

Image used for illustration purposes

PowerGen Description

Qnergy's PowerGen is a thermal-powered generator suitable to meet remote power needs utilizing virtually any combustable gaseous fuel.

All Qnergy PowerGen generators feature our patented QB80 Series Stirling Engines.

The PowerGen generator provides reliable, affordable electricity to areas around the globe with little or no existing power distribution infrastructure.

PowerGen Engine Specifications

The PowerGen utilizes the Qnergy QB80 series engine. They are the most powerful Stirling machines on the market today. As an external combustion engine, the Qnergy QB80 can run on almost any heat source. The engine is designed for long, uninterrupted and quiet operation.

QB80 Engine Specifications	
Engine Model	QB80
Engine Type	Stirling Engine
Engine Architecture	Free Piston (frictionless)
Service	None
Weight	242 lbs
Length	33.10 in
Diameter	14.45 in
Charging Gas	Inert Helium



Certifications



UL2200



ISO 9001:2015*
* Target certification: 2018

Product Application and Engineering

General	
Make	Qnergy
Model	QRP 2A-HNS
Engine	QB80
Engine Type	Stirling Engine
Engine Controller	QEC 3

Electrical System	
System Output Power	See Configuration
Power Max Gage Wire Interface	6-20 AWG
Cable Gland Input	3/4" Std
Ignition/Standby Battery (standard)	Sealed AGM Deep Cycle, 12V DC 40 Ah
Battery Capacity (Optional: for increased standby)	Up to 160 Ah
Safety	E-stop (normally closed)

Fuel System	
Fuel Type	Dry Natural Gas, Propane (C1-C4)
Burner	Pre-mix
Ignition	Direct
Gas Regulator	2-Stage
Gas Pressure Monitor	Transducer
Fuel Port	1/2" NPT Male

Cooling System	
Cooling System Type	Closed Loop
Pump Type	High Efficiency Grundfos Circulating Pump
Cooling Fan Type	EBM Papst EC Fan (qty. 2)
Coolant Type Required	Shell ROTELLA Ultra ELC
Coolant Ratio	50/50 (EG)
Max Coolant Volume	4.2 gal

Communication	
Ethernet	RJ45
Protocol	Modbus RTU
Internet Infrastructure	TCP/IP
Data Viewer	SmartView(C)
Discrete I/O's	Configurable
Inputs (Dry Contact)	x6 (16-20 AWG)
Outputs (Relay)	x8 (16-20 AWG)(Max 250 V / 1 A)

Product Operational Data

Electrical Configuration	Output	Connection	Max Power @ 86°F 122°F
± HVDC (±332 to ±365)	Output A: +HVDC Output B: -HVDC	3 Wire: +ve, -ve & Common	5.65 kW 5.1 kW
120 Vac Sync	Output A: 120 Vac 60Hz Output B: 120 Vac 60Hz	2 Wire: L1 & L2* & Common	3.12 kW 3.12 kW
120 V / 240 Vac Split Phase	Output A: 120 Vac 60Hz Output B: 120 Vac 60Hz	3 Wire: L1, L2 & Common/Neutral	3.12 kW 3.12 kW
120 Vac / 240 Vac 2 Phase	Output A: 120 Vac 60Hz Output B: 240 Vac 60Hz	3 Wire: L1, L2 & Common/Neutral	A: 1.56 kW 1.56 kW B: 2.5 kW 2.5 kW
240 Vac Sync	Output A: 240 Vac 60Hz Output B: 240 Vac 60Hz	2 Wire: L1 & L2* & Common	5.65 kW 5.1 kW
± HVDC / 120 Vac	Output A: + HVDC Output B: 120 Vac 60Hz	3 Wire: +ve, L2 & Common	Output A: 3 kW 3 kW Output B: 1.56 kW 1.56 kW
± HVDC / 240 Vac	Output A: + HVDC Output B: 240 Vac 60Hz	3 Wire: +ve, L2 & Common	Output A: 3 kW 3 kW Output B: 2.5 kW 2.5 kW

* L1+L2 = Output A & B joined and feeding 1 wire

Low voltage DC (24 VDC / 48 VDC) requires the use of the Qnergy Power Interface Package (PIP)

