FLEXENERGY

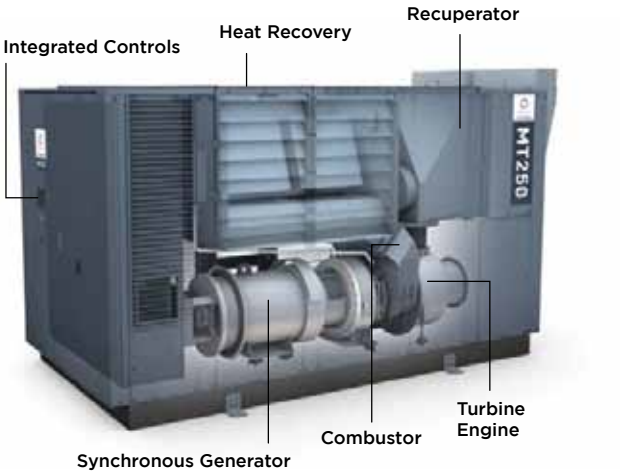
FLEX TURBINE™ MT250

Ultra-clean electricity and useful thermal energy from a rugged and efficient gas turbine

250 kW Continuous Onsite Electrical Power with Integrated Heat Recovery

KEY FEATURES

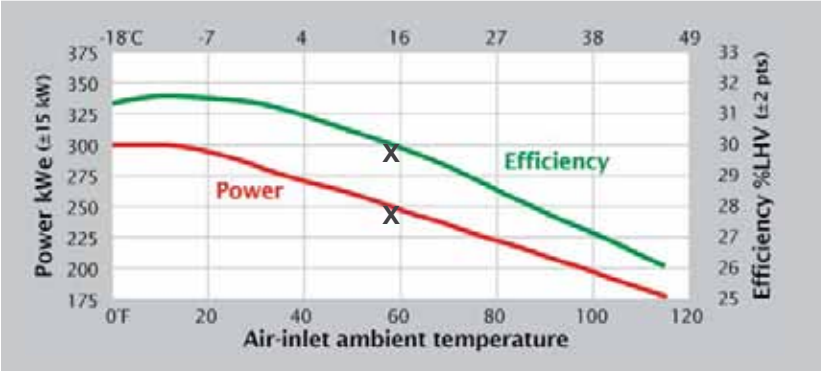
- High system efficiency
- Grid-parallel, grid-isolated, or dual-mode
- Low emissions exceed stringent environmental standards
- Product design life of 80,000 hours with overhaul
- Integrated, variable-output, waste-heat recovery unit available
- Over one million hours of fleet operating experience



ELECTRICAL PERFORMANCE*

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

ELECTRICAL OUTPUT GRAPH SHOWS CHANGE IN POWER AND EFFICIENCY WITH TEMPERATURE



Note- **X** represents output at ISO Conditions
- kWe is electrical output at terminals corrected for parasitics, but not including gas booster power

Nominal heat rate (HHV)	12,645 Btu/kWh (13,341 kJ/kWh) without gas booster 13,080 Btu/kWh (13,800 kJ/kWh) with gas booster
Nominal heat rate (LHV)	11,380 Btu/kWh (12,007 kJ/kWh) without gas booster 11,770 Btu/kWh (12,418 kJ/kWh) with 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 seconds)	±10% nominal voltage max ±5 Hz frequency max

* at ISO Conditions (59°F [15°C] @ sea level, 60% RH) unless otherwise noted, pipeline natural gas only. Data shown without gas booster.
** elevation derate of approximately 8.80 kW per 1000 ft (305 m)

CARB CERTIFICATION

- The MT250 is the first microturbine to be certified to the California Air Resource Board's 2007 emissions standards

RUGGED GAS TURBINE

- Back-to-back rotating components
- Proven oil-lubricated bearings
- High H_2S tolerance up to 6500 ppmv

SYNCHRONOUS GENERATOR

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

PATENTED RECUPERATOR

- Critical to high system efficiency
- Compact design

PATENTED COMBUSTOR

- Dry low NOx
- Easily meets stringent environmental regulations

SOPHISTICATED CONTROLS

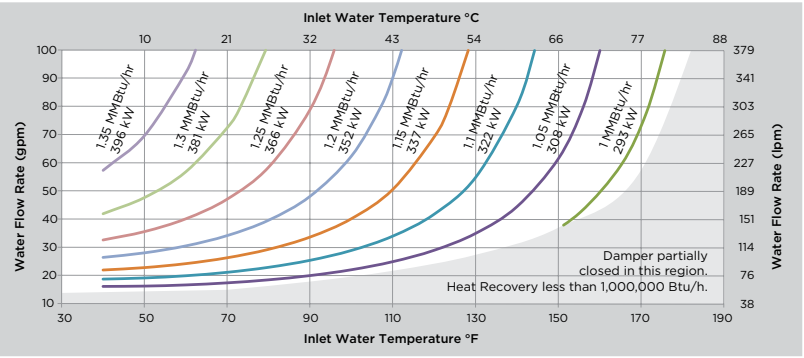
- Closed transition dual-mode functionality
- Remote monitoring capability

