

**NEW!** FROLING  
SPACE SAVER

**P5** PELLET

PELLET BOILER 12-40 kW



**NEW!**

- Innovative boiler controller **Lambdatronic 5000**
- **Electrostatic precipitator can be integrated**

**A++**  
with condenser  
and controller



BETTER HEATING

INNOVATIVE AND  
CONVENIENT

**froling**



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ENVIRONMENTALLY  
**RESPONSIBLE HEATING,**  
ECONOMICALLY  
ATTRACTIVE

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The price movements for different energy sources in recent years show the benefits of wood pellets: an environmentally clean way of heating which also is economically attractive. Wood is a renewable energy source that is also CO<sub>2</sub>-neutral. Pellets are made of natural wood. The large quantity of wood shavings and sawdust produced by the industry

are compacted and pelleted without being treated beforehand. Pellets have a high energy density and are easy to deliver and store. These are just two of the advantages that make pellets the perfect fuel for fully automatic heating systems. Pellets are delivered by tanker and unloaded directly into your fuel store.

Froling has been working for sixty years on the efficient use of wood as a source of energy. Today the name Froling stands for modern biomass heating technology. Our 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. Froling's extensive service network ensures that we can handle all enquiries quickly.

GUARANTEED  
QUALITY AND  
RELIABILITY  
FROM AUSTRIA

- International pioneer in technology and design
- Sophisticated fully automatic operation
- Excellent environmental compatibility
- Environmentally responsible energy efficiency
- Renewable and CO<sub>2</sub>-neutral fuel
- Ideal for all types of house
- More convenience and reliability

The newly developed P5 Pellet can be equipped with an optional electrostatic particle separator, which minimises dust emissions.

Thanks to the integrated return temperature control, the boiler always runs within the optimal temperature range, thus increasing efficiency.

## What advantages does a P5 pellet offer?

- **Simple integration**
- **Minimum space requirement**
- **Optimum combustion**
- **Dust emissions reduced to a minimum and much more...**



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# PELLET BOILER P5 PELLETT

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**NEW!**

Optional integrable electrostatic precipitator

Continuously integrated return temperature control without a mixing valve for maximum efficiency

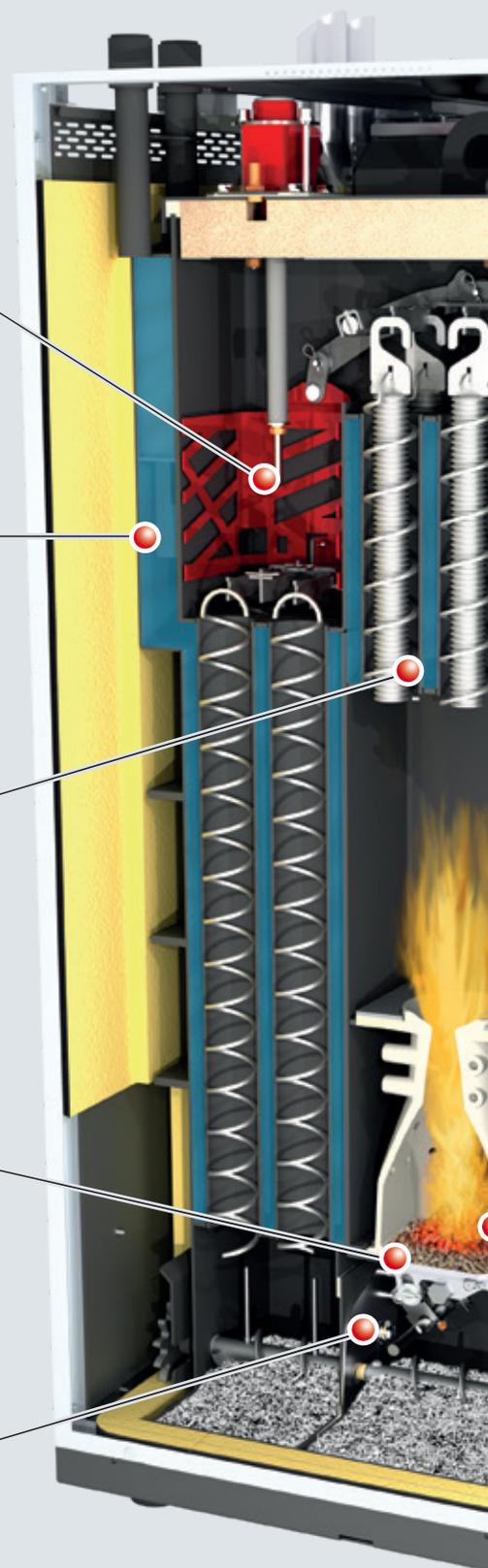
WOS system Efficiency Optimisation System

**NEW!**

Patented slatted tipping grate with automatic grate cleaning

**NEW!**

Innovative ash flap





**NEW!**

Lambdatronic 5000 controller with 7" glass touch display for easy and intuitive operation



**NEW!**

High-temperature cast steel combustion chamber with tangential secondary air nozzles for even better combustion

High-quality insulation for minimal radiant heat loss



Power-saving ceramic glow igniter for minimised energy consumption

Automatic ash removal into a closed ash container

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## NO COMPROMISES WITH CONVENIENT ASH REMOVAL

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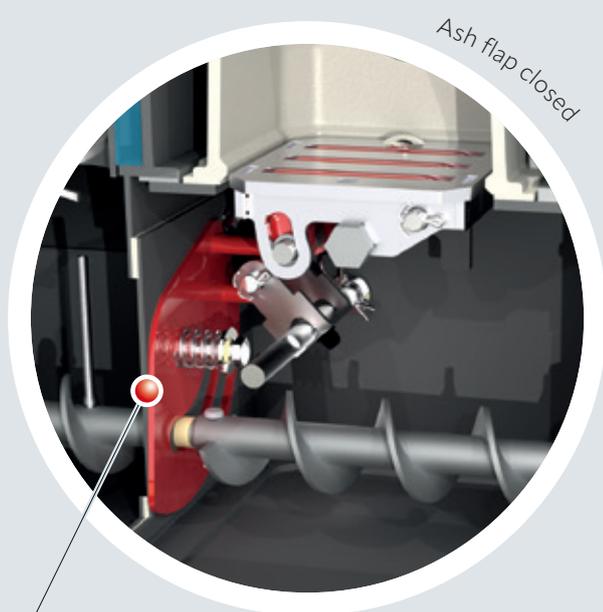
With automatic ash removal, the ash is fed into an external ash container. The clever locking mechanism makes it quick and easy to remove the ash container.

