GENERAL DESCRIPTION troveo ID PO-123 – Elt.

READY-FOR-TRANSPORT, 50 Hz, 47.5 MW SIEMENS SGT-800 GENERATOR SET

Type:
Gas Turbine Generator Plant

Location:
German Warehouse

This used GT-Gen Set has formerly been used by a paper factory in Germany and has been professionally dismantled and packed by the original manufacturer SIEMENS in April 2022.

This SIEMENS SGT-800 turbine, here in a gas fuel assembly, is a robust industrial gas turbine designed for high flexibility. This turbine can be used for both industrial power generation (especially cogeneration and combined cycle applications) and oil and gas applications.

Thanks to its compact design, the four-pole, three-phase synchronous generator from the SIEMENS SGen-100A-4P series is particularly well suited for industrial use, too.

This turbine generator set is in excellent condition and ready for transport immediately from a warehouse in Germany. The nearest overseas ports are Hamburg or Amsterdam. The set was commissioned in 2008 and the asking price will be approx. US$ 4.9 million FOB.

Currently, a second, very similar SGT-800 set is for sale, too.

Offering

item / type / layout	SIEMENS gas turbine SGT-800 generator set
typical usage	medium load and base load power generation
special features	big spare parts package, OEM SIEMENS upgrade to 50 MW_e capacity possible before re-installation

status	decommissioned in April 2022 at 118,120 EOH
availability	ready for immediate relocation, already dismantled by SIEMENS, packed and stored in a warehouse in Germany
sales prices	US Dollar 4.9 million (approx. Euro 4.5 million) for all re-usable components and spare parts FOB nearest European ports Hamburg or Rotterdam
new build cost (for comparison)	Euro 20 million approx. (for an entire new plant as per Western Europe model case)
transport cost (for comparison)	Euro 250.000 approx. just from warehouse to nearest port (this cost is already included in above sales price)

Key Figures

main fuel type	gas fuel assembly dual fuel usage possible after conversion: gas, liquid fuel
electrical output	47,5 MW_e gross capacity (approx.)
thermal output	possible, if used in a Combined Heat and Power (CHP) generation plant
efficiency	39,4 % in simple cycle mode
flue gas filter technology	NOx emissions < 15 ppm_{vd}
grid connection	50 Hz - flexible grid voltage, subject to transformer used
size of total installation	550 m^2 (approx., without air inlet, fuel supply and stack) • length 32,6 m • width 16,85 m • hight 7,25 m
size of GT gen set	150 m^2 (approx., GT plus generator in canopy)

weight of GT gen set	285 t (approx., with generator on foundation)
year of commissioning / year of last retrofit	2007 / ---
last overhaul	Level D performed at 95,000 EOH (new hot pass blades and vanes)
major upgrades / events	• 2010 turbine and burning chamber replaced to new one and upgraded to 47.5 MW model A+ as per OEM package • 2018 gear box generally revised and new main gear wheel installed

Operating Figures

max. generation capacity	47.5 MW_e (approx., at full load)
min. generation capacity	(information will be provided on request)
cold start time:	(information will be provided on request)
fuel quality	former use was natural gas (German H-quality)
fuel consumption at full load	heat rate 9,147 kJ/kWh (8,670 Btu/kWh) 135 MJ/s (approx. at 50 MW turbine output power) > also see turbine combustion diagram below in Impressions)
fuel consumption at reduced load	115 MJ/s (approx. at 42 MW turbine output power)
fuel storage capacity	not included
type of cooling	air cooled

Technical Figures of Main Components

This power unit for sale comprises a 50 MW SIEMENS gas turbine and an approx. 50 MVA SIEMENS generator including a variety of spare parts:

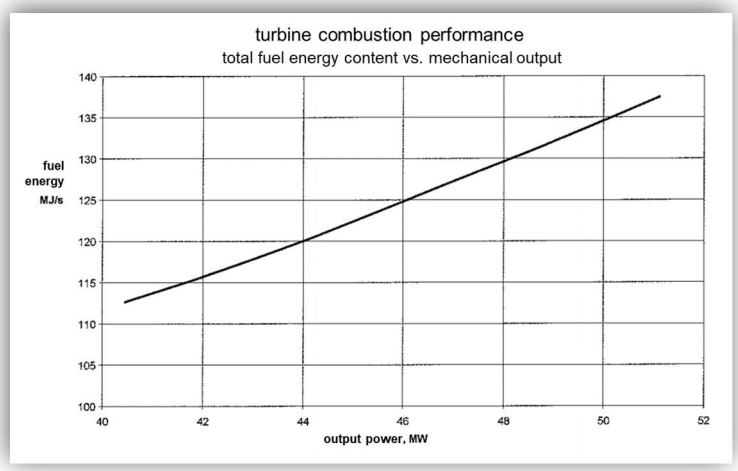
steam turbine	**SIEMENS**, type SGT-800 gross efficiency: 39.4 % turbine combustion power at full load: 135 MJ/s turbine speed: 6,600 rpm pressure ratio: 19.8 : 1 exhaust mass flow: 124.7 kg/s exhaust temperature: 560 °C rotor weight 7,860 kg engine weight 28,375 kg upgraded to SGT-800 A-Plus as per OEM package in 2010
main gear	**Flender Graffenstaden**, type: TX112/ 4C
generator	**SIEMENS**, type: SGEN5-100A-4P four-pole, three-phase synchronous generator power factor: 1.0 output voltage: 11.5 kV generator speed: 1,500 rpm air cooled
transformer	65 MVA step-up transformer optionally available, please ask the seller; to be purchased separately
control and communication system	Siemens PCS-7 – for main system ABB – for generator exciter

Additional Information

spare parts	some spare parts are included other, main spare parts such as hot-pass blades and vanes of stages 1,2,3 (used), new combustion chamber, new bearing set for gearbox, new bearing set for generator and special, large tools for opening of turbine can be bought separately

documentation	all equipment documentation and operating instructions, complete maintenance record: • level A maintenance every 12,500 EOH (approx.) • level C / B / D maintenance every 25,000 EOH (approx.)
marketing service fee	will be paid by the seller
dismantling of unit	not necessary – unit is already dismantled and packed

Impressions



Gas turbine – fuel consumption as function of output power (at standard conditions)

Gas turbine – SIEMENS experts conducting dismantling works

Gas turbine – Turbine and generator after opening of canopy cover

Gas turbine – turbine being transported to ware house

Gas Turbine air system – ready for transport after dismantling

Disclaimer:

Although the statements and technical information contained herein are believed to be materially accurate, no representation or warranty is given as to the accuracy of any of the information provided.

Contact:

troveo – used power plants and second-hand equipment

e-mail team@troveo.de (please use for first-time contact)
phone +49 201 75 998 521
fax +49 201 75 998 529
web www.troveo.de