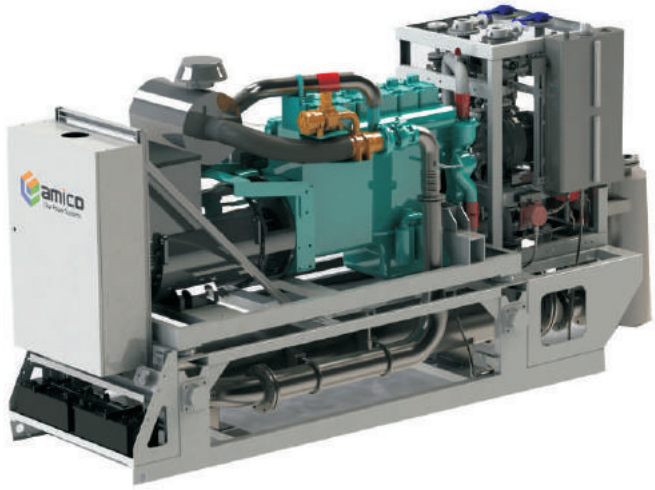
amico
Gas Power Systems

Leading Gas Engine & Generator / CHP Technologies



Company Profile & Products

Content

1 Company Profile

1.1 The Meaning of AMICO

-**A**: **A**lternative (fuels)

-**M**: **M**anagement

-**I**: **I**ntegrating

-**CO.**: **Co**mpany

So, **AMICO** means the Alternative (fuels) Management Integrating Company. Our engine control and CHP control technologies lead the industry.

1.2 A Short Introduction

- Established in 2006, focusing on gas engine control and gas fueled distributed energy
- 100+ staff and over 20,000 square meters production facilities
- Government certified National High-Tech Enterprise
- Listed on the New OTC Stock Market in 2015

1.3 Company Mission & Business Philosophy

Company Mission:

- Clean energy contributor and ecological environment builder

Business Philosophy:

- Create, share, win and prosper together with all stakeholders

Objective:

- To be China gas power leader and devoted to clean energy management & operation

1.4 State-of-the-Art Test Benches

- 4 gas engine test benches up to 1,200kWm
- Generator/CHP test benches up to 4,500kWe
- AVL emission analyzer

1.5 Our Patents

We have got 12 patents on gas engines, generators & CHPs.

1.6 Certificates

- Certificate of Quality Management: ISO 9001-2015
- Certificate of Environmental Management System ISO 14001:2015
- Certificate of Occupation Health & Safety Management System: OHSAS 18001:2007
- EC Examination Certificate: Machinery Directive 2006/42/EC & the Low Voltage Directive 2014/35/EU
- UL, CSA & EPA Certificates: can be certified on request

2 JIGREN State-of-the-Art Gas Engine Control System PM1000

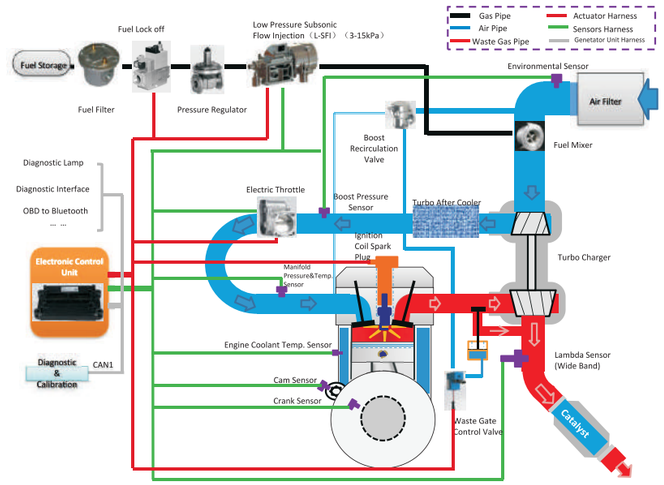
PM1000 is the world's leading system with an integration of ignition, speed governor, AFR (air-fuel ratio), detonation control and lean-burn technologies.

2.1 System Overview

Pm1000 is the world's leading system with an integration of ignition, speed governor, AFR (air-fuel ratio), detonation control and lean-burn technologies.

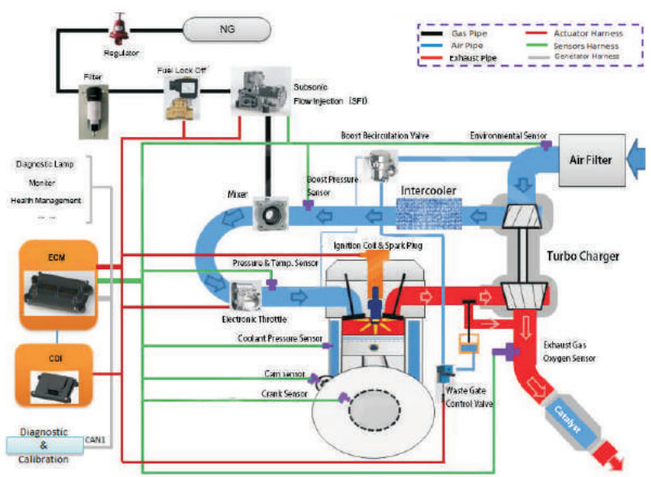
System Overview 1:

Low Intake Pressure of Natural Gas 30-150mbar



System Overview 2:

High Intake Pressure of Natural Gas 2.0~7 Bar



2.2 Advantage of JIGREN PM1000

- Widening the lean-burn limit，improving the engine thermal efficiency and making a good economy
- Flow control valve based on high-speed motor, control of high intensive reading and fast response
- The non-contact continuous flow injection, high reliability and wide adaptability
- Speed control algorithm based on the physical model to meet the demanding of the transient operatingconditions
- Because of the accurate air calculation model，and closed-loop + self-adapted fuel control, the air-fuel ratio control is in high accuracy
- Low emission of NOx, meeting the Non-road emission standards of various countries.
- High accuracy flow valve, reducing the fluctuating requirement at the inlet.

2.3 Applicable to

Gas：

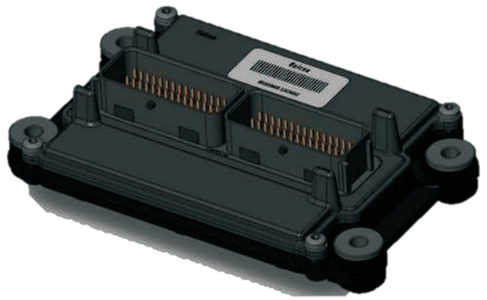
- Natural Gas
- Biogas
- Synth Gas
- Special Gas

Engine:

- Number of Cylinder: 4-cylinder to 16-cylinder gas engine
- Displacement: 3L-80L
- Type: Straight to V type

Environment:

- Altitude：0M to 3000M
- Ambient temperature：-40℉ to 140℉
- Relative humidity：0~100%



2.4 Key Control Module ECU 90

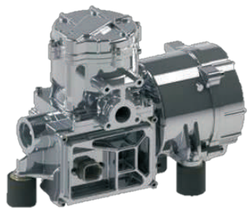
- Advanced transient control
- 32 bit CPU
- The response speed of the engine control system ≤5ms.
- Accurate adaptive ignition control to ensure accurate ignition of each cycle.
- Perfect protection function
- Design of ignition drive circuit with overheat protection and in-rush protection function.
- Vibration monitoring, fault diagnosis, engine protection deceleration and shutdown function.
- Instantaneous current shock protection circuit design meets the requirements of classification society certification.
- Strong adaptability
- 3-way independent communication link based on CAN bus
- Open interface, fully compatible with the world's top controller, such as DIFI.
- Can be mounted on engine body.

