

SP DUAL COMPACT
FIREWOOD AND PELLET BOILER



BETTER HEATING
INNOVATIVE AND
COMFORTABLE

froling 



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 a high energy output 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 store.

Wood is a domestic and environmentally friendly fuel that grows in large quantities, burns CO₂-neutral and makes it independent of international trouble spots. In addition, numerous jobs are secured through the use of local wood. Therefore, wood is the optimal fuel from both an economic and an ecological point of view. There are different quality classes depending on the wood used.

For almost sixty years Froling has specialised in the efficient use of wood as a source of energy. Today the name Froling stands for modern biomass heating technology. Froling firewood, wood chip and pellet boilers are successfully in operation all over Europe. All of our products are manufactured in our factories in Austria and Germany. 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 CO₂-neutral fuel
- Ideal for all types of house
- Up to 5 year Froling-warranty (subject to warranty conditions)

Two systems perfectly combined

The SP 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 SP Dual compact ensures low emissions and energy costs. In addition, the SP Dual compact has just one heat exchanger, a return temperature control, a controller and a flue gas pipe, which can be used for both operating modes.

Pellet unit can be retrofitted at any time

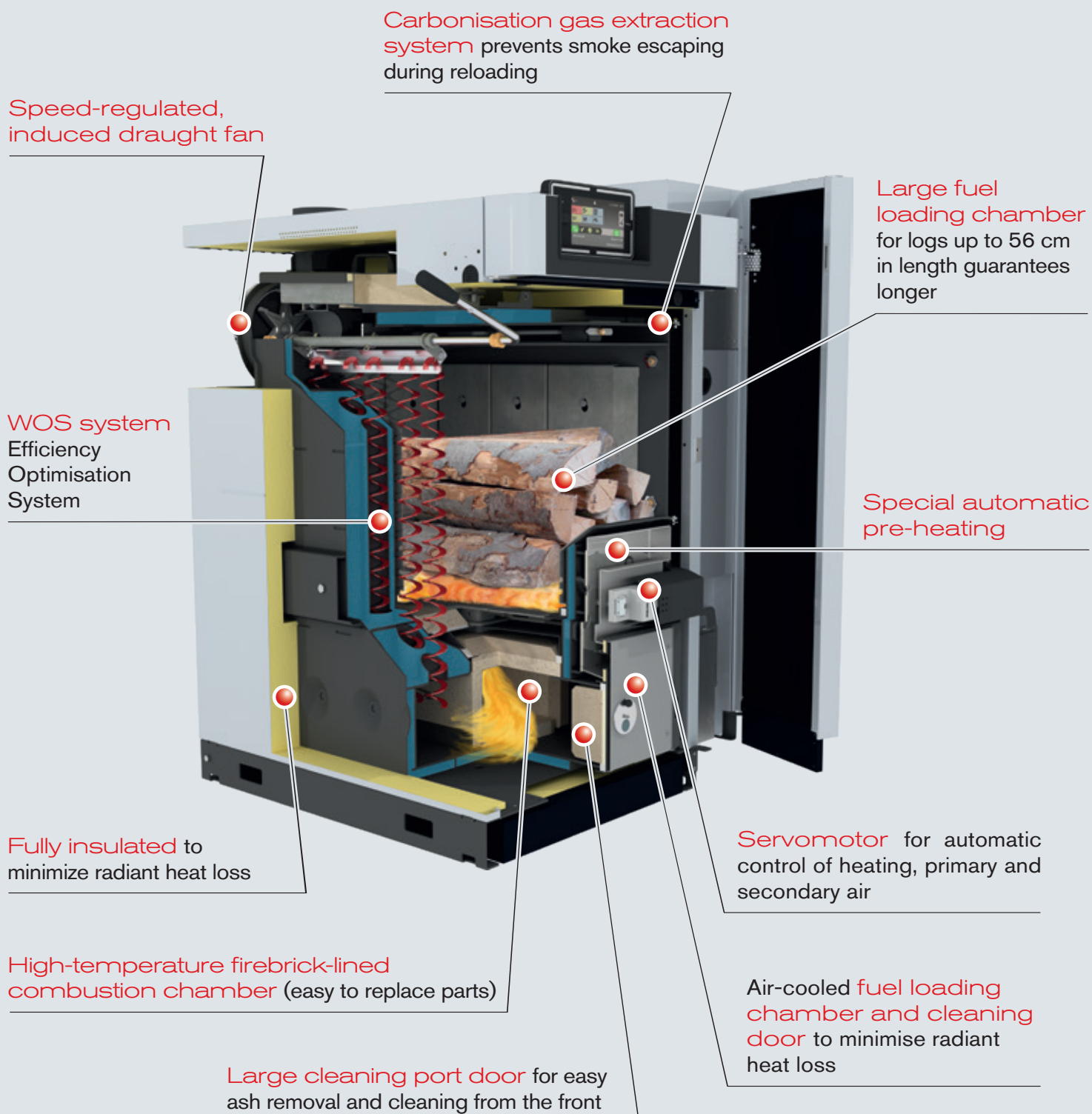
If you only want to burn firewood at present, Froling offers a flexible solution for the future: With the S1 Turbo F with pellet flange, the pellet unit can be retrofitted later at any time. The SP Dual compact has important advantages even before it is put into the boiler room. It is so compact that installing it is child's play even in confined boiler rooms. The pellet burner of the SP Dual compact is supplied completely insulated and wired so all you need to do is plug it in. Thanks to its design with just a single exhaust pipe, it is particularly easy to retrofit a pellet unit at any time.

