

Heating with wood chips & wood pellets









ABLE



Competence is our success ...

HERZ FACTS:

- 50 subsidiaries
- Group headquarter in Austria
- Research & development in Austria
- Austrian owner
- 3,500 employees in over 100 countries
- 44 production sites



HERZ Armaturen Ges.m.b.H - The company

Founded in 1896, HERZ has a continuous, more than 125-year-old market presence. With 44 locations in 12 European countries and over 3,500 employees in Austria and abroad, HERZ Armaturen Ges.m.b.H is the only Austrian and one of the most important international manufacturers of products for the entire heating and plumbing industry.

HERZ Energietechnik GmbH

HERZ Energietechnik employs 200 people in production and sales. At the company site in Pinkafeld/Burgenland is state-ofthe-art production as well as a research institute for new, innovative products. Proven cooperations with research and educational institutions can be intensified. Over the years, HERZ has established itself as a specialist in renewable energy systems. The main focus is on modern, cost-effective and environmentally friendly heating systems with maximum comfort and user-friendliness.



BINDER Energietechnik Ges.m.b.H - Bärnbach

For more than 30 years, the factory site in Bärnbach in western Styria large scaled biomass boilers are produced for industry applications. More than 100 boilers up to 20,000 kW are manufactured at the site with a total of 5,070 m² of production and storage area. The service team at the site in Bärnbach / Austria ensures reliable service and maintenance. This is supported by 13 service and sales offices in 11 countries worldwide.

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.

Comfortable heating with **latest technology** from HERZ



Advantages & scope of delivery of the HERZ firematic	20-201	PELLET 120-201
T-Control - user-friendly control with touch display	✓	~
Consistently high efficiency - low emission values	✓	•
Automatic ignition and automatic & silent heating operation	✓	•
 Automatic cleaning of the combustion chamber and the pipe heat exchanger 	~	~
• Automatic de-ashing of the combustion and fly ash into an ash container on the front	✓	¥
 Clean combustion due to lambda probe control with different fuel qualities 	•	¥
Energy-saving drive technology	✓	✓
Use of high quality materials	~	✓
Compact dimensions and thus little space is required	✓	~
• Combustion technology especially for pellets (& wood chips P16S at max. water content of 25%)		~

Safety devices

- Back fire protection flap (BFP): currentless closing, airtight flap

- Self-contained extinguishing system (SES): sprinkler system with water tank
- Spark-back protection (SBP): fuel barrier layer
- Temperature monitoring in the combustion chamber (TMC)
- Temperature monitoring sensor in the storage room (TMS)



- Internal development and test centre
- Comprehensive customer service
- ISO 9001 Certification
- FMEA approved boiler production

Fuels firematic 20-201

Wood pellets (Ø 6mm) according to

- EN ISO 17225-2: Property class A1; up to 80 kW: A1 & A2
- ENplus, DINplus or Swisspellet

Wood chips M40 (water content max. 40%) according to

 EN ISO 17225-4: Property class A1, A2, B1, and particle size P16S; from 80 kW: P16S & P31S

Fuels firematic PELLET 120-201

Wood pellets (Ø 6mm) according to

- EN ISO 17225-2: property class A1 & A2
- ENplus, DINplus or Swisspellet

Wood chips M25 (water content max. 25%) according to

- EN ISO 17225-4: Property class A1 and particle size P16S



Energy efficiency class (firematic 20-60 kW) Biomass boiler A+

Biomass boiler with integrated system controller **A**+



Easy, modern and comfortable with the ...



With the user-friendly 7" color-touch-screen-control T-Control, heating circuits, boilers, buffers and solar can be controlled in addition to the combustion process.

T-Control - the central control unit for:

- Combustion control
- Lambda probe control (controls the combustion air and fuel input)
- Buffer management
- Control for domestic hot water preparation (via hot water tank or buffer with fresh water module)
- Back flow set (actuator drive and pump)
- Controlled heating circuits (actuator drive and pump)
- Solar circuit control
- Frost protection monitoring





The convenient menu and simple screen layout with schematic 3D-representation ensures maximum user-friendliness.

The modular operation of the T-Control offers the following extension possibilities: firematic 20-101: 2 internal and up to 30 external modules; firematic 120-201: 4 internal and up to 30 external modules. This allows the central control unit to process the combustion (with lambda sensor), buffer management, return temperature rise, heating circuits, hot water preparation, solar circuit and more optimal together. Additionally, the control system can be easily expanded or modified with the external modules.

Further advantages of th T-Control:

- Power-saving standby mode
- Transmission of status and error messages via e-mail
- Data transfer and software updates via USB stick
- Integrated Modbus communication interface (TCP)
- Easy and clear presentation of the functions from various components (heating circuit pump, hot water tank loading pump, circulation on pump, mixing valve, switching valve, actuator motors etc.)

... central control unit T-Control





Remote access to the control via the myHERZ-portal very easy from everywhere

As an additional option, the T-Control offers the possibility for remote visualisation and remote maintenance via smartphone, PC or tablet. Operation is the same as on the boiler display. Processes and paramters can thus be read and changed at any time and location independent.

Remote access via myherz.at

Cascade operation

With the HERZ T-Control up to 8 boilers can be switched in cascade. That means, several boilers are merged in order to achieve a higher performance. A particular advantage of the cascade connection is the more efficient utilisation of the boilers with lower heat consumption (e.g. in the transitional period) as well as rapid peak load coverage.



Advantages and details ...



T-Control – the userfriendly control with touch display

- Central control unit as standard for:
 - Combustion control with lambda probe
 - Buffer management
 - Outside temperature regulated control for 1 heating circuit (outside sensor inclusive)
 - _ Control for domestic hot water preparation (via hot water tank or buffer with fresh water module)
 - Back flow set (actuator drive and pump)
 - Lambda probe control (controls the combustion air and fuel input)
 - Control for motor valve for fast heating up of heating circuits for buffer operation
- Simple screen design and convenient menu guide
- Extension possibilities up to 30 modules:
 - Controlled heating circuits (actuator drive and pump)
 - Solar circuit control
 - Further buffer management
 - Automatic switch for second boiler/additonal boiler
 - Net pump control



- Single tipping grate at firematic 20-35, double tipping grate at firematic 45-60
- Lateral insertion of wood chips and wood pellets into the combustion chamber via singleinsertion screw at firematic 20-60
- The combustion grate is cleaned automatically by tipping the single or double tipping grate against the matrix.
- Due to the clean combustion grate a optimal air supply is guaranteed.



Automatic de-ashing

- Via two ash discharge screws the combustion ash and fly ash is automatically transported into the front ash box.
- The removable ash box with wheels enables simple and comfortable emptying of the ash.

Level monitored interim hopper 1.

2

2. (BFP) Certified back fire protection flap automatically tight closing flap (SES) Self-contained extinguishing system

ጠ

⊘Herz

- 3. Control T-Control - central control unit
- 4. Automatic ignition using hot air fans

... of the HERZ firematic 20-60



- The built-in lambda sense
- The built-in lambda sensor, which permanently monitors the residual oxygen and reacts to different fuel qualities, ensures that perfect combustion values and the lowest emission levels are always achieved.
- The lambda probe regulates the air and material supply and thus always achieves the cleanest combustion, even in part-load operation.
- The results are low fuel consumption and the lowest emission values even with different fuel qualities.

Automatic cleaning of the heat exchanger

Energy saving

combustion due to the lambda probe control



- The heat exchanger surfaces are automatically cleaned by the integrated turbulators even during heating operation and thus kept clean.
- Consistently high efficiency due to cleaned heat exchanger surfaces ensures low fuel consumption.
- The fly ash is taken to the front ash box via screw discharge.

Safety devices:

- Back fire protection flap (BFP): currentless closing, airtight flap
- Self-contained extinguishing system (SES): sprinkler system with water tank
- Spark-back protection (SBP): fuel barrier layer
- Temperature monitoring in the combustion chamber (TMC)
- Temperature monitoring sensor in the storage room (TMS)
- 5. Single or double tipping grate with automatic cleaning
- 6. Splitted 2-zone combustion chamber with two secondary air zones made of refractory concrete (temperature resistance up to 1550°C)
- 7. Pipe heat exchanger with turbulators and automatic cleaning
- 8. Lambda probe control automatic residual oxygen monitoring
- **9. ID fan** speed controlled and monitored for highest operation safety
- 10. Ash discharge screws for combustion and fly ash
- 11. Ash box in the front for combustion and fly ash
- **12. Efficient heat insulation** for lowest radiation losses

Advantages and details ...



