

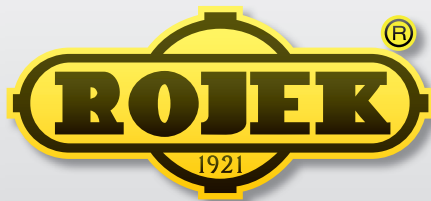


TRADITION OVER
100 years

ROJEK gasification and automatic boilers



1921



*Tradition and Quality
since 1921*

2022



The company ROJEK has a long engineering production tradition.

The production plant with showrooms of heating engineering and woodworking machines is situated in Kostelec nad Orlicí in the region of Hradec Králové.



Josef ROJEK
Company's founder

The company was founded by Josef Rojek in 1921. He was very successful with his woodworking machines of his own construction even in the period of the economic crisis and in the war years.

The tradition was interrupted only in 1948. Many machines of that period are still functional and in spite of some technical and moral wear they are still in operation.

The company of Josef Rojek was restored by his grandson Mgr. Jiří Rojek in 1991. His son Evžen Rojek now continues in family tradition. Again it was started from almost nothing. The returned plant was in a very bad state and without any competitive product.



Mgr. Jiří ROJEK
Company's restorer

At present the company ROJEK is an important world producer in its branch and has its dealers in many countries of the whole world.

Produced woodworking machines and products of heating technology are presented in important world fairs and exhibitions. The interest in ROJEK products is growing continuously.

The range of products is continuously being enlarged and innovated in order to have a good solution for the customer. At present we offer **NEWS** of our own construction in all production ranges.

In the production range of **ROJEK HEATING ENGINEERING** it concerns quite new hot water boilers **ROJEK KTP PELLET** with burner **ROJEK P** of automatic fuel delivery. These boilers achieve the highest emission class and meet the conditions **EKODESIGN**. Also new is a range of pyrolytic boilers **ROJEK PK BIO 20** till **PK BIO 60** for wood for subsidies. The gasification boilers **ROJEK KTP** have also been innovated to meet the emission **class 4** and **5, EKODESIGN** conditions. Certified fuel is wood and brown coal. We are also preparing a new automatic pellet boiler for subsidies.



SMALL WOODWORKING MACHINERY



COMBINED WOODWORKING MACHINERY



STANDARD WOODWORKING MACHINERY



HEATING ENGINEERING



The company ROJEK dřevobráběcí stroje a.s. is a Czech manufacturer of hot water boilers for solid fuel. All our products are manufactured using the latest for machining and welding technologies. The boiler bodies are welded from boiler sheet metal with a thickness of 5 mm.



- **ROJEK** boilers are universal (according the type)
- pleasant and low-cost warmth of natural sources
- **3–5 years warranty** according the boiler and fuel type
- **prolonged warranty** for manual feeding boiler when connected **with suitable accumulation**
- possibility to burn wet wood, wet biomass and other solid fuels in manual operation according to boiler type
- possibility to burn wooden pellets, brown coal (grain size 4 – 25mm) in full automatic operation
- possibility to burn plant pellets and corn in full automatic operation as an alternative
- all boilers **ROJEK** comply with **class 4** in accordance with the Norm EN 303-5
- all boilers **ROJEK** meet the requirements for **EKODESIGN** according the Commission Regulation (EU) No. 2015/1189



ROJEK KTP Gasification boilers

for wood and brown coal



ROJEK KTP gasification boilers are designed for burning of fire wood and brown coal (grain size 4 – 25 mm). Another possible alternative fuel is short piece wood, fresh saw dust, wet chips and other wet biomass, wood and lignite briquettes and black coal.

The fuels can be mixed. This is enabled by an original design of boiler fireplace using double stage combustion enabling a perfect fuel using and burn-up. Combustion of different kinds of fuels has no effect on warranty conditions of boilers. Dry wood is not necessary.

But fuel efficiency and boiler output are influenced by higher moisture content of fuels. Boilers are designed for a smaller chimney draught.

These boilers comply with the certified fire wood and brown coal the **class 4 in accordance with the Norm EN 303-5** and ECODESIGN conditions.



ROJEK KTP 20

ROJEK KTP 30

ROJEK KTP 80

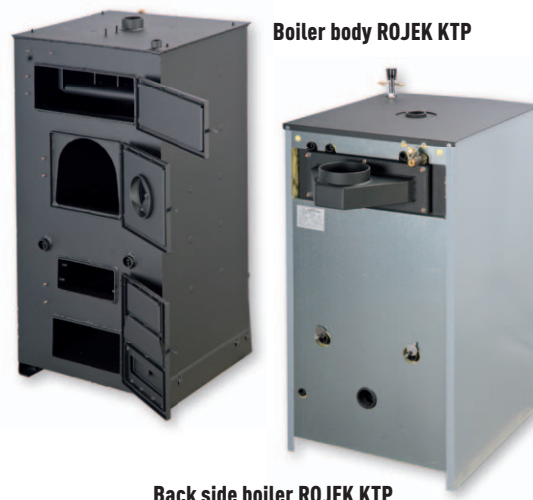


Technical Description of Boilers

ROJEK KTP gasification boilers for fire wood and other solid fuels are a welded structure made of steel boiler plate. **All walls of the boiler body are doubled, filled with water, including the grate made of heat resistant pipes enabling an effective use of heat produced by burning.**

The inlets of both the primary and secondary air can be easily adjusted and reach a good combustion and a long time for burn-up of the fuel. Although heat transfer surfaces do not get fouled, the boiler is provided by a door for easy cleaning.