The „**Plus X Award**“ honours high-quality innovations that make life simpler and more enjoyable while respecting the environment. Froling's SP Dual compact stood out in the categories for **innovation, high quality, ease of use, functionality and ecology**.



WOOD GASIFIER TECHNOLOGY

FIREWOOD OPERATION





SP DUAL COMPACT PELLET MODE

7" touch display for simple and intuitive operation

Large pellet container with stoker screw and external suction module

Double slide valve system for maximum burn back protection

Air-cooled fuel loading chamber and cleaning door

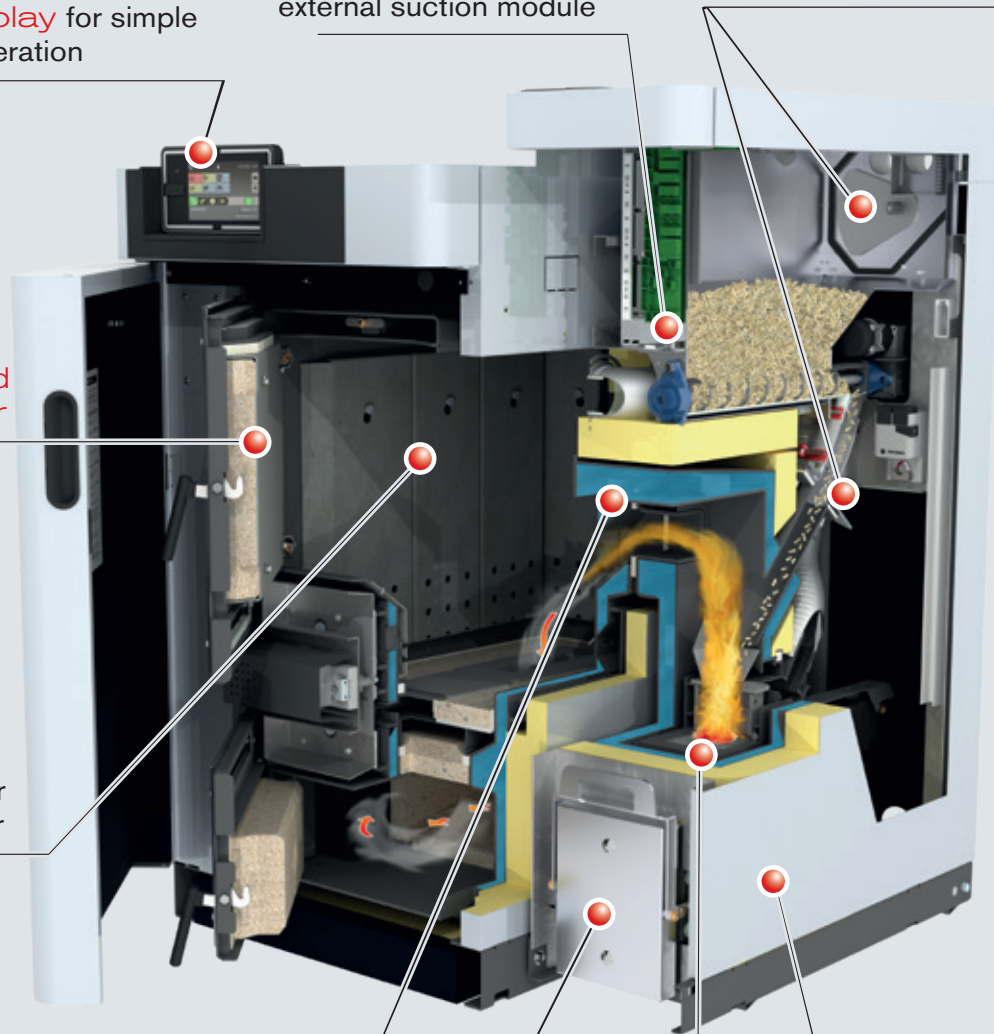
Cladding to protect the inner wall of the boiler

Water-cooled pellet flange with downward pointing design for safe operation

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

High-quality insulation

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



A PERFECT UNIT

Large fuel loading chamber for 50 cm wood blocks

With 15 or 20 kW outputs, the SP Dual compact allows burning of firewood up to a length of 56 cm. Despite its compact design, the SP Dual compact has long reloading intervals and is already suitable for storage tank sizes from 825 litres. The aprons (hot cladding) are easy to remove for cleaning purposes, they protect the interior walls of the boiler and guarantee a long service life.

