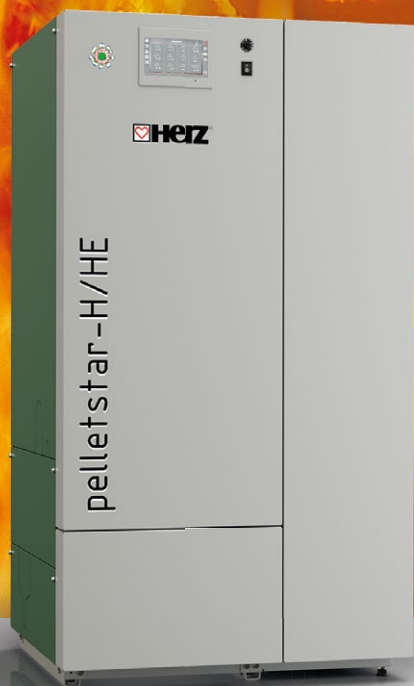




# HERZ pellet boiler optionally with electrostatic filter



**pelletstar**  
-H/HE 10-30



**pelletstar**  
-H/HE 70-105

# 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
- 43 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 43 sites in 12 European countries and more than 3.500 employees at home and abroad, HERZ is the only Austrian manufacturer that produces equipment for the entire heating and installation industry and is one of the most important internationally.

### HERZ Energietechnik GmbH

HERZ Energietechnik employs 200 people in production and sales. At the company sites in Pinkafeld/Burgenland and Sebersdorf/Styria, there is state-of-the-art production as well as a research institute for new, innovative products. 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.

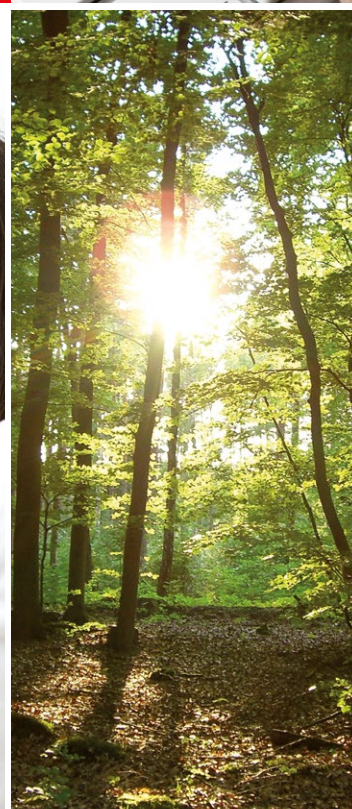
### HERZ for the environment

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



## Decades of experience

- Internal development and test centre
- Austrian quality with a world wide market
- Area covered service
- ISO 9001 Certification
- FMEA approved boiler production

## Advantages & scope of delivery of the HERZ pelletstar-H/HE

	-H 10-30	-HE 10-30	-H 70-105	-HE 70-105
• T-Control - the user-friendly control with touch display	✓	✓	✓	✓
• Integrated electrostatic filter		✓		✓
• Consistently high efficiency / seasonal efficiency: > 81%	✓	✓	✓	✓
• Automatic ignition and automatic heating operation	✓	✓	✓	✓
• Full automatic heat exchanger cleaning	✓	✓	✓	✓
• Full automatic cleaning of the burner by tipping the grate against a matrix	✓	✓	✓	✓
• Modular design	✓	✓	✓	✓
• Completion set suction discharge	✓	✓	✓	✓
• Completion set screw discharge	✓	✓	✓	✓
• Completion set manual filling system	✓	✓		
• Automatic pellet supply via various discharge systems	✓	✓	✓	✓
• External suction hopper DIRECT for more comfort			✓	✓
• With flow sensor as standard and OPTIONAL with integrated back flow elevation	✓	✓		

## Fuel

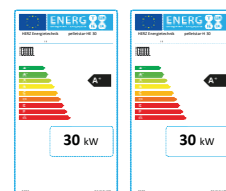


### Wood pellets (Ø 6mm) according to

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

## Energy efficiency class

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



# Easy, modern and comfortable with the ...



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

## T-CONTROL

### The central control unit for:

- Combustion control
- Lambda probe control (controls the combustion air and fuel input)
- Buffer management
- Domestic hot water preparation (via hot water tank or buffer with fresh water module)
- Back flow elevation (actuator drive and pump)
- Controlled heating circuits (actuator drive and pump)
- Solar system (also with PWM)
- 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 extension possibilities up to 30 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.)



## 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. The handling is the same as in the Touch-Control directly on the boiler. The processes and parameters can be read and modified any time from anywhere.

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

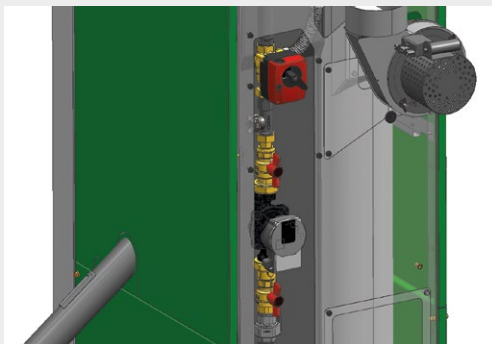


# Advantages and details ...



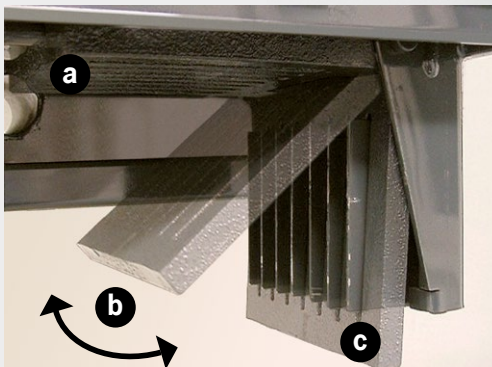
**T-Control - the userfriendly control with touch-display**

- **Central control unit as standard for:**
  - Combustion control with lambda probe
  - Buffer management
  - Regulated heating circuit with outside temperature sensor
  - Domestic hot water preparation (via hot water tank or buffer with fresh water module)
  - Back flow elevation (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



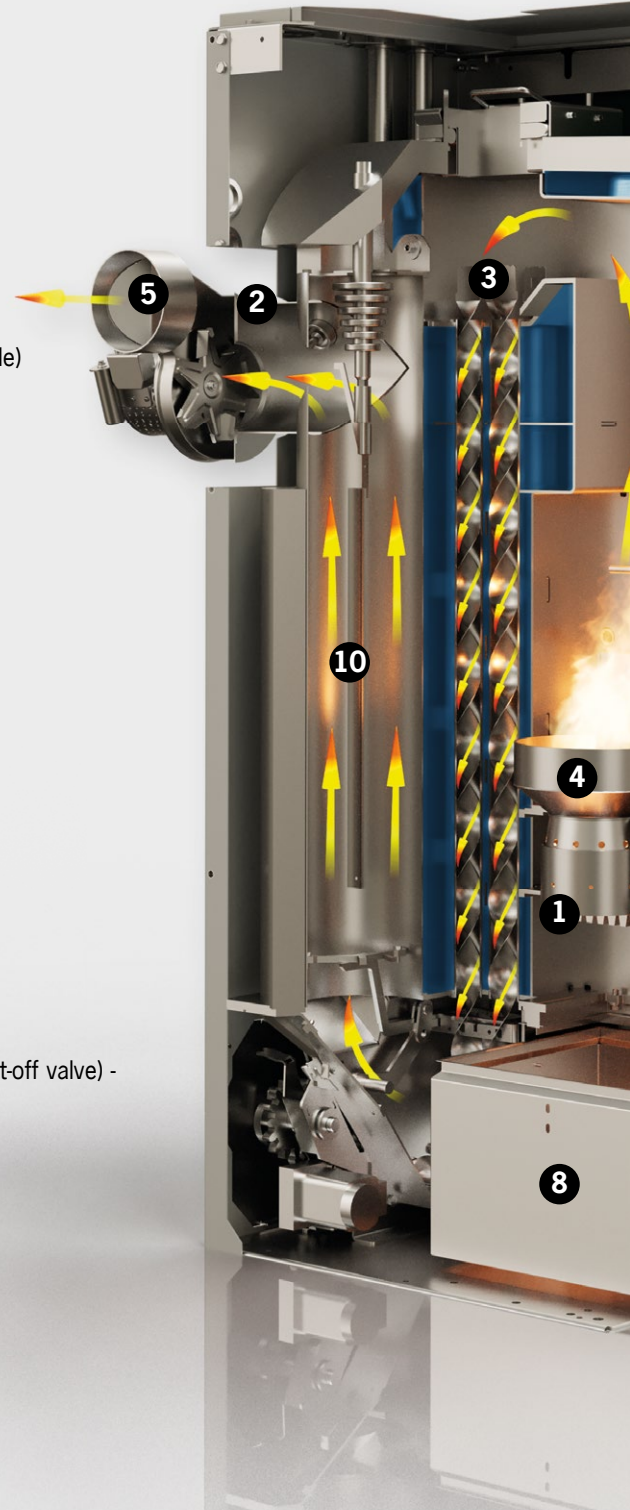
**With flow sensor as standard and OPTIONAL with integrated back flow elevation**

- OPTIONAL: back flow elevation set integrated in the boiler (PWM pump, mixer & shut-off valve) - space-saving option.
- The flow sensor installed as standard is used for energy supply display.



**Automatic cleaning of the combustion grate via tipping grate**

- Automatic cleaning of the combustion grate is done by tipping the grate against a matrix.
  - Due to the clean combustion grate an optimal air supply is guaranteed.
  - The ash accumulating in the combustion chamber simply falls into the ash box below. This is easily accessible from the front and can therefore be emptied simply.
- a) Combustion tipping grate closed (during heating mode)  
 b) Combustion tipping grate tilts down by motor drive  
 c) Combustion tipping grate presses against a matrix



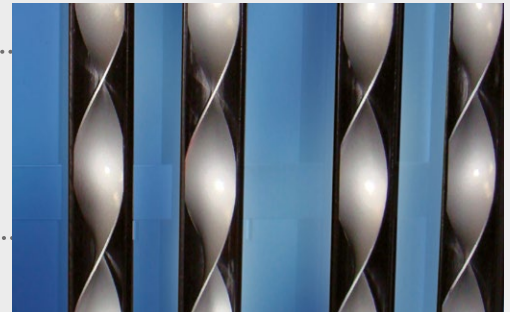
# ...of the HERZ pelletstar-H/HE 10-30

## Energy saving combustion due to the lambda probe



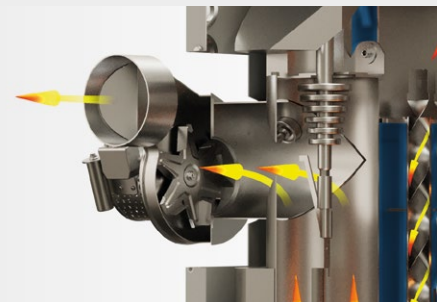
- A built in lambda probe, which monitors continuously the flue gas content values, detects fuel quality changes and ensures optimum combustion and low emission values.
- The lambda probe controls the air and material supply, ensuring clean combustion even at partial load.
- The results are lower fuel consumption and lowest emission values even with different fuel qualities.

## Automatic cleaning of the heat exchanger



- The heat exchanger surfaces are automatically cleaned via the integrated turbulators, even during heating operation and therefore no manual cleaning is necessary.
- Consistently high efficiency due to cleaned heat exchanger surfaces ensures a lower fuel consumption.

## Integrated electrostatic filter for pelletstar-HE



- 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 cleaning.

**Illustration:**  
pelletstar-HE - version screw discharge system

- 1. Combustion grate with matrix and automatic ignition**
- 2. Lambda probe control**  
automatic flue gas and combustion monitoring
- 3. Automatic cleaning of the pipe heat exchangers** due to integrated turbulators
- 4. High heat resistant stainless steel combustion chamber** with tipping grate

- 5. ID-fan**
- 6. Pellets insertion**
- 7. Certified back fire protection flap (BFP):**
  - Cell wheel (at integrated hopper or suction hopper)
  - Automatically tight-closing flap (for screw discharge or external pellet hopper)

- 8. Integrated ash box for combustion and fly ash** - version with electrostatic filter: the ash of the filter is collected as well
- 9. 3 completion set available:**
  - Screw discharge system
  - Suction discharge with integrated suction hopper: 56 litres
  - Manual filling with integrated manual filling hopper: 106 litres
- 10. Integrated electrostatic filter** for pelletstar-HE

# Advantages and details ...



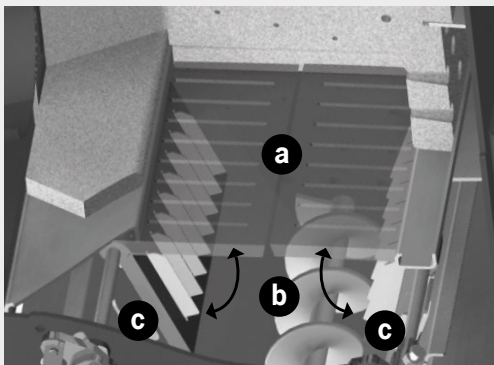
**T-Control - the userfriendly control with touch-display**

- **Central control unit as standard for:**
  - Combustion control
  - Buffer management
  - Regulated heating circuit with outside temperature sensor
  - Domestic hot water preparation (via hot water tank or buffer with fresh water module)
  - Back flow elevation (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



**Double-cell wheel valve for suction version**

- The double cell wheel in the boiler version with external suction hopper DIRECT enables suction during operation.



**Automatic cleaning of the combustion grate by double tipping grate**

- Automatic cleaning of the combustion grate is done by tipping the grate against a matrix.
- Due to the clean combustion grate an optimal air supply is guaranteed.
- The ash accumulating in the combustion chamber simply falls into the ash box below. This is easily accessible from the front and can therefore be emptied simply.

- a) Combustion tipping grate closed (during heating mode)
- b) Combustion tipping grate tilts down by motor drive
- c) Combustion tipping grate presses against a matrix





# ...of the HERZ pelletstar-H/HE 70-105

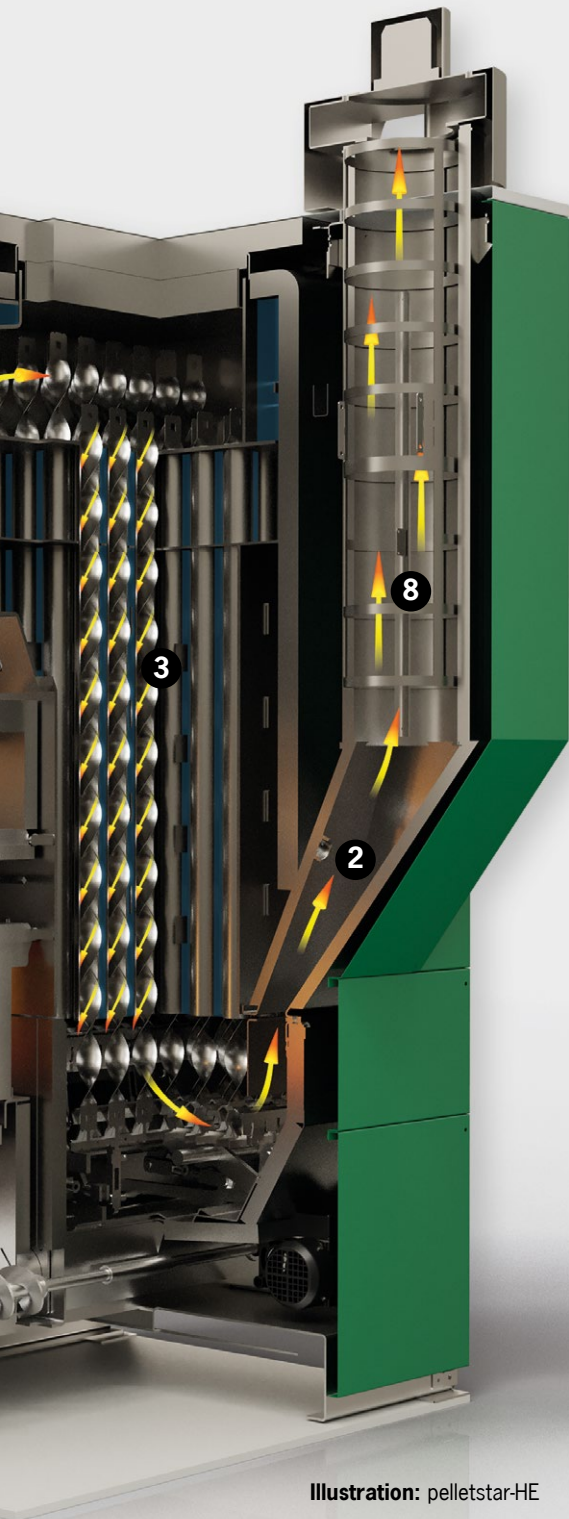


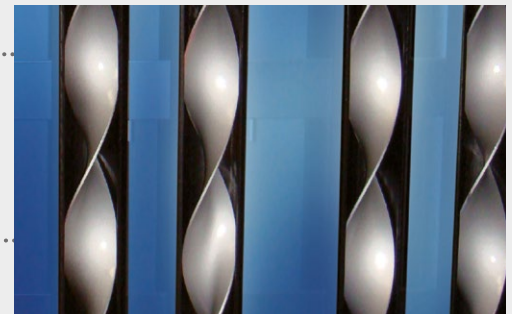
Illustration: pelletstar-HE

## Energy saving combustion due to the lambda probe



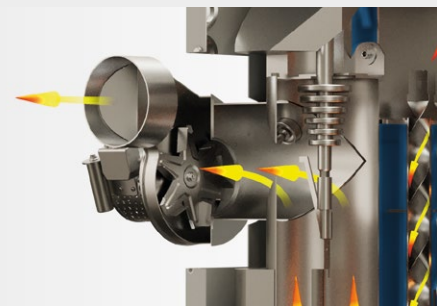
- A built in lambda probe, which monitors continuously the flue gas content values, detects fuel quality changes and ensures optimum combustion and low emission values.
- The lambda probe controls the air and material supply, ensuring clean combustion even at partial load.
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## Integrated electrostatic filter for pelletstar-HE



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- 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. **Double tipping grate with matrix**
2. **Lambda probe control**  
automatic flue gas and combustion monitoring
3. **Automatic cleaning of the pipe heat exchangers** due to integrated turbulators
4. **Automatic ignition**

5. **Combustion chamber** made of high temperature resistant refractory concrete (SiC) with double tipping grate
6. **External ash box with separate chambers for the combustion & fly ash** - for the version with electrostatic filter the ash of the filter is collected as well

7. **2 separate ash screws** transport the ash into the front ash box
8. **Integrated electrostatic filter** for pelletstar-HE (arrangement left or right possible)
9. **T-Control** - the central control unit with userfriendly touch-display

# Full automatic pellets discharge systems

HERZ offers a variety of solutions to store the wood pellets and to discharge the fuel via various systems to the boiler. Whether a room discharge with flexible screw or with suction system: Due to the wide range of discharge variants, HERZ has the optimal solution for each room and space situation.

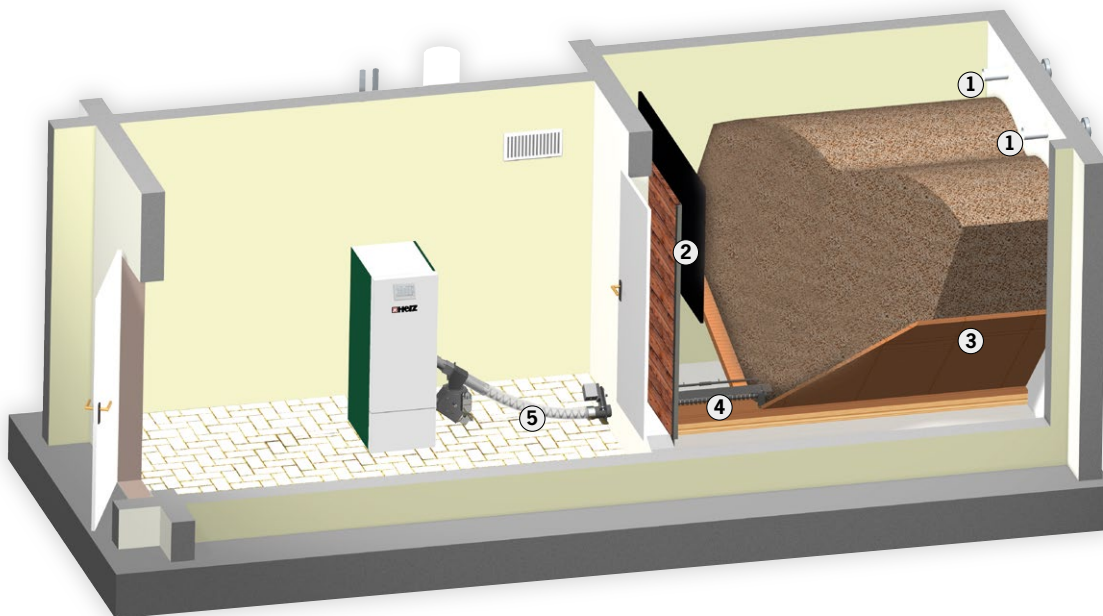
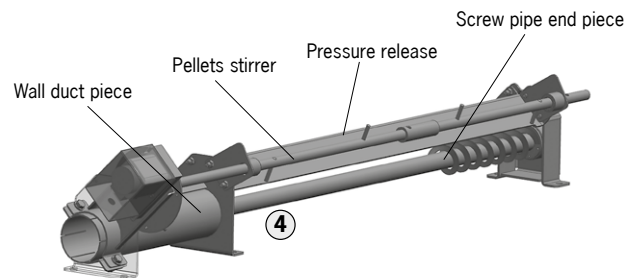
If there is no pellet storage room available, there is also the possibility of a bag silo, which can be placed for example, directly in the boiler room.

## Discharge via flexible screw

The room discharge with a flexible screw is an easy and energy saving solution to empty the storage room in an efficient way.

### The advantages of the flexible screw discharge system

- Inexpensive purchase
- Extremely quiet operation
- Gentle transport of the pellets
- Flexible screw bending radius: min. 1.25 metre
- Length of the screw: max. 9.5 metre  
(for longer distances a solution with a transfer system to a second flexible screw is possible)
- Max. bulk height: 4 metres



### 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 serves to protect the pellets during the blow in and is mounted opposite of the injection and extraction nozzles.

### 3. Slide ramps

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

### 4. Screw system in the storage room

### 5. Flexible screw

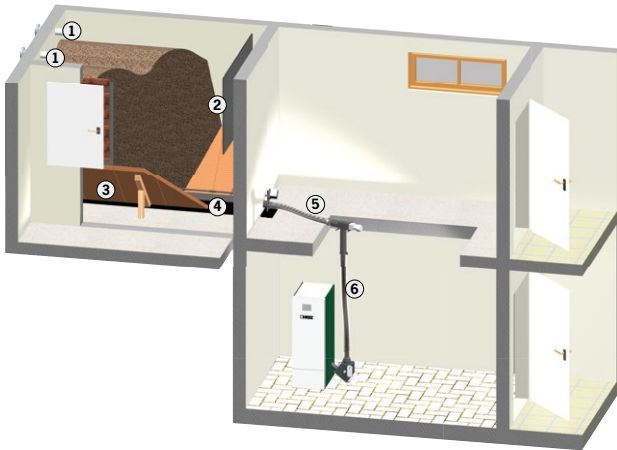
The flexible discharge screw consists of a screw spiral which gently transports the pellets to the boiler.

## Discharge via flexible screw - chute pipe system

The storage room is located one floor higher than the boiler room or in the attic? This is no problem with the flexible screw discharge with chute pipe system!

### Chute pipe

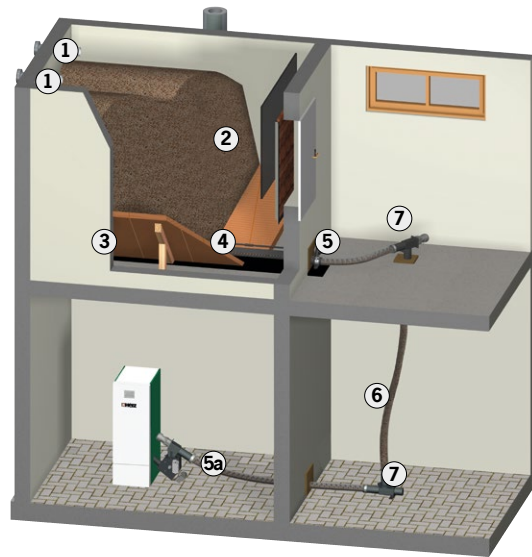
The pellets are transported via the chute pipe directly to the boiler.



1. Injection and extraction nozzles
2. Pellets impact mat
3. Slide ramps
4. Screw system in the storage room
5. Flexible screw
6. Chute pipe
7. Transfer system

### Chute pipe system with transfer system

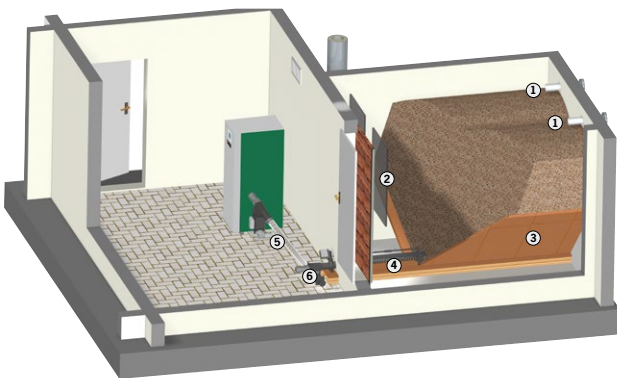
After the chute pipe the pellets are transported via a transfer station with an additional flexible screw to the boiler. This results in even more flexibility and the system can be optimally adapted to the local conditions.



## Discharge via flexible screw - transfer system

### Transfer system FIX:

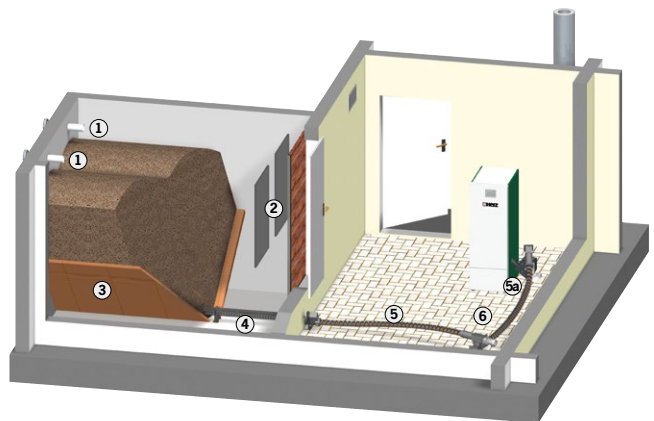
The transfer unit is located immediately after the storage room.



1. Injection and extraction nozzles
2. Pellets impact mat
3. Slide ramps
4. Screw system in the storage room
5. Flexible screw
- 5a. Second flexible screw
6. Transfer system

### Transfer system:

The pellets are transported via two flexible screws with intermediate transfer unit to the boiler. This makes it even more flexible and can also be used for larger distances.



# Full automatic pellets discharge systems

## Discharge via suction system

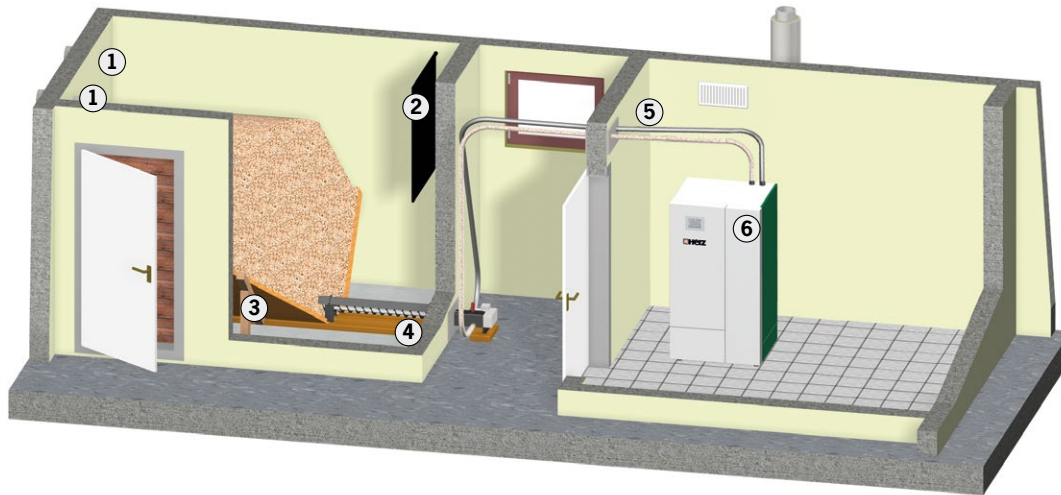
The suction systems of HERZ are the ideal solution for longer distances from the storage room to the boiler.

### Modular discharge screw in the storage room in combination with 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).



### 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 serves to protect the pellets during the blow in and is mounted opposite of the injection and extraction nozzles.

### 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

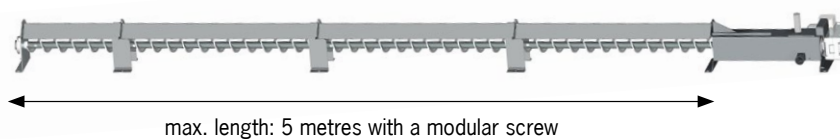
The suction- and reverse air tubes can be installed flexible and individually adapted to the local conditions. Thereby long distances between the storage room and the heating room can be realized.

### 6. Integrated pellet hopper with suction turbine at 10-30 kW

In the case of the completion set suction discharge, the pellet hopper is integrated in the boiler.

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

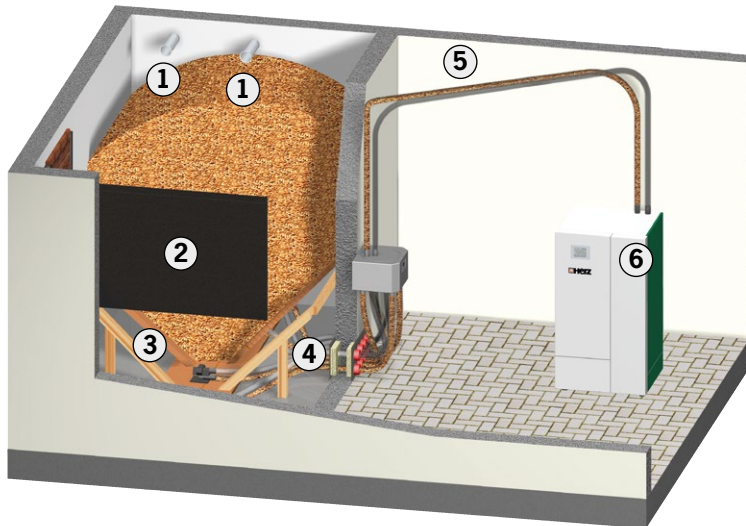
The screw system in the storage room is modular, that means the system consists of elements which can be combined according to the room situation or the room size.



## Discharge via point suction system

### 4-point-suction system

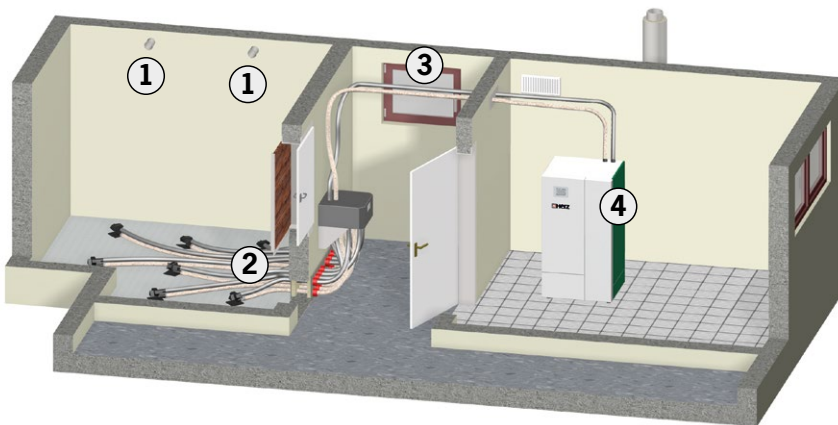
The position of the 4 suction points is individually selectable. The system can be installed easily and is an adaptable, universal solution to each storage room situation.



1. Injection and extraction nozzles
2. Pellets impact mat
3. Slide ramps
4. Suction probe
5. Suction- and reverse air tube
6. Integrated pellet hopper including suction turbine at 10-30 kW (for 70-105 kW - suction hopper direct)

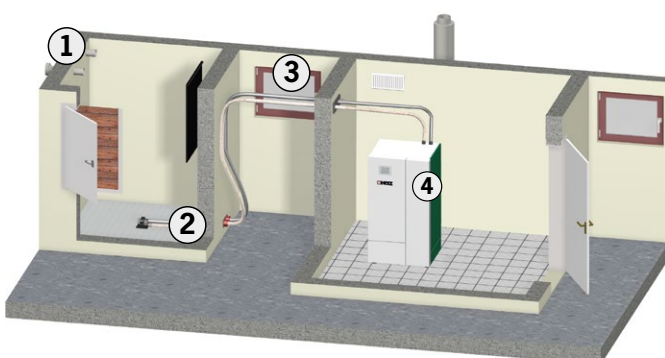
### 8-point-suction system

The position of the 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. Suction probe
3. Suction- and reverse air tube
4. for 10-30 kW the suction hopper is integrated in the boiler (for 70-105 kW - suction hopper DIRECT)

**Discharge system with 1 suction probe:** ideal for small storage rooms and less pellets demand (1-point suction)



1. Injection and extraction nozzles
2. Suction probe
3. Suction- and reverse air tube
4. for 10-30 kW the suction hopper is integrated in the boiler (for 70-105 kW - suction hopper DIRECT)

# Storage systems from HERZ

## System bag silo



### THE ADVANTAGES IN DETAIL:

#### Simple and quick installation

The bag silo can be installed & assembled easy and fast. If the silo is not on the right place after installation, it can be easily rearranged.

#### Clean

The special antistatic polyester fabric prevents that dust escapes from the silo, whereby a clean filling and a dust-free operation is possible.

#### Careful storage

The pellets are protected during filling by the integrated impact mat inside of the bag silo. In addition, the silo provides an optimal environment for the careful storage of the fuel.

#### Individual placeable

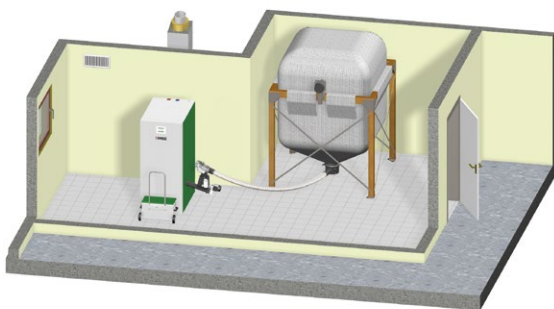
The place of installation of the silo can be selected individually. Due to the variety of the pellets discharge systems HERZ offers for each place and room situation the optimum solution.

#### User friendly

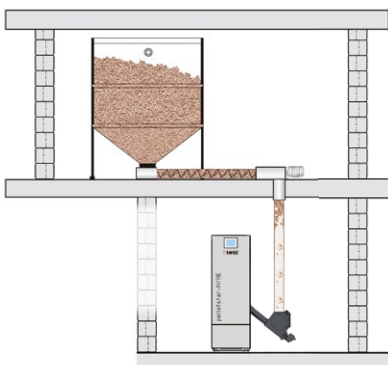
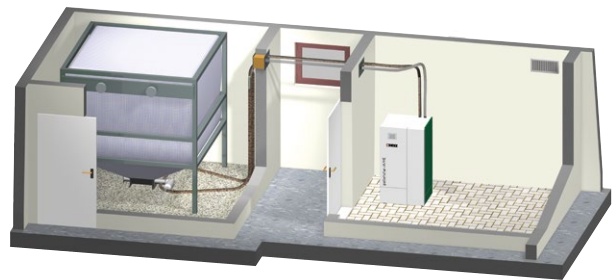
The complete system saves time-consuming construction and installation costs. Additionally, the system offers the cost-effective acquisition and full automatic & maintenance-friendly operation.

The HERZ bag silo is available in different sizes with storage capacities from 1.1 up to 13.8 m<sup>3</sup>. If no pellet storage room is available, there is the possibility of a bag silo. The bag silo can be placed directly in the boiler room (depending on national regulations).

### Room discharge with flexible screw from a bag silo



### Suction discharge via suction system from a bag silo

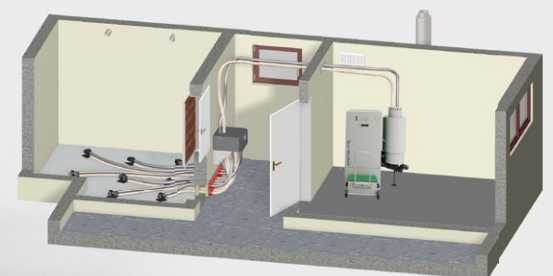
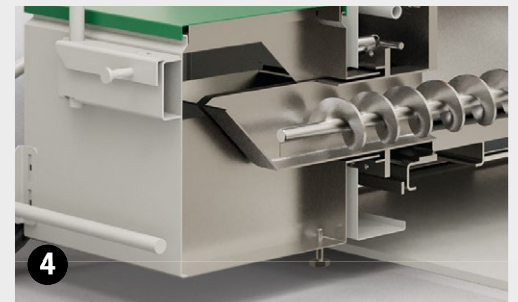


If the bag silo is placed a floor higher the pellets transport is done via a flexible discharge screw with chute pipe system.

# Suction hopper DIRECT for pelletstar-H/HE 70-105

## Suction hopper DIRECT for suction in operation

In addition to the completion set screw discharge that is already established on the market, HERZ now offers a compact suction discharge for the pellet boiler as a completion set for the basic boiler package of the pelletstar-H/HE 70-105 kW. The suction hopper DIRECT, with a capacity of 125 litres or 81 kilograms, is equipped with a double cell wheel, enabling suction during operation.



**Illustration:** suction hopper DIRECT in combination with 8-point-suction system

### Technical data suction hopper DIRECT

Capacity	approx. 125 ltrs./81 kg pellets
Weight	80 kg
Dimensions (LxWxH)	500x540x1430 mm
Insertion dimensions	500x540x1430 mm
Minimal gap top	350 mm

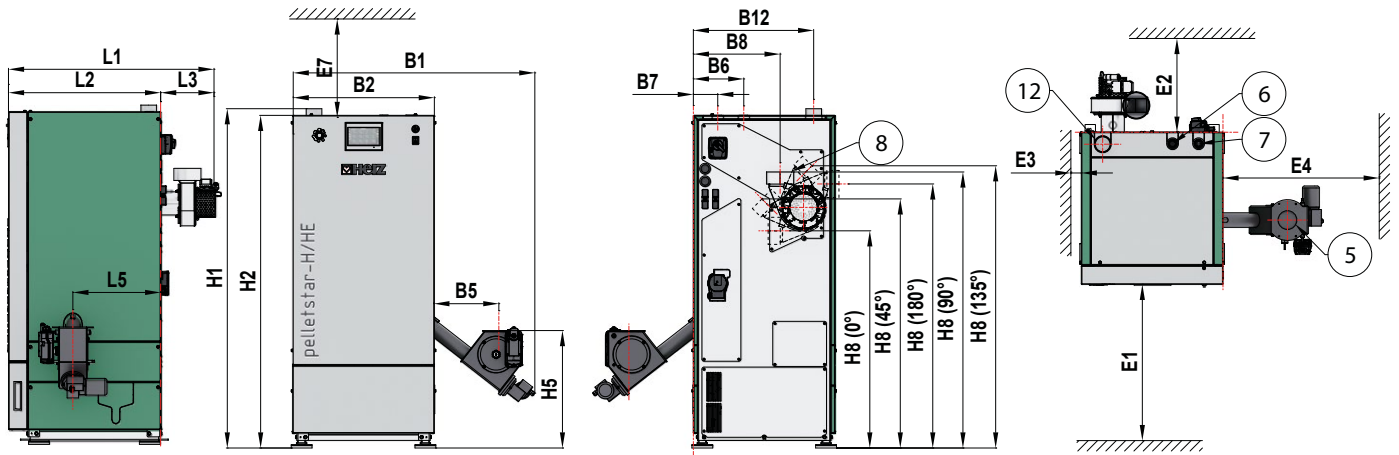
- 1. External suction hopper DIRECT**
  - Capacity: 125 litres / 81 kilograms of pellets
  - The arrangement of the hopper is possible on the left or right side!
  - For the version with electrostatic filter, the hopper have to be installed on the opposite side.

- 2. Approved back-fire-protection flap (BFP):** Double cell wheel in the version with suction hopper DIRECT enables suction during operation
- 3. Lateral insertion**

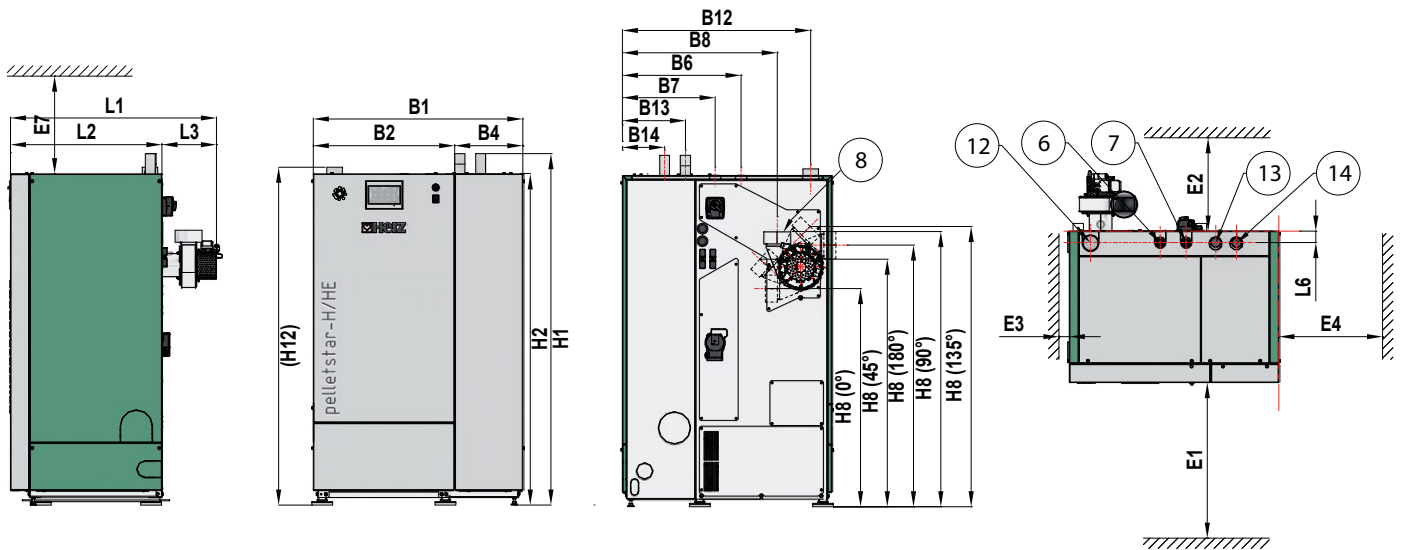
- 4. Front ash box** for combustion & fly ash with separate ash chambers and two ash discharge screws
- 5. T-Control** - the central control unit with userfriendly touch-display

# Dimensions & technical data

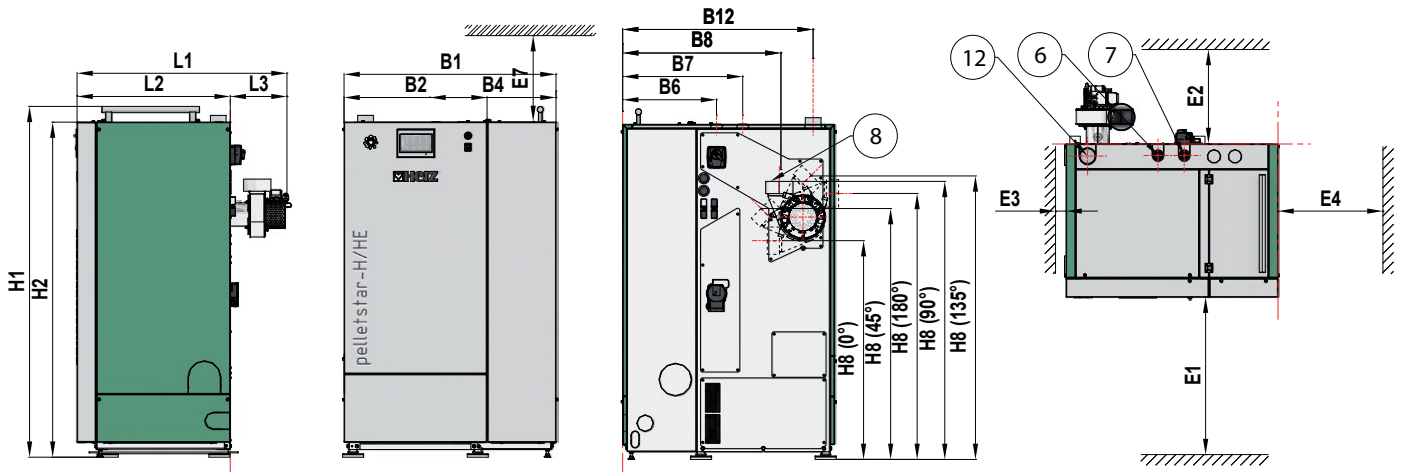
## Completion set screw discharge system



## Completion set suction system



## Completion set hand filling system





pelletstar-H/HE		10	14	18	20	30
Output range	kW	3,0-10,0	3,0-14,0	3,0-18,0	5,7-20,0	5,7-30,0
Boiler weight(H/HE) - screw discharge	kg	~370/~380	~370/~380	~370/~380	~460/~470	~460/~470
Boiler weight (H/HE) - suction discharge	kg	~370/~380	~370/~380	~370/~380	~460/~470	~460/~470
Boiler weight (H/HE) - manual filling discharge	kg	~370/~380	~370/~380	~370/~380	~460/~470	~460/~470
Boiler efficiency $\Delta T=20K$ [%] nominal load (H/HE)	%	95,7/95,7	95,7/95,7	94,7/94,7	94,5/94,5	93,4/93,4
Boiler efficiency $\Delta T=20K$ [%] part load (H/HE)	%	94,0/94,0	94,0/94,0	94,0/94,0	94,6/94,6	94,6/94,6
Min./max. permissible delivery pressure (negative pressure)	Pa	5/10	5/10	5/10	5/10	5/10
Max. operating overpressure	bar	3,0	3,0	3,0	3,0	3,0
Max. permissible operating temperature	°C	90	90	90	90	90
Water capacity	ltrs.	53	53	53	58	58
Volume integrated suction hopper	ltrs.	56	56	56	56	56
Volume integrated manual filling hopper	ltrs.	106	106	106	106	106

## Boiler data for calculation of the flue gas system

PART LOAD:FULL LOAD	Flue gas temperature $\Delta T=20K$ (H/HE)		°C	~120/~120	~130/~130	~140/~140	~130/~130	~140/~140
	Flue gas mass flow $\Delta T=20K$ (H/HE)		kg/h	23,63/22,85	33,09/32,00	43,31/40,72	45,86/45,80	67,08/67,52
	CO <sub>2</sub> content $\Delta T=20K$ (H/HE)		Vol. %	13,51/13,09	13,51/13,09	13,29/13,49	11,92/11,91	13,19/13,05
	Flue gas temperature $\Delta T=20K$ (H/HE)		°C	~70/~70	~70/~70	~70/~70	~70/~70	~70/~70
	Flue gas mass flow $\Delta T=20K$ (H/HE)		kg/h	9,84/8,05	9,84/8,05	9,84/8,05	14,66/14,71	14,66/14,71
	CO <sub>2</sub> content $\Delta T=20K$ (H/HE)		Vol. %	11,27/11,27	11,27/11,27	11,27/11,27	11,00/11,07	11,00/11,07

## Energy efficiency class

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

## Dimensions

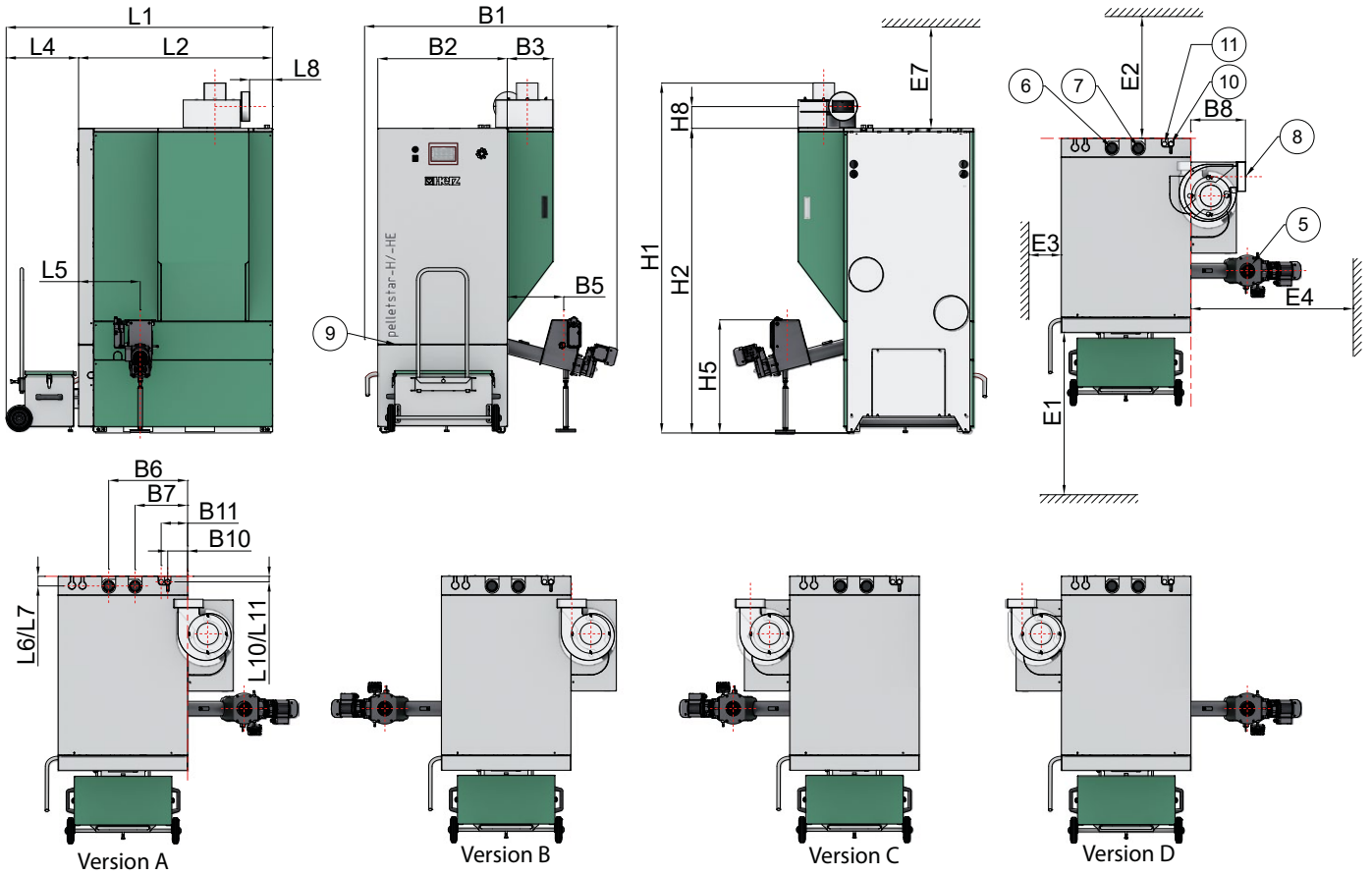
L1	Length - total	mm	970	970	970	995	995
B1	Width - total screw discharge system	mm	1155	1155	1155	1155	1155
B1	Width - total suction discharge	mm	860	860	860	1010	1010
B1	Width - total manual filling system	mm	860	860	860	1010	1010
B2	Width - basic boiler	mm	530	530	530	680	680
B4	Width - suction hopper	mm	330	330	330	330	330
B4	Width - hand filling hopper	mm	330	330	330	330	330
H1	Height - total screw discharge	mm	1630	1630	1630	1630	1630
H1	Height - total suction discharge	mm	1695	1695	1695	1695	1695
H1	Height - total manual filling system	mm	1670	1670	1670	1670	1670
E1-7	Minimal gap screw discharge (E1/E2/E3/E4/E7)	mm	version right	750/450/50/750/470*			
E1-7	Minimal gap screw discharge (E1/E2/E3/E4/E7)	mm	version left	750/450/500/50/470*			
E1-7	Minimal gap suction discharge (E1/E2/E3/E4/E7)	mm	750/450/50(500)/500(50)/470**				
E1-7	Minimal gap manual filling system (E1/E2/E3/E4/E7)	mm	750/450/50(500)/500(50)/470**				
	Insertion dimensions - depth/width/height - screw discharge system	mm	730/530/1580	730/530/1580	730/530/1580	730/680/1580	730/680/1580
	Insertion dimensions - depth/width/height - suction discharge system	mm	730/530/1580	730/530/1580	730/530/1580	730/680/1580	730/680/1580
	Insertion dimensions - depth/width/height - manual filling system	mm	730/530/1580	730/530/1580	730/530/1580	730/680/1580	730/680/1580
5	Flange back-fire-protection flap (for screw discharge)		Øi 90 mm	Øi 90 mm	Øi 90 mm	Øi 90 mm	Øi 90 mm
6	Flow		1" IT	1" IT	1" IT	1" IT	1" IT
7	Back flow		1" IT	1" IT	1" IT	1" IT	1" IT
8	Flue pipe connection		Ø 130 mm	Ø 130 mm	Ø 130 mm	Ø 130 mm	Ø 130 mm
H8	Flue pipe connection (90°/0°)/(45°)/(135°/180°) screw discharge	mm	1325/1050/1205/1351/1260				
H8	Flue pipe connection (90°/0°)/(45°)/(135°/180°) suction discharge	mm	1323/1050/1195/1350/1260				
H8	Flue pipe connection (90°/0°)/(45°)/(135°/180°) manual filling discharge	mm	1325/1050/1205/1351/1260				
9	Filling/emptying (under the casing)		1/2" ET	1/2" ET	1/2" ET	1/2" ET	1/2" ET
12	Connection room air independent operation (optional)		Ø 75 mm	Ø 75 mm	Ø 75 mm	Ø 75 mm	Ø 75 mm

E1 minimal gap front, E2 minimal gap back, E3 minimal gap left, E4 minimal gap right, E7 minimal gap top; IT internal thread, ET external thread  
 \*Right version shown - left version also possible \*\* Access to the back side of the boiler required

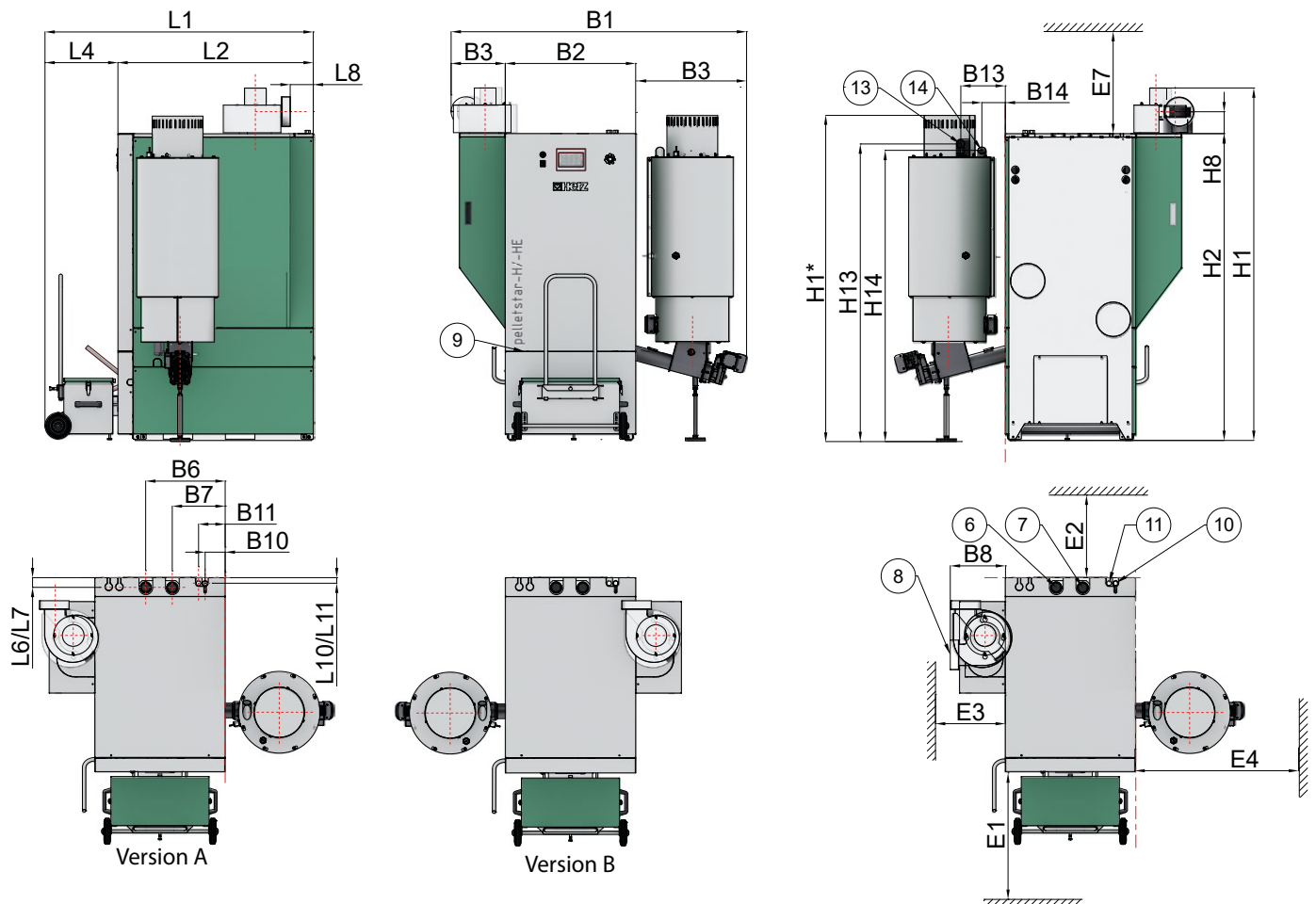
Detailed descriptions of the dimensions and details can be found in the sheet of standards. Technical changes reserved!

# Dimensions & technical data

## Completion set screw discharge system



## Completion set suction system



pelletstar-H/HE		70	80	100	105
Output range pelletstar-H / (pelletstar-HE)	kW	20,5-70,0 / (20,7-70,0)	20,5-80,0 / (20,7-80,0)	20,5-100,0 / (20,7-100,0)	20,5-105,0 / (20,7-105,0)
Boiler weight (H/HE) - screw discharge	kg	~1025/~1065	~1025/~1065	~1025/~1065	~1025/~1065
Boiler weight (H/HE) - suction discharge	kg	~1085/~1125	~1085/~1125	~1085/~1125	~1085/~1125
Boiler efficiency $\Delta T=20K$ [%] nominal load (H/HE)	%	95,4/95,4	95,4/95,4	93,7/93,5	93,7/93,5
Boiler efficiency $\Delta T=20K$ [%] part load (H/HE)	%	95,4/95,3	95,4/95,3	95,4/95,3	95,4/95,3
Min./max. permissible delivery pressure (negative pressure)	Pa	5/20	5/20	5/20	5/20
Max. operating overpressure	bar	6,0	6,0	6,0	6,0
Max. permissible operating temperature	°C	90	90	90	90
Water capacity	ltrs.	241	241	241	241
Volume suction hopper DIRECT	ltrs.	125	125	125	125

## Boiler data for calculation of the flue gas system

PART LOAD/FULL LOAD	Boiler data for calculation of the flue gas system				
	Flue gas temperature $\Delta T=20K$ (H/HE)	°C	~125/~110	~135/~120	~135/~135
Flue gas mass flow $\Delta T=20K$ (H/HE)	kg/h	147,7/150,1	166,9/165,6	213,4/200,2	217,7/209,4
CO <sub>2</sub> content $\Delta T=20K$ (H/HE)	Vol. %	13,95/13,94	13,95/13,94	14,47/13,88	14,47/13,88
Flue gas temperature $\Delta T=20K$ (H/HE)	°C	~70/~70	~70/~70	~70/~70	~70/~70
Flue gas mass flow $\Delta T=20K$ (H/HE)	kg/h	49,6/50,2	49,6/50,2	49,6/50,2	49,6/50,2
CO <sub>2</sub> content $\Delta T=20K$ (H/HE)	Vol. %	12,34/12,01	12,34/12,01	12,34/12,01	12,34/12,01

## Energy efficiency class

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

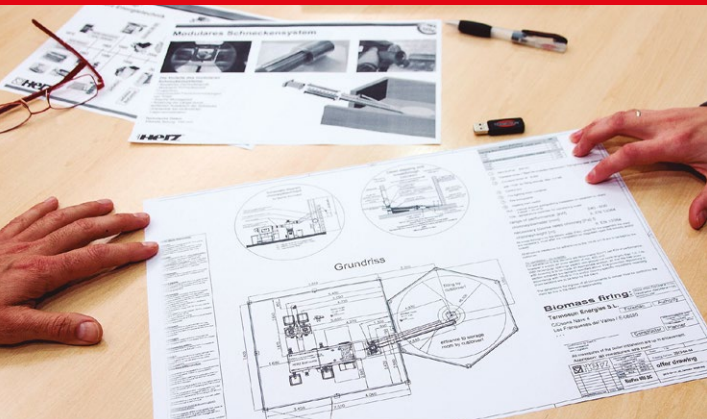
## Dimensions

L1	Length - total screw discharge system	mm	1640	1640	1640	1640
L1	Length - total suction discharge system	mm	1640	1640	1640	1640
B1	Width - total screw discharge system	mm	1555	1555	1555	1555
B1	Width - total suction discharge system (H/HE)	mm	1555/1805	1555/1805	1555/1805	1555/1805
B2	Width - basic boiler	mm	797	797	797	797
B3	Width - suction hopper	mm	680	680	680	680
B3	Width - electrostatic filter	mm	330	330	330	330
H1	Height - total with electrostatic filter	mm	2155	2155	2155	2155
H1*	Height - total with suction system DIRECT	mm	1990	1990	1990	1990
H2	Height - total boiler	mm	1875	1875	1875	1875
E1-7	Minimal gap screw discharge (E1/E2/E3/E4/E7)	mm	Version A -H (-HE)	800(1000) / 500(500) / 200(200) / 750(750) / 500(500)		
E1-7	Minimal gap screw discharge (E1/E2/E3/E4/E7)	mm	Version B -H (-HE)	800(1000) / 500(500) / 750(750) / 200(500) / 500(500)		
E1-7	Minimal gap screw discharge (E1/E2/E3/E4/E7)	mm	Version C -H (-HE)	800(1000) / 500(500) / 750(750) / 200(200) / 500(750)		
E1-7	Minimal gap screw discharge (E1/E2/E3/E4/E7)	mm	Version D -H (-HE)	800(1000) / 500(500) / 200(500) / 750(750) / 500(500)		
E1-7	Minimal gap suction discharge (E1/E2/E3/E4/E7)	mm	Version A -H (-HE)	800(800) / 500(500) / 200(500) / 750(750) / 500(500)		
E1-7	Minimal gap suction discharge (E1/E2/E3/E4/E7)	mm	Version B -H (-HE)	800(800) / 500(500) / 750(500) / 200(500) / 500(500)		
E1-7	Minimal gap suction discharge (E1/E2/E3/E4/E7)	mm	Version C -H	800 / 500 / 750 / 200 / 500		
E1-7	Minimal gap suction discharge (E1/E2/E3/E4/E7)	mm	Version D -H	800 / 500 / 200 / 750 / 500		
	Insertion dimensions - depth/width/height - screw discharge system -H (-HE)	mm		1438 (1450) / 952 (876) / 1876 (1875)		
	Insertion dimensions - depth/width/height - suction discharge system -H (-HE)	mm		1438 (1450) / 952 (876) / 1876 (1875)		
5	Flange back-fire-protection flap (for screw discharge)		Øi 90 mm	Øi 90 mm	Øi 90 mm	Øi 90 mm
6	Flow		2" IT	2" IT	2" IT	2" IT
7	Back flow	Ø	2" IT	2" IT	2" IT	2" IT
8	Flue pipe connection		Ø 180 mm	Ø 180 mm	Ø 180 mm	Ø 180 mm
H8	Flue pipe connection (0-360°) screw discharge	mm	65	65	65	65
H8	Flue pipe connection suction discharge	mm	65	65	65	65
9	Filling/emptying (under the casing)		1/2" IT (3/4" ET)	1/2" IT (3/4" ET)	1/2" IT (3/4" ET)	1/2" IT (3/4" ET)
10	Input safety heat exchanger		1/2" IT	1/2" IT	1/2" IT	1/2" IT
11	Safety heat exchanger output		1/2" IT	1/2" IT	1/2" IT	1/2" IT
13	Pellets suction tube connection		Ø 50 mm	Ø 50 mm	Ø 50 mm	Ø 50 mm
14	Reverse air tube connection		Ø 48,3 mm	Ø 48,3 mm	Ø 48,3 mm	Ø 48,3 mm

E1 minimal gap front, E2 minimal gap back, E3 minimal gap left, E4 minimal gap right, E7 minimal gap top; IT internal thread, ET external thread  
 \*Right version shown - left version also possible

Detailed descriptions of the dimensions and details can be found in the sheet of standards. Technical changes reserved!

# 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



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