

NEW!

**P5** PELLET

PELLET BOILER 45 - 105 kW



- Integrated **particle separator (electrostatic precipitator)** available as an option
- Innovative **Lambdatronic 5000** boiler controller



BETTER HEATING

INNOVATIVE AND  
CONVENIENT

**froling**



Wood is a home-grown and environmentally friendly fuel, that is highly sustainable. It is **CO<sub>2</sub>-neutral** and is not affected by international crises. The production of firewood and pellets ensures stable jobs in the industry. Looking at it from an environmental and economical point of view, wood is the ideal fuel. The quality class is determined by the wood used.

## ENVIRONMENTALLY RESPONSIBLE HEATING

Heating that doesn't cost the earth!

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.

The large volumes of wood shavings and sawdust generated by the wood-processing industry are compacted and pelleted without being treated beforehand. Pellets have high energy density and are easy to deliver and store. These are just some 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.



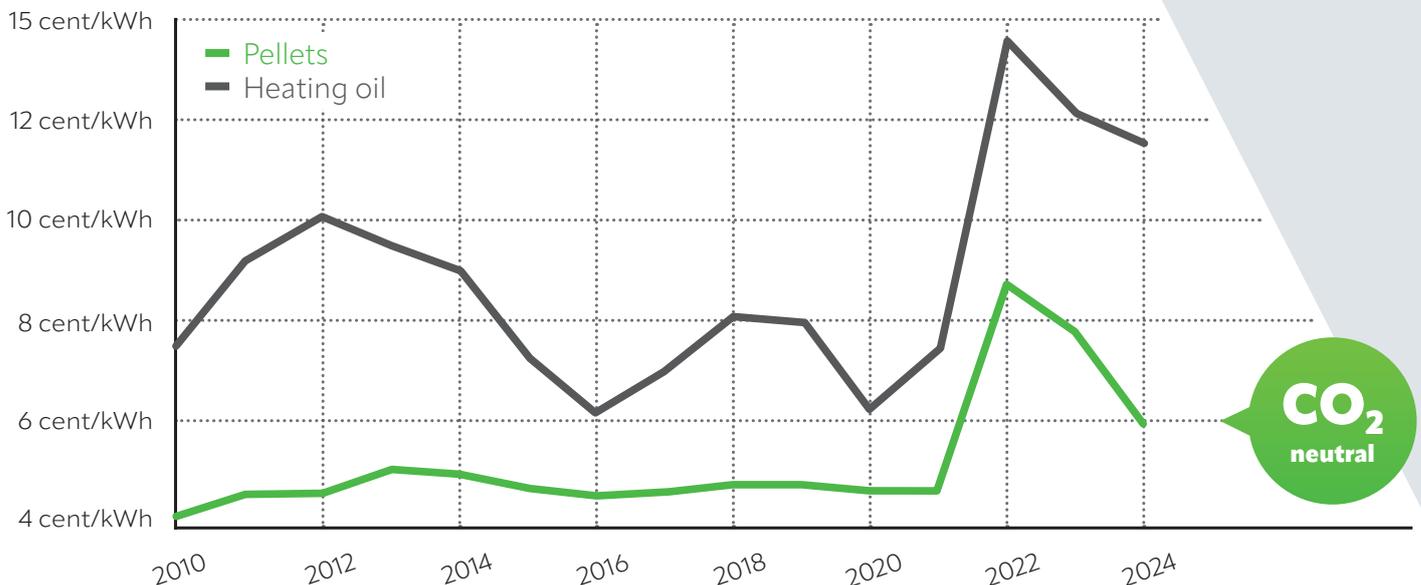
Heating oil 10.33 c/kWh

Pellets 6.3 c/kWh **Approx. 64 % less expensive**

Natural gas 14.06 c/kWh

Pellets 6.3 c/kWh **approx. 123 % less expensive**

Average annual prices of heating oil compared to pellets\*



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. Froling firewood, wood chip and pellet boilers are successfully operated all over Europe. All 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 fuel which is CO<sub>2</sub>-neutral
- Ideal for all types of house
- More convenience and reliability

The newly developed P5 Pellet can be equipped with an integrated electrostatic particle separator (electrostatic precipitator) option, which reduces dust emissions to a minimum.

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

## What advantages does the P5 pellet offer?

- Maximum energy efficiency
- Integrated return temperature control
- Optimum combustion
- Dust emissions reduced to a minimum by means of an integrated particle separator (electrostatic precipitator) and much more...



# PELLET BOILER P5 PELLET

Lambdatronic 5000 controller with 7" glass touch display for even easier operation

Generously dimensioned pellet container (optionally expandable)

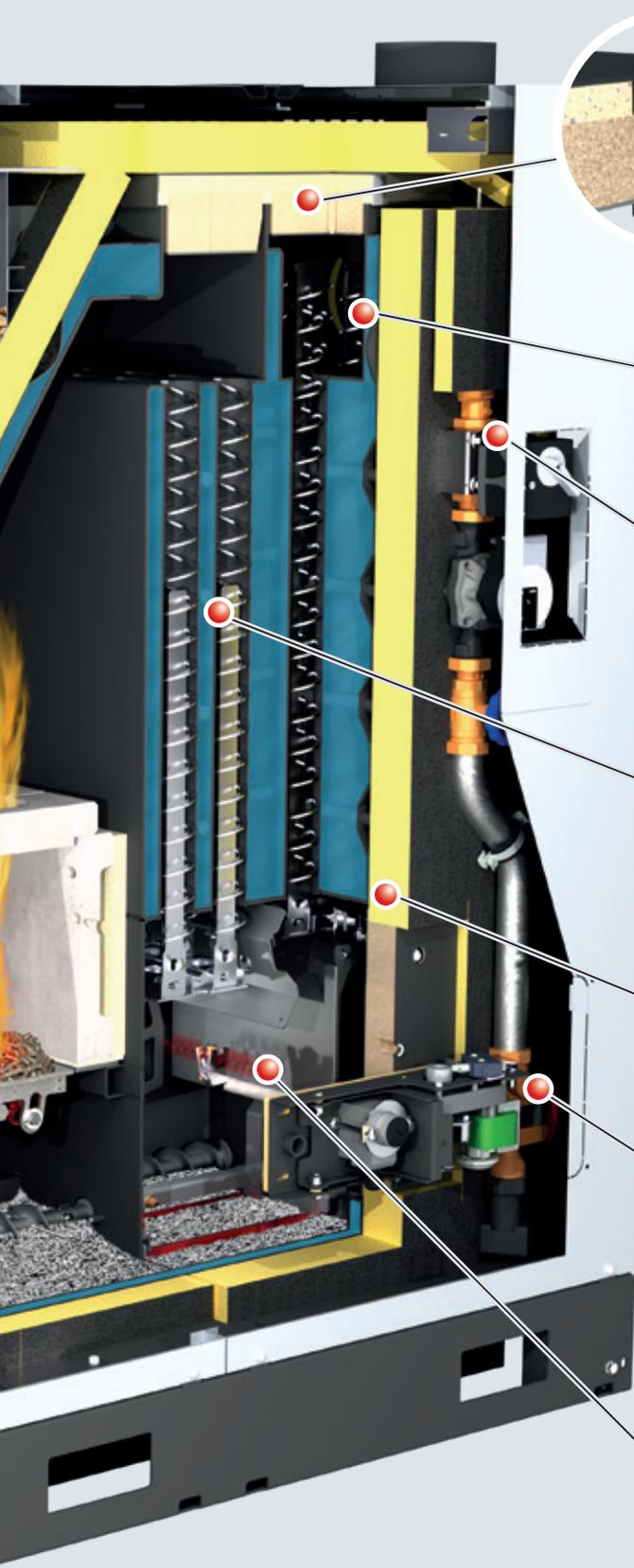
High-quality combustion chamber made of silicon carbide

Power-saving ceramic glow igniter for minimised energy consumption

Automatic ash removal into two closed ash containers (optional external ash removal)

Patented slatted tipping grate for optimum cleaning of the grate





Lambda probe for optimum combustion

Speed-controlled EC induced draught fan with function monitor

Continuously integrated return temperature control for maximum efficiency

Automatic WOS system Efficiency Optimisation System

High-quality insulation for minimal radiant heat loss

Integrated balancing valve

**NEW!**

Integrated particle separator (electrostatic precipitator) available as an option

