English

HERZ **pellet boiler with condensing technology**

Efficiency rate η over 106%

pelletstar
CONDENSATION 10-60

YOUR RELIABLE PARTNER
Herz since 1896
Present on the market for over 120 years

Herz®

Competence is our success ...

HERZ **FACTS:**

- 52 subsidiaries
- Group headquarter in Austria
- Research & development in Austria
- Austrian owner
- 3,000 employees in over 100 countries
- 31 Production sites

Herz Armaturen GmbH - The company
Founded in 1896 HERZ has been continuously active in the market for more than 120-years. With 8 sites within Austria, another 23 in europe and more than 3,000 employees at home and abroad, HERZ is the only Austrian manufacturer that provuces equipment for the entire heating and installation industrie 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. HERZ places a great importance on modern, cost-effective and environment friendly heating systems with the highest level of convenience and user-friendliness.

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

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

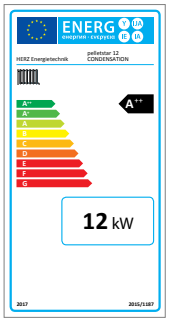
Comfortable heating with **latest technology** from HERZ

pelletstar condensation

Pellet boiler with condensing technology

Over 106% efficiency
The steam which is contained in the flue gas is cooled down so far that liquid condensate is formed in the heat exchanger.
With this cooling process (liquefaction) condensing heat is released and can be used for heating purposes. Thereby efficiencies over 106% are achieved.

Wood pellets according to
- EN ISO 17225-2: Property class A1
- ENplus, ÖNORM M 7135, DINplus or Swisspellet



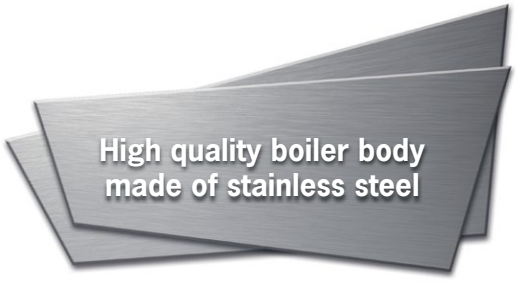
Energy labelling
Biomass boiler **A++**
Biomass boiler with integrated system controller**A++**

The big advantages:

- **For underfloor heating & radiators**
  The HERZ pelletstar CONDENSATION is the ideal solution for new buildings as well as for renovations. The heat distribution can be done via a low temperature system (underfloor heating) or a high temperature system (radiators). Depending on requirement the pelletstar CONDENSATION delivers the correct temperature also without buffer tank.

- **Compact design**
  Due to the compact design the insertion and assembly can be done very fast & easy. In addition, the system can be placed on 2 sides (back & side) in flush with the wall and provides therefore, also for existing boiler rooms with limited space, an optimal solution.

- **Complete boiler body is 100% made of stainless steel**



Easy, modern and comfortable ...

With the user-friendly VGA color touch-screen controller, the burning-process, as well as heating circuits, a hot water tank, buffer tank and a solar system can be controlled.

T-CONTROL

A central control unit for:

- Flow temperature booster during domestic hot water preperation (pump and mixer valve)
- Domestic hot water preparation (via domestic hot water tank or buffer tank with fresh water module)
- controlled heating circuits (pump and mixer valve)
- Solar circuit controll
- Frost protection monitoring
- buffer management

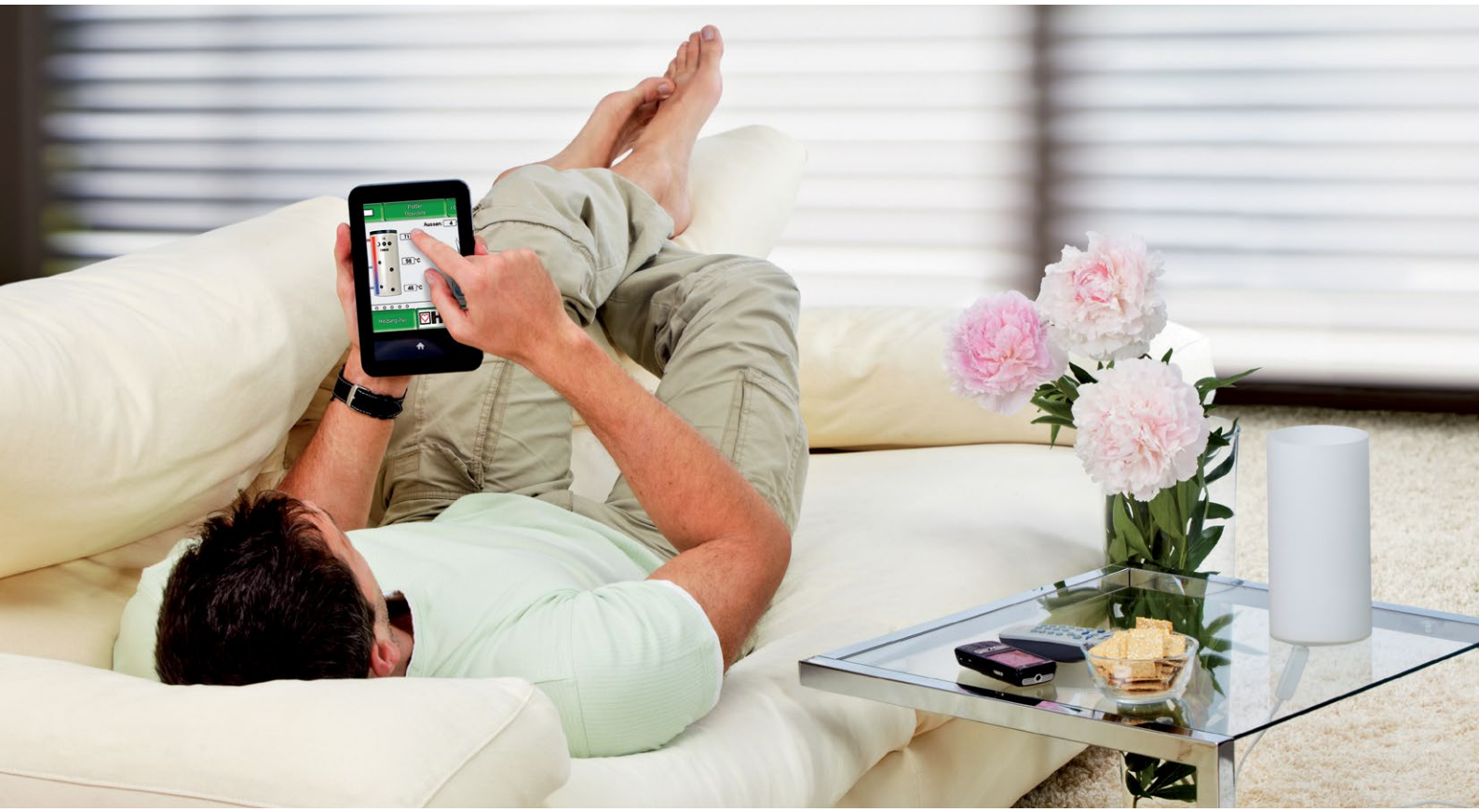
The convenient menu and simple screen layout with schematic 3D-representation ensures maximum user-friendliness.

The “modular operation” of the T-CONTROL offers extension possibilities up to 55 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
– status and error messages via e-mail
– data transfer and software updates via USB stick
– possibility of Modbus-communication
– Easy and clear presentation of the functions from various components (heating circuit pump, hot water tank loading pump, circulation pump, mixing valve, switching valve, actuator motors etc.)

... 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 visualization and remote maintenance via smartphone, PC or tablet PC. The handling is the same as in the Touch-Control directly on the boiler. The processes and parameters can be read and modified any time from anywhere.

Remote access via **myherz.at**

Cascade operation

Using the HERZ T-CONTROL, up to 8 HERZ boilers equipped with T-CONTROL can be switched to cascade (CAN BUS). A special advantage of the cascade arrangement is the efficient utilization of the boiler at lower heat consumption (eg in the transitional period).

Benefits and **details ...**

T-CONTROL - the user-friendly control with touch display

Central control unit as standard for:

- Flow temperature booster during domestic hot water preperation (pump and mixer valve)
- Domestic hot water preparation (via domestic hot water tank or buffer tank with fresh water module)
- Controlled heating circuits (pump and mixer valve)
- Frost protection monitoring

- Simple screen design and convenient menu guide.
- Up to 55 extension modules possible (further heating circuits, solar circuit control, buffer management, etc.)

