GB DECLARATION OF COMFORMITY

We hereby declare that this product meets all relevant criteria of the standard EN 13240: 2001/A2:2004, and has CE marking affixed to it in accordance with the Council Directive EU 305/2011.

Požega, 22. 02. 2018

Plamen d.o.o.
HR-34000 Požega, Njemačka 36

CE **12**

Uređaj je predviđen za povremeno loženje. *Intermittent burning appliances*

EN 13 240:2001 / A2:2004

Kamin na kruta goriva *Room heaters fired by solid fuel*

Typ/Typ: **Tena Termo**

Minimalna udaljenost od zapaljivih materijala:
Minimum distance to adjacent combustible materials: [mm]
Ispred/*front:* **1000** Bočno/*side:* **400** Straga/*back:* **400** Iznad/*top:* **1000**

Koncentracija CO svedenih na 13%O_2:
Emission of CO in combustion products calc. to 13%O_2: **0,10 [%]**

Maksimalni radni tlak:	Maximum operating pressure:	**2 [bar]**
Temperatura dimnih plinova:	*Flue gas temperature:*	**237 [°C]**
Nazivna snaga:	*Nominal output:*	
zagrijavanje prostora	*space heating output*	**8 [kW]**
zagrijavanje vode	*water heating output*	**7 [kW]**
Stupanj iskorištenja (gorivo):	*Energy efficiency (fuel)*:	**83,0 [%]**
Drvo	*Wood*	
Tvornički broj:	*Serial No*:	

Proučite uputstvo za uporabu. Koristite preporučena goriva.
Read and follow the operating instructions. *Use only recommended fuels.*

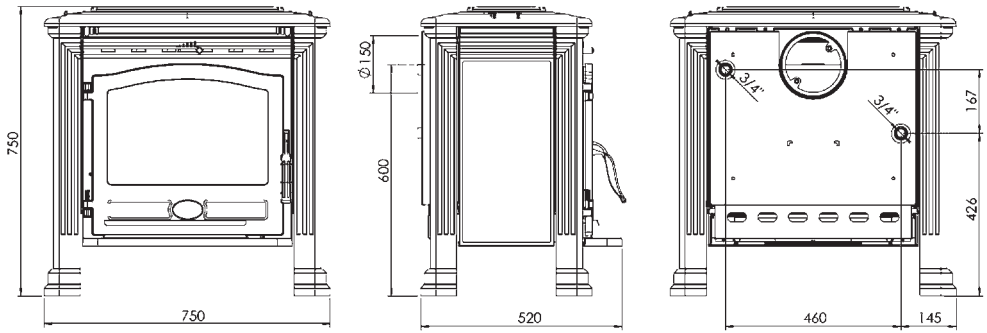
Gore spomenute vrijednosti vrijede samo u ispitnim uvjetima.
The above mentioned values are valid only in proof conditions.

Zemlja podrijetla: R. Hrvatska *Made in Croatia*
Godina proizvodnje/*year of production:*
Broj Izjave o svojstvima/*Number of the DoP:* 0039-CPR-2018/03/30
Broj laboratorija za testiranje/Number of the notified test laboratory: NB 1015
Uređaj ne može biti korišten sa zajedničkim dimnjakom.
Do not use the appliance in a shared flue.

CENTRAL HEATING FIREPLACE Tena Termo with 15 kW rated power is a product from Plamen's product line which can meet all your needs in the best way. It is constructed in a way to meet the basic heating needs of a smaller family house or apartment. We advise you to CAREFULLY READ THESE INSTRUCTIONS which will help you maximize the results from the very first use of the fireplace.
The fireplace is produced in high quality gray cast iron. Parts are sealed by water resistant adhesive. The door and glass are sealed by adhesive material containing glass fibers. An ashtray is placed under the firebox. The upper part of the firebox houses the heat exchanger ('boiler') produced from high quality boiler plate of 4mm.
The firebox rear plate, under the boiler, features holes for inlet of secondary air, while there is a slit above the door acting as the tertiary air inlet which enhances the purity of combustion and keep the glass clean.

