thermex®

Combi Boiler Installation And User's Manual

Thermex Sirius
Premix Condensing Combi Boiler

Read carefully before operating the appliance.

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1 INTRODUCTION

Thermex Sirius PM 24 kw - 28 kw - 35 kw condensing boilers are wall hung boilers designed to produce for heating your house as well as preparing domestic hot water by using natural gas. The boilers are suitable for natural gas fuel.

This installation and usage manual contains detailed instructions and recommendations for safe and efficient use of the boiler, further this manual contains technical data, information for installation and connections, use, maintenance, troubleshooting and explanation of the most possible failures of the appliance.

Please do not operate your appliance before reading this manual and to keep in a safe place for future reference.

2 WARNINGS FOR THE USER

a. Installation and connections of the boiler must be carried out in full conformity with the governing legal regulations, the requirements of local gas distributing Company and the instructions provided by the manufacturer.

b. Ensure that the flue gas connection is not terminated in a closed compartment and connected with no other appliance but the special chimney made to be used for the connection of more than one appliance and flue gas outlet cap is not clogged.

c. Ensure that the supply gas complies with the gas type, pressure and capacity of the boiler indicated in the data plate.

d. Ensure that both central heating system and domestic hot water distribution pipes are cleaned properly before the installation and connection to the boiler. The manufacturer is not responsible of any damages arising from the dirt and small particles left inside the piping and such failures and damages are out of warranty claim.

e. The commissioning of the boiler must be performed by qualified personnel/Thermex authorised services only. Ensure that electric, water and gas connections to the boiler are carried out are in conformity with local requirements as well as to the instructions provided in this manual.

f. Cleaning of external surfaces of the appliance should be made by using a damp cloth, do not use any chemical or detergent.

g. In order to use the appliance efficiently for years to come schedule annual maintenance of the boiler with Thermex authorised service.

3 CONDITIONS INELIGIBLE FOR WARRANTY

The THERMEX warranty claim does not apply any failures arising from any use of the appliance out of such mentioned in this manual as well as from the following cases:

a. Happened in appliances not commissioned by authorised THERMEX services,

b. Arising from installations not confirming the instructions given in this manual as well as those from misuse,

c. Arising from selecting wrong type of appliance for the intended purpose,

d. Arising from intervening the appliance by an unauthorized service agency,

e. Physical failures happened after the appliance has been delivered,

f. Arising from natural disasters, fire and lightning strike,

g. Arising from high or low supply voltage out of the limits stated in the data plate or connections to a power supply line with an ineficient earth connection,

h. Arising from the failure of observing the periodic maintenances specified in the instructions to be done in time by the authorized service agencies,

i. Arising from other accessories and ancillary products used with the appliance,

j. Arising from freezing

k. Manipulation of data plate and warranty certificate,

l. Using the appliance in a cold water supply network out of the conditions set in this instruction manual,

The warranty does not apply to above specified failures, and repair of such failures is subject to a fee.

4 SWITCHING ON THE BOILER

Before starting the boiler ensure electric, gas and water connections are properly made and the appliance is supplied with correct power as stated in the data plate.

a. Open power supply connection.

b. Turn gas cock to open position.

c. Push the ON button ( ). ***Figure 1***

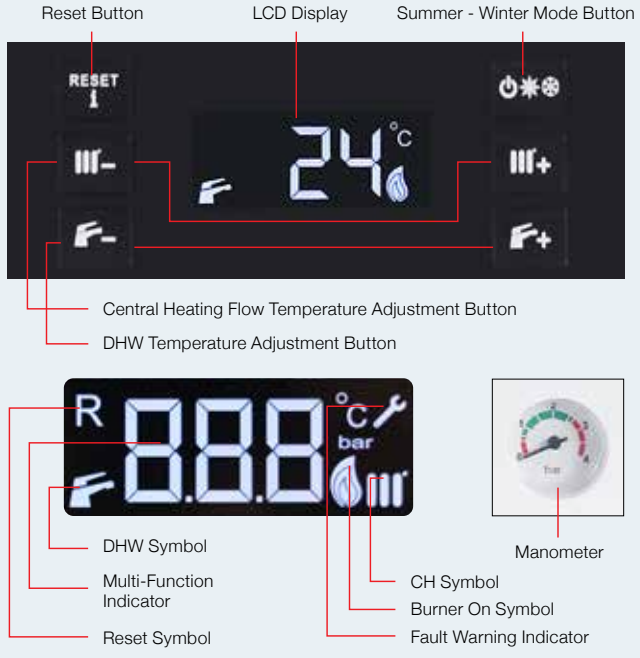
d. Select Summer/Winter ( ). ***Figure 1***

WARNING: In summer mode the boiler does not start unless a hot water tap is opened.

e. Start the boiler by adjusting to your desired temperature through temperature adjustment buttons. (When the temperature adjustment button is used the temperature adjustment is flashes on the display and temperature adjustment changes with 1°C steps . When you have adjusted the desired temperature the LED display returns to the previous status after 5 seconds.)

