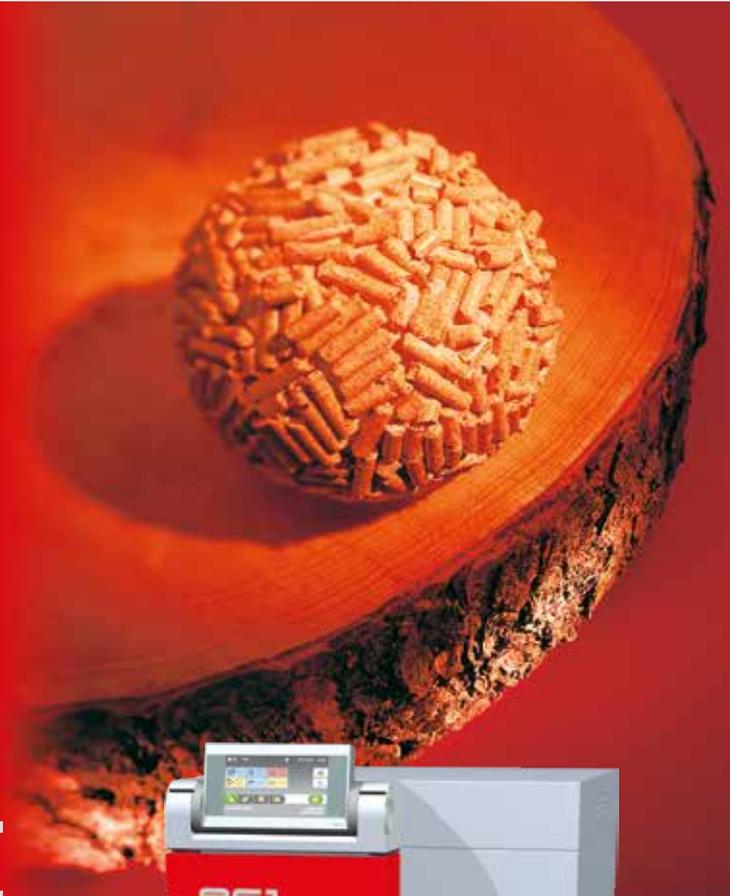


# PE1 Pellet



**APPROVED FOR  
EPA 2020 EMISSION  
LIMITS**



# Heating with pellets

For more than 50 years Froling has specialised in the efficient use of wood as a source of energy. Today the name Froling stands for modern biomass heating technology. Froling firewood, wood chip and pellet boilers are successfully in operation all over Europe. All of our products are manufactured in our factories in Austria and Germany. Our extensive service network guarantees full coverage and reliability.