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

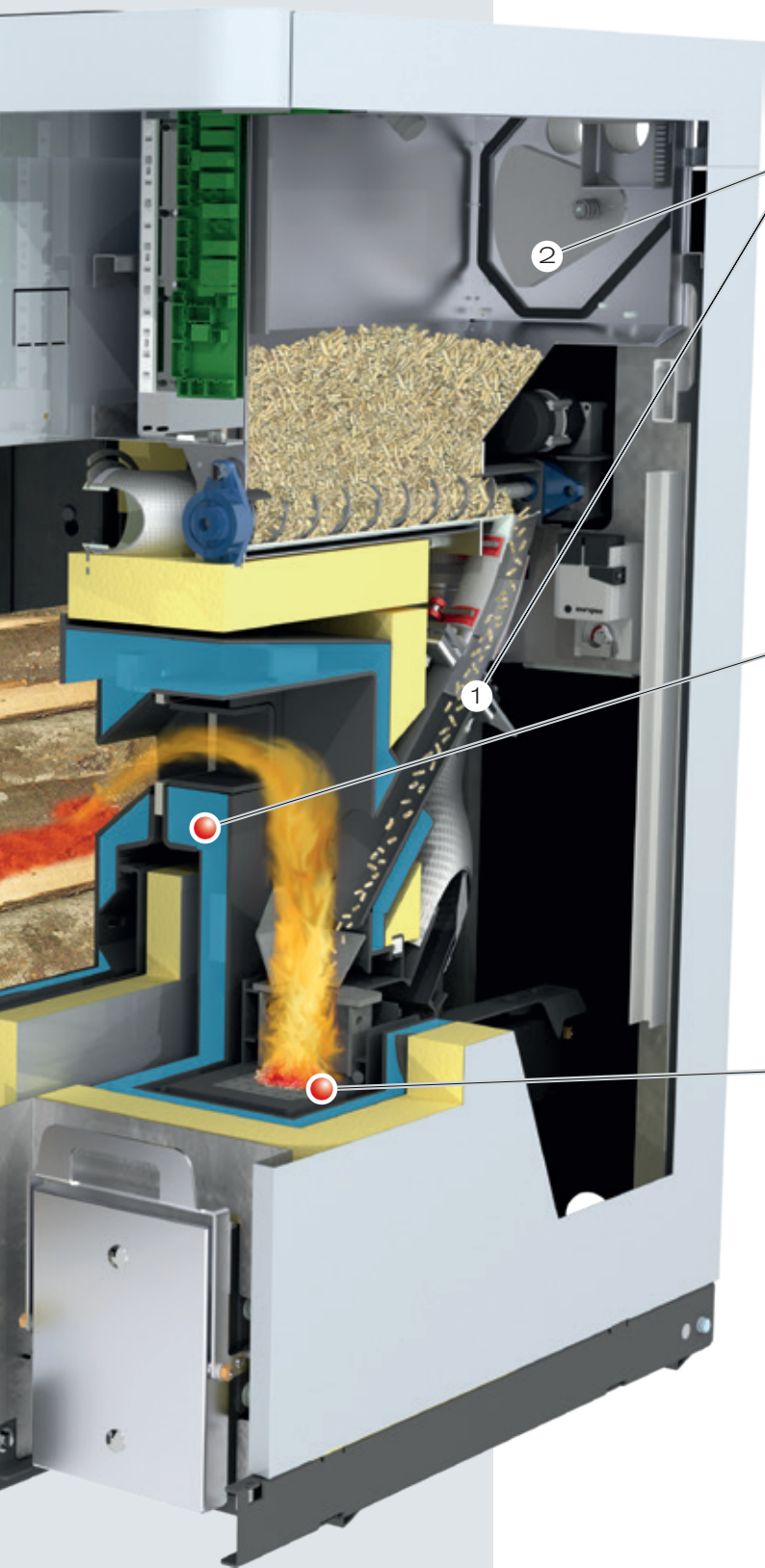
High-temperature firebrick-lined burning chamber

The hot combustion zone in the combustion chamber keeps emission 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



FOR GREATER CONVENIENCE



Comprehensive safety concept

The downpipe together with the tested burner gate valve (1) and the store gate valve (2) provide a double slide valve system, guaranteeing maximum burn back protection.

- Advantages:
- The highest possible operating safety
 - Maximum reliability

Water-cooled pellet flange with downward pointing design

The downward pointing design of the pellet flange means that no impurities from the filling room can reach the combustion grate of the pellet unit.

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

Automatic ignition and 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 burnt up and is not replenished within the time you specify (0-24 h), heating is continued automatically if heat is required.

If you open the loading chamber doors and insert more firewood, the pellet operation is interrupted and the SP Dual compact switches automatically back to firewood operation. The firewood can be ignited by the residual embers, manually or fully automatically using the pellet burner.

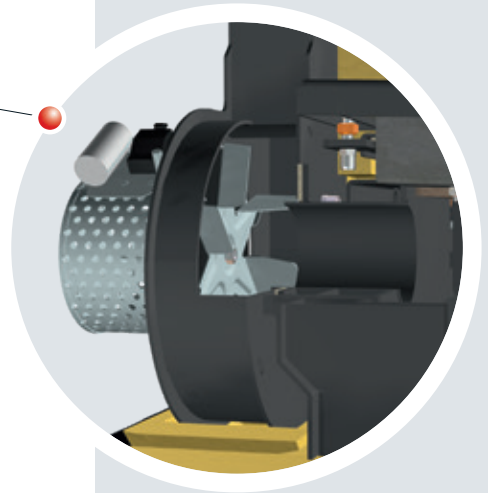
- Advantages:
- No refitting required
 - Automatic change between firewood and pellets

IMPRESSIVE IN THE DETAILS

Speed-controlled induced draught fan

The speed-controlled induced draught fan is a standard component of the unit, which further enhances the reliability of the SD 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
 - Smooth boiler start
 - Constant stabilisation during combustion



Unique automatic heating-up

A unique design: both the primary and secondary air, as well as the heating air, are automatically regulated in the new SP 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. Furthermore, thanks to the regulated air supply for pre-heating, the door can be closed just a short time after lighting. Heating with firewood can be that easy!

