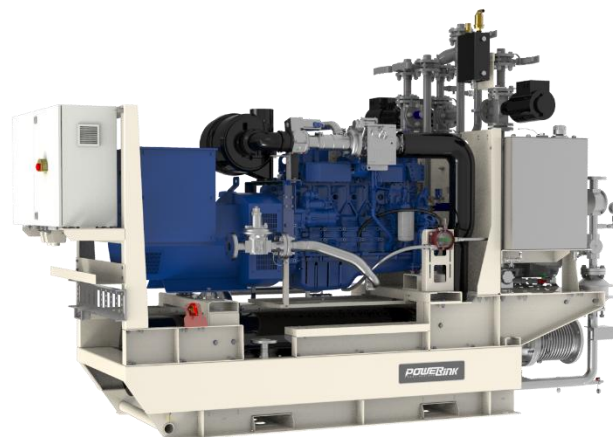


# GXC100-NG

## Natural Gas CHP Unit

### Standard Basic Module - Open Type

- Highly efficient gas engine
- Highly efficient AC synchronous alternator
- Gas safety train
- Exhaust flue and jacket water heat exchanger
- Heating water and jacket water circulation system
- Advanced engine control system, including: ignition system, detonation control system, speed control system, air/fuel ratio control system
- Strict shop test for all CHP units
- Industrial silencer reduces the noise by 12-20dB(A)
- Separate switch cabinet and electric control cabinet
- Multi-functional control system with easy operation
- Data communication interfaces integrated into control system
- Monitoring battery voltage and charging automatically
- Automatic oil refilling system
- Bus interface for connecting to higher level control unit



#### Structure and Control Cabinet

Structure Type	Open type
Spraying Process	High quality powder coating
Electrical control cabinet	Integrated, IP54
Noise level @1m, dB(A)	91
@7m, dB(A)	87
@10m, dB(A)	84.7

#### Dimension and Weight

Dimension ( LxWxH ) , mm	3700x1150x1750
Weight, kg	2200

#### Special statement :

- 1、The technical data is based on natural gas with a lower calorific value of 34.2MJ/Nm<sup>3</sup>. The technical data indicated is based on standard conditions according to ISO8528/1, ISO3046/1 and BS5514/1.
- 2、The technical data is measured in standard conditions:  
Absolute atmospheric pressure: 100kPa  
Ambient temperature : 25°C  
Relative air humidity : 30%
- 3、Rating adaptation at ambient conditions acc to DIN ISO 3046/1.  
The tolerance for the specific fuel consumption is + 5 % at rated output.
- 4、Technical data above are just for standard product ,and may be subject to change. As this document is used only for presale reference, take the specification supplied by PowerLink before ordering as final.

#### Power and Efficiency @50Hz

Electric power -kW	100	Electric efficiency	35.5%
Thermal power-kW	133	Thermal efficiency	47.3%
Fuel Input -kW	282	Total efficiency	82.8%

#### Fuel and Emission

Fuel type	Natural gas
Methane number	MN > 80
Excess air factor ( Lambda )	1.2
Fuel consumption @100% load, m <sup>3</sup> /h	30
Supply gas pressure range (gage pressure), kPa	10~20

#### Emission without catalytic converter

NOx , mg/Nm <sup>3</sup>	<500mg/Nm <sup>3</sup>
CO , mg/Nm <sup>3</sup>	<650mg/Nm <sup>3</sup>
HCHO ( formaldehyde ) , mg/Nm <sup>3</sup>	<60mg/Nm <sup>3</sup>
NMHC , mg/Nm <sup>3</sup>	<150mg/Nm <sup>3</sup>

#### Emission with catalytic converter (optional)

NOx , mg/Nm <sup>3</sup>	≤250mg/Nm <sup>3</sup>
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# GXC100-NG

Natural Gas CHP Unit

**POWERink**  
Power Systems  
We Produce Green Energy...

## Standard Basic Module + Acoustic Attenuated Canopy (Optional)



### Dimension and Noise Level

Canopy Size	4000*1150*1750mm
Noise Level@ 1m , dB(A)	78.21
@ 7m , dB(A)	67.9
@ 10m , dB(A)	63.5

- ☐ Modular designed and manufactured for plug and play
- ☐ Environmental friendly low emission
- ☐ Small indoor space required for installation
- ☐ Low noise does not affect the surrounding environment



