

## OM Series Cast Iron Boiler

### Installation, Operation & Maintenance Manual



**OM Series Range Of Floor Standing Oil / Gas Fired Boiler**  
**Cast Iron Sections**  
**Triple Pass Design**  
**378 kW - 930 kW**



## Contents :

Description	3
Certifications , Symbols	3
General Warnings	4
Safety Instructions	5
General Characteristics of OM Series Boilers	6
Boiler Dimensions , Delivery Conditions	7
Information on the Boiler Plate	8
Technical Parameters	9
Recommended Minimum Distance for Installation	10
Important Instructions About Boiler Room	11
OM Series Cast Iron Boiler Parts	12
OM Series Cast Iron Boiler Spare Parts List	13
Cast Iron Sections with High Efficiency Design , Boiler Room Ventilation	14
Plumbing Instructions	15
Gas Side Resistance and Exit Flue Gas Temperature	16
Important Instructions About Flue and Connecting the Fuel Tank	17
Boiler Control Panels	18
Standart Control Panel Electric Diagram	19
Operating Instructions , Loading and Unloading The Boiler Water	20
Checking and Starting the Boiler	21
Care Instructions , Cleaning the Boiler	22
Burner Door and Burner Connection	23
Instructions for Product Disposal , Positioning the Boiler	24

## Description :

- In this manual you will find the instructions for Rima three pass cast iron boilers suitable for both gas and liquid fuel. OM series hot water boilers and related information for installation, operation and maintenance of the boiler. For high efficiency and proper working conditions please read this manual carefully. For more information please check the product brochure or get in touch with Rima technical services.
- Please do not touch or remove any parts of the boiler for starting, adjusting or repairing the boiler except the processes written in this manual.
- Please call Rima services and technical officials for installing the boiler.
- Our licensed franchisers and services will give you instructions about working principles, conditions and care instructions after installing and starting the boiler.
- Our professionals will be glad to answer all your questions at any time.

## Certifications :

OM Series boilers are in compliance with ;

### EC Directives :

**(90/396/EEC)** Gas Appliances Directive

**(92/42/EEC)** Efficiency Directive

**(89/336/EEC)** Electromagnetic Compatibility Directive

**EN 303/1:** Heating boilers with forced draught burners - Terminology, general requirements, testing and marking

**EN 303/2:** Heating boilers - Part 2: Heating boilers with forced draught burners - Special requirements for boilers atomizing oil burners

**EN 303/3:** Heating boilers-Part 3: Gas fired heating boilers-Assembly comprising a boiler body and a forced draught burner

OM SERIES CE approved, No: **CE-1015BR0262**

**Please , consider on the standards in installation.**

## Symbols :



**Caution , Danger**



**Important**



**Info**

## General Warnings :

- OM series cast iron boilers are designed for working with hot water heating and/or hot water plumbing and produced with the proper technology and materials suitable for this design. This design is restricted to use out of its aim of use.
- OM series boilers are delivered as sections and services assemble the boilers in the operation area. The assembling of the boiler must be made by Rima technical services. Removing or re-assembling of the boiler should also be made by licensed Rima services, if not the risk of damage is high.
- In the assembling of the boiler; there must be a proper and safe concrete platform for to put the boiler on.
- In the assembling of the boiler, an empty space must be left from sides for safety requirements and for future repairing operations.
- Starting and first operation of the boiler must be made by authorized Rima technicians.
- Do not add or pump water to the boiler or plumbing system as it is working and hot. For adding water to the boiler or to the system please wait for water temperature to reach 40°C. Circulation pump must surely be started while adding water to the system. If not, the sections may crack.
- If the boiler will be kept off for a long time the electric system must be shut down from the main fuse. The electric must be cut off from the main shelter/fuse as the boiler is in repair, service or cleaning.
- In summer months, when the boiler is off for a long term, for preventing probable problems with circulation pumps, must be started 1 -2 times per month for 5 minutes. (The water with chalk can cause problems, if the pump is not used for long time period.)
- The periodical controls of the boiler and the burner must be done. If not, the boiler may lose efficiency and the fuel amount used may increase.
- The capacity choice of the boiler must be made according to the projects that prepared properly in the terms of related standards. If not, the boiler efficiency will be low.
- OM series boilers are produced for heating only. For heating the sanitary water another equipment such as water heater or heat exchanger is needed. For proper efficiency in this operation, correct water heater or heat exchanger must be selected.
- OM series boilers are delivered without burners. For suitable burner selection please get in touch with Rima technicians. Suitable burners must be selected for taking high efficiency.
- If the boiler is stopped automatically because of overheating do not add cold water to the boiler for re-starting. In this case wait for the boiler to cool down and re-try starting. If it does not start, please get in contact with technical services.
- In cleaning, repair and other care operations the original spare parts which approved and manufactured by Rima, must be used.
- The periodical and yearly controls of the boiler must be done properly and on time. Natural gas is a clean fuel and doesn't make a lot of dirt in the boiler. But the boilers that liquid fuels are used as fuels are much more easily get dirt. Controls and care operations of the boiler is needed for keeping high efficiency and long life of the boiler.
- Repairing and periodical controls of OM series boilers requires profession. In this manual the responsibilities and required information for users of the boiler is declared. Besides these declared operations, boiler must not be started by a person rather than the user or one of our technicians. Please do not try to make adjustment or do not touch any parts of the boilers.
- The electricity of the burner and boiler is supplied by city electric network. In this case the electric and lighting systems of the boiler room, burner and boiler electrical connections, grounding line of control panel and boiler must be made by professionals under the required and related standards.
- In this manual you will find informations only for the boilers. Please do not forget to get the instruction manual of the burner that you purchase from the manufacturer of it. Burner is not delivered with the boiler. In this case we do not give any guarantee for the burner that you purchase. Please get the guarantee certificate for the burner from your supplier.
- Please be sure that the front door (burner door) for the boiler is strictly closed and burner connections are properly made as the boiler is working.

## Safety Instructions :

Always observe the following safety instructions and regulations.

Always perform the following steps prior to inspection work.

- Close the gas shut-off valve.
- Close the heating feed and return.

### **Danger!**



- If you smell gas, risk of poisoning and explosion due to a malfunction!

### **If you smell gas :**

- Do not switch lights on or off.
- Do not use any other electrical switches.
- Do not use a telephone in the area of the hazard.
- Do not use naked flames (such as matches or cigarette lighters).
- Do not smoke.
- Close the gas stop cock.
- Open the windows and doors.
- Warn other residents.
- Get out of the house.
- Notify your gas supplier or a suitably qualified heating engineer.

### **Danger!**



- Inflammable mixtures of gas and air may explode.
- Do not use or store explosive or easily flammable substances such as petrol or paint in the same room as the appliance.
- Risk of poisoning and explosion due to a malfunction.
- Never put the safety devices out of operation or tamper with them so as to impair their function.

### **Safety Caution!**

- Inappropriate alterations can cause damage!
- Under no circumstances should you ever attempt to make alterations to the gas heating boiler or other parts of the system. Never try to carry out maintenance work or repairs on the appliance yourself.
- Do not damage or remove seals on components. Only suitably qualified heating engineer or our customer service may removed sealed components.
- Do not touch hot water connections or the flue outlet when the boiler is operating.

### **Caution!**



### **Risk of damage!**

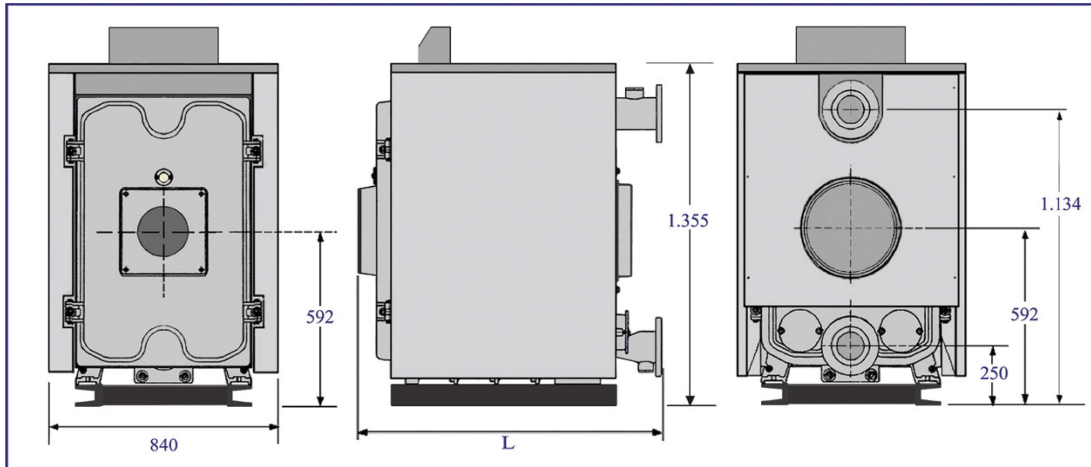
- Do not use sprays, solvents, chlorinated cleaning agents, paint, adhesives or similar substances in the vicinity of the appliance. These substances can cause corrosion, including in the flue system.

