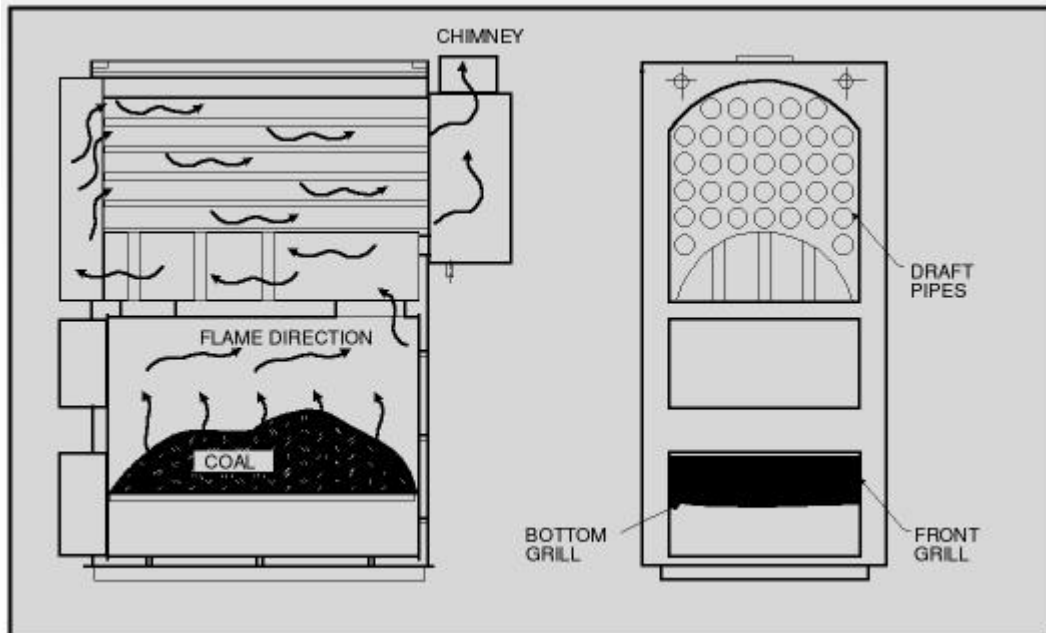


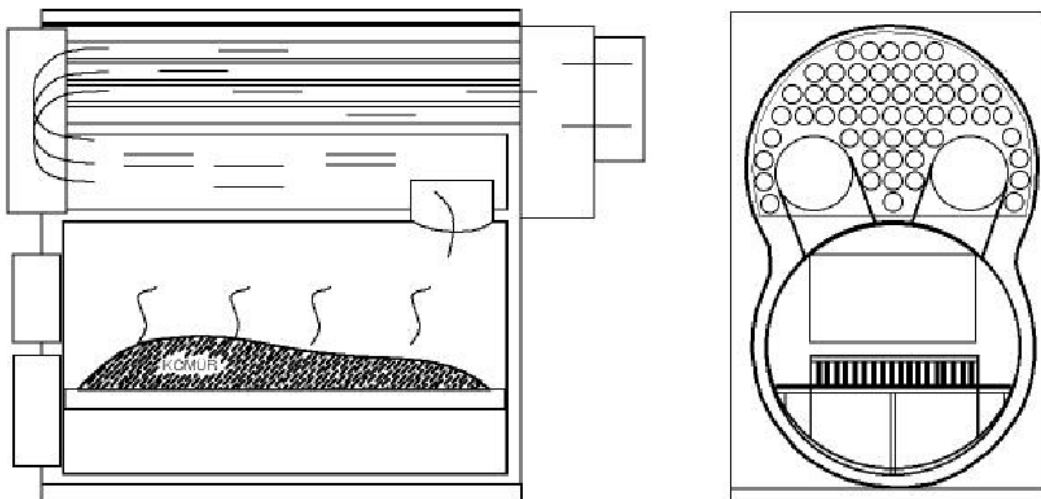


**THE MANUAL BOOK FOR INSTALLATION AND USING**

## BAXI SOLID FUEL BOILERS



400 - 500



## THE FEATURES OF BAYMAK SOLID FUEL BOILERS

There is no fan at the linyimat 15-25 and linyimat 40 boilers. The burning tank of this boilers are small, because of that reason the air which is needed for the ignition, provides by the help of the valve and it always be enough. The heating adjustment is doing with the mechanical thermostat at that boiler and the control is providing by the mechanical thermostat.

