

BOILERS



ALL THERM

EQUIPPED BRASS HYDRAULIC SET
THIRD WORLD WIDE INDUSTRIAL GROUP
CE CONTROL CERTIFICATION
2 YEARS GUARANTY

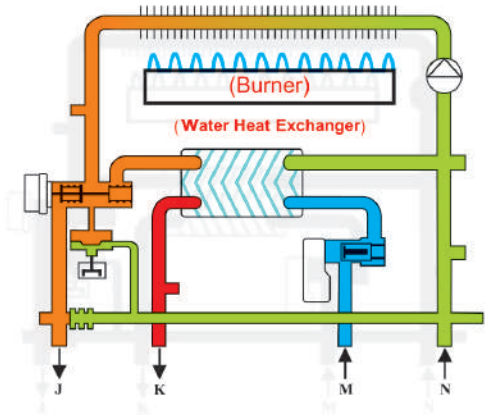
Wall-hung boilers with two heat exchangers (Monothermic)

In this type, two exchangers are used as below:

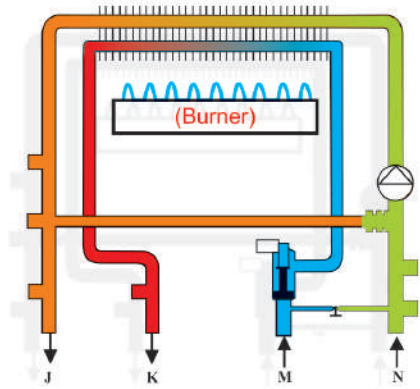
- 1) The main heat exchanger (Gas Water Heat Exchanger)
- 2) Plate heat exchanger (Water Heat Exchanger)

The main heat exchanger is used for heating the environment and the water for heating system is passed to the radiators after running through this exchanger and being heated. In order to provide hot water (sanitary), the water of heating system is forced to pass through the main exchanger by a pump and then runs through the plate heat exchanger instead of moving towards the radiators, and at the same time, the cold input water runs through the plate heat exchanger and as a result of heat transfer from the water of heating circuit to sanitary hot water, warm sanitary water would be available. In this type of system because of constant discharge and better control on fluid temperature, thermal gradient control for air conditioning and sanitary output water is obtained. Furthermore, given that water used in the same operating conditions and with regard to the fact that the sanitary water is not in direct contact with the burner flame, formation of deposits on the inner layer of plate heat exchanger occurs much slower compared to the wall-hung boilers with single heat exchangers.

Gas Water Exchanger



Double Gas Water Heat Exchanger



* The figures are provided to show the system differences of single heat exchanger and two heat exchanger wall-hung boilers.

Single heat exchanger wall-hung boilers (Bithermic).

In this type of wall-hung boilers a heat exchanger called Double Gas Water Heat Exchanger is used. The structure of these exchangers is in a way that the sanitary output water and the water of the heating system are both heated through direct contact with the burner. In this type of wall-hung boilers, in order to increase the temperature of the environment, heating system pump forces the water through the heat exchanger and then passes it to the radiator.