### General Characteristics of OM Series Boilers :

- OM series boilers are, blowing burner, cast iron sectioned, between the capacities 378 – 930 kW with proper burner connection, works with gas or liquid fuel in 11 different ( 6 – 16 sections) type.
- OM series boilers operating pressure is 6 bar maximum, and working temperature is 90 °C maximum.
- In OM series boilers,heat transfer surface areas are increased by the special wings in the burning room and chimney ways.This increases the heat transfer ability of cast iron boiler to the maximum level.
- OM series boilers are cast iron sectioned boilers.This brings easy assembling and easy capacity increasing by adding sections to the boiler. The transportation and installation of the boiler is easy because of the boiler is assembled in boiler rooms. It is easily to carry or shift position without breaking walls etc.
- OM series boilers are produced from special cast iron alloy EN GJL 200 , which gives high resistance against corrosion and thermal expansions. They are long life boilers according to this special cast iron alloy.
- With the help of horizontal and three pass specially designed sections burning gases pass three times in the boiler and transmits burning energy to the water inside the sections at high level.
- OM series boilers are high efficiency boilers. ( According to the fuel max. heating value % 91 – 93 ). With this high efficiency and perfect isolation more energy is gained with less fuel. Heat loses are minimized on OM series boilers.
- By appropriate burning room, heat transfer surface, turbulator, collector and isolation high heat transfer and optimum flue gas emission results are provided.



**Boiler Dimensions :**



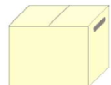
Series	OM - 06	OM - 07	OM - 08	OM - 09	OM - 10	OM - 11	OM - 12	OM - 13	OM - 14	OM - 15	OM - 16
Boiler Length L (mm)	1300	1460	1620	1780	1940	2100	2260	2420	2580	2740	2900

**Delivery Conditions :**

- Boiler sections are delivered as not - assembled according to the boiler room specifications and dimensions. In not assembled deliveries, sections and assembling aparats are delivered on a pallet, cabins, isolation and other elements are delivered in a box. Rima technicians make the assembling of the boiler.



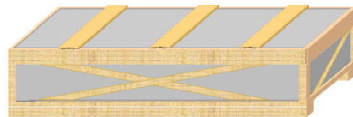
Burner Box (pallet and Cardboard box)



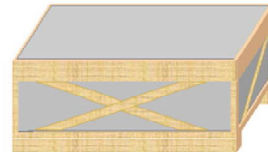
Mounting Parts box  
(Cardboard Box)



Control Panel box  
(Cardboard Box)



Boiler Cabin Sheet Parts and  
insulating jacket  
(wooden box)





Cast Iron Boilers Elements  
(80x120 Pallet)

**Notice:** Please obey to the meanings of the symbols on packaging for healthy care.



**Information on the Boiler Plate :**

The identification plate is mounted on the back side of the boiler cabin

	
CAST IRON BOILERS	
Boiler Type :	_____
Max. Operating Pressure (bar) :	_____
Max. Operating Temperature ( C) :	_____
Heat Output (kW) :	_____
Production Year :	_____
Serial Number :	_____
	
<b>Önmetal Döküm Sanayi ve Ticaret Ltd. Şti.</b> İkitelli Organize Sanayi Bölgesi Atatürk Bulvarı 17. Cadde No:5 34306 Başakşehir / İSTANBUL www.onmetal.com.tr      www.rima.com.tr	

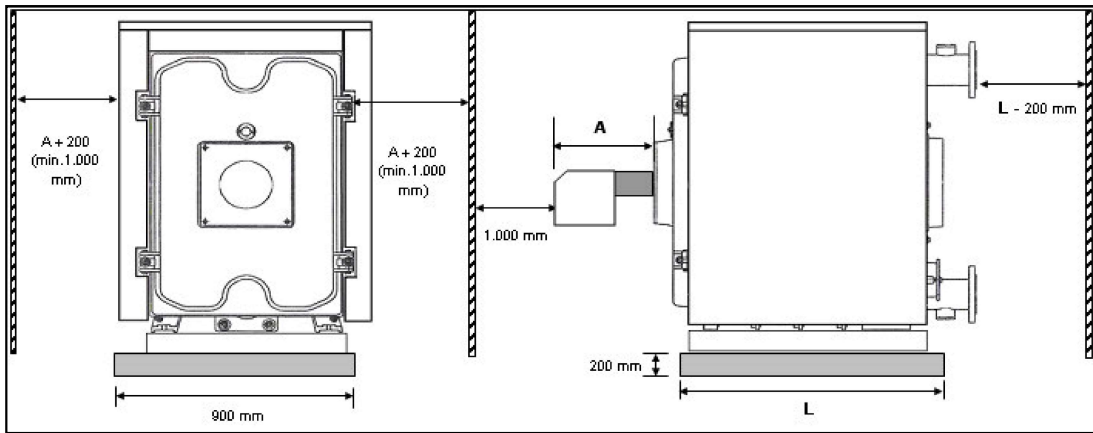


OM -06 , OM-07 , OM - 08 ...



Series Name		OM - 06	OM - 07	OM - 08	OM - 09	OM - 10	OM - 11	OM - 12	OM - 13	OM - 14	OM - 15	OM - 16
Number Of Elements	Pcs.	6	7	8	9	10	11	12	13	14	15	16
Nominal Heat Output	kW	378	448	506	564	610	663	715	773	831	878	930
	kCal/h	325.000	385.000	435.000	485.000	525.000	570.000	615.000	665.000	715.000	755.000	800.000
Nominal Heat Input	kW	410	487	551	615	665	720	777	839	900	956	1013
Maximum Operating Temperature	°C	90										
Range Of Temperature Control	°C	30-90										
Gas Side Resistance	mbar	1,75 - 2,20	1,90 - 2,40	2,25 - 2,75	2,55 - 3,10	2,80 - 3,35	3,15 - 3,70	3,45 - 4,05	3,80 - 4,35	4,10 - 4,75	4,45 - 4,95	4,85 - 5,50
Maximum Operating Pressure	bar	6										
Boiler Water Content	L	149,5	174	198,5	223	247,5	272	296,5	321	345,5	370	394,5
	m <sup>3</sup>	0,150	0,174	0,199	0,223	0,248	0,272	0,297	0,321	0,346	0,370	0,395
Exit Flue Connection Diameter	mm	350										
Combustion Chamber Dimensions [ Φ ]	mm	501										
	[ L ]	mm	910	1.070	1.230	1.390	1.550	1.710	1.870	2.030	2.190	2.350
Water Inlet- Outlet Connection	(")	G 4										
Gas Volume of the Boiler	L	341,74	400,71	459,68	518,65	577,62	636,59	695,56	754,53	813,5	872,47	931,44
	m <sup>3</sup>	0,342	0,401	0,460	0,519	0,578	0,637	0,696	0,755	0,814	0,872	0,931
Gas Volume of the Combustion Chamber	L	179,39	210,93	242,48	274,02	305,56	337,1	368,64	400,18	431,73	463,27	494,81
	m <sup>3</sup>	0,179	0,211	0,242	0,274	0,306	0,337	0,369	0,400	0,432	0,463	0,495
Safety Temperature Limit	°C	100										
Fuel Type	N.Gas	L <sub>2</sub> H										
	Liquid F.	Extra Light Heat Oil										
Country of Destination		AT, CZ, DK, EE, ES, FI, GB, GR, IE, IT, LT, LV, PT, SE, SI, SK, TR										
Flue Gas Temperature [ Full Load ]	°C	182 - 187	178 - 185	175 - 180	173 - 178	173 - 176	170 - 175	170 - 174	168 - 172	165 - 168	162 - 165	160 - 163
	[ Partial Load ]	°C	165 - 172	164 - 170	162 - 168	161 - 165	160 - 165	158 - 163	156 - 161	155 - 160	155 - 160	153 - 150
Flue Gas Mass Flow [ Full Load ]	kg/h	633	750	848	945	1.023	1.110	1.198	1.295	1.393	1.470	1.588
	[ Partial Load ]	kg/h	380	450	508	567	614	666	719	777	836	882
Boiler Dimensions [ Width x Height ]	mm	840 x 1355										
	[ Length ]	mm	1.300	1.460	1.620	1.780	1.940	2.100	2.260	2.420	2.580	2.740
Standby Loss	%	0,33	0,31	0,28	0,27	0,24	0,22	0,20	0,18	0,17	0,16	0,14
	kCal/h	11.583	12.890	13.164	14.143	13.608	13.643	13.284	12.928	13.127	13.046	12.096
Burner Hole Diameter	mm	225										
Burner Type		Short Barrel										
Chimney Effect	Pa	5										
Boiler Net Weight	kg	1020	1160	1300	1440	1580	1720	1860	2000	2140	2280	2420

**Recommended Minimum Distance for Installation:**



Boiler Type	OM - 06	OM - 07	OM - 08	OM - 09	OM - 10	OM - 11	OM - 12	OM - 13	OM - 14	OM - 15	OM - 16
Platform Length L (mm)	1300	1460	1620	1780	1940	2100	2260	2420	2580	2740	2900

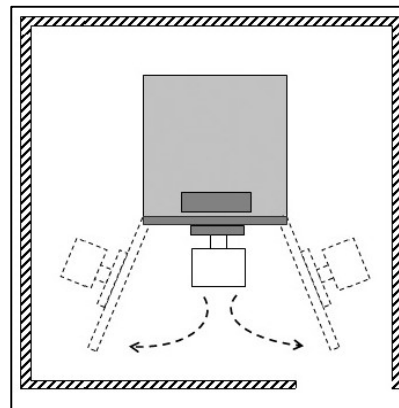


Do not put flammable materials on top of the boiler or near the boiler than specified safety distance.