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



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, preventing smoke and gas from escaping when reloading.

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



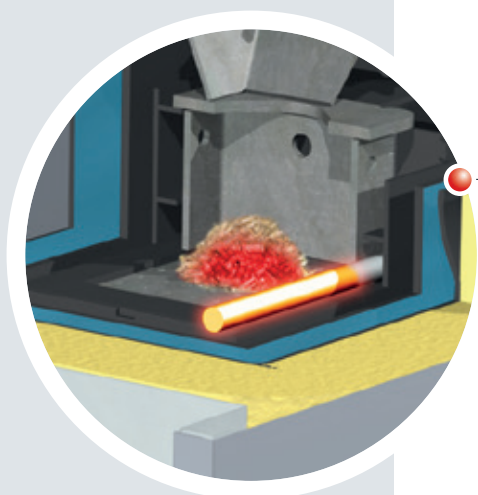
NEW! Optional with autom. WOS-Technik



WOS system as standard

We never compromise on convenience. The WOS (Efficiency Optimisation System), which comes as standard on the SP 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. An additional benefit of this mechanism is that it ensures higher efficiency and fuel savings.

- Advantages:
- Even more efficient
 - Easy cleaning from outside
 - Fuel economy



Automatic ignition

The new glow ignition is particularly suitable for low boiler outputs. As it is operated without an additional blower fan, the glow ignition is barely audible.

- Advantages:
- Quiet operation
 - Low energy consumption



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

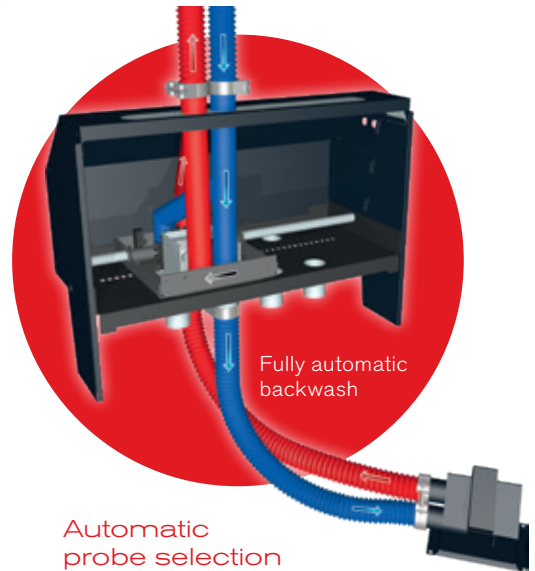
4 probe manual suction system

The RS 4 manual 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 room shape. The switchover between suction probes is manual. Rule of thumb: Plan for one suction probe for every 1 m² pellet storage area.



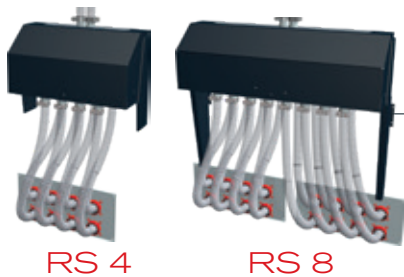
Pellet filler pipes

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.



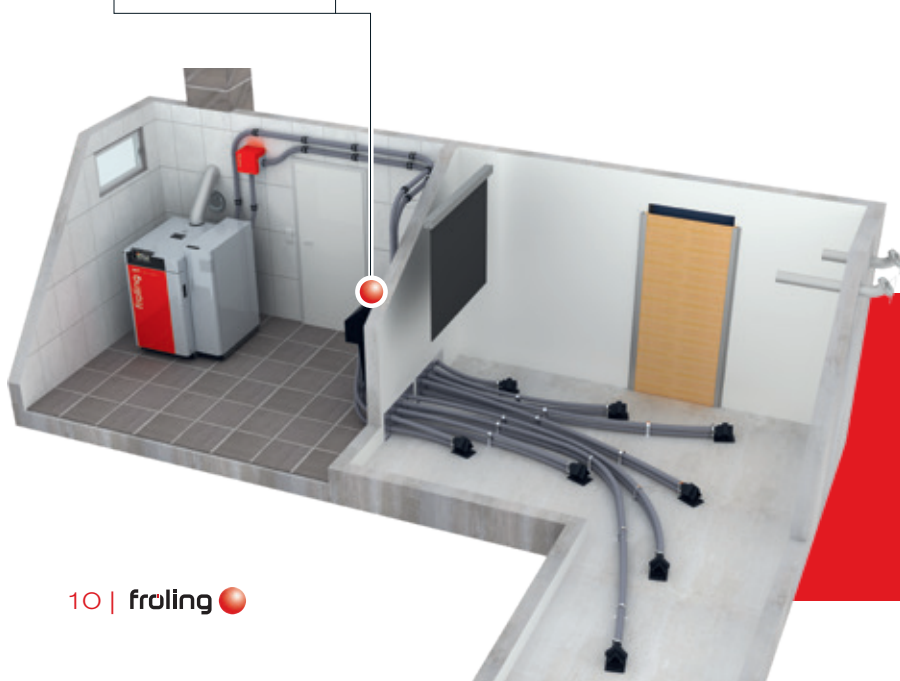
Automatic probe selection

It automatically selects 4 or 8 suction probes in specified cycles, it is controlled by the pellet boiler. If, however, the suction probe fails unexpectedly, it is remedied by a fully automatic reversal of the air supply (back flushing).



