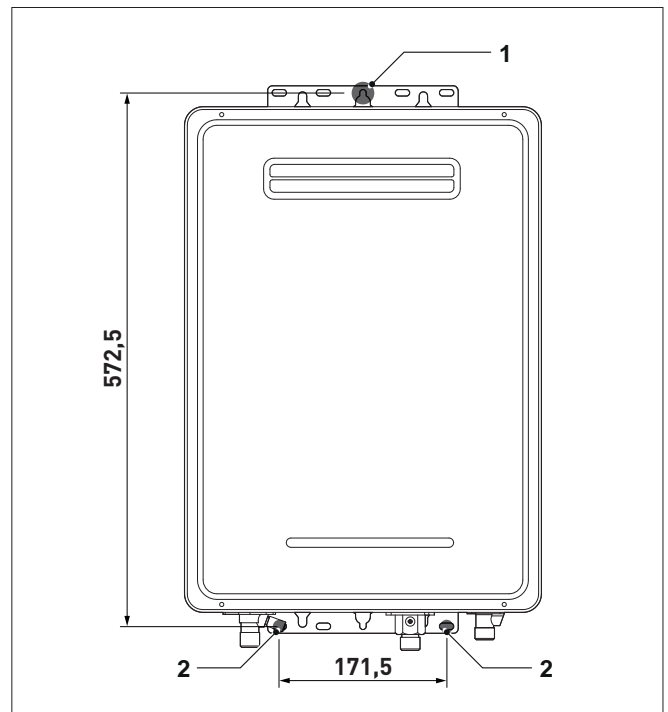
- It is important that the device is perfectly vertical and horizontal. Use a spirit level or other suitable tool to check that it is perfectly vertical and horizontal. Where necessary, insert suitable spacers to install the unit in the correct working position



CAUTION

- Make sure that the appliance is protected against direct sunlight, the weather and damp and wet conditions.
 - Before mounting the appliance, the installer **MUST** make sure that the wall can support its weight.
 - Remember to leave enough space to access the safety/adjustment devices and to carry out maintenance interventions.

- Make 3 holes as indicated in the figure and insert the wall plugs provided. In the upper hole (1) use the larger plug, while in the lower holes (2) use the two smaller wall plugs.
- Mount the water heater first on the upper wall plug then, after verifying that it lies perfectly vertical, tighten the screws on the lower wall plugs.



7.8 Plumbing connections

Connect the appliance to the water mains and insert the water shut-off valve upstream of the appliance (available on request).

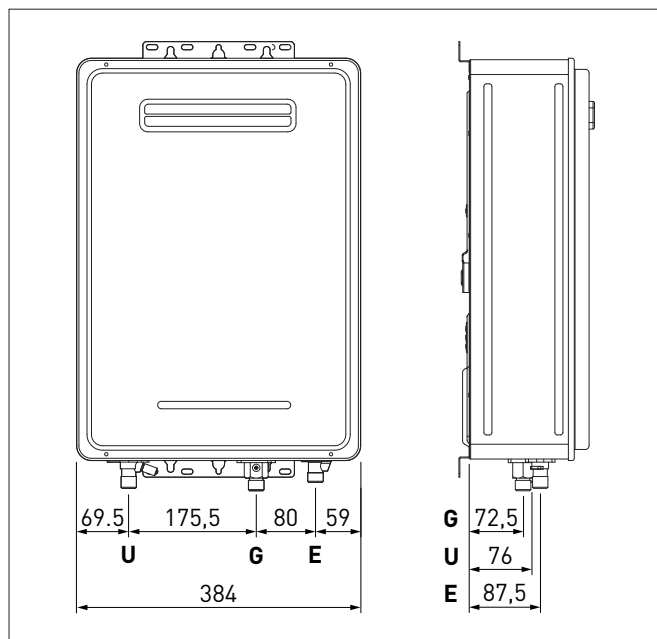
Cold water inlet:

- the water distribution pipes can be made of different materials to copper, but we recommend using copper pipes for at least 0.92 m before and after the water heater
- use a water inlet pipe having a diameter not inferior to 1/2" to ensure the full flow rate
- there must be enough water pressure to activate the water heater when the hot water tap is opened on the highest floor
- 1/2" copper or brass fittings work optimally if they are connected to connectors. With this type of joint do not use water-proofing paints for pipes or sealing tapes for threading
- make sure that the pipe does not contain dust particles or dirt.

Hot water outlet:

- use a flexible or rigid pipe for the connection to the tap-less shower jet. if the jet is connected to a tap or switch, the outlet pipe must be made of materials capable of withstanding pressure and heat.

The plumbing connections have the following characteristics and dimensions.