### Optimum combustion in the heating phase

The patented slatted tipping grate ensures thorough cleaning thanks to its special design. It offers consistent air conditions to achieve optimal combustion.

### Perfect emptying in the cleaning phase

Due to the 110° tilt, the ash is completely emptied from the tipping grate and discharged into the large-volume ash container with the help of the ash screw.



Ash flap

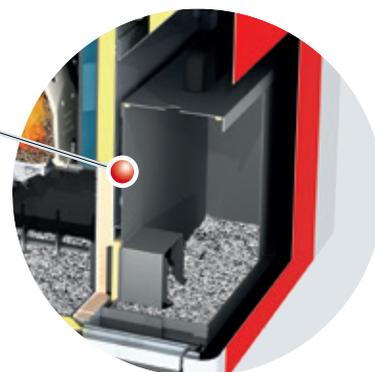
Automatic ash removal from the combustion chamber and the heat exchanger into the common ash container takes place with just one ash screw. The ash flap, which is operated simultaneously with the tipping grate, was developed to hermetically separate the two air spaces. Ash removal takes place only when the appliance is at rest during the combustion pauses so that no dust is stirred up. The ash screw is speed-monitored, which means that the boiler automatically generates a warning message when the ash box is full.

- Advantages:
- Efficient emptying behaviour
  - No additional drive required (driven by tipping grate motor)
  - Ash removal only at grate cleaning

### Convenient ash clearance

We never compromise on convenience. The ash that remains is automatically fed into an enclosed ash container by means of the ash screw conveyor. The time of emptying can be seen on the screen.

- Advantages:
- Long emptying intervals
  - Convenient emptying



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# FOR EVEN GREATER SAFETY

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## Double gate valve system

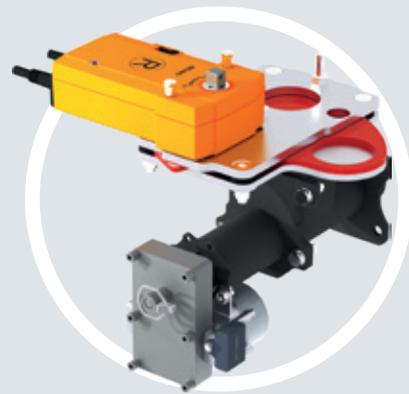
The gate valve for the fuel store and the gate valve for the burner provide a double airlock system ensuring maximum operating safety.

- Advantages:
- The greatest possible operational safety
  - Maximum burn back protection



### Gate valve to the fuel store

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



### Gate valve to the burner

This valve is open during the heating process, while the sliding valve to the fuel store is closed at the same time. In the event of a power cut or malfunction, the sliding valve closes automatically and therefore offers maximum safety.

### Large pellet container

The pellet container reduces the frequency of pellet feeding. The pellet container filling is performed automatically by the external suction turbine.

- Advantages:
- Easy filling
  - Efficient operation

## INTELLIGENT FEATURES

### Lambda probe for optimal combustion

### Speed-controlled induced draught fan

The speed-controlled induced draught fan ensures the exact air quantity for combustion. As the induced draught fan is speed-controlled, it stabilises combustion throughout the entire combustion time and adjusts the air quantity to the output and the respective material. Working together with the lambda controller, it ensures optimum combustion conditions. The speed-controlled induced draught fan has a significantly higher efficiency than conventional induced draught fans with AC motors. This results in significant power savings, especially in partial load conditions.

- Advantages:
- Maximum ease of use
  - Continuous optimisation of combustion
  - Up to 40 % less power consumption

### Flue gas recirculation (FGR)

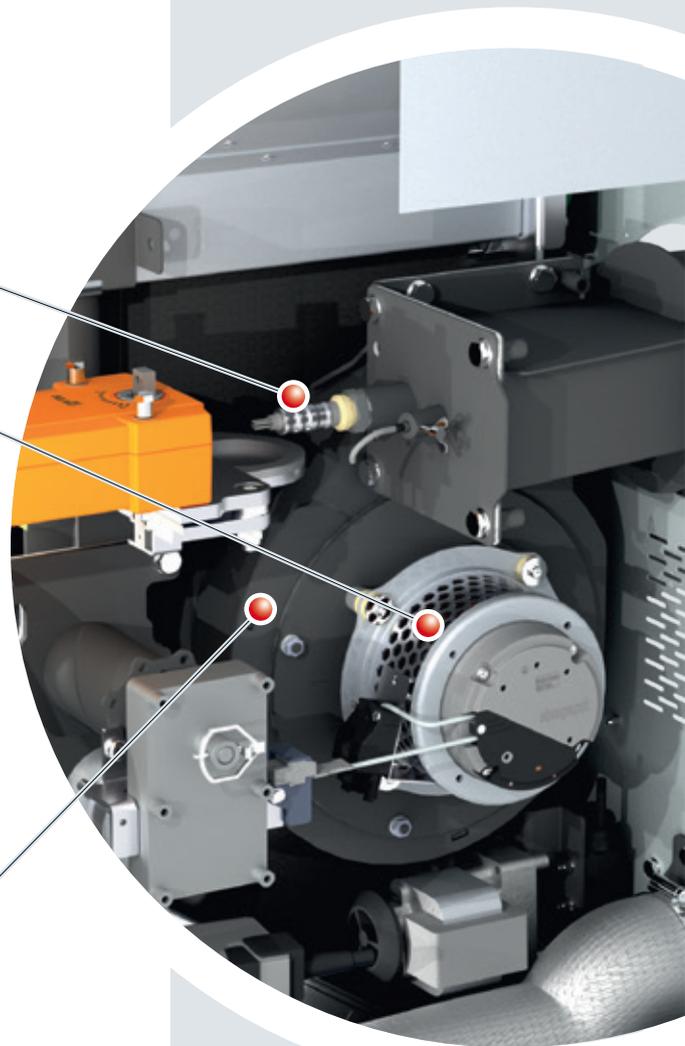
The flue gas recirculation system FGR mixes part of the flue gas with the combustion air and returns it to the combustion system. The FGR optimises combustion and performance, and also reduces the NO<sub>x</sub> emissions and dust emissions. The lower combustion temperatures offer added protection for flame-swept parts.