Fuel Operational Specifications		
Fuel Consumption	Natural Gas (min / max)	1,433 / 3,964 ft ³ /day
Fuel Consumption	Propane (min / max)	15.2 / 44.4 gal/day
Fuel Pressure Range	Natural Gas	3-50 PSI
Fuel Pressure Range	Propane	2-10 PSI
Wobbe Index	Min / Max	832 BTU/ft ³ / 2,163 BTU/ft ³
Caloric Value	Min / Max	751 BTU/ft ³ / 3,382 BTU/ft ³

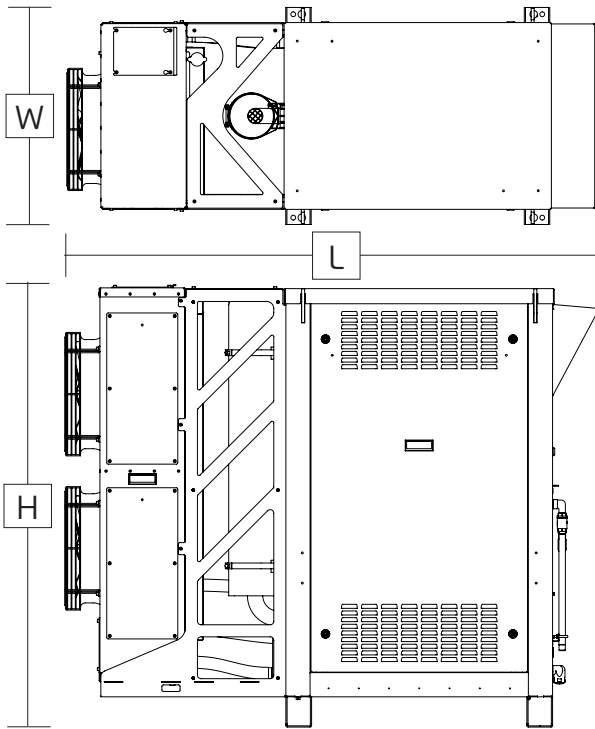
Emissions		
NOx @ 5% O2	30.0 ppm	66 mg/kWh
CO @ 5% O2	9.0 ppm	12 mg/kWh
VOC	- -	Negligible, Lean Combustion

HRU Operational Specification		
Heat Rejection	Max Available	x2.5-3.5 of Power Output

Environmental Condition Specifications		
Sound	Max dBA	< 75 dBA @ 1 m
Ambient Temp Continuous Operation*	Min / Max	-13 °F / 122 °F
Ambient Temperature Rated (Startup)*	Min / Max	5 °F / 122 °F
Altitude	Derate	5% derate every 1,000 ft (above 5,000 ft)

*Ask about our low temperature operation package (down to -40°F)

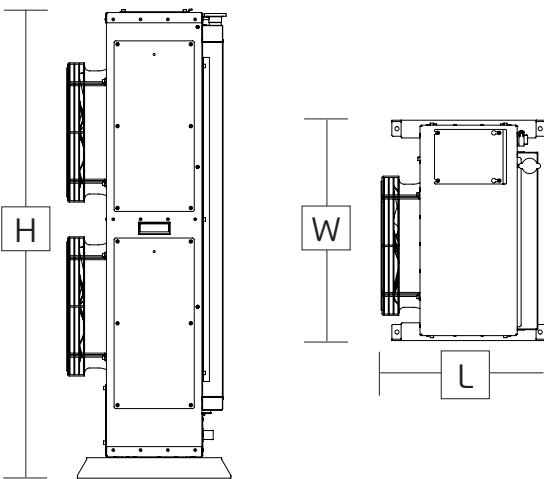
PowerGen Dimension / Weight



PowerGen Description	Measurement
PowerGen Length (L)	69.4 in
PowerGen Width (W)	28.1 in
PowerGen Height (H)	57.2 in
PowerGen Dry Weight	866 lbs
PowerGen Base Crate Length (L)	43.3 in
PowerGen Base Crate Width (W)	32.3 in
PowerGen Base Crate Height (H)	62.8 in
PowerGen Base Crate Weight	220 lbs

Foundation Description	Measurement
Pad Recommendation (L)	6 ft
Pad Recommendation (W)	3 ft
Pad Recommendation Base	gravel / concrete

HRU Dimension



HRU Description	Measurement
HRU Floor Standing Length (L)	19 in
HRU Floor Standing Width (W)	25.4 in
HRU Floor Standing Height (H)	54 in
HRU Wall Mounted Length (L)	28.8 in
HRU Wall Mounted Width (W)	24.9 in
HRU Wall Mounted Height (H)	53.3 in
HRU Max Placement Distance	65.5 ft

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