



TIS PELLET SERIES

Attention!!!

- Avoid overpressure in the boiler higher than indicated in the technical documentation (the boiler instruction manual).
- Never leave the boiler with water at an ambient temperature below 41°F .
- Do not operate the boiler without heat carrier or if the water froze in the boiler.
- Never install isolation valves on the hot water supply line from the boiler to the fitting position of the safety valve.
- Forbidden to use the boiler without the safety valve.
- The operating pressure must not exceed 15 psi.
- The maximum test pressure is 50 psi.
- The instruction manual is for all the boilers TIS PELLET/DUO PELLET models, no matter what their outfit and heat productivity are.
- Buying the boiler check the outfit and frontage of the boiler with the seller. After selling producer do not accept any complaints about the wrong outfit and mechanical damage.

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1.0 Introduction

Our company thanked for choosing our heating appliance.

Multifunctional boilers TIS PELLET and TIS DUO PELLET are designed for burning pellets and other types of solid fuels (wood, coal, peat) on an additional grille (only in DUO PELLET models). Due to the innovating mechanism and usage of the latest achievements in steel processing within the manufacturing process, we created a cheap energy source system suitable for houses, enterprises and outbuildings up to 10700 ft².

Producing the boilers TIS PELLET and TIS DUO PELLET models, we wanted to satisfy the needs of any consumer, so we based on many years observations and comments.

This leads to the creation of the easy-to-use and highly effective appliance.

ECE is no more than 92%. Before the installation and operation read the instruction manual carefully.

The guarantee of the correct and prolonged work of the appliance is obligatory following all the directions and recommendations of the producer.

2.0 BOILERS USAGE.

2.1 TIS PELLET / TIS DUO PELLET are steel low-temperature water heating boilers designed for the heating of objects with the heat demand 27-337 KBTU. They can also function together with the water heater when following the instruction manual. The main function of the boilers is heat supply of individual houses and domestic buildings with the forced circulation heating systems of open and closed types.

2.2 The boiler is located in the closed heating premises with natural or forced ventilation and air temperature from +41 to +122°F.

3.0 BOILERS WORK DESCRIPTION.

Pellets are submitted automatically with the help of feed auger and combusted into the burner device of the boiler. There is an additional grille for the burning alternative fuel (wood, briquettes, coal) in the TIS DUO PELLET model, in such case the loading is done manually. All the processes of the boiler work and additional devices are controlled by electronic control unit. Fuel combustion on the additional grille (DUO version) is not the main work of the boiler!

The fuel gets into the burner from the loading device, where the burning process occurs with the help of the forced air ventilator. The inflow and outflow boiler heat carrier circulate through pipes with the external thread G 1 ½ or 2. Boiler chimney with the outer diameter 6.25" or 8.66" is located at the back and it is the continuation of the boiler inner tube (heat exchanger). For feeling or pouring off of the heat carrier from the boiler there is a drain pipe the screw-thread ¾", the pipe is at the bottom of the rear case.

ATTENTION: For qualitative and reliable operation of the equipment, setting optimal parameters of the regulator, conclude an agreement with the customer service in your region. All the information is available at the seller.

4.0 TIS PELLET MAIN DIMENSIONS AND TECHNICAL DATA

Technical data	Power	Max. operating temperature	Water volume in the boiler	Min. chimney draught	Connections	Chimney diameter	Boiler weight	Boiler dimensions					
								A	B	C	D	E	V
Boiler model	KBTU	°F	Gal	Pa	Inch	Inch	lb	Inch	Inch	Inch	Inch	Inch	Inch
TIS PELLET 15	17-51	185	21.1	18	1 1/2	5.90	565	19.0	22.9	50.5	44.3	7.9	3.54
TIS PELLET 20	20-68	185	23.7	18	1 1/2	5.90	610	19.0	24.9	50.5	44.3	7.9	3.54
TIS PELLET 25	27-85	185	26.4	18	1 1/2	5.90	650	19.0	26.8	50.5	44.3	7.9	3.54
TIS PELLET 30	30-102	185	29.0	18	1 1/2	5.90	690	19.0	28.8	50.5	44.3	7.9	3.54
TIS PELLET 40	40-137	185	34.3	20	1 1/2	7.08	850	20.5	37.5	50.5	42.2	7.9	3.54
TIS PELLET 50	51-170	185	36.9	20	1 1/2	7.08	935	20.5	41.4	50.5	42.2	7.9	3.54
TIS PELLET 60	61-204	185	42.2	22	2	7.08	1165	26.0	38.6	57.5	51.2	7.5	3.54
TIS PELLET 70	71-238	185	50.1	22	2	7.08	1210	26.0	41.0	57.5	51.2	7.5	3.54
TIS PELLET 80	81-273	185	55.4	22	2	7.08	1320	26.0	43.4	57.5	51.2	7.5	3.54
TIS PELLET 95N	102-337	185	58.1	22	2	7.08	1460	26.0	46.5	57.5	51.2	7.5	3.54

*socket high heat carrier outlet 2.4" from boiler cover

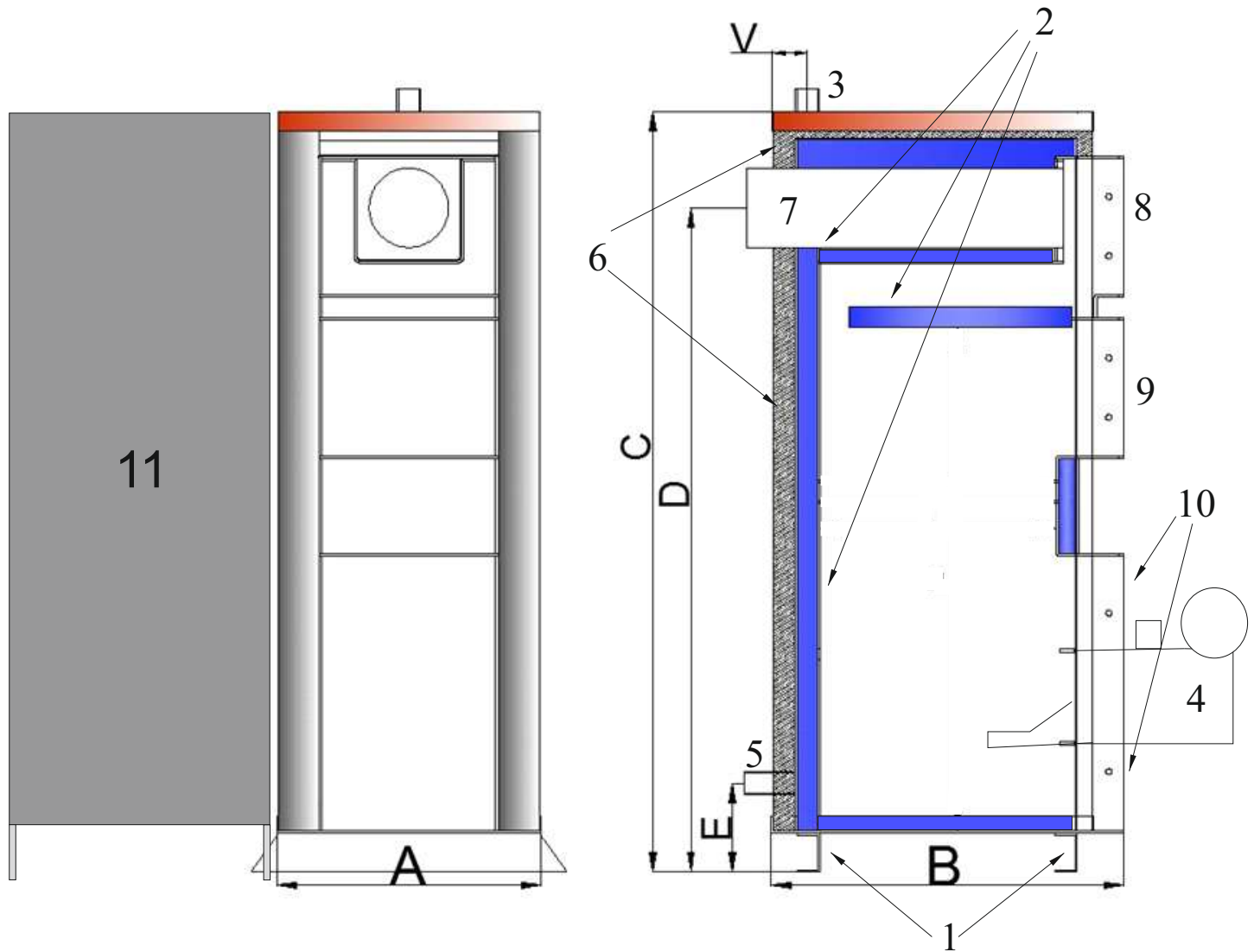
*All dimensions can vary by +/- 5 %!

