



# EUROSTAR

## Electric wall hung boiler



Instructions for use installation and maintenance



## Dear user:

You have become the owner of the direct heated Thermex electric boiler, which is intended for heating system and easy to comfortably control .

We hope this Thermex boiler can provide you with reliable service. Some basic principles must be adhered to during installation and maintenance. Therefore, we ask you to be familiar with the user manual and follow this manual when working with Thermex electric boiler.

We believe that the Thermex electric boiler will help you build a comfortable environment and an optimal thermal comfort level.

### **Please note the following important instructions and warnings:**

- 1.The installation and maintenance of boilers and other subsequent equipment must conform to the design, comply with all applicable laws and regulations, and comply with the technical standards and regulations of the manufacturer.
- 2.The boiler must be installed in its intended environment, and any safety device or operating device must be put into work.
- 3.Boiler can only be adjusted by manufacturer or authorized professional.
- 4.For boiler adjusting and in case of any failure, please turn to the professional staff authorized by the manufacturer - any non-professional intervention may cause the boiler to be damaged (and the successor equipment that will eventually damage )!
- 5.Check the integrity of the product.
- 6.Check that the model of delivery is the same as the model you require.
- 7.If you are not fully aware of how to operate boilers, you should read and study all relevant information in the manual and always follow them strictly.
- 8.Do not remove or damage any signs and nameplates on the boiler.
- 9.The boiler meets the following standards: EN60335-1:2012, EN62233:2008, EN55014-1:2006+A1:2009+A2:2001, EN61000-3-12:2005, EN61000-3-11:2001, EN55014-2:1997+A1:2001+A2:2008
- 10.After the expiration date of the boiler and its parts, they should be disposed of in an environmentally friendly manner.

# Thermex electric boiler

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# 1. Instructions

## 1.1 introduction



According to the development trend of the electric heating boiler, the company has put the heating boiler with direct heating characteristics into the market, and it has several series of 6, 8,9,12,15,18,21 and 24kW.

This is a kind of high efficiency of the boiler, it equipped with heating system is equipped with independent each other, through a simple control panel can be quickly and easily make the operation of the boiler adapted to the conditions of the given object.

## 1.2 equipment and personal safety

Through the application of ISO9001 quality management system, the same characteristics are guaranteed and checked in the manufacturing process.

As the electric heat boiler of the product, check its safety according to STN060830, STN 92 0300 and STN en60835-1.



In the course of boiler operation and transportation, according to its original purpose and actual use conditions, it must also comply with the requirements set out in the following guidance documents.

--In the field of design: STN060310;

--In installation and assembly: first, the electrical regulations on public equipment for preventing electrical accidents (i.e. local technical standards with identification number 332000), followed by STN332130 and STN332180 and guidelines number: 48/1982 (Revised), and binding regulations on health protection at work;

--During operation and maintenance: STN 077401 (possibly STN 757111 or STN830616) and STN33 1310.



In addition to the document requirements that have been pointed out, the use of boilers must follow the manual and operation of boiler attached documents from the manufacturer. When used, we should prevent people from children, people affected by drugs, irresponsible and mentally ill people and so on.

The manufacturer shall make the products conform to the technical rules and specifications, and shall be approved by the ISO9001 quality management system.



By pressing the regulations UBP SR No. 74/1966 Coll (revised) get the license contract the company network, to ensure the sustained attention to product level (i.e. in the installation, commissioning, use familiar, regulation and control in the process, about the local conditions, during the warranty period and after warranty period).

### 1.3 The control panel Display

#### 1. Liquid crystal display Eight touch button and one LCD

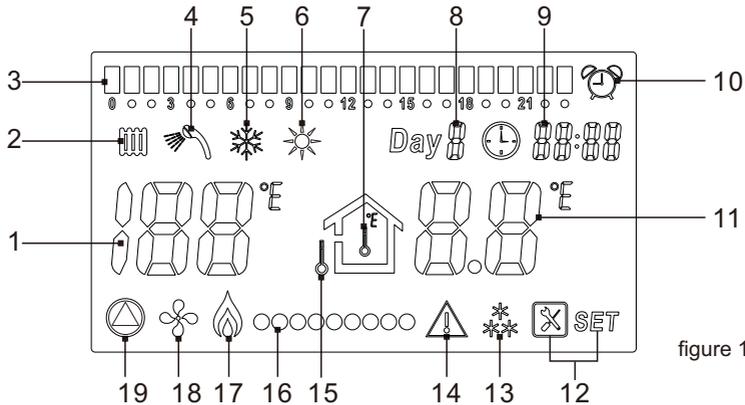


figure 1

No.	Description
1	Temperature failure and menu display. Setting the target temperature of the heating, the temperature value of the heating is blinking, and set the target temperature of the hot water, the temperature value of the hot water is blinking. In the case of no-fault non-setting, the summer mode or winter bathroom mode shows the current temperature of the bath water, and the winter mode shows the current temperature of the heating water.
2	Heating icon. In winter mode, if the heating mode is running, the heating icon display and flashes when the heating target temperature is setting.
3	Time slot. Divide 24 hours a day into 24 hours (one hour per hour) and light up at the same time as the timing heating function sign.
4	Hot water icon. Under normal state, if the water tank is heating, the hot water icon display, when setting the target temperature of the water tank the icon flashing.
5	Winter mode icon. In winter mode display.
6	Summer mode icon. In summer mode display.
7	Indoor temperature icon. When the temperature of the heating room is shown, the icon is displaying.
8	Week. Show the Monday to Sunday.
9	Clock. Display current time.
10	Timing heating icon. In winter mode, the timing heating function is running the icon display.
11	Indoor and outdoor temperature values. When you want to show indoor and outdoor temperature, the indoor and outdoor temperature is displayed every 30 seconds and lasts 5 seconds.
12	Adjust mode icon. When entering adjust mode, the icon lights up.
13	Anti-freeze mode icon. Light up when anti-freeze mode is turned on.
14	Fault icon. Light up when a fault occurs.
15	Outdoor temperature icon. When the outdoor temperature is displayed, the icon is lit.
16	Power display. When heating, display the current heating power. Turn on a heating tube and light up a point.
17	Flame icon. When the electric heater is turned on, light up.
18	Fan icon. When the fan is running, it will light up.
19	Pump icon. When the pump is running, it will light up.