High heat resistant stainless steel Burning chamber

- Made of high heat-resistant steel - for longest lifetime

Automatic cleaning via Pivoting grate

- Complete cleaning of the grate due to automatical tipping on a cleaning device. Minimizes the manual cleaning requirement.
- Due to the clean combustion grate a optimal air supply is guaranteed.
- The ash from the combustion chamber is dropped into the large ash bin below and can be removed from the front

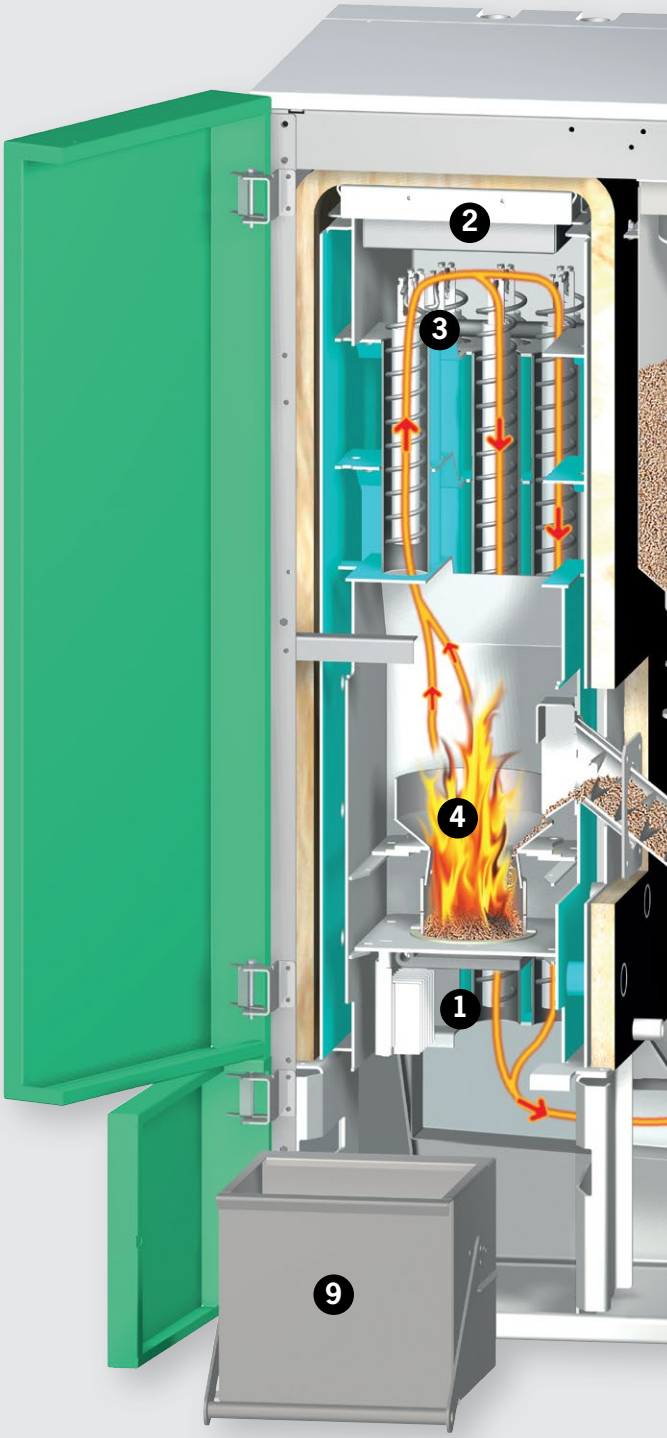


Figure: suction discharge system

...of the HERZ pelletstar CONDENSATION

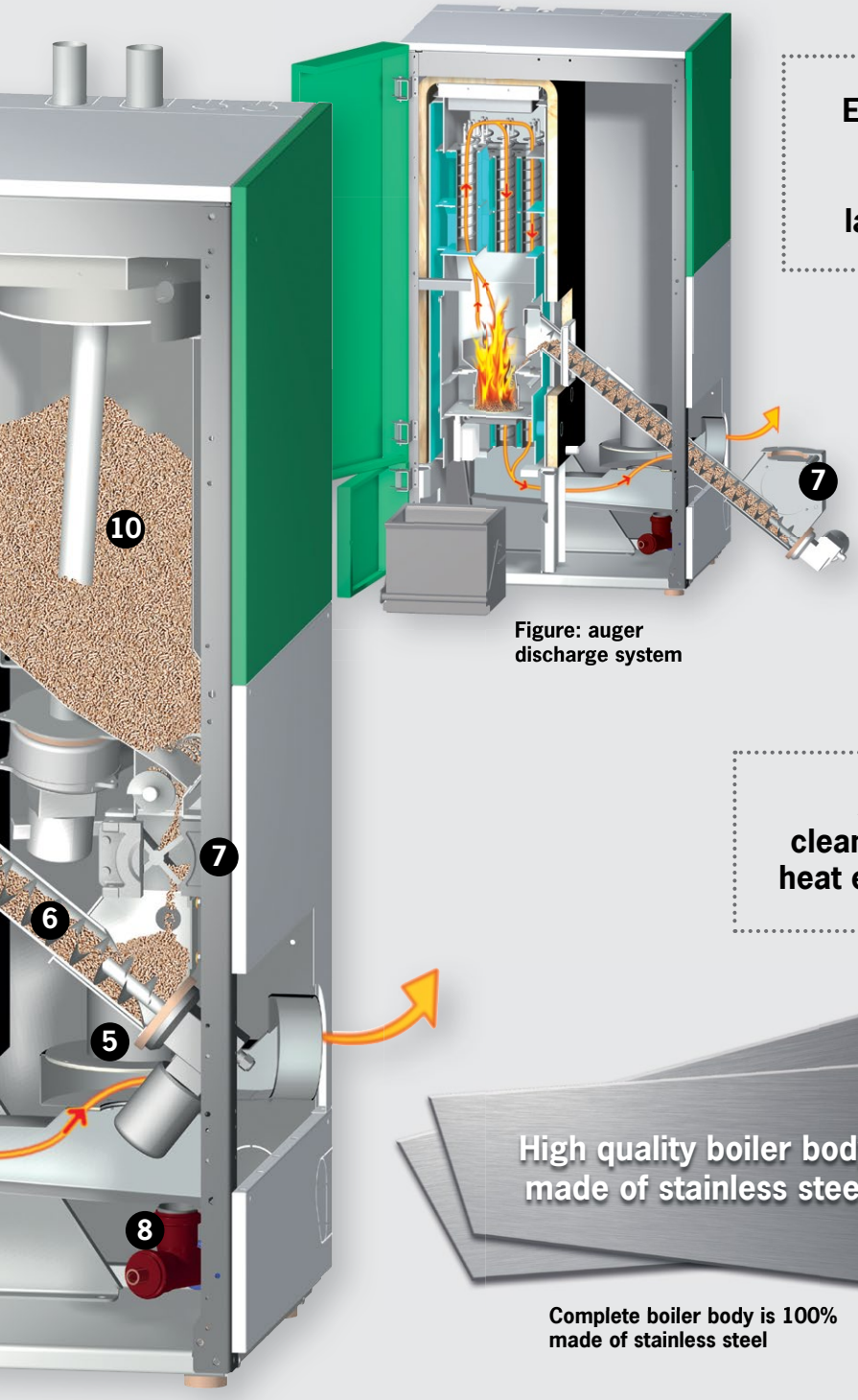
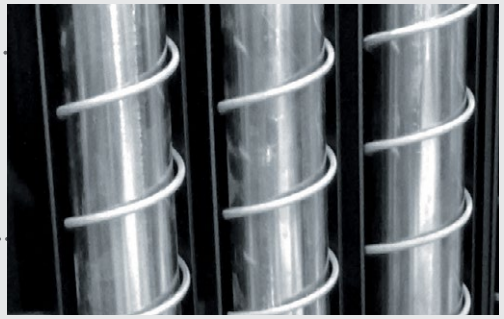


Figure: auger discharge system

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 supply and ensures the cleanest combustion, even in part load operation.
- 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 made of stainless steel are cleaned automatically via a flushing mechanism as well as via the integrated turbulators, even during heating operation and therefore no manual cleaning is necessary.
- A consistently high level of efficiency by purified heat exchanger surfaces means lower fuel consumption.