TECHNICAL DATA:

MEASUREMENTS WxHxD:	75x75x52 cm
WEIGHT:	179 kg
RATED OUTPUT:	
-direct heating	7,5 kW
-water heat	7,5 kW
FLUE OUTLET:	Ø 150 mm
FUEL:	Wood
Maximum operating pressure:	2 bar
Quantity of water in the boiler	9,5 l
Water connections	¾"



INSTALLATION INSTRUCTIONS

The stove is designed with rear flue connection. The stove is delivered with two flue connections allowing both direct horizontal connection and vertical connection. Selected flue connection shall be screwed tightly tigtly to the outlet on the rear side of the stove with two M6 screws and nuts.
In case of direct (horizontal) connection, only part no. 119 will be installed, while in case of vertical connection parts 117, 118, 119 – Figure 6, page 74 – should be installed subsequently. The stove is delivered complete with a bag containing all necessary screws and nuts.
Install the front plinth (104) as shown on the figure on the cover page.
A spring may be installed on the lower hinge of the stove door to make sure that the door will not remain open, except when firing or refuelling.

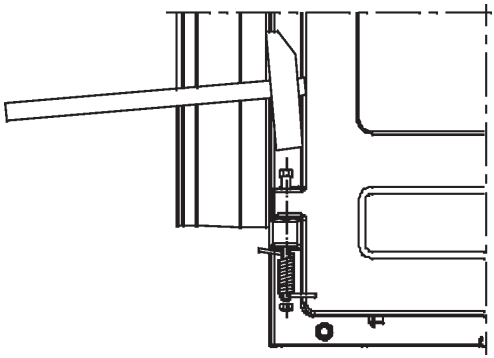


Figure 1

To install the spring, proceed as follows:
-Close the door, remove the front plinth, remove the pin from the lower hinge, insert the screw to protrude some 15 mm from the hinge. Fix the spring onto the screw and pull it at one end to engage the door edge. While holding the spring in the position, press the screw down and fix it with the nut (see Figure 1).

Enable access on the back of the fuel fireplace because of maintenance (on the connection of the conduits of the central heating with the cattle).

The installation of the thermal product must be in compliance with all current norms and provisions as well as with applicable laws. Fitting, connecting, putting into operation and testing for proper operation must be carried out in accordance with the professional rules by authorised professionals while fully observing the current norms at the national, regional and municipal levels of the country where the device is being fitted. Fitting may be performed only by authorised professionals who are required to issue a completed and verified certificate/work order to the customer. The customer is required to keep such certificate/work order and present it to the manufacturer at its request as the proof that the installation of the thermal product was carried out by an authorised professional.

The company Plamen d.o.o. will not be held responsible in case of breaching the above and will not be liable for any difficulty in the operation of the product and cost arising from this if the thermal product was not installed by an authorised professional.

Connecting the boiler into the central heating system

The boiler has to be connected into the central heating system with open expansive container so that, in case of over-heated water, there would be no elevation of pressure in the system (illustration 1). We suggest installation of a 4-tine mixer (so-called 'mouse valve') which allows regulation of temperature of the boiler water and secures it to be hot enough (60 – 70°C) in order to avoid boiler perspiration and prevent low-temperature corrosion. A thermostat can be installed instead of 'mouse valve' with its sensor on the flow pipe. The thermostat engages the pump only when the water reaches sufficient temperature in the boiler and the flow pipe. Illustrations 1 and 2 show connection of boiler into the central heating system.

The H height secures sufficient pressure in the system in order to achieve good circulation through the heating bodies. A water boiler can be installed into the system (it is advisable to do so). A boiler can secure natural (gravitational) circulation independent of the pump. The water boiler is to be installed above the fireplace level with as low water circulation resistance as possible (short pipes with elevation towards the boiler).
Prior to putting into operation (prior to first firing), check if the heating system is filled with water and well aired. Open all shutters. Engage the circulation pump.

