# **PELLET**BOILERS

32 - 330 kW 109,000 - 1,125,000 BTU/h

# **NORTH AMERICA**









# Table of contents

- **4** Good reasons for heating using pellets
- **6** Overview of all pellet boilers
- 8 Nano-PK 32
- 10 Nano-PK advantages
- 14 Smart-PK 32
- **16** Wood log & pellet combi boiler
- **18** Eco-PK 70 120
- **20** Eco-PK 150 200
- 22 Eco-PK 250 330
- 24 Eco-PK advantages
- 28 Smart home and control unit
- 30 Boiler operation and touch display
- **32** Pellet storage
- **34** Transport and storage systems (bag silo, fuel extraction systems and underground tank)
- **40** Accumulator systems
- 42 Technical data



# The world of biomass

"The delivery of pellets or wood chips **smells like Christmas**", was the statement of one of our satisfied clients. It's the smell of wood, made of residual wood from domestic forests and wood from local mills. The carbon that is released by pellet or Wood chip boilers is already in the active carbon cycle in form of trees. It is moving in this cycle and not producing new carbon that is emitted to the atmosphere compared to boilers that use fossil fuel.

Treating nature with care and caution is part of our philosophy. Therefore, it is even more important for our future generations to choose the correct heating system and the right fuel. **From an ecological and economic perspective, heating with wood is the most natural raw material for this purpose.** 



### Biomass

Canada produces actually 4 Mio tonnes of biomass per year and is exporting 3,8 Mio tonnes to the northern part of Europe or Japan.



### Reduce your carbon footprint

The carbon that is released by biomass boilers is already in the active carbon cycle in form of trees. It is moving in this cycle and not producing new carbon that is emitted to the atmosphere.



### Save money

Lower heating costs than oil or gas. Additionally you can get financial support through subsidies from your local government.



Heating with biomass has other positiv impacts like: New jobs or a better supplying of the local foresters.



4 decades of Hargassner =
4 decades of future heating technology

Hargassner. Since 1984, as a pioneer in automated biomass heating systems, we have endeavoured to stand by our customers as a reliable partner-with trustworthiness from Innviertel. We have now grown into an internationally successful company with a pronounced spirit of innovation.

- ✓ 40 years of experience
- 185.000 customers worldwide
- √ 75.000 m² company floor space
- ✓ 1.200 employees at several locations
- ✓ Export to 43 countries
- ✓ 40 years of international awards













Managing directors (left to right) Markus & Anton jr. Hargassner





# Advantages

- ✓ Lower costs than oil or gas
- ✓ Crisis-resistant, because locally sourced
- ✓ Short transportation
- ✓ Dust-free, odourless blow-in
- ✓ Low storage volume (= low space requirements)
- ✓ Easy filling of the storage room through delivery by tanker or bags
- ✓ Very high calorific value

**Environmentally friendly.** Pellets are CO<sub>2</sub> neutral. In general, the cleaner combustion results in a CO<sub>2</sub> reduction of 95% compared to heating oil.

**Local.** Using wood pellets offers a future-proof market for local companies and secure jobs in the region.

**Economical.** The combination of low fuel costs and highly efficient combustion makes pellets so economical.

**Comfortable & clean.** The fuel is delivered by tanker and transported from the storage room to the boiler automatically. The ignition, control and boiler cleaning are also fully automatic.

**Future-proof.** Austria and Germany now produce more wood pellets as a by-product of wood processing than are consumed in those countries.

### More good reasons.

They are ideal for use in the refurbishment industry, because higher flow temperatures are possible too. No noise development in the interior and exterior areas.



### **FACTS**

**Standards:** EN ISO 17225-2, ÖNORM 7135, class A1

Calorific value: 4.8 – 4.9 kWh/kg

**Density:** 650 kg/m<sup>3</sup>

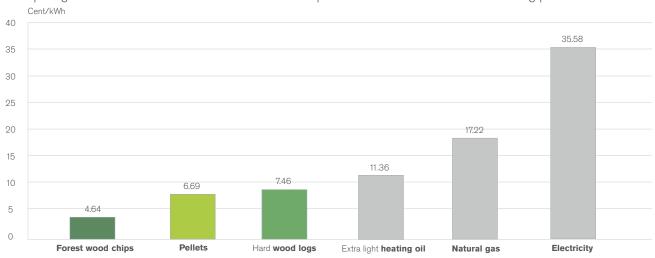
Ø / length: 6 mm / approx. 5 – 40 mm

Water content: w < 10%

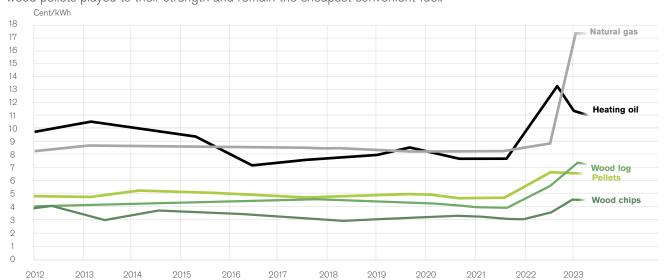


### **Energy prices per year\***

Comparing the costs of individual fuels down into cents per kilowatt hour reveals an astonishing picture:



**Long-term heating cost comparison for biomass - oil/natural gas** In the ten years since 2013, pellets have been 44 % cheaper than heating oil on average. Even during the price changes due to global effects in 2023, wood pellets played to their strength and remain the cheapest convenient fuel.



Basis: Reference value is the calorific value 15,000 kWh gas, 3,500 kWh electricity excluding new
customer discounts, 1,000 lites of extra light heating oil, weighted acreage oxistmer price free domicile
(excl. tanker filling flat rate) for 1,000 lites of extra light heating oil free domicile, based on a delivery
quantity of 3,000 lites. Source: proPellets, Landwirtschaftskammer Osterreich, E-Control, IMO; Last
indahet; 34 Anril 2003

# The variety of our Pellet boilers





### Biomass heating technology at its best

Products from Hargassner combine the highest quality, expertise and decades of proven technology. As a biomass pioneer, Hargassner researches and develops the future of heating with a keen sense of the environment. These innovations make the boilers some of the best biomass heating solutions available in the world today. Lowest emissions at the highest efficiencies, maximum convenience and long lifetime characterise the "Hargassner" brand.





Research, quality control and the focus on customer satisfaction therefore characterise the daily tasks to a high degree. Many customers are already benefiting from this success story. A capacity of more than 30,000 boilers produced per year and over 170,000 satisfied buyers worldwide are proof of the top level of Hargassner heating technology.

Discover the wide world of Hargassner pellet boilers on the following pages.



Our Nano-PK and Smart-PK boiler series have been awarded the Energiegenie (energy genius) innovation prize. You can find more information about our awards and prizes on our website hargassner.com





# NENDEK

32 kW

109,000 BTU/h

Low-temperature boiler with the latest heating technology for the low to medium output range. This boiler series is suitable for detached houses to multi-dwelling buildings and also particularly well suited for renovation projects.