Pellet suction system RS 4 / RS 8

Design as above, however with the difference of automatic switchover between the suction probes.



Pyramid for fuel store optimisation

Advantages at a glance:

- easy to assemble
- no sloping slides necessary in the bunker
- more store space (30%)
- automatic switching between the probes
- automatic back flushing
- maintenance-free system

Bag silo

The bag silo system is a flexible, simple way of storing pellets. Available in 9 different footprints (from 1.5 m x 1.25 m to 2.9 m x 2.9 m) with a capacity of between 1.6 and 7.4 tonnes, depending on the bulk density. There are other advantages to using a bag silo. It is easy to assemble and dustproof. You can also fit rainproof and sunproof covers and install the silo outside.



Suction screw system

The Froling screw suction 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 330/500S pellet supply bin

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



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.



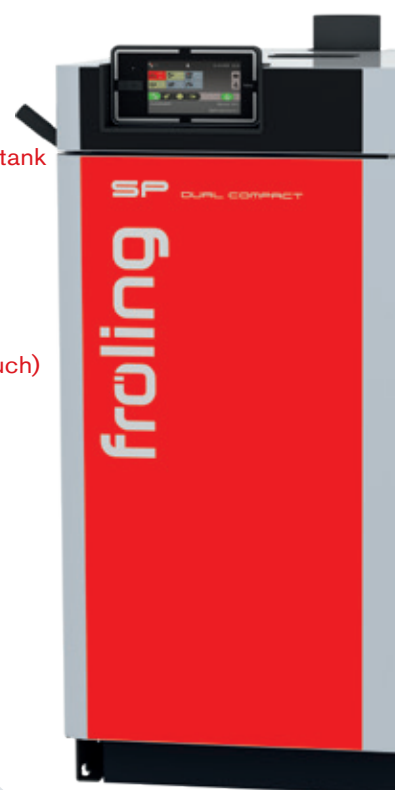
INDIVIDUAL CONTROL UNIT OF THE HEATING SYSTEM

Lambdatronic S 3200 control unit

Fröling provides a future-oriented Lambdatronic S 3200 and a new 7" touch display. Intelligent control management makes it possible to connect up to 18 heating circuits, up to 4 storage tanks and up to 8 hot water storage tanks. The control unit ensures that the operating statuses are clearly shown. The menu structure is ideally organised to allow easy operation. All essential functions can be selected by simply pressing icons on the large colour display.



- Advantages:**
- Precise combustion control by a Lambda control using a Lambda probe
 - Connection for up to 18 heating circuits, 8 water heaters and up to 4 storage tank management systems
 - Integration capability for a solar panel system
 - LED frame for status display with illuminated presence detection
 - Simple and intuitive operation
 - Various smart home options (such as Loxone)
 - Remote control from the living room (remote control 3200 and RGB 3200 Touch) or via Internet (froeling-connect.com)



SIMPLE & INTUITIVE OPERATION

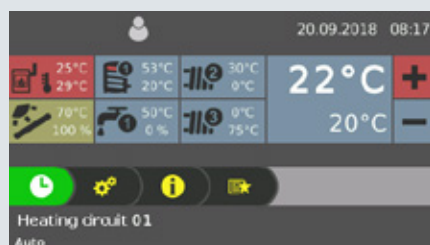


Fig. 1 General overview of the heating circuit (start screen)



Fig. 2 View of the heating times (individually adjustable)

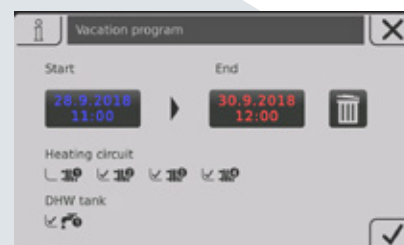


Fig. 3 Overview of the new holiday mode



KEEP TRACK OF EVERYTHING WITH THE FROLING APP

The Froling 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 SMS or e-mail (e.g. when the ash box is to be emptied or in the event of a fault message).

Froling boiler (software core module from version V50.04 B05.16) with boiler touch display (from version V60.01 B01.34) a broadband internet connection and a tablet/smartphone with iOS or Android operating system are required. 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 information can be called up and changed within seconds
- Individual naming of the heating circuits
- Changes of status are notified directly to the user (e.g. via e-mail or push notifications)
- No additional hardware required (such as an Internet gateway)

SMART HOME

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

Loxone

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

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

Modbus

Via the Froling modbus interface, the system can be integrated into a building management system.



RELOAD CALCULATION FOR FIREWOOD

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 kilograms.

Wood types

Different types of wood with the same water content differ mainly in terms of weight. There are lighter (softwood) and heavy (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.