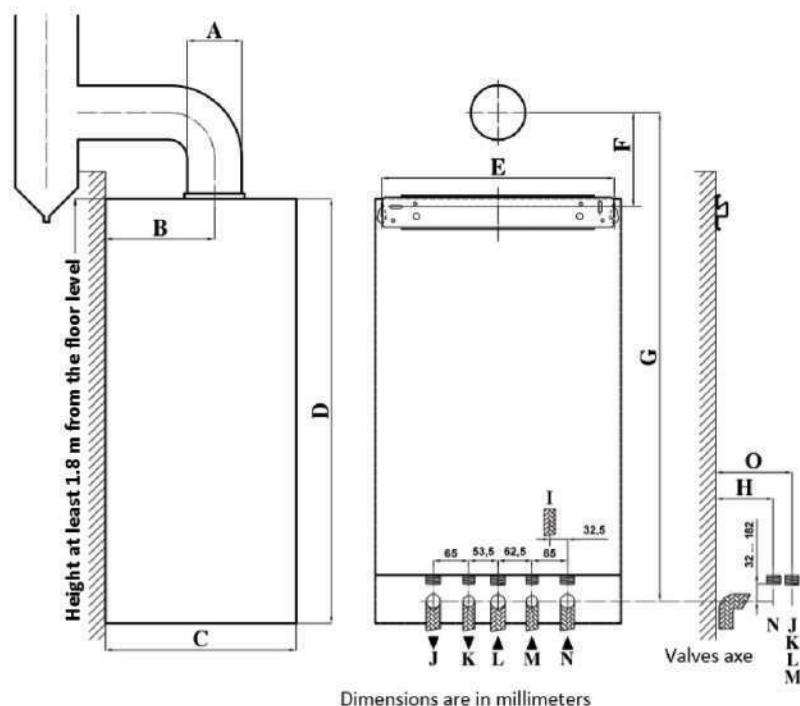
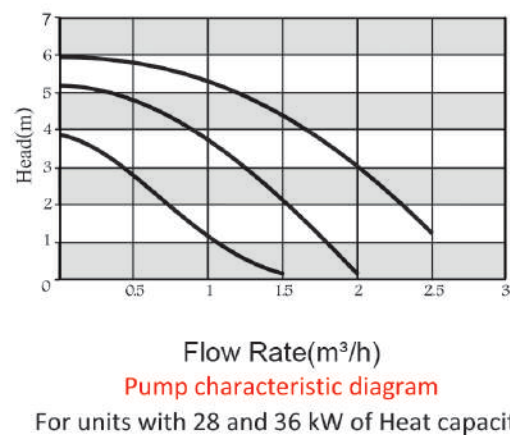
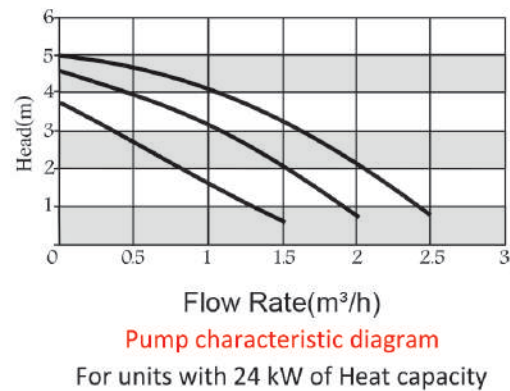
To supply the sanitary output water, when the hot water valve is opened, the pump which circulates the water of the heating system is stopped and only sanitary input water passes through the exchanger and then it is heated via the burner's flame and finally is used in the system. This process is similar to what happens in an instant water heater. In this system it is hard to control the temperature of the sanitary output water because of the direct contact of the fluid with the flame and therefore, the temperature of water tends to fluctuate while the system is running.

On the other hand, regarding the fact that water is in direct contact with the flame in this kind of heat exchanger, faster formation of deposits on the inner layer of it limits their range of usage.

Wall-hung boilers with two heat exchangers (Monothermic)

Technical Features	UNIT	M 24CF	M 24FF	E 24FF	ES 28FF	K 24CF	K 24FF	ECO22FF	ECO24FF
Input heat capacity	kW kcal/hr	26.3 22618	25.7 22098	26 22360	30 25800	26.3 22618	25.7 22098	24.7 21238	25.7 22098
Output heat capacity	kW kcal/hr	24 20640	24 20640	24 20640	28 24080	24 20640	24 20640	22 18916	24 20640
Thermal Efficiency	%	90	93	93	92.9	90	93	90	93
Maximum temperature of central heating flow	°C	85	85	85	85	85	85	85	85
Maximum pressure of central heating circuit	bar	3	3	3	3	3	3	3	3
Maximum temperature of domestic hot water flow (max. hot water range)	°C	60	60	60	60	60	60	60	60
minimum pressure of input cold water	bar	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
maximum pressure of input cold water	bar	10	10	10	10	10	10	10	10
minimum flow rate of domestic hot water	l/min	2	2	2	2	2	2	2	2
Maximum flow rate of domestic hot water $\Delta t=30^{\circ}\text{C}$	l/min	11.4	11.4	11.4	13.4	11.4	11.4	10.8	11.4
Pump static head	m.w.c	5	5	5	6	5	5	5	5
Hydraulic connection (heating system)	inch	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4
Hydraulic connection (sanitary system)	inch	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
Gas inlet Diameter	inch	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4
Flue connection	mm	125	60/100	60/100	60/100	125	60/100	60/100	60/100
net weight	kg	28	33	40	40	28	32	32	33
Electrical power consumption (single phase, 220V/50Hz)	W	90	137	137	143	90	137	137	137
A	mm	125	100	100	100	125	100	100	100
B	mm	210	185	210	210	210	185	185	185
C (Depth)	mm	340	340	380	380	340	340	340	340
D (Height)	mm	720	720	850	850	720	720	720	720
E	mm	325	325	360	360	325	325	325	325
F	mm	410	240	180	180	410	240	240	240
G	mm	1210	1050	1050	1050	1210	1050	1050	1050
H	mm	105	105	135	135	105	105	105	105
O	mm	147	147	170	170	147	147	147	147
W (Width)	mm	400	400	440	440	400	400	400	400

