

Mainspring Linear Generator. Modular. Flexible. Scalable.

The Mainspring Linear Generator is a power generator that is fuel flexible, fully dispatchable, uses no water, and emits near-zero NO_x. Factory built and modular by design, units can be scaled to meet gigawatts of capacity demand. Mainspring Linear Generators are fast to permit and quick to install, with the manufacturing throughput to deliver firm, flexible capacity when and where you need it.



▲ RIGHT-SIZE

Match capacity to demand. Scale as load grows.

The modular design of the Mainspring Linear Generator lets you right-size to your load and add capacity as needed. The benefits of modularity mean you can bring your facility online in phases with rolling commissioning and achieve high levels of availability with limited overbuild.



▲ SPEED-TO-POWER

Capacity on your timeline.

01 Flexible manufacturing

Fast scaling towards GWs of annual capacity ensures ample supply for quickly growing demand.

02 Streamlined permitting

Low emissions and no water enable larger projects with easier permitting.

03 Phased deployments

Factory-built units arrive on a schedule aligned with construction timelines.

04 Fast commissioning

Rolling commissioning reduces construction delays and brings capacity online faster.



One standard block. Factory built. Optimized for speed.

Mainspring offers a standardized 2.5 MW configuration featuring 10 x 0.25 MW Linear Generators with factory-integrated, skid-mounted inverters, and an optional step-up transformer. This optimized and consistent electrical architecture accelerates deployment timelines and lowers total installed cost.



▲ PERFORMANCE SPECS: MODEL NO. MSE 3; 2.5 MW CONFIGURATION

OUTPUTS¹	Power (net AC)	2.5 MW
	Electrical	3-phase AC, 50/60 Hz 400/480 V natively 12.47, 25, or 34.5 kV with transformer
INPUTS²	Fuels	Any blend of biogas, natural gas, hydrogen, and propane
	Input pressure	5–20 psig
	Water consumption	None
EFFICIENCY³	Electrical (LHV, net AC)	46%
	Heat rate (HHV, net AC)	8,233 BTU/kWh
EMISSIONS⁴	NOx	<1.5 ppm (<0.05 lb/MWh)
PHYSICAL	Unit weight	22 tons
	Unit dimensions	20.5'L x 8.5'W x 9.5'H
	2.5 MW dimensions	100.0'L x 60.0'W
	Power density	Up to 18 MW per acre
ENVIRONMENT	Temperature range	-30° to 50° C
OPERATIONS	Power output range	0 to 100% power output
	Load soft starts	Yes
OTHER	UL 2200 units	Remote monitoring
	UL 1741 SB grid-tie inverter	Secure customer portal
	Compliant with CA Rule 21	Modbus interface
	Compliant with NOM Mexico	PRC 029 compliant

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. Rated efficiency is inclusive of 1% assumed efficiency reduction for inverter and line losses to the skid and may vary by site configuration and/or fuel type. 4. Products comply with emissions limits in South Coast AQMD.

▲ PRODUCT FEATURES

- 01 Fuel flexible**
Seamlessly switch between natural gas, RNG, biogas, propane, and hydrogen.
- 02 Dispatchable**
Quickly ramp output up and down to meet variable demand.
- 03 Low emissions**
Produce electricity with near-zero NOx and meet even the most stringent air quality standards.
- 04 Modular**
Standard, factory-built units that combine into projects of any size.
- 05 Low maintenance**
Minimize downtime with modular design, only two moving parts and no oil.

All data is subject to technical development and modification. R40320