The measurements of the boiler room and the empty spaces must be arranged properly for future assembling repairing, re-assembling, burner connecting issues.

- \* The concrete platform must be in the mentioned dimensions.
- \* Concrete platform must not be coated with slipper materials such as ceramics etc.
- \* If sound isolaton will be made , first do the sound isolation than make the concrete for platform.
- \* Platforms must be made of BS 25 concrete and scales.

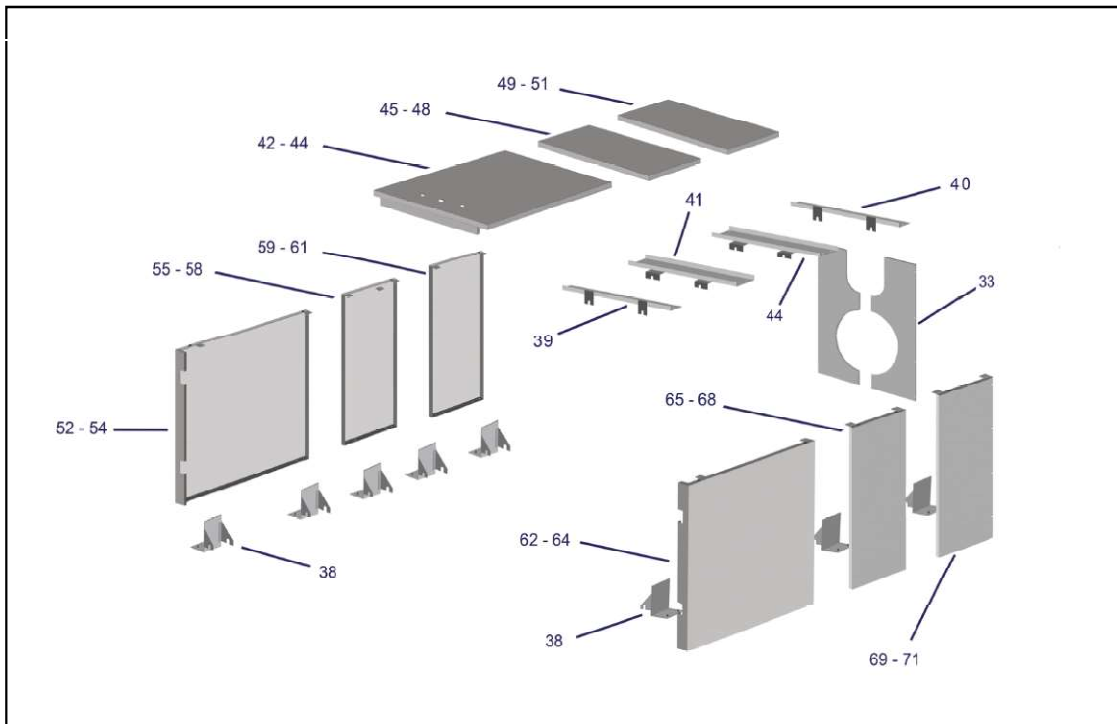
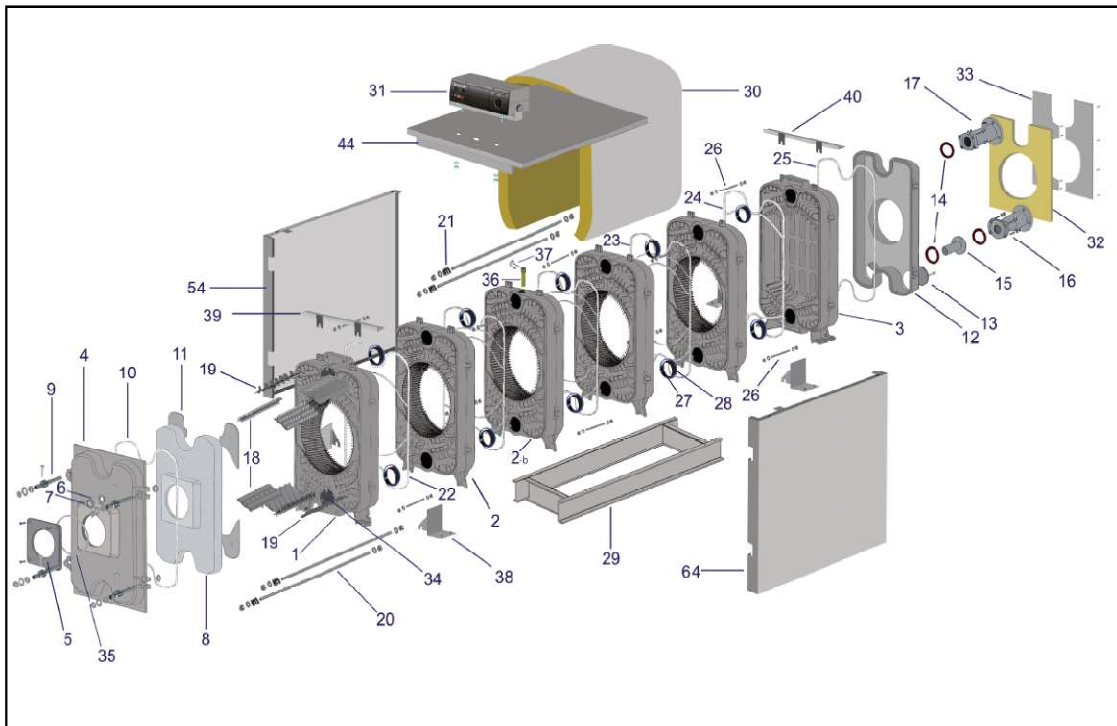
- In OM series boilers burner doors can be opened to both sides. According to this the required empty spaces for the both sides are given equal (min. 700 mm). This will gives advantages for operations. If the boiler room area is not enough for this you can choose one side and leave the big empty space there. Half of this empty space will be enough for the other side in these conditions.
- There must be space for the tools that will be used in boiler room.



## Important Instructions About Boiler Room:

- There must not be any other equipments such as aspirator, air condition central etc. in the boiler rooms. These kind of equipments can make vacuum effect and defect boilers pull force. This can cause burner failures.
- The ceiling of the boiler room can be isolated for sound and heat isolation. The position and place of the boiler is important for sound isolation of the boiler.
- Boiler room must have a good lighting and control switches of lighting must be outside of the boiler room.
- There must not be equipments like water pump, contactor etc.. in the boiler room.
- Gas alarm equipments must be placed to the proper highth as mentioned on standards.
- No one except the responsible person should get in to the boiler room.
- Children must not enter to the boiler room. A second key must be kept in safe place for urgent matters.
- Fuel tanks must be put in another place which is rounded by walls. Natural air conditioning is needed for this place.
- Boiler room must be air conditioned by natural or other ways.
- Humidity must be prevented in boiler room.
- Boiler room must have the requested dimensions .
- There must not be any kind of explosive , burning and flammable materials in the boiler room.
- There must not be any kind of explosive , burning and flammable gases in the boiler room atmosphere.
- For the efficiency of the burner and the boiler, boiler room must be kept clean and dry.
- For feeding water to the boiler, water line must be arranged near the boiler. And for filling out the water of the boiler in necessary conditions, there must be a connection to drainage in the system.
- If there are any electric keys, cables etc. Which can cause short circuits must be fixed, renewed as soon as possible.
- In Natural Gas or LPG use ; boiler room, flue, system and plumbing issues must be under parameters of EN standarts and gas offices orders. Rima is not responsible for any failure or problems that will be ocured because of inadequate or not sufficiently qualified conditions of boiler room, plumbing and other systems.
- The instructions of local gas delivery must be applied.
- Before painting , keep flammable materials out.
- Before any welding operation in boiler room, boiler must be stopped and the gas flow must be stopped by turning of the gas valve.
- Do not touch the boiler when it is hot.
- Boiler must not be installed on carpet.
- Switch off the boiler immediately if there is danger of burning or explosion ( electricity problem, gas leakage, liquid gas , etc.).