- ✓ Small, compact design (0.69 m²)
- ✓ Low-temperature boiler from 40°C
- ✓ Possible to place onto 3 walls
- ✓ **Simple installation**Maintenance openings at the front and top
- Heating without boiler room –
   depending on building regulations
- ✓ Integrated hydraulic modules



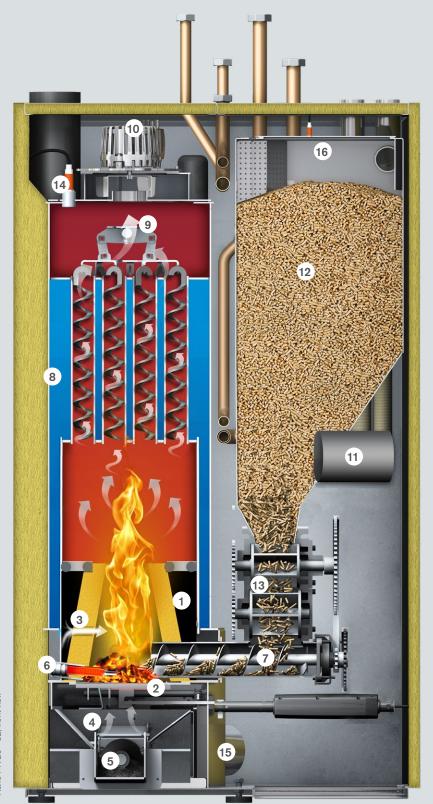
# Application areas

- Detached houses
- Semi-detached houses
- Multi-dwelling units
- Renovation projects

- + Hx WxD = 1,550 x 980 x 700 mm
- Energy efficiency class A
- Efficiency of up to 95%
- 5-year warranty according to warranty certificate

# The strong compact device

Nano-PK 32



- 1 Fully refractory-lined combustion chamber
- 2 Sliding grate
- 3 Secondary air stream with inlet openings
- 4 Primary air
- 5 Ash extraction system
- 6 Automatic ignition with 300 W
- 7 Stoker auger
- 8 Heat exchanger
- 9 Turbulators with autom. boiler cleaning system
- 10 Exhaust fan
- 11 Pellet vacuum turbine 12 Pellet day hopper
- 13 Metering double rotary valve
- 14 Lambda sensor
- 15 Air connection AIO / ADO
- 16 Fill level indicator



# NENDEK

# This is what makes it unique

The Hargassner pellet boilers from the Nano series are the right choice for anyone looking for maximum comfort and powerful heating performance. The "Nanos" require little space and can even be installed in a niche in small technical rooms. The fully automatic technology ignites and cleans itself. It independently maintains the desired room temperature and you can enjoy cosy warmth yourself.



### Small, compact design

Can be installed **flush with the wall on three sides** and is therefore ideally suited for small heating or installation rooms. and, depending on your local building regulations, it no longer has to be installed in a separate boiler room.

### minimum space requirement:

**0.45 m<sup>2</sup>** (for Nano-PK 6 – 15) or **0.69 m<sup>2</sup>** (for Nano-PK 20 – 32)



### **Quick to transport**

The Nano-PK boiler is a single-unit system and therefore very easy to transport. In most cases, it **no longer has to be disassembled.** 



### **Quick installation**

All accessories and piping are implemented in the boiler ready for connection. All the connecting components, such as the flue pipe, pellet transport pipes, etc. run upwards and away from the boiler. The easy installation saves you time and money!



### Maintenance openings easy to access

All the boiler's components have been arranged in a way that allows them to be **accessed from the front or top easily**.



# NENDEK

# The future of heating



### Most efficient low-temperature boiler

The usable output range for the heating water circuit of the Nano extends from low to high temperature. In these heating systems, an outside temperature sensor smoothly adjusts the boiler output to the current heat demand. Economical buildings or transitional periods often require heating water temperatures that can be lowered to approx. 40°C. The low-temperature boiler therefore only ever generates as much heat for the radiators as is actually needed. This **saves radiation losses** and less power is lost through the chimney.

# Practical consumption display

A reliable reminder on the display, remote control, mobile phone or tablet automatically provide a notification when pellets need to be refilled.



# Fully refractory-lined high-temperature combustion chamber with a lambda sensor

**Refractory** has proven itself as the best material available in terms of heat storage, function and durability. The high combustion chamber temperature at full and partial load contributes to very good combustion efficiency of up to 96% and low emission values.

The **lambda sensor** regulates exactly the right quantity of fuel in every output range according to the pellet quality. This guarantees economical and low-emission combustion.







### **Automatic pellet transport**

The hopper in the boiler is filled automatically at the set times and as required. A **suction system** transports the pellets via the fuel extraction system into the hopper with the help of a turbine. With suction hoses, the pellets can thus be transported up to 20 m from a storage room.

A **metering double rotary valve** in a cast design provides 100% protection against burn-back by means of pressure compensation. The fuel falls through the rotary valve into the feed auger. This then transports the pellets directly into the combustion chamber.

### Intelligent ash disposal

A distribution mechanism on the sliding grate compacts the ash and fills the ash pan to the last corner. This allows much **longer emptying intervals.** The display of the boiler, the remote control or mobile devices reliably shows when the pan needs to be emptied. A filling reserve then gives you about another week. That is Hargassner pellet heating comfort!



Depending on the heating time, an **automatic cleaning system** for the heat exchangers is activated. This clears the boiler walls of residue, which then falls directly into the ash pan.

In the **Nano-PK 20 – 32**, the **ash is discharged** by a transport auger in combination with an **ash box.** 



# SMARTEN

32 kW

109,000 BTU/h

Manual filling enables sensational price-performance ratio and individual control over fuel filling. The hopper allows a continuous burning time of up to ten days.

- ✓ Compact design
- ✓ Pellet day hopper 174 kg
- ✓ Easy filling with bags of pellets
- ✓ Possible to place onto 3 walls



# Application areas

- Detached houses
- Weekend homes

- + Hx WxD = 1,520 x 1,080 x 650 mm
- Energy efficiency class A\*
- Efficiency of up to 96%
- 5-year warranty according to warranty certificate

# **Best price-performance ratio**

Smart-PK 32



- 1 Fully refractory-lined combustion chamber
- 2 Sliding grate
- 3 Secondary air stream with inlet openings
- 4 Primary air
- 5 Ash pan
- 6 Automatic ignition with 300 W
- 7 Stoker auger
- 8 Heat exchanger
- 9 Turbulators with manual heat boiler cleaning system
- 10 Exhaust fan
- 11 Pellet day hopper
- 12 Metering rotary valve
- 13 Lambda sensor
- 14 Air connection AIO / ADO
- 15 Fill level indicator



# BOILER

# combines the best of wood logs & pellets

Hargassner has decades of experience in biomass heating technology. A know-how advantage that leads to particularly sophisticated technology when combining wood logs and pellets. The arrangement with two separate heat exchangers achieves the highest system efficiencies. At the same time, the advantages – the comfort of pellets and the low cost of logs pieces – are ideally combined.

- Highest controllability and maximum efficiency
- ✓ Fuel supply security for the future
- ✓ Two separate, efficient heat exchanger systems for just one chimney
- Fully automatic changeover

# Application areas

- Detached houses
- Semi-detached houses



- Energy efficiency class A
- Efficiency of up to 96%
- 5-year warranty according to warranty certificate
- More information in the combi boiler brochure



60 kW 205,000 BTU/h 32 kW 109,000 BTU/h

### The allrounder for maximum comfort

This combi option is impressive because it consists of an automatic wood log boiler boasting a large filling chamber and a pellet boiler with an automatic heat exchanger cleaning system and an innovative fuel extraction system. The wood log boiler is ignited automatically when the accumulator can no longer cover the heat demand. If the wood log boiler has not been filled, the system will automatically switch to the pellet boiler. The pellets are automatically suctioned out of their storage room and into the hopper.





60 kW 205,000 BTU/h 32 kW 109,000 BTU/h

### For wood log boiler operator with sporadic pellet operation

This combination consisting of an automatic wood log boiler with a large filling chamber and a pellet boiler with manual filling and long filling intervals of up to a week guarantees maximum heating convenience. The wood log boiler is ignited automatically when the accumulator can no longer cover the heat demand. If the wood log boiler has not been filled, the system will automatically switch to pellets. This combi option can run for up to ten days without being refilled.



