

# Heating with **log wood**



**firestar**  
De Luxe **18**



**firestar**  
De Luxe **20-40**



**firestar**  
Lambda **20-40**



# Competence is our success ...

## HERZ FACTS:

- 22 companies
- Group headquarter in Austria
- Research & development in Austria
- Austrian owner
- 2.400 employees in over 85 countries
- 24 production sites



### HERZ Armaturen GmbH - The company

Founded in 1896, HERZ has been continuously active in the market for more than 120 years. With 9 sites within Austria, another 15 in Europe and more than 2.400 employees at home and abroad, HERZ is the only Austrian manufacturer that produces equipment for the entire heating and installation industry and is one of the most important internationally.



### HERZ Energietechnik GmbH

HERZ Energietechnik employs more than 230 staff in production and sales. At the company sites in Pinkafeld/Burgenland and Sebersdorf/Styria, there is state-of-the-art production as well as a research institute for new, innovative products. As a result, proven cooperations with research and educational institutions can be intensified. Over the years, HERZ has established itself as a specialist in renewable energy systems. HERZ places a great importance on modern, cost-effective and environmentally friendly heating systems with the highest level of convenience and user-friendliness.

### HERZ for the environment

All HERZ biomass systems fall below the strictest emission regulations. Numerous environmental endorsements bear witness to this.

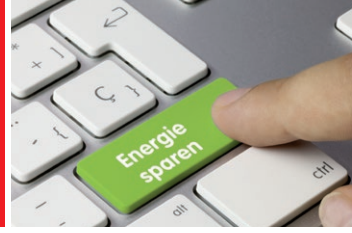
### HERZ quality

Our HERZ design engineers are in permanent contact with acknowledged research institutions in order to improve the very high standards continuously.





# Convenient heating...



## Comfortable and convenient heating with wood

Simple, fast and user-friendly firing up without kindling.

The very quiet operation of the boiler is based on high-quality system components.

The large filling shaft for half meter logs guarantees a long burning time - up to 8 hours at nominal load (depending on boiler-type).

## The great advantages of HERZ frestar:

- energy-saving combustion due to the unique double vortex combustion chamber
- automatic cleaning of the heat exchanger - no work required
- consistently high level of efficiency
- simple removal of combustion & fly ash from the front – no side cleaning apertures
- low ash accumulation due to optimum combustion

Innovative technology for the most natural fuel!  
Logs & wood briquettes

**Heating with  
50 cm logs!**



# The models...



**firestar**  
De Luxe 18



## firestar 18 De Luxe:

### Control BioControl 3000:

- combustion control (lambda probe control)
- buffer management
- back flow elevation (pump and mixer valve)
- 2 controlled heating circuits (pump and mixer valve)
- domestic hot water preparation
- frost protection
- Internal modular extension possibilities for solar circuit control as well as other heating circuits (total maximum 6 heating circuits, for solar-use maximum 5 circuits)



**firestar**  
De Luxe 20-40



## firestar 20-40 De Luxe:

### Control T-CONTROL:

- combustion control (lambda probe control)
- buffer management
- back flow elevation (pump and mixer valve)
- 1 controlled heating circuit (pump and mixer valve)
- domestic hot water preparation
- frost protection
- Simple screen design and convenient menu guide
- Extension possibilities up to 55 modules (further heating circuits, solar circuit control, 2. buffers, etc.)



**firestar**  
Lambda 20-40



## firestar 20-40 Lambda:

### Control Lambda:

- combustion control (lambda probe control)
- buffer management
- back flow elevation (pump and mixer valve)
- Control of heating circuits, solar circuits and domestic hot water preparation with an external controller possible!



# ... with the central control unit T-CONTROL



**T-CONTROL**  
**firestar**  
De Luxe 20-40

## Remote access to the control by using VNC-Viewer

As an additional option, the T-CONTROL offers the possibility for remote visualization and remote maintenance via smartphone, PC or tablet PC. The handling is the same as in the Touch-Control directly on the boiler. The processes and parameters can be read and modified any time from anywhere.

