NATURAL GAS FIRED CHP EM 70NG

SPECIFICATION DATASHEET

Operation:	Mains parallel Synchronous
Fuel:	Natural gas
Electrical power modulation:	33 kW(e) - 70 kW(e)
Thermal output:	109 kW(t)
Flow temperature max:	85° C
Return temperature max:	65° C
Exhaust temperature:	120 ° C
Exhaust gas flow:	20.4 Nm ^{3}/hr
Exhaust emission at:	CO <600 mg/Nm ^{3}
Efficiency:	88.1%
Voltage:	400 V
Current:	175 A continuous
Power Factor:	cos phi 0.98
Sound Power Level:	<80 dBA (at 1 metre)
Fuel Consumption:	204 kW

image for illustration purposes only

Engine

Model:	MAN
Type:	6 cylinder Inline, water cooled 4-stroke, spark ignition

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	1700 kg	
Heating flow	R 2	inch
Heating return	R 2	inch
Exhaust port	R 3	inch
Gas connection	R ½	inch

Environmentally friendly, independent, reliable energy

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.

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)

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

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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