



# SP Dual



# Heating with firewood and pellets

For more than 50 years, Froling has specialised in efficiently using wood as a source of energy. Today the name Froling stands for modern biomass heating technology. The 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. The extensive service network ensures that Froling can satisfy customer needs and inquiries in a timely manner.



**froling**

## The fuels: firewood (up to 56 cm) and pellets



Wood is a natural and ecologically desirable fuel. It is CO<sub>2</sub> neutral, highly sustainable, and not subject to international crisis. The production of firewood and pellets ensures stable jobs in the local industry. Looking at it from an environmental and economical point of view, wood is the ideal fuel. The various types of wood used determine the various quality classes.



Wood pellets are made of natural wood. The large quantity of wood shavings and sawdust produced by the industry are compacted and pelleted without being treated beforehand. Pellets have a high energy 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, which unloads the pellets directly into the storage room.



## Two systems perfectly combined - The new dual fuel boiler SP Dual

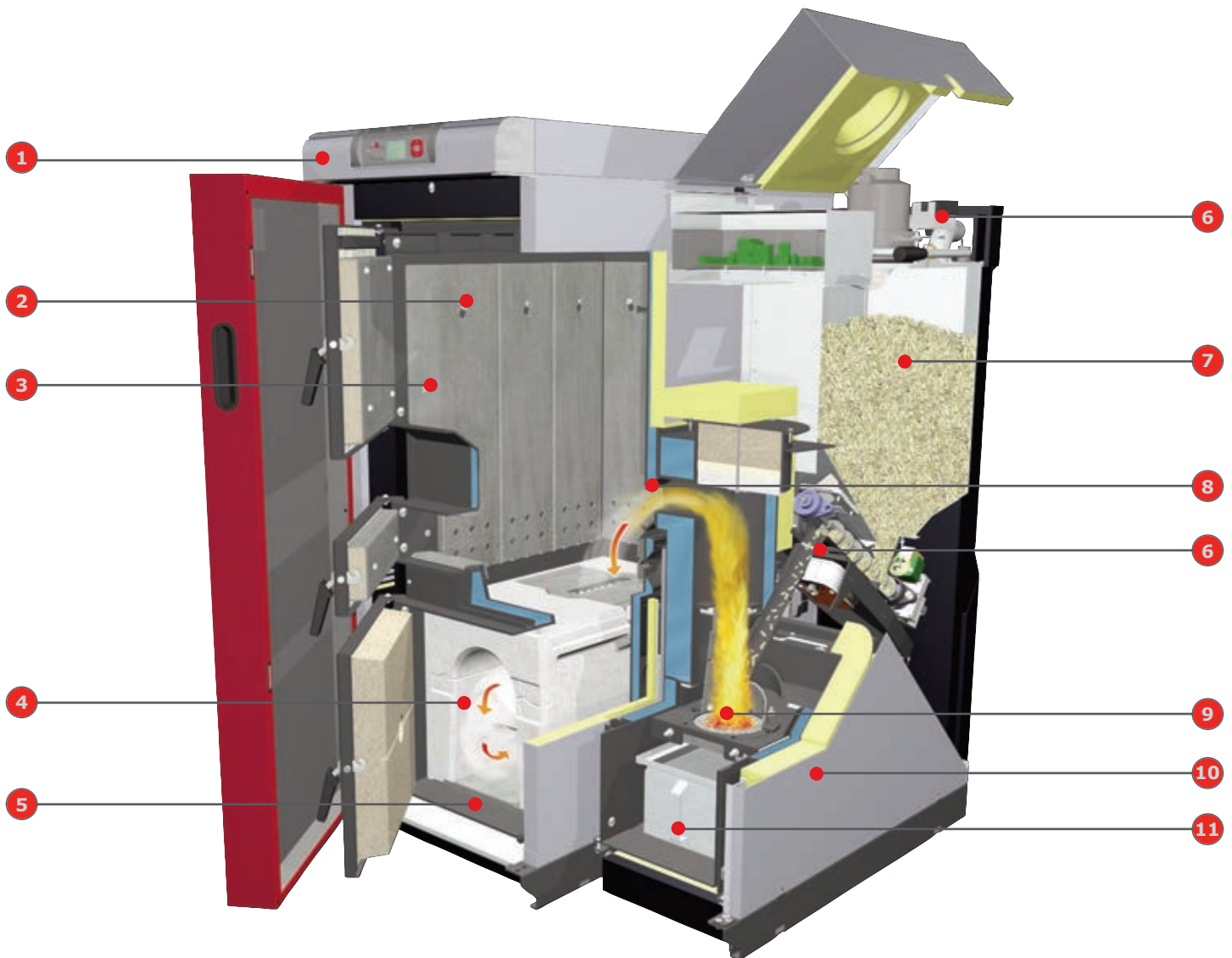
The SP Dual firewood and pellet boiler combines two well designed systems. It fulfills all the requirements for firewood and pellet fuels in two separate combustion chambers. Highly efficient and convenient, the SP Dual guarantees low emissions and energy costs.

