MT70 Series Microturbine

70 kW Continuous Onsite Electrical Power with Integrated Heat Recovery

Clean electricity and useful thermal energy from a rugged and efficient generating system

Key Features

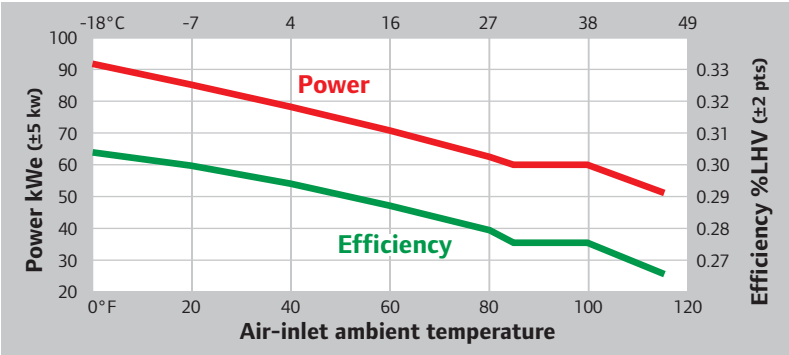
- High system efficiency
- Grid-parallel electrical generation
- Low emissions, meets stringent environmental standards
- Integrated waste-heat recovery unit available
- Integrated, process-industry qualified fuel-gas booster available
- Product design life of 80,000 hours with overhauls

Electrical Performance*

Characteristic	Specification
Electrical efficiency (±2)	29% LHV without fuel-gas booster 28% LHV with fuel-gas booster
Nominal heat rate (HHV)	13,080 Btu/kWh without fuel-gas booster 13,550 Btu/kWh with fuel-gas booster
Nominal heat rate (LHV)	11,770 Btu/kWh without fuel-gas booster 12,195 Btu/kWh with fuel-gas booster
Electrical power (±15)	70 kW nominal @ 59°F without gas booster 68 kW nominal @ 59°F with gas booster 92 kW @ 0°F
Voltage	480 VAC
Frequency	60 Hz
Type of service	3 phase, wye, 4 wire

* at ISO Conditions (59ºF @ sea level, 60% RH) unless otherwise noted

Electrical Output



Note - kWe is electrical output at terminals corrected for parasitics, but not including gas-booster power.

Certifications

- CARB 2003
- UL 2200 (Indoor enclosure, natural gas fuel)

Rugged Turbine Engine

- Simple turbocharger-based design
- Proven oil-lubricated bearings

Patented Recuperator

- Critical to high efficiency
- Considered best in industry

Patented Combustor

- Dry low NOx
- Meets stringent environmental regulations

Proven Generator Technology

- Same technology used by utilities to power the grid

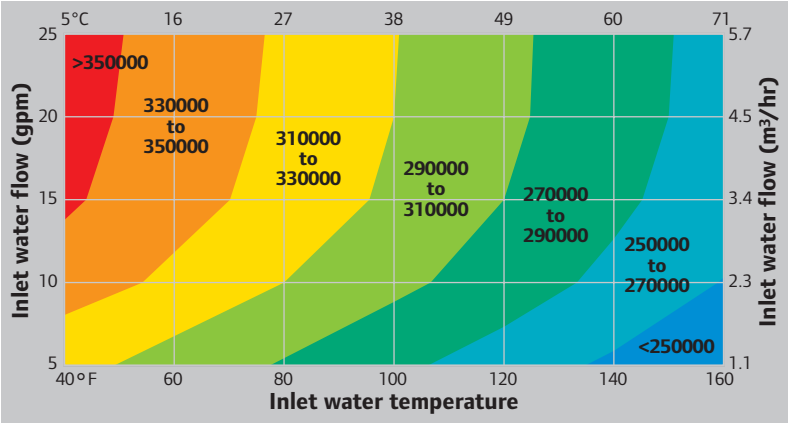
Integrated Heat Recovery

- Controllable output level
- Reduces overall footprint
- No ducting
- Suitable for potable applications