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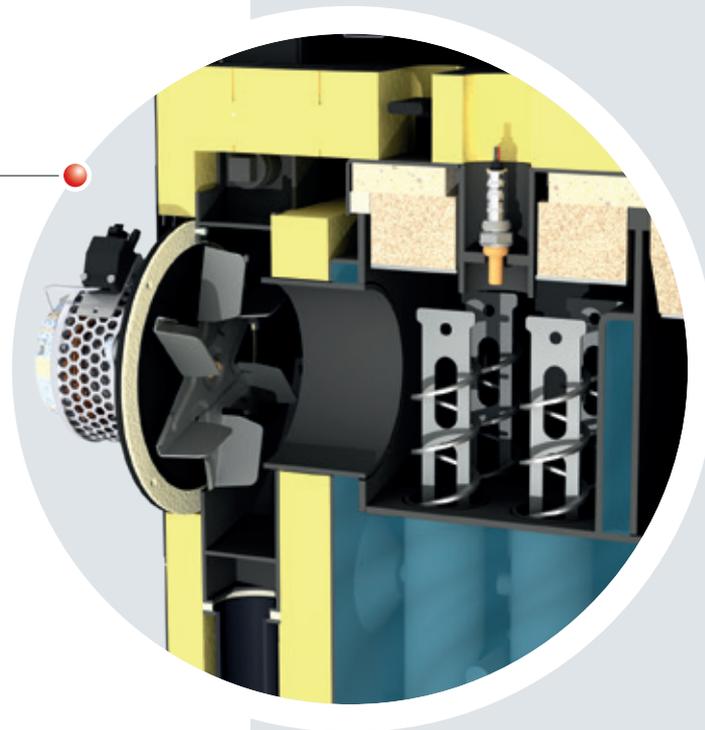
## A WELL-DESIGNED HOME FOR GREATER CONVENIENCE

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### Speed regulated EC induced draught fan

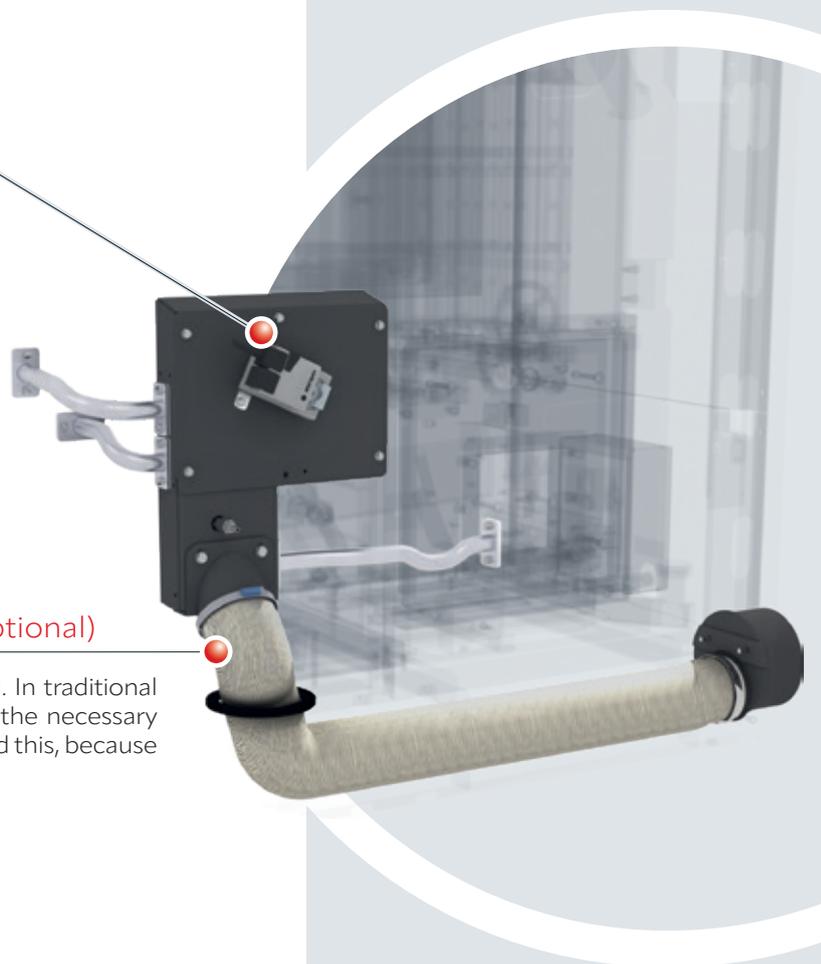
The speed-regulated EC induced draught fan ensures the exact air quantity for combustion. As the induced draught fan is speed-controlled, it stabilises combustion throughout the entire combustion time and adjusts the air quantity to the output and the respective material. Working together with the lambda 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



### 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. Combined with the lambda control as standard, this ensures that emissions are kept to a minimum and that maximum efficiency is achieved.



### 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 the necessary supply air 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



### The slide 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.

### Double gate valve system

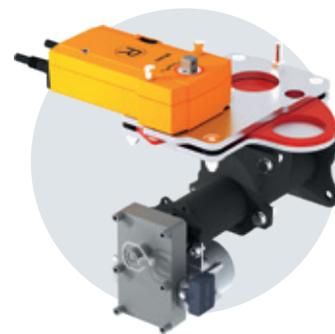
The gate valve to the fuel store and the gate valve to the burner provide a double valve system ensuring maximum operating safety.

- Advantages:
- Maximum operational safety
  - Maximum burn back protection

### Large pellet container

The spacious pellet container reduces the frequency of pellet feeding. The pellet container is filled automatically by the external suction turbine. The capacity of the P5 Pellet 45-60 kW is 170 litres (optional 230 litres), the capacity of the P5 Pellet 70-105 kW is 250 litres (optional 310 litres).

- Advantages:
- Easy filling
  - Infrequent pellet feed cycle due to the larger capacity



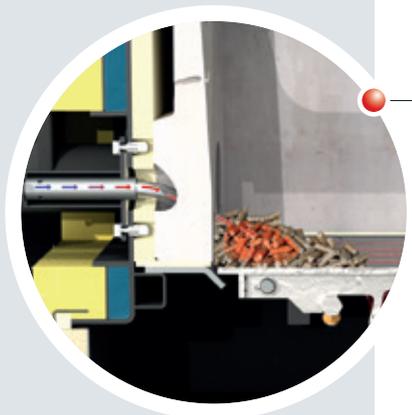
### Slide valve to the burner

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 slide valve closes automatically and therefore offers maximum safety.

### Fast, energy-saving ignition

The silent ceramic igniter ensures safe and energy-saving ignition of the fuel. Thanks to the hot combustion zone, after short periods in idle mode the fuel is automatically reignited by the residual embers. It is only necessary to start the igniter after longer combustion pauses.

- Advantages:
- Silent ceramic igniter for reliable ignition
  - Automatic ignition by residual embers
  - No separate blower fan required



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# NO COMPROMISES WITH CONVENIENT ASH REMOVAL

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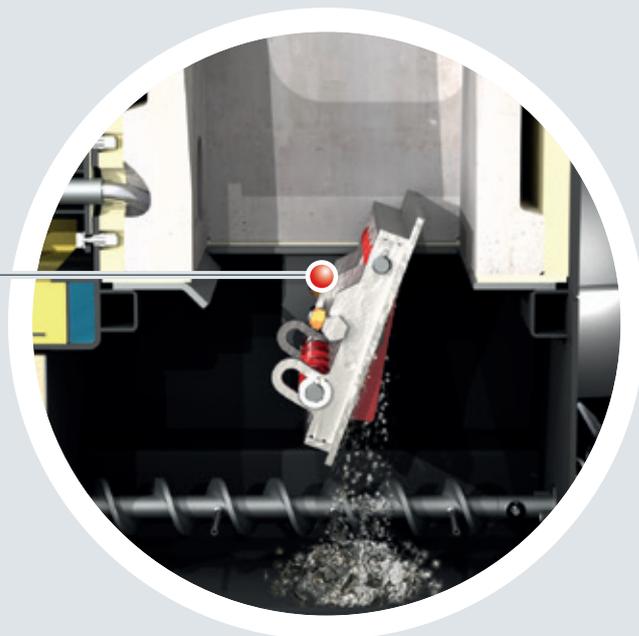
## Optimum combustion in the heating phase

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



## Perfect cleaning during the cleaning phase

Thanks to the 110° inclination, the ash is completely cleaned off the tipping grate.



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.



### Convenient ash removal

We never compromise on convenience. The ash that gathers is automatically fed into two enclosed ash containers via the ash screw. The time of emptying can be seen on the screen.

- Advantages:
- Long emptying intervals
  - Convenient emptying

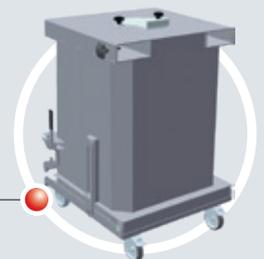


### Optional: Ash discharge into standard dustbin or flap-bottomed container

For added convenience, ash can optionally be emptied into a standard 240 litre dustbin or 330 litre flap-bottomed container. The ash is automatically conveyed into the dustbin/flap-bottomed container where it can be easily emptied. This ensures long emptying intervals and maximum convenience.