## Pellet unit can be added any time

The S4 Turbo F with pellet flange is the ideal solution for people who are currently only burning firewood. It can easily be converted to a dual fuel boiler by fitting the pellet unit at any time.



# The latest technology



## The firewood and pellet boiler with special benefits:

- 1 Lambdatronic SP 3200 controller with innovative bus technology.
- 2 Cladding to protect the inner wall of the boiler and for a longer service life.
- 3 Large fuel loading chamber logs up to 56 cm in length guarantees simple loading from the front and longer periods between refilling.
- 4 Durable silicon carbide combustion chamber with long combustion zone for very low emissions.
- 5 Large maintenance openings for easy cleaning from the front.
- 6 Double slide valve system for maximum burn-back protection.
- 7 Large pellet container with stoker screw for automatic pellet feed.
- 8 Water-cooled pellet flange (pointing downwards) for safe operation.
- 9 High-quality water-cooled pellet burner with sliding grate for automatic ash removal and cleaning
- 10 High quality full insulation.
- 11 Large convenient ash container for easy dust free cleaning and longer removal intervals.



**Feature: Modular design**

- Advantages:
- Pellet unit can be added at any time
  - Compact
  - Easy positioning

The SP Dual 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 is supplied completely insulated and wired so all you need to do is plug it in.

Due to the modular construction, the S4 Turbo F with pellet flange can be fitted with a pellet unit at any time.



# A well-planned inside

## 1 Feature: Large fuel loading chamber for logs up to 56 cm long with cladding

- Advantages:
- Easy filling
  - Long lasting combustion
  - Long service life

The SP Dual allows burning of firewood up to a length of 56 cm for all system output sizes. It is filled conveniently from the front of the unit and due to a large fuel loading chamber long refilling intervals are possible. Often it is only necessary to fill the boiler once a day. A cladding protects the interior walls of the boiler, guaranteeing a long service life.

## 2 Feature: Water-cooled pellet flange pointing downward

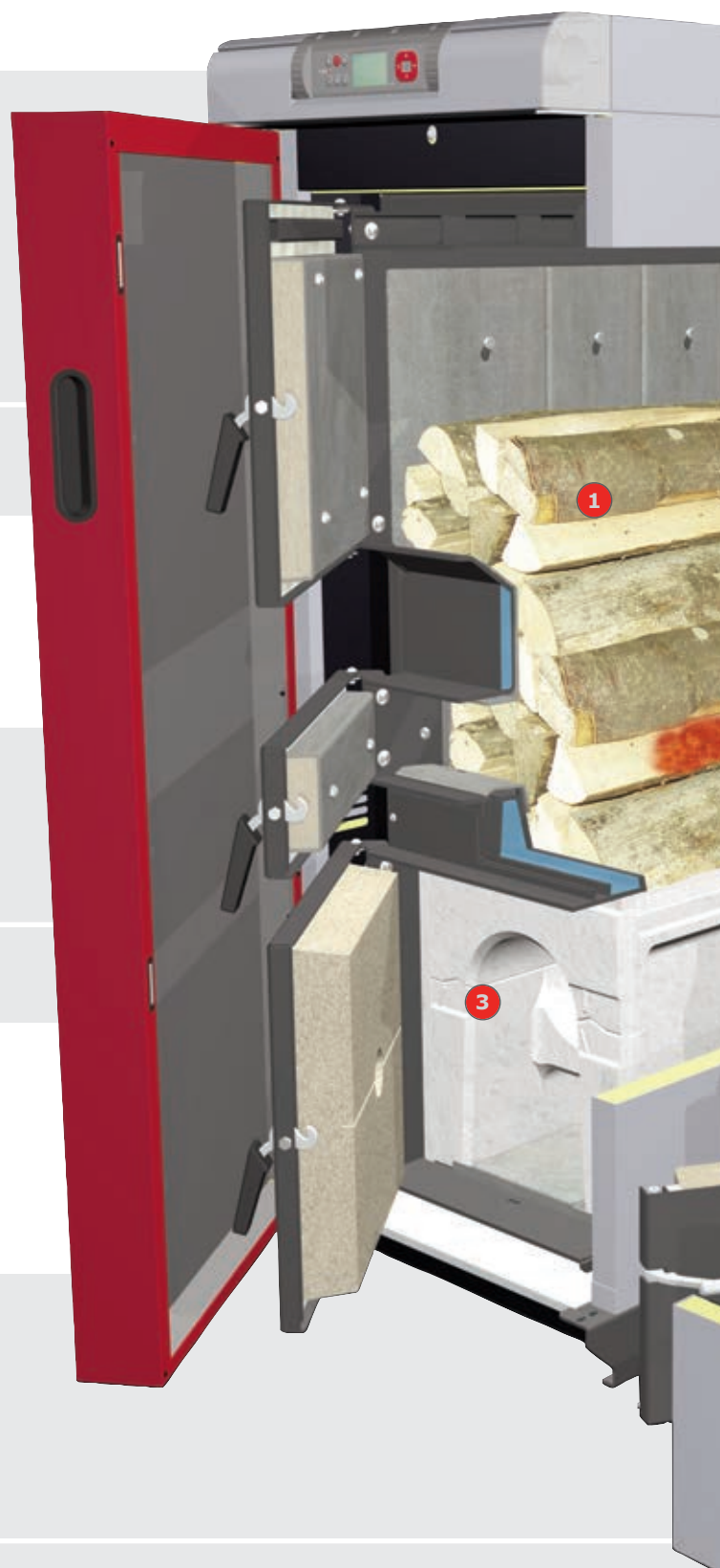
- Advantages:
- Safe operation
  - Pellet unit can be additionally fitted at any time