5.0 TIS PELLET BOILER BUNKERS VOLUMES

Boiler Model	Volume, gal	Weight, lb	Width, inch	Length, inch	Height, inch
TIS PELLET 15	105.6	125	2.4	3.6	5.1
TIS PELLET 20	105.6	125	2.4	3.6	5.1
TIS PELLET 25	105.6	125	2.4	3.6	5.1
TIS PELLET 30	105.6	125	2.4	3.6	5.1
TIS PELLET 40	105.6	125	2.4	3.6	5.1
TIS PELLET 50	105.6	125	2.4	3.6	5.1
TIS PELLET 60	185.9	140	3.2	3.8	5.8
TIS PELLET 70	185.9	140	3.2	3.8	5.8
TIS PELLET 80	185.9	140	3.2	3.8	5.8
TIS PELLET 95N	185.9	140	3.2	3.8	5.8

Installing the bunker on the left of the boiler specify at seller or producer door opening side of the boiler!!!
 Fn.: The producer reserves the right to make changes to the boilers and completing parts construction without impairing the product quality.

6.0 TIS PELLET BOILER DESIGN.



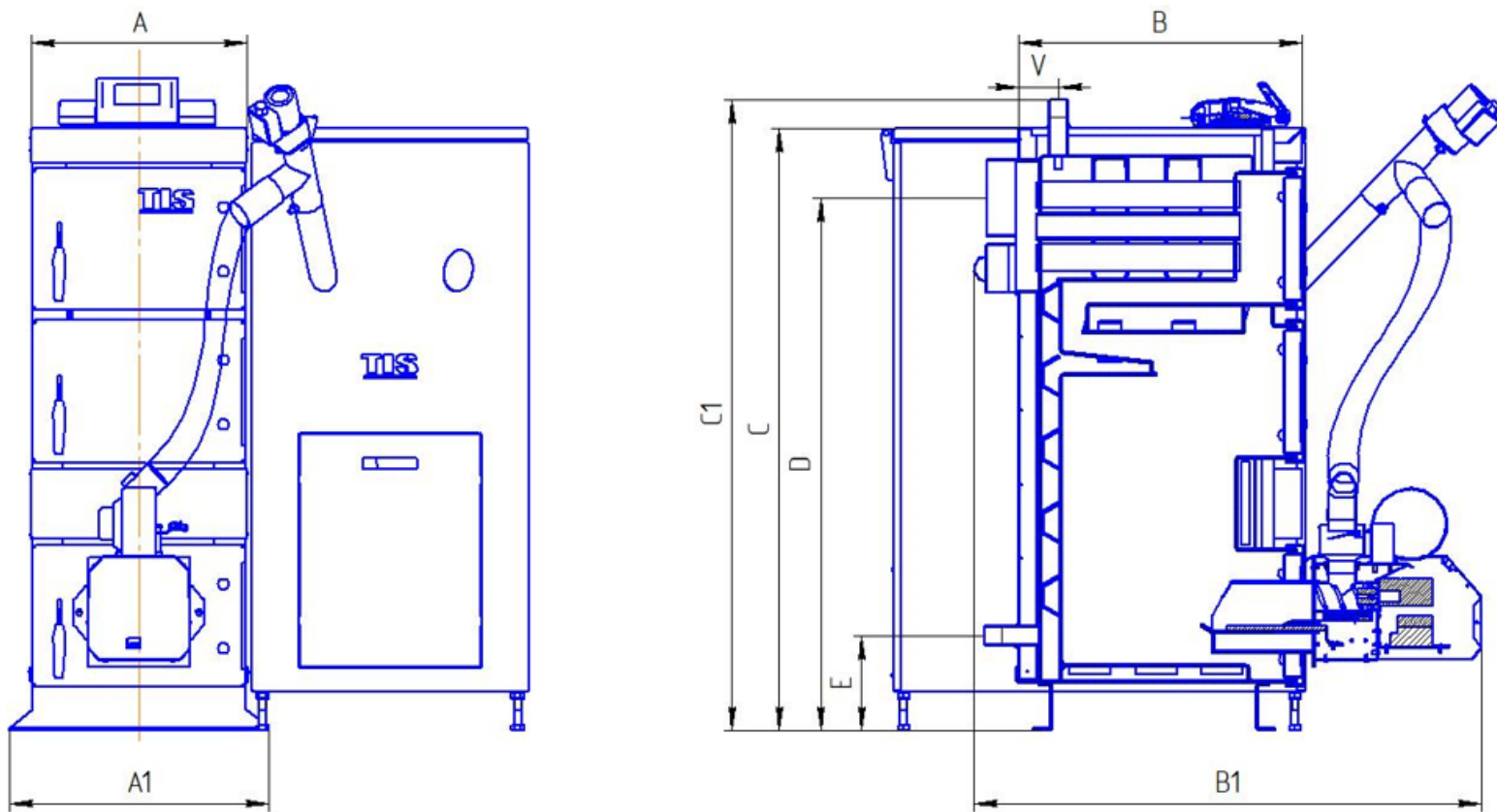
Boiler TIS PELLET 15-95.

1 – boiler legs; 2 – water heat exchanger; 3 – socket heat transfer outlet; 4 – automatic pellet burner; 5 – socket heat carrier return; 6 – seal; 7 – chimney; 8 - chimney maintenance door; 9 – combustion chamber door; 10 - ash removal door and access to the burner; 11 – hopper.

7.0 TIS PELLET DUO MAIN DIMENSIONS AND TECHNICAL DATA

Boiler parameters	UOM	TIS (DUO) PELLET 20	TIS (DUO) PELLET 50	TIS (DUO) PELLET 95N
Power (heating capacity)	kBTU/h	20-68	51-170	102-338
Maximum operating temperature	°F	185	185	185
Maximum working water pressure	psi	36.26	36.26	58.02
Min. Chimney draught	Pa	18	20	22
Coefficient of efficiency	%	90	90	90
Heating surface	sqft	17.22	43.06	81.81
Maximum fuel consumption	lb/h	9.80	24.50	46.54
Water flow through the boiler	GPM	3.78	9.46	17.97
Water volume in the boiler	Gal	23.78	36.98	58.12
Connections	"/mm(Dy)	1- 1/2"	1- 1/2"	2"
Chimney diameter	in	5.91	7.09	7.09
Additional chamber volume	Gal	8.44	17.19	38.55
Boiler weight PELLET/DUO PELLET	Pound	567 / 586	864 / 919	1499 / 1550
Additional firebox width (I)	in	11.42	12.99	18.90
Additional firebox depth (U)	in	14.96	26.77	31.50
Additional firebox height (F)	in	11.42	11.42	14.96
Furnace volume	Gal	8.44	17.19	38.55
Boiler width (A)	in	18.50	20.08	25.59
Boiler depth (B)	in	26.38	41.34	46.46
Boiler height (C)	in	50.39	50.39	57.48
Size A1	in	22.05	23.62	29.13
Size B1	in	43.31	58.27	71.65
Size C1	in	52.76	52.76	59.84
Size D	in	45.28	42.13	51.18
Size E	in	7.87	7.87	7.48
Size V	in	3.94	8.27	9.06