Ambient conditions

If the sfove is to be installed in a room with combustible or heat sensitive flooring, a solid non-combustible floor protector is required under the stove. The floor protector should be dimensioned to extend at least 40 cm to the back and lateral sides and 60 cm to the front of the stove.
The minimum clearance between the stove (sides and rear) and materials sensitive to heat is 40 cm.
The minimum clearance between the stove and materials sensitive to heat within the area directly exposed to heat in front of the stove shall be 120 cm.
The stove should be positioned on a level surface, in a room with sufficient fresh air supply to support the combustion.
If an aspirator (range or fireplace hood) or any other air consuming device is installed in the same room, make sure to provide for regular inflow of fresh air through a separate opening protected with a clog-proof grid.

Chimney connection

Common (standard) stovepipes and elbows of inner diameter Ø150 mm, with incorporated damper, are recommended for the connection to the chimney.
Make sure that the stovepipe and elbow are tightly fastened together and that the connections of the stovepipe with the flue outlet and with the chimney outlet are firm and tight. The stovepipe shall not extend beyond the chimney liner, i.e. it must not protrude into the cross section of the chimney.
The stove shall be installed in full compliance with European, national, as well as local applicable regulations.

INSTRUCTIONS FOR USE

First firing

Considering that the stove is made of cast iron, tendency of this material to develop cracks due to sudden and uneven heat loads shall be taken into account. Therefore, with first firing of the stove (at least 10 hours), burn moderate fire (charging should not be more than half the recommended amount of fuel for the rated power). Start the fire with a small amount of crumpled newspaper and dry kindling
IMPORTANT:
Prior to proceeding with the first firing, spread a sufficient quantity of ash or sand over the bottom plate to cover the undulated ribs and the central part of the lower plate including the sliding grate.
When cleaning, i.e. removing the ash, make sure that sufficient ash is left to cover the undulated ribs and the central part of the lower plate including the sliding grate and thus to ensure long-lasting ember bed and to protect the lower plate.
The stove is not designed with a conventional but with a sliding grate. It serves only for the removal of the ash into the ash tray and not for the supply of fresh air to support combustion. If good quality wood is used, frequent ash cleaning is not required. Make sure that the ash does not clog the openings on lateral panels for primary air inlet.
The stoves designed without a grate ensure long-lasting ember bed and the fire needs not be extinguished except before ash removal.
Read the instructions concerning the air supply controls included under the titles “Firing and regular operation” and “Output adjustment”.

The stove is painted with a heat resistant paint. With the first firing, this paint gradually sets and some fumes of a characteristic odour may be given off in the process. Therefore ventilate the room during this phase.

Warning! The paint might be damaged if the first firing is not at moderate heat.

When firing the stove for the first time, do not place any objects on the stove and do not touch the painted parts to avoid possible damage to the unset coat of the pain.

WARNING! Do not use alcohol and petrol for ignition or re-ignition.

Suitable fuel

The stove has been designed to burn only wood and wood briquettes, i.e. the fuel with low ash content, such as beech, hornbeam, birch and similar wood.

Use only well-seasoned dry wood with a humidity level not exceeding 20%, to reduce the likelihood of greasy soot (creosote) buildup, which may cause clogging of the chimney.

Do not burn household waste, especially not any plastic material. Many waste materials contain substances that are harmful to the stove, the chimney and the environment. Burning of such waste materials is prohibited by law.

Also, never burn chipboard waste, because chipboard contains glues which may cause overheating of the stove.

Recommended single fuel loads:

Logs (~25cm long)	4 to 5 pieces	approx. 4 – 5 kg

Excessive loads may cause the staining of the door glass.

Firing and regular operation

To start the fire, put a small amount of crumpled newspaper in the firebox. Over the paper, place dry kindling wood and then 2-3 small logs.

Set the air supply controls on the top plate to closed position and the control on the front panel to fully open position.