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

## 3 Feature: High-temperature silicon carbide combustion chamber with new geometric design

- Advantages:
- Very long combustion zone
  - Low emissions
  - Long service life

The combustion chamber is coated with a high-quality fireproof material (silicon carbide). Froling has refined the traditional cylindrically shaped combustion chamber and is setting new standards with an optimised heating gas duct. The exceptionally long combustion zone guarantees very low emissions.





**4 Feature: Automatic ignition and continued operation**

- Advantages:
- No additional equipping required
  - Automatic change between firewood and pellets

The firewood can be ignited automatically using the pellet burner.

Due to the separate combustion chamber design, it is possible to change between firewood and pellets when needed. When the firewood has burned down and is not replenished within a set period of time (0-24hrs), heating is automatically continued with pellets if required.

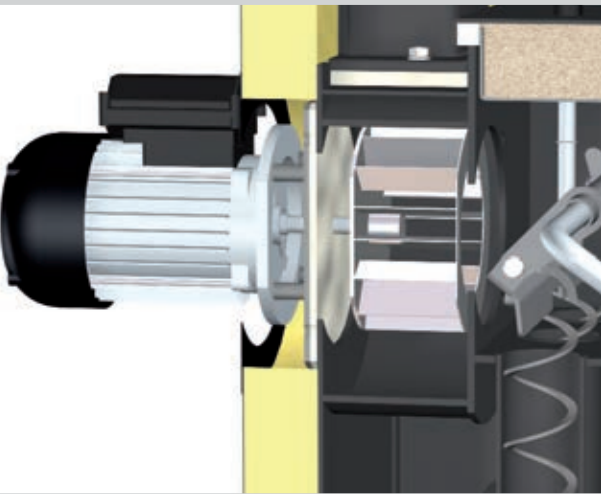
The SP Dual is designed to automatically interrupt pellet operation and to start firewood burning immediately when the loading chamber door is opened and filled with new firewood. The firewood can be ignited by the residual embers, manually or fully automatically using the pellet burner.

**5 Feature: Comprehensive safety concept**

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

A double slide valve system - consisting of the burner gate valve in the downpipe and the store gate valves - guarantees maximum burn-back protection. A built in sensor measures the speed of flow in the combustion air during each phase of pellet combustion, guaranteeing safe operation.

# Intelligent details



**Feature:** **Speed-regulated induced draught fan**

- Advantages:
- Maximum ease of use
  - Problem-free boiler start
  - Constant stabilisation of combustion

The speed-regulated induced draught fan is a standard component of the unit, which ensures exact air quantity and constant underpressure throughout combustion. This speed regulation device stabilises combustion throughout the process of heating and adjusts the output according to requirements. The induced draught fan operates almost noise free and is energy efficient.

**Feature:** **Quick heating-up (with manual ignition)**

- Advantages:
- Just load the boiler, light the fuel, close the door and feel the heat
  - The boiler room stays clean

A unique design: The ignition door on the SP Dual can be closed immediately after ignition due to a special primary air duct. A striking difference to traditional systems.



**Feature:** **Special carbonisation gas extraction**

- Advantages:
- No smoke escapes during re-filling
  - The boiler room stays clean

The specialised carbonisation gas extraction system prevents smoke from escaping even while topping off during refill. This is applicable at every stage of combustion.







**Feature: WOS system as standard**

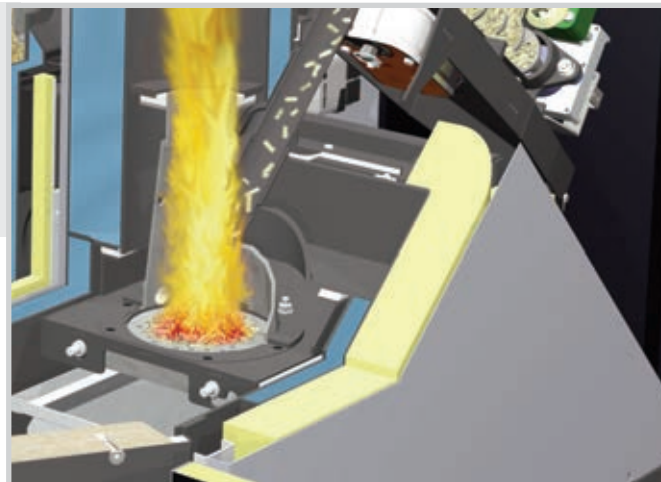
- Advantages:
- Better efficiency
  - Easy cleaning from outside
  - Fuel savings

The WOS (Efficiency Optimisation System), a standard part of the SP Dual, consists of special turbulators, which are placed in the heat exchanger pipes. The lever arm mechanism ensures easy cleaning of the heating surfaces from outside. An additional benefit of this mechanism is that it ensures higher efficiency and fuel savings.

