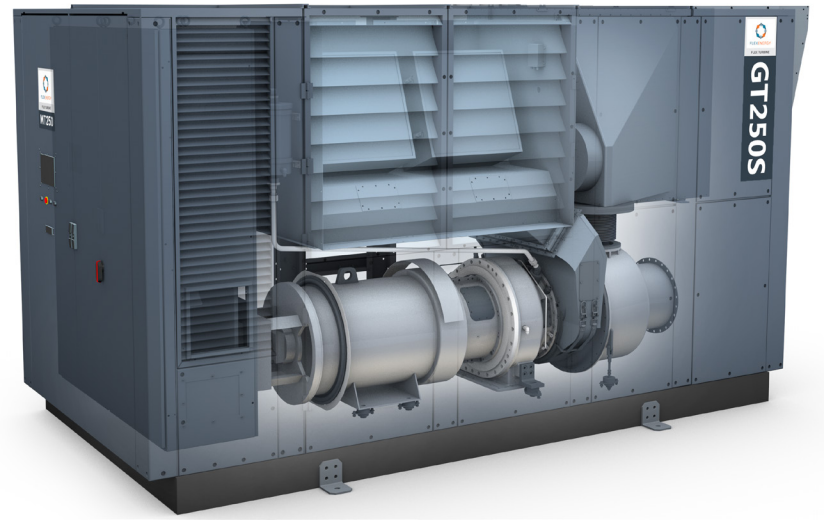
FLEXENERGY SOLUTIONS

FLEX TURBINE® GT250S

ULTRA CLEAN ELECTRICITY AND THERMAL ENERGY FROM A RUGGED, EFFICIENT GAS TURBINE

250 kW CONTINUOUS ELECTRICAL POWER WITH OPTIONAL INTEGRATED HEAT RECOVERY

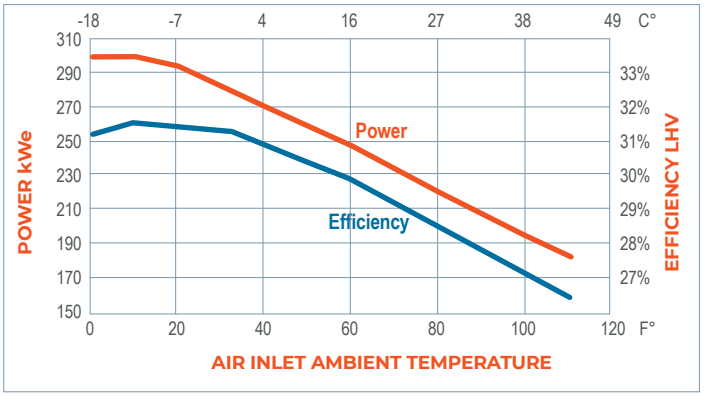


KEY FEATURES

- High system efficiency
- Synchronous generator ideal for off-grid applications
- Grid-parallel, grid isolated or dual-mode operation
- Low emissions exceed stringent environmental standards
- Integrated, variable output, waste-heat recovery unit available
- Over six million hours of operating experience

ELECTRICAL PERFORMANCE*

CHARACTERISTIC	SPECIFICATION
Electrical efficiency (± 2 pts)	30% LHV without gas booster
Electrical power (± 15 kW)	250 kW nominal



* At ISO Conditions (59°F [15°C], sea level, 60% RH); high pressure natural gas
** Elevation derate of approximately 8.80 KW PER 1,000 FT (305 M)

Nominal Heat Rate (HHV)
12,645 Btu/kWh (13.3 MJ/kWh) w/o gas booster
13,080 Btu/kWh (13.8 MJ/kWh) w/ gas booster

Nominal Heat Rate (LHV)
11,380 Btu/kWh (12.0 MJ/kWh) w/o gas booster
11,770 Btu/kWh (12.4 MJ/kWh) w/ gas booster

Voltage
480 VAC / 400 VAC

Frequency
60 Hz / 50 Hz

Type of Service
3 phase, wye, 4 wire

Grid-isolated Regulation
(Steady State)
± 0.50% nominal voltage
± 0.30 Hz nominal frequency

Transient Handling
(Linear Loads)
(Recovery within 5 sec)
± 10% nominal voltage max
± 5 Hz frequency max

CARB Certification
- The GT250S is the first microturbine to be certified to the California Air Resources Board's 2007 emissions standards

Rugged Gas Turbine
- Back to back rotating components
- Proven oil-lubricated bearings
- High H_2S tolerance up to 6,500 ppmv

Synchronous Generator
- Same technology utilities use to power the grid
- High load starting capability up to 100 hp DOL

Patented Recuperator & Combuster
- Critical to high system efficiency
- Compact rugged design
- Dry low NO_x
- Meets stringent environmental regulations

