fröling

# P4 Pellet

Pellet boiler

# P4 Pellet


PLUS X AWARD®
honored as:
BEST PRODUCT OF THE YEAR 2013

THE BLUE ANGEL
because low-emission and energy-efficient
protects the CLIMATE

Awarded the ENVIRONMENTAL LABEL
Ecolabel!

# Heating with pellets


For more than 50 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. Our extensive service network guarantees full coverage and reliability.

## Make savings with pellets without compromising on comfort

The price changes for different energy sources in recent years show the benefits of wood pellets: the ecological way of heating is also economically attractive. Wood is a renewable energy source that is also $CO_2$-neutral. 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.


## The next generation of pellet boilers

Froling has set new international standards for technology and design with the new P4 Pellet. With its ingenious fully automatic operation, this new product from Froling offers the ultimate in convenience.

# Multi-award winning products

## BLUE ANGEL & AUSTRIAN ECOLABEL - Awards for quality and safety

The Froling P4 Pellet boiler has won many international quality awards in Europe and the USA. Probably the most prestigious of all are the Blue Angel and the Austrian Ecolabel. Describing itself as the world's first environmental award for products and services, the Blue Angel is trusted by consumers, who know that products awarded the Blue Angel offer consistently high quality.

**Wood pellet boilers with the Blue Angel are noted for their:**

- High energy efficiency
- Emission levels well below the applicable DIN standards
- Economical use of renewable raw materials
- Fully automatic operation with wood pellets alone

DER BLAUE ENGEL
Deutschland

ECOLABEL
Austria

**VESTA Award**
USA


**Innovation Award at "Bois Energie" 2008**
France


**New Product of the Show Award**
Ireland


**Plus X Award**
International

Modern biomass boilers are future-oriented and economical. This is also guaranteed by the many international standards on emissions and efficiency. In Austria the limit values are set by Article 15a of the Federal Constitution (B-VG) and in Germany they are set by the Federal Emissions Control Act passed at the start of 2010 (and implemented in the Federal Emissions Control Ordinance (BImSchV)).

## From low-energy houses to apartment blocks

When it comes to determining heating requirements, the heated living space and the type of construction are the most important factors. The P4 Pellet is available in ten different sizes, and with its wide output range and modulating operation it can be used in both low-energy houses and in buildings with greater heating requirements. It can also be connected to an existing heating system. The Froling Lambdatronic P 3200 smart control management system takes charge of all control functions, including remote control via PC or mobile phone.

| P4 Pellet 8/15/20/25 | P4 Pellet 32/38 | P4 Pellet 48/60/80/100/105 |
|---|---|---|
|  |  |  |
| Easy-access ashcans | Automatic ash removal | Automatic ash removal |

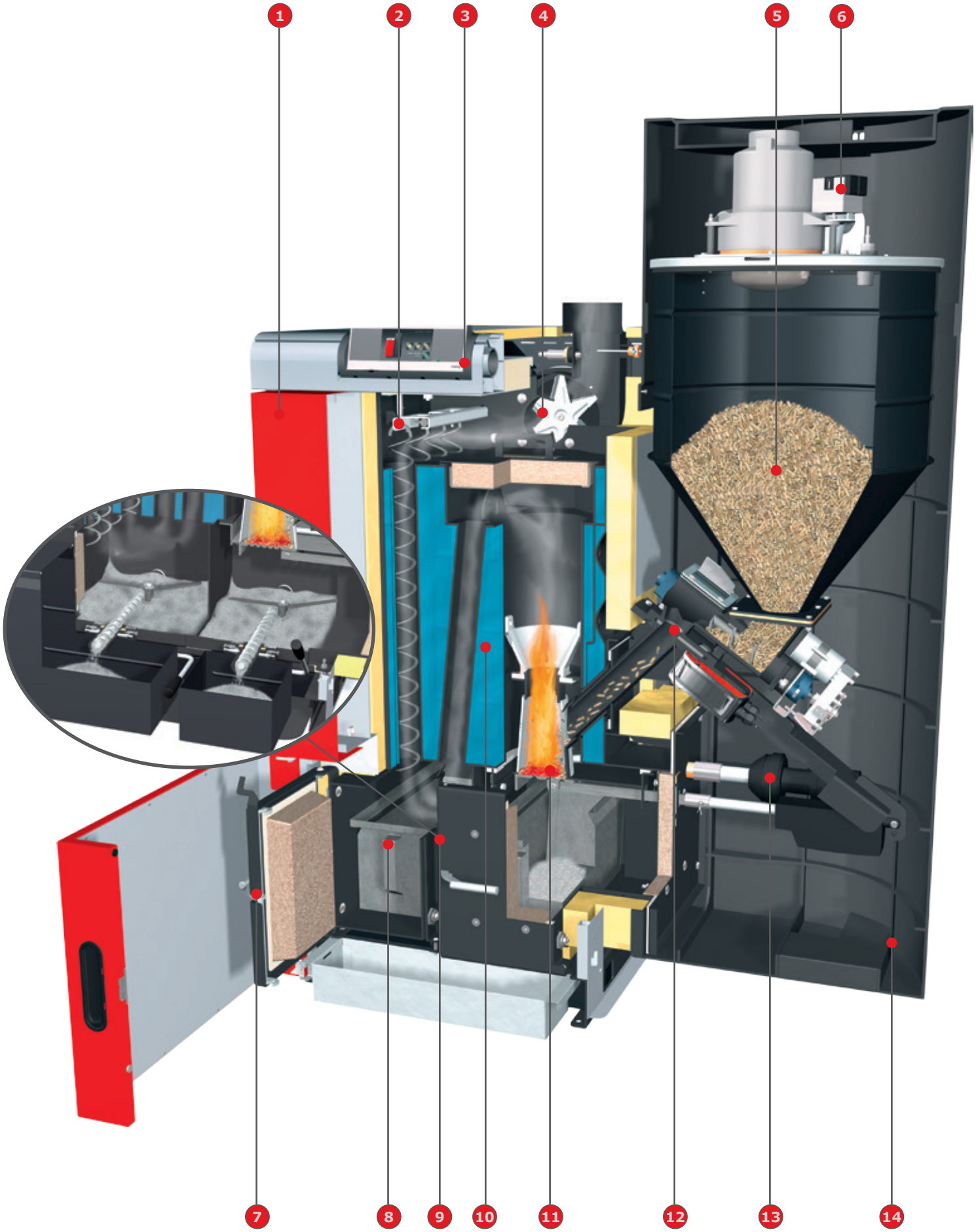
### Easy-access ashcan (P4 8-25)

With this user-friendly ash removal system the ash is automatically fed into two ashcans. With the transport cover in place, the ashcan can simply be carried to the emptying point for dust-free disposal.

### Automatic ash removal (P4 32 onwards)

With automatic ash removal the ash
fed into two external ash container
The clever locking mechanis
makes it quick and easy to remov
the ash container.