*socket high heat carrier outlet 2.4" from boiler cover

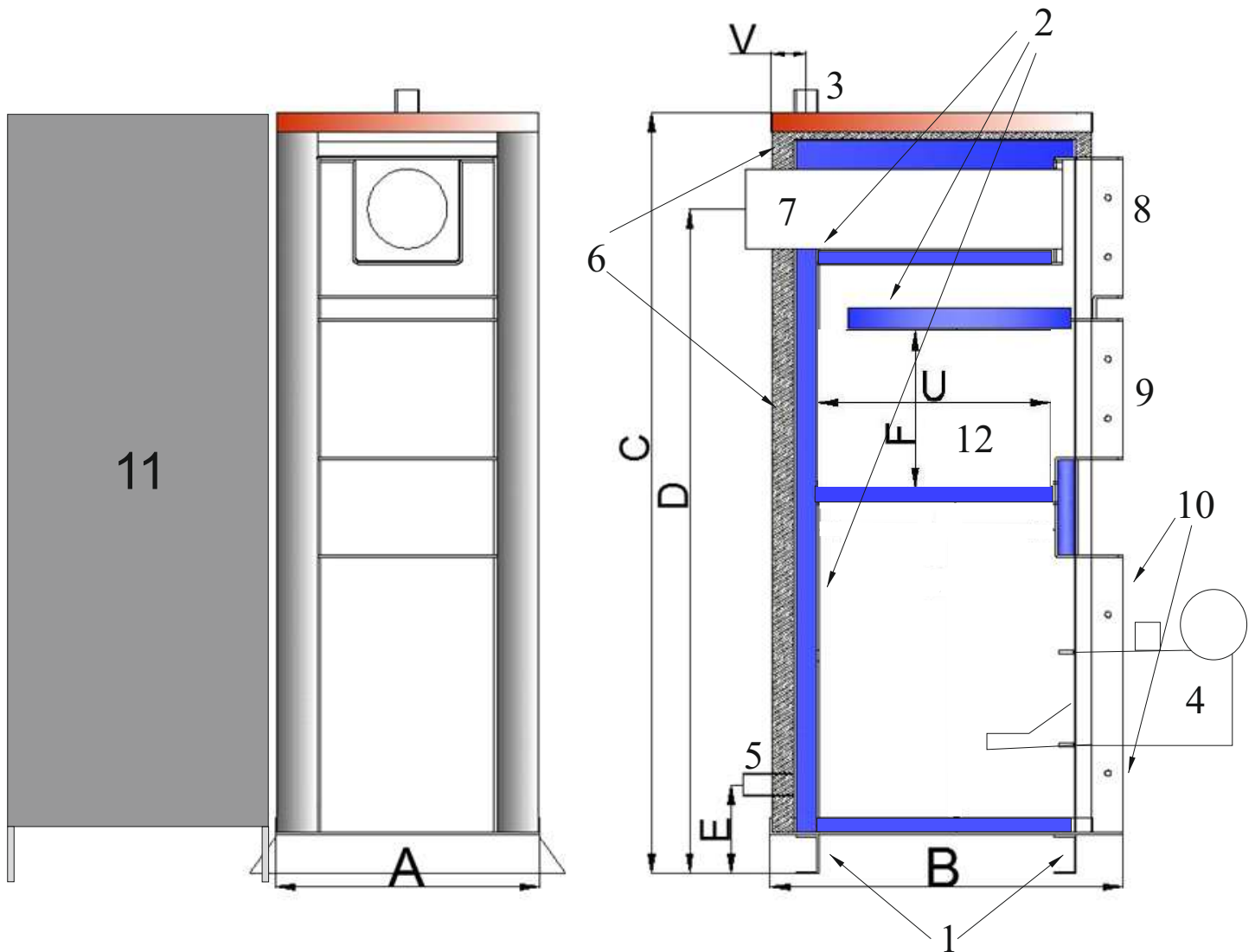


8.0 TIS DUO PELLET BOILER BUNKERS VOLUMES

Boiler Hopper Volume	UOM	TIS (DUO) PELLET 20	TIS (DUO) PELLET 50	TIS (DUO) PELLET 95N
Hopper weight	Pound	158.73	167.55	176.37
Hopper volume	Gal	92.46	118.88	184.92
Hopper width	in	23.62	27.17	31.50
Hopper depth	in	35.43	37.40	37.40
Hopper height	in	50.39	50.39	57.48
Note: Possible deviation of dimensions and weights is within $\pm 5\%$				

Installing the bunker on the left of the boiler specify at seller or producer door opening side of the boiler!!!
 Fn.: The producer reserves the right to make changes to the boilers and completing parts construction without impairing the product quality.

9.0 . TIS DUO PELLET BOILER DESIGN



Boiler TIS DUO PELLET 15-95.

1 – boiler legs; 2 – water heat exchanger; 3 – socket heat transfer outlet; 4 – automatic pellet burner; 5 – socket heat carrier return; 6 – seal; 7 – chimney; 8 - chimney maintenance door; 9 – combustion chamber door; 10 - ash removal door and access to the burner; 11 – hopper.

10.0 HEATING AND BOILER INSTALATION

Requirements:

- connect the boiler to the heating system according to the project developed by highly qualified and experienced specialists in thermal mechanics;
- in order to avoid condensation, install the return water temperature no less than 122°F if the supplying heat carrier temperature is at least 149°F.

10.1 Heating system filling.

Filling the heating system with water, check the water is clear and clean, without any impurities of aggressive substances with the hardness no more than 2 mEq / dm³.

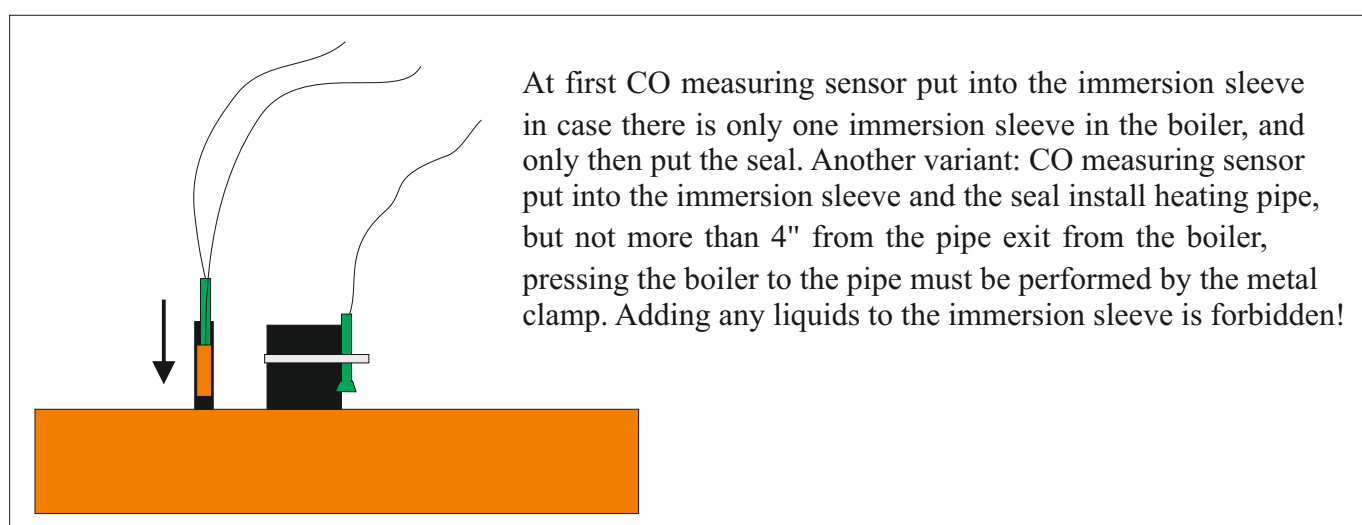
Hard water causes scum in the boiler which reduces its heat productivity and can cause premature boiler breakdown. Fn.: boiler breakdown due to the scum is not covered by the warranty.

- Process the water if its hardness of water does not meet the required standards. 0.04" scum deposit (chalk-stone) reduces the heat transfer from the metal to the heat carrier onto 10 %.
- Remain the constant volume of the heat carrier during the whole heating season. Do not forget to monitor the pressure.
- Top the water up to the heating system at the temperature of the boiler no less than 104°F.
- Do not use any liquids inappropriate for the heating systems as a heat carrier.