- Advantages:
- Ideal combustion conditions
  - Intelligent control of air quantity
  - Reduced exhaust emissions

### Optional integrated particle separator (electrostatic precipitator)

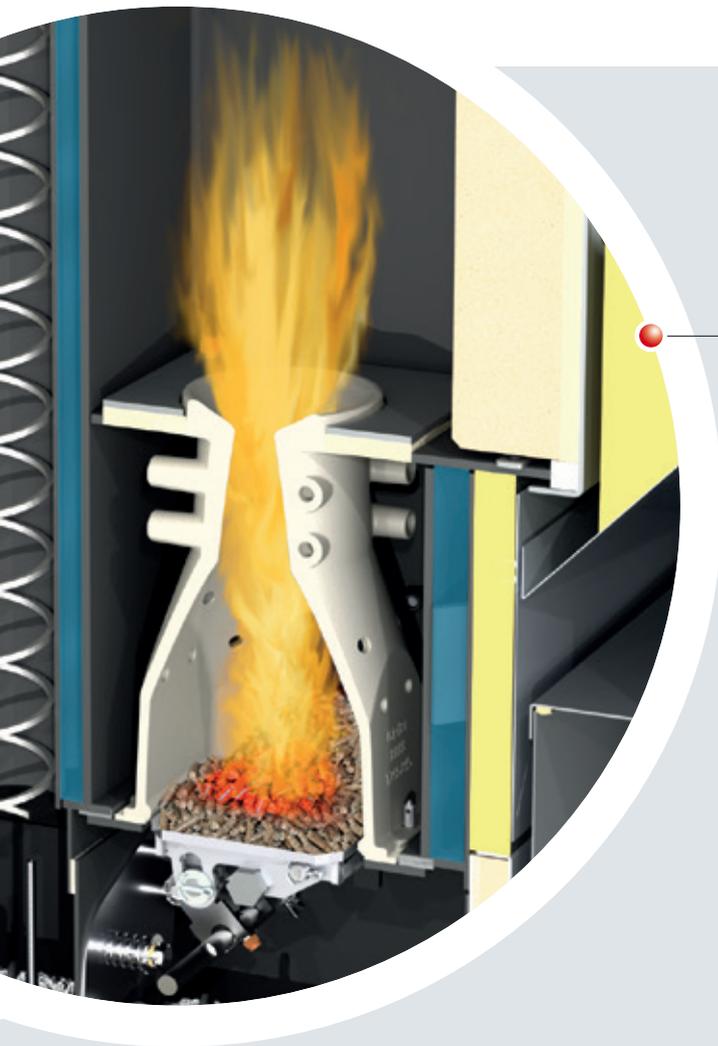
The optionally available electrostatic precipitator (particle separator) can be retrofitted at any time. This means that the fine dust emissions from the boiler, which are very low in any case, can be reduced to a level close to the limit of measurement. Cleaning down is fully automatic.

- Advantages:
- Can be retrofitted on site
  - Combined cleaning with heat exchanger optimisation system (WOS)
  - Quick installation
  - Satisfies the new funding guidelines in Germany (emission reduction subsidy amounting to € 2,500)



**NEW!**

Optional integrated particle separator (electrostatic precipitator)



**NEW!**

### High-temperature cast steel combustion chamber with tangential secondary air nozzles

The special tangential arrangement and shape of the secondary air nozzles ensures perfect mixing of the combustion gases and ideal burnout. The resulting swirl also prevents soiling of the combustion chamber and the burnout chamber.

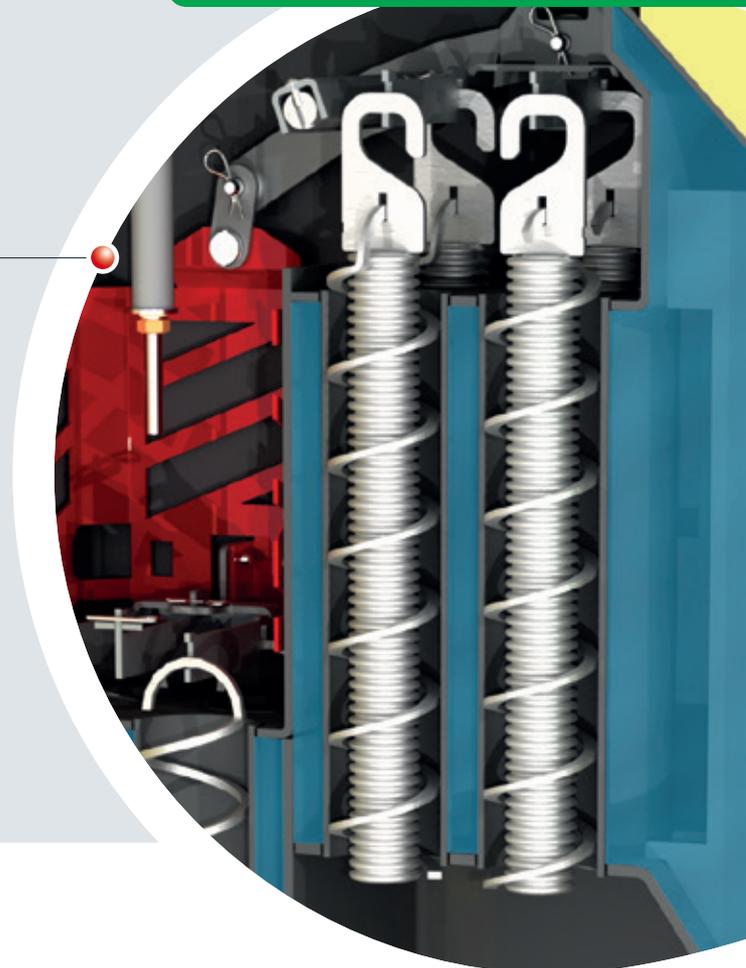
- Advantages:
- Very high temperature resistance for a long working life
  - Optimum emission values thanks to perfect mixing of the combustion gases

### Automatic cleaning of all heat exchanger pipes

### Heat exchanger with automatic cleaning (WOS) of all passes

The integrated WOS (Efficiency Optimisation System) - which comes as standard - consists of special turbulators, which are installed in the heat exchanger pipes and clean them by moving up and down. This means clean heating surfaces and thus greater efficiency and lower fuel consumption. The displacement bodies used in the core optimise heat transfer and increase efficiency to a maximum.