Description	Sime MINI E	
	11	16
E - Cold water inlet	1/2"	
U - Hot water outlet	1/2"	
G - Gas supply	1/2"	



WARNING

- **Do not activate the device without the filter.**
- The overpressure device outlet must be connected to a discharge siphon that can be inspected visually to prevent it from causing harm to people and animals and damage to objects, for which the manufacturer shall not be held liable.



WARNING

The discharge outlet of each safety valve installed must be connected to an appropriate collection and evacuation system. The manufacturer shall not be held liable for any flooding or damages to electrical equipment caused by the safety valve's intervention.



CAUTION

- **The maximum pressure of the appliance is 10 bar;** should this not be the case, fit a pressure reducer.
- Make sure that the water supply pressure is not lower than 0.2 bar.
- If the cold and hot water connections are inverted, the water heater will **NOT** work.



IT IS FORBIDDEN

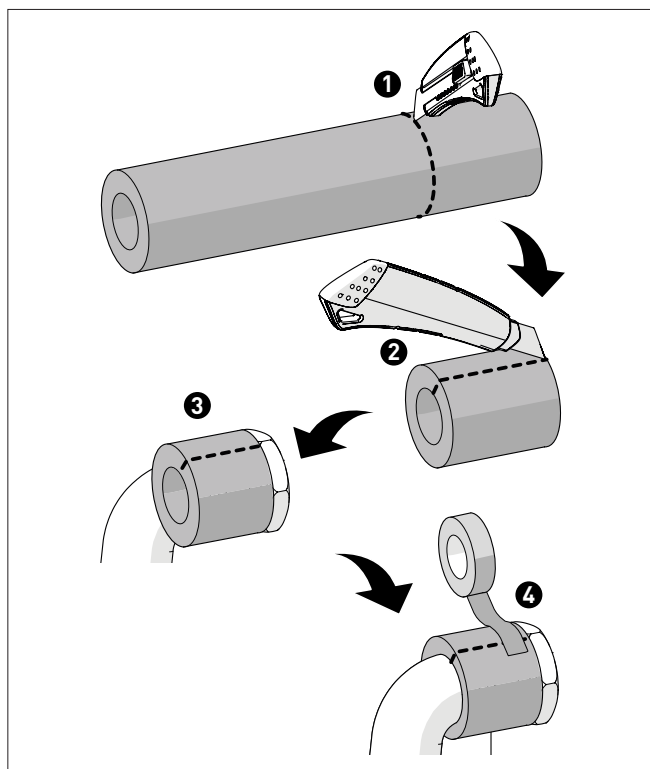
To use the water system's pipes as earthing outlets for the electrical or telephone system. They are absolutely unsuitable for this type of use. Serious damage to pipes and the appliance could occur within a short time.

7.9 Thermal insulation of pipes



CAUTION

Once the installation operations have been completed, the exposed parts of pipes and fittings must be isolated using a suitably sized thermal insulation pipe.



7.10 Gas supply



CAUTION

- The gas supply connection must be done in accordance with the local installation regulations applicable in the country where the appliance is used.
- When converting the gas used, run the procedure described in the paragraph "**Gas conversion**" entirely.

Before making the connection, it is necessary to ensure that:

- the type of gas and the fuel flow rate comply with those for which the appliance was designed
- the fuel supply pressure falls within the values specified on the data plate
- the pipes are adequately cleaned
- the diameter of the gas supply pipe must be at least the same as or larger than that of the appliance's fitting and with a head loss no greater than that envisaged between the gas supply and the appliance.



WARNING

- Once installation has been completed, check that the joints are airtight as specified in the installation standards.
- If gas leaks are detected, close the gas supply. After checking the gas leak, tighten the appropriate fittings.



IT IS FORBIDDEN

- To introduce into the appliance substances other than air, carbon dioxide or nitrogen.
- To check for gas leaks using flames or matches.



CAUTION

It is advisable to use an adequate filter on the gas line.



CAUTION

- All pipes must be new and must not have been used before for purposes other than the supply of gas.
- The pipes must be in good condition and must not have any obstructions inside them.
- Any burred ends must be bored to the exact diameter of the pipe.
- All fittings must be made of malleable iron, yellow brass or approved plastic.

7.11 Electrical connections

Connect the cable provided for the line by observing the L-N pole markings and the earth connection. The line must be equipped with an omnipolar circuit breaker with Class III overvoltage category, conforming to the installation regulations.

If this device needs to be replaced, the spare must be requested from Sime.



CAUTION

It is compulsory:

- that before any intervention on the appliance, the mains power supply is disconnected by setting the plant's main switch to "OFF"
- to mount an omnipolar residual-current circuit breaker conforming to the EN standards (contact gap of at least 3 mm)
- to connect the earth wire to an effective earthing system.
- keep the power cables always separate from the signal cables. To avoid interference problems, always use shielded signal cables
- the system's power connection is of the "Y" type, so the power cable may only be replaced by the manufacturer or the service department.
- if the fuses on the line need to be replaced, use 2A fast-blow fuses.