When firing the stove, it is recommendable to leave the firebox door ajar for 4-5 min to avoid steaming/staining of the glass. Never leave the stove unattended until bright active fire has developed.

Do not forget to open the air supply controls on the top plate and close the door when the fire has blazed up. Avoid excessive loads at a time. When reloading, make sure that there is a sufficient distance between fuel and the glass. The fuel should be placed in two layers over the established ember bed.

During normal operation, the door should be closed, except when refuelling.

If you have a damper installed in the flue, keep it fully open until the fire has blazed up.

The stove is designed to keep the door glass always clean. The glass will stain only in case of poor combustion. Possible causes of poor combustion include:

- inadequate chimney design or condition
- reduced air supply (i.e. air supply controls on the front panel and on the top plate closed)
- inadequate fuel quality
- excessive fuel loading
- The glass will also stain if the air supply controls are set to fully closed position over night in order to maintain the fire until next morning. Therefore, make sure that air supply controls are never fully closed, but only to a certain extent as required to keep the glass clean and to have a warm stove and enough ember to support the fire next morning. Besides, it is recommendable to put 1 or 2 larger logs to burn slowly over night.
- Keep in mind that certain parts of the stove are hot and the stove shall be operated only by adults.

  Never keep flammable liquids or objects in the vicinity of the stove!

Output control

Certain experience is required for output control because it depends on a number of factors, such as negative pressure inside the chimney (draught) and fuel quality. Therefore, read carefully these instructions to learn how to operate your stove to achieve the best performance.

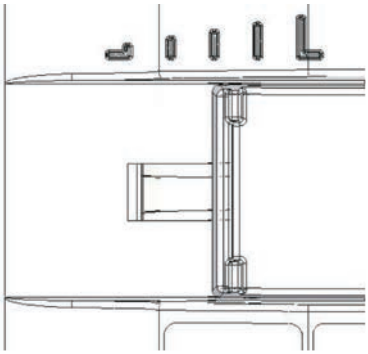
The output is controlled by means of the primary air supply control device on the fireplace door. The secondary and tertiary air are let in at the rear side and above the glass and are sufficient for burning and keeping the glass clean.

The stove output depends on the negative pressure inside the chimney (draught). In case of excessive negative pressure, it is recommended to reduce it by means of the fluepipe damper and then to proceed with output adjustment by means of air supply controls.

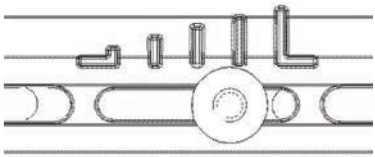
By adding 5 to 6 kg of fuel every 40-50 minutes and by keeping the regulator on maximum, the fireplace power will reach 20 kW (10kW water and 10kW space).

Setting up the air supply controls for the rated output:

Primary air control position
(on the top plate)

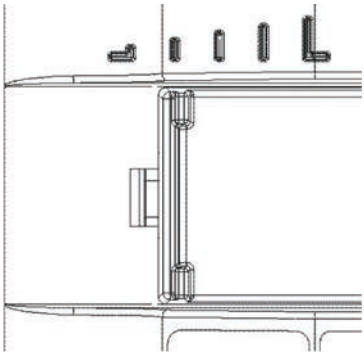


Tertiary air control position
(knob on the front panel)



Setting up of the air supply control for minimum output:

Primary air control position
(on the top plate)



Tertiary air control position
(knob on the front panel)

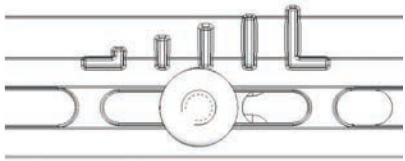


Figure 2

Stove operation in transitional periods

During the transitional periods (when external temperature exceeds 15° C), problems may be encountered due to insufficient negative pressure (poor or no draught). In such a case try to achieve necessary negative pressure level by warming up the chimney.

If this does not work, do not proceed with the firing. Opening of a window or a door of the room during the firing might help to equalize the internal and external air pressure.