Boilers are designed for a smaller chimney draught. **No other additional devices increasing costs for their fitting are needed. Combustion of different kinds and also wet fuels is enabled by an original design of fireplace.** This enables the best and perfect combustion of fuel and stops to make harmful emissions and condensates. Boiler output is controlled by the quantity of primary air supplied under the grate. The adjustment is controlled either manually or using a thermal output control. **The recommended temperature of return water is min. 55°C.** This is not warranty condition.



Boiler body ROJEK KTP

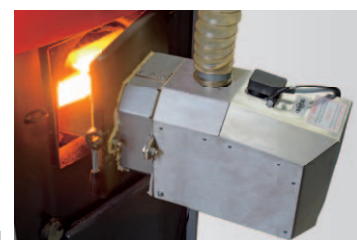
Back side boiler ROJEK KTP

Advantages of gasification boilers ROJEK KTP for solid fuel

- Low chimney draught (outside the boiler ROJEK KTP80)
- Steel boiler body completely water cooled
- Cooling loop (boiler overheating protection)
- Less need for fuel reserves - fire wood
- Smaller fire wood storage space
- Wood with moisture content higher than 20% (most suitable when used with suitable accumulation)
- Manual control of secondary air – optimum combustion and long fuel burn-out time
- Accelerated water heating – tubular grate
- Boiler is without fan – it does not need electricity
- Wide fuel combination (wood – coal – chips and other biomass)
- Boilers can also be operated on heating water circulation alone or on forced circulation by pump
- Boiler delivery according to customer requirements: door hinges right – left, chimney draught vertical – horizontal
- Boiler ROJEK KTP can be additionally completed with pellet burner and can be converted to automatic boiler at any time
- Warranty for tightness of boiler body is 3 years, connection with storage tank 5 years



New ceramics

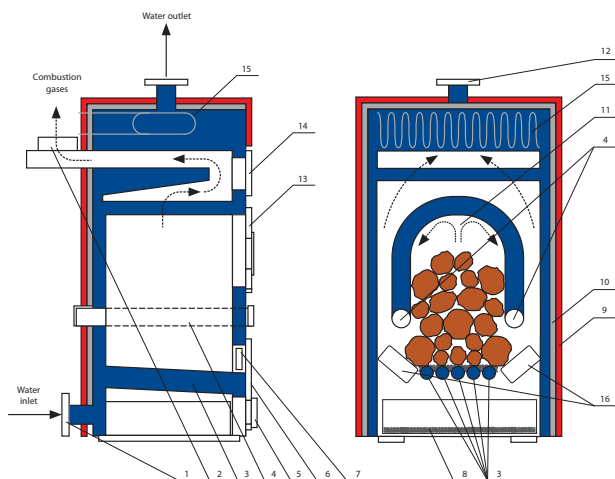


Pellet burner ROJEK P

Boilers ROJEK KTP for manual loading are recommended to be operated with accumulation tank.

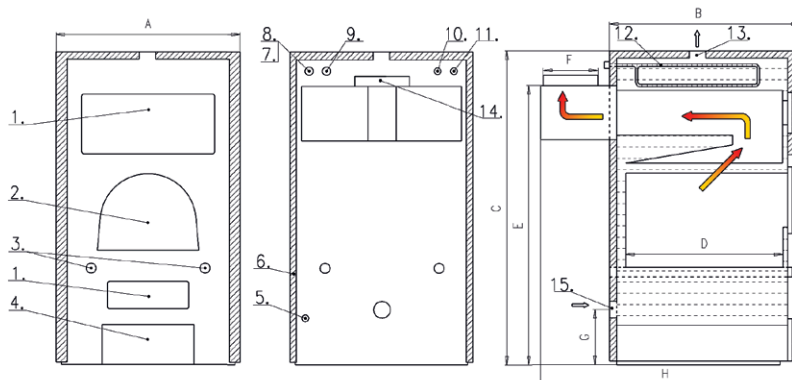
Combustion Model

- | | |
|-------------------------------------------------|-------------------------------------|
| 1. outlet of heating water from boiler | 9. sheet covering |
| 2. outlet of combustion gases to the chimney | 10. boiler thermal insulation |
| 3. water-cooled grate | 11. combustion chamber |
| 4. inlet of secondary air | 12. inlet of return water to boiler |
| 5. door for inlet and regulation of primary air | 13. feeding door |
| 6. cleaning door | 14. door for boiler cleaning |
| 7. folding grate | 15. cooling loop |
| 8. ash pan | 16. new ceramics |



Boiler description

- | | |
|---------------------------|---------------------------------|
| 1. cleaning space | 9. sensor of thermostatic valve |
| 2. loading space | 10. inlet of cooling water |
| 3. inlet of secondary air | 11. outlet of cooling water |
| 4. ash pan | 12. cooling loop |
| 5. outlet valve | 13. water outlet |
| 6. insulation | 14. escape of combustion gases |
| 7. thermometer | 15. water inlet |
| 8. manometer | |