Standard dustbin (240 litres)

Flap-bottomed container (330 litres)



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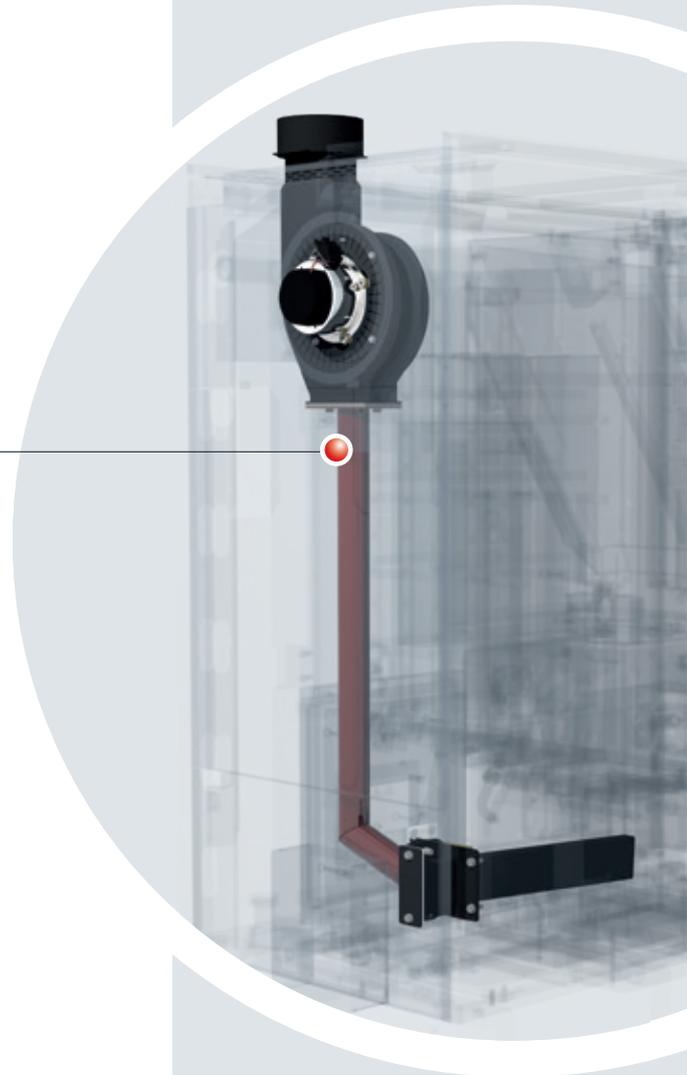
## INTELLIGENT DESIGN DOWN TO THE LAST DETAIL

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### 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.

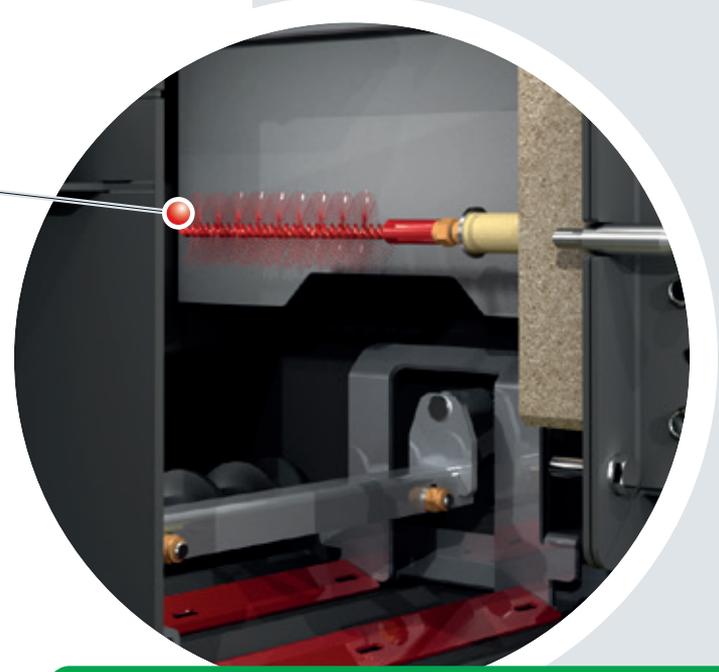
- Advantages:
- Ideal combustion conditions
  - Intelligent control of air quantity
  - Reduced exhaust emissions



### Integrated particle separator (electrostatic precipitator) available as an option

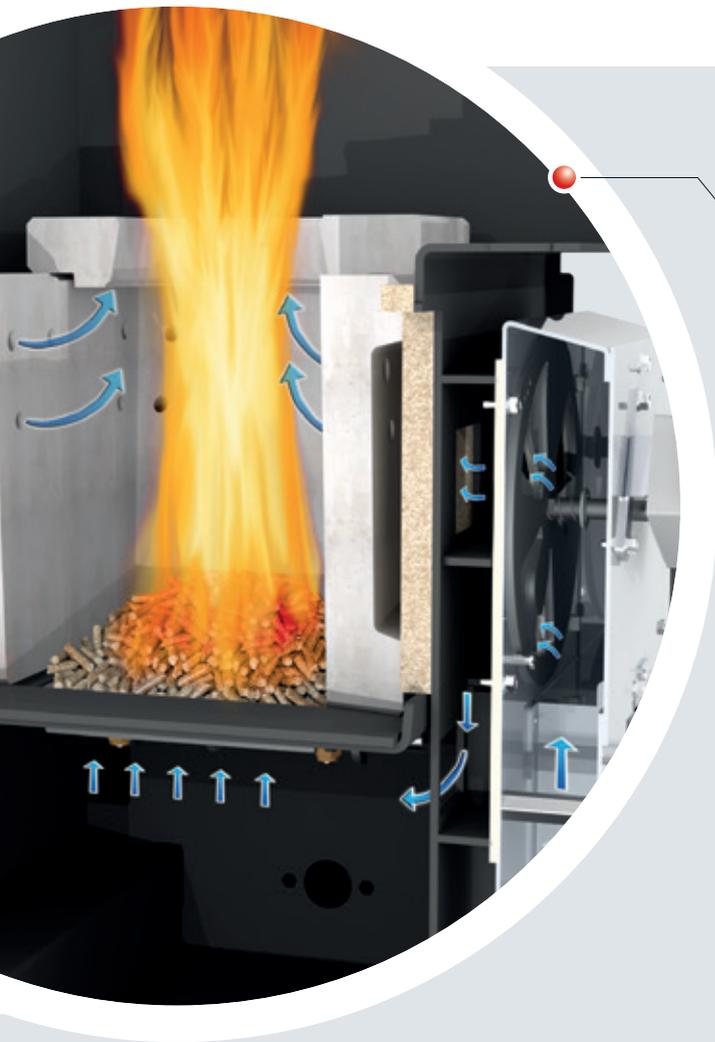
The optionally available particle separator (electrostatic precipitator) can be retrofitted at any time. This means that the fine dust emissions from the boiler, which are very low in any case, can be reduced to a level close to the limit of measurement. Cleaning down is fully automatic.

- Advantages:
- Can be retrofitted on site
  - Quick installation
  - Combined cleaning of the separator surfaces using the heat exchanger optimisation system (WOS)
  - Cleaning the electrode using an impact device
  - Fulfils the funding guidelines in Germany (entitlement to the emissions reduction surcharge)



**NEW!**

Integrated particle separator (electrostatic precipitator) available as an option



### High-temperature silicon carbide combustion chamber and perfect combustion control

The firebricks are made entirely of high-quality fireproof material (silicon carbide). The hot combustion zone ensures optimal combustion and very low emissions.

### Patented firebrick!

The patented shaping of the firebrick stones gives the air duct in the combustion chamber particularly good airtightness without the need to use expensive wearing seals. The new shape of the stones also considerably simplifies the maintenance of the combustion chamber as they can be removed easily.

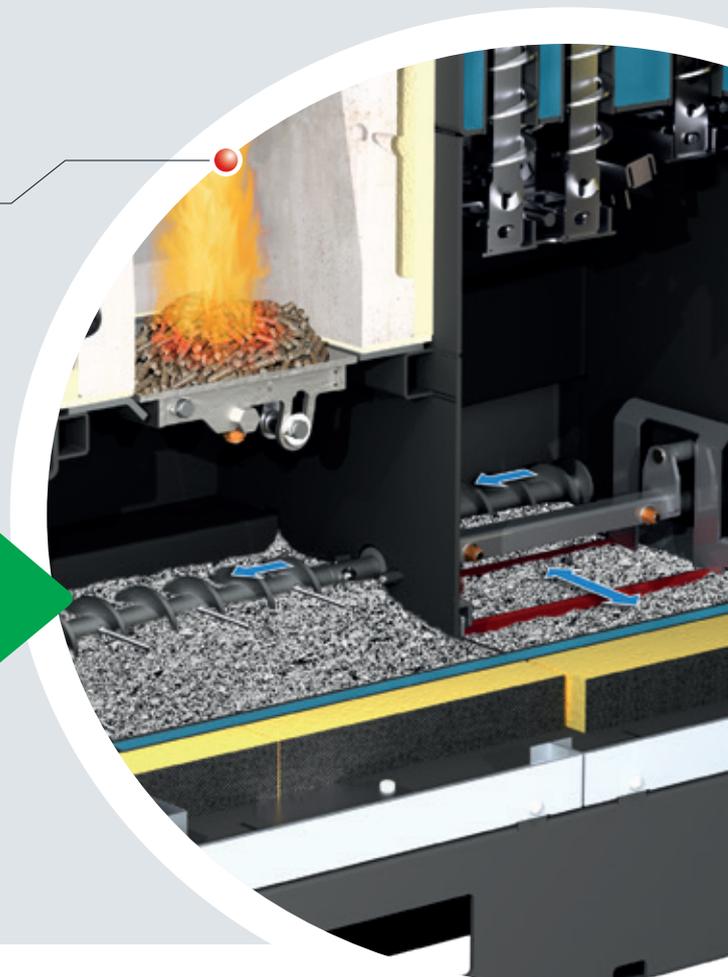
- Advantages:
- Very high temperature resistance for a long working life
  - Optimum emission values

### Ash discharge system with separate ash screws and ash rakes

Automatic ash removal from the combustion chamber and from the heat exchanger into the ash container is by means of two separate ash screws, which are powered by a common geared motor. This ensures a clear separation and absolute tightness between the combustion chamber and the heat exchanger and eliminates the risk of air leaks. The ash screws are speed controlled. The boiler automatically generates a warning message when the ash box is full.