WARNING: When the boiler is first started the boiler may show ignition failures and go into block several times till the air in the gas supply line is evacuated. In that case push bu on for 2 seconds to restart the boiler.

Figure 1



WARNING: When the boiler is first switched on it starts with the AP mode and the boiler runs the fan with high speed for 120 s. to purge the combustion chamber. If this mode is not required push the reset button to switch normal start.

5 DAILY OPERATION OF THE BOILER

Summer / Winter / Only Heating mode selection;

When it not required to use central heating, the appliance may be switched to Summer mode only to produce domestic hot water. To set this mode simply push ( ) button.

WARNING: As the mode button also functions as "on-off" button if pushed longer the boiler is switched off. When the boiler is off pump blocking, anti-freezing protection and three-way valve protection are active.

a. When the appliance is in summer operating mode the display shows ( ) sign. To set this mode push the button with ( ) for desired selection.

To adjust the desired domestic hot water temperature (+/-) buttons with ( ) figure.

With summer mode pump anti blocking safety and anti-frost protection functions are active.

b. When the appliance is in winter mode the display shows ( ) and ( ) signs.

To adjust the desired central heating temperature use (+/-) buttons with ( ) figure.

To adjust the desired domestic hot water temperature use (+/-) buttons with ( ) figure.

With winter mode pump anti blocking safety and anti-frost protection functions are active.

c. When the appliance is "only heating" mode the display shows ( ) sign. To set this mode push the button with ( ) for desired selection.

To adjust the desired central heating temperature use (+/-) buttons with ( ) figure.

With "only heating" mode pump anti blocking and anti-frost protection functions are active.

WARNING: When the boiler switches on ofter a head demand (when the burner is on) ( ) sign is show in the display.

6 FILLING THE BOILER

Filling water is supplied through the filling valve located in the bottom of the boiler, ***Figure 3***. When the boiler is cold the installation should be filled such that the manometer located in the front of the boiler, ***(Figure 2)*** indicates a water pressure between 1-1,5 bar. When the pressure drops to the critical level the appliance shuts-off automatically. (0-0,3)

Figure 2

Figure 3

7 SWITCHING OFF THE BOILER

To switch off the boiler press the ON/OFF button ( ). When the boiler is switched off through this button the pump antiblockage function and an -frost protection are active and there is electric current in the boiler. In order to switch off the boiler completely, switch the external power supply fuse-circuit breaker to OFF position.

WARNING: In order anti-frostprotection to be active electric and gas supply to the boiler should not be closed. Observe the requirements indicated in Paragraph 4. When the temperature inside the boiler drops below 5°C the burner the anti-frost protection switches, turns on the burner and heats the water up to 10°C.

8 MAINTENANCE OF THE BOILER

In order to use your appliance trouble-free and efficiently for long years we recommend scheduling annual maintenance, preferably at early winter season, by Thermex authorised service.

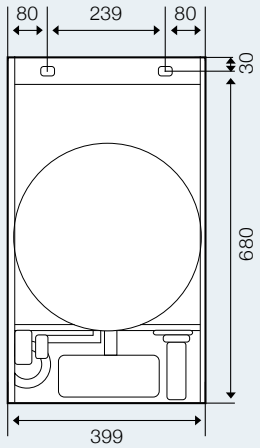
Do not clean external surfaces of your appliance with detergent or chemical materials.

Check your installation before making connections to the boiler and ensure that the installation pipes are free from dirt or any particles.

9 INSTALLATION INSTRUCTIONS

Boiler package contains:

Figure 4



Boiler, support Styrofoam, installation hanging equipment, user's manual, warranty certificate and service booklet.

The locations where the boiler can be installed should be selected by observing the relevant regulations and requirements set forth by standard codes of practice in force as well as local gas company standards. Installation hanging equipment should be fixed on the wall in such way to carry the weight of the boiler. The hanging bracket should be fixed level, ***Figure 4.***

Condensate drain should be laid with continuous 2° downward slope and to be connected to the waste water drain. The drain hose should be insulated against freezing.

A suitable filter and a ball valve must be installed to the water inlet to the boiler, ***Figure 5.***

Check that the maximum water mains pressure does not exceed 6 bars; if it does, a pressure reducing valve must be installed.