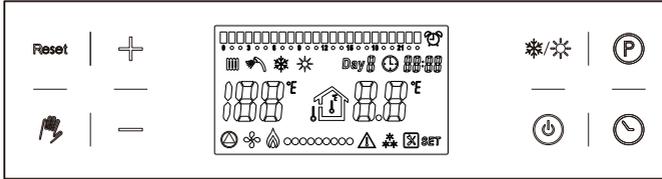
## 2. The backlight

Turn off boiler ,if no button operation the backlight delay 10S shut down.

Turn on boiler, backlight is lit . If there is no button operation for 10 minutes, the backlight will be automatically extinguished. Press any key to restore light.

### 1.4 key operation

figure 2



#### 1.4.1 Turn ON/OFF

Press "P" 5S , the boiler will switch between ON or OFF; Off state display "OF";when off state only anti-freezing and pump anti-block function can running.

#### 1.4.2 Temperature setting

On heating mode, press "+" and "-" change the setting temperature, press "hand" save and switch to hot water temperature setting, press "+" and "-" change the setting temperature, press "Reset" exit and finish the setting; on hot water mode, press "+" and "-" change the setting temperature, press "Reset" save and exit.

#### 1.4.3 Winter/Summer mode

turn on state, press "sun/snow" can make the boiler switch between winter mode(heating and hot water function) and summer mode(only hot water function)

#### 1.4.4 timing heating setting:

Press "P" "key for 3S, "come into timing heating setting state, by press "+" and "-" switch between 24 segments, choice the segment that need heating and press "hand", segment lit meaning running, not lit meaning no running. Finished the setting, press "Reset" save and exit.

#### 1.4.5 time setting:

On/Off state, press "clock" 3S come into time setting state, the hour item blinking, press "+" and "-" change the hour value; after setting hour, press "hand" the min item blinking, press "+" and "-" change the min value; after setting min, press "hand" the week item blinking, press "+" and "-" change the week value; finished setting, press "Reset" save and exit setting state.

#### 1.4.6 open timing heating"

Turn on state, press "P" "can choice open timing heating or not ("P" icon display means open timing heating, "clock" icon not display means not open timing heating).

#### 1.4.7parameter setting

No fault state, press "Reset" key 10S, come into parameter menu, by press "+" and "-" can switch between parameter "tS" and "rE" and "Hi", at this level menu, press "Reset" 10S, can come into and setting all the parameter.

##### 1.4.7.1Hi parameter

The "Hi" function is to record the last 10 failures of the boiler. when screen display "Hi", press "hand" "key, then press "+" and "-" can switch between H01 to H10,H01 is the recent fault, H10 is the farthest fault, choose one then press "hand" " to check the the relative fault.

##### 1.4.7.2rE parameter

when screen display "rE", press "hand" "key, then press "+" and "-" can switch between "CLr" and "rE5",when display "CLr" press "hand" " 3S can delete all the record of fault, when display "rE5" press "hand" " 3S can reset the default value of the adjustable parameter "P01 ~ P07" in the "tS" submenu. press "Reset" to exit.

### 1.4.7.3tS parameter

when screen display “tS”, press “” key, then press “+” and “-” can switch between “P01 to P11”, choose one press “” come into this item setting state, then press “+” and “-” to change the value. Press “” return to view P01-P12 menu, then press “Reset” to save and exit. P01-P12 description see below table.

Code	Parameters description	adjustable range	default
P01	The delay time of pump after stop he	1~20min	20min
P02	Heating start the temperature differe	5~20°C	15°C
P03	Floor Heating start the temperatur difference	5~20°C	8°C
P04	Water tank statte temperature difference	5~10°C	5°C
P05	Whether the system is equipped w water tank	On: with tanI OFF: without tank	OFF
P06	Outdoor temperature control compensation offset	30~50°C	30°C
P07	Heating outdoor temperature contr compensation curve	C01~C10,G-	C--
P08	Boiler power selection	01~09 units	6units
P09	A08fault detect choice	00no detectA08; 03: detectA08	00
P10	Heating comfort mode (thermal bala option)	ON: Heating all the time OFF: Stop heating after reached TEMP 20 minutes	OFF
P11	Heating type choice	00: Radiato 01 floor radiator	00
P12	Tank heating choice	ON: running OFF: no running	ON

### 1.5 fault and recovery

When the screen display the following fault code, it indicates that the boiler is out of order. A is Locked type fault and needs to be removed manually; F is the automatic recovery type fault, which will be automatically recovery when the fault disappears.

fault code	fault description	type
A01	electric leakage	Locked
A02	AC contactor failer	Locked
A03	Temperature limiter failure (mechanical thermostat disconnection)	Locked
A06	The heater temperature beyond 90 °C	Locked
A08	Temperature sensors detect (normal heat for 5 minutes,the NTC of the heating or the NTC of hot water detect the temperature change are not more than 3 °C, and more than 40 °C no longer detect)	Locked
F10	heating NTC fault(heating NTC open circuit, short circuit or wire loose)	Auto reset
F13	Outdoor temperature sensor fault (outdoor NTC open circuit, short circuit or wire loose.)	Auto reset
F14	water tank temperature sensor fault (water tank NTC open circuit, short circuit or wire loose.)	Auto reset
F37	water pressure switch fault	Auto reset
F41	System not circulation failure (temperature gradient is greater than the set value, the decision for water pump fault system, down 5 °C temperature automatic recovery)	Auto reset

