NEW!

S2 DUAL COMPACT

FIREWOOD AND PELLET BOILER 15 - 20 kW

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

A+

BETTER HEATING

INNOVATIVE
AND CONVENIENT

fröling

ENVIRONMENTALLY RESPONSIBLE HEATING, ECONOMICALLY ATTRACTIVE

Wood pellets are made of natural wood. 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.

Wood is a home-grown and environmentally friendly fuel, that is highly sustainable. It is CO_2-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.

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 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_2-neutral fuel
- Ideal for all types of house
- More convenience and reliability

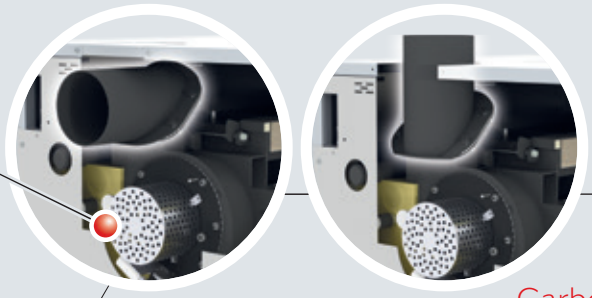
Two systems perfectly combined
The S2 Dual compact firewood and pellet boiler combines two perfect systems - it meets all the requirements for firewood and pellet fuels in two separate combustion chambers. Highly efficient and convenient - the S2 Dual compact ensures low emissions and low energy costs. The new LTC 5000 control system with 7" glass touch display offers even more options for controlling the boiler. The swivelling flue pipe connection makes adapting to different types of installation possible, considerably facilitating installation. Optionally, an integrated particle separator ensures even lower emissions and fulfils the highest requirements for environmental friendliness. Proven features such as efficient carbonisation gas extraction, the speed-controlled induced draught fan, long refilling intervals and low power consumption make the S2 Dual compact a solution that is as economical as it is convenient. The S2 Dual compact also offers important advantages when installed in the boiler room: The compact design means that installation is child's play, even when space is limited.

Pellet unit can be retrofitted at any time
Froling offers a flexible solution for people who may want to use pellets in future: the S2 Turbo comes with a pellet flange as standard, which means that the pellet unit can be retrofitted at any time. This is supplied fully insulated and ready to plug in.

WOOD GASIFIER TECHNOLOGY - FIREWOOD OPERATION

FULLY AU
Automatic ch

NEW!



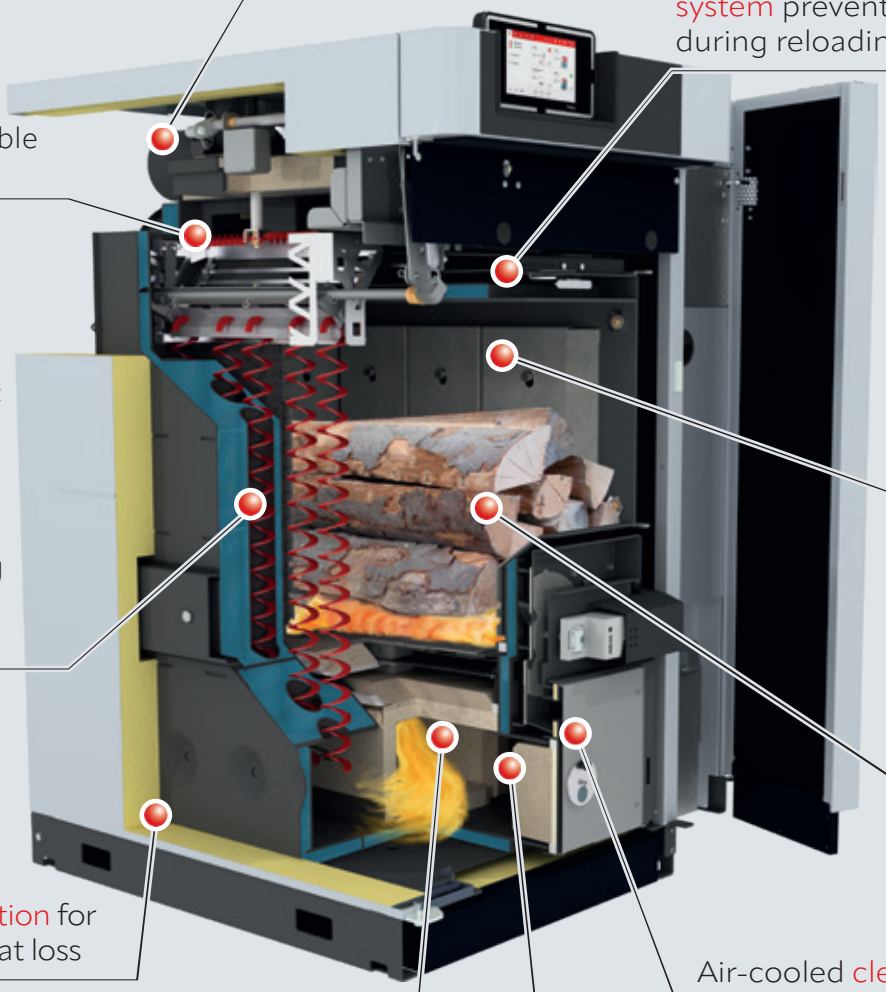
Speed-regulated induced draught fan

Flue pipe connection can be rotated to horizontal or vertical orientation

NEW!