The fan has assembled to the boiler for making the burner easier at the linyimat models of over 60.000 Kcal/h capacity. The control of the fan is making with the adjust thermostat which is on the boiler panel. The boiler's water heating temperature depends on the thermostat adjustment temperature. The boiler water heating runs until the adjustment thermostat temperature. The fan stops when the boiler water heating comes to the readjusted temperature and the filming continues like that.

When you don't want to run the fan at the linyimat boilers, turn the key to the on position at the on-off switches which are at the panel. At this position, the fan will not run. Productival ignition could be providing without running the fan at that boilers. But this depends on the quality of the coal and productivity of its heating.

There's an air valve at the linyimat 60 boilers as fans. The air which is needed for the ignition can be providing by the air valve without using fan.

## THE DIRECTION OF THE LINYIMAT BOILER BURNING

When the linyimat coal has burned, the burning types are changing by the size of the coals. Also the quality of the coal and it's burning specificaiton influence of the boiler's burning methode and the productivity of it.

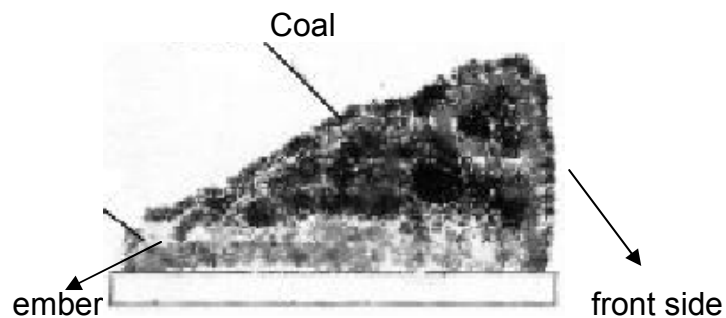
**For the normal size's coals (for example as orange size) :** at the first setting on fire ; fire as under of the boiler by getting in it with wooden bit and firewood. The fan must be at off position and the under cover opens by the end of it, the top cover must be close at the models with fan. By closing the under cover , the top cover opens after the firewoods set on fire and get coal 1/3 percent of boiler capacity in it. ( 5-15 kg overage) the fan runs after the coal's imputement operation. The burning could be supply without running the fan at this position but it depends on the quality of the coal. If the under cover is at the half open position, the burning could be supply without running the fan. You can determine the burning methods which are at the above by the quality of your coal and its burning position. When the imputed coal which is at 1/3 percent begins to burn and become ember. Spit it by opening the under cover with the help of the spit which is given by the boiler and the last imputing of the boiler will has done. For the last imputing, 2-3 hours at the boiler burning moments and keep the boiler's set up. Also keeps it burning by opening the top cover and turning the unburned coals. While you impute coal to the boiler, you must close the fan at the on-off switch which is on the panel. At the same time, the connections of the fan must do correctly which is given with the boiler. (Linyimat 60-80-100) if the connection has done wrong, the fan turns wrongly and there isn't enough air could come in it. Add some coal to the boiler before the coals don't over in it. (When the coals become ember) by this way you can use your boiler more economical.

You can left boiler to sleep by adding some coal in it at the evening. Close the fan's top and under covers and adjust the mechanical thermostat to the lowest temperature. So the boiler couldn't take air in it and it can exceed to the sleeping mode. Spit the boiler by opening it's under cover and when it gets fire, its coal imputement will have done in the morning. If its needful the fan can run before that operation. If there's a few imputement has done at the evening or the quantity of the emble gets low in the day and this emble is not enough for burning , then get some wooden bit to the boiler and keep until it gets fire and continue the coal's imputement after tahat operation. Otherwise the emble will be completely goes out if you get some wooden bits on it.

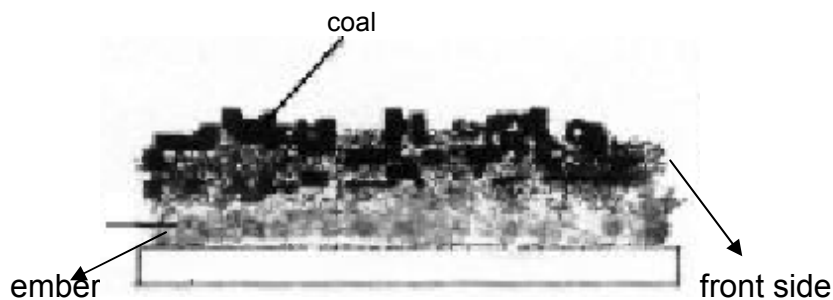
You also clean your boiler once in a week. So you can get more productival burning.

### For dust and very little pieces coal

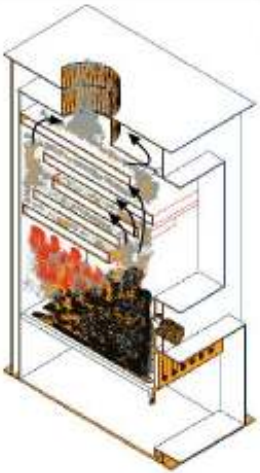
The first time of the boiler's setting on fire, add lots of firewoods. (The under cover will open completely) sprinkle 5-10 kg coal to the fire when the firewoods begins to burn as in flames. Wait as the coal and firewoods become ember. Spread the ember as it lefts 5 cm at the back when inside of the boiler gets completely emble then load the coal as it gets in front of the boiler high, at the back low and front to back as loading platform. (The quantity of the coal changes as the calori of the using coal) the boiler water's heating will be decrease to 15-20 C because of the new coal loading. The boiler must be spit at the under of it whwn it lefts its gases.



There musn't make loading while the boiler's inside gets completely emble. The back of the boiler musn't get darker and also the air current must keeping at the back side. The emble must be spread completely all inside of the boiler before it lefts to the sleeping mode and the coal must suppress on this emble. The under cover and the top cover must close completely.



The coal must take as it's emble as the boiler spit at the under of it for to ignitate the boiler again in the morning. If the emble's quantity is low, by the help of some firewood adding, increase the emble quantity and the boiler must reload by the shape of loading platform.



## The Installation of the Linyitomat Boiler and the Attention Subjects

The boiler is ready to installate with the circulation pump, control panel, ember bucket.

- 1- Set the boiler as a smooth and stone ground which can get air in front of it and be attention if it's environment is empty.
- 2- Set the boiler on a base which is minimum 20 cm high,
- 3- Be attention for the boiler doesn't get water if you will assemble it to the bathroom or laundry room. You definitely don't assemble it to the bedroom. If you will assemble it to the balcony (if its open) you must set the boiler's around and save it from the negative air effects. (The boiler must get air comfortly). So the boiler runs productivitelier and the heat loosing will decrease to the minimum level.
- 4- Assemble the boiler to the nearest palce of the flue.
- 5- You could assemble the flue as it's diameter will be 13 cm by the adapter which is given with the boiler at the 15000 kcal/h boilers. If the flue's suffering is negative, connect it to the 18 cm's flue without using flue adapter. If you can't do it by this position, take the flue at the right position. The 18 cm flues must connect to the 25000-40000-60000 boilers. The 80000 and 100000 boilers must connect to the 22 cm flue.
- 6- If the flue's suffering is good, the coal will burn more productively and quality. So the flue crosscute of your house must be minimum 30\*30 cm with maden by brick as its outside be daub or steel but it's possible as its outside had isolated.
- 7- Use maximum 2 elbows at the connection of boiler and flue.
- 8- The pipe which comes from the boiler must be minimum 1m high and after this operation use elbow if it's needed. After the elbow makes connection to the point of the flue which is at the floor, must be minimum 10 C positions to the upperside. ( shape 1)
- 9- You must connect the boiler certainly as open spreading. The close spreading installitions are unnecessary for the coalboilers. The open connect pipe diameters must be at the back of the boiler connect diameters.
- 10- Put value to the boiler for fill up and discaharge.
- 11- You should make isolation to the pipes which are deficit for stopping the heat loosings at the installation after the boiler.
- 12- Assemble the circulation pump to the return pipe which is at the back of the boiler and connect the electric cable which is at the deficit to the Clemens of the pump.
- 13- Assemble the circulation pump as the picture 2.
- 14- Assemble the boiler hydrometer's pipe to a hydrometer. This hydrometer will show the level of the water at the installation.
- 15- If the boiler has connected to the circuit while the pressure test has been doing to your installation,; don't give pressure more over than 1 ATU. The boiler's running pressure is 1 ATM. More pressure could make damage to the boiler.
- 16- The by-pass line must be done to the installation. Switch off the by-pass value at the electric interrupts for the security of the boiler and installation.
- 17- Make the boiler's electric connection with the earth socket.
- 18- Don't add coal to the boiler at the electric interrupts.
- 19- Never use coking coal.

## THE TECHNICAL INFORMATIONS AND DIRECTIONS OF INSTALLATION

The uptake of the flue must be at the shown values which are at the below for the boiler's healthy running;

|              |   |           |
|--------------|---|-----------|
| 15.000 Kcal  | → | 0,25 mbar |
| 25.000 Kcal  | → | 0,3 mbar  |
| 40.000 Kcal  | → | 0,35 mbar |
| 60.000 Kcal  | → | 0,38 mbar |
| 80.000 Kcal  | → | 0,4 mbar  |
| 100.000 Kcal | → | 0,42 mbar |

There mustn't be deposit, dirt and unwanted solid matters in the water contents which will press boiler and the installation. This deposits and dirt are so harmful for the circulation pump. If you get suspicious about the water cleaning, you should take filter to it before you use it. Also the lime holding must be taken to the installation's filling up part for the high level limely water.

At the boiler's normal burning, the insertgases heat is between 200-350 C temperatures. At the first burning this value could be increase. The flue heating comprise at the 130-200 C temperature by the environment heat at the minimum power.

At the rated heating power and maximum thermal power (insert gas) the fume gases quantity must be like at the below;

Linyitomat 15 = 0,0170 kg/s  
Linyitomat 25 = 0,0284 kg/s  
Linyitomat 40 = 0,0456 kg/s  
Linyitomat 60 = 0,0683 kg/s  
Linyitomat 80 = 0,0911 kg/s  
Linyitomat 100 = 0,0114 kg/s

The diameter of the insert gases exit is like at the below;

Linyitomat 15 → 130 mm (at the well uptakes flues)

Linyitomat 15, 25, 40 and 60 → 180 mm

Linyitomat 80 and 200 → 220 mm

Linyitomat 250 and 300 → 300 mm

Linyitomat 400 and 500 → 505 mm

Out of those flues diameters, do not connect the boiler .

The boiler's water resistance is 0,1 m bar

The Baymak linyitomat boilers are at the high level productivity and at the first class speciality.

The boiler loading times show changes because of the coals calorific values changeability. The coal's burning types for the normal and dust sizes shown at the previous page. The fuel which will burn at the boiler, its moist level must be so low. Otherwise the first burning can be problem and the fume will go up at every loading from the boiler's top cover.

A very healthy burning can be get without running the fan for the coals which don't need air burning. But the under cover must be open.

There're mechanical thermostats at the linyitomat 15-25-40 boilers. The adjustment of the mechanical thermostat is between 30-90 C temperatures. The adjustment must be doing between 30-90 C temperatures for getting the wanted heating of the boiler water. There's a fan adjustment thermostat at the linyitomat 60-80 and 100 boilers. The fan thermostat's adjustment is doing between 30-85 C temperatures. The boiler water heating stops when its adjustment comes to the wanted degree and after the 5 C temperature decrease, it begins to run again.

The return water's heating mustn't decrease less than 15 C temperatures at the boiler returning. Stop the circulation pump when the heating decrease. Otherwise because of the cold water goes to the honeycomb; the environment's heating will be increase. Also before stopping the circulation pump, control the fire which is inside of the boiler. You must control the coal's quantity which will not increase the boiler's heating at that temperature.

The volume of the burning room is like at the below;

|                |                      |
|----------------|----------------------|
| Linyitomat 15  | 70 dm <sup>3</sup>   |
| Linyitomat 25  | 78 dm <sup>3</sup>   |
| Linyitomat 40  | 88 dm <sup>3</sup>   |
| Linyitomat 60  | 117 dm <sup>3</sup>  |
| Linyitomat 80  | 225 dm <sup>3</sup>  |
| Linyitomat 100 | 250 dm <sup>3</sup>  |
| Linyitomat 130 | 384 dm <sup>3</sup>  |
| Linyitomat 160 | 433 dm <sup>3</sup>  |
| Linyitomat 200 | 500 dm <sup>3</sup>  |
| Linyitomat 250 | 733 dm <sup>3</sup>  |
| Linyitomat 300 | 878 dm <sup>3</sup>  |
| Linyitomat 400 | 1336 dm <sup>3</sup> |
| Linyitomat 500 | 1762 dm <sup>3</sup> |

Filling up fuel nozzle measurement;



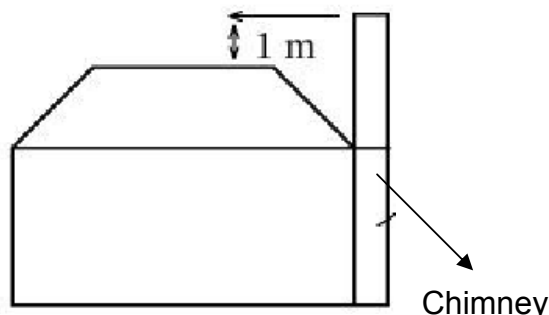
|                | a | a(mm) | b(mm) |
|----------------|---|-------|-------|
| Linyitomat 15  |   | 320   | 248   |
| Linyitomat 25  |   | 320   | 248   |
| Linyitomat 40  |   | 335   | 400   |
| Linyitomat 60  |   | 335   | 400   |
| Linyitomat 80  |   | 575   | 274   |
| Linyitomat 100 |   | 670   | 250   |
| Linyitomat 130 |   | 670   | 250   |
| Linyitomat 160 |   | 670   | 320   |
| Linyitomat 200 |   | 670   | 320   |
| Linyitomat 250 |   | 690   | 400   |
| Linyitomat 300 |   | 690   | 400   |
| Linyitomat 400 |   | 750   | 400   |
| Linyitomat 500 |   | 750   | 450   |

The spreading tank must be upper than 2,8 m from the place of boiler hanged. Do not make the spreading tank under the wanted volume. Connect the spreading certainly to the enter and exit of spreading. it must be higher than the assembled honeycomb for doing its work completely and not to get air.

The needful expidents must be taken for the water's not freezen in the tank. Minimum water heating could be at 3-5 C.

The flue must be made as suitable as the shown shape and the flue must be 1 m high from To toppest place of the roof also it must be safety from any foreign matters which could get into the flue.





A discharging nozzle has left for setting the water which becomes from the condensation at the under of the flue at linyitomat 80 and 100 boilers. Connect this water to an outgoes by the help of a trunk. There's no water come from there at the boiler's normal running but a little bit water could come at the first running of the boiler.

### THE DIRECTIONS OF THE OPERATION

Do the loading of the boiler from the top cover (from the middle cover at the linyitomat 80 boilers) the under cover only uses for taking the ashes and spitting the boiler. When the fuel loading want to do to the boiler then if the boiler's under cover has opened while the top cover is opening, close the under cover. If the under cover wanted to open, after the loading it could be opened. But there musn't be any combustible thing or the thing which make to combust something, in front of the under cover because of its ember's get fall down.

If there's a constraintion valve at the boiler's flue, it must be open at the first burning, and then it must be choked. Otherwise the ignition coul not be completed because of this and some blackens will be begin at the top of the fuel, so the ignition could not happen.

The boiler's cleaning is so easy with using the equipments which are given with the boiler. The operation of the cleaning boiler changes as quality of the fuel and the quantity of the ashes. But productivity of the boiler will be getting higher if you clean the boiler once in a week.

The mechanical thermostat which has assembled on the boiler gets to keep the temperature on the adjusted heating. (Linyitomat 15-25 and 40) a valve is using to hoke the air into the boiler. At the over 60 linyitomat models, there are fan models which are assembled to the boiler. The air which is needed for the boiler ignition is provided by the fan. The fan controls with an adjustment thermostat. (The informations about the mechanical thermostat and fan has given) if there are any kind of failure at the fan or thermostat then call the B aymak authorized service. You shuold have done the circulation pump's and boiler's seasonal care at the end of the winter.

The loading times of the boiler have changes because of the wide types of the coals. But at generally; for the kind of coal fuel, the loading time is 4/4,5 hours after the first loading, for the kind of firewood fuel, the loading time is 2/2,5 hours.

