OFF-ROAD DIESEL ENGINE

B series 3B11

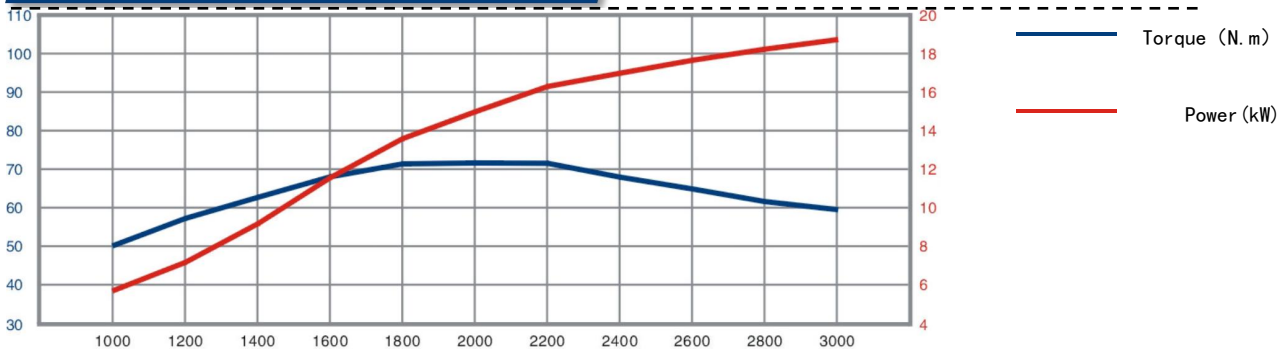
APPLICATION

Transplanter, plant protection machine,1.8T excavator,0.6T loader

TECHNICAL FEATURES

- ★ The three-cylinder standard rail diesel engine with a displacement of 1.1L and power ranging from 10kW to 27kW. There are many models that can be selected from on the same platform.
- ★ Select Bosch non-road dedicated common rail system, excellent performance, low emission, good reliability and durability.
- ★ Non-road special calibration, with good fuel economy and NVH performance, fuel consumption is 15% less than similar models.
- ★ Standardized flywheel and flywheel house design, strong adaptability.
- ★ It can fully meet the power needs of plant protection machines, mini-excavators, rice transplanter, farmer trucks, generator sets, and other complete machines.
- ★ Intelligent terminals are supported to collect engine data and fault information through various protocols, expanding remote car locking, OTA, and other services, thereby achieving remote monitoring, diagnosis, and management functions.

PERFORMANCE CURVE



Technical parameters

ITEM	3B11X41	3B11X51	3B11Y41
Technical route	NA+CR+DOC	NA+CR	TC+CR+DOC
Fuel injection system	BOSCH common rail		
Emission	Stage IV	EU V	Stage IV
Rated net power/RPM (kW/r/min)	18.5/3000		27/3000
Maximum net torque/RPM (N.m/r/min)	74/2000		92/2000
Optimal consumption (g/kW.h)	230		220
Cylinders	3		
Displacement (L)	1.12		
Net weight (kg)	110		114
Overall dimensions (mm)	530x390x590		530x400x610

E series 3E22

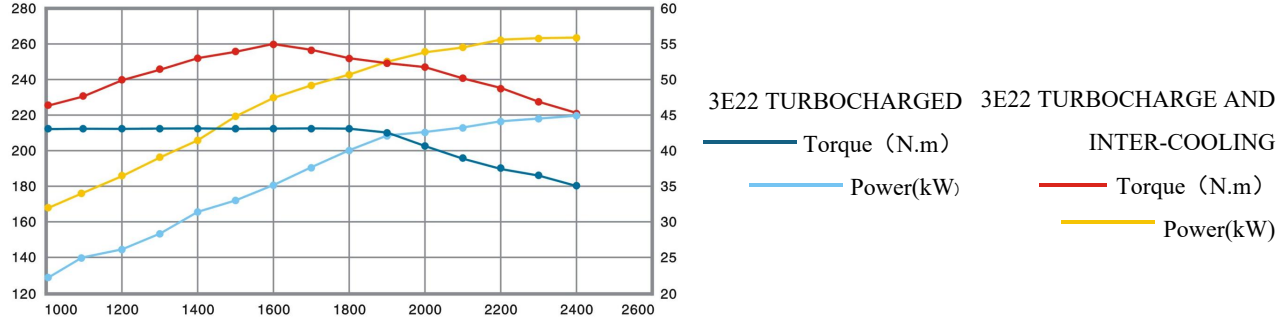
LONG LIFE DIESEL ENGINE WITH SMALL VOLUME AND HIGH POWER

- All components are designed and developed in a steady and innovative mode.
- Each cylinder is still equipped with two valves with high efficiency, mechanical strength, and functionality.
- The results are reflected in the longer service life, which also benefits from the adoption of first-class suppliers for all parts.