- Advantages:
- Thorough automatic cleaning
  - Continuously high efficiency
  - Savings on fuel



# A WELL-DESIGNED HOME

## Flue pipe connection with angular adjustment

By turning the flue pipe connection to the right, the boiler can be placed in the corner. This means that the space requirement can be optimised depending on the installation room.

- Advantages:
- Can be rotated without additional mounting material
  - High flexibility on the construction site
  - Optimisation of the space requirement (depending on the chimney situation)

**NEW!** Flue pipe can be connected either at the rear or on the right

Flue pipe on the right



Flue pipe at the rear

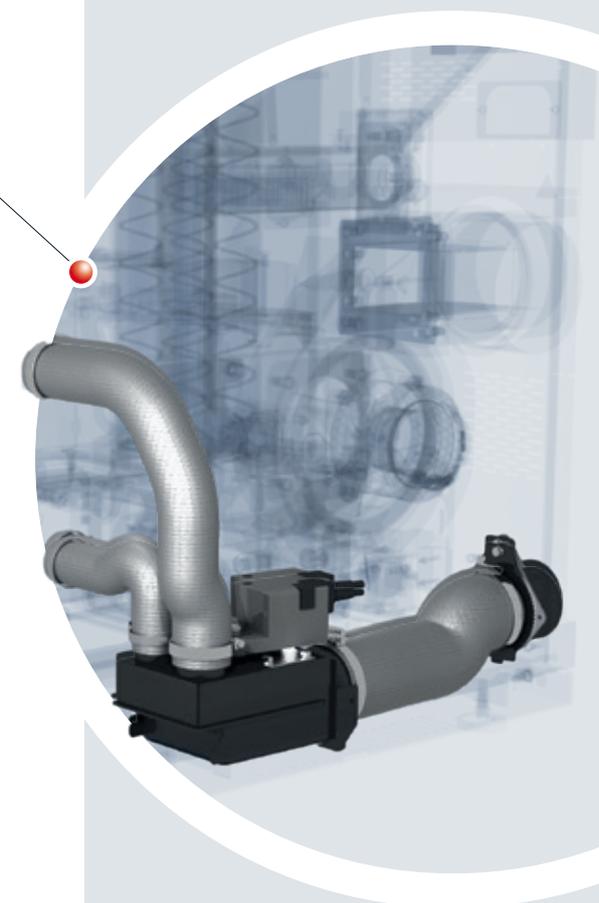
## Precise primary and secondary air control

Combustion in the P5 Pellet is controlled by under-pressure. Combined with the EC induced draught fan, this guarantees very high operating safety. The innovative control of air distribution in the combustion zone is a new feature. Primary and secondary air are optimally adjusted to the conditions in the combustion chamber with only one actuator. This, combined with the lambda controller which comes as standard, ensures that emissions are kept to a minimum.

## Operation independently of the room air (optional)

Energy-saving houses often have a closed building shell. In traditional boiler rooms there can be uncontrolled heat loss from necessary ventilation openings. Boilers independent of room air avoid this, because they have a direct air intake connection.

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



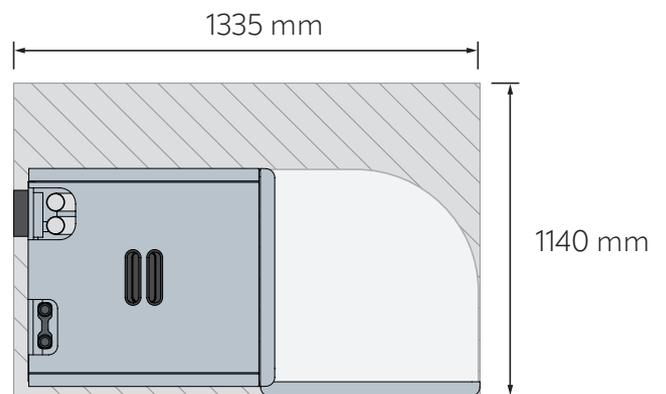
## SPACE MIRACLE WITH THE LATEST TECHNOLOGY



- 1 Pellet suction hose connection from above
- 2 Supply and return connections from above
- 3 Up to three pump assemblies can be mounted directly on the boiler (mixed/unmixed)
- 4 Flue pipe connection at the rear or the right
- 5 Perfect connection to the chimney using the Froling connection pipe FAR



Only 1.5 m<sup>2</sup> of floor space required!



P5 Pellet 12 - 20 kW

### Simple integration

Installation and assembly has never been so easy! Thanks to its compact design and low weight, the P5 Pellet can be easily transported to the boiler room (e.g. with a hand truck) and installed even in tight spaces.



Entry via the stairwell



Loading with a sack truck

# INSTALLATION EXAMPLES IN PRACTICE

## RS 4 / RS 8 pellet suction system

The RS 4 / RS 8 pellet suction system creates more space in your fuel store. Thanks to the fact that the suction probes are flexible in terms of location, it is possible to make optimal use of every shape of room. It automatically selects 4 or 8 suction probes in specified cycles and is controlled directly by the pellet boiler. If however the suction probe unexpectedly fails, the situation is remedied by a fully automatic reversal of the air supply (back flushing).

- Advantages:
- Easy to install
  - Sloping sides in the bunker not absolutely necessary
  - Automatic switching between probes
  - Automatic back flushing
  - Maintenance-free system



## Automatic choice of probes

It automatically selects 4 or 8 suction probes in specified cycles and is controlled directly by the pellet boiler. If however the suction probe unexpectedly malfunctions, the situation is remedied by a fully automatic reversal of the air supply / back flushing (as illustrated).



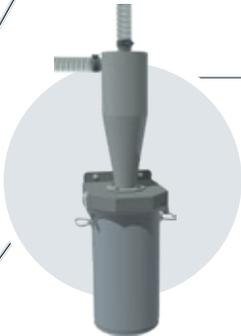
## 4-suction probe manual system

Design as above with the difference that switching between the suction probes is by hand/manual.



### External suction module (included in the scope of delivery)

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



### PST pellet deduster (optional)

The PST pellet deduster can be fitted in any position in the return air line of the pellet suction system. The suction cyclone design means that the dust particles are separated from the return air and trapped internally. This greatly reduces soiling of the fuel store. The container is convenient to remove and transport to the emptying point. The system can be retrofitted at any time and it is maintenance-free.



### Pellet filler 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.



### Pyramid for fuel store optimisation

Pyramids can be placed between the probes to reduce the quantity remaining in the store.