Carbonisation gas extraction system prevents escape of smoke during reloading

Integrated particle separator (electrostatic precipitator) available as an option



Suspension lip to protect the inner wall of the boiler and guarantee that the logs slide through

Manual/automatic WOS system (efficiency optimisation system) for optimum cleaning of the heat exchanger pipes

Large fuel loading chamber for logs up to half a metre long (up to 56 cm)

High-quality insulation for minimal radiant heat loss

Air-cooled cleaning door for minimal radiant heat loss

High-temperature firebrick-lined combustion chamber
(Easy to replace individual bricks)

Large cleaning port door for easy ash removal and cleaning from the front

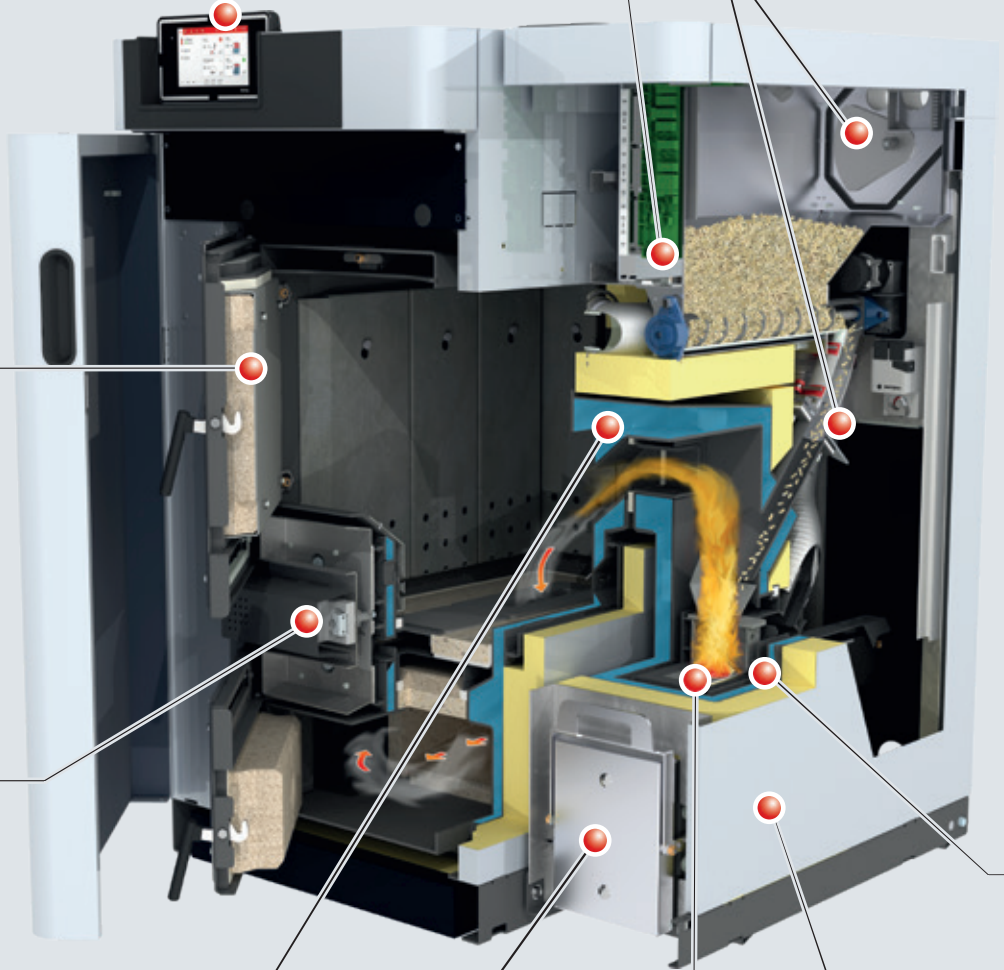
S2 DUAL COMPACT
PELLET MODE

NEW!

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

Large pellet container with stoker screw and external suction module

Double sliding valve system for maximum burn back protection



Air-cooled fuel loading chamber

Servo-motor for automatic control of heating, primary and secondary air

Water-cooled pellet flange

Practical, convenient ashcan for simple, dust-free emptying and long emptying intervals

Silent ignition

High-quality insulation

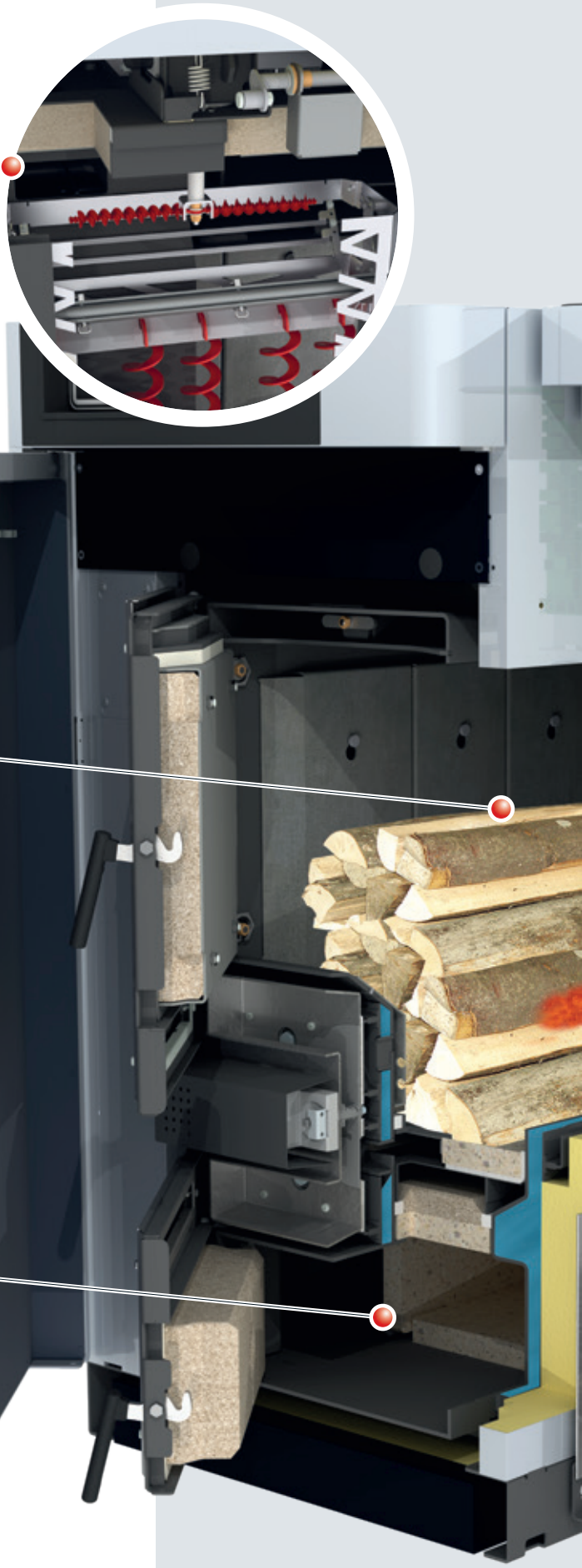
Water-cooled pellet burner with slide valve for automatic ash removal and cleaning