# SMARTHY + NANOPK

23 kW 78.500 BTU/h

32 kW 109.000 BTU/h

### For the pellet boler operator with occasional wood log operation

This option consisting of a pellet boiler with an automatic heat exchanger cleaning system and a fuel extraction system in conjunction with a Smart-HV wood log boiler is distinguished by its small, compact design. The pellets are automatically suctioned out of their storage room and into the hopper. This combi option can run completely automatically and is suitable for occasional wood log operation.



# SMARTEN+SMARTEN

23 kW 78,500 BTU/h

32 kW 109,000 BTU/h

### The combi boiler for the economical customer

This cost-efficient Hargassner solution consists of a wood log boiler and a pellet boiler that are both filled manually. The heat exchanger is also cleaned manually. If the wood log boiler has not been filled, the system will automatically switch to pellets. This combi option can run for up to ten days without being refilled. All this at top price-performance ratio.





# PK PK

70 - 120 kW

240,000 - 410,000 BTU/h

The Eco-PK systems are large-scale boilers and precisely matched to higher heat requirements. The model up to 120 kW is the entry-level class of Eco high-temperature boilers and is powerful enough for apartment buildings, restaurants or public buildings, meaning that optimum operation can be achieved for suitable property sizes.

- ✓ Cost-cutting thanks to eco mode
- ✓ Firebed level control with lambda sensor
- ✓ Step grate
- ✓ Eco-Control for very low micro-dust levels



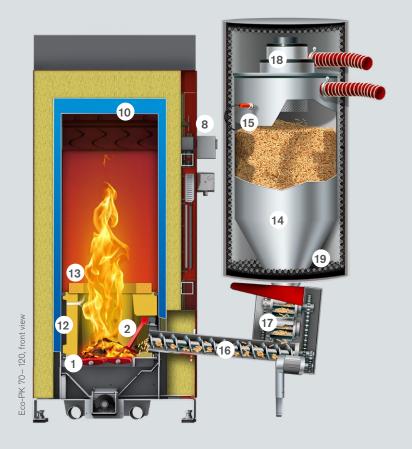
# Application areas

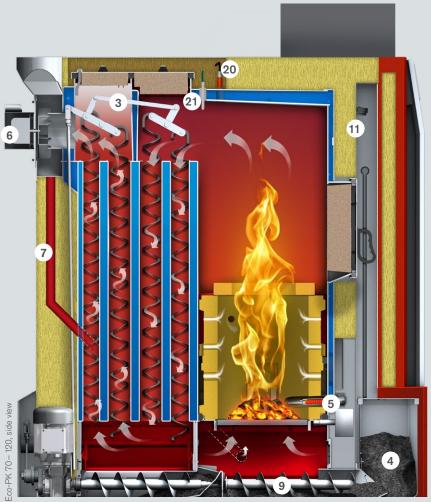
- Multi-dwelling units
- **P** Restaurants
- Public buildings
- Commercial & industrial businesses

- + Hx WxD = 1,610 x 745 x 1,560 mm
- Energy efficiency class A\*
- Efficiency of up to 95%
- 5-year warranty according to warranty certificate

# **Entry-level class of the "big ones"**

Eco-PK 70 - 120





- 1 "Step grate" system
- 2 Firebed level control
- **3** Turbulators with automatic boiler cleaning device (also in 1st pass)
- **4** Ash box 30 I; optional: ash suction system for very long maintenance intervals
- **5** Automatic ignition with 300 W
- **6** Exhaust fan (EC motor) with negative pressure monitoring
- 7 Recirculation
- 8 Integrated back-end protection, optional
- **9** Ash extraction system for fly and grate ash
- 10 Heat exchanger: no thermal safety circuit necessary
- 11 Negative pressure monitoring
- 12 Fully refractory-lined combustion chamber
- **13** Flame concentration jets made of high-quality refractory
- 14 Pellet day hopper
- 15 Fill level indicator
- 16 Stoker auger
- 17 Metering double rotary valve
- 18 Pellet vacuum turbine
- **19** Acoustic insulation
- 20 Lambda sensor
- 21 Flame temperature monitor



# PK PK

150 - 200 kW 510,000 - 680,000 BTU/h

The Eco-PK series in the large output class is the allrounder for higher heat requirements. It is very powerful and well suited for apartment buildings, catering establishments or public buildings.

- ✓ Cost-cutting thanks to eco mode
- ✓ Firebed level control with lambda sensor
- ✓ Step grate
- ✓ Eco-Control for very low micro-dust levels



# Application areas

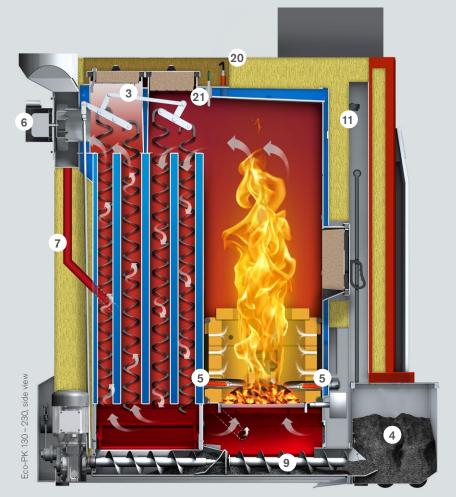
- Multi-dwelling units
- **P** Restaurants
- Public buildings
- Commercial & industrial businesses

- $H \times W \times D = 1,765 \times 875 \times 1,790 \text{ mm} \text{ (Eco-PK 150)}$
- $H \times W \times D = 1,915 \times 945 \times 1,905 \text{ mm} \text{ (Eco-PK 200)}$
- Efficiency of up to 95 %
- 5-year warranty according to warranty certificate

# The allrounder of the "big ones"

Eco-PK 150 - 200





- 1 "Step grate" system
- a) De-ash grate b) Stoker grate c) Fixed grate
- 2 Firebed level control
- 3 Turbulators with automatic boiler cleaning device (also in 1st pass)
- **4** Ash box (75 l)
- $\boldsymbol{5}$  Automatic ignition with 2 x 300 W
- 6 Exhaust fan (EC motor) with negative pressure monitoring
- 7 Recirculation integrated as standard
- 8 Integrated back-end protection, optional
- 9 Ash extraction system for fly and grate ash
- 10 Heat exchanger: no thermal safety circuit
- 11 Negative pressure monitoring
- 12 Fully refractory-lined combustion chamber
- 13 Flame concentration jets made of high-quality refractory
- 14 Pellet day hopper
- 15 Fill level indicator
- 16 Stoker auger
- 17 Dual metering double rotary valve
- **18** Pellet vacuum turbine
- 19 Acoustic insulation
- 20 Lambda sensor
- 21 Flame temperature monitor



# PK PK

250 - 330 kW 850,000 - 1,125,000 BTU/h

This output class is the most powerful pellet boiler from the Eco series. The high-temperature boiler is particularly suitable for use in large apartment buildings, hotels, public buildings and enables energy-saving and cost-reducing heating.