Make sure that the gas category for which the boiler was designed corresponds to the category available in the location where it will be used and the supplied gas pressure, as well as the gas installation is in conformity with data plate.

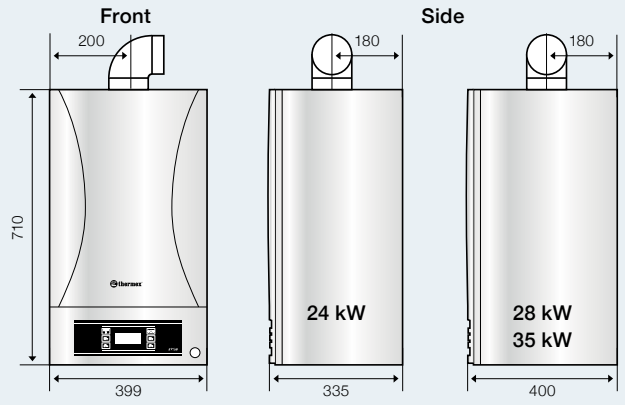
Figure 5

A Central Heating Flow (3/4")
B Sanitary Water (DHW) Flow (1/2")
C Gas Inlet
D Sanitary Water (DHW) Inlet (1/2")
E Central Heating Return (3/4")
F Filling Tap
G Condensation Siphon

10 DIMENSIONS OF THE BOILER

Dimensions of the boiler are given in ***Figure 6.***

Figure 6



11 CONNECTING THE FLUE

When connecting the flue, the flue gas accessories supplied by the manufactured must be used.

When selecting the location of the boiler the position of flue gas connection and flue terminal should be considered. For flue connection the requirements set forth by the local authorities and gas distributing company must be observed.

Flue connection must not be made to:

a. Building stairwells,

b. Building aisles,

c. Light-wells,

d. On the chimney walls

e. Balconies

f. Elevator shafts.

The followings must be observed when making flue connection:

a. Flue terminal vertical distance to eaves and roof coverings should be minimum 1,5 m from the top and should also extend further from such eaves and roof coverings.

b. Minimum vertical distance above the ground should be 0,3 m and in places where there is an impact risk the flue terminal must be covered with a wire net.

c. When the flue terminal is extended off the wall it must extend minimum 50 mm outside the wall.

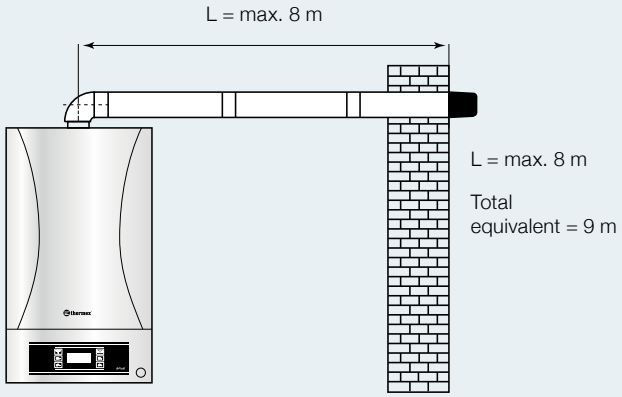
d. Horizontally connected flue connections must be installed with 3% upward slope.

e. Where the appliance is installed to penthouses flue terminal should be minimum 40 cm above the roof. In such cases the roof must be insulated with non-combustible material.

f. Maximum length of the flue connection is 9 m. Maximum length is shortened by 1 meter for each additional 90° elbow and 0,5 meter for each additional 45° elbow.

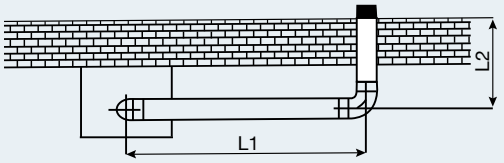
g. Roof tightness must be fully ensured with vertical flue applications. In case where tightness cannot be ensured any failure or damage which may arise is out of warranty claim.

Figure 7



In the use of additional elbows,
90° → 1 m
45° → 0,5 m → total equivalent length decreases.

