



English

# Efficient heating solutions for wood chips & pellets with integrated electrostatic filter



***firematic-E***  
80-101

***firematic-E***  
120-201



# 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-of-the-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 m<sup>2</sup> 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

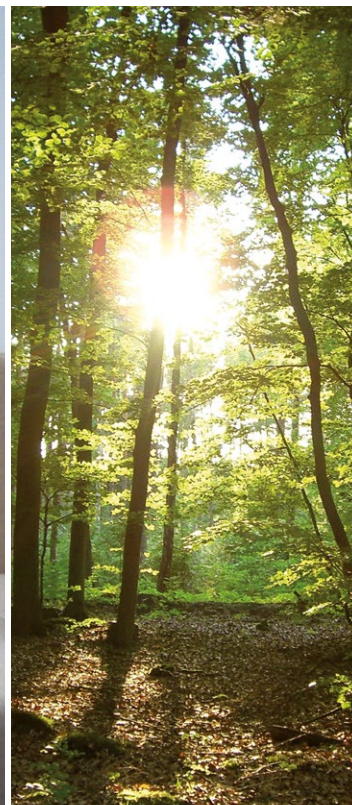
All HERZ biomass systems fall below the strictest emission regulations. Numerous environmental endorsements bear witness to this.

### 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 firematic-E 80-201

- T-Control - the user-friendly control with touch display
- Consistently high efficiency - even lower emission values due to the electrostatic filter
- 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
- Electrostatic filter is included in the scope of delivery

## Retrofitting of an electrostatic filter

The integrated electrostatic precipitator is available for retrofitting at a later date or as an additional product for the firematic 80-501 kW and firematic PELLET 120-201 kW series.

Illustration: firematic PELLET 120-201 - firematic PELLET 120-201 with integrated electrostatic filter



## Decades of experience

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

## 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)

## Fuel firematic-E 80-201

### Wood pellets (Ø 6mm) according to

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

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

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

# 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

## T-CONTROL



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-E 80-101: 2 internal and up to 30 external modules; firematic-E 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 the 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 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 parameters can thus be read and changed at any time and location independent.

Remote access via [myherz.at](https://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.



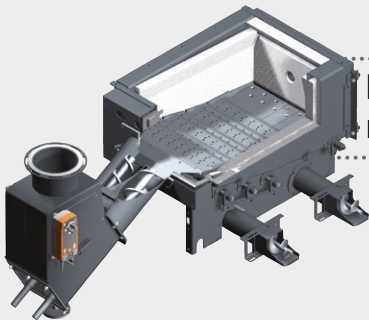


# Advantages and details ...



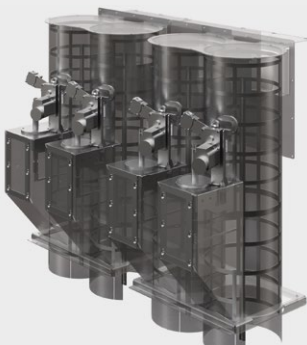
**T-Control - the userfriendly control with touch-display**

- **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



**Lateral insertion & step or moving grate burning chamber**

- 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.



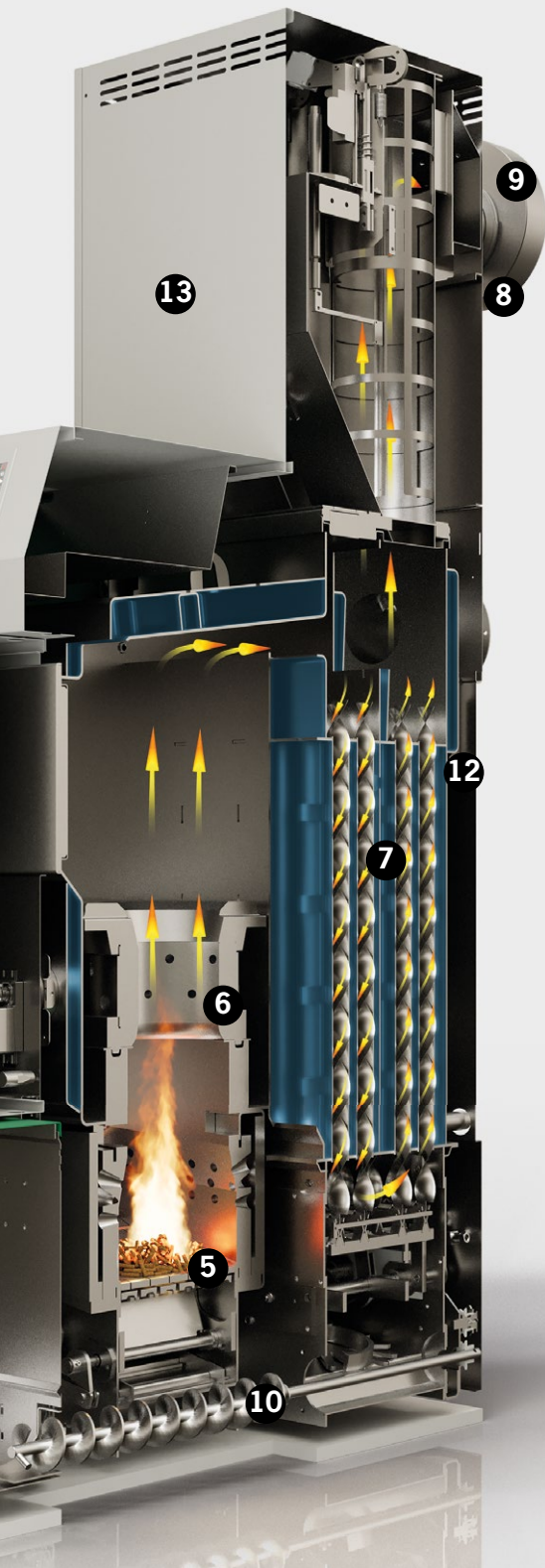
**Integrated electrostatic filter**

- The integrated electrostatic filter operates according to the electrostatic principle. Here, the fine dust particles flow through the exhaust duct with the exhaust air. Electrons are released by a high-voltage electrode, which move to the wall by electrostatic forces.
- In the process, the fine dust particles are loaded and also moved to the wall. The fine dust collects on the wall and clumps together to form coarse flakes. These deposits are simply removed during automatic or mechanical cleaning.



