

Power Conversion Kit: PCK80

Benefits

Converts any Heat Source

Flexible Orientation

Frictionless Design

Zero Maintenance

Low Weight

Long Life

Efficient



Original Equipment Manufacturer (OEM) Integration with PCK Series Generators

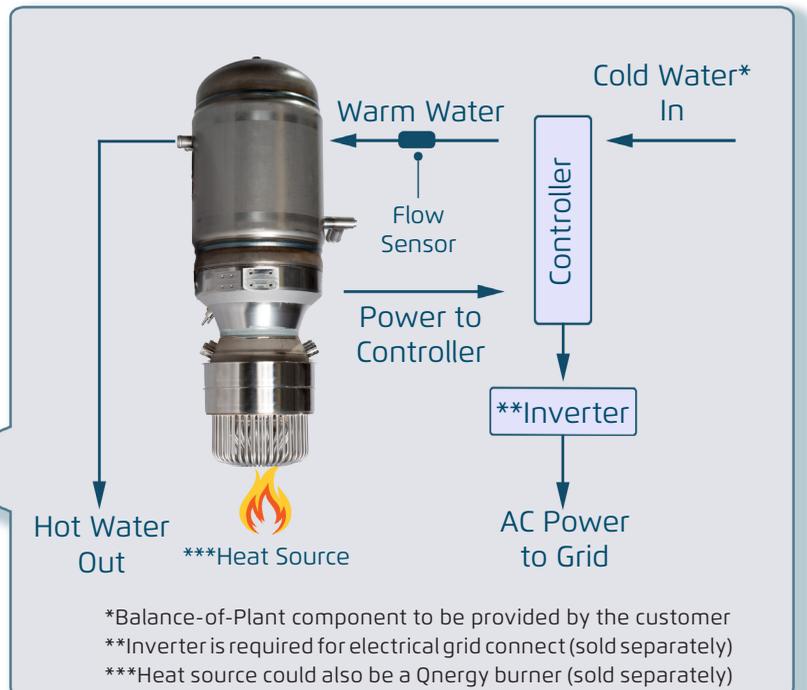
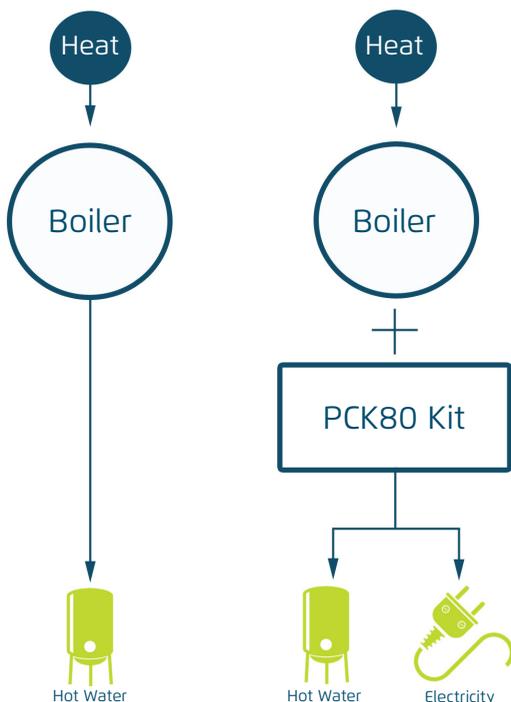
Qnergy's PCK series generators incorporate a powerful, robust heat conversion device. This platform couples with any heat source to produce reliable electricity. Heat source examples include: combustible liquid/gaseous fuels, wood/paper fuels, bio fuels, and other sources of high-grade waste heat.

Manufactured using proven automotive-style lean processes, the PCK generator is built to meet strict quality standards. It is built using a unique, free piston design. This frictionless design eliminates wear and maintenance, ensuring reliability and continuous operation. The engine's dedicated controller ensures optimal and autonomous performance as well as providing real time power monitoring.

Qnergy has an experienced design and integration team who have partnered with many manufacturers in successfully integrating PCK series Generators into their product lines.