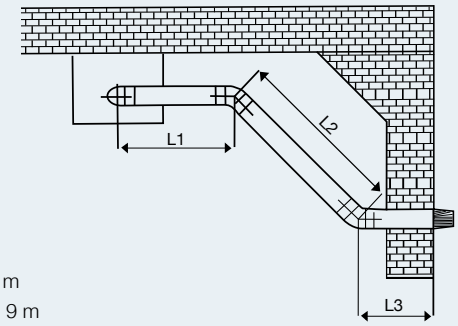
Figure 8



L1 + L2 = 7 m
Total equivalent = 9 m

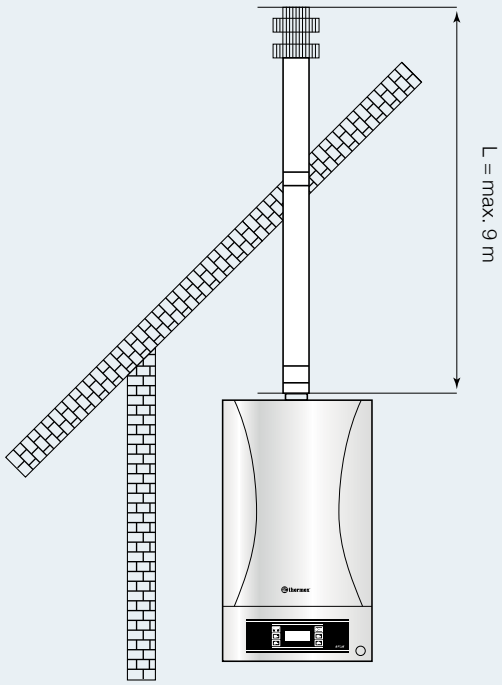
90° elbow = equal to 1 m flue length
45° elbow = equal to 0,5 m flue length

Figure 9



L1 + L2 + L3 = 7 m
Total equivalent = 9 m

Figure 10



12 ELECTRIC CONNECTION

The appliance must be connected to a power supply line with an efficient earth connection.

The appliance must be connected to 220~230V single phase power supply line with efficient earth connection through (3-10 A) V- Automatic circuit breaker.

13 ERROR CODES

The appliance displays certain failures or warnings on the display to inform the user, ***Figure 11.*** In such case if the error does not disappear after performing the indicated action the closest authorised service must be called to fix the error of the appliance.

Figure 11

ERROR CODE	DESCRIPTION OF ERROR
E01	Faulty ignition
E02	Faulty flame
E03	Over temperature error
E05	Fan feedback error
E09	Gas valve feedback error
E12	EEPROM (Software) error
E15	Sensor temperature change error
E16	Return temperature sensor blocked error
E17	Flow temperature sensor blocked error
E18	NTC sensor test error
E21	Electronic card failure
E33	Return temperature sensor failure
E35	Flow temperature sensor failure

ERROR CODE	DESCRIPTION OF ERROR
F13	Reset blocked (Cut and open electric supply to the boiler)
F34	Low supply voltage
F37	Low water pressure
F39	Outside sensor failure
F40	High water pressure
F41	Automatic filling running
F42	Automatic filling completed
F43	Low pressure after automatic filling
F47	Water pressure switch is not connected
F50	Hot water generator sensor failure
F51	PT1000 sensor failure
F52	Domestic hot water sensor failure
F53	Main heat exchanger thermic fuse failure
F81	Sensor test failure