* The FF series have a fan and the CF series are produced without fan.



- J = Central heating flow outlet
- K = Sanitary water outlet
- L = Gas inlet
- M = Sanitary water inlet
- N = Central heating return inlet
- I = Safety valve

New series of two and three heat exchanger wall-hung boilers of Iran Radiator

Technical Features	UNIT	L24CF	L24FF	L 28CF	L28FF	L36FF	LR 24FF
Input heat capacity	kW kcal/hr	26.3 22618	25.7 22098	30.3 26085	30 25800	38 32680	25 21500
Output heat capacity	kW kcal/hr	24 20640	24 20640	28 24080	28 24080	36 30960	24 20640
Thermal Efficiency	%	90	93	90	93	92.8	97
Maximum temperature of central heating flow	°C	85	85	85	85	85	85
Maximum pressure of central heating circuit	bar	3	3	3	3	3	3
Maximum temperature of domestic hot water flow (max. hot water range)	°C	60	60	60	60	60	60
minimum pressure of input cold water	bar	0.5	0.5	0.5	0.5	0.5	0.5
maximum pressure of input cold water	bar	10	10	10	10	10	10
minimum flow rate of domestic hot water	l/min	2	2	2	2	2	2
Maximum flow rate of domestic hot water Δt=30°C	l/min	11.4	11.4	13.4	13.4	17	11.4
Pump static head	m.w.c	5	5	6	6	6	6
Hydraulic connection (heating system)	inch	3/4	3/4	3/4	3/4	3/4	3/4
Hydraulic connection (sanitary system)	inch	1/2	1/2	1/2	1/2	1/2	1/2
Gas inlet Diameter	inch	3/4	3/4	3/4	3/4	3/4	3/4
Flue connection	mm	125	60/100	125	60/100	60/100	60/100
net weight	kg	32	37	33	38	42	40.5
Electrical power consumption (single phase, 220V/50Hz)	W	90	137	96	152	152	152
A	mm	125	100	125	100	100	100
B	mm	210	185	210	185	185	185
C (Depth)	mm	350	350	350	350	350	350
D (Height)	mm	763	763	763	763	763	763
E	mm	426	426	426	426	426	426
F	mm	340	175	340	175	175	175
G	mm	1065	900	1065	900	900	900
H	mm	105	105	105	105	105	105
O	mm	139	139	139	139	139	139
W (Width)	mm	450	450	450	450	450	450

* The FF series have a fan and the CF series are produced without fan.

Advantages of wall hung gas boilers

- High thermal efficiency and energy saving
- Ease of installation, service and maintenance
- Total digital control system
- Silent operation
- Full safety
- Constant and rich sanitary output water supply
- Small size and low space occupation
- Independence of each flat in the apartments
- System protection against water shortage
- Anti-freeze system
- Powered by air pressure switch for protection against flue choke