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-E 80-101

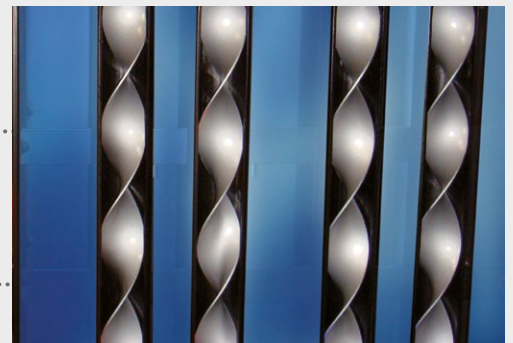


## Energy saving combustion due to the lambda probe control



- 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 surface gets cleaned automatically via the integrated turbulators (by lifting and lowering), even during heating operation and therefore kept clean without manual effort. Consistently high efficiency due to cleaned heat exchanger surfaces ensures low fuel consumption.
- The fly ash is transported to the front ash hopper via screw.

## 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.

- 4. **Automatic ignition** using hot air fans
- 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 with two secondary air zones** 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

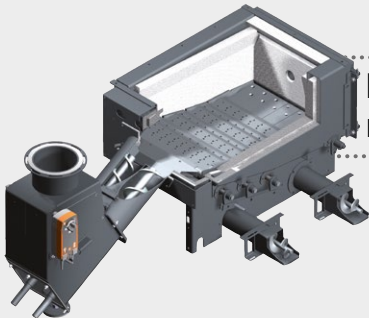
- 10. **Ash discharge screws** for combustion and fly ash
- 11. **2 front ash boxes** for combustion and fly ash
- 12. **Efficient heat insulation** for lowest radiation losses
- 13. **Integrated electrostatic filter** for fine dust separation

# Advantages and details ...



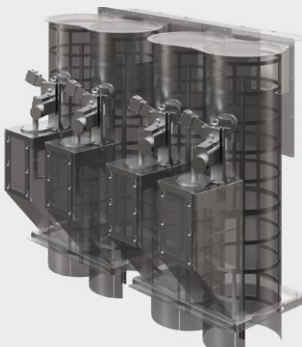
**T-Control - the userfriendly control with touch-display**

- **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



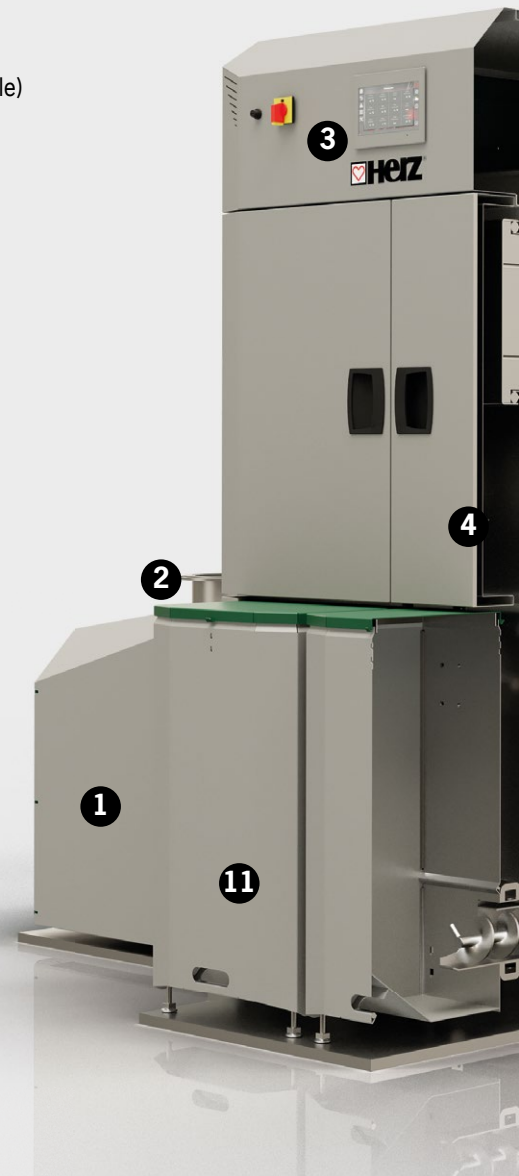
**Lateral insertion & step or moving grate burning chamber**

- 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.



**Integrated electrostatic filter**

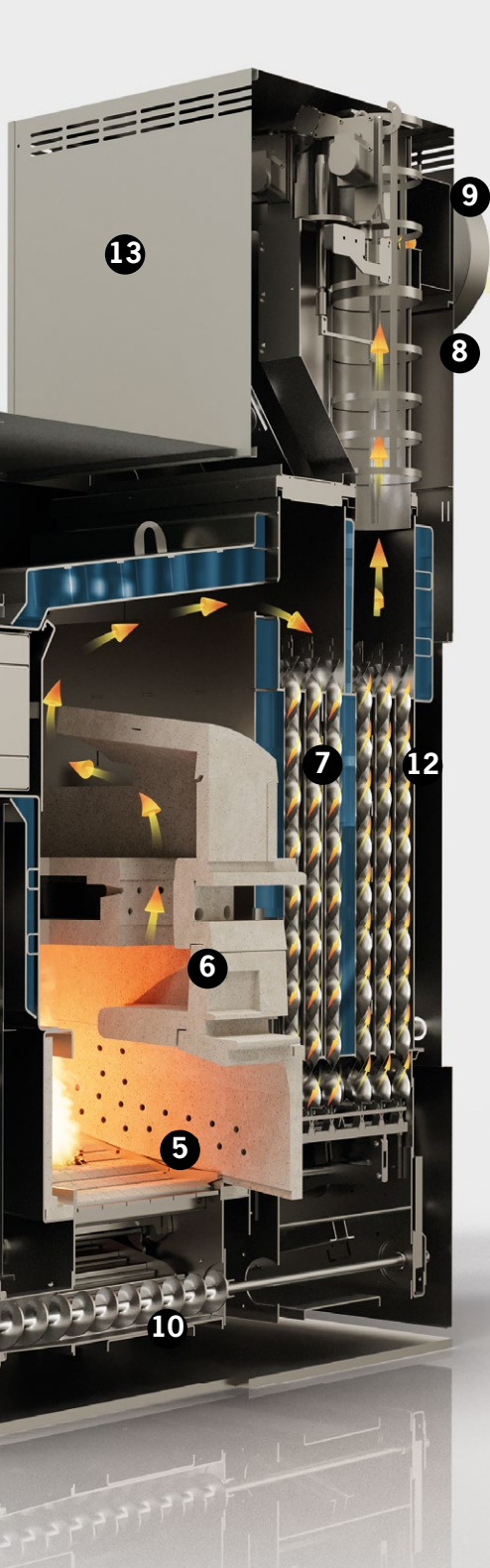
- The integrated electrostatic filter operates according to the electrostatic principle. Here, the fine dust particles flow through the exhaust duct with the exhaust air. Electrons are released by a high-voltage electrode, which move to the wall by electrostatic forces.
- In the process, the fine dust particles are loaded and also moved to the wall. The fine dust collects on the wall and clumps together to form coarse flakes. These deposits are simply removed during automatic or mechanical cleaning.