**At the same time**, the common geared motor drives the ash rake in the lower reversing chamber, which reliably transports the heat exchanger ash to the ash screw on the side.

- Advantages:
- Optimum emptying behaviour
  - No risk of air leakage thanks to the two separate ash containers
  - Just one common drive

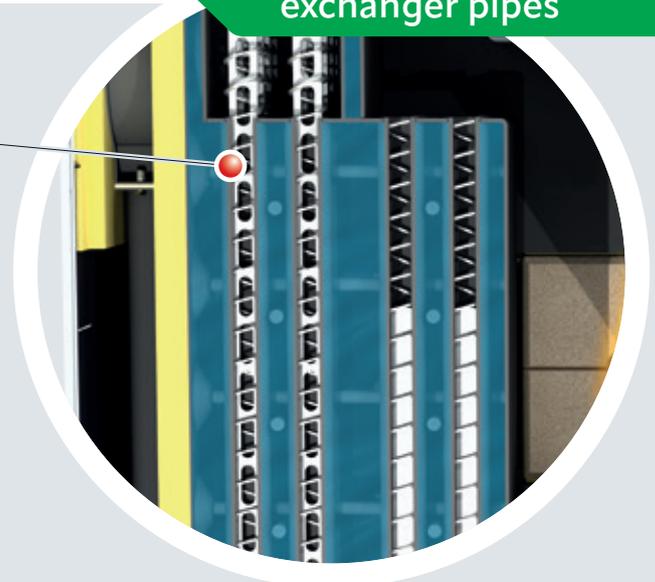


## Cleaning of all heat exchanger pipes

### 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.

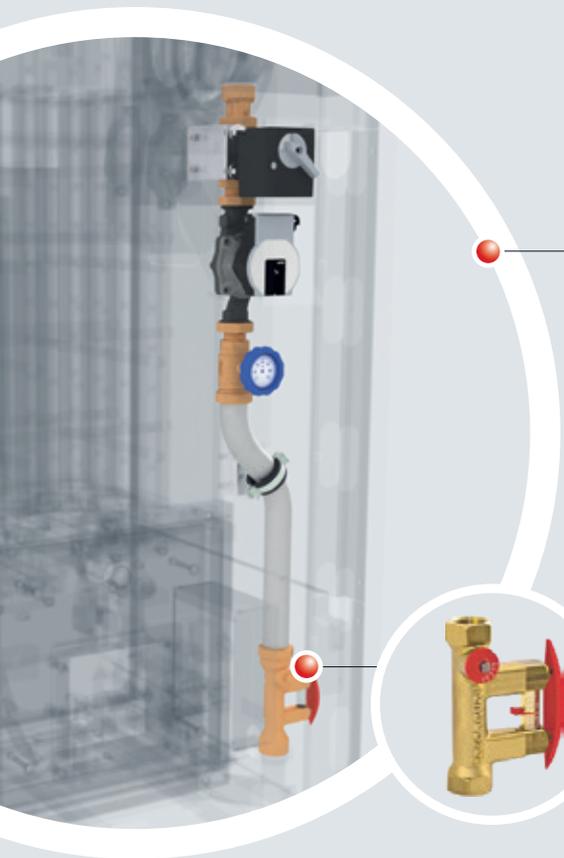
- Advantages:
- Thorough automatic cleaning
  - Continuously high efficiency
  - Savings on fuel



### Continuously integrated return temperature control

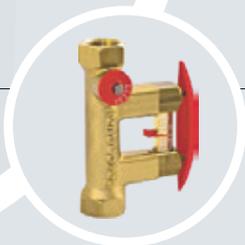
The return temperature control integrated as standard avoids unnecessary radiant heat loss, thus guaranteeing maximum efficiency. An external return temperature control is therefore no longer necessary and saves installation time. The components are intelligently built-in and the main parts (e.g. pump) are visible from the outside and easily accessible.

- Advantages:
- Minimum radiant heat losses
  - Maximum efficiency
  - No external return temperature control required
  - Saves space in the boiler room



### Line regulating valve

- Advantages:
- Optimum hydraulic balancing of the boiler system to the storage tank



Series

Option



**NEW!** As an option, flue pipe can be connected at the rear

### Flue pipe connection with angular adjustment

The optional conversion kit allows the flue pipe to be connected to the rear of the boiler at a height of just 1090 mm. This means that existing chimney systems can be used without the need for costly conversions.

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## CONDENSING BOILER TECHNOLOGY FOR PELLET BOILER

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The P5 Pellet is also available in a model with innovative condensing boiler technology in the 45-60 kW output range. With conventional solutions, the energy contained in the flue gas escapes up the chimney, unused. Thanks to an additional heat exchanger positioned on the back of the boiler, this energy is now supplied to the heating system. This results in more effective operation and greater efficiency. Froling won the innovation prize at the ExpoEnergy trade fair in Wels for condensing boiler technology in the biomass sector as early as 1996, making it a pioneer in the field. The heat exchanger is made of high-quality stainless steel. Cleaning is done using a water flushing system with automatic cleaning.

### Advantages:

- Reduced pellet consumption leads to lower fuel costs
- Reduced emissions
- Automatic cleaning

### Requirements for optimal use:

- Lowest possible return temperature (e.g. floor or wall heating)
- Moisture-resistant and soot fire-resistant flue gas system
- Duct connection for drainage of condensation and rinse water

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## SPACE-SAVING & SMART CONNECTION OPTION

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- 1 Pellet suction hose connection from above
- 2 Flue pipe connection and discharge drain, rear
- 3 Perfect connection to the chimney using the Froling connection pipe FAR



# INSTALLATION

## EXAMPLES IN PRACTICE

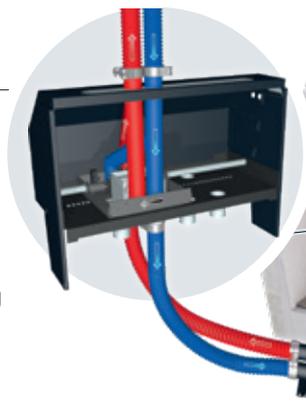
### RS 4 / RS 8 pellet suction system

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.

- 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, it is controlled by the pellet boiler. If, however, the suction probe unexpectedly malfunctions, the situation is remedied by a fully automatic reversal of the air duct / back flushing (as illustrated).



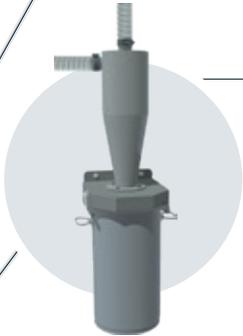
### 4-suction probe manual system

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 is also 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.



### Pyramids for fuel store optimisation

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

## More information can be found in the Froling brochure "Discharge systems for pellets"

### Variosilo pellet bag

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 silo bag is emptied the fabric lifts at one side thus forming a gradient 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. It is also ideal for fuel stores with high humidity.