## Further advantages of the T-CONTROL:

- power-saving standby mode
- status and error messages via e-mail
- data transfer and software updates via USB stick
- possibility of Modbus-communication
- easy and clear presentation of the functions from various components (heating circuit pump, hot water tank loading pump, circulation pump, mixing valve, switching valve, actuator motors etc.)

# Benefits and details ...

## Different control options



**Control BioControl 3000**  
(for firestar 18):



**Control Lambda**  
(for firestar 20/30/40)



**Control T-Control** (for firestar 20/30/40)



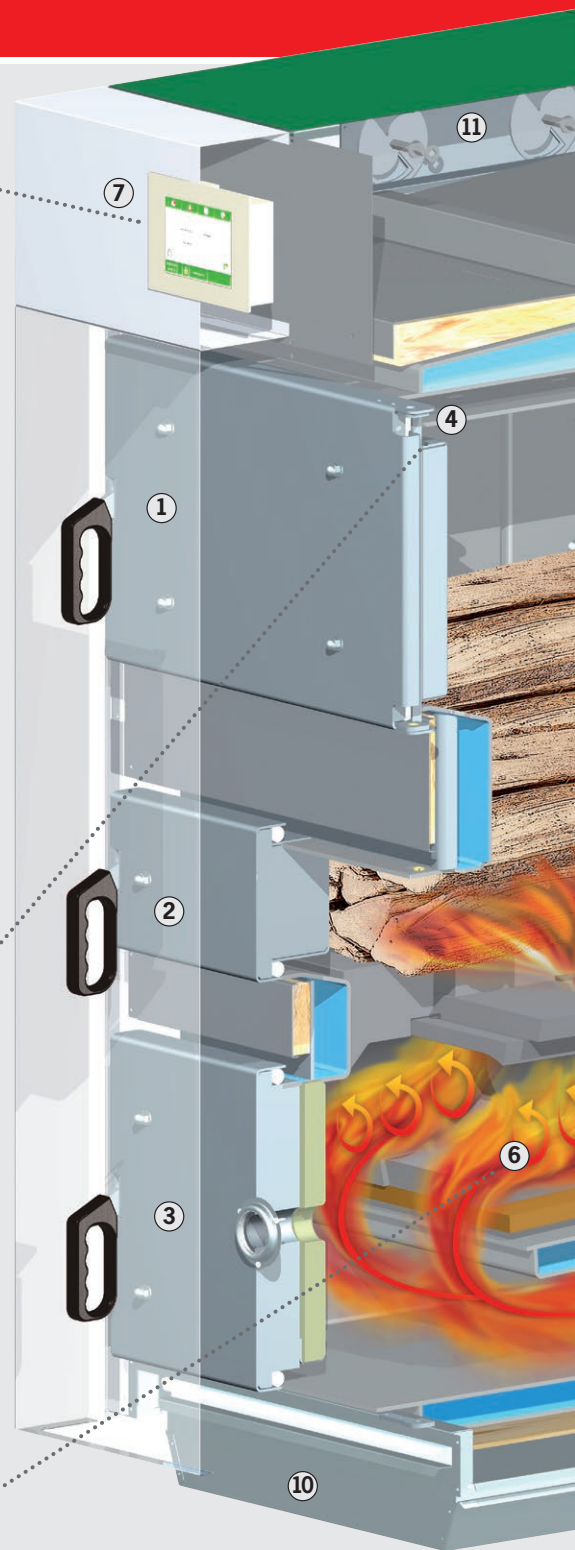
## Smoke extraction at opened filling shaft door

- To avoid smoke escaping when the filling shaft door is opened the ventilator sucks out the gases via the smoke extraction channel.
- This ensures a smoke free boiler room and a comfortable refilling.



## Highly efficient due to the unique double vortex combustion chamber

- The revolutionary double vortex combustion chamber ensures optimum mixing of the combustion gases with oxygen.
- The flame is distributed across 2 chambers and therefore a highly efficient combustion is ensured.
- The combustion chamber consists of heat-resistant fireproof concrete (SiC) no sheet metal parts ➔ no wear and tear ➔ which means DURABILITY



- 1. Filling shaft door**  
Simple feeding with 50 cm logs
- 2. Large ignition door**  
Fast and simple ignition without kindling due to innovative technology
- 3. Cleaning door**  
Simple removal of combustion and fly ash from the front



# ...of the HERZ firestar 18-40



## Energy saving combustion due to the lambda probe



- A built in lambda probe, which monitors continuously the flue gas values, detects fuel quality changes and ensures optimum combustion and low emission values.
- The lambda probe controls the primary and secondary air input, always achieving the cleanest combustion, even in part load operation.
- Due to the intelligent control it is controlled, depending on the power output, to the optimum flue gas temperature.
- The results are low fuel consumption and lower emission values even with different fuel qualities.