NEW! Integrated particle separator (electrostatic precipitator) can be added at any time

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 with heat exchanger optimisation system (WOS)
- Cleaning of the electrode by means of an impact device
- Fulfils the funding guidelines in Germany (entitlement to the emissions reduction surcharge)



Large fuel-loading chamber with suspension lip to accommodate logs up to half a metre long

With outputs of 15 or 20 kW, the S2 Dual compact allows for the burning of firewood up to a length of 56 cm. Despite its compact design, the S2 Dual compact has long reloading intervals and is already suitable for storage tank sizes from 825 litres. The suspension lip (hot outer cladding) ensures the logs will slide through continuously and can easily be taken off for cleaning.

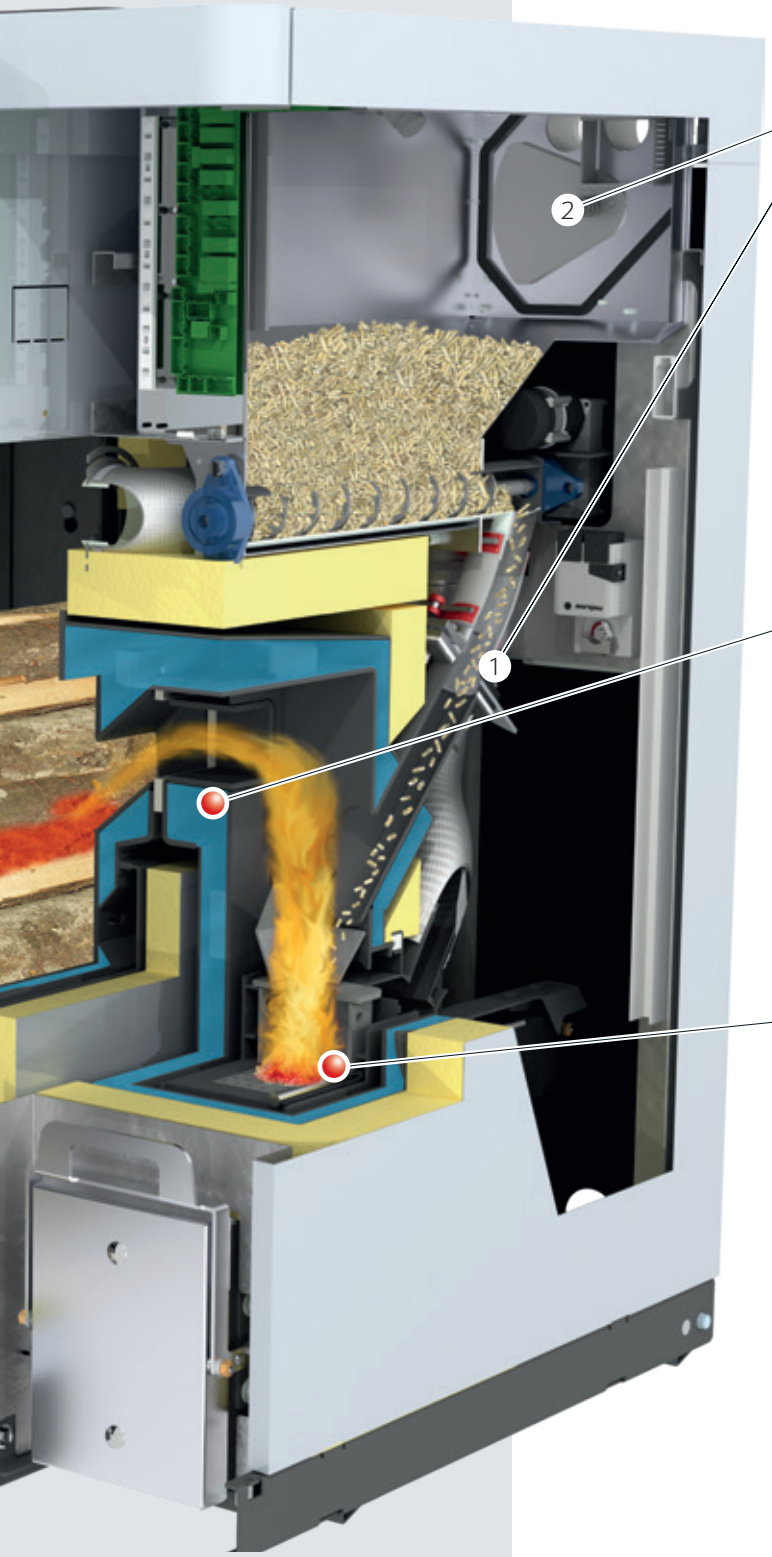
Advantages:
- Easy loading
- Long combustion time
- Long lifespan

High-temperature firebrick-lined combustion chamber

The hot combustion zone in the combustion chamber keeps emissions levels low. The new shape of the combustion chamber makes it especially easy to clean. Furthermore, its new construction makes maintaining the combustion chamber a breeze as the firebricks are very easy to replace.