- ✓ Cost-cutting thanks to eco mode
- ✓ Firebed level control with lambda sensor
- ✓ Step grate
- ✓ Eco-Control for very low micro-dust levels



# Application areas

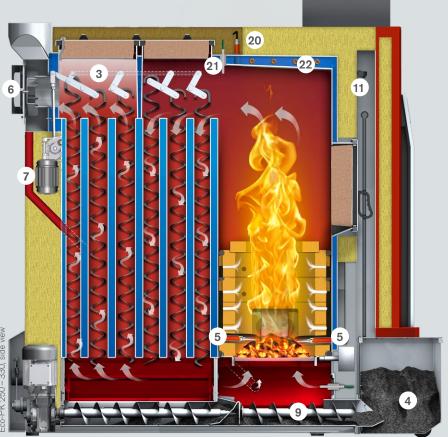
- Multi-dwelling units
- **P** Restaurants
- Public buildings
- Commercial & industrial businesses

- $H \times W \times D = 2,015 \times 1,155 \times 2,285 \text{ mm}$
- Efficiency of up to 95%
- 5-year warranty according to warranty certificate
- Up to 2 MW possible in cascade connection

# The strong power package

Eco-PK 250 - 330





- 1 "Step grate" system
- a) De-ash grate
- b) Stoker grate c) Fixed grate; additional breaker grate
- 2 Firebed level control
- 3 Turbulators with automatic boiler cleaning device (also in 1st pass)
- 4 Ash box (75 I)
- $\boldsymbol{5}$  Automatic ignition with 2 x 300 W
- 6 Exhaust fan (EC motor) with negative pressure monitoring
- 7 Recirculation
- 8 Integrated back-end protection, optional
- **9** Ash extraction system for fly and grate ash
- 10 Heat exchanger
- 11 Negative pressure monitoring
- 12 Fully refractory-lined combustion chamber
- 13 Flame concentration jets made of high-quality refractory
- 14 Pellet day hopper
- 15 Fill level indicator
- 16 Stoker auger
- 17 Quadruple metering double rotary valve
- **18** Pellet vacuum turbine
- **19** Acoustic insulation
- 20 Lambda sensor
- 21 Flame temperature monitoring
- 22 Cooling coil for therm. safety circuit

# **ECO-PK** ADVANTAGES



# Large-scale pellet boiler series up to 330 kW

The pellet boilers from the Eco series are the right choice for all applications that already require a medium to higher heating output. If (up to 6) boilers are connected in cascade, i.e. in series, an output of up to 2 MW is possible. This is heating technology at its best, equipped with many energy-saving extras, so that heat can be produced with reduced emissions and at low cost when energy demands are higher. The "Ecos" stand for effective and efficient heating.

# Energy-saving Eco operation

# Speed-controlled EC exhaust fan with negative pressure control

Hargassner uses energy-saving EC exhaust fans in its Eco-PK boilers. The crucial advantage of this GreenTech EC technology is the significantly higher efficiency level of up to 95%. This saves energy and therefore electricity costs as well. The negative pressure unit constantly measures the pressure conditions in the combustion chamber. The "Lambda Touchtronic" control software regulates the speed of the exhaust fan, thus keeping the negative pressure at an ideal level. This concept ensures combustion with the lowest possible emissions and therefore maximum efficiency.

### **Energy-saving ignition**

Thanks to the new design of the ignition element, the power consumption has been reduced to just 300 W (up to 1,000 W less)\* and, at the same time, the efficiency of the ignition process has been increased.



- Energy savings of more than 88%
- Smart ignition monitoring
- Silent operation

# One boiler - two options

### Suction extraction system with day hopper for pellets

The wood pellets are suctioned out of the fuel storage room, temporarily held in the day hopper and fed into the boiler via a double rotary valve.

### Direct fuel extraction system (RAP) for pellets

The wood pellets are transported by means of a direct auger from the pellet storage to the boiler.









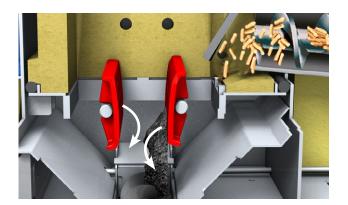
# Strong step grate



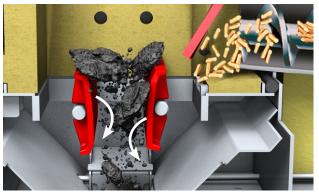
Closed grates in the combustion chamber with a high firebed – optimises the **gasification process and minimises micro-dust emissions.** 



During the heating cycle, only the **rear rotary grate** is opened during the de-ash process. The ash falls down, the residual embers remain and enable further combustion of the newly extracted fuel.



The combustion chamber is cleaned completely before the boiler is restarted. **Both grates open** and cold ashes and foreign bodies such as stones or nails are disposed of.



For fuel with a very low melting point, the rotary grate's additional **"breaker function"** will break the clinker.





# Sophisticated technology

# Fully refractory-lined combustion chamber with standard recirculation

The refractory combustion chamber's **very good storage effect** guarantees high combustion temperatures (even for partial load), minimises the number of times the boiler has to be ignited and reduces emissions.

Every Eco-PK has **flue gas recirculation** integrated as standard to combat ash clinkering caused by dry fuel or fuel with a low ash melting point. Cooling the firebed prevents the ash of low-grade fuels with low melting points from melting. The residues can then be disposed of very easily via the ash extraction system.





### Independent firebed monitoring

Non-contact sensors monitor the height of the firebed, so the most efficient combustion condition is achieved.

### Lambda sensor control

The **lambda sensor** integrated into the control unit detects the calorific value of the fuel and thus regulates the optimum fuel/air mixture.



### **Automatic pellet transport**

The hopper in the boiler is **filled automatically**. A suction system transports the pellets via the fuel extraction system into the hopper with the help of a turbine. With suction hoses and air, the wood pellets can thus be transported up to 20 m from a storage room.

A **metering double rotary valve** in a solid steel design provides 100% protection against burn-back. The fuel falls through the rotary valve into the feed auger in a constant quantity. This then transports the pellets directly into the combustion chamber.





### **Optimised cleaning for high convenience**

**ALL heat exchanger pipes** — including the first pass — are cleaned at regular intervals. The edges of the auger turbulators efficiently remove any fly ash residue from the boiler pipes and this drops straight onto the ash auger. Both the fly ash and the grate ash are transported into a **fully integrated ash box** by just **one** ash extraction auger. The residues are crushed as they are being transported and then compacted in the box, resulting in increased annual efficiency and a higher degree of cleaning convenience.

With Eco-PK 70-230, only one drive is required for heat exchanger cleaning and ash extraction. Optionally, there are also different ash transportation systems in a 240 or 300 l ash bin.





# **SMART HOME** & BOILER ACCESSORIES

### Control accessories for every need

The Hargassner standard control covers the majority of the requirements in a modern house. However, if further heat circuits, solar collectors, etc. are to be connected, additional boards and remote controls are available. The right solution for every requirement: for more information, visit our homepage or contact your Hargassner installation company.



**Heat circuit module HKM:** This heat circuit module is used to extend heat and HWT circuits. It is integrated into the control unit of the entire system and controls up to two mixer-controlled heat circuits & one HWT circuit with DHW circulation pump. Additionally, an external heat circuit or an accumulator tank and other HKM's can be connected.



### Heat circuit controller HKR with touch:

The HKR is a weather-compensated outdoor temperature controller with touch control unit. The controller sends the heating system the information about whether to heat up or not. This way, the room heat can be controlled and kept constant with a maximum of eight heat circuits and five HWT circuits. Among other things, this automatic feature ensures energy-saving heating operation. "Standalone operation" is also possible.



Additional boards: Hargassner offers a wide variety of additional boards for extending heat circuits, etc. Additional board A/B are used to add a heat circuit and a hot water tank to a heating system. Additional board F is used to control mixed district lines. If up to two additional sensor inputs are required, additional board PF is used. Furthermore, there is also additional board S, which acts as a differential controller for a solar system in single-circuit or double-circuit operation. Your specialist Hargassner dealer will be happy to explain all other additional boards and their exact use to you.