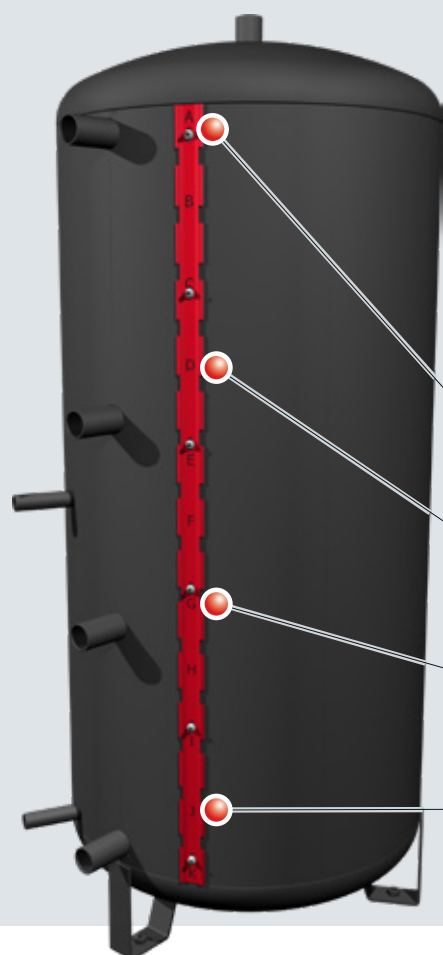
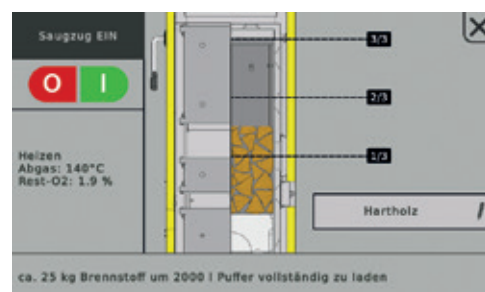
Examples of softwood: spruce, fir, pine, larch, poplar, willow

Examples of hardwood: oak, copper beech, ash, maple, birch, bird cherry

Display for softwood



Display for hardwood



Fröling tank systems with sensor strip

Fröling 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 Fröling 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.

1. Sensor, position A

2. Sensor, position D

3. Sensor, position G

4. Sensor, position I



Correct positioning of the sensors on the terminal strip is crucial for optimal operation of the system!

SYSTEM CONVENIENCE



FRA room temperature sensor

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



RBG 3200 room console

The RBG 3200 room console makes the system even easier to use. The heating system is conveniently controlled from your living room. All important system data is clearly displayed on the 19x8 cm console and settings can be changed at the push of a button.



RBG 3200 Touch room console

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



Heating circuit

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



Hydraulic module

With wall housing and two immersion sensors for controlling one or two pumps and a changeover valve with up to six sensors.



Solarpackage WMZ

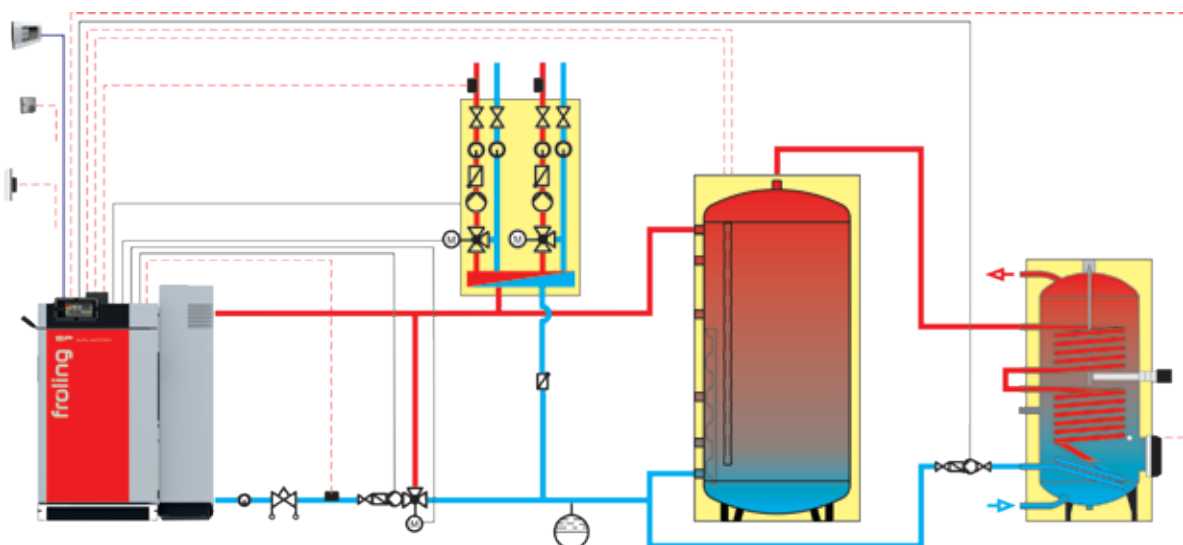
Set for heat quantity measurement, consisting of a volume pulse generator ETW-S 2.5 one Collector sensor and two contact sensors for flow and return temperature measurement.