Complete boiler body is 100% made of stainless steel

1. **Pivoting grate**
2. **Lambda probe control**
   Automatic flue gas and combustion monitoring
3. **Automatic heat exchanger cleaning**
4. **Combustion chamber**with tipping grate
5. **ID-fan**
6. **Pellets insertion**
7. **Certified back fire protection flap (BFP):**
   - Rotary valve (at integrated hopper or suction hopper)
   - Autonomous tight closing flap (at screw discharge systems or extern hopper)
8. **Condensate - and cleaning water drain:**
9. **Ash bin**
10. **Integrated suction hopper or hopper**
    - with suction discharge system:
      10-30 kW: 67 liter
      45-60 kW: 96 liter
    - with manual filling:
      10-30 kW: 72 liter
      45-60 kW: 104 liter

Full automatic pellets discharge systems

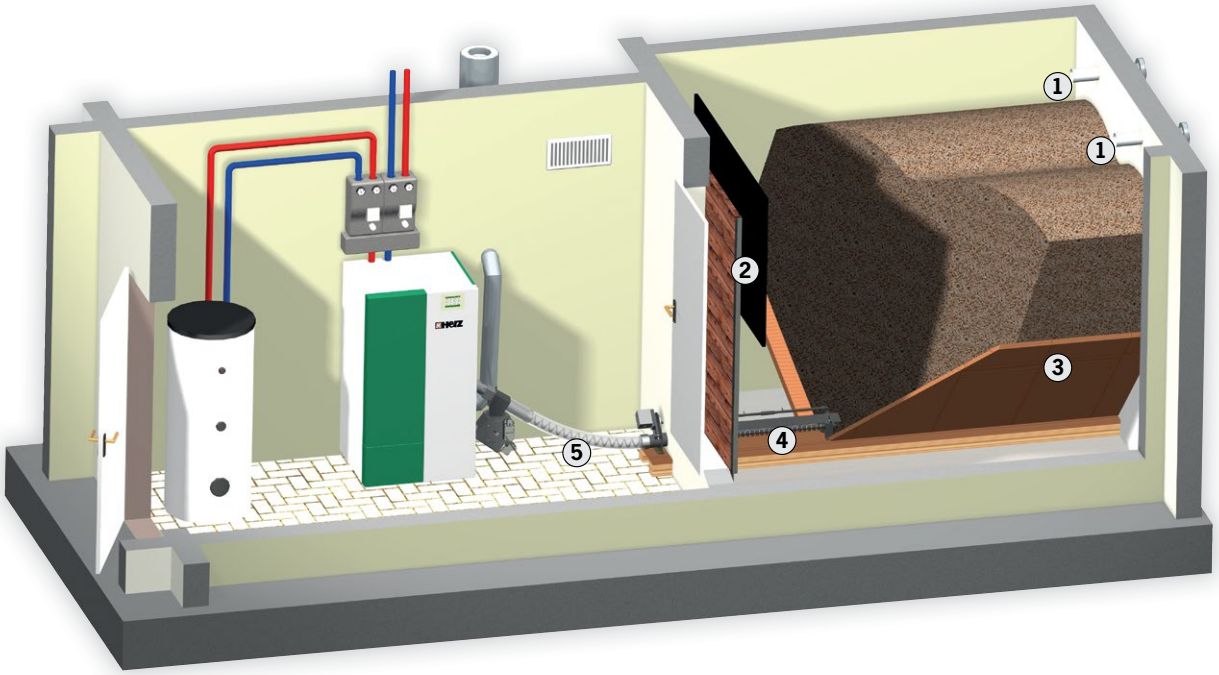
HERZ offers a variety of solutions to store the wood pellets and to discharge the fuel via various systems to the boiler.

Whether a room discharge with flexible screw, suction system, agitator or with a rigid pellet screw: 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 an underground tank outside of the building or 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.



1. Filling nozzle
The pellets are blown via a filling nozzle into the storage room. At least 1 filling nozzle and 1 suction nozzle are required because parallel to the blowing operation the produced dust and the necessary conveying air are sucked away.

2. Impact mat
An impact mat serves to protect the pellets during the blow in and is mounted opposite of the filling nozzle.

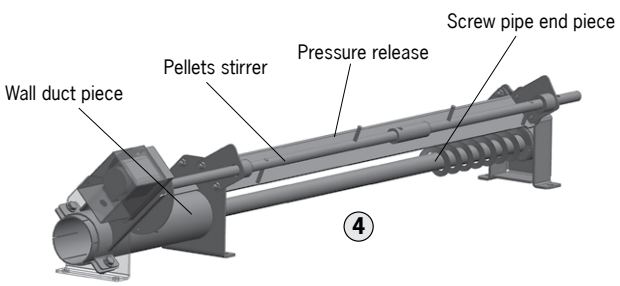
3. Slide ramps
In order to empty the storage room completely a sloping floor is recommended.

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.

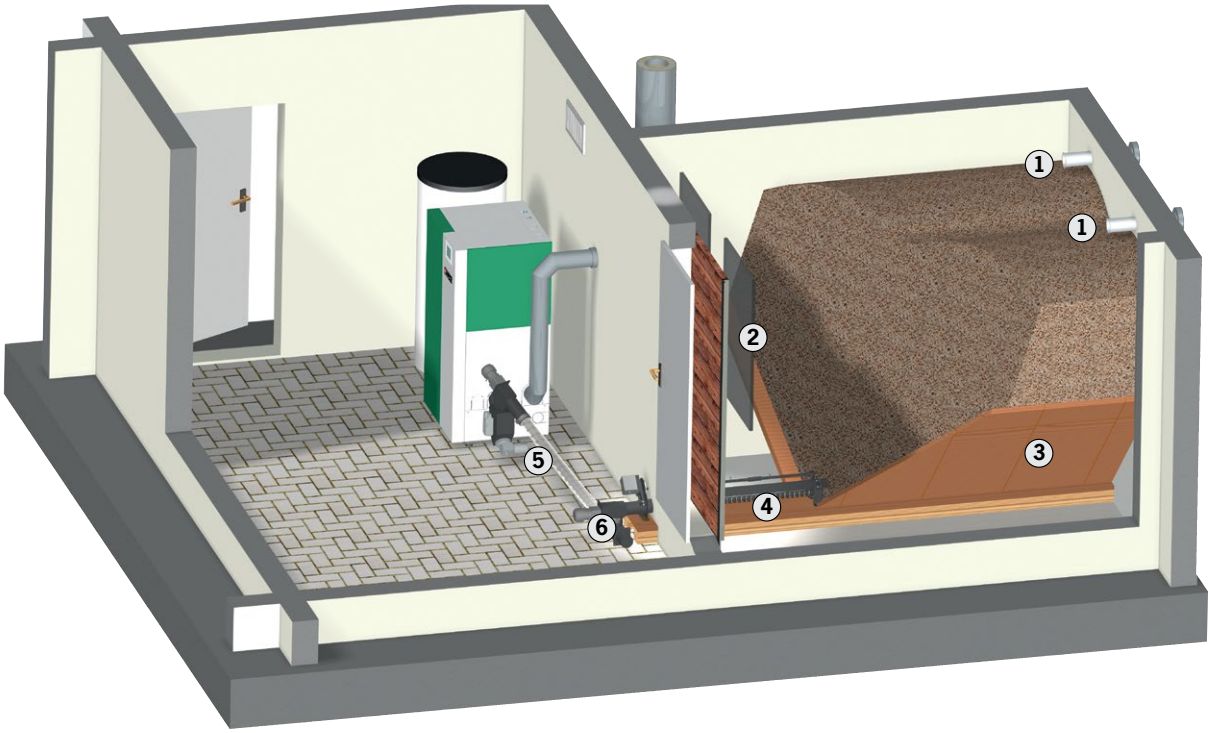
The big advantages of the flexible auger

- Inexpensive to buy and during operation
- Extremely quiet operation
- Gentle transport of the pellets



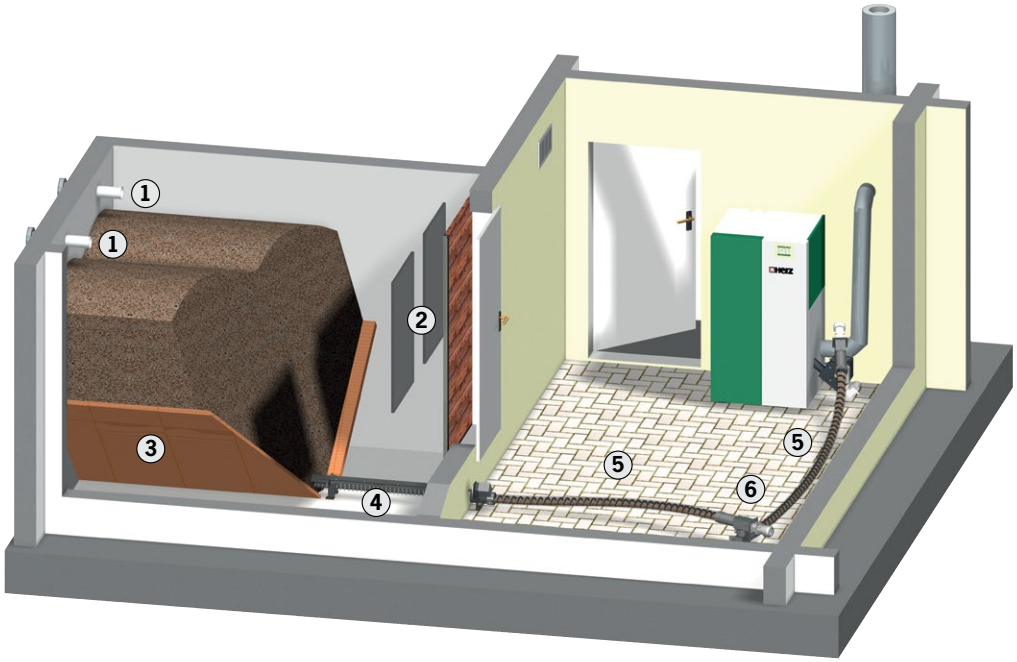
Discharge via flexible screw - transfer system

Transfer system FIXED:
The transfer unit is located immediately after the storage room.



1. **Filling nozzle**
2. **Pellets impact mat**
3. **Slide ramps**
4. **Screw system in the storage room**
5. **Flexible screw**
6. **Transfer system**

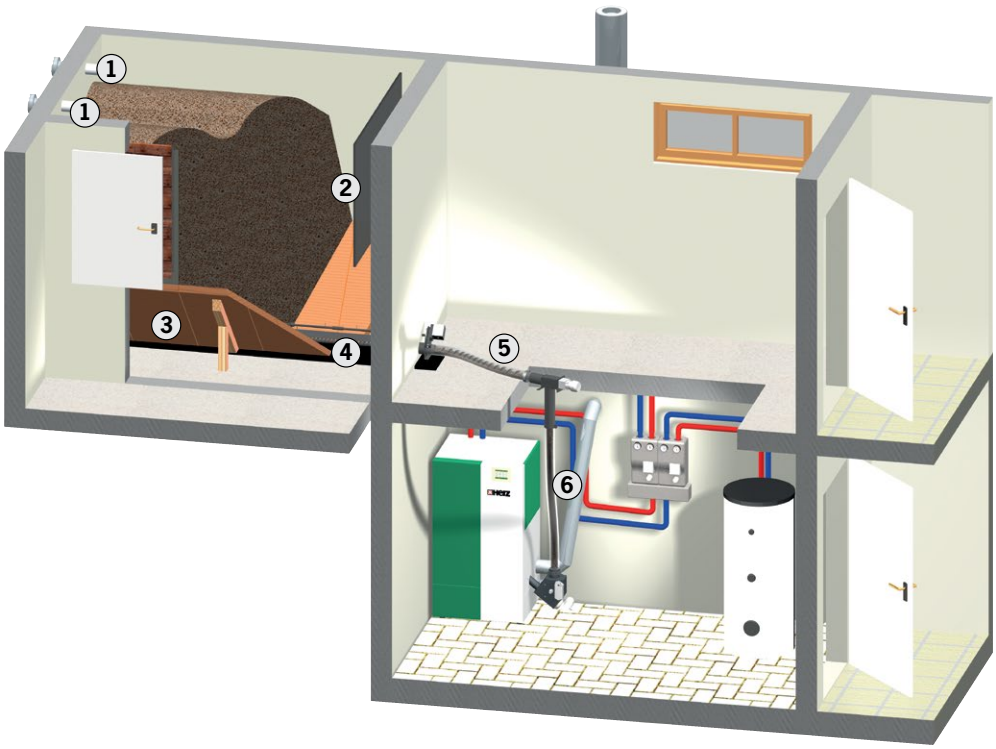
Transfer system:
The pellets are transported after the storage room via 2 flexible screws with intermediate transfer unit to the boiler. This makes it even more flexible and can also be used for larger distances.



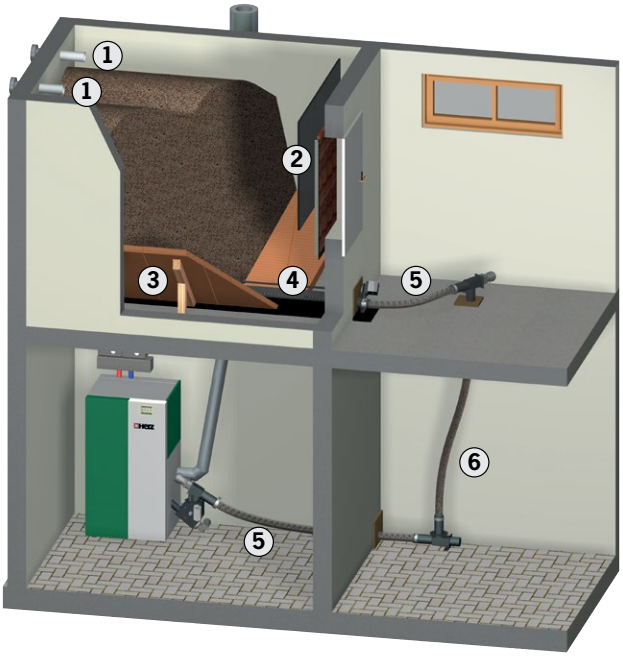
Discharge via flexible screw - chute pipe system

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.



Chute pipe system and adapter
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.



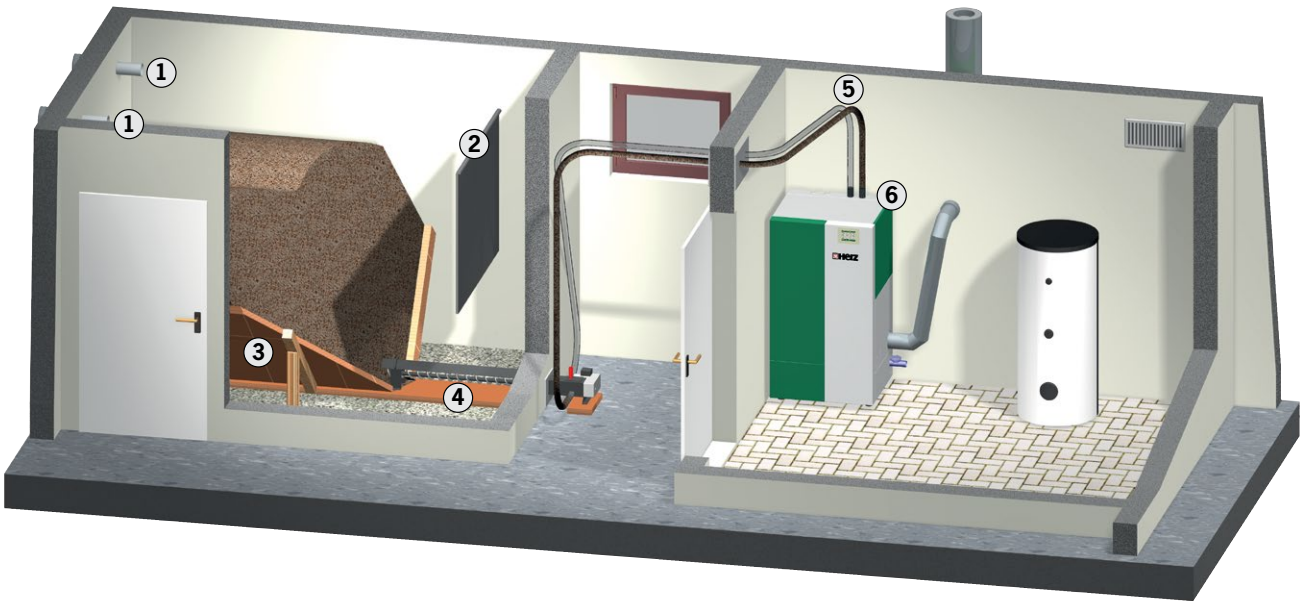
1. **Filling nozzle**
2. **Pellets impact mat**
3. **Slide ramps**
4. **Screw system in the storage room**
5. **Flexible screw**
6. **chute pipe**

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 big advantages
- 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. Filling nozzle
The pellets are blown via a filling nozzle into the storage room. At least 1 filling nozzle and 1 suction nozzle are required because parallel to the blowing operation the produced dust and the necessary conveying air are sucked away.

2. Pellets impact mat
An impact mat serves to protect the pellets during the blow in and is mounted opposite of the filling nozzle.

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

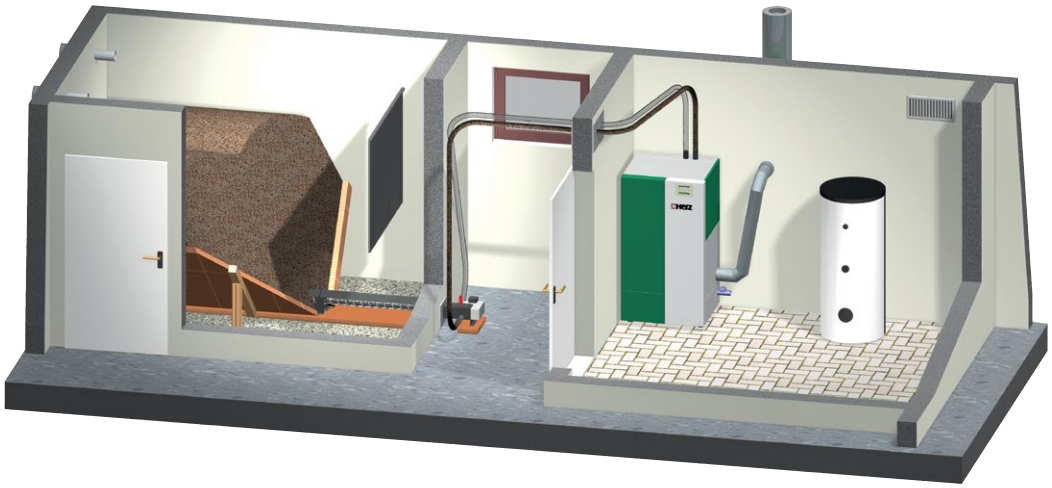
4. Auger discharge system
The transport of pellets from the storage room is done via a screw discharge.

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 inclusive suction turbine
In the suction discharge variant of the boiler, a suction tank (including suction turbine) is integrated as standard.

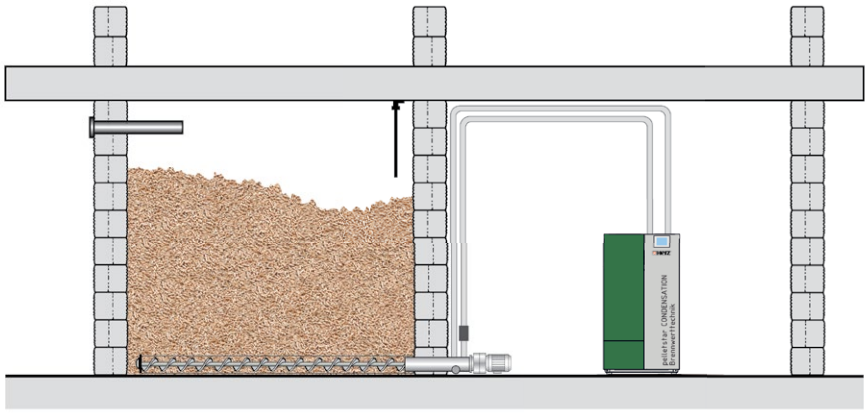
Discharge via suction system

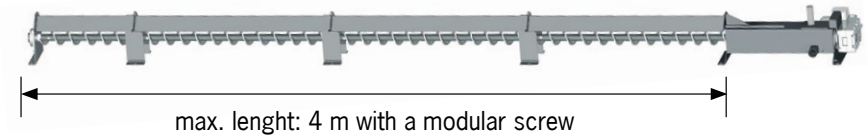
For the suction discharge system with screw, two variants (modular or rigid screw) can be selected.

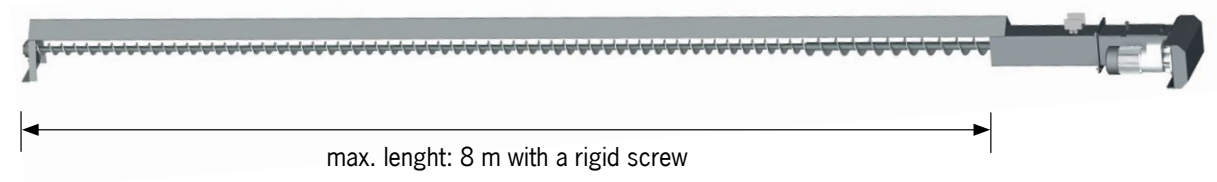


Modular discharge screw in the storage room in combination with suction system:
The screw system in the storage room is modular, that means the system consists of elements which can be combined according to the room situation or the room size.

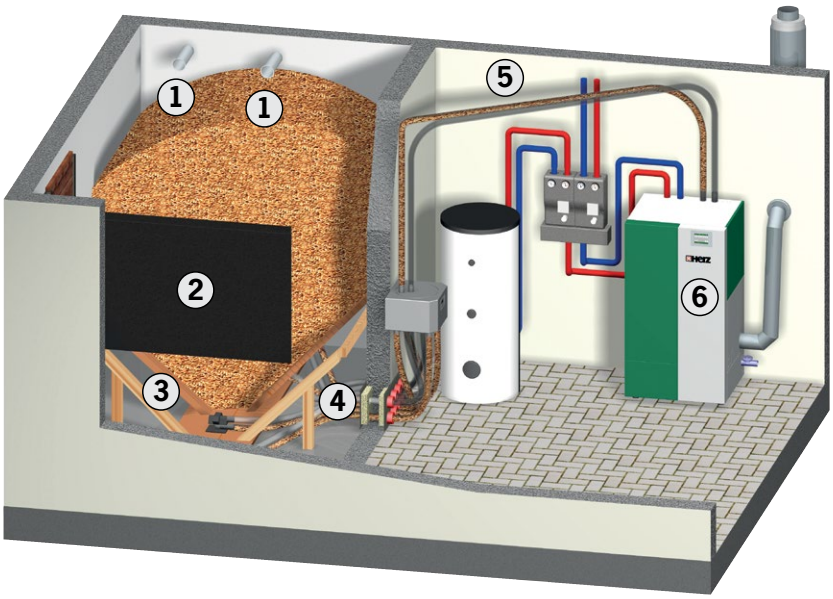
Rigid screw in the storage room in combination with suction system:
The transport of the pellets is done via a rigid pellets screw. Here lengths of up to 8 m can be reached in the storage room.





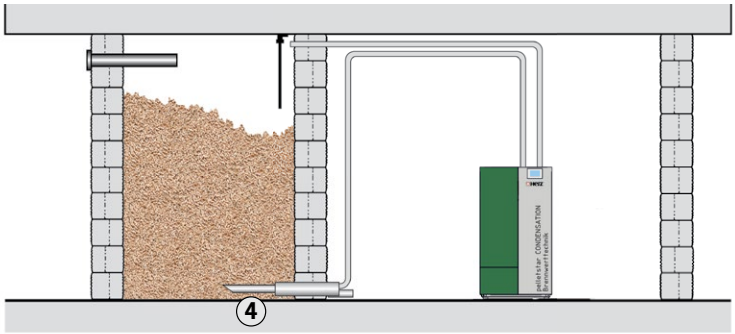


4-point suction system
The position of the 4 suction points is individually selectable. The system can be installed easily and is an adaptable, universal solution to each storage room situation.

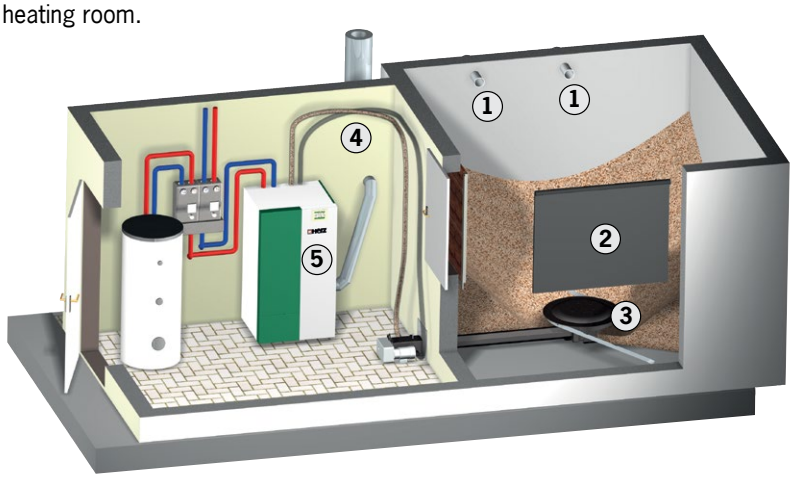


1. **Filling nozzle**
2. **Pellets impact mat**
3. **Slide ramps**
4. **Suction probe**
5. **Suction- and reverse air tube**
6. **Integrated pellet hopper inclusive suction turbine**

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



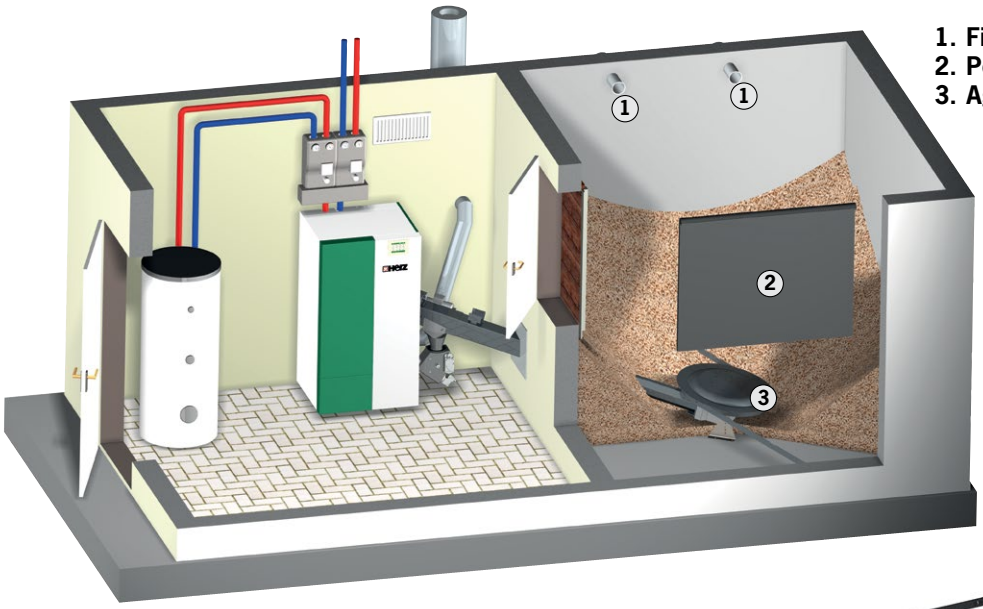
Pellets-agitator in the storage room in combination with suction system
This discharge system is especially suitable for square or round storage rooms and long distances from storage room to heating room.



1. **Filling nozzle**
2. **Pellets impact mat**
3. **agitator**
4. **Suction- and reverse air tube**
5. **Integrated pellet hopper inclusive suction turbine**

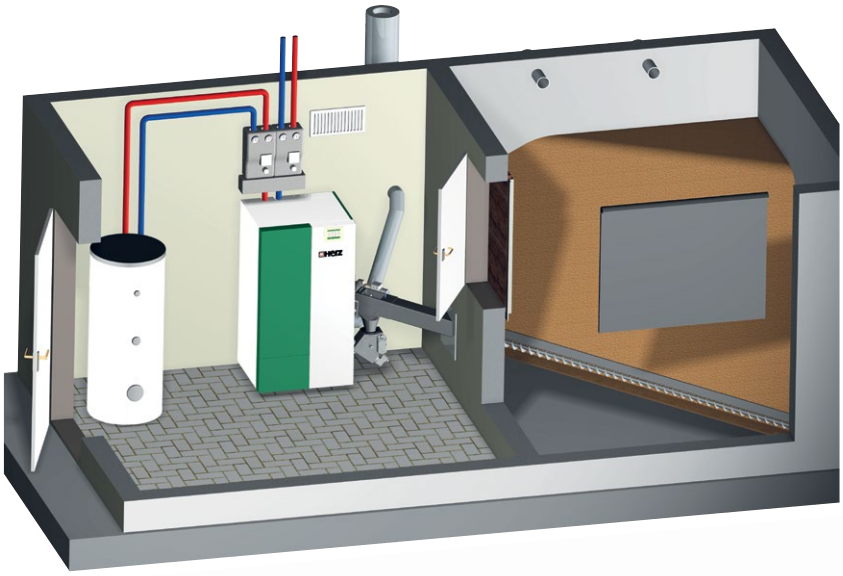
Discharge via agitator & rigid screw

Efficient storage room discharge with an agitator
For an efficient utilization of the storage room without slide ramps the system with spring arm agitator is recommended.



1. **Filling nozzle**
2. **Pellets impact mat**
3. **Agitator discharge system**

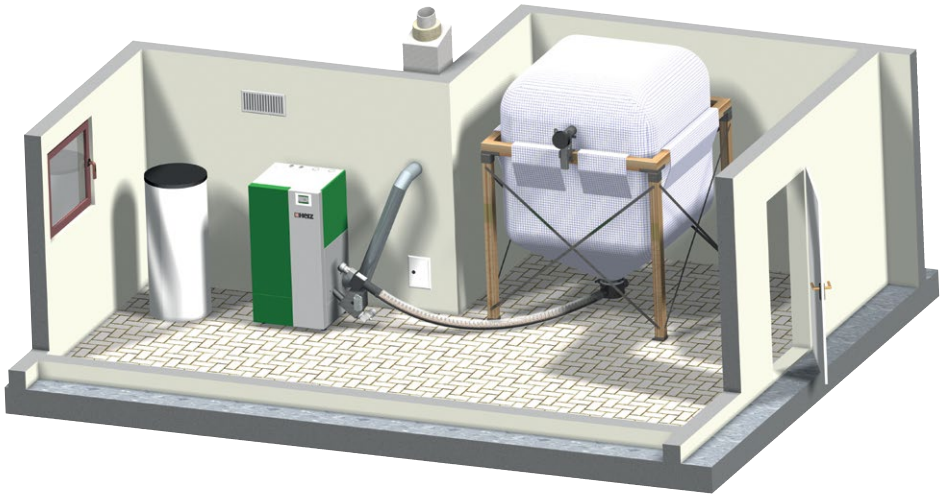
Discharge via rigid pellets screw
The pellets are transported via a rigid pellets screw directly to the boiler.



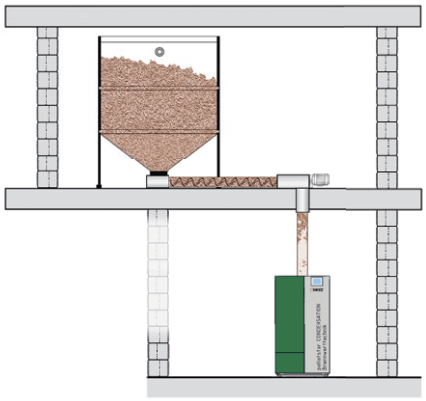
System bag silo

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).

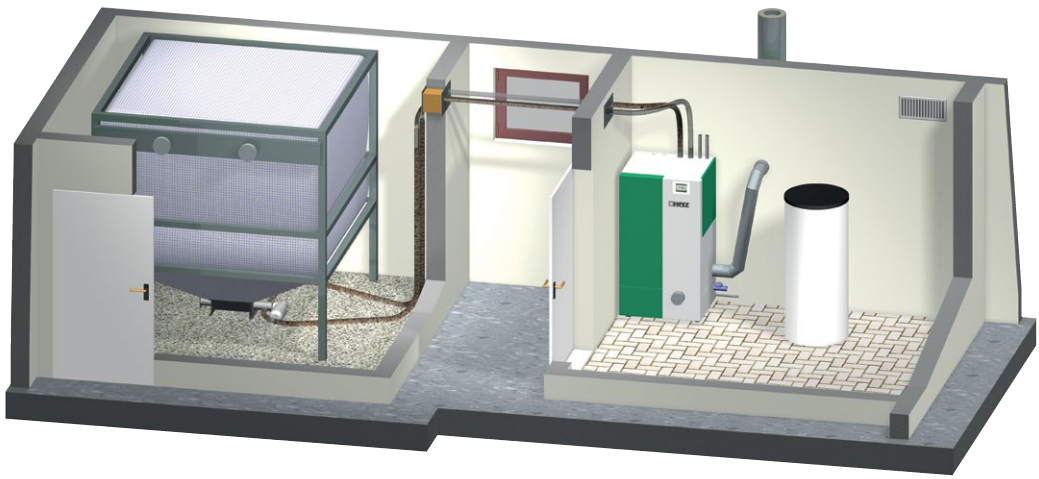
Room discharge with flexible screw from a bag silo



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



Suction discharge via suction system from a bag silo



The silo

The HERZ bag silo is available in different sizes with storage capacities from 1.1 up to 11.7 m³.

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

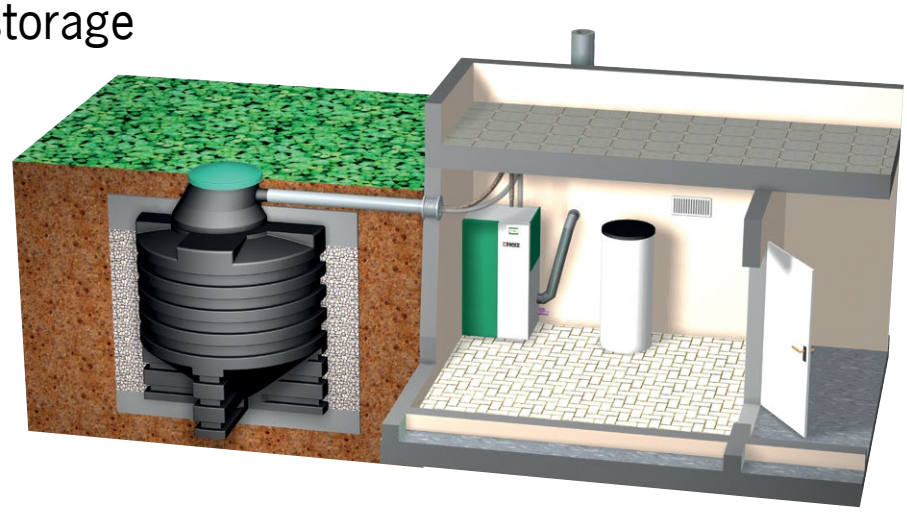
Careful storage
The pellets are protected during filling by the integrated impact mat inside of the bag silo. In addition, the silo provides an optimal environment for the careful storage of the fuel.

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 filling level of the pellets is due to the transparent fabric easy to read from the outside. Additionally, the system offers the cost-effective acquisition and full automatic & maintenance-friendly operation.

System ground storage

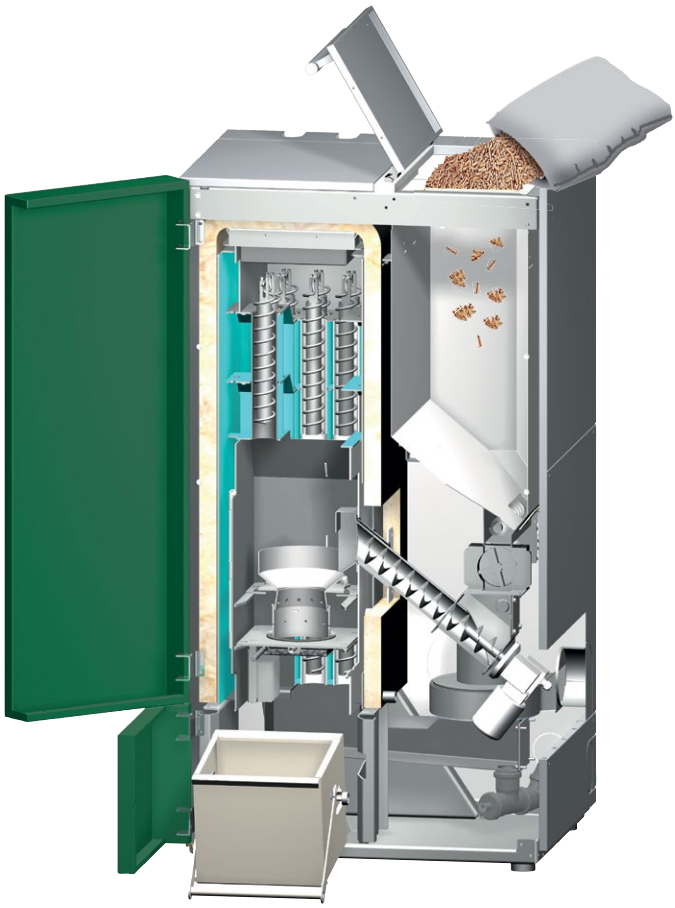
If there is not enough space to store the pellets inside the building, there is the possibility of a ground storage outside of the building. The fuel is transported to the boiler via suction system.

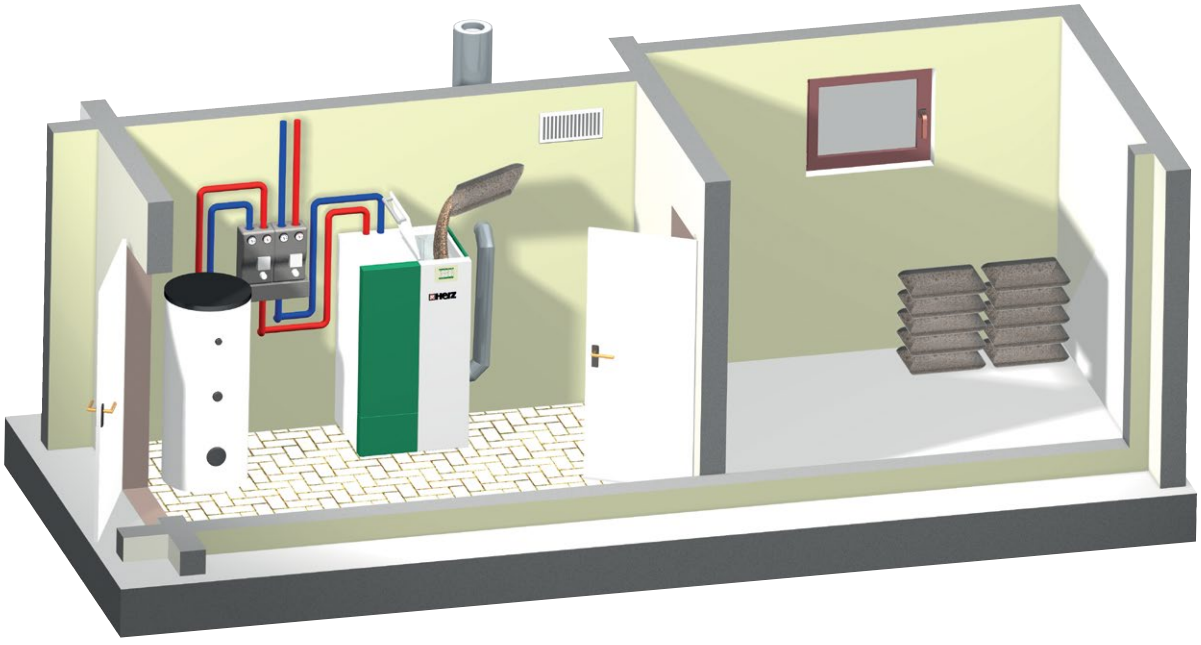


Manual filling

Hopper for manual filling of the pellets

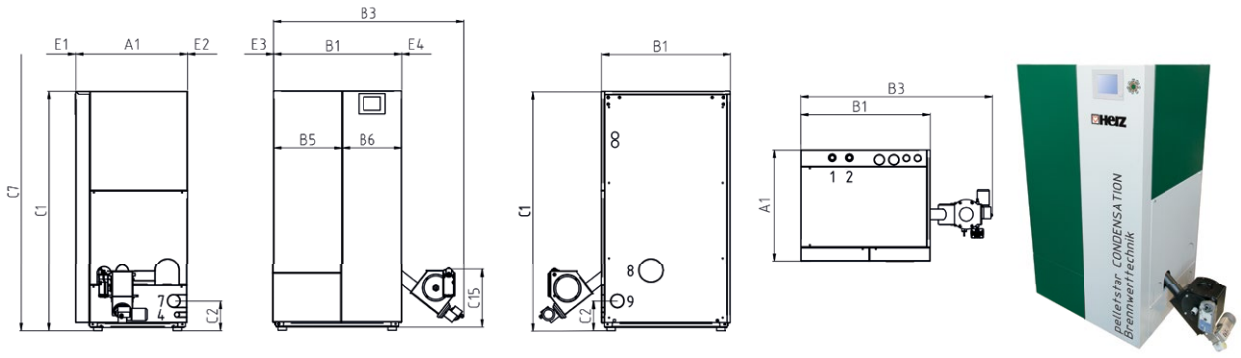
If you want to waive the automatic discharge from a storage room, there is the possibility for manual filling of the hopper.



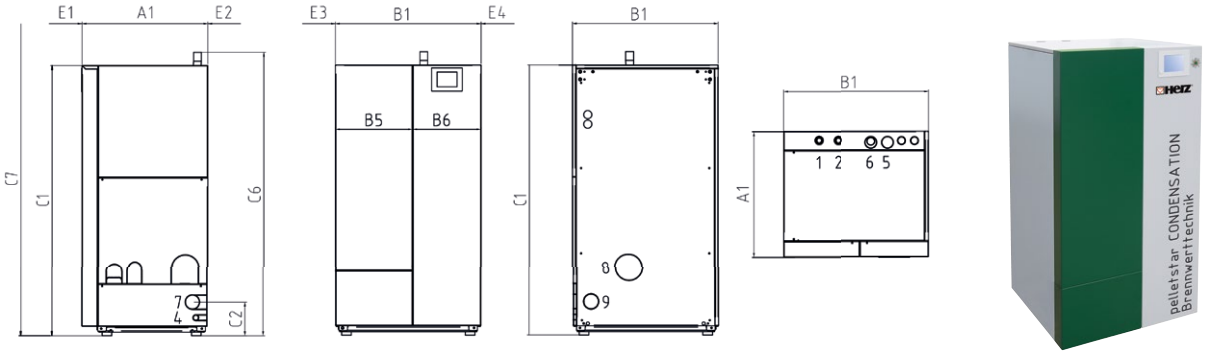


Dimensions & technical data
pelletstar CONDENSATION 10-16

Variant auger discharge system



Variant suchtion discharge system or manual filling



pelletstar CONDENSATION 10-16 **Subject to technical modifications!**

Output range		10	12	14	16
Output range	kW	3 - 10	4 - 12	4 - 14	5 - 16
Boiler weight version auger discharge system	kg	363	363	363	363
Boiler weight version suction system	kg	393	393	393	393
Boiler weight version hand filling	kg	390	390	390	390
Volume suction hopper	ltr.	67	67	67	67
Volume hopper (manual filling)	ltr.	72	72	72	72
Efficiency full load condensing operation	%	>106	>106	>106	>106
Efficiency full load	%	>96	>96	>96	>96
Efficiency partial load condensing operation	%	>103	>103	>103	>103
Efficiency partial load	%	>96	>96	>96	>96
dust emissions (at 13% O_2)	mg/m³	<10	<10	<10	<10
Permissible operating pressure	bar	3,0	3,0	3,0	3,0
Boiler temperature	°C	25 - 95	25 - 95	25 - 95	25 - 95
Water capacity	ltr.	57,5	57,5	57,5	57,5

Dimensions (mm) **Subject to technical modifications!**

A1	Length	736	736	736	736
B1	Width	850	850	850	850
B3	Width	1259	1259	1259	1259
B5	Width	450	450	450	450
B6	Width	400	400	400	400
C1	Height	1580	1580	1580	1580
C2	Height	194	194	194	194
C6	Height	1657	1657	1657	1657
C7	Minimum ceiling height	2050	2050	2050	2050
C8	Height flue pipe - centre	365	365	365	365
C15	Height	390	390	390	390
D1	Diameter flue pipe	130	130	130	130
E1	Minimum space front	750	750	750	750
E2	Minimum space rear	50	50	50	50
E3	Minimum space left	60	60	60	60
E4	Minimum space right	750	750	750	750
E5	Distance flue pipe - centre - to the side	120	120	120	120
E6	Distance flue pipe -centre - to the back	307	307	307	307

Energy efficiency

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

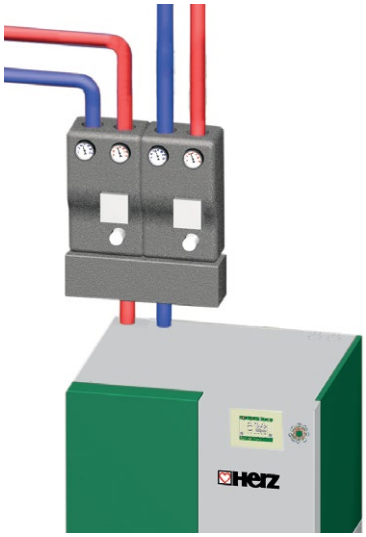
Water consumption (due to the automatic cleaning of the heat exchanger): max. 1m³ per ton of pellets.

A drain into the sewer system is required.

pelletstar CONDENSATION 10-16:
1...Flow 1" IT
2...Back flow 1" IT
3...Filling/emptying 1/2" in the boiler
4...Cold water connection 3/4" pressure 2 bar
5...Suction turbine return pipe Øa 48,3 mm
6...Suction tube connection Øa 45 mm
7...Sewer Øa 50 mm
8...Optional flue gas pipe connection on the back
9... Optional sewer on the back

Dimensions & technical data
pelletstar CONDENSATION 20-60

If required, the pump groups are assembled directly over the boiler.



pelletstar CONDENSATION 20-60

Subject to technical modifications!

Output range		20	30	45*	60*
Output range	kW	6 - 20	6 - 30	13 - 45	13 - 60
Boiler weight version auger discharge system	kg	423	423	603	603
Boiler weight version suction system	kg	453	453	643	643
Boiler weight version hand filling	kg	450	450	640	640
Volume suction hopper	ltr.	67	67	96	96
Volume hopper (manual filling)	ltr.	72	72	104	104
Efficiency full load condensing operation	%	>106	>106	>106	>106
Efficiency full load	%	>96	>96	>96	>96
Efficiency partial load condensing operation	%	>103	>103	>103	>103
Efficiency partial load	%	>96	>96	>96	>96
dust emissions (at 13% O_2)	mg/m³	<10	<10	<10	<10
Permissible operating pressure	bar	3,0	3,0	3,0	3,0
Boiler temperature	°C	25 - 95	25 - 95	25 - 95	25 - 95
Water capacity	ltr.	77	77	135	135

*on request

Dimensions (mm) **Subject to technical modifications!**

A1	Length	736	736	986	986
B1	Width	1000	1000	1000	1000
B3	Width	1350	1350	1440	1440
B5	Width	600	600	600	600
B6	Width	400	400	400	400
C1	Height	1580	1580	1730	1730
C2	Height	194	194	194	194
C6	Height	1657	1657	1807	1807
C7	Minimum ceiling height	2050	2050	2200	2200
C8	Height flue pipe - centre	365	365	480	480
C15	Height	480	480	480	480
D1	Diameter flue pipe	130	130	150	150
E1	Minimum space front	750	750	750	750
E2	Minimum space rear	50	50	50	50
E3	Minimum space left	60	60	60	60
E4	Minimum space right	750	750	750	750
E5	Distance flue pipe - centre - to the side	120	120	145	145
E6	Distance flue pipe -centre - to the back	307	307	296	296

Energy efficiency

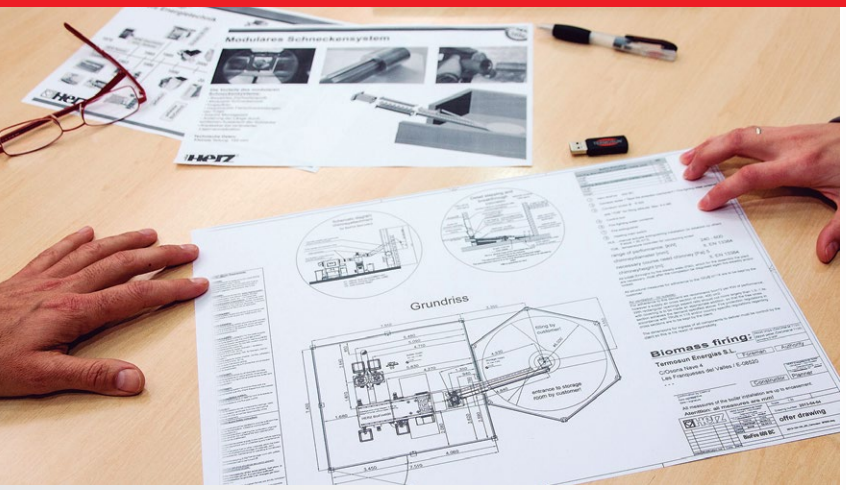
Biomass boiler	A++	A++	A++	A++
Biomass boiler with integrated system controller	A++	A++	A++	A++

pelletstar CONDENSATION 20-30
1...Flow 1" IT
2...Back flow 1" IT

pelletstar CONDENSATION 45-60:
1...Flow 6/4" IT
2...Back flow 6/4" IT

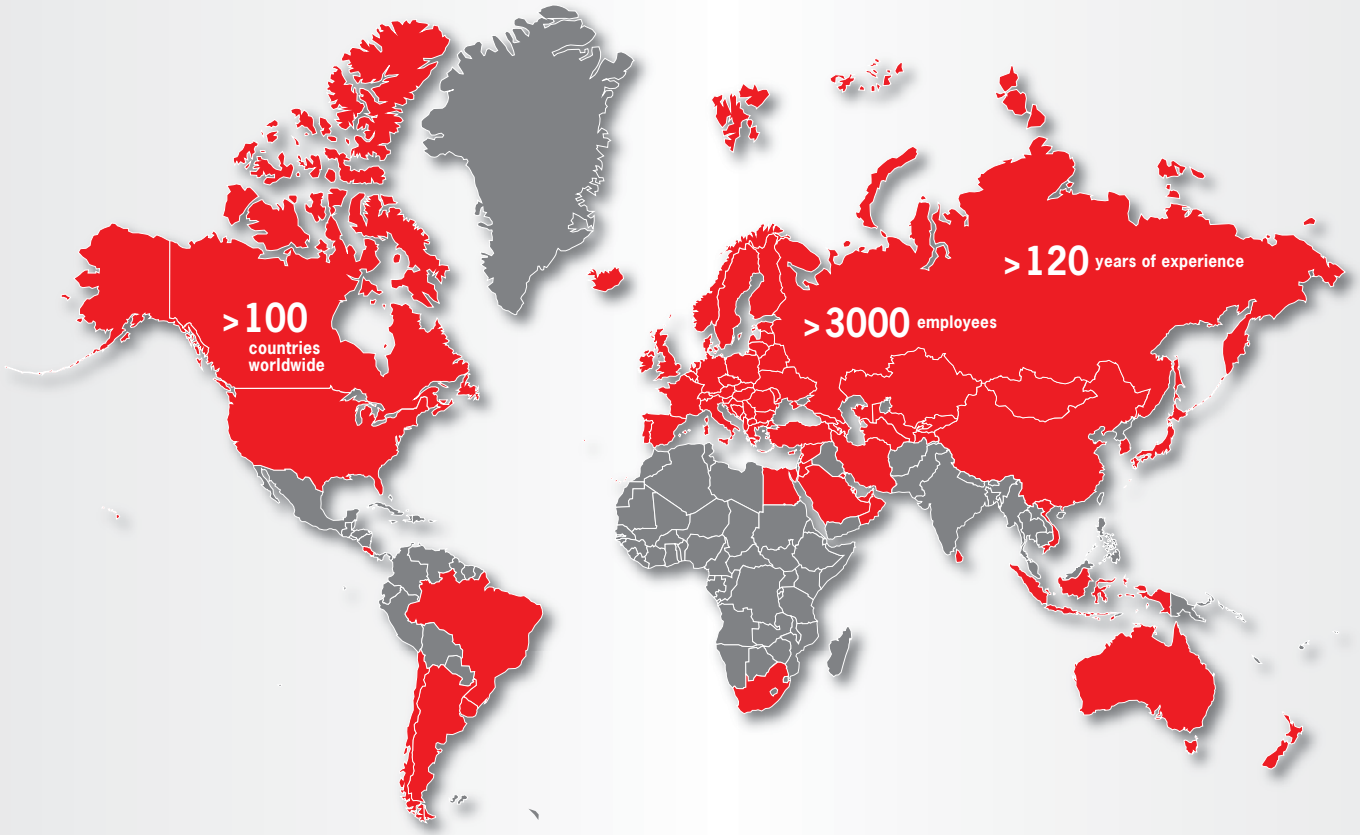
3...Filling/emptying 1/2" in the boiler
4...Cold water connection 3/4" pressure 2 bar
5...Suction turbine return pipe Øa 48,3 mm
6...Suction tube connection Øa 45 mm
7...Sewer Øa 50 mm
8...Optional flue gas pipe connection on the back
9... Optional sewer on the back

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



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

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HERZ biomass boilers underbid the strictest emission regulations.

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