

GENERAL DESCRIPTION

Type: Steam Generation



Location: Western Europe

This thermal power plant unit has been commissioned in 2013 and is designed for base-load or medium-load operations with feed-in into the 50 Hz public grid.

The unit has been designed for highly flexible power generation with a wide spread in generation capacity and a short start-up time.

The power plant is designed for high efficiency operation with total efficiency in excess of 46%. The filter technology comprises dedusting, desulphurisation and denitrification and fulfils the latest environmental standards.

The operator has decided to decommission the unit due to overall overcapacity in the European electricity market. Due to its short operation period the number of operating hours is extremely low, the components can be regarded as new.

This steam turbine power station is offered as a complete unit.

Offering

item / type	entire power generation unit including most ancillary sets, turbine-generator set, transformers, fans, pumps, ...
typical usage	base load production (<i>optional: medium load production</i>)
special features	increased generation flexibility
status	decommissioned since 2 years with preservation measures
availability	mid 2017
validation and site visit	site visit possible any time
sales prices	Euro 130 Mio. (for all components for sale)
new build cost (for comparison)	Euro 300 Mio. (approx.) (for all components for sale without installation)
new build time (for comparison)	4 - 5 years (approx.)

Key Figures

main fuel type	hard coal (pulverised)
electrical output	765 MW _e net capacity (approx.) / supplies 60,000 households
thermal output	N/A
efficiency	46 %
flue gas filter technology (daily average)	<ul style="list-style-type: none"> - fly ash filter (5 mg / Nm³ dust) - desulphurisation (< 100 mg / Nm³ SO₂) - denitrification (< 100 mg / Nm³ NO_x)
access to electrical grid	400 kV, 50 Hz
unit size	100,000 m ² (approx.)
year of commissioning / year of last retrofit	2013 / -
major upgrades / events	as new / successful synchronisation test in 2013

Operating Figures

max. generation capacity	765 MW _e net
min. generation capacity	less than 200 MW _e net
cold start time:	4,5 hrs. (to reach max. capacity)
fuel quality	current setting: hard coal calorific value 22.0 - 28.5 MJ / kg Sulphur content 0.3 - 1.7 % volatile mater 25 - 40 % (values may differ with new boiler at new site)
fuel consumption at full load	243 tons/hr
fuel consumption at min. load	84 tons/hr
steam input at full load	approx. 598 kg / s, 275 bar, 597 °C (turbine high pressure inlet at full capacity)
steam input al min. load	approx. 180 kg / s, 275 bar, 597 °C (turbine high pressure inlet at min. capacity)
fuel storage capacity	N/A (coal yard not for sale)

type of cooling	direct circulation with cooling tower (not for sale)
ash disposal requirement	39 tons / hr (when operated at full capacity)
gypsum disposal requirement	25 tons / hr (when operated at full capacity)

List of Main Components for Sale, i.e. Recommended for Relocation

steam turbine	820 MW max.
generator	1,125 MVA
generator transformer	850 MVA
auxiliary transformer	66.7 / 100 MVA
coal mill	55 - 75 kg / s (depending on coal quality) comprising 4 mills with approx. 30% of total capacity each
dry ash handling system, incl. pre-crusher, primary and secondary crusher / post-cooler	max. 30 tons / h / cooling performance from 800 °C to approx. 60 °C
primary air fan	approx. 400,000 m ³ / h
forced draught fan	approx. 2,200,000 m ³ / h
primary steam air preheater	approx. 34 MW max. heating rate
flue gas treatment	dedusting, desulphurization (incl. auxiliary systems)
boiler feedwater main pump (turbine driven)	approx. 400 kg / s, discharge pressure approx. 330 bar
boiler feedwater booster pump (turbine driven)	approx. 400 kg / s, discharge pressure approx. 32 bar
boiler feedwater main pump (electrical driven)	approx. 1,700 m ³ /h, discharge pressure approx. 240 bar (drive capacity 12.2 MW)
boiler feedwater booster pump (electrical driven)	approx. 1,700 m ³ / h, discharge pressure approx. 26 bar (drive capacity 0.8 MW)
high pressure feed water preheater	4 pieces (for steam use)
low pressure feed water preheater	5 pieces (for condensate use)

Note: Further components of this power generation unit may be identified for relocation and may be added to the sales package; any details thereto shall be mutually agreed upon between buyer and seller.

Additional information

Comment 1	relocation of boiler is not recommended due to size and technical complexity and/or economic reasons
Comment 2	coal yard, water treatment, cranes and lifts as well as cooling tower are not for sale

Object ID: SEL-00007

Disclaimer: Although the information contained herein is believed to be materially accurate, no representation or warranty is given as to the accuracy of any of the information provided.

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