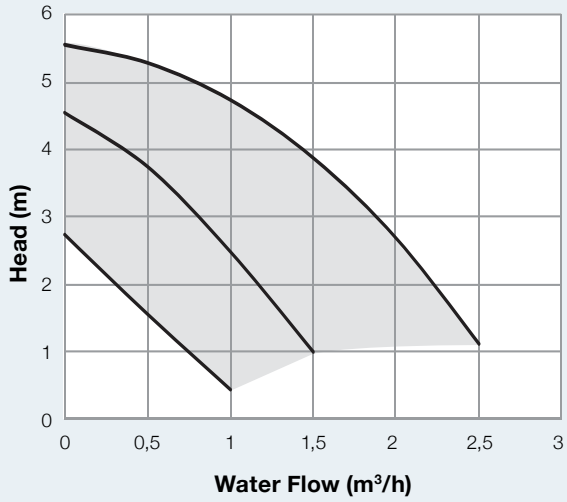
14 TECHNICAL DATA

Figure 12

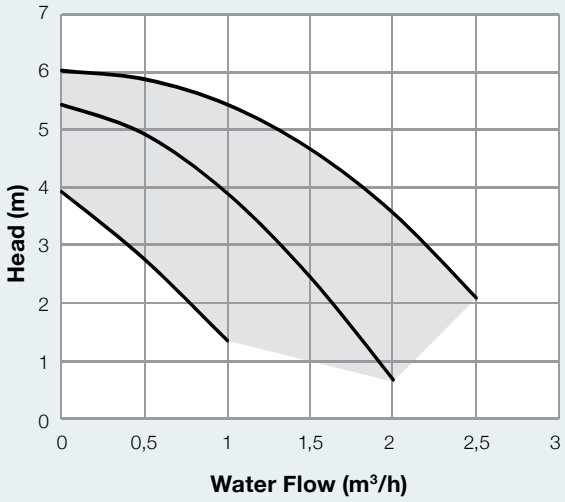
Condensing Boiler Models	Unit	Thermex Sirius PM 24	Thermex Sirius PM 28	Thermex Sirius PM 35
Gas Type		G20	G20	G20
Gas Inlet Pressure (for G20)	mbar	20	20	20
Type		C13, C33	C13, C33	C13, C33
Category		I2H (G20=20 mbar)	I2H (G20=20 mbar)	I2H (G20=20 mbar)
Central Heating System				
Maximum Efficiency (Partial Load)	%	107,9	108,1	108,1
Efficiency Class (92/42/EEC)		★★★★	★★★★	★★★★
Central Heating Nominal Power (50-30°C)	kW	24	28	35
Central Heating Minimum Power (50-30°C)	kW	5,31	6,28	7,44
Central Heating Nominal Power (80-60°C)	kW	21,8	25,4	31,4
Central Heating Minimum Power (80-60°C)	kW	4,91	5,66	6,79
Maximum Nominal Input (Qi)	kW	22,5	26,1	32,6
Minimum Nominal Input (Qi)	kW	5,2	6,1	7,2
Central Heating Temperature Adjustment	°C	20-80	20-80	20-80
Central Heating Circuit Max. Pressure	bar	3	3	3
Central Heating Circuit Min. Pressure	bar	0,8	0,8	0,8
NOx Class		6	6	6
Gas Consumption - at Maximum Power	m^3/h	2,38	2,76	3,45
Gas Consumption - at Minimum Power	m^3/h	0,55	0,64	0,76
Expansion Vessel Capacity	Liter	8	8	8
Expansion Vessel Pre-charged Pressure	bar	1	1	1
Domestic Hot Water (DHW) System				
DHW Heating Power, Max	kW	21,8	27,6	33,5
DHW Heating Power, Min	kW	4,91	5,66	6,79
DHW Volume (ΔT = 30°C, Max)	l/min.	10,4	13,2	16
DHW Volume (ΔT = 25°C, Max)	l/min.	12,5	15,8	19,2
DHW Temperature Adjustment	°C	30-60	30-60	30-60
Maximum Operating Pressure	bar	9	9	9
Minimum Operating Pressure	bar	0,3	0,3	0,3
Annual Electric Power Consumption for DHW Production	GJ	16,2	16,5	16,6
Electrical Specifications				
Power Supply Voltage	VAC	230	230	230
Power Supply Frequency	Hz	50	50	50
Power Consumption	W	160	160	190
Electric System Protection Grade	-	IP X4D	IP X4D	IP X4D
Connections to Installation				
Gas Connection	inch	3/4	3/4	3/4
Central Heating Circuit Flow / Return	inch	3/4	3/4	3/4
HDW Inlet / Outlet	inch	1/2	1/2	1/2
General Specifications				
Sound Power	dB(A)	51	52	52
Flue Diameter - Ø	mm	60/100	60/100	60/100
Dimensions (Height x Width x Depth), Without Package	mm	710 x 399 x 335	710 x 399 x 400	710 x 399 x 400
Dimensions (Height x Width x Depth), With Package	mm	760 x 430 x 392	760 x 430 x 460	760 x 430 x 460
Weight (Without Package)	kg	33,8	36,6	37,4
Weight (With Package)	kg	35,8	39,2	40

Pump Operating Field

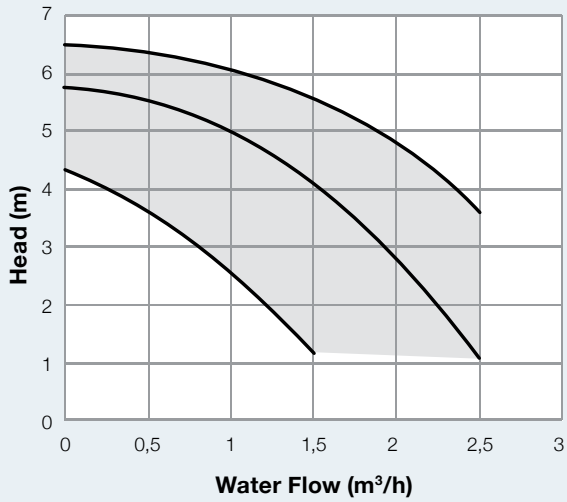
Thermex Sirius PM (24 kW)



Thermex Sirius PM (28 kW)



Thermex Sirius PM (35 kW)



This document is issued to provide information about the appliance.

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