**OM Series Cast Iron Boiler Parts :**



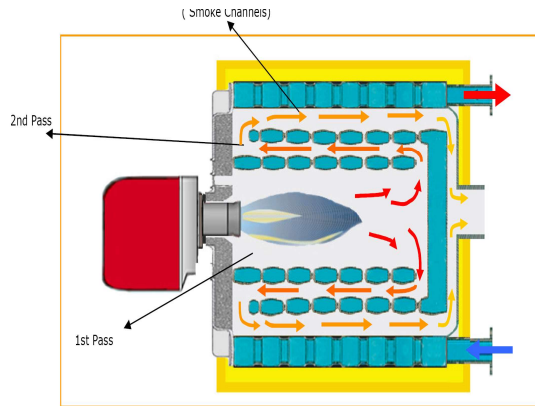
**OM Series Cast Iron Boiler Parts List :**

SPARE PARTS		DRAWING NO	PART NUMBER											
ITEM	DESCRIPTION		OM - 06	OM - 07	OM - 08	OM - 09	OM - 10	OM - 11	OM - 12	OM - 13	OM - 14	OM - 15	OM - 16	
01	FRONT SECTION	OM 00115	OM - 060	OM - 060	OM - 060	OM - 060	OM - 060	OM - 060	OM - 060	OM - 060	OM - 060	OM - 060	OM - 060	
02	MIDDLE SECTION	OM 00116	OM - 050	OM - 050	OM - 050	OM - 050	OM - 050	OM - 050	OM - 050	OM - 050	OM - 050	OM - 050	OM - 050	
02 b	MIDDLE SECTION - WITH HOLE	OM 00117	OM - 051	OM - 051	OM - 051	OM - 051	OM - 051	OM - 051	OM - 051	OM - 051	OM - 051	OM - 051	OM - 051	
03	BACK SECTION	OM 00118	OM - 070	OM - 070	OM - 070	OM - 070	OM - 070	OM - 070	OM - 070	OM - 070	OM - 070	OM - 070	OM - 070	
04	BURNER DOOR	OM 00119	OM - 080	OM - 080	OM - 080	OM - 080	OM - 080	OM - 080	OM - 080	OM - 080	OM - 080	OM - 080	OM - 080	
05	BURNER ASSSEMBLING ANGLE	OM 00120	OM - 081	OM - 081	OM - 081	OM - 081	OM - 081	OM - 081	OM - 081	OM - 081	OM - 081	OM - 081	OM - 081	
06	FLAME OBSERVATION GLASS	OM 00121	OM - 082	OM - 082	OM - 082	OM - 082	OM - 082	OM - 082	OM - 082	OM - 082	OM - 082	OM - 082	OM - 082	
07	GLASS SEGMENT	OM 00121	OM - 083	OM - 083	OM - 083	OM - 083	OM - 083	OM - 083	OM - 083	OM - 083	OM - 083	OM - 083	OM - 083	
08	BURNER DOOR ISOLATION MATERIAL	OM 00122	OM - 084	OM - 084	OM - 084	OM - 084	OM - 084	OM - 084	OM - 084	OM - 084	OM - 084	OM - 084	OM - 084	
09	BURNER DOOR LOCK HINGE	OM 00123	OM - 085	OM - 085	OM - 085	OM - 085	OM - 085	OM - 085	OM - 085	OM - 085	OM - 085	OM - 085	OM - 085	
10	BURNER DOOR ISOLATION ROPE	OM 00124	OM - 086	OM - 086	OM - 086	OM - 086	OM - 086	OM - 086	OM - 086	OM - 086	OM - 086	OM - 086	OM - 086	
11	BURNER DOOR ISOLATION COVER	OM 00125	OM - 087	OM - 087	OM - 087	OM - 087	OM - 087	OM - 087	OM - 087	OM - 087	OM - 087	OM - 087	OM - 087	
12	CHIMNEY DOOR	OM 00126	OM - 090	OM - 090	OM - 090	OM - 090	OM - 090	OM - 090	OM - 090	OM - 090	OM - 090	OM - 090	OM - 090	
13	CHIMNEY ASHTRAY DOOR	OM 00127	OM - 091	OM - 091	OM - 091	OM - 091	OM - 091	OM - 091	OM - 091	OM - 091	OM - 091	OM - 091	OM - 091	
14	FLANGE GASKET	OM 00128	OM - 071	OM - 071	OM - 071	OM - 071	OM - 071	OM - 071	OM - 071	OM - 071	OM - 071	OM - 071	OM - 071	
15	WATER INLET FLANGE PIPE	OM 00129	OM - 072	OM - 072	OM - 072	OM - 072	OM - 072	OM - 072	OM - 072	OM - 072	OM - 072	OM - 072	OM - 072	
16	WATER INLET FLANGE	OM 00130	OM - 073	OM - 073	OM - 073	OM - 073	OM - 073	OM - 073	OM - 073	OM - 073	OM - 073	OM - 073	OM - 073	
17	WATER OUTLET FLANGE	OM 00131	OM - 074	OM - 074	OM - 074	OM - 074	OM - 074	OM - 074	OM - 074	OM - 074	OM - 074	OM - 074	OM - 074	
18	SMALL TURBULATOR	OM 00132	OM - 020	OM - 020	OM - 020	OM - 020	OM - 020	OM - 020	OM - 020	OM - 020	OM - 020	OM - 020	OM - 020	
19	BIG TURBULATOR	OM 00132	OM - 021	OM - 021	OM - 021	OM - 021	OM - 021	OM - 021	OM - 021	OM - 021	OM - 021	OM - 021	OM - 021	
20	CASTINGS HEXAGON (MIDDLE)	OM 00133	OM - 006	OM - 007	OM - 008	OM - 009	OM - 010	OM - 011	OM - 012	OM - 013	OM - 014	OM - 015	OM - 016	
21	EXPANSION SPRING	OM 00134	OM - 017	OM - 017	OM - 017	OM - 017	OM - 017	OM - 017	OM - 017	OM - 017	OM - 017	OM - 017	OM - 017	
22	MIDDLE SECTION ISOLATION ROPE	OM 00135	OM - 052	OM - 052	OM - 052	OM - 052	OM - 052	OM - 052	OM - 052	OM - 052	OM - 052	OM - 052	OM - 052	
23	MIDDLE SECTION ISOLATION ROPE	OM 00136	OM - 053	OM - 053	OM - 053	OM - 053	OM - 053	OM - 053	OM - 053	OM - 053	OM - 053	OM - 053	OM - 053	
24	BACK SECTION ISOLATION ROPE	OM 00137	OM - 075	OM - 075	OM - 075	OM - 075	OM - 075	OM - 075	OM - 075	OM - 075	OM - 075	OM - 075	OM - 075	
25	CHIMNEY ISOLATION ROPE	OM 00138	OM - 092	OM - 092	OM - 092	OM - 092	OM - 092	OM - 092	OM - 092	OM - 092	OM - 092	OM - 092	OM - 092	
26	SECTIONS CONNECTION ROD	OM 00139	OM - 025	OM - 025	OM - 025	OM - 025	OM - 025	OM - 025	OM - 025	OM - 025	OM - 025	OM - 025	OM - 025	
27	NIPPLE	OM 00140	OM - 030	OM - 030	OM - 030	OM - 030	OM - 030	OM - 030	OM - 030	OM - 030	OM - 030	OM - 030	OM - 030	
28	O - RING	OM 00140	OM - 031	OM - 031	OM - 031	OM - 031	OM - 031	OM - 031	OM - 031	OM - 031	OM - 031	OM - 031	OM - 031	
29	ROLL FR CHASSIS	OM 00141	OM - 306	OM - 307	OM - 308	OM - 309	OM - 310	OM - 311	OM - 312	OM - 313	OM - 314	OM - 315	OM - 316	
30	CASTING BODY INSULATION	OM 00142	OM - 406	OM - 407	OM - 408	OM - 409	OM - 410	OM - 411	OM - 412	OM - 413	OM - 414	OM - 415	OM - 416	
31	CONTROL PANEL	OM 00143	OM - 200	OM - 200	OM - 200	OM - 200	OM - 200	OM - 200	OM - 200	OM - 200	OM - 200	OM - 200	OM - 200	
32	REAR COVER PANEL ISOLATION	OM 00144	OM - 420	OM - 420	OM - 420	OM - 420	OM - 420	OM - 420	OM - 420	OM - 420	OM - 420	OM - 420	OM - 420	
33	REAR COVER PANEL	OM 00145	OM - 425	OM - 425	OM - 425	OM - 425	OM - 425	OM - 425	OM - 425	OM - 425	OM - 425	OM - 425	OM - 425	
34	FRONT SECTION STOPPER	OM 00146	OM - 061	OM - 061	OM - 061	OM - 061	OM - 061	OM - 061	OM - 061	OM - 061	OM - 061	OM - 061	OM - 061	
35	BURNER ASS. FLANGE ISOL. ROPE	OM 00147	OM - 088	OM - 088	OM - 088	OM - 088	OM - 088	OM - 088	OM - 088	OM - 088	OM - 088	OM - 088	OM - 088	
36	THERMOSTAT BULB	OM 00148	OM - 040	OM - 040	OM - 040	OM - 040	OM - 040	OM - 040	OM - 040	OM - 040	OM - 040	OM - 040	OM - 040	
37	THERMOSTAT BULB SEGMENT	OM 00149	OM - 041	OM - 041	OM - 041	OM - 041	OM - 041	OM - 041	OM - 041	OM - 041	OM - 041	OM - 041	OM - 041	