## 1.6 Function

### A: Temperature setting & control

1. Heating temperature setting range: 30-80°C.

Start the temperature difference: 5-10°C

2. Water tank temperature setting range: 30-60°C.

Start the temperature difference: 5-20°C

\*annotation:  $T_w$ ---Actual temperature;

$T_s$ ---setting temperature;

$\Delta T$ --- Start the temperature difference

### B: Anti-freezing function

one level anti-freezing: when system temperature  $\leq 8^\circ\text{C}$ , pump running, until system temperature  $\geq 10^\circ\text{C}$  the pump stop. the screen display "FD".

two level anti-freezing: when system temperature  $\leq 5^\circ\text{C}$ , pump running, heater working, until system temperature  $\geq 30^\circ\text{C}$  the heater stop, and the pump delay stop. the screen display actual temperature.

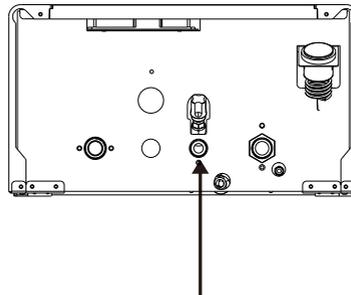
## 1.7 System of water injection

The boiler equipped with manual injection/water inlet valve, when running process, the heating system pressure drops below 1 bar, users should open the valve slowly to filling water pressurization system, until the system pressure returned to normal.

Generally, at static normal temperature, the system should be kept at about 1bar, and the water pressure should be kept between 1bar and 1.5bar at work.

The water injection valve rotates clockwise to close, turning counterclockwise to open.

figure 3



filling water valve

## 2. Installation

### 2.1 running conditions and installation location.

Connect the electric heating boiler to the utility grid must be approval by the local power supply company.

Any person concerned must request temporary approval for access to high electrical power and apply for direct heating of the room.

If a new heating or remodeling heating is established, we suggest that the professional staff should design it carefully. Professional installation by authorized service company is the condition of manufacturer's warranty.

Therefore, please refer to our contract partner for boiler connection, he should connect the boiler and provide the electric heating operation prompt. Any connection work with utility power and any electrical installation must be conducted by qualified professional workers in accordance with UBP SR No.74/1 996 Coll.

The electric heating boiler must be permanently connected to the utility power distribution network. In the electric heating boiler, a device should be built in to break off a main switch, in which the distance of all the pole breaking contacts is at least 3mm, and the operating guidance is observed.

The installation of the electric heating boiler should be located in such a position that it should be able to allow any necessary access during maintenance or overhaul inspection. The minimum distance between the boiler and the fixed barrier is shown in figure 3.

During assembly, the professional workers of the company shall be required to conduct systematic demonstration and training of system operation. The warranty certificate of electric heating boiler must be confirmed by professional workers after commissioning and adjustment.

The electrical equipment of the boiler is designed to operate without any electrical qualification. The operator may operate the control device only and follow the instructions of the manual or service company. The electrical apparatus shall not be tampered with in maintenance.

From the requirements of the installation of electric heating boiler, water supply should be handled by the region in order to add water and discharge water. In addition, the installation must have a sufficiently smooth wall area (electrically heated boilers are suspended on the wall)

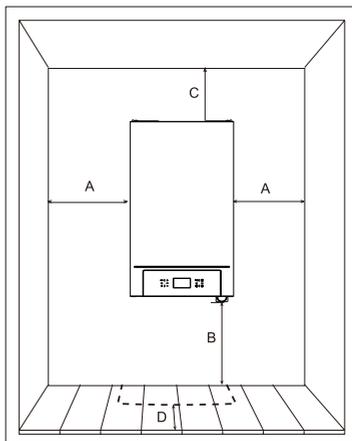


figure 4

	Min	recommended
A	3 cm	15 cm
B	10 cm	30 cm
C	10 cm	20 cm
D	15 cm	>25 cm

Electric boiler design in the STN330300 and ordinary A5 / AB5 STN332310 environment (namely the temperature range from + 5 °C to 40 °C, humidity depends on temperature, maximum 85%). The boiler shall not be installed in the 0, 1 and 2 areas of STN332135-1, nor shall it be installed in any room, bathroom, washing area or shower room with a bathtub. However, where it can be installed 3 area, such as if possible to clean the water (as in schools, factories, sports clubs and used in the public service area public drinking hole, pipe and nozzle, etc.), also can't install electric boiler.

**If the boiler is installed in an acceptable place, it will provide protection against current accidents at the same time.**

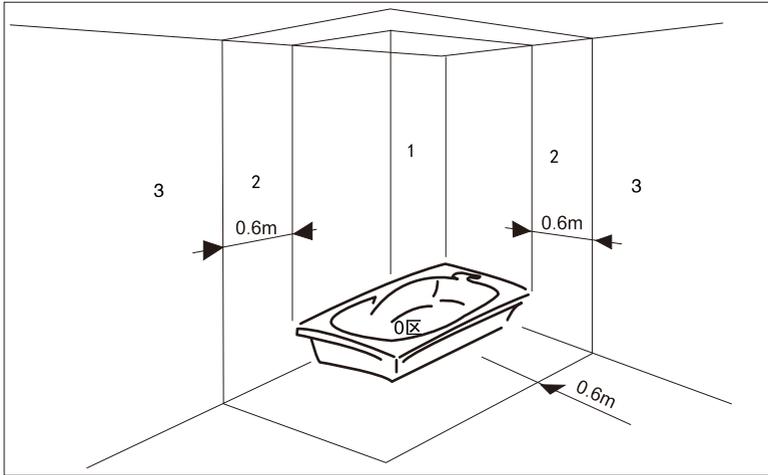


figure 5

## 2.2 boiler installation

To hang the boiler on the wall, it is recommended to use the expansion screw (the delivery attachment), which should be fixed on the wall in advance (see figure 6). The main body of the heater structure with water pump and accessories shall be suspended on the fixed expansion screw. The boiler cover is connected to the back wall by screws and can be disassembled. Such a place should be determined before the boiler is installed, where there may be necessary repair work without any major limitations. If the boiler is to be installed in an open system, the water column of the heating system should produce at least 1 bar pressure.