# Remote control via phone or tablet



### App for mobile boiler control

The Hargassner app allows you to control the boilers quickly and on the move and view information worldwide around the clock. The app immediately sends important information to the mobile end device via email or push message. This way, you know the status of the boiler at all times. (Requirements: Internet connection to the control unit on the boiler, smartphone with Android or iOS)



### **Convenient remote controls**

You want to change a setting on your boiler or see the current status – without going to your boiler room? No problem! The practical remote controls leave no operating wishes unfulfilled. They are simple, intuitive and boast a design that's perfectly tailored to your needs! Details of our analogue and digital (touch) remote controls can be found on our website hargassner.com

### **Smart home connections**

"Smart home" is an innovative way of controlling the management of energy in your home according to your needs. Hargassner has a connection ready for the most common home automation systems (Loxone, KNX, Mod-Bus, etc.). The benefits are clear. You save energy and costs and enjoy comfort and safety at the same time.









# Simple boiler operation

Hargassner has control programmes for all boiler series; these programmes are all clearly arranged and easy to use. They provide a convenient way to control heat circuits and hot water.



### **Hargassner Lambda Touchtronic**

This software controls the Nano-PK and Eco-PK boiler series from transport of the fuel and combustion to the heat circuits and hot water tanks. It is guided by weather conditions, so recognises changes in conditions as soon as they occur and seamlessly adjusts the boiler's output accordingly. As a result, the boiler is always running in the optimum output range, enabling you to save both fuel and unnecessary costs.



### **Hargassner Smart-Touch**

The Smart-PK boiler series is equipped with Hargassner's new Smart-Touch control unit. It is complemented by extra capacity for up to three mixed heat circuits and hot-water production, provided in the form of an additional board or module. An interface for combi operation of a pellet boiler with a Hargassner wood log boiler has also been integrated. This makes the new Smart-Touch control a perfectly tailored solution for the entire heating system.

# **BOILER OPERATION & TOUCH DISPLAY**

# Lean back and relax -

your heating system will do the rest!

### **Control of heat circuits**

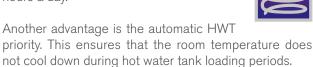
The **Lambda Touchtronic** can control multiple heat circuits that are independent of each other. You can specify different settings in detail. For example, you can specify the room temperature you would like on a particular heat circuit at a particular time of day.



Hargassner's **3G day/night reduction mode** makes it possible to set three outdoor temperature thresholds. One mode for "Heating during the day", one for "Reduction during the day" and one for "Reduction during the night". As a result, the heating system only operates if necessary – this is convenient for energy saving. Thanks to the clever residual heat use feature, the energy remaining in the boiler after it has been shut down is efficiently fed into the heat circuits.

### Hot water tank

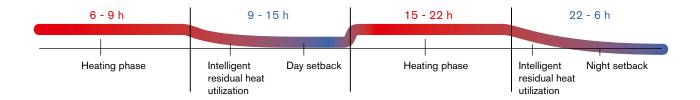
It's only necessary to set the desired hot water tank temperature and loading time. The control unit takes care of the rest. Hargassner guarantees hot water - 24 hours a day.



Your home therefore remains warm and cosy at all times.

# **Example** of a day heating sequence with reduction logic

Fixed outdoor thresholds above which heating is required: Day from 16°C, night from - 5°C (22:00 – 6:00 h)



### **Heating period 1**

**06:00 – 09:00:** Outside it is -7°C, well below the defined threshold of +16°C. **The boiler switches on.** 

### Day reduction period

09:00 – 15:00: Outside, the temperature rises to -1°C, which is below the day reduction threshold of +8°C. The boiler switches on in day reduction mode.

### **Heating period 2**

15:00 – 22:00: The outside temperature rises to +1°C, which is considerably lower than the threshold of +16°C. The boiler remains on.

### Night reduction period

22:00 – 06:00: The temperature cools down to -2°C, which is above the night reduction threshold of -5°C. The boiler switches off.



# Optimum storage and transport of pellets

### Hargassner offers the right storage system for every customer.

From bag silos to fuel extraction systems and point extractions to underground tanks. Interesting solutions for buildings with too little space are container heating modules placed outside. These consist of a technical room and have an appropriately dimensioned storage room integrated.

# Storage room for pellets

# Interesting information

### **Size**

### Calculation formula of the storage space:

Storage room size in  $m^3$  = building heating load in kW x 0.90 Pellet requirements in tonnes = building heating load in kW x 0.40

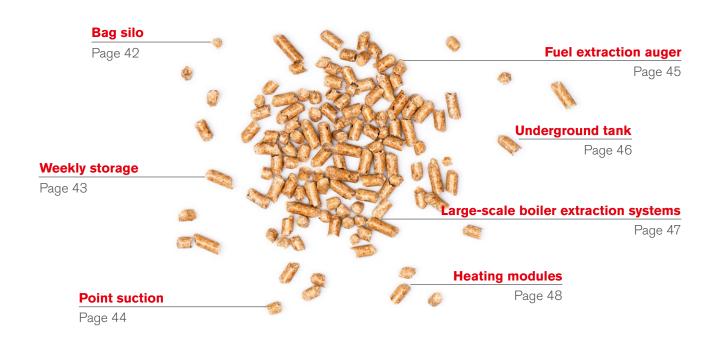
Example: A detached house with a building heating load of 15 kW requires a storage room of 13.50  $\rm m^3$ , which corresponds to approx. 2 x 3 m of floor space and a height of 2.2 m. The calculated reserve allows you to buy pellets at the best time every year.

### **Position**

The pump hose of a pellet tanker is max. 50 m long. The distance between the storage room and the boiler room must not exceed 20 m.

### Requirements for the storage room

The storage room should be as dry as possible. The design in residential areas (in Austria) must be fire-resistant in accordance with fire resistance class F 90 (depending on the applicable building regulations). Electrical installations are not permitted and water-carrying pipes should be avoided.





# Bag silo – complete storage room system

Hargassner also offers a range of different types and sizes of bag silos for pellets – from 2 to 8.2 t storage capacity. You choose between a fixed (GWTS) or "growing" (GWT-MAX) solution.

- ✓ Minimum space requirements
- ✓ Quick and easy to install
- Dust-tight, durable and antistatic filter fabric
- ✓ Protected against condensation
- ✓ Flood protection cover optional
- Outdoor installation possible For details, see installation

HARGASSNER (H)

**Design & material:** The bag silo consists of a high-quality, durable, anti-static and dust-proof filter fabric with a tubular steel frame. The fabric is water-repellent (condensation). As protection against floods, we offer a special flood protection cover.

**Installation:** The bag silo can be installed in the boiler room but also in adjacent buildings (depending on the applicable building regulations). If it is installed outdoors, it must be placed on a surface that is guaranteed to remain stable and also given an all-over cover that protects it from UV radiation and moisture.



# Pellet storage at the cutting edge





# Bag silo GWTS for 2 – 6.5 t pellets

The stable GWTS bag silo is equipped with point extraction. The four-sided sloping floor guarantees complete emptying. If required, several bag silos can also be connected together with a changeover unit.

# Bag silo GWT-MAX for 2.5 – 8.2 t pellets

The "growing" GWT-MAX bag silo has an elastic base element with tension springs. If it is filled, the base suspension elements at the side drop due to the weight of the pellets. This enables the silo to be filled to a maximum. If the silo is emptied, the base is pulled upwards. This ultimately creates a four-sided sloping floor for complete emptying. If required, several bag silos can also be connected together with a changeover unit.