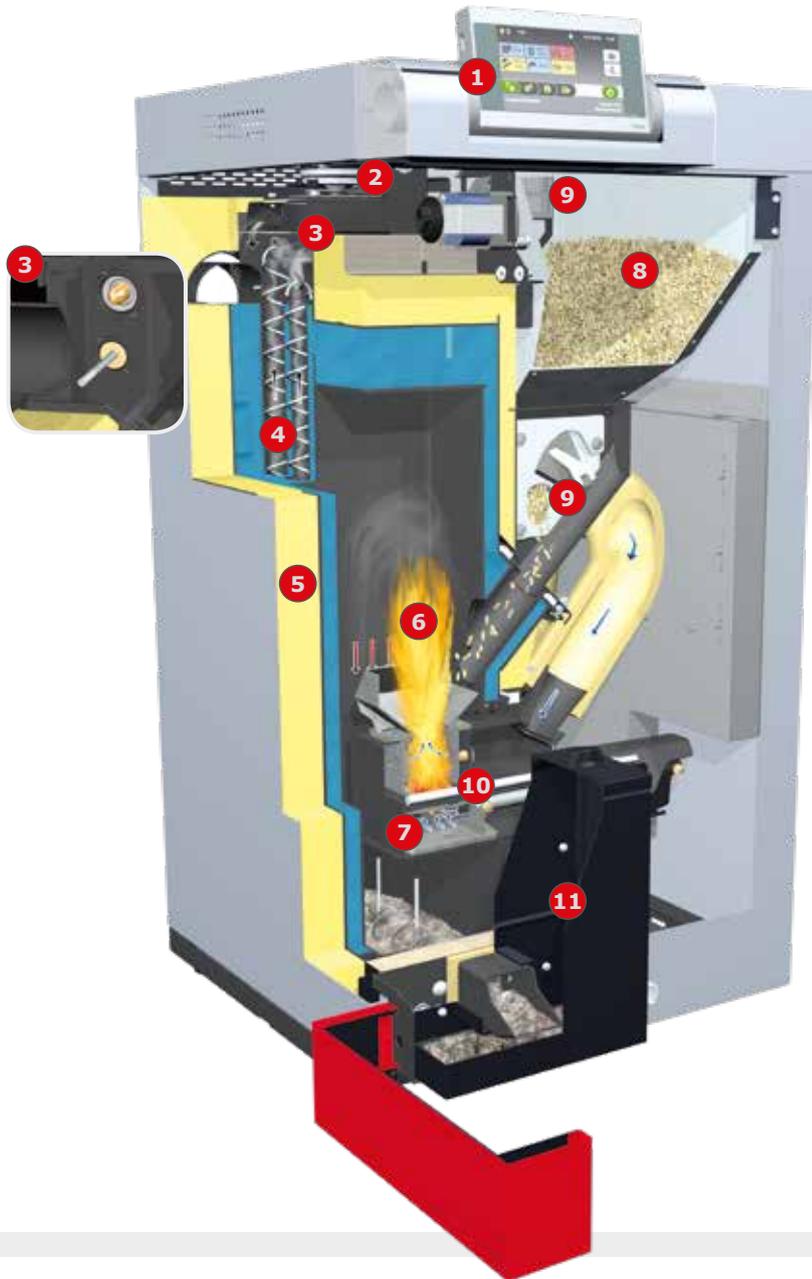
## The new Froling PE1 Pellet

Occupying just 0.38 m<sup>2</sup> of space, the PE1 Pellet boiler sets new standards. The new PE1 Pellet stands out for its quiet operation and ease of use, combined with low emissions and very low energy consumption.

Thanks to its high energy efficiency the PE1 Pellet is particularly suitable for low-energy and passive houses.



# The latest technology



- 1 Lambdatronic P 3200 control with 7" touch display and innovative bus technology
- 2 Speed-controlled, quiet induced-draught fan with function monitor for maximum operational reliability.
- 3 Broadband lambda probe for optimal combustion.
- 4 WOS technology (efficiency optimisation system) for maximum efficiency.
- 5 High-quality insulation.
- 6 High-quality pellet burner.
- 7 Automatic sliding grate for ash removal. The movement of the grate controls the secondary air and the integrated chimney cut-off at the same time.
- 8 Large pellet container.
- 9 Double protection system for maximum burn back protection.
- 10 Automatic ignition.
- 11 Automatic ash removal in a closed ash container (Ash container volume: 28 litres with 20 and 35 kW).

## Smart positioning and installation

### Feature: Compact design

Advantages: • small footprint (4,09 sqft)

The PE1 Pellet has important advantages even before it is put into the boiler room. Thanks to its particularly compact dimensions - 60 x 64 x 120 cm (W x L x H) - assembly is child's play, even in confined boiler rooms. The PE1 Pellet boiler unit is completely insulated and wired so all you need to do is plug it in.



### Feature: Large pellet container

Advantages: • Easy loading  
• Efficient operation

The large pellet container with a capacity of 32 - 76 L (depending on output size) reduces the frequency of pellet feed. The pellet container is filled fully automatically with an external suction turbine.

### Feature: Double protection system

Advantages: • The highest possible operating safety  
• Maximum burn back protection

The gate valve for the store **1** and the gate valve for the burner **2** provide a double valve system ensuring maximum operating safety.