### Variosilo pellet bag (2.2 t - 8.8 t)

The Variosilo pellet bag provides the best possible storage volume within its footprint. Thanks to the use of lifting springs the entire footprint can be used as storage volume at the time of filling. As the bag silo is emptied the fabric lifts at one side thus forming a slope towards the delivery side, allowing the full quantity of pellets to be sucked up.



### Pellet box (3.3 t - 12.5 t)

The pellet box is assembled on site from prefabricated steel sheets (no drilling, cutting or welding required) and therefore guarantees quick and easy installation. Due to the self-supporting construction, no drilling or sloping work on existing walls is necessary. As the individual parts are screwed together on the inside, the tank can easily be installed in a corner, niche or low room. For discharge, you can choose between a system using suction probes or a screw conveyor system. Also ideal for damp fuel stores.



### Suction screw (can be customised)

The Froling suction screw is the ideal solution for rectangular rooms with removal from the narrow end. The deep and horizontal position of the discharge screw means the space in the room is used optimally and complete emptying of the fuel store is guaranteed. Combined with a suction system from Froling it also enables flexible boiler installation.

Pellet supply bin  
Cube 330 (330 kg)  
Cube 500S (500 kg)

The Cube 330/500S is the optimum and most cost-effective solution for smaller fuel requirements. With its sturdy cardboard cladding (Cube 330) or galvanised steel plate (Cube 500S) it guarantees a clean pellet feed and saves space in the fuel store. Manually filled (e.g. pellets in sacks) it can store a total of 330 kg or 500 kg of pellets. The pellets are transported to the boiler by means of a suction probe, which is also included in delivery.



Pellet mole® (can be customised)

This pellet discharge system is easy to install and makes full use of the store space. The Pellet Mole® draws the pellets from above, ensuring an optimum fuel feed to the boiler. The Pellet Mole moves automatically into every corner of the fuel store to empty it as efficiently as possible. The Pellet Mole® was developed for square rooms (up to 240 x 240 cm) with a room height of 1.7 to 3.0 metres.



Pellet mole E3® (up to 40 t)

The E3® pellet mole supplies a pellet requirement of several tonnes a year to pellet boilers. A typical fuel store size is around up to 40 tons of pellets or 60m<sup>3</sup> capacity in various shapes - from round and square to rectangular, making the E3® pellet mole hugely versatile.



More information can be found on the Fröling brochure "Outfeeders for pellets"

# INDIVIDUAL CONTROLLER FOR THE HEATING SYSTEM



## Lambdatronic 5000 controller

With the new Lambdatronic 5000 boiler controller and the modern **7" glass touch display**, Fröling is moving into the future. The new design is impressive, not only for its intuitive operation but also its numerous new features. The most important components can be freely selected in the tile overview and information and error messages can be customised. For example, the control system will inform you when the ash box needs to be emptied. This makes operating and running the system even simpler and easier to understand. The intelligent control management enables the almost unlimited integration of heating circuits, storage tanks and hot water tanks.

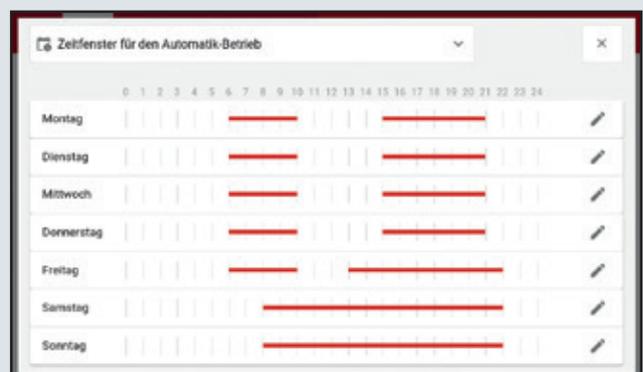
- Advantages:
- Precise combustion control by a Lambda controller using a Lambda probe
  - Connection of heating circuits, water heaters and buffer storage tanks Management systems
  - Integration capability for a solar panel system
  - LED frame for status display with illuminated presence detection
  - Simple & intuitive operation
  - Various SmartHome solutions (e.g. Loxone, Modbus TCP) Remote control from the Living room (room console) or via the Internet ([froeling-connect.com](http://froeling-connect.com))



## SIMPLE & INTUITIVE OPERATION



Overview of the installed systems in a tile display



Heating time control for individual determination of heating times

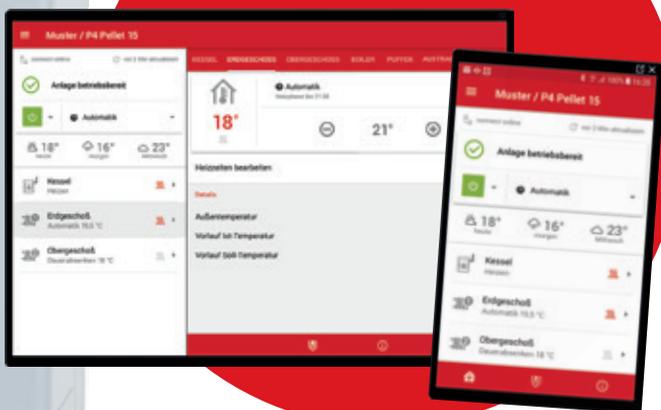


## EVERYTHING AT A GLANCE AT ALL TIMES WITH THE FRÖLING-APP

The Fröling App allows you to check and control your Fröling 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 (such as when the ash box should be emptied or in the event of faults).

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.

**NEW!** Desktop version with even more options



- Simple and intuitive operation of the boiler
- Status values can be viewed and changed in seconds
- Individual naming of the heating circuits
- Changes of status are transmitted directly to the user (for instance by e-mail or push message notifications)
- No additional hardware (such as an Internet gateway) required

## SMART HOME

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



Integration of Loxone possible



Modbus

The system can be integrated into a building management system via the Fröling mod bus interface.



**NEW!**



### RBG 5000 room console

The new RBG 5000 room console makes the system even more convenient. You can control the heating system easily from your living room. Important system values are clearly displayed and settings can be changed at the push of a button. The RBG 5000 can be conveniently integrated via LAN/PoE or WLAN.



### Room controller (digital)

The most important operating modes and temperatures of the assigned heating circuit can be displayed and set or selected very easily with the room controller, which measures just 8 x 8 cm. By continuously balancing the set-point and actual temperature in the room, the room controller ensures the desired cosy temperature and adjustment of the heating circuit flow temperature.



