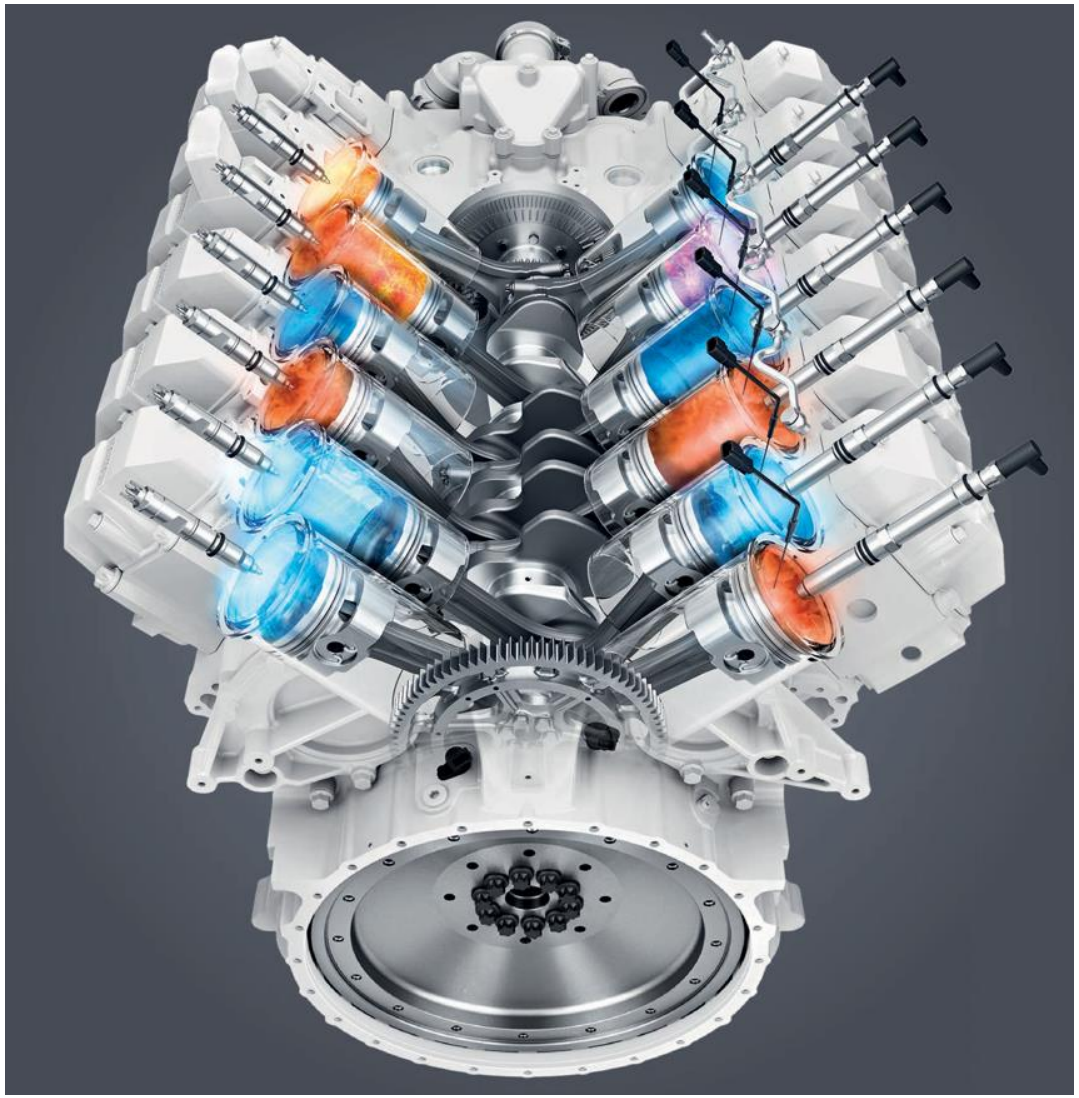
High Power Gas Genset of Tellhow EST

500-1800KW

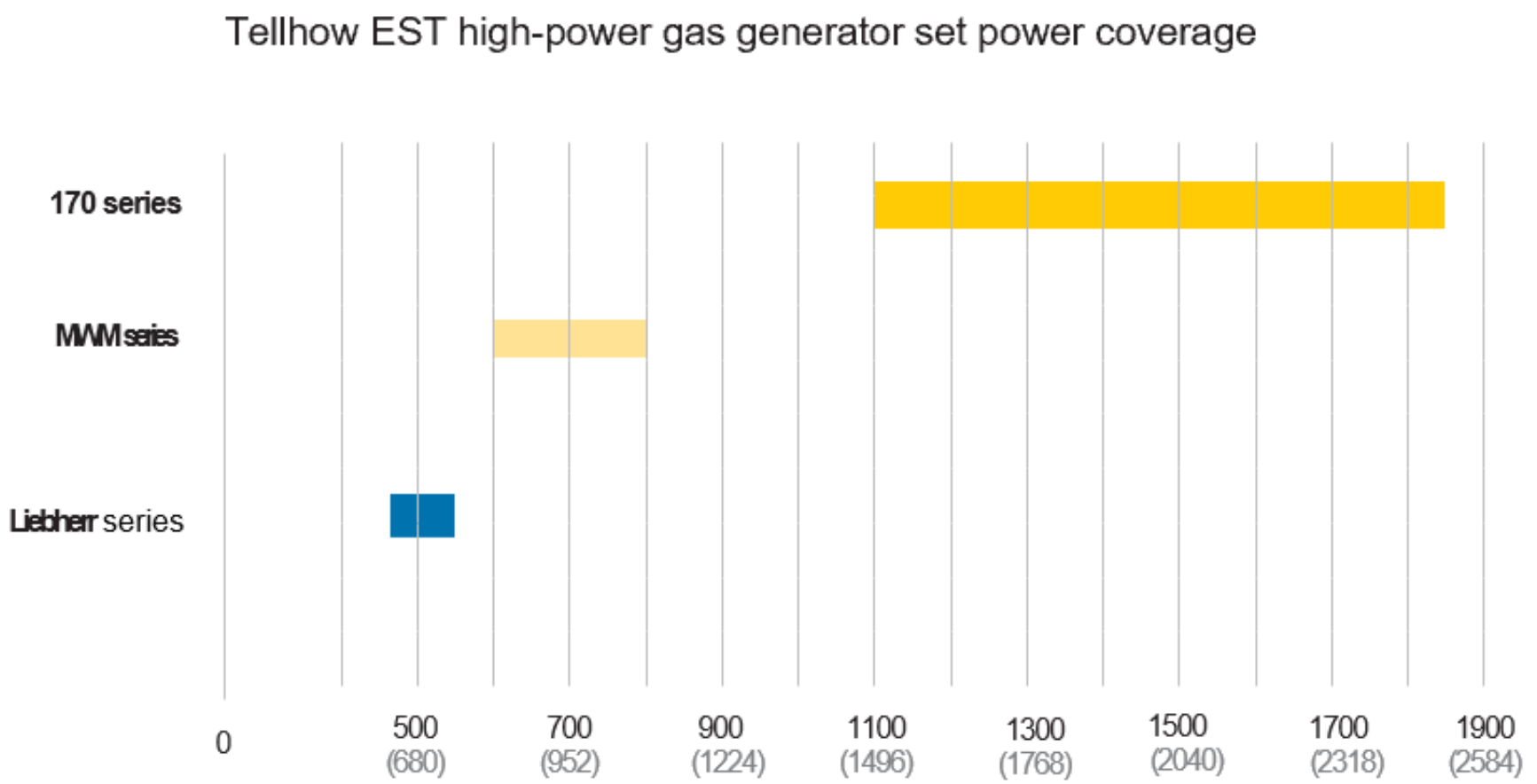
High power gas genset



The high-power gas genset produced by Tellhow EST mainly uses three types of engines. 500KW unit uses Liebherr’s G9512, 600 and 800KW units use MWM’s TCG3016 engine, 1100-1800KW units use 170 series engines with independent intellectual property rights, and all technical parameters are in line with MWM’s TCG3020 series engines. , The coincidence rate of technical parameters has reached a similarity of 95%, and certain key technologies have also been surpassed. The birth of the 170 series gas engine fully reflects the improvement of China's manufacturing capacity and breaks the monopoly of foreign products of the same type.