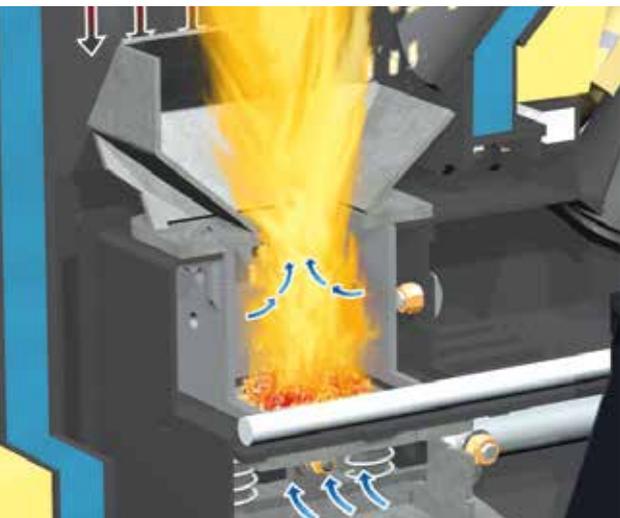


When fuel is fed from the store to the pellet container, the store gate valve opens. The gate valve for the burner closes simultaneously.



In this way the double protection system ensures a reliable closure between the store and the pellet burner, guaranteeing maximum burn back protection.

# Intelligent features



## **Feature: Automatic ignition**

- Advantages:
- quiet operation
  - low energy consumption

The new glow ignition is particularly suitable for low boiler outputs. As it is operated without an additional blower fan, the glow ignition is extremely quiet and saves a lot of energy.

## **Feature: Pellet burner with automatic sliding grate and chimney cut-off**

- Advantages:
- high efficiency
  - automatic ash removal

The burner is perfectly adapted to pellet fuel and its requirements, enabling a particularly high level of efficiency. The sliding grate ensures automatic ash removal into the large ashcan. The grate drive also controls the secondary air during combustion and after shutdown it works in combination with the integrated chimney cut-off to prevent quick cooling of the boiler due to the chimney draught.