## Automatic cleaning of the heat exchanger



- The heat exchanger surfaces are automatically cleaned via the integrated turbulators, even during heating operation therefore no manual cleaning is necessary.
- A consistently high level of efficiency by purified heat exchanger surfaces means low fuel consumption. The combustion and fly ash can simply be removed via the integrated ash tray on the front.
- No side cleaning apertures – therefore less space is required.

### 4. Smoke extraction channel

### 5. Pipe heat exchanger With turbulators and automatic cleaning

### 6. Double vortex combustion chamber

### 7. Central control unit

### 8. Lambda probe control

Automatic flue gas and combustion monitoring

### 9. ID fan

Speed-controlled and monitored for the highest operation safety

### 10. Integrated ash tray

Simple cleaning via pull-out tray

### 11. Primary and secondary air flaps

Proportionally controlled separate air input

### 12. Efficient heat insulation

For the lowest radiation losses

# firestar with...



In addition to its proven advantages, such as the unique double vortex combustion chamber, automatic heat exchanger cleaning, or smoke extraction at opened filling shaft door, the log wood boiler firestar is also available with pellet flange.

If the use of wood pellets is likely in the future, the log wood boiler with pellet flange is the solution for you. With this flanged solution it is possible to retrofit the log boiler with a pellet burner to meet your requirements. If the buffer or heating circuits require heat after burning all logs, the operation is automatically continued with wood pellets.

**firestar 20-40 De Luxe  
with pellet flange**



**firestar 20-40 Lambda  
with pellet flange**



**NOTE:**  
A pellet flange  
is possible for  
firestar 20/30/40.





## Heating optionally with logs or wood pellets

Due to the separate combustion chambers there can be flexible switched between log wood and pellets operation.

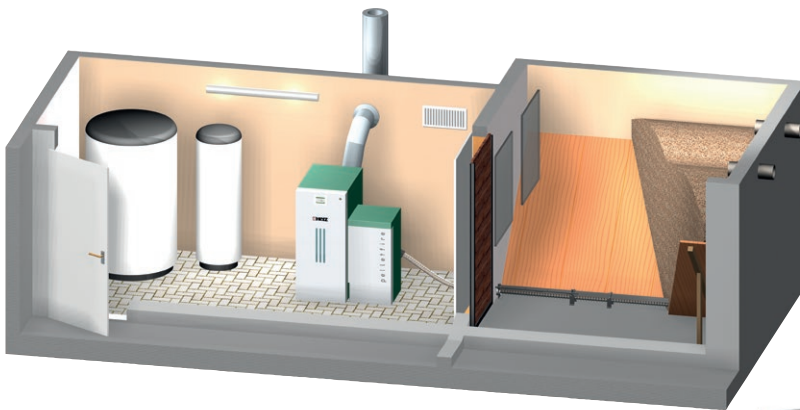
### Automatic continuation of operations

If the buffer or heating circuits require heat after burning of all logs, the operation is automatically continued with wood pellets.

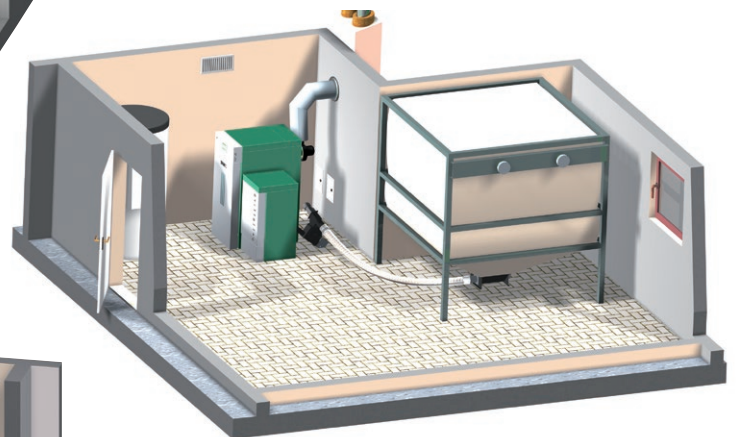
### Different pellet discharge systems

HERZ offers a variety of wood pellet discharge systems including flexible screw discharge, suction system or manual hand filling to suit different room situations.