CAUTION

The manufacturer is not responsible for any damage caused by failure to earth the appliance or failure to observe the information provided in the wiring diagrams.



WARNING

- The appliance is not protected against the detrimental effects of lightning.
- The power outlet must be installed beside and **in no case under the appliance**.



IT IS FORBIDDEN

- To use multiple sockets, extensions or adapters.
- To arrange cables and electrical systems on the upper part of the water heater.
- To install the power outlet in a point that can be reached by water splashes.
- To install the power outlet and the power cord near heat sources.
- To use the water pipes to earth the appliance.

7.12 Remote control unit

The appliance is equipped with a remote control unit and the corresponding connecting cable (10 m).

Positioning the remote control unit



CAUTION

Make sure that:

- the remote control unit is not accessible to children
- it is NOT installed near heat sources
- it is not installed in areas where it is exposed to water (splashes).

Separate the fixing base by inserting a screwdriver in the slots on the two sides and attach the control unit base to the wall in the chosen point, using the screws provided with the appliance. If necessary, cut the cable provided to the desired length and apply the connectors supplied in the packaging to ensure that power is supplied correctly and safely.



CAUTION

The control unit's protection rating is IP00, therefore it lacks any special protection against water and humidity.



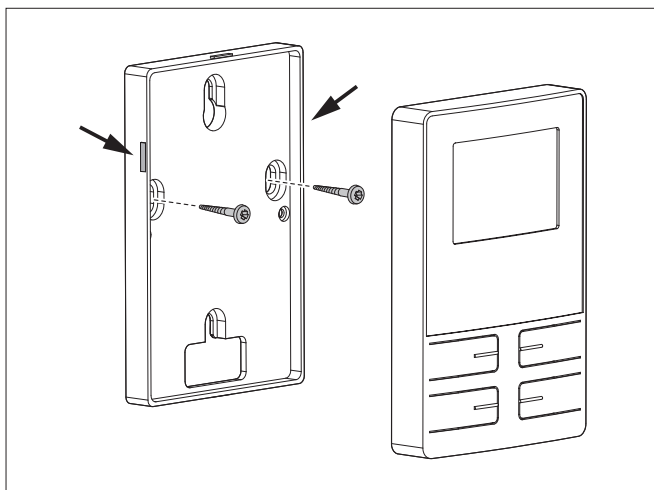
WARNING

Water or humidity can damage the remote control unit. The place of installation and use should therefore be chosen very carefully.



IT IS FORBIDDEN

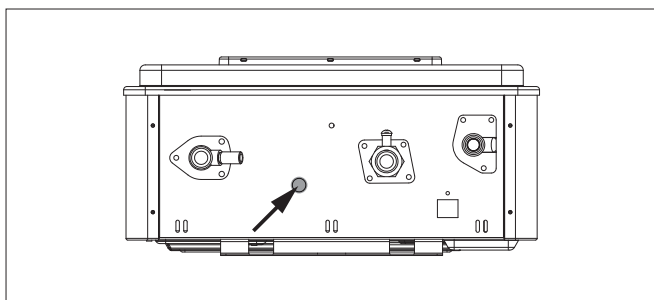
It is forbidden to position or install the remote control unit in a humid environment. Do not touch the remote control unit with wet hands or with a damp cloth.



Connecting the remote control unit

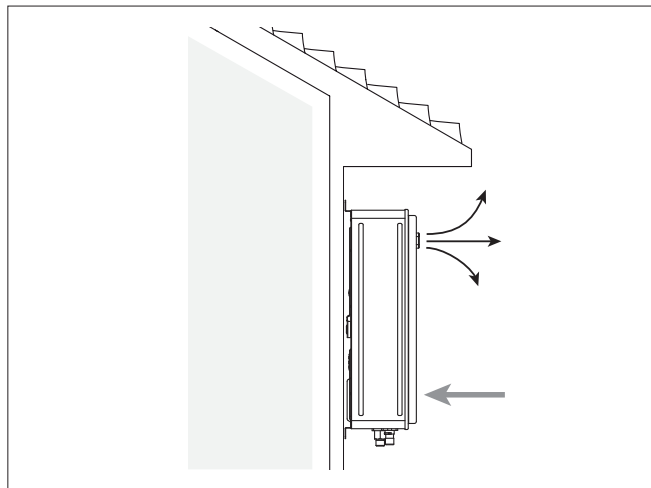
Proceed as follows:

- Disconnect the appliance from the mains power supply by turning the external bipolar switch to "OFF".
- Remove the shell as illustrated in the paragraph "Instructions for opening the shell and for performing the internal inspection".
- Insert the cable into the appliance using the L-shaped cable connection port.
- Connect the cable to the electronic circuit board as explained in the paragraph "Wiring diagram".



7.13 Smoke outlet and combustion air inlet

Type-A appliances are not designed for being connected to a smoke outlet. Sime MINI E water heaters can be installed outdoors without a smoke outlet and any further accessories.



7.14 Characteristics of the water

The water used in the system must fulfil the manufacturer's requirements with regard to the pH value, conductivity, hardness, alkalinity, concentration of chlorides, as inadequate values shall void the warranty; the values of the system's fluid must fall within those listed below:

- the content of soluble salts shall not exceed 500 mg/l
- conductivity shall not exceed 650 µS/cm
- the fluid's pH value, at a temperature of 20°C, must be between minimum 6 and maximum 8.

The total water hardness must not exceed 30°F.

We suggest treating the water when the fluid's hardness exceeds the established limits for total hardness, salinity, high conductivity (using polyphosphates, water softener, etc.).

7.15 Refilling and emptying

Before carrying out the operations described below:

- shift the plant's main switch to "OFF"
- close the gas supply valve present on the line.

Refilling operations:

- open the shut-off devices of the water supply system (mounted during installation)
- open one or more hot and cold water valves to fill and bleed the domestic hot water circuit
- once bleeding has been completed, close the hot water valves.

Emptying operations:

- close the shut-off valve of the water supply system (mounted during installation)
- open two or more hot and cold water valves to bleed the domestic hot water circuit
- unscrew and remove the drainage valve
- mount the drainage valve back on after the residual water has been completely drained.

At the end of the operations:

- open the gas supply valve present on the line
- shift the plant's main switch to "ON".

8 COMMISSIONING

8.1 Preliminary operations



WARNING

The commissioning operations of the appliance must be carried out exclusively by Professionally Qualified Personnel with the **OBLIGATION to wear** adequate accident prevention protections.

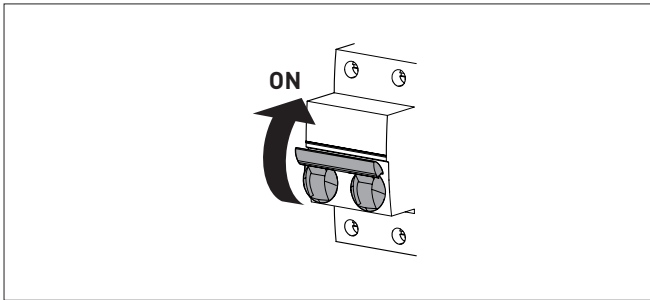
Before commissioning the appliance, check that:


- the type of gas is correct for the appliance
- the gas and water circuit shut-off valves are open
- the electrical connection has been made correctly.

8.2 Initial start-up

After completing the preliminary operations, to start up the water heater:

- insert the plug into the power outlet
- shift the plant's main switch to "ON"



- close the gas valve
- press the  (On/Off) button on the control panel to switch the appliance on
- The screen will show the factory setting for the hot water temperature; to adjust the temperature, consult the paragraph "Temperature adjustment" under the section INSTRUCTIONS FOR USE
- open the domestic hot water valve
- the appliance will signal the blocked status due to failed ignition
- open the gas valve and verify the tightness of the fittings, including those of the appliance, by verifying that the meter does not signal any passage of gas
- eliminate any gas leaks
- start the appliance by opening the domestic hot water valve.

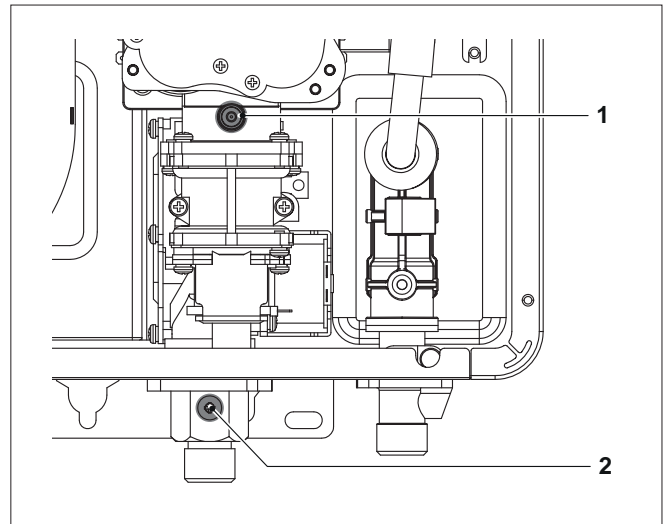
8.3 Checking the gas regulation



CAUTION

To proceed with the subsequent operations, it is necessary to:

- remove the shell – consult the chapter "Removing the shell"
- power the appliance electrically



8.3.1 Checking the supply pressure

- close the gas valve
- loosen the measuring screw (2) and insert the pressure gauge connecting pipe into the pressure plug
- open the gas valve
- start the appliance by opening the domestic hot water valve
- the supply pressure must match the value indicated for the type of gas for which the appliance was designed – see "Gas summary table"



WARNING

If the supply pressure does not match the value indicated in the gas summary table, do not start the appliance.

- switch the appliance off by closing the domestic hot water valve
- close the gas valve
- detach the pressure gauge and tighten the screw (2)
- open the gas valve and verify the tightness of the measuring screw.

8.3.2 Checking the maximum and minimum burner pressure

- close the gas valve
- loosen the screw (1) and insert the pressure gauge connecting pipe into the pressure plug
- open the gas valve
- press the (On/Off) key. The display will light up
- open the hot water valve, the appliance will activate. Simultaneously press the and keys for 5 seconds, the display will show "26"



- press the (On/Off) key, the appliance will be forced to the maximum power. The display will show a number between "00" and "32" with the first number flashing



- verify on the pressure gauge the maximum pressure and modify it, if necessary, by pressing the and keys, as indicated in the gas summary table, then press the (On/Off) key to store any changes made
- after pressing the (On/Off) key, the appliance will be forced to the minimum power. The display will show a number between "00" and "32" with the second number flashing



- verify on the pressure gauge the minimum pressure and modify it, if necessary, by pressing the and keys, as indicated in the gas summary table
- press the (On/Off) key to store any changes made
- close the hot water valve. Press the (On/Off) key to switch the appliance off
- firmly tighten the screw (1) and check for any leaks using an appropriate device.

8.4 List of parameters

Parameter	Description	Values	Set value
FA	Reserved parameter	00	00
FB	Reserved parameter	00	00
FC	Solar function parameter	ON/OFF	ON
FD	Timing parameter	ON/OFF	OFF

8.5 Gas summary table

The table shows the pressure at the burner for different types of gases and capacities.

		MINI 11 E			MINI 16 E		
		G20	G30	G31	G20	G30	G31
Wobbe index information (15°C; 1013 mbar)	MJ/m ³	45,67	80,58	70,69	45,67	80,58	70,69
Gas input pressure	mbar	20	28-30	37	20	28-30	37
Gas burner MAX pressure	mbar	12,00	12,60	16,00	10,50	13,00	15,00
Gas burner MIN pressure	mbar	3,00	3,00	3,00	2,50	2,50	2,50
Slow ignition pressure	mbar	9,50	9,65	12,45	7,60	9,85	10,55
Parameter							
L - Capacity		11	11	11	16	16	16
q - Type of gas	no.	12	22	19	12	22	19
F - Type of appliance		07	07	07	07	07	07
Burner nozzles	no.	6x2			15x2		
Ø of burner nozzles (above - below)	mm	0,86 - 1,52	0,74 - 1,04		0,74 - 1,28	0,62 - 0,88	
MAX gas consumption (15°C, 1013 mbar) (NG=m³/h) (LPG kg/h)	max	2,33	1,37	1,41	3,37	2,04	2,03

9 MAINTENANCE AND CLEANING

9.1 Warnings and preliminary operations



CAUTION

- The operations described below must **ONLY** be carried out by the professionally qualified personnel who **MUST wear** suitable protective safety equipment.
- Make sure that the system components and pipes are not hot (risk of burns).



WARNING

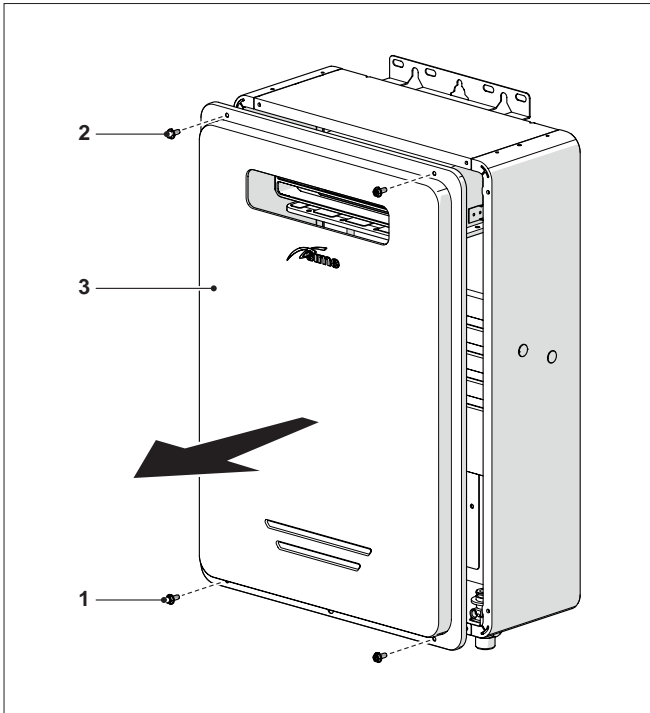
- Before carrying out the operations described below:
- shift the plant's main switch to "OFF"
 - close the gas valve
 - make sure that no hot parts inside the appliance are touched.

9.2 Cleaning the inside of the appliance

9.2.1 Removing the shell

To dismantle the shell, proceed as follows:

- loosen the two lower screws (1)
- loosen the upper screws (2)
- pull the shell forward (3) and remove it
- disconnect the display and the control unit, consult the chapter "Electrical connections".



Once the maintenance and cleaning operations have been completed, put the appliance's front panel (3) back on by hooking it at the top, pushing it forward and fastening it with the screws (1) and (2) removed previously.

9.2.2 Accessing the expansion board

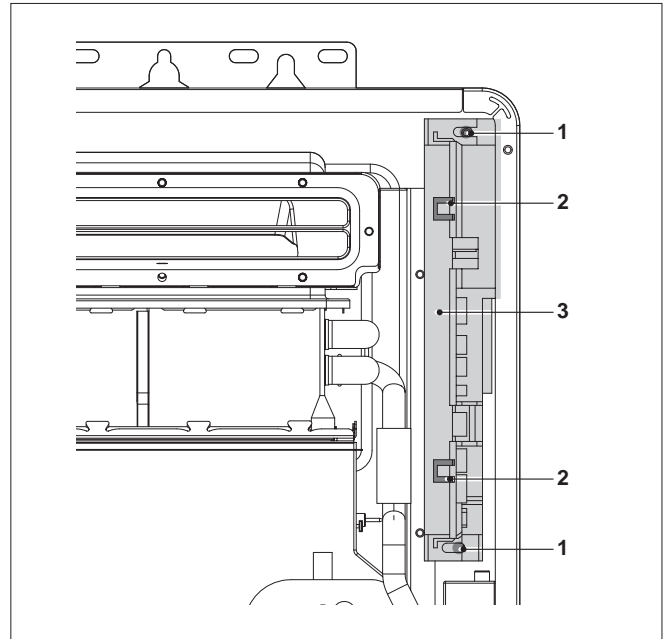


CAUTION

Prior to intervening on the appliance, disconnect the power supply through the omnipolar switch fitted on the power supply line.

To access the expansion board:

- remove the shell – consult the chapter "Removing the shell"
- loosen the screws (1)
- extract the board holder
- detach the board fan connector
- detach the blocks (2)
- remove the cover (3) and access the board.



9.2.3 Cleaning the heat exchanger

To clean the heat exchanger, proceed as follows:

- remove the shell – consult the chapter "Removing the shell"
- use compressed air or an equivalent means to clean the zone between the fins and the heat exchanger, taking care not to remove any other part of the heat exchanger
- mount the shell and tighten the relative screws.

9.3 Replacing the power cable

If the power cable needs to be replaced, the operation **MUST** be carried out by professionally qualified personnel.

If case of its replacement, the spare must be requested from Sime.

9.4 Gas conversion



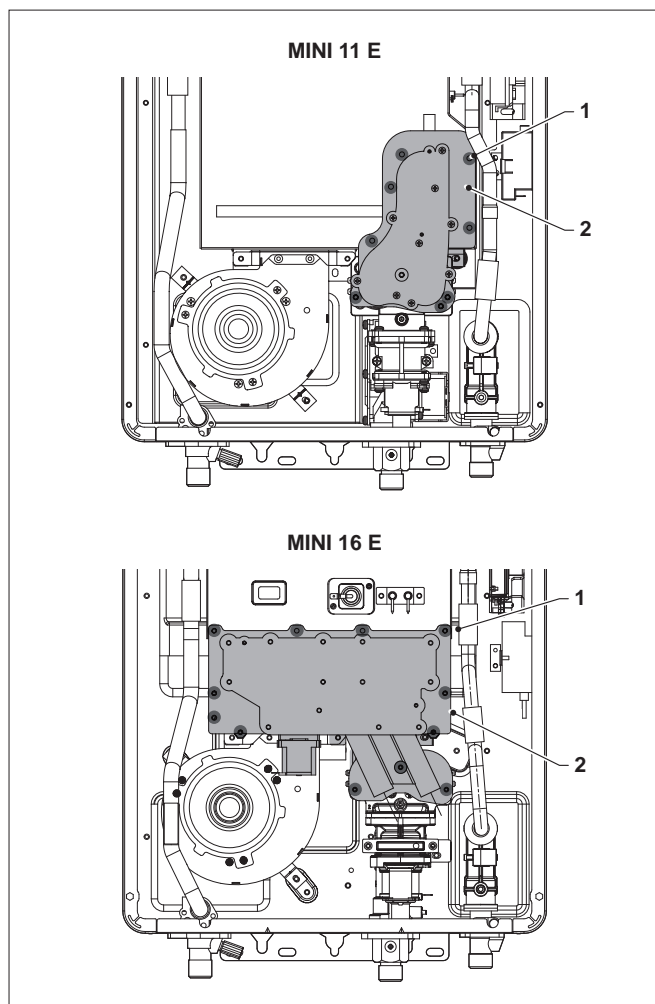
WARNING

Before carrying out the operations described below:

- set the plant's main switch to "OFF"
- close the gas valve
- make sure that no hot parts inside the appliance are touched.

To convert the type of gas, proceed as follows:

- remove the shell – consult the chapter "Removing the shell"
- loosen the screws supporting the gas manifold (1)
- remove the gas manifold (2)
- replace it with the corresponding gas manifold



CAUTION

To proceed with the subsequent operations, it is necessary to:

- power the appliance electrically;
- verify that the appliance is switched off;
- disconnect the display and the control unit, consult the chapter "Electrical connections".

9.4.1 Selecting the water flow rate

To adjust the water flow rate:

- connect the display and the control unit
- with the appliance powered electrically but switched off, simultaneously press the \wedge and \vee keys for 10 seconds
- press the ⏻ (On/Off) key and the display will show the letter "L": this means that the appliance has entered the volume selection mode
- press the ⏻ (On/Off) key to enable the regulation function and then the \wedge and \vee keys to adjust the volume
- press the ⏻ (On/Off) key to confirm the changes and access the next selection interface.

The following table shows the volume parameter settings.

Symbol displayed	Parameter	Capacity
L	11	11 litres
	16	16 litres

9.4.2 Selecting the type of gas

After adjusting the water capacity and pressing the ⏻ (On/Off) key to confirm the changes, the user can access the interface for selecting the type of gas:

- the display will show the letter "q": this means that the appliance has entered the gas type selection mode
- press the ⏻ (On/Off) key to enable the regulation function and then the \wedge and \vee keys to adjust the type of gas
- press the ⏻ (On/Off) key to confirm the changes and access the next selection interface.

The type of gas set in the factory (G20) is shown the first time the \wedge or \vee key is pressed.

The following table shows the gas parameter settings.

Symbol displayed	Parameter	Gas category
q	12	G20
	22	G30
	19	G31

9.4.3 Selecting the model

After selecting the type of gas and pressing the (On/Off) key to confirm the changes, the user can access the interface for selecting the model:

- the display will show the letter "F": this means that the appliance has entered the model selection mode
- The model is pre-set in the factory and does NOT require any selection, simply press the (On/Off) key to skip this operation.

The following table shows the model parameter settings.

Symbol displayed	Parameter	Type of appliance
F	07	MINI 11 E
		MINI 16 E

- run the procedure described in the paragraph "Checking the gas regulation"
- verify the appliance's airtightness to ensure that there are no gas leaks
- mount the shell and tighten the relative screws.

Accessories table

MINI 11 E			
Code	Image	Type of gas	Technical specifications
6329172		G20	Hole Ø 0.86 Hole Ø 1.52
6329173		G30 G31	Hole Ø 0.74 Hole Ø 1.04

MINI 16 E			
Code	Image	Type of gas	Technical specifications
6329488		G20	Hole Ø 0.74 Hole Ø 1.28
6329498		G30 G31	Hole Ø 0.62 Hole Ø 0.88



CAUTION

- Check that the sealing ring on the gas control system is properly secured.
- Once the conversion kits have been replaced, attach the corresponding labels back onto the appliance.

9.5 Periodic checks



CAUTION

We suggest perform the following checks on the appliance, **at least once a year**.

- **Check the tightness of the hydraulic connections** and, if necessary, replace the seals to restore the watertightness.
- **Check the tightness of the gas connections** and, if necessary, replace the seals to restore the airtightness.
- **Visually inspect the overall condition of the appliance.**
- **Visually inspect the combustion** and, if necessary, dismantle and clean the burner.
- If necessary, **dismantle and clean the combustion chamber** after visually inspecting the overall condition of the appliance.
- If necessary, **dismantle and clean the burner and injector** after visually inspecting the combustion.
- **Clean the primary heat exchanger.**
- **Check the operation of the heating safety systems:** limit temperature safety device.
- **Verify the operation of the gas part safety systems:** safety device for lack of gas or flame (ionisation).
- **Check the efficiency of domestic hot water production** (verify the flow rate and temperature).
- **Clean the cold water inlet filter.**



WARNING

The appliance must NOT be put into operation without the cold water inlet filter.

- **General check of the appliance's operation.**
- **Remove oxide residues from the detection electrode** using sandpaper.

10 TROUBLESHOOTING

10.1 Troubleshooting guide




Anomaly	Cause	Solution
The flame dies out during operation	Gas valve half open	- Open the gas valve completely
	Inadequate (low) gas supply pressure	- Contact a technician to check the pressure of the system's gas regulator
	Inlet water pressure too low	- Contact a technician to have the water pressure checked
	Insufficient air supply	- Improve the air renewal and let fresher air in
	Excessively high external wind pressure	- Turn off the water heater
	Heat exchanger clogged Malfunctioning of the water control device (flow meter)	- Contact the Service Centre
The appliance fails to start after the hot water supply valve is opened	Gas valve closed	- Open the gas valve fully or replace the gas valve
	Presence of air in the gas manifold	- Continue opening the cold water supply valve
	Water system shut-off valve closed	- Open the water supply shut-off valve
	Ice build-up	- Use the appliance after the ice has melted
	Inlet water pressure too low	- Contact a technician to have the water pressure checked
	Excessively high external wind pressure	- Turn off the water heater
	Malfunctioning of the water control device (flow meter)	- Contact the Service Centre
Explosion after power-up	Inadequate (high) gas supply pressure	- Contact a technician to check the pressure of the system's gas regulator
	Excessively high external wind pressure	- Turn off the water heater
Yellow flame with smoke	Nozzles clogged	- Contact the Service Centre
	Heat exchanger clogged	
Abnormal flame with strange odour	Insufficient air supply	- Improve the air renewal and let fresher air in
	Nozzles clogged	- Contact the Service Centre
	Heat exchanger clogged	
Start-up with abnormal sounds	Inadequate (high) gas supply pressure	- Contact a technician to check the pressure of the system's gas regulator
	Nozzles clogged	- Contact the Service Centre
Water not yet hot, when a higher temperature is set	Gas valve half open	- Open the gas valve completely
	Inadequate (low) gas supply pressure	- Contact a technician to check the pressure of the system's gas regulator
	Incorrect regulation of the water temperature	- Turn the water flow adjuster knob appropriately
	Malfunctioning of the water control device (flow meter)	- Contact the Service Centre
Water too hot, when a lower temperature is set	Incorrect regulation of the water temperature	- Turn the water flow adjuster knob appropriately
	Malfunctioning of the water control device (flow meter)	- Contact the Service Centre
The flame dies out when the knob is turned towards the low temperature position	Inlet water pressure too low	- Contact a technician to have the water pressure checked
The flame does not die out when the hot water supply valve is closed	Malfunctioning of the water control device (flow meter)	- Contact the Service Centre

10.2 Error codes and possible solutions


No.	Description	Solution
01	Inlet temperature sensor anomaly	- Contact the dealer or a qualified service technician.
10	No start-up	- Open the valve and follow the activation procedure
11	No flame detection	- Check the ignition electrode
12	No flame after the safety time (3 attempts)	- Check the detection button Press the ON/OFF button to reset
13	Overheating thermostat protection	- A temperature above 95°C has been detected. Press the ON/OFF button to reset - Contact the dealer or a qualified service technician.
32	Flue gas pipe block	- Check the smoke exhaust/air extraction pipe - Press the ON/OFF button to reset
40	Faulty fan	- Contact the dealer or a qualified service technician.
50	Temperature sensor overheating protection	- Input temperature >85°C, check the temperature sensor
51		- Output temperature >85°C, check the temperature sensor
60	Output temperature sensor anomaly	- Contact the dealer or a qualified service technician.
70	Incorrect parameter setting protection	- Check the capacity, type of gas and product model settings

ANNEXES

PRODUCT DATA SHEET (EU 812/2013)

		
Sime MINI E	11	16
Stated domestic hot water profile	M	XL
Domestic hot water energy efficiency (%)	73,9	82,7
Energy efficiency class of DHW function		
Annual fuel consumption AFC (GJ)	6	18
Annual electricity consumption AEC (KWh)	12	16
Thermostat temperature setting	65	65
Sound power dB(A)	60	66
Specific precautions to be adopted during the appliance's assembly, installation or maintenance are contained in the water heater's instruction manual Conforms to Annex 4 (point II) of Delegated Regulation (EU) No. 811/2013 which integrates Regulation (EU) No. 2017/1369		

ERP DATA (EU 814/2013)

		
Sime MINI E	11	16
Stated domestic hot water profile	M	XL
Daily gas consumption (corrected) (KWh)	8,348	24,006
Daily electricity consumption (corrected) (KWh)	0,053	0,073
NOx (mg/kWh)	22	19
Sound power dB(A)	60	66
Specific precautions to be adopted during the appliance's assembly, installation or maintenance are contained in the water heater's instruction manual Conforms to Annex 4 (point II) of Delegated Regulation (EU) No. 811/2013 which integrates Regulation (EU) No. 2017/1369		



Fonderie Sime S.p.A - Via Garbo, 27 - 37045 Legnago (Vr)
Tel. +39 0442 631111 - Fax +39 0442 631292 - www.sime.it