**Feature: Water-cooled pellet burner with automatic sliding grate**

- Advantages:
- Higher efficiency
  - Long service life
  - Automatic ash removal

The water cooled pellet burner is perfectly adapted to the fuel requirements and therefore enables an exceptionally high level of efficiency. The sliding grate ensures automatic cleaning and ash removal into a built in ash drawer. This feature safeguards a convenient and maintenance free operation.



**Feature: Convenient ash drawer**

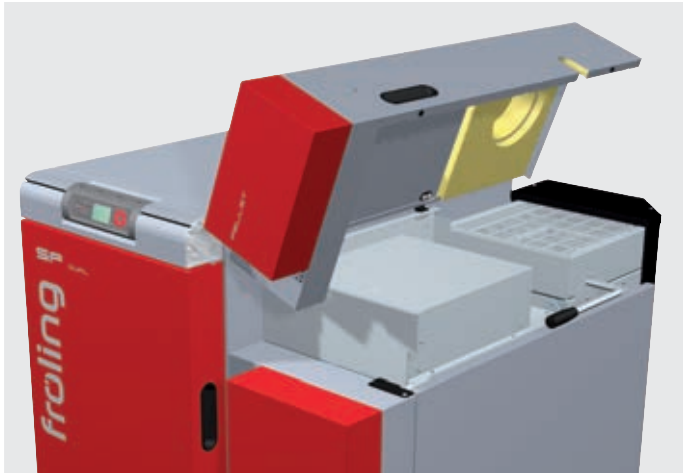
- Advantages:
- Long emptying interval
  - Convenient emptying

Easy handling is our main concern. The falling ash is fed automatically into a large ash drawer. Putting on the transport cover emptying can be done without spilling dust.



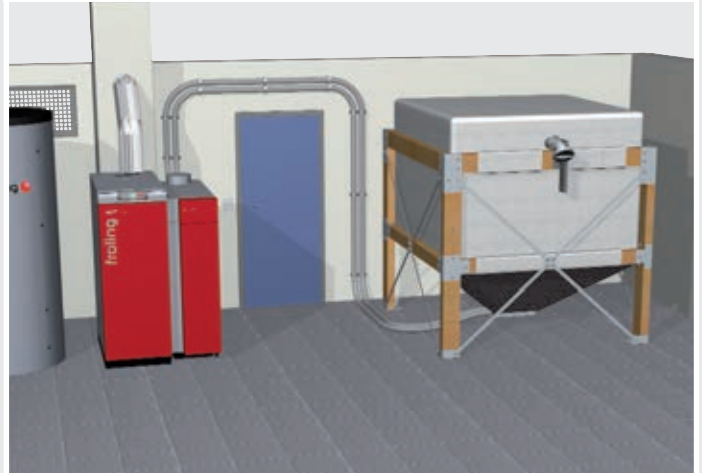
# Feed systems

## Supply bin



The SP Dual is available from 15 - 28 kW with a supply bin. The large supply bin with a capacity of 100 L is an optimal alternative if there is not a possibility to set up a fuel storage. Due to the modular design an automatic feed system can be additionally equipped at a later time.

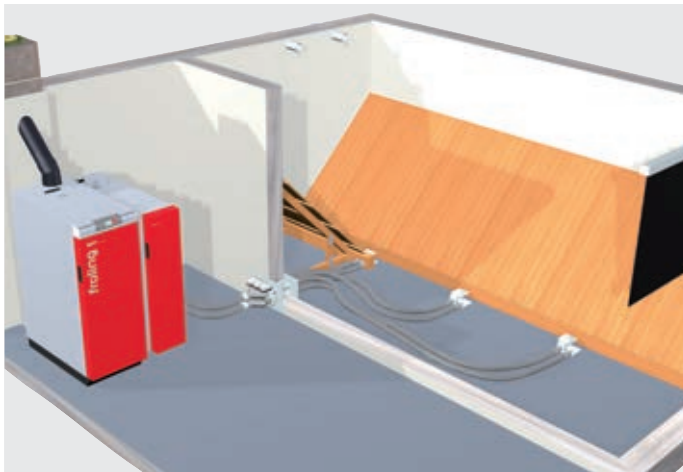
## Bag silo



The bag silo system provides a flexible, yet simple way of storing pellets.

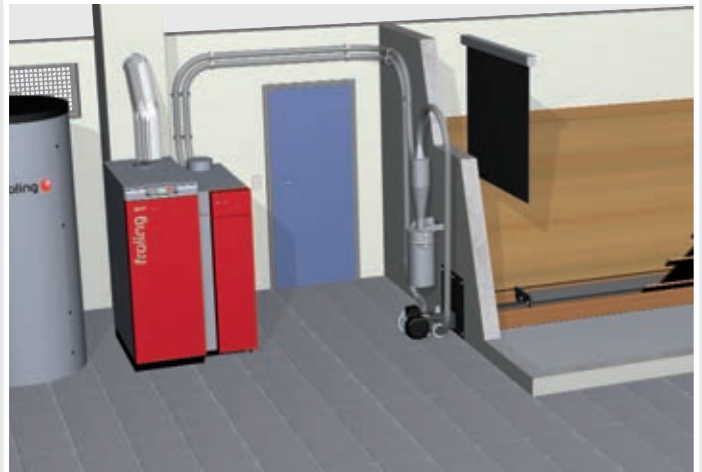
Using a bag silo brings additional benefits as well: It is trouble free to assemble and if necessary can be installed outside with the suitable protection against rain and UV light.