Advantages:
- Low emissions
- Easy cleaning
- Long lifespan

A PERFECT UNIT



Double gate valve system

The gate valve for the burner (1) and the gate valve to the fuel store (2) provide a double airlock system ensuring maximum operating safety.

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

Water-cooled pellet flange

The downward pointing design of the pellet flange means that no impurities from the fuel loading chamber can reach the combustion grate of the pellet unit.

Advantages:
- Reliable operation
- Pellet unit can be retrofitted at any time

Automatic ignition and **fully automatic** continued operation

The firewood can be ignited automatically using the pellet burner.
The two separate combustion chambers make it possible to change flexibly between firewood and pellets. If the firewood has been used up and not replenished within the time you specify (0-24 h), the system switches over automatically to burning pellets so that it continues to supply heating as required.
If you open the fuel loading chamber doors and insert more firewood, the pellet operation is interrupted and the S2 Dual compact automatically switches back to firewood operation. The firewood can be ignited by the residual embers, manually or fully automatically using the pellet burner.

Advantages:
- No modification required
- Automatic change-over between firewood and pellets

IMPRESSIVE IN THE DETAILS

Speed-regulated induced draught fan

The speed-controlled induced draught fan is a standard component of the unit, which further enhances the reliability of the S2 Dual compact. This means that the boiler can be started easily even if the chimney is cold. The speed regulation device in the induced draught fan stabilises combustion throughout the heating process and adjusts the output according to requirements.

Advantages:
- Maximum ease of use
- Problem-free starting of the boiler
- Continuous stabilisation during combustion

Unique automatic heating-up

A unique design! Unlike traditional systems, the pre-heating chamber door on the S2 Dual compact can be closed immediately after ignition due to a special primary air duct.

Both the primary and secondary air, as well as the heating air, are automatically regulated in the new S2 Dual compact with just one servomotor. This means that in every stage of the heating process - from heating up to burnout - the exact amount of air is supplied, creating the perfect combustion conditions. Heating with firewood can be that easy!

Advantages:
- Regulated supply of air for pre-heating
- Optimum conditions for combustion

Special carbonisation gas extraction system

The integrated carbonisation gas duct flap makes pre-heating even easier. The flap is closed manually before lighting to provide a better draught during the pre-heating process. The carbonisation gas duct flap opens automatically when the fuel loading chamber door is closed. This then reactivates the carbonisation gas extraction system, thus preventing smoke and gas from escaping when reloading.

Advantages:
- Easy pre-heating
- No escape of smoke during re-filling
- Boiler room stays clean

NEW! Available with optional automatic WOS system

Standard WOS system

We never compromise on ease of use. The WOS (Efficiency Optimisation System), which comes as standard on the S2 Dual compact, consists of special turbulators, which are placed in the heat exchanger pipes. The lever arm mechanism ensures easy cleaning of the heating surfaces from the outside. This means clean heating surfaces and thus greater efficiency and lower fuel consumption. Optionally, the WOS can be driven automatically (automatic as standard with integrated particle separator).

Advantages:
- Ever greater efficiency
- Easy cleaning from outside
- Savings on fuel

Automatic ignition for the pellet burner

The silent and energy-saving glow igniter ensures that the fuel is ignited safely and in an energy-saving manner. As it is operated without an additional blower fan, the glow ignition is almost silent.

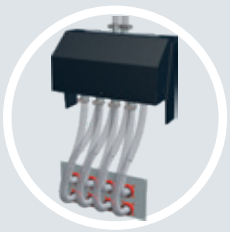
Advantages:
- Reliable and silent ignition
- Low power consumption
- No separate blower fan required

Water-cooled pellet burner with automatic slide valve

The water-cooled pellet burner is perfectly adapted to the fuel requirements enabling a particularly high level of efficiency. The sliding plate ensures automatic cleaning and ash removal into a large ashcan, thus ensuring convenient and maintenance-free operation.

Advantages:
- High efficiency
- Long lifespan
- Automatic ash removal

RS 4



RS 8

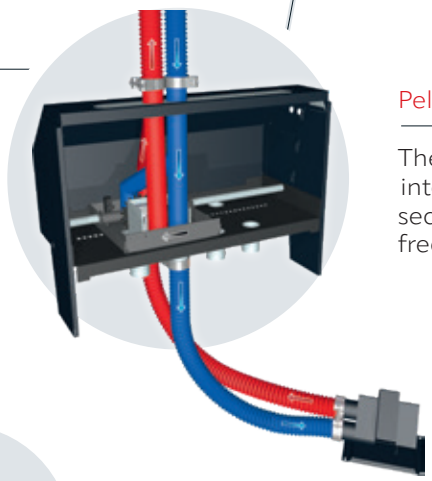
RS 4 / RS 8 pellet suction system

The RS 4 / RS 8 pellet suction system creates more space in your storeroom. Thanks to the fact that the suction probes are flexible in terms of location, it is possible to make optimal use of every room shape.

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

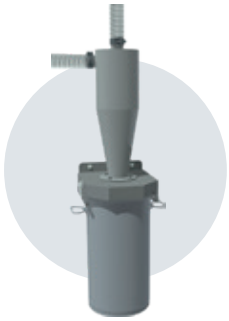
It automatically selects 4 or 8 suction probes in specified cycles and is controlled directly by the pellet boiler. If however the suction probe unexpectedly malfunctions, the situation is remedied by a fully automatic reversal of the air supply / back flushing (as illustrated).