T-Control – the userfriendly control with touch display

- Central control unit as standard for:
 - Combustion control with lambda probe
 - Buffer management
 - Outside temperature regulated control for 1 heating circuit (outside sensor inclusive)
 - Control for domestic hot water preparation (via hot water tank or buffer with fresh water module)
 - Back flow set (actuator drive and pump)
 - Lambda probe control (controls the combustion air and fuel input)
 - Control for motor valve for fast heating up of heating circuits for buffer operation
- Simple screen design and convenient menu guide.
- Extension possibilities up to 30 modules:
 - Controlled heating circuits (actuator drive and pump)
 - Solar circuit control
 - Further buffer management
 - Automatic switch for second boiler/additonal boiler
 - Net pump control

Lateral insertion & step or moving grate combustion



- Lateral insertion of the wood chips and wood pellets into the combustion chamber by a single-insertion screw.
- The step grate elements are cleaned by moving the moving grate. These are special, high-quality cast segments. This ensures optimum air supply through the clean combustion grate.
- The combustion chamber is cleaned by automatic tipping of the combustion ash via tipping grate. The discharge screw underneath transports the ash directly into the ash box.



Automatic de-ashing

- The ash accumulating in the combustion chamber is discharged into the ash screw below and automatically transported into the external front ash boxes.
- The removable ash box with wheels enables simple and comfortable emptying of the ash.



- 1. Level monitored interim hopper
- 2. (BFP) Certified back fire protection flap automatically tight closing flap (SES) Self-contained extinguishing system
- 3. Control T-Control central control unit

... of the HERZ firematic 80-101



Energy saving combustion due to the lambda probe control



- The built-in lambda sensor, which permanently monitors the residual oxygen and reacts to different fuel qualities, ensures that perfect combustion values and the lowest emission levels are always achieved.
- The lambda probe regulates the air and material supply and thus always achieves the cleanest combustion, even in part-load operation.
- The results are low fuel consumption and the lowest emission values even with different fuel qualities.

Automatic cleaning of the heat exchanger



- The heat exchanger surfaces are automatically cleaned by the integrated turbulators even during heating operation and thus kept clean.
- Consistently high efficiency due to cleaned heat exchanger surfaces ensures low fuel consumption.
- The fly ash is taken to the front ash box via screw discharge.

Safety devices:

- Back fire protection flap (BFP): currentless closing, airtight flap
- Self-contained extinguishing system (SES): sprinkler system with water tank
- Spark-back protection (SBP): fuel barrier layer
- Temperature monitoring in the combustion chamber (TMC)
- Temperature monitoring sensor in the storage room (TMS)

- 4. Automatic ignition via hot air fan
- 5. Step or moving grate made of robust cast chrome steel with automatic cleaning. Grate bars can be replaced individually.
- 6. Splitted 2-zone combustion chamber made of refractory concrete (temperature resistance up to 1550°C)
- 7. Pipe heat exchanger with turbulators and automatic cleaning mechanism
- 8. Lambda probe control automatic residual oxygen monitoring
- 9. ID fan speed controlled and monitored for highest operation safety
- 10. Ash discharge screws for combustion and fly ash
- 11. 2 front ash boxes for combustion and fly ash
- **12. Efficient heat insulation** for lowest radiation losses

Advantages and details ...



T-Control – the userfriendly control with touch display

- Central control unit as standard for:
 - Combustion control with lambda probe
 - Buffer management
 - Outside temperature regulated control for 1 heating circuit (outside sensor inclusive)
 - Control for domestic hot water preparation (via hot water tank or buffer with fresh water module)
 - Back flow set (actuator drive and pump)
 - Lambda probe control (controls the combustion air and fuel input)
 - Control for motor valve for fast heating up of heating circuits for buffer operation
- Simple screen design and convenient menu guide.
- Extension possibilities up to 30 modules:
 - Controlled heating circuits (actuator drive and pump)
 - Solar circuit control
 - Further buffer management
 - Automatic switch for second boiler/additonal boiler
 - Net pump control

Lateral insertion & step or moving grate combustion

- Lateral insertion of the wood chips and wood pellets into the combustion chamber
- by a double-insertion screw.
 The step grate elements are cleaned by moving the moving grate. These are special, high-quality cast segments. This ensures optimum air supply through the clean combustion grate.
- The combustion chamber is cleaned by automatic tipping of the combustion ash via tipping grate. The discharge screw underneath transports the ash directly into the ash box.



- The ash accumulating in the combustion chamber is discharged into the ash screw below and automatically transported into the external front ash boxes.
- The removable ash box with wheels enables simple and comfortable emptying of the ash.



- 1. Level monitored interim hopper
- 2. (BFP) Certified back fire protection flap automatically tight closing flap (SES) Self-contained extinguishing system
- 3. Control T-Control central control unit

...of theHERZ firematic 120 - 201



Energy saving combustion due to the lambda probe control



- The built-in lambda sensor, which permanently monitors the residual oxygen and reacts to different fuel qualities, ensures that perfect combustion values and the lowest emission levels are always achieved.
- The lambda probe regulates the air and material supply and thus always achieves the cleanest combustion, even in part-load operation.
- The results are low fuel consumption and the lowest emission values even with different fuel qualities.

Automatic cleaning of the heat exchanger



- The heat exchanger surfaces are automatically cleaned by the integrated turbulators even during heating operation and thus kept clean.
- Consistently high efficiency due to cleaned heat exchanger surfaces ensures low fuel consumption.
- The fly ash is taken to the front ash box via screw discharge.

Safety devices:

- Back fire protection flap (BFP): currentless closing, airtight flap
- Self-contained extinguishing system (SES): sprinkler system with water tank
- Spark-back protection (SBP): fuel barrier layer
- Temperature monitoring in the combustion chamber (TMC)
- Temperature monitoring sensor in the storage room (TMS)
- 4. Automatic ignition via hot air fan
- 5. Step or moving grate made of robust cast chrome steel with automatic cleaning. Grate bars can be replaced individually.
- 6. Splitted 2-zone combustion chamber made of refractory concrete (temperature resistance up to 1550°C)
- 7. Pipe heat exchanger with turbulators and automatic cleaning mechanism
- 8. Lambda probe control automatic residual oxygen monitoring
- **9. ID fan** speed controlled and monitored for highest operation safety
- 10. Ash discharge screws for combustion and fly ash
- 11. 2 front ash boxes for combustion and fly ash
- **12. Efficient heat insulation** for lowest radiation losses

Advantages and details ...



T-Control – the userfriendly control with touch display

- Central control unit as standard for:
 - Combustion control with lambda probe
 - Buffer management
 - Back flow set (actuator drive and pump)
 - Lambda probe control (controls the combustion air and fuel input)
 - Control for motor valve for fast heating up of heating circuits for buffer operation
- Simple screen design and convenient menu guide.
- Extension possibilities up to 30 modules:
 - Controlled heating circuits (actuator drive and pump)
 - Solar circuit control
 - Further buffer management
 - Automatic switch for second boiler/additonal boiler
 - Net pump control

Lateral insertion & step or moving grate combustion

- Lateral insertion of wood chips and wood pellets into the combustion chamber via single-stoker screw at firematic PELLET 120-201
- The movement of the moving grate also cleans the step grate elements. These grate elements consist of special, high-quality cast iron. Through the movement of the step-/moving grid the biomass is transported through the combustion area.
- The combustion chamber is cleaned by automatic tipping of the combustion ash via tipping grate. The discharge screw underneath transports the ash directly into the ash box.



- The ash accumulating in the combustion chamber is discharged into the ash screw below and automatically transported into the external front ash boxes.
- The removable ash box with wheels enables simple and comfortable emptying of the ash.



- 1. Level monitored interim hopper
- 2. (BFP) Certified back fire protection flap automatically tight closing flap (SES) Self-contained extinguishing system
- 3. Control T-Control central control unit
- 4. Automatic ignition using hot air fans

... of the HERZ firematic PELLET 120-201kW



Energy saving combustion due to the lambda probe control



- The built-in lambda sensor, which permanently monitors the residual oxygen and reacts to different fuel qualities, ensures that perfect combustion values and the lowest emission levels are always achieved.
- The lambda probe regulates the air and material supply and thus always achieves the cleanest combustion, even in part-load operation.
- The results are low fuel consumption and the lowest emission values even with different fuel qualities.

Automatic cleaning of the heat exchanger

.....