TECHNICAL FEATURES

- The displacement 2.2-liter, power cover 37-55kw, turbocharged, three-cylinder common rail diesel engine (1800bar Bosch non-road common rail).
- Maintenance convenience--all maintenance pieces are on the same side.
- Suitable for non-road working conditions, the design of the oil sump and oil filter is guaranteed to absorb oil with ± 35° .
- The front-end attachment system is designed with the European Hutchinson, and the belt adopts an elastic belt, with no maintenance.
- Adopt hydraulic tappet mechanism, automatic adjustment of valve clearance, low noise, and no maintenance.
- B_{10} life is 10000 hours;
- Built-in balance shaft is optional for the 3E series engine, which can further reduce the noise and vibration and make power more stable.

PERFORMANCE CURVE



Technical parameters

ITEM	3E22 TURBOCHARGED			3E22 TURBOCHARGE AND INTER-COOLING		
Technical route	BOSCH common rail + turbocharged			BOSCH common rail + turbocharged and intercooling		
Rated point	45kW/2400-2500rpm			55kW/2400-2500rpm		
Torque point	210Nm/1600-1800rpm			250Nm/1600-1800rpm		
Emission	Stage IV	EU IIIB	EU V	Stage IV	EU IIIB	EU V
Cylinders	3					
Displacement（L）	2.2					
Valve number	2					
After treatment	DOC+DPF	DOC	DOC+DPF	DOC+DPF	DOC	DOC+DPF
Optimal consumption (g/kW.h)	220			215		
Overall dimensions (mm)	700X580X760			700X580X760		

E series 4E30

IT IS A STEADY AND INNOVATIVE LONG-LIVED DIESEL ENGINE

Its emissions meet the EU Stage IIIB/EPA Tier 4F without DPF.

All components are designed and developed in a steady and innovative mode.

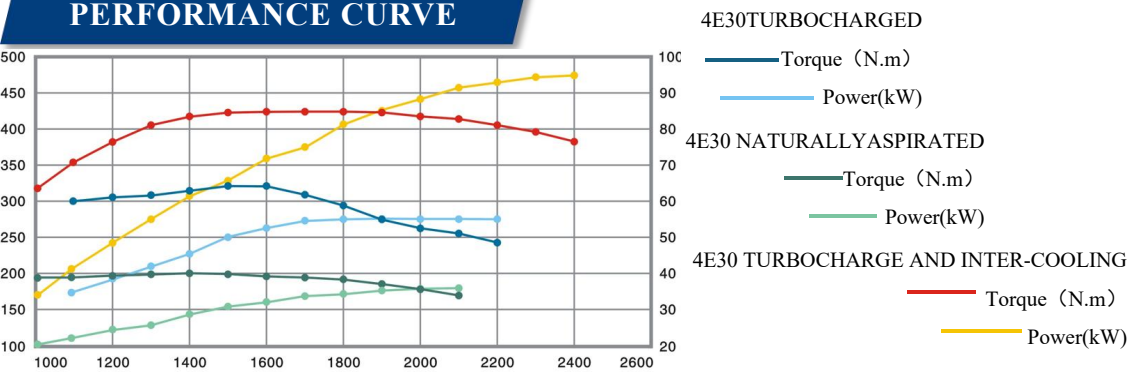
Each cylinder is equipped with 2 valves with high efficiency, mechanical strength, and functionality.

The results are reflected in the longer service life, which also benefits from the adoption of first-class suppliers for all parts.

TECHNICAL FEATURES

- The displacement 3.0-liter, power cover 37-95.7kw, turbocharged, four-cylinder common rail engine.
- Maintenance convenience--all maintenance pieces are on the same side.
- Suitable for non-road working conditions, the design of the oil sump and oil filter is guaranteed to absorb oil with ± 35° .
- The front-end attachment system is designed with the European Hutchinson, and the belt adopts an elastic belt, with no maintenance.
- Adopt hydraulic tappet mechanism, automatic adjustment of valve clearance, low noise, and no maintenance.
- B_{10} life is 10000 hours.