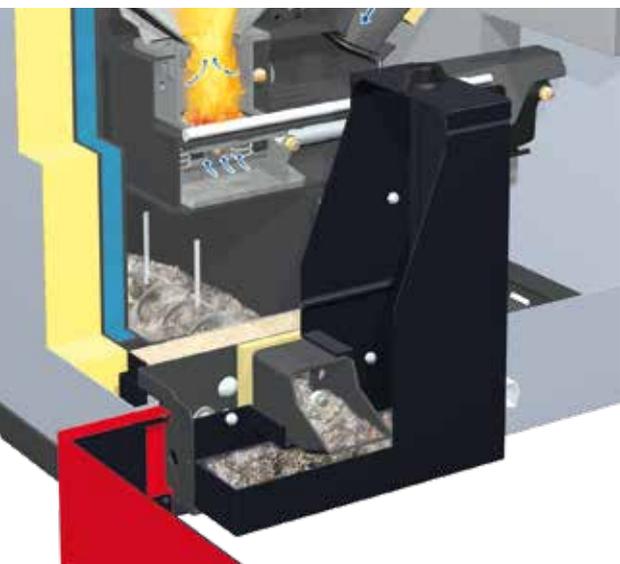


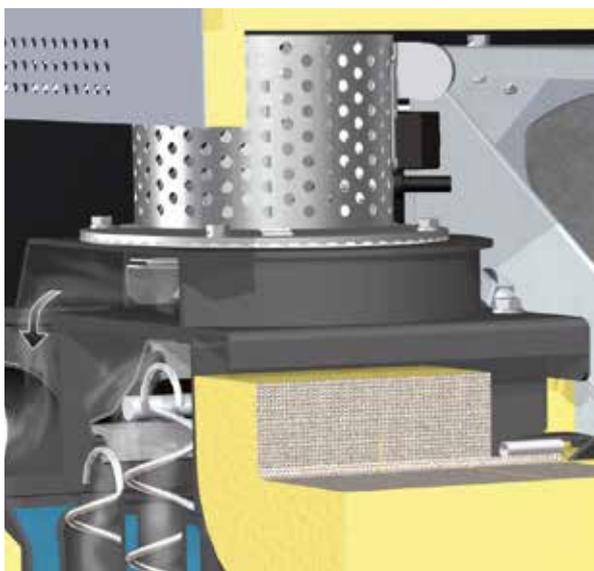
## **Feature: Automatic ash removal**

- Advantages:
- Long emptying intervals
  - Convenient emptying

We never compromise on convenience. The ash that accumulates is automatically conveyed into the large ashcan where it can be easily emptied.

The ash removal takes place automatically in a closed ash container by means of an ash screw.

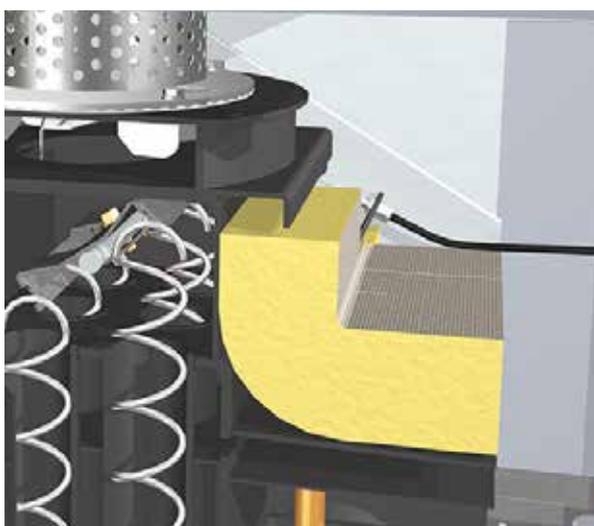




**Feature: Speed-controlled induced draught fan and lambda control with broadband probe**

- Advantages:
- Maximum ease of use
  - Constant optimisation of combustion

The speed-regulated induced draught fan, which comes as standard, ensures the exact air quantity for combustion. As the induced draught fan is speed-regulated, it stabilises combustion throughout and adjusts the output to requirements. Working together with the lambda control, it ensures optimum combustion conditions. The induced draught fan also runs very quietly and energy efficiently.



**Feature: WOS system as standard**

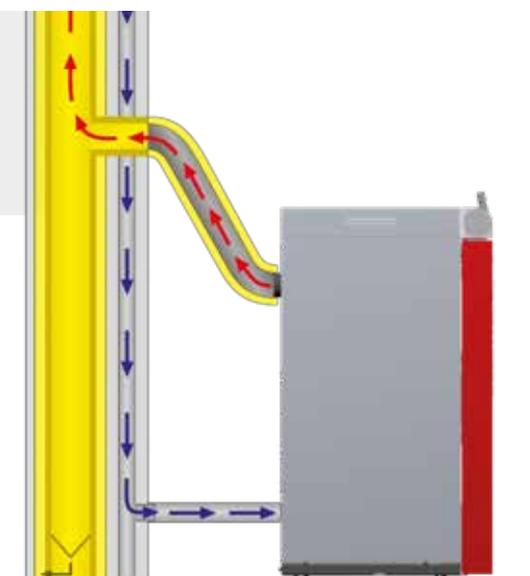
- Advantages:
- Even greater efficiency
  - Fuel savings

The WOS (Efficiency Optimisation System), which comes as standard, consists of special turbulators, which are placed in the heat exchanger pipes. The lever mechanism is controlled together with the double protection system. An additional benefit: clean heating surfaces ensure higher efficiency and thus lower fuel consumption.