# GXC100-NG

Natural Gas CHP Unit

## Standard Basic Module + Acoustic Attenuated Container (Optional)



Dimension and Noise Level	
Optional container (mm) (customized container modeling service available)	<input type="checkbox"/> 7000*2300*2500
	<input type="checkbox"/> 6058*2438*2591
	<input type="checkbox"/> 12192*2438*2896
	<input type="checkbox"/> 12192*3000*2896
	<input type="checkbox"/> 13500*3000*2896
Noise Level@ 1m , dB(A)	76
	@ 7m , dB(A) 65
	@ 10m , dB(A) 61

- ☐ Outdoor application enabled, weatherproof and dustproof, corrosion preventive
- ☐ Environmental friendly low emission
- ☐ Modular designed and manufactured for plug and play
- ☐ Low noise does not affect the surrounding environment



### CHP Unit performance data and manufacturing technology

Model	GXC100-NG	Power and efficiency			
Frequency ( Hz )	50	Load	100%	75%	50%
Electric output power ( kW )	100	Electric power (kW)	100	75	50
Thermal output power ( kW )	133	Heat power (kW)	133	100	67
Electric efficiency	35.5%	Energy input (kW)	282	209	146
Thermal efficiency	47.3%	Electric efficiency	35.5%	35.9%	34.3%
Total efficiency	82.8%	Heat efficiency	47.3%	47.8%	45.9%
Heating water temp. outlet(°C)	90~95	Total efficiency	82.8%	83.7%	80.2%
Heating water temp. return(°C)	70~75	<b>Manufacturing technology</b> <ul style="list-style-type: none"> <li>● Special welded base frame, inner vibration isolators and design for whole lifting</li> <li>● With high-class paint, enduring brightness as well resistance against abrasion and defacing</li> <li>● Installation manual, operation and maintenance manual wiring program</li> </ul> <b>Standards and certificate</b> <ul style="list-style-type: none"> <li>● ISO3046 , ISO8528 , GB2820</li> <li>● BS5000PT99 , AS1359 , IEC34</li> <li>● ISO9001:2008 quality system certification</li> </ul>			
Hot water production @inlet 70°C/outlet 90°C[t/h]	5.37				
Overload runtime at 1.1xSe(hour)	1				
Voltage recovery time(s)	≤4				
Steady-state frequency regulation	±0.5%				
Transient -state frequency regulation	±5%				
Steady-state frequency band	0.5%				
Recovery time response(s)	0.5				
Frequency recovery time(s)	≤3				
Telephone interference factor(TIF)	≤50				
Telephone harmonious factor(THF)	≤2% , as per BS4999				

### Gas engine

Brand	PowerLink	Energy balance and gas flow	
Model	GX7S-LE02C	Mechanical power (kW)	120
NO. of cylinders	6 in-line	Coolant heat (kW)	61
Bore x Stroke (mm)	105x124	Mixture heat HT(kW)	/
Displacement (L)	6.5	Mixture heat LT(kW)	/
Cooling system	Water cooled	Exhaust heat up to 120°C (kW)	72
Rated speed (rpm)	1500	Fuel Input (kW)	282
Excess air factor	1.2	Combustion air flow(kg/h)	/
Intake system	Turbocharged, intercooled	Exhaust gas flow(kg/h)	491
Lube Oil consumption(kg/h)	0.036	Exhaust gas temperature(°C)	576
Combustion type	Lean burn	Gas consumption(m³/h) @ 100% load	30
Battery voltage(V)	24	75% load	22
Coolant type	Glycol mixture	50% load	15

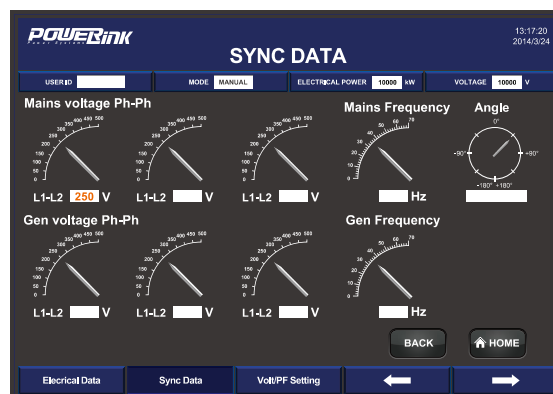
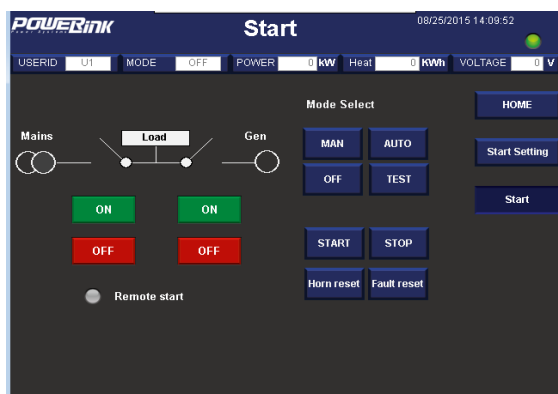
### AC alternator

