

ALLOWABLE FUEL TYPES

JSC KOMFORTS is experienced in designing and manufacturing equipment for different fuel types. In the list below you may find the fuel types which are common to us and can be burned with our technology. However, if you have a different type of fuel, let us know and we are more than pleased to assist you.



Woodchips



Forest residue chips



Bark



Wood saws



Middle fraction sawdust



Sawdus



Wood pellets



Terrified pellets



Peat pellets



Sod peat



Peat (saws)



Peat mulch and lignins



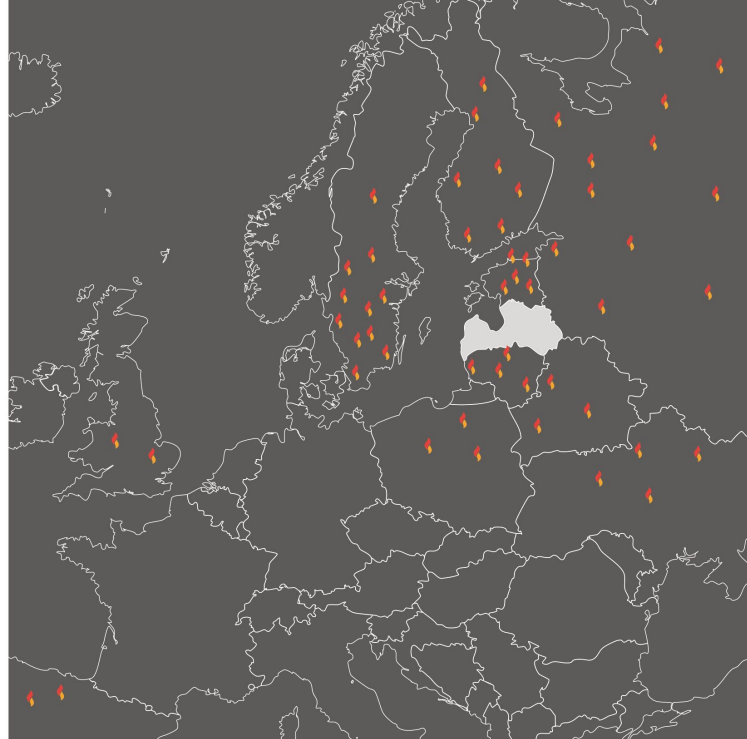
RDF



Organic mulches/ Straw/ Coffee mulch



Fire wood



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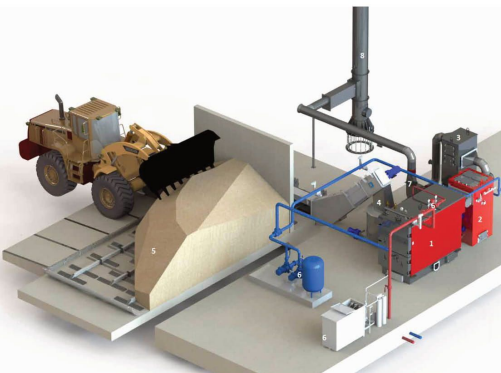


BIOMASS
energy solutions

PRODUCT INFORMATION

0.1 – 3 MW

SMALL THERMAL POWER PLANTS



- 1 - AKS hot water boiler with integrated fuel feeding system
- 2 - Water economizer
- 3 - Flue gas cleaning multi-cyclone
- 4 - Fuel conveyor
- 5 - Fuel storage with walking floor
- 6 - Water piping with water treatment system and network pumps
- 7 - Flue gas ducts with a flue gas fan
- 8 - Chimney
- 9 - Automation system.

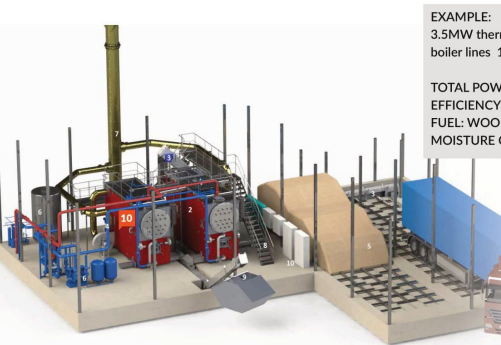
EXAMPLE:
1 MW thermal power plant with AK1000S boiler and 300 kW water economizer.

TOTAL POWER: 1.3 MW
EFFICIENCY: 93%
FUEL: WOODCHIPS
MOISTURE CONTENT: 15-50%

In small thermal power plants boilers with thermal power up to 2 MW in one line are used. Several boiler lines may be assembled if required. Commonly AK and AKS boiler series are used with hot water parameters up to 110°C and 6 bar.

0.5 – 10 MW

COMPACT SIZE THERMAL POWER PLANTS



EXAMPLE:
3.5MW thermal power plant with two KAPAK boiler lines 1.5 and 1 MW each.

TOTAL POWER: 3.5MW
EFFICIENCY: 88%
FUEL: WOODCHIPS
MOISTURE CONTENT: 10-55%

- 1 - KAPAK 1MW boiler with integrated flue gas cleaning multi-cyclone
- 2 - KAPAK 1.5 MW boiler with integrated flue gas cleaning multi-cyclone
- 3 - Fuel conveyor
- 4 - Prefabricated water piping system
- 5 - Fuel storage with walking floor
- 6 - Water treatment system and network pumps
- 7 - Flue gas ducts with flue gas fan and chimney
- 8 - Maintenance stairs and platforms
- 9 - Ash discharge system
- 10 - Automation system.