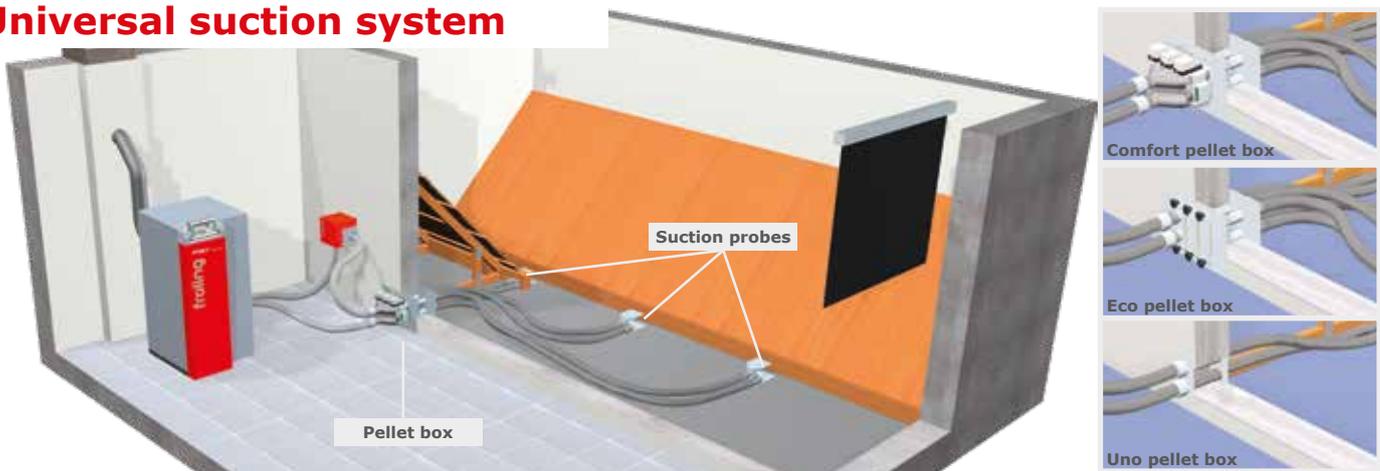
**Feature: Room air-independent operation**

- Advantages:
- Perfectly suited for low-energy houses
  - Maximum efficiency

Energy-saving houses often have a closed building shell. In traditional boiler rooms there can be uncontrolled heat loss from the necessary ventilation openings. This is avoided with room air-independent boilers because of the direct air connection. The combustion air that is fed in is also pre-heated with an integrated system, increasing the efficiency of the system.



## Universal suction system



This system is easy to install and very flexible. The universal suction system can handle even large distances between the store and the boiler room. The position of the suction probes or the transfer unit (pellet box) can be adjusted to suit the individual store conditions.

## 4 times suction system manual



Same as above but with manual switching between the suction systems.



### Cube 330/500S pellet supply bin

The Cube 330/500S is the optimal and most cost-effective solution for low fuel requirements. Manually filled (e.g. pellets in sacks) it can store a total of 330 kg/495 kg of pellets. The pellets are transported to the boiler by means of a suction probe, which is also included in delivery.



### External suction module

An external suction module is used for automatic fuel feed from the store to the pellet container. The suction module is fitted in the return line in any position.



### Pellet filling pipes

The pellets are delivered by tanker and blown into the store through a filling pipe. The second pipe is used for controlled and dust free removal of the escaping air.

## Bag silo



The bag silo systems come in eight different sizes and offer a flexible, simple way of storing pellets.

There are other advantages to using a bag silo. It is easy to assemble and dustproof. You can also fit rainproof and sunproof covers and install the silo outside.