All models of the high-power gas generator sets manufactured by Tellhow EST have exceeded 40% power generation efficiency, and the overhaul period has reached more than 60,000 hours, and the operation and maintenance costs have also been reduced to less than 0.1 yuan/KWH (the realization of this indicator requires Sign an operation and maintenance contract with us).

High power gas genset



ES 500N5A Gas Genset

Engine model			G9512
Engine power[2]		kW	515
Rated speed		r/min	1500
Fuel type			NG/Biogas
Exhaust temperature		℃	469
Wet exhaust flow	Approx.	kg/h	2700
Combustion air flow	±8%	kg/h	2403
Intake air temperature after intercooling	±5	℃	42
Ventilation [3]	Approx.	kg/h	13338
Technical parameters of engine			
Bore / stroke		mm	130/157
Displacement		dm^3	25
Average piston speed		m/s	7.85
Lubricating oil capacity [4]		dm^3	90
Average consumption of oil @100% load		g/kWh	≤0.3
Alternator			
Rated power		KVA/KW	625/500
Rated voltage		V	400
Efficiency [5]		%	97.0
Frequency		Hz	50
Speed		rpm	1500
Overspeed limited		rpm	2250
Power factor			0.8 (lagging)
Protection			IP22
Insulation			H
Temperature rise grade			H
Maximum ambient temperature		℃	40
Altitude		m	1000
Energy balance			ES 500 N5A
Output power [5]		kW	500
Power of HT	±8%	kW	188
Power of LT	±8%	kW	33
Power of exhaust (to 120 ℃)	±8%	kW	293
Radiated heat of engine	Approx.	kW	20
Radiant heat of alternator	Approx.	kW	15
Fuel consumption	±5%	kW	1203
Electrical efficiency		%	41.6
Thermal efficiency		%	40.0
Total efficiency		%	81.6

Introduction

For customers who are more sensitive to gas prices, we are more willing to provide ES 500N5A gas generator sets with higher power generation efficiency. The engine of this unit is independently designed and manufactured by the Swiss Bulle company, namely the famous Liebherr's G9512 engine. In this power section, the thermal efficiency can be as high as 44%, which is a good choice for cogeneration or independent power generation in areas with high natural gas prices.

Model			ES 500 N5A
Dimensions			
Length	Approx.	mm	4800
Width	Approx.	mm	1700
Height	Approx.	mm	2100
Net weight	Approx.	kg	6315

Performance and efficiency

Relying on a mechanical efficiency of 44%, Liebherr gas engines provide the best efficiency performance in its performance category. This efficiency value is the result of years of dedication to gaining application experience, careful selection of components, extensive development work, and a high degree of system integration in the field of hardware and software.

Complete supporting facilities

Liebherr gas engines are characterized by high efficiency and high availability. In order to maintain these properties for a long time, the engine is fully equipped. Tellhow EST has been optimized for the engine and provides a "plug and play" solution. All components have passed engine verification and extensive testing. Direct integration in the system saves you valuable time and money.