### **Space requirements & sizes:**

Type: GWTS		
Bag silo	Filling weight	Width x depth x height
<b>GWTS</b> 160 x 160	2,0 – 2,5 t	168 x 168 x 195 - 250 cm
<b>GWTS</b> 200×200	3.1 – 3.8 t	208 x 208 x 195 - 250 cm
<b>GWTS</b> 200×250	3.7 – 4.6 t	208 x 258 x 195 - 250 cm
<b>GWTS</b> 250×250	4.4 – 5.7 t	258 x 258 x 195 - 250 cm
<b>GWTS</b> 250 x 250 XL	6.5 t	258×258×270cm

Type: GWT-MAX										
Bag silo	Filling weight	Width x depth x height								
<b>GWT-MAX</b> 160 x 200	2.9 - 3.8 t (2.5 t)*	168 x 208 x 195 - 250 cm (175)*								
<b>GWT-MAX</b> 200 x 200	00 3.6 - 5.0 t (3.1 t)* 208 x 208 x 195 - 250 cm									
<b>GWT-MAX</b> 160×250	3.6 - 5.0 t (3.3 t)*	168 x 258 x 195 - 250 cm (185)*								
<b>GWT-MAX</b> 200 x 250	4.4 - 6.0 t (4.1 t)*	208 x 258 x 195 - 250 cm (185)*								
<b>GWT-MAX</b> 250×250	5.6 - 7.6 t (5.2 t)*	258 x 258 x 195 - 250 cm (185)*								
<b>GWT-MAX</b> 250×250	max. of 8.2 t	258×258×280 cm								

<sup>\*</sup> The feet of the GWT-MAX 160  $\times$  200 & 200  $\times$  200 can be shortened by up to 20 cm to allow an installation height of 175 cm. The feet of the GWT-MAX 160  $\times$  250 & 250  $\times$  250  $\times$  250 can be shortened by up to 10 cm to allow an installation height of 185 cm. This also reduces the filling volume (weight/height) accordingly.

# Small pellet stores for indoor use

There are two different week hoppers. The standard hopper has an optimal filling height and a large filling space; therefore, it is very convenient to fill with bags. The second week hopper is specially developed for the combination with the Nano-PK pellet boiler and impresses with its tall, narrow design.



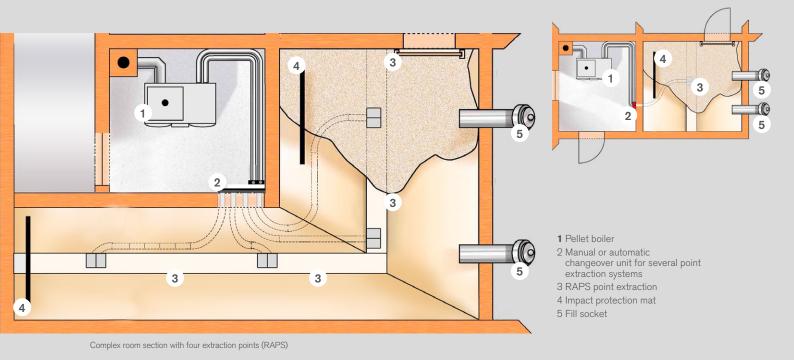
### **Weekly storage**

- 770 I filling chamber
- for 500 kg pellets
- 770 x 1,150 x 1,090 mm
- Filling with bags



### Nano-PK Weekly storage

- 340 I filling chamber
- for 220 kg pellets
- 580 x 580 x 1,220 mm



# **Point suction**

# ideal for all room shapes

No matter whether small, square or complexly cut storage rooms, a point extraction system (RAPS) works everywhere.

One or more flexible extraction points suck the pellets out of the storage room. For this purpose, sloping floors made of wooden boards with a 35 degree slope are installed beforehand. They guarantee good emptying towards the extraction points. If an area of the storage room is empty, the system switches manually or automatically to another extraction point. The changeover units (AUP) are available in 2-, 3-, 4- or 8-fold versions. They can even be used in small rooms without a sloping floor.

- ✓ Ideal for small to complex rooms
- ✓ Distances up to 20 m between storage & boiler room
- Makes optimal use of the room volume
- ✓ AUP saves costs
- ✓ No sloping floor necessary in small storage rooms





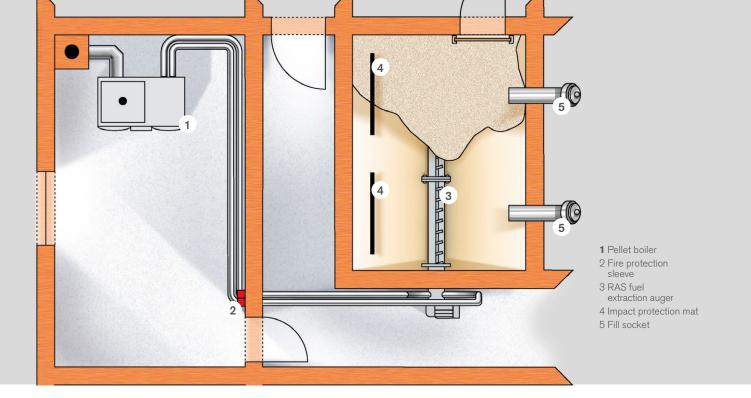
Manual changeover unit for two or three RAPS point extraction systems



Automatic changeover unit for two, three, four, six or eight RAPS point extraction systems



RAPS point extraction



# Fuel extraction auger

# reliable for any size

Thanks to the combination of suction system and extraction auger (RAS), every pellet finds its way safely to the boiler.

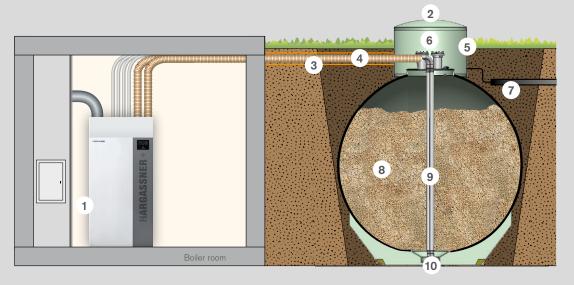
Fuel extraction augers show their robust strength in long storage rooms with space for an extraction motor. With the transport auger, the pellet quantity can be finely adjusted during transport. The suction system is completely emptied when it is switched off, thus avoiding overfilling jams. Sloping floors help with the optimal feed of pellets to the auger. It is even possible to combine two extraction augers, in which case an automatic changeover unit (AUP) is used to switch between them.

- ✓ Ideal for long rooms
- ✓ Distances up to 30 m between storage & boiler room
- ✓ Robust and reliable
- ✓ Makes optimal use of the room volume
- ✓ Auger lengths of 1.5 8 m









- 1 Pellet boiler
- 2 Pellet underground tank
- 3 Protective underground pipe
- 4 Pellet suction hoses
- 5 Dome shaft
- **6** Filling nozzle
- **7** Earthing
- 8 Filling material
- **9** Pellet steel pipes
- 10 Pellet extraction system

# **Underground tanks**

a round thing for simply more space

Hargassner pellet underground tanks (PET) are ready-made spherical storage rooms for underground use. By simply sinking them into the garden or driveway, they create open spaces in the house for life.