Example of Application

Standard Approach Qnergy's Approach



PCK80 Specifications

Physical Properties

Component Weight Engine (dry): 110 kg (242 lbs)
 Controller (dry): 15 kg (33 lbs)

Typical PCK Noise Output <65 dB*

Heat Capture and Conversion Ratings

PCK Heat Absorption Capacity Up to 25kW (thermal)*

QB80 Heat Absorber Temperature 400° - 800°C

Hydronic Inlet Temperature Range Min: -20°C / Max: 70°C

	Flow	Pressure Drop
Hydronic Pressure Drop	20 Lpm [5.3 gpm]	1 kPa [0.15 psi]
	30 Lpm [8 gpm]	2.5 kPa [0.36 psi]
	40 Lpm [10.5 gpm]	4 kPa [0.58 psi]

Electrical Power Ratings

PCK Input Power Supply 12 VDC, <40 W (during standby)

DC Output (Bi-Polar Bus) MIN ±295 VDC
 MAX ±365 VDC

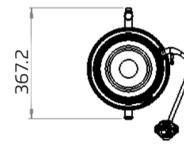
cETLus Certification Safety Rating: 7100 Watt Maximum

DC Electrical Conversion Efficiency Up to 30%*

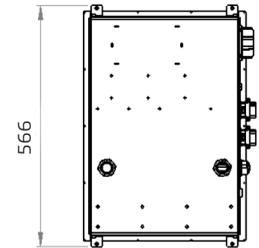
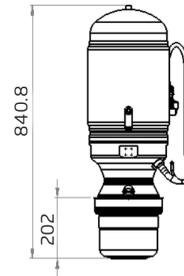
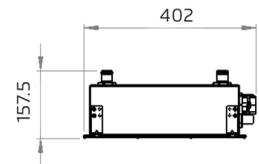
*These values are dependent on the specific architecture and appliance design.

PCK80 Component Dimensions (mm)

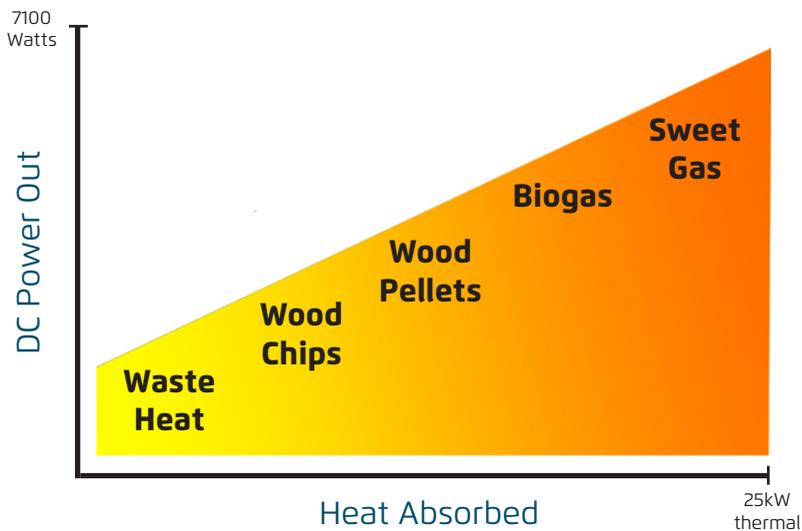
Engine



Controller



Typical Usage Ranges for Various Heat Sources



PCK80 Generator Kit integrated within a (mCHP) Micro Cogeneration System

Qnergy is a company focused on providing energy to a world market looking for innovative, cost effective, and efficient ways to energize the future. With more than 40 years of expertise and proven reliability, Qnergy brings proprietary, high-performance Stirling engine technology to the marketplace for commercial, industrial, and residential applications.

How It Works

Using a highly efficient thermodynamic process, Qnergy's free-piston Stirling engine (FPSE) generator can create electricity from virtually any heat source. The heat input creates a temperature differential across the engine causing the helium inside the engine to expand and contract, which in turn drives a linear reciprocating motion of the piston. The FPSE directly converts the reciprocating motion of the piston into electrical power via the integral linear alternator.

The Qnergy engine has fewer moving parts than traditional kinematic Stirling engines, and no direct-contact points that cause wear and require lubrication. Thus, the Qnergy engine is truly a maintenance-free technology that offers long-life performance, two key features that make it an ideal power source.