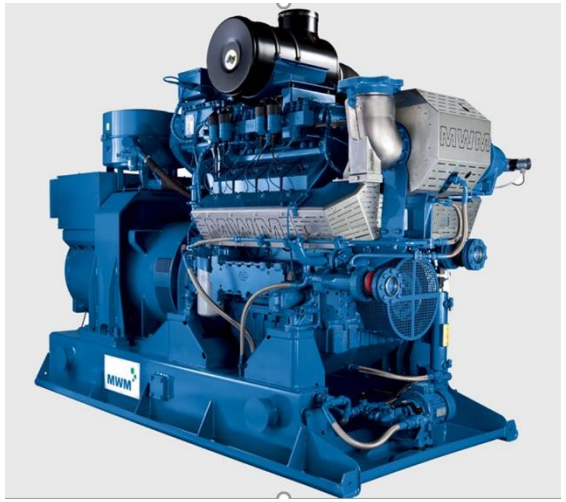
ES 600N5 Gas Genset

Engine model			TCG3016V12
Engine power[2)]		kW	621
Rated speed		r/min	1500
Fuel type			NG/Biogas
Exhaust temperature		℃	450
Wet exhaust flow	Approx.	kg/h	3271
Combustion air flow	±8%	kg/h	2881
Intake air temperature after intercooling	±5	℃	50
Ventilation [3)]	Approx.	kg/h	16010
Technical parameters of engine			
Bore / stroke		mm	132/160
Displacement		dm^3	26
Average piston speed		m/s	8
Lubricating oil capacity [4)]		dm^3	95
Average consumption of oil @100% load		g/kWh	≤0.1
Alternator			
Rated power		KVA/KW	750/600
Rated voltage		V	400
Efficiency [5)]		%	96.2
Frequency		Hz	50
Speed		rpm	1500
Overspeed limited		rpm	2250
Power factor			0.8 (lagging)
Protection			IP23
Insulation			H
Temperature rise grade			H
Maximum ambient temperature		℃	40
Altitude		m	1000
Energy balance			ES 800 N5
Output power [5)]		kW	600
Power of HT	±8%	kW	332
Power of LT	±8%	kW	55
Power of exhaust (to 180 ℃)	±8%	kW	272
Radiated heat of engine	Approx.	kW	24
Radiant heat of alternator	Approx.	kW	18
Fuel consumption	±5%	kW	1443
Electrical efficiency		%	41.4
Thermal efficiency		%	41.8
Total efficiency		%	83.2

Introduction

For a 600KW generator set, MWM's engine technology should be the most cost-effective product in the industry. Tellhow EST has always maintained close cooperation with MWM. We use 3016V12 engine assembled generator sets, which can provide customers with power generation efficiency as high as 41.4%. Moreover, natural gas and biogas can be used.

The ES 600N5 gas generator set has been applied in a large number of projects. Its stable performance and excellent economy have made customers very satisfied.



Model			ES 600 N5
Dimensions			
Length	Approx.	mm	3830
Width	Approx.	mm	1780
Height	Approx.	mm	2150
Net weight	Approx.	kg	7000

Advantage description

This engine is the most efficient product in its class, which can maximize the economic benefits of customers.

Low lubricating oil consumption, thereby reducing operating costs.

Small footprint (up to 50%), reducing installation costs.

The advanced engine control system makes the unit suitable for various gas types and maximizes the output power, even when the gas quality fluctuates.

The maintenance cycle is long, and maintenance costs are reduced through continuous R&D and upgrading.

Application scenarios

ES 600N5 gas generator set has more than 70 applications in natural gas distributed energy, industrial fields, landfills, sewage biogas, renewable energy, coal mines, hospitals, transportation hubs, power plants and other fields. Can meet all common scenarios currently.

ES 800N5 Gas Genset

Engine model			TCG3016V16
Engine power[2]		kW	835
Rated speed		r/min	1500
Fuel type			NG/Biogas
Exhaust temperature		℃	441
Wet exhaust flow	Approx.	kg/h	4293
Combustion air flow	±8%	kg/h	3827
Intake air temperature after intercooling	±5	℃	50
Ventilation [3]	Approx.	kg/h	21340
Technical parameters of engine			
Bore / stroke		mm	132/160
Displacement		dm^3	35
Average piston speed		m/s	8
Lubricating oil capacity [4]		dm^3	120
Average consumption of oil @100% load		g/kWh	≤0.1
Alternator			
Rated power		KVA/KW	1000/800
Rated voltage		V	400
Efficiency [5]		%	95.8
Frequency		Hz	50
Speed		rpm	1500
Overspeed limited		rpm	2250
Power factor			0.8 (lagging)
Protection			IP22
Insulation			H
Temperature rise grade			H
Maximum ambient temperature		℃	40
Altitude		m	1000
Energy balance			ES 800 N5
Output power [5]		kW	800
Power of HT	±8%	kW	438
Power of LT	±8%	kW	52
Power of exhaust (to 120 ℃)	±8%	kW	327
Radiated heat of engine	Approx.	kW	32
Radiant heat of alternator	Approx.	kW	24
Fuel consumption	±5%	kW	1879
Electrical efficiency		%	42.5
Thermal efficiency		%	41.7
Total efficiency		%	84.2

