

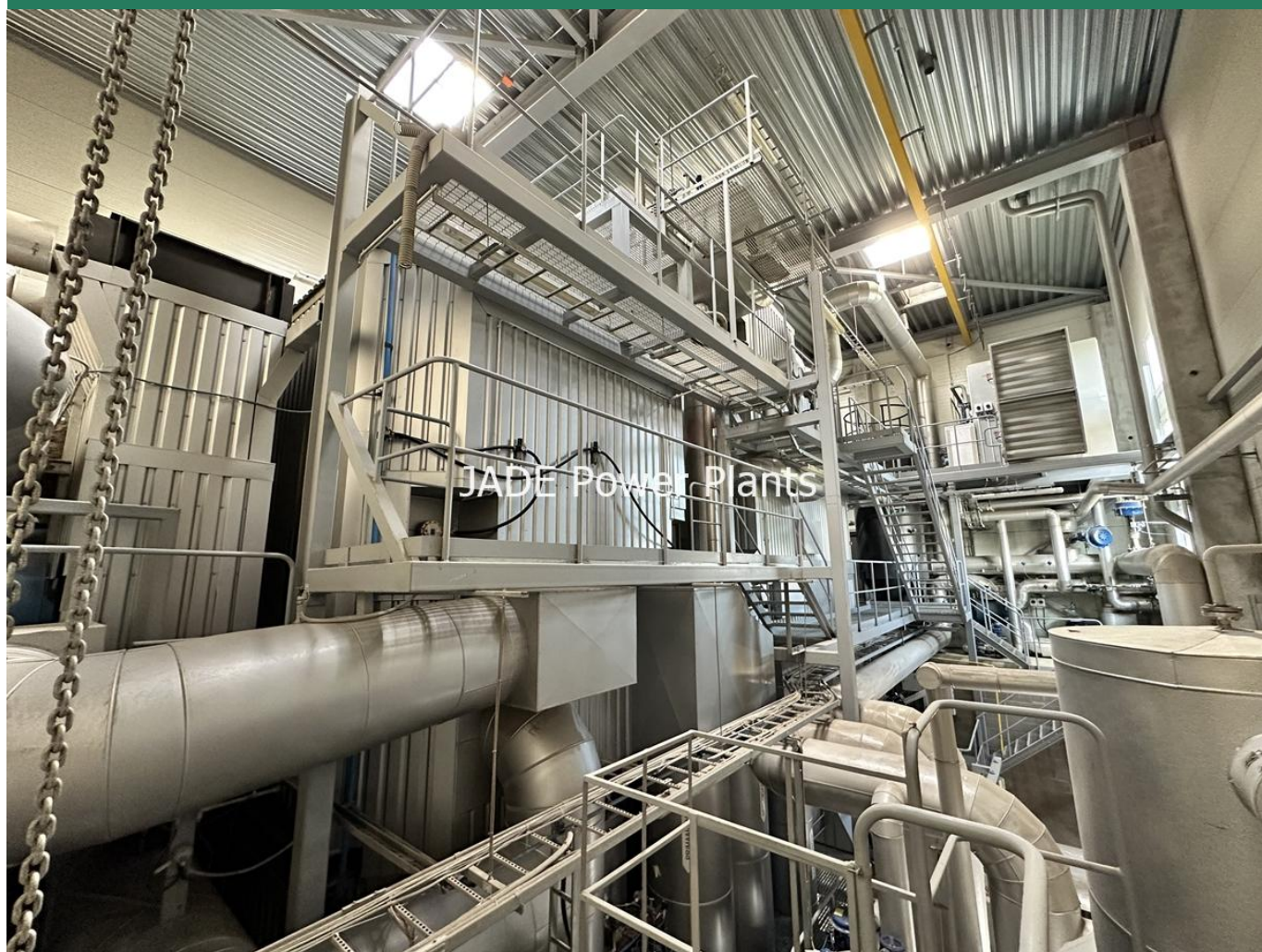


JADE Power Trading
Quality Energy Equipment

PRODUCT
BROCHURE
REF.
10152024

BIOMASS CHP BOILER PLANT 5.4 MW THERMAL / 995 kW_e

BFB Boiler | Back-pressure Turbine | Year 2013



5.4 MW

HOT WATER CAPACITY

995 kW_e

ELECTRICAL CAPACITY

12.6 t/h

STEAM CAPACITY

2013

COMMISSIONED

WOOD-BASED FUELS • HOT WATER + POWER • COMPLETE TECHNOLOGICAL SYSTEM

EQUIPMENT OVERVIEW

Low-hour biomass CHP plant with BFB boiler, back-pressure turbine and complete integrated process scope.