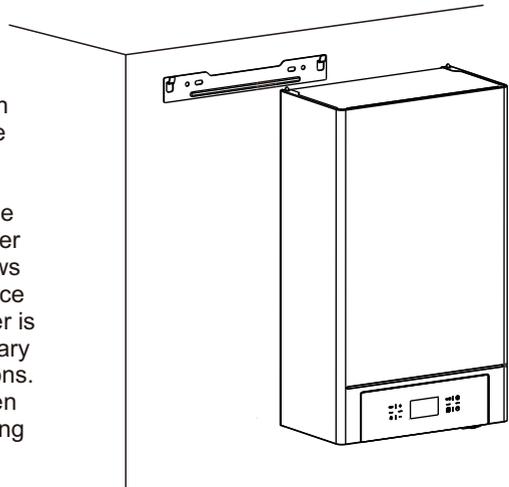


figure 6

### 2.3. Pipe connection.

#### A. pipe installation:

Before installation, carefully clean the residues and dirt in all the pipes to avoid affecting the normal operation of the boiler.

According to the the graphic of 4.1 section and the corresponding symbols on the bottom plate to connect pipe.

The outlet of the relief valve must be connected to the floor drain or drain, so that the water will not flow to the ground when the heating system overpressures. Otherwise, the wall manufacturer will not be responsible if the leakage pressure causes the room to be flooded.

In the heating system of the thermostatic valve, the water circulation may be completely stopped. In this case--the bypass flow is passed through a device that does not have any thermostatic valves, or used --by-pass.

#### B. Water quality characteristics of water system:

When the water hardness more than 25 ° Fr, should use the softening treatment of water, avoid boiler internal water hardness or corruption and scaling. It should be noted that even a few millimeters of scale can lead to low thermal conductivity and cause serious problems caused by overheating of boiler.

If the system is very large (large capacity of water) or frequent filling water into the system, must be to deal with water, if must be part of the drain or completely emptying system, water injection is the treated water must be used.

#### C. antifreeze system, antifreeze, additives or inhibitors.

Boiler has anti-freezing function, when the heating system water temperature is less than 6 ° C, boiler will start heating mode.

If the power supply of the boiler is cut off, the anti-freeze function fails.

If necessary, can use antifreeze, additives or inhibitors, but these fluid manufacturers must ensure that the liquid medicine, without damaging the wall hanging furnace heat exchangers and other parts, no damage to the heating equipment. The use of antifreeze, additives and inhibitors not specified for heating equipment and wall hanging furnaces is prohibited.

 Filters and settler collectors should be regularly checked and cleaned.

Before adding water to the heating system, it is necessary to check the pressure of the expansion tank. If necessary, it should be filled with pressure in the range of 1-1.3bar.



## 2.4 electrical installation

### Connect the power cord

Before installation, the user shall establish a power supply device, which shall be equipped with the main power switch of heating, protection equipment and other modifications to the home wiring, including initial modification and application for electricity charges.

The casing used for wire connection, voltage regulator input and HDO, and possible cascade interconnection (with small package parts attached) is located in the lower left corner of the bracket (see above). In addition, external protection terminals should be installed (brass bolt M6).

Before installing the protection bolt, the sides and outside of the cabinet must be cleaned, and all the places near the bolt will be unrestricted to the metal surface. Under the head of the inside of the cabinet, use the end of the cable terminal to connect the protection wire. A brass nut with a lock washer is tightened from the outside. Use another nut to connect to the second protection line.

After connecting the power cord, it is necessary to check whether the nuts of all power terminals and contactor are properly tightened.

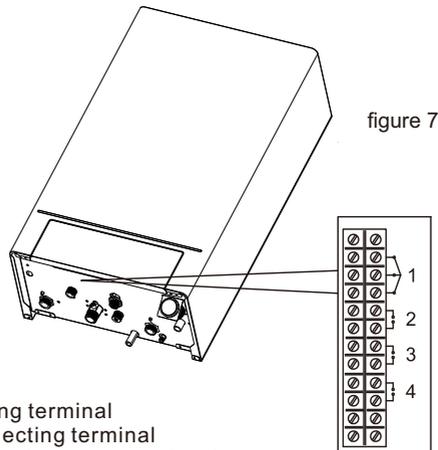
Simple and complex control elements, such as programmable (daily or weekly program) and indoor regulators, can be purchased at the manufacturer and its contractual partners of the electric heating boiler. In order for the electric heating boiler to work correctly, it is absolutely necessary to have the regulator of the belt voltage output, which means that no external voltage should be supplied. The required regulator output contact load capacity 230/0.1. An indoor regulator with no voltage output is connected to PR1 and PR2 terminals.

indoor thermostat and remote control.

Note: indoor thermostat contacts must be clean. The output voltage 220V May damage the electronic circuit. When installing day or week program indoor thermostat or time switch, should avoid to use the device switch contact to switch on the power, they should be according to the device type by power supply or batteries to power.