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.

PST pellet deduster (optional)



External suction module

The automatic fuel feed from the fuel store to the pellet container is facilitated by an external suction module. The suction module can be fitted in any position in the return air line.

Manual 4-probe suction system

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

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.

suction screw

The Froling suction delivery 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.

Cube 330 / Cube 500S pellet supply bin

The Cube 330/500S is the optimum and most cost-effective solution for low 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 495 kg of pellets. The pellets are transported to the boiler by means of a suction probe, which is also included in delivery.

Pellet Mole®

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 store to empty it as efficiently as possible.

INDIVIDUAL CONTROLLER FOR THE HEATING SYSTEM

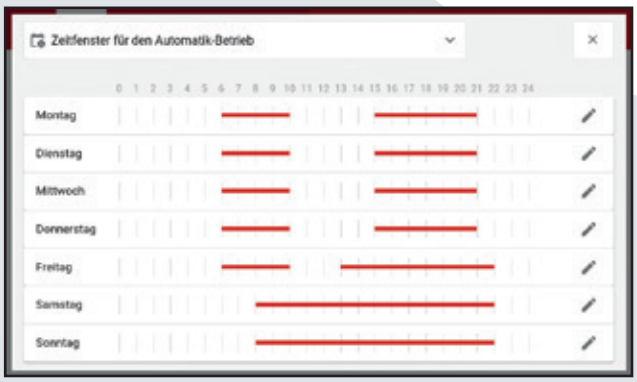
Lambdatronic 5000 controller

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 ashcan 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 storage tankmanagement 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 push notification or e-mail (such as when the ashcan 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 required (such as an Internet gateway)

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.

FIREWOOD
RELOAD CALCULATION

Efficient heating with intelligent reload calculation from Fröling. The current status of the system is visible at all times via the 7" touch display and can be used through simple parameterization of the storage tank type and the storage tank volume.

Taking into account the current storage tank charge, the boiler control calculates the missing energy. When the boiler door is opened, the required amount of fuel for loading the storage tank is displayed in kilogrammes.

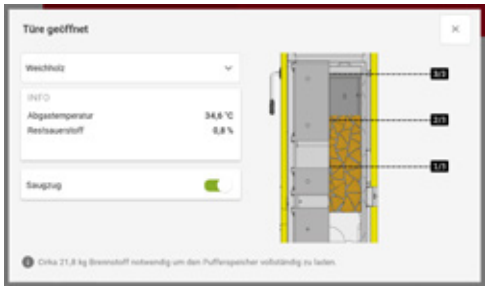
Wood types

Different types of wood with the same water content differ mainly in terms of weight. There are lighter (softwood) and heavier (hardwood) types of wood. In relation to weight, all types of wood have an almost identical heating value with the same water content.

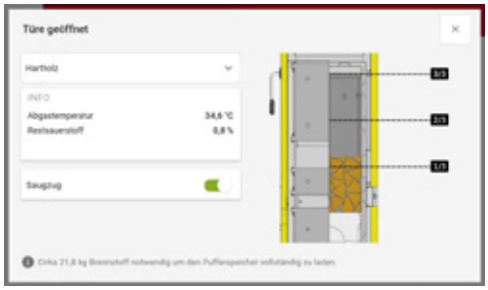
In order to achieve the same heating value, more softwood is needed than hardwood. For customers who only have limited storage capacity, hardwood is therefore particularly suitable for heating.

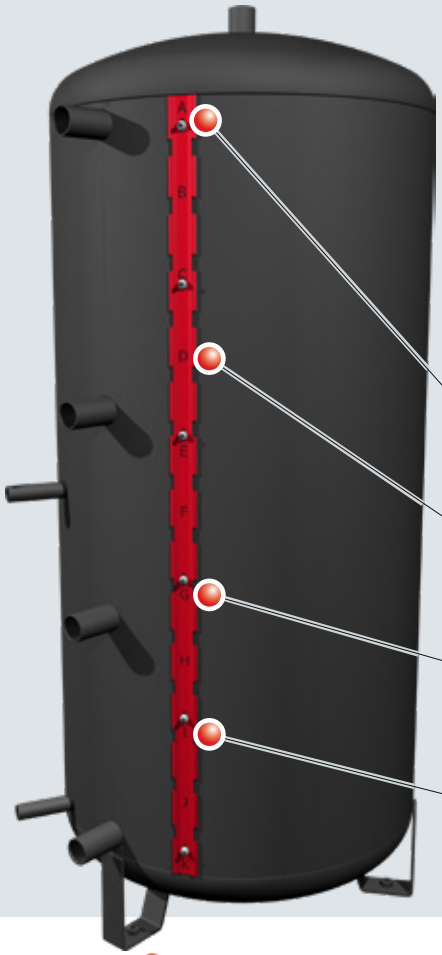
Examples of softwood: spruce, fir, pine, larch, poplar, willow
Examples of hardwood: oak, copper beech, ash, maple, birch, bird cherry

Display for softwood



Display for hardwood





Froling tank systems with sensor strip

Froling layered tanks have a terminal strip for optimal positioning of the sensors. This allows multiple sensors to be positioned at any height and moved without having to empty the tank. The labelling of the sensor strip and corresponding Froling connection diagrams makes the sensors extremely easy to position and offer lots of different options.

To enable an exact calculation of the reload quantities, a total of 4 sensors (positions A, D, G, I) are attached to the terminal strip.

Correct positioning of the sensors on the terminal rail is crucial for optimum operation of the system!