2.5 Low Pressure Fuel Control LSFI

LSFI: Intake Pressure:30~150mbar
LSFI-330：300kW@NG
LSFI-660：660kW@NG

MSFI: Intake Pressure: 2~4.5 Bar
Forced induction
Applicable to 250kW Medium Pressure Engine

SFI： Intake Pressure：4.5~7 Bar
SFI-450：450HP @NG
SFI-300: 300HP @NG



- Continuous flow Injection
- Dirt and oil resistant

- High reliability
- Long term calibration stability
- Well established fault diagnosis

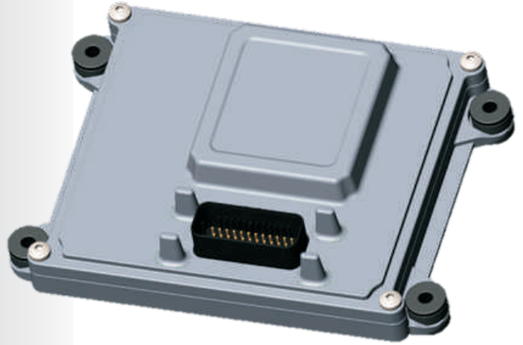
2.6 Ignition System Programme

No. of Cylinders	4	6	8	10	12	16	20	24

1 industrial ECU
(inductor: 60mJ)

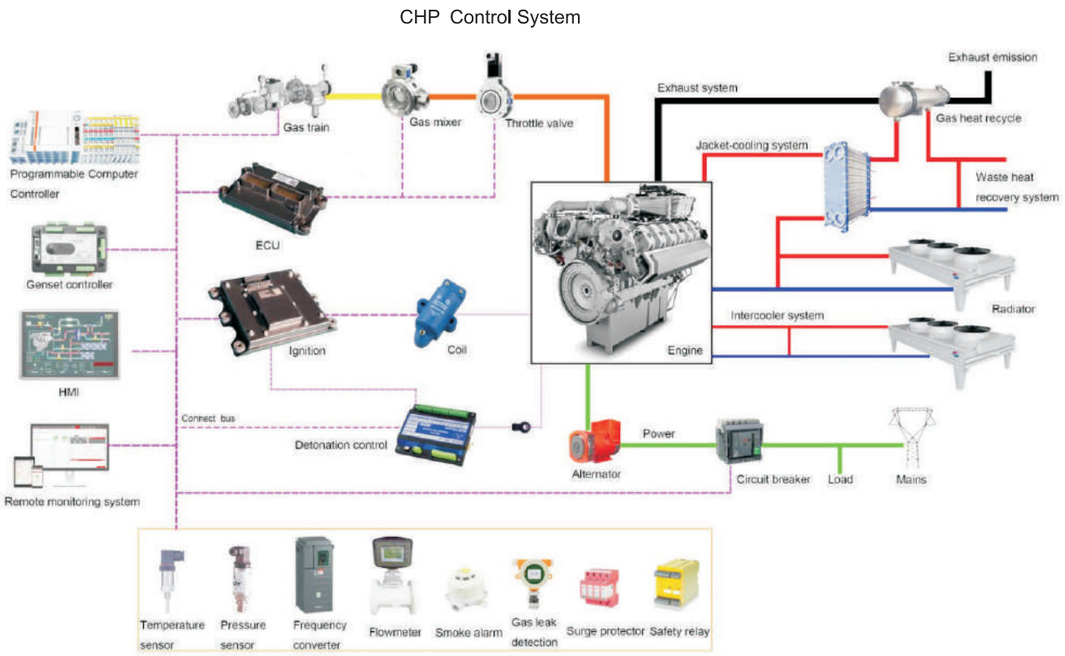
1 industrial ECU
1 CDI (Capacitor ignition controller)
(200mJ,300mJ,500mJ)

2 CDI
Parallel operation



- Ignition electric currency calibrable
- Ignition continuous time calibrable
- Hyper ignition energy, reliable ignition

3 AMICO CHP Control System CCS100



PLC Power Supply : 8 to 36 V DC

- Inputs sensor type: 0 to 20 mA DC, mV, ±10V DC, ±5V DC, ±2.5V DC, RTD
- Analog Outputs type: 0 to 20 mA DC, ±10V DC

10"HMI

- TFT Display/ 65535 colors
- Display resolution: 1024x 600
- 1 x Ethernet, 1 x RS485/422, 1 x RS232
- -USB1/USB2: 1 master, 1 slave
- Application memory: 128M

Design According to ESD and SIS System Principles:

- Includes original CHP control function block: heat-led and electricity-led.
- Many communication options-easy remote supervising and servicing, support Ethernet connection (RJ45), RS485 serial port.
- Consistent with IEC1131-3, support LAD (ladder diagram), STL (statement table), FBD (functional block diagram)
- Jacket water/Outlet water temperature PID control
- Jacket water pump, Outlet water pump, Intercooler pump, Cooling fan VFC function
- Flexible calibration of sensor and sensor fault detection
- Integrated fixed and configurable protections
- Record and display all data and alarm of engine and generator

ESD: Emergency Shutdown Device, SIS: Safety Instrumented System

4 Gas Engines for Generators/CHPs & GHPs

Line	Gas Engine Model #	Rated Power @1,500 RPM	Rated Power @1,800 RPM
1	AMC 4Y	22 kWm	25 kWm
2	AMC 4B	36kWm	39kWm
3	AMC 4BTAA	49kWm	53kWm
4	AMC 6B	60kWm	66kWm
5	AMC 6BTAA	94kWm	103kWm
6	AMC 6CTAA	138kWm	151kWm
7	AMC 6LTAA	165kWm	181kWm
8	STEYR T10	200 kWm	225 kWm
9	STEYR T12	260 kWm	280 kWm
10	AMC NTAA855	275kWm	300kWm
11	AMC KTAA19	360kWm	396kWm

Remarks:

- All the technical data are based on natural gas with a calorific value of 35.8 MJ/Nm³ and a methane no. > 80
- The efficiency data are calculated by means of the ISO standard power acc to DIN ISO 3046-1 with standard conditions: atmospheric pressure: 100 kPa, air temperature: 25 °C & relative air humidity: 30 %
- Rating adaptation at ambient conditions acc to DIN ISO 3046-1,the tolerance for the usable heat is ±7 % at rated output,the coolant data are based on a 45 % portion of antifreeze
- Data for biogas & LPG are available on request
- All engines are equipped gas engine control system with integrated igniting, speed governing & closed loop lambda controlling

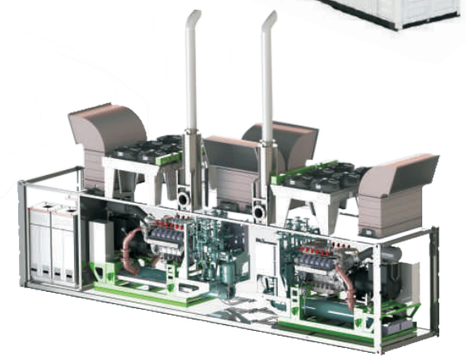
5 Natural Gas mCHPs with Water Cooled Asynchronous Alternators

- mCHP: Micro Combined Heating & Power
- Continuous running, 24-7-365
- Quality Warranty: 5,000 running hours or 18 months after delivery
- Legend: AMC-AMICO, N-Natural Gas, S-Silent Canopy, C-Cogen, AS-Water Cooled Asynchronous Alternator
- All mCHPs must be connected with the Grid, not possible for island use