The designer must consider comprehensively the suitability assessment for the combination of external equipment to remove power level boilers. Consideration must be given to boiler functions related to households or houses and external equipment mentioned. The manufacturer shall not be liable for any improper installation of the design.



1. Three - way connecting terminal
2. Water tank NTC connecting terminal
3. Indoor temperature controller connecting terminal
4. outdoor temperature controller connecting terminal

## 3. Service and maintenance.

### 3.1 Adjustment

-  Adjustment can only be done by qualified personnel.  
All maintenance and maintenance of the system and safety components shall be subject to debugging.

#### **Before boiler start**

Open the stop valve between all boiler and system.

Water injection into the system to ensure that all air in the boiler and system is discharged from the automatic exhaust valve of the boiler and heating system. Check whether the heating system, hot water system, connector and boiler are leaking.

Check whether the boiler's power connection is correct.

Check whether the boiler grounding is good.

Check to see if there are any corrosive liquids or articles near the boiler.

#### Boiler start-up

Close boiler power switch.

Set the winter mode and make sure that the indoor temperature controller is closed, when the heat tube in the heat exchanger works, the boiler starts to run automatically and is controlled by the regulation and safety control.

the running process is without power, the heating tube stops heating, and the wall hanging when the power supply is restored will start heating.

-  During running, the power is off, the heating tube stops heating, and the boiler will start heating when power is restored.

#### Run time check

Check the circulation between boiler and heating system.

Check whether the boiler works well by opening a closed room temperature controller or timer.

#### Turn off

Press  5S.

The boiler turn off, but the PCB is still supplied power.,

The heating function is stopped, display ; The anti-freezing is on line.

-  When shut down the power of the boiler, the anti-freezing function will failure. In winter, if long time not to use the boiler, please empty the water of system avoid to freezing, or inject antifreeze in the system.



### 3.2 maintenance



The installed electric heating boiler does not require any maintenance. However, it is suggested that the user conduct the network inspection, and it is best to carry out an annual inspection by the after-sales service company (not part of the warranty) before the heating season begins. In this professional inspection, all electrical connections and water connections should be tightened, water pumps are cleaned, safety valves and exhaust valves and all safety elements should be checked, and the function of the boiler should be checked in the end.

When the boiler is running in closed heating system equipped with expansion tank, the pressure on the pressure indicator must be checked periodically. If the residual pressure drops below the limit indicated by the installation company under cold condition, the system should be inspected by professionals. This is not effective for the first heating, for example, when the air in the system is released. Under such circumstances, the system should be filled with water according to the corresponding standards.



In open systems, check the water capacity in the expansion tank and fill it up if necessary.

 The following operations can only be carried out by qualified professionals, such as our local distributor or after-sales service department.

#### Boiler seasonal inspection

It is recommended that the boiler be inspected at least once a year:

- 
- Control device and safety device (leakage switch, contactor, thermostat, etc.) must function correctly.
  - The heat exchanger must be clean and follow the introduction of the next chapter.
  - In the cold machine state, the water pressure is 0.1mpa, otherwise the value should be adjusted.
  - The expansion tank must be full.
  - The circulation pump is not jammed.



### 3.3 failure recovery

#### Diagnosis

The boiler is equipped with advanced self diagnosis system. If a fault occurs, the boiler will display the corresponding code on the display screen. There are some failures (showing "A") to stop the boiler. If you want to resume operation, you must catch the reset button for 1 seconds. Other faults (indicating "F") result in shutdown. The boiler can run automatically when the fault is removed and automatically reset.

The reasons for the failure of the part of the fault table listed below and the methods that users can solve themselves.

If the fault is solved for the two time, you can not exclude it. Please contact the Thermex service staff.

Fault description	Code	possible reason	Solution
electric leakage	A01	electric leakage	check wire
no heating	A02	AC contactor failer	check AC contactor
temperature limiter fault	A03	temperature limiter damage	check the positioning and operation of the heating sensor
		Heating system water does not circulate	check pump and empty air in system
		more air in heating system	check pump and empty air in system
the heater is over 90 °C	A06	Heating system water does not circulate	check pump and empty air in system
		more air in heating system	
Abnormal temperature rise	A08	Temperature sensors detect (normal heat for 5 minutes, the NTC of the heating or the NTC of hot water detect the temperature change are not more than 3 °C, and more than 40 °C no longer detect)	check CH NTC or change
CH NTC fault	F10	NTC open circuit, short circuit or wire loose	check wire or change NTC
outdoor NTC fault	F13	NTC open circuit, short circuit or wire loose	check wire or change NTC
Tank NTC fault	F14	NTC open circuit, short circuit or wire loose	check wire or change NTC
WPS fault	F37	water shortage in system	fill the system to 1-1.5bar
		water pressure switch fault	check the water pressure switch
No circultate	F41	water shortage in system	fill the system to 1-1.5bar
		pump fault	check pump