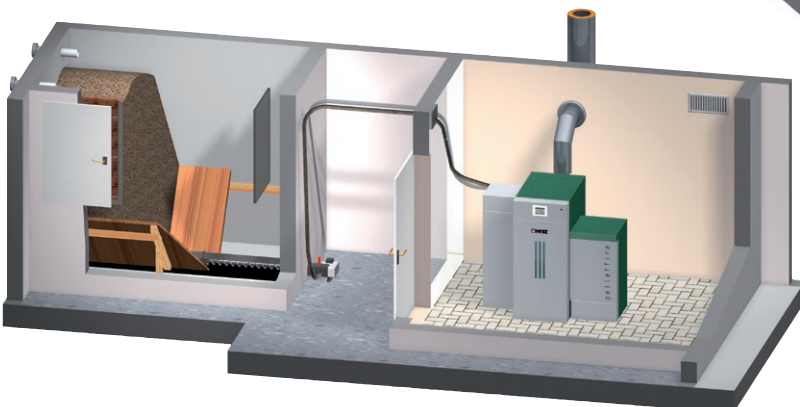
Following there are some examples of various pellet discharge options.



Room discharge with flexible screw from a bag silo. The bag silo can normally be placed into the boiler room and provides an optimal solution for small rooms.



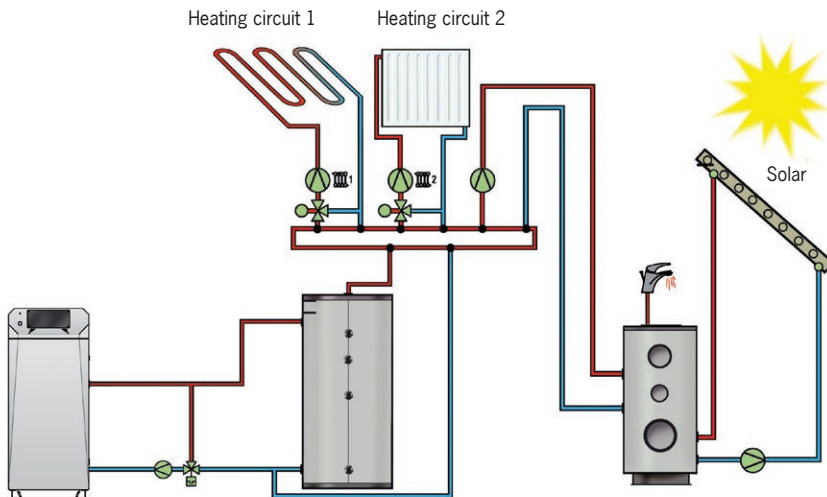
Room discharge with a modular screw (in the storage room) in combination with suction system: Optimum emptying of the storage room and individual positioning of the boiler.



# A range for all requirements

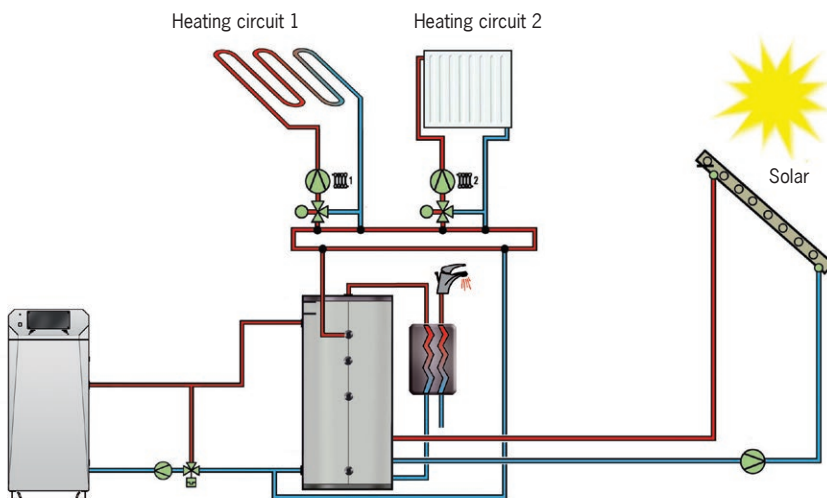
**With HERZ T-CONTROL & BioControl 3000 heating circuits, hot water tanks, buffers and solar can be controlled centrally from the boiler.**