Technical Features

	UNIT	BM24CF	BM24FF
Input heat capacity	kW kcal/hr	26.3 22618	25.7 22098
Output heat capacity	kW kcal/hr	24 20640	24 20640
Thermal Efficiency	%	90	93
Maximum temperature of central heating flow	°C	85	85
Maximum pressure of central heating circuit	bar	3	3
Maximum temperature of domestic hot water flow (max. hot water range)	°C	60	60
minimum pressure of input cold water	bar	0.5	0.5
maximum pressure of input cold water	bar	6	6
minimum flow rate of domestic hot water	l/min	2	2
Maximum flow rate of domestic hot water Δt=30°C	l/min	11.4	11.4
Pump static head	m.w.c	5	5
Hydraulic connection (heating system)	inch	3/4	3/4
Hydraulic connection (sanitary system)	inch	1/2	1/2
Gas inlet Diameter	inch	3/4	3/4
Flue connection	mm	125	60/100
net weight	kg	28	33
Electrical power consumption (single phase, 220V/50Hz)	W	90	137
A	mm	125	100
B	mm	210	185
C (Depth)	mm	340	340
D (Height)	mm	720	720
E	mm	325	325
F	mm	410	240
G	mm	1210	1050
H	mm	105	105
O	mm	135	135
W (Width)	mm	400	400

* The FF series have a fan and the CF series are produced without fan.

Wall-hung boiler models: OM24FF, OE28FF, OL24FF, OL28FF, OL36FF

The mentioned wall-hung boilers are designed and manufactured under European Standard provisions (EN483). These wall-hung boilers are designed for environments that only need heating. They are the best choice for environments that only need heating because of their low price, simple components, and ease of maintenance. The advantages of these wall-hung boilers are briefly summarized as below:

Only heating wall-hung boiler

Technical Features

	UNIT	OM24FF	OE28FF	OL24FF	OL28FF	OL36FF
Input heat capacity	kW kcal/hr	25.7 22102	30 25800	25.7 22102	30 25800	38 32680
Output heat capacity	kW kcal/hr	24 20640	28 24080	24 20640	28 24080	36 30960
Thermal Efficiency	%	93	92.9	93	93	92.8
Maximum temperature of central heating	°C	85	85	85	85	85
Maximum pressure of central heating circuit	bar	3	3	3	3	3
Pump static head	m.w.c	5	6	5	6	6
Hydraulic connection (heating system)	inch	3/4	3/4	3/4	3/4	3/4
Gas inlet connection	inch	3/4	3/4	3/4	3/4	3/4
Flue connection	mm	60/100	60/100	60/100	60/100	60/100
Net weight	kg	30	36	32	33	37
Electrical power consumption (single phase, 220V/50Hz)	W	137	143	137	152	152
A	mm	100	100	100	100	100
B	mm	185	210	185	185	185
C (Depth)	mm	340	380	350	350	350
D (Height)	mm	720	850	763	763	763
E	mm	325	360	426	426	426
F	mm	240	180	175	175	175
G	mm	1050	1050	900	900	900
H	mm	105	135	105	105	105
O	mm	147	170	139	139	139
W (Width)	mm	400	440	450	450	450

* The FF series have a fan and the CF series are produced without fan.

Suitable for places that only need heating.

High efficiency and thereby reducing energy consumption

Suitable alternative to Central Heating Systems

Compact and possibility of installation on various sites

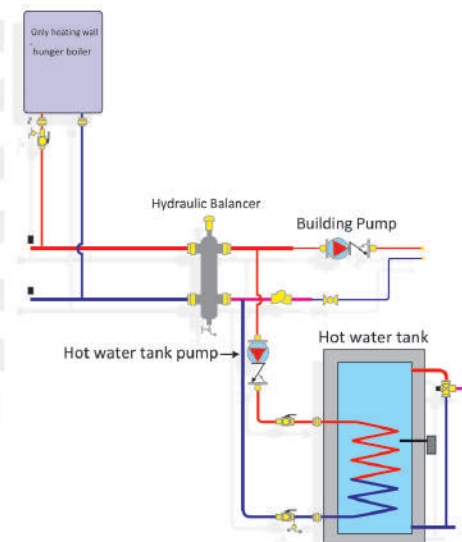
Quick and easy reparability

Intelligent Electronic board

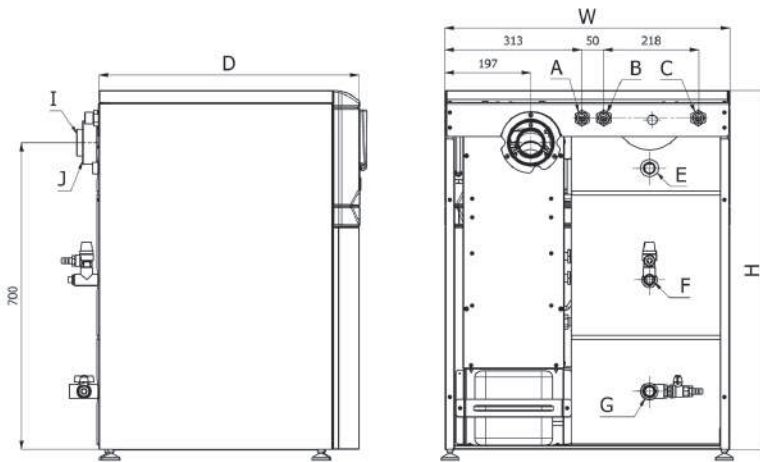
Automatic Diagnostic

Power surge capability by adding to the number of wall-hung boilers if needed

Capability of installing domestic sanitary hot water tank using a three-way valve



Floor standing boiler with tank



A =G3/4"	Gas inlet
B =G3/4"	Central heating return
C =G3/4"	Central heating flow
E =G3/4"	Sanitary water outlet
F =G1/2"	Safely valve (sanitary circuit)
G =G3/4"	Sanitary water inlet
I =Ø60mm	Exhaust pipe
J =Ø100mm	Air intake

Floor standing boiler(with tank)

Technical characteristics	UNIT	Z36FF
Heating input	kW	15.5-38
Heating output	kW	13.5-36
Maximum temperature of central heating	°C	85
Maximum temperature of domestic hot water	°C	65
Maximum pressure of central heating	bar	3
Central heating expansion vessel	capacity precharge	Lit bar
Domestic hot water expansion vessel	capacity precharge	Lit bar
Specific flow rate of domestic hot water $\Delta T=30^{\circ}\text{C}$	L/min	21
Maximum pressure of domestic hot water	bar	6
Domestic hot water tank capacity	Lit	50
Efficiency	%	92.9
Combustion fresh air volumetric flow rate	m ³ /h	86
Combustion product temperature	°C	110
Combustion product mass flow rate	g/s	30.8
Electrical	V	220
Electrical power consumption	W	240
Fuse rating	A	2
Electrical protection	IP	44
Weight	kg	89
Dimensions	W (Width)	mm
	D (Depth)	mm
	H(Height)	mm

* The FF series have a fan and the CF series are produced without fan.

Cascade system

The cascade system of the wall-hung boilers is designed to meet the heating needs of large buildings such as offices, hospitals, universities, schools etc. based on the European Standards. This system is composed of several wall-hung gas boilers with a central controller.

Supporting and controlling multiple wall-hung boilers simultaneously

In this system according to the customer's heating needs, several wall-hung boilers are installed in parallel.

An alternative to traditional and common heating systems

Small size allows installation on small sites and even on the roofs and open areas

Regarding its design, less space is required to install this product. Meanwhile, as the different components of the system are separately installed and regarding their low weight, installation of this product on rooftops or open areas has become possible.

High efficiency of about 93 percent, resulting in less gas consumption

Given that the wall-hung boilers used in the system have the efficiency of more than 93%, overall system efficiency is about 93 percent and there is no possibility of achieving it in the Central Heating system.

Connectable with weekly planning systems and room thermostats

The product can be installed using a programmable control device to evaluate its performance. For example, you can specify the date or days of the week so that the system shall be planned at different times, with the specified power to operate and even during the power off to prevent energy waste. This feature optimizes energy consumption in public places such as schools, offices, mosques etc. and reduces ongoing costs.

Intelligent diagnostic

Defects of the system will be identified and notified to the user with the help of the electronic board and the central controller.

Easy maintenance

Due to separation of all components used in the system and intelligent diagnostic capabilities, in case of a problem the system will be repaired in the shortest time possible.

The system continues working even if maintenance is in progress on one or more of the wall-hung boilers

If one or more of the wall-hung boilers are damaged, repair shall be carried out by closing the water inlet and outlet and gas valve that is embedded at the bottom of each wall-hung boiler while the system continues to operate. This feature in particular is critical for heating buildings, such as hospitals.