Introduction

For a 800KW generator set, MWM's engine technology should be the most cost-effective product in the industry. Tellhow EST has always maintained close cooperation with MWM. We use 3016V16 engine assembled generator sets, which can provide customers with power generation efficiency as high as 42.5%. Moreover, natural gas and biogas can be used.

The ES 800N5 gas generator set has been applied in a large number of projects. Its stable performance and excellent economy have made customers very satisfied.

Model			ES 800 N5
Dimensions			
Length	Approx.	mm	4200
Width	Approx.	mm	1780
Height	Approx.	mm	2150
Net weight	Approx.	kg	8070

Advantage description

This engine is the most efficient product in its class, which can maximize the economic benefits of customers.

Low lubricating oil consumption, thereby reducing operating costs.

Small footprint (up to 50%), reducing installation costs.

The advanced engine control system makes the unit suitable for various gas types and maximizes the output power, even when the gas quality fluctuates.

The maintenance cycle is long, and maintenance costs are reduced through continuous R&D and upgrading.

Application scenarios

ES 800N5 gas generator set has more than 70 applications in natural gas distributed energy, industrial fields, landfills, sewage biogas, renewable energy, coal mines, hospitals, transportation hubs, power plants and other fields. Can meet all common scenarios currently.

ES 1100N5 Gas Genset

Engine model			12V170
Engine power[2)]		kW	1139
Rated speed		r/min	1500
BMEP		MPa	1.72
Exhaust temperature		℃	≤500
Wet exhaust flow	Approx.	kg/h	5751
Combustion air flow	±8%	kg/h	5553
Intake air temperature after intercooling	±5	℃	50
Ventilation [3)]	Approx.	kg/h	30950
Technical parameters of engine			
Bore / stroke		mm	170/195
Displacement		dm^3	53.1
Average piston speed		m/s	9.75
Lubricating oil capacity [4)]		dm^3	180
Average consumption of oil @100% load		g/kWh	≤0.4
Alternator			
Efficiency [5)]		%	96.6
Energy balance			ES 1100 N5
Output power [5)]		kW	1100
Power of HT	±8%	kW	651
Power of LT	±8%	kW	107
Power of exhaust (to 120 ℃)	±8%	kW	637
Radiated heat of engine	Approx.	kW	43
Radiant heat of alternator	Approx.	kW	39
Fuel consumption	±5%	kW	2743
Electrical efficiency		%	40.1
Thermal efficiency		%	47.0
Total efficiency		%	87.1

Introduction

With more than 1100KW gas generator sets, Tellhow EST will use 170 series gas engines with independent intellectual property rights. This engine has undergone more advanced improvements on the basis of MWM's TCG2020 engine. Under the premise of maintaining a power generation efficiency of more than 40%, it can be adapted to various complex gases. At the same time, because a large number of auxiliary equipment are replaced by domestically produced equipment, the price of 170 series gas engines has dropped by more than 30% compared with European and American products of the same power.

ES 1100N5 uses ES 12V170 engine as power, the unit can reach 42.5% power generation efficiency.

Model			ES 1100 N5
Dimensions			
Length	Approx.	mm	5300
Width	Approx.	mm	1700
Height	Approx.	mm	2300
Net weight	Approx.	kg	13000

Higher efficiency

The power efficiency of the unit is as high as 40.1%, the highest in the country of the same type, and the comprehensive energy utilization rate exceeds 85%.

Low emissions

NOx emission index is less than 500mg/Nm^3

High reliability

Except for the cylinder block, cylinder head, crankshaft, connecting rod, camshaft, the main moving parts and large parts are the same as the foreign supply system of the same unit accessories, such as: turbocharger, moving parts, cylinder head assembly, combustion chamber, electronic control For systems, generators, safety protection systems, etc., the unit overhaul cycle is 48,000 hours, and the annual operating hours is as high as 7500-8000 hours.