THE PERFECT COMBINATION

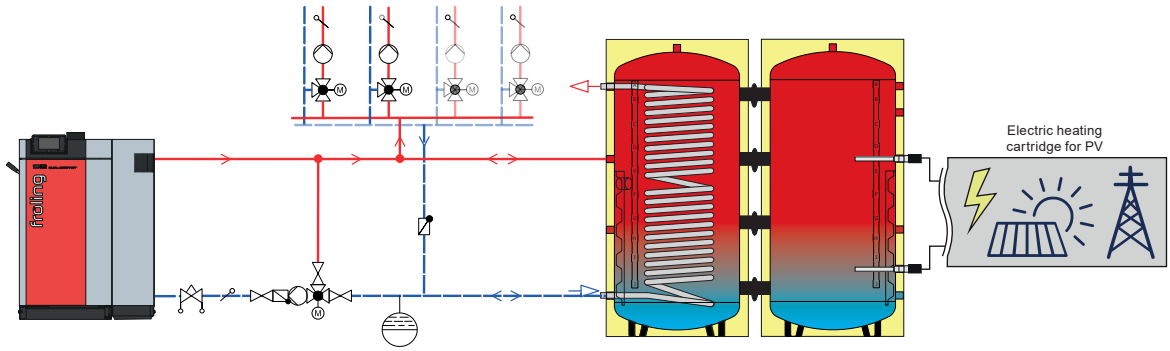
Please see also our "Tank systems" brochure

SYSTEMS ENGINEERING FOR OPTIMUM ENERGY CONSUMPTION

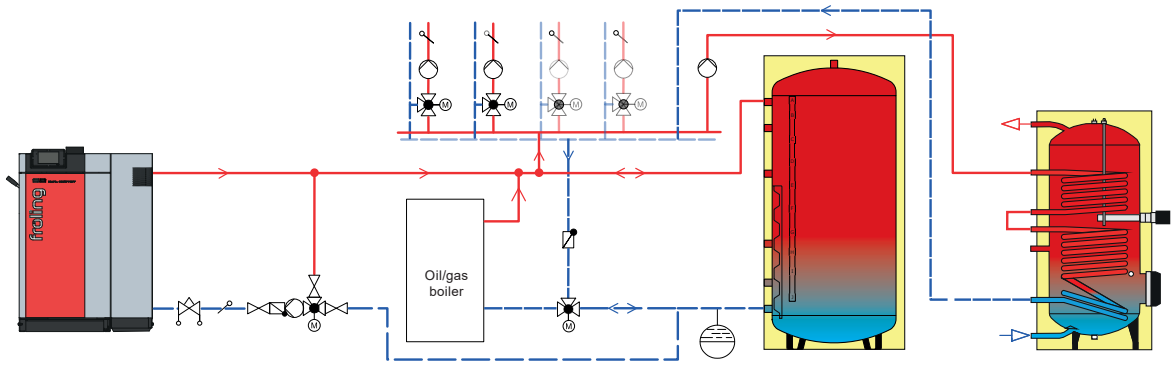
Froling systems engineering offers efficient energy management. Any number of storage tanks, hot water tanks and heating circuits can be included in the heat management system. You can also benefit from the ability to integrate other means of energy production such as solar panel systems.

Advantages:
- Complete solution for all requirements
- Components perfectly matched to each other
- Integration of solar power

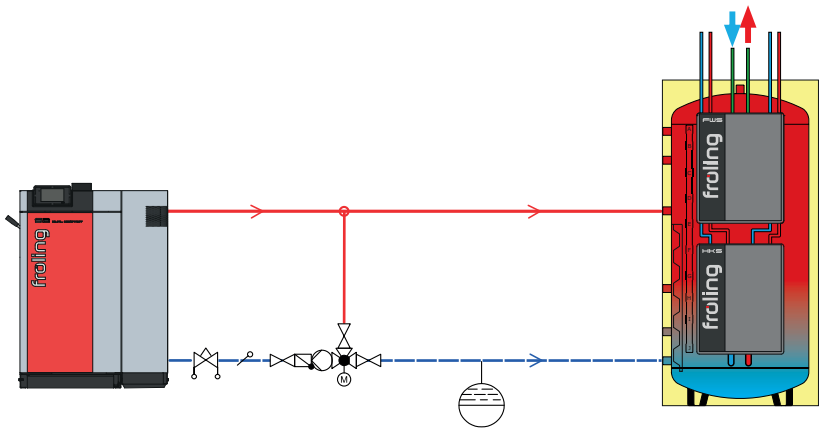
S2 Dual compact with H2 hygienic layered tank and two electric heating cartridges (communicating with each other)