### Pellet suction screw 80 (can be customised)

The Froling suction screw ( $\varnothing$  80) 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 mole E3® (up to 40 t)

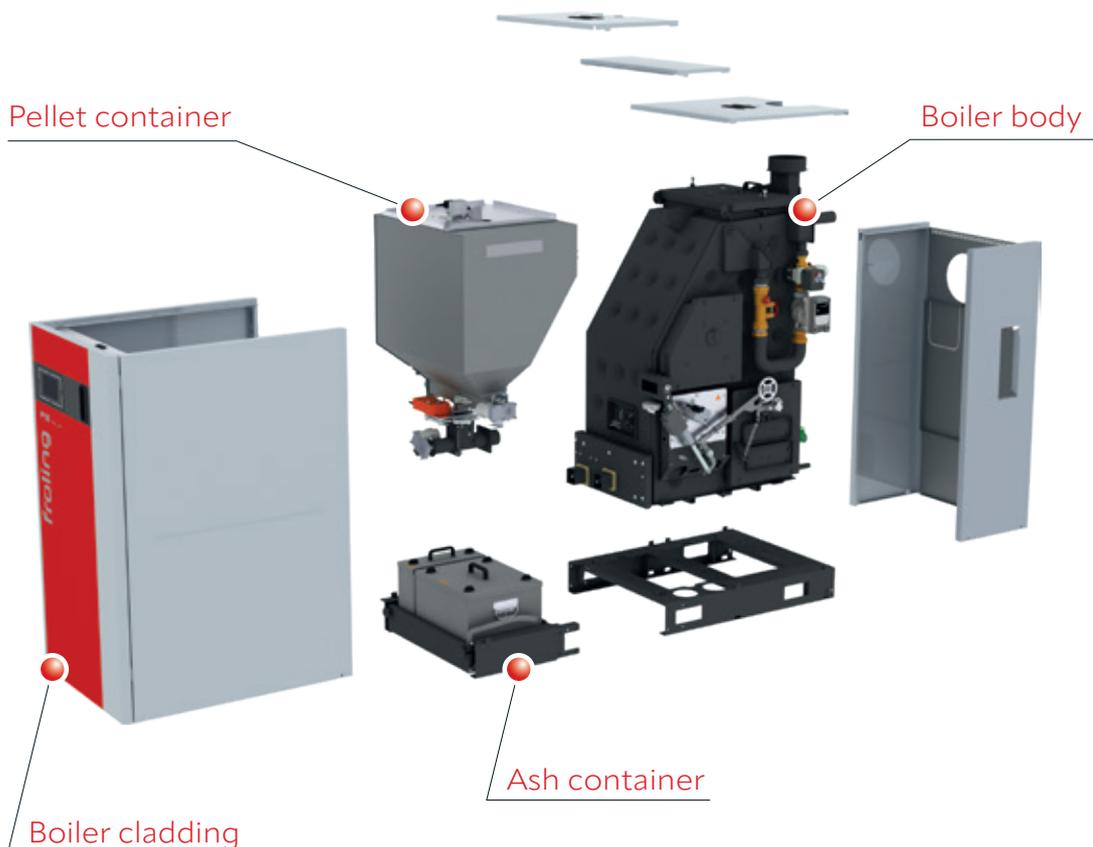
The E3® pellet mole supplies a pellet requirement of several tonnes a year to pellet boilers. A typical fuel store size is around up to 40 tons of pellets or 60m<sup>3</sup> capacity in various shapes - from round and square to rectangular, making the E3® pellet mole hugely versatile.



More information can be found in the Froling brochure "Discharge systems for pellets"

## DIVISIBILITY FOR COMPLEX INSTALLATION SITUATIONS

Well thought out! With the P5 Pellet 45 - 105 kW pellet boiler, certain boiler components can be dismantled, guaranteeing easy and simple installation in almost any boiler room.



# 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 controller will inform you when the ash boxes need to be emptied. This makes operating and running the system even simpler and easier to understand. The intelligent control management enables the virtually unlimited integration of heating circuits, hot water tanks and storage tanks.

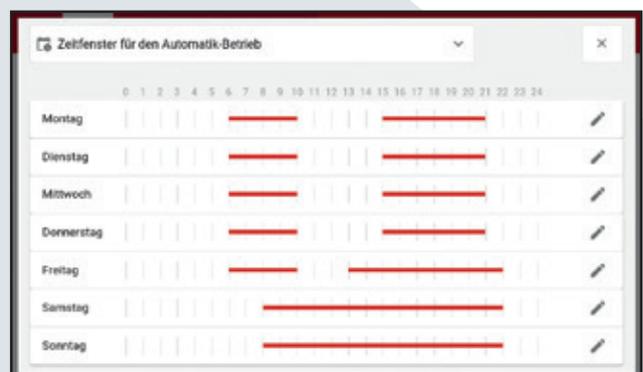
- Advantages:
- Precise combustion control by a Lambda controller using a Lambda probe
  - Connection of heating circuits, water heaters and storage tank management systems
  - Integration capability for a solar panel system
  - LED frame for status display with illuminated presence detection
  - Simple, intuitive operation
  - Always up-to-date thanks to remote updates
  - Various SmartHome solutions (e.g. Loxone, Modbus TCP) Remote control from the living room (room console) or via the Internet (froeling-connect.com)



## SIMPLE & INTUITIVE OPERATION



Overview of the installed systems in a tile display



Heating time control for individual determination of heating times

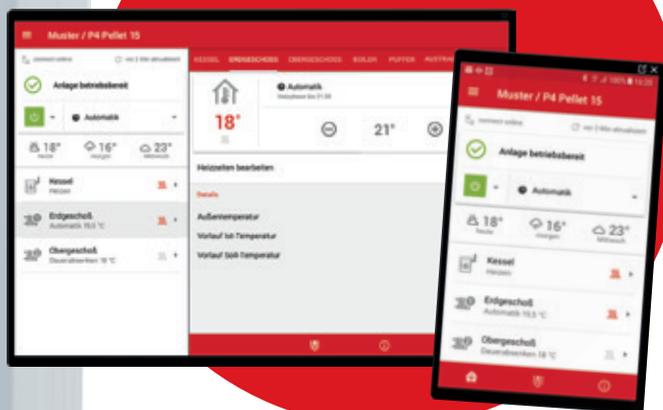


## EVERYTHING AT A GLANCE AT ALL TIMES WITH FROLING CONNECT

The Froling "Connect" App allows you to 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 e-mail or push notifications (e.g. when the ash boxes 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 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 Froling.



Integration of Loxone possible



Modbus

The system can be integrated into a building management system via the Froling 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 setpoint 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)

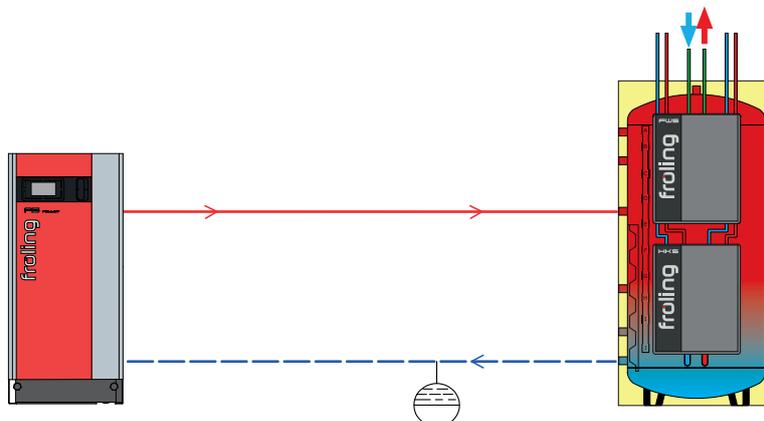
The room temperature sensor measures the room temperature and passes this on to the boiler. This ensures perfectly matched operation of the boiler. The temperature can also be shown on the boiler display, on the room console or in froeling-connect (app or web interface).

## SYSTEM TECHNOLOGY FOR EFFICIENT USE OF ENERGY

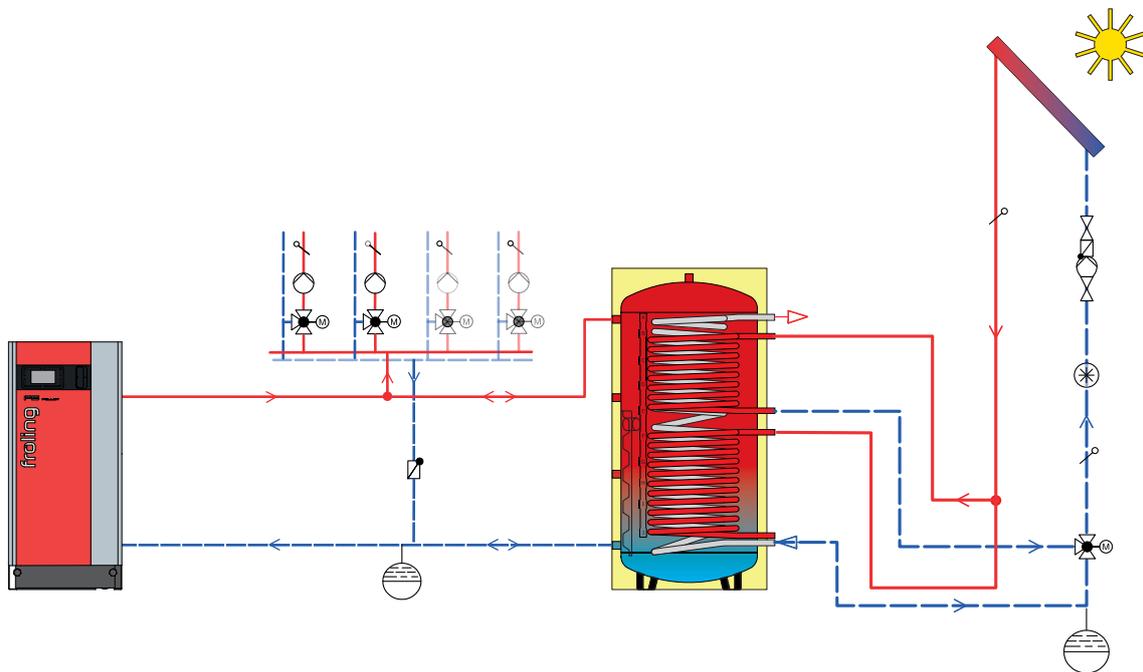
Froling systems engineering offers efficient energy management. Any number of storage tanks, hot water tanks and heating circuits can be included in the heat management system. You can also benefit from the ability to integrate other means of energy production such as solar panel systems.