## Suction screw system



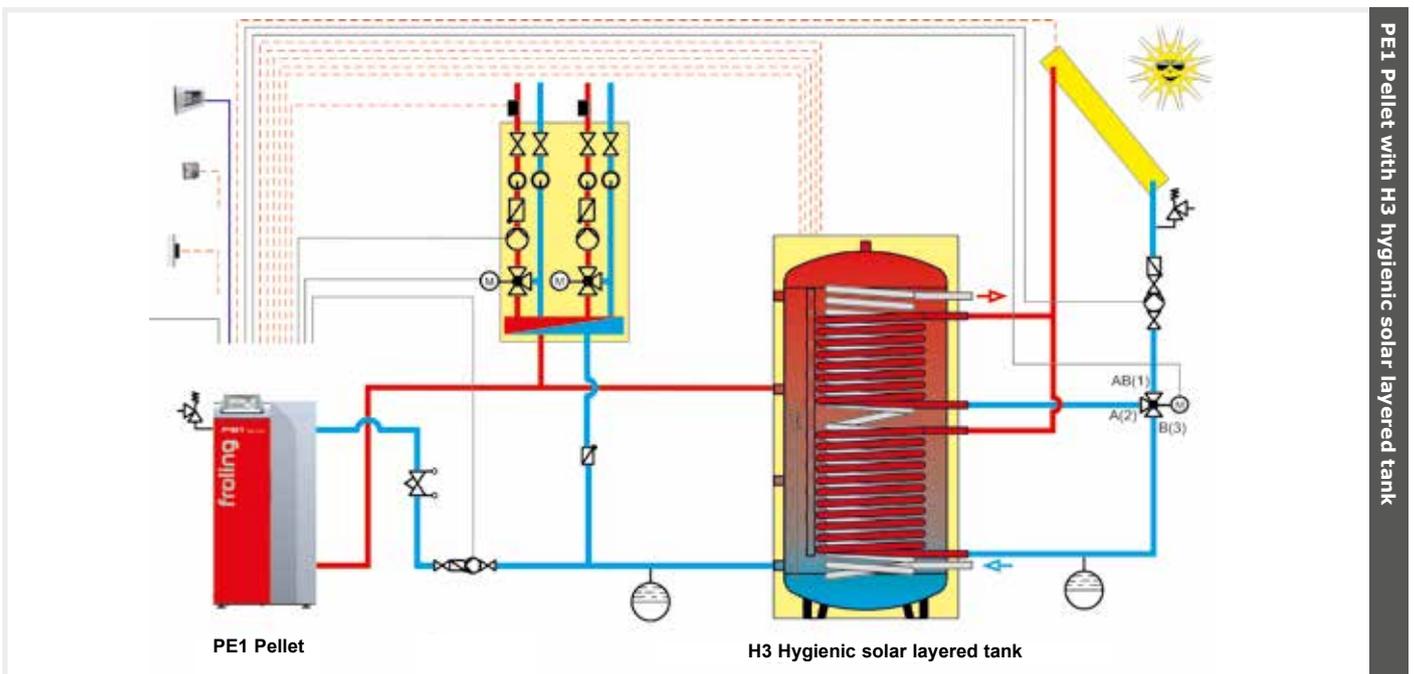
The Froling suction screw system is the ideal solution for rectangular rooms with front-end removal.

The deep and horizontal position of the discharge screw means the space in the room is used optimally and complete emptying of the store is guaranteed. Combined with a suction system from Froling it also enables flexible boiler installation.

### **Feature:** systems engineering for optimum energy consumption

- Advantages:
- complete solutions for all requirements
  - the components work perfectly together
  - integrated solar power

Froling systems engineering offers efficient energy management. Up to 4 storage tanks, 8 hot water tanks and 18 heating circuits can help manage the heating. You can also benefit from the ability to integrate other means of energy production such as solar panel systems.



## Lambdatronic P 3200 control



With the new Lambdatronic P 3200 boiler controller, Froling is taking a step into the future. The control unit is optimised to suit any requirement. An individually adjustable viewing angle ensures that all operating statuses are clearly displayed. Exact combustion control thanks to lambda control **with broadband probe** as standard. The menu structure is ideally organised to ensure easy operation. All essential functions can be selected by simply pressing a button.