SPARE PARTS		DRAWING NO	PART NUMBER											
ITEM	DESCRIPTION		OM 06	OM 07	OM 08	OM 09	OM 10	OM 11	OM 12	OM 13	OM 14	OM 15	OM 16	
38	CABIN ASSEMBLY LEG	OM 00150	OM - 430	OM - 430	OM - 430	OM - 430	OM - 430	OM - 430	OM - 430	OM - 430	OM - 430	OM - 430	OM - 430	
39	CABIN ASSEMBLY FRONT EAR	OM 00151	OM - 435	OM - 435	OM - 435	OM - 435	OM - 435	OM - 435	OM - 435	OM - 435	OM - 435	OM - 435	OM - 435	
40	CABIN ASSEMBLY BACK EAR	OM 00151	OM - 437	OM - 437	OM - 437	OM - 437	OM - 437	OM - 437	OM - 437	OM - 437	OM - 437	OM - 437	OM - 437	
41	CABIN ASSEMBLY MIDDLE EAR	OM 00151	OM - 436	OM - 436	OM - 436	OM - 436	OM - 436	OM - 436	OM - 436	OM - 436	OM - 436	OM - 436	OM - 436	
TOP SIDE COVER PANELS														
42	FIRST TOP SIDE COVER PANEL (4)	OM 00152		OM - 501	OM - 501	OM - 501			OM - 501					
43	FIRST TOP SIDE COVER PANEL (5)	OM 00152					OM - 502			OM - 502	OM - 502	OM - 502		
44	FIRST TOP SIDE COVER PANEL (6)	OM 00152	OM - 503					OM - 503					OM - 503	
45	SECOND TOP SIDE COVER PANEL (3)	OM 00153		OM - 504										
46	SECOND TOP SIDE COVER PANEL (4)	OM 00153			OM - 505									
47	SECOND TOP SIDE COVER PANEL (5)	OM 00153				OM - 506	OM - 506	OM - 506						
48	SECOND TOP SIDE C. PAN. (MIDDLE)	OM 00153							OM - 507	OM - 507	OM - 507	OM - 507	OM - 507	
49	THIRD TOP SIDE COVER PANEL (3)	OM 00154							OM - 508	OM - 508				
50	THIRD TOP SIDE COVER PANEL (4)	OM 00154									OM - 509			
51	THIRD TOP SIDE COVER PANEL (5)	OM 00154										OM - 510	OM - 510	
LEFT SIDE COVER PANELS														
52	FIRST LEFT SIDE COVER PANEL (4)	OM 00155		OM - 601	OM - 601	OM - 601			OM - 601					
53	FIRST LEFT SIDE COVER PANEL (5)	OM 00155					OM - 602			OM - 602	OM - 602	OM - 602		
54	FIRST LEFT SIDE COVER PANEL (6)	OM 00155	OM - 603					OM - 603					OM - 603	
55	SECOND LEFT SIDE C. PANEL (3)	OM 00156		OM - 604										
56	SECOND LEFT SIDE C. PANEL (4)	OM 00156			OM - 605									
57	SECOND LEFT SIDE C. PANEL (5)	OM 00156				OM - 606	OM - 606	OM - 606						
58	SECOND LEFT SIDE C. PAN. (MIDDLE)	OM 00156							OM - 607	OM - 607	OM - 607	OM - 607	OM - 607	
59	THIRD LEFT SIDE COVER PANEL (3)	OM 00157							OM - 608	OM - 608				
60	THIRD LEFT SIDE COVER PANEL (4)	OM 00157									OM - 609			
61	THIRD LEFT SIDE COVER PANEL (5)	OM 00157										OM - 610	OM - 610	
RIGHT SIDE COVER PANELS														
62	FIRST RIGHT SIDE COVER PANEL (4)	OM 00158		OM - 701	OM - 701	OM - 701			OM - 701					
63	FIRST RIGHT SIDE COVER PANEL (5)	OM 00158					OM - 702			OM - 702	OM - 702	OM - 702		
64	FIRST RIGHT SIDE COVER PANEL (6)	OM 00158	OM - 703					OM - 703					OM - 703	
65	SECOND RIGHT SIDE C. PANEL (3)	OM 00159		OM - 704										
66	SECOND RIGHT SIDE C. PANEL (4)	OM 00159			OM - 705									
67	SECOND RIGHT SIDE C. PANEL (5)	OM 00159				OM - 706	OM - 706	OM - 706						
68	SECOND RIGHT SIDE C. PA. (MIDDLE)	OM 00159							OM - 707	OM - 707	OM - 707	OM - 707	OM - 707	
69	THIRD RIGHT SIDE COVER PANEL (3)	OM 00160							OM - 708	OM - 708				
70	THIRD RIGHT SIDE COVER PANEL (4)	OM 00160									OM - 709			
71	THIRD RIGHT SIDE COVER PANEL (5)	OM 00160										OM - 710	OM - 710	



## Cast Iron Sec



- 3 draught design forces the flue gas to circulate inside the body of the boiler three times before the chimney exit, transferring all usefull energy to the water inside the sections. The optimized combustion chamber combined with perfect heat insulation provides maximum fuel efficiency.
- The combustion room of the boiler is positive pressure. Boiler is working under horizontal 3 pass principal.

## Boiler Room Ventilation :

There are three reasons for fresh air in boiler rooms.

- 1.The burning air needed for the burning in the boiler.
- 2.The air needed for prevention of dirt and dust,for releasing the gases and fuel to put out.
- 3.The air needed for overheating in the boiler room.

Ventilation for first two reasons are continously needed.The third one is needed especially for the boilers which are working on summer time.

Maximum temperature for the boiler room must be 32 °C and boiler room must be protected against freezing.

Boiler Type	OM 06	OM 07	OM 08	OM 09	OM 10	OM 11
Boiler Chimney Dimension(mm)	350	350	350	350	350	350
Chimney Height	11,41	16,01	20,44	25,41	29,78	35,1
( Natural Gas ) (m)	16,43	23,06	29,44	36,59	42,88	50,54
Boiler Type	OM 12	OM 13	OM 14	OM 15	OM 16	
Boiler Chimney Dimension(mm)	350	350	350	350	350	
Chimney Height	40,86	47,77	55,23	61,58	69,14	
( Natural Gas ) (m)	58,84	68,79	79,53	88,68	99,56	

Boiler Type	*Net Cross Section of Open for Natural Airing ( cm <sup>2</sup> )		**Volume of Air Needed for Force Airing ( m <sup>3</sup> /h )	
	Bottom	Up	Bottom	Up
***				
OM 06	1.971	985	1.224	816
OM 07	2.285	1.142	1.450	967
OM 08	2.546	1.273	1.639	1.093
OM 09	2.808	1.404	1.827	1.218
OM 10	3.017	1.509	1.978	1.319
OM 11	3.253	1.626	2.147	1.432
OM 12	3.488	1.744	2.317	1.545
OM 13	3.750	1.875	2.505	1.670
OM 14	4.011	2.006	2.694	1.796
OM 15	4.221	2.110	2.844	1.896
OM 16	4.456	2.228	3.014	2.009

\* If natural ventilation system is used.

\*\* Ventilated airing system is used.

\*\*\* Bottom value shows the clean air input up shows the air output.