6 Natural Gas Generators & CHPs/CCHPs

--Reliable, Efficient, Digital--

- CHP: Combined Heating & Power
- CCHP: Combined Cooling, Heating & Power, suggested CCHPs start above 200kWe
- For Continuous Running, 24-7-365
- Quality Warranty: 5,000 running hours for CHPs powered by made-in-China engines and 8,000 hours for made-in-Germany MAN & MWM engines
- Legend: AMC-AMICO, N-Natural Gas, S-Silent Canopy/Optional, C-Cogen



5.1 Model List –mCHPs with AS Alternators, 50Hz, 400V/230V, 1500RPM, H-125/40, PF=1

Line	CHP/COGEN Model #	COP Elec. Power	Efficiency			Gas Engine Model #	Zanardi Alternator Model #
			Elec.	Thermal	Total		
1	AMC20NSC-AS	20 kWe	30.1%	71.4%	101.5 %	AMC 4Y	AS225/4120WC50
2	AMC30NSC-AS	30 kWe	31.8%	70.0%	101.8%	AMC 4B	AS225/4200WC50
3	AMC50NSC-AS	50 kWe	32.5%	69.5%	102.0%	AMC 6B	AS225/4370WC50

5.2 Model List –mCHPs with AS Alternators, 60Hz, 480V/277V, 1800RPM, H-125/40, PF=1

Line	CHP/COGEN Model #	COP Elec. Power	Efficiency			Gas Engine Model #	Zanardi Alternator Model #
			Elec.	Thermal	Total		
1	AMC20N6SC-AS	20 kWe	30.1%	71.7%	101.8%	AMC 4Y	AS225/4120WC60
2	AMC30N6SC-AS	30 kWe	32.1%	70.0%	102.1%	AMC 4B	AS225/4200WC60
3	AMC50N6SC-AS	50 kWe	32.8%	69.4%	102.2%	AMC 6B	AS225/4370WC60

Brochure of Natural Gas mCHPs with Water Cooled Asynchronous Alternators:

Please contact our int'l sales staff to get detailed brochure.

6.1 Model List-Prime/Standby Natural Gas Generators, 50Hz, 400V/230V, 1500RPM, H-125/40, PF=1

Quality Warranty: 5,000 running hours or 12 months.
Legend: AMC-AMICO, N-Natural Gas, S-Silent Canopy/Optional

Line	Genset Model #	Prime Power	Elec. Efficiency	Gas Engine Model #	Meccalte Alternator Model #
1	AMC18NS	18 kWe	29.6 %	AMC 4Y	ECP28-VL4A(24kW)
2	AMC30NS	30 kWe	31.8 %	AMC 4B	ECP32-3S4B(34kW)
3	AMC40NS	40 kWe	34.4 %	AMC 4BTAA	ECP32-2M4B(50kW)
4	AMC50NS	50 kWe	32.5 %	AMC 6B	ECP32-3L4B(60kW)
5	AMC90NS	90 kWe	36.3 %	AMC 6BTAA	ECP34-1L4A(108kW)
6	AMC120NS	120 kWe	36.2 %	AMC 6CTAA	ECO38-1S4A(144kW)
7	AMC150NS	150 kWe	36.8 %	AMC 6LTAA	ECO38-1L4A(200kW)
8	AMC160NS	160 kWe	37.3 %	Steyr T10	ECO38-1L4A(200kW)
9	AMC220NS	220 kWe	36.5%	AMC NTAA855	ECO38- 2L4A(240kW)
10	AMC250NS	250 kWe	37.3 %	Steyr T12	ECO38-3L4A(280kW)
11	AMC300NS	300 kWe	37.8%	AMC KTAA19	ECO40-2S4A(360kW)
12	AMC500NS	500 kWe	38.2%	AMC KTAA38	ECO40-2L4(544kW)

6.2 Model List-Prime/Standby Natural Gas Generators, 60Hz, 480V/277V, 1800RPM, H-125/40, PF=1

Quality Warranty: 5,000 running hours or 12 months.
Legend: AMC-AMICO, N-Natural Gas, S-Silent Canopy/Optional, 6-60Hz

Line	Genset Model #	Prime Power	Elec. Efficiency	Gas Engine Model #	Meccalte Alternator Model #
1	AMC20N6S	20 kWe	30.1 %	AMC 4Y	ECO28-2L4A(24Kw)
2	AMC33N6S	33 kWe	32.1 %	AMC 4B	ECP32-3S4B(40.8Kw)
3	AMC45N6S	45 kWe	32.4 %	AMC 4BTAA	ECP32-1M4B(48Kw)
4	AMC55N6S	55 kWe	32.5 %	AMC 6B	ECP32-2M4B(60Kw)
5	AMC90N6S	90 kWe	35.3 %	AMC 6BTAA	ECP34-2S4A(101Kw)
6	AMC120N6S	120 kWe	36.2 %	AMC 6CTAA	ECP34-1L4A(130Kw)
7	AMC160N6S	160 kWe	36.8 %	AMC 6LTAA	ECO38-2S4A(192Kw)
8	AMC180N6S	180 kWe	37.3 %	Steyr T10	ECO38-3S4A(216Kw)
9	AMC220N6S	220 kWe	37.5%	AMC NTAA855	ECO38-1L4A(240Kw)
10	AMC250N6S	250 kWe	37.3 %	Steyr T12	ECO38-2L4A(288Kw)
11	AMC320N6S	320 kWe	37.8%	AMC KTAA19	ECO40-1L4A(384Kw)
12	AMC550N6S	550 kWe	38.5%	AMC KTAA38	ECO40-1.5L4A(595Kw)

6.3 Model List- COP Natural Gas Generators & CHPs/CCHPs, 50Hz, 400V/230V, 1500RPM, H-125/40, PF=1

Line	CHP/COGEN Model #	COP Elec. Power	Efficiency			Gas Engine Model #	Meccalte/ Marelli Alternator Model #
			Elec.	Thermal	Total		
Natural Gas Gensets/CHPs Powered by Made-in-China Gas Engines							
1	AMC18NSC	18 kWe	29.60%	52.30%	81.90%	AMC 4Y	ECP28-VL4A(24kW)
2	AMC30NSC	30 kWe	31.80%	49.00%	80.80%	AMC 4B	ECP32-3S4B(34kW)
3	AMC40NSC	40 kWe	34.40%	49.40%	83.80%	AMC 4BTAA	ECP32- 2M4B(50kW)
4	AMC50NSC	50 kWe	32.50%	47.10%	79.60%	AMC 6B	ECP32- 3L4B(60kW)
5	AMC90NSC	90 kWe	36.30%	47.60%	83.90%	AMC 6BTAA	ECP34-1L4A(108kW)
6	AMC120NSC	120 kWe	36.20%	46.50%	82.70%	AMC 6CTAA	ECO38-1S4A(144kW)
7	AMC150NSC	150 kWe	36.80%	46.30%	83.10%	AMC 6LTAA	ECO38-1L4A(200kW)
8	AMC160NSC	160 kWe	37.30%	50.30%	87.60%	Steyr T10	ECO38-1L4A(200kW)
9	AMC200NSC	200 kWe	37.30%	42.80%	80.10%	Steyr T12	ECO38- 2L4A(240kW)
10	AMC220NSC	220 kWe	36.50%	46.80%	83.30%	AMC NTAA855	ECO38- 3L4A(280kW)
11	AMC300NSC	300 kWe	37.80%	45.60%	83.40%	AMC KTAA19	ECO40- 2S4A(360kW)
12	AMC500NSC	500 kWe	38.20%	47.20%	85.40%	AMC KTAA38	ECO40-2L4(544kW)
Natural Gas Gensets/CHPs Powered by Made-in-Germany MAN Gas Engines							
13	AMC200NSC	200kWe	41.7%	44.4%	86.10%	MAN E2676 LE202	ECO38-2L4A(240kW)
14	AMC250NSC	250kWe	38.2%	49.3%	87.50%	MAN E3262 E302	ECO38-3L4A(280kW)
15	AMC350NSC	350kWe	40.9%	44.8%	85.70%	MAN E3268 LE212	ECO40- 3S4B(400kW)
16	AMC420NSC	420kWe	39.6%	46.4%	86.00%	MAN E3262 LE232	ECO40-1.5L4B(500kW)
17	AMC520NSC	520kWe	40.0%	45.9%	85.90%	MAN E3262 LE202	ECO40-VL4B(600kW)
Natural Gas Gensets/CHPs Powered by Made-in-Germany MWM Gas Engines							
18	AMC400NSC	400 kWe	43.1%	43.6%	86.7%	MWM TCG3016V08	ECO40-1.5L4B(500kW)
19	AMC600NSC	600 kWe	43.3%	44.6%	87.9%	MWM TCG3016V12	ECO43- 2S4A(744kW)
20	AMC800NSC	800 kWe	43.5%	44.6%	88.1%	MWM TCG3016V16	ECO43- 2M4A(920kW)
21	AMC1000NSC	1000 kWe	43.0%	45.4%	88.4%	MWMTCG2020V12	MJB450LA4
22	AMC1200NSC	1200 kWe	43.6%	43.3%	86.9%	MWM TCG2020V12	MJB450LB4
23	AMC1500NSC	1500 kWe	40.9%	45.7%	86.6%	MWM TCG2020V16K	MJB500MC4
24	AMC2000NSC	2000 kWe	42.4%	42.5%	86.9%	MWMTCG2020V20	MJB560LA4
25	AMC3333NSC	3333 kWe	43.9%	42.6%	86.5%	MWM TCG2032V12	MJB800MB6
26	AMC4500NSC	4500 kWe	42.6%	43.2%	87.8%	MWM TCG2032BV16	MJH800MC6

Remarks:

- Other voltages like 380V, 415V, 440V, etc. are available on request.
- Each CHP consists of gas train, continuous oil supply system & remote radiator. All CHPs are with public grid synchronizing device.

6.4 Model List- COP Natural Gas Generators & CHPs/CCHPs, 60Hz, 480V/277V, 1800RPM, H-125/40, PF=1

Line	CHP/COGEN Model #	COP Elec. Power	Efficiency			Gas Engine Model #	Meccalte/ Marelli Alternator Model #
			Elec.	Thermal	Total		
Natural Gas Gensets/CHPs Powered by Made-in-China Gas Engines							
1	AMC20N6SC	20 kWe	30.1%	52.3%	82.40%	AMC 4Y	ECO28-2L4A(24kW)
2	AMC33N6SC	33 kWe	32.1%	49.0%	81.10%	AMC 4B	ECP32-3S4B(40.8kW)
3	AMC45N6SC	45 kWe	32.4%	49.4%	81.80%	AMC 4BTAA	ECP32-1M4B(48kW)
4	AMC55N6SC	55 kWe	32.5%	48.1%	80.60%	AMC 6B	ECP32-2M4B(60kW)
5	AMC90N6SC	90 kWe	35.3%	47.6%	82.90%	AMC 6BTAA	ECP34-2S4A(101kW)
6	AMC120N6SC	120 kWe	36.2%	46.5%	82.70%	AMC 6CTAA	ECP34-1L4A(130kW)
7	AMC160N6SC	160 kWe	36.8%	50.3%	87.10%	Steyr T10	ECO38- 2S4A(192kW)
8	AMC180N6SC	180 kWe	37.3%	46.3%	83.60%	AMC 6LTAA	ECO38-3S4A(216kW)
9	AMC220N6SC	220 kWe	37.5%	42.8%	80.30%	Steyr T12	ECO38-1L4A(240kW)
10	AMC250N6SC	250 kWe	37.3%	46.8%	84.10%	AMC NTAA855	ECO38-2L4A(288kW)
11	AMC320N6SC	320 kWe	37.8%	45.6%	83.40%	AMC KTAA19	ECO40-1L4A(384kW)
12	AMC550N6SC	550 kWe	38.5%	47.2%	85.70%	AMC KTAA38	ECO40-1.5L4A(595kW)

(to be continued to next page)

Line	CHP/COGEN Model #	COP Elec. Power	Efficiency			Gas Engine Model #	Meccalte/ Marelli Alternator Model #
			Elec.	Thermal	Total		
Natural Gas Gensets/CHPs Powered by Made-in-Germany MAN Gas Engines							
13	AMC240N6SC	240kWe	39.5%	44.1%	83.6%	MAN E2676 LE202	ECO38-2L4A(288kW)
14	AMC280N6SC	280kWe	37.3%	52.1%	89.4%	MAN E3262 E302	ECO38-3L4A(336kW)
15	AMC370N6SC	370kWe	38.4%	45.3%	83.7%	MAN E3268 LE212	ECO40-22S4B(432kW)
16	AMC420N6SC	420 kWe	38.0%	47.9%	85.9%	MAN E3262 LE232	ECO40- 3S4B(480kW)
17	AMC560N6SC	560 kWe	38.8%	48.4%	87.2%	MAN E3262 LE202	ECO40-2L4B(653kW)
Natural Gas Gensets/CHPs Powered by Made-in-Germany MWM Gas Engines							
18	AMC400N6SC	400 kWe	42.1%	45.0%	87.1%	MWM TCG3016V08	ECO40-3S4A(480kW)
19	AMC600N6SC	600 kWe	42.4%	45.7%	88.1%	MWM TCG3016V12	ECO40- VL4A(720kW)
20	AMC800N6SC	800 kWe	42.6%	45.5%	88.1%	MWM TCG3016V16	ECO43-2S4A(893kW)
21	AMC1125N6SC	1125 kWe	40.7%	45.6%	86.3%	MWM TCG2020V12K	MJB450LA4
22	AMC1200N6SC	1200 kWe	43.4%	43.2%	86.6%	MWM TCG2020V12	MJB450LB4
23	AMC1500N6SC	1500 kWe	40.6%	45.7%	86.3%	MWM TCG2020V16K	MJB500MC4
24	AMC2000N6SC	2000 kWe	43.4%	43.2%	86.6%	MWM TCG2020V20	MJB560LA4
25	AMC3000N6SC	3000 kWe	43.9%	42.1%	86.0%	MWM TCG2032V12	MJB800MB6
26	AMC4000N6SC	4000 kWe	43.8%	42.4%	86.2%	MWM TCG2032V16	MJH800MC6

Remarks:

- Other voltages like 415V, 440V, 460V, etc. are available on request.
- Each CHP consists of gas train, continuous oil supply system & remote radiator. All CHPs are with public grid synchronizing device.

