

# Lambdamat 750 - 1500 kW

WOOD CHIP, SHAVING AND PELLET BOILER



BETTER HEATING

INNOVATIVE AND  
COMFORTABLE

froling 



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## ENVIRONMENTALLY RESPONSIBLE HEATING, ECONOMICAL ATTRACTIVE

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Wood chips are a local and environmentally-friendly fuel which is not subject to the crises and fluctuations of the market. Furthermore, wood chip production provides jobs for local residents. That is why wood chip is the perfect fuel, not just from an economic perspective but also from an environmental point of view. The quality class is determined by the type of wood used.

Wood pellets are made of natural wood. The large volumes of wood shavings and sawdust generated by the wood-processing indus-

try 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.

Shavings are a waste material and a by-product of the wood-processing industry, and are therefore logically the ideal fuel for this industry. The characteristics of this exceptional dry heating material require particularly robust combustion technology.

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.

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GUARANTEED  
QUALITY AND  
RELIABILITY  
FROM AUSTRIA

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- International pioneer in technology and design
- Sophisticated fully automatic operation
- Excellent environmental compatibility
- Environmentally responsible energy efficiency
- Renewable and CO<sub>2</sub>-neutral fuel
- More comfort for you

The result of systematic research and development

Froling's Lambdamat is a unique, fully automatic heating system for burning wood chips, shavings and pellets. It not only offers innovative combustion technology, but also a high level of convenience and operational reliability. The boiler sizes in the "Communal" version are suited to fuels with a water content of up to 50%.

Thanks to the special combustion chamber shape, Froling's Lambdamat is perfect for burning fuels of different qualities and with a high bark content. The hydraulic moving grate continuously transports the fuel through the combustion chamber, ensuring that even heavy fuels are completely burned. In addition to fuel loading by feed screws, this boiler technology can also be supplied with a hydraulic feed system.



# ROBUST TECHNOLOGY WITH SMART DETAILS

## LAMB DAMAT

### Multifunctional heat exchanger

Which features large heat exchanger surfaces. Convenient maintenance is ensured by large and easy to reach cleaning and maintenance openings.

### Tertiary air vents

For increased efficiency during combustion. The fully controlled flue gas recirculation AGR (optional) optimises burning (output, emissions etc.) with particularly demanding fuels.

### Multi-layer high temperature chamotte combustion chamber

For high efficiency and clean combustion.

### Automatic ignition

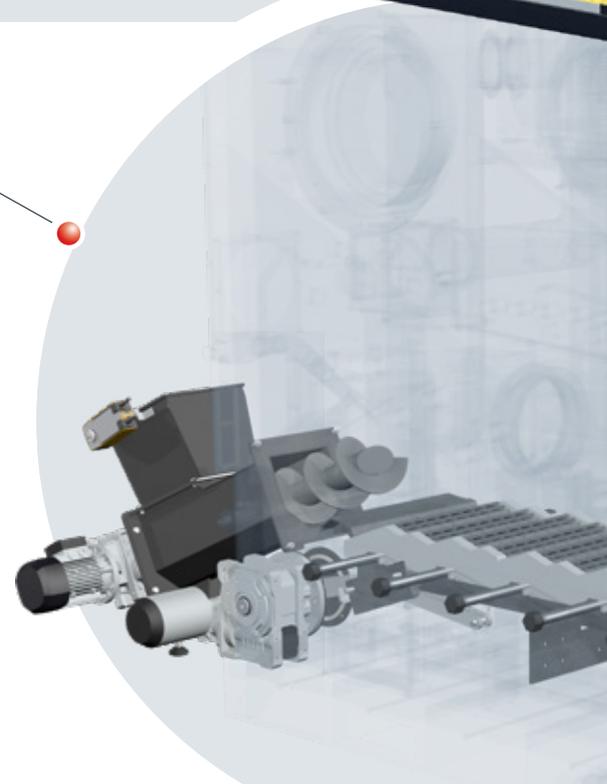
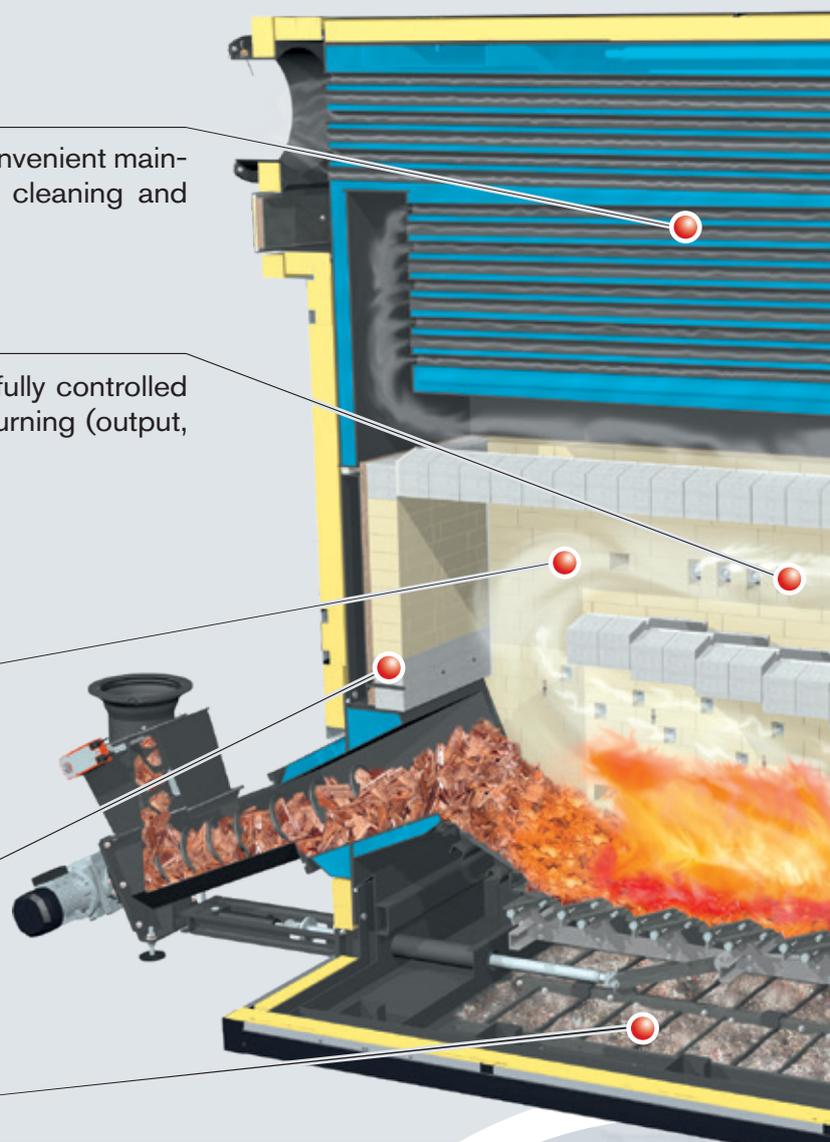
A second ignition blower can be installed as an option for materials that are difficult to ignite (e.g. high humidity).

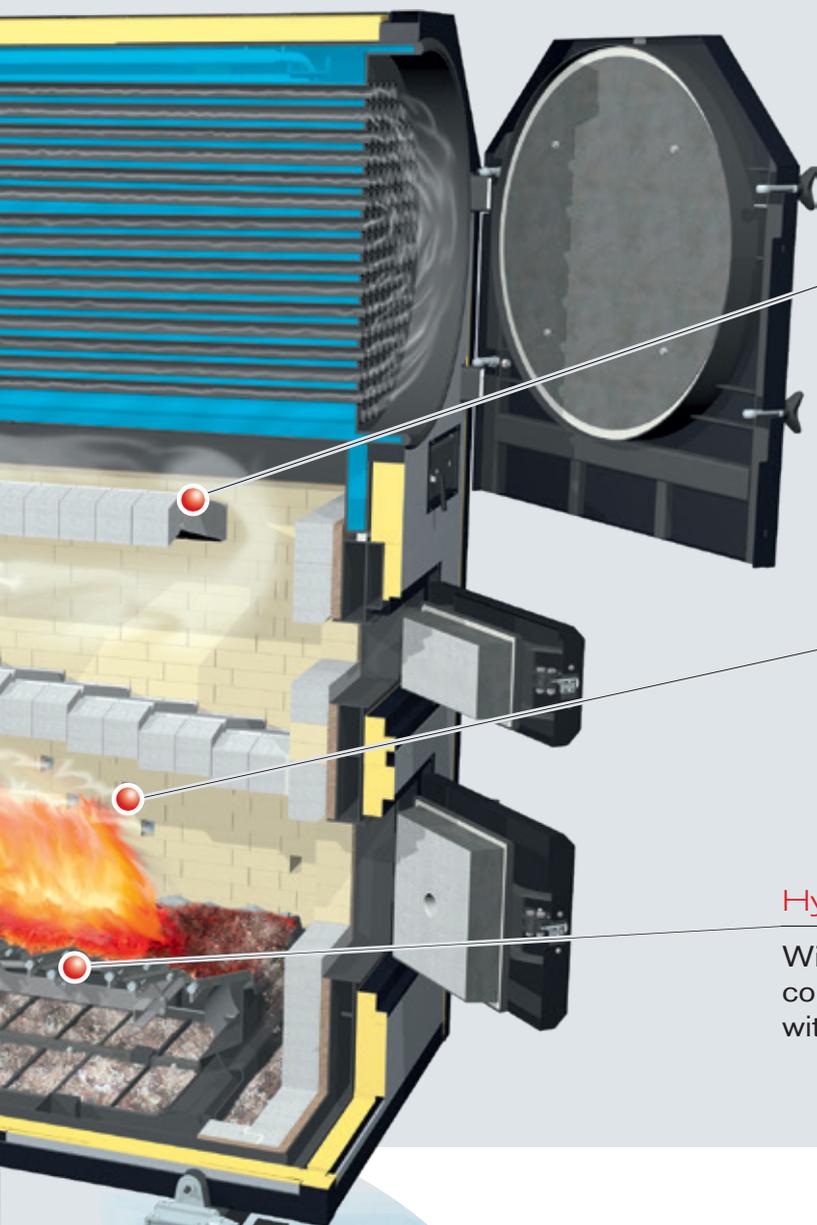
### Fully automatic ash removal

### High-temperature combustion chamber with moving grate

The high-temperature combustion chamber is four-shelled, guaranteeing clean combustion. The jacket cooling and the water-cooled stoker duct minimise radiant heat losses and guarantee high efficiency. Thanks to the moving grate, boiler operation is reliable and maintenance-free, even when using low-grade fuels which tend to form cinder. Separation of the primary air zone guarantees optimum burnout. This keeps emission levels very low. The ashes that fall under the grate are automatically transported to the ash container by a rake.

- Advantages:
- No cinder build-up
  - Optimum burnout
  - Very low emissions
  - Automatic ash removal





### Double tunnel vault

Guarantees the optimum burn-out of fuels with a high water content

### Secondary air openings

Ensure optimum combustion and a complete burn-out.

### Hydraulically operated moving grate

With primary air intake system keeps the fuel moving continuously and ensures complete burn-out (even with heavy fuels).

### Flue gas recirculation

Some of the flue gas is fed back into the combustion by a speed-regulated FGR blower fan. The residual oxygen in the flue gas is fed back to the combustion zone by automatic progressive rotary slide valves serving as the primary and secondary flue gas return. This reduces the NOx emissions. It also helps to protect the fireclay when high-quality dry fuels are used whilst optimising combustion and output for both damp and dry fuels.

- Advantages:
- Combustion optimisation
  - Preserves the flame-swept parts

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# SYSTEMATIC CONVENIENCE

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## Froling SPS 4000 controller

The SPS 4000 is made up of high-quality industry-standard components. The clear, user-friendly control system offers a wide range of different settings and display options for individual, efficient and stable operation.

The Froling SPS 4000 offers numerous functional options such as five-sensor storage tank management, heating circuit and network temperature control, external power specifications, cascade function, integration, monitoring and control of additional peripheral components.

- Advantages:**
- Powerful SPS controller with 5.7" colour touch display
  - Safe and simple remote access via Froling visualisation software
  - Numerous functional possibilities

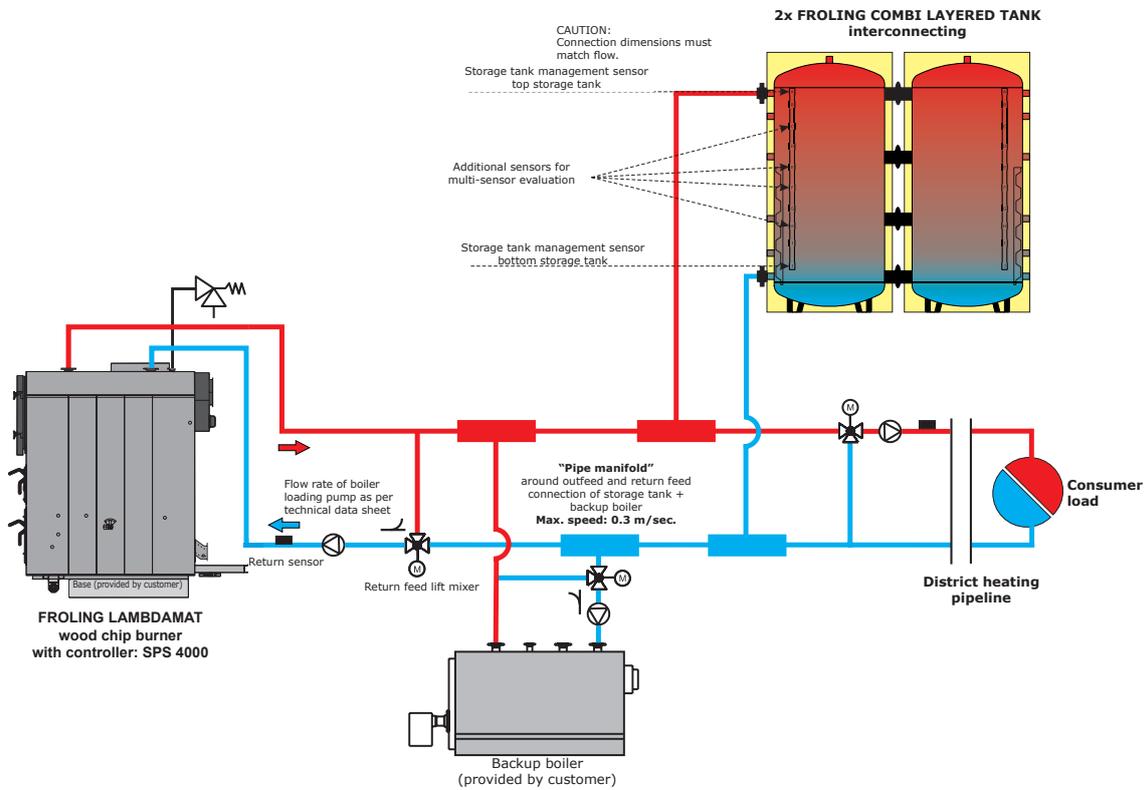


## Froling visualisation software

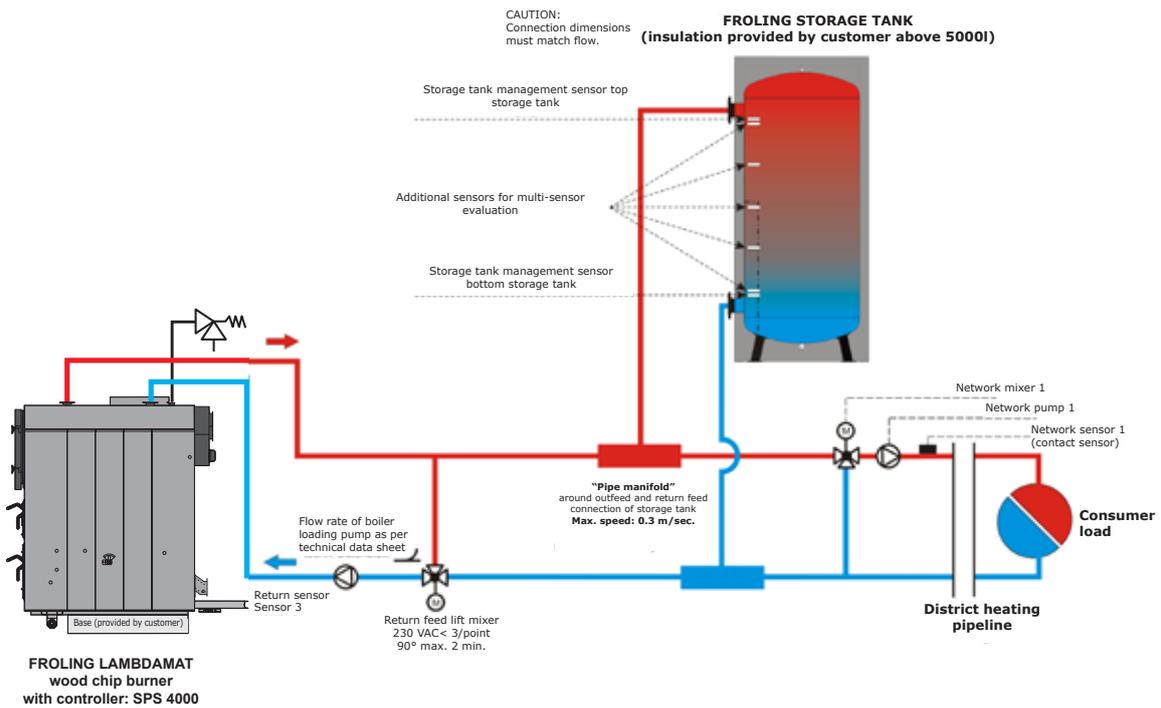
The boiler display software available enables convenient remote control of the system from a computer. All operating values and customer parameters can be displayed and modified. The familiar Windows interface and clear menu structure make it easy to use.

- Advantages:**
- Monitor and operate from your PC
  - Record boiler data

Lambdamat with backup boiler and two layered tanks (interconnecting)



Lambdamat with layered tank



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## FROLING DISCHARGE SYSTEMS

### PERFECTED OVER DECADES

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Froling has expertise designing discharge systems spanning many years. Whether the system is large or small, Froling provides sturdy feeder systems, which meet the highest technical standards. For example, the Lambdamat Communal can be connected to a hydraulic feeder system, which is ideal for bulky or bundled fuels.



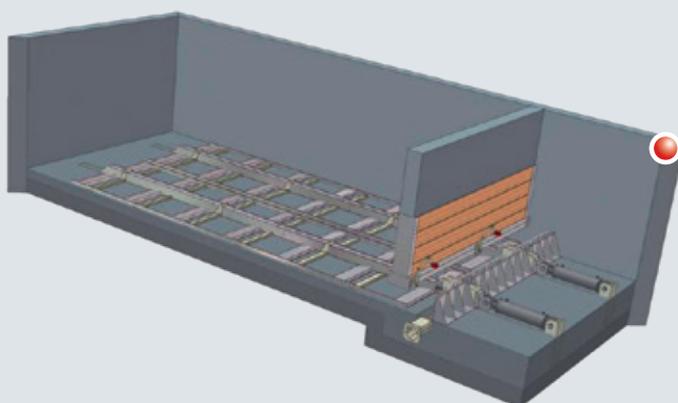
Inclined screw feeding unit

Mainly used as a silo discharge screw in the wood-processing industry. Provides even and reliable fuel discharge from high silos.



Horizontal screw feeding unit

Sturdy construction to take in extremely high feed loads when discharging from high silos. Especially designed for shavings and large diameter bunkers.

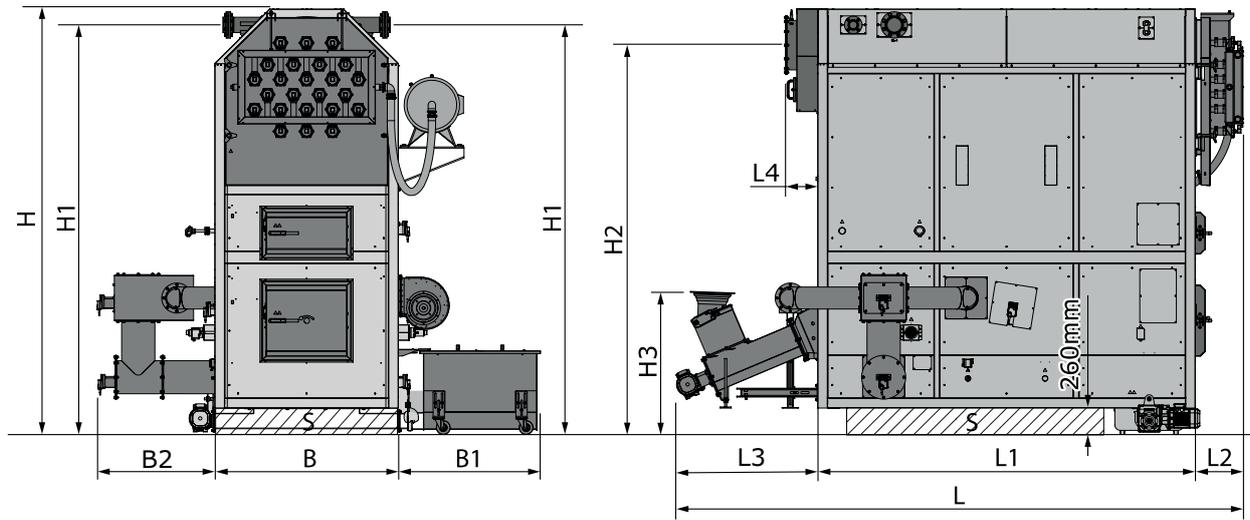


Sliding floor feeding unit

Optional design for rectangular storage rooms. Suitable for all common biomass fuels. The sliding floor feeding unit is extremely sturdy and has proven to be specifically suitable for discharging fuels from large wood chip stores.

Please contact our sales engineers for details.

# DIMENSIONS & TECHNICAL SPECIFICATIONS



Dimensions - Lambdamat Communal [mm]	750	1000	1500
H Height of boiler	3600	3855	4585
H1 Height of flow connection / return connection	3660	3915	4660
H2 Height of flue gas pipe connection	3250	3570	4200
H3 Height of stoker incl. BBF	1220	1200	1500
B Width of boiler	1630	1630	1850
B1 Width of ash container	1295	1275	1295
B2 Width of FGR	1075	1065	1075
L Total length	3075	3675	4360
L1 Length of boiler	2710	3380	3935
L2 Length of compressed air cleaner	425	430	425
L3 Length of stoker incl. gears	1290	1290	1290
L4 Length of flue gas collection box	255	255	500

Technical specifications	750	1000	1000 <sup>1</sup>	1500
Nominal heat output [kW]	750	980	1001	1500
Quantity of fuel required at nominal load [kg/h]	242	317	324	490
Flue gas pipe diameter [mm]	400	450	450	500
Total weight excl. fittings [kg]	11440	14900	14900	23300
Heat exchanger water capacity [l]	1840	2390	2390	4240
Maximum permitted operating temperature [°C]	95 <sup>2</sup>			
Permitted operating pressure [bar]	6			

<sup>1</sup> Only available in UK.

<sup>2</sup> Higher temperatures available on request.

<sup>1</sup>Detailed information on the fuel is included in the operating instructions, in the section on "Permitted fuels"

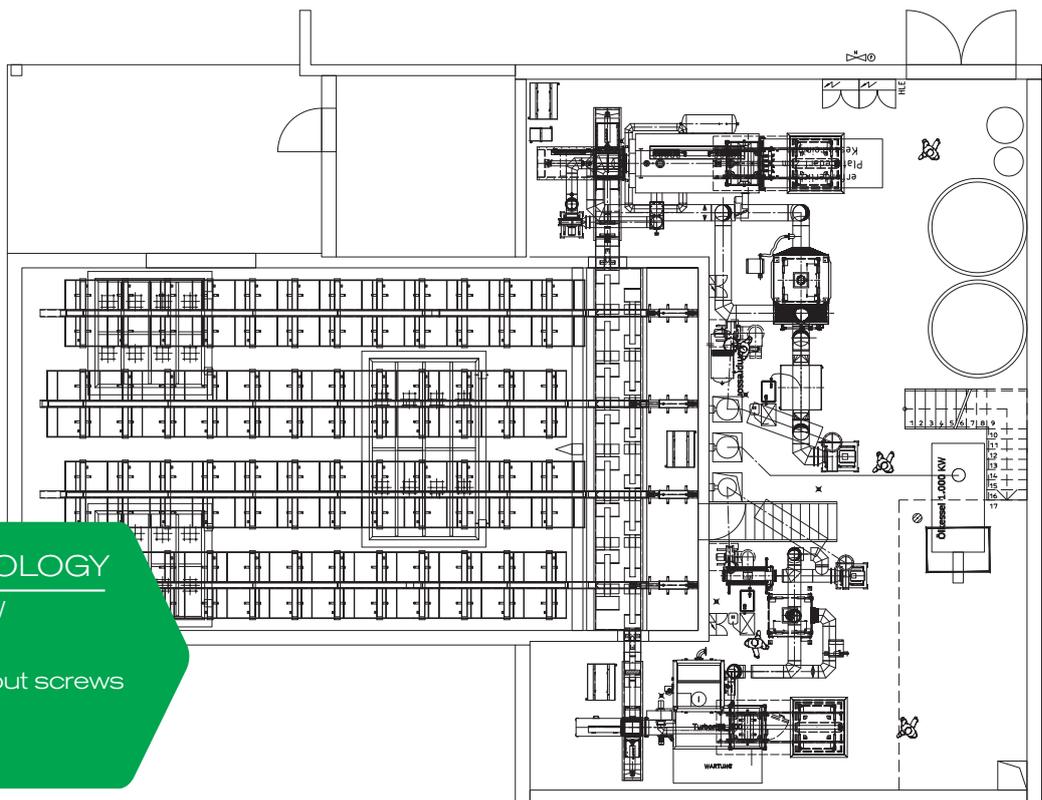
# PRACTICE PROVES



★★★★S  
GRADONNA  
MOUNTAIN  
RESORT  
KALS  
OSTTIROL

Gradonna Mountain Resort, A-Kals

A Froling cascade system provides cosy warmth from wood at the four star superior Gradonna Mountain Resort hotel in Kals am Großglockner, Austria. The specification was to find a solution that would be able to handle a wide range of fuel qualities (dry/wet, small/large) as efficiently and as reliably as possible. Fabric filters were included to ensure optimum cleaning of the flue gas and a condenser unit was integrated to increase energy efficiency.



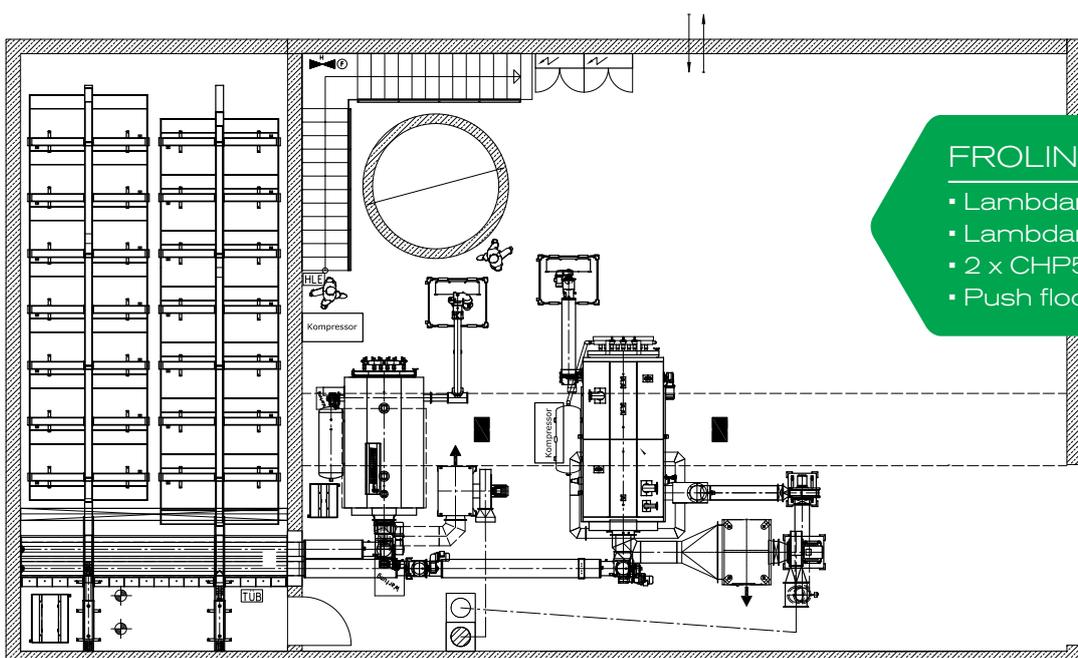
## FROLING TECHNOLOGY

- Lambdamat 1,000 kW
- Turbomat 500 kW
- Hydraulic loading without screws
- Fabric filters
- Condenser



## GäuWärme, D-Weitingen

In Weitingen, the focus is on regional added value and independent energy supply. The community is supplied with heating by the local heating network operated by GäuWärme. The energy supply is therefore taken in hand and thus reduces the dependence on energy from abroad. The heat generation in the heating center is based on renewable raw materials, since the plant is operated with wood chips from the region. The first expansion stage was a Lambdamat with 750 kW output, due to the good network expansion and the lively interest of the community, the second expansion stage took place a year later with another Lambdamat with 1000 kW. The GäuWärme company has been operating two additional CHP50 wood-based power plants since 2015, thereby also producing 100 kW of green electricity from wood.



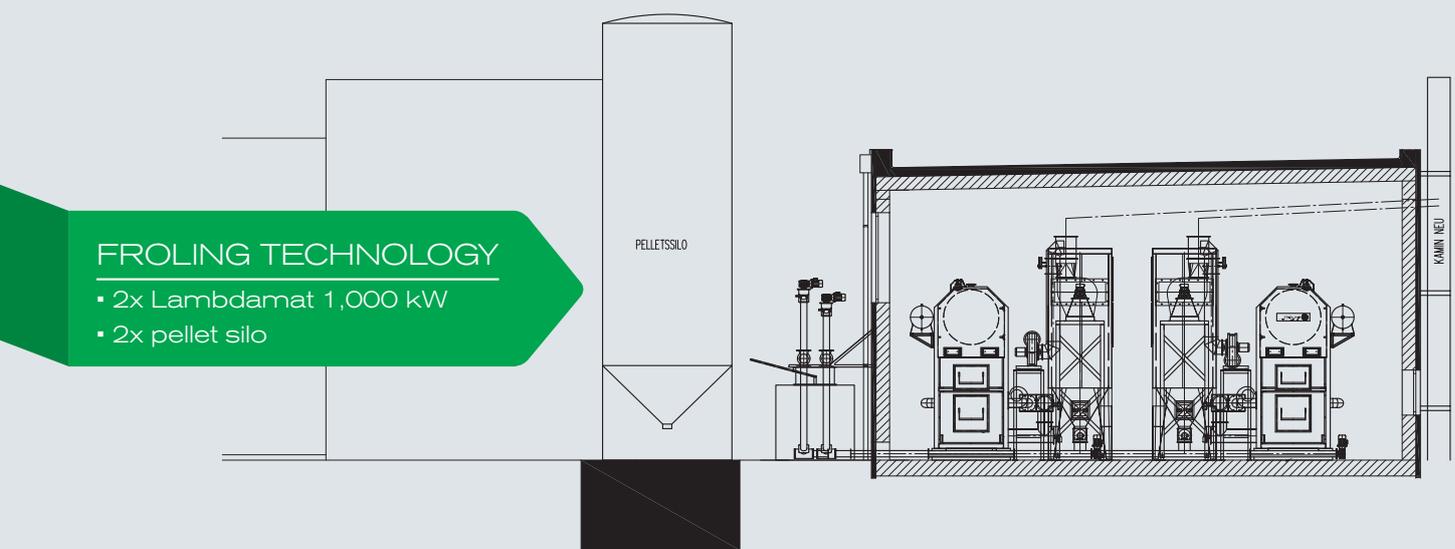
### FROLING TECHNOLOGY

- Lambdamat 1,000 kW
- Lambdamat 750 kW
- 2 x CHP50
- Push floor discharge



### Ikea central warehouse, A-Wels

The Ikea name speaks for itself. It uses Froling technology to heat many of its premises. At its central warehouse in Wels 2x 1,000 kW boilers provide heat from pellets.



Your Froling partner

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