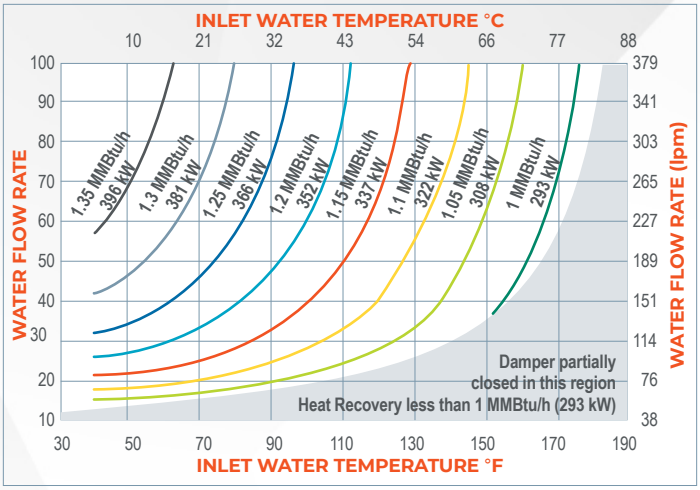
Sophisticated Controls
- Closed transition dual-mode functionality
- Remote monitoring capability

Combined Heat and Power
- Controllable output level
- Integral heat recovery unit contained within turbine enclosure
- No ducting

Reliable, Clean, Power On Demand.

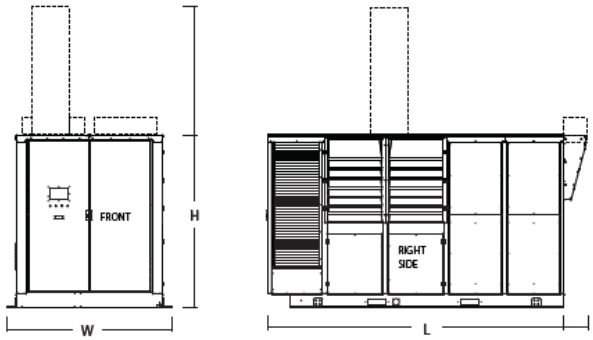
Contact Flex Energy Solutions today at **+1 720-573-7664** or **Info@FlexEnergy.com** to request a consultation.

HEAT OUTPUT RECOVERABLE TO WATER



Note: Heat Recovery Unit (HRU) at ISO conditions, damper fully open, ± 15%

PHYSICAL SPECIFICATIONS



DIMENSIONS	WIDTH	LENGTH	HEIGHT	WEIGHT (est)
Indoor Unit	76.0 in 193.0 cm	164.1 in 416.9 cm	89.6 in 227.6 cm	14,500 lb 6,577 kg
Outdoor Unit	76.0 in 193.0 cm	165.0 in 419.1 cm	155.6 in 395.2 cm	14,500 lb 6,577 kg

MINIMUM CLEARANCE REQUIREMENTS

CHARACTERISTIC	SPECIFICATION
Vertical Clearance Indoor Unit Outdoor Unit	 102 in (259 cm) No overhead obstruction
Horizontal front, rear and left side	48 in (122 cm)
Horizontal right side	72 in (183 cm)

GENERATOR BRAKING RESISTOR

CHARACTERISTIC	SPECIFICATION
Dimensions (LxWxH)	63x42x31 (160x107x78 cm)
Weight	595 lb (270 kg)

SOUND LEVELS

CHARACTERISTIC	SPECIFICATION
Standard	60 dB(A) @ 10 m
Low sound option (not available on all models)	57 dB(A) @ 10 m

HEAT RECOVERY*

CHARACTERISTIC	SPECIFICATION
Recuperator Exhaust temp (w/o HRU)	493°F (256°C)
Engine air flow	4.7 lb/s (2.13 kg/s) 3,700 scfm (5950 Nm^3/h)
Max water flow	100 gpm (379 lpm)
Max inlet water pressure	125 psig (862 kPa)
Max outlet water temp	205°F (96°C)

* At ISO Conditions (59°F [15°C], sea level, 60% RH) unless otherwise noted

FUEL REQUIREMENTS*

CHARACTERISTIC	SPECIFICATION
Inlet pressure -with gas booster -without gas booster	 4" (100 mm) WC to 1 psig (6.9 kPa) 80 to 140 psig (551 to 965 kPa)
Min temperature*	35°F (2°C)
Max temp. -with gas booster -without gas booster	 115°F (46°C) 175°F (79°C)
250SW Model** low caloric value gas, level 1	325 to 600 WI Btu/ft^3 12.1 to 22.3 WI MJ/m^3
250ST Model** low caloric value gas, level 2	500 to 970 WI Btu/ft^3 18.6 to 36.1 WI MJ/m^3
250SM Model** medium / high caloric value gas	800 to 1,900 WI Btu/ft^3 29.8 to 70.7 WI MJ/m^3

* Fuel consumption based at ISO conditions
** Or 18°F (10°C) dewpoint suppression, whichever is greater
WI - Wobbe Index Lower heating value (LHV)

EMISSIONS AT 100% LOAD*

CHARACTERISTIC	SPECIFICATION
NOx	<9 ppmv @ 15% O_2
CO	<10 ppmv @ 15% O_2
VOC	<9 ppmv @ 15% O_2

* Pipeline natural gas only at ISO conditions

AMBIENT TEMPERATURE LIMIT

CHARACTERISTIC	SPECIFICATION
Standard	-10° to 115°F (-23° to 46°C)
Cold Weather Option*	-20° to 115°F (-29° to 46°C)

* Operate to -40°F and below, cold start capability to -20°F

GT250S GAS TURBINE CYCLE