Low maintenance cost

The parts have a long service life, and the prices of commonly used after-sales parts are much lower than those of foreign suppliers.

Low lubricating oil consumption

Lubricating oil consumption is less than 0.3g/kwh

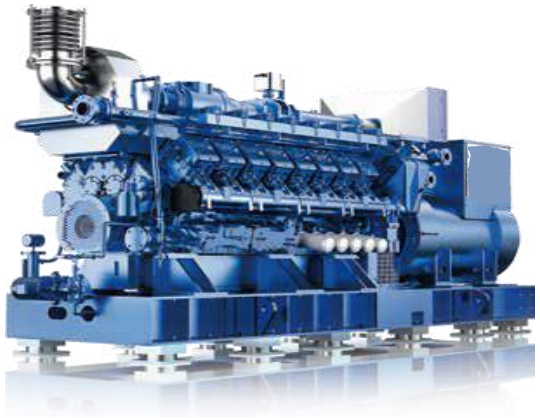
ES 1460N5 Gas Genset

Engine model			16V170
Engine power[2)]		kW	1510
Rated speed		r/min	1500
BMEP		MPa	1.71
Exhaust temperature		℃	≤500
Wet exhaust flow	Approx.	kg/h	7812
Combustion air flow	±8%	kg/h	3185
Intake air temperature after intercooling	±5	℃	50
Ventilation [3)]	Approx.	kg/h	34820
Technical parameters of engine			
Bore / stroke		mm	170/195
Displacement		dm^3	70.8
Average piston speed		m/s	9.75
Lubricating oil capacity [4)]		dm^3	240
Average consumption of oil @100% load		g/kWh	≤0.4
Alternator			
Efficiency [5)]		%	96.7
Energy balance			ES 1460 N5
Output power [5)]		kW	1460
Power of HT	±8%	kW	905
Power of LT	±8%	kW	127
Power of exhaust (to 120 ℃)	±8%	kW	898
Radiated heat of engine	Approx.	kW	52
Radiant heat of alternator	Approx.	kW	50
Fuel consumption	±5%	kW	3535
Electrical efficiency		%	41.3
Thermal efficiency		%	44.9
Total efficiency		%	86.2

Introduction

With more than 1100KW gas generator sets, Tellhow EST will use 170 series gas engines with independent intellectual property rights. This engine has undergone more advanced improvements on the basis of MWM's TCG2020 engine. Under the premise of maintaining a power generation efficiency of more than 40%, it can be adapted to various complex gases. At the same time, because a large number of auxiliary equipment are replaced by domestically produced equipment, the price of 170 series gas engines has dropped by more than 30% compared with European and American products of the same power.

ES 1460N5 uses ES 16V170 engine as power, the unit can reach 41.3% power generation efficiency.



Model			ES 1460 N5
Dimensions			
Length	Approx.	mm	6150
Width	Approx.	mm	1700
Height	Approx.	mm	2615
Net weight	Approx.	kg	15000

Higher efficiency

The power efficiency of the unit is as high as 40.1%, the highest in the country of the same type, and the comprehensive energy utilization rate exceeds 85%.

Low emissions

NOx emission index is less than 500mg/Nm^3

High reliability

Except for the cylinder block, cylinder head, crankshaft, connecting rod, camshaft, the main moving parts and large parts are the same as the foreign supply system of the same unit accessories, such as: turbocharger, moving parts, cylinder head assembly, combustion chamber, electronic control For systems, generators, safety protection systems, etc., the unit overhaul cycle is 48,000 hours, and the annual operating hours is as high as 7500-8000 hours.

Low maintenance cost

The parts have a long service life, and the prices of commonly used after-sales parts are much lower than those of foreign suppliers.