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

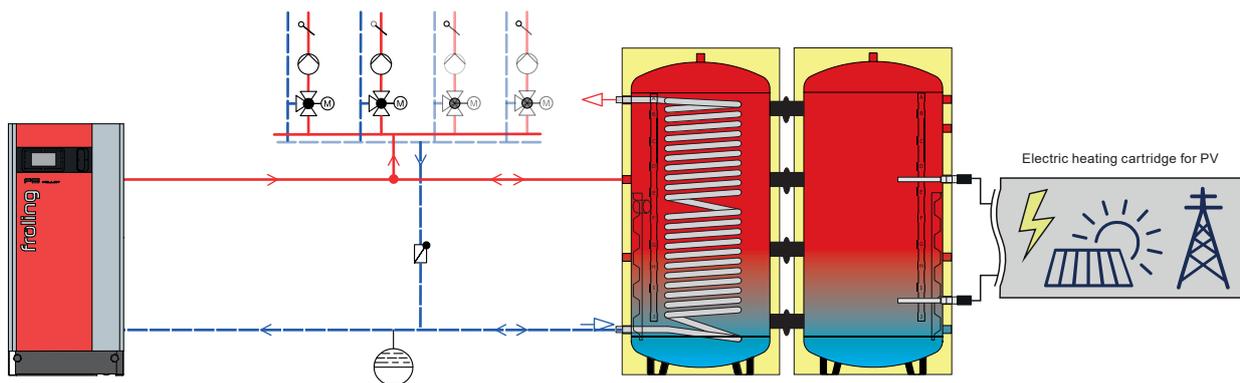
P5 Pellet 45 - 105 kW with HS modular layered tank, FWS fresh water station and HKS heating circuit station \*



P5 Pellet 45 - 105 kW with H3 hygiene solar layered tank and solar connection \*



P5 Pellet 45 - 105 kW with H2 hygienic layered tank and double electric heating cartridge \*



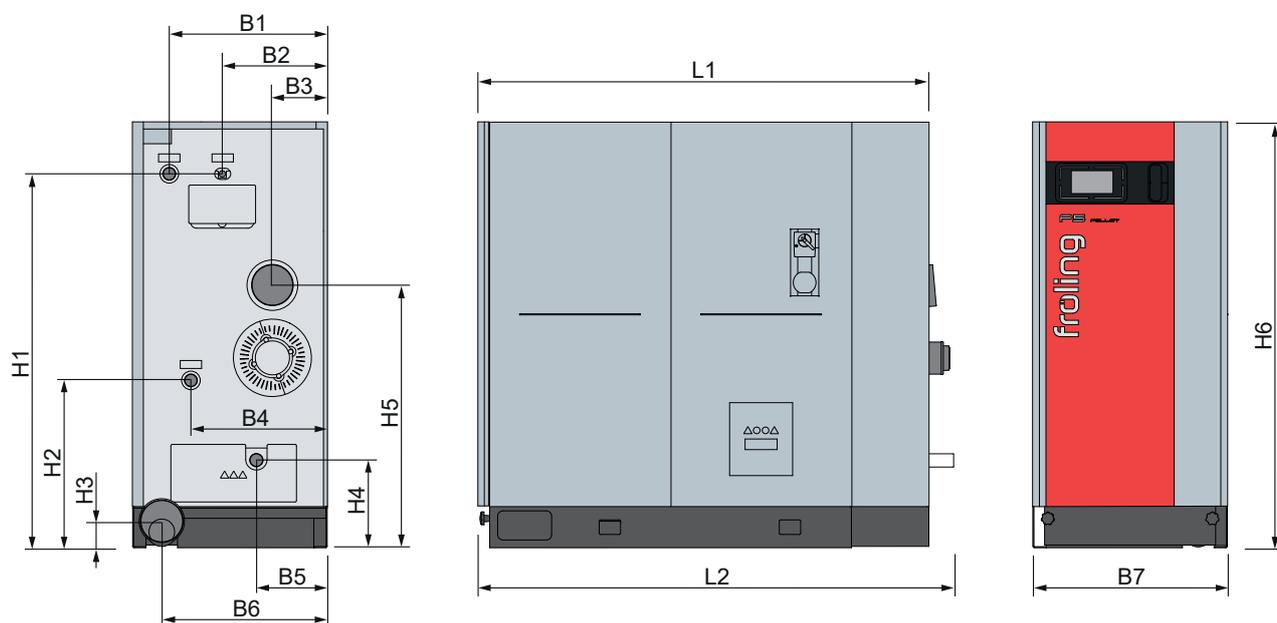
The schematic configurator (partner area) makes it possible to realise many other hydraulic connection options!

\* Return temperature control with ME pump assembly and line regulating valve integrated in boiler.

# DIMENSIONS

## P5 PELLET 45 - 60 kW

### WITH CONDENSING BOILER TECHNOLOGY



| All dimensions in mm<br>- P5 Pellet 45-60 kW with condensing boiler technology | 45   | 50   | 55   | 60   |
|--|------|------|------|------|
| L1 Length of boiler  | 1690 | 1690 | 1690 | 1690 |
| L2 Total length incl. flue gas pipe connection                                 | 1780 | 1780 | 1780 | 1780 |
| B1 Clearance from flow connection to the side of boiler                        | 590  | 590  | 590  | 590  |
| B2 Clearance from fresh water connection to the side of boiler                 | 395  | 395  | 395  | 395  |
| B3 Clearance from flue gas pipe connection to the side of boiler               | 205  | 205  | 205  | 205  |
| B4 Clearance from return connection to the side of boiler                      | 510  | 510  | 510  | 510  |
| B5 Clearance from condensation drain connection to the side of boiler          | 270  | 270  | 270  | 270  |
| B6 Clearance from condensation drain connection to the side of boiler          | 560  | 560  | 560  | 560  |
| B7 Boiler width  | 730  | 730  | 730  | 730  |
| H1 Height of flow connection / fresh water                                     | 1425 | 1425 | 1425 | 1425 |
| H2 Height, return connection   | 645  | 645  | 645  | 645  |
| H3 Height of supply air connection (optional)                                  | 100  | 100  | 100  | 100  |
| H4 Height, condensation drain connection                                       | 330  | 330  | 330  | 330  |
| H5 Height, flue pipe connection  | 1025 | 1025 | 1025 | 1025 |
| H6 Boiler height   | 1620 | 1620 | 1620 | 1620 |
| Inside flue spigot diameter  | 152  | 152  | 152  | 152  |

# TECHNICAL DATA

## P5 PELLET 45 - 60 kW

### WITH CONDENSING BOILER TECHNOLOGY

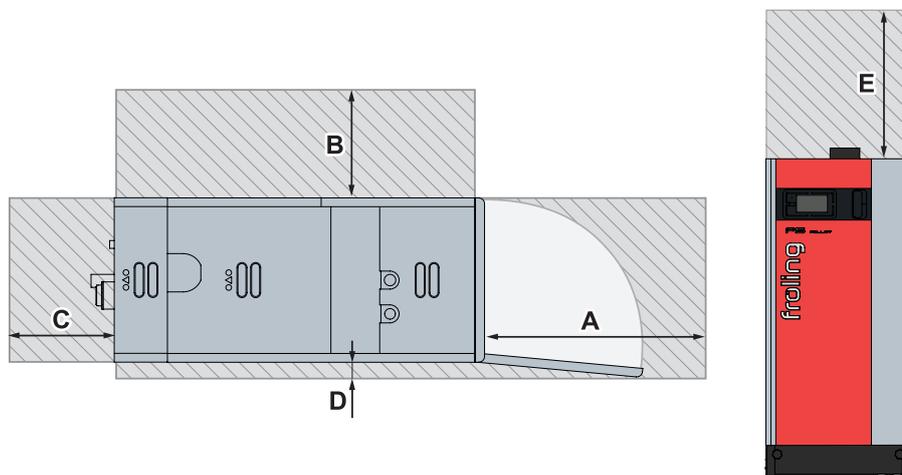
| Technical specifications - P5 Pellet 45-60 kW    |          | 45                                 | 50        | 55          | 60        |
|--|----------|------------------------------------|-----------|-------------|-----------|
| Nominal heat output range <sup>1</sup>           | [kW]     | 14.9 - 49.5                        | 16.5 - 55 | 18.2 - 60.5 | 19.8 - 66 |
| Power consumption (nominal load)                 | [W]      | 40                                 | 43        | 45          | 48        |
| Power connection                                 | [V/Hz/A] | 230 V / 50 Hz / fused C16A         |           |             |           |
| Weight   | [kg]     | 750                                | 750       | 750         | 750       |
| Total boiler capacity (water)                    | [l]      | 145                                | 145       | 145         | 145       |
| Pellet container capacity                        | [l]      | 170 (optionally expandable to 230) |           |             |           |
| Capacity<br>Ash container grate / heat exchanger | [l]      | 37 / 12                            | 37 / 12   | 37 / 12     | 37 / 12   |

<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).