Care and cleaning

At the end of each heating season, clean the stove, fluepipes and chimney from soot deposits. Regular inspection and cleaning is essential for preventing the risk of chimney fire. In case of chimney fire, proceed as follows:

- never use water to extinguish the fire
- close all air supply passages to the stove and chimney
- having extinguished the fire, call the chimney sweeper to inspect the chimney
- call the manufacturer's authorised service to inspect the stove.

External surfaces of the stove are painted with heat resistant paint. After the paint has set completely (i.e. after the second or third firing), all such surfaces may be cleaned with a soft wet cloth.

After a prolonged use, the paint may fade away at places. These surfaces may be repainted with a heat resistant paint. Such paint is available in specialized stores.

The glass on the firebox door may be cleaned with ordinary window glass cleaner.

Should any problems occur during the operation (eg. smoke), contact your chimney sweeper or the closest Service. Any repair/maintenance works on the stove shall be performed by authorised service personnel and only original spare parts shall be used.

It's used for cleaning enamel and painted parts using soap and water, non-abrasive or chemically non-aggressive detergents.

Warranty

The Manufacturer's warranty applies provided that the stove is used in accordance with these Installation and Operating Instructions.

Space heating capacities

The size of the heated place depends on the heating conditions and thermal insulation.

Subject to the heating conditions with individual heat sources of rated output 15 kW, it is possible to heat up the following space volumes:

under favourable conditions	360 m^3
under less favourable conditions	240 m^3
under unfavourable conditions	170 m^3

Occasional heating or heating at intervals should be considered as less favourable or even unfavourable heating conditions.

Chimney selection

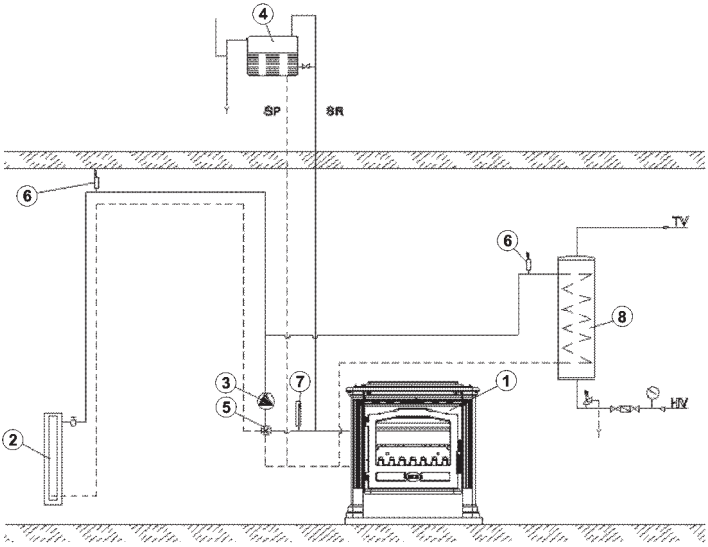
Chimney dimensioning to DIN 4705 should be based on the following data:

Rated heating output [kW]	15	kW
Flue gas flow rate (m)	12,8	g/s
Mean flue gas temperature downstream the flue connection	237	°C
Minimum required negative pressure in the chimney [p] at rated output	0,12	mbar
Minimum required negative pressure in the chimney [p] at 0.8-times rated output	0,10	mbar

Remember:

- When reloading, make sure to load a quantity of fuel that is most suitable in respect of the actual heating requirements.
- When reloading, make sure that the air controls on the top plate are closed.
- After reloading, open the air supply controls as required until bright fire is developed. Only then, set the air control to the position corresponding to the desired heating output.
- Strictly observe these installation and operating instructions, paying special attention to setting the air controls to proper position to ensure clean (full) fuel combustion and clean glass.
- Install the stove in a room of adequate size to ensure that the rated output of the stove meets the heating requirements of the room.
- Avoid stove operation at minimum output. Over the night, leave the air supply controls open to an extent as required to maintain the ember bed until the next morning to set the new fire easily with dry kindling.
- When cleaning, i.e. removing the ash, make sure that sufficient ash is left to cover the undulated ribs and the central part of the lower plate including the sliding grate and thus to ensure long-lasting ember and to protect the lower plate.