## Universal suction system



With its easy to install features, the universal suction system is equipped to handle large distances between the storage place and the boiler room. The position of the suction probes or the transfer unit (pellet box) can be adjusted to fit the conditions of the storage optimally.

## Screw suction system



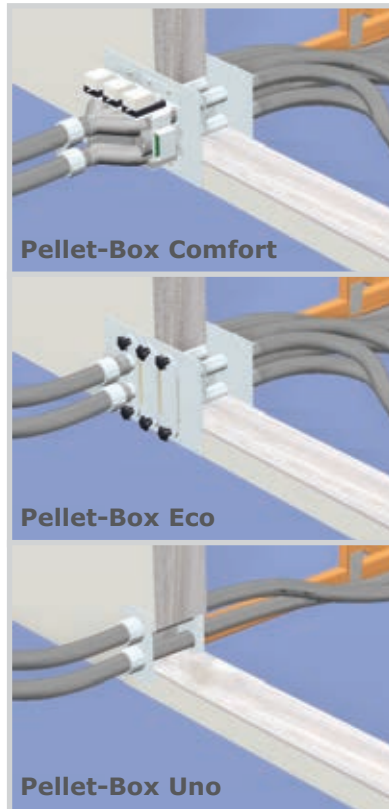
The Froling screw suction system is the ideal solution for rectangular rooms where front end removal is necessary. The deep and horizontal position of the discharge screw provides for the optimal use of the room space thus ensuring that a complete emptying of the storage is trouble free. In addition, Froling's suction system also enables a flexible boiler set-up.

## Details and models



### Pellet suction probe

The patented suction probes developed by Froeling are distributed around the storage area and ensure that emptying is reliable and uniform. The switching between probes can be done manually (Pellet-Box Eco) or fully automatic (Pellet-Box Comfort).



Pellet-Box Comfort

Pellet-Box Eco

Pellet-Box Uno



### Pellet filling pipes

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

## Optional: Fuel tuning with the PST pellet deduster

Wood pellets are clean and very high quality. Using the PST Pellet deduster any remaining dust can be conveniently filtered from the fuel. This optimises the efficiency of the combustion zone for years.

The PST Pellet de-duster fits into the return air line of the pellet suction system in any position. With a suction cyclone design, the dust particles are separated from the return air and deposited directly into the container.

The container can be conveniently removed and emptied. This system can be additionally equipped at any time.



# Systematic convenience

## Feature: **Lambdatronic SP 3200 controller**

- Advantages:
- Exact combustion control with broadband lambda control as standard
  - Large, clear control unit with adjustable viewing angle
  - Boiler navigation from the living room



With the new SP 3200 boiler control, Froling is taking a step into the future. The control unit is optimised to fit any requirement. An individually adjustable viewing angle ensures that all operating statuses are clearly displayed. The lambda control provides precise combustion control. The menu structure is ideally organised to ensure easy operation. All essential functions can be selected by simply pressing a button. The boiler console is also available with an optional touch display.

The **Froling bus** system makes it possible to install extension modules in any location. The console controls can be installed wherever needed: on the boiler, heating manifold, storage tank, in the living room, or in an adjacent building. Additionally, electric cables are kept to a minimum. Only a bus cable is needed to control the room consoles.



By using the Froling **room temperature sensor FRA** the most important modes of the heating circuits can be adjusted. The adjusting wheel allows you to change the room temperature by up to  $\pm 3^{\circ}\text{C}$ .

For even more convenience you can use the **RBG 3200 room console** and the new **RBG 3200 Touch**. You can control the heating system from the comfort of your living room. The important system data is clearly displayed and changes can be set by pushing a button.



## NEW: Room console with touch display



The **RBG 3200 Touch room console** has a modern touchpad interface. The menu structure is organised and easy to use without prior instruction. The 4.3" colour display shows the most important functions at once and even adjusts automatically the background lighting depending on conditions.

### Feature: Froeling SMS box

- Advantages:
- Alarm messages via SMS
  - Active boiler control



This system is available for all Froeling boilers that are automatically fed and allows monitoring & controlling of the boiler by SMS. The SMS box can be directly programmed from a mobile phone. It has two error message inputs and two remote switch outputs. Alarm and message text can be adjusted as required. This includes switching the heating on and off to changing modes (eg. from non-operating mode to operating mode – only in connection with room temperature sensor). An automatic response confirms the execution of the command that was sent.

