



SGT-800

Industrial gas turbine

The SGT-800 industrial gas turbine offers broad flexibility in fuels, operating conditions, maintenance concepts, package solutions, and ratings.

The excellent efficiency and steam-raising capability make it outstanding in cogeneration and combined cycle installations. The SGT-800-based power plant, designed for flexible operation, is perfectly suited as grid support.

The SGT-800 combines a simple, robust design, for high reliability and easy maintenance, with high efficiency and low emissions. With a proven, long-term record of successful installations around the world, the SGT-800 is an excellent choice for industrial or oil and gas applications.

More than 370 units have been sold with over 7 million equivalent operating hours.

References

■ Amata Nakorn / Amata Rayong / Bowin Clean Energy, Thailand

Combined cycle cogeneration
power plants
Customer: Amata B.Grimm Power Ltd.
and B.Grimm Power Ltd.
Scope: 18 x SGT-800 gas turbines
and 9 x SST-400 steam turbines

■ Termoeléctrica del Sur / de Warnes / Entre Rios, Bolivia

Combined cycle power plants
Customer: Ende Andina
Scope: 23 x SGT-800 gas turbines and
11 x SST-400 steam turbines



SGT-800 packages at the Amata B.Grimm Power Plant, Amata Nakorn, Chonburi, Thailand



SGT-800 core engine is available with different ratings



Classic package – preassembled modules for easy transportation and installation at site



Single lift package – short installation and commissioning time; offshore option available (SeaFloat)

Power generation: 49.9 – 62.5 MW(e)

- Proven reliability
- Flexible solutions
- Excellent performance

Simple cycle power generation				
	50 MW version	54 MW version	57 MW version	62 MW version
Power output	49.9 MW(e)	54.0 MW(e)	57.0 MW(e)	62.5 MW(e)
Fuel	Natural gas, other gases within specification, liquid fuel (Diesel No. 2) and dual fuel (gas and liquid)			
Frequency	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz
Gross efficiency	39.4%	39.1%	40.1%	41.1%
Heat rate	9,147 kJ/kWh	9,206 kJ/kWh	8,970 kJ/kWh	8,759 kJ/kWh
Turbine speed	6,600 rpm	6,600 rpm	6,600 rpm	6,600 rpm
Pressure ratio	19.8:1	21.6:1	22.0:1	21.1:1
Exhaust mass flow	124.7 kg/s	135.5 kg/s	136.6 kg/s	135.5 kg/s
Exhaust gas temperature	560 °C (1,041 °F)	563 °C (1,045 °F)	565 °C (1,049 °F)	596 °C (1,104 °F)
NO _x emissions ¹	≤ 15* ppmvd	≤ 15* ppmvd	≤ 15* ppmvd	15 - 20 ppmvd
SCC-800 1 × 1 combined cycle power plant				
Net plant output	71.2 MW(e)	77.3 MW(e)	80.7 MW(e)	88 MW(e)
Net plant efficiency	57.2%	56.9%	57.9%	59%
Net plant heat rate	6,298 kJ/kWh	6,323 kJ/kWh	6,221 kJ/kWh	6,100 kJ/kWh
SCC-800 2 × 1 combined cycle power plant				
Net plant output	143.9 MW(e)	156.3 MW(e)	163.1 MW(e)	180 MW(e)
Net plant efficiency	57.8%	57.5%	58.5%	60%
Net plant heat rate	6,233 kJ/kWh	6,257 kJ/kWh	6,158 kJ/kWh	6,000 kJ/kWh
SCC-800 3 × 1 combined cycle power plant				
Net plant output	215.7 MW(e)	234.3 MW(e)	245.0 MW(e)	270 MW(e)
Net plant efficiency	57.8%	57.5%	58.5%	60%
Net plant heat rate	6,228 kJ/kWh	6,261 kJ/kWh	6,154 kJ/kWh	6,000 kJ/kWh

Physical dimensions		
	Classic package ²	Single lift package ³
Approx. weight	285,000 kg (628,300 lb)	305,000 kg (672,400 lb)
Length	20.8 m (68 ft)	22.0 m (72 ft)
Width	7.3 m (24 ft)	4.7 m (16 ft)
Height	6.6 m (22 ft)	5.3 m (17 ft)

All performance values are based on standard design, ISO ambient conditions and natural gas fuel.

¹NO_x emissions at 15% O₂ on fuel gas (with DLE)

*²≤ 9 ppmvd on gas and ≤ 25 ppmvd on diesel available with conditioned operation parameters

The combined cycle plant SCC-800 is available based on one or multiple SGT-800 gas turbines. Combined cycle performance is based on three pressure non-reheat (3PNRH) bottoming cycle.

Package dimensions include the AC generator but exclude inlet filter housing and exhaust stack.

²Dimensions and configuration depending on rating.

³Dimensions depending on configuration. Weight with generator on foundation.



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