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-E 120-201

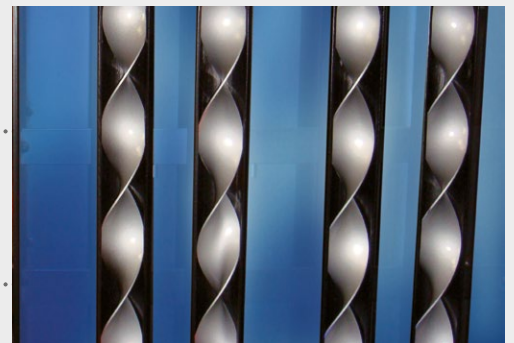


## Energy saving combustion due to the lambda probe control



- 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 surface gets cleaned automatically via the integrated turbulators (by lifting and lowering), even during heating operation and therefore kept clean without manual effort. Consistently high efficiency due to cleaned heat exchanger surfaces ensures low fuel consumption.
- The fly ash is transported to the front ash hopper via screw.

## 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.

- 4. Automatic ignition** using hot air fans
- 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** with two secondary air zones 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
- 13. Integrated electrostatic filter** for fine dust separation

# 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

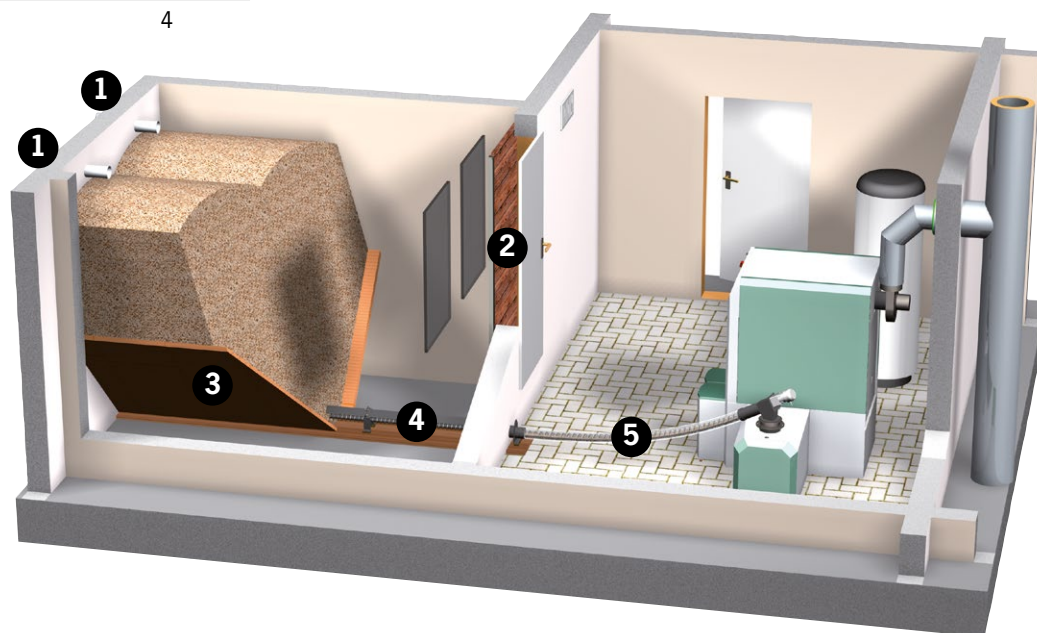
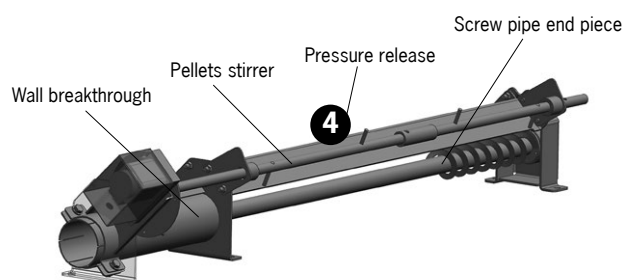
The room discharge with a flexible screw is an easy and energy saving solution to empty the storage room in an efficient way. For pure pellet operation, the flexible screw is a cost-saving solution. In order to empty the storage room completely a sloping floor is recommended.

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

- Inexpensive to purchase
- Extremely quiet and cost-effective operation
- Gentle transport of the pellets
- Simple and quick assembly

Guidelines	230 V
Installation radius of the flex. screw [m]	min. 1,25
Possible total length [m] (Further distances possible with a transfer to another screw)	9,5
Max. bulk height [m]	4



#### 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° - 45° 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.



## 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 system:** 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).

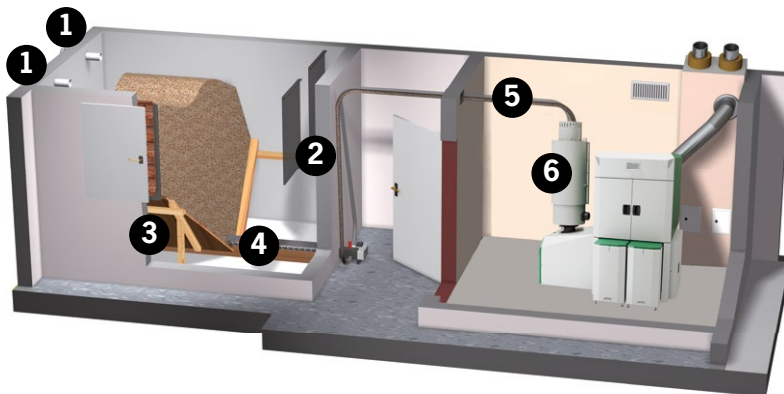


Illustration: Modular pellet screw in the storage room (with slide slopes) and suction hopper DIRECT

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. Suction hopper DIRECT

The suction hopper DIRECT can be installed when using a suction discharge system.

## 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

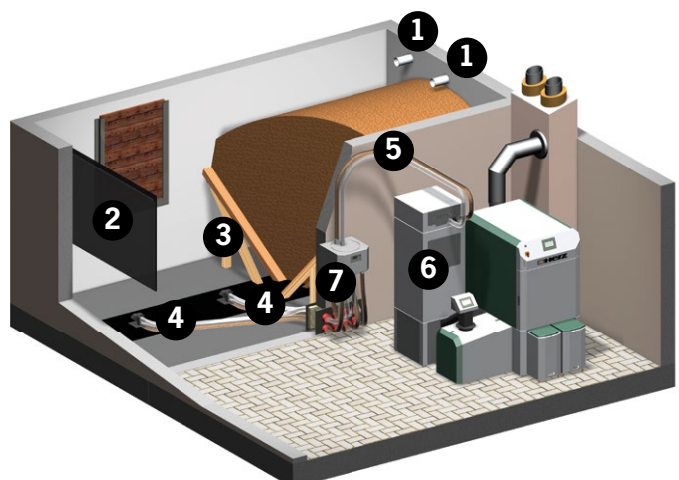
### 3. Slide ramps

### 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 systems for wood chips & pellets

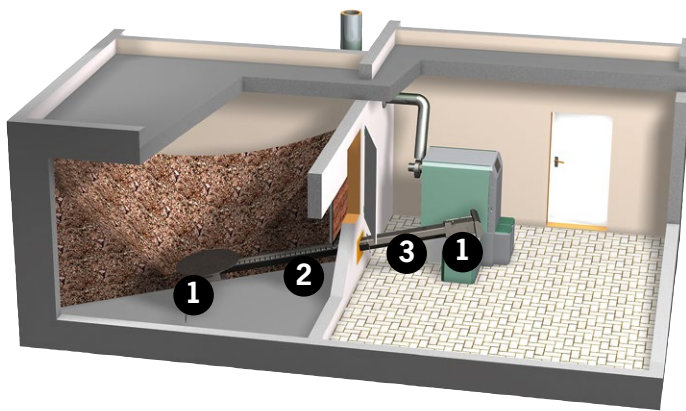
## Discharge via modular agitator up to 201 kW - the optimal solution for wood chips & pellets

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



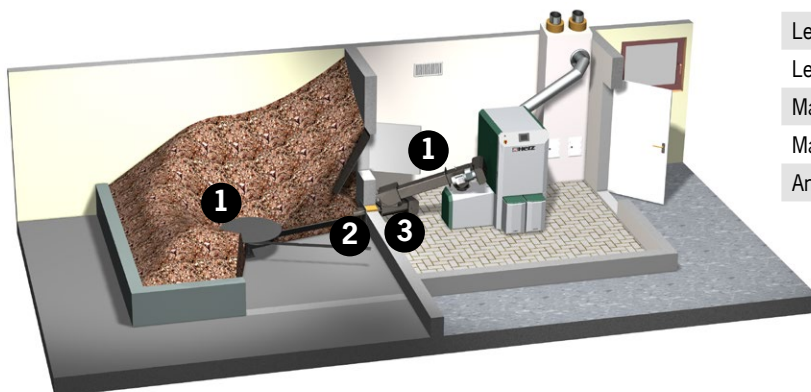
Guidelines	230 V	400 V
Agitator Ø [m]	2/2,5/3/3,5/ 4/4,5/5	2/2,5/3/3,5/ 4/4,5/5
Length open part (trough) [m]:	max. 2,5	max. 3
Length of closed part (extension) [m]	max. 2	max. 5
Max. bulk height for pellets [m]	3	4
Max. bulk height for wood chips [m]	4	6
Angle [°]: (Maximum possible degree of emptying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





# Vertical filling system

## 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.

- 1. 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 storageroom with mandrel**

Guidelines	400 V
Filling trough length max. [m]	6
Modular extensions of the filling trough [m]	0,6 up to 1,2
Vertical height max. [m]	10
Storage room filling screw max. length [m]	12
Flow rate [m³/h]	< 40
Flow rate for double systems [m³/h]	< 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 12m possible)

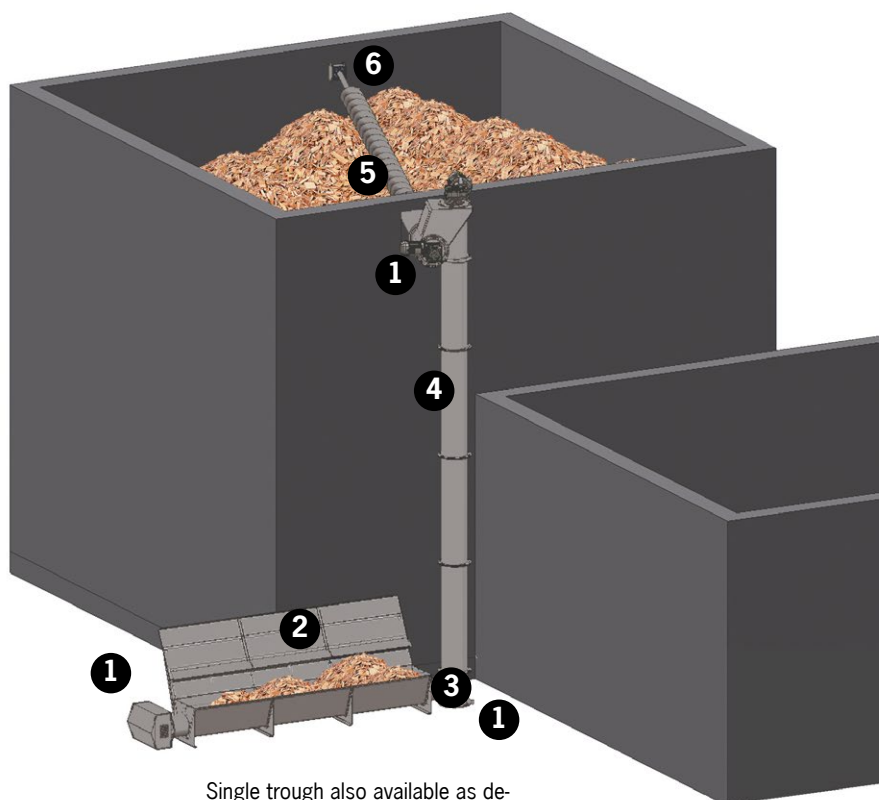
### Suitable for:

#### Wood pellets Ø 6mm according to

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

#### Wood chips P45S + M50 according

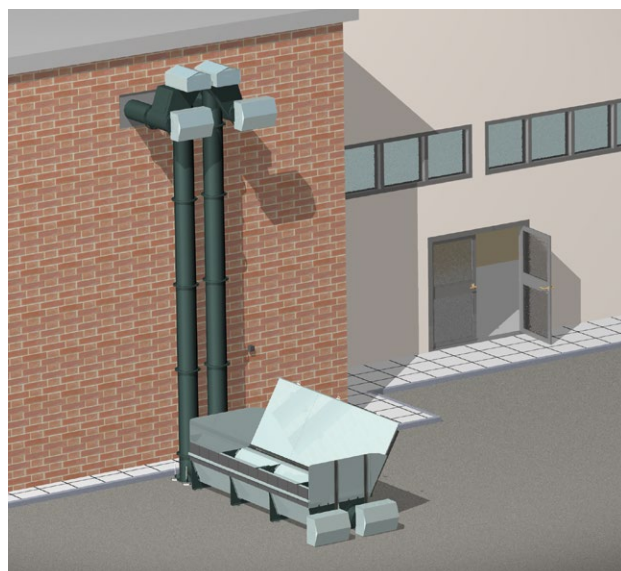
- EN ISO 17225-4: Property class A1, A2, B1 and particle size P16S, P31S, P45S



Single trough also available as detachable version with wheels!

Illustration:  
version left

### Illustration double vertical filling system

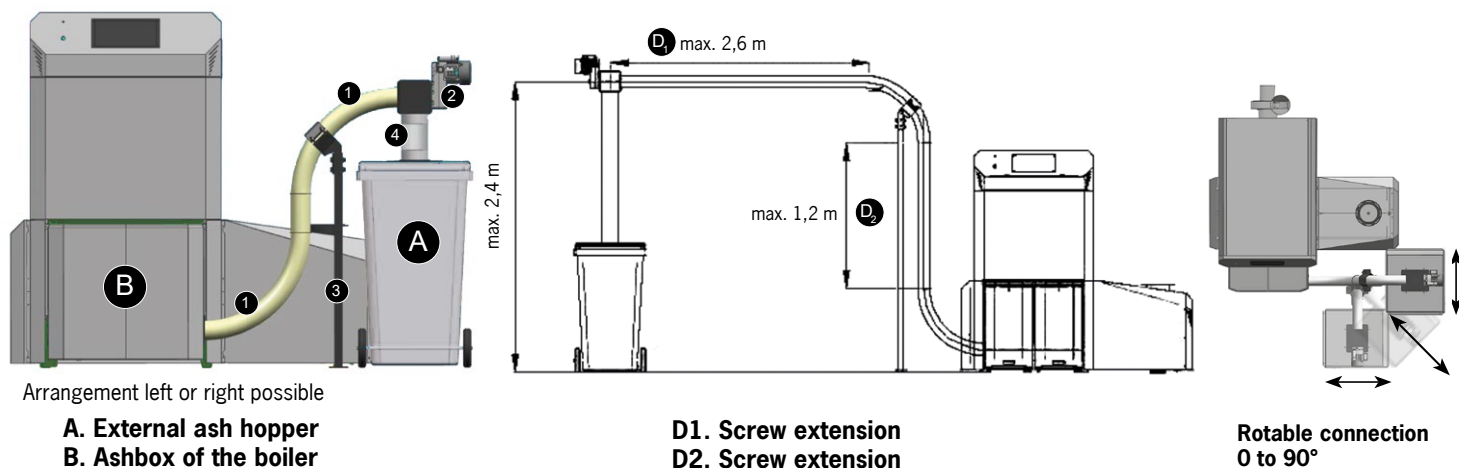




# Central ash discharge

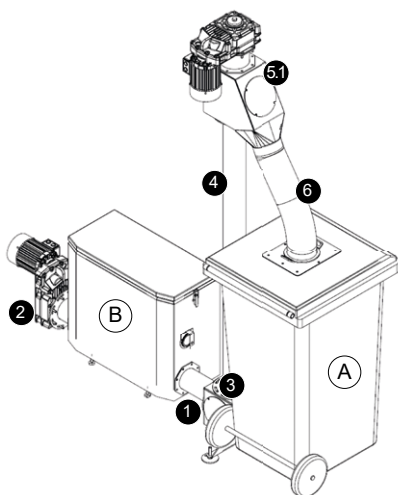
## Central ash discharge via flexible screw (can be used for pellets as fuel) 20-201 kW

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 combustion 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.



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

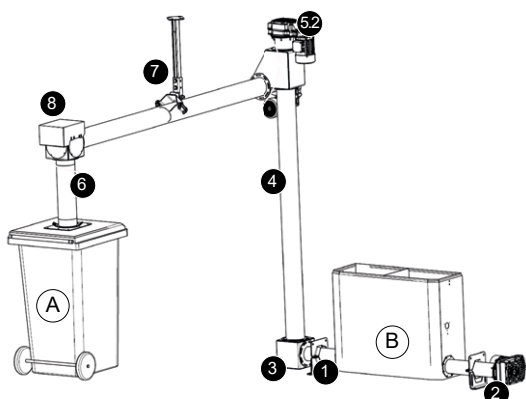
### Basic set "direct drop"



Basic set "direct drop" (1~ 230V or 3~ 400V):

- **(A)** External ash container optionally with 240 / 660 or 1100 litres
- **(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

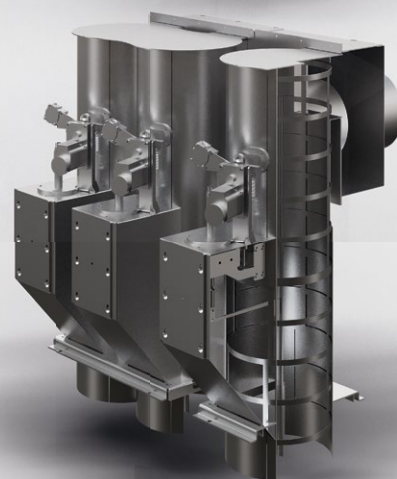
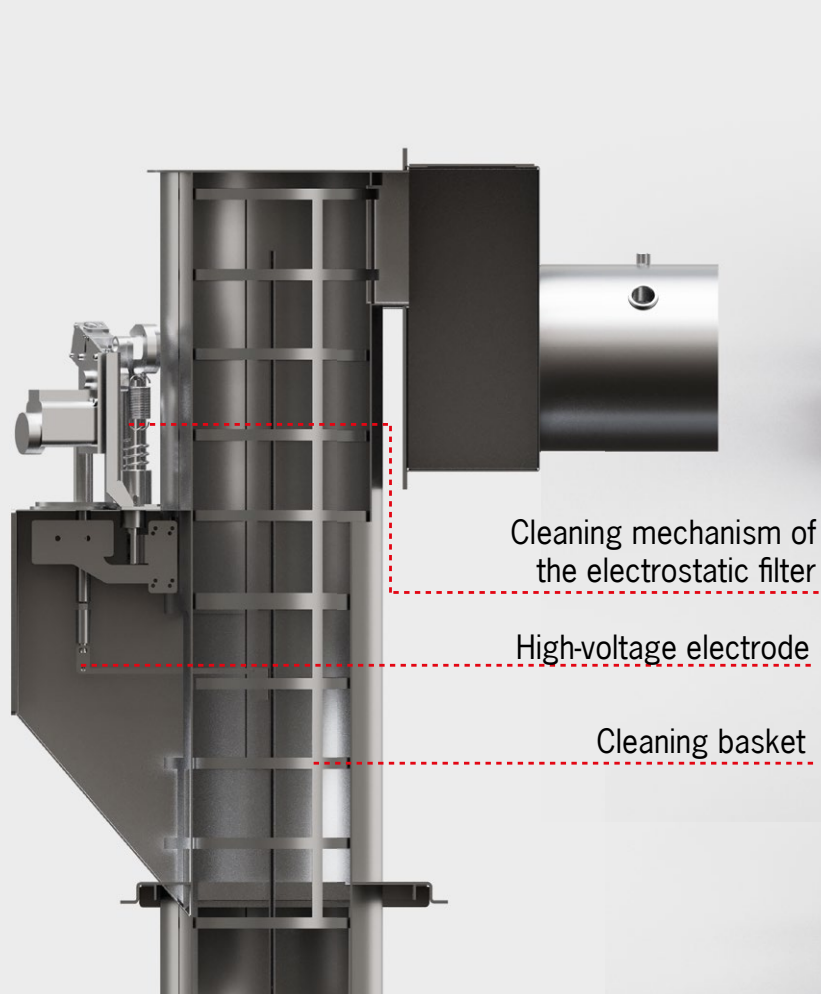
### Basic set "transfer system"



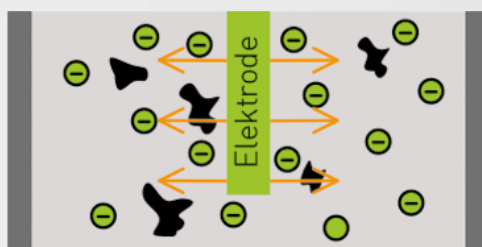
Basic set „Transfer system“ (3~ 400 V):

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

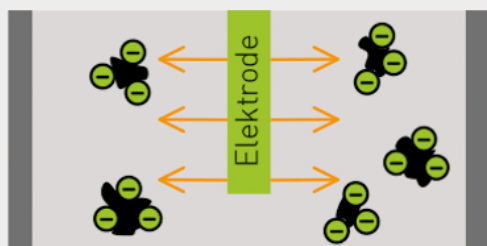
# Structure electric filter



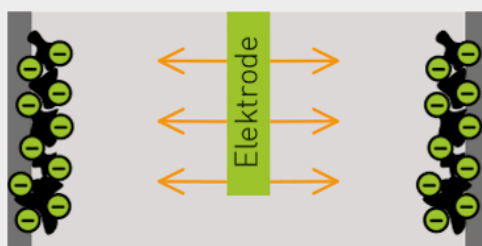
**01** The fine dust particles flow with the flue gas through the heat exchanger and then into the integrated filter tubes



**02** The electrons are released by a high-voltage electrode



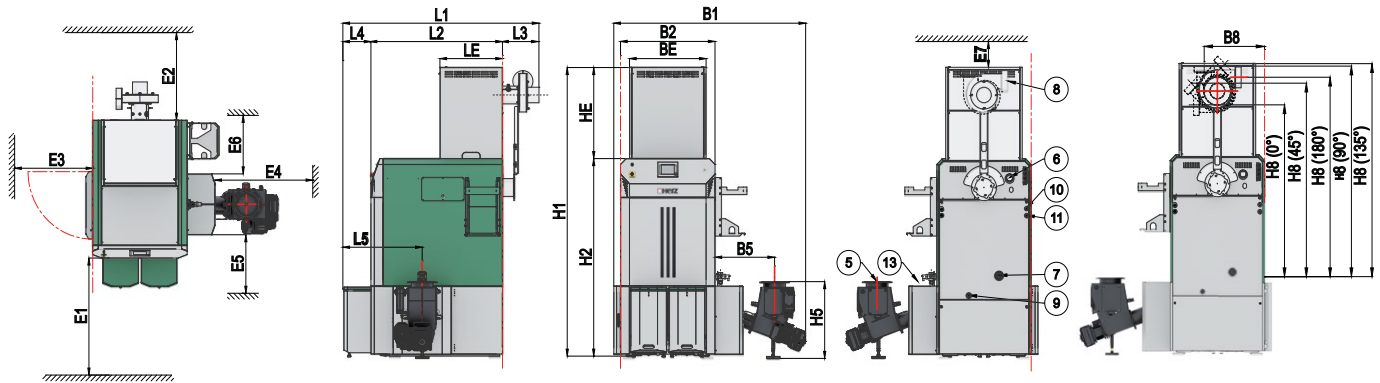
**03** The electrons move towards the wall of the inline filter due to the electrostatic forces. The fine dust particles are charged and also move towards the wall.



**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 high-voltage 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 front-mounted ash box.





## Technical data

		80	100	101
Output range according to type plate wood chips	kW	23,2 - 80	23,2 - 99	23,2 - 101
Output range according to type plate wood pellets	kW	22,9 - 80	22,9 - 99	22,9 - 101
Efficiency rate nominal load wood chips *	%	94,1	93,4	93,4
Efficiency rate nominal load wood pellets *	%	93,8	92,4	92,4
Boiler weight	kg	1170	1170	1170
Max. permissible operating temperature	°C	90	90	90
Operating overpressure [min-max]	bar	1,5 - 3	1,5 - 3	1,5 - 3
Water capacity	ltrs.	179	179	179

## Boiler data for calculation of the flue gas system

		80	100	101
Flue gas temperature woodchip nominal load / part load	°C	~ 110 / ~ 70	~ 125 / ~ 70	~ 125 / ~ 70
Flue gas mass flow rate wood chips nominal load / part load	kg/h	168,3 / 55,9	211,5 / 43	215,7 / 55,9
CO <sub>2</sub> content wood chips nominal load / part load	Vol. %	14,21 / 12,21	14,17 / 12,21	14,17 / 12,21
Flue gas temperature pellets nominal load / part load	°C	~ 110 / ~ 70	~ 140 / ~ 70	~ 140 / ~ 70
Flue gas mass flow rate pellets nominal load / part load	kg/h	173 / 42,6	211,6 / 42,6	215,9 / 42,6
CO <sub>2</sub> content pellets nominal load / part load	Vol. %	13,98 / 11,61	13,6 / 11,61	13,6 / 11,61

## Dimensions

		80 - 100 - 101
L1	Length	mm 1755
L2	Length	mm 1180
L3	Length	mm 330
L4	Length	mm 250
B1	Width	mm 1720
B2	Width	mm 845
H1	Height	mm 2485
H2	Height	mm 1710

## Dimensions electrostatic filter

		80 - 100 - 101
LE	Length	mm 560
BE	Width	mm 685
HE	Height	mm 780

## Minimal free areas

		80 - 100 - 101
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 875
E5	Free areas insertion	mm 500
E6	Free areas insertion	mm 500
E7	Free areas top [min]	mm 220

## Insertion dimensions

		80 - 100 - 101
	Length	mm 1285
	Width	mm 850
	Height	mm 1690

Subject to change in the interest of technical progress!

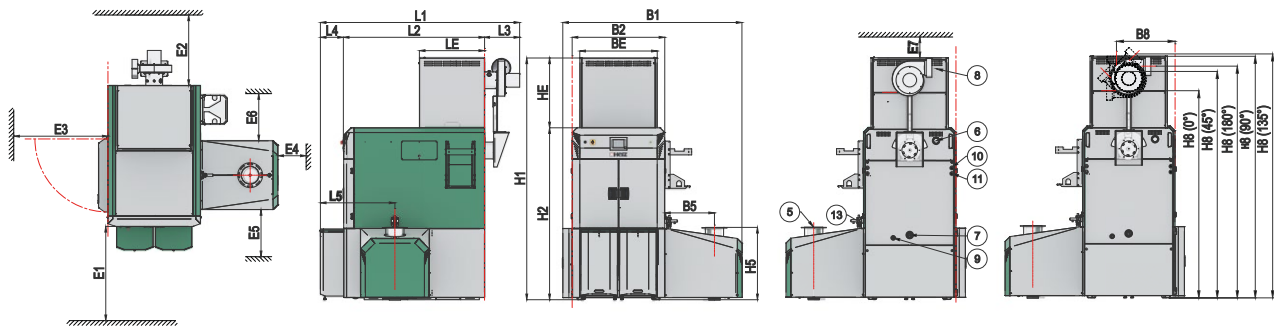
The specified free areas must be observed when carrying out maintenance and service work.

\* measured data from test report

## Connections

		80 - 100 - 101
5	Insertion flange back fire protection	mm Øi 182,5
L5	BFP-flap length	mm 710
B5	BFP-flap width	mm 535
H5	BFP-flap height	mm 655
6	Flow	2" IT
B6	Flow width	mm 190
H6	Flow height	mm 1225
7	Back flow	2" IT
B7	Back flow width	mm 290
H7	Back flow height	mm 695
8	Flue pipe connection	Øo 180 mm
B8	Flue pipe connection (90°)	mm 540
H8	Flue pipe connection (90°)	mm 2460
H8	Flue pipe connection (0°)	mm 2130
H8	Flue pipe connection (45°)	mm 2315
H8	Flue pipe connection (135°)	mm 2480
H8	Flue pipe connection (180°)	mm 2365
9	Filling/emptying	3/4" IT
B9	Filling/emptying width	mm 560
H9	Filling/emptying height	mm 520
10	Safety heat exchanger input	1/2" IT
B10	SHE width	mm 40
L10	SHE length	mm 1260
11	Safety heat exchanger output	1/2" IT
B11	SHE width	mm 40
L11	SHE length	mm 1200
13	Self-contained extinguishing water system	

IT internal thread; Øo outside diameter; Øi inside diameter



## 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 *	%	94,5	94,5	94,5	94,5
Efficiency rate nominal load wood pellets *	%	95,1	95,1	95,1	95,1
Boiler weight	kg	1844	1844	1844	1844
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	~ 110 / ~ 85	~ 110 / ~ 85	~ 130 / ~ 85	~ 130 / ~ 85
Flue gas mass flow rate wood chips nominal load / part load	kg/h	313 / 88,3	314,7 / 88,3	360,7 / 88,3	365,5 / 88,3
CO <sub>2</sub> content wood chips nominal load / part load	Vol. %	13,12 / 12,47	13,12 / 12,47	13,12 / 12,47	13,12 / 12,47
Flue gas temperature pellets nominal load / part load	°C	~ 120 / ~ 85	~ 130 / ~ 85	~ 140 / ~ 85	~ 140 / ~ 85
Flue gas mass flow rate pellets nominal load / part load	kg/h	248,6 / 81,5	277,5 / 81,5	318 / 81,5	322,3 / 81,5
CO <sub>2</sub> content pellets nominal load / part load	Vol. %	13,45 / 12,55	13,45 / 12,55	13,45 / 12,55	13,45 / 12,55

## Dimensions 120 - 130 - 149 - 151

L1	Length	mm	2115
L2	Length	mm	1500
L3	Length	mm	375
L4	Length	mm	245
B1	Width	mm	1905
B2	Width	mm	985
H1	Height	mm	2565
H2	Height	mm	1825

## Dimensions electrostatic filter 120 - 130 - 149 - 151

LE	Length	mm	695
BE	Width	mm	825
HE	Height	mm	740

## Minimal 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	1000
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	220

## Insertion dimensions 120 - 130 - 149 - 151

Length	mm	1600
Width	mm	985
Height	mm	1825

Subject to change in the interest of technical progress!

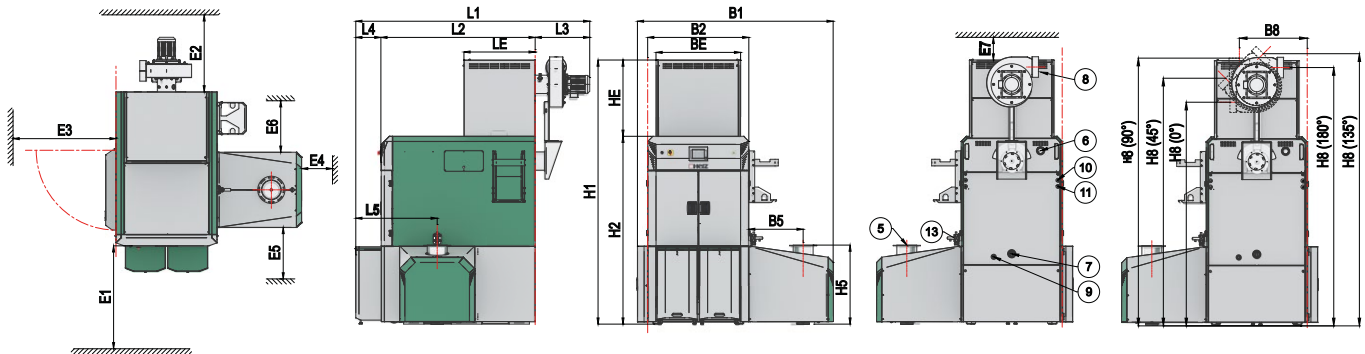
The specified free areas must be observed when carrying out maintenance and service work.

\*measured data from test report

## Connections

		120 - 130 - 149 - 151
5	Insertion flange back fire protection	Ø 182,5 mm
L5	BFP-flap length	mm 790
B5	BFP-flap width	mm 530
H5	BFP-flap height	mm 770
6	Flow	2" IT
B6	Flow width	mm 210
H6	Flow length	mm 1670
7	Back flow	2" IT
B7	Back flow width	mm 490
H7	Back flow length	mm 670
8	Flue pipe connection	Øo 200 mm
B8	Flue pipe connection (90°)	mm 625
H8	Flue pipe connection (90°)	mm 2565
H8	Flue pipe connection (0°)	mm 2200
H8	Flue pipe connection (45°)	mm 2405
H8	Flue pipe connection (135°)	mm 2590
H8	Flue pipe connection (180°)	mm 2460
9	Filling/emptying	3/4" IT
B9	Filling/emptying width	mm 665
H9	Filling/emptying height	mm 660
10	Safety heat exchanger input	1/2" IT
B10	SHE width	mm 45
L10	SHE length	mm 1405
11	Safety heat exchanger output	1/2" IT
B11	SHE width	mm 45
L11	SHE length	mm 1345
13	Self-contained extinguishing water system	

IT internal thread; Øi inside diameter; Øo outside diameter



## 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 *	%	94,5	94,5	94,5
Efficiency rate nominal load wood pellets *	%	95,1	95,1	95,1
Boiler weight	kg	1854	1854	1854
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	~ 140 / ~ 85	~ 150 / ~ 85	~ 150 / ~ 85
Flue gas mass flow rate wood chips nominal load / part load	kg/h	414,9 / 88,3	441,4 / 88,3	442,8 / 88,3
CO <sub>2</sub> content wood chips nominal load / part load	Vol. %	13,52 / 12,41	13,52 / 12,41	13,52 / 12,41
Flue gas temperature pellets nominal load / part load	°C	~ 150 / ~ 85	~ 170 / ~ 85	~ 170 / ~ 85
Flue gas mass flow rate pellets nominal load / part load	kg/h	396,5 / 81,5	438,4 / 81,5	440,3 / 81,5
CO <sub>2</sub> content pellets nominal load / part load	Vol. %	13,29 / 12,55	13,29 / 12,55	13,29 / 12,55

## Dimensions

### 180 - 199 - 201

L1	Length	mm	2275
L2	Length	mm	1500
L3	Length	mm	530
L4	Length	mm	245
B1	Width	mm	1905
B2	Width	mm	985
H1	Height	mm	2565
H2	Height	mm	1825

## Dimensions electrostatic filter

### 180 - 199 - 201

LE	Length	mm	695
BE	Width	mm	825
HE	Height	mm	740

## Minimal 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	1000
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	220

## Insertion dimensions

### 180 - 199 - 201

	Length	mm	1600
	Width	mm	985
	Height	mm	1825

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

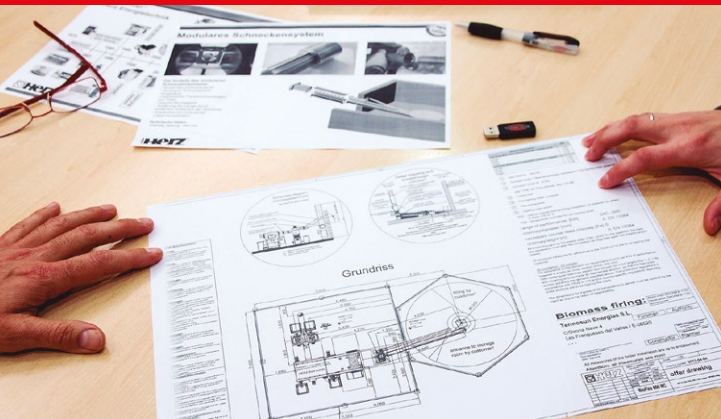
### 180 - 199 - 201

5	Insertion flange back fire protection	mm	Øi 182,5
L5	BFP-flap length	mm	790
B5	BFP-flap width	mm	530
H5	BFP-flap height	mm	770
6	Flow		2" IT
B6	Flow width	mm	210
H6	Flow height	mm	1670
7	Back flow		2" IT
B7	Back flow width	mm	490
H7	Back flow height	mm	670
8	Flue pipe connection		Øo 200 mm
B8	Flue pipe connection (90°)	mm	660
H8	Flue pipe connection (90°)	mm	2602
H8	Flue pipe connection (0°)	mm	2175
H8	Flue pipe connection (45°)	mm	2405
H8	Flue pipe connection (135°)	mm	2645
H8	Flue pipe connection (180°)	mm	2510
9	Filling/emptying		3/4" IT
B9	Filling/emptying width	mm	665
H9	Filling/emptying height	mm	660
10	Safety heat exchanger input		1/2" IT
B10	SHE width	mm	45
H10	SHE height	mm	1405
11	Safety heat exchanger output		1/2" IT
B11	SHE width	mm	45
H11	SHE height	mm	1345
13	Self-contained extinguishing water system		

Øo outside diameter; Øi inside diameter; IT internal thread



# HERZ customer-oriented...



- Advising 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](mailto:office-energie@herz.eu)

Web: [www.herz-energie.at](http://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](mailto:office-deutschland@herz.eu)

Web: [www.herz-energie.de](http://www.herz-energie.de)

Your partner:

