



SGT-400

Industrial gas turbine

The SGT-400 is a twin-shaft gas turbine available in different configurations and power ratings to support power generation and mechanical drive applications from 10 – 15 MW. The twin-shaft arrangement allows for commonality of parts in mixed-duty installations.

The gas turbine offers the highest efficiency in its power class, incorporating the latest aerodynamic and combustion technologies.

With about 20 years of operating experience, the SGT-400 is proven in both offshore and onshore applications. Over 390 units have been sold with more than 5 million hours operating experience. The fleet leader has accumulated about 120,000 operating hours.

References

■ Municipal utilities, Erlangen, Germany

Combined cycle cogeneration
Customer: Erlanger Stadtwerke
Scope: 1 × SGT-400 gas turbine and
1 × SST-300 steam turbine

■ SEAT Martorell, Spain

Combined heat and power plant
Customer: SEAT S.A.
Scope: 1 × SGT-400 gas turbine
package



The SGT-400 is available as a factory-assembled package



Twin-shaft design for both power generation and mechanical drive applications



Compact power generation package design

Power generation: 10.4 – 14.3 MW(e)
Mechanical drive: 10.8 – 14.9 MW

- Latest aerodynamic and combustion technology
- Suitable for all climates, onshore and offshore
- High power-to-weight ratio

Simple cycle power generation				Mechanical drive applications		
	11 MW version	13 MW version	15 MW version	11 MW version	13 MW version	15 MW version
Power output	10.4 MW(e)	12.9 MW(e)	14.3 MW(e)	10.8 MW(e)	13.4 MW	14.9 MW
Fuel	Natural gas, liquid fuel, dual fuel; other fuels on request; automatic changeover from primary to secondary fuel at any load					
Frequency	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz		
Gross efficiency	34.8%	34.8%	35.4%	36.25%	36.2%	36.8%
Heat rate	10,342 kJ/kWh	10,355 kJ/kWh	10,178 kJ/kWh	9,931 kJ/kWh	9,943 kJ/kWh	9,774 kJ/kWh
Turbine speed	11,500 rpm	9,500 rpm	9,500 rpm	11,500 rpm	4,750 – 9,500 – 9,975 rpm ¹⁾	
Pressure ratio	16.0 : 1	16.8 : 1	18.9 : 1	16.0 : 1	16.8 : 1	18.9 : 1
Exhaust mass flow	33.8 kg/s	39.4 kg/s	44.0 kg/s	33.8 kg/s	39.4 kg/s	44.0 kg/s
Exhaust temperature	508 °C (946 °F)	555 °C (1,031 °F)	540 °C (1,004 °F)	508 °C (946 °F)	555 °C (1,031 °F)	540 °C (1,004 °F)
NO _x emissions ²⁾	≤ 25 ppmvd	≤ 15 ppmvd	≤ 15 ppmvd	≤ 25 ppmvd	≤ 15 ppmvd	≤ 15 ppmvd

Note: Dimensions exclude inlet filter housing and exhaust stack.
For power generation, AC generator is included. For mechanical drive, driven equipment is excluded.

1) Value shown indicates 100%-design speed of drive shaft

2) at 15% O₂ on fuel gas (with DLE)

Physical dimensions power generation package			Physical dimensions mechanical drive package		
	11 MW version	13 / 15 MW version	11 MW version	13 MW version	15 MW version
Approx. weight	83,825 kg (184,800 lb)	83,825 kg (184,800 lb)	30,409 kg (67,040 lb)	39,917 kg (88,000 lb)	40,144 kg (88,500 lb)
Length	13.6 m (44.6 ft)	14.0 m (46 ft)	6.9 m (24 ft)	7.3 m (24 ft)	7.3 m (24 ft)
Width	2.9 m (9.5 ft)	3.1 m (10 ft)	2.9 m (9.5 ft)	3.1 m (10 ft)	3.1 m (10 ft)
Height	4.3 m (14 ft)	4.3 m (14 ft)	3.5 m (11.5 ft)	4.3 m (14 ft)	4.3 m (14 ft)