Brand	PowerLink	Wiring connection	Star
Model	PL3DS	Rotor insulation class	H
Rated output power @400V (kW)	112	Winding pitch	2/3
Power factor	0.8	A.V.R. model	MX341
Rated current @400V (A)	202	Voltage fluctuation(no load to full load)	± 0.5%
Excitation system	PMG	Drip proof	IP23
THF (BS EN60034- 1)	<2%	Excitation method	Brushless
TIF (NEMA MG 1-22)	<50	Rated ambient temperature(°C)	40
Winding material	100% copper	Rated stator temperature rise(°C)	125



## PCC-300 control system

Programmable control system is adopted with touch screen display , and various functions, including: engine protection and control, paralleling between gensets or gensets and grid, and CHP control functions, as well as communication functions, etc.



### Main functions

- Engine monitor : coolant, lubrication, exhaust, battery
- Supply gas circuit monitor: pressure, temperature and CH<sub>4</sub> content
- Auto paralleling and load share
- Voltage and PF control
- Alternator data : U, I, Hz, kW, kVA, kVAr, PF, kWh, kVAh
- Grid data: U, I, Hz, kW, kVAr, PF
- Modbus communication protocol based on RS232 and RS485 interfaces
- SMS message
- Internet connection and USB 2.0 interface
- 10-inch touch screen
- Internet monitor, auto orientation and cloud communication
- 1000 history events log

### Advantages

- Accordant with consumer requirement
- Complete control solution
- Convenient remote monitor and service
- Simplified engine start/stop control
- Enhanced stability and safety

### Standard protection functions

#### Alternator protection

- 2xReverse power
- 2xOverload
- 4xOvercurrent
- 1xOvervoltage
- 1xUndervoltage
- 1xOver/underfrequency
- 1xUnbalanced current

#### Busbar/ Grid protection

- 1xOvervoltage
- 1xUndervoltage
- 1xOver/under frequency
- 1xPhase sequence
- 1xROCOF alarm

### Standard control functions

#### Powercontrol

- RPM control(synchronization)
- Power control(grid connection)
- Load share(island )

#### Lubrication control

- Auto refilling
- Warning and monitoring

#### Fan control

- Ventilation for engine room
- Radiator fan
- Emergency radiator fan

#### Engine protection

- Various routine and customized protection functions
- Monitoring

#### Voltage control

- Voltage tracking (synchronization)
- Voltage control(island)
- PF control(grid connection)
- Reactive power share (island )

#### Pump control

- Cooling system
- Emergency radiator

#### Valve control

- Cooling system
- Heating system
- Emergency radiator

### Standard configuration

Engine	Alternator	Canopy and base	Electrical cabinet
Gas engine Ignition system Lambda controller Speed control system Electrical start motor Battery system Detonation control system Lockable isolator switch Turbocharger & intercooler	PMG AC alternator H class insulation IP23 protection AVR voltage regulator	Steel monocoque base frame Engine bracket Vibration isolators Alternator base	Air circuit breaker Paralleling control system 10-inch touch screen Communication interfaces Breaker cabinet Mains floating charger Paralleling protection
Gas supply system	Lubrication system	Standard voltage	Intake/ exhaust system
Gas safety train Air/fuel mixer Throttle valve	Oil filter Daily auxiliary oil tank Auto refilling oil system New and used oil tank (Only applicable to container , two inch with the daily oil tank )	380/220V 400/230V 415/240V 440/254V	Air filter Exhaust silencer Exhaust bellows Gas flowmeter Gas leakage protection(Only applicable to canopy and container)
Heat exchange system	Service and documents		
Exhaust heat exchanger Jacket water circulation pump Jacket water heat exchanger Mixture circulation pump Expansion tank Heating circulation pump Three-way constant temp. valves Intercooler radiator	Tools package Installation and operation manual Maintenance manual Software manual Parts manual	Engine operation and maintenance manual Gas quality declaration Control system manual After service guide Standard package	

### Optional configuration

Engine	Alternator	Lubrication system
Jacket water heater	Space heater Treatments against humidity and corrosion	
Electrical system	Gas supply system	Service and documents
RCD ATS control cabinet Thermal power gauge Electric power gauge	Gas flow gauge Emergency pressure relief torch Refrigerated gas drier Water separator Gas compressor Gas purification device	Service tools Maintenance and service parts
Voltage	Exhaust system	Exhaust gas using
220V 230V240V	Three-way catalytic converter	Exhaust gas evaporator LiBr refrigerator