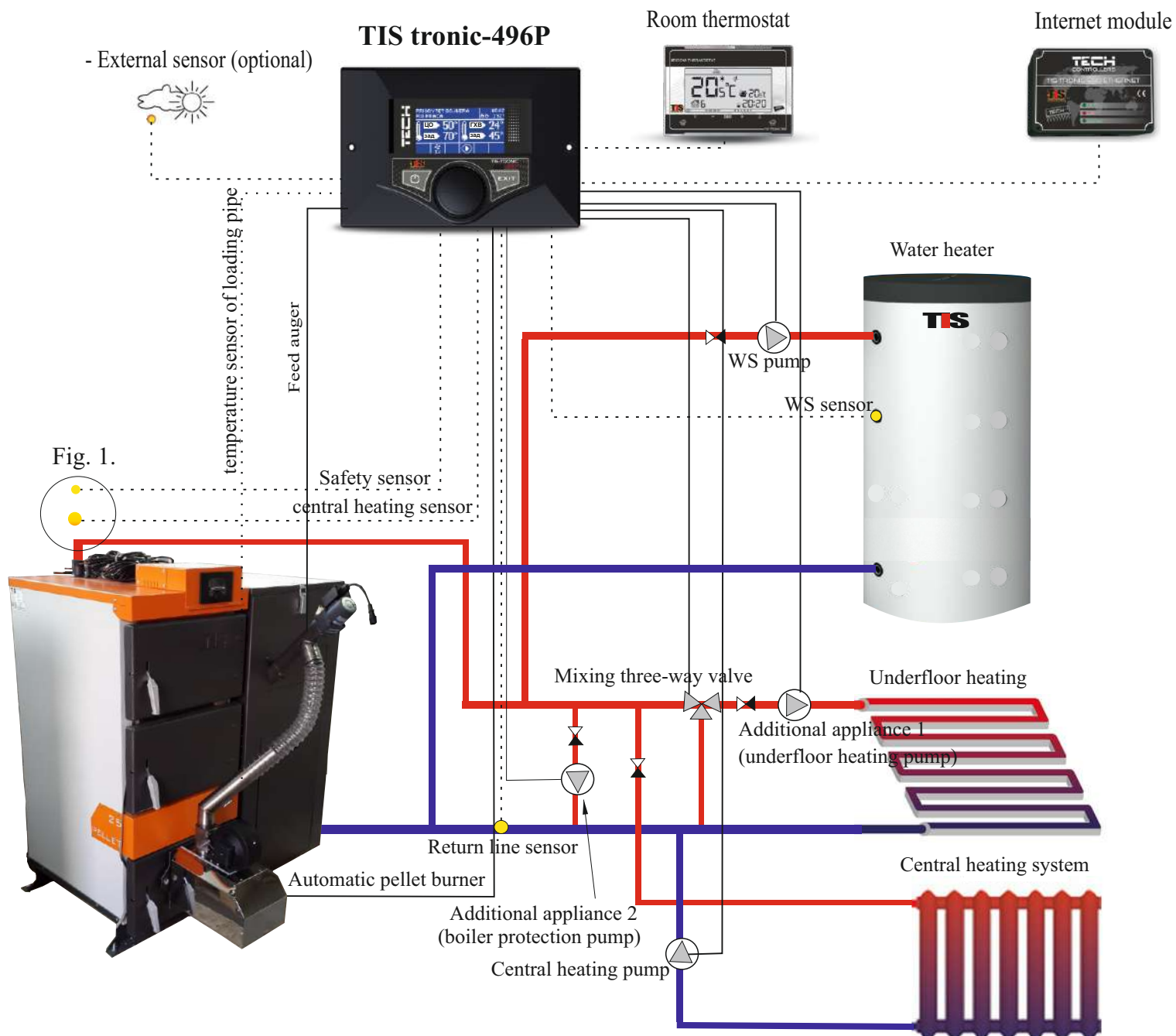
10.2 Boiler position with the regard to the required servicing space

- Leave the space no less than 60" in front of the boiler.
- Leave 20" distance between the boiler and the wall of the premises.
- Leave 20" space from the sides to provide access to the boiler.

Fig. 1.



11. RECOMMENDED INSTALATION SCHEME



* Wiring plan (shown diagram is just a simplified example).

12.0 RECOMMENDATIONS FOR BOILER INSTALATION AND OPERATION:

12.1 Install the boilers with an open expansion tank or membrane in the open and closed heating systems. The expansion tank volume depends on the heating system volume. For the correct prolonged and trouble proof boiler operation three- or four-way valve should be placed for the increasing the return water temperature and controlling the heat carrier in the heating system. This helps to avoid the process of condensation and liquefying the resin in the combustor. The use of the mixing valve leads to the fuel consumption reduction, makes the operation easy and extends the life of the boiler.

12.2. The maximum operating pressure must not exceed 15 psi, and the water temperature inside the boiler must not exceed 185°F. The maximum test pressure is 50 psi.

12.3. Place the safety valve on the feed line between the boiler and the stop valve.

12.4. Place the check valve before the stopcock of the nourishing branch pipe if the filling and replenishment of the boiler from the plumbing are provided. Fill the system under the pressure no more than the boiler maximum working pressure.

12.5. Make the heating system test (test of the pipes, heaters) when the boiler is disconnected, the pressure must be no more than the maximum working pressure indicated in the mechanical part of the heating system project. The heating system project must be worked out by the specialized institution which is eligible to perform such work.

12.6 Requirements to the connection of the boiler electrical part:

- a person who has qualified as an electrician and has admission to perform such work can plug the boiler electrical part.
- wiring works should be done under PSD.

13.0 REQUIREMENTS FOR THE CHIMNEY:

- The chimney diameter must be no less than the diameter of the boiler flue outlet.
- The chimney must be made from acid resistant stainless steel (single wall – in brick channel, double-walled (insulated) – detached) and under EN 1856-1 « Smoke flues. Requirements to the metal smoke flues. Part 1. The smoke flues details», EN 1856-2 « Smoke flues. Requirements to the metal smoke flues. Part 2. Metal lining and connecting pipes». The pipe should be putted rigidly and tightly on the boiler to avoid uncontrolled exhaust of smoke gases. The connection to the chimney must fit the current rules and it must be performed by a specialist (organization).

13.1 Maintenance of the boiler and smoke flues:

Attention: Soot and condensate are formed in the chimney during the boiler operation which can lead to the traction deterioration and cause a fire hazard. The chimney serviceability must be provided for the boiler effective and safe operation. The chimney must be smooth inside. The chimney must not lead to the accumulation of moisture and soot and not let to gases output and combustion products. The number of tube bends should be as small as possible. Choosing a chimney is necessary to take into account its compatibility with the boiler, type of fuel and ease of assembly and dismantling for the maintenance and fire safety standards matching.

14.0 BOILER IGNITION AND ADJUSTMANT

Before boiler ignition check the condition of the electronic control unit, temperature detector, isolation valves, pumps, safety valve, pressure in the heating system, mixer work, chimney, burner device, feed auger and the bunker.

Boiler ignition procedure:

1. Check the fuel presence in the bunker (supplemented if necessary). Bunker fuel filling should be done not less than 1.3 container volume. Avoid getting non-fuel objects (ropes, hobnails, wood waste, packing bags and other packaging, etc.). Check the fuel presence in the feed auger.
2. For DUO version remove extra cast iron fire grates.
3. Through the «manual mode» function fill the main feed auger with the fuel (pellets);
4. Carry out the automatic settings based on the boiler power, fuel type and heating system peculiarities;
5. Place the loading hose on the burner and connected it to the main feed auger.
6. Turn on the power of the remote control, put the main switch to «ON».
7. Through the «manual mode» function check burner operation mechanisms in the following **order: «Fan», «Lighter», «Stoker», «Belimo ON» «Belimo OFF»**. After checking go to the main menu pressing «EXIT».
8. Activate at the electronic control unit **«Fire UP»** function.

Producer settings must be changed for each boiler individually if necessary (ask in the service centers).

Using alternative fuel in DUO models:

1. Place the cast iron fire grate into the boiler;
2. Download the fuel onto the fire grate;
3. Ignite the fuel.
4. Activate at the electronic control unit «manual operation» function;

Attention!!! Do not use flammable liquids at the boiler ignition!!!

Instructions for the people responsible for boiler operation and maintenance:

- People acquainted with the mechanism and service regulations of such equipment are accepted to the boiler operation and maintenance;
- Timely inspect the appliances, regularly clean the boiler and chimney.

Soot and ash deposits on the smoke channel cases reduce the heat transfer. Deposits, resin formation and condensation depend on the fuel used, chimney draft and operating mode.

Boiler and burner cleaning are recommended to be done in the cold state once a week. Boiler and burner cleaning can be also made when contaminated.

- Remove ash from the boiler daily. Check the boiler external condition, burner, electronic control unit, detectors and wiring. Clean them all if necessary.
- Clean boiler heating surfaces daily with a poker. Clean the burner. Clean the upper heat exchanger from the soot with a scrubber, then remote soot through the access panels.
- Make the repairing, preventive maintenance, cleaning and etc. when the boiler is blown out and then switched off. If there are any malfunctions in electrical equipment (short circuit to the boiler case, insulation failure in cables and etc.) switch off the boiler promptly and call the service representative.

Check the existence of draft in the chimney by putting a paper strip to the ashpit (the paper strip should turn to the ashpit side). Watch for the ventilation openings for air inflow and exhaust not to be reduced or closed.