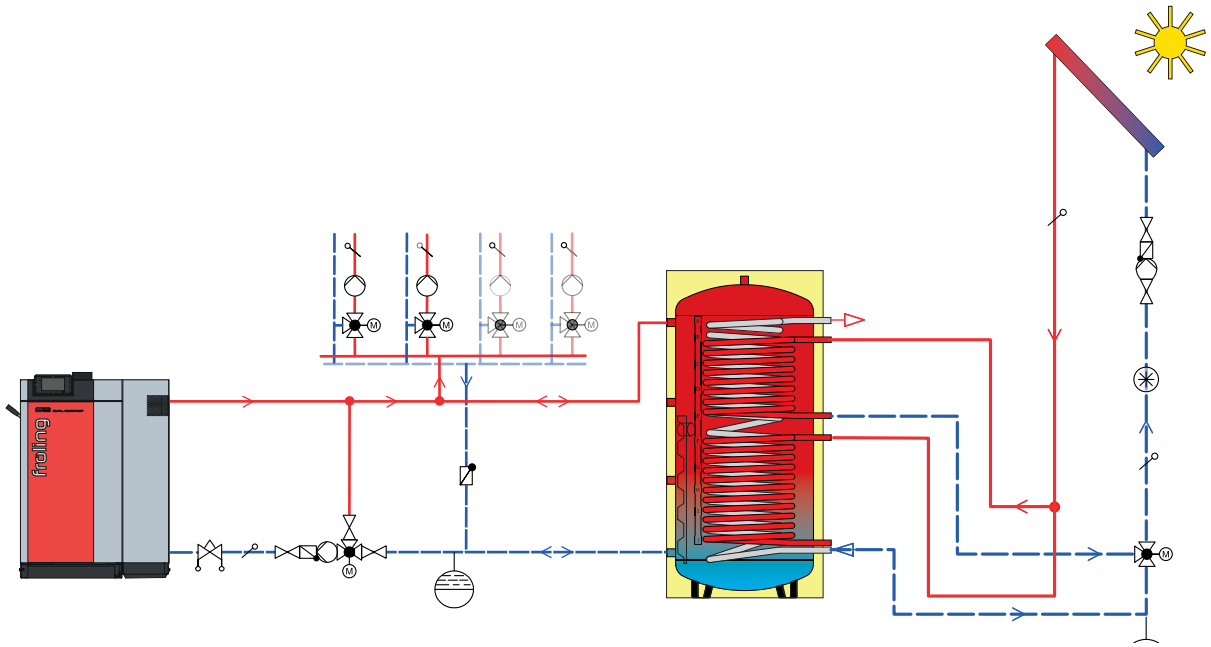
S2 Dual compact with layered tank and Unicell



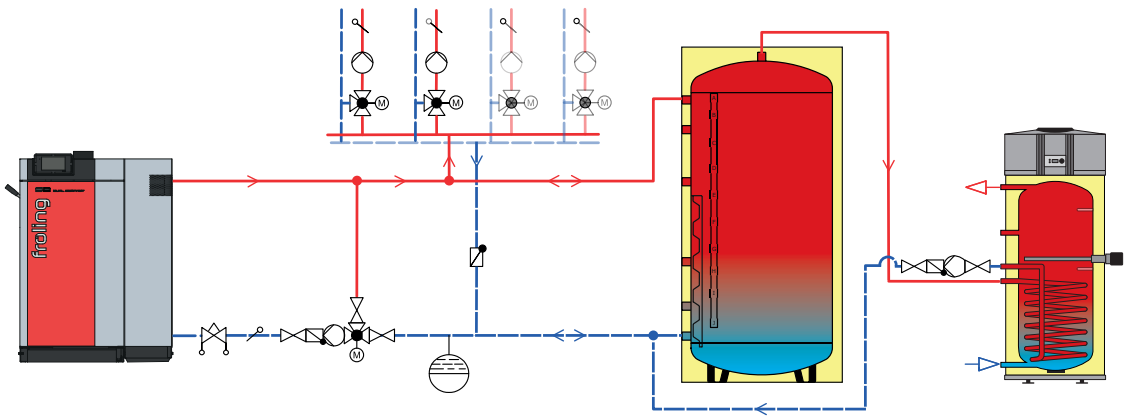
S2 Dual compact with HS modular layered tank, FWS fresh water station and HKS heating circuit station



S2 Dual compact H3 hygienic solar layered tank and solar connection



S2 Dual compact with layered tank and domestic hot water heat pump



ACCESSORIES FOR EVEN GREATER CONVENIENCE

RBG 5000 room console

The new RBG 5000 room console makes the system even more convenient. The heating system can be conveniently navigated from the living room, all important values and status messages can be easily read and all settings can be made with a single touch on the display. 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).

Heating circuit module

With wall casing and contact sensor as heating circuit control for up to two mixer heating circuits.