Technical data of ROJEK KTP Gasification boilers for wood and brown coal

Data	Unit	KTP 20	KTP 25	KTP 30	KTP 40	KTP 49	KTP 80
Adjustable power	kW	20	25	30	40	49	80
Width A	mm	622	622	622	748	748	748
Depth B	mm	550	650	750	683	803	1263
Height C	mm	1193	1193	1193	1285,5	1285,5	1405,5
Grate depth D	mm	350	450	550	480	600	1060
Chimney height E	mm	1089	1089	1089	1182,5	1182,5	1302,5
Chimney diameter F	mm	160 (159)	160 (159)	160 (159)	220 (219)	220 (219)	220 (219)
Height of water inlet G	mm	293,5	293,5	293,5	252	252	252
Installation depth H	mm	773	873	973	955	1074	1535
Water inlet and outlet diam.	DN	G 2"					
Max. diameter / length of wood	cm	20/33	20/43	20/53	23/46	23/58	23/100
Volume of combustion chamber	l	47,9	61,6	75,3	98,5	123,1	200
Boiler weight	kg	261	301	341	415	476	875
Efficiency brown coal / wood	%	85 – 89 / 78 – 88					
Boiler class in accordance with the Norm EN 303 – 5		4 / 4					
Boiler class of emission according EU reg. no. 2015/1189		EKODESIGN					
Volume of combustion gases with nominal power	m ³ /h	146	160	174	202	230	320
Heat loss	mbar	0,4					
Size of loading opening Half circle – width x height	mm	245/230	245/230	245/230	395 x 295	395 x 295	395 x 295
Water volume in boiler	l	98	109	120	126	166	300
Max. water overpressure	bar	2					
Min. water overpressure	bar	0,5					
Water testing overpressure	bar	4					
Max. operation temperature	°C	90					
Specified chimney draught brown coal / wood	Pa	16 – 20 / 14 – 18					
Temperature of combustion gases with nominal power	°C	220 – 300					
Min. volume of storage tank	l	800	1000	1200	1600	2000	3200

Pyrolytic boilers **ROJEK PK** and **PK BIO**

on brown coal and wood (PK) or on wood (PK BIO)



Pyrolytic boilers **ROJEK PK** and **PK BIO** have upper loading of combustion chamber which enables using the complete volume of combustion chamber not only for piece wood (wood length 530 mm), but also for dimensionally smaller fuels, (e. g. short piece wood – a product of **ROJEK DH 10** wood crushers), wood briquettes or brown coal.

Boilers **ROJEK PK** and **PK BIO** are designed for economical and environmentally friendly heating of family houses, apartment units, workshops and similar buildings with heat losses from 20 to 60 kW. They are approved and certified according to Norm EN 303 - 5. The boilers are designed for burning fire wood – max. wood length 530 mm, wood moisture **max. 20%**, heating value 14 – 18 MJ.kg⁻¹, or brown coal (grain size 20 – 40 mm) and coal cube (grain size 40 – 100 mm), fuel moisture **max. 15%**, heating value 14 – 20 MJ.kg⁻¹.



Manually wood and coal (**PK**)
Manually wood (**PK BIO**)



Advantages of pyrolytic boilers **ROJEK PK** and **PK BIO**

- Loading of combustion chamber of the boiler is very easy and quick by lifting off the loading door.
- Bigger volume of combustion chamber (PK 20 – 30: 130 dm³ = 130 l, PK 40 – 60: 180 dm³ = 180 l)
- High efficiency at nominal power 87,7 – 90,1%.
- Max. length of wood 530 mm for all nominal powers (fuel moisture up to 15–20%)
- Longer time for burn-up of combustion chamber up to 5–9 hours depending on quality of wood and boiler power.
- Another certified fuel is brown coal with a combustion chamber burn-out time of up to 12 hours or more at nominal output and depending on the boiler type.
- Quick start of ROJEK PK boilers due to bigger space of boiler body and exchanger that are evenly filled with water. Assumption of higher working life when using thicker body plates with a thickness of 5 mm.
- The boiler contains fewer ceramic parts than boiler of a similar type.
- Easy cleaning of exchanger by means of a handle and cleaning door accessible from outside (right or left execution of cleaning handle).
- Boilers PK 20 – 60 for fuel wood comply with class 5 and for fuel brown coal comply with class 4 in accordance with the Norm EN 303-5. Boilers PK BIO 20 – 60 comply with class 5 for fuel wood in accordance with the Norm EN 303-5. All boiler ROJEK meet the requirements for EKODESIGN according the Commission Regulation (EU) No. 2015/1189
- Boilers are controlled by electronic control unit that controls: exhaust fan, water temperature in boiler – switching on the pump and switching off the fan, control of water temperature (min. – max.), manual or automatic operation (several different variants of automatic operation), time for fuel burn-up, manual operation for firing, adjustable speeds of fan, exhaust sensor, boiler and regulator protection, sound alarm, choice of languages.
- The flue gas sensor of the control unit saves with fuel consumption, the water temperature is very stable, which prolongs the working life of the boiler. Controlling the flue gas temperature at the boiler outlet allows for low emissions of dust and environmentally harmful gases.
- Warranty for tightness of boiler body is 3 years, connection with storage tank 5 years.

The regulator is provided with programme **zPID**.

In addition to standard sensors the regulator is also provided with exhaust sensor. It controls exhaust temperature and temperature of boiler water. Based on their values the control changes the speed of fan in order to maintain the adjusted temperature of boiler water. **Algoritmus PID is used for temperature process control, in that case it works as a very accurate thermostat.** That means the regulator with function zPID works based on algoritmus PID supported by exhaust sensor.

Using this type of regulator with exhaust sensor up to 13% fuel can be saved, **the temperature of exit water is very stable which has influence on longer operation life of the exchanger (boiler).** Control of exhaust temperature on exit from boiler causes low emission of dust and gases dangerous for the environment. **Thermal energy is fully used for water heating and does not escape to the chimney.**



Regulator TECH

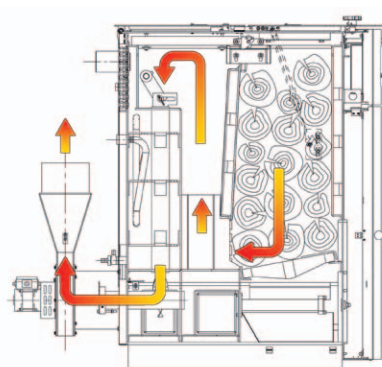
Heat exchanger with cleaning



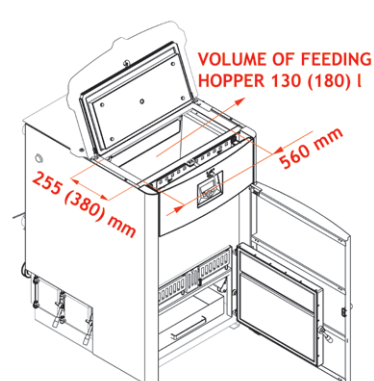
Feeding chamber



Combustion diagram



Loading chamber dimensions



Back side of PK boiler ROJEK PK



Technical data of pyrolytic boiler **ROJEK PK** and **PK BIO**

Data	Unit	PK 20, PK BIO 20	PK 25, PK BIO 25	PK 30, PK BIO 30	PK 40, PK BIO 40	PK 49, PK BIO 49	PK 60, PK BIO 60
Nominal power wood/brown coal	kW	20 / 21,5	25 / 25	32 / 28	36 / 40	43 / 49	50 / 60
Efficiency wood/brown coal	%	90,1 / 85,7	88,9 / 85,5	89 / 85,4	86,5 / 85	85 / 84,5	85 / 83,6
Width including controlling lever/without	mm	916 / 784					
Depth	mm	923			1145		1240
Height	mm	1186			1232		
Chimney height	mm	574					
Chimney diameter	mm	160 (159)					
Temperature of combustion gases at nominal power	°C	220 – 250 (wood), 170 – 210 (brown coal)					
Power input (230V/50Hz)	W	76					
Volume of feeding hopper	l	130			180		
Volume of water	l	98			130		151
Height of water inlet	mm	388			449		
Installation depth	mm	1262			1408		1503
Water inlet and outlet diam.	DN	G 2"					
Boiler class in accordance with the Norm EN 303-5		5 / 4					
Class of energetic efficiency wood / brown coal		A+ / C	A+ / C	A+ / C	A+ / C	A+ / C	A+ / B
Seasional energetic efficiency wood / brown coal	%	79 / 77	78 / 77	78 / 77	78 / 79	78 / 81	78 / 83
Boiler class of emission according EU reg. no. 2015/1189		EKODESIGN					
Max. diam./length of wood	mm	250 / 530					
Boiler weight	kg	505			615		665
Max. water overpressure	bar	2					
Min. operation temperature	°C	63					
Specified chimney draught wood/brown coal	Pa	10–14/12–18	12–16/12–19	16–19/14–19	10–16/14–19	10–18/14–19	19–23/14–19
Recommended volume of accumulating tank	l	1200	1400	1800	2200	2700	3300
Consumption of wood in nominal power	kg / h.	6,5	8	9,7	11,8	13,9	16,1
Consumption of brown coal in nominal power	kg / h.	4	5	5,6	8	9,8	11,2

Pyrolytic boilers ROJEK PK and PK BIO for manual loading are recommended to always operated with accumulation tank.

Automatic boilers **ROJEK KTP PELLET** for pellets



ROJEK KTP 20, 25, 30 PELLET automatic boilers were created by connecting **ROJEK KTP 20, KTP 25** and **KTP 30** gasification boilers with a burner for wood pellets. We offer the burner with which **ROJEK KTP PELLET** boilers are equipped with **ROJEK P** burner.