FIREPLACE INSTALLATION (schematic diagram):



1. FIREPLACE
2. RADIATOR
3. CIRCULATING PUMP
4. OPEN EXPANSION TANK
5. MIXER TAP
6. VENT VALVE
7. THERMOMETRE
8. WATER HEATER

Fig. 3

CENTRAL HEATING SYSTEM (schematic diagram):

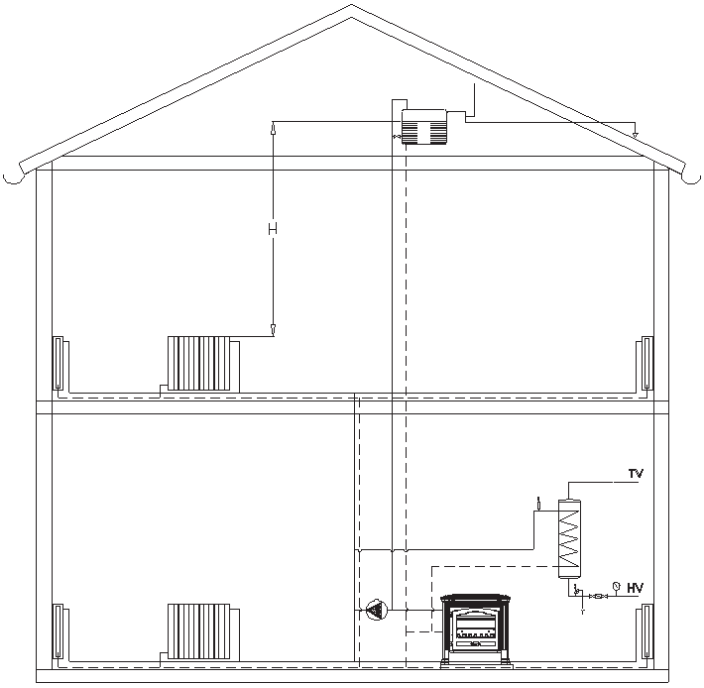


Fig. 4

Spare parts-Accessories (Page 73, Figure 5):

ITEM NO.	DESCRIPTION	PART NO.
101	LOWER PLATE	TE-01
102	GLASS SHIELD	TE-02
103	TOP PLATE	TE-03
104	FRONT PANEL	TE-04
105	AIR FLOW GUIDE	TE-05
107	FRONT PLINTH	TE-07
108	LEG	TE-08
109	EXTERNAL SIDE PANEL	TE-09
110	TOP PLATE COVER	TE-10
111	DOOR	TE-11
114	INTERNAL SIDE PANEL	TE-14
115	SLIDING GRATE	TE-15
116	AIR SUPPLY CONTROL	TE-16
117	FLUE CONNECTION – LOWER	TE-17
118	FLUE CONNECTION – UPPER	TE-18
119	FLUE CONNECTION COLLAR	TE-19
122	REAR PROTECTIVE METAL SHEET	TE-22
129	REAR GUARD	BR-129
200	GLASS BRACKET	
201	ASH TRAY	
202	ASH COMPARTMENT SHEET	
204	TOP PLATE SHIELD	
206	SECONDARY AIR SUPPLY CONTROL	
212	TIGHTENING THREADED ROD	
220	MASKE	
221	REAR PLATE	
321	GLASS	
352	GRIP-BUTTON	
02-000	FIREBOX HANDLE	
07-000	DOOR SPRING – set	
20-000	BOILER TENA TERMO	
	ACCESSORIES:	
801	GRIP	
806	PROTECTIVE GLOVE LOGO PLAMEN - red	

WE RESERVE THE RIGHT TO MAKE MODIFICATIONS NOT AFFECTING THE FUNCTIONALITY AND SYFETY OF THE STOVE!