The capacity of the fuel quantity which will load to the boiler could finf by divided it to the value of the under thermal.

### THE USING DIRECTIONS OF THE MECHANICAL THERMOSTAT

Adjust the adjustment panel for the temperature of the wanted heating. When the boiler at the wanted temperature, the arm of the mechanical thermostat is going to move automaticly and close the air shut off plate. So the air could not get in and the boiler's temperature will be at the wanted heating for a long time but when the temperature begins to decrease then the air shut off plate will begin to open again, and the air starts to get in and the ignition will begin again. The ignition operation will continue like that automatically. Be attention for if the air shut off plate is at the off position when the boiler does not run.

## **The Instructions of Operating and Maintenance of the Device:**

- The device doesn't need a special upkeep.
- The loading of the boiler must be done from the middle cover. The cover at the bottom is only used to skewer the boiler and take the ashes out. When the top cover is opened to burden combustible, the bottom cover absolutely must be closed if it is open. When the burden is complete, bottom cover can be opened if it is required. But when the bottom cover is open, it should be taken into consideration that ember particles from burning and the ashes can be fallen down and there shouldn't be any thing that can cause burning / combustion in front of the boiler.
- If there is a restriction at the flue of the boiler (clape), the clape must be open at the first combustion and after the combustion the clape must be reduced. Otherwise; the combustion can not be complete and therefore fading spots at the top of the combustible will occur and the combustion will not actualize.
- The cleaning of the boiler can be done easily with the equipment that is given with the boiler. The cleaning can vary according to the quality of the combustible and the rate of the ashes. Cleaning must be done minumum once a week so that the boiler can operate more productively and efficiently.
- By the helps of the fan; the air needed for combustion is given into the boiler. Fan is commanded by an adjustment thermostat. (The information about the adjustment thermostat and fan is given.) When there is a defect with the adjustment thermostat or fan, you should immediately apply to Baymak Service. The upkeep of the circulation pump and the boiler must be absolutely made at the end of every winter season.
- The loading of the boiler and the next loading time vary because of the coal types. In general; after the first loading, the loading period of combustibles like coal is 4 - 4,5 hours and the loading period of combustibles like wood based is 2 - 2,5 hours. The quantity of the combustible varies according to the real value of the combustible. The hourly quntity of the combustible that will be loaded to the boiler can be found by dividing the boiler's capacity into combustible's inferior thermal value.

**Note:** If the electricity goes off, the by-pass valve should be immediately opened. The top and the bottom covers of the boiler must be closed.

### **THE FAULT POSITION**

### **THE THINGS MUST TO DO**

The boiler has water evasion

call the Baymak service

The circulation pump does not Run

control the electric connection  
control the circulation's on-off switch.  
If it doesn't run, do not do the loading to the Boiler and call the Baymak service.

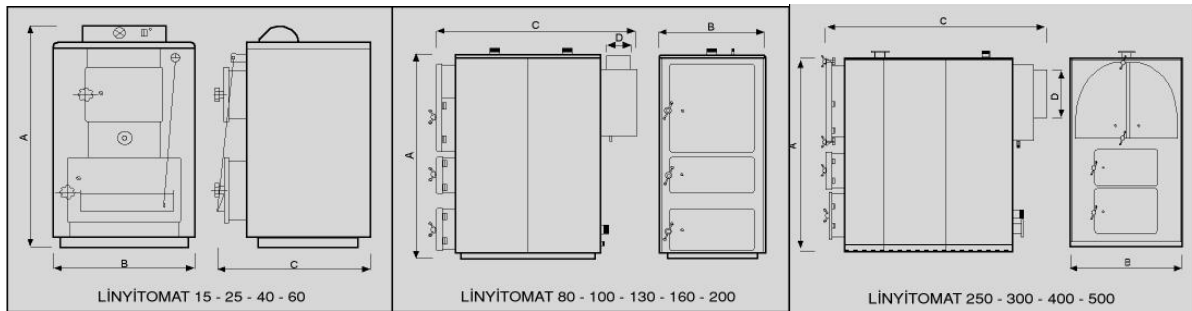
The fan doesn't run

control taht if the electric is on the circuit or not.  
If there's a breaking off at the cables or Deformation at the cables then switch on the Electric and discharge the boiler.  
Call the B aymak service

At the power cut

switch off the by-pass valve quickly.  
Close the boiler's top and under covers.