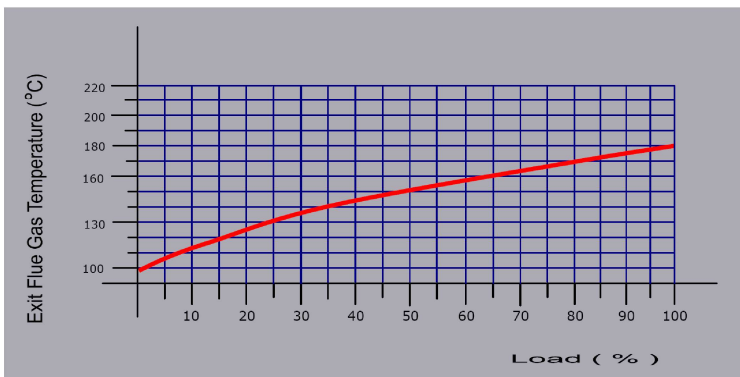
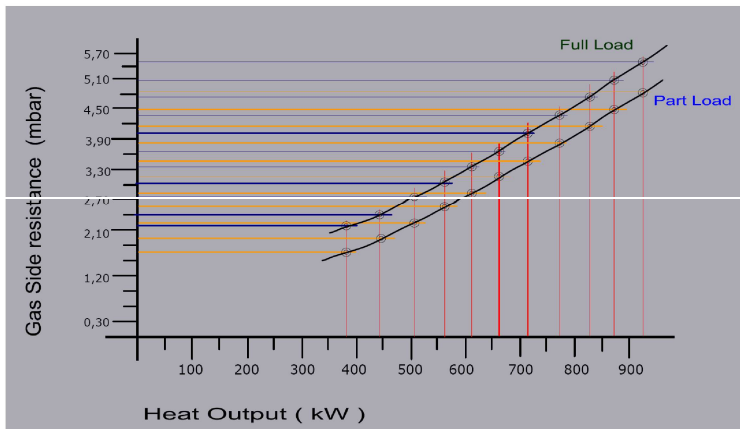
## Plumbing Instructions :

- Fresh water must be added periodically to the plumbing. The chalk and other chemicals will connect with the system and become solid . For avoiding this , closed expansion tank must be used in the system.In the systems that closed expansion tanks are used, water will flow in closed system so it will not evaporate and lost.So in this kind of systems the water level will stay same and fresh water addition will not be necessary. This will prevent chalk and dust and the life of the sytem will be long.
- The water in the radiator or heating system is not healthy.Do not use this water as drinking or cleaning water.Do not take water from the system.If the water level is low , water addition is needed.
- For avoiding chalk and other chemical dust problems soft water must be used in the system.Plumbing system water quality :  
 $Ph \geq 7,2$   $Th \leq 25$  °Fr
- If the city sanitary water is not in requested quality water addition from wells or other sources must be made after testing it.For reaching the requested quality additional processes must be applied to the water if needed.
- For avoiding the chalk and other dust to get in to the boiler, or from boiler to plumbing system dust holders must be placed in and out line of the system.
- Circulation pump must be connected to the water output of the boiler and the capacity of the pump must be suitable to the boiler capacity. If not,problems may occur in flowing of the water and heating efficiency of the boiler.
- For working the system properly 4 way mixture valve or thermostatic control by-pass pump must be used for increasing return water temperature.
- By connecting a three way motor valve between the forward and return line of heating system,the water that flows to the system can be controlled in ratios.
- There must be water inside of the boiler every time. If not , corrosion can occur in the boiler and the plumbing system. If the boiler will not be used in winter season, for avoid freezing , anti-freeze solution must be used.

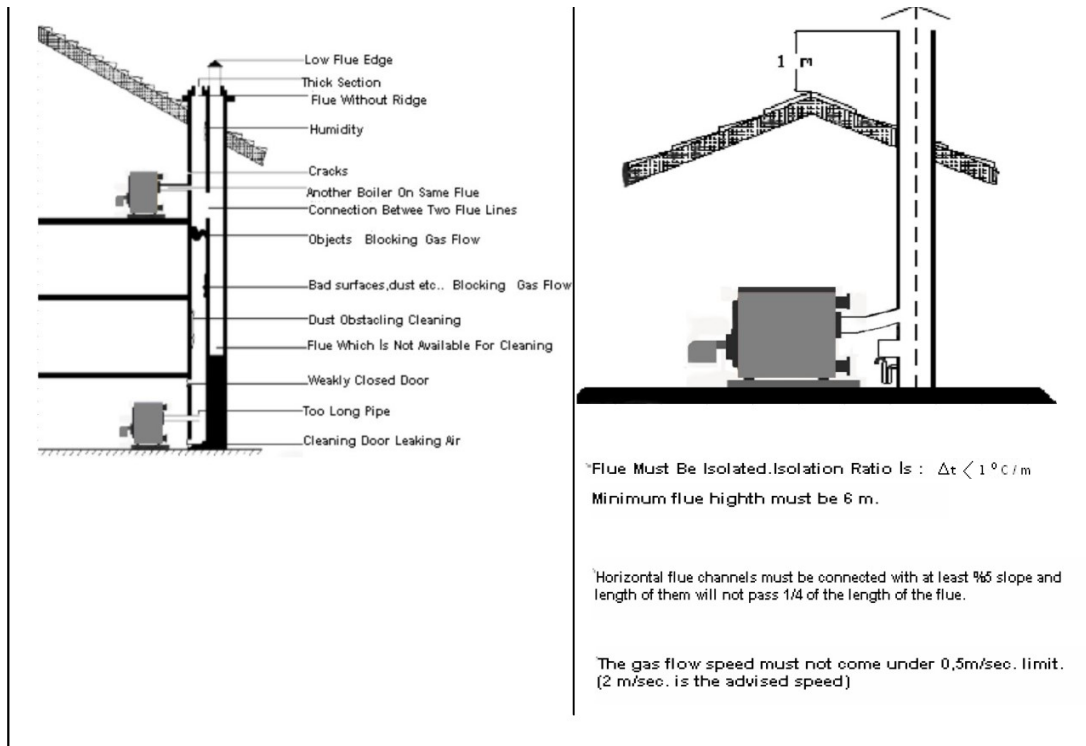
Boiler Type	Capacity		$\Delta t = 15 \text{ K}$		$\Delta t = 20 \text{ K}$	
	kCal/h	kW	Water Volume	Water Part Resistance	Water Volume	Water Part resistance
			m <sup>3</sup> /h	mbar	m <sup>3</sup> /h	mbar
OM 06	325.000	377,9	21,67	102	16,25	54
OM 07	385.000	447,7	25,67	147	19,25	80
OM 08	435.000	505,8	29,00	180	21,75	105
OM 09	485.000	564,0	32,33	160	24,25	78
OM 10	525.000	610,5	35,00	175	26,25	88
OM 11	570.000	662,8	38,00	200	28,50	115
OM 12	615.000	715,1	41,00	220	30,75	130
OM 13	665.000	773,3	44,33	160	33,25	85
OM 14	715.000	831,4	47,67	180	35,75	90
OM 15	755.000	877,9	50,33	205	37,75	125
OM 16	800.000	930,2	53,33	220	40,00	140

return must not be more below table.

\*\*\* OM series boiler is designed,forced circulation hot water heating systems only.

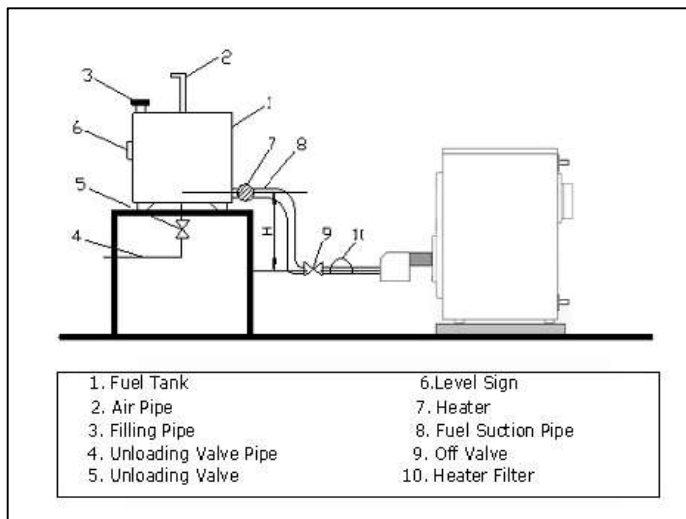




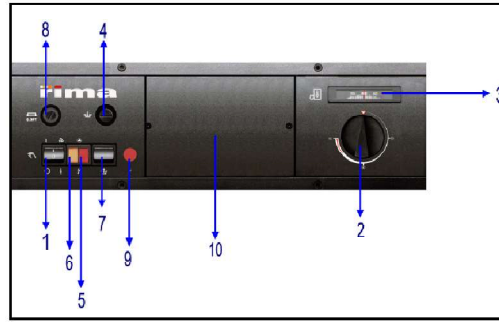
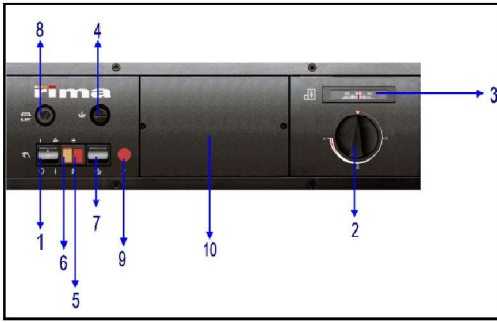


### Important Instructions About Connecting the Fuel Tank :

- The platform of the fuel tank must be strong to carry the tank. If the fuel tank is outside tank , connection pipes must be isolated. Fuel tank must be placed in higher level than the burner. The height difference between the burner and fuel tank ( H ) must be more than 4 m. In the seasons that the boiler is not used, fuel tank must be empty for avoiding corrosion.