## 4. Technical features and parameters.

### 4.1. Dimensions and joints.

legend

1. Heating system inlet G3/4.
2. Water inlet G1/2.
3. The heating system will return to G3/4.

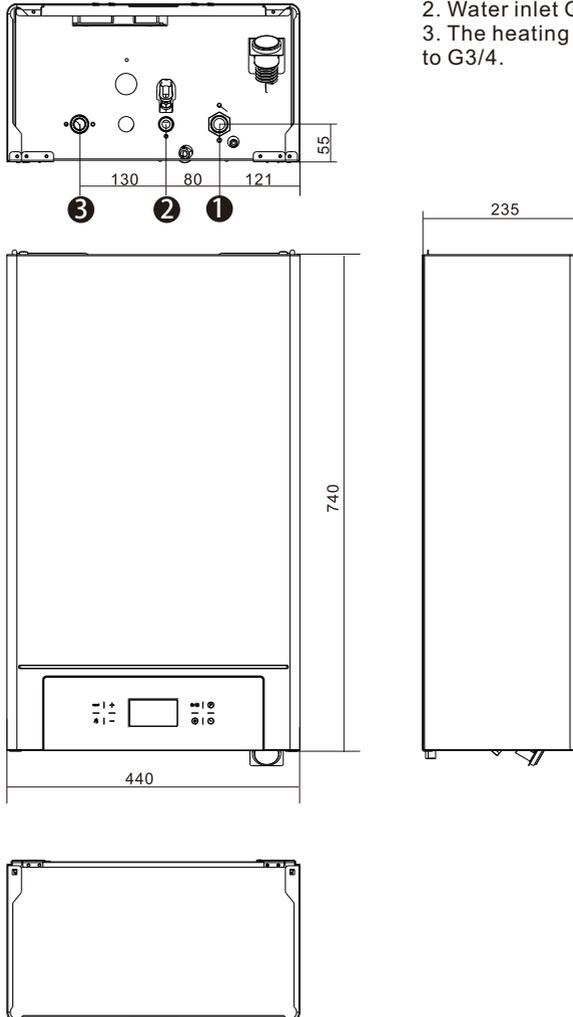
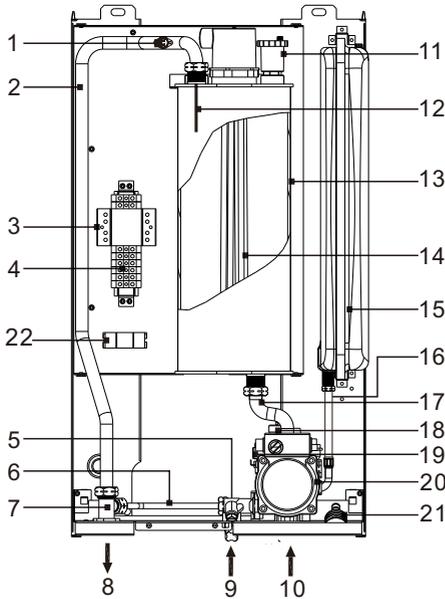
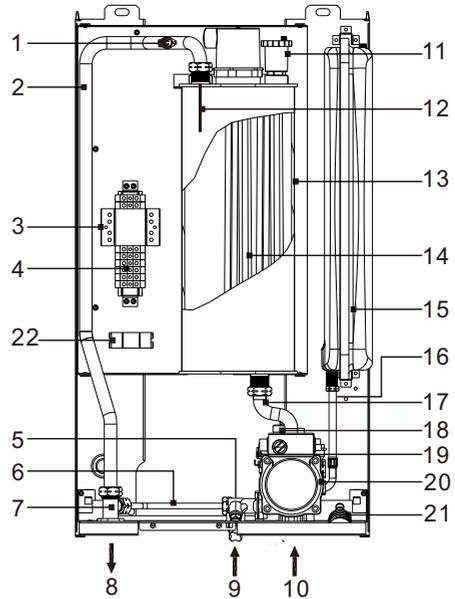


figure 8

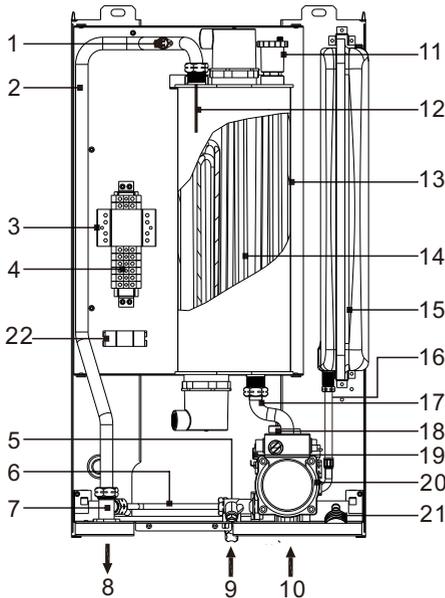
## 4.2. Structure drawing and main parts



6~8KW



9~15KW



18~24KW

### legend

- 1.temperature limiter
- 2.heating water supply pipe
- 3.Ac contactor
- 4.connecting terminal
- 5.filling valve
- 6.by-pass pipe
- 7.water outlet valve
- 8.heating outlet
- 9.fill water inlet
- 10.heating return
- 11.Automatic exhaust valve
- 12.CH NTC
- 13.the heating tank
- 14.heating tube
- 15.expansion tank
- 16.the pipe to expansion tank
- 17.heating return pipe
- 18.safety valve
- 19.water pressure switch
20. pump
- 21.water pressure meter
- 22.Current transformer