Low lubricating oil consumption

Lubricating oil consumption is less than 0.3g/kwh

ES 1800N5 Gas Genset

Engine model			20V170
Engine power[2)]		kW	1854
Rated speed		r/min	1500
BMEP		MPa	1.68
Exhaust temperature		℃	≤500
Wet exhaust flow	Approx.	kg/h	9292
Combustion air flow	±8%	kg/h	8992
Intake air temperature after intercooling	±5	℃	50
Ventilation [3)]	Approx.	kg/h	48014
Technical parameters of engine			
Bore / stroke		mm	170/195
Displacement		dm^3	88.5
Average piston speed		m/s	9.75
Lubricating oil capacity [4)]		dm^3	300
Average consumption of oil @100% load		g/kWh	≤0.3
Alternator			
Efficiency [5)]		%	97.1
Energy balance			ES 1800 N5
Output power [5)]		kW	1800
Power of HT	±8%	kW	1102
Power of LT	±8%	kW	163
Power of exhaust (to 120 ℃)	±8%	kW	1006
Radiated heat of engine	Approx.	kW	72
Radiant heat of alternator	Approx.	kW	54
Fuel consumption	±5%	kW	4337
Electrical efficiency		%	41.5
Thermal efficiency		%	44.8
Total efficiency		%	86.3

Introduction

With more than 1100KW gas generator sets, Tellhow EST will use 170 series gas engines with independent intellectual property rights. This engine has undergone more advanced improvements on the basis of MWM's TCG2020 engine. Under the premise of maintaining a power generation efficiency of more than 40%, it can be adapted to various complex gases. At the same time, because a large number of auxiliary equipment are replaced by domestically produced equipment, the price of 170 series gas engines has dropped by more than 30% compared with European and American products of the same power.

ES 1800N5 uses ES 20V170 engine as power, the unit can reach 41.5% power generation efficiency.

Model			ES 1800 N5
Dimensions			
Length	Approx.	mm	7320
Width	Approx.	mm	1700
Height	Approx.	mm	2615
Net weight	Approx.	kg	17000

Higher efficiency

The power efficiency of the unit is as high as 40.1%, the highest in the country of the same type, and the comprehensive energy utilization rate exceeds 85%.

Low emissions

NOx emission index is less than 500mg/Nm^3

High reliability

Except for the cylinder block, cylinder head, crankshaft, connecting rod, camshaft, the main moving parts and large parts are the same as the foreign supply system of the same unit accessories, such as: turbocharger, moving parts, cylinder head assembly, combustion chamber, electronic control For systems, generators, safety protection systems, etc., the unit overhaul cycle is 48,000 hours, and the annual operating hours is as high as 7500-8000 hours.

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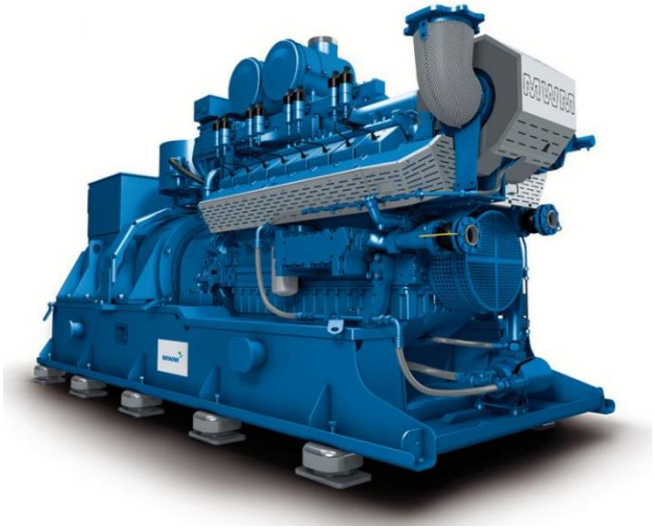
Low lubricating oil consumption

Lubricating oil consumption is less than 0.3g/kwh

Company vision

We hope and work hard to make our products contribute to China's goal of "carbon neutral, carbon peak" as soon as possible. In order to show that we are a responsible company, we must shoulder a mission: "give priority to the use of advanced technology, products and services, so as to improve the customer experience.". We hope that our small power gas generator sets can provide customers with more competitive procurement costs under the same excellent quality.

High power gas genset



THANK YOU !

Energy solutions experts around you, Tellhow EST

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