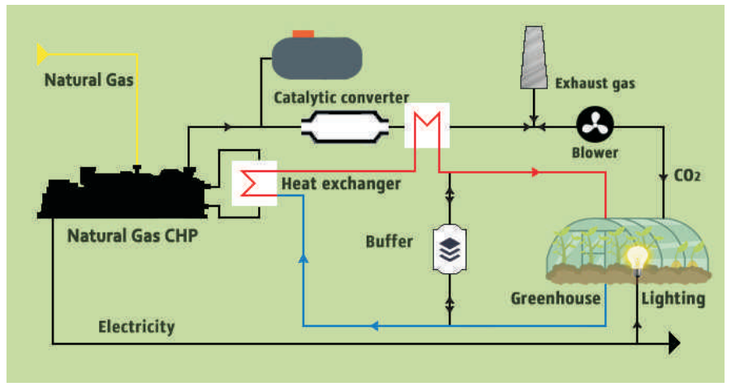
6.5 Producing CO_2 for Greenhouse Plants Fast Growth

Exhaust Gas Purification:

After the purification of the exhaust gas with a special catalytic converter, the exhaust gas is cooled down by a heat exchanger to about 55°C and supplied to the greenhouse for CO2 enrichment.

Increasing Harvest Yield by Enriching CO_2 :

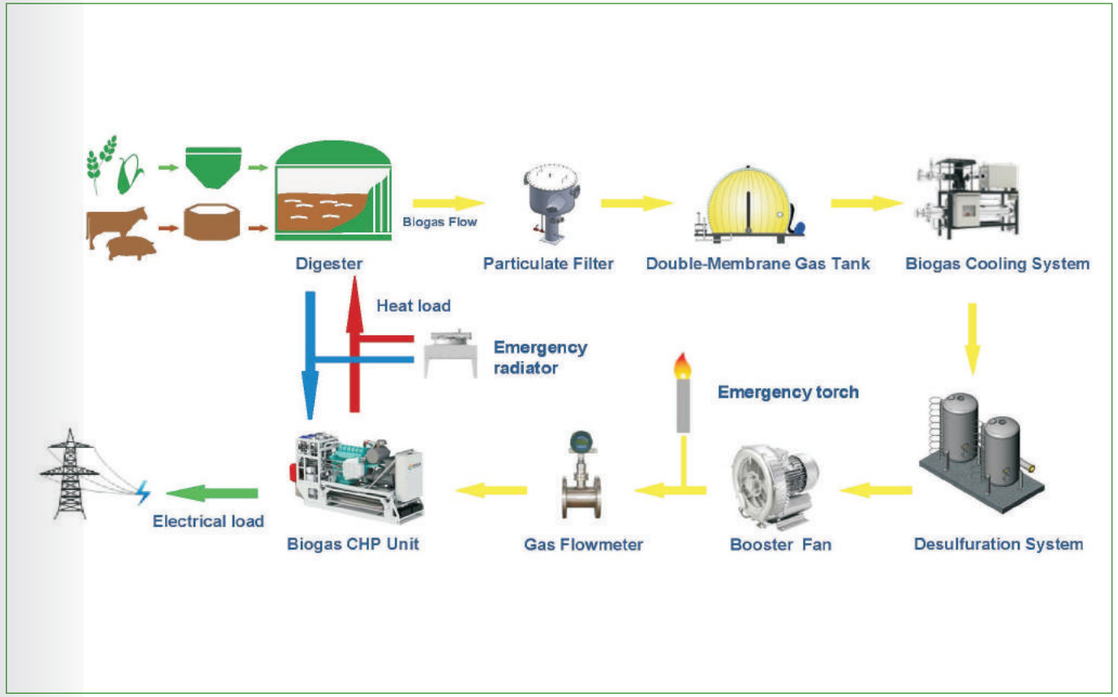
Plants grow by converting CO_2 to carbon through photosynthesis. With increased artificial lighting, plants in greenhouses absorb even more CO_2. If the greenhouse is enriched with CO_2, the temperature kept on a constant level and sufficient lighting, plant growth and the harvest yield can be increased greatly.



7 Biogas Generators and CHPs

--Reliable, Efficient, Digital--

7.1 Biogas Purification & Quality Requirement



Quality Requirement

(1) $CH_4 \geqslant 45\%$

(2) Methane number＞80

(3) Gas pressure＞20mbar

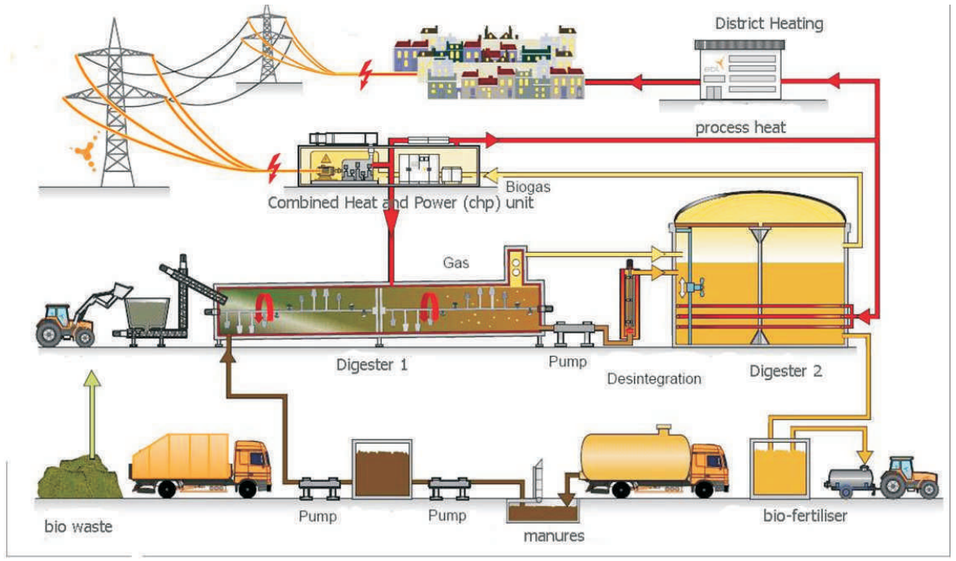
(4) $H_2S < 200mg/m^3$

(5) No free water

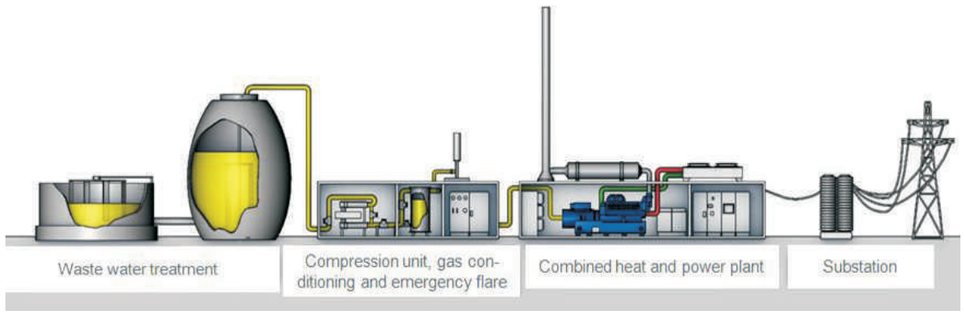
(6) Max. gas temperature 30℃

7.2 Applications

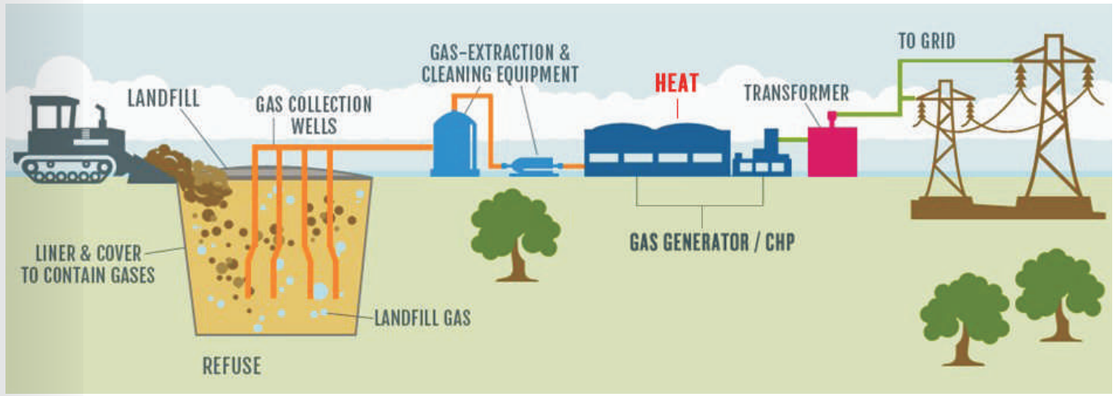
7.2.1 Digester Gas



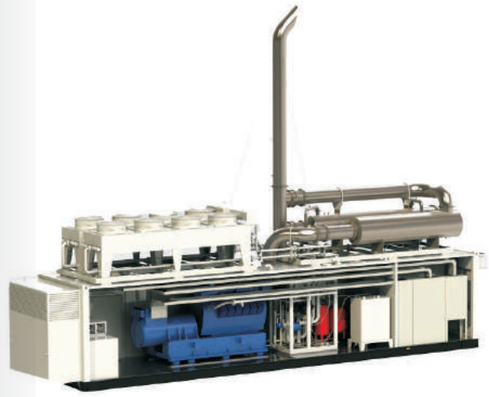
7.2.2 Sewage Gas

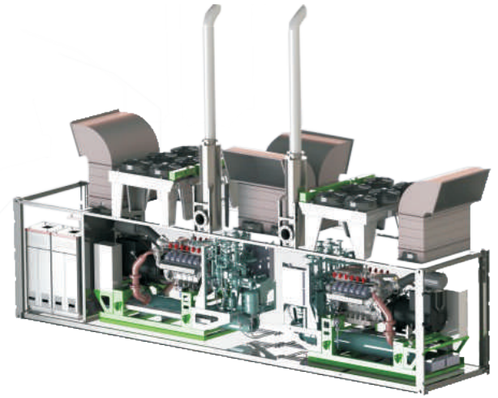


7.2.3 Landfill Gas



7.3 Mode List of Biogas Generators & CHPs





Biogas Generators & CHPs:

- For Continuous Running, 24-7-365
- Quality Warranty: 5,000 running hours for CHPs powered by made-in-China engines and 8,000 hours for made-in-Germany MAN & MWM engines
- CHP: Combined Heating & Power
- COGEN: Heating-Electrical, Co-generation
- Legend: AMC-AMICO, B-Biogas, S-Silent Canopy/Optional

7.3.1 Mode List- Biogas Generators & CHPs, 50Hz, 400V/230V, 1500RPM, H-125/40, PF=1

Line	CHP/COGEN Model #	COP Elec. Power	Efficiency			Gas Engine Model #	Meccalte/ Marelli Alternator Model #
			Elec.	Thermal	Total		
Biogas Gensets/CHPs Powered by Made-in-China Gas Engines							
1	AMC15BSC	15kWe	30.1%	52.3%	82.40%	AMC 4Y	ECP28-2L4A(20kW)
2	AMC20BSC	20kWe	31.0%	49.2%	80.20%	AMC 4B	ECP28-VL4A(24kW)
3	AMC30BSC	30kWe	33.5%	48.7%	82.20%	AMC 4BTAA	ECP32-3S4A(34kW)
4	AMC40BSC	40kWe	31.6%	49.0%	80.60%	AMC 6B	ECP32-2M4A(50kW)
5	AMC60BSC	60kWe	34.6%	48.1%	82.70%	AMC 6BTAA	ECP34-2S4A(60kW)
6	AMC85BSC	85kWe	34.3%	48.2%	82.50%	AMC 6CTAA	ECP34-1L4A(108kW)
7	AMC105BSC	105kWe	35.8%	46.3%	82.10%	AMC 6LTAA	ECP34-2L4A(120kW)
8	AMC120BSC	120kWe	37.3%	46.8%	84.10%	STEYR T10	ECO38-1S4A(144kW)
9	AMC160BSC	160kWe	35.5%	45.8%	81.30%	AMC NTAA855	ECO38-3S4A(180kW)
10	AMC200BSC	200kWe	37.3%	42.8%	80.10%	STEYR T12	ECO38-2L4A(240kW)
11	AMC220BSC	220kWe	36.7%	45.6%	82.30%	AMC KTAA19	ECO38-3L4A(280kW)
12	AMC350BSC	350kWe	37.5%	46.8%	84.30%	AMC KTAA38	ECO40-3S4A(400kW)
Biogas Gensets/CHPs Powered by Made-in-Germany MAN Gas Engines							
13	AMC200BSC	200kWe	40.5%	41.9%	82.4%	MAN E2676 LE212	ECO38-2L4A(240kW)
14	AMC350NSC	350kWe	40.4%	44.6%	85.0%	MAN E3268 LE222	ECO40-1L4B(440kW)
15	AMC420BSC	420 kWe	38.5%	48.0%	86.5%	MAN E3262 LE242	ECO40-1.5L4B(500kW)
16	AMC520BSC	520 kWe	40.6%	45.9%	86.5%	MAN E3262 LE212	ECO40-VL4B(600kW)
Biogas Gensets/CHPs Powered by Made-in-Germany MWM Gas Engines							
17	AMC400BSC	400 kWe	42.8%	42.2%	85.0%	MWM TCG3016V08	ECO40-1.5L4B(500kW)
18	AMC600BSC	600 kWe	42.9%	42.8%	85.7%	MWM TCG3016V12	ECO43- 2S4A(744kW)
19	AMC800BSC	800 kWe	43.1%	42.6%	85.7%	MWM TCG3016V16	ECO43- 2M4A(920kW)
20	AMC1000BSC	1000 kWe	42.6%	44.2%	86.8%	MWM TCG2020V12	MJB450LA4
21	AMC1200BSC	1200 kWe	43.0%	42.8%	85.8%	MWM TCG2020V12	MJB450LB4
22	AMC1560BSC	1560 kWe	42.6%	43.1%	85.7%	MWM TCG2020V16	MJB500MC4
23	AMC2000BSC	2000 kWe	43.0%	43.3%	86.3%	MWM TCG2020V20	MJB560LA4
24	AMC3770BSC	3770 kWe	43.0%	39.8%	82.8%	MWM TCG2032V16	MJH800MC6

Remarks:

- Other voltages like 380V, 415V, 440V, etc. are available on request.
- Each CHP consists of gas train, continuous oil supply system & remote radiator. All CHPs are with public grid synchronizing device.