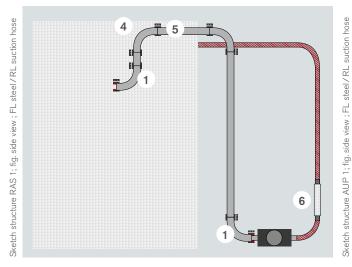
The corrosion-resistant and glass-fibre reinforced polyester resin requires no further reinforcement and ensures maximum operational reliability. From above, you can only see a discreet cover. This can be walked on and (optionally) driven over. The special system enables easy extraction of the pellets and almost complete utilisation of the spherical volume. Underground tanks eliminate a pellet storage problem, making them the optimal solution for buildings with little or no space for a storage room. This saves conversion costs.

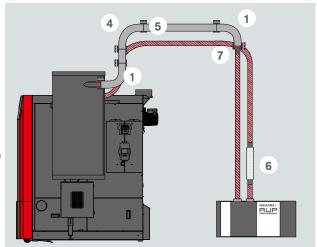


# **EXTRACTION SYSTEMS**

# Steel suction tube system for pellets

For systems from 130 kW, we recommend an installation with steel pipe systems instead of the suction hose. The maximum suction length increases by 10 m depending on the extraction type. For point extraction at 30 m or 40 m with RAS auger fuel extraction.

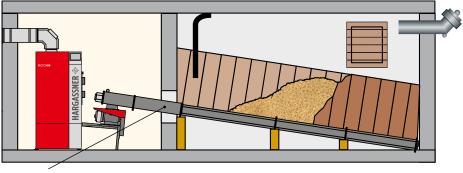




RAP direct auger for Eco-HK 70 – 330

The pellets are transported by means of a direct auger from the pellet storage to the boiler. Open pellet troughs are located in the fuel storage room, whose modular design makes them optimally adapted to the room length. Outside, they can be lengthened individually with closed extensions (of up to 6 m). Various accessories can be added to the RAP direct auger. Here are some examples: Ascending auger, vertical connection auger, etc.





Extension



# Accumulator systems for storing heat

By storing heat in an accumulator or domestic hot water tank, the boiler does not have to be in operation all the time and can therefore be operated efficiently. Depending on the model, either the heating water, the domestic water or both are stored.



### Nano-PK hot-water storage tank WS 210

This storage tank is perfectly matched to the Nano-PK series. The heating surfaces are optimally dimensioned and ensure a short heat up time for the high continuous output. Thanks to the connection set available, the WS 210 can be installed and commissioned very quickly.



Household

People: 4\*



Baths
Evening: 1\*



Showers

Morning: 3\* & Evening: 2\*



### Nano-PK hybrid accumulator tank HWS 320 FWS / FWS-Z

This particularly compact heat storage tank with a space requirement of only  $0.36~\text{m}^2$  was specially developed for and matched to the Nano-PK series. It is available with a classic accumulator function as a pure compensating heat storage tank or supplemented with a freshwater station – optionally with or without a hot water circulation pump.

### **Expansion tank: HWS 320**

- Heat storage tank with 315 I volume
- Optimum accumulator volume as an expansion function

### With freshwater module:

- Hygienic hot water preparation
- Fully installed components







Showers

Morning: 3\* & Evening: 2\*





### Universal heat storage tank - layered accumulator SP for 500 - 5,000 l

The layered accumulator SP and its solar variant can be used for all Hargassner boilers. The Hargassner partner installation company will be happy to recommend the right solution. The addition of a freshwater station to the models is planned. The heat energy is used efficiently thanks to an integrated return spread sheet and the variable sensor positioning. This saves heating costs in the long run. Depending on the model, either the heating water alone or heating and domestic water are stored.

- Optimised energy utilisation by a special spread sheet in the accumulator tank
- ✓ Efficient insulation with hard casing
- Suitable for combination with solar
- Easy and flexible installation, can be switched in parallel
- ✓ Very little space required
- Special accumulator sizes available on request



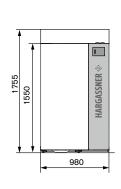
### Layered hygienic accumulator HSP - for 500 - 1,500 l

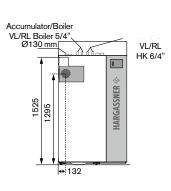
By means of the continuous flow principle and a built-in corrugated stainless steel pipe, this accumulator also enables domestic hot water to be heated. The generous size guarantees a high hot water output that is also safe from legionella. The HSP uses the heat energy particularly efficiently thanks to an integrated return spread sheet and variable sensor positioning. This heat storage tank is also available as a solar variant.

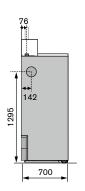
- Hygienic hot water production
- Optimised energy utilisation by a special spread sheet in the accumulator tank
- ✓ Efficient insulation with hard casing
- ✓ Suitable for combination with solar
- ✓ Easy and flexible installation, can be switched in parallel
- ✓ Very little space required
- Calcification protection through flexible stainless steel corrugated pipe

# TECHNICAL DATA

Nano-PK 32

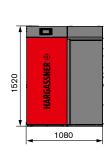




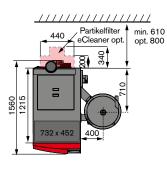


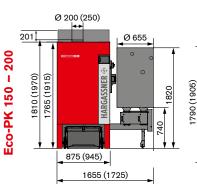
\* Version with eCleaner upon request

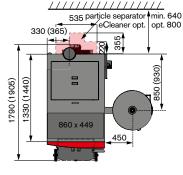
Smart-PK 32





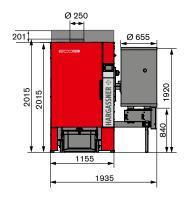


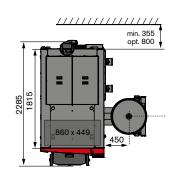




Room height min. 2200 (2400), opt. 3000 mm

Eco-PK 250 - 330





Room height min. 2600 | opt. 3000 mm

Nano-PK 32		
	Unit	Nano-PK 32
Power range	kW	9.6 – 32
Efficiency Full load / Partial load	%	95.3 / 95.8
Fuel heat output - full load	kW	33.6
Flue pipe diameter	mm / in	130 / 5
Water content	1	42
Boiler temp. range	°C / °F	(38) 48 – 78 / (100,4) 118 – 172
BEP necessary		acc. to hydraulic scheme
Water-side Resistance ΔT 10 / 20 [K]	mbar	29 / 16
Flow/Return	inches	5/4
Weight	kg / <i>lb</i>	370 / 816
Size H / B / T	mm / in	1550 x 980 x 700 / 61 x 39 x 28
Transport dimensions H / B / T	mm / in	1550 x 575 x 540 / 61 x 23 x 21
Boiler label	Category	A+
Composite label incl. the control	Category	A+

Max. operation temperature 85°C

Smart-PK 32		
	Unit	Smart-PK 32
Power range	kW	9.6 – 32
Efficiency Full load / Partial load	%	95.3 – 95.8
Fuel power full load	kW	33.6
Flue pipe diameter	mm / in	130 / 5
Day hopper	kg	174 / 384
Water content	1	42
Water-side Resistance ΔT 10 / 20 [K]	mbar	29 / 16
Flow/Return	inches	5/4
Weight	kg / lb	290 / 639,34
Size H / B / T	mm / in	1520 x 1080 x 650 / 60 x 43 x 26
Boiler label	Category	A+
Composite label incl. the control	Category	A++