- Use the exhaust hoods for smoke removing within premises where the boiler is placed.

15.0 GENERAL RECOMMENDATIONS REGARDING THE PELLET CHOISE

The right choice of the pellet type and class provides:

- boiler trouble-free operation;
- high efficiency of the burner work and fuel economy up to 15 % compared with fuel of a lower quality;
- reduction of harmful chemicals emission into the atmosphere.

Recommendations for the fuel used (pellets):

- energy released by combustion – 17 kBTU / kg;
- humidity remnant – 8-12 %;
- ash content, maximum 3 %;
- length 0.2-2";
- density 74.91-87.40 lb / ft³;
- diameter 0.23-0.31".

The combustion of 1 ton of pellets is released as much thermal energy as the combustion:

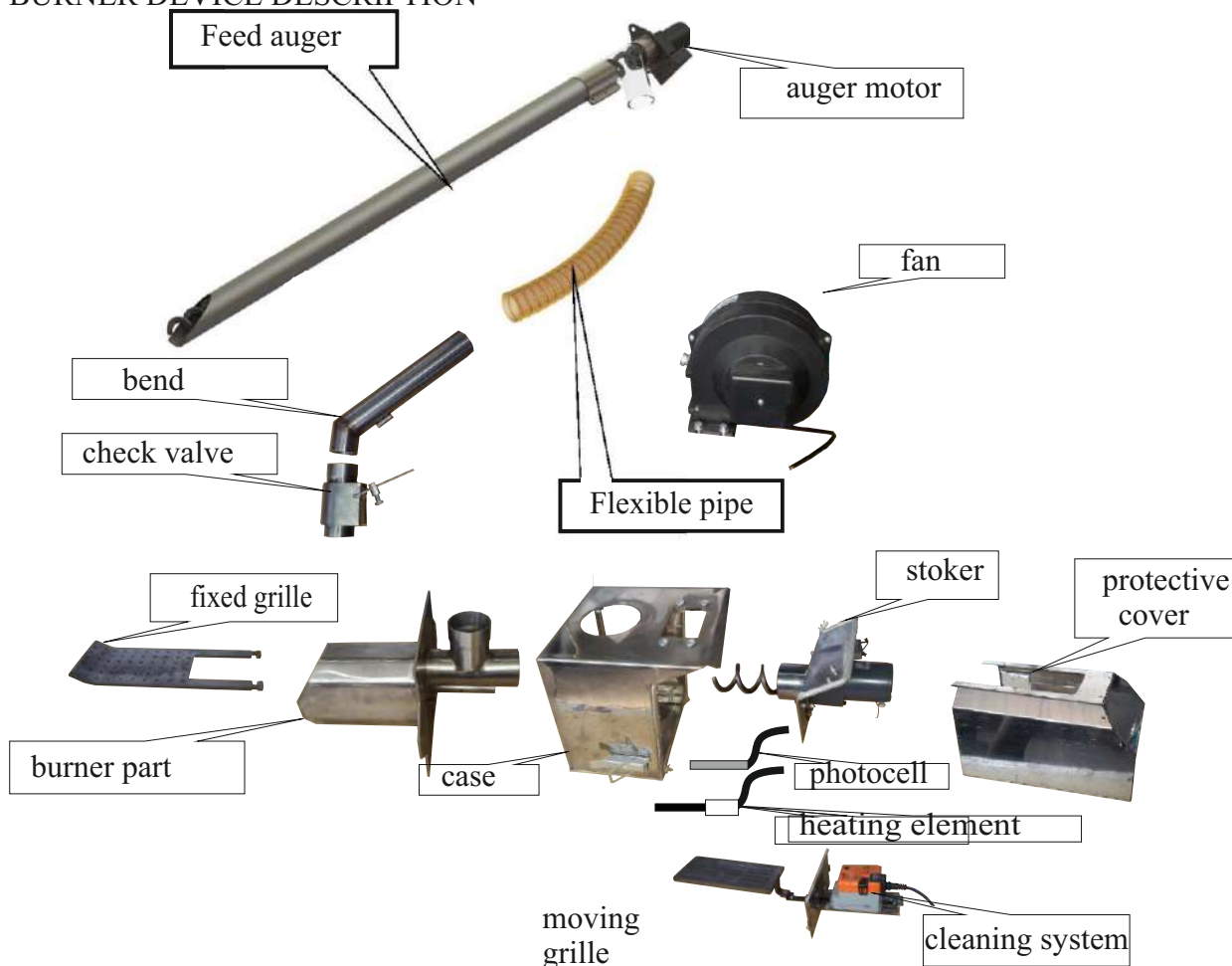
- 3527 lb of wood;
- 16775 ft³ of gas;
- 132 l of diesel fuel;
- 181 l of fuel oil.

16.0 FUEL STORAGE

- Do not store fuel near the boiler at a distance of less than 39.5".
- Store fuel in a dry heated premises.

When changing the type of the pellets or provider remote control changeovers should be made. Do it by your selves or with the help of the services!

17.0. BURNER DEVICE DESCRIPTION



18.0 MALFUNCTIONS AND TROUBLESHOOTING

№	Possible malfunction	Malfunction cause	Troubleshooting (made by the producer)
1	Poor fuel combustion	Bad chimney draft Raw poor quality fuel	Clean the flue pipe and gas outlet of soot and ash, check the correct installation (according to the instruction manual).
		Raw Fuel	Replace the fuel.
2.	Good combustion in the boiler, the heat carrier is boiling in the boiler, but is not heated in the heater.	Bad circulation of the heat carrier in the heating system.	Check the correct installation of the heating system (the presence of the slope, the absence of air plugs, etc.)
		Circulation pump does not operate.	Troubleshoot or replace the pump.
		The leak of the heat carrier in the system. The air presence in the system.	Eliminate the leak. Energize the system, bleed the air.
3.	The appearance of the smoke in the premises.	Chimney is not warmed (stale cold air in the chimney).	Restore the chimney draft burning some paper, straw, sawdust, etc. in the cleaning hatch
4.	No combustion in the boiler	No fuel supply, malfunction in the incendiary element, boiler breakdown.	Check the fuel level in the hopper, fuel supply to the loading tank, the burner.
5.	Water inside the boiler (condensate).	Condensate from the chimney.	Check the condensate drain. Insulate the chimney. Regulate the combustion process.
		Low temperature of the heat carrier in the boiler.	Maintain the heat carrier temperature of the boiler 149-176°F.

In case of failure to troubleshoot contact the service center!

19.0 GUARANTEE.

The manufacturer provides a full guarantee of the product in accordance with the terms and conditions described warranty. Initial commissioning and equipment maintenance must be carried out by qualified specialist. In the case of non-compliance of this manual, will not accept warranty claims. Each complaint should be immediately transmitted after malfunctions detection in written form to the seller or producer.

ATTENTION!!!

Ask the sellers and adjustment organizations to fill in the warranty card correctly.

20.0 GUARANTEE OBLIGATIONS.

We warrants the product produced;

The producer is responsible for the guarantee if the defect appears in the device due to producer fault;

The producer decides independently to remedy the defect or replace the whole unit;

The warranty is only valid if the warranty card has boiler serial number, boiler brand and seller's mark;

The warranty is only valid if the warranty card is correctly filled and has a note of commissioning date, stamp of the organization or installer who instructed the customer and put the boiler into operation;

Warranty repairs are free;

Warranty repairs may be done only by a specialized organization, installer or service center accredited by the producer;

The warranty only covers the unit, installed in accordance with the instruction manual and the rules written in it;

The warranty period for the boiler drum is 60 months from the sale date;

The warranty period for the control elements, burner, load tank, electronic regulator is 12 months from the sale date;

The guarantee does not cover the boiler expendable material components: door seal, cast iron grate, handles, screws, screw-nuts, incendiary element, scrubber, poker;

The warranty expires in case of improper installation or use of the device inappropriately;

The producer is not responsible for the mechanical damage during shipping;

The whole unit or its parts that have lost their marketability on the consumer's fault cannot be exchanged or returned for warranty obligations;

TIS PELLET and TIS DUO PELLET boilers are subjected to compulsory grounding!

* Using open heating systems there is a risk of boiler corrosion.

BOILER IS PLACED ON THE VEHICLE ONLY IN AN UPRIGHT POSITION!!! (otherwise it will be removed from the warranty).

The boiler is shipped on a pallet or without it on customer's request but only in an upright position!

It is recommended that in upright position the boiler was transported as close to the installation place as possible, it minimizes the possibility of the damage to the boiler case.

When the boiler is shipped in another position the warranty removed.

•The package may also include various kinds of control devices (additional expanders) or some other automation devices depending on the purpose and the customer's wishes.

CLEARANCES FOR UNCERTIFIED WOOD – BURNING UNITS

1. Definition of Uncertified Units

An uncertified unit is any wood-burning appliance that does not carry a certification label from a recognized testing laboratory specifying its installation requirements. These appliances must comply with the most stringent clearance rules.

2. Combustible vs. Non-Combustible Materials

Combustible materials: Any substance that can ignite or burn when exposed to heat or flame, including wood, drywall, plasterboard, fabrics, and plastics.

Non-combustible materials: Substances that do not ignite, burn, or release flammable vapors when exposed to high heat, such as brick, stone, concrete, metal, or certain glass types.

Maintaining proper clearance between the unit and combustible materials is essential for fire safety.

3. Standard Clearances (Without Heat Shield)

For uncertified appliances installed near combustible walls or ceilings, the minimum required clearance is:

- 48 in. (1200 mm) — from all sides of the appliance (front, back, and sides).
- 6 in. (150 mm) — from double-wall chimney pipe to combustibles.
- 18 in. (450 mm) — from single-wall chimney pipe to combustibles
- 48 in. (1200 mm) — minimum clearance in front of the appliance.
- 84 in. (2130 mm) — minimum ceiling height, measured from floor to ceiling.

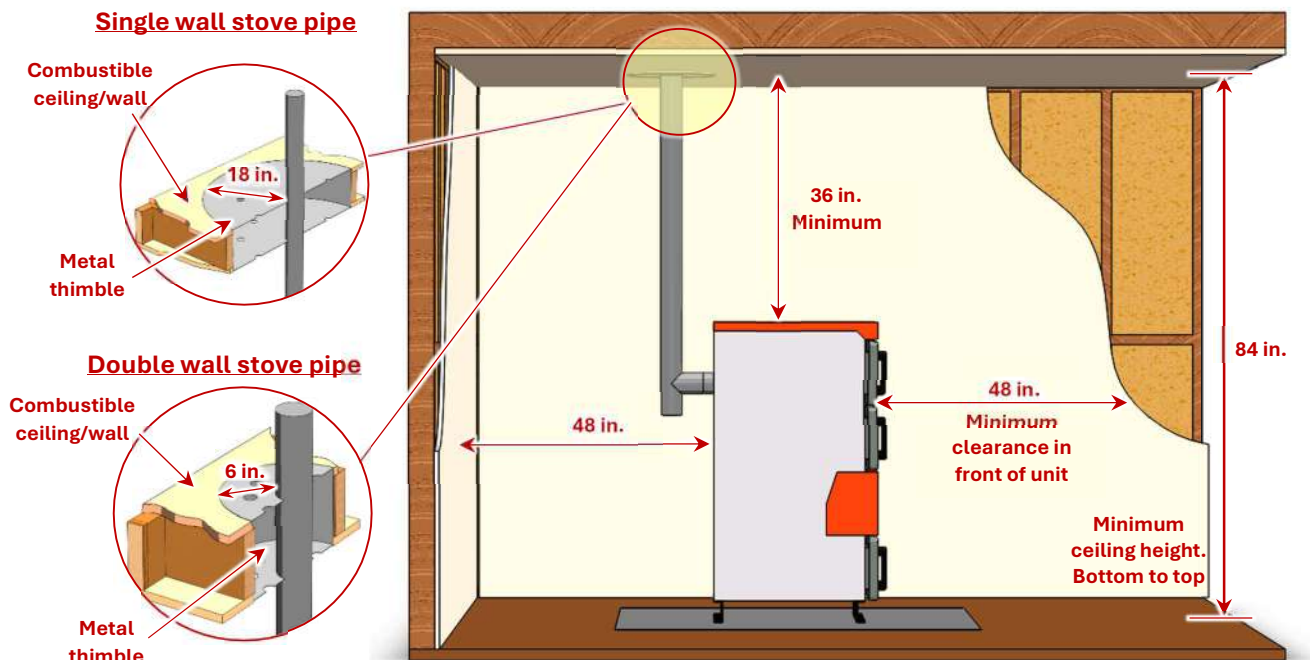


Figure 1 – Minimum clearances for uncertified units (no heat shield)

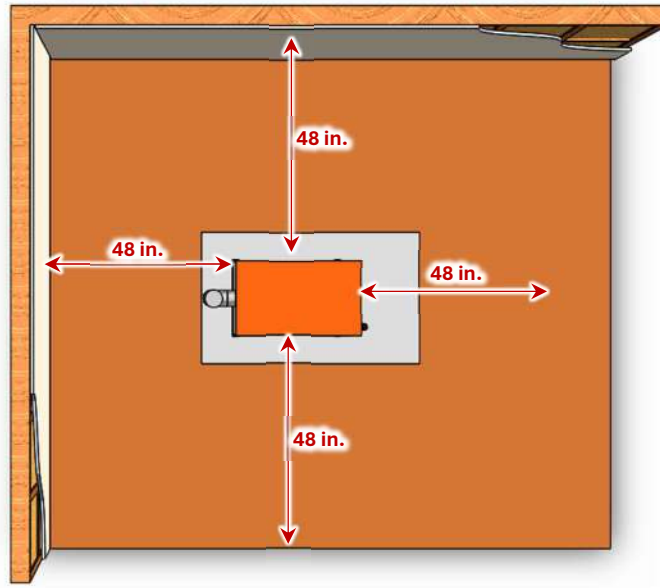


Figure 2 – Clearance to combustible walls (no heat shield)

4. Clearances with a Metal Heat Shield

When a properly constructed 29-gauge sheet metal heat shield is installed with a 1 in. (25 mm) air gap, clearances may be reduced under CSA B365 rules.

Heat Shield Construction Requirements

- Minimum air space between shield and wall/ceiling: 1 in. (25 mm).
- Clearance at bottom of shield: 1–3 in. (25–75 mm).
- Clearance at top of shield: 3 in. (75 mm).
- Shield must extend:
 - 20 in. (500 mm) above the top of the unit.
 - 18 in. (450 mm) beyond each side of the unit.
- Ceiling shields: maintain 3 in. (75 mm) edge clearance.
- Mounting hardware must allow full vertical ventilation and not transfer heat directly to combustibles.

Functional Principle

The heat shield creates a ventilated air space, allowing heat to dissipate before reaching combustible surfaces. This reduces the minimum required clearance safely.

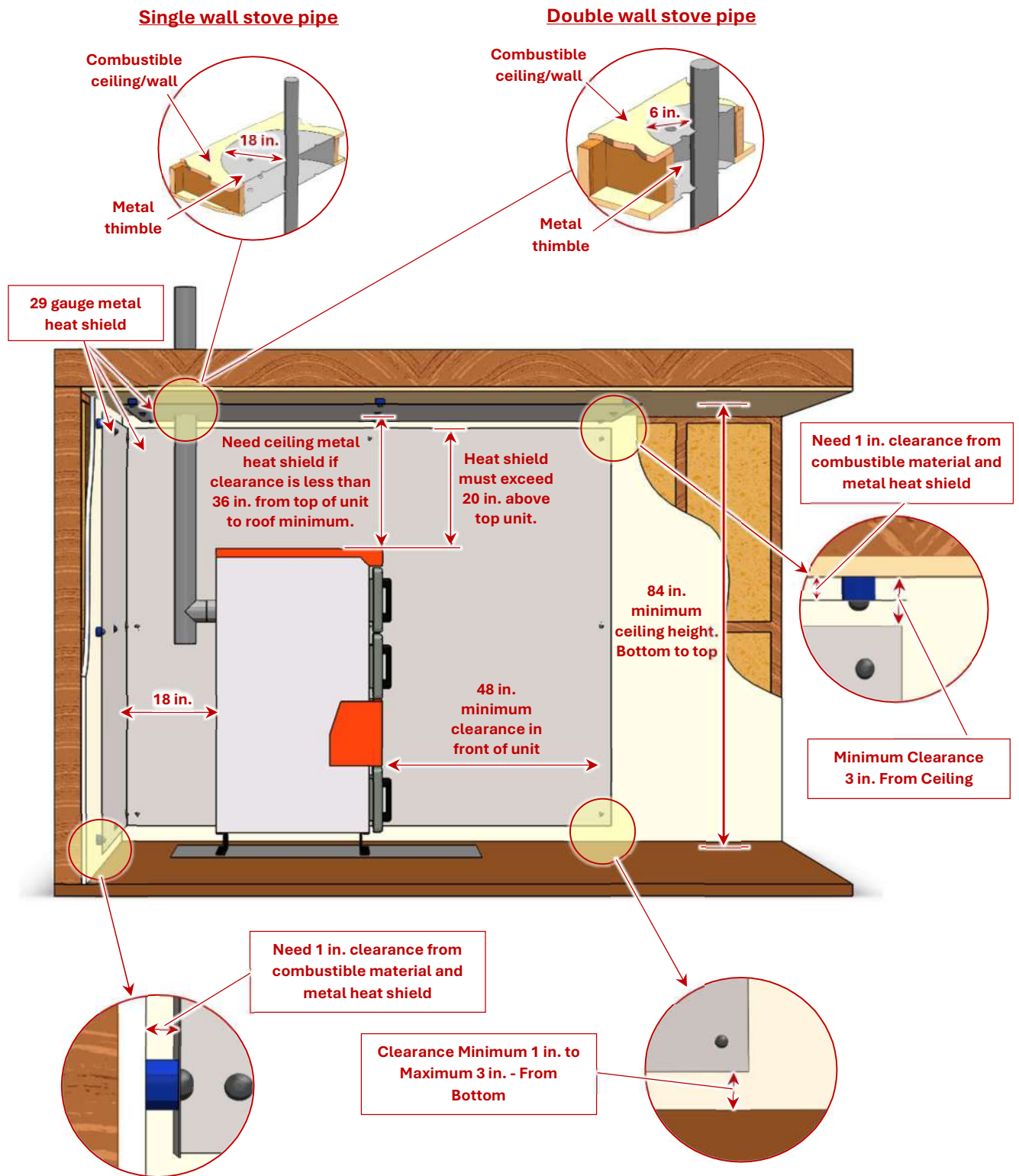


Figure 3 – Minimum clearances for uncertified units (with heat shield)

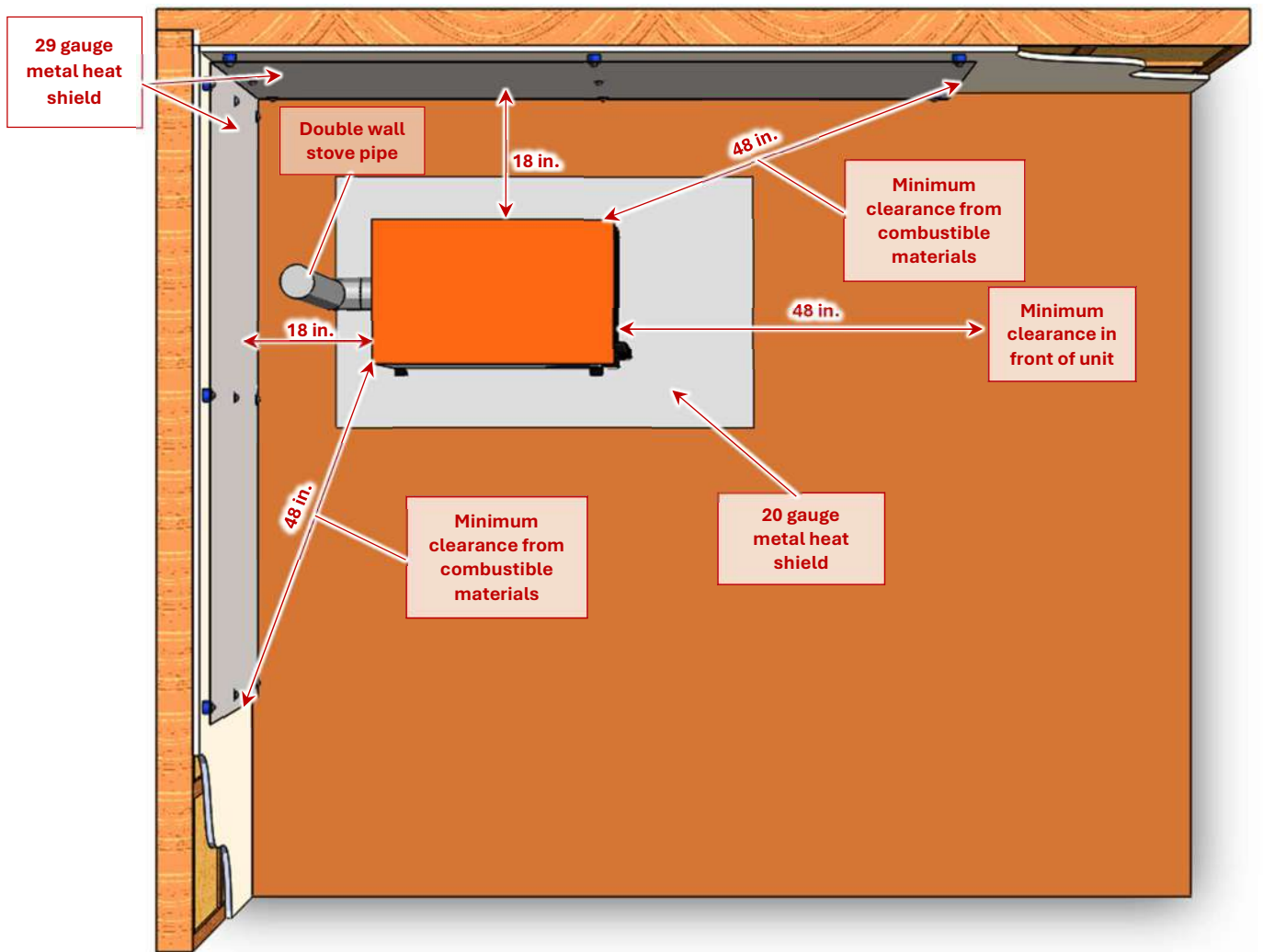


Figure 4 – Clearance to combustible walls (with heat shield)

5. Floor Protection

Ensuring proper floor protection for uncertified wood stove the floor must be protected with two elements:

1. **Floor Pad (Ember Protection):** Protects against live embers and sparks that may fall during fire tending or ash removal.
 - The floor pad must be made of continuous non-combustible material (e.g., ceramic tile, flagstone, brick, or block).
 - It must extend 18 in. (450 mm) beyond any side with a loading door and 8 in. (200 mm) beyond all other sides.
 - All joints between tiles or stones must be properly grouted or mortared to prevent debris accumulation and ensure a continuous surface.

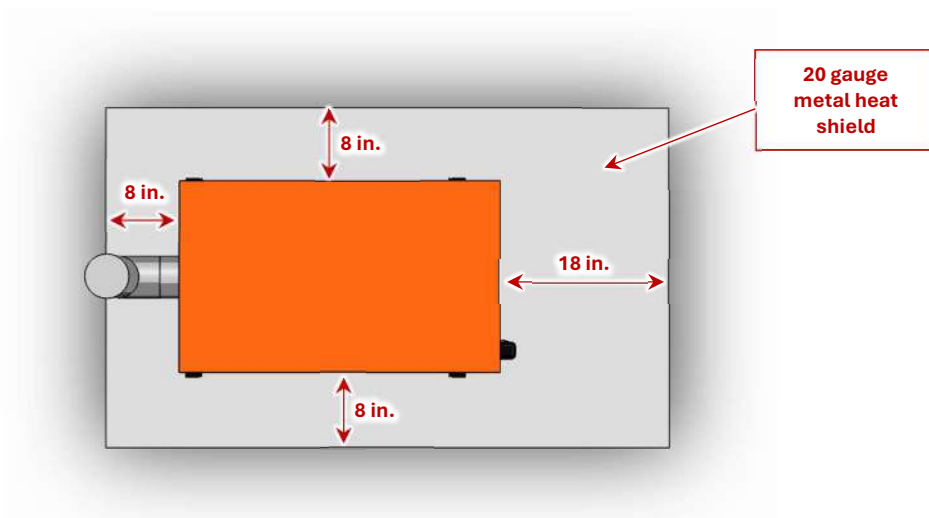
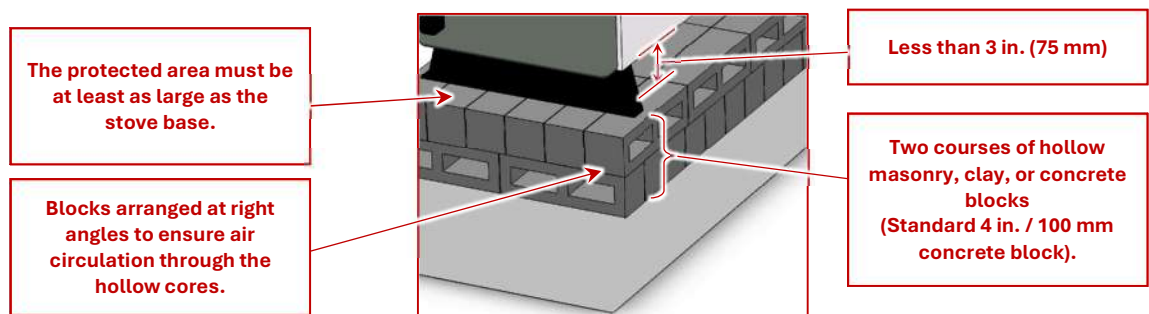