### Lambdatronic P 3200 control

Advantages:

- Exact combustion control with broadband probe lambda control
- Large, clear control unit

### NEW! 7" Touch-Display

Advantages:

- Individual installation of your own heating system
- Even more comfortable operation of the boiler thanks to a larger touch screen

## NEW! SIMPLIFICATION OF BOILER SOFTWARE



Fig. 1 General overview of heating circuit



Fig. 2 View of the chimney sweeper function



Fig. 3 Overview of the new holiday mode

## Accessories for even greater ease of use



### FRA room temperature sensor

By using the Froling FRA room temperature sensor (measuring only 8x8 cm), the main modes of the corresponding heating circuit can be easily selected and adjusted. The FRA room temperature sensor can be connected with or without affecting the room area. The adjusting wheel allows you to change the room temperature by up to  $\pm 3^{\circ}\text{C}$ .



### RBG 3200 Touch room console

The RBG 3200 Touch has an impressive touchpad interface. The menu structure means it is intuitive and easy to use. The 17x10 cm console with colour screen shows the most important functions at a glance and automatically adjusts the background lighting to the conditions. The room consoles are connected to the boiler controller using a bus cable.

**NEW:**

## EVERYTHING AT A GLANCE WITH THE NEW FROLING APP

- ✓ Simple and intuitive operation of the boiler
- ✓ Status information can be called up and changed within seconds
- ✓ Individual naming of the heating circuits
- ✓ Status changes are transmitted directly to the user (e.g. via e-mail or push notifications)
- ✓ No additional hardware required (e.g. Internet gateway)



With the new Froling App, you can check and control your Froling boiler online from anywhere at any time. You can read and modify the main status information and settings easily and conveniently online. You can also specify which status messages you want to be informed about via SMS or e-mail (e.g. when the ash box is to be emptied or in the event of a fault message).

With optimized tablet view!

Froling boiler (software core module from version V50.04 B05.16) with boiler touch display (from version V60.01 B01.34), a (broadband) internet connection and a tablet/smartphone with IOS or Android operating system. Once the boiler has been connected to the internet and activated, the system can be accessed 24/7 from anywhere using a web-enabled device (mobile, tablet, PC, etc.). The app is available in the Android Play Store and IOS App Store.



**SMART  
HOME**

## FLEXIBLE SOLUTION



Enjoy smart, convenient and piece-of-mind living with the Smart Home connection options from Froling.

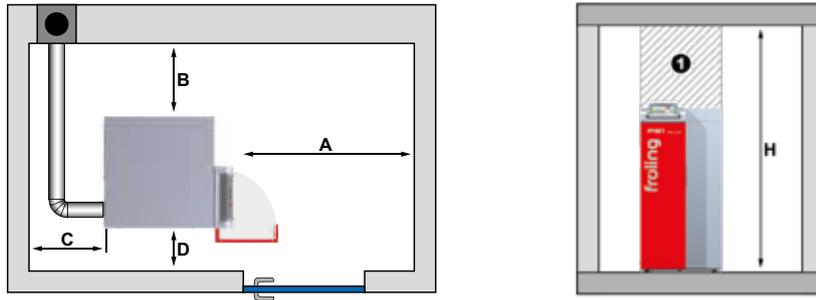
**Loxone:** Combine your Froling heating system with the Loxone Miniserver and the new Froling Extension and implement individual boiler control on the basis of the single room control of the Loxone Smart Home.

**Advantages:** Easy operation and viewing of the heating circuit via the Loxone Miniserver, immediate notification of status changes and individual operating modes for each situation (presence, holiday, economy mode, etc.)



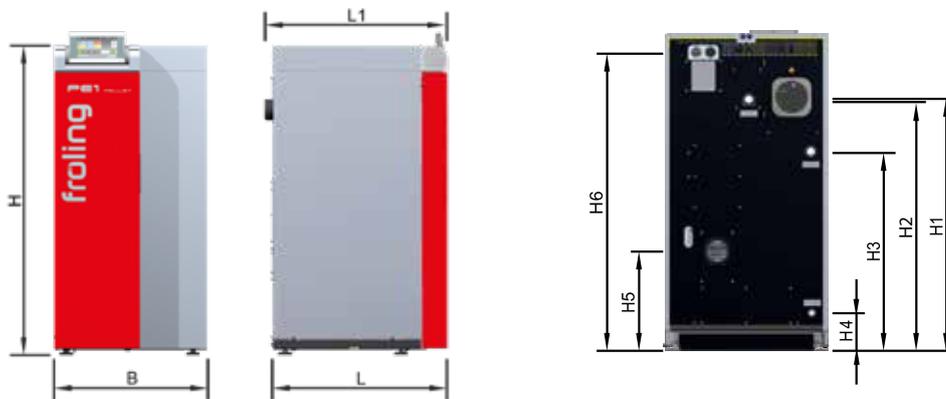
**Mod bus:** Via the Froling mod bus interface, the system can be integrated into a building management system.