COMBINED HEAT AND POWER

- Controllable output level
- Integral heat recovery unit enclosed within turbine enclosure
- No ducting
- Suitable for potable applications

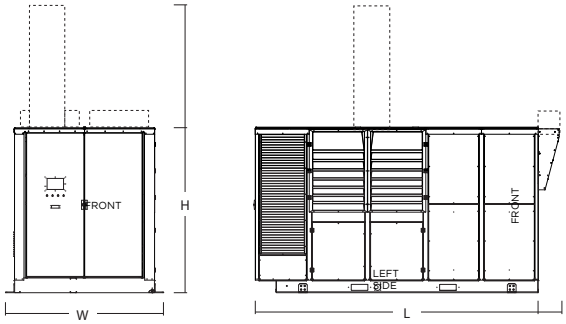
WASTE ENERGY
THE CLEANEST ENERGY SOLUTIONS

HEAT OUTPUT RECOVERABLE TO WATER



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

PHYSICAL SPECIFICATIONS



Weatherproof Outdoor Enclosure

DIMENSIONS		WIDTH	LENGTH	HEIGHT	WEIGHT Est.
Indoor Unit	(in)	77.2	167.6	91.9	14,500 lb
	(cm)	196.0	425.8	229.9	6,577 kg
Outdoor Unit	(in)	77.2	167.6	91.9	14,500 lb
	(cm)	196.0	425.8	229.9	6,577 kg

MINIMUM CLEARANCE REQUIREMENTS

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

Generator Braking Resistor

GENERATOR BRAKING RESISTOR

CHARACTERISTIC	SPECIFICATION
Dimensions (LxWxH)	37x39x30 in (94x99x76 cm)
Weight	240 lb (109 kg)

GENERATOR BRAKING RESISTOR

CHARACTERISTIC	SPECIFICATION
Standard	80 dB(A) @ 1m
Low sound option	77 dB(A) @ 1m

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)
Max water flow	100 gpm (22.7 m³/hr)
Max inlet water pressure	125 psig (862 kPa)
Max inlet water temp.	194°F (90°C)

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

FUEL REQUIREMENTS

CHARACTERISTIC	SPECIFICATION
Inlet pressure	
-with gas booster	4" (100 mm) WC to 1 psig (6.9 kPa)
-without gas booster	80 to 140 psig (551 to 965 kPa)
Min temperature*	33°F (1°C)
Max temp. -with gas booster	115°F (46°C)
-without gas booster	175°F (79°C)
250SV Model** very low caloric value gas	245 to 350 WI Btu/scf 9,130 to 13,040 WI kJ/m³
250SW Model** low caloric value gas, level 1	325 to 600 WI Btu/scf 12,100 to 22,340 WI kJ/m³
250ST Model** low caloric value gas, level 2	500 to 970 WI Btu/scf 18,600 to 36,100 WI kJ/m³
250SM Model** medium caloric value gas	800 to 1440 WI Btu/scf 29,800 to 53,600 WI kJ/m³
250SH Model** high caloric value gas	1380 to 1900 WI Btu/scf 51,400 to 70,700 WI kJ/m³

* Or 18°F dewpoint suppression, whichever is greater
** Wobbe Index. Lower heating value (LHV), dry basis, at 14.7 psi (101 kPa) and 59°F (15°C)

EMISSIONS AT 100% LOAD*

CHARACTERISTIC	SPECIFICATION
NOx	<5 ppmv @ 15% O_2
CO	<5 ppmv @ 15% O_2
VOC	<5 ppmv @ 15% O_2

* Pipeline natural gas only at ISO conditions

AMBIENT TEMPERATURE LIMIT

CHARACTERISTIC	SPECIFICATION
Outdoor*	-10° to 115°F (-23° to 46°C)

* some configurations may require additional cold-weather options

MT250 GAS TURBINE CYCLE