7.3.2 Mode List- Biogas Generators & CHPs, 60Hz, 480V/277V, 1800RPM, H-125/40, PF=1

Line	CHP/COGEN Model #	COP Elec. Power	Efficiency			Gas Engine Model #	Meccalte/ Marelli Alternator Model #
			Elec.	Thermal	Total		
Biogas Gensets/CHPs Powered by Made-in-China Gas Engines							
1	AMC18B6SC	18kWe	30.1%	52.3%	82.40%	AMC 4Y	ECO28-2L4A(24kW)
2	AMC22B6SC	22kWe	31.0%	49.2%	80.20%	AMC 4B	ECO28-VL4A(29kW)
3	AMC30B6SC	30kWe	33.5%	48.7%	82.20%	AMC 4BTAA	ECO32-3S4A(41kW)
4	AMC40B6SC	40kWe	31.6%	49.0%	80.60%	AMC 6B	ECO32-1M4A(48kW)
5	AMC65B6SC	65kWe	34.6%	48.1%	82.70%	AMC 6BTAA	ECO32-3L4A(77kW)
6	AMC90B6SC	90kWe	34.3%	48.2%	82.50%	AMC 6CTAA	ECO34-2S4A(101kW)
7	AMC115B6SC	115kWe	35.8%	46.3%	82.10%	AMC 6LTAA	ECO34-2L4A(144kW)
8	AMC150B6SC	150kWe	37.3%	46.8%	84.10%	STEYR T10	ECO38-1S4A(173kW)
9	AMC175B6SC	175kWe	35.5%	45.8%	81.30%	AMC NTAA855	ECO38-2S4A(192kW)
10	AMC200B6SC	200kWe	37.3%	42.8%	80.10%	STEYR T12	ECO38-1L4A(240kW)
11	AMC220B6SC	220kWe	36.7%	45.6%	82.30%	AMC KTAA19	ECO38-2L4A(288kW)
12	AMC400B6SC	400kWe	37.5%	46.8%	84.30%	AMC KTAA38	ECO40-3S4B(480kW)
Biogas Gensets/CHPs Powered by Made-in-Germany MAN Gas Engines							
13	AMC220B6SC	220kWe	39.1 %	45.4 %	84.5 %	MAN E2676 LE212	ECO38 2L4A(288kW)
14	AMC370B6SC	370kWe	39.8 %	46.9 %	86.7 %	MAN E3268 LE222	ECO40 2S4B(432kW)
15	AMC430B6SC	430 kWe	37.2 %	51.3 %	88.5 %	MAN E3262 LE242	ECO40 3S4B(480kW)
16	AMC560B6SC	560 kWe	39.2 %	48.8 %	88.0%	MAN E3262 LE212	ECO40 2L4B(653kW)
Biogas Gensets/CHPs Powered by Made-in-Germany MWM Gas Engines							
17	AMC400B6SC	400 kWe	41.7%	43.3%	85.0%	MWM TCG2016V08	ECO40-3S4A(480kW)
18	AMC600B6SC	600 kWe	41.7%	43.6%	85.3%	MWM TCG2016V12	ECO40- VL4A(720kW)
19	AMC800B6SC	800 kWe	41.9%	43.3%	85.2%	MWM TCG2016V16	ECO43-2S4A(893kW)
20	AMC1200B6SC	1200 kWe	41.8%	43.8%	85.6%	MWM TCG2020V12	MJB450MB4
21	AMC1560B6SC	1560 kWe	42.3%	43.1%	85.4%	MWM TCG2020V16	MJB500MC4
22	AMC2000B6SC	2000 kWe	42.7%	43.2%	85.9%	MWM TCG2020V20	MJB560LA4
23	AMC3510B6SC	3510 kWe	43.3%	38.5%	81.8%	MWM TCG2032V16	MJH800MC6

Remarks:

- Other voltages like 415V, 440V, 460V, etc. are available on request.
- Each CHP consists of gas train, continuous oil supply system & remote radiator. All CHPs are with public grid synchronizing device.

8

--The World's Leading Unique Technologies for Oil & Gas Fields--

Natural Gas Generators for Electrical Drilling Rigs

--Reliable, Efficient, Digital–

Over 2,000 sets of natural gas generators and engines are running well.

Power Range

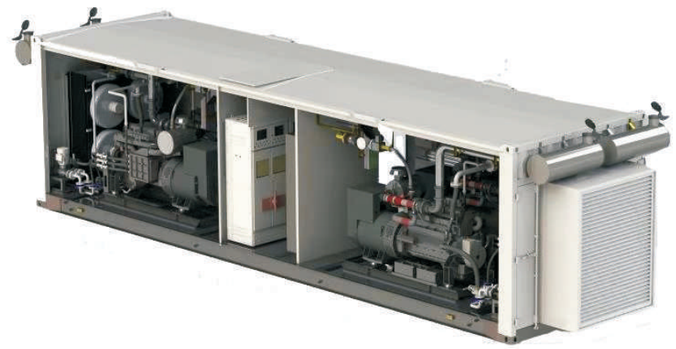
250kW-5,000kW/600V/50Hz/60Hz, or any power you need.

Scheme 1: Gas Generators Powered by Steyr Gas Engines

3×E-BoxS1000 + 1xE-BoxS500=3,500kWe, with parallel operation.

-each E-BoxS1000 consists of 4×250kWe natural gas generators with parallel operation.

-each E-BoxS500 consists of 2×250kWe natural gas generatorswith parallel operation.



Each E-BoxM1000 Consists of 4×250kWe Gas Generators

A Typical Application of 3,500kWe

Scheme 2: Gas Generators Powered by MAN E3262 LE212 Gas Engines

3×E-BoxM1000 + 1xE-BoxM500=3,500kWe, with parallel operation.

-each E-BoxM1000 consists of 2×500kWe natural gas generators with parallel operation.

-each E-BoxM500 consists of 1x500kWe natural gas generator with parallel operation of E-BoxM1000.

The Customized Design for Your Specific Applications

We accept customized design for your specific applications with any power and any ambient conditions.

9

--The World's Leading Unique Technologies for Oil & Gas Fields--

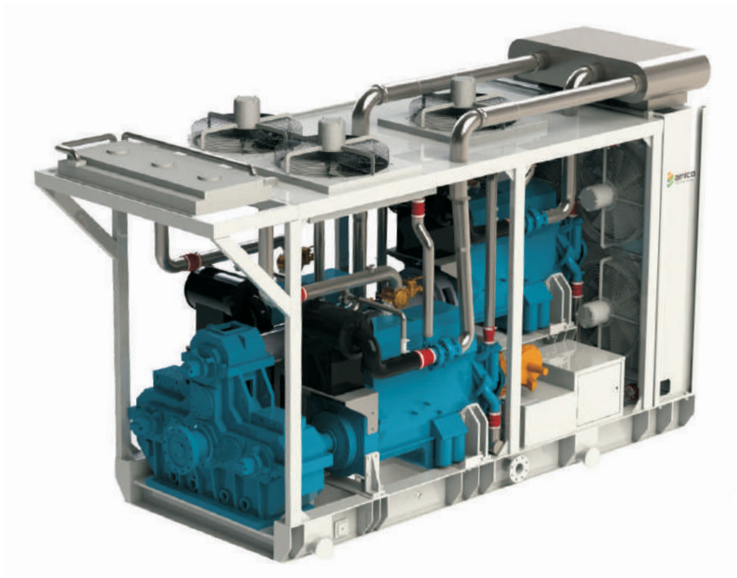
Natural Gas Engine Modules for Mechanical Drilling Rigs

--Reliable & Efficient–

A Typical Application of Natural Gas Engine Modules:

- 3×M-Box810, total power is 2,430kWm

  Single M-Box810: 810kWm/1,300rpm.



Each M-Box810 Consists of 3×270kWm Gas Engines

- **Electrical power:** 1×E-Box750, consisting of 3×250 natural gas generators.

