

### DESCRIPTION

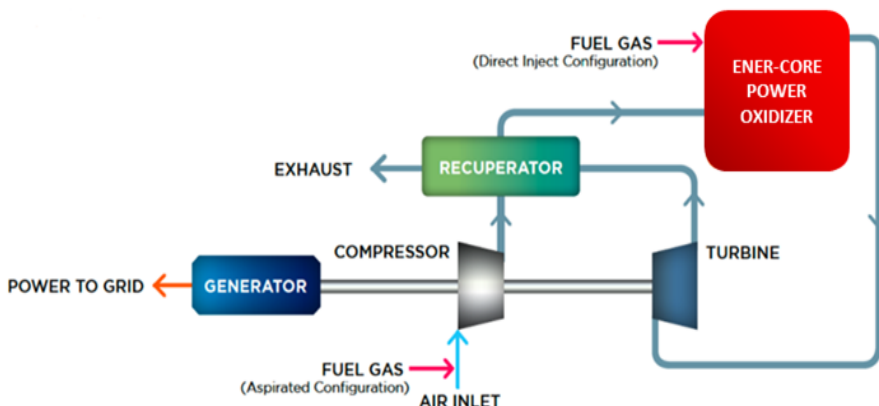
The Ener-Core Powerstation EC250 is the only power generation solution which runs directly on low pressure, low quality gases which typically cannot be utilized or even flared. By integrating thermal oxidation with proven turbines, the system consumes the widest range of gases from 100% to as low as 1.5% methane—all while producing near-zero NO<sub>x</sub> emissions.

### STRENGTHS/KEY FEATURES APPLICATIONS

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|---|---|
| <ul style="list-style-type: none"> <li>• Near Zero NO<sub>x</sub> Emissions</li> <li>• Meets stringent environmental standards</li> <li>• Accepts fuels with down to 1.5% methane content</li> <li>• Minimal Fuel Conditioning</li> </ul> | <ul style="list-style-type: none"> <li>• Landfills and Biogas</li> <li>• Associated Petroleum Gas</li> <li>• VOC Destruction</li> <li>• Industrial Flares/Gases</li> <li>• Coal Mines (Closed/VAM)</li> </ul> |
|---|---|

### HOW IT WORKS

A Power Oxidizer replaces the combustor in this 250kW system, producing the heat to drive the turbine. With low-Btu fuels, fuel is aspirated with air prior to the inlet and oxidation, eliminating external compression and accepting low pressure gas. Higher quality fuels can be directly injected at a higher pressure upstream of the Oxidizer, resulting in virtually undetectable emissions. In both configurations, low oxidation temperature enables the EC250 to use the widest range of gases without thermal formation of NO<sub>x</sub>.



\*CHP option available



## System Arrangement

### POWER OXIDIZER

- Wide fuel flexibility that accepts extremely low heating value fuels
- Extremely low criteria pollutant emissions
- H<sub>2</sub>S and siloxane tolerant

### RUGGED GAS TURBINE

- Base turbine is an MT250 FlexEnergy turbine
- Synchronous generator that runs grid parallel or grid isolated
- Recuperator reuses waste heat for high system efficiency

# ENER-CORE POWERSTATION EC250 TECHNICAL SPECIFICATIONS

## GAS ENERGY VS. FUEL SUPPLY RATE

Calorific Value HHV (Btu/scf)	30	50	100	200	300	500	1,000	1,200	1,600	2,000	2,300	2,600
Flow Rate (scfm)	2,025	1,215	608	304	203	122	61	51	38	30	26	23
Calorific Value HHV (MJ/NM <sup>3</sup> )	1.2	2.0	3.9	7.9	11.8	19.7	39.4	47.3	63.0	78.8	90.6	97
Flow Rate (NM <sup>3</sup> /HR)	3,205	1,923	986	487	326	195	98	81	61	49	42	40

## FUEL REQUIREMENTS (Gas Analysis Required)

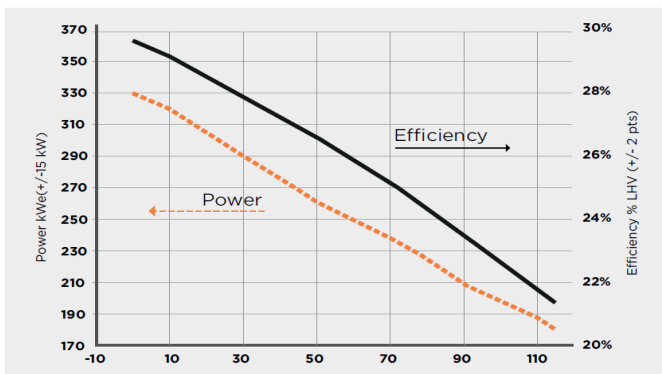
CHARACTERISTIC		SPECIFICATION
Fuel Operating Range (HHV)	Direct Inject Configuration	350 - 2,600 Btu/scf (13 - 97 MJ/Nm <sup>3</sup> )
	Aspirated Configuration	15 - 2,600 Btu/scf (0.55 - 97 MJ/Nm <sup>3</sup> )
Nominal Fuel Supply Pressure	Direct Inject Configuration	75 psig (618 kPa)
	Aspirated Configuration	As low as 1.5 psig (112kPa)

## ELECTRICAL PERFORMANCE

CHARACTERISTIC	SPECIFICATION
Nominal Electrical Output*	250 kW ( $\pm 30$ kW)
Electrical Efficiency (LHV)	26% ( $\pm 2$ )
Nominal Heat Rate (LHV)*	13,123 Btu/kWh (13,845 kJ/kWh)
Voltage	480/400 VAC
Frequency	60 Hz/ 50 Hz
Type of Service	3 Phase, 4 Wire Wye

\*does not include fuel delivery parasitics

## CHANGE IN POWER & EFFICIENCY WITH AMBIENT TEMPERATURE



## GENERATOR BRAKING RESISTOR

CHARACTERISTIC	SPECIFICATION
Weight	1,590 lb (721 kg)
Rating	330 kW, 480V/60Hz, 400V/50Hz
Dimensions	Length Width Height
	in 54 39 108
	cm 137 98 274

## SOUND LEVELS

CHARACTERISTIC	SPECIFICATION
Outdoor	81 dB(A) at 1 m

## ACHIEVABLE EMISSIONS

CHARACTERISTIC	SPECIFICATION
NOx	<1 ppmv @ 15% O <sub>2</sub> (dry basis)
VOC Destruction Efficiency	Up to 99% DRE

## CLEARANCE REQUIREMENTS

CHARACTERISTIC	SPECIFICATION
Vertical clearance	540 in (1,372 cm)
Horizontal front, rear, left side	48 in (122 cm)
Horizontal right side	72 in (183 cm)

## AMBIENT TEMPERATURE LIMIT

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

\*Some configurations may require additional cold-weather options

## PHYSICAL SPECIFICATIONS

CHARACTERISTIC	SPECIFICATION		
System Weight	48,000 lb (21,772 kg)		
Dimensions	Length	Width	Height
	in 270	99	310
	cm 686	251	787