### Room temperature sensor (analogue)

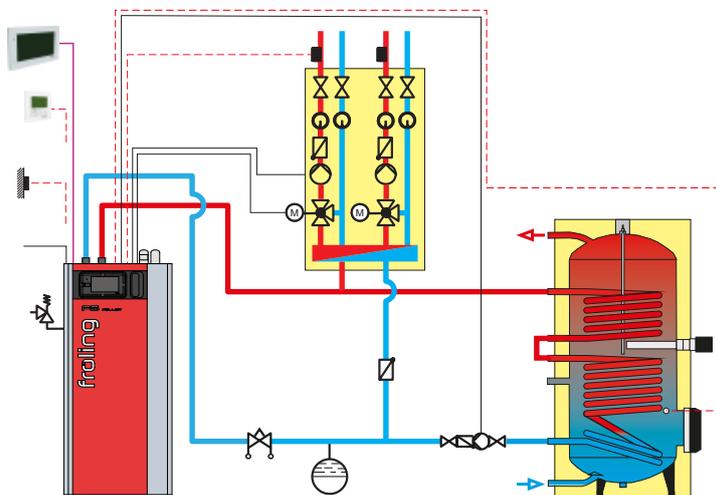
The room temperature sensor measures the room temperature and passes this on to the boiler. This ensures perfectly matched operation of the boiler. The temperature can also be shown on the boiler display, on the room console or in froeling-connect (app or web interface).

## SYSTEM TECHNOLOGY FOR EFFICIENT USE OF ENERGY

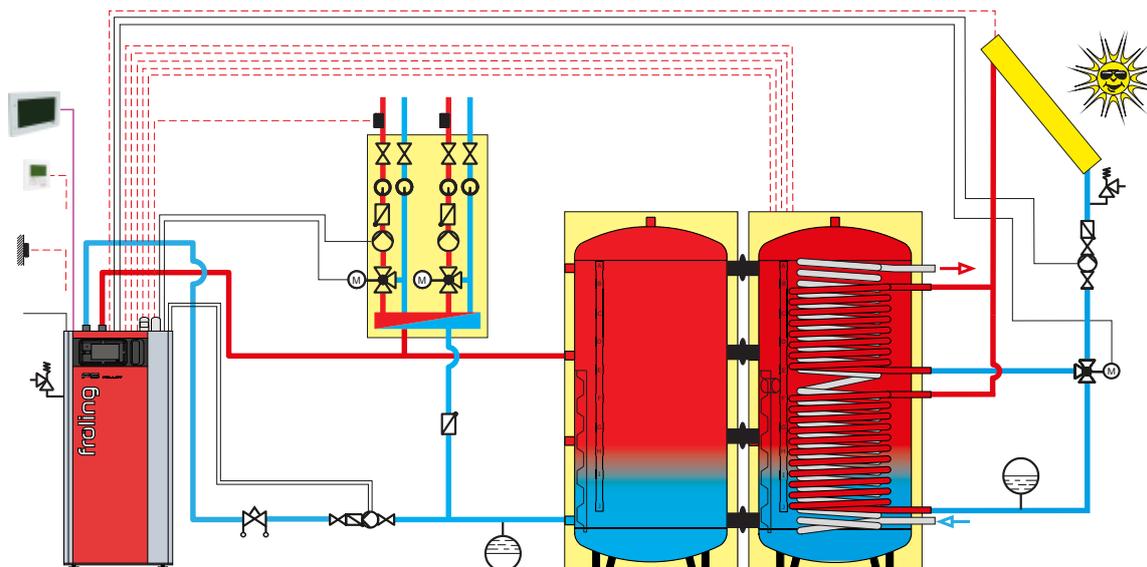
Froeling systems engineering offers efficient energy management. Up to 4 storage tanks, 8 hot water tanks and 18 heating circuits can help manage the heating. You can also benefit from the ability to integrate other means of energy production such as solar panel systems.

- Advantages:
- Complete solution for all requirements
  - Perfectly matched components
  - Integration of solar power

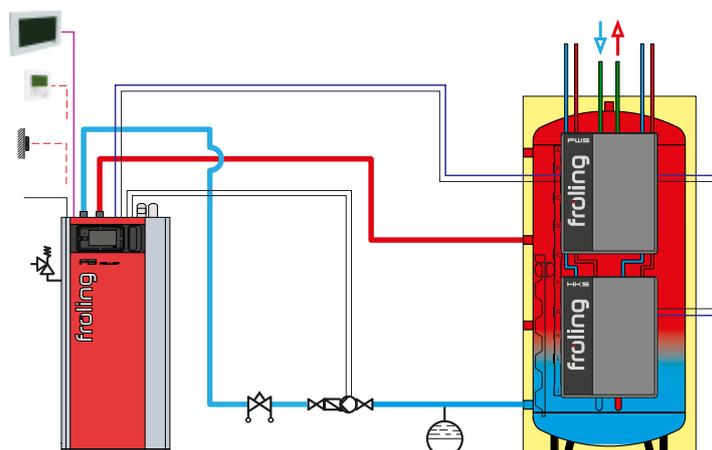
### P5 Pellet with Unicell NT-S domestic hot water tank



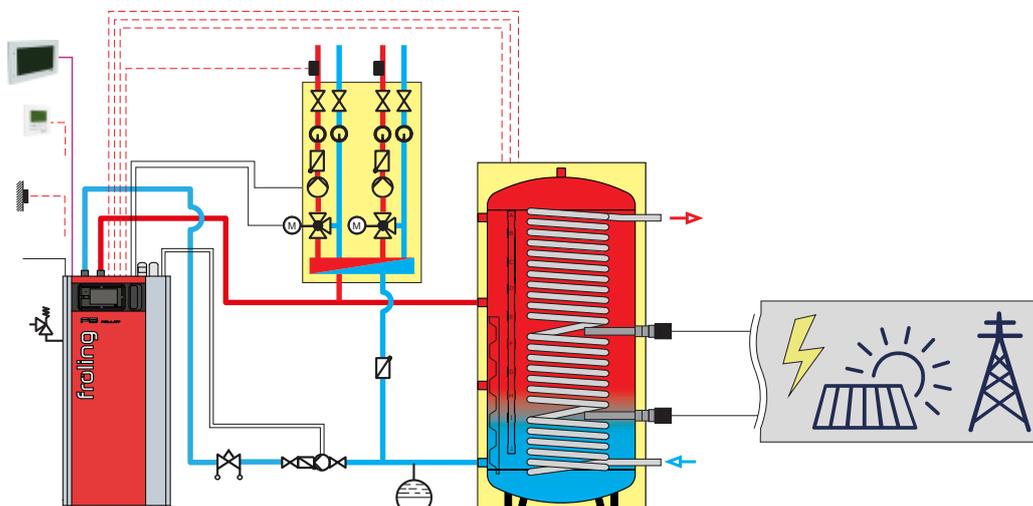
P5 Turbo with H3 hygiene solar layered tank and solar connection



