

The Mainspring Linear Generator

Local, scalable, fuel-flexible power for commercial and industrial customers, biogas developers, utilities, municipalities, and data centers

Easy, modular installation

High availability & low maintenance

Up to 18 MW per acre scalability



Each package contains two linear generator cores, operated in tandem.



Breakthrough design enables an unmatched combination of features and benefits

High efficiency
Direct conversion of linear motion into electricity

Near-zero NOx
Low-temperature, non-combustion reaction without a flame or burning

Permitting anywhere
Meets any air permitting requirements in the US

Fuel flexibility
Continuous, adaptive control without mechanical constraints

Fully dispatchable
Load-tracking, fast on/off, black start, and islanding

Controllable & configurable
Integrates seamlessly with site components and requirements

Performance specifications

Model No.: MSE 3

Outputs¹	Power (net AC) Electrical	250 kW 400/480 V, 3 Phase, 50/60 Hz
Inputs	Fuels ² Input Pressure Water Consumption	Any blend of Biogas, Natural Gas, Hydrogen, and Propane 5-20 psig (15 psig nominal) None
Efficiency³	Electrical (LHV, net AC) Heat Rate (HHV, net AC)	46% 8,233 BTU/kWh
Emissions⁴	NOx Noise	< 1.5 ppm (<0.04 lb/MWh) < 70 dBA @ 3m, <65 dBA @10m
Physical	Weight Dimensions (L x W x H)	20 tonnes 20.5' x 8.5' x 9.5'

Environment	Temperature Range Humidity	-30 to 50 C 0 to 100%
Operations	Power Output Range Maximum Step Load Building Soft Start Capability	0 to 100% power output 300 kVA for up to 10 sec Yes
Other	<ul style="list-style-type: none"> UL 2200 package UL 1741 SB grid-tie inverter Compliant with CA Rule 21 	<ul style="list-style-type: none"> Remote monitoring Secure customer portal Modbus interface

¹ Rated capacity may vary by fuel type.

² Refer to Mainspring Fuel Specifications for details.

³ Measured according to ASME PTC 50 at 15 C and 1 atm on natural gas and biogas.

⁴ Rated efficiency may vary by fuel type.

⁴ Products comply with emissions limits in South Coast AQMD.

All data is subject to technical development and modification. R30310

About Mainspring Energy

Mainspring Energy manufactures and delivers innovative, flexible, low-emissions onsite power solutions that rapidly add new power capacity and deliver reliable, affordable, clean electric power. The Mainspring Linear Generator is fully dispatchable and scalable from 250 kW to 100+MW. It is uniquely fuel-flexible, operating on any gaseous fuel including hydrogen, biogas, natural gas, propane, and others.

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