The control enables a multiplicity of application options, 2 of the most common cases are shown below.



## Hot water tank with solar usage and buffer tank:

With this system configuration solar energy is utilised to provide the domestic hot water. If there is not enough energy from the sun, heat is removed from the buffer tank and thus ensures the domestic hot water preparation. The different heating circuits (e.g. underfloor heating and radiators) are supplied with heat from the buffer tank.



## Solar heating support and domestic hot water preparation:

With this system configuration the solar energy heats the water in the buffer tank directly. Thus, free solar energy is also used for heating purposes.

The domestic hot water module for hot water preparation heats the water in continuous flow mode with energy from the buffer tank. The different heating circuits are also supplied with the heat from the buffer.

## HERZ buffer tank

The buffer tank compensates differences between the produced energy of the wood gasification boiler and the actually required (consumed) amount of heat. A buffer tank is intended to absorb the energy of an entire combustion, if no heat for heating or hot water production is required. Subsequently, the different heating circuits (e.g. underfloor heating and radiators) as well as the hot water tank can be supplied with heat from the buffer if required. Due to the buffer tank a high comfort in the transition period or in summer months is given. Save money with a buffer tank due to efficient utilization of the boiler at optimum operating conditions!



## HERZ recommends the following buffer tank sizes for wood gasification boilers:

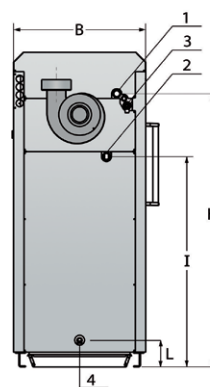
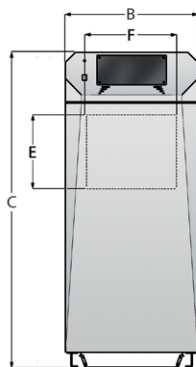
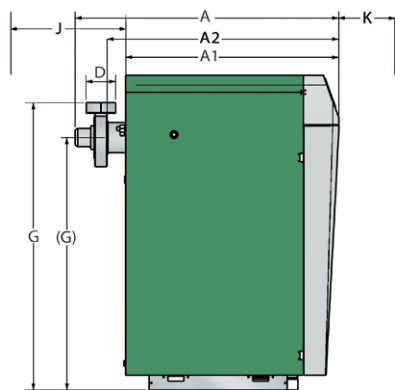
- firestar 18: minimum 1000 litre (1500 liter recommended)
- firestar 20/30: minimum 2000 litre
- firestar 40: minimum 3000 litre

(Please note the relevant state regulations for buffer tank sizes in order to receive financial support!)