P5 Pellet with H3 hygienic solar layered tank, FWS fresh water station and HKS heating circuit station



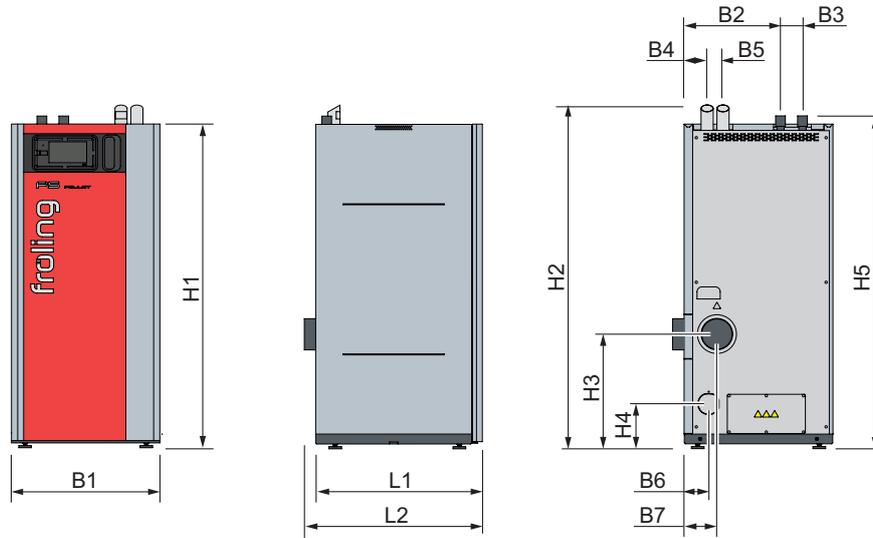
P5 Pellet with H2 hygienic layered tank and double electric heating cartridge



The schematic configurator allows realisation of many other hydraulic connection options!

# DIMENSIONS & TECHNICAL DATA

## P5 PELLET 12 - 20 KW

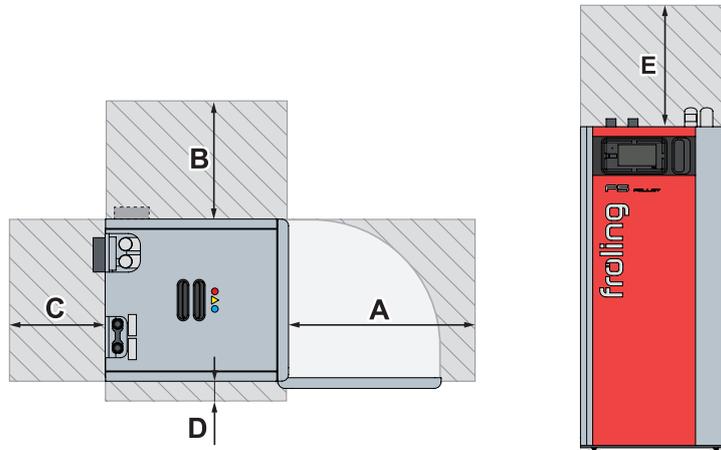


Dimensions in mm - P5 Pellet		12	15	18	20
L1	Length, boiler	685	685	685	685
L2	Total length incl. flue gas pipe connection	730	730	730	730
B1	Width of boiler	610	610	610	610
B2	Distance of the flow to the side of the boiler	395	395	395	395
B3	Distance flow/return	90	90	90	90
B4	Distance between the suction lines and the side of the boiler	95	95	95	95
B5	Distance of suction hose connections	65	65	65	65
B6	Distance of the supply air to the side of the boiler	105	105	105	105
B7	Distance of the flue gas pipe connection from the side of the boiler	135	135	135	135
H1	Height, boiler	1340	1340	1340	1340
H2	Height of suction hose connections	1420	1420	1420	1420
H3	Height of rear flue gas pipe connection (optional)	475	475	475	475
H4	Height of supply air line	115	115	115	115
H5	Height, flow/return connection	1375	1375	1375	1375
Flue spigot diameter, outside		129	129	129	129
Technical specifications - P5 Pellet		12	15	18	20
Rated heat output <sup>1</sup>	[kW]	12	14.9	18	20
Power consumption (nominal load)	[W]	55	60	65	65
Energy label <sup>2</sup>		A <sup>++</sup>	A <sup>++</sup>	A <sup>++</sup>	A <sup>++</sup>
Electrical connection	[V/Hz/A]	230 V / 50 Hz / fused C16A			
Weight	[kg]	260	260	260	260
Boiler capacity (water)	[l]	30	30	30	30
Pellet container capacity	[l]	55	55	55	55
Capacity, ash container	[l]	16	16	16	16

<sup>1</sup> Please note the eligible storage tank content for Germany! Please observe the subsidy regulations with regard to the required storage tank (eligibility).

<sup>2</sup> Efficiency label (boiler + controller + condenser)