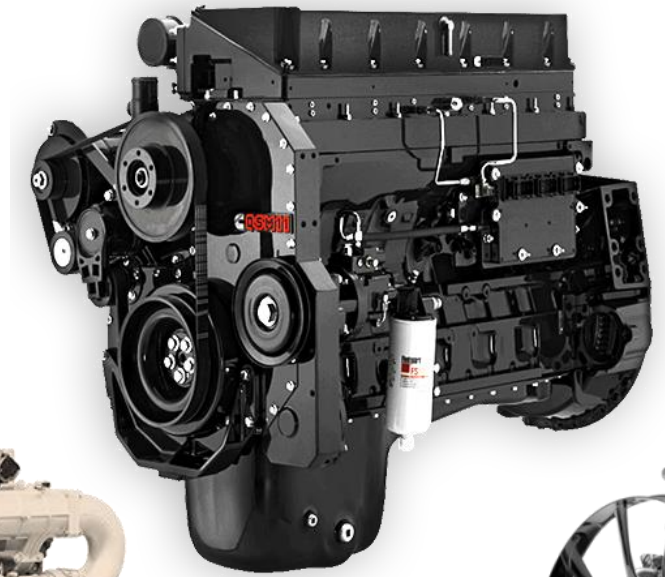
PERFORMANCE CURVE



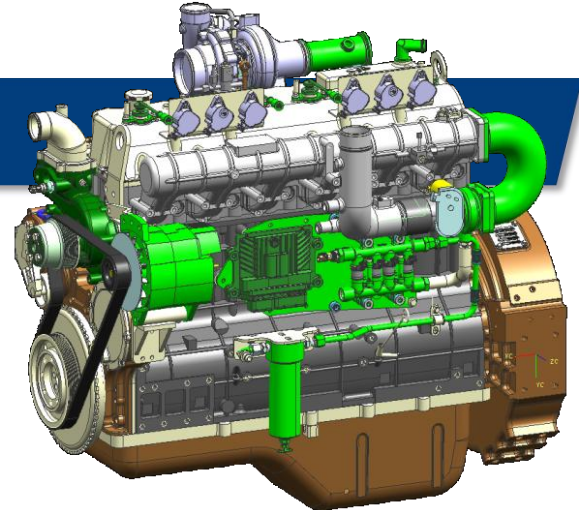
Technical parameters

ITEM	4E30 NATURALLY ASPIRATED	4E30 TURBOCHARGED	4E30 TURBOCHARGE AND INTER-COOLING
Technical route	BOSCH common rail	BOSCH common rail + turbocharged	BOSCH common rail + turbocharged and intercooling
Rated point	36.8kW/2100-2500rpm	55.2kW/2200rpm	95,7kW/2400-2500rpm
Torque point	198Nm/1200-1800rpm	320Nm/1200-1600rpm	430Nm/1200-1800rpm
Emission	Stage III, Stage IV, Eu IIIA	Eu-IIIB，Eu V	Stage III，stage IV
Cylinders	4		
Displacement（L）	3.0		
Valve number	2		
After treatment	/	DOC+DPF	
Optimal consumption (g/kW.h)	220	205	
Overall dimensions (mm)	760X610X790	760X580X790	760X640X740

NATURAL GAS ENGINES SERIES



LN series 6LN-40/50



APPLICATION

- **Bus**: 10-12m Bus, Group, Double-decker buses, BRT
- **Tractors:** 4×2 , 6×2, 6×4 tractor

Technical parameters

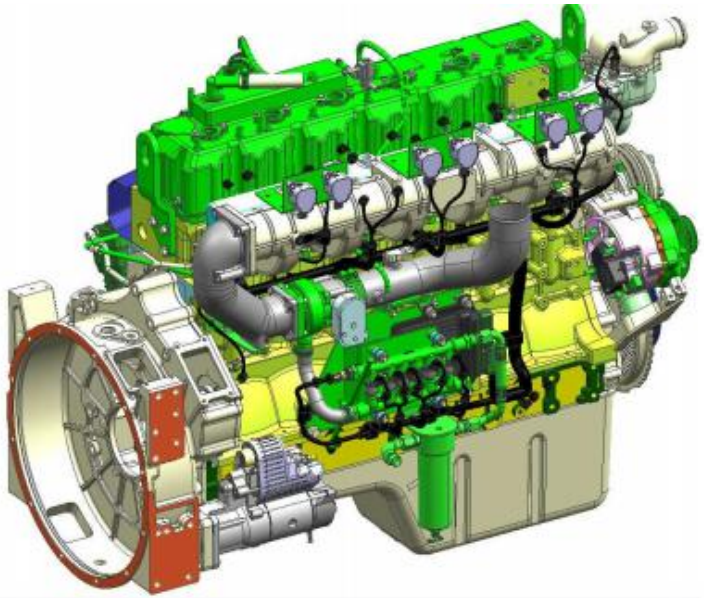
Item	Main technical parameters
Model	6LN-40/50
Type	In-line, water-cooled, four-stroke
Air Intake Type	Supercharged intercooled
Cylinders	6
Valves per cylinder	4
Displacement（L）	8.424
Power/Rotating speed(kW/rpm)	177、191、206/2200
Maximum torque/speed（N.m/rpm)	900、1000、1100/1200~1800
Universal characteristics lowest gas consumption	≤190
Fuel consumption rate under calibration condition g/（kW·h）	≤210
Electronic control system	ESI Control System
Emission class	Stage IV 、Stage V
Dimensions（Length×Width×Height）mm	1166*795*1071
Engine emission technology route	Lean combustion+in-machnie purification+extra-machine binary catalytic oxidation
Net weight kg	810

