

# INDUSTRIAL HEATING

**HPKI-R 180 - 2500**  
**Moving step grate**

**HS PERIFAL®**

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**BAXI**



# INDUSTRIAL HEATING

## HPKI - R 180 - 2500 kW

The high-performance boiler is produced as a stress-free welded construction. The heat insulated door at the front swings out completely permitting totally free access for cleaning all the boiler flues.

- Moving step grate for drying, gasification and combustion of the fuel and ash transport from the combustion chamber
- Radiator arched roof in element structure
- Grate carriage with maintenance free slide rails. Easy removal and refitting of the grate bars
- Combustion chamber door at the front with safety catch and interlock, cleaning and servicing doors under the grate
- Grate mechanism and under grate ash discharge by hydraulic drive
- Factory built and cured heat resistant refractory lining
- Double walled steel housing for pre-heating the combustion air and for cooling of the inner anchoring plate of the ceramic lining
- Ash removal at the end of the grate
- Combustion primary and secondary air regulation by the combustion air fan, air dampers and sensors. Output regulation via flue gas temperature, lambda value, combustion chamber and boiler temperature
- Suitable for pellet, special fuels and wood chips up to W60

### HPKI-R 180-550

Boiler type	Output in kW	L	W	H	Flow / return DN	Dry weight in tons	Water in litre	Flow coefficient in m <sup>3</sup> /h
180	180	3190	1160	2610	80/65	4.8	830	48
195	195	3190	1160	2610	80/65	4.8	830	48
240	240	3190	1160	2610	80/65	4.8	830	48
300	300	3450	1250	2620	80/80	5.6	1100	72
360	360	3450	1250	2620	80/80	5.6	1100	72
450	450	3950	1460	2910	100/100	9.2	1550	110
495	495	3950	1460	2910	100/100	9.2	1550	110
550	550	3950	1460	2910	100/100	9.2	1550	110

### HPKI-R 800-2500

Boiler type	Output in kW	L	W	H	Flow / return DN	Dry weight in tons	Water in litre	Flow coefficient in m <sup>3</sup> /h
800	800	4900	1760	3550	100/100	16.0	2450	182
995	995	4900	1760	3550	100/100	16.0	2450	182
999	999	5100	1950	3950	125/125	21.4	3500	283
1400	1400	5100	1950	3950	125/125	21.4	3500	283
2000	2000	6720	1950	3950	200/200	28.5	5100	485
2500	2500	6720	1950	3950	200/200	28.5	5100	485

## APPLICATION EXAMPLES



District heating plant  
HPKI-R 300



Nursery 3 x  
HPKI-R 550



Saw mill with drying kiln  
HPKI-R 550 + 240



Nursery HPKI-R  
550 + 1400

- ① Automatic heat exchanger cleaning
- ② Automatic flue gas dust removal
- ③ Flue gas fan
- ④ Insulation
- ⑤ Primary air
- ⑥ Secondary air
- ⑦ Fuel stoking

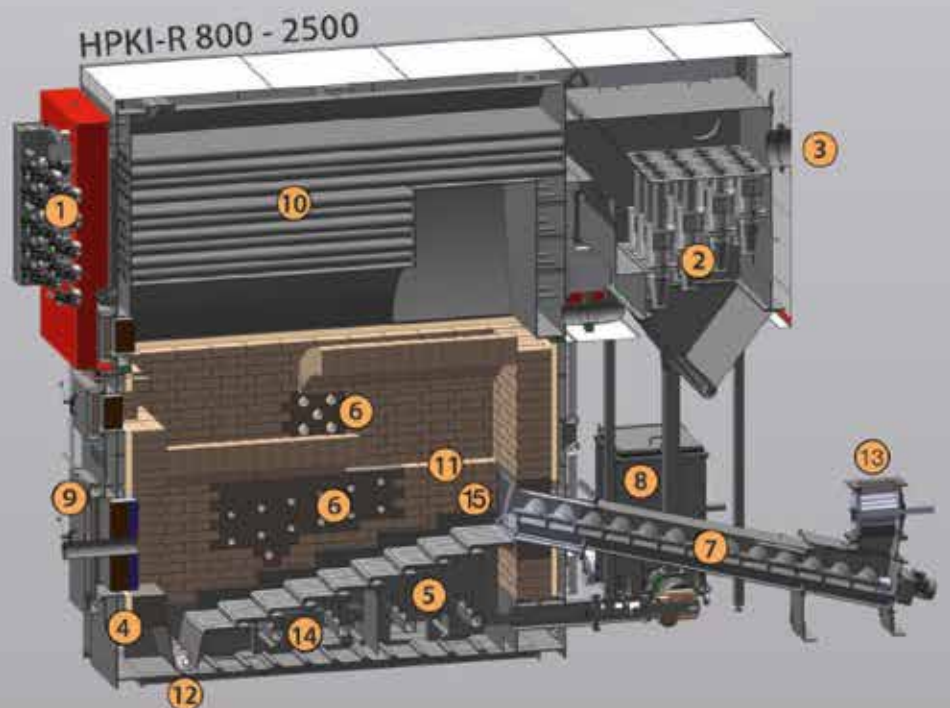
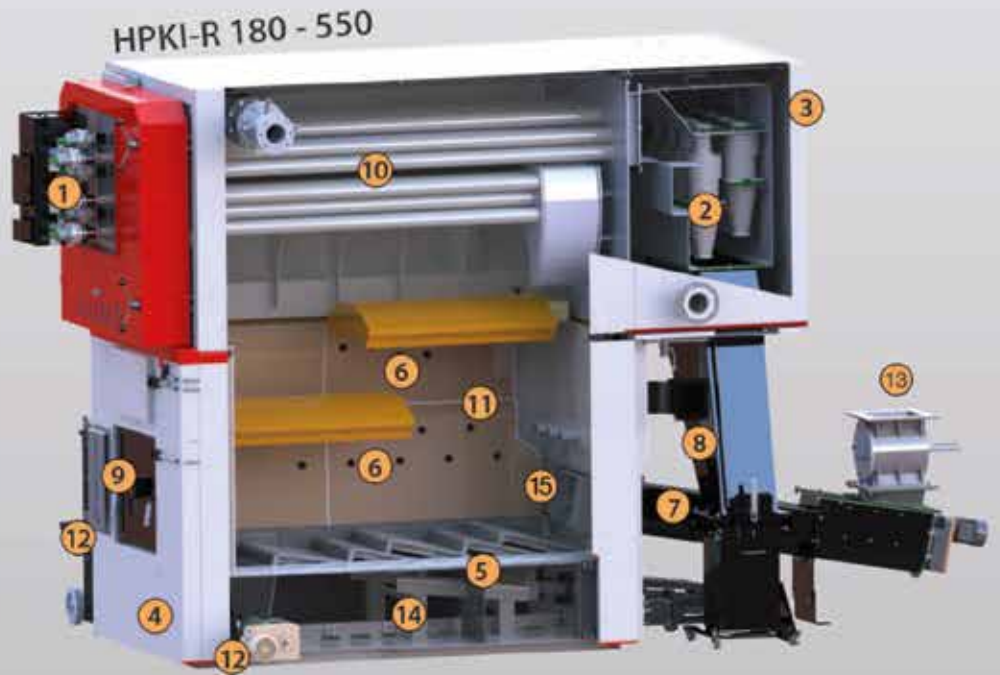
- ⑧ Automatic ash removal in cyclone ash bin
- ⑨ Combustion chamber door
- ⑩ Heat exchanger
- ⑪ Combustion chamber
- ⑫ Automatic ash removal in ash bin
- ⑬ Cell wheel
- ⑭ Under grate ash discharge
- ⑮ Automatic hot air ignition



Pre-cast fire brick lined combustion chamber with moving step grate



Fire brick lined combustion chamber with moving step grate



# INDUSTRIAL HEATING

## HINGED ARM SWEEP COLLECTOR

- 1 Helical gear motor (high efficiency, low power consumption)
- 2 Robust auger (covered in fuel store) with progressive flights suitable for wood chips up to G50/P45 Ö-NORM M7133
- 3 Double hinged arm system for optimal clearing of the wood chip storage room
- 4 Ripping hook
- 5 Highly efficient oil immersed helical gear with shaft sealing

- 2 massive hinged arms make working up to 6 m diameter possible incl. pressure disc, gear motor and pre-tensioning springs
- Robust auger shaft
- Continuously welded 8 mm auger flights
- Progressive pitch auger flights
- Large auger channel
- Rough chopped wood chips up to G50/P45, industrial wood chips and wood briquettes are possible to use



An essential component used by Gilles is the oil immersed helical gear for the fuel transport. This has a torque rating of 5000 Nm and special gaskets which prevent the penetration of dust and wood fines effectively and long-term.

The robust design of the double hinged armed sweep collector is so far unmatched. Reliable for transportation combined with Gilles applied technology control panels leads to optimal fuel consumption.



**Ripping hook** prevents blockages. Oversize wood chips are automatically pushed down to then be cut in the cell wheel.

Continuously welded 8 mm thick auger flights



Very robust shaft

# INDUSTRIAL HEATING

**Push rod transport system** is appropriate for rectangular fuel stores serving boilers with a high fuel consumption. A walking floor consists of minimum one push rod with wedge shaped wings moving the fuel forwards. The push rods are driven by the hydraulic cylinders and the hydraulic power pack which are located outside the fuel store. Due to this design of the side mounted wings, the fuel gets pushed into a trough at the front end of the fuel store. From there either an auger or a chain conveyor takes the fuel to the boiler.



Cross auger  $\varnothing$  250 mm



Robust hydraulic cylinder for walking floor movement

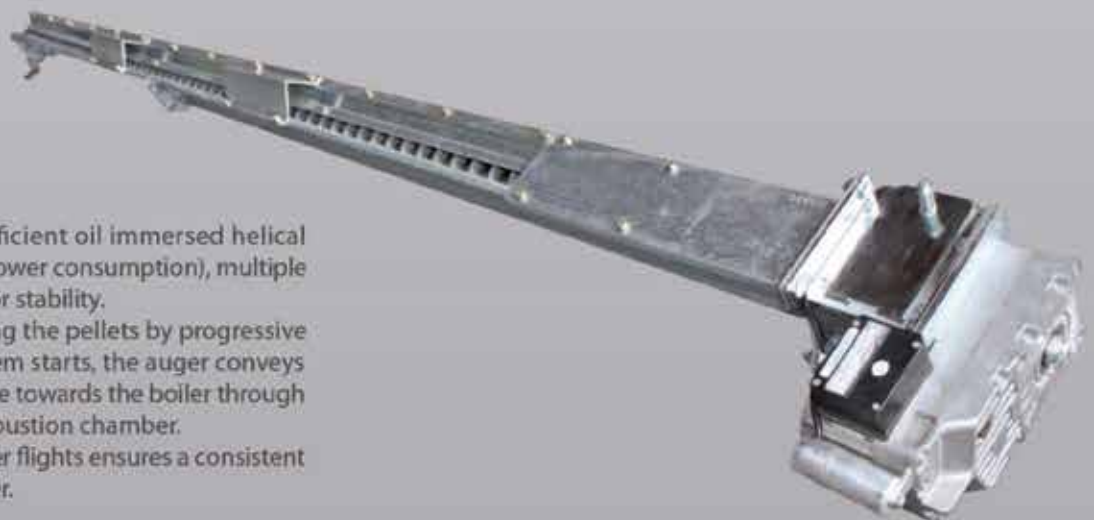
Push rod width site specific



Continuous sub-structure resulting in lower builder and assembly costs

## PELLET AUGER

Pellet auger with highly efficient oil immersed helical gear motor (thus very low power consumption), multiple bearings and support feet for stability. Auger channel for conveying the pellets by progressive auger flights. After the system starts, the auger conveys the pellets from the fuel store towards the boiler through the cell wheel into the combustion chamber. The construction of the auger flights ensures a consistent and trouble-free fuel transfer.



# HEATING CONTROL SYSTEM

## Higher efficiency

## Energy saving

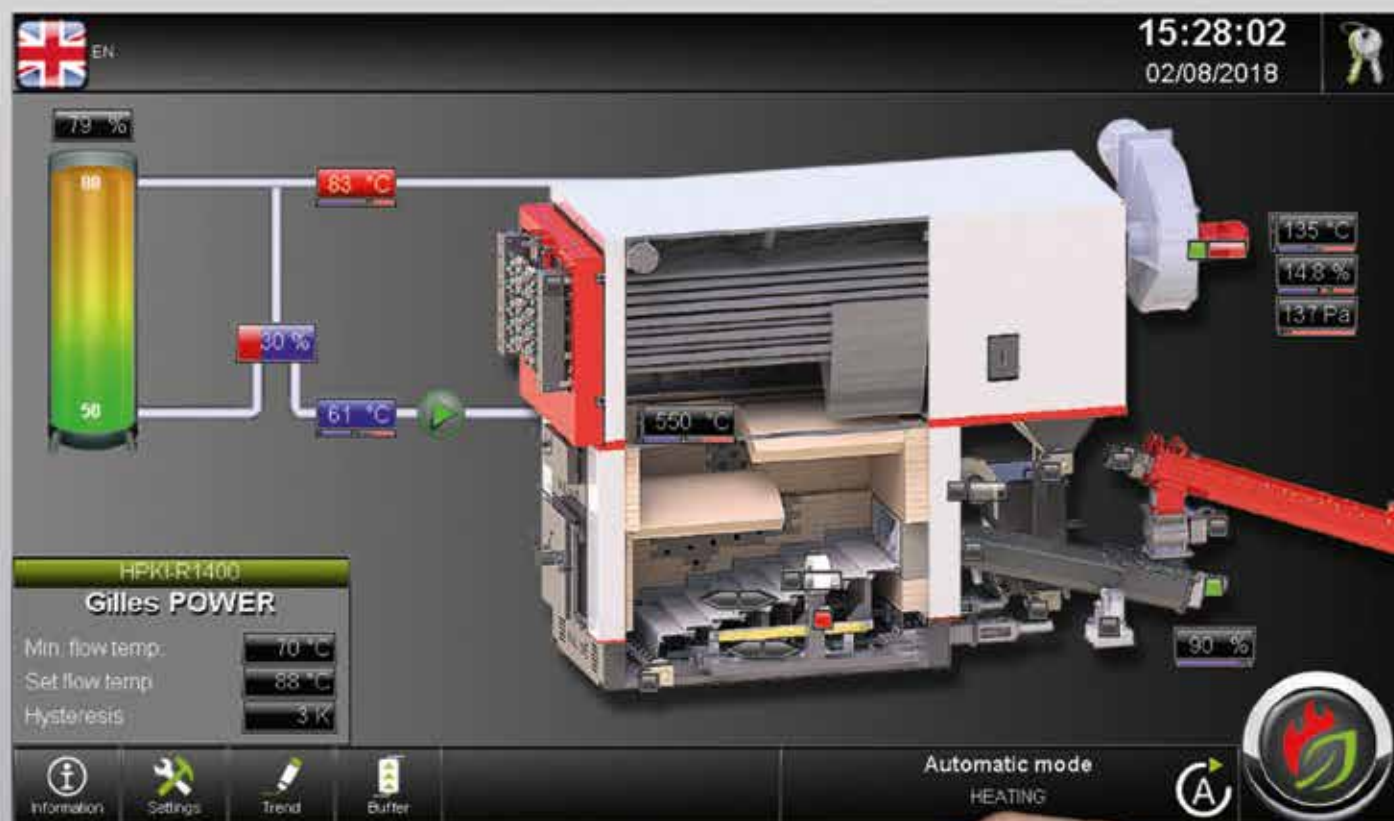
(Efficient control of electrical components)

## Intelligent regulation of drive units

(Components: Ignition fan, pump, feeding system)

## Benefits

- GILLES TOUCH INDUSTRIAL control system
- PLC controller with 10.1" touch display and industrial standard components
- Control of return temperature by shunt pump and 3-way diverting valve
- Customer interface (3 inputs and 2 free configurable, potential-free outputs)
- Grate ash discharge and pneumatic heat exchanger cleaning
- Long-lasting and high quality hybrid motor starter for all 3 phase motors
- Monitoring the cell wheel and stocker auger operation by ampere reading
- Negative pressure control by frequency inverting flue gas fan
- Combustion air regulation by combustion air fan, air dampers and air flow sensors
- Boiler temperature sensors (flow-, return-, flue gas-, and combustion chamber sensor)
- Combustion optimisation via lambda probe
- OPTIONS:
  - Visualisation incl. remote access by industrial PC
  - M-bus connection (e.g. remote heat meter reading)
  - Modbus (further bus- types on request)
  - Automatic ignition unit



The remote setting and monitoring of the heating system is possible at any time from anywhere via PC, tablet and smart phone.



# HEATING CONTROL SYSTEM



Operator friendly use of the GILLES TOUCH-control



Cascade for up to 5 boilers possible



Easy setting and display of all parameters



Side mounted control panel



Buffer management for up to 4 buffer vessels with up to 4 temp. sensors each



Temp. control of external buildings.



Simple function- and components test

## Pellet / wood chips - heating systems

**GILLES**   
BIOMASS HEATING

**Pellet boiler HPK-RA 12.5 - 160**

**Wood chip boiler HPK-RA 25 - 160**

**Industrial boiler HPKI 180 - 2500**  
(for various biomass fuels)

**Visit our show and training centre!**

- directly at A1 motorway exit Regau  
4844 Regau, Tiefenweg 34



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