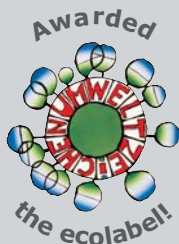


Turbomatic

TMC 28-100



Heating with Wood Chip and Pellets

From a renowned company

Right from the start, Froling has specialised in the efficient use of wood as an energy source. Today the Froling name stands for modern biomass heating technology. Our firewood, wood chip and pellet boilers are used successfully across Europe. All products are produced at our own factories in Austria and Germany. The state of the art machinery guarantees quality down to the smallest detail. Froling's dense service network ensures customers' needs are handled quickly and reliably.



The fuels - Wood chip, shavings or pellets



Wood chip is a fuel that is domestic, unaffected by crises, and environmentally friendly. Also, the production of wood chip guarantees domestic jobs. That is why wood chip is the perfect fuel, not just from an economic perspective, but also from an ecological perspective. Scrap wood in the form of branches, treetops and sawmill waste is broken down to wood chips with shredders. Depending on the wood used, there are various quality classes.



Wood pellets are made from natural wood. The wood shavings and sawdust produced in large quantities as a by-product in the wood processing industry are compacted and pelleted untreated. Pellets have a 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 which unloads the pellets directly into your wood store.

Turbomatic TMC

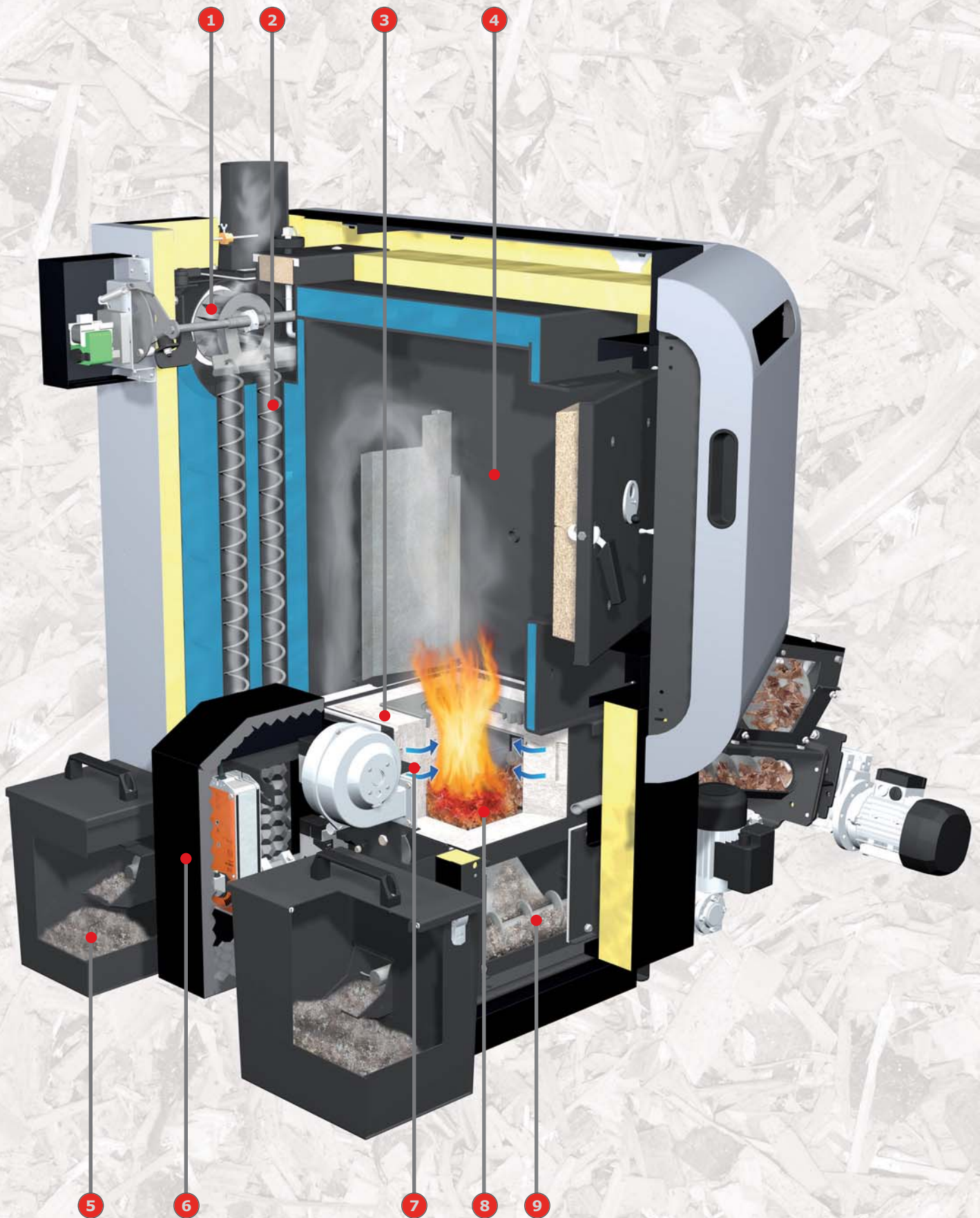
Turbomatic - The all round star!

Comfortable, robust, economical and safe:
the Froling Turbomatic lives up to all of these fine qualities.
With its intelligent fully automatic system, this boiler will
impress you with its universal applications.

For wood chip, shavings or pellets,
the Turbomatic processes these
fuels optimally. In emergencies
you can even burn firewood in a few
easy steps once a special grate
has been installed. This means the
Froling Turbomatic provides, safe,
high-quality heating!



Robust technology with ingenious features





The system has special benefits:

- 1 Induced draught fan for the highest operating safety - even if the chimney is in poor condition.
- 2 Multiple-pass heat exchanger and Efficiency Optimisation System (WOS) with automatically activated turbulators for cleaning.
- 3 Spacious fire-bricked chamber for high temperatures in the combustion zone.
- 4 Large combustion area, offering the possibility of emergency operation using pieces of wood.
- 5 Automatic ash removal from the heat exchanger with Turbomatic 70-100. (optional with Turbomatic 28-55)
- 6 Specially developed sound insulation cover.
- 7 Intelligent primary and secondary air control guaranteed with its own combustion air blower fan. Optimum combustion quality with the lambda probe even if there are changes to the fuel or moisture.
- 8 Automatic grate with vibration and tipping function. Activation can be controlled individually (depending on fuel) using its own drive.
- 9 Automatic ash removal from the chamber for transport of ash to the spacious ash box.

Well-planned Indoor Living

Feature: Intelligent modular construction

- Benefits:
- Easy to assemble
 - Flexible to set up
 - High quality from tested modules

Supplying ready-assembled modules means assembly is easy, cost-efficient and above all customer friendly. The chamber and the stoker unit are completely pre-assembled and tested at the factory, which means that time-intensive changes to the settings are not required for the initial startup. The side on which fuel is brought in can also be chosen during assembly on-site. The pre-wired switch cabinet makes the Turbomatic an intelligent and flexible modular system.



Feature: Independent units

- Benefits:
- High operating safety
 - Optimum fuel adjustment

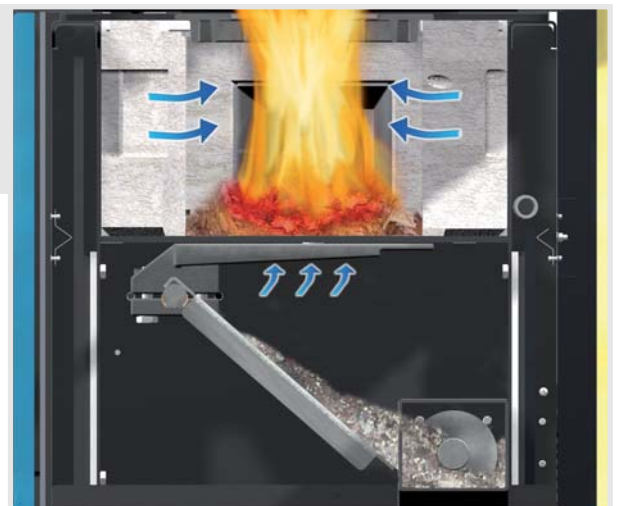
Individual drives instead of a central drive. The direct control of each individual unit optimises control and achieves co-operation. Independent units also guarantee a high degree of system stability and perfect adaptation to the fuel and the moisture.



Feature: Ingenious grate concept

- Benefits:
- Automatic self-cleaning
 - Ideal combustion conditions

The automatic grate with vibration drive, combined with the eccentric support, guarantees optimum cleaning, even when using low-grade fuels which tend to form cinders.



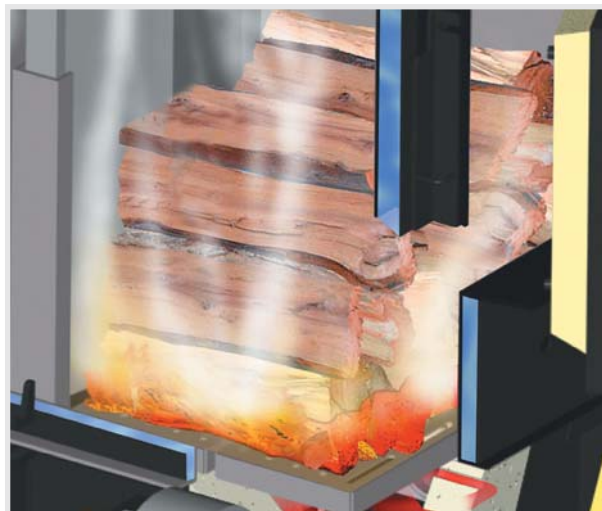
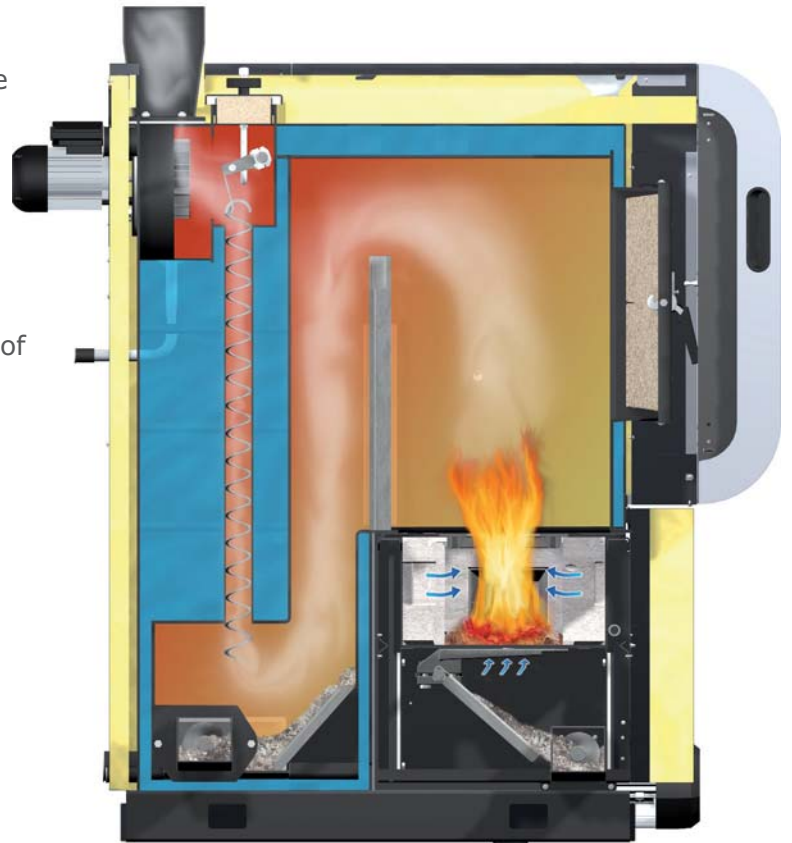
Feature: Perfect combustion control

- Benefits:
- Optimum emission values
 - Economical fuel consumption
 - Adapts automatically to changing fuels

The robustly made tipping grate technology, which is not sensitive to foreign bodies, and the optimised air distribution through separate primary and secondary air flaps have proven themselves to be ideal for economical operation.

The best possible combustion conditions leading to low pollution through:

- Hot combustion chamber, clad with fire-proof material
- Serial lambda control
- Optimum turbulence through injection of secondary air and special burn out ring
- Large combustion zone guarantees the lowest emissions and dust values



Feature: Emergency firewood operation

- Benefits:
- High adaptability
 - Solid reliability

The Turbomatic can be equipped with a special grate insert for emergencies.

“Emergency firewood operation” makes it possible to burn pieces of wood with a length of up to 35 cm (TMC 28-55) or 50 cm (TMC 70-100).

Systematic Comfort



Feature: **Lambdatronic H 3200 controller**

Benefits:

- Exact combustion control through serial lambda control
- Large, clear control unit with graphic display
- Menu-based operation with online help
- Boiler navigation from the living room



With the new H 3200 boiler control, Fröling is taking a step into the future.

The control unit, optimised to fit requirements, and the lit graphic display guarantees that all operating statuses are clearly shown. The organised menu structure makes it easy to operate. The important heating and hot water functions can be selected simply using the function keys.

The pre-prepared wiring is also ready to plug in, saving prolonged electrical installation.

The **Fröling bus system** makes it possible to install extension modules in any location. For example, at the boiler, at the heat distributor, at the tank, in the living room or in the next house: the local controls can be installed wherever they are needed. The minimum of electrical cables is another plus.

You can have even more comfort with the **RBG 3200 room console**. The heating system is controlled easily from your living room. It is extremely easy to read off all the important values and status messages and to change settings at the push of a button.

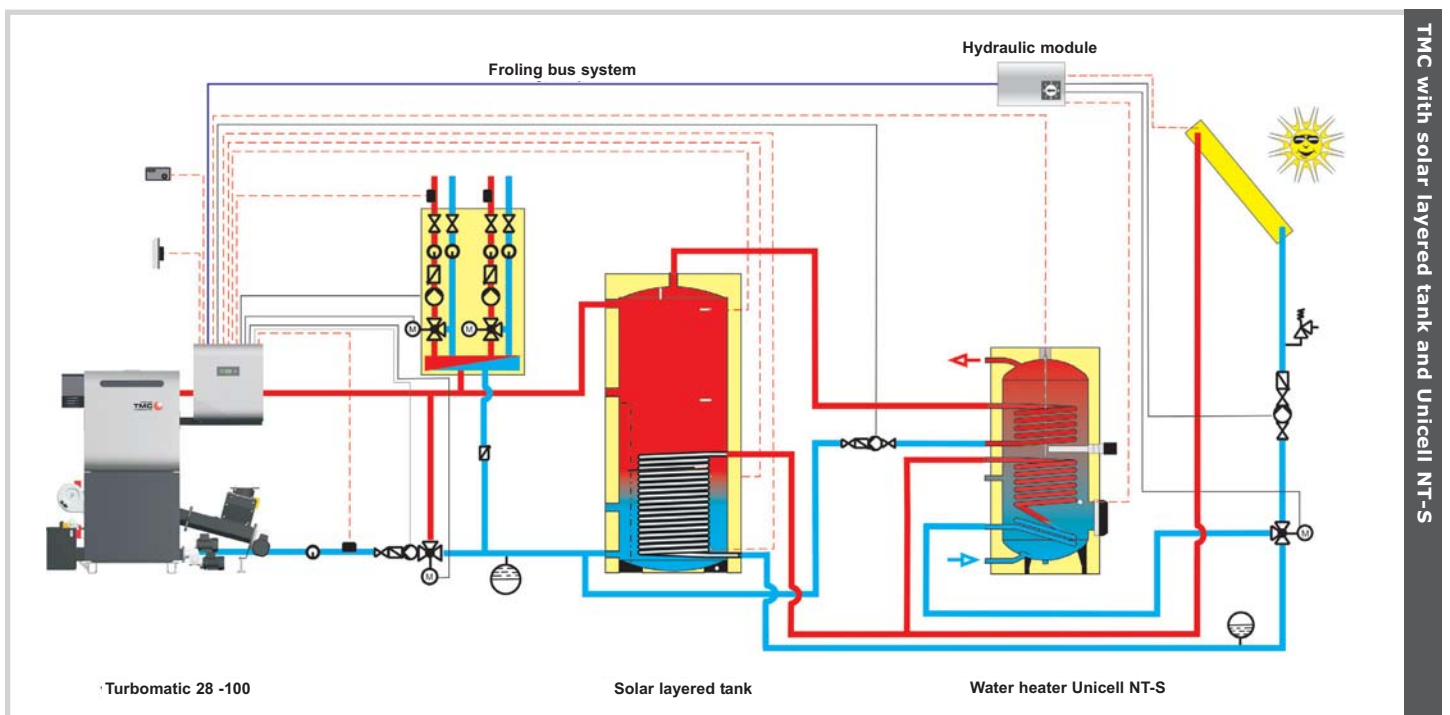
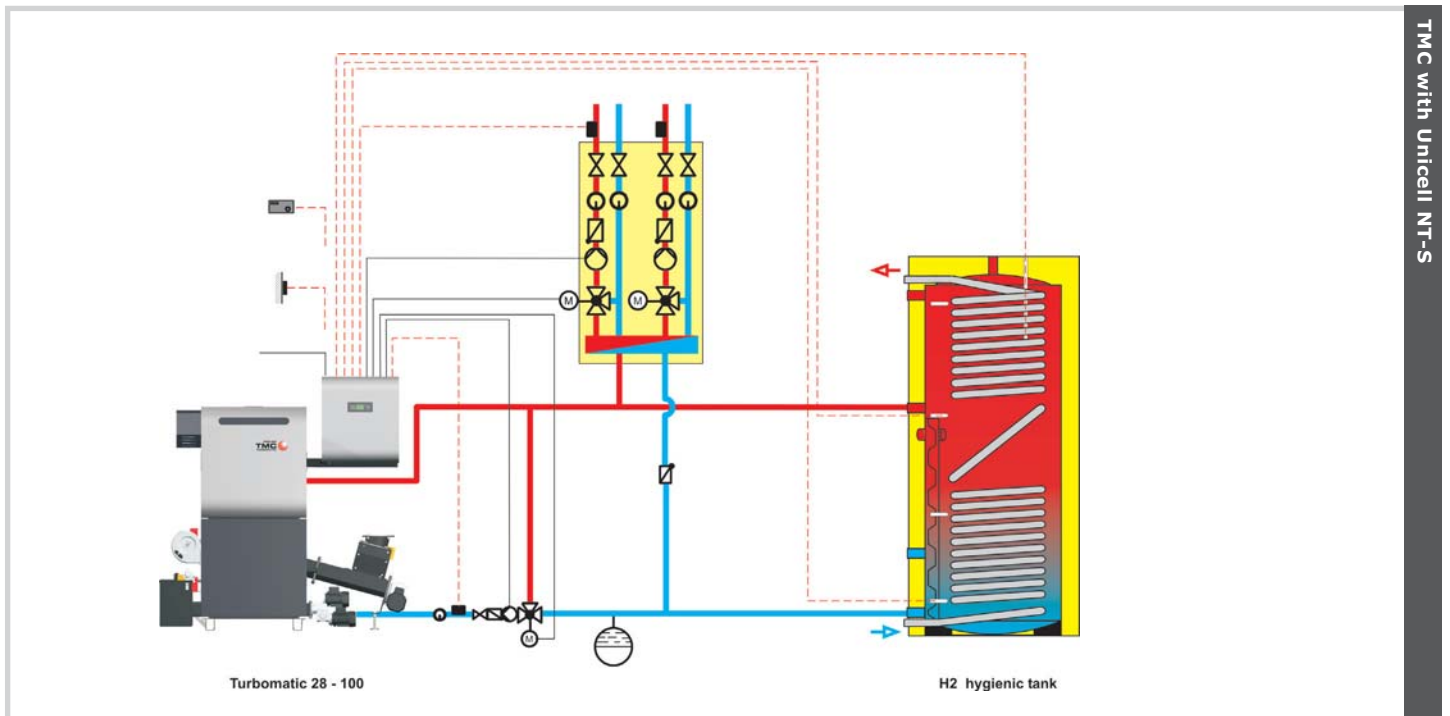


Turbomatic TMC

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

- Benefits:
- Complete solution for all requirements
 - The components work together perfectly
 - Links in to solar energy

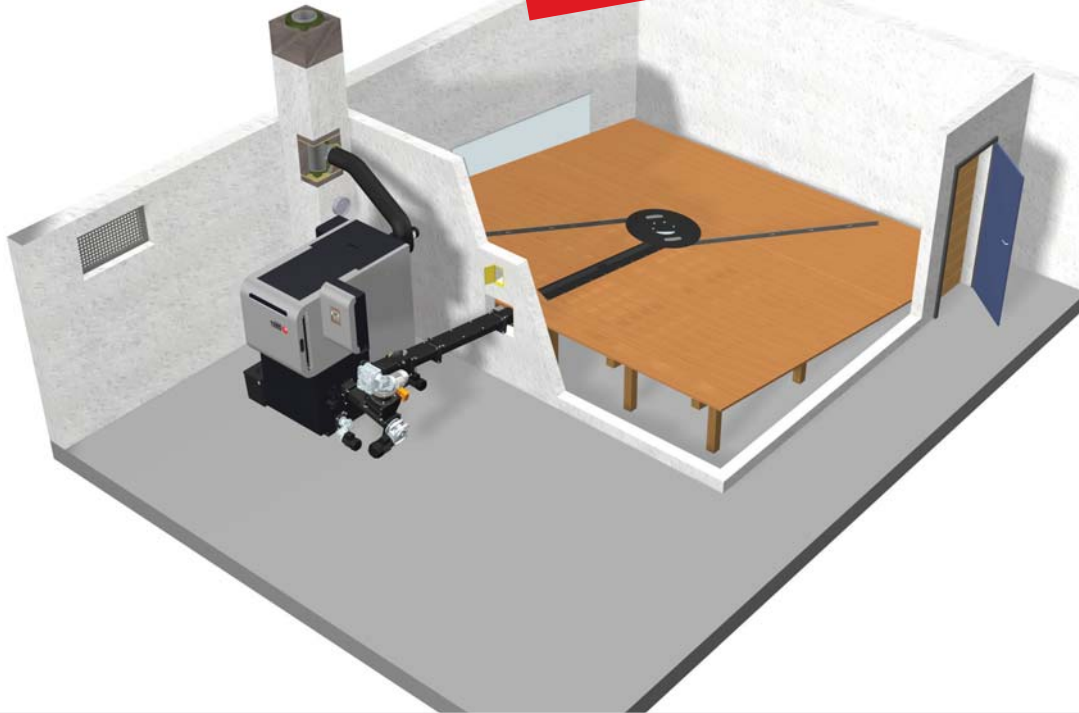
Froiling systems engineering enables efficient energy management. Up to 4 storage tanks, up to 8 hot water tanks and up to 18 heating circuits can influence the heat management. You also benefit from the option of connecting other types of energy generation, such as solar panel systems.



Wood Chip feed system

Spring blade agitator

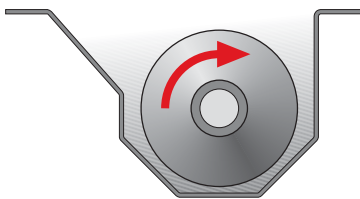
NEW!



The latest models for wood chip delivery. During filling, the springs lie on the agitator head below the plate and reduce the resistance when the store is full.

When the fuel is removed, the spring blades swing back out and guarantee the store is emptied.

Further development of proven and efficient features



Froling feeder trough

The special shape of the trough ensures that fuel transport runs smoothly. The system is easy to operate so it saves energy even when feeding in the maximum amount of pellets.



Shear edge

A robust shear plate with a cutting edge breaks up larger pieces of fuel guaranteeing continuous fuel feed.



Spring blades

Two strong spring piles ensure even filling level of the feed screw. The robust tearing hooks loosen the fuel and ensure the store empties.

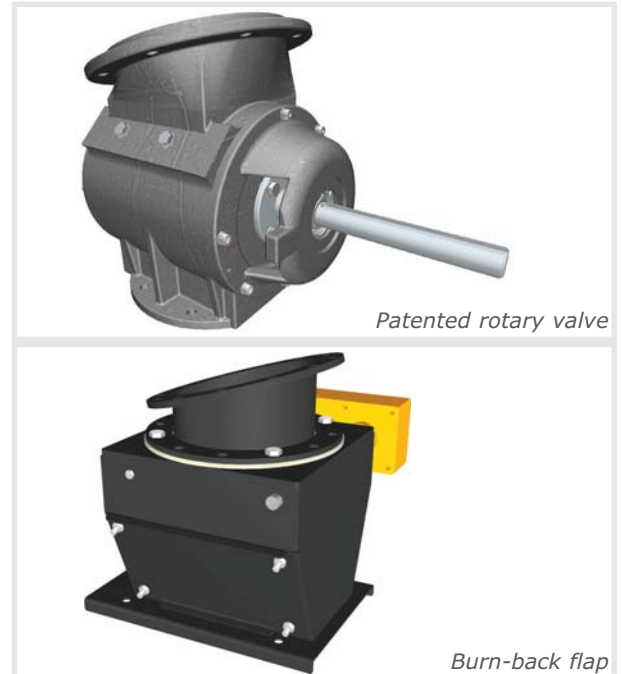
Burn-back protection: burn-back flap or rotary valve - you decide!

Using a back-fire protection system is vital for operating safety. During the heating up phase, after loading has been completed or in the event of a fault it closes off the connection between the delivery system and the loading unit. Opinion is still divided about whether burn-back flaps or rotary valves are better. That is where Froeling comes in!

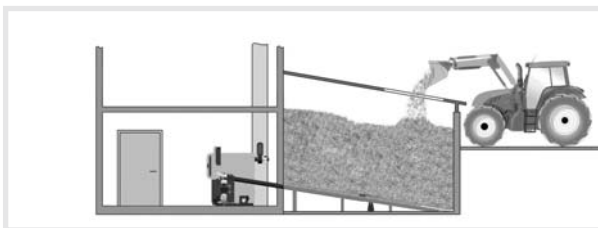
As each system has its advantages, Froeling offers the optimum protection system according to the setup of the system (location, fuel type, ...).

We determine whether burn-back flaps or rotary valves are suitable when we are making the boiler fit the setup of your heating system. You always get the a protection system that fits perfectly.

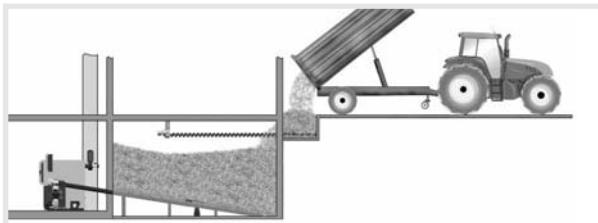
Also, the serially operated induced draught fan, combined with the underpressure monitoring prevent smoke going back into the store, offering additional safety.



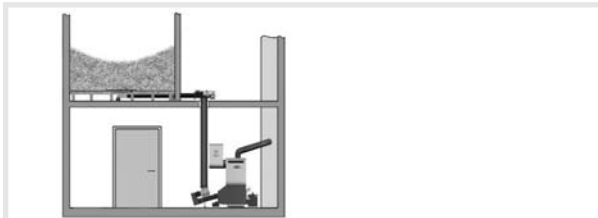
Some examples from a wide range of set-up options:



External store with option of direct loading into the fuel store. The store can normally be made with a cost-effective extension.



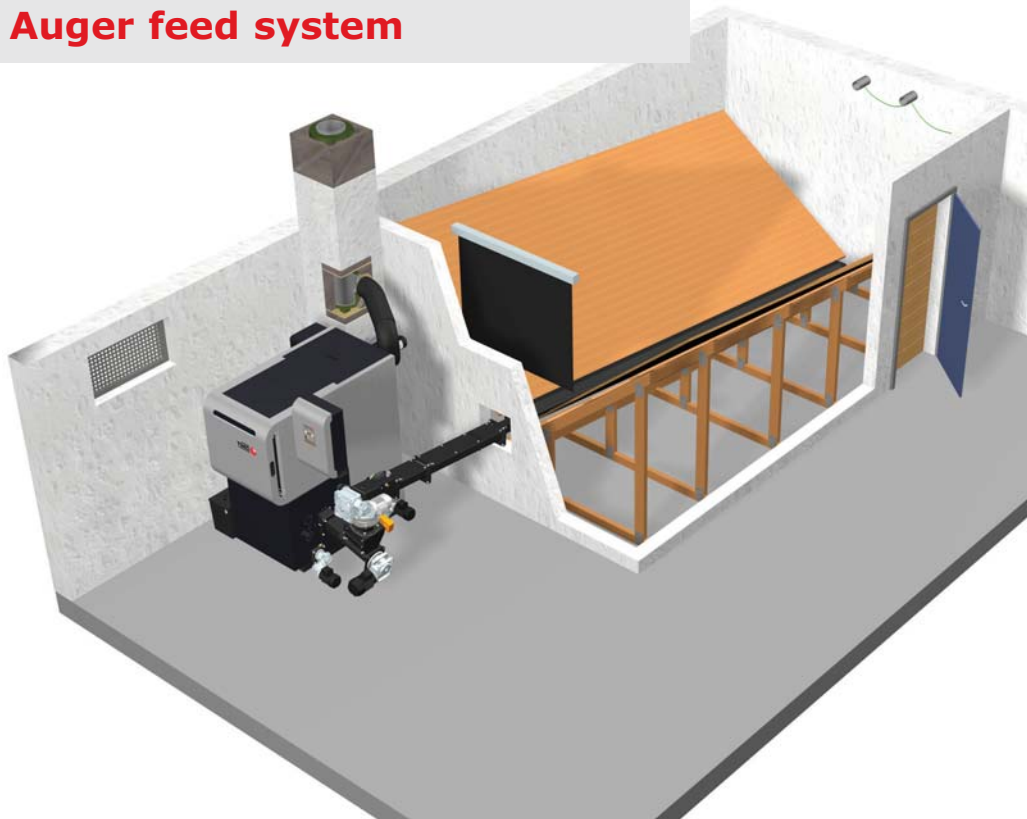
Store connected to bunker filling screw. Existing window openings (or similar) can be used as loading openings.



Store above the boiler room. Fuel is fed to the boiler using a fall pipe. Here we recommend a rotary valve!

Pellets feed systems

Auger feed system



If you decide to use your Turbomatic with pellets, the pellets auger feed system is the most robust and reliable type of fuel feed.

This variant is the ideal solution for rectangular stores, which border directly on the boiler room.

The auger feed system can also guarantee the most complete emptying of the fuel store.

Pellet suction system



The suction system is designed for those situations where the store is not next to the boiler room and the pellets have to be fed over a long distance.

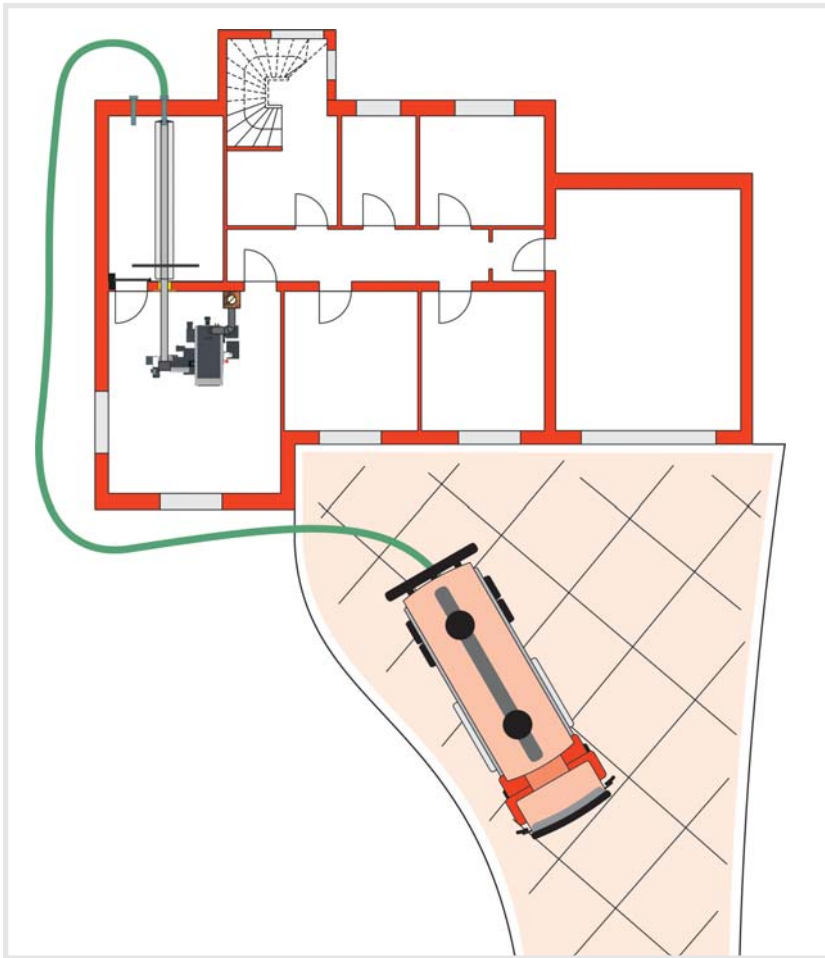
The most attractive aspect of this system is its simple assembly and high flexibility of organisation.

The day store that is integrated to the boiler guarantees that the system suction times can be flexibly planned.

Feeding in the pellets

The store is filled simply with the inlet nozzle.

All accessories to equip the store (inlet nozzle, impact cushion, etc.) are included in the broad Froeling range.



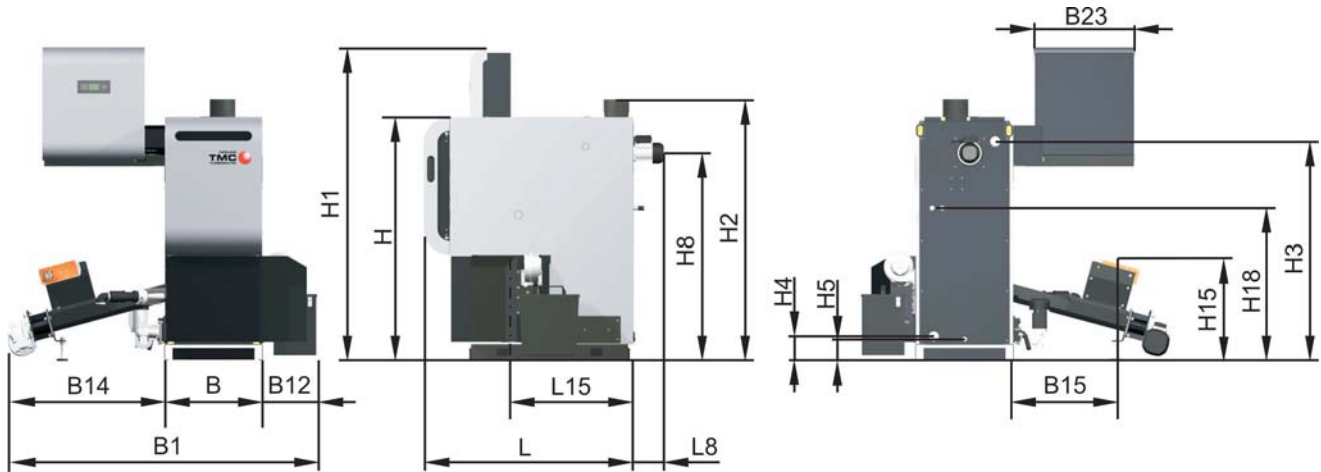
The pellets are delivered by tanker and blown into the store through an intermediate filler pipe. A second pipe is used to extract dust. There is a limit to the filler hose length that can be used. The store should be located not more than 30 metres away from where the tanker will be pumping.

For a detailed description of the dimensions and shape of the store, please see our detailed planning documentation.

A Froeling specialist adviser will also be glad to provide you with information.

Technical specifications

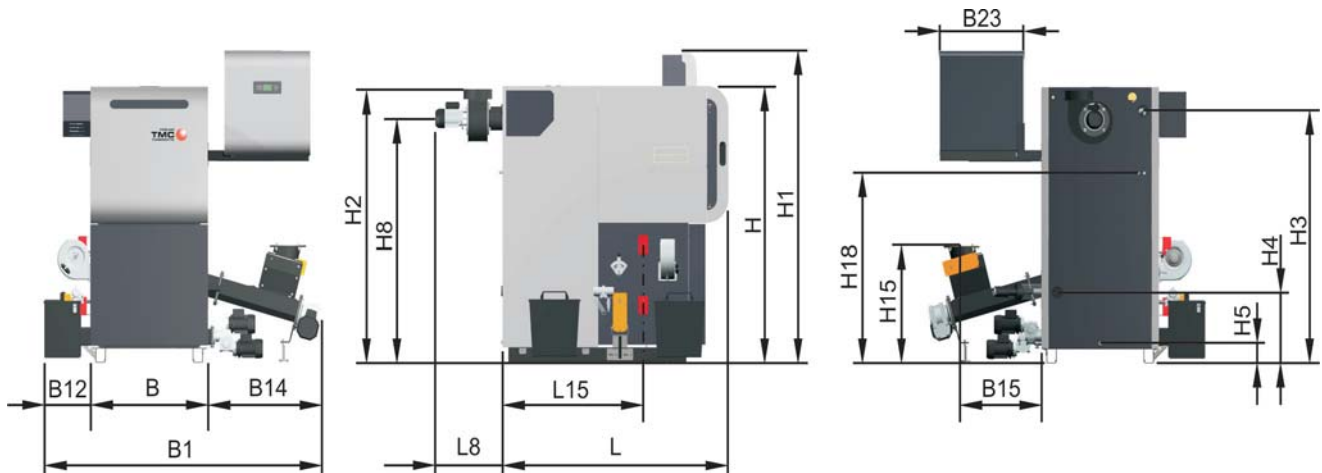
Dimensions TMC 28-55



DIMENSIONS			TMC 28/35	TMC 48/55
L	Length, boiler	[mm]	1225	1315
L8	Length, induced draught fan	[mm]	180	180
L15	Length to gravity shaft connection right / left	[mm]	735 / 710	825 / 800
B	Width, boiler	[mm]	570	670
B1	Overall width with BFF ¹ / RV ²	[mm]	1820 / 1885	1920 / 1985
B12	Width, ash container	[mm]	325	325
B14	Width, stoker unit with BFF ¹ / RV ²	[mm]	925 / 990	925 / 990
B15	Width, gravity shaft connection with BFF ¹ / RV ²	[mm]	595 / 615	595 / 615
B23	Width, switch cabinet	[mm]	600	600
H	Height, boiler	[mm]	1420	1520
H1	Overall height	[mm]	1830	1830
H2	Height, flue pipe connection	[mm]	1520	1620
H3	Height, flow connection	[mm]	1280	1380
H4	Height, return connection	[mm]	140	140
H5	Height, drain	[mm]	120	120
H8	Height, induced draught fan connection	[mm]	1210	1310
H15	Height, gravity shaft connection with BFF ¹ / RV ²	[mm]	620 / 595	620 / 595
H18	Height, safety battery connection	[mm]	890	980

1) BFF = Back-Fire Flap, 2) RV = Rotary Valve 125, Rotary valve 180 on request

Dimensions TMC 70-100



DIMENSIONS

L	Length, boiler	[mm]	1580
L8	Length, induced draught fan	[mm]	470
L15	Length to gravity shaft connection left / right	[mm]	965 / 1015
B	Width, boiler	[mm]	820
B1	Overall width	[mm]	2040
B12	Width, ash container	[mm]	325
B14	Width, stoker unit	[mm]	895
B15	Width, gravity shaft	[mm]	550
B23	Width, switch cabinet	[mm]	600
H	Height, boiler	[mm]	1740
H1	Overall height	[mm]	1980
H2	Height, flue pipe connection	[mm]	1720
H3	Height, flow connection	[mm]	1595
H4	Height, return connection	[mm]	450
H5	Height, drain	[mm]	125
H8	Height, induced draught fan connection	[mm]	1540
H15	Height, gravity shaft connection	[mm]	730
H18	Height, safety battery connection	[mm]	1200

Technical data

Performance data - Turbomatic TMC 28-55

TECHNICAL SPECIFICATIONS		TMC 28	TMC 35	TMC 48	TMC 55
Heating efficiency range	[kW]	8.4 - 28	10.5 - 35	14.4 - 48	16.5 - 55
Electrical Connection		400V / 50Hz / fused 20A			
Power output	[W]	430	430	430	430
Boiler weight, approx.	[kg]	600	600	750	750
Boiler water capacity	[L]	114	114	185	185
Permitted operating pressure	[bar]	3	3	3	3
Permitted boiler operating temperature	[°C]	95	95	95	95
Minimum return feed temperature	[°C]	55	55	55	55

Performance data - Turbomatic TMC 70-100

TECHNICAL SPECIFICATIONS		TMC 70	TMC 85	TMC 100
Heating efficiency range	[kW]	21 - 70	25.5 - 85	30 - 100
Electrical Connection		400V / 50Hz / fused 20A		
Power output	[W]	650	650	650
Boiler weight, approx.	[kg]	1250	1250	1250
Boiler water capacity	[L]	300	300	300
Permitted operating pressure	[bar]	3	3	3
Permitted boiler operating temperature	[°C]	95	95	95
Minimum return feed temperature	[°C]	55	55	55

You can find further technical details and tips in our detailed planning documentation "Heating with Wood Chip".

P0250008 - All illustrations intended as a guide only.
We reserve the right to make technical changes without prior notice. Errors and omissions
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froling 

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