Model	YC6L240N-52	YC6L260N-52	YC6L280N-52
Type	Vertical, Inline, water-cooled,four-stroke, supercharged intercooled, ESI electronic control system		
Rated power/speed	177kW/2200r/min	191kW/2200r/min	206kW/2200r/min
Maximum torque/speed	900N•m/1200-1600r/min	980N•m/1200-1600r/min	1100N•m/1200-1600r/min
Minimum stable working speed	600±25r/min		
Maximum no-load speed	2450±25r/min		
Cylinder×Bore×Stroke	6-113×140		
Displacement	8.424L		
Emission	Stage V		

MK series 6MK-50

APPLICATION

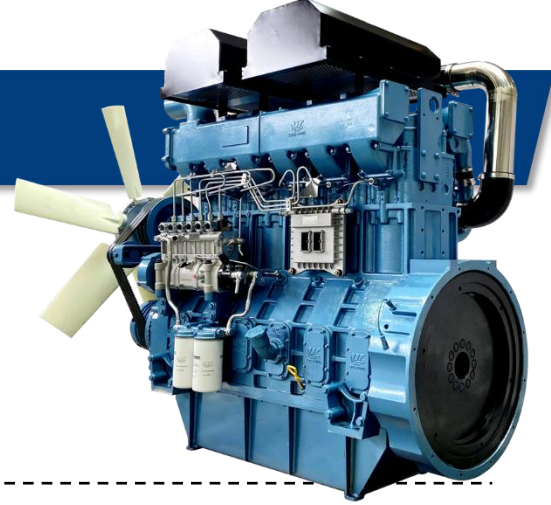
- 12-13.7m High-grade first and second-class highway buses, double-decker buses and BRT buses;
- 4X2, 6x2, 6x4 standard load road vehicles, engineering vehicles, special vehicles.



Technical parameters

Model	6MK280N-50	6MK300N-50	6MK320N-50	6MK340N-50	6MK35N-50
Type	Vertical, Inline, Water-cooled, four-stroke, supercharged intercooling				
Displacement(L)	10.338				
Cylinder-Bore×Stroke(mm)	6-123×145				
Valves per cylinder	4				
Rated Power kw	206	214	236	250	276
Rated Speed r/min	2100				
Maximun torque N·m	1150	1230	1300	1350	1500
Maximum torque speed r/min	1200-1500				
Emission class	Stage V				
Technical Route	Lean burn+DOC				
B10 lifetime 10,000km	80				
Net weight kg	≦900				
Length×Width×Height mm	1346×658×1051				

SC series



APPLICATION

- Pipeline natural gas and requirements for gas composition: pipeline natural gas, methane content ≥ 85%.
- Power generation, and is used in oilfield power supply.

TECHNICAL FEATURES

- Advanced Computerized Electronic Control:

Rapid control response speed ensures swift engine adjustments based on real-time ECU data. Meets the high-speed regulation requirements of power plants and supports parallel operation of generator sets.

- Lean Burn Technology:

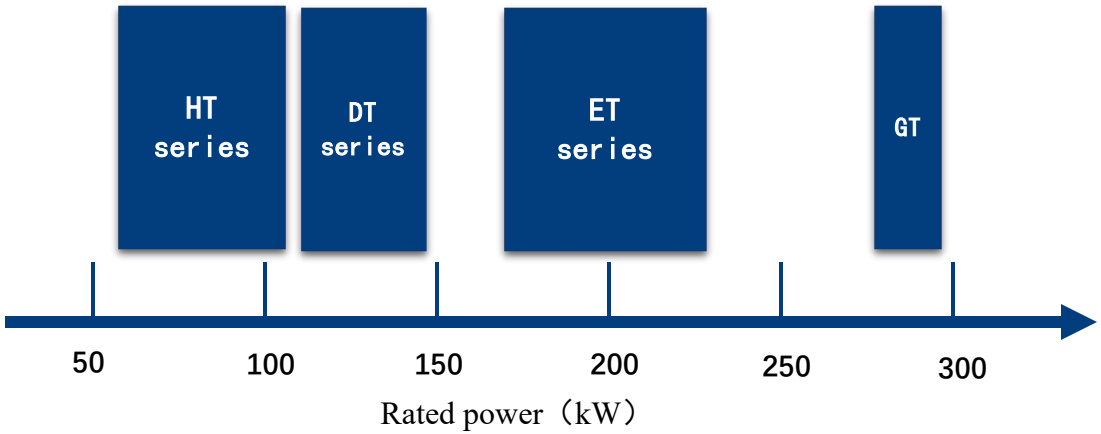
Optimizes combustion to enhance fuel economy and reduce engine thermal load. Delivers low gas consumption and reduced exhaust temperatures.

- Precision Ignition Control:

Maximizes ignition energy utilization for improved combustion efficiency and lower gas consumption. Adaptive ignition control ensures accurate spark timing in every combustion cycle.

- Advanced Gas Flow Control System:

Closed-loop gas flow regulation enables fast response and high precision.



Technical parameters

ITEM	SC4H T90D2	SC4H T120D 2	SC7H T140D 2	SC7H T160D 2	SC9D T180D 2	SC9D T210D 2	SC12 ET260 D2	SC12 ET320 D2	SC15 GT42 0D2
Technical route	In-line four-strokes/supercharge/Proportional mixer				In-line four-strokes/supercharge/Venturi mixer				
Compression ratio	10.5：1						12：1		10.5:1
Rated power（kW）	62	81	96	108	120	142	185	235	281
Rated speed（rpm）	1500								
Displacement（L）	4.3		6.5		8.8		11.8		14.2
(kW) Match the rated power of the unit	50	64	80	90	100	120	150	200	250
(kPa) Compressed air pressure	15-18								

DIESEL ENGINES FOR PASSENGER VEHICLES

M series

The M series engine is a high-performance diesel engine independently developed against the world‘s strongest power, and has won the title of China's top ten engines, fully covering the application needs of various light and heavy commercial vehicles.

TECHNICAL FEATURES

- **High rail pressure fuel injection system:**

using high-pressure co-system working pressure of 2000bar, using 8-hole injector, PVC and flow valve dual-track pressure control technology, each cycle can achieve 8 times of fuel injection; Meet the emission requirements of China VI and Euro VI;

- **Variable Swirl intake system:**

integrated VGT and WGT pressurization function, which realizes the free switching of high- or low-pressure levels. High level of integration and low cost. Intelligent control of eddy current ratio to achieve the best combustion in all working conditions; Each cylinder burns stably for smoother power output. Integrated water-air intercooler, small high-pressure volume, fast transient response, and precise temperature control.

- **Low friction technology:**

1. Piston ring PVD coating, high wear resistance, high corrosion resistance, low wear
2. DLC-coated piston pin, high wear resistance, low friction loss
3. Bipolar oil pump, fast response, smooth pressure switching, high and low oil pressure switching
4. Balance shaft needle roller bearing, the friction coefficient is smaller, crankshaft offset technology effectively reduces the pressure on the main thrust side of the piston and reduces friction work

- **Low NVH Technology:**

1. Double balance shaft system
2.Hollow groove muffler + flexible joint, effectively reduce the near-field noise of the intake pipe

Technical parameters

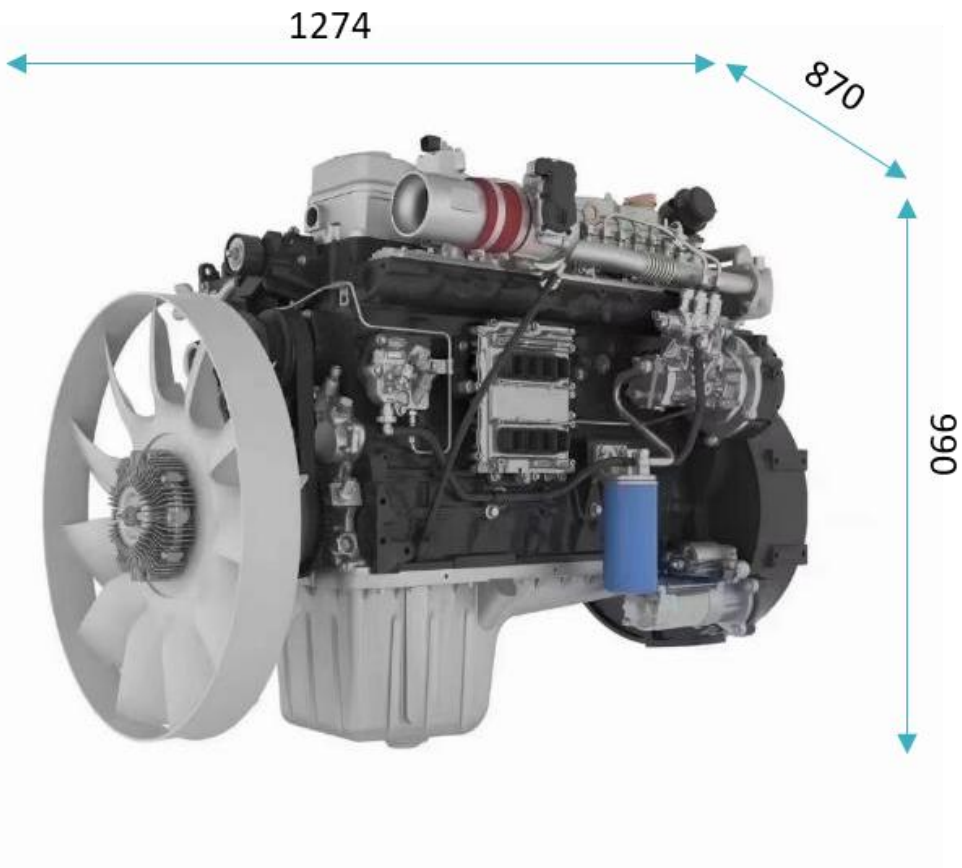
M Series Engine Data Sheet				
Application	Heavy-duty vehicle		Light vehicle	
Technical route	EGR+DOC+DPF+SCR/ASC		EGR+DOC+SDPF+SCR/ASC	
Pattern	Inline, 4-cylinder, four-stroke, supercharged inter-coolant, 4-valve			
Rated point	110kW/3600rpm	145kW/3600rpm	120kW/4000rpm	160kW/4000rpm
Torque point	375Nm/1500-2400rpm	465Nm/1500-2400rpm	375Nm/1500-2400rpm	480Nm/1500-2400rpm
Emission	China VI B/Euro VI		China VI B/Euro VI d	
Fuel efficiency at rated points	225g/kWh			
Weight	165kg	175kg	165kg	175kg

D67 series

D67 CN6b upgrade development parameters and comparative analysis

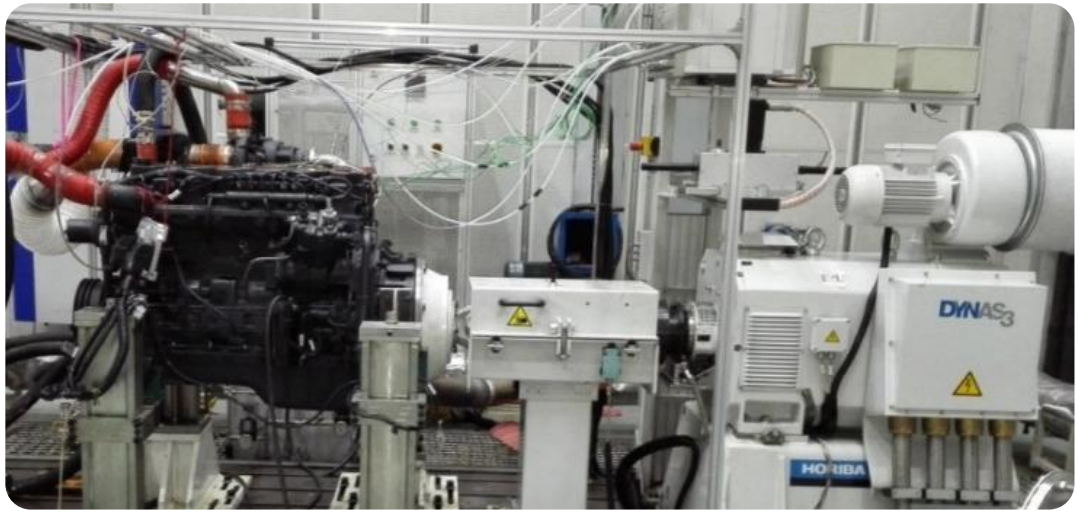
Technical parameters

Engine Model	D67TCIF (Current state)	D67 upgrade development
Rated Power (kw) / rpm	215/2300	242-257/2300
Rated Power (ps) / rpm	293/2300	330-350/2300
Peak Torque (n.m) / rpm	1180/1200-1700	1400/1200-1700
Intake form	inter-cooling	inter-cooling
Cylinder diameter x stroke (mm)	107x124	107x124
Displacement (l)	6.7	6.7
Low Idle Speed (rpm)	700	700
Firing order	1-5-3-6-2-4	1-5-3-6-2-4
Peak Firing pressure (bar)	180	185
Max Fuel Injection Pressure (bar)	1800	1800
Minimum fuel consumption rate @full load (g/kwh)	≤194	≤185
Emission	CN6B	CN6B
Emission control technology	EGR+DOC+DPF+SCR+ASC +HCI	DOC+DPF+Hi-SCR+ASC
Fuel supply system	BOSCH CB28 / BOSCH MD1CE108	BOSCH CB28 / BOSCH MD1CE108
Turbocharger	WGT	WGT



Validation Test for DV

⑧Reliable



10,000hr

In totoal Thermal shock test hours

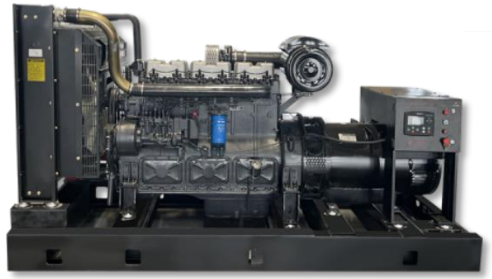
20,000hr

In total full speed full load test
Durability test hours

1,000,000km

Vehicle reliability testing

DIESEL GENERATOR SETS



OPEN TYPE DIESEL GENERATOR

Including a variety of modular designs and a large number of customizable functions, the power range is 8~4000KVA, the open generator has the characteristics of high power, economy, fast delivery, easy installation/use, etc., suitable for occasions with no special requirements for noise.

TRAILER TYPE DIESEL GENERATOR

It is easy to move and has a wide range of applications. It is easy to move, especially suitable for construction sites, highways, road construction, and temporary power stations

SILENT TYPE DIESEL GENERATOR

The use of weather cover, unique muffler, air inlet and outlet design, so that the noise of the generator is significantly reduced, the unique ultra-low noise unit low noise is more significant, no load up to 60dBA/7m, full load up to 62-65dBA/7m.

CONTAINERIZED TYPE DIESEL GENERATOR

Meet the needs of outdoor electricity. Comply with the CSC certification International Container Safety Convention to ensure that the sea freight is directly used as a standard container, saving transportation costs. It is suitable for places with strict requirements for noise pollution, such as hospitals, office spaces, open and fixed buildings, etc. The design also has the functions of rainproof, snowproof, sandproof, and so on.

INDUSTRIAL LOW VOLTAGE DIESEL GENERATOR

Voltage	230V/400V	Speed	1500rpm	Frequency	50Hz

Power Technology

Prime Power 18-1500kW

Standby Power 20-1650kW

Perkins

Prime Power 10-1800kW

Standby Power 11-1980kW

上柴动力 SDEC POWER

Prime Power 8-1800kW

Standby Power 8.8-2000kW

WEICHAI 潍柴

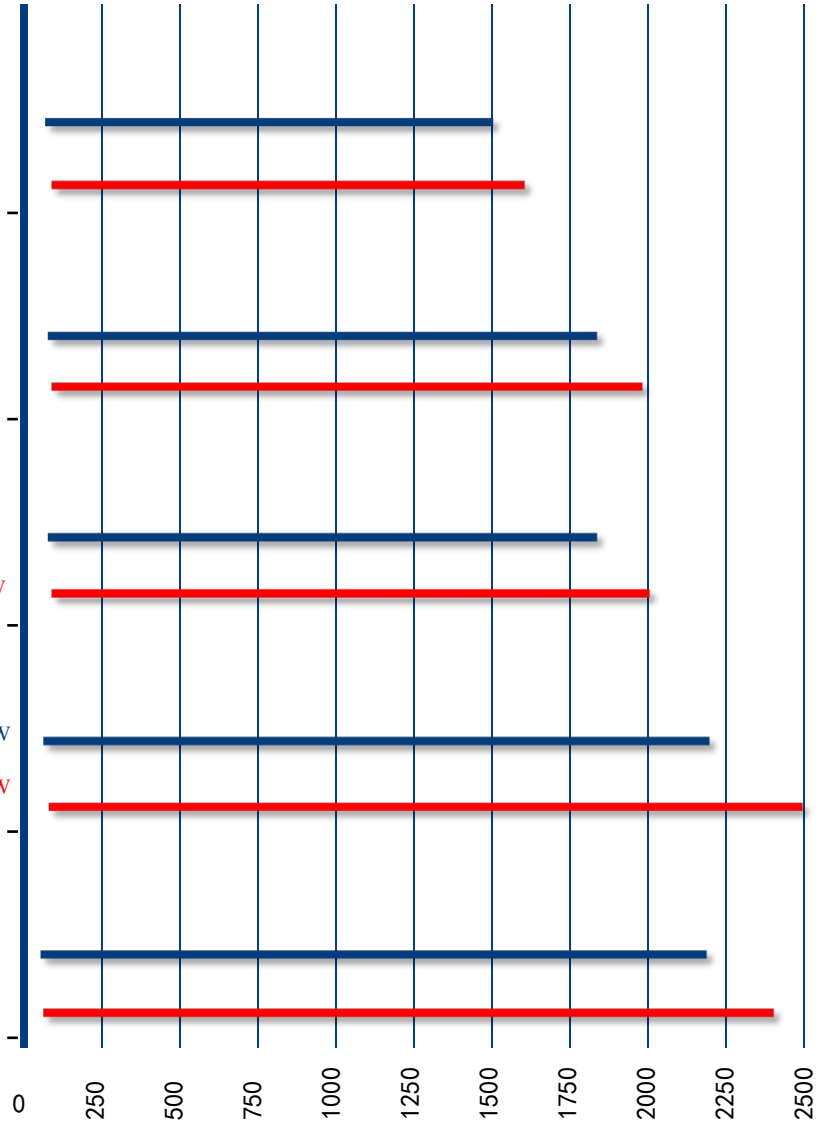
Prime Power 20-2200kW

Standby Power 22-2500kW

玉柴 YUCHAI

Prime Power 16-2200kW

Standby Power 18-2400kW



INDUSTRIAL HIGH VOLTAGE DIESEL GENERATOR

- The high-voltage generator set has the advantages of large capacity, long-distance power supply, high voltage regulation accuracy, reasonable structure of supporting power distribution system, superior dynamic performance, small voltage waveform distortion, high voltage and low current, high efficiency, long service life, etc., and has excellent grid-connected function.
- Its voltage is generally 6300V, 10500V, 15000V

Diesel engine — Power Technology

Prime Power 800-1200kW

Rated voltage 6.3kV

Generator — marathon Motors

Prime Power 800-1200kW

Rated voltage 10.5kV

Diesel engine — Perkins

Prime Power 1300-1800kW

Rated voltage 6.3kV

Generator — marathon Motors

Prime Power 1300-1800kW

Rated voltage 10.5kV

Diesel engine — 磐谷动力 GOOGOL POWER 让世界聆听中国的声音

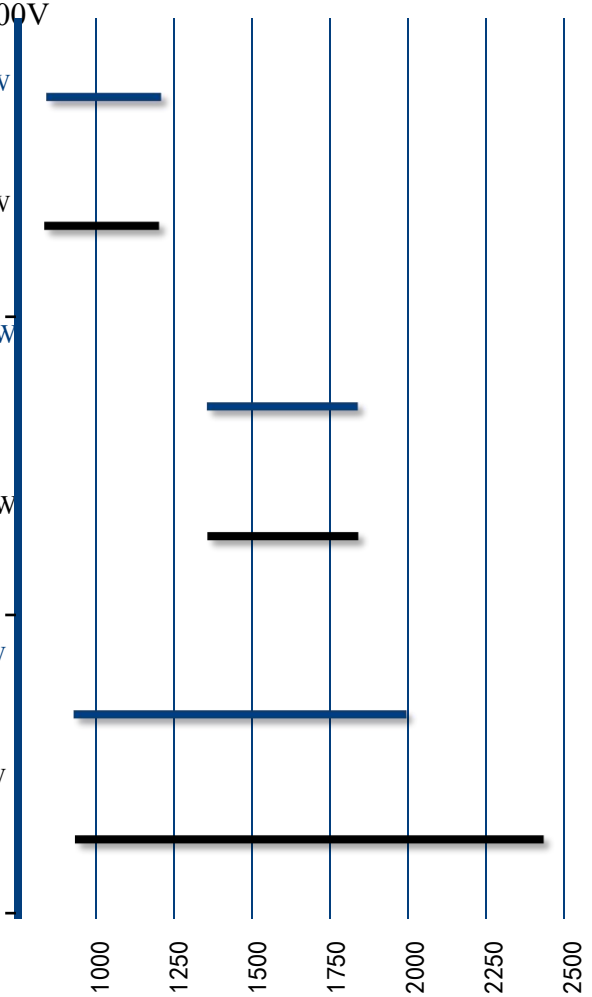
Prime Power 800-2000kW

Rated voltage 6.3kV

Generator — marathon Motors

Prime Power 800-2400kW

Rated voltage 10.5kV



series Silent generator set

TECHNICAL FEATURES

The "i" series generator sets are characterized by excellent power quality, extremely low noise control, an efficient water-cooling system, and a lightweight and compact product structure. The significant advantage of the "i" series generators is that the noise level is very low, the temperature in the engine room can be cooled by the engine airflow, and the efficient water-cooling system requires the generator and radiator to be installed separately.

1.Compact space requirements for installation
2.Modular design architecture
3.Versatile placement compatibility
4.Fully sealed enclosure construction
5.Streamlined cable management system

Applications

Emergency and professional services

- Emergency Command Center
- Police/Fire/Ambulance
- Mobile blood donation carts
- Rail and track maintenance
- Command vehicle

Leisure and tourism

- RV
- Research vehicles
- Mobile home
- Ships and yachts
- Vacation home

Communications and exhibitions

- Communication base stations
- Mobile Radio
- Mobile exhibition carts
- Commercial Vehicles

high requirements for power quality

- hospital
- bank
- Government offices
- Data Centers

Technical parameters

TYPE	QB 10000 iF			QB 12000 iF			QB 15000IF		
RATE POWER/kW	8			10			12		
PEAK POWER/kW	10			12			15		
Voltage/V	230			230/240			230/400		
Frequency/Hz	50								
Displacement/L	1.12								
Emission	EuroV EPA TierIII								
Fuel consumption rate g/kwh	204			213			213		
Noise/dB	7m	3m	1m	7m	3m	1m	7m	3m	1m
	52	62	67	52	62	67	53	62	68
Dimensions/mm	868X538X684								
Weight/kg	249			255			263		

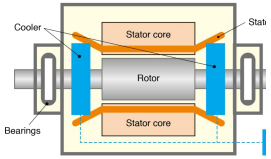
C series Silent generator set

TECHