SOLARFOCUS

Biomass heating | Heat pumps | Solar energy systems

ecoHACK^zero 30 - 120 kW

Wood chip boiler

REMOTE ACCESS AND ASSISTANCE · REMOTE ACCESS AND ASSISTANCE · REMOTE ACCESS AND ASSISTANCE · REMOTE ACCESS AND ASSISTANCE ·

Compatible with SOLARFOCUS CONNECT

Zero Emission Technology

- Robust extraction with single chamber rotary valve
- Flue gas recirculation for dry fuels
- Integrated particle filter as standard

5 YEAR SYSTEM GUARANTEE

Choosing the right heating system is an important decision that will have an impact for many years to come. A wood chip boiler from SOLARFOCUS is a premium product that you can rely on to safely keep you cosy and warm. Each boiler comes with an integrated electrostatic particle filter and flue gas recirculation, so it boasts the latest innovations as standard.

SOLARFOCUS, based in Upper Austria, has been developing, producing and selling high-quality biomass boilers since 1998 and have impressed thousands of customers with their quality and innovation. SOLARFOCUS products are characterised by numerous patents and innovative solutions. The high-quality workmanship of our boilers can be seen in every last detail.

Heating with woodchips

5-year system guarantee

It takes more than an efficient wood chip boiler to create an efficient heating system. To guarantee secure and cost-effective operation, all components must work perfectly in conjunction with one another. Which is why SOLARFOCUS provides a 5-year system guarantee for all registered and serviced systems. This system guarantee covers all components supplied by SOLARFOCUS.

You can find further details on how to apply for the 5-year system guarantee here:
www.solarfocus.com/de/systemgarantie

5 YEAR SYSTEM GUARANTEE

Product highlights ecoHACKzero

Speed-controlled high-efficiency ID fan

The speed-controlled ID fan draws in the necessary combustion air via the primary and secondary air dampers. This creates a constant negative pressure in the boiler, so the wood chips are burned efficiently with the lowest emissions. The ID fan's speed control also adjusts the amount of air to the output. Along with the lambda sensor, this creates optimum combustion conditions for best possible utilisation of the wood chips.

Flue gas recirculation

The flue gas recirculation, which is integrated as standard, counteracts the formation of slag. This combustion technology ensures worry-free operation and is particularly essential for very dry heating fuel or for fuels that tend to form slag.

Low flue gas connection

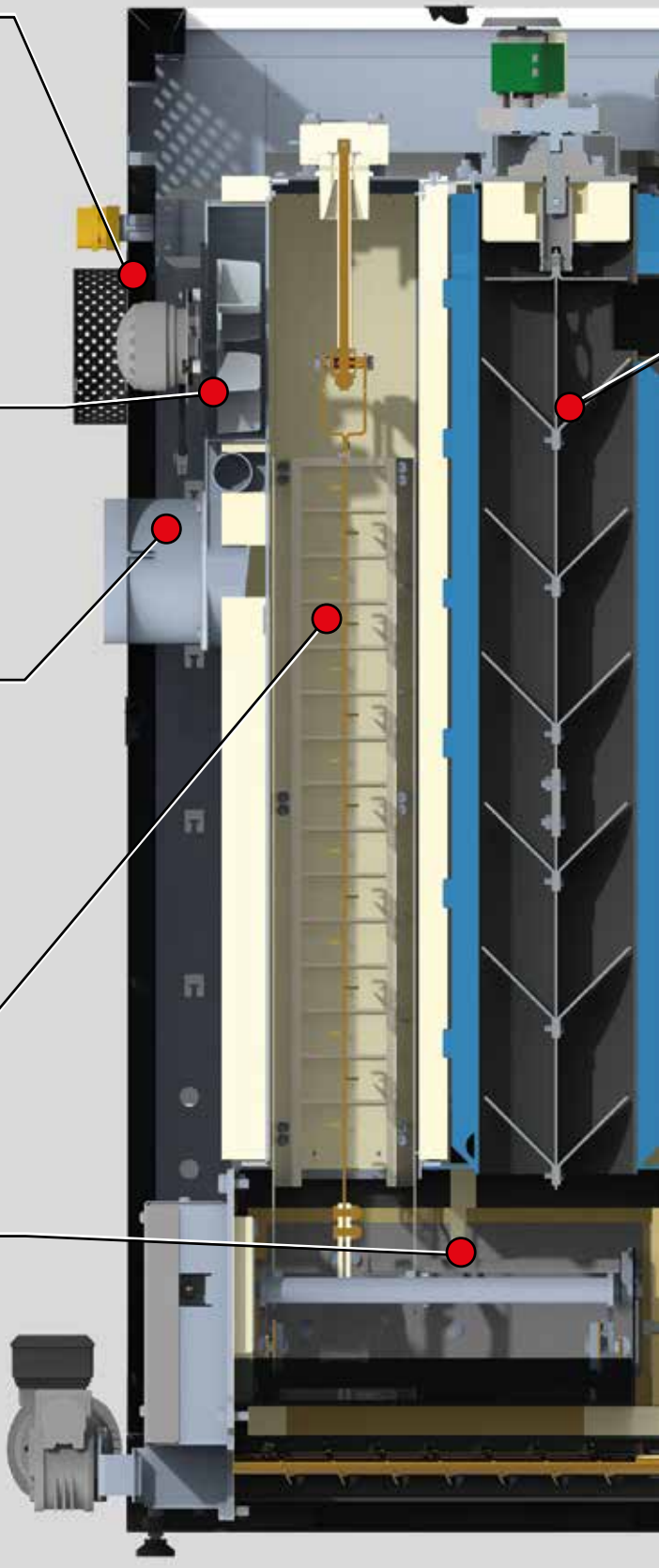
The **ecohack**zero was specifically designed with the connection height of the flue gas connection in mind. As the connecting piece between slightly rising, it is all the more important that the flue gas connection is positioned as low as possible on the boiler. The deliberate alignment of the spiral housing allows for a connection that is low compared to the usual constructions on the market, and this comes as standard.

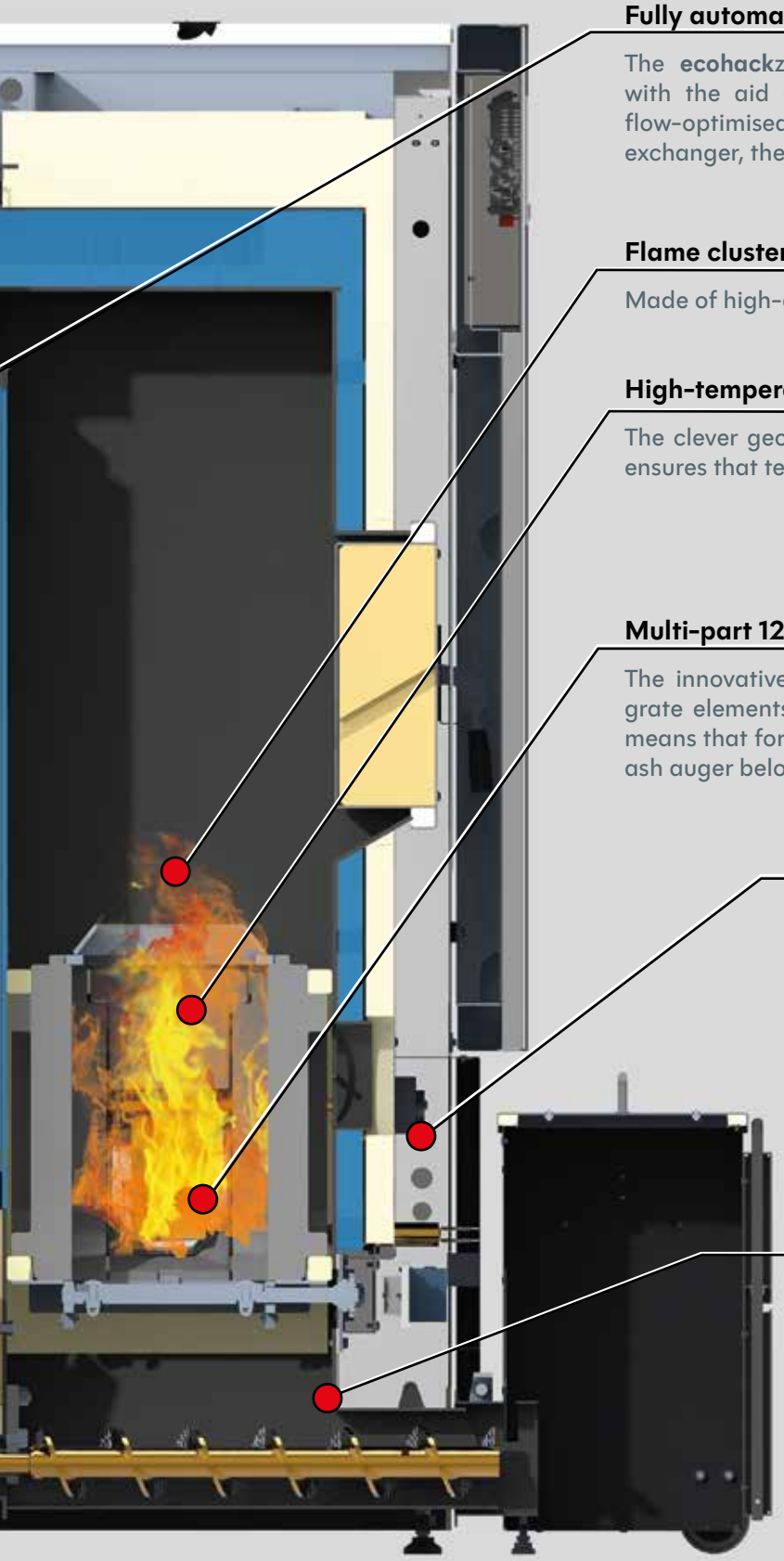
Electrostatic dust collector

A high collection efficiency of 85% means dust emissions at the limit of what is measurable of < 1.0 mg/Nm^3.

Lambda sensor

The lambda sensor measures the ratio of fuel to oxygen supply. Measuring the residual oxygen content in the flue gas enables the efficiency to be optimised, even in the face of fluctuating fuel quality.





Fully automatic cleaning of all heat exchangers

The **ecohack**zero's heat exchangers are cleaned automatically with the aid of patented turbulators which are equipped with flow-optimised guide plates. The cleaner the surface of the heat exchanger, the higher the efficiency of the boiler.

Flame cluster-head nozzle

Made of high-quality heat-resistant steel

High-temperature silicon carbide combustion chamber

The clever geometry of the individual combustion chamber bricks ensures that temperatures remain high in the combustion zone.

Multi-part 120° multi dumping grate with robust drive

The innovative multi dumping grate consists of several dumping grate elements which can be rotated up to 120°. The tilt of 120° means that foreign bodies such as nails or stones fall onto the large ash auger below.

Quick, optimised ignition

The silent ceramic igniter ensures safe and energy-saving ignition of the fuel. The ignition shuts off as soon as the lambda sensor and the flue gas temperature sensor have detected successful ignition of the wood chips. This optimised ignition saves energy.

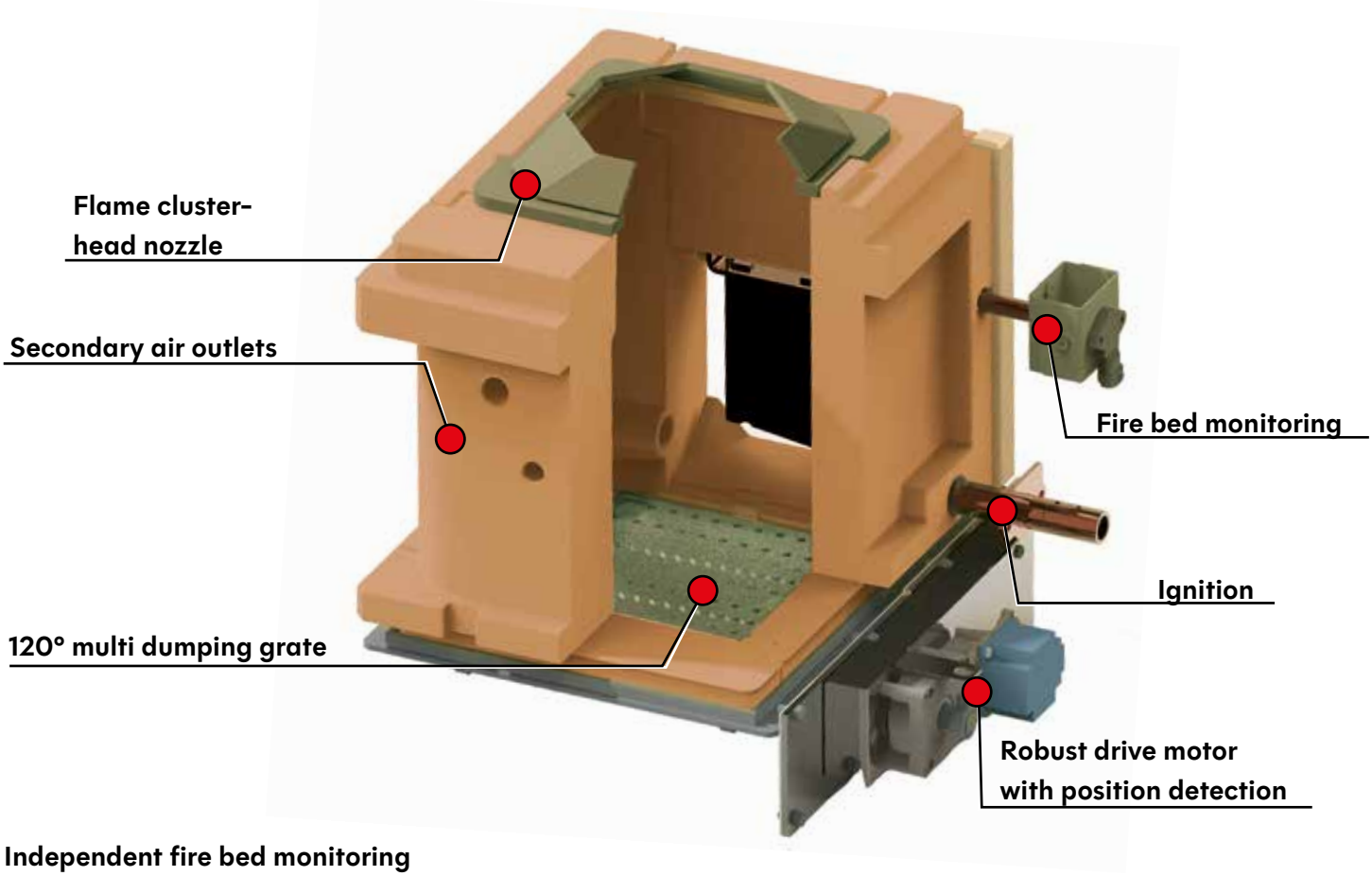
Fully automatic ash removal in a moveable ash container

The ash is automatically transported to a large, external ash container. In doing so, the ash is compressed by the ash auger. This considerably lengthens the emptying intervals. The full ash container can be quickly and easily moved on transport rollers using the carrying handles on the sides or the integrated pull-out.

Optimised combustion

High-temperature silicon carbide combustion chamber

The clever geometry of the individual combustion chamber bricks ensures that temperatures remain high in the combustion zone. Together with the flame cluster-head nozzle and the asymmetrical arrangement of the secondary air nozzles, the turbulence in the combustion chamber is increased further so that as much energy as possible is obtained from the fuel.



Independent fire bed monitoring

Thanks to the contact-free sensors, the fire bed is monitored and controlled so that there is always the right amount of fuel on the multi dumping grate. This ensures that the boiler is not overfilled, including after an extended period of downtime (e.g. when the boiler is cold or after using damp, difficult-to-ignite material).

Quick, optimised ignition

The silent ceramic igniter ensures safe and energy-saving ignition of the fuel. The ignition shuts off as soon as the lambda sensor and the flue gas temperature sensor have detected successful ignition of the wood chips. This optimised ignition saves energy.

Lambda sensor

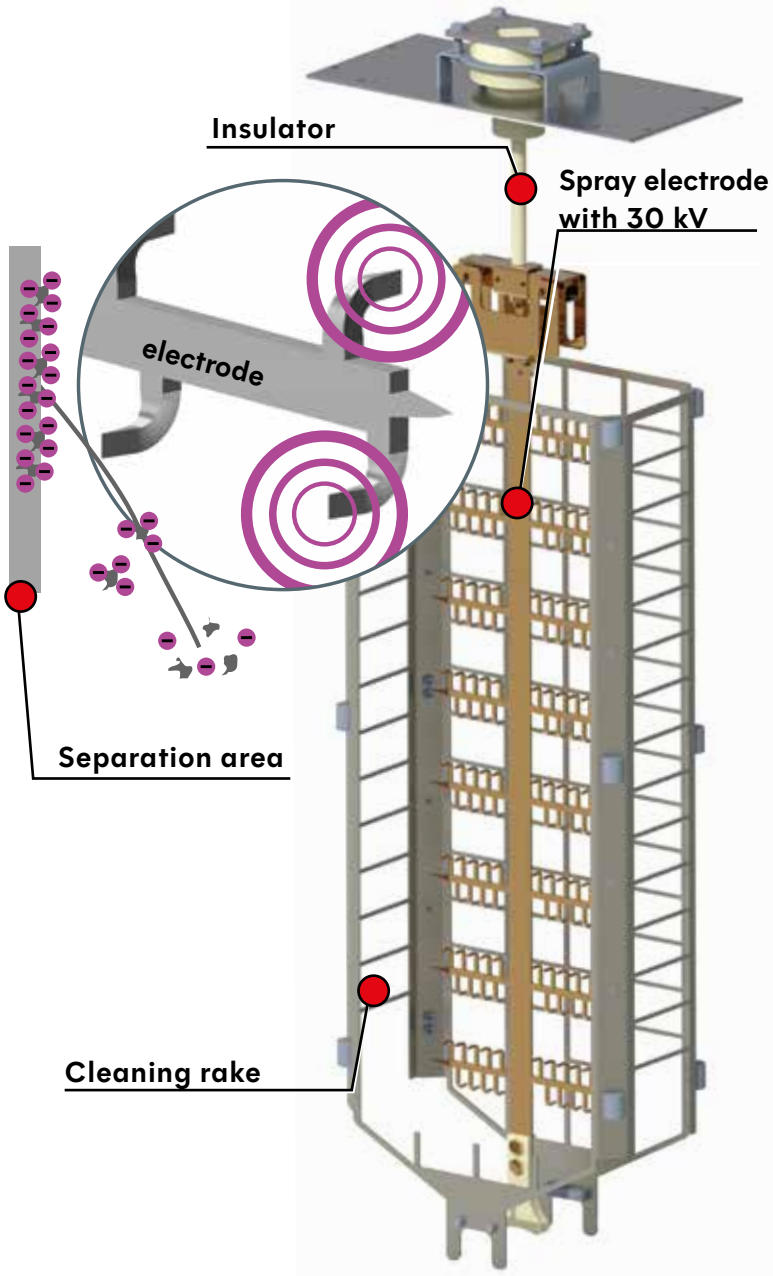
The lambda sensor measures the ratio of fuel to oxygen supply. Measuring the residual oxygen content in the flue gas enables the efficiency to be optimised, even in the face of fluctuating fuel quality.

Zero emission technology

Electrostatic particle filter

To filter the last remaining dust particles from the flue gas stream, the ecohackzero features an electrostatic particle filter integrated into the boiler as standard. With the aid of a special discharge electrode, voltage is applied to the finest dust particles which ionises them. The ionisation diverts the charged particles which then form a layer of dust on the collection plate. The separated particles thus remain inside the boiler and cannot escape with the flue gas via the chimney.

Thanks to the high collection efficiency of 85%, the particle separator also ensures low dust emissions at the limit of what is measurable of < 1.0 mg/Nm³, even for poor fuels, and with minimal electricity consumption of around 35 watts.



Automatic cleaning

To maintain a consistently high separation efficiency for the particle filter, the discharge electrode and the collection plate must be automatically cleaned of contaminants.

This is why the **ecoHACK**zero automatically cleans the particle filter after every de-ashing cycle. The filtered dust falls into the ash chamber below and an ash auger transports it to the ash container, along with the flue and combustion chamber ash.

Innovative technical solutions

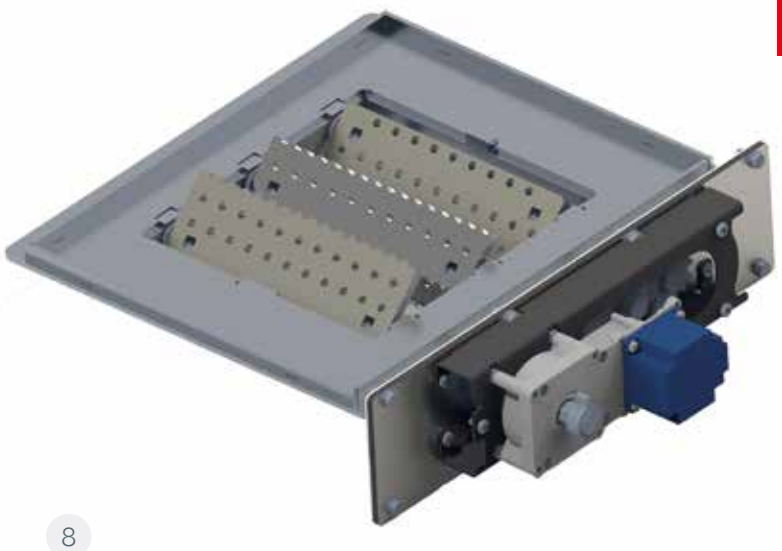
Flue gas recirculation

The flue gas recirculation, which is integrated as standard, counteracts the formation of slag. This combustion technology ensures worry-free operation and is particularly essential for very dry heating fuel (<15% water content) or for fuels that tend to form slag.

Part of the flue gas is mixed with the combustion air and fed back through the combustion process. The recirculated flue gas cools the fire bed, so that the combustion temperature can be kept below 1,000°C. Flue gas recirculation therefore ensures optimum combustion and performance, and also reduces NOx emissions. A positive side effect is that the lower combustion temperatures also protect the parts exposed to flames.

Integrated return booster

The return booster integrated as standard ensures that the boiler quickly reaches temperature. This means that an external return booster is no longer needed, saving both installation time and space in the boiler room. The individual components can be easily accessed on the right side of the boiler.



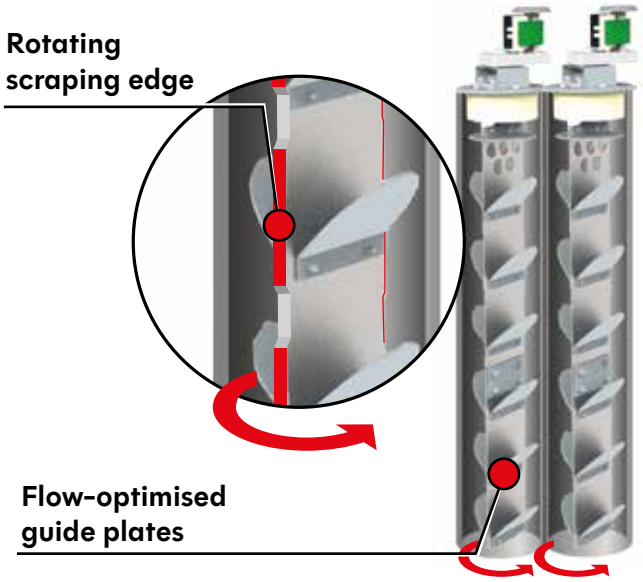
Multi-part 120° multi dumping grate with robust drive

The innovative multi dumping grate consists of several dumping grate elements which can be rotated up to 120°. The tilt of 120° means that foreign bodies such as nails or stones fall onto the large ash auger below. What is special about this setup is that the openings for the primary air, which flows between the dumping grate elements, are automatically cleaned with each turn. This breaks up the slag, which can arise during the combustion of heating fuel with a very low ash melting point.

Cleaning and ash extraction

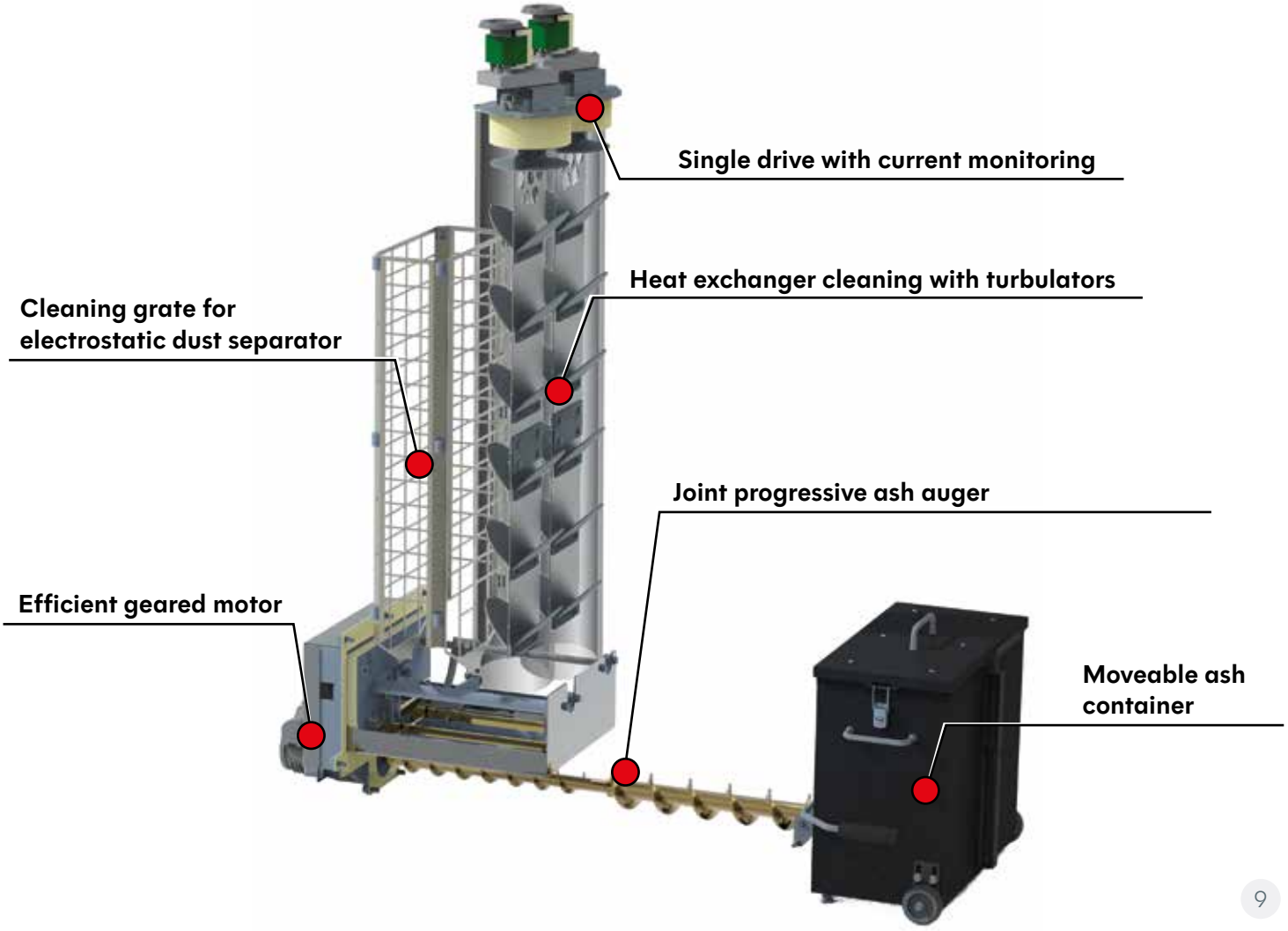
Fully automatic cleaning of all heat exchangers

The **ecoHACK**zero's heat exchangers are cleaned automatically with the aid of patented turbulators which are equipped with flow-optimised guide plates. The cleaner the surface of the heat exchanger, the higher the efficiency of the boiler. In place of conventional systems, SOLARFOCUS uses turbulators with scraping edges which turn on their own axis, instead of moving up and down. The rotation of the scraping edges effectively removes dirt without generating a lot of noise.



Ash removal in a moveable ash container

The ash is automatically transported to a large, external ash container. In doing so, the ash is compressed by the ash auger, considerably lengthening the emptying intervals. The full ash container can be quickly and easily moved on transport rollers using the carrying handles on the sides or the integrated pull-out.



Maximum safety during operation

Energy-saving and robust feeder unit

The space-saving feeder unit consists of the proven single chamber rotary valve and the large Ø 100 mm screw feeder. Together, they reliably convey the fuel to the combustion zone and ensure maximum burn-back protection at all times. Thanks to the large diameter, this even transports coarse wood chips into the combustion chamber without resistance. The feeder trough, in which the screw feeder operates, is designed so that as little material as possible remains on the screw feeder after emptying.

The feeder unit is driven by a joint energy-saving spur gear, which uses just 0.37 kW of electricity. SOLARFOCUS has used spur gears since the beginning, as the low friction loss enables maximum efficiency.

Single chamber rotary valve

The leak-tightness of the single chamber rotary valve ensures maximum safety at the partition between the combustion chamber and the fuel store. Unlike conventional burn-back slide valves, the connection between the combustion chamber and the fuel store is always closed, including during operation. This means that hot gas from the combustion chamber cannot penetrate into the fuel conveying system – and burn-back in the fuel store is not possible.

The single chamber rotary valve enables material-friendly transport of the wood chips with its rotor diameter of 180 mm. Thanks to the large chamber, long pieces of wood can be quietly transferred into the screw feeder with little wear, without being cut by the cutting edges. Only extremely long pieces of wood, which protrude out of the chamber are effortlessly cut by the hardened cutting edges. If necessary, the cutting edges can easily be removed and sharpened.

The re-designed single chamber rotary valve can accommodate wood chips up to P31S (previously G50) with ease. The continuous material transport into the combustion zone ensures optimum fuel dosing – paving the way for the best combustion values.

Filling and storage options

Spring leaf agitator with inclined extraction with sloping floor
A sloping floor is usually installed. This leaves less wood chips in the store.

Spring leaf agitator with inclined extraction without sloping floor
With inclined transport, the sloping floor can be omitted. This makes installation cheaper, but means that a small part of the store cannot be emptied fully automatically.

Spring leaf agitator with horizontal extraction
For horizontal extraction, a height difference of 75 cm is needed between the storage room and the boiler room. The optional run-up slopes for the installation on the trough are also required.

Bridge long routes with ascending augers
Material can be transported over longer routes with the aid of additional ascending augers. With SOLARFOCUS, up to 2 additional ascending augers can be positioned between the direct extraction and the feed. The max. auger length of an ascending auger is 6.0 m and the angle should be no more than 30°.

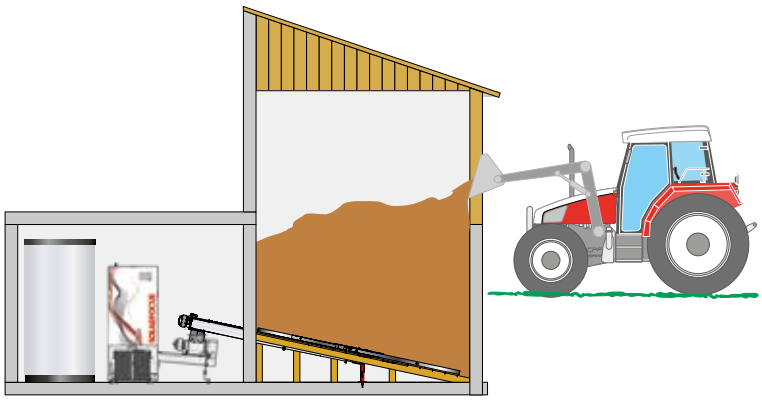
Spring leaf agitator with downpipe
If the storage room lies above the boiler room, then this solution feeds the wood chips to the boiler via a downpipe.

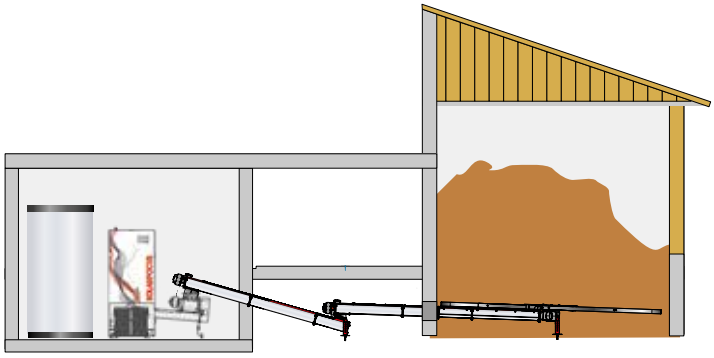
Filling the storage room with a filling auger
The filling auger is used to fill the storage room if existing rooms are to be used or the boiler room is located directly in the building. Alternatively, the wood chips can also be injected from the tanker via injection ports.

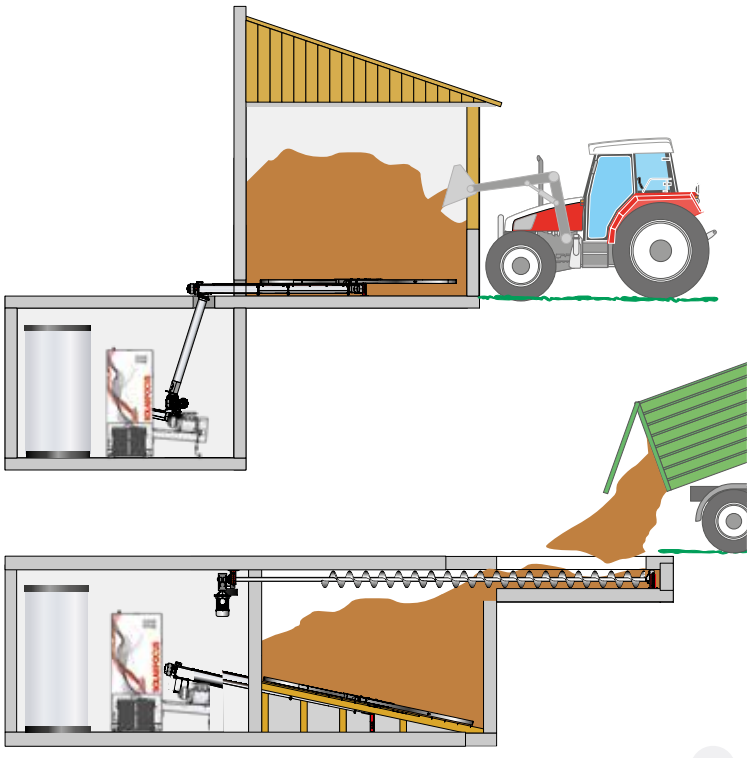
Rule of thumb for the annual wood chip requirement:

High-quality wood chips (hardwood P16S/M30)
= 2.0 lcm per kW heating load

Low-grade wood chips (softwood P16S/M30)
= 2.5 to 3.0 lcm per kW heating load







From the storage room to the boiler

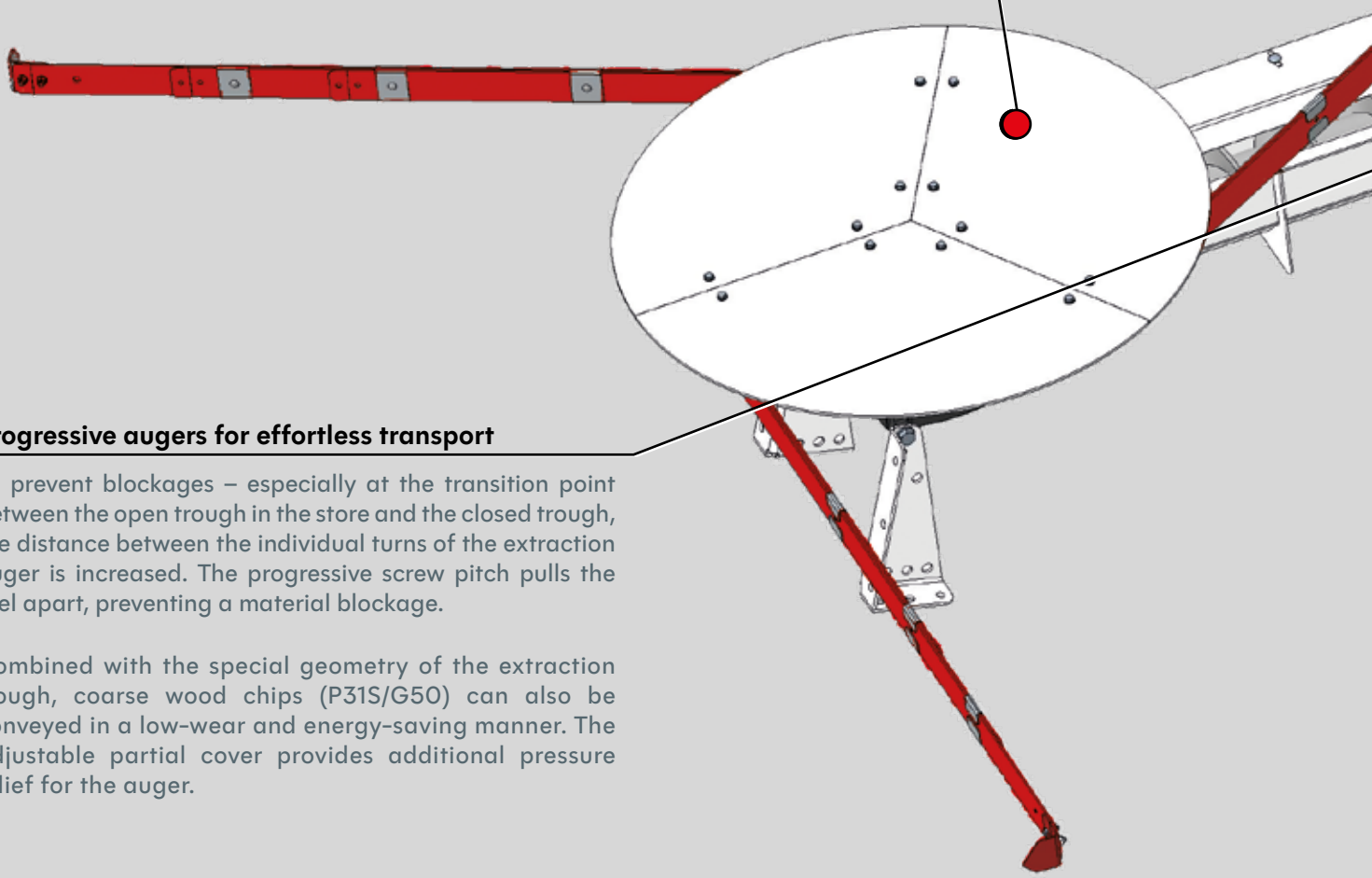
Agitator with 3 spring leaf arms for even extraction

The agitator with spring steel leaves pushes the wood chips towards the open trough and the extraction auger. Depending on the size of the storage room, an agitator with a diameter of 2.5 m bis 4.5 m with leaf springs can be selected. An agitator with articulated arms is recommended for rooms as of 5.0 m to 6.0 m.

At the ends of each agitator arm, pulling hooks, which loosen the fuel, are also fitted.

Optional run-up slopes can be fitted if you do not want to install a sloping floor. This makes installation of the agitator cheaper, but means that the store cannot be fully emptied. The space under the trough is filled with very dry wood chips during the first fill and forms a sort of natural sloping floor.

The agitators are designed for a maximum cone height of 5 metres and can either be set up inclined with/without sloping floor or horizontal depending on the structural circumstances.



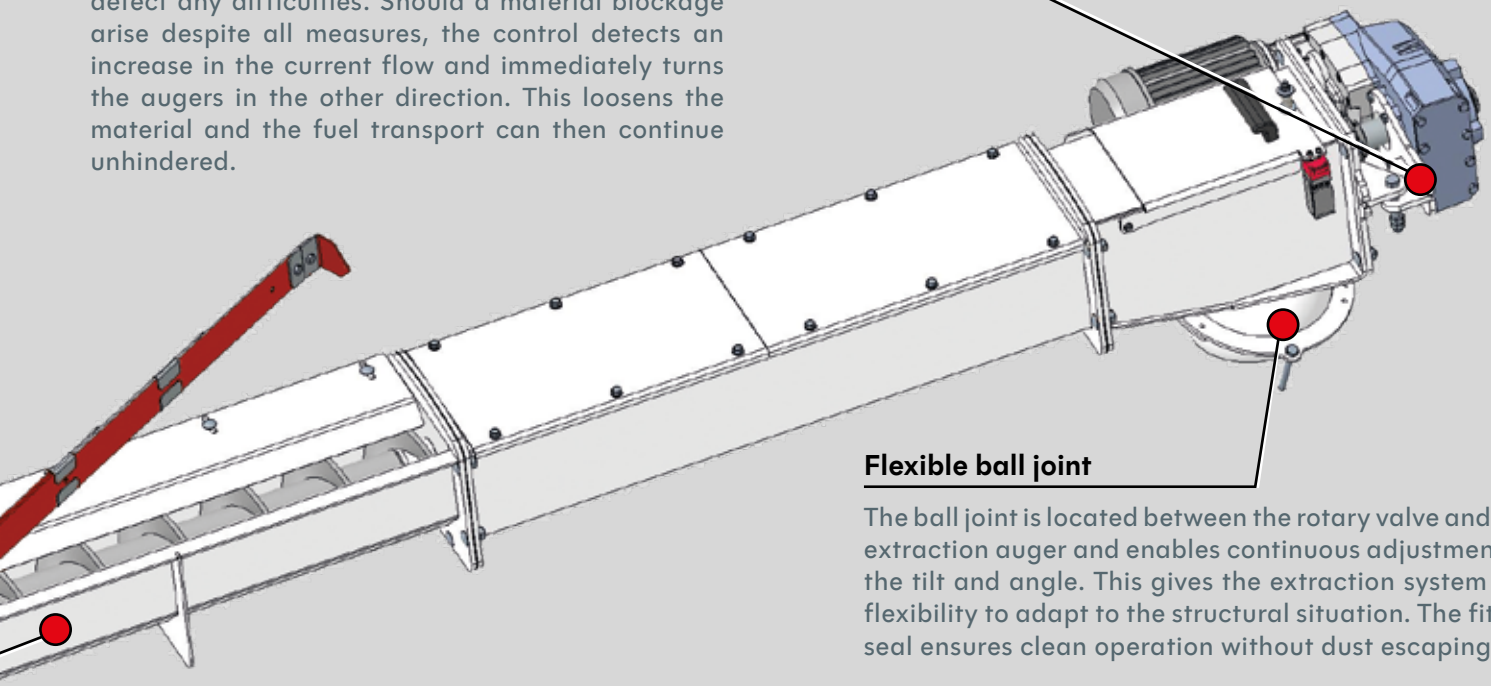
Progressive augers for effortless transport

To prevent blockages – especially at the transition point between the open trough in the store and the closed trough, the distance between the individual turns of the extraction auger is increased. The progressive screw pitch pulls the fuel apart, preventing a material blockage.

Combined with the special geometry of the extraction trough, coarse wood chips (P31S/G50) can also be conveyed in a low-wear and energy-saving manner. The adjustable partial cover provides additional pressure relief for the auger.

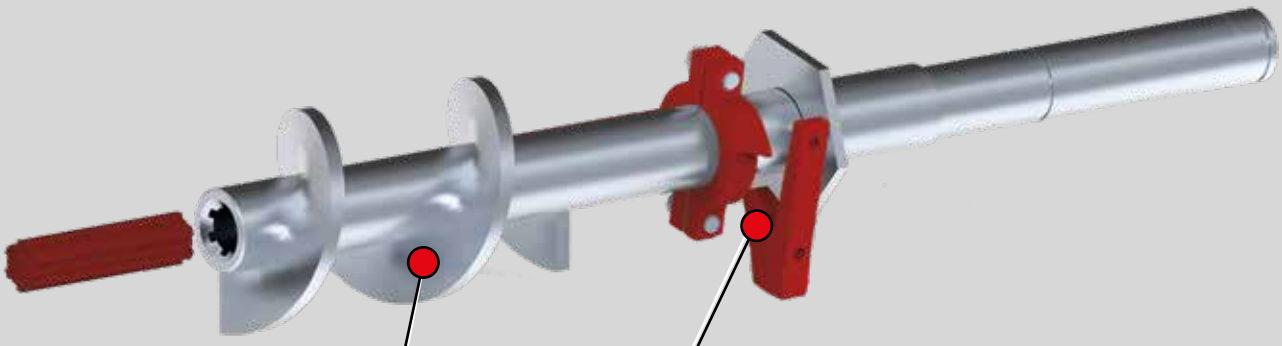
Efficient drive for the extraction system with spur gear motor

The extraction motor with flange-mounted spur gear drives the extraction auger together with the agitator. The current flow is always monitored to detect any difficulties. Should a material blockage arise despite all measures, the control detects an increase in the current flow and immediately turns the augers in the other direction. This loosens the material and the fuel transport can then continue unhindered.



Flexible ball joint

The ball joint is located between the rotary valve and the extraction auger and enables continuous adjustment of the tilt and angle. This gives the extraction system the flexibility to adapt to the structural situation. The fitted seal ensures clean operation without dust escaping.



Flexible extraction system

The extraction system offers flexibility in terms of set up according to the space situation. The right extraction auger for the size of the agitator can be extended by means of a connection system in steps of 0.5/1.0/2.0 m. Installation is quick and easy, as the components do not need to be cut or welded. The individual extraction augers have a friction-locked connection to each other by means of plug-in PTO shaft profiles.

Optional fibre breaker

If particularly fibrous materials are used, an additional, optional fibre breaker can be fitted at the transfer head before the rotary valve. The fibre breaker makes sure that overlong parts are broken down to ensure that material is transported reliably.

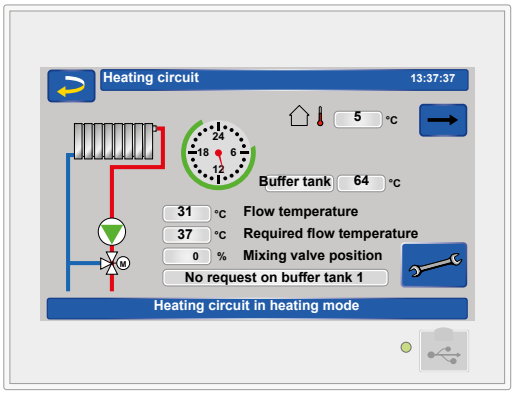
Control of the entire heating system

- Intuitive control using 7" touchscreen
- Takes the weather forecast into account
- Everything controlled via one display

Clear operation for the entire heating system

SOLARFOCUS offers the ultimate in convenience with its intuitive ecomanagertouch touchscreen control. The modern control concept with extremely simple operation via touchscreen regulates the entire heating system as well as the boiler. This means all SOLARFOCUS products can be linked to one another within a heating network and thereby optimally coordinated with one another.

All standard functions are already integrated in the control at no extra cost. This includes, for example, all the functions for controlling a heating circuit, the DHW preparation via the DHW tank or fresh water module and also the buffer tank.



In addition to the standard functions, other functions are also available:

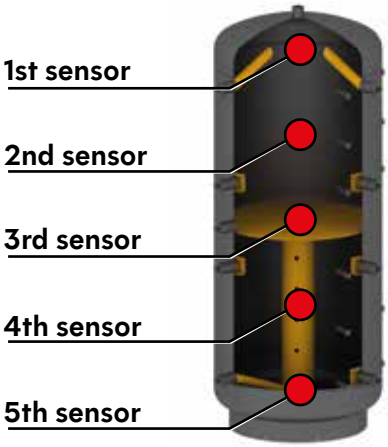
- Dual-circuit temperature difference charge control
- Incorporation of third-party boilers for oil boilers, gas central heating, heat pumps or wood-burning stoves
- Control of remote lines with mixing valve for building-wide heat distribution
- Cascade control of several SOLARFOCUS heat

Buffer tank management

All sensors and functions for controlling a buffer tank are already included as standard. Depending on the system schematic, up to 4 buffer tanks can be incorporated into the control. For larger buffer tank sizes or in the case of cascade control, optional multi-sensor buffer tank management can be used.

Multi-sensor buffer tank management

With the optional multi-sensor buffer tank management, up to five sensors are distributed across the entire height of the buffer tank, instead of the two usual temperature sensors. Based on the individual sensor values, a buffer charging state can be determined. This enables a load change to be detected more quickly and the boiler output can be adjusted faster, especially on cascade systems. This extends the boiler runtimes and shortens the start/stop intervals. This increases the efficiency of the entire system.



Weather-controlled heating circuit

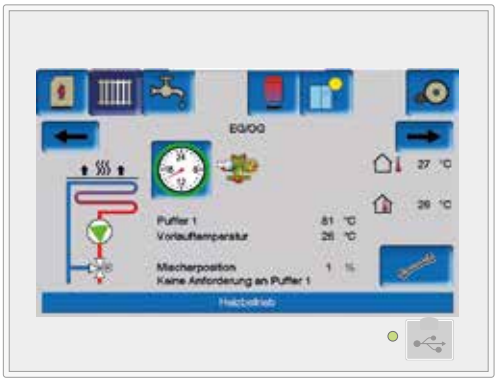
All sensors and functions for controlling a mixer-regulated heating circuit are already included as standard. Different time windows, holiday programs or temperature reductions can be individually set. Up to 8 mixer-regulated heating circuits can be optionally incorporated into the control. Each heating circuit can be optionally expanded with room temperature sensors or regulators. Variants with or without humidity sensor or room temperature controller with wireless or wired connection are available.

DHW preparation

All sensors and functions for controlling a DHW tank or a fresh water module are already included as standard. Up to 4 DHW tanks/combi storage tanks or 4 fresh water modules can be optionally incorporated into the control. The recirculation pumps of all variants can also be controlled using different programs (flow pulse, time, temperature). Alternatively, the recirculation can also be triggered via ModBus via a movement sensor, for example.

Thermal solar system

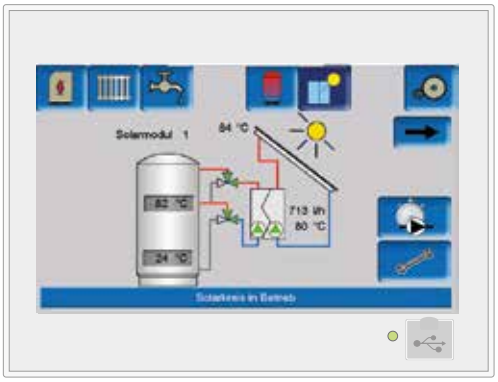
With SOLARFOCUS all options are open with the optional integration of a thermal solar system. 3-circuit solar systems can also be set up in addition to the usual single circuit or 2-circuit solar systems with one or two tanks. The SOLARFOCUS stratified charging module, pool heating or several collector arrays can also be integrated. The ecomanagertouch control is rounded off by additional functions such as a heat dissipation function, start function, relative priority or the innovative weather forecast feature.



Weather forecast control

The weather forecast control is integrated as standard. When there is an active internet connection, it factors in live data and future weather forecasts for the set location. The control uses good forecasts to tell the boiler when to start up – or when to remain inactive. This gives the thermal solar system more time and the ability to charge the tank with more energy.

But even without a thermal solar system, the function helps to save money. When sunny weather is forecast, the calculated flow temperature can also be lowered so that the living space does not overheat. Across the course of the year, this top innovation saves the user money.



Additional control functions

As well as the standard features, additional functions are available:

- Excess PV current control for up to 3 electric heaters
- Dual-circuit temperature difference charge control
- External boiler integration for oil-fired boilers, gas boilers, heat pumps or wood-burning stoves
- Remote control with mixer for heat distribution across multiple buildings
- Cascade control of multiple SOLARFOCUS heat generators
- Room air module to control combustion air supply

Smart home – integration

All SOLARFOCUS heating boilers feature a LAN and a ModBusTCP interface as standard. This means that the boiler can be easily integrated into a network and controlled remotely via PC, tablet or smartphone.

LOXONE

SOLARFOCUS products also communicate with the Smart Home control from LOXONE with the aid of an integrated ModBusTCP interface. No additional SOLARFOCUS extensions are required to connect a Miniserver.

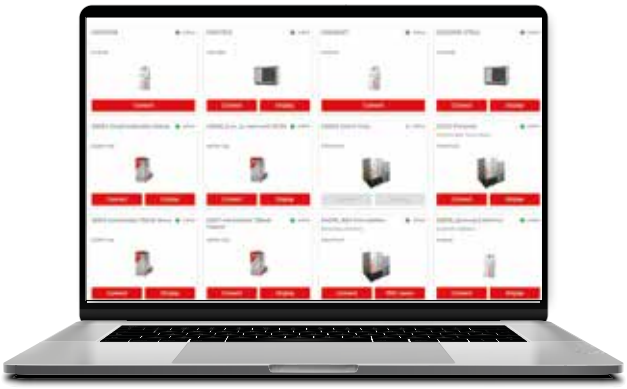
KNX

The ecomanager-touch can be connected to a KNX control system with the aid of a converter from KNX to ModbusTCP. The necessary converter can be obtained from a KNX partner of your choosing.

SOLARFOCUS CONNECT

SOLARFOCUS Connect

Is a fee-based platform which provides the customer with complete remote access to the ecomanager-touch via VNC. With the SOLARFOCUS Connect, you can see your boiler's display directly on your smartphone, tablet or PC, as if you were stood right in front of it. The connection is established in a secure VPN channel so that only authorised users have access.



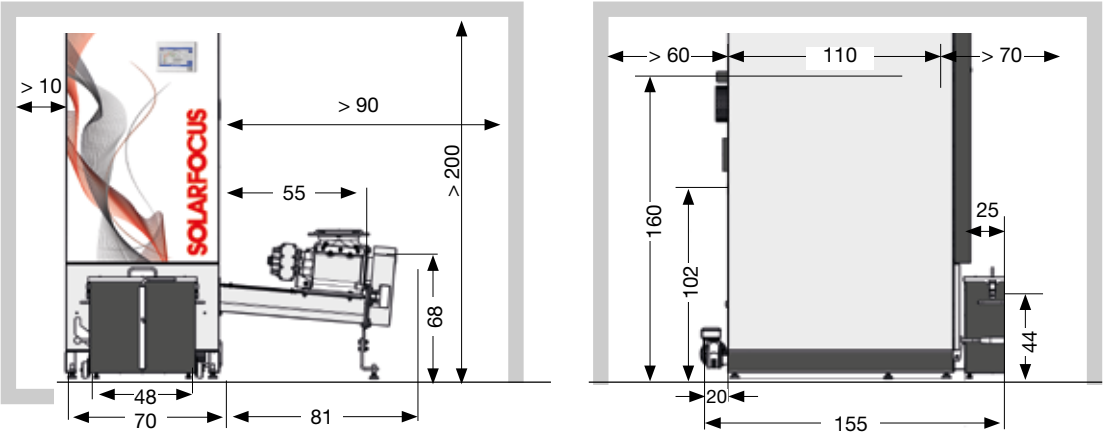
If you have questions for your heating engineer or a SOLARFOCUS technician, you can give the person in question temporary access to the control. This means questions or settings can be explained live on the display. Likewise, more focused, faster remote diagnostics can be carried out to provide better assistance without anyone have to come out.

mySOLARFOCUS

Thanks to the free mySOLARFOCUS app, you can also control the most important features of your heating system when you're on the go. For example, you can select different operating modes (holiday mode, automatic or reduced mode) for the heating circuit or control the temperature of the DHW and buffer tanks. The current status line for the heat generator is also displayed.

If a thermal solar system with heat meter is also installed, then current and historic solar yields can also be visualised. You can receive important information on your smartphone via push notifications. It is quick and easy to install the app, which is available for Android and iOS, on your smartphone.

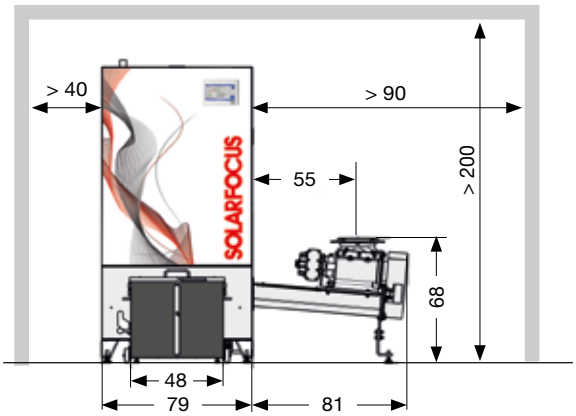
Technical data

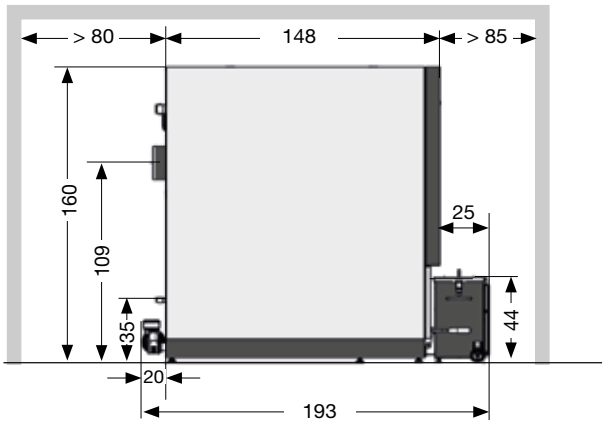


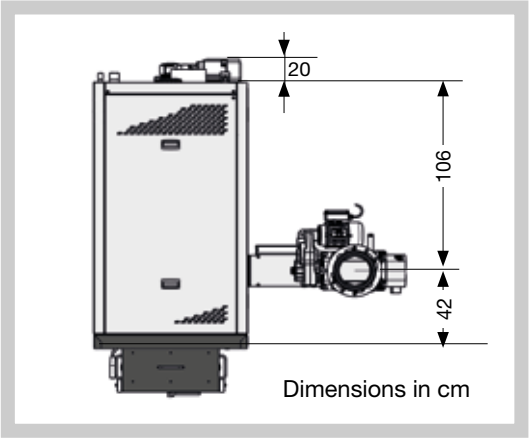
Dimensions in cm

ecoHACK		30	35	40
Power range (M25 BD 150)	[kW]	9 - 30	9 - 35	9 - 40
Boiler class acc. to EN303-5:2012		5	5	5
Energy efficiency class composite label (with control)		A+	A+	A+
Dimensions				
Width	[cm]	70	70	70
Height	[cm]	160	160	160
Depth without/with ash container	[cm]	123/148	123/148	123/148
Minimum room height	[cm]	200	200	200
Recommended room height	[cm]	230	230	230
Flue gas side				
Flue gas pipe DM	[cm]	13	13	13
Height up to flue gas pipe - centre	[cm]	102	102	102
Minimum draught requirement	[Pa]	5	5	5
Flue gas mass flow full load	[g/s]	18	21	22
Max. flue gas temperature full load	[°C]	140	140	140
Weight				
Weight of feeder unit with rotary valve	[kg]	78	78	78
Boiler weight	[kg]	560	560	560
Water side				
Water content	[l]	108	108	108
Temperature controller adjustment range	[°C]	70 - 85	70 - 85	70 - 85
Maximum permissible temperature	[°C]	95	95	95
Max. permissible operating pressure	[bar]	3	3	3
Boiler flow/boiler return connection	["]	G 5/4" ET		
Fill and drain valve connection	["]	G 1/2" ET		
Thermal safety valve	["]	not necessary		
Electrical connection				
Power supply, fuse	[V, Hz, A]	230 V AC/50 Hz, 10 A		
Fuel				
Suitable fuel		Wood chips ISO 17225-4, classes A, sizes P16S-P31S (G30-G50), water content max. 35%		
Capacity of ash container	[l]	51	51	51

Technical data

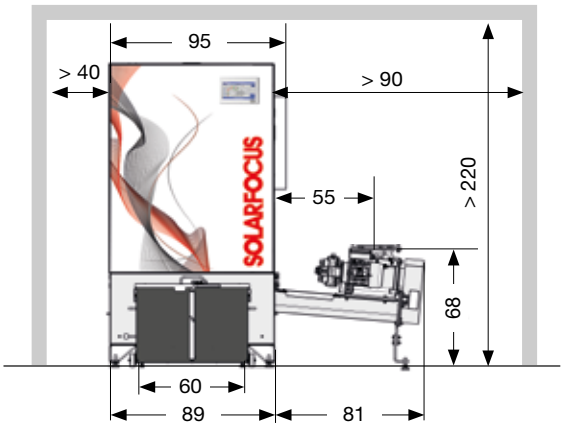


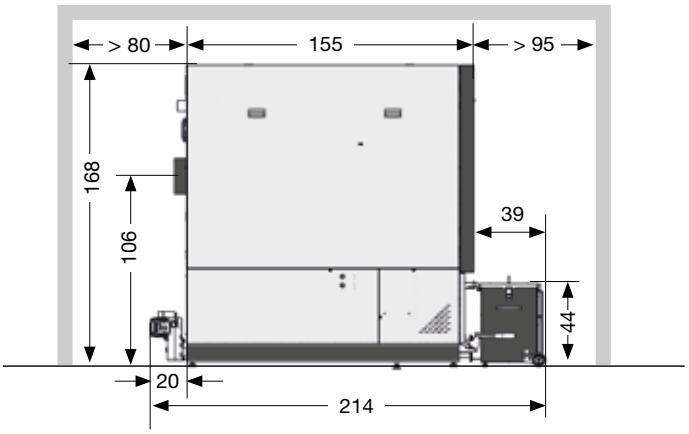


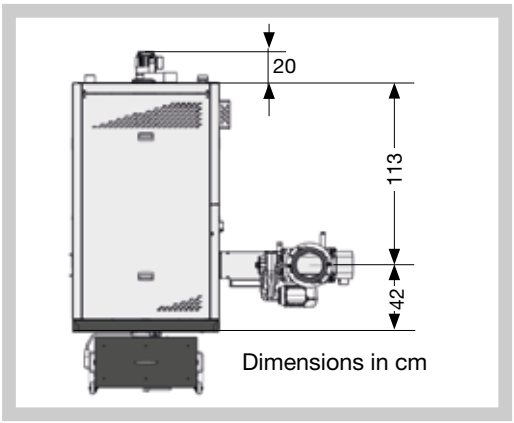


ecoHACK		45	50	60	70
Power range (M25 BD 150)	[kW]	13,5 - 45	15 - 49	18 - 59	20,7 - 69
Boiler class acc. to EN303-5:2012		5	5	5	5
Energy efficiency class composite label (with control)		A+	A+	A+	A+
Dimensions					
Width	[cm]	79	79	79	79
Height	[cm]	160	160	160	160
Depth without/with ash container	[cm]	148/180	148/180	148/180	148/180
Minimum room height	[cm]	200	200	200	200
Recommended room height	[cm]	230	230	230	230
Flue gas side					
Flue gas pipe DM	[cm]	15	15	18	18
Height up to flue gas pipe - centre	[cm]	109	109	109	109
Minimum draught requirement	[Pa]	5	5	5	5
Flue gas mass flow full load	[g/s]	25	29	36	43
Max. flue gas temperature full load	[°C]	140	140	140	140
Weight					
Weight of feeder unit with rotary valve	[kg]	78	78	78	78
Boiler weight	[kg]	930	930	930	930
Water side					
Water content	[l]	205	205	205	205
Temperature controller adjustment range	[°C]	70 - 85	70 - 85	70 - 85	70 - 85
Maximum permissible temperature	[°C]	95	95	95	95
Max. permissible operating pressure	[bar]	3	3	3	3
Boiler flow/boiler return connection	["]	G 5/4" ET			
Fill and drain valve connection	["]	G 1/2" ET			
Thermal safety valve	["]	not necessary			
Electrical connection					
Power supply, fuse	[V, Hz, A]	230 V AC/50 Hz, 10 A			
Fuel					
Suitable fuel		Wood chips ISO 17225-4, classes A, sizes P16S-P31S (G30-G50), water content max. 35%			
Capacity of ash container	[l]	51	51	51	51

Technical data







ecoHACK		90	100	110	120
Power range (M25 BD 150)	[kW]	26,7 - 89	29,7 - 99	33 - 110	36 - 120
Boiler class acc. to EN303-5:2012		5	5	5	5
Composite label energy efficiency class (with control)		A+	A+	A+	A+
Dimensions					
Width	[cm]	89	89	89	89
Height	[cm]	168	168	168	168
Depth without/with ash container	[cm]	175/214	175/214	175/214	175/214
Minimum room height	[cm]	220	220	220	220
Recommended room height	[cm]	240	240	240	240
Flue gas side					
Flue gas pipe DM	[cm]	20	20	20	20
Height up to flue gas pipe - centre	[cm]	106	106	106	106
Minimum draught requirement	[Pa]	5	5	5	5
Flue gas mass flow full load	[g/s]	51	58	64	73
Max. flue gas temperature full load	[°C]	140	140	140	140
Weight					
Weight of feeder unit with rotary valve	[kg]	78	78	78	78
Boiler weight	[kg]	1.290	1.290	1.290	1.290
Water side					
Water content	[l]	302	302	302	302
Temperature controller adjustment range	[°C]	70 - 85	70 - 85	70 - 85	70 - 85
Maximum permissible temperature	[°C]	95	95	95	95
Max. permissible operating pressure	[bar]	3	3	3	3
Boiler flow/boiler return connection	["]	G 5/4" ET			
Fill and drain valve connection	["]	G 1/2" ET			
Thermal safety valve	["]	not necessary			
Electrical connection					
Power supply, fuse	[V, Hz, A]	400 V 50 Hz, 13 A			
Fuel					
Suitable fuel		Wood chips ISO 17225-4, classes A, sizes P16S-P31S (G30-G50), water content max. 35%			
Capacity of ash container	[l]	78	78	78	78

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pelletelegance:	10 to 24 kW
octoplus:	15 to 22 kW
ecotopzero:	15 to 24 kW
pellettop:	35 to 70 kW
ecopellzero:	50 to 120 kW
maximus:	150 to 300 kW

Dual fuel boiler for wood and pellets

therminator II combi:	22 to 60 kW

Log wood boiler

therminator II SH:	18 to 60 kW

Wood chip boiler

ecohackzero:	30 to 120 kW
maximus:	150 to 250 kW

Air source heat pump

vampair PRO 08 - 10
vampair PRO 12 - 15
vampair PRO 20
vampair ECO 08 - 12

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SOLARFOCUS GmbH, A-4451 St. Ulrich/Steyr, Werkstraße 1
www.solarfocus.at | office@solarfocus.at | T: 07252 50 002 - 0

SOLARFOCUS GmbH, D-64653 Lorsch, Marie-Curie-Str. 14-16
www.solarfocus.de | office@solarfocus.de | T: 06251 13 665 - 00

SOLARFOCUS Schweiz GmbH, CH-6246 Altishofen, Feldmatt 12
www.solarfocus.ch | info@solarfocus.ch | T: 041 984 08 80

SOLARFOCUS GmbH, Villanova Mondovì (CN), Largo Annunziata 26
www.solarfocus.com | italia@solarfocus.eu | T: 0174 24 65 28