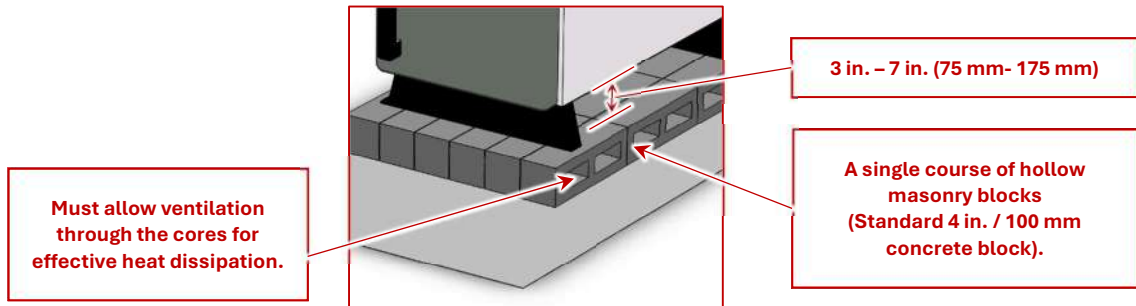
Figure 5 – Floor Pad dimensions (Ember Protection)

2. **Heat Shield or Thermal Protection (Overheating Protection):** Prevents the floor from overheating due to heat radiation from the stove's base. The required construction depends on the clearance between the bottom of the appliance and the floor.

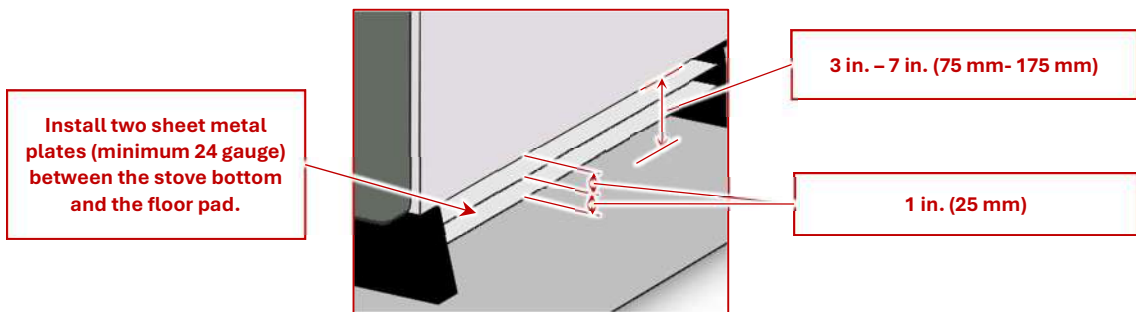
Option 1 – Clearance less than 3 in. (75 mm).



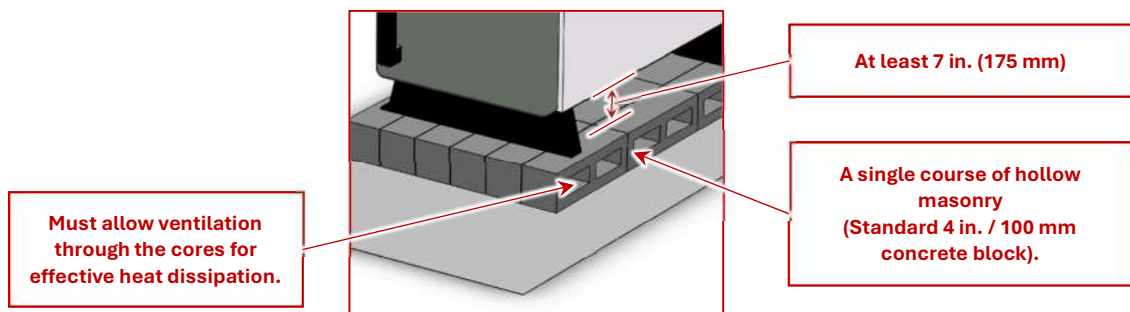
Option 2.1 – Clearance between 3 in. (75 mm) and 7 in. (175 mm) – Hollow Masonry



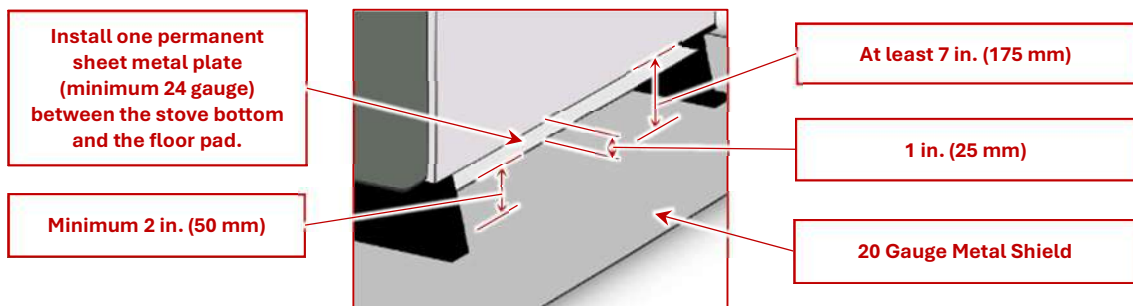
Option 2.2 – Clearance between 3 in. (75 mm) and 7 in. (175 mm) – Metal Plates



Option 3.1 – Clearance greater than 7 in. (175 mm) – Hollow Masonry



Option 3.2 – Clearance greater than 7 in. (175 mm) – Metal Plates



6. Summary

Summary of Clearance and Floor Protection Requirements for Uncertified Wood – Burning Units

Requirement	Without Heat Shield	With 29-Gauge Metal Heat Shield	Notes
Side / Back Clearance	48 in. (1200 mm)	Reduced as per CSA B365 (min. 18 in. / 450 mm with shield)	Heat shield must extend 20 in. above and 18 in. beyond appliance sides
Front Clearance	48 in. (1200 mm)	48 in. (1200 mm)	No reduction permitted
Ceiling Clearance	36 in. (915 mm) minimum	May be reduced with ceiling heat shield (min. 3 in. / 75 mm gap)	Ceiling height must be at least 84 in. (2130 mm)
Single-Wall Stove Pipe	18 in. (450 mm)	18 in. (450 mm)	Must use non-combustible thimble through walls/ceilings
Double-Wall Stove Pipe	6 in. (150 mm)	6 in. (150 mm)	Certified double-wall only
Floor Pad (Ember Protection)	Extend 18 in. (450 mm) in front of loading door and 8 in. (200 mm) on other sides	Extend 18 in. (450 mm) in front of loading door and 8 in. (200 mm) on other sides	Must be continuous non-combustible surface
Thermal Floor Protection (Overheating Protection)	Required (depends on clearance under stove)	Required (depends on clearance under stove)	Options described below

Floor Protection Options (Thermal Overheating Protection)

Clearance Under Stove	Protection Option	Description
Less than 3 in. (75 mm)	Option 1	Two courses of hollow masonry/concrete blocks (100 mm thick), arranged for airflow
3–7 in. (75–175 mm)	Option 2.1	Single course of hollow masonry units with ventilated cores
	Option 2.2	Two sheet metal plates (min. 24 gauge), spaced 1 in. apart
More than 7 in. (175 mm)	Option 3.1	Single course of hollow masonry units with ventilated cores
	Option 3.2	One permanent sheet metal plate (min. 24 gauge), 2 in. above floor pad and 1 in. below stove bottom



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