### 4.3 the water system

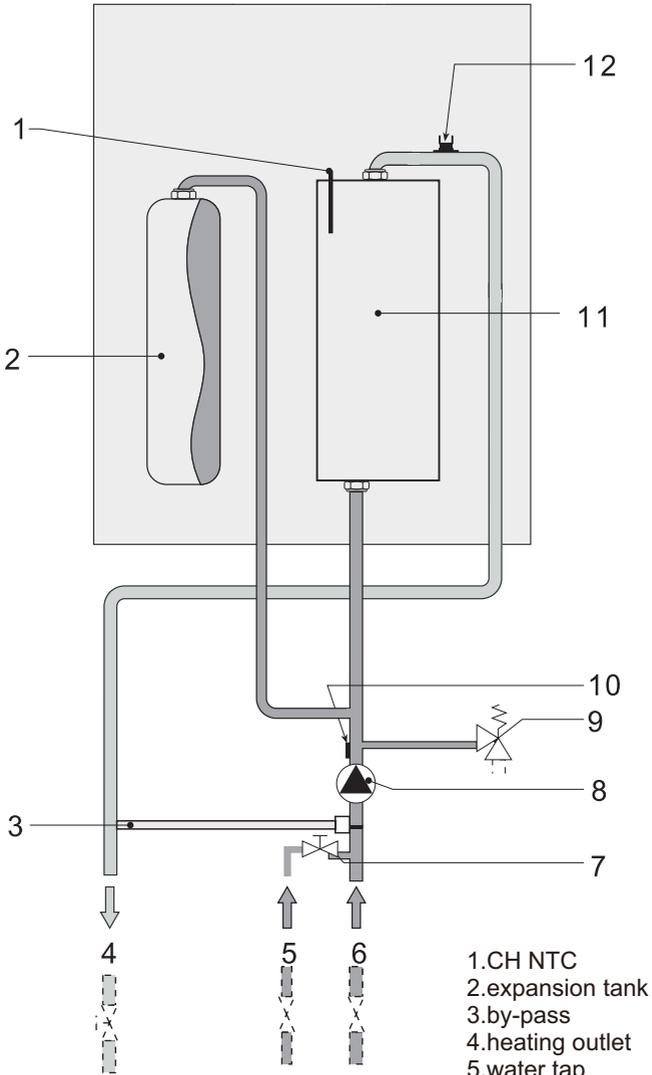
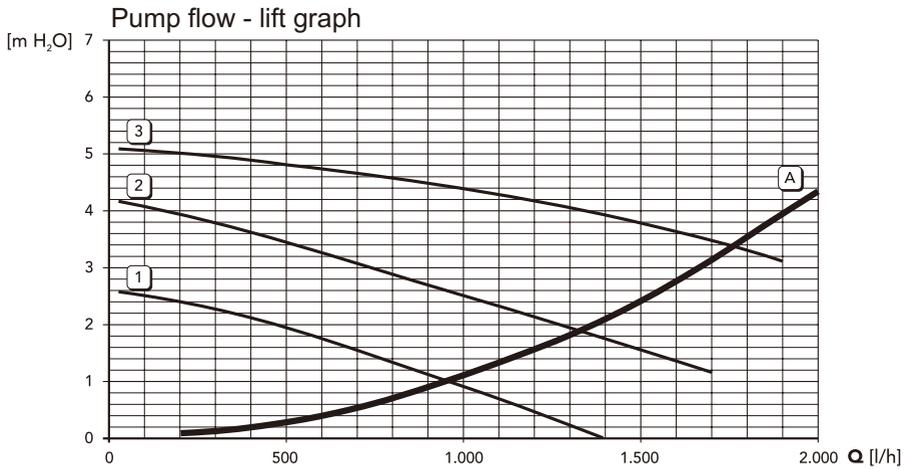


figure 10

- 1.CH NTC
- 2.expansion tank
- 3.by-pass
- 4.heating outlet
- 5.water tap
- 6.heating return
- 7.filling valve
- 8.pump
- 9.safety valve
- 10.water pressure switch
- 11.the heating tank
- 12.heating temperature limiter

## 4.4. Circulating pump diagram



1 2 3 = pump performance curve

A = boiler head loss

figure 11

## 4.5 technical data

voltage	V	1x230V+N+PE/50Hz 3x230V/400V+N+PE/50Hz	3x230V/400V+N+PE/50Hz
electric current	A	41	3X43
Rated power	kW	6, 8, 9	12, 15, 18, 21, 24
efficiency	%	99.5	99.5
the Max Temp of heating	°C	80	80
Pump Max pressure head	kPa	50	50
expansion tank	L	10	10
expansion tank	kPa	80	80
the pressure of heating, Max	kPa	300	300
the pressure of heating, recommend	kPa	100-170	100-170
Electrical protection grade	-	IP 40	IP 40
heating pipe connector	-	G 3/4"	G 3/4"
filling water valve connector	-	G 1/2"	G 1/2"

### Recommended cross sectional area of circuit breaker and wire

power(kW)	Heater volume and power	Through the maximum current of a phase(A)	Circuit breaker rated current(A)	The cross section of the power line - copper (mm <sup>2</sup> )
6	3x2.0KW	9.5(28*)	10 (32*)	1.5 (6*)
8	3x2.65KW	12.5(36.5*)	13.5(40*)	1.5 (6*)
9	6x1.5KW	14 (41*)	16 (50*)	1.5 (10*)
12	6x2.0KW	18.2	20	2.5
15	6x2.5KW	22.8	25	2.5
18	9x2.0KW	27.3	32	4
21	6x2.5KW+3x2KW	31.9	40	4
24	9x2.65KW	36.4	40	6

The (\*) is used for single-phase connected 6, 8 and 9 kw boilers.