- The heat exchanger surfaces are automatically cleaned by the integrated turbulators even during heating operation and thus kept clean.
- Consistently high efficiency due to cleaned heat exchanger surfaces ensures low fuel consumption.
- The fly ash is taken to the front ash box via screw discharge.

Safety devices:

- Back fire protection flap (BFP): currentless closing, airtight flap
- Self-contained extinguishing system (SES): sprinkler system with water tank
- Spark-back protection (SBP): fuel barrier layer
- Temperature monitoring in the combustion chamber (TMC)
- Temperature monitoring sensor in the storage room (TMS)

- 5. Step or moving grate with automatic cleaning
- 6. Splitted 2-zone combustion chamber with two secondary air zones made of refractory concrete (temperature resistance up to 1550°C) with step grate out of robust cast chrome steel. Grate bars can be replaced individually.
- 7. Pipe heat exchanger with turbulators and automatic cleaning mechanism
- 8. Lambda probe control automatic residual oxygen monitoring
- 9. ID fan speed controlled and monitored for the highest operating safety
- 10. Ash discharge screws for combustion and fly ash
- 11. Two front ash boxes for combustion and fly ash
- **12. Efficient heat insulation** for lowest radiation losses

Discharge systems ...

HERZ offers a variety of solutions to store the wood pellets and to discharge the fuel via various systems to the boiler.

Discharge via flexible screw up to 201 kW

The room discharge with a flexible screw is an easy and energy saving solution to empty the storage room in an efficient way. For pure pellet operation, the flexible screw is a cost-saving solution. In order to empty the storage room completely a sloping floor is recommended.

By means of collecting screws and transfer systems, discharge solutions with several storage room screws can also be realised. With the additional use of a double dropping head, this solution can also be used for systems up to 401 kW.

The advantages of the flexible screw discharge system



1. Injection and extraction nozzles

The pellets are blown into the storage room via an injection and extraction nozzle. At least one injection nozzle and one suction nozzle are required, since dust and the necessary conveying air are extracted in a controlled manner in parallel to the blowing-in process.

2. Pellets impact mat

An impact mat is used to protect the pellets during injection and is fitted opposite the injection nozzle.

3. Slide ramps

In order to empty the storage room completely a sloping floor is recommended. Illustration: sliding angle of $40^{\circ} - 45^{\circ}$ in the pellet store with a smooth surface

4. Screw system in the storage room

5. Flexible screw

The flexible discharge screw consists of a screw spiral which gently transports the pellets to the boiler.

... for wood pellets

Discharge via suction system up to 201 kW

The suction systems of HERZ are an ideal solution for longer distances from the storage room to the boiler. Discharge screw in the storage room in combination with a suction sysem: Optimum emptying of the storage room and individual positioning of the boiler.

The advantages of the suction discharge system

- Clean and dust-free pellets transport also for long distances from storage room to the boiler room.
- Flexible, individual installation and guidance of the suction and reverse air tube (depending on local conditions).



Illustration: Modular pellet screw in the storage room (with slide slopes) and suction hopper.

For pure pellets operation of the firematic and long distances from the storage room to the boiler room, the use of a suction hopper provides an optimum solution. Pellets can be sucked up to a distance of max. 25 metres and max. 5 metres height difference.

NOTE: For double-suction hoppers (necessary for firematic 120-201 kW) 2 discharge systems are necessary (for example 2 screws, 2 4-point suction systems)

1. Injection and extraction nozzles

The pellets are blown into the storage room via an injection and extraction nozzle. At least one injection nozzle and one extraction nozzle are required, since dust generated in parallel with the injection process and the necessary conveying air are extracted in a controlled manner.

2. Pellets impact mat

An impact mat is used to protect the pellets during injection and is fitted opposite the injection nozzle.

3. Slide ramps

In order to empty the storage room completely a sloping floor is recommended.

4. Screw discharge system

The transport of pellets from the storage room is done via a screw discharge.

5. Suction- and reverse air tube

The suction- and reverse air tubes can be installed flexible and individually adapted to the local conditions. Thereby long distances between the storage room and the heating room can be realized.

6. Pellet hopper including suction turbine

When using a suction discharge system, a suction hopper (including suction turbine) can be set up.

Modular discharge screw in the storage room in combination with suction system:

The screw system in the storage room is modular, that means the system consists of elements which can be combined according to the room situation or the room size.



max. length: 5 metres with a modular screw

Discharge via point suction system up to 201 kW

1-, 4- or 8-point-suction systems

The position of the four or eight suction points is individually selectable. The system can be installed easily and is an adaptable, universal solution to each storage room situation.

- 1. Injection and extraction nozzles
- 2. Pellets impact mat
- 3. Slide ramps
- 4. Suction points
- 5. Suction- and reverse air tube
- 6. External pellet hopper including suction turbine
- 7. Switchover unit for 4- or 8-point suction system



Discharge via modular agitator up to 201 kW - the optimal solution for wood chips & pellets

If you want to burn wood chips in the system too, the discharge system with an agitator has to be used. Nevertheless, even with exclusive pellet operation, discharge via agitator is possible. The advantage here is the more efficient use of storage space and the possibility of also transporting wood chips to the boiler.

Modular agitator

Robust agitator with heavy duty gearing and pressure relief for reliable operation. Agitator discharge system available up to 5 metres diameter. For firematic 20-201 also possible with 230 V operation.

- 1. Basic package: agitator plate, pillar with screw, end piece, motor, motor stub, gearbox
- 2. Trough: agitator springs, upper and lower part of screw trough incl. wall piece, screw
- 3. Extension: closed screw channel, screw



Guidelines	230 V	400 V
Agitator Ø [m]	2/2,5/3/3,5/ 4/4,5/5	2/2,5/3/3,5/ 4/4,5/5
Length open part (trough) [m]:	max. 2,5	max. 3
Length of closed part (extension) [m]	max. 2	max. 5
Max. bulk height for pellets [m]	3	4
Max. bulk height for wood chips [m]	4	6
Angle [°]: (Maximum possible degree of emptying with horizontal installation)	max. 25	max. 25

Discharge via agitator with climbing screw and separate drive up to 201 kW

Climbing screw with separate drive

Room discharge via horizontal spring agitator with climbing screw and separate drive has the advantage that the storage room volume can be better utilised due to the horizontal installation of the agitator.

- 1. Basic set: agitator plate, motor, gearbox, climbing screw
- 2. Trough: agitator springs, upper and lower part of the screw trough incl. wall piece, screw
- 3. Extension: closed screw channel, screw



Guidelines	400 V
Agitator Ø [m]	2/2,5/3/3,5/ 4/4,5/5
Length open part (trough) [m]:	max. 3
Length of closed part (extension) [m]	max. 3
Max. bulk height for pellets [m]	4
Max. bulk height for wood chips [m]	6
Angle [°]	30

Discharge via agitator with vertical transport system up to 201 kW

Vertical transport screw system with horizontal dropping

If the storage room is a floor lower, the discharge via the HERZ vertical filling screw is the optimal solution because the space is utilised in the best way.

- 1. Basic set: Agitator plate, pillar and screw, 3 motors, end piece, gearbox, level monitoring, dropping head, transition between agitator and vertical screw, transition between vertical screw and horizontal screw, mounting option on the vertical transport system available (fastening to the building on site)
- 2. Set trough B: agitator springs, upper and lower part of screw trough incl. wall piece
- 3. Extension C: closed screw channel (upper and lower part), screw
- 4. Extension pipe for screw D: pipe & flange, solid coreless screw
- 5. Mounting set for vertical screw E: mounting plates for mounting rails, ceiling & wall mounting brackets

Pos. 1: Connection piece vertical transport system to BFP-flap



	Ø	
		Ģ
E ®		A
шах Ш		С
		V
D		T
		Ν
		N
A		N
		N
B	A	S
max. 3,5 m		۷
-,o m/max. 3 m/		

Guidelines	400 V
Agitator Ø [m]:	2/2,5/3/3,5/ 4/4,5/5
Open part [m]:	max. Ø/2 + 0,5
Wall piece [m]:	max. 0,5
Total length (open part + wall piece) [m]:	max. L _{total} = 4
Max. length open channel [m]:	3
Max. length closed channel [m]:	3
Max. length vertical screw [m]:	8
Max. length horizontal screw [m]:	6

Suitable for:

Wood pelltes Ø 6mm according to

- EN ISO 17225-2: Property class A1, A2
- ENplus, DINplus or Swisspellet

Wood chips according

 EN ISO 17225-4: Property class A1,A2, B1 and particle size P16S, P31S

Optimal storage room filling technology for wood chips and pellets

Vertical filling system

The vertical filling system of Herz offers the opportunity to fill the storage room optimally. Wood chips or pellets are transported via a vertical screw into the storage room and are distributed optimally via a horizontal screw in the storage room.

- Basic set: 3x motor, weatherproof cover for motor, connection to trough, coreless screw horizontal, transition between trough and vertical screw, transition between vertical screw and storage room, coreless screw vertical, mounting and small parts, inspection openings & crane hook, bearing for storage room screw
- 2. Extension trough / double trough: trough in galvanised design, coreless screw, fastening and small parts
- 3. Extension pipe to trough: pipe and flange galvanised, coreless screw
- 4. Extension pipe vertical: pipe and flange galvanised, coreless screw
- 5. Extension pipe storage room: pipe and flange galvanised, screw with mandrel
- 6. Filling screw storage room with mandrel

400 V
6
0,6 up to 1,2
10
12
< 40
< 80

The great advantages

- Hinged, galvanised cover of the filling trough
- High corrosion resistance due to fully galvanised components for permanent outdoor installation
- Weatherproof motors
- Optimum distribution of wood chips in the storage room due to the storage room filling screw (up to 12 m possible)

Suitable for:

Wood pelltes Ø 6mm according to

- EN ISO 17225-2: Property class A1, A2
- ENplus, DINplus or Swisspellet

Wood chips P45S + M50 according

 EN ISO 17225-4: Property class A1,A2,B1 and particle size P16S, P31S, P45S

Illustration double vertical filling system



Single trough also available as detachable version with wheels!

Illustration: version left





Central ash discharge

Central ash discharge via flexible screw (can be used for pellets as fuel) 20-201 kW

For even more comfort, there is the option of fully automatic ash removal into an external ash container with a volume of 240/660/1100 litres. With a flexible screw, the cumbustion and fly ash is automatically collected and transported into an ash container. The large capacity of the ash container results in longer emptying intervals and thus time savings and increased convenience.



D2. Screw extension

- A. External ash hopper
- B. Ashbox of the boiler
- 1. Stainless steel pipe with 2 bows
- 1. Flexible screw
- **Discharge motor** 2.
- 3. Pillar
- 4. Transfer head for ash box and dropping pipe 0.5 m

Central ash discharge via rigid screw (can be used with wood chips or pellets as fuel) 20 - 201 kW

Basic set "direct drop"



Basic set "transfer system"



- Basic set "direct drop" (1~ 230 V or 3~ 400 V):
- (A) Externnal ash container optionally with 240 / 660 or 1100 litres

0 to 90°

- **(B)** Ash box of the boiler + light barrier
- (1) Container screw _
- _ (2) Discharge motor
- (3) Transfer hopper _
- _
- (4) Screw vertical(5.1) Dropping head + motor
- (6) Dropping tube

Basic set "Transfer system" (3~ 400 V):

- (A) Externnal ash container optionally with 240 / 660 or 1100 litres (B) Ash box of the boiler + light barrier
- Container screw (1)
- (2) Discharge motor
- (3)Transfer hopper
- (4) Screw vertical
 - (5.2) Transfer head + motor
 - (7) Screw horizontal(8) Transfer hopper

 - (6) Dropping tube

Suction hopper DIRECT

Suction hopper DIRECT for suction in operation

In addition to the already on the market established pellets hoppers, HERZ now offers a compact suction discharge for the pellet boiler as a completion set. The suction hopper DIRECT with a double cell wheel enables suction during operation. The arrangement of the hopper is possible on the left or right side.

Compatible with the following t	ypes			111111
– firematic 20-60	¥		• • •	
– firematic 80-101	~			The second se
– firematic 120-201	~			
- firematic PELLET 120-201	✓			
		H111111	0	
		0	4	
		3		
			Illustration: suction ho with 8-point-suction-syst	pper DIRECT in combination em
			Technical data sucti	on hopper DIRECT
	*	-	Capacity	approx, 125 ltrs. / 81 kg ne
			Weight	80 kg
Illustration: firematic PELLET 120-20	01 with suction hopper DIRECT		Dimensions (LxWxH)	500x540x1430 mm
			Insertion dimensions	500x540x1430 mm
			Free areas top	350 mm

- 1. External suction hopper DIRECT
 - The arrangement of the hopper is possible on the left or right side!
 - for the version with electrostatic filter, the hopper have to be installed on the opposite side
- 2. Tested back fire protection flap (BFP): Double cell wheel for version with DIRECT hopper enables suction during operation
- 3. Lateral insertion

- 4. Front ash boxfor combustion & fly ash with separate ash chambers and two ash discharge screws
- 5. Control T-Control the central control unit with userfriendly touch-display

Integrated electrostatic filter can be retrofitted



Functional principle of the electrostatic filter



01 The fine dust particles flow with the flue gas through the heat exchanger and then into the integrated filter tubes



03 The electrons move towards the wall of the inline filter due to the electrostatic forces. The fine dust particles are charged and also move towards the wall.



02 The electrons are released by a high-voltage electrode



04 The fine dust then collects on the wall of the filter tube and clumps together to form large flakes. This deposit is then cleaned fully automatically.

The electrostatic filter operates according to the electrostatic principle. The highvoltage electrode, which is positioned exactly in the middle of the filter tube, has the task of negatively charging the fine dust particles; this process is called 'ionisation'. The high voltage is generated by a separate module, which can be mounted on the right or left side of the boiler. The negative charge of the particles causes them to stick to the cleaning basket. The basket is then pulled upwards by the cleaning mechanism and then dropped downwards with the additional help of a spring. As a result, the dust particles fall through the boiler's heat exchanger and are transported fully automatically by the ash discharge screw into the frontmounted ash box.

Technical data ...



Technical data		20	35	45	60
Output range according to type plate wood chips	kW	6 - 20	6 - 35	12,1 - 45	12,1 - 60
Output range according to type plate wood pellets	kW	5,9 - 20	5,9 - 35	12,6 - 45	12,6 - 60
Efficiency rate nominal load wood chips*	%	93,3	92,0	94,0	93,4
Efficiency rate nominal load wood pellets*	%	93,5	92,3	93,4	93,1
Boiler weight	kg	517	517	620	620
Max. permissible operating temperature	°C	90	90	90	90
Operating overpressure [min-max]	bar	1,5 - 3	1,5 - 3	1,5 - 3	1,5 - 3
Water capacity	ltrs.	80	80	116	116
Boiler data for calculation of the flue gas system		20	35	45	60
Flue gas temperature woodchip nominal load / part load	°C	~ 110 / ~ 85	~ 150 / ~ 85	~ 110 / ~ 85	~ 150 / ~ 85
Flue gas mass flow rate wood chips nominal load / part load	kg/h	50,4 / 18	86,4 / 18	100,8 / 32,4	136,8 / 32,4
CO ₂ content wood chips nominal load / part load	Vol. %	12,50 / 11,97	12,85 / 11,97	13,98 / 12,79	14,83 / 12,79
Flue gas temperature pellets nominal load / part load	°C	~ 110 / ~ 85	~ 150 / ~ 85	~ 110 / ~ 85	~ 150 / ~ 85
Flue gas mass flow rate pellets nominal load / part load	kg/h	43,2 / 18	79,2 / 18	97,2/32,4	126 / 32,4
CO ₂ content pellets nominal load / part load	Vol. %	13,07 / 10,52	12,79/10,52	13,64 / 13,64	13,98 / 19,75

Dime	ensions		20 - 35	45 - 60
L1	Length	mm	1390	1496
L2	Length	mm	960	1070
L3	Length	mm	28	30
L4	Length	mm	15	55
B1	Width	mm	1300	1410
B2	Width	mm	600	710
B3	Width	mm	77	70
H1	Height	mm	1490	1590
minii	mal free areas		20 - 35	45 - 60
E1	Free areas front [min]	mm	755	855
E2	Free areas back [min]	mm	500	530
E3	Free areas left [min]	mm	30	00
E4	Free areas right [min]	mm	30	00
E5	Free areas insertion	mm	50	00
E6	Free areas insertion	mm	50	00
E7	Free areas ton [min]	mm	610	710
			010	/10
Inser	tion dimensions		20 - 35	45 - 60
Inser	rtion dimensions Length	mm	20 - 35 960	45 - 60 1070
Inser	rtion dimensions Length Width	mm	20 - 35 960 575	45 - 60 1070 685

Subject to change in the interest of technical progress!

The specified free areas must be observed when carrying out maintenance and service work.

*measured data from test report

Connections 20 - 35 45 - 60 5 Insertion flange BFP mm Øi 182,5 L5 BFP-flap length mm 575 631 B5 BFP-flap width mm 486 486 H5 BFP-flap width mm 636 636 6 Flow 1" IT 6/4" IT B6 Flow width mm 150 155 H6 Flow height mm 1280 1375 7 Back flow 1" IT 6/4" IT B7 Back flow width mm 220 220 H7 Back flow width mm 440 500 8 Flue pipe connection (90°) mm 440 500 8 Flue pipe connection (90°) mm 1375 1475 / 1460 H8 Flue pipe connection (0°) mm 1380 180 H8 Flue pipe connection (135°) mm 1240 1340 / 1330 H8 Flue pipe connection (180°)	. ,	, , , , , , , , ,			, , , -
5 Insertion flange BFP mm Øi 182,5 L5 BFP-flap length mm 575 631 B5 BFP-flap length mm 486 486 H5 BFP-flap width mm 636 636 6 Flow 1" IT 6/4" IT B6 Flow width mm 150 155 H6 Flow height mm 1280 1375 7 Back flow 1" IT 6/4" IT B7 Back flow width mm 220 220 H7 Back flow height mm 440 500 8 Flue pipe connection (90°) mm 440 500 8 Flue pipe connection (90°) mm 1375 1475/1460 H8 Flue pipe connection (0°) mm 1325 1445/1420 H8 Flue pipe connection (135°) mm 1410 1510/1500 H8 Flue pipe connection (135°) mm 1420 1445/1420 <	Conn	ections		20 - 35	45 - 60
L5 BFP-flap length mm 575 631 B5 BFP-flap width mm 486 486 H5 BFP-flap height mm 636 636 6 Flow 1" IT 6/4" IT B6 Flow width mm 150 155 H6 Flow height mm 1280 1375 7 Back flow 1" IT 6/4" IT B7 Back flow width mm 220 220 H7 Back flow height mm 440 500 8 Flue pipe connection mm 440 500 8 Flue pipe connection (90°) mm 420 470 H8 Flue pipe connection (90°) mm 1375 1475 / 1460 H8 Flue pipe connection (90°) mm 1325 1430 / 1330 H8 Flue pipe connection (135°) mm 1410 1510 / 1500 H8 Flue pipe connection (135°) mm 1410 1510 / 1500 H8 Flue pipe connection (135°) mm 395 395	5	Insertion flange BFP	mm	Øi 1	82,5
B5 BFP-flap width mm 486 486 H5 BFP-flap height mm 636 636 6 Flow 1" IT 6/4" IT B6 Flow width mm 150 155 H6 Flow height mm 1280 1375 7 Back flow 1" IT 6/4" IT B7 Back flow width mm 220 220 H7 Back flow width mm 440 500 8 Flue pipe connection mm 440 500 8 Flue pipe connection (90°) mm 420 470 H8 Flue pipe connection (90°) mm 1375 1475 / 1460 H8 Flue pipe connection (90°) mm 1320 1340 / 1330 H8 Flue pipe connection (45°) mm 1240 1340 / 1330 H8 Flue pipe connection (135°) mm 1410 1510 / 1500 H8 Flue pipe connection (135°) mm 395 3	L5	BFP-flap length	mm	575	631
H5 BFP-flap height mm 636 636 6 Flow 1" IT 6/4" IT B6 Flow width mm 150 155 H6 Flow height mm 1280 1375 7 Back flow 1" IT 6/4" IT B7 Back flow width mm 220 220 H7 Back flow height mm 440 500 8 Flue pipe connection mm 420 470 H8 Flue pipe connection (90°) mm 420 470 H8 Flue pipe connection (90°) mm 1375 1475 / 1460 H8 Flue pipe connection (90°) mm 1325 1430 / 1330 H8 Flue pipe connection (135°) mm 1240 1340 / 1330 H8 Flue pipe connection (135°) mm 1410 1510 / 1500 H8 Flue pipe connection (135°) mm 330 445 H8 Flue pipe connection (130°) mm 390 395 H8 Flue pipe connection (130°) mm 390<	B5	BFP-flap width	mm	486	486
6 Flow 1" IT 6/4" IT B6 Flow width mm 150 155 H6 Flow height mm 1280 1375 7 Back flow 1" IT 6/4" IT B7 Back flow width mm 220 220 H7 Back flow height mm 440 500 8 Flue pipe connection mm Øo 150 Øo 150/180 B8 Flue pipe connection (90°) mm 420 470 H8 Flue pipe connection (90°) mm 1375 1475 / 1460 H8 Flue pipe connection (90°) mm 1385 1180 H8 Flue pipe connection (90°) mm 1325 1440 / 1330 H8 Flue pipe connection (135°) mm 1240 1340 / 1330 H8 Flue pipe connection (135°) mm 1410 1510 / 1500 H8 Flue pipe connection (136°) mm 1325 1445 / 1420 9 Filling/emptying 1/2" IT 1/2" IT 1/2" IT B9 Filling/emptying height	H5	BFP-flap height	mm	636	636
B6 Flow width mm 150 155 H6 Flow height mm 1280 1375 7 Back flow 1" IT 6/4" IT B7 Back flow width mm 220 220 H7 Back flow height mm 440 500 8 Flue pipe connection mm Øo 150 Øo 150/180 B8 Flue pipe connection (90°) mm 420 470 H8 Flue pipe connection (90°) mm 1375 1475 / 1460 H8 Flue pipe connection (90°) mm 1385 1180 H8 Flue pipe connection (90°) mm 1325 1440 / 1330 H8 Flue pipe connection (135°) mm 1240 1340 / 1330 H8 Flue pipe connection (135°) mm 1410 1510 / 1500 H8 Flue pipe connection (180°) mm 1325 1445 / 1420 9 Filling/emptying 1/2" IT 1/2" IT B9 Filling/emptying height </td <td>6</td> <td>Flow</td> <td></td> <td>1" IT</td> <td>6/4" IT</td>	6	Flow		1" IT	6/4" IT
H6 Flow height mm 1280 1375 7 Back flow 1" IT 6/4" IT B7 Back flow width mm 220 220 H7 Back flow height mm 440 500 8 Flue pipe connection mm Øo 150 Øo 150/180 B8 Flue pipe connection (90°) mm 420 470 H8 Flue pipe connection (90°) mm 1375 1475 / 1460 H8 Flue pipe connection (90°) mm 1085 1180 H8 Flue pipe connection (0°) mm 1240 1340 / 1330 H8 Flue pipe connection (135°) mm 1410 1510 / 1500 H8 Flue pipe connection (180°) mm 1325 1445 / 1420 9 Filling/emptying 1/2" IT 1/2" IT B9 Filling/emptying height mm 390 445 H9 Filling/emptying height mm 395 395 10 Safety heat exchanger input 1/2" IT 1/2" IT B10 SHE width 45 </td <td>B6</td> <td>Flow width</td> <td>mm</td> <td>150</td> <td>155</td>	B6	Flow width	mm	150	155
7 Back flow 1" IT 6/4" IT B7 Back flow width mm 220 220 H7 Back flow height mm 440 500 8 Flue pipe connection mm Øo 150 Øo 150/180 B8 Flue pipe connection (90°) mm 420 470 H8 Flue pipe connection (90°) mm 1375 1475 / 1460 H8 Flue pipe connection (90°) mm 1085 1180 H8 Flue pipe connection (0°) mm 1240 1340 / 1330 H8 Flue pipe connection (135°) mm 1410 1510 / 1500 H8 Flue pipe connection (180°) mm 1325 1445 / 1420 9 Filling/emptying 1/2" IT 1/2" IT B9 Filling/emptying width mm 390 445 H9 Filling/emptying height mm 395 395 10 Safety heat exchanger input 1/2" IT 1/2" IT B10 SHE width 45 45 L10 SHE length 1040 1125 <td>H6</td> <td>Flow height</td> <td>mm</td> <td>1280</td> <td>1375</td>	H6	Flow height	mm	1280	1375
B7 Back flow width mm 220 220 H7 Back flow height mm 440 500 8 Flue pipe connection mm Øo 150 Øo 150/180 B8 Flue pipe connection (90°) mm 420 470 H8 Flue pipe connection (90°) mm 1375 1475 / 1460 H8 Flue pipe connection (0°) mm 1085 1180 H8 Flue pipe connection (13°) mm 1240 1340 / 1330 H8 Flue pipe connection (135°) mm 1410 1510 / 1500 H8 Flue pipe connection (180°) mm 1325 1445 / 1420 9 Filling/emptying 1/2" IT 1/2" IT B9 Filling/emptying width mm 390 445 H9 Filling/emptying height mm 395 395 10 Safety heat exchanger input 1/2" IT 1/2" IT B10 SHE width 45 45 L10 SHE length 1040 1125	7	Back flow		1" IT	6/4" IT
H7 Back flow height mm 440 500 8 Flue pipe connection mm Øo 150 Øo 150/180 B8 Flue pipe connection (90°) mm 420 470 H8 Flue pipe connection (90°) mm 1375 1475 / 1460 H8 Flue pipe connection (0°) mm 1085 1180 H8 Flue pipe connection (45°) mm 1240 1340 / 1330 H8 Flue pipe connection (135°) mm 1410 1510 / 1500 H8 Flue pipe connection (180°) mm 1325 1445 / 1420 9 Filling/emptying 1/2" IT 1/2" IT B9 Filling/emptying width mm 390 445 H9 Filling/emptying height mm 395 395 10 Safety heat exchanger input 1/2" IT 1/2" IT B10 SHE width 45 45 L10 SHE length 1040 1125	B7	Back flow width	mm	220	220
8 Flue pipe connection mm Øo 150 Øo 150/180 B8 Flue pipe connection (90°) mm 420 470 H8 Flue pipe connection (90°) mm 1375 1475 / 1460 H8 Flue pipe connection (0°) mm 1085 1180 H8 Flue pipe connection (45°) mm 1240 1340 / 1330 H8 Flue pipe connection (135°) mm 1410 1510 / 1500 H8 Flue pipe connection (180°) mm 1325 1445 / 1420 9 Filling/emptying 1/2" IT 1/2" IT B9 Filling/emptying width mm 390 445 H9 Filling/emptying height mm 395 395 10 Safety heat exchanger input 1/2" IT 1/2" IT 1/2" IT B10 SHE width 45 45 45 L10 SHE length 1040 1125	H7	Back flow height	mm	440	500
B8 Flue pipe connection (90°) mm 420 470 H8 Flue pipe connection (90°) mm 1375 1475 / 1460 H8 Flue pipe connection (0°) mm 1085 1180 H8 Flue pipe connection (45°) mm 1240 1340 / 1330 H8 Flue pipe connection (135°) mm 1410 1510 / 1500 H8 Flue pipe connection (180°) mm 1325 1445 / 1420 9 Filling/emptying 1/2" IT 1/2" IT B9 Filling/emptying width mm 390 445 H9 Filling/emptying height mm 395 395 10 Safety heat exchanger input 1/2" IT 1/2" IT B10 SHE width 45 45 L10 SHE length 1040 1125	8	Flue pipe connection	mm	Øo 150	Øo 150/180
H8 Flue pipe connection (90°) mm 1375 1475 / 1460 H8 Flue pipe connection (0°) mm 1085 1180 H8 Flue pipe connection (45°) mm 1240 1340 / 1330 H8 Flue pipe connection (135°) mm 1410 1510 / 1500 H8 Flue pipe connection (180°) mm 1325 1445 / 1420 9 Filling/emptying 1/2" IT 1/2" IT B9 Filling/emptying width mm 390 445 H9 Filling/emptying height mm 395 395 10 Safety heat exchanger input 1/2" IT 1/2" IT 1/2" IT B10 SHE width 45 45 45 L10 SHE length 1040 1125	B8	Flue pipe connection (90°)	mm	420	470
H8 Flue pipe connection (0°) mm 1085 1180 H8 Flue pipe connection (45°) mm 1240 1340 / 1330 H8 Flue pipe connection (135°) mm 1410 1510 / 1500 H8 Flue pipe connection (180°) mm 1325 1445 / 1420 9 Filling/emptying 1/2" IT 1/2" IT B9 Filling/emptying width mm 390 445 H9 Filling/emptying height mm 395 395 10 Safety heat exchanger input 1/2" IT 1/2" IT 1/2" IT B10 SHE width 45 45 45 L10 SHE length 1040 1125	H8	Flue pipe connection (90°)	mm	1375	1475/1460
H8 Flue pipe connection (45°) mm 1240 1340 / 1330 H8 Flue pipe connection (135°) mm 1410 1510 / 1500 H8 Flue pipe connection (180°) mm 1325 1445 / 1420 9 Filling/emptying 1/2" IT 1/2" IT B9 Filling/emptying width mm 390 445 H9 Filling/emptying height mm 395 395 10 Safety heat exchanger input 1/2" IT 1/2" IT B10 SHE width 45 45 L10 SHE length 1040 1125	H8	Flue pipe connection (0°)	mm	1085	1180
H8 Flue pipe connection (135°) mm 1410 1510 / 1500 H8 Flue pipe connection (180°) mm 1325 1445 / 1420 9 Filling/emptying 1/2" IT 1/2" IT B9 Filling/emptying width mm 390 445 H9 Filling/emptying height mm 395 395 10 Safety heat exchanger input 1/2" IT 1/2" IT B10 SHE width 45 45 L10 SHE length 1040 1125	H8	Flue pipe connection (45°)	mm	1240	1340/1330
H8 Flue pipe connection (180°) mm 1325 1445 / 1420 9 Filling/emptying 1/2" IT 1/2" IT B9 Filling/emptying width mm 390 445 H9 Filling/emptying height mm 395 395 10 Safety heat exchanger input 1/2" IT 1/2" IT B10 SHE width 45 45 L10 SHE length 1040 1125	H8	Flue pipe connection (135°)	mm	1410	1510 / 1500
9 Filling/emptying 1/2" IT 1/2" IT B9 Filling/emptying width mm 390 445 H9 Filling/emptying height mm 395 395 10 Safety heat exchanger input 1/2" IT 1/2" IT B10 SHE width 45 45 L10 SHE length 1040 1125	H8	Flue pipe connection (180°)	mm	1325	1445 / 1420
B9 Filling/emptying width mm 390 445 H9 Filling/emptying height mm 395 395 10 Safety heat exchanger input 1/2" IT 1/2" IT B10 SHE width 45 45 L10 SHE length 1040 1125	9	Filling/emptying		1/2" IT	1/2" IT
H9 Filling/emptying height mm 395 395 10 Safety heat exchanger input 1/2" IT 1/2" IT B10 SHE width 45 45 L10 SHE length 1040 1125	B9	Filling/emptying width	mm	390	445
10 Safety heat exchanger input 1/2" IT 1/2" IT B10 SHE width 45 45 L10 SHE length 1040 1125	H9	Filling/emptying height	mm	395	395
B10 SHE width 45 45 L10 SHE length 1040 1125	10	Safety heat exchanger input		1/2" IT	1/2" IT
L10 SHE length 1040 1125	B10	SHE width		45	45
	L10	SHE length		1040	1125
11 Safety heat exchanger output 1/2" IT 1/2" IT	11	Safety heat exchanger output		1/2" IT	1/2" IT
B11 SHE width mm 45 45	B11	SHE width	mm	45	45
L11 SHE length mm 985 1063	L11	SHE length	mm	985	1063

...for firematic 20 - 101 kW



Tech	nical data				8	30	100		101
Outpu	t range according to type plate	wood chips		kW	23,2	2 - 80	23,2 - 99)	23,2 - 101
Outpu	t range according to type plate	wood pellets		kW	23,2	2 - 80	23,2 - 99)	23,2 - 101
Efficie	ency rate nominal load wood chip	os*		%	93	2,6	92,5		92,5
Efficie	ency rate nominal load wood pell	ets*		%	93	2,7	92,7		92,7
Boiler	weight			kg	10)32	1032		1032
Max.	permissible operating temperatu	ire		°C	9	90	90		90
Opera	ting overpressure [min-max]			bar	1,5	5 - 3	1,5 - 3		1,5 - 3
Water	capacity			ltrs.	1	79	179		179
Boile	er data for calculation of	f the flue gas	system		8	30	100		101
Flue ga	as temperature woodchip nomina	al load / part load		°C	~ 120	/~ 85	~ 150 / ~ 3	85	~ 150 / ~ 85
Flue ga	as mass flow rate wood chips no	ominal load / part lo	bad	kg/h	172,6	/ 56,5	213,1 / 56	,5	215,1 / 56,5
CO ₂ co	ntent wood chips nominal load /	/ part load		Vol. %	12,95	/ 11,6	13,53 / 11	,6	13,53 / 11,6
Flue ga	as temperature pellets nominal lo	oad / part load		°C	~ 120	/~ 85	~ 150 / ~ 3	85	~ 150 / ~ 85
Flue ga	as mass flow rate pellets nomina	I load / part load		kg/h	166,4	/ 53,6	212,1 / 56	,3	214,2 / 56,3
$CO_2 co$	ntent pellets nominal load / part	t load		Vol. %	13,7 /	/ 11,49	13,36 / 11,	49	13,36 / 11,49
Dime	ensions		80 - 100 - 1	01	Conn	ections			80 - 100 - 101
L1	Length	mm	1700		5	Insertion flange	BFP	mm	Øi 182,5
L2	Length	mm	1180		L5	BFP-flap length		mm	720
L3	Length	mm	280		B5	BFP-flap width		mm	535
L4	Length	mm	245		H5	BFP-flap height		mm	655
B1	Width	mm	1720		6	Flow			2" IT
B2	Width	mm	902		B6	Flow width		mm	195
B3	Width	mm	815		H6	Flow height		mm	1517
H1	Height	mm	1690		7	Back flow			2" IT
Mini	mal free areas		80 - 100 - 1	01	B7	Back flow width	ı	mm	290
E1	Free areas front [min]	mm	1000		H7	Back flow heigh	nt	mm	690
E2	Free areas back [min]	mm	750		8	Flue pipe conne	ection	mm	Øo 180
E3	Free areas left [min]	mm	700		B8	Flue pipe conne	ection (90°)	mm	535
E4	Free areas right [min]	mm	875		H8	Flue pipe conne	ection (90°)	mm	1655
E5	Free areas insertion	mm	500		H8	Flue pipe conne	ection (0°)	mm	1325
E6	Free areas insertion	mm	500		H8	Flue pipe conne	ection (45°)	mm	1505
E7	Free areas top [min]	mm	425		H8	Flue pipe conne	ection (135°)	mm	1670
Inse	rtion dimensions		80 - 100 - 1	01	H8	Flue pipe conne	ection (180°)	mm	1570
	Length	mm	1178		9	Filling/emptying	3		3/4" IT
	Width	mm	774		B9	Filling/emptying	g width	mm	560
	Height	mm	1690		H9	Filling/emptying	g height	mm	520
Subjec	t to change in the interest of tec	hnical progress!			10	Safety heat exc	changer input		1/2" IT
The sp	ecified free areas must be observer	rved when carrying	out maintenance	e and	B10	SHE width		mm	45
Service	WUIN.				L10	SHE length		mm	1260

*measured data from test report

L11 SHE length mm 1200 Øo outside diameter; Øi inside diameter; IT internal thread

mm

11 Safety heat exchanger output

B11 SHE width

1/2" IT

45

Technical data ...



Technical data		120	130	149	151
Output range according to type plate wood chips	kW	35,1 - 120	35,1 - 130	35,1 - 149	35,1 - 151
Output range according to type plate wood pellets	kW	34,8 - 120	34,8 - 130	34,8 - 149	34,8 - 151
Efficiency rate nominal load wood chips*	%	94,4	94,4	94,0	94,0
Efficiency rate nominal load wood pellets*	%	94,5	94,5	93,4	93,4
Boiler weight	kg	1570	1570	1570	1570
Max. permissible operating temperature	°C	90	90	90	90
Operating overpressure [min-max]	bar	1,5 - 5	1,5 - 5	1,5 - 5	1,5 - 5
Water capacity	ltrs.	295	295	295	295
Boiler data for calculation of the flue gas system		120	130	149	151
Flue gas temperature woodchip nominal load / part load	°C	~ 130 / ~ 85	~ 140 / ~ 85	~ 150 / ~ 85	~ 150 / ~ 85
Flue gas mass flow rate wood chips nominal load / part load	kg/h	263,9 / 88,9	285,9 / 88,9	322,9 / 88,9	327,3 / 88,9
CO2 content wood chips nominal load / part load	Vol. %	13,55 / 11,74	13,55 / 11,74	13,79/11,74	13,79/11,74
Flue gas temperature pellets nominal load / part load	°C	~ 130 / ~ 85	~ 140 / ~ 85	~ 150 / ~ 85	~ 150 / ~ 85
Flue gas mass flow rate pellets nominal load / part load	kg/h	249,6 / 91,3	271,4 / 91,3	319,1 / 91,3	323,3 / 91,3
CO ₂ content pellets nominal load / part load	Vol. %	13,93 / 10,75	13, 93 / 10,75	13,75 / 10,75	13,75 / 10,75

Dime	ensions		120 - 130 - 149 - 151
L1	Length	mm	2085
L2	Length	mm	1504
L3	Length	mm	330
L4	Length	mm	255
B1	Width	mm	1905
B2	Width	mm	985
B3	Width	mm	820
H2	Height	mm	1825
Minii	nal free areas		120 - 130 - 149 - 151
E1	Free areas front [min]	mm	1000
E2	Free areas back [min]	mm	750
E3	Free areas left [min]	mm	700
E4	Free areas right [min]	mm	300
E5	Free areas insertion	mm	500
E6	Free areas insertion	mm	500
E7	Free areas top [min]	mm	425
Inser	tion dimensions		120 - 130 - 149 - 151
	Length	mm	1504
	Width	mm	912
	Height	mm	1825
Cubined	to choose in the interest of techni		J

Subject to change in the interest of technical progress! The specified free areas must be observed when carrying out maintenance and service work.

*measured data from test report

Connections			120 - 130 - 149 - 151
5	Insertion flange BFP		Øi 182,5 mm
L5	BFP-flap length	mm	950
B5	BFP-flap width	mm	353
H5	BFP-flap height	mm	770
6	Flow		2" IT
B6	Flow width	mm	770
H6	Flow height	mm	1685
7	Back flow		2" IT
B7	Back flow width	mm	490
H7	Back flow height	mm	685
8	Flue pipe connection		Øo 200 mm
B8	Flue pipe connection (90°)	mm	360
H8	Flue pipe connection (90°)	mm	1820
H8	Flue pipe connection (0°)	mm	1455
H8	Flue pipe connection (45°)	mm	1660
H8	Flue pipe connection (135°)	mm	1845
H8	Flue pipe connection (180°)	mm	1720
9	Filling/emptying		3/4" IT
B9	Filling/emptying width	mm	315
H9	Filling/emptying height	mm	655
10	Safety heat exchanger input		1/2" IT
B10	SHE width	mm	45
L10	SHE length	mm	1400
11	Safety heat exchanger output		1/2" IT
B11	SHE width	mm	45
L11	SHE length	mm	1340

Øo outside diameter; Øi inside diameter; IT internal thread

... for firematic 120 - 201 kW



Technical data		180	199	201
Output range according to type plate wood chips	kW	35,1 - 180	35,1 - 199	35,1 - 201
Output range according to type plate wood pellets	kW	34,8 - 180	34,8 - 199	34,8 - 201
Efficiency rate nominal load wood chips*	%	93,5	92,1	92,1
Efficiency rate nominal load wood pellets*	%	92,4	92,0	92,0
Boiler weight	kg	1570	1570	1570
Max. permissible operating temperature	°C	90	90	90
Operating overpressure [min-max]	bar	1,5 - 5	1,5 - 5	1,5 - 5
Water capacity	ltrs.	295	295	295
Boiler data for calculation of the flue gas system		180	199	201
Flue gas temperature woodchip nominal load / part load	°C	~ 160 / ~ 85	~ 180 / ~ 85	~ 180 / ~ 85
Flue gas mass flow rate wood chips nominal load / part load	kg/h	399,5 / 88,9	451,7 / 88,9	456,3 / 88,9
CO ₂ content wood chips nominal load / part load	Vol. %	13,83 / 11,74	13,52 / 11,74	13,52 / 11,74
Flue gas temperature pellets nominal load / part load	°C	~ 160 / ~ 85	~ 180 / ~ 85	~ 180 / ~ 85
Flue gas mass flow rate pellets nominal load / part load	kg/h	387,6 / 91,3	428,5 / 91,3	432,8 / 91,3
CO ₂ content pellets nominal load / part load	Vol. %	13,66 / 10,75	13,75 / 10,75	13,75 / 10,75

Dime	ensions	180 - 199 - 201		
L1	Length	mm	2280	
L2	Length	mm	1504	
L3	Length	mm	530	
L4	Length	mm	255	
B1	Width	mm	1905	
B2	Width	mm	985	
B3	Width	mm	820	
H1	Height	mm	1825	
mini	mal free areas		180 - 199 - 201	
E1	Free areas front [min]	mm	1000	
E2	Free areas back [min]	mm	750	
E3	Free areas left [min]	mm	700	
E4	Free areas right [min]	mm	300	
E5	Free areas insertion	mm	500	
E6	Free areas insertion	mm	500	
E7	Free areas top [min]	mm	425	
Inser	tion dimensions		180 - 199 - 201	
	Length	mm	1504	
	Width	mm	912	
	Height	mm	1825	
Subject	Subject to change in the interest of technical progress!			

The specified free areas must be observed when carrying out maintenance and service work.

*measured data from test report

Connections 180	- 199 - 201
5 Insertion flange BFP Ø	i 182,5 mm
L5 BFP-flap length mm	950
B5 BFP-flap width mm	353
H5 BFP-flap height mm	770
6 Flow	2" IT
B6 Flow width mm	770
H6 Flow height mm	1685
7 Back flow	2" IT
B7 Back flow width mm	490
H7 Back flow height mm	685
8 Flue pipe connection Q	ðo 250 mm
B8 Flue pipe connection (90°) mm	320
H8 Flue pipe connection (90°) mm	1865
H8 Flue pipe connection (0°) mm	1415
H8 Flue pipe connection (45°) mm	1665
H8 Flue pipe connection (135°) mm	1900
H8 Flue pipe connection (180°) mm	1735
9 Filling/emptying	3/4" IT
B9 Filling/emptying width mm	315
H9 Filling/emptying height mm	655
10 Safety heat exchanger input	1/2" IT
B10 SHE width mm	45
H10 SHE height mm	1400
11 Safety heat exchanger output	1/2" IT
B11 SHE width mm	45
H11 SHE height mm	1340

Øo outside diameter; Øi inside diameter; IT internal thread

Technical data ...



Technical data		120	149	151
Output range according to type plate wood chips	kW	36,7 - 120	36,7 - 149	36,7 - 151
Output range according to type plate wood pellets	kW	35,9 - 120	35,9 - 149	35,9 - 151
Efficiency rate nominal load wood chips*	%	92,3	93,5	93,5
Efficiency rate nominal load wood pellets*	%	92	93,7	93,7
Boiler weight	kg	1507	1507	1507
Max. permissible operating temperature	°C	90	90	90
Operating overpressure [min-max]	bar	1,5 - 5	1,5 - 5	1,5 - 5
Water capacity	ltrs.	295	295	295
Boiler data for calculation of the flue gas system		120	149	151
Flue gas temperature pellets nominal load / part load	°C	~ 140 / ~ 85	~ 140 / ~ 85	~ 160 / ~ 85
Flue gas mass flow rate pellets nominal load / part load	kg/h	277,2 / 82,8	313,2 / 82,8	316,8 / 82,8
CO ₂ content pellets nominal load / part load	Vol. %	13,32 / 12,25	14,54 / 12,25	14,54 / 12,25
Flue gas temperature woodchip nominal load / part load	°C	~ 140 / ~ 85	~ 140 / ~ 85	~ 160 / ~ 85
Flue gas mass flow rate wood chips nominal load / part load	kg/h	298,8 / 133,2	331,2 / 86,4	331,2 / 86,4
CO ₂ content wood chips nominal load / part load	Vol. %	13.06 / 12.20	14.16 / 12.20	14.16 / 12.20

Dimensions			120 - 149 - 151
A1	Length	mm	2088
A2	Length	mm	1504
A3	Length	mm	952
A4	Length	mm	256
B1	Width	mm	982
B2	Width	mm	1908
B3	Width	mm	528
C4	Height	mm	1825
C9	Height	mm	425
mini	mal free areas		120 - 149 - 151
E1	free areas front [min]	mm	750
E2	free areas back [min]	mm	750
E3	Free areas [min]	mm	300
E4	Free areas [min]	mm	700
E5	Free area insertion	mm	500
E6	Free area insertion	mm	500
Inser	tion dimensions		120 - 149 - 151
	Length	mm	1504
	Width	mm	1087
	Height	mm	1825

Connections			120 - 149 - 151
1	Flow		2" IT
2	Back flow		2" IT
D1	Flue pipe connection		Øo 200 mm
	Flue pipe connection (90°)	mm	1819
	Flue pipe connection (0°)	mm	1454
	Flue pipe connection (45°)	mm	1658
	Flue pipe connection (135°)	mm	1842
3	Filling/emptying		3/4" IT
4a	Safety heat exchanger input		1/2" IT
4b	Safety heat exchanger output		1/2" IT

Subject to change in the interest of technical progress! The specified free areas must be observed when carrying out maintenance and service work.

*measured data from test report

Øo outside diameter; IT internal thread

...for firematic PELLET 120 - 201 kW



Technical data		180	199	201
Output range according to type plate wood chips	kW	36,7 - 180	-	
Output range according to type plate wood pellets	kW	35,9 - 180	35,9 - 199	35,9 - 201
Efficiency rate nominal load wood chips*	%	92,3	-	
Efficiency rate nominal load wood pellets*	%	92,3	91,8	91,8
Boiler weight	kg	1507	1507	1507
Max. permissible operating temperature	°C	90	90	90
Operating overpressure [min-max]	bar	1,5 - 5	1,5 - 5	1,5 - 5
Water capacity	ltrs.	295	295	295
Boiler data for calculation of the flue gas system		180	199	201
Flue gas temperature pellets nominal load / part load	°C	~ 160 / ~ 85	~ 180 / ~ 85	~ 180 / ~ 85
Flue gas mass flow rate pellets nominal load / part load	kg/h	388,8 / 82,8	421,2 / 82,8	424,8 / 82,8
CO ₂ content pellets nominal load / part load	Vol. %	14,33 / 12,25	14,75 / 12,25	14,75 / 12,25
Flue gas temperature woodchip nominal load / part load	°C	~ 160 / ~ 85	-	
Flue gas mass flow rate wood chips nominal load / part load	kg/h	410,4 / 86,4	-	
CO ₂ content wood chips nominal load / part load	Vol. %	14,10/12,20	-	

Dime	ensions		180 - 199 - 201
A1	Length	mm	2246
A2	Length	mm	1504
A3	Length	mm	952
A4	Length	mm	256
B1	Width	mm	982
B2	Width	mm	1908
B3	Width	mm	528
C4	Height	mm	1825
C9	Height	mm	595
mini	mal free areas		180 - 199 - 201
E1	free areas front [min]	mm	750
E2	free areas back [min]	mm	750
E3	Free areas [min]	mm	300
E4	Free areas [min]	mm	700
E5	Free area insertion	mm	500
			000
E6	Free area insertion	mm	500
E6 Inse	Free area insertion rtion dimensions	mm	500 180 - 199 - 201
E6 Inse	Free area insertion rtion dimensions Length	mm	500 180 - 199 - 201 1504
E6 Inse	Free area insertion rtion dimensions Length Width	mm mm mm	500 180 - 199 - 201 1504 912
E6 Inse	Free area insertion rtion dimensions Length Width Height	mm mm mm mm	500 180 - 199 - 201 1504 912 1825

Connections			180 - 199 - 201
1	Flow		2" IT
2	Back flow		2" IT
D1	Flue pipe connection		Øo 200 mm
	Flue pipe connection (90°)	mm	1864
	Flue pipe connection (0°)	mm	1415
	Flue pipe connection (45°)	mm	1663
	Flue pipe connection (135°)	mm	1901
3	Filling/emptying		3/4" IT
4a	Safety heat exchanger input		1/2" IT
4b	Safety heat exchanger output		1/2" IT

Subject to change in the interest of technical progress! The specified free areas must be observed when carrying out maintenance and service work.

*measured data from test report

Øo outside diameter; Øi inside diameter; IT internal thread

HERZ customer-oriented...



- Advicing in planning phase
- Planning of discharge system according to customer requirements and local conditions
- Area covered service
- HERZ training:
 - for operators
 - for planners, technical departments
 - for plumbers
 - as well as continuous training of the maintenance staff





HERZ Energietechnik GmbH Herzstraße 1, 7423 Pinkafeld Austria Tel.: +43 (0) 3357 / 42840-0 Fax: +43 (0) 3357 / 42840-190 Mail: office-energie@herz.eu

Web: www.herz-energie.at

Herz Armaturen Gesellschaft mbH

Neumarkter Straße 33, 90584 Allersberg Germany Tel.: +49 (0) 9176 / 367 95-0 Fax: +49 (0) 9176 / 367 95-79 Mail: office-deutschland@herz.eu Web: www.herz-energie.de Your partner:



d04-2024_V1.0

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 systemdependent 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.