# OPERATING & MAINTENANCE AREAS

## P5 PELLET 45 - 60 kW

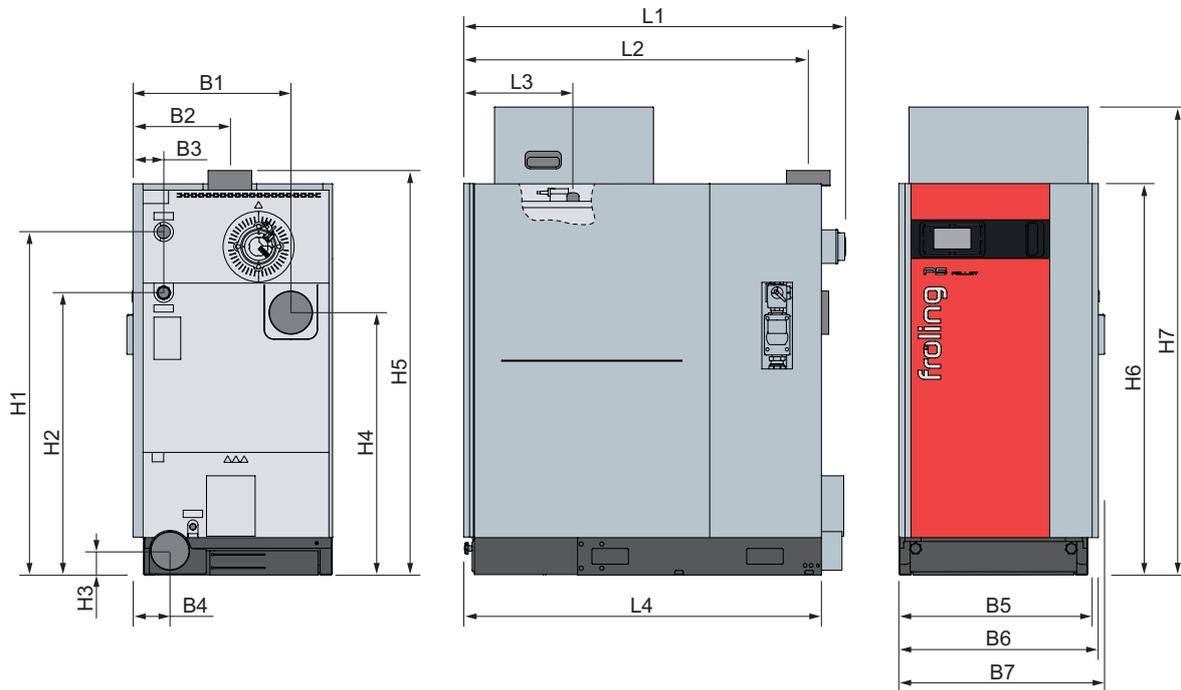
### WITH CONDENSING BOILER TECHNOLOGY



| Recommended distances in mm - P5 Pellet 45-60 kW |  | 45          | 50  | 55  | 60  |
|--|--|-------------|-----|-----|-----|
| A  | Insulated door to the wall   | 730         | 730 | 730 | 730 |
| B  | Side of the boiler to the wall   | 500         | 500 | 500 | 500 |
| C  | Back to wall   | 300         | 300 | 300 | 300 |
| 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)                        |  | 2720 x 1260 |     |     |     |

# DIMENSIONS

## P5 PELLETT 45 - 60 kW



| Dimensions in mm - P5 Pellet   | 45   | 50   | 55   | 60   |
|--|------|------|------|------|
| L1 Total length incl. flue gas pipe connection                                   | 1490 | 1490 | 1490 | 1490 |
| L2 Clearance from flue gas pipe connection to the side of boiler                 | 1335 | 1335 | 1335 | 1335 |
| L3 Clearance from hose lines to the side of boiler                               | 415  | 415  | 415  | 415  |
| L4 Length of boiler  | 1400 | 1400 | 1400 | 1400 |
| B1 Clearance from rear flue gas pipe connection to the side of boiler (optional) | 580  | 580  | 580  | 580  |
| B2 Clearance from flue gas pipe connection to the side of boiler                 | 335  | 335  | 335  | 335  |
| B3 Distance of flow/return connection from side of boiler                        | 140  | 140  | 140  | 140  |
| B4 Clearance from supply air connection to the side of boiler (optional)         | 110  | 110  | 110  | 110  |
| B5 Access width required   | 730  | 730  | 730  | 730  |
| B6 Boiler width  | 730  | 730  | 730  | 730  |
| B7 Total width   | 730  | 730  | 730  | 730  |
| H1 Height, flow connection   | 1425 | 1425 | 1425 | 1425 |
| H2 Height, return connection   | 1175 | 1175 | 1175 | 1175 |
| H3 Height of supply air connection (optional)                                    | 100  | 100  | 100  | 100  |
| H4 Height of rear flue gas pipe connection (optional)                            | 1090 | 1090 | 1090 | 1090 |
| H5 Height, flue pipe connection  | 1675 | 1675 | 1675 | 1675 |
| H6 Boiler height   | 1620 | 1620 | 1620 | 1620 |
| H7 Boiler height incl. attachment for pellet container (optional)                | 1940 | 1940 | 1940 | 1940 |
| Flue spigot diameter, outside  | 149  | 149  | 149  | 149  |

# TECHNICAL DATA

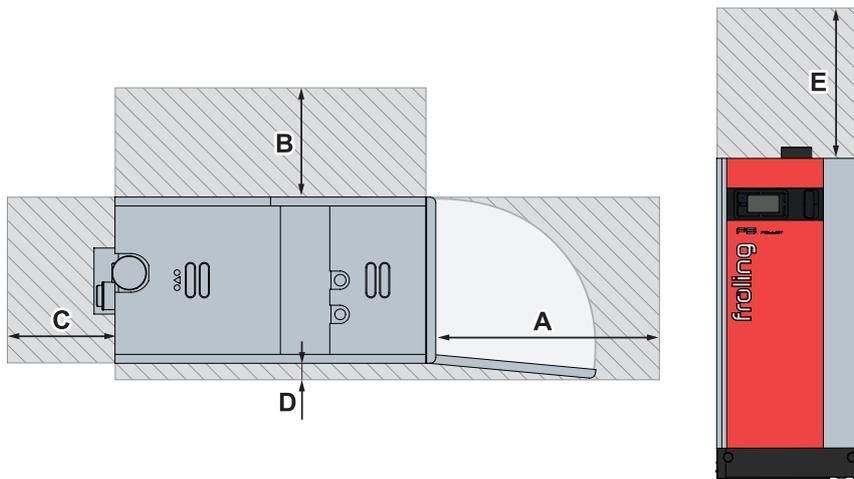
## P5 PELLET 45 - 60 kW

| Technical specifications - P5 Pellet 45-60 kW            |          | 45                                 | 50      | 55        | 60      |
|--|----------|------------------------------------|---------|-----------|---------|
| Nominal heat output range <sup>1</sup>                   | [kW]     | 13.5 - 45                          | 15 - 50 | 16.5 - 55 | 18 - 60 |
| Power consumption (nominal load)                         | [W]      | 65                                 | 69      | 73        | 77      |
| Power connection   | [V/Hz/A] | 230 V / 50 Hz / fused C16A         |         |           |         |
| Weight   | [kg]     | 650                                | 650     | 650       | 650     |
| Boiler capacity (water)                                  | [l]      | 113                                | 113     | 113       | 113     |
| Pellet container capacity                                | [l]      | 170 (optionally expandable to 230) |         |           |         |
| Ash container capacity combustion Grate / Heat exchanger | [l]      | 37 / 12                            | 37 / 12 | 37 / 12   | 37 / 12 |

<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).