Max. operation temperature 85°C

Eco-PK 70 - 200											
	Unit	Eco-PK 70	Eco-PK 90	Eco-PK 100	Eco-PK 110	Eco-PK 120	E	co-PK	150	Eco-PK 200	
Power range	kW	21 – 70	27-90	29.7 – 99	32.4 - 108	36 – 120		44.7 –	149	59 – 199	
Efficiency Full load / Partial load	%	94.6/95.2	94.1/95.3	93.8 / 95.3	93.6 - 95.4	93.3/95.4	9	93.8 / 96.1		94.7 / 97.4	
Fuel heat output - full load	kW	74	95.6	105.5	115.4	128.6	158.8		8	210.1	
Flue pipe diameter	mm / in					200 /	/8	250 / 10			
Water content	I	180 253								360	
Boiler temp. range	°C / °F	75 – 78 / 167 – 172									
BEP necessary	°C / °F	58 / <i>136</i> ,4									
Water-side Resistance ΔT 10 / 20 [K]	mbar	57.1 / 14.6	94.4/24.1	112.4 / 28.7	133.7 / 34.1	165.1 / 42.1	184.6 / 49			227/63	
Flow/Return	inches		6/4							2.5 / 2.5	
Weight of boiler / suction vessel	kg / lb	865/100/	1907/220	89	1190 / 150 / 2623 / 331			1320 / 150 / 2910/ 331			
Size H / B / T	mm / in		•	1811 x 745 x 1560 / 72 x 69 x 61	)		1966 x 875 x 1790 / 77 x 34 x 70			2116 x 945 x 1905 / 83 x 37 x 75	
Boiler label	Category	A+	-	-	-	-	-	-	-	-	
Composite label incl. the control	Category	A+	-	-	-	-	-	-	-	-	

Eco-PK 250 – 330										
ECU-PR 230 – 330	Unit	Eco-PK 250	Eco-PK 300	Eco-PK 330						
Power range	kW	74.7 – 249	89.7 – 299	99-330						
Efficiency Full load / Partial load	%	94.6 / 97.3	94.4 / 97	94.3/96.8						
Fuel heat output - full load	kW	263.2	316.7	349.9						
Flue pipe diameter	mm / in		250 / 551							
Water content	I	570								
Boiler temp. range	°C / °F	75 – 78 / 167 – 172								
BEP necessary	°C / °F	°C / °F 58 / 136								
Water-side Resistance ΔT 10 / 20 [K]	mbar	203/51	294/74	356/89						
Flow/Return	inches	2.5								
Weight of boiler / suction vessel	kg / lb		2150 / 200 / 47340/441 2216 x 1155 x 2285 / 87 x 45 x 90							
Size H / B / T	mm / in									
Boiler label	Category	-	-							
Composite label incl. the control	Category	-	-							

Max. operation temperature 95°C





### **Hybrid accumulator tank HWS 320**

	Unit	HWS 320
Accumulator Volume	I	315
Width x Depth (incl. trim) x Height	mm	595 x 580 (658) x 1755
Installation footprint	m <sup>2</sup>	0.36
Tilt dimension	mm	1870
Required installation height	mm	1955 – 1980
Weight (incl./excl. FWS)	kg	84/80
Electric immersion heater connection points	inches	6/4 IT
Connection point for drinking-water ball valves	inches	1 IT
Heating connection points	inches	1 ET
Fresh-water station: delivery rate		Delivery rate:

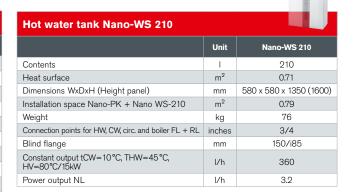
Accumulator tank temperature 60 °C when loaded, HW with- drawal temperature 45° (without reloading)	
Accumulator tank temperature 70 °C when loaded, HW with- drawal temperature 60° (without reloading)	
Accumulator tank temperature 78 °C when loaded, HW with- drawal temperature 40° (without reloading)	

22 I/min, 345 litres

16 I/min. 266 litres 26.37 I/min, 667 litres

The hot-water output is sufficient for an average household of four people. If you are supplying more people or require more hot water, you will need to choose another Hargassner accumulator, such as an HSP 500-2000 or SP 825-1000-FWS model.

Heating water: VDI 2035; SWKI BT 102-01; ÖNORM H 5195–1; cold water: 6 – 15°dH





SP + SP-SW 1+2											
	Unit	SP 500	SP 650	SP 825	SP 1000	SP 1500	SP 2000	SP 2600	SP 3000	SP 4000	SP 5000
Accumulator Volume	Litre	476	647	796	892	1445	1904	2506	2871	3887	4885
Diameter ø without insulation	mm	650	750	750	790	990	1100	1250	1250	1600	1600
Diameter ø with insulation for energy efficiency class C	mm	850	950	950	990	1230	1340	1490	1490	1840	1840
Diameter ø with insulation for energy efficiency class B	mm	-	-	-	1070	1310	-	-	-	-	-
Height without insulation	mm	1630	1660	1910	2020	2090	2250	2320	2620	2250	2760
Height with insulation for energy efficiency class C	mm	1720	1750	2000	2110	2180	2340	2410	2730	2340	2895
Height with insulation for energy efficiency class B	mm	-	-	-	2150	2220	-	-	-	-	-
Tilt dimension without insulation	mm	1650	1670	1920	2030	2104	2268	2411	2690	2460	2900
Connectors 8 pcs IT	inch- es	6/4	6/4	6/4	6/4	6/4 (2)	6/4 (2)	10 x 2	10 x 2	10 x 2	10 x 2
Weight SP (without insulation)	kg	78	92	105	116	164	216	288	325	437	576
Weight SW1 (without insulation)	kg	102	107	130	160	-	-	-	-	-	-
Solar heat exchanger bottom SW1 1" IT	m <sup>2</sup>	2	2	2	3	-	-	-	-	-	-
Weight SW2 (without insulation)	kg	-	-	154	185	252	-	-	-	-	-
Solar heat exchanger top/bottom SW2 1" IT	m <sup>2</sup>	-	-	2/2	2/3	3/3	-	-	-	-	-

Max. operating pressure 3 bar, max. operating temperature 95 °C An accumulator tank can only be delivered with a boiler! Individual delivery on request.



### **HSP + HSP-SW 1+2** Unit HSP 500 HSP 650 **HSP 825** HSP 1000 **HSP 1500** 476 647 796 892 1445 Accumulator Volume Litre 650 750 750 790 990 Diameter ø without insulation mm Diameter ø with insulation for energy efficiency class C 850 950 950 990 1230 mm 1310 Diameter ø with insulation for energy efficiency class B 930 1030 1030 1070 mm 1630 1660 1910 2020 2090 Height without insulation mm Height with insulation for energy efficiency class C 1720 1750 2000 2110 2180 mm Height with insulation for energy efficiency class B 1760 1790 2040 2150 2220 mm 2030 Tilt dimension without insulation mm 1650 1670 1920 2110 6/4 6/4 6/4 Port 8 pcs IT inches 6/4 6/4 23 23 37 45 Stainless steel pipe - water volume Litre 37 Stainless steel pipe 5/4" ET square 82 $m^2$ 41 41 67 67 Weight HSP (without insulation) kg 103 117 133 144 195 Weight SW1 (without insulation) kg 119 141 157 188 Solar heat exchanger bottom SW1 1" IT $m^2$ 2 2 2 3 Weight SW2 (without insulation) kg 182 213 284 Solar heat exchanger top/bottom SW2 1" IT ${\rm m}^2$ 2/2 2/3 3/3



# Your expert for **RENEWABLE HEATING**

Hargassner complete range: pellet boilers, wood chip boilers, wood log boilers, accumulator tanks, industrial boilers up to 2.5 MW, heating modules, filling augers, combined heat power (CHP), Power-Box warm-air module, heat pumps, solar collectors & hydraulic accessories

Your Hargassner partner

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