## THE DIMENSIONS OF THE BOILERS



| CAPACITY<br>Kcal/h | A<br>Height<br>(mm) | B<br>Width<br>(mm) | C<br>Depth<br>(mm) | D<br>Chimney<br>Diameter(D) | Installation<br>Inlet (D) | Installation<br>Outlet (D) | Expansion<br>tank Inlet<br>(D) | Expansion<br>tank Outlet<br>(D) | Charging<br>Drainage(D) | Boiler Water<br>Volume<br>(L) | Expansion<br>Tank<br>(D) | Circulation<br>Pump<br>(DAE) | Weight<br>(Kg) | Test<br>Pressure<br>(Bar) | Working<br>Pressure<br>(Bar) |
|--------------------|---------------------|--------------------|--------------------|-----------------------------|---------------------------|----------------------------|--------------------------------|---------------------------------|-------------------------|-------------------------------|--------------------------|------------------------------|----------------|---------------------------|------------------------------|
| 15.000             | 843                 | 633                | 536                | 180                         | 1 1/4"                    | 1 1/4"                     | 1"                             | 1"                              | 3/4"                    | 60                            | 50                       | VA 35/130                    | 230            | 4,5                       | 3                            |
| 25.000             | 1018                | 633                | 536                | 180                         | 1 1/4"                    | 1 1/4"                     | 1"                             | 1"                              | 3/4"                    | 75                            | 50                       | VA 35/131                    | 250            | 4,5                       | 3                            |
| 40.000             | 1090                | 633                | 636                | 180                         | 1 1/4"                    | 1 1/4"                     | 1"                             | 1"                              | 3/4"                    | 95                            | 100                      | VA 65/130                    | 370            | 4,5                       | 3                            |
| 60.000             | 1140                | 686                | 746                | 180                         | 1 1/4"                    | 1 1/4"                     | 1"                             | 1"                              | 3/4"                    | 120                           | 100                      | A 50/180 XM                  | 460            | 4,5                       | 3                            |
| 80.000             | 1328                | 732                | 1190               | 220                         | 2"                        | 2"                         | 1 1/4"                         | 1 1/4"                          | 3/4"                    | 241                           | 110                      | B 50/250 40M                 | 640            | 4,5                       | 3                            |
| 100.000            | 1510                | 870                | 1360               | 220                         | 2"                        | 2"                         | 1 1/4"                         | 1 1/4"                          | 3/4"                    | 285                           | 110                      | B 56/250 40M                 | 850            | 4,5                       | 3                            |
| 130.000            | 1680                | 880                | 1500               | 220                         | 2 1/2"                    | 2 1/2"                     | 1 1/2"                         | 1 1/2"                          | 3/4"                    | 356                           | 200                      | -                            | 950            | 4,5                       | 3                            |
| 160.000            | 1890                | 880                | 1500               | 220                         | 2 1/2"                    | 2 1/2"                     | 1 1/2"                         | 1 1/2"                          | 3/4"                    | 413                           | 200                      | -                            | 1030           | 4,5                       | 3                            |
| 200.000            | 1890                | 880                | 1640               | 220                         | 3"                        | 3"                         | 2"                             | 2"                              | 3/4"                    | 463                           | 300                      | -                            | 1190           | 4,5                       | 3                            |
| 250.000            | 2000                | 1100               | 2160               | 300                         | 3"                        | 3"                         | 2"                             | 2"                              | 3/4"                    | 626                           | 300                      | -                            | 1850           | 4,5                       | 3                            |
| 300.000            | 2000                | 1100               | 2430               | 300                         | 3"                        | 3"                         | 2"                             | 2"                              | 3/4"                    | 847                           | 500                      | -                            | 2200           | 4,5                       | 3                            |
| 400.000            | 2280                | 1400               | 2870               | 550                         | DN 100                    | DN 100                     | 3"                             | 3"                              | 1"                      | 1700                          | 500                      | -                            | 3800           | 4,5                       | 3                            |
| 500.000            | 2500                | 1500               | 3100               | 550                         | DN 100                    | DN 100                     | 3"                             | 3"                              | 1"                      | 2480                          | 750                      | -                            | 4700           | 4,5                       | 3                            |

**Note; Expansion tanks has to be open type for all solid fuel boilers.**