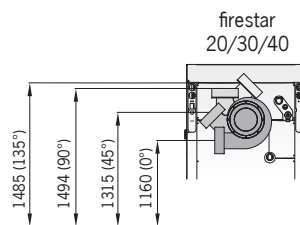
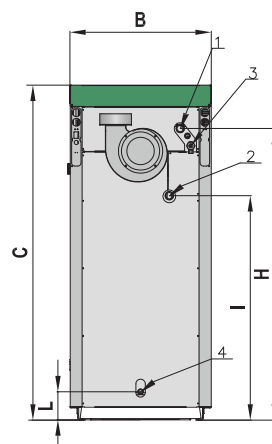
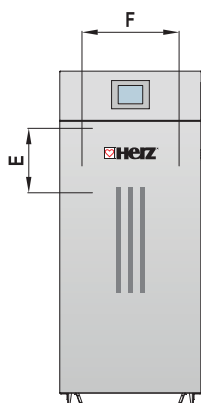
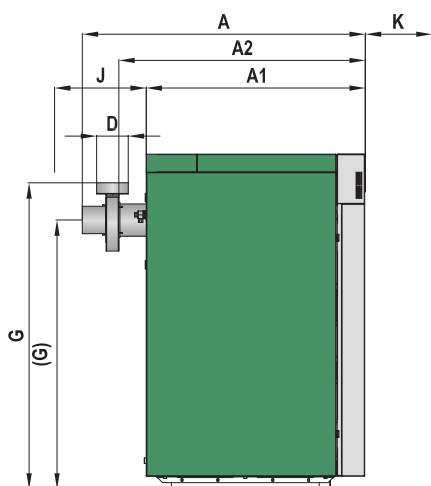
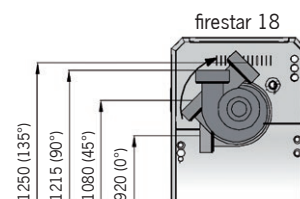
## HERZ hot water tank

HERZ offers hot water tanks with or without solar register - according to customer's requirement an optimal solution!





## Dimensions & technical data...



Technical data firestar		18	20	30	40
Power range (kW)		7,6 - 18,0	9,0 - 22,0	9,0 - 30,0	9,0 - 40,0
Filling shaft capacity (litre)		90	170	170	170
Dimensions (mm)					
A	Length - total	1385	1344	1344	1344
A1	Length - casing	1080	1035	1035	1035
A2	Length up to the end of the flue gas pipe	1210	1170	1170	1170
B	Width	620	670	670	670
C	Height*	1365	1585	1585	1585
D	Flue pipe - diameter	150	150	150	150
E	Filling shaft door - height	260	305	305	305
F	Filling shaft door - width	400	460	460	460
G	Flue pipe - upper edge	1215	1494	1494	1494
(G)	Flue pipe - centre	1040	1275	1275	1275
H	Height - flow connection	1145	1380	1380	1380
I	Height - back flow connection	840	1065	1065	1065
J	Minimum clearance - rear	600	600	600	600
K	Minimum clearance - front	520	600	600	600
L	Height - filling/emptying connection	135	135	135	135
Technical data					
Boiler weight	kg	519	622	622	622
Efficiency $\eta_f$	%	>93	>93	>93	>93
min./max. permissible feed pressure	mbar	0,05/0,20	0,05/0,20	0,05/0,20	0,05/0,20
Permissible excess operating pressure	bar	3,0	3,0	3,0	3,0
Max. permissible flow temperature	°C	90	90	90	90
Water capacity	ltr.	77	108	108	108
Electrical connection (V,Hz,A) / connection output (kW)		230,50,10/0,1	230,50,10/0,1	230,50,10/0,1	230,50,10/0,1
Values at nominal load					
Flue gas temperature	°C	~160	~140	~160	~170
Flue gas mass flow	kg/s	0,011	0,013	0,019	0,025
CO <sub>2</sub> content	Vol. %	15,53	15,4	15,4	15,6
Values at part load					
Flue gas temperature	°C	~100	~100	~100	~100
Flue gas mass flow	kg/s	0,005	0,0064	0,0064	0,0064
CO <sub>2</sub> content	Vol. %	13,9	13,54	13,54	13,54

Door hinge as standard from right to left convertible!

1...Flow 1" internal thread 3...Safety heat exchanger 1/2" external thread

2...Back flow 1" internal thread 4...Filling / emptying connection 1/2" internal thread

\*With a room height below 2 m at firestar 18 or under 2.20 m at firestar 20/30/40 a version with divided turbulators is required!

# Business partners in...



We reserve the right of errors, misprint, typographical failures and technical modifications! Data about our products are not guaranteed characteristics. Mentioned and illustrated discharge systems are system-dependent and only available as an option. In case of discrepancies between documents with regard to the scope of supply the information in the current offer is valid. All images are representations as a symbol and serve only to illustrate our products.

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HERZ biomass boilers  
underbid the strictest  
emission regulations.