# The latest technology



# P4 Pellet


**The new pellet boiler with special benefits:**

1. Multi-layer insulation for the highest level of thermal insulation.
2. WOS technology (efficiency optimisation system) as standard for maximum efficiency and automatic heat exchanger cleaning.
3. Lambdatronic P 3200 control with touch display and innovative bus technology.
4. Speed-regulated, low-noise induced draught fan with function monitoring for maximum operational reliability.
5. Large pellet container with automatic pellet feed and integrated soundproofing (volume 90 - 280 litres).
6. Store gate valve.
7. Insulated cleaning port door for excellent heat retention.
8. Large easy-access ashcan with P4 Pellet 8 - 25.
9. Automatic ash removal in two closed ash containers with P4 Pellet 32 - 105.
10. Patented multiple-pass heat exchanger for variable boiler operation, ideal for heating low-energy houses. The 3-pass heat exchanger design guarantees the best possible ash separation. It also avoids the need for an external return temperature control.
11. Automatic sliding grate for ash removal, offering maintenance-free operation.
12. Proven burner gate valve.
13. Automatic ignition with hot-air blower.
14. Special suction cyclone with integrated soundproofing for almost silent operation.

# Perfection in the details

## Smart positioning and installation

**Feature:** **Plug and play**

Advantages:
- Unpack, connect, heat
- Compact design
- Easy positioning

The P4 Pellet offers important advantages even before it reaches your boiler room. Its compact design makes it child's play to install the P4 Pellet even in confined spaces. All components are already fully wired. But if necessary, individual components can be removed in just a few steps. The parts can then be positioned separately. This means that the P4 Pellet is also an excellent choice for renovated systems.

**Feature:** **Multi-layer heat exchanger with 3-pass design**

Advantages:
- Maximum boiler use
- Considerable cost savings
- Long service life

The patented multiple-pass heat exchanger means that operation is perfectly adjusted in every respect with the P4 Pellet. An external return temperature control is not necessary. Together with the variable operation, this results in considerable operating savings. The special boiler construction prevents the temperature from dropping below the dew point and ensures the P4 Pellet has a very long service life. The 3-pass design repeatedly alters the flow of the flue gases in the boiler, ensuring exceptionally efficient ash separation.

**Feature:** **Easy to clean**

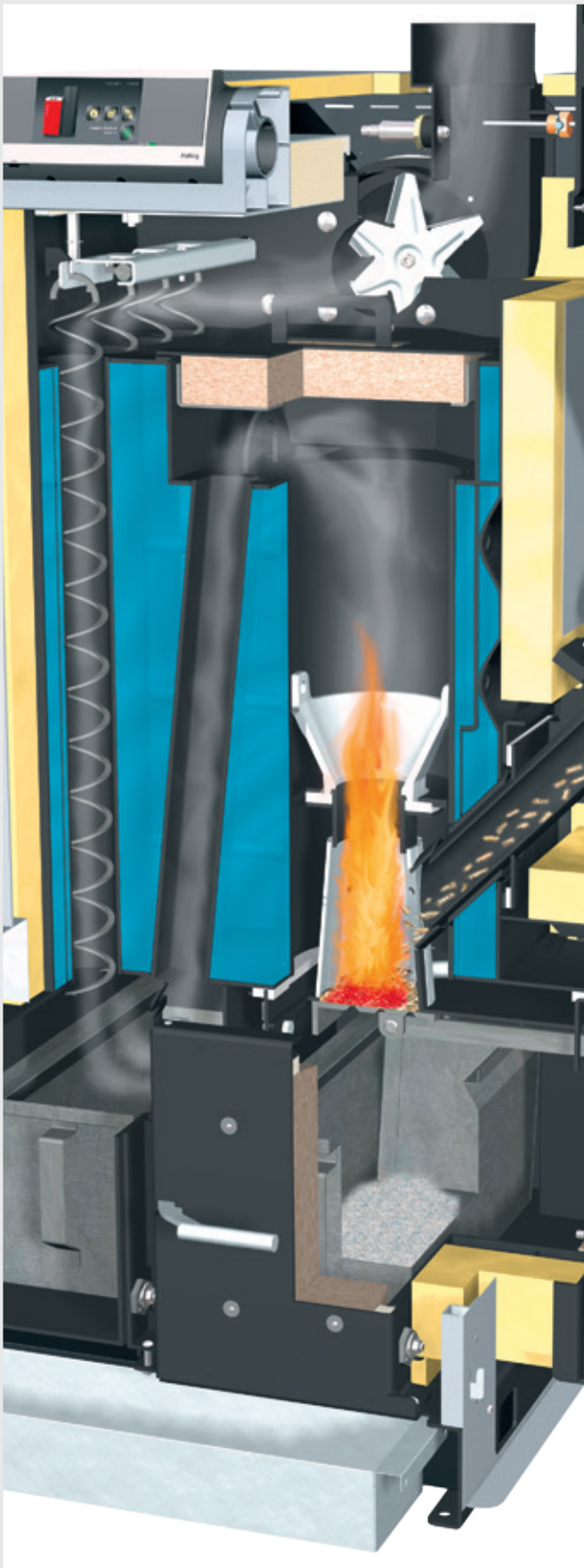
Advantages:
- Clean combustion
- Very low emissions
- Automatic ash removal

With the P4 Pellet you are choosing a quality product. The automatic sliding grate allows for convenient and maintenance-free operation. Ash is always generated when wood or pellets are burnt. In the P4 Pellet it is transported automatically to two ash containers, which can be emptied simply and easily.

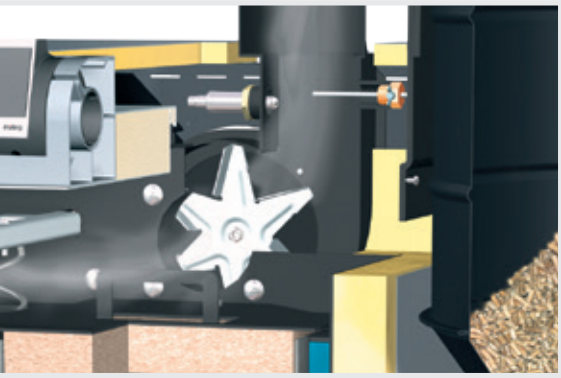
**Feature:** **Energy efficiency**

Advantages:
- Low energy consumption
- Low operating costs

Particular attention was paid to energy efficiency during the development of the P4 Pellet. This priority was clearly confirmed when the boiler was awarded the Blue Angel and the Austrian Ecolabel. The P4 Pellet consumes little energy during operation, keeping the operating costs down.



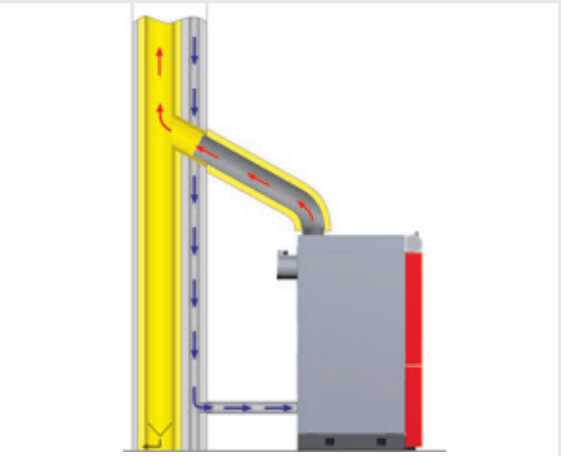
# Perfection in the details



**Feature:** **Speed-regulated induced draught fan and lambda control**

Advantages:
- Maximum ease of use
- Constant optimisation of combustion

The speed-regulated induced draught fan, which comes as standard, ensures the exact air quantity for combustion. In conjunction with the broadband lambda probe it creates optimum combustion conditions.



**Feature:** **Room-air-independent operation**

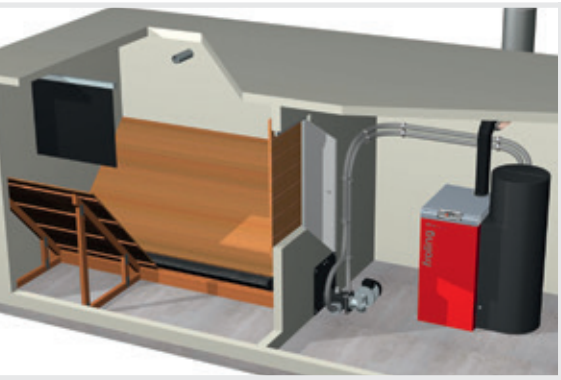
Advantages:
- Perfectly suited for low-energy houses
- The highest possible system efficiency

Low-energy houses have a closed building shell. In traditional boiler rooms there can be uncontrolled heat loss from the necessary ventilation openings. This is avoided with room air-independent boilers because of the direct air connection. Also the temperature of the combustion air that is supplied is raised with an integrated pre-heating system, increasing the efficiency of the boiler.

**Feature:** **Comprehensive safety concept**

Advantages:
- The highest possible operating safety
- Maximum reliability

The downpipe – in conjunction with the safety-tested, gate valve-fitted combustion chamber and the gate valve-fitted store – creates a double door system. The self test before the system starts and the automatic diagnostics system support this unique safety concept.



**Feature:** **Also ideal for container installation**

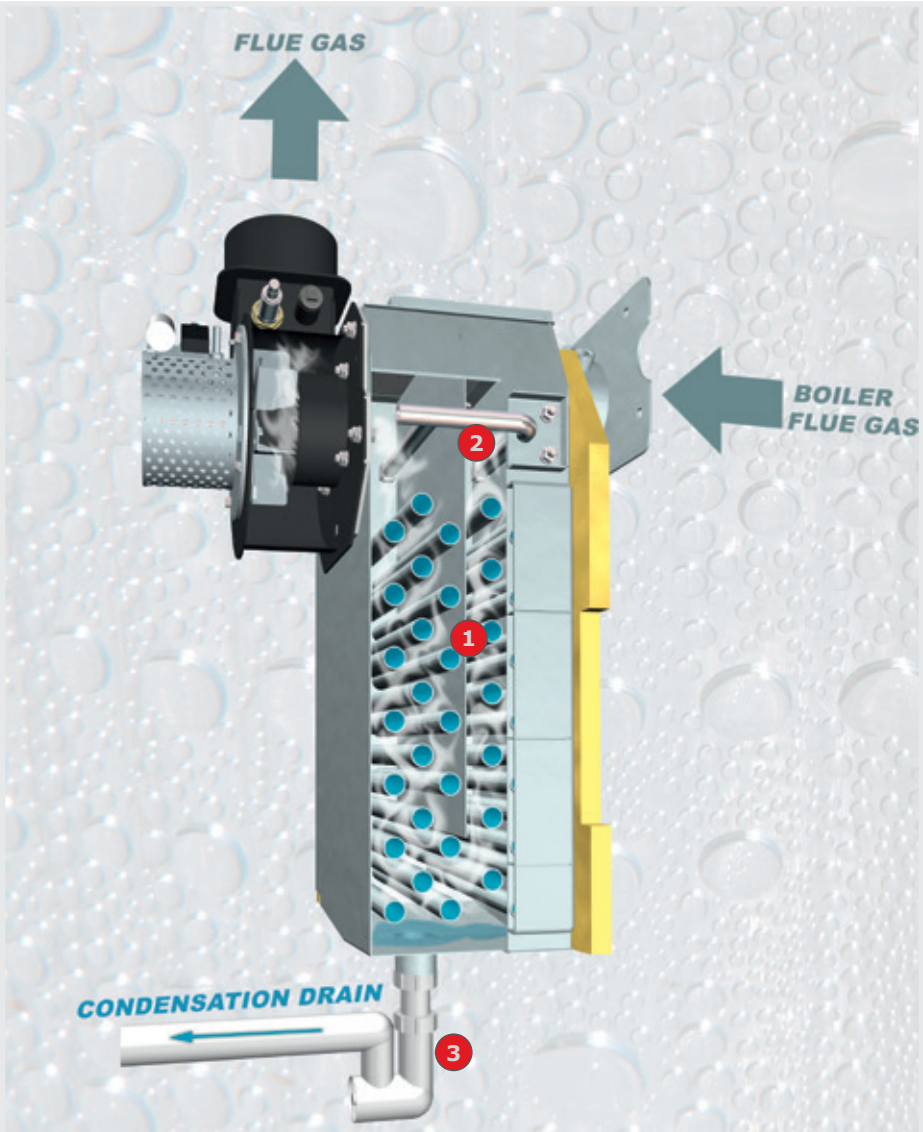
Advantages:
- Relocation of the boiler room and store
- All-in-one system
- Perfectly matched components

The Froling Energy box is an all-in-one complete solution. All components are perfectly matched to each other.

## Option: Condensing boiler technology

For outputs from 8 to 25 kW, the Froling P4 Pellet boiler is also available with innovative condensing boiler technology. The flue gas contains energy, which escapes unused up the chimney with conventional solutions, but an additional heat exchanger positioned on the back of the boiler makes use of it for the heating system. This increases the **boiler efficiency to over 104 percent (HU)**. 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. It is cleaned using a water flushing system. The module can also be retrofitted.




**Overview of condensing boiler heat exchanger:**

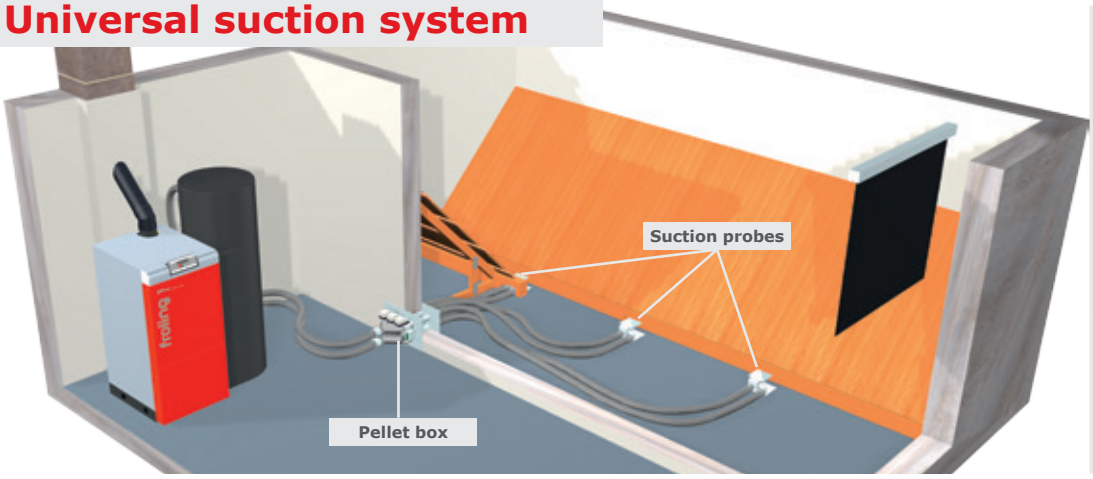
1. Stainless steel heat exchanger
2. Automatic flushing equipment
3. Drain with siphon to remove condensation

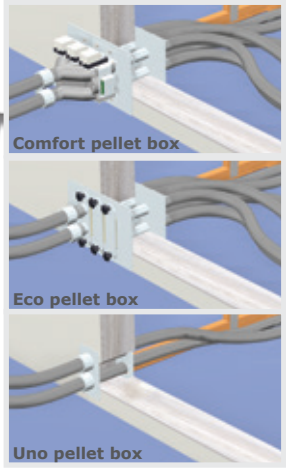
**Requirements for optimal use of condensing boiler technology:**

- The 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 flushing water

# Feed systems

## Universal suction system



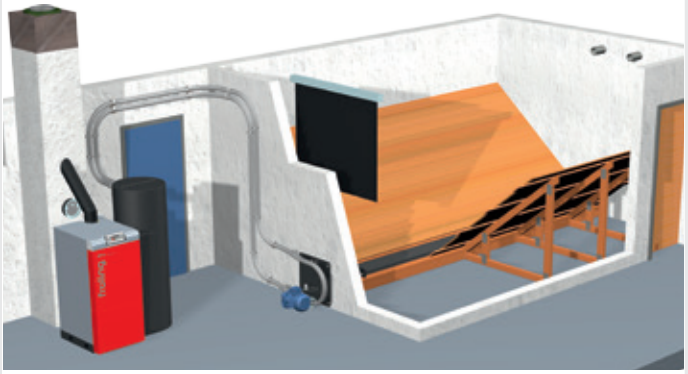




This system is easy to install and very flexible. The universal suction system can handle even large distances between the store and the boiler room. The position of the suction probes or the transfer unit (pellet box) can be adjusted to suit the individual store conditions.

### NEW: Carving suction probes

The new carving suction probes developed by Froling are distributed around the store and ensure that emptying is reliable and even. The changeover between the individual probes can be manual (Eco pellet box) or fully automatic (Comfort pellet box).

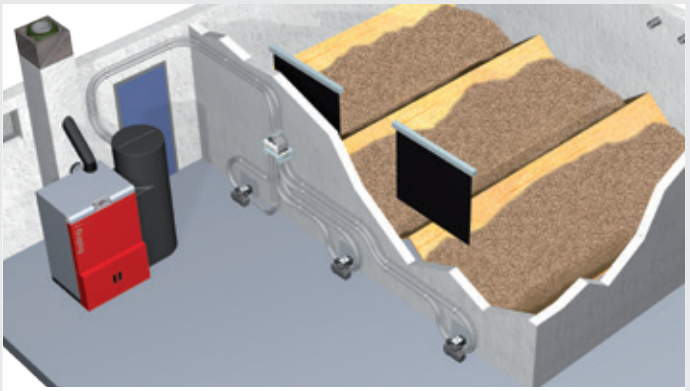
## Suction screw system



The Froling suction screw 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 setup.

## 1-2-3 suction screw system

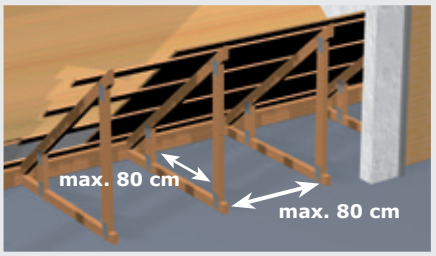


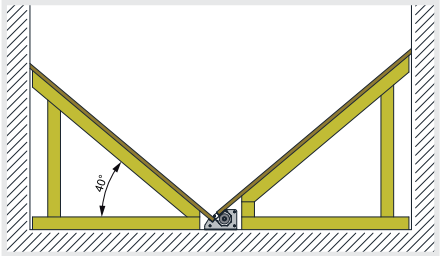
The 1-2-3 suction screw system from Froling is the ideal solution for large stores.

Depending on the size of the store, two or three discharge screws are positioned parallel to each other and integrated into the fuel feed of the suction system. The automatic screw selector automatically switches between the suction screws in a predefined cycle, ensuring that the store is emptied evenly.

## General notes on store design

All walls and load-bearing elements must support the static load. Ceilings and walls should be designed so that the pellets are not damaged or soiled by abrasion or flaking. The construction requirements should be agreed with a structural engineer. Local fire regulations must be observed.



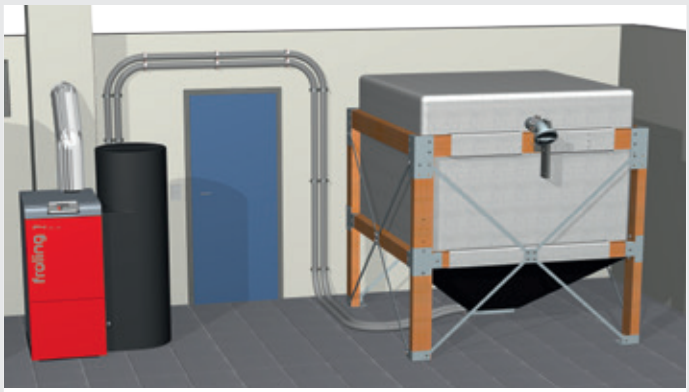




The framework must be able to carry the weight of the pellets and it must not be supported on the discharge duct. The sloping floor should be at an angle of 30 - 45° and should have a smooth surface to ensure that the pellets slide correctly. Depending on the static load intermediate supports may be necessary.

### 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.

## Bag silo discharge system



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.

Using a bag silo brings other benefits: it is simple to assemble and, if necessary, it can be installed outside with the necessary protection against rain and UV light.

## 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.

# Systematic convenience

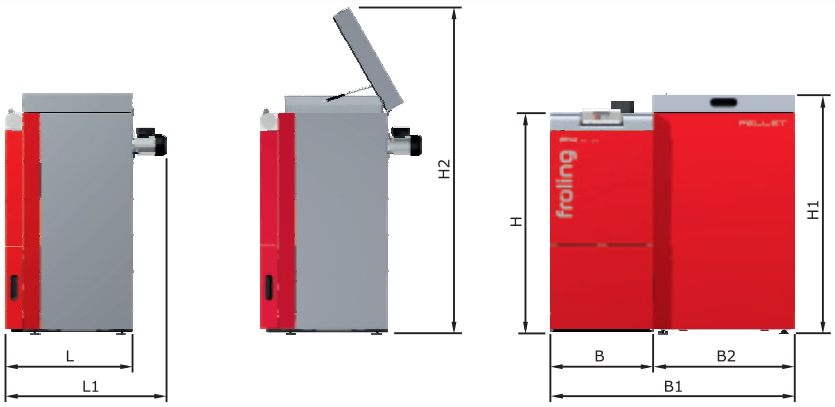
## Option: Fuel tuning with the PST pellet deduster

Wood pellets are clean and of very high quality. Any remaining wood dust can be filtered from the fuel using the PST pellet deduster. This optimises the efficiency of the combustion zone over the years. 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 deposited internally. The container is convenient to remove and transport to the emptying point. The system can be retrofitted at any time and it is maintenance-free.

## Supply bin

If it is not possible to set up a fuel store, a supply bin is the perfect alternative. Thanks to the modular design an automatic feed system can be retrofitted later at any time.


| Dimensions and data | | | P4 Pellet 8 | P4 Pellet 15 | P4 Pellet 20 | P4 Pellet 25 |
|---|---|---|---|---|---|---|
| L | Length of boiler | [mm] | 740 | 740 | 740 | 740 |
| L1 | Length including induced draught fan | [mm] | 940 | 940 | 940 | 940 |
| B | Width of boiler | [mm] | 600 | 600 | 770 | 770 |
| B1 | Width including supply bin | [mm] | 1425 | 1425 | 1595 | 1595 |
| B2 | Width of supply bin | [mm] | 825 | 825 | 825 | 825 |
| H | Height of boiler | [mm] | 1280 | 1280 | 1280 | 1280 |
| H1 | Height of supply bin | [mm] | 1400 | 1400 | 1400 | 1400 |
| H2 | Height of supply bin when open | [mm] | 1890 | 1890 | 1890 | 1890 |
| | Capacity | [l] | 235 | 235 | 235 | 235 |
| | Total weight including boiler | [kg] | 396 | 406 | 470 | 480 |

**Feature:** **Lambdatronic P 3200 control**

Advantages:
- Exact combustion control with lambda control as standard
- Large, clear control unit with adjustable viewing angle
- Boiler control directly from the living room
- New boiler console with touch display


With the new Lambdatronic P 3200 boiler controller, Froling is taking a step into the future. The control unit is optimised to suit any requirement. An individually adjustable viewing angle ensures that all operating statuses are clearly displayed. Exact combustion control thanks to lambda control **with broadband probe** as standard. The menu structure is ideally organised to ensure easy operation. All essential functions can be selected by simply pressing a button.

The **Froling bus system** makes it possible to install extension modules at any location. The local controls can be installed wherever they are needed: at the boiler, at the heat distributor, at the tank, in the living room or in the house next door. The P 3200 control allows up to 18 weather-compensated heating circuits, up to 8 water heaters and up to 4 storage tank management systems to be connected. It can also control any type of differential controller, an oil or gas boiler, a solar panel system and a circulation pump. Additionally, electric cables are kept to a minimum. Only a bus cable is needed to control the room consoles.


By using the Froling **FRA room temperature sensor** the main modes of the corresponding heating circuit can be easily adjusted and selected. The adjusting wheel allows you to change the room temperature by up to ± 3°C.

For even more convenience there's the **RBG 3200 room console** and the new **RBG 3200 Touch.** You can control the heating system easily from your living room. Important system data is clearly displayed and settings can be changed at the push of a button.

# Systematic convenience

## Room console with touch display

The **RBG 3200 Touch room console** has an impressive modern touchpad interface. The menu structure is intuitive and easy to use. The 4.3" colour screen shows the most important functions at a glance and automatically adjusts the background lighting to the conditions.

## NEW: froeling-connect.com online control

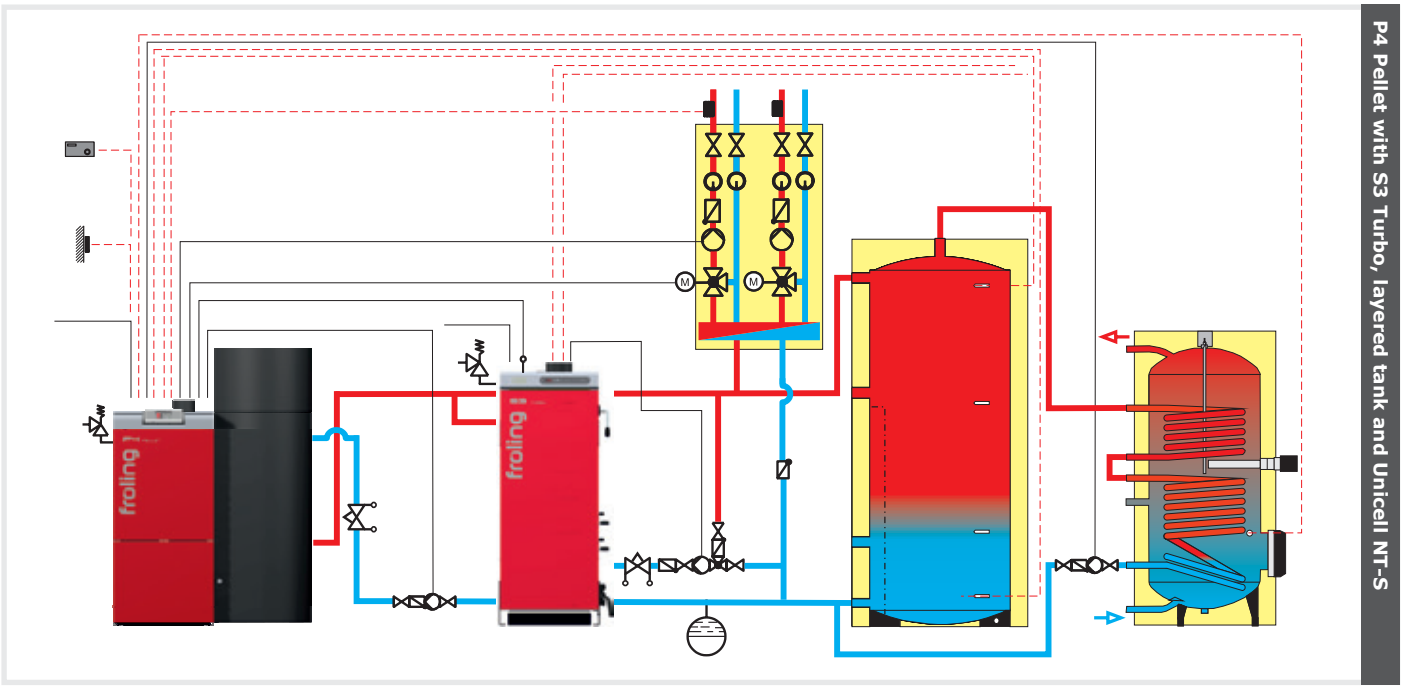
Froling's new online control, froeling-connect.com, allows you to check and control your Froling boiler with boiler touch display anytime anywhere. You can read or modify the main status information and settings easily and conveniently online (from your PC, Smartphone, tablet PC, etc.). You can also specify which status messages you would like to receive by text message or email. The new froeling-connect.com service allows the owner of the heating system to enable additional users – for example the installer, a neighbour, etc. – to access the boiler and monitor the heating system, during holidays for instance.


System requirements:

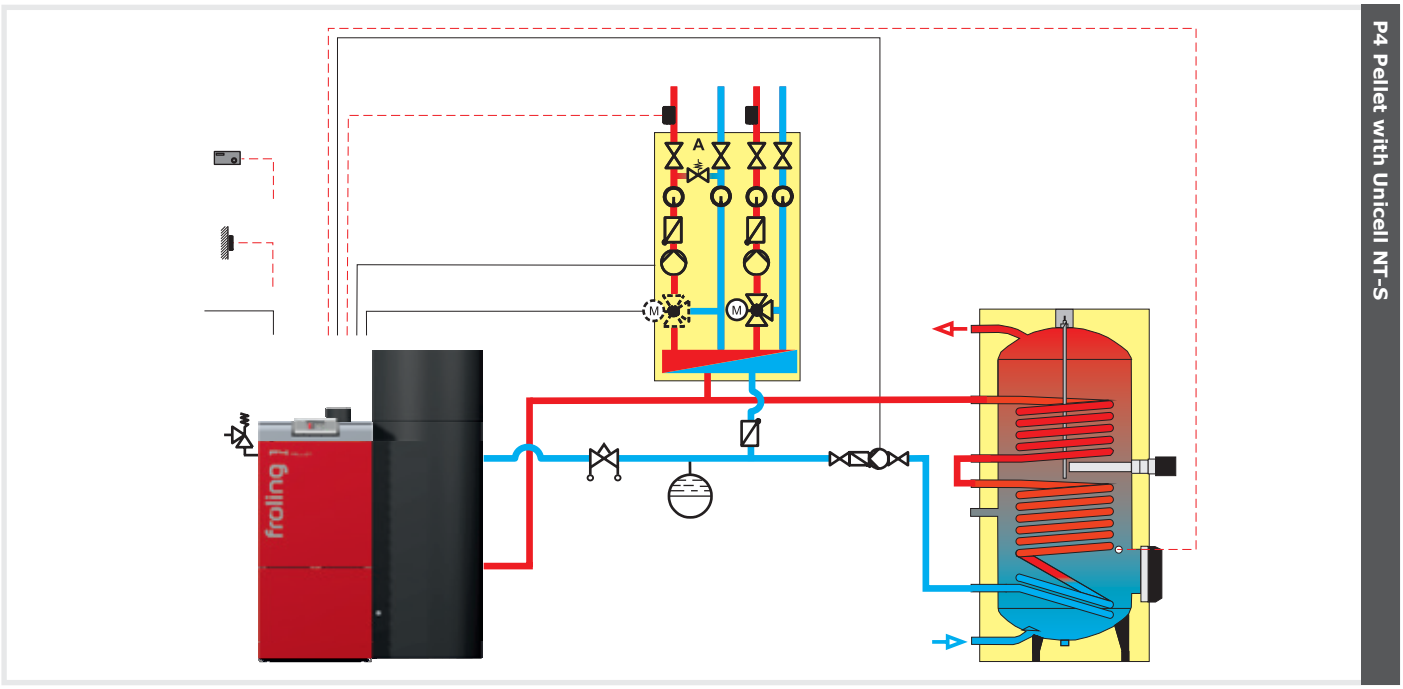
- Froling boiler with boiler touch display
- Internet connection (preferably broadband)
- Froling boiler internet connection via network
- Web-enabled terminal device (Smartphone/tablet PC/laptop/PC) with web browser

**Feature:** **Systems engineering for optimum energy consumption**

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




P4 Pellet with S3 Turbo, layered tank and Unicell NT-S

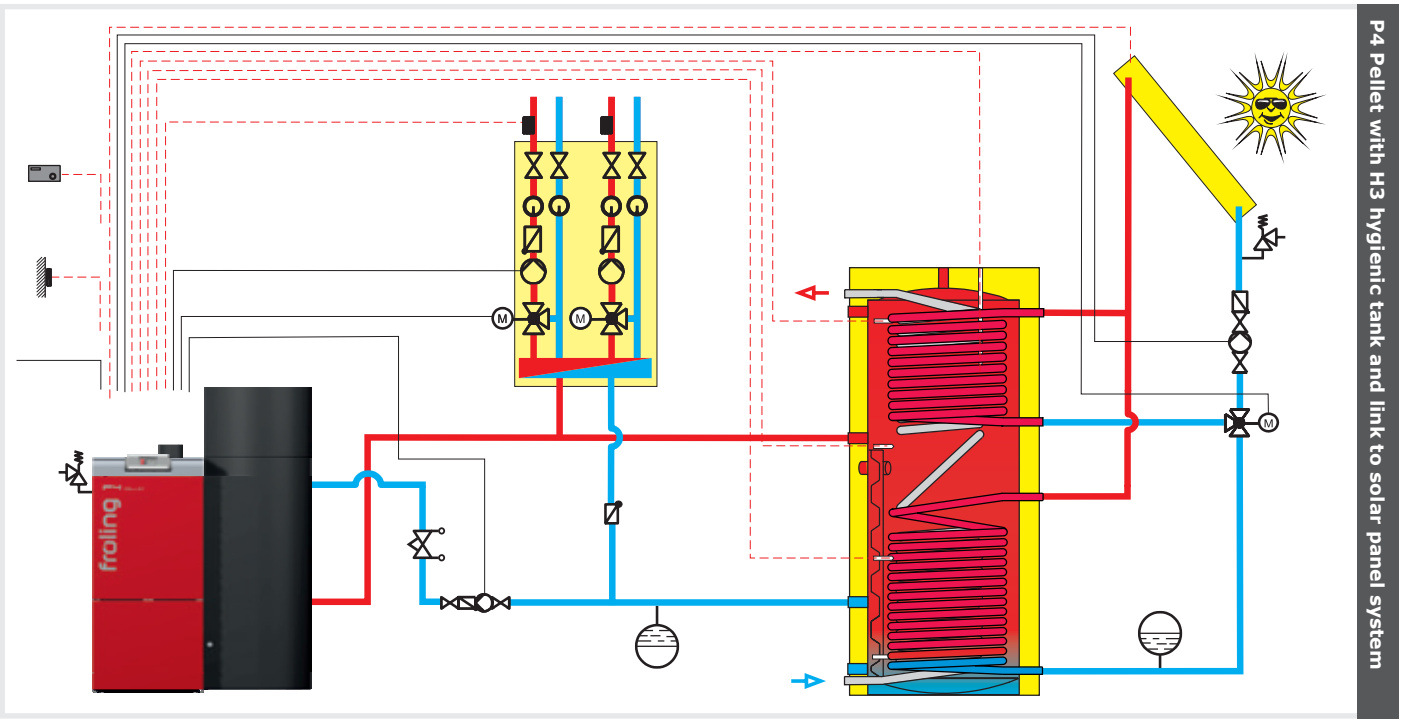



P4 Pellet with Unicell NT-S

Froling systems engineering offers efficient energy management. Up to 4 storage tanks, up to 8 hot water tanks and up to 18 heating circuits can be integrated into the heating management system.

# Perfect connections

With Froling systems engineering you also benefit from the ability to integrate other means of energy production, such as solar panels.




## WMZ solar package (optional)

The heat quantity measurement package (WMZ) enables you to benchmark the efficiency of your solar panel system. The Lambdatronic P3200 analyses and displays the flow and return temperature, the flow rate and the daily and total output of the solar panel system.

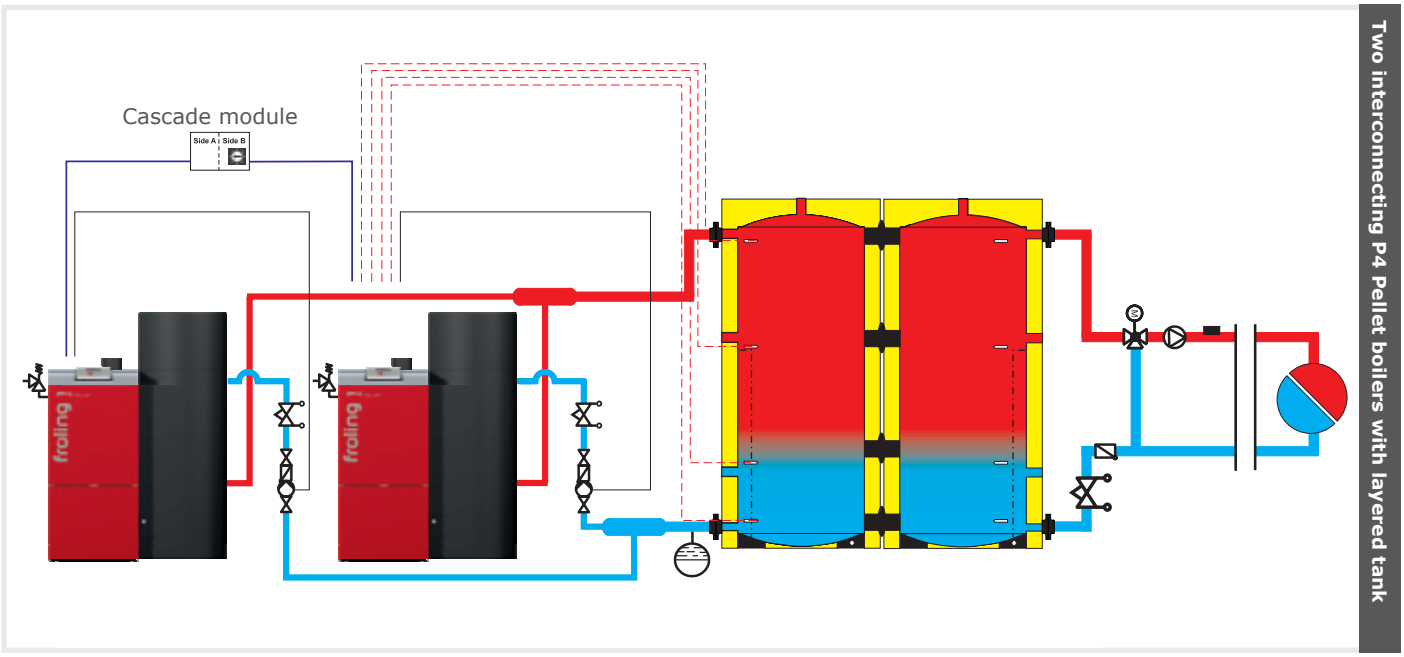
**Feature:** **Variable operation**

Advantages:
- Minimal radiant heat loss
- Maximum efficiency
- No external return temperature control required

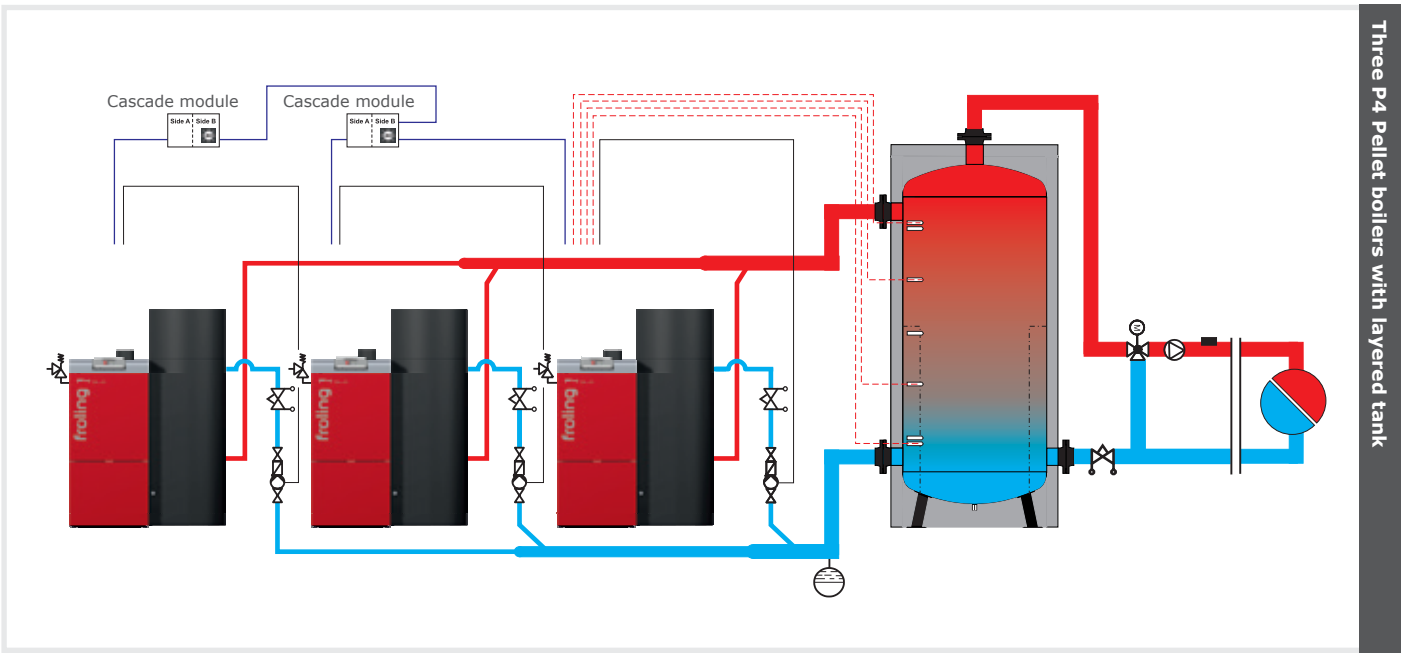
With variable operation the Froling P4 Pellet is only heated to the temperature level required by the heating system (hot water tank, radiator heating circuit). This avoids unnecessary radiant heat loss. This special feature guarantees maximum efficiency and avoids the need for an external return temperature control.

## NEW: Froling cascade controller

Heating requirements vary considerably, especially in larger buildings such as hotels or public buildings. Froling offers a flexible answer to this problem in the form of a cascade. This smart solution allows you to combine up to four P4 Pellet boilers to reach a total output of up to 420 kW. You can also see the benefits of a cascade during the summer months. If the heat requirement is low, one boiler is often sufficient for hot water preparation. This provides a particularly efficient and economical heating solution. A further advantage is the increased reliability of operation, as the heat is provided by several boilers.

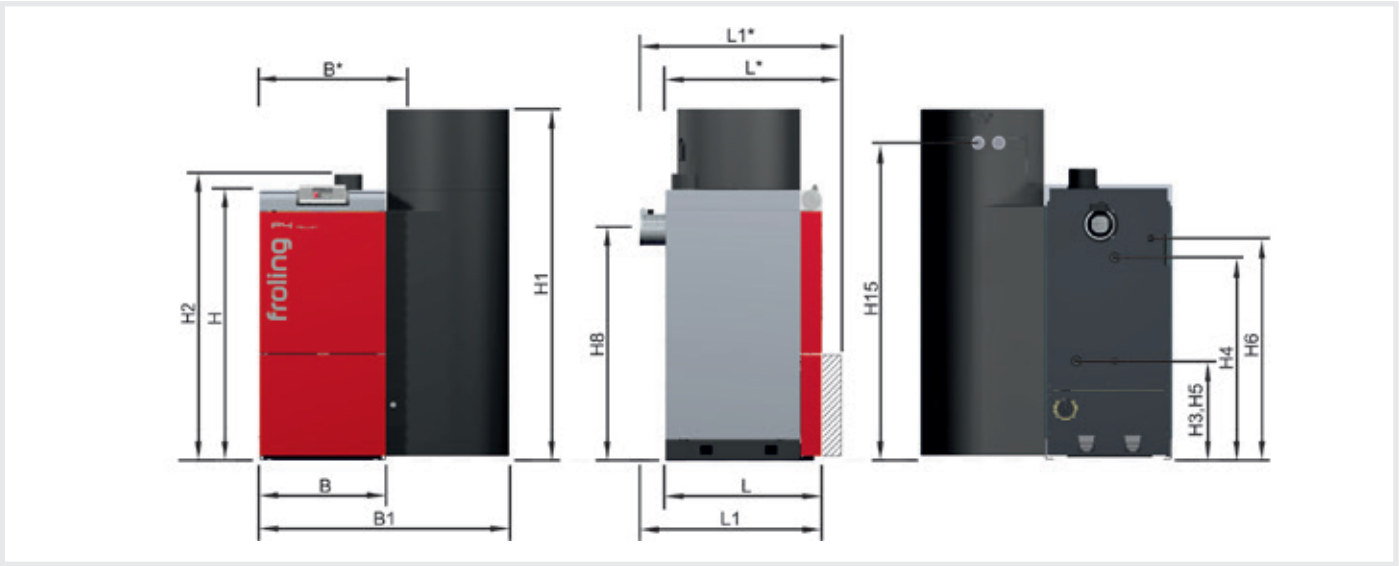



Two interconnecting P4 Pellet boilers with layered tank




Three P4 Pellet boilers with layered tank

# Technical specifications




| Dimensions - P4 Pellet [mm] | | P4 8 | P4 15 | P4 20 | P4 25 | P4 32 | P4 38 | P4 45 | P4 60 | P4 80 | P4 100 | P4 105 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L | Length of boiler[1)] | 740 | 740 | 740 | 740 | | | | | | | |
| L* | Length of boiler[1)] | | | | | 820 | 820 | 900 | 900 | 1000 | 1000 | 1000 |
| L1 | Total length including induced draught fan | 860 | 860 | 860 | 860 | | | | | | | |
| L1* | Total length including induced draught fan | | | | | 940 | 940 | 1020 | 1020 | 1070 | 1070 | 1070 |
| B | Width of boiler | 600 | 600 | 770 | 770 | 860 | 860 | 1030 | 1030 | 1235 | 1235 | 1235 |
| B* | Width of boiler including support[2)] | 705 | 705 | 875 | 875 | 965 | 965 | 1275 | 1275 | 1480 | 1480 | 1480 |
| B1 | Total width including suction cyclone | 1185 | 1185 | 1355 | 1355 | 1445 | 1445 | 1790 | 1790 | 2085 | 2085 | 2085 |
| H | Height of boiler[3)] | 1280 | 1280 | 1280 | 1280 | 1430 | 1430 | 1585 | 1585 | 1710 | 1710 | 1710 |
| H1 | Total height including suction cyclone | 1660 | 1660 | 1660 | 1660 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| H2 | Height of flue pipe connection | 1350 | 1350 | 1350 | 1350 | 1530 | 1530 | 1685 | 1685 | 1785 | 1785 | 1785 |
| H3 | Height of flow connection | 460 | 460 | 460 | 460 | 460 | 460 | 515 | 515 | 520 | 520 | 520 |
| H4 | Height of return connection | 940 | 940 | 955 | 955 | 1085 | 1085 | 1240 | 1240 | 1360 | 1360 | 1360 |
| H5 | Height of drainage connection | 460 | 460 | 460 | 460 | 460 | 460 | 515 | 515 | 520 | 520 | 520 |
| H6 | Height of ventilation connection | 1030 | 1030 | 1030 | 1030 | 1155 | 1155 | 1310 | 1310 | 1430 | 1430 | 1430 |
| H8 | Height of induced draught fan connection | 1090 | 1090 | 1090 | 1090 | 1215 | 1215 | 1375 | 1375 | 1495 | 1495 | 1495 |
| H15 | Height of suction system connection | 1480 | 1480 | 1480 | 1480 | 1720 | 1720 | 1720 | 1720 | 1720 | 1720 | 1720 |
| | Flue pipe diameter | 130 | 130 | 130 | 130 | 150 | 150 | 150 | 150 | 200 | 200 | 200 |

1) All boilers can fit through an 88 cm-wide doorway.
2) Width of boiler including support for positioning unit. Corresponds to the minimum positioning width after removing the stoker assembly, suction cyclone and stoker unit.
3) Corresponds to the minimum positioning height after removing the stoker assembly, suction cyclone and stoker unit.

| Technical specifications - P4 Pellet | | P4 8 | P4 15 | P4 20 | P4 25 | P4 32 | P4 38 | P4 45 | P4 60 | P4 80 | P4 100 | P4 105 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Rated heat output | [kW] | 10,5 | 14.9 | 20 | 25 | 32 | 38 | 45 | 58.5 | 80 | 99 | 105 |
| Output range | [kW] | 3,1-10,5 | 3.1-14.9 | 6.0-20.0 | 7.5-25.0 | 8.9-32.0 | 8.9-38.0 | 13.5-45.0 | 17.3-58.5 | 24-80 | 24-100 | 24-105 |
| Power consumption | [W] | 48 | 55 | 71 | 87 | 110 | 110 | 120 | 120 | 115 | 112 | 112 |
| Water capacity | [l] | 70 | 70 | 80 | 80 | 125 | 125 | 170 | 170 | 280 | 280 | 280 |
| Boiler weight | [kg] | 345 | 355 | 425 | 435 | 525 | 535 | 755 | 765 | 1090 | 1100 | 1110 |

Your Froling partner:



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