# OPERATING & MAINTENANCE AREAS

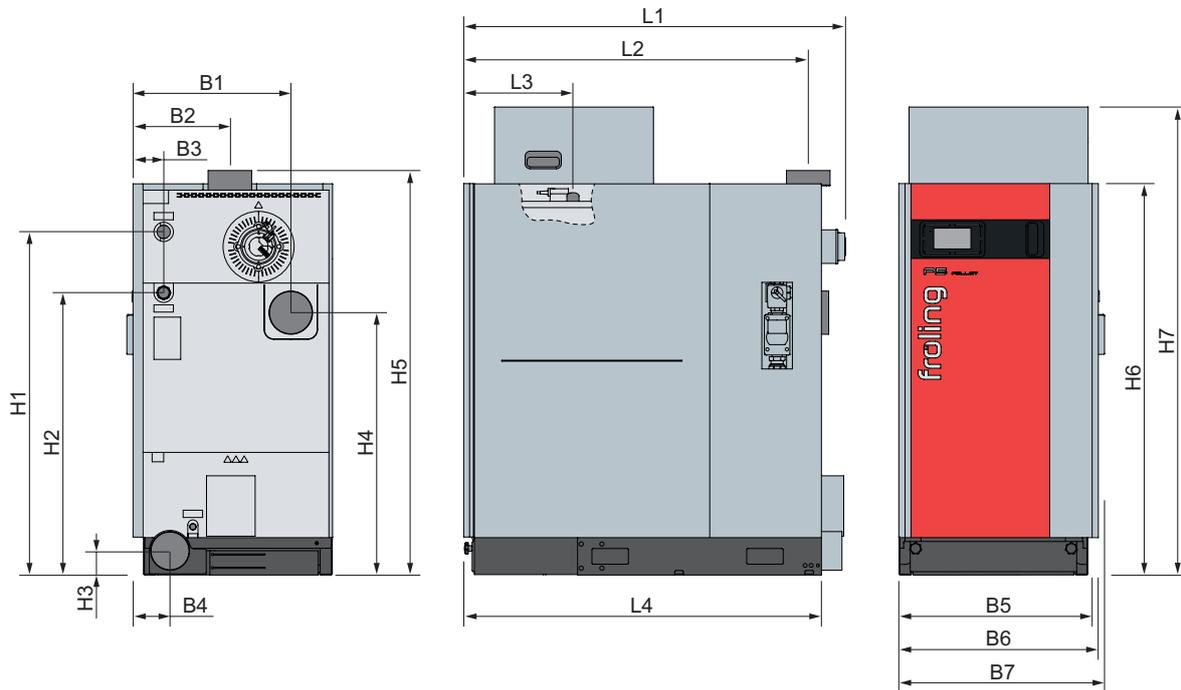
## P5 PELLET 45 - 60 kW



| Recommended distances in mm - P5 Pellet 45-60 kW |  | 45          | 50  | 55  | 60  |
|--|--|-------------|-----|-----|-----|
| A  | Insulated door to the wall   | 730         | 730 | 730 | 730 |
| B  | Side of the boiler to the wall   | 500         | 500 | 500 | 500 |
| C  | Back to wall   | 300         | 300 | 300 | 300 |
| 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)                        |  | 2430 x 1260 |     |     |     |

# DIMENSIONS & TECHNICAL DATA

## P5 PELLET 70 - 105 kW



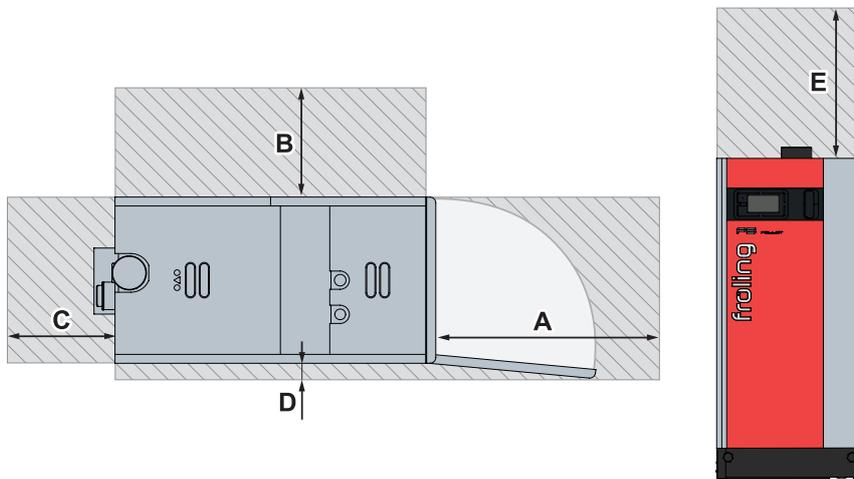
| Dimensions in mm - P5 Pellet   | 70   | 80   | 90   | 100  | 105  |
|--|------|------|------|------|------|
| L1 Total length incl. flue gas pipe connection                                   | 1570 | 1570 | 1570 | 1570 | 1570 |
| L2 Clearance from flue gas pipe connection to the side of boiler                 | 1415 | 1415 | 1415 | 1415 | 1415 |
| L3 Clearance from hose lines to the side of boiler                               | 450  | 450  | 450  | 450  | 450  |
| L4 Length of boiler  | 1470 | 1470 | 1470 | 1470 | 1470 |
| B1 Clearance from rear flue gas pipe connection to the side of boiler (optional) | 650  | 650  | 650  | 650  | 650  |
| B2 Clearance from flue gas pipe connection to the side of boiler                 | 400  | 400  | 400  | 400  | 400  |
| B3 Distance of flow/return connection from side of boiler                        | 125  | 125  | 125  | 125  | 125  |
| B4 Clearance from supply air connection to the side of boiler (optional)         | 150  | 150  | 150  | 150  | 150  |
| B5 Access width required   | 780  | 780  | 780  | 780  | 780  |
| B6 Boiler width  | 820  | 820  | 820  | 820  | 820  |
| B7 Total width   | 845  | 845  | 845  | 845  | 845  |
| H1 Height of flow connection   | 1420 | 1420 | 1420 | 1420 | 1420 |
| H2 Height of return connection   | 1170 | 1170 | 1170 | 1170 | 1170 |
| H3 Height of supply air connection (optional)                                    | 100  | 100  | 100  | 100  | 100  |
| H4 Height of rear flue gas pipe connection (optional)                            | 1085 | 1085 | 1085 | 1085 | 1085 |
| H5 Height, flue pipe connection  | 1675 | 1675 | 1675 | 1675 | 1675 |
| H6 Boiler height   | 1620 | 1620 | 1620 | 1620 | 1620 |
| H7 Boiler height incl. attachment for pellet container (optional)                | 1940 | 1940 | 1940 | 1940 | 1940 |
| Flue spigot diameter, outside  | 179  | 179  | 179  | 179  | 179  |

## TECHNICAL DATA P5 PELLETT 70 - 105 kW

| Technical specifications - P5 Pellet                     |          | 70                                 | 80      | 90      | 100     | 105     |
|--|----------|------------------------------------|---------|---------|---------|---------|
| Rated heat output <sup>1</sup>                           | [kW]     | 70                                 | 80      | 90      | 100     | 105     |
| Power consumption (nominal load)                         | [W]      | 80                                 | 99      | 117     | 136     | 145     |
| Power connection   | [V/Hz/A] | 230 V / 50 Hz / fused C16A         |         |         |         |         |
| Weight   | [kg]     | 790                                | 790     | 790     | 790     | 790     |
| Boiler capacity (water)                                  | [l]      | 130                                | 130     | 130     | 130     | 130     |
| Pellet container capacity                                | [l]      | 230 (optionally expandable to 310) |         |         |         |         |
| Ash container capacity combustion Grate / Heat exchanger | [l]      | 51 - 15                            | 51 - 15 | 51 - 15 | 51 - 15 | 51 - 15 |

<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).

## OPERATING & MAINTENANCE AREAS P5 PELLETT 70 - 105 kW



| Recommended distances in mm - P5 Pellet |  | 70          | 80  | 90  | 100 | 105 |
|---|--|-------------|-----|-----|-----|-----|
| A                                       | Insulated door to the wall   | 820         | 820 | 820 | 820 | 820 |
| B                                       | Side of the boiler to the wall   | 500         | 500 | 500 | 500 | 500 |
| C                                       | Back to wall   | 300         | 300 | 300 | 300 | 300 |
| D                                       | Side of the boiler to the wall   | 30          | 30  | 30  | 30  | 30  |
| E                                       | Maintenance area above the boiler for removing the WOS springs upwards | 500         | 500 | 500 | 500 | 500 |
| Minimum room size (L x W)               |  | 2590 x 1375 |     |     |     |     |



### Pellet boiler

|             |            |           |              |
|-------------|------------|-----------|--------------|
| PE1 Pellet  | 7 - 35 kW  | P5 Pellet | 12 - 105 kW  |
| PE1c Pellet | 16 - 22 kW | PT4e      | 100 - 350 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  | TMe       | 350 - 550 kW  |
| Turbomat | 150 - 550 kW | Lambdamat | 650 - 1500 kW |



### Heat and electricity from wood

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

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