### Feature: Froeling visualisation software 3200

- Advantages:
- Monitoring and operation from a PC
  - Boiler data is recorded
  - Remote control via modem



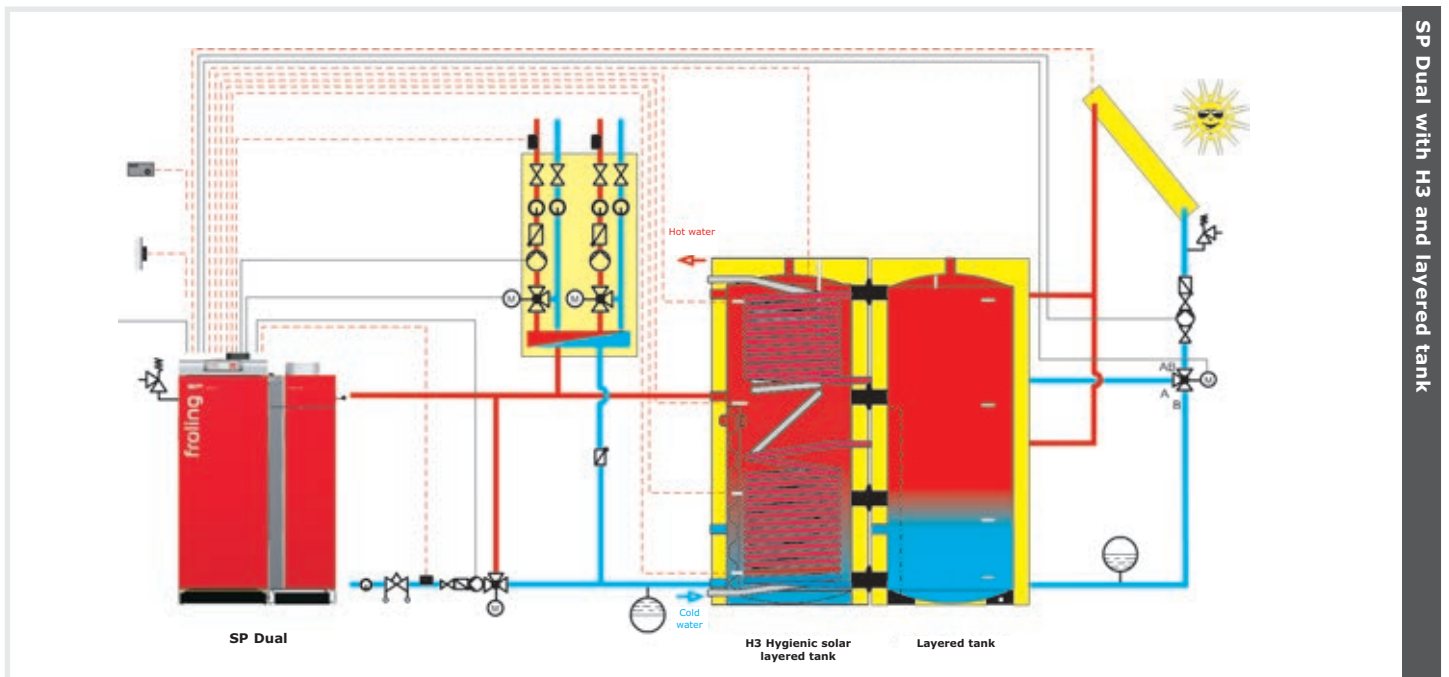
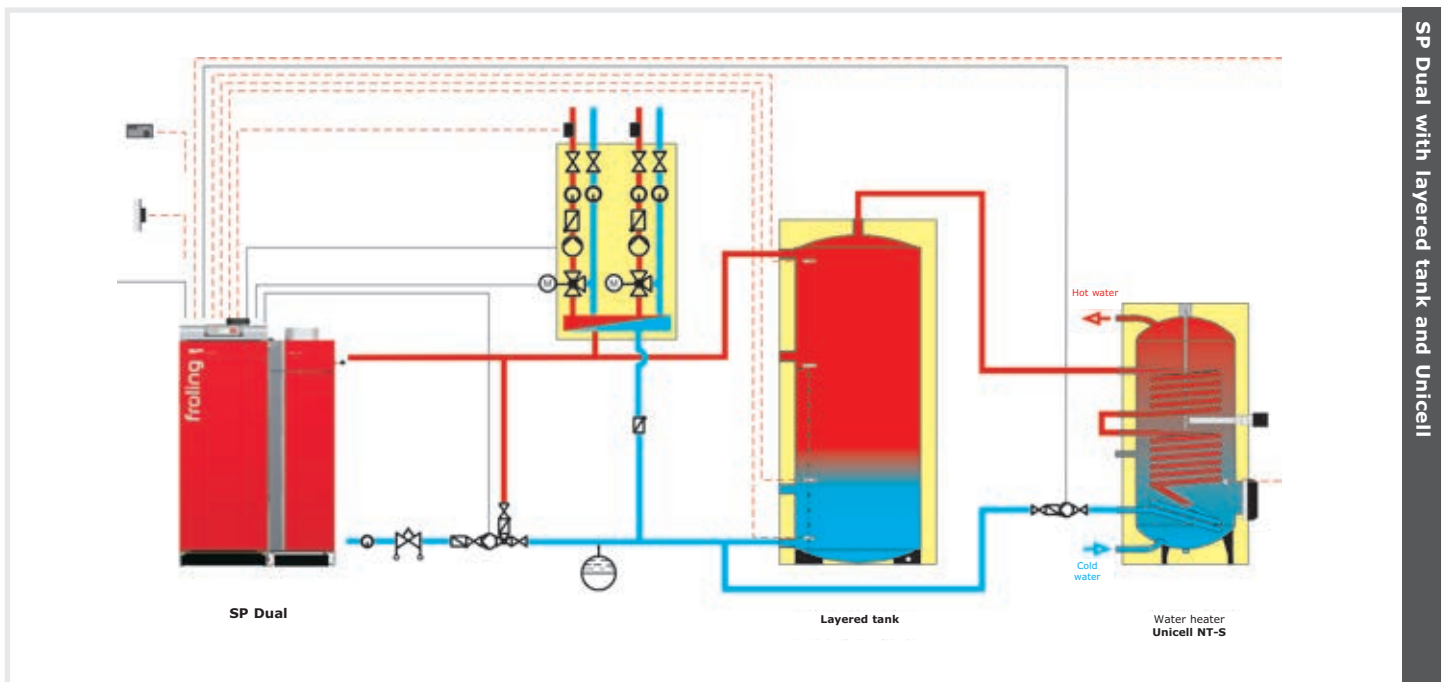
The optional boiler visualisation software enables easy boiler control from a computer. The desired operating conditions and customer parameters can be displayed and adjusted as necessary. Easy programming is guaranteed through the Windows interface menu with its easy set-up. Connection to the visualisation software can be done by using a telephone network modem. By using this option the heating system can be monitored from any location. Additionally, it is also possible to connect to an existing LAN by using an optional adapter.

# Systematic convenience

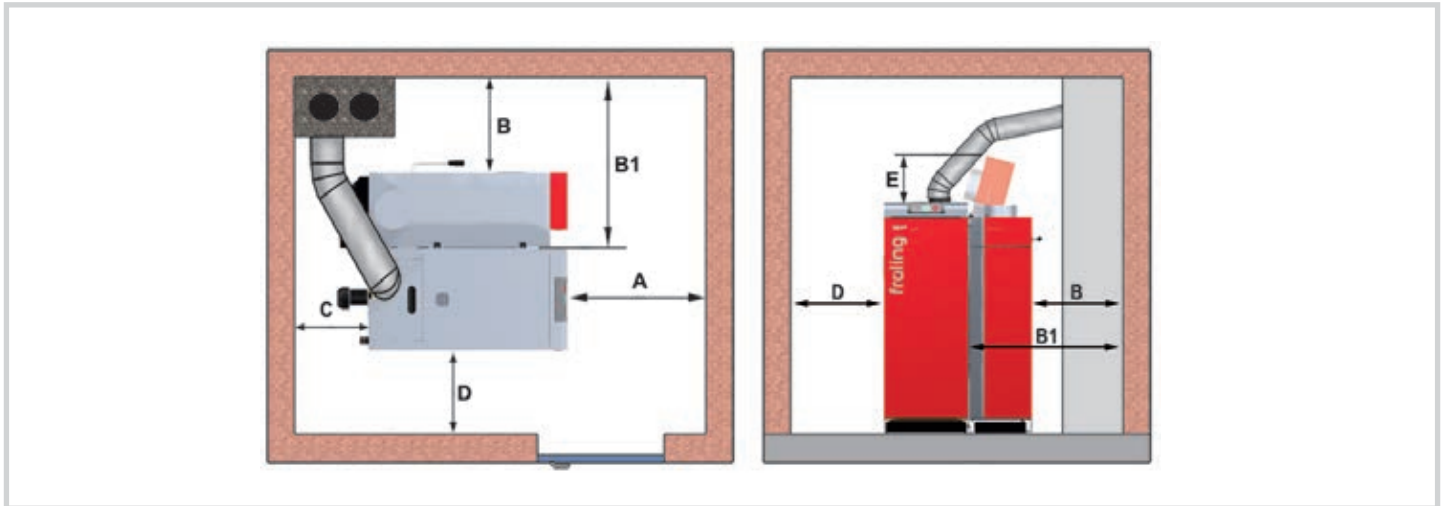
## Feature: Systems engineering for optimum energy consumption

- Advantages:
- Complete solutions for all requirements
  - The components work perfectly together.
  - Integrated solar power

Frothing systems engineering enables efficient energy management. Up to 4 storage tanks, 8 hot water tanks and 18 heating circuits can influence the heat management system. An additional benefit is the ability to integrate alternative means of energy production, such as solar panels.

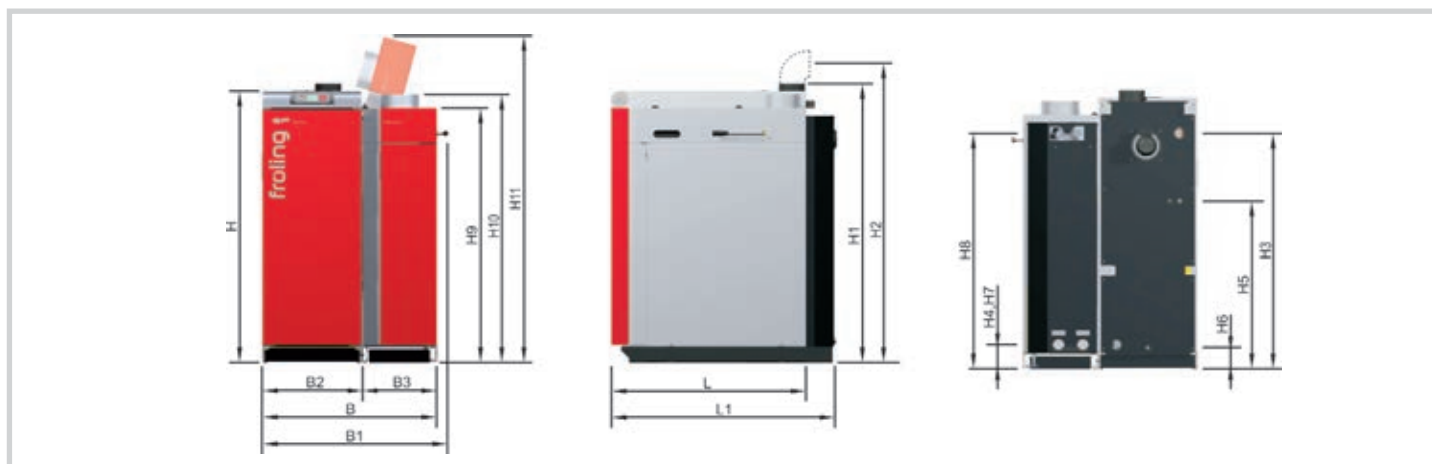


## Minimum distances in the boiler room



Minimum distances - SP Dual		15 / 22 / 28 / 34 / 40
A	Distance between insulated door and wall	[mm] 800
B	Distance – boiler side with WOS lever and pellet unit to wall	[mm] 700
B1	Distance – boiler side without pellet unit to wall	[mm] 1130
C	Distance between rear of boiler and wall	[mm] 500
D	Distance between side of boiler and wall	[mm] 200
E	Space required for open cover	[mm] 300

# Technical specifications



Dimensions - SP Dual		15	22	28	34	40	
L	Length, firewood boiler	[mm]	1125	1125	1125	1215	1215
L1	Length, pellet unit	[mm]	1285	1285	1285	1370	1370
B	SP Dual width	[mm]	1000	1000	1000	1100	1100
B1	Total width, SP Dual inc. heat exchanger lever	[mm]	1050	1050	1050	1150	1150
B2	Width, firewood boiler	[mm]	570	570	570	670	670
B3	Width, pellet unit	[mm]	430	430	430	430	430
H	Height of boiler	[mm]	1565	1565	1565	1565	1565
H1	Total height inc. flue gas nozzle	[mm]	1610	1610	1610	1610	1610
H2	Height of flue pipe connection	[mm]	1830	1830	1830	1830	1830
H3	Height, flow - firewood boiler connection	[mm]	1360	1360	1360	1360	1360
H4	Height, return - firewood boiler connection	[mm]	140	140	140	140	140
H5	Height, safety heat exchanger connection	[mm]	970	970	970	970	970
H6	Height, drainage connection	[mm]	120	120	120	120	120
H7	Height, flow and return - pellet unit connection	[mm]	140	140	140	160	160
H8	Height, suction system connection	[mm]	1370	1370	1370	1360	1360
H9	Height, pellet unit	[mm]	1465	1465	1465	1465	1465
H10	Total height, pellet unit inc. suction turbine	[mm]	1545	1545	1545	1545	1545
H11	Total space with cover open	[mm]	1865	1865	1865	1865	1865
	Flue gas pipe diameter	[mm]	150	150	150	150	150

Technical specifications - SP Dual		15	22	28	34	40
Nominal heat output - firewood operation / pellets operation	[kW]	15 / 15.6	22 / 22	28 / 25	34 / 34	40 / 38
Heat output range - firewood operation	[kW]	4.6 - 15.6	11 - 22	14 - 28	17 - 34	18.9 - 40
Heat output range - pellets operation	[kW]	4.6 - 15.6	4.6 - 22	4.6 - 25	10.2 - 34	11.4 - 38
Weight - firewood boiler / pellet unit	[kg]	640 / 305	645 / 310	650 / 315	735 / 320	745 / 330
Water content - firewood boiler / pellet unit	[L]	115 / 42	115 / 42	115 / 42	175 / 45	175 / 45
Fuel loading door dimensions - firewood boiler (width/height)	[mm]	380 / 360	380 / 360	380 / 360	380 / 360	380 / 360
Fuel loading chamber capacity - firewood boiler	[L]	145	145	145	190	190
Pellet container capacity (automatic feed)	[L]	approx. 80	approx. 80	approx. 80	approx. 90	approx. 90
Pellet container capacity (manual feed)	[L]	approx. 100	approx. 100	approx. 100		

Your Froling partners:



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