# PE1 Pellet



Minimum distances in the boiler room	20	35
A Distance between insulated door and wall	24 inches (600 mm)	
B Distance – side of boiler to wall (controller side)	12 inches (300 mm)	
C Distance – back to wall	12 inches (300 mm)	
D Distance – side of boiler to wall (door stop side)	4 inches (100 mm)	
Minimum space (length x width)	61 x 46 inches (1550 x 1150 mm)	69 x 46 inches (1750 x 1150 mm)
H Minimum room height incl. maintenance area (1)	6.3 ft (190 cm)	7.2 ft (220 cm)

Additional area to be covered is underneath the chimney connector and extending at least 2 inches (50mm) on either side of the chimney connector.



Dimensions - PE1 Pellet		20	35
L Length of boiler	[inches/mm]	27/690	33.5/850
L1 Total length incl. flue gas pipe connection	[inches/mm]	29/740	35/890
B Width of boiler	[inches/mm]	29.5/750	29.5/750
H Height of boiler	[inches/mm]	47/1200	58/1470
H1 Height, flue gas pipe connection	[inches/mm]	36.5/940	46/1170
H2 Height, ventilation connection	[inches/mm]	37/930	46/1160
H3 Height, return connection	[inches/mm]	29.5/750	36/920
H4 Height of drainage connection	[inches/mm]	4/95	7/175
H5 Height, supply air connection (for room air-independent operation)	[inches/mm]	15/390	18/460
H6 Height, suction system connection	[inches/mm]	44/1110	54/1380
Flue spigot diameter	[inches/mm]	5/129	6/149

Both flue spigot diameter without adapter possible.

# Technical data

Technical specifications - PE1 Pellet		20	35
Nominal output	Btu/h (kW)	68,200 (20)	119,500 (35)
Output range	Btu/h (kW)	15,300 – 68,200 (4,5 – 20)	24,600 – 119,500 (7,2 – 35)
Maximum Working Pressure		30 PSI	
Electrical connection		230V / 60Hz / fused C16A	
Power consumption	Btu (W)	170 (50)	229 (67)
Boiler weight	lbs (kg)	550 (250)	840 (380)
Total boiler capacity (water)	gal (l)	10 (38)	16 (60)
Pellet container capacity	gal (l)	11 (41)	20 (76)
Ashcan / ash box capacity	gal (l)	5 (18)	7.4 (28)
Water pressure drop ( $\Delta T = 20K$ )	inch WC (mbar)	2 (5,0)	5.6 (14,0)
Minimum boiler return temperature		Not applicable due to internal return temperature control	
Maximum boiler temperature setting	°F (°C)	194 (90)	
Minimum boiler temperature setting	°F (°C)	104 (40)	122 (50)
Airborne sound level	dB(A)	< 70	
Boiler class as per EN 303-5:2012		5	
Annual efficiency rating (EPA method)	%	78.4	80.1
Particle emissions	Lbs/mm Btu/hr	0.049	0.053
	Grams/hr	0.425	0.074
Permitted fuel	Pellet Fuel Institute (PFI) Standard Specification for Residential / Commercial Densified Fuel; Fuel Grade: "Super Premium" or "Premium"		

PE1 Pellet Boilers are pressure tested in accordance with EN 303-5, NON-ASME. OMNI listed to UL/CSA Standards; Compliant with EPA (2015 NSPS);

Your Froling partner:



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