SYSTEMS ENGINEERING FOR OPTIMUM ENERGY CONSUMPTION

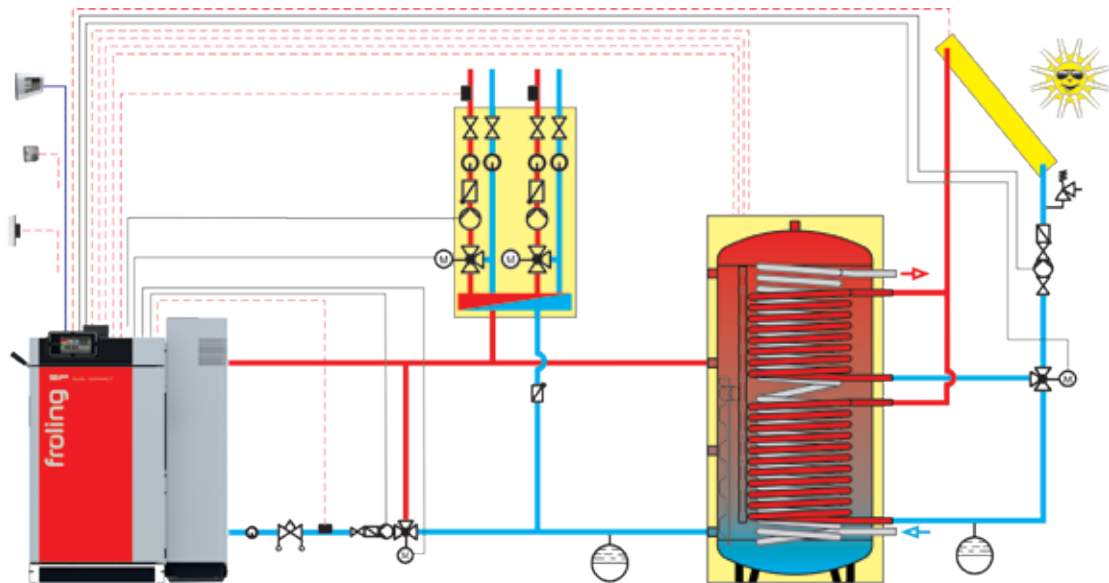
Froling systems engineering offers efficient energy management. Up to 4 storage tanks, 8 hot water tanks and 18 heating circuits can help manage the heating. You can also benefit from the ability to integrate other means of energy production such as solar panel systems.

- Advantages:
- Complete solutions for all requirements
 - Components work perfectly together
 - Integrated solar power

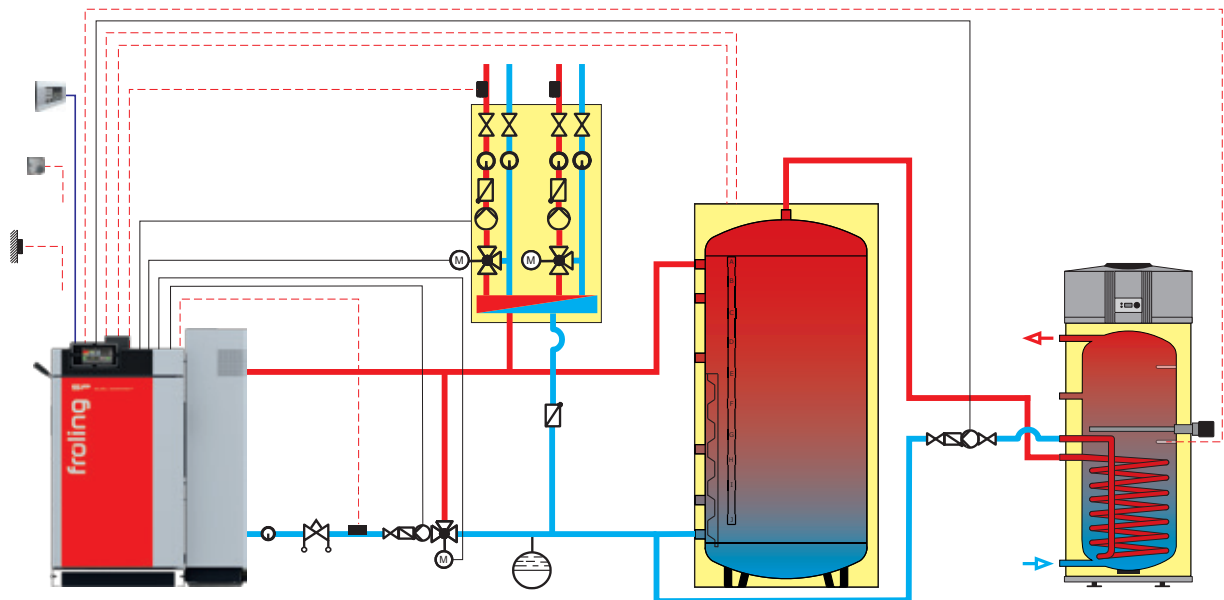
SP Dual compact with layered tank and Unicell



SP Dual compact with H3 and solar



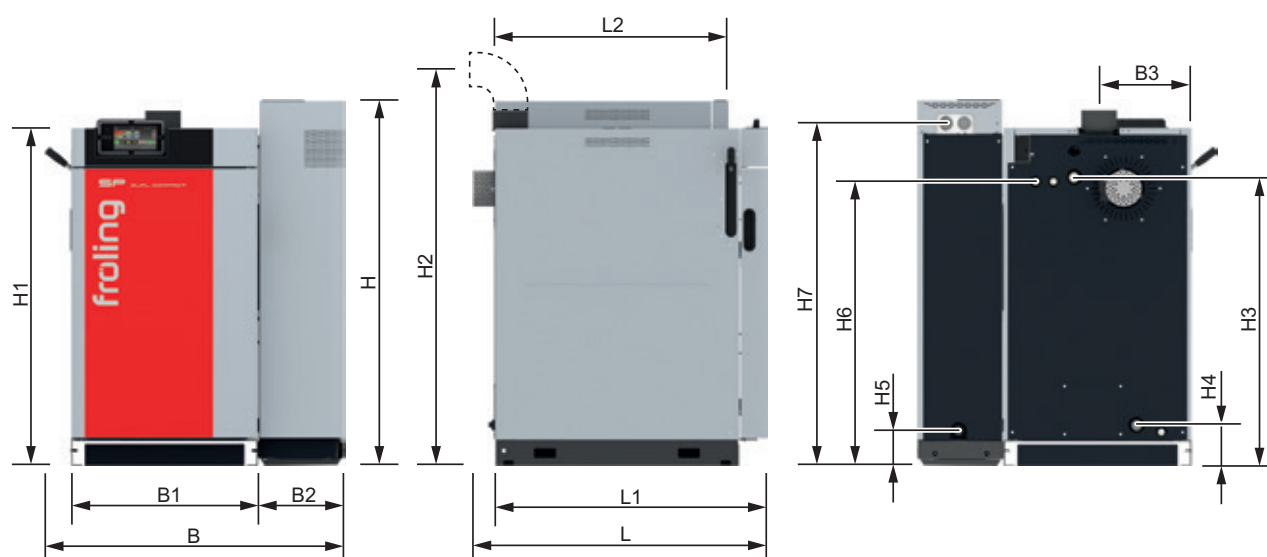
SP Dual compact with layered tank and hot water heat pump