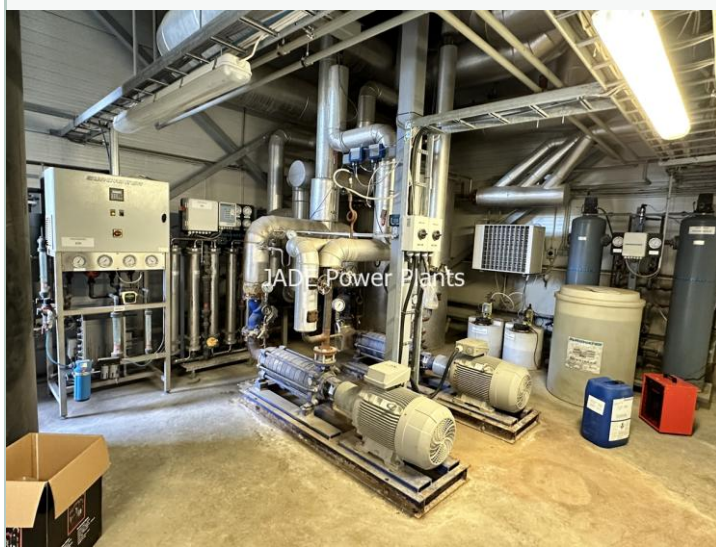
COMPLETE BIOMASS CHP SYSTEM PACKAGE

This biomass CHP plant with very limited operating hours is centered on a 9.5 MW bubbling fluidized bed (BFB) boiler designed for wood-based fuels, combined with a back-pressure steam turbine and a heat exchanger for producing hot water from back-pressure steam. The plant provides approximately 5.4 MW of hot-water thermal capacity and 995 kWe of electrical output.

The plant was engineered and delivered by Filter Solutions of Estonia. Major equipment suppliers include Vapor Boilers, Finland (BFB boiler), Triveni Turbines, India (steam turbine), ABB (generator and controls), KSB (pumps), Technobalt AS (conveyors), and Rotolok UK (rotary airlock valves). It was commissioned in 2013 and operated at partial load until 2015.

The automation system developed by Filter Solutions is PC-based with visual process control screens. Local process control is managed by Siemens S7-300 series PLCs, except for the steam turbine which uses Honeywell controllers. The delivery scope includes the complete technological system from fuel receiving through to the outgoing electrical breaker and the hot-water pumps, together with the metal-frame building and its building systems.

Feed, Water Pumps, Water treatment



Steam Turbine Generator



TECHNICAL SPECIFICATIONS

Technical data provided for preliminary sales and project evaluation.

PARAMETER	SPECIFICATION
EPC contractor	Filter Solutions, Estonia
Plant commissioned in	2013
Operation stopped	2015
Plant thermal capacity	5.4 MW hot water
Plant electrical capacity	995 kW / 400 V / 50 Hz
Designed to burn	Wood chips, bark, sawdust, demolition wood
Fuel moisture content	35–55%
Steam boiler	Vapor BFB-9.5MW
Steam capacity	12.6 tons/hour at 26 bar(a) / 400°C
Steam turbine type	Back-pressure turbine
Steam turbine	Triveni TST-1025HB
Alternator	ABB 1248 kVA / 400 V / 50 Hz
Automation system	PC-based Filter Solutions control system
Local process control	Siemens S7-300 PLCs
Turbine controls	Honeywell controllers
Major equipment suppliers	KSB pumps, Technobalt conveyors, Rotolok UK airlocks
Delivery scope	Complete technological system incl. building
Building	Metal-frame with sandwich panels and building systems
Operating profile	Partial-load operation with limited running hours
Performance note: Final electrical and thermal performance depends on fuel properties, destination-site integration, emissions requirements, and agreed testing and recommissioning procedures.	

SCOPE OF SUPPLY & CONTACT

The following scope is based on the currently available sales information and remains subject to final confirmation.

INCLUDED EQUIPMENT

- ✓ Fuel receiving and conveying system
- ✓ Vapor BFB-9.5 MW steam boiler
- ✓ Back-pressure steam turbine Triveni TST-1025HB
- ✓ ABB generator and control system
- ✓ Heat exchanger for hot-water production from back-pressure steam
- ✓ Pumps, conveyors and rotary airlock valves from major named suppliers
- ✓ Automation system with PC-based visual process control
- ✓ Outgoing electrical breaker and hot-water pumps within plant scope
- ✓ Metal-frame building with sandwich panels and building systems

DELIVERY & INSPECTION

- Plant commissioned in 2013 and stopped in 2015 after limited partial-load operation
- Detailed inspection and technical review available by arrangement
- Final battery limits, exact accessory list and dismantling scope subject to verification
- Transport, reinstallation and recommissioning may be arranged separately
- Technical documentation and supplier information available on request
- Final commercial and delivery terms subject to contract

SITE INTEGRATION & BIOMASS CHP USE

The receiving site must verify biomass fuel properties and moisture range, steam and hot-water integration, electrical interconnection, emissions compliance, ash handling, foundation and building requirements, control-system integration, and the operating strategy for both thermal and electrical demand. Final installation and commissioning should be engineered for the destination site prior to relocation.

REQUEST FURTHER INFORMATION

Commercial quotation, additional photographs, detailed scope clarification, technical documentation and inspection arrangements are available on request.

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SCAN FOR ONLINE LISTING

All information is provided in good faith for preliminary evaluation and is subject to verification, final scope confirmation and contract.