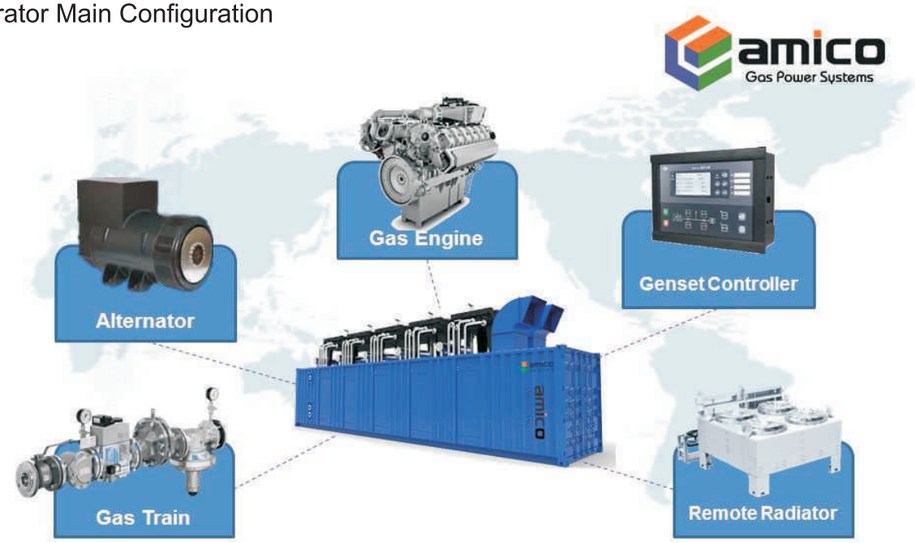
The Customized Design for Your Specific Applications

We accept customized design for your specific applications with any power and any ambient conditions.

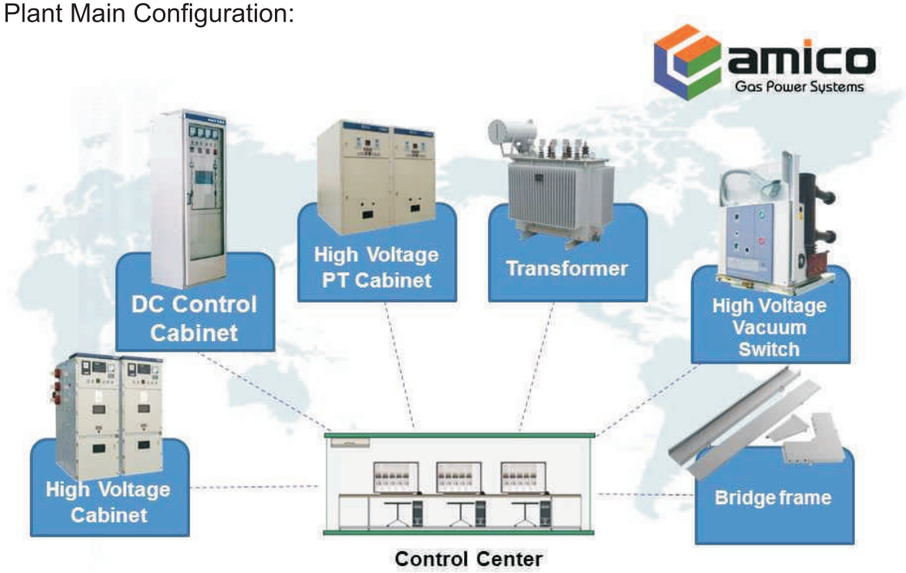
10

Gas Power Plant

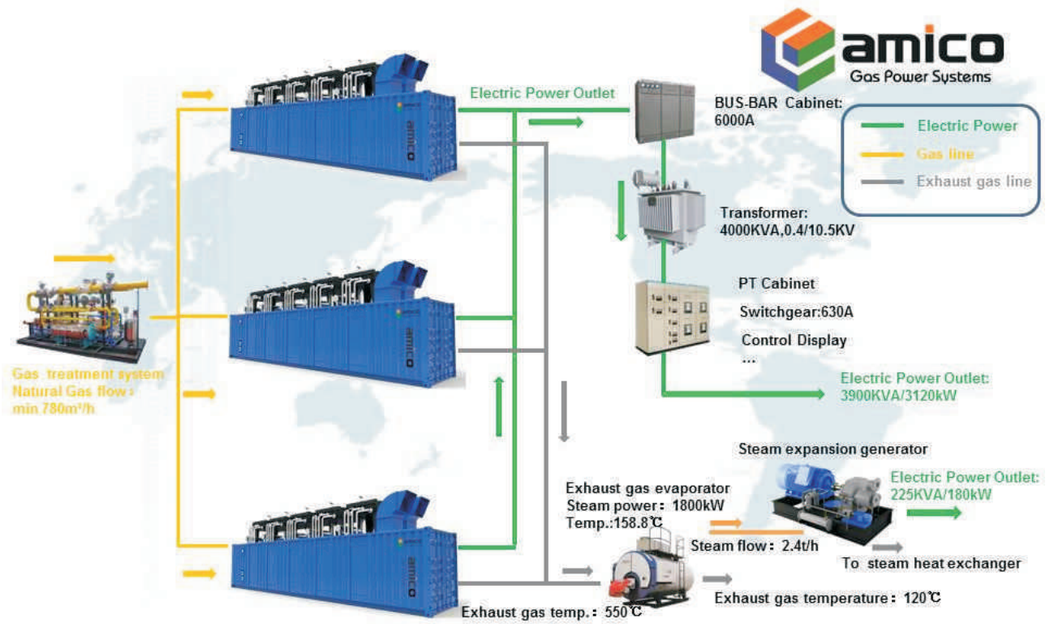
Gas Generator Main Configuration



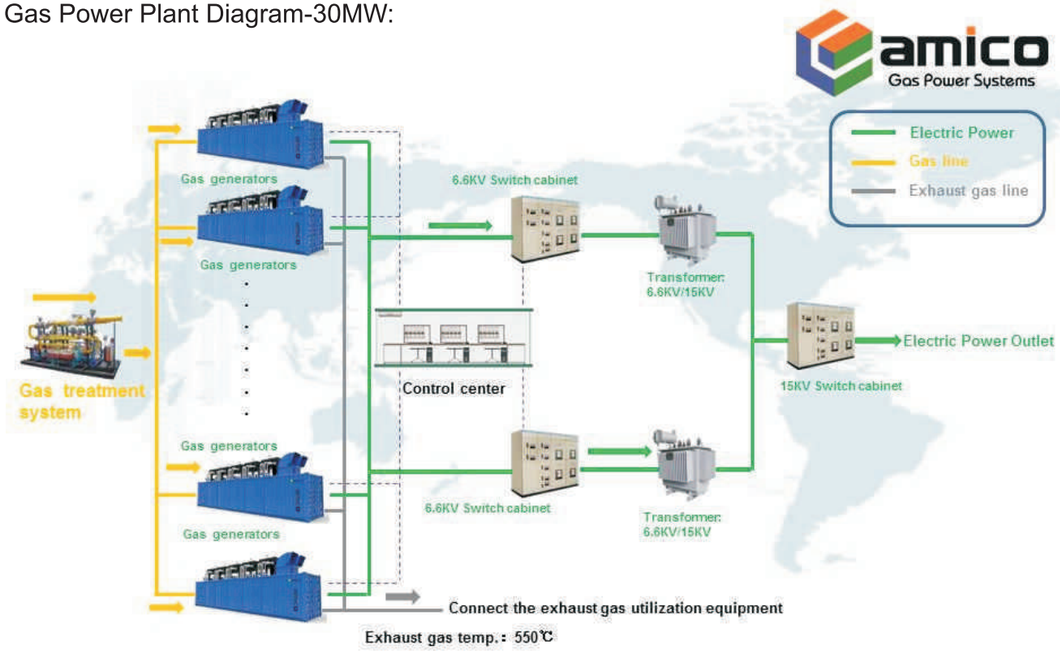
Gas Power Plant Main Configuration:



Gas Power Plant Diagram-3MW:



Gas Power Plant Diagram-30MW:



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ComAp
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