THE PERFECT COMBINATION

Please also see our "Tank systems" brochure.

DIMENSIONS & TECHNICAL SPECIFICATIONS



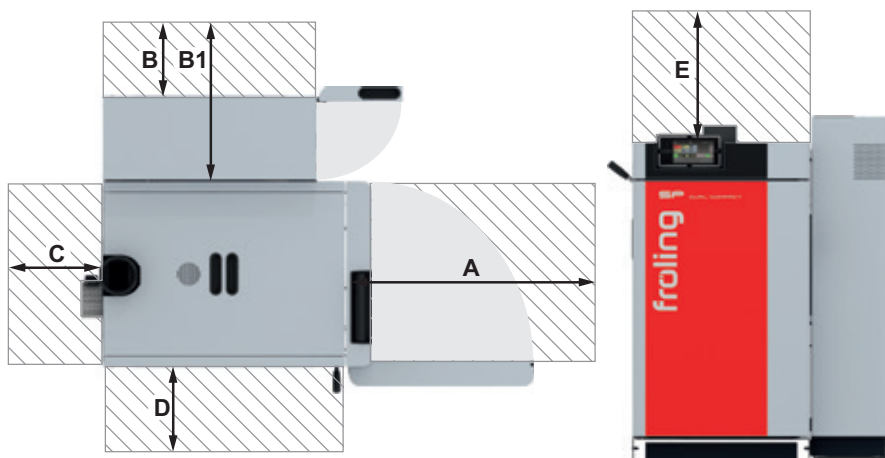
Dimensions - SP Dual compact [mm]		15	20
L	Total length incl. induced draught fan	1080	1080
L1	Length, firewood boiler	1000	1000
L2	Length, pellet unit	895	895
B	Total width, SP Dual compact incl. WOS lever	1105	1105
B1	Width, firewood boiler	685	685
B2	Width, pellet unit	315	315
B3	Clearance from flue pipe connection to side of boiler	340	340
H	Total height SP Dual compact	1335	1335
H1	Height, firewood boiler	1235	1235
H2	Height, flue gas pipe connection ¹	1450	1450
H3	Height, flow - firewood boiler connection	1055	1055
H4	Height, return - firewood boiler connection	125	125
H5	Height, return - pellet unit connection	130	130
H6	Height, safety heat exchanger connection - firewood boiler	1040	1040
H7	Height, suction system - pellet unit connection	1253	1253
Flue pipe diameter		130	130

¹ When using the optional flue pipe nozzle for low chimney connections

Technical specifications - SP Dual compact		15	20
Nominal heat output - firewood operation / pellet operation	[kW]	15 / 15	20 / 20
Output range - pellet operation	[kW]	4,4 - 15	4,4 - 20
Energy (ErP) 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	

* Composite label (boiler + controls)

OPERATING AND MAINTENANCE AREAS



Minimum distances - SP Dual compact [mm]	
A Insulated door to wall	800
B Boiler side with pellet unit to wall	500
B1 Firewood boiler to wall	815
C Back to wall	400
D Side of boiler to wall ¹	500 (200) ¹
E Maintenance area above the boiler ²	500

¹ Maintenance work to boiler's heat exchanger only possible from front

² Maintenance area to expand the WOS springs upwards

The ecodesign requirements according to VO (EU) 2015/1189, Annex II, point 1. are met.



Pellet boiler

PE1 Pellet	7 - 35 kW
PE1c Pellet	16 - 22 kW
P4 Pellet	48 - 105 kW



Firewood boiler

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

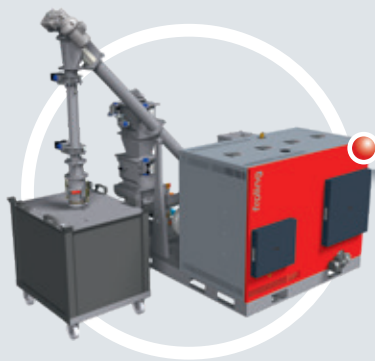
Dual fuel boiler

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



Wood chip / Large boilers

T4e	20 - 350 kW	TI	350 kW
Turbomat	150 - 550 kW	Lambdamat	750 - 1500 kW



Wood combined heat and power

Fixed-bed gasifier CHP	45 - 500 kWel
------------------------	---------------

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

Web: www.froeling.com