# OPERATING & MAINTENANCE AREAS P5 PELLETT 12 - 20 KW



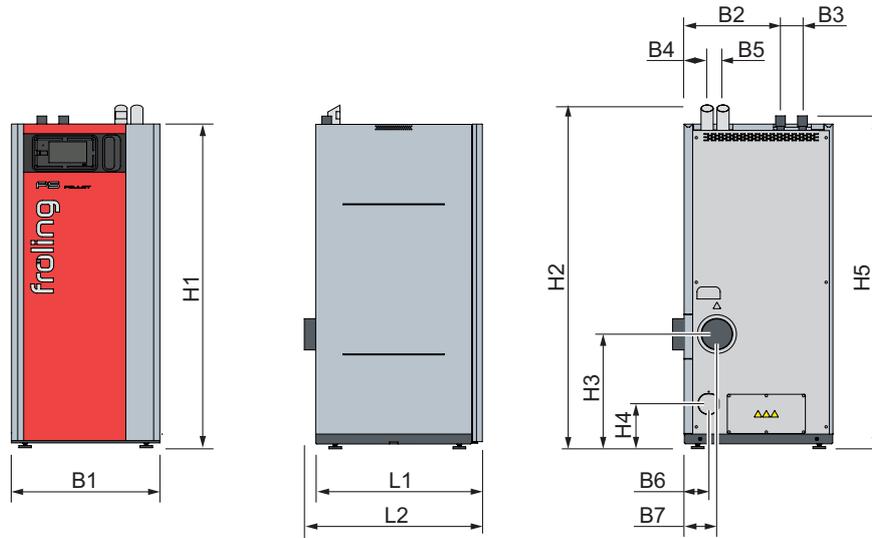
Recommended distances in mm - P5 Pellet	12	15	18	20
A Insulated door to the wall	600	600	600	600
B Side of the boiler to the wall	500	500	500	500
C Rear to the wall (flue gas pipe at the back)	400	400	400	400
Rear to the wall (flue gas pipe at the side)	50 <sup>1</sup>	50 <sup>1</sup>	50 <sup>1</sup>	50 <sup>1</sup>
D Side of the boiler to the wall	30	30	30	30
E Maintenance area above the boiler for removing the WOS springs upwards	500 <sup>2</sup>	500 <sup>2</sup>	500 <sup>2</sup>	500 <sup>2</sup>
Minimum room size (L x W)	1335 x 1140			

<sup>1</sup> With the flue gas pipe connection at the right-hand side of the boiler (conversion necessary)

<sup>2</sup> Maintenance area for removing the WOS springs upwards

# DIMENSIONS & TECHNICAL DATA

## P5 PELLET 25 - 40 KW

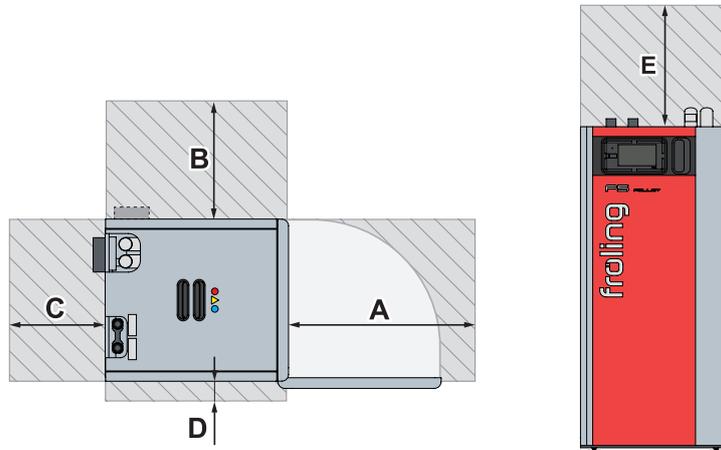


Dimensions in mm - P5 Pellet		25	30	35	40
L1	Length, boiler	750	750	750	750
L2	Total length incl. flue gas pipe connection	795	795	795	795
B1	Width of boiler	700	700	700	700
B2	Distance of the flow to the side of the boiler	485	485	485	485
B3	Distance flow/return	90	90	90	90
B4	Distance between the suction lines and the side of the boiler	115	115	115	115
B5	Distance of suction hose connections	65	65	65	65
B6	Distance of the supply air to the side of the boiler	100	100	100	100
B7	Distance of the flue gas pipe connection from the side of the boiler	180	180	180	180
H1	Height, boiler	1560	1560	1560	1560
H2	Height of suction hose connections	1640	1640	1640	1640
H3	Height of rear flue gas pipe connection (optional)	560	560	560	560
H4	Height of supply air line	200	200	200	200
H5	Height, flow/return connection	1595	1595	1595	1595
Flue spigot diameter, outside		129	129	129	129
Technical specifications - P5 Pellet		25	30	35	40
Rated heat output <sup>1</sup>	[kW]	25	30	35	40
Power consumption (nominal load)	[W]	45	52	58	65
Energy label <sup>2</sup>		A <sup>++</sup>	A <sup>++</sup>	A <sup>++</sup>	A <sup>++</sup>
Electrical connection	[V/Hz/A]	230 V / 50 Hz / fused C16A			
Weight	[kg]	360	360	360	360
Boiler capacity (water)	[l]	55	55	55	55
Pellet container capacity	[l]	94	94	94	94
Capacity, ash container	[l]	20	20	20	20

<sup>1</sup> Please note the eligible storage tank content for Germany! Please observe the BAFA guidelines with regards to the required storage tank (eligibility).

<sup>2</sup> Efficiency label (boiler + controller + condenser)

# OPERATING & MAINTENANCE AREAS P5 PELLETT 25 - 40 KW



Recommended distances in mm - P5 Pellet	25	30	35	40
A Insulated door to the wall	690	690	690	690
B Side of the boiler to the wall	500	500	500	500
C Rear to the wall (flue gas pipe at the back)	300	300	300	300
Rear to the wall (flue gas pipe at the side)	50	50	50	50
D Side of the boiler to the wall	30	30	30	30
E Maintenance area above the boiler for removing the WOS springs upwards	500	500	500	500
Minimum room size (L x W)	1490 x 1230			



### Pellet boiler

PE1 Pellet	7 - 35 kW	P5 Pellet	12 - 105 kW
PE1c Pellet	16 - 22 kW	PT4e	100 - 350 kW
PE1e Pellet	45 - 60 kW		



### Firewood boiler

S1 Turbo	15 - 20 kW
S3 Turbo	20 - 45 kW
S4 Turbo	22 - 60 kW

### Dual fuel boiler

SP Dual compact	15 - 20 kW
SP Dual	22 - 40 kW



### Wood chip boiler / large systems

T4e	20 - 350 kW	Lambdamat	650 - 1500 kW
Turbomat	150 - 550 kW		



### Heat and electricity from wood

CHP fixed-bed gasifier system	46 - 56 kW (power consumption)
	95 - 115 kW (thermal output)

Your Fröling partner

Fröling Heizkessel- und Behälterbau Ges.m.b.H.

A-4710 Grieskirchen, Industriestr. 12

AT: Tel +43 (0) 7248 606-0

Fax +43 (0) 7248 606-600

DE: Tel +49 (0) 89 927 926-0

Fax +49 (0) 89 927 926-219

E-mail: [info@froeling.com](mailto:info@froeling.com)

Internet: [www.froeling.com](http://www.froeling.com)