4.6 Wiring diagram

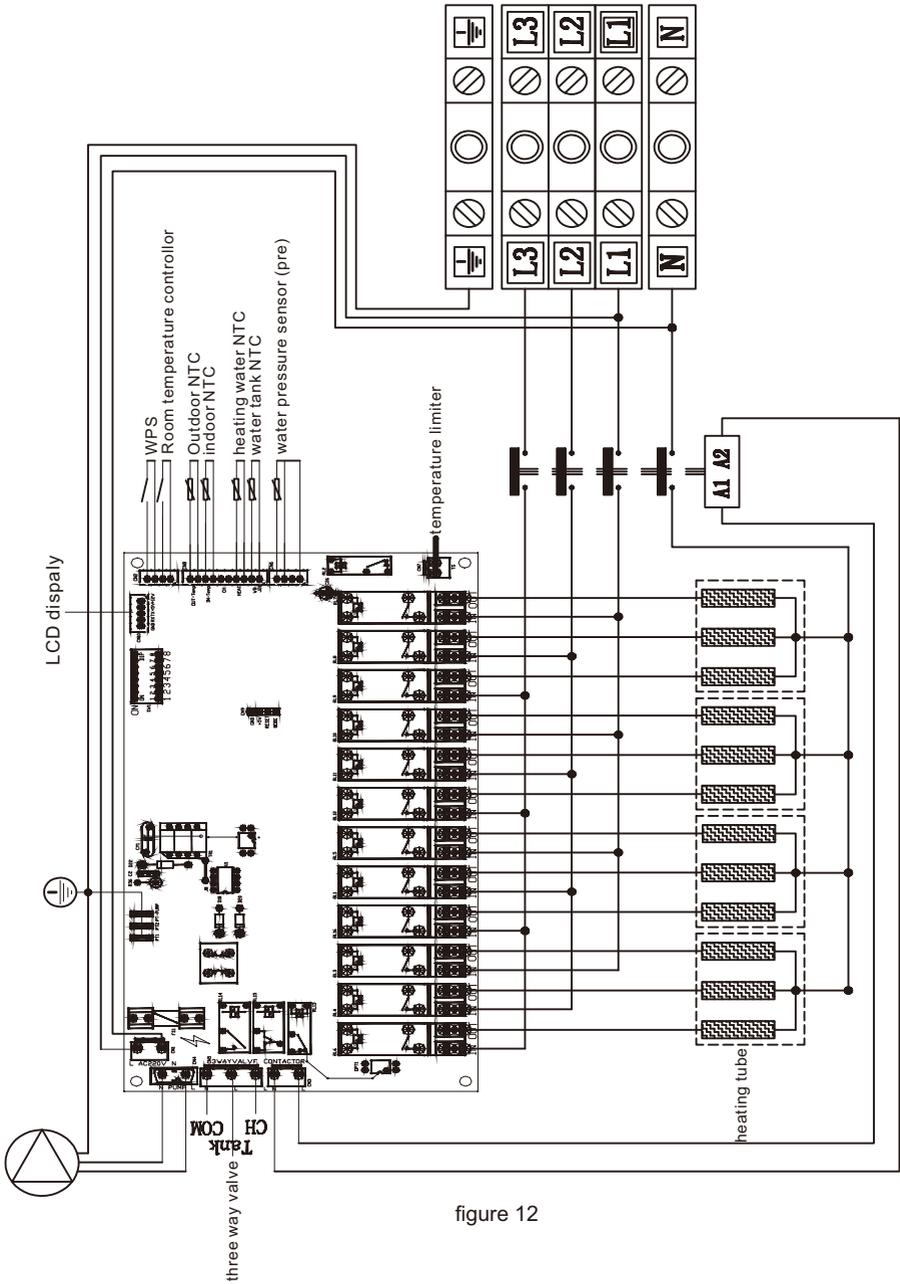


figure 12

### 4.7 Power cord connection mode

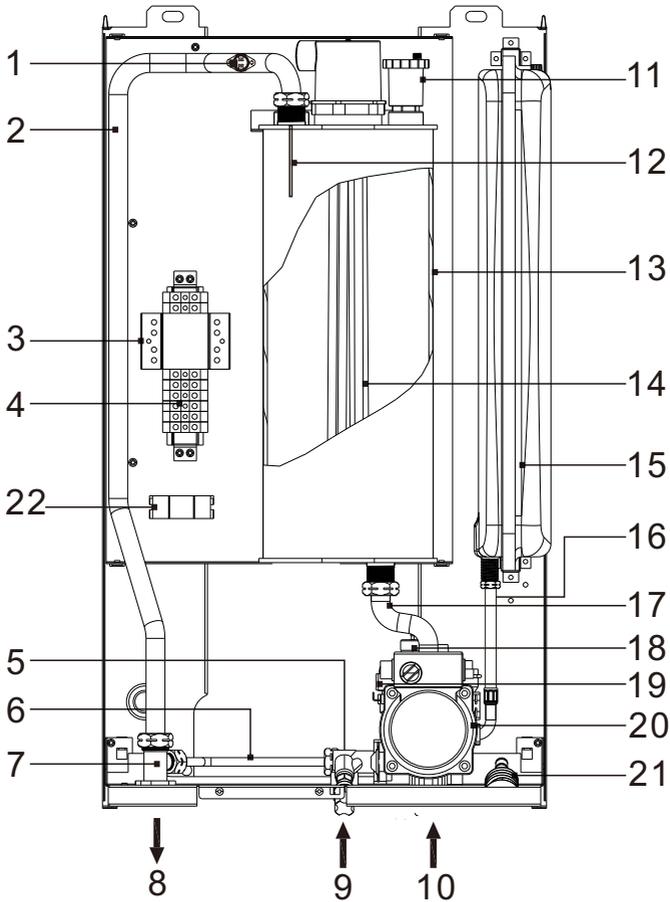


figure 13

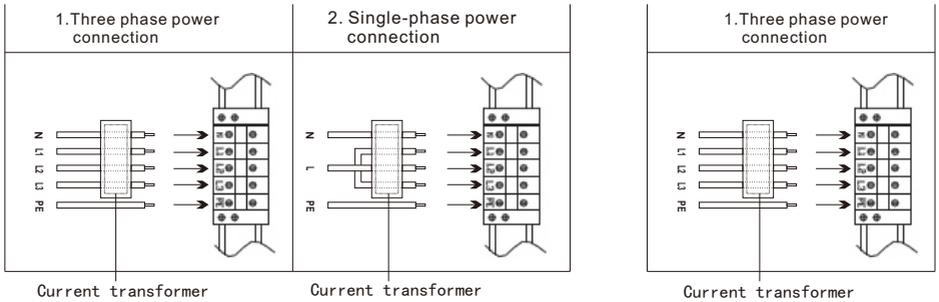


figure 14

6、8、9kW power connection

figure 15

12、15、18、21、24kW power connection



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