In compact size thermal power plants KAPAK series boilers with thermal power up to 3.5 MW with hot water parameters up to 110°C and 6 bar in one line are used. Several boiler lines may be assembled if required.

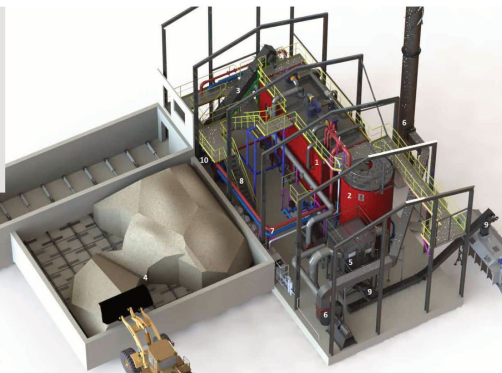
1 – 20 MW

MIDDLE AND LARGE THERMAL POWER PLANTS

EXAMPLE:
6 MW power plant with AK6000 boiler and KAP7000 front furnace

TOTAL POWER: 6 WM
EFFICIENCY: 89%
FUEL: WOODCHIPS
MOISTURE CONTENT: 30-65%

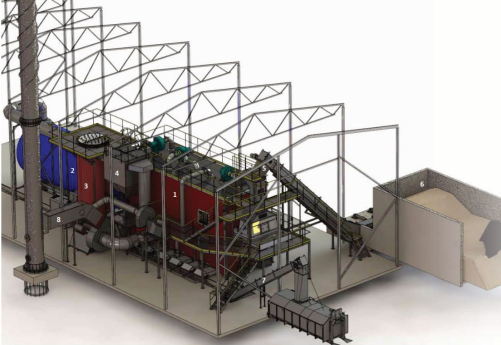
- 1 - KAP7000K 7 MW angular grate furnace
- 2 - AK6000 6 MW Boiler 150°C, 16 bar
- 3 - Fuel conveyor
- 4 - Fuel storage with walking floor
- 5 - Flue gas cleaning multi-cyclone
- 6 - Flue gas ducts with flue gas fan and chimney
- 7 - Water piping with water treatment system and network pumps
- 8 - Maintenance stairs and platforms
- 9 - Ash discharge system
- 10 - Automation system



In industrial hot water power plants KAP and AK series equipment is used with thermal power up to 10 MW with hot water parameters up to 170°C and 18 bar in one line are used. Several boiler lines may be assembled if required.

0.5 – 30 MW

INDUSTRIAL POWER PLANTS



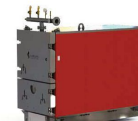
EXAMPLE:
10 t/h STEAM POWER PLANT

EFFICIENCY: 92%
FUEL: WOODCHIPS
MOISTURE CONTENT: 30-65%

- 1 - KAP8000K 8 MW angular grate furnace
- 2 - Steam boiler
- 3 - Economizer
- 4 - Flue gas cleaning multi-cyclone
- 5 - Fuel conveyor
- 6 - Fuel storage with walking floor
- 7 - Ash discharge system
- 8 - Flue gas ducts with flue gas fan and chimney
- 9 - Maintenance stairs and platforms and Automation system.

In industrial power plants KAP series equipment and steam boilers, hot gas units or other power generation units are used with thermal power up to 10 MW. Several boiler lines may be assembled if required. Industrial power plants are commonly used for technological power generation, for example, pelletizing lines, food production etc.

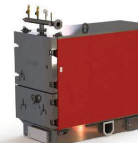
AK / AKGM BOILERS FOR FIREWOOD COMBUSTION



100 - 1000 kW

AKM and AKGM boilers are designed for water heating in automatic forced circulation mode. Wood pellet combustion is possible in AKGM boiler versions only. Manual fuel supply for AKM series only available. AKGM series are additionally equipped with pellet burners, which allows to use not only firewood, but also wood pellets. Boilers are supplied with or without all combustion process operational equipment such as air fans, air valves and automation system.

AKS BOILERS FOR WOODCHIPS COMBUSTION



150 - 2000 kW

AKS boilers are designed for water heating in automatic forced circulation mode. Fuel is supplied with a fuel supply mechanism (KPM). It is possible to supply by hand as well.

Boilers are supplied with or without all combustion process operational equipment such as air fans, air valves and automation system. Connection for fuel supply mechanism may be located on right, left or rear side of the boiler.

KAPAK BOILERS FOR BIOMASS COMBUSTION



500 - 3500 kW

KAPAK boilers are designed for water heating in automatic forced circulation mode. Moving grate furnace with hot-water boiler and multi-cyclone together with dual feeding mechanism and automated ash handling system is designed for solid biofuel combustion. Due to precisely designed flue gas and water flows in the unit, the heat exchange rate is the highest possible ensuring the most reasonable workload and lifetime of the unit.

Two configurations of the unit are offered - with and without multi-cyclone. Both units are not only compact and effective, but can be also easily installed in small space.

Sod peat, peat or any pellets may be used as well.

KAP FURNACE WITH AK P BOILERS



1000 - 15000 kW

Moving grate front furnaces have been designed for solid biofuel burning. The combustion process is separated in three zones: drying, combustion (gasification stage), and post combustion. Furnaces are equipped with sufficient inlet air preheating.

The furnace temperatures, pressure and combustion process are controlled fully via control systems. Furnaces also may be equipped with the flue gas recirculation system which allows to control and improve the combustion process.

All JSC KOMFORTS furnaces are designed to be assembled together with the JSC KOMFORTS AK P type water boilers.