

SIEMENS SGT5 4000F - GAS TURBINE PACKAGE - 2 IN STOCK - 300MW EA

Gas Turbine Package

Gas Turbine	Quantity
Gas turbine type	SGT5-4000F
Number of offered gas turbines	2

Each gas turbine mainly comprising:

- ring combustor	1
- Turbine	1
- Compressor	1
- Bearings	2
- Gas turbine instrumentation and actuation	1 set
- Gas turbine insulation	1 set
- Shaft turning gear	1

The gas turbine will be subjected to tests, as defined in Supplier's quality assurance specification. Kindly refer to section "Standard QA Programs" for more details.

Gas Turbine Auxiliaries	Quantity
Base Module, comprising the auxiliary packages for	1 per gas turbine
- Fuel gas and ignition gas within separate compartment	
- Lube oil with Plate Type heat exchanger 2x100	
- Hydraulic oil supply for valves and actuators	
- Hydraulic clearance optimization	
Fuel and ignition gas components integrated into the interconnecting piping	1 per gas turbine

Gas Turbine Auxiliaries

Quantity

Fuel Gas Package for Natural Gas

1 per gas turbine

Hydraulic Supply System

1 per gas turbine

Lube and Jacking Oil System

1 per gas turbine

Natural Gas Flow Metering for Performance Test (loose supply only)

1 per plant

Mobile Compressor Cleaning System, including hose connection to cleaning water nozzle system

1 per plant

Gas Turbine Systems

Quantity

AIR INTAKE SYSTEM

1 per gas turbine

- Filter system with pre- and fine filter (multi-stage static filter)
- Inlet air filter house including weather hood, bird screen, weather louvre, internal support structure, instrumentation, lighting, power sockets, access ladders, platforms and doors
- Interconnecting duct work with expansion joint, manhole, damper and silencer
- Electrical hoist for maintenance (250kg)
- Dehumidifier for gas turbine standstill
- Nozzle system for compressor cleaning inside air inlet plenum

EXHAUST GAS SYSTEM

1 per gas turbine

- Exhaust gas diffuser
- Compensator between Gas Turbine and Exhaust gas diffuser

Gas Turbine Control System

Quantity

Control System Type

SPPA-T3000

Turbine Controller

1 per gas turbine

- Redundant automation processor for closed-loop control functions
- I/O modules, as per I/O

Turbine Failsafe Protection and Trip System

1 per gas turbine

- Failsafe system for protection and trip functions

Turbine Function Group Automatic and Operational Protection System 1 per gas turbine

- Redundant automation processor for open-loop control functions, sequence control functions and operational protection functions
- I/O modules, as per I/O

I&C Cables 1 set

- Turbine related special instrument cables at turbine and on skids (from sensor to junction box)

Application Server 1

- Redundant server for operating, monitoring, engineering function

Turbine Operating / Monitoring / Engineering System 1 per gas turbine

- Operator terminal with 2x 24" LCD monitor, keyboard and mouse
- Printer, DIN A4 color laser

Turbine Network Bus System 1 set

- SPPA-T3000 bus system with necessary network components
- Fiber optic bus cable to plant central control room, maximum length 300 m

Signal Interface with Plant Distributed Control System 1 set

- Terminal points for hardwired signal exchange
- Maximum number of signals per turbine package 30
- Terminal point for bus signal exchange (with OPC)
- Maximum number of signals per turbine package 500

WIN_TS Diagnostic System 1 set

- WIN_TS analysis system hardware + peripherals
- Software module for gas turbine special condition monitoring

	Quantity
Gas Turbine Electrical Equipment	
Power Control Center (UBA01 / UBA02)	2 per gas turbine
AC Power Supply System	
– Low voltage switchgear, AC MCC (BFE / BME)	2 per gas turbine
DC Power Supply System	
– DC voltage distribution (BUB / BUC)	2 per gas turbine
– Battery (BTA)	1 per gas turbine
– Battery charger (BTL)	2 per gas turbine
– DC/DC converter (BUK)	2 per gas turbine
Gas Detection and Fire Protection System	Quantity
GAS DETECTION SYSTEM	1 per gas turbine
– Gas detectors, horns and beacons, control unit	
Covering following areas:	
Gas turbine Enclosure	
Fuel gas Skid / Valve Area	
Fuel Oil Skid	
Dual Fuel Module	

FIRE DETECTION SYSTEM FOR GAS TURBINE UNIT

1 per gas turbine

- Fire detection and control system with local panel

Covering following areas:

Gas turbine enclosure and fuel gas Skid / Valve Area equipped with flame and heat detectors

Base module equipped with smoke and heat detectors

Power control center equipped with smoke detectors

Dual Fuel Module equipped with smoke and heat detectors

Fuel Oil Skid with smoke and heat detectors

Lube Oil Skid equipped with smoke and heat detectors

Hydraulic Skid equipped with smoke detectors

Generator Bearings equipped with smoke detectors

FIRE EXTINGUISHING SYSTEM

1 per gas turbine

- CO₂ storage system and direction valve station
- Battery of high pressure bottles for CO₂ and direction valve station
- Piping system from bottle rack / storage system to spray nozzles inside the enclosure incl. supports

Covering following areas:

Gas Turbine Enclosure

Fuel Gas Skid / Valve Area Enclosure

Power Control Center

Base Module Enclosure

Dual Fuel Module Enclosure

Fuel Oil Skid Enclosure

Lube Oil Skid Enclosure

Hydraulic Skid Enclosure

- Full discharge test for Gas Turbine Enclosure

1 per gas turbine

Quantity

Noise Protection Measures

Noise Enclosure for Gas Turbine

1 per gas turbine

- Structural steel, with corrosion protection
- Noise abatement panels, galvanized
- Internal service platforms and ladders, galvanized
- Doors with safety windows
- Internal lighting, including emergency lighting

Ventilation System for Gas Turbine Enclosure

1 per gas turbine

- Air intake openings with protective grills, dampers and silencer
- Air handling unit, equipped with back draft dampers, fans including mechanical redundancy, and silencers

WEATHERPROOF NOISE ENCLOSURES FOR GAS TURBINE AUXILIARIES

1 per gas turbine

- Fuel gas valve section, ventilation combined with gas turbine enclosure
- Base module
- Dual fuel module
- Fuel oil skid, including forced ventilation
- NO_x water injection skid, including forced ventilation
- Lube oil skid
- Control oil skid

NOISE PROTECTION MEASURES FOR GAS TURBINE SYSTEMS

1 per gas turbine

- Sound barrier walls alongside the exhaust gas diffuser
- Sound barrier walls alongside the exhaust gas bypass stack
- Sound barrier walls around the exhaust gas stack
- Enclosure for exhaust gas diffuser, including forced ventilation