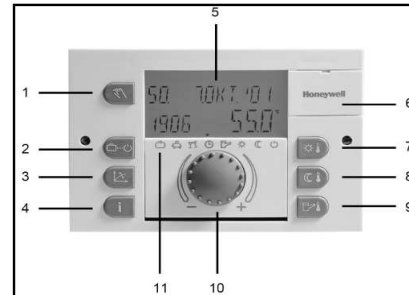


## Boiler Control Panels :



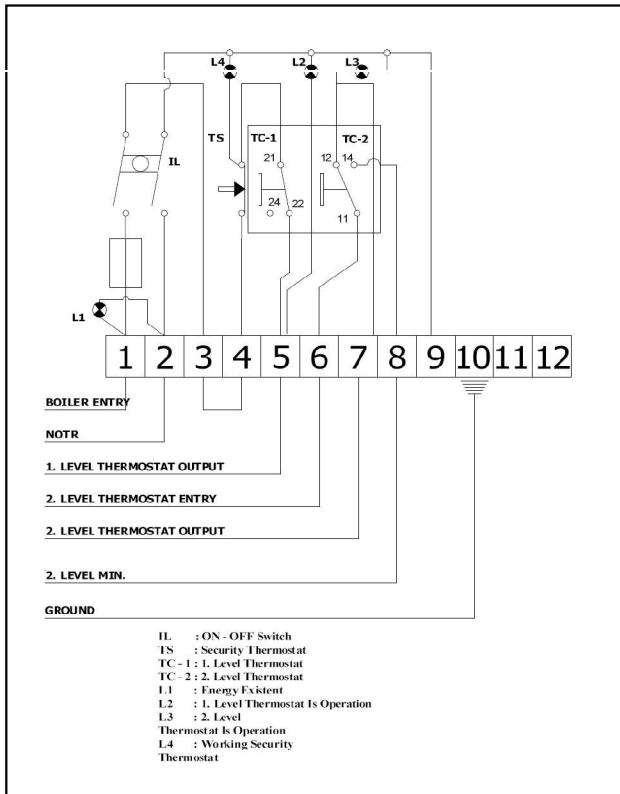
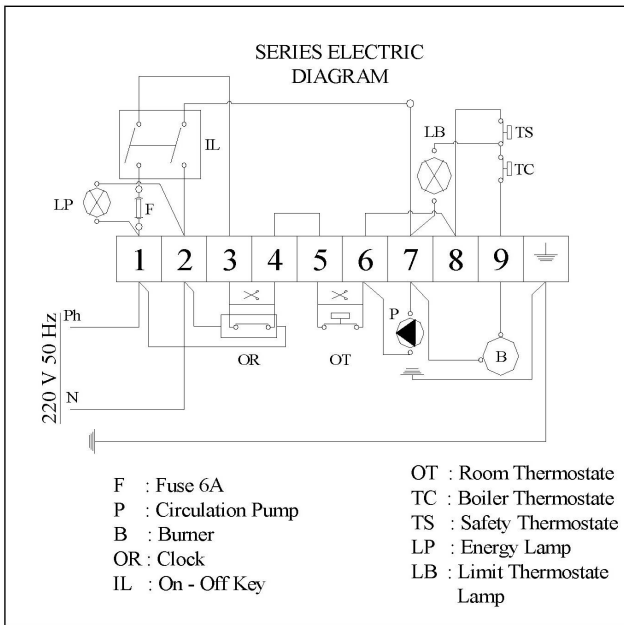
- 1- Main ON/OFF Switch
- 2- Boiler Thermostat
- 3- Boiler Thermometer
- 4- Safety Thermostat with manual reset (set to 100 °C)
- 5- Defect Indicator
- 6- Working Indicator
- 7- Reset Button
- 8- Fuse
- 9- Water pressure defect indicator
- 10- Ecopanel mounting place

- 1- Main ON/OFF Switch
- 2- Boiler (TRZ)Thermostat
- 3- Boiler Thermometer
- 4- Safety Thermostat with manual reset (set to 100 °C).
- 5- Defect Indicator
- 6- Working Indicator
- 7- Reset Button
- 8- Fuse
- 9- Water pressure defect indicator
- 10- Ecopanel mounting place



- 1- Manual mode key / Emission Measurement key (not applicable for district heating controllers)
- 2- Operating mode key for permanent and temporary operating modes (Basic display)
- 3- Heating characteristics key
- 4- Information key for the display of temperatures and operating status
- 5- Multi-functional Display
- 6- Cover clip for the service jack
- 7- Daytime room temperature setpoint key
- 8- Night-time room temperature setpoint key
- 9- DHW daytime temperature setpoint key
- 10- Rotary pushbutton (push and turn)
- 11- Operating modes symbols

**Standard Control Panel Electric Diagram :**



## **Operating Instructions :**

### **Heating System :**

- In the system , the difference between direct flow temperature and the return temperature of the water must not be over 20 °C. The return water temperature must be over 50-55 °C. Boiler protection pump must be used for increasing the return water temperature. The water level of the system must be measured every day (if it is open system by hydrometer,if it is closed system by manometer) and water must be added if the level is measured low. But this water addition must not be made while the system is hot. If there are problems that cause water leakages they must be fixed as soon as possible. Plumbing system must be made by certificated professionals, under the terms of EN standards. EN approved materials must be used in the system.

### **Fuel and Electrical Connections :**

- These connections must be made by certified professionals under the terms of EN standards.EN approved materials must be used in the system.Burner,control panel, ecopanel etc. Manufacturer or distributor warnings, instruction manuals must be read .Burner must not be started before boiler circulation starts.If circulation or protection pump has a failure burner must be switched off. This system must work coordinate. Turning the pumps on when the water heat reaches over 40 °C is completely wrong. Circulation pump and burner must work simultaneously.
- Protection pump must be chosen properly according to the capacity of the boiler.The connection of the pump to the collectors must be done correctly with valve and thermostat connection. This way,system may stop in adjusted temperature.In any failure situation (contactor,thermic failure,electricity cut ,other failures.) when the pumps are not working ( heating and protection pumps etc..) burner must not start. System must do this automatically.Electrical system must be made according to all above information.

### **Loading and Unloading the Boiler Water :**

#### **Unloading Water of the boiler :**

- Plumbing and all radiator valves must be opened if the boilers water will be unloaded. All the systems water can be unloaded by boilers drainage as if the boiler is in the bottom of the system.If some part of heating system is under the boiler room,unloading the water process can be made at a point at the bottom of the system.

#### **Loading Water of the boiler :**

- Water must be loaded from the tap over the plumbing system to the boiler.During the loading process all valves of the plumbing system and the radiators must be opened.For preventing air fill to the system this operation must be made slowly and the stopper in the top must be opened. When water comes from this stopper it means that the process is finished. Air must be taken from every radiator.  
Water must be in quality which mentioned on "plumbing instructions".  
Boiler must not be filled up with water when it is hot. This can cause cracks in sections.

### **Checking and Starting the Boiler :**

### Checking Before Started :

- Following controls must be done before starting the boiler. If there are any problems or failure, boiler must not be started.
- Water level of the boiler must be controlled. Water must be added to the boiler if the water level is low.
- Please call rima technicians if there is a water leakage. Leakage must be prevented before starting the boiler. If there is a leakage in the plumbing system, boiler must be started after repair.
- Flue connections must be controlled. Boiler must not be started before repairing the connection if there is a problem.
- Area must be properly air conditioned.
- Gas valves must be checked as if they are on if gas fuel is used in the boiler.
- Liquid fuel level of the tank must be controlled and fuel valve must be opened if liquid fuel is used in the boiler. Fuel - burner connection must be controlled. If there are any problems, filters must be cleaned.
- Working and the directions of the pumps must be controlled.
- Electric system of the control panel must be controlled.
- All water and gas valves of the boiler must be opened.

