

NATURAL GAS FIRED CHP PB 105QSNNG

SPECIFICATION DATASHEET

Operation:	Mains parallel Synchronous
Fuel:	Natural gas
Electrical power modulation:	50 kW(e) -105 kW(e)
Thermal output:	138.5 kW(t)
Thermal efficiency:	51%
Electrical efficiency:	35%
Total efficiency:	86%
Flow temperature max:	92 ° C
Return temperature max:	76 ° C
Exhaust temperature:	120 ° C
Exhaust gas flow:	594 kg/hr
Voltage:	400 V
Current:	175 A continuous
Power Factor:	cos phi 0.98
Sound Pressure Level:	<65 dBA (at 1 metre)
Fuel Consumption:	285 kW
CHPQA rating:	140.6
Combustion and cooling air requirements:	226.9 m ³ /min



image for illustration purposes only

Engine

Model:	Quantum
Type:	Water cooled natural gas

Alternator

Voltage:	400 V
Frequency:	50 Hz
Rated speed:	1550 rpm
Rated Current:	175 Amps

Overall Dimensions & Connections

Length	3220	mm
Width	1000	mm
Height	1850	mm
Weight	2630	kg
Heating flow	R 2	inch
Heating return	R 2	inch
Exhaust port	R 3	inch
Gas connection	R 1.5	inch

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PRIME MOVER UNIT

CONSTRUCTION

- Rigid base frame made of powder coated square section steel tube and profiled steel sections.
- Independent engine and alternator assemblies close coupled with Cush Drive, mounted on four bonded rubber mountings
- Complete hydraulic separation of engine coolant system from building heating system via stainless steel plate heat exchanger
- All electrical components are prewired to central connection point
- Frame is further isolated by four anti vibration mounting feet, for the best prevention of structure borne sound transmission.

CASING

- Highly effective sound absorbing enclosure constructed from:
 - Powder coated steel plate
 - Sound deadening material
 - Rockwall thermal insulation
 - Perforated galvanized steel inner skin
 - Removable side panels allow swift access to all components.

HYDRAULIC SYSTEM REQUIREMENTS

- System Kit does not include:
 - Customer circuit water pump.
 - Customer circuit expansion vessel
 - Customer circuit pressure relief valve
 - Customer plate heat exchange interface

EXHAUST SYSTEM

- Water-cooled exhaust manifold, maintenance-free stainless steel heat exchangers and exhaust silencing in unit enclosure.

GAS

- Gas control from DVGW tested assemblies consisting
 - Gas block with integrated multi-gas filter,
 - Pressure regulator,
 - Gas-air mixer with throttle.

CONTROL

- Electronic Speed Control
- Speed sensor and actuator for precise frequency and power control.

CONTROL CABINET

CONSTRUCTION

- Mounted on CH, made of sheet steel 1.5 mm,
- Colour: grey RAL 7035

FEATURES

- Automatic start/stop
- Full system monitoring
- Fault monitoring and fault indication in plain text
- Automatic Power control and modulation
- Lambda control optional
- Timer function to optimise the operating hours

MOTOR / GENERATOR PROTECTION

- Overload monitoring
- Reverse power monitoring
- Inlet temperature monitoring
- Flow temperature control
- Oil pressure
- Motor temperature monitoring
- Exhaust temperature monitoring
- Gas Monitoring
- Leakage monitoring
- Generator Temperature Monitoring

METERING

- Electric meters (kWh)
- Hour meter
- Start counter

RECORDING

- Logbook history
- Fault memory

CONTROL

- Main switch with Emergency Stop Function
- Easy access keypad on control panel
- Full remote access and control via modem or broadband
- Fault notification via email
- Interface to BMS via Ethernet UDP, Mod-bus RTU, RK512, 3964R
- Ability to control back up boilers

CONTROL OUTPUTS

- Pulsed output for Circulation pump (e.g. Grundfos UPS)
- Gas valve signal
- External fault signal

CONTROL INPUTS

- External run request
- Boiler room emergency switch signal
- External power requirement

NETWORK PROTECTION FUNCTIONS

- G59 Relay, monitoring voltage, frequency and rate of change of frequency (RoCoF)

PROTECTION

- Short-circuit protection 25A fuse
- G59 Electrical Protection Relay
- Performance Monitoring of CHP system
- Current monitoring of CHP and Electrical Network

SWITCHING TO THE GRID

- Unit has independent starter motor
- Black Start and Island Mode options available

According to our business policy and the continuing development of our products, we reserve the right to change specifications and features without notice.

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