Supporting radiant heating, radiators, fan coils etc. simultaneously

Unlike boiler rooms, separate outputs can be considered with different zoning heating system. As a result different temperatures in the different zones can be achieved.

High safety factor by utilizing multiple sensors

Just like the wall-hung boilers, all safety measures are taken into consideration in this product and pressure and temperature sensors placed in various locations control the system operation.

Modulation function in each wall-hung boiler and also in the whole system

Each wall-hung boiler has a discrete modulation function. Regarding the building heating demand, optimized number of wall-hung boilers will continue running. With the help of this feature there is always a balance between production and consumption.

Cleansing system to prevent pathogenic bacteria in hot water supply

If the temperature of the water tank does not reach 65°C during a week, the central temperature controller will increase the temperature up to 65°C for a moment to prevent the possibility of bacterial growth.

Changing the power range of the device based on building heat demand

The ratio of maximum power to minimum power in the system is high and if the building demands for low power for heating, only one wall-hung boiler will work and this feature reduces the energy loss.

Equipped with a control sensor for combustion products exhaust

In case of a flue choke, the wall-hung boiler will be turned off by the pressure switch to prevent incomplete combustion and increase of the pollutants.

Providing the combustion air from open area

Utilizing a coaxial flue for each wall-hung boiler helps use the air from open area for combustion. As a result the air quality is maintained at the installation point.