\*\*\* All other connections must be checked according to the system options.

### Getting Started :

- Turn the main electric switch of the boiler room on. Working lamp will be on.
- Start the circulation pump.
- Turn the "on / off" switch of the burner to the mode "on" (Check the burner instruction manual.) The indicator light will be on.
- Adjust the boiler temperature from the thermostat. If the burner is dual level, adjust the boiler temperature same the single stage. Dual stage (TRZ) thermostat adjust the temperature changes own by own ( 8 °C ).
- If the burner does not start, follow the instructions written on the manual of the burner. If the burner does not start after applying the written operations in the manual, call the technical service of the burner.

### Stopping the Boiler :

- Turn the "on / off" switch of the burner to the " off " position
- Turn the "on / off" switch of the control panel to the " off " position.
- Turn of the circulation pump.
- Turn of the fuel valves.
- Turn off the main fuse switch of the boiler room.

### Failure First Controls :

When a problem or failure occurs in the boiler or the burner, please make the following first controls before calling technical services. Don't do anything rather than mentioned controls. After these controls call Rima technical services.

If boiler stops working and doesn't start again ; Safety thermostate may have stopped the boiler because of overheating at boiler water. In this case wait for the boiler to cool down and please make the following controls.

- Check if fuel is coming to the burner or not. If not, make fuel to come to the burner.
- Check if pump is working or not. If not, this could be the reason of overheating. Please get in touch with pump manufacturer or distributor.
- Check if the valves are on or off. Open the valves if they are closed.
- Please push the safety thermostate switch after the boiler is cold enough.
- Burner must start.
- If the boiler doesn't start or if the safety thermostate stop the boiler again please call Rima technical services.
- If the burner safety light is on ; Please check the burner instruction manual or get in contact with the burner manufacturer or distributor services.

### Care Instructions :

Boiler and burner controls are made in three programs. Daily (in everyday use ), periodic and yearly.

#### **Daily Controls :**

These are the processes that the user must apply every day in season of everyday use. Please read and apply the instructions and controls mentioned in "Pre Control" section of the manual for daily controls.

#### **Periodic Controls :**

For efficient use, preventing the possible failures and optimum life of the boiler periodic controls are important. It is recommended that periodical controls for the boiler must be made by once in every three months. These periodical controls are made by rima technicians by applying following processes.

- Boilers burning room and smoke channels check and cleaning if needed.
- Leakage controls of water input - water output of the boiler and flue connections.
- Valves check
- Pumps check
- Fuel filter control and cleaning if needed
- Burning control (with eye). Burning and flame adjustments if needed.
- Control of the liquid fuel sensor. Cleaning if needed.
- Working and safety controls of burner and the boiler.

#### **Yearly Controls :**

Yearly controls of the boiler must be made by rima technicians before the season starts. Flue and flue lines must be cleaned before calling technicians for yearly controls. In yearly controls rima technicians apply the following processes.

- Situation and the leakproof of the sections and rope isolations controls.
- Working pressure test for burning adjustment with the flue gas measurement system if needed.
- Sensors and connection of the sensors test.
- Boiler burning room and possible soot layers on smoke channels are checks and cleanings.
- Connection and the leakproof of the boilers door test.
- Leakproof of the connections of the boiler test.
- Valves test for proper opening and closing.
- Fuel filter test. Cleaning if needed.
- Sensor of the burner liquids tests. Cleaning or renewing if needed .
- Working and safety controls of burner and the boiler.

#### **Cleaning the Boiler :**

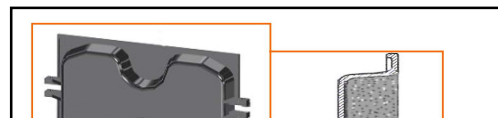
Before applying mentioned services to the boiler; electric must be cut off from the main switch, fuel valves must be closed, control panel and the burner must be protected for avoiding any possible damage.

#### **Smoke Channels Cleaning :**

Because of the soot layer on heating surfaces, 100 °C increase on flue temperature brings out a % 5 decrease on efficiency. By pulling out the M16 screws and stamps on the 4 hinges which connects door to the front section, open the burner door. Clean the burning room, take turbulators out and clean horizontal smoke channels (2nd and 3rd pass). Then clean the turbulator and put them in to the channels. Close the burner door strictly. In this cleaning operation soot layer may occur in flue area. This soot particules can be cleaned by separating horizontal smoke channels from boiler flue. After this operation these two screws must be connected again and must be tested for leakage.

The time period for cleaning service is variable according to the fuel type of the boiler and period of use. In boiler cleaning operation ceramic ropes that isolate front door with front section and flue with back section must be controlled and must be renewed if needed.

#### **Burner Door and Burner Connection :**



In burner connection process there must not be any empty space left between the front door and the burner barrel. All connection points must be covered with isolation material for avoiding any air leakage possibility.

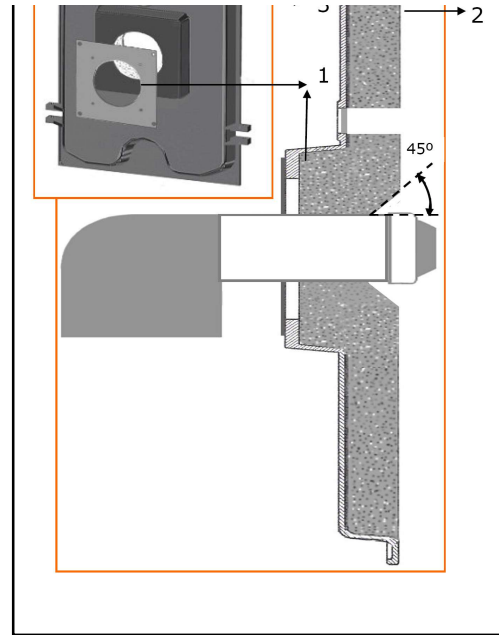
A metal sheet is used for easier assembling of the burner to the door. This metal sheet is made of 10 mm thickness and in the dimensions of 320x320 mm, and burner hole diameter 225 mm (1).

The isolation of the burner door is made of a special thermal ceramic which is durable up to 1250°C and has no deflections on human health (2). Please be sure that this isolation plate is carried carefully and intensively during transportation.

There is a ceramic rope fit in to the channels of isolation door. This prevents leakages between isolation door and front section of the boiler. After repairing or cleaning service the doors connection with the front section must be done properly, strictly.

OM series boilers doors are available for opening to both sides. This brings advantages of assembling, repairing and other operations.

A tempered ceramic glass is placed on to the burner door for watching flame inside (3).



### Instructions For Product Disposal

Cast iron heating boilers are used for long years according to the specifications of its materials and they are long term equipments.

Life time period for these equipments which is declared in the legal documents is 15 years .

According to this situation renewing of these items are generally done because of technological reasons.

Cast iron boilers, which are produced with human-kind materials can be disposed of as follows .

Cast Iron Body (Gray Cast Iron )	Through Iron scrap dealers and cast Iron melting companies
Pipes and Cabln Steels	Through Iron scrap dealers
Other Metal Parts	Through Iron scrap dealers
Thermal Ceramic and other Isolation Materials	Through common waste system

\*\*\*For more information please get in contact with Rima licensed services.

### Positioning the Boiler

Rima boilers must be positioned and placed in the terms of fire protection laws with caution.

When installing and operating the boilers it is necessary to keep a safe 200 mm distance from combustible materials with combustibility degrees B,C1,C2

For easily flammable materials with combustibility degree C3 ,which burn quickly and by themselves also after the ignition source removal the safe distance is doubled it means 400 mm.

The safe distance is to be doubled also in case that the combustibility degree of building material wasn't proved.

Combustibility degrees of building materials and products	Building materials and products ranked in combustibility degrees
A- incombustible	Granite,sandstone,bricks,ceramic tiles,mortars,fireproof plasters,...
B- hardly combustible	acumin,izumin,heraklit,lignos,boards and basalt felt, fiberglass boards,
C1-combustible with difficulties	Beech and oak wood, hobrex board, plywood,werzait,
C2-medium combustible	Pine wood,larch,white wood, chipboard and cork boards, rubber flooring,
C3-easily combustible	Asphalt board,fireboards,polyurethane,polystyrenbe,polyethylene , PVC , .....

\*\*\*For more information please get in contact with Rima licensed services.





**Önmetal Döküm Sanayi ve Ticaret Ltd. Şti.**  
İkitelli Organize Sanayi Bölgesi Atatürk Bulvarı  
17. Cadde No:5 34306 Başakşehir / İSTANBUL

**T: +90 212 485 4874** | pbx  
**F: +90 212 485 4873**  
[www.rima.com.tr](http://www.rima.com.tr)  
[www.onmetal.com.tr](http://www.onmetal.com.tr)