Fuel-Gas Booster

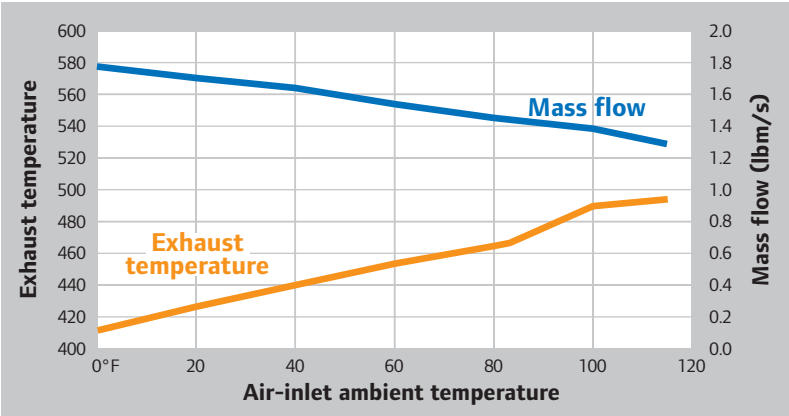
- Long-life design
- Fully integrated

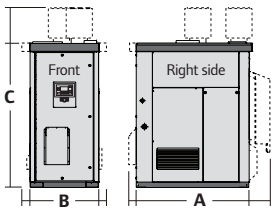
Heat Output Recoverable to Water*



* Btu/hour from Heat Recovery Unit (HRU) at ISO conditions, damper fully open, ±15%

Direct Exhaust Output





Outdoor Enclosure

Physical Specifications

		A	B	C	Weight est.
Indoor unit	(in)	71.2	42.6	87.4	4,700 lb
	(cm)	181	109	222	2,130 kg
Outdoor unit	(in)	84.2	51.8	114.5	5,000 lb
	(cm)	214	131	291	2,270 kg

Minimum Clearance Requirements

Characteristic	Specification
Vertical clearance	
Indoor unit	48 in (122 cm)
Outdoor unit	no overhead obstruction
Horizontal front	48 in (122 cm)
Horizontal left and right side	45 in (114 cm)
Horizontal rear	36 in (91 cm)

Heat Recovery*

Characteristics	Specification
Engine exhaust temp w/o HRU**	450°F (232°C)
Engine gas flow**	1.6 lbm/s (0.726 kg/s
Max water flow	30 gpm (6.8 m^3/hr)
Max inlet water pressure	125 psig (862 kPa)
Max inlet water temp	180°F (82°C)

* at ISO conditions (15ºC @ sea level, 60% RH) unless otherwise noted
** predicted

Fuel Requirements

Characteristic	Specification
Input pressure	4˝ WC to 75 psig 1 kPa to 517 kPa
Min temperature	35°F (1.7°C)
Max temp. with gas booster	115°F (46°C)
without gas booster*	150°F (66°C)

* consult sales for higher temperatures

Emissions at 100% load*

Characteristic	Specification
NOx	<5 ppmv @ 15% O_2
CO	<6 ppmv @ 15% O_2
VOC	<5 ppmv @ 15% O_2

* pipeline natural gas only

Sound Level

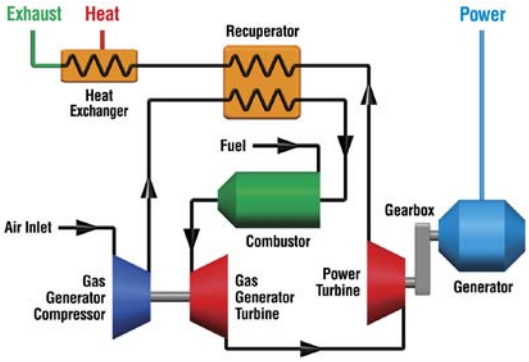
Characteristic	Specification
Standard	78 dB(A) @ 1m

Ambient Temperature Limits

Characteristic	Specification
Indoor unit	35° to 115°F (2° to 46°C)
Outdoor unit*	-10° to 115°F (-23° to 46°C)

* some configurations may require additional cold-weather options

The Microturbine Engine Cycle



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