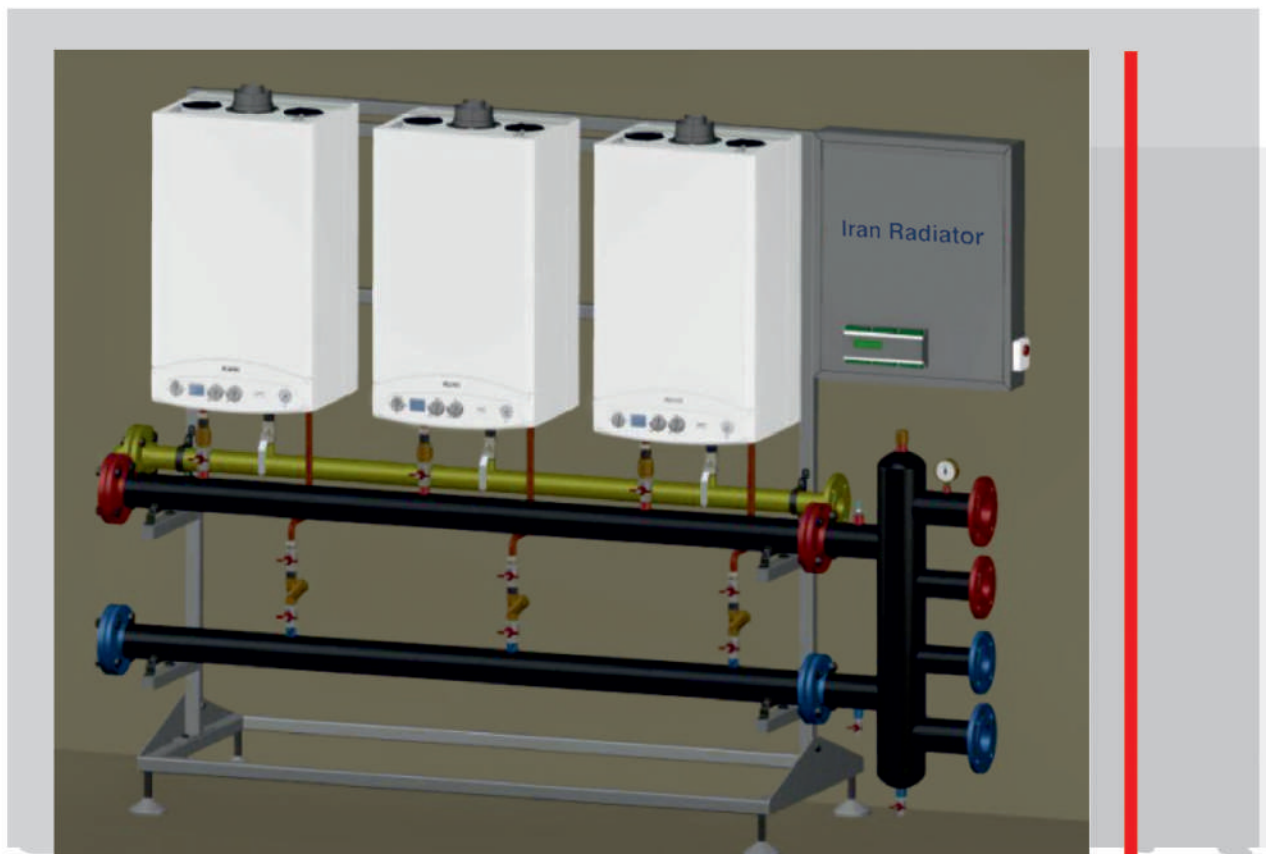
After sales support and service

Supplying the spare parts and repairs will be done based on the standard instructions in the shortest time.

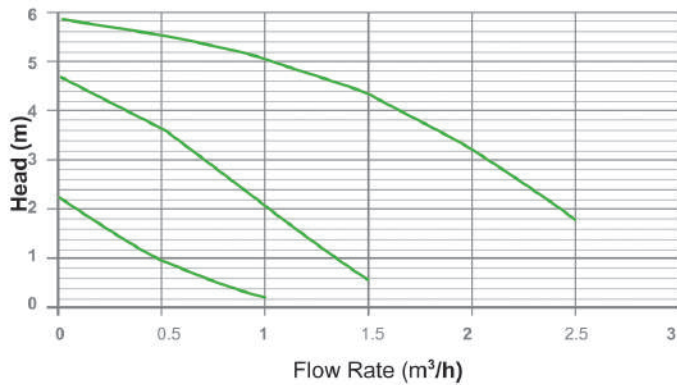
Installation is quick and easy

All parts of the system are packaged separately and easily assembled at the installation point. This feature leads to reduction of installation time in comparison to the central heating systems.

Due to the integrated manufacturing of the units in the Iran Radiator factory, there is a perfect harmony among system components such as burner, exchanger, circulator pump, etc. that results in an increase in efficiency and less depreciation than the traditional systems.

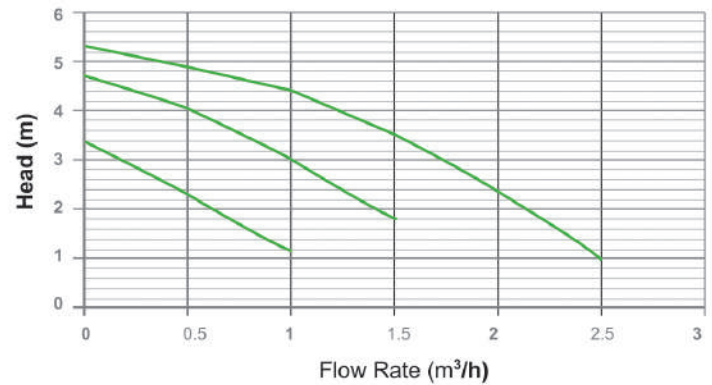


MSL 12/5-3



Performance curve of heating circuit primary pump

RS 15/6 Compact KU



Performance curve of heating circuit secondary pump



Capabilities of Z36FF Floor standing boiler

- High thermal efficiency
- Low noise
- A hot steel water storage tank with a capacity of 50 liter
- Electronic board with digital display and intelligent diagnostic system
- Anti-freeze protection systems, anti-seizure pump and valve , three-way valve and bacterial contamination system for hot water
- Benefiting from primary and secondary circuit piping system
- Separate radiator system pump for optimal performance in floor heating system and Duct Split
- Lack of use of indoor air environment due to the closed combustion chamber
- Reliable and durable
- Made from high-quality European components
- Connectivity capacity to weekly planning and room temperature systems



ALL THERM (GIBRALTAR) LTD

HEADQUARTERS :

World Trade Center
6 Bayside Road 1st Floor - Unit 1.02
GX1 1AA Gibraltar
☎ (+350) 200 60207
✉ info@allthermgroup.com

SALES MANAGER :

Javier *Martinez* Lesmes
C/ López Bravo 7. Naves CAM 45
09001 Burgos
☎ (+34) 639 324 269
✉ j.martinez@allthermgroup.com