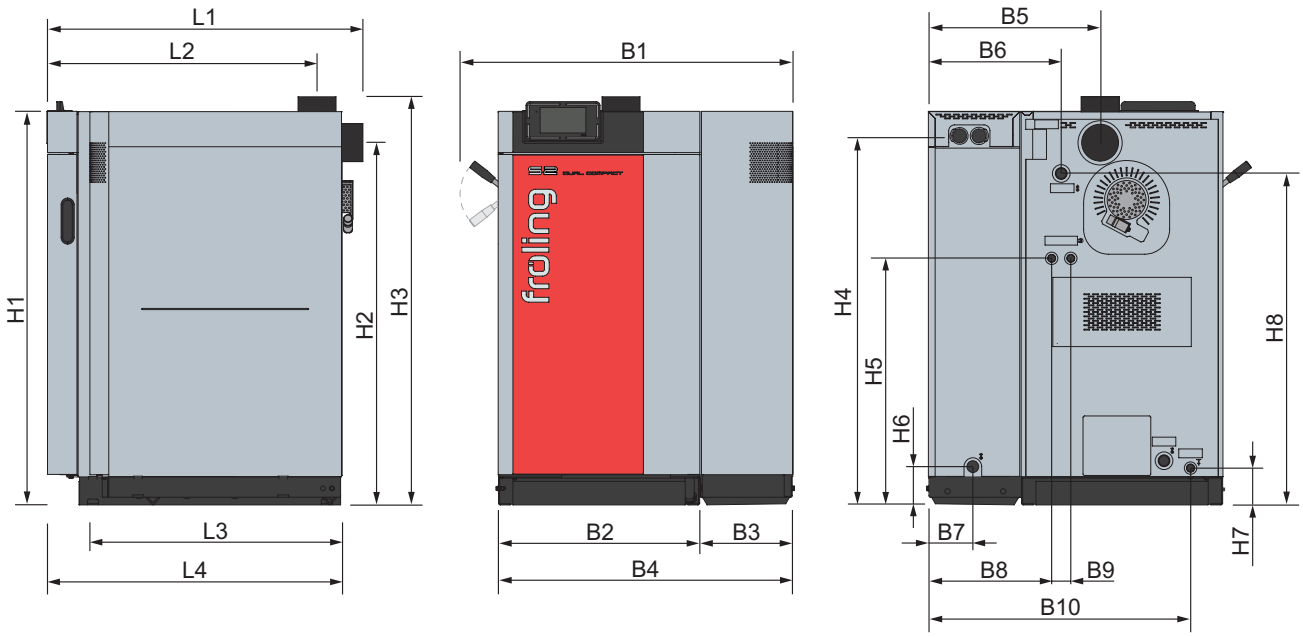
Hydraulic module

With wall casing and two immersion sensors to control one or two pumps and one isolating valve with up to six sensors.

WMZ solar package

Set for measuring heat quantity, consisting of one volume -pulse transmitter ETW-S 2.5, one collector sensor and two contact-sensors for recording flow - and return-temperatures.

DIMENSIONS & TECHNICAL DATA

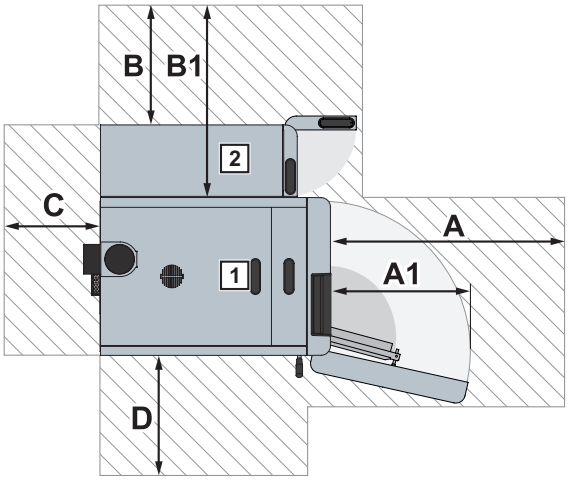


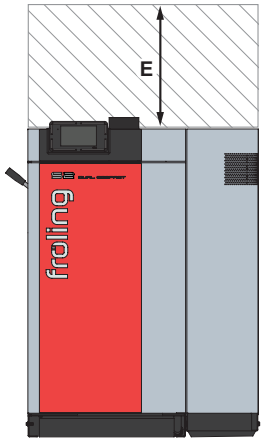
Dimensions in mm - S2 Dual compact	15	20
L1 Length of the boiler (flue gas pipe connection at rear)	1070	1070
L2 Distance from the flue gas pipe top connection to the front face of the boiler	915	915
L3 Length, pellet unit	860	860
L4 Length, firewood boiler	1000	1000
B1 Total width including WOS lever	1150	1150
W2 Width, firewood boiler	685	685
B3 Width, pellet unit	315	315
B4 Width, boiler	1000	1000
W5 Distance between flue gas pipe connection and side of boiler	585	585
B6 Distance between flow connection and side of boiler	450	450
B7 Distance between return connection and side of boiler	150	150
B8 Distance between safety heat exchanger connection and side of boiler	420	420
W9 Distance between safety heat exchanger connections	65	65
B10 Distance between drainage connection and side of boiler	890	890
H1 Height of boiler	1335	1335
H2 Height of rear connection for the flue gas pipe	1230	1230
H3 Height of the flue gas pipe top connection	1385	1385
H4 Height of hose line connection	1255	1255
H5 Height, safety heat exchanger connection	840	840
H6 Height, return connection	130	130
H7 Height, drainage connection	125	125
H8 Height of connection for flow	1,125	1,125
Flue gas pipe diameter	129	129

Technical Data - S2 Dual compact		15	20
Nominal output	[kW]	15	20
Output range - pellet mode	[kW]	4.4 - 15	6 - 20
Energy rating label*		A+	A+
Weight - firewood boiler / pellet unit	[kg]	455 / 190	465 / 190
Water capacity - firewood boiler / pellet unit	[l]	90/15	
Fuel loading door dimensions - firewood boiler (width/height)	[mm]	350/360	
Fuel loading chamber capacity - firewood boiler	[l]	80	
Pellet container capacity (automatic feed)	[l]	40	

* Efficiency label (boiler + controller)

OPERATING AND MAINTENANCE AREAS





Minimum clearances in mm - S2 Dual compact		
A	Clearance from insulated door to wall	800
A1	Door swing area	550
B	Clearance from boiler side with pellet unit to wall	500
B1	Clearance from boiler side without pellet unit to wall	815
C	Clearance from back side to wall	400
D	Clearance from side of boiler to wall	500 (200)[1]
E	Maintenance area above the boiler	500[2]

[1] The heat exchanger for the boiler is accessible for maintenance only from the front
[2] Maintenance area for removing the WOS springs upwards

This satisfies the ecological design requirements of VO (EU) 2015/1189, Annex II, Point 1.

Pellet boiler

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

Firewood boiler

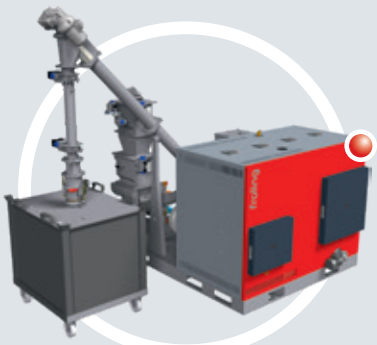
S2 Turbo	15 - 20 kW
S3 Turbo	20 - 45 kW
S4 Turbo	22 - 60 kW

Dual fuel boiler

S2 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)

Your Froling partner

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