



**OilPro Oilfield Production Equipment Ltd.**

530 Cleveland Crescent S.E.

Calgary, Alberta

T2G 4A9

CANADA

## Technical Specifications



# PowerGen | 5650

## Remote Power Industrial Application

### PowerGen Description

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

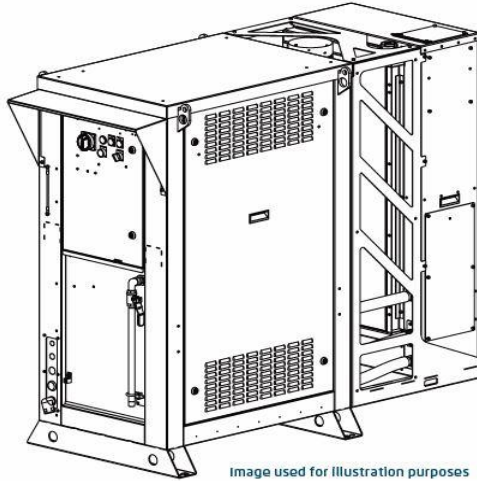


Image used for illustration purposes

## 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

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### 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), other gaseous fuel*
Burner	Pre-mix
Ignition	Direct
Gas Regulator	2-Stage
Gas Pressure Monitor	Transducer
Fuel Port	1/2" NPT Male

\*contact us regarding using any non-standard gaseous fuels (C1-C4)

Cooling System	
Cooling System Type	Closed Loop
Pump Type	High Efficiency Grundfos Circulating Pump
Cooling Fan Type	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
Remote Data Viewer	Qnergy SmartView
Discrete I/O's	Configurable
Inputs (Dry Contact)	x6 (16-20 AWG)
Outputs (Relay)	x8 (16-20 AWG)(Max 250 V / 1 A)



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### Product Operational Data

Series	Configuration	Output	Phase Angle	Connection	Max Power (5650) @ 85°F   120°F
Standard	120 / 240 VAC Split Phase	Output A: 120 Vac 60Hz Output B: 120 Vac 60Hz	A: 0° B: 180°	3 Wire: L1, L2 & Common/Neut.	5.65 kW   5.1 kW
Optional Configurations:					
A	± HVDC (±332 to ±365)	Output A: +HVDC Output B: -HVDC	A: 0° B: 180°	3 Wire: +ve, -ve & Common	5.65 kW   5.1 kW
B	120 / 240 VAC 2 Phase	Output A: 120 Vac 60Hz Output B: 240 Vac 50/60Hz	A: 0° B: 0°	3 Wire: L1, L2 & Common/Neut.	5.65 kW   5.1 kW
C	240V / 480V Split Phase	Output A: 240 Vac 50/60Hz Output B: 240 Vac 50/60Hz	A: 0° B: 180°	3 Wire: L1, L2 & Common/Neut.	5.65 kW   5.1 kW
D	± HVDC / 120 Vac	Output A: + HVDC Output B: 120 Vac 60Hz	A: 0° B: 0°	3 Wire: +ve, L2 & Common	5.65 kW   5.1 kW
E	± HVDC / 240 Vac	Output A: + HVDC Output B: 240 Vac 50/60Hz	A: 0° B: 0°	3 Wire: +ve, L2 & Common	5.65 kW   5.1 kW

Low voltage DC outputs (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 <sup>3</sup> /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 <sup>3</sup> / 2,163 BTU/ft <sup>3</sup>
Caloric Value	Min / Max	751 BTU/ft <sup>3</sup> / 3,382 BTU/ft <sup>3</sup>

\*contact us regarding using non-standard gaseous fuels (C1-C4)

### 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

Thermal Heat Rejection	Max Available	x2.5-3.5 of Electric Power Output
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### 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 cold-start package (down to -40°F)



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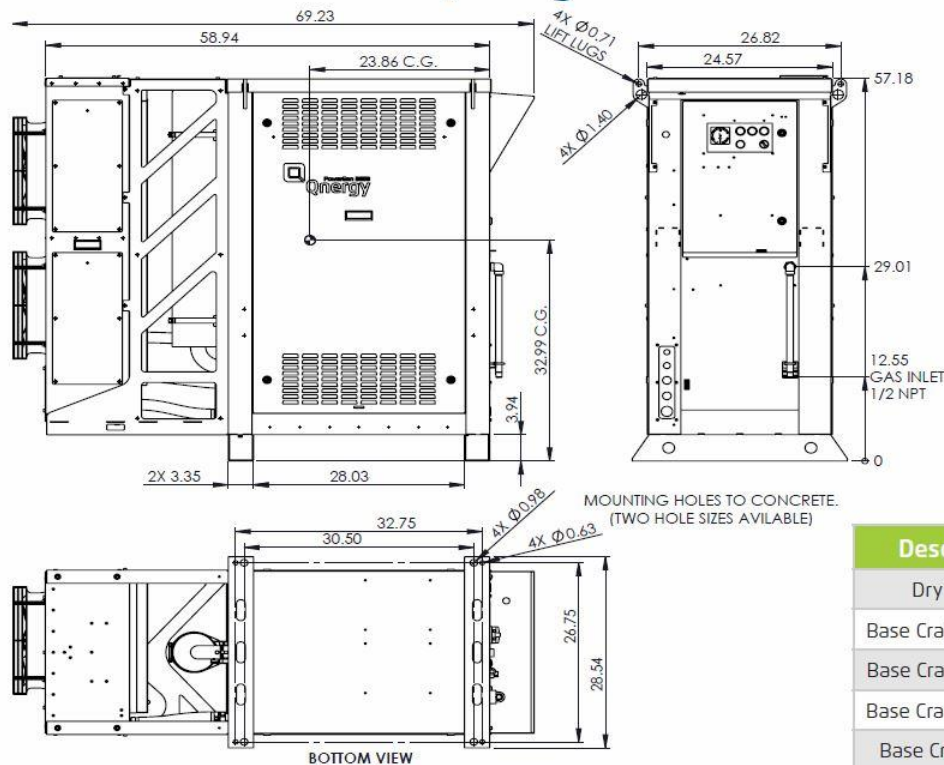
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## PowerGen Dimension / Weight



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



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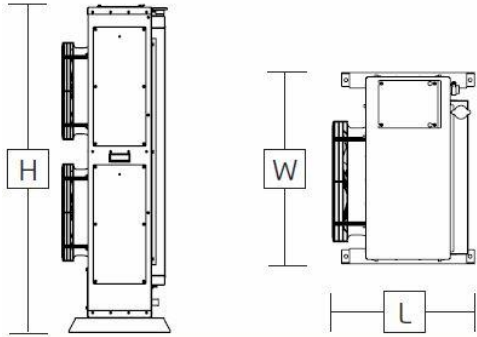
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### HRU Standalone Dimensions



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

### GENERATOR