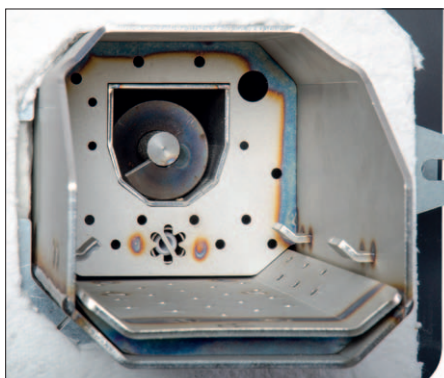
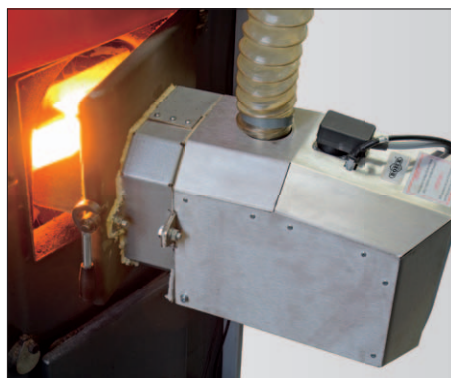
Automatic pellets



ROJEK KTP PELLET
with burner **ROJEK P**

Burner **ROJEK P**

Allows the comfort of automatic ignition and burn out. It is designed for burning not only high-quality white wooden pellets with a diameter of 6 mm, but it can also burn lower-quality pellets. It has a movable stainless-steel grate for cleaning the combustion chamber. The burner and its required output, mixing and accumulation are controlled by the TECH ST 976 zPID regulation. The regulation system has a portable, well-arranged, touch control panel. It allows you to use various types of other accessories, including room thermostats, including Ethernet module, Wifi module, DHW. The control has one mixing module and has the possibility of controlling of more pumps (other mixing modules can be added). A 2000 mm long worm pellet feeder is supplied with the burner, the length of the feeder can be modified as required.



Automatic boilers **ROJEK KTP PELLET** thanks to the fuel tank, electronic regulation and the burner with worm feeder are able to work even several days long in automatic operation. Boilers **ROJEK KTP PELLET** are delivered without fuel tank, we offer fuel tank separately. We offer sheet metal welded fuel tank ROJEK 300 l and 500 l or we offer sheet metal decomposable fuel tank 300 l or 600 l. All offered fuel tanks can be equipped with wheels for better handling.

Advantages automatic boilers **ROJEK KTP PELLET**

- Boiler allows the comfort of automatic ignition and afterburning
- Automatic burning wooden pellets of 6 mm diam.
- Automatic burner cleaning (only for the type ROJEK P)
- Burner controller ROJEK P from the company TECH ST 976 zPID not only controls the burner itself and its output, but also enables system control and mixing, or solves accumulation and DHW
- It allows you to connect other types of accessories e.g. for controller ROJEK P room thermostats On/Off including RS design, Ethernet module, Wi-Fi module.
- Thanks to the chosen fuel tank, electronic regulation and the burner with worm feeder the boiler is able to work even several days long in automatic operation.
- Controller has a clear, portable control panel (ROJEK P)
- Saving heating costs – we only heat when we need to
- Low emission burden for the surroundings – boilers comply the Class 5 in accordance with the Norm EN 303 — 5 and ECODESIGN
- Boiler body warranty 3 years, extended warranty 5 years when using guaranteed and certified fuel



Fuel tank wheels for better handling



Controller TECH of burner ROJEK P

Even older boilers ROJEK KTP can be modified in this way and complete the existing older boiler with the possibility of automatic feeding and burning of wood pellets. (More information from the manufacturer or on the page 14)

Technical data of automatic boilers **ROJEK KTP PELLET** on pellets

Data	Unit	KTP 20 PELLET	KTP 25 PELLET	KTP 30 PELLET
Adjustable pellet power	kW	5,1 – 20	5,3 – 25	5,5 – 30
Pellet efficiency	%	88	89	90
Boiler class in accordance with the norm EN 303-5		5		
Boiler emissions according to the Regulation (EU) No. 2015/1189 - fuel wooden pellets		EKODESIGN		
Wood pellet energy efficiency class		A+	A+	A+
Seasonal energy efficiency wooden pellets	%	77	78	79
Specified chimney draught	Pa	5 – 10		
Size (W x H x D) - without fuel tank	mm	622 x 1280 x 1017	622 x 1280 x 1117	622 x 1280 x 1217
Size (W x H x D) - with fuel tank	mm	1570 x 1280 x 1017	1570 x 1280 x 1117	1570 x 1280 x 1217
Chimney height	mm	1089		
Chimney diam. (chimney extension diam.)	mm	160 (159)		
Volume of fuel tank	l	300		
Water volume in boiler body	l	98	109	120
Connection diam. for water inlet and outlet	DN	G 2"		
Connection voltage	V / Hz	230 / 50		
Electric input / total input power max.	W	100 / 400		
Electrical input of the lighter	W	300		
Boiler weight	kg	298	338	378
Temperature of combustion gases	°C	223	189	168
Min. volume of accumulation tank	l	1200	1500	2000

Boilers are recommended to be operated with accumulation tank.

Automatic boiler **ROJEK TKA** and **TKA BIO** on brown coal and pellets or on pellets



Automatic boilers **ROJEK** enable to burn automatic brown coal - grain size 4 – 25 mm or wooden pellets 6 – 8 mm (TKA 15) or 6 – 10 mm (TKA 25, TKA 45) or 6 – 24 mm (TKA 80) - high quality white pellets and also pellets of lower quality with bark mixture. Retort burner enables to burn also lower quality plant pellets and corn using a special adapter.

In automatic operation with wooden pellets and brown coal 4 - 25 mm the boilers comply with class 4 till class 5 in accordance with the Norm EN 303-5 and the type of boiler. At the same time, the boilers **ROJEK TKA** and **ROJEK TKA BIO** meet the most stringent design requirements of ECODSIGN (emission and seasonal efficiency values) according to the EU Commission Regulation No. 2015/1189.

The retort burner ROJEK is installed in the lower part of boiler body. It is designed for lower fuel loading and the combustion process can be compared with a blacksmith hearth. From the tank the fuel is feeded by spiral feeder to the retort knee. Here it is forced out up to a round grate.



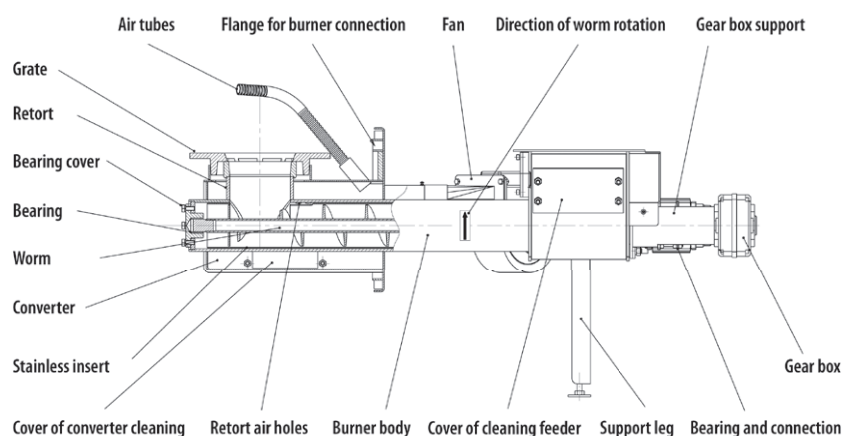
Advantages Automatic Boiler **ROJEK TKA** a **TKA BIO**

- Thanks to the fuel tank (type according to the boiler execution), electronic regulation and the burner with spiral feeder the boiler can work in automatic operation even for several days
- Comfort of automatic fuel batching and easy operation
- Possibility of connecting the boiler to a superior heating control
- Possibility to select the electronic regulation of boiler
- Possible temperature control of the heated space
- Saving heating costs, lower fuel consumption
- The boilers are universal and thereby we get an advantage in the fuel choice
- Low emission encumbrance on the surrounding area
- Saving space for fuel storage when using recommended bagged coal and pellets (1 tun pellets/coal = 1 pallet space)
- The system can be extended with pneumatic pellet feeder to the fuel tank
- Boilers are manufactured on request with cover or semi-cover according to the boiler type
- Boiler delivery according to the customer's requests: door hinge right – left, smoking vertical - horizontal
- Retort burners can be mounted to automatic boilers on customer's wish in the right or left execution including the fuel tank
- Regulation ROJEK ST-480 zPID controls the fan and feeder, total 4 pumps and in the base includes build-in module for control one 4-way or 3-way mixing valve, can be add with an external sensor for sensing the outside temperature and other accessories
- The boiler output is continuously changed and adjusted according to the need of hot water supply to the central heating
- Warranty of boiler body is 3 years, prolonged warranty 5 years by using guaranteed and certified fuel

Regulation
ST 480 zPID



Retort burner informative diagram



Combustion in rebort burner



Technical data of automatic boilers **ROJEK TKA** on brown coal and on pellets

Data	Unit	TKA 15	TKA 25	TKA 45	TKA 80
Adjustable brown coal power	kW	3,5 – 15	7,5 – 25	12,9 – 45	20 – 78
Adjustable pellet power	kW	3,5 – 15	7,5 – 25	13,5 – 45	22 – 80
Efficiency brown coal / pellet	%	89 / 89	89 / 90	89 / 83	90 / 86
Boiler class in accordance with the Norm EN 303-5 fuel wooden pellet / brown coal		5 / 4	5 / 4	5 / 4	5 / 4
Energy efficiency class of wooden pellets / brown coal		A+ / C	A+ / C	A+ / C	A+ / C
Seasonal energy efficiency wooden pellets / brown coal	%	77 / 77	78 / 79	78 / 78	81 / 79
Boiler emissions according to the Regulation (EU) No. 2015/1189 - fuel brown coal		EKODESIGN	EKODESIGN	EKODESIGN	EKODESIGN
Temperature of combustion gases	°C	max. 150	max. 150	max. 150	max. 150
Specified chimney draught	Pa	10 – 15	10 – 15	10 – 15	15 – 25
Size (W x H x D)	mm	1370 x 1630 x 910	1370 x 1530 x 910	1565 x 1642 x 1043	1605 x 1772 x 1552
Chimney height	mm	1434	1424	1549	1669
Chimney diam. (chimney extension diam.)	mm	160 (159)	160 (159)	220 (219)	220 (219)
Volume of fuel tank (right standard/left)	l	300	300	500	800
Volume of bigger fuel tank than standard	l	500	500	800	1200
Water volume in boiler body	l	98	120	166	300
Connection diam. for water inlet and outlet	DN	G 2"			
Connection voltage	V / Hz	230 / 50	230 / 50	230 / 50	230 / 50
Max. electric input	W	110	110	110	110
Boiler weight	kg	433	465	653	1240
Boiler execution BIO (fuel wooden pellets only)		TKA BIO 15	TKA BIO 25	TKA BIO 45	TKA BIO 80
Boiler emissions according to the Regulation (EU) No. 2015/1189 - fuel wooden pellets		EKODESIGN	EKODESIGN	EKODESIGN	EKODESIGN

Accumulation tanks (general recommendation and advantages)

Accumulation tanks are used to accumulate heat from various sources, e.g. solid fuel boilers, heat pumps or solar systems. These are pressure tanks of suitable volume that store heat from these sources until it is needed to heat the building. The accumulation tank allows to ensure thermal comfort and at the same time quality and ecological operation of the boiler.

Wiring advantages with accumulation tank

- the boiler is operated permanently at full power (simplified operation)
- maximal burning efficiency
- lower fuel consumption (by 20 to 30%), the boiler operates at full power until fuel burnout at optimum efficiency, reducing fuel costs
- prolonged boiler lifetime at optimum burning conditions
- storage of surplus heat at the time of overproduction in the thermal energy source (boiler)
- immediate supply of accumulated heat at the time of need
- reduction of time requirements for servicing the heater, as the accumulated heat can be sufficient for several days of heating from the accumulation without the intervention of the operator during the transitional periods of the heating season
- for storage tanks with built-in DHW exchanger transfer of thermal energy from heating water to domestic hot water, advantage of use in summer, when hot water can be obtained by heating from the boiler
- high service life of the boiler and chimney – minimal formation of tars, acids and harmful emissions
- possibility of combination with other heating methods (renewable sources) – solar collectors, heat pump, storage electricity, waste heat from technology
- combination of heating elements (radiators) with underfloor heating
- possibility of low-temperature heating system
- convenient comfortable heating and ideal optimum fuel burn-off
- cleaner (greener) heating



Accumulation tanks with one bottom heating tube

Accumulation tank size for good function is recommended 40 – 80 l at 1 kW installed boiler output. Optimally, it is recommended to use 55 l accumulation water at 1 kW installed boiler output. Tank volumes are, for example, 500 - 2000 litres. Tanks include insulation according to manufacturer's type.

Accumulation tanks can be, for example:

- for accumulation only (without heating tubes)
- with one bottom heating tube (thermal system or heat pump)
- with two heating tube (thermal system or heat pump and DHW)
- with built-in hot water tank and one heating tube
- and other types

For more technical information on accumulation tanks and principles of accumulation application, please contact the manufacturer.

Automatic boiler **A U** and **A** on brown coal and pellets or on pellets



Innovated automatic boiler **ROJEK A 15** and **A 15 U** are designed for heating buildings with low heat loss. The adjustable power is 3,6–14 kW for brown coal – grain size 4-25 mm or wooden pellets 6 – 8 mm diameter, in automatic operation. The boiler ROJEK A 15 can burn wooden pellets 6 – 8 mm diameter.

The boilers the type **ROJEK A 15 U** comply with **class 4** in accordance with the Norm EN 303-5, boilers the type **ROJEK A 15** comply with **class 5** in accordance with the Norm EN 303-5. These all types of boilers meet conditions EKODESIGN according to the EU Commission Regulation No. 2015/1189.



Automatic pellets (**A 15**)



Automatic coal and pellets (**A 15 U**)



Advantages automatic boilers **ROJEK A**

- Thanks to the fuel tank (type and shape according to design), electronic regulation and the burner with spiral feeder the boiler is able to work in automatic operation even for several days.
- Comfort of automatic fuel batching and easy operation
- Possibility to select the electronic regulation of boiler
- Possible temperature control of the heated space
- Saving heating costs, lower fuel consumption
- The boilers ROJEK A are universal and thereby we get an advantage in the fuel choice
- The system can be extended with pneumatic pellet feeder to the fuel tank
- Boiler delivery according the customer's requests: door hinge right – left, smoking vertical - horizontal
- Retort burners can be mounted to automatic boilers on customer's wish in the right or left execution including the fuel tank
- Regulation ROJEK ST-480 zPID controls the fan and feeder, total 4 pumps and in the base includes build-in module for control one 4-way or 3-way mixing valve, can be add with an external sensor for sensing the outside temperature and other accessories
- The boiler output is continuously changed and adjusted according to the need of hot water supply to the central heating
- The main heat exchange surface of boiler ROJEK A 15 and ROJEK A 15 U is a tubular horizontal heat exchanger. The boilers are designed with a water heat exchanger to the very bottom of the boiler body, which increases the efficiency of the heat transfer.
- Low emission encumbrance on the surrounding area - boilers comply with emissions class 4 or 5 in accordance with the Norm EN 303-5 and EKODESIGN
- Warranty of boiler body is 3 years, prolonged warranty 5 years by using guaranteed and certified fuel



Detail of heat exchanger boiler A 15



Retort burner boiler A 15



Detail of boiler A 15

Technical data of automatic boilers **ROJEK A 15 U** and **ROJEK A 15**

Data	Unit	A 15 U	A 15
Certified fuel		brown coal or pellets	pellets
Adjustable brown coal power	kW	3,4 – 14,8	-
Adjustable pellet power	kW	3,6 – 14	3,6 – 14
Efficiency brown coal / pellet	%	89 / 84	89
Boiler class in norm EN 303-5 fuel wooden pellet / brown coal		5 / 4	5
Energy efficiency class of wooden pellets / brown coal		A+ / C	A+
Seasonal energy efficiency wooden pellets / brown coal	%	77 / 79	77
Boiler emissions according to the Regulation (EU) No. 2015/1189 - fuel brown coal		EKODESIGN	EKODESIGN
Temperature of combustion gases	°C	max. 180	max. 180
Specified chimney draught	Pa	10 – 15	10 – 15
Size (W x H x D)	mm	1130 x 1105 x 780	1130 x 1105 x 780
Chimney height	mm	625	625
Chimney diam. (chimney extension diam.)	mm	130 (129)	130 (129)
Volume of fuel tank (right standard/left)	l	300	300
Volume of bigger fuel tank than standard	l	500	500
Water volume in boiler body	l	106	106
Connection diam. for water inlet and outlet	DN	G 2"	
Connection voltage	V / Hz	230 / 50	230 / 50
Max. electric input	W	110	110
Boiler weight	kg	300	300

Rebuilding kits

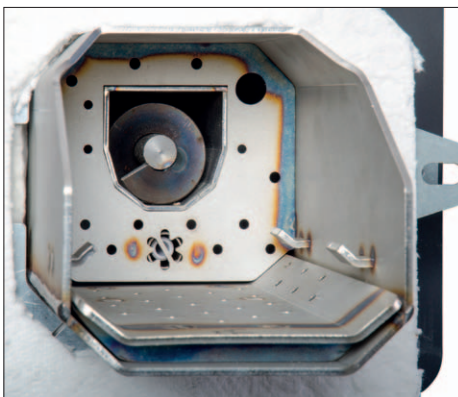
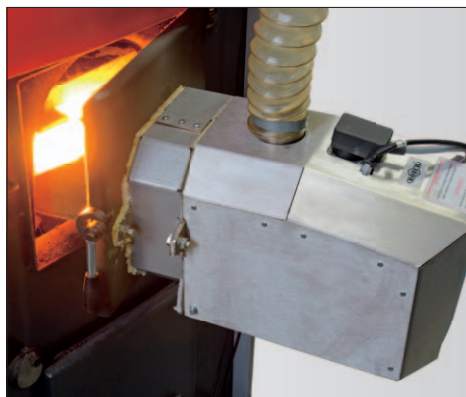
hot water boilers **ROJEK KTP** to automatic boilers for pellets



Hot water boiler ROJEK KTP up to output 30 kW can be completed with a rebuilding kit with a pellet burner (diam. 6 mm), which turns the manual boiler into a fully automatic boiler.

The burner always has automatic ignition and shutdown. It operates based on the required outlet temperature demand for the required output to the system and can be operated with a programmable or remote controlled outlet or room thermostat.

We offer the rebuilding kit with burner ROJEK P



The rebuilding kit includes

- modified folding door with pantograph arm mounting
- pantographic arm that hold the currently used burner
- pellet burner ROJEK P
- burner worm feeder
- plugs for sealing the boiler according to the type and design of the boiler ROJEK KTP
- control rosette for secondary air

The rebuilding kit not included the fuel tank, we offer it separately.

Pellet fuel tank metal welded – 300l and 500l. Or metal decomposable 300l and 600l.



**ROJEK KTP PELLET with burner ROJEK P
and metal decomposable fuel tank 600L.**



**ROJEK KTP PELLET with burner ROJEK P
and metal welded fuel tank of type TKA - 300L.**

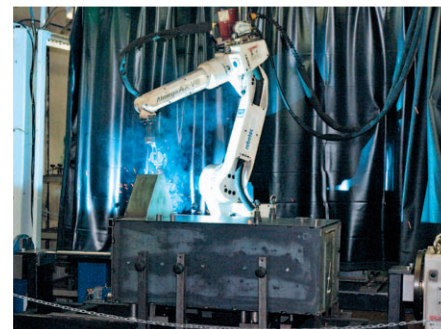




Company ROJEK production plant



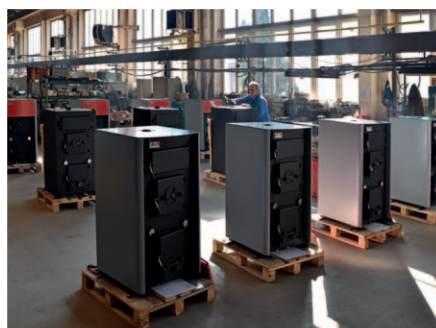
Laser sheet metal cutting



CNC robotic welding workplace



Manual boiler welding



Boiler mounting



Automated warehouse system



Professional qualification tests and training



Training room



Boilers showroom



Model boiler room with boiler ROJEK TKA 25



Model boiler room with boiler ROJEK PK BIO



Sales of packaged coal and pellets from the plant in Kostelec nad Orlicí

ROJEK Worldwide

Tradition and Top Quality from the Czech Republic



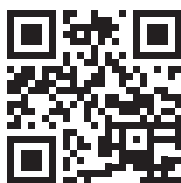
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