

CONTENTS

Before using the unit	Page 3
During the winter you should pay more attention	Page 3
Installation of KITURAMI unit	Page 4-5,11
Hydraulic connection of domestic water	Page 6
Connection of TURBO boiler to the heating network	Page 7
Connection of KS boiler to the heating network	Page 8
Equipment of the unit KITURAMI TURBO Plus	Page 9
Installation of the unit KITURAMI TURBO Plus	Page 10
Maintenance	Page 11
Electronic room thermostat 5500	Page 12
Operation of the room thermostat	Page 13
Settings of the room thermostat	Page 14
Code display on the screen, Trouble Localization and Solutions	Page 15-16
Temperature range of burner and circulator	Page 17
KRM co-firing wood and oil units	Page 17-18
Area thermostat CTR900	Page 18
Technical Specifications	Page 19



Founded in 1962,
KITURAMI, is the leading manufacturer in Korea and holds the first place in sales of heating systems with oil and gas.
KITURAMI is recognized internationally for its products and is distinguished for its contribution with the first awards for customer satisfaction, quality control awards and prizes for research and technology.

BEFORE USING THE UNIT

Thank you for your choice. This manual will show you how to install the KITURAMI unit and how to operate it. It will also show you what to do in case of a sudden shutdown and how to use it safely.

Use heating oil rather than any other fuel.

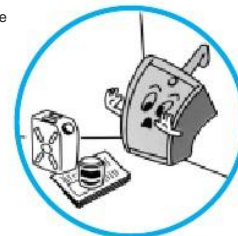
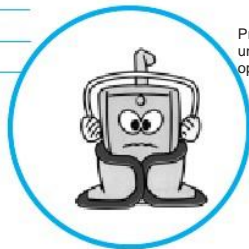
In winter, even if you are away from home, do not disconnect the unit from the mains.



DURING WINTER YOU SHOULD PAY MORE ATTENTION

Protect the unit from snow and rain. Make sure the unit is in covered space for its best and safest operation.

Do not leave the front of and around the unit flammable materials.

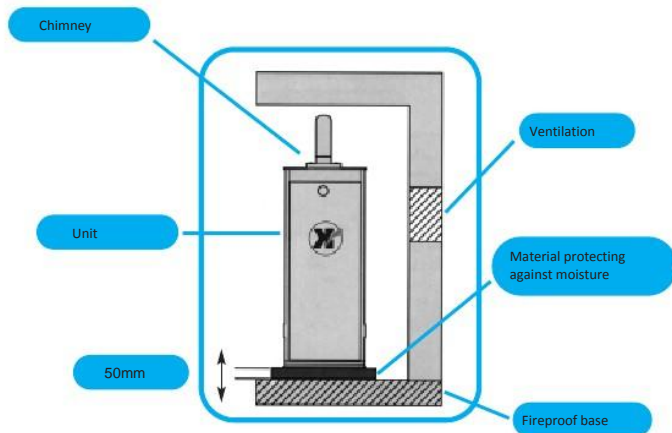


During the winter, when you are absent from your home for several hours or days it is preferable to activate the "OUTING" mode by the room thermostat. This function protects the heating system from freezing, while the room will warm up faster when you switch to the "HEATING AREA" mode. To protect from freezing and the water line is connected to the boiler, let the hot water tap slightly open. During the summer remove the plug from the socket to protect the unit from flashes and lightning.

INSTALLATION OF KITURAMI UNIT

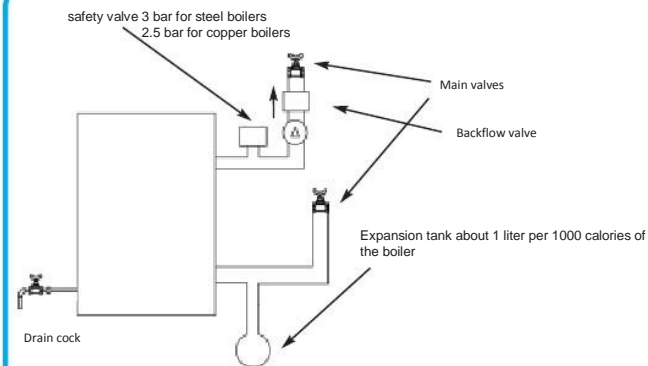
How to install the unit

1. Place the unit in a place with enough comfort - space for inspection and maintenance.
2. Put it on incombustible - non-combustible materials such as concrete - brick or cement, which can withstand heavy weight.
3. Avoid placing it in a narrow enclosed space without ventilation or a bathroom with too much moisture. It can be caused incomplete combustion due to lack of oxygen.
4. Do not place the unit in unprotected - open space.
5. Connect the plug of the unit to the mains using a socket exclusively for it.



Create a base 50mm above the floor to protect the unit against the moisture of the floor. In order to avoid abnormal noise (caused by vibration), put four anti vibration rubbers on the four corners of the base and place the unit on them. This process helps the long lifetime of the unit.

INSTALLATION OF KITURAMI UNIT

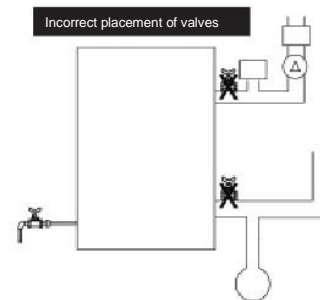


The backflow valve is installed to prevent the natural flow of water to the radiators when we ask for domestic water during the summer months. (The boiler TURBO Plus does not need backflow valve).

The valves should never be placed:

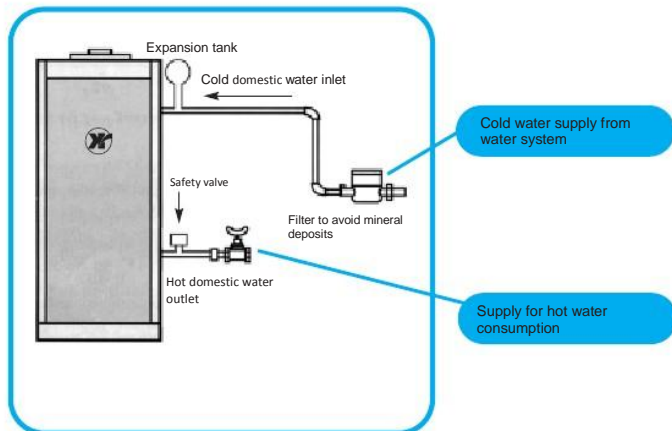
- between the boiler and the safety valve
- between the boiler and the expansion tank

In this case, if the burner will be activated with closed valves, the boiler will be destroyed.



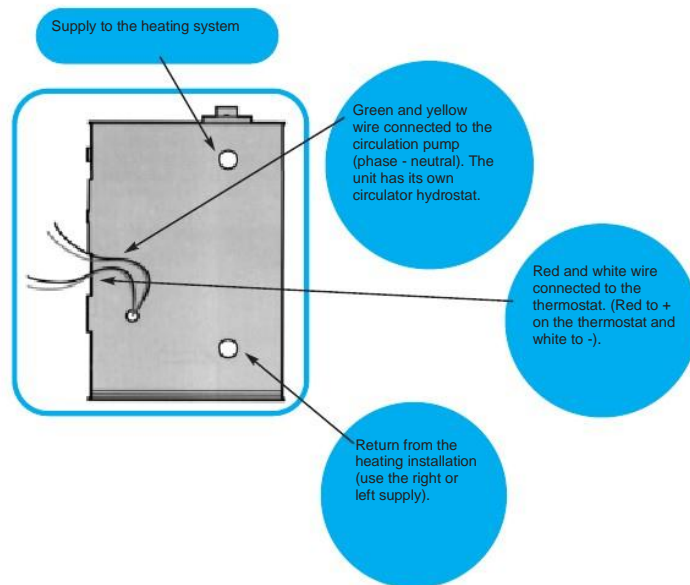
HYDRAULIC CONNECTION OF DOMESTIC WATER

Water supplies
(applies to all models)



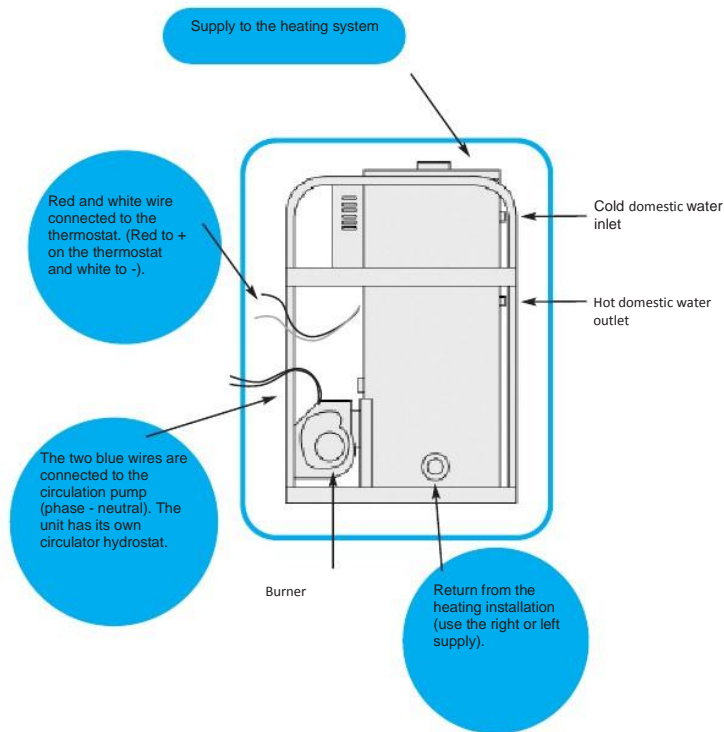
Before connecting the domestic water supply in the boiler measure the pressure of the water. Then adjust the expansion water tank at the same bars and place a corresponding safety valve. E.g. we assume the water supply is 4 bars. Then select a safety valve six bar and adjust the expansion tank at 4 bars.

CONNECTION OF TURBO BOILER TO THE HEATING NETWORK



The safety valve is placed at the outlet of hot domestic water. The magnet or polyphosphate filter for salts are placed at the outlet of cold water to avoid mineral deposits.

CONNECTION OF KS BOILER TO THE HEATING NETWORK



EQUIPMENT OF THE KITURAMI TURBO PLUS UNIT

The KITURAMI TURBO PLUS unit is equipped with all the accessories of a boiler room.

In the unit **TURBO PLUS** are integrated the following components:

- **Circulator**

- **Expansion Tank**

The KITURAMI unit includes in its equipment expansion tank for the heating network. However if the system is large (mainly applies for TURBO PLUS 25 and 30 units), place an additional expansion tank which you can connect anywhere in the facility.

- **Safety Valve**

- **Filling valve of the heating network**

If you do not place automatic filler, the user is able to control the manometer which shows the pressure of the heating network and if water is needed to fill by the filling valve.

- **Manometer**

- **Three-way valve**

The three-way valve directs water from the heating network to the installation when we ask for heating or returns it to the boiler when we ask for domestic hot water. Due to the three-way valve it is not needed to put in the installation a backflow valve as in the case of TURBO, GOLD and KS.

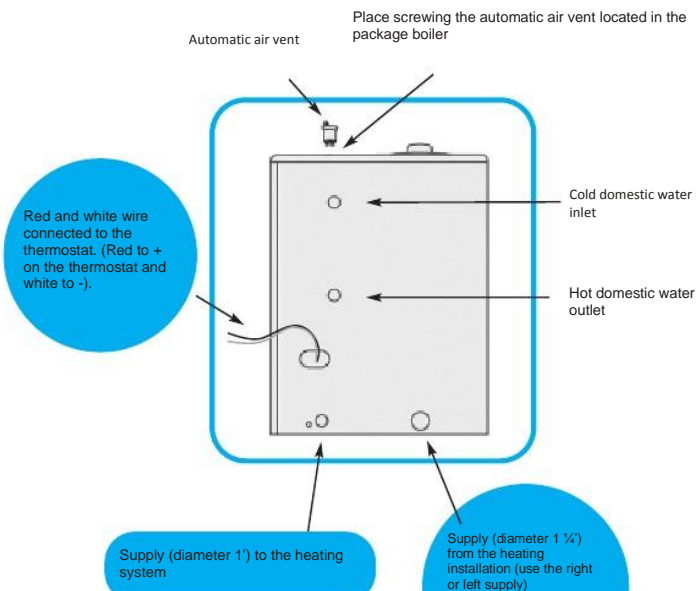
- **Magnetic filter of the installation**

The magnetic filter removes the metal chips that are in the water of the heating network. Once per year it is required to clean the magnetic filter.

- **Automatic Ventilator**

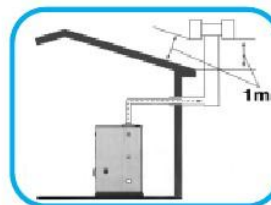
- **Water Flow Sensor**

INSTALLATION OF THE KITURAMI TURBO PLUS UNIT



INSTALLATION OF THE KITURAMI UNIT

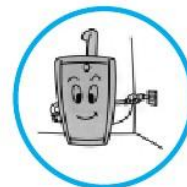
Place the chimney 1m higher than its bend and use a T to its end.



In this way is protected the unit from poor combustion caused by the adverse wind.
If you cannot install a classic chimney, ask to be supplied with the stainless steel chimney we provide for these cases.

Insert the plug into an outlet that is also grounded.

To activate the first time the boiler, **open the main switch ON-OFF** of the boiler, turn off the thermostat from the **POWER button** and press for 10 sec **button HOT WATER**. Now you can choose any program you want from the room thermostat.

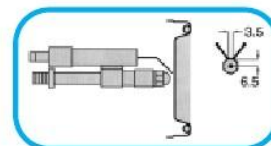


MAINTENANCE



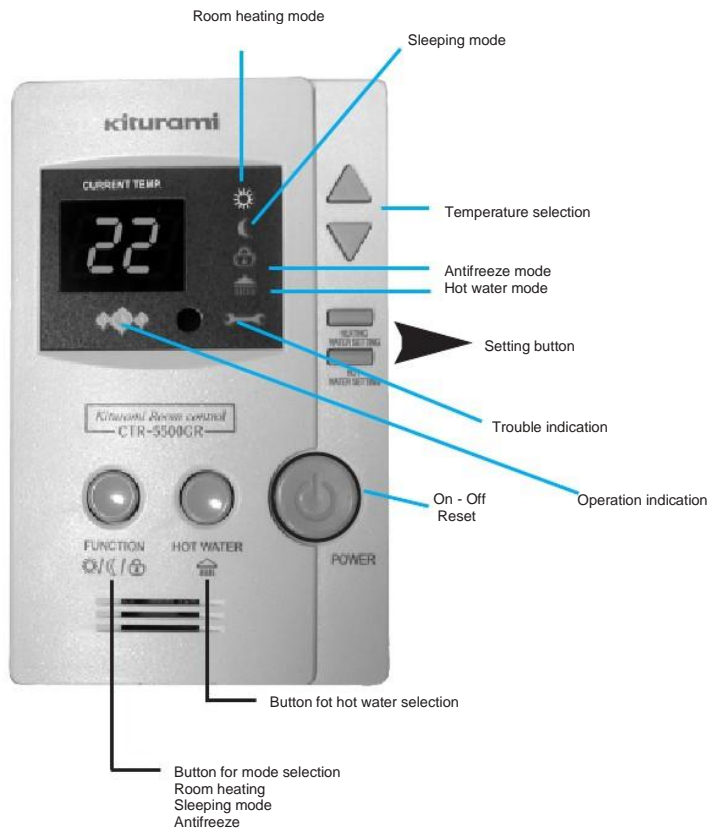
If you notice in the tank or the oil filter water or rubbish you should remove it immediately.

For cleaning the boiler, remove the lid of the smoke collector and with a brush clean the boiler. Then remove the burner and collect the soot with a vacuum cleaner. After that clean the orifice, the diffuser and the pins of the burner and replace the boiler. Clean the oil pump filter.



Keep these distances as in figure

THERMOSTAT 5500



OPERATION OF THE ROOM THERMOSTAT

Room Heating Mode



For heating the room successively press the button FUNCTION until it lights up the room heating indication (sun). Then adjust the temperature to the desired level using the arrow keys. The indication with the temperature you select will flash on the display six times and then the thermostat display will show the temperature at that time in the area where the thermostat is located.

Sleeping Mode



Pressing the button FUNCTION sequentially, select the sleep mode (moon). From that moment the thermostat allows the room temperature to drop 3 degrees for 7 hours and then resets automatically in the heating room mode.

Antifreeze Mode



We select it with the FUNCTION button when we want to be missing several hours or days from home. When the room temperature drops below 8° C, it activates the circulation pump when the water in the boiler drops below 8° C it activates the burner. In this way we have absolute protection from frost and freezing in the boiler and in the room where the thermostat is located.

Hot Water Mode

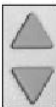


We select this mode with HOT WATER button. We use this function when we want hot water during winter - summer. This operation lasts for 2.5 hours.

SETTINGS OF THE ROOM THERMOSTAT

Correcting of the temperature on the room thermostat

If the temperature indicated by the thermostat is wrong, then to correct it we press the FUNCTION button for 5 seconds. We decrease or increase the temperature that is displayed on the screen until it reaches the desired level. To reduce by one degree the room temperature, we reduce by two numbers the thermostat indication. To increase by one degree the room temperature, we increase by two numbers the thermostat indication.



Selection of the domestic water temperature

To select the water temperature we must have activated the HOT WATER function. Then we press the button HOT WATER SETTING and with the arrows we select the desired temperature from 41° C to 85° C. The display of the thermostat displays the selected temperature for the hot domestic water, which as lower it is the more difficult are concentrated salts in heat exchanger.



Selection of water temperature to heating units (radiators)

To select the water temperature in the heating units, we select the heating room mode with the FUNCTION button and then press the HEATING WATER SETTING button. The room thermostat displays the water temperature in the radiators and with the arrows we can alter it per 5 degrees (from 50° C to 85° C).



Checking the water temperature in the boiler

To check the temperature of the water in the boiler press the button HEATING WATER SETTING for 5 seconds.



CODE DISPLAY ON THE SCREEN, TROUBLE LOCALIZATION AND SOLUTIONS

If occurring any problem to the boiler, the screen of the room thermostat will display one of the following codes:

01 The burner cannot ignite

- Check the engine burner if it works.
- The coil of the electromagnetic oil burner is burnt.
- There is no flow of oil from the tank to the burner.
- We don't have scintillation on the ignition rod of the burner.
- The coupling of the oil pump and motor is broken.
- When the photocell sees no flame in the combustion chamber, you should clean it.

02 The photocell perceives light into the combustion chamber without any reason.

- Check if affected by sunlight or other strong light beam.
- Coley has created in the combustion chamber. You should clean it.

03 The burner turns on 5 times and then turns off

- There is a poor oil flow to the burner.
- There the chimney is blocked.
- The boiler is filled with soot.
- There is a strong wind and hinders the exhaust gases outlet.

04 The temperature sensor cable (blue) is cut or does not have a good contact to the terminal block.

05 The overheating sensor cable (blue) is cut or does not have a good contact to the terminal block

CODE DISPLAY ON THE SCREEN, TROUBLE LOCALIZATION AND SOLUTIONS

08 The cable connecting the the room thermostat to control of the boiler is damaged or the thermostat is affected by instantaneous heavy frequency.

95 There is no water in the boiler

- Open the valve to pull up water.
 - Check or insert automatic ventilation system on the boiler in order not to be held the air circuit.
 - Check the sensor wires to make good contact.
- Red cable right on the boiler.
Black wire bolted to the chassis of the unit above the control.

96 The water in the boiler is overheated. Press twice the room thermostat switch POWER. If the same problem is reappears, change the temperature sensor.

98 There is a shortage of oil in the tank.

00 The temperature sensor of the thermostat does not work.

Any time any **damage occurs in the boiler – burner** the trouble code is stored in the room thermostat memory.

To see what damages are stored in the memory, we select the heating room mode and press the button HOT WATER SETTING for five seconds. Then the screen of the room thermostat displays in series the damages recorded. To delete the damages from the room thermostat memory, we close the room thermostat from the POWER button and press the button HOT WATER for 10 seconds.

OPERATING TEMPERATURE RANGE OF BURNER AND CIRCULATOR

CIRCULATOR

SELECTION OF WATER TEMPERATURE IN THE RADIATORS	ON	OFF
50	46	42
55	51	46
60	55	50
65	59	54
70	63	58
75	68	62
80	72	66
85	76	70

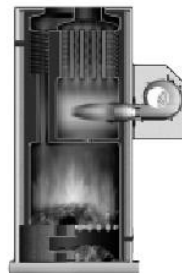
BURNER

SELECTION OF WATER TEMPERATURE IN THE RADIATORS	ON	OFF
50	44	50
55	48	55
60	52	60
65	56	65
70	60	70
75	64	75
80	68	80
85	72	85

KRM CO-FIRING WOOD AND OIL UNITS

The KRM unit is equipped with two boilers and two combustion chambers.
The oil boiler has a built-in oil burner.
We have the possibility from the control of the boiler to select the function for the fuel we will use.

OIL: In this option the unit operates just like oil boilers. In **wood** mode the unit's operation is as follows: Firing the solid fuels simultaneously is activated also the burner until the water temperature of the boiler reaches 55°C. Then the burner will stop and remains only the flame from the solid fuels. The water temperature is then controlled by the automatic air damper of the boiler.

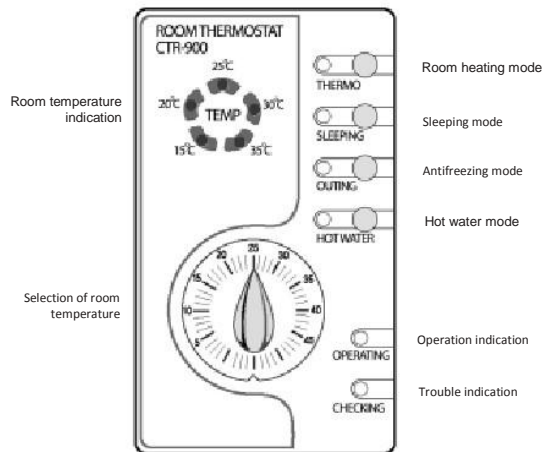


If the room thermostat is not turned on then the burner will not start.

If the water temperature drops below 55° C due to lack of solid fuel then the burner will be activated automatically and will keep the water temperature at 55 to 60° C approximately in the radiators.

ATTENTION: For the boiler KRM we recommend open expansion tank.

The wood oil boiler is accompanied by a room thermostat CTR900 from which we select following functions:



TECHNICAL SPECIFICATIONS

Turbo	17 S	21 S	25S	30 S	KS 50	KS 70	KRM 30	KRM 70
Dimensions	365X650X890	365X650X890	365X650X890	365X650X890	600X900X1200	600X900X1380	790X850X1385	1150X1070X1810
Door dimensions							285X365	285X365
Chimney Diameter Φ (mm)	Φ80	Φ 80	Φ 80	Φ80	Φ125	Φ125	Φ200	Φ270
Heating supplies A (inches)	1" 1/4	1" 1/4	1" 1/4	1" 1/4	1" 1/2	1" 1/2	1" 1/4	2"
Hot water supplies (inches)	1/2"	1/2"	1/2"	1/2"	3/4"	3/4"	1/2"	3/4"
Hot water supplies l/min with ΔT 25° C	11,30	14,00	16,60	20,00	33,30	46,60		
Hot water supplies l/min with ΔT 40° C	7,08	8,75	10,41	12,50	20,83	29,16		
Burner pump operation pressure	10 bar	10 bar	10 bar	10 bar	10 bar	10 bar	10 bar	10 bar
Injector	0,50 60°H	0,60 60°H	0,75 60°H	0,85 60°H	1,65 60°H	2,00 60°H	0,50 60°H	2,00 60°H
Performance %	90,95%	91,50%	91,20%	90,34%	89,50%	88,72%	89,90%	89,90%
Performance with wood (Cal)							14000-26000	30000 - 55000
Performance with Oil (Cal)							to 17000	to 70000

Gold	G17 S	G25 S	G30 S	G35 S	40 S	50 S
Dimension	325X600X810	325X600X810	360X650X890	360X650X890	510X890X1050	510X890X1110
Door dimensions						
Chimney diameter Φ (mm)	Φ80	Φ80	Φ80	Φ80	Φ175	Φ125
Heating supplies A (inches)	1"	1"	1"	1"	1" 1/4	1" 1/4
Hot water supplies (inches)	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"
Hot water supplies l/min with ΔT 25° C	11,30	16,60	20,00	23,30	26,60	33,30
Hot water supplies l/min with ΔT 40° C	7,08	10,41	12,50	14,50	16,60	20,83
Burner pump operation pressure	10 bar	10 bar	10 bar	10 bar	10 bar	10 bar
Injector	0,50 60°H	0,75 60°H	0,85 60°H	1,00 60°H	1,25 60°H	1,65 60°H
Performance %	91,50%	91,25%	91,00%	90,20%	89,90%	90,00%

CLIMA CONTROL

HEATING - AIR CONDITIONING

INSTALLATION

AND OPERATION

MANUAL

for the boilers

- TURBO
- TURBO Plus
- GOLD
- KS
- KRM



CLIMA CONTROL

HEATING - AIR CONDITIONING

Exclusive Representation

Collateral of Egnatia Road P.O. Box 1200 P.C. 57 008 Diavata Interchange, Thessaloniki

Tel.: 2310 574 920, 2310 574 803 • Fax.: 2310 574 893

e-mail: info@climacontrol.gr • www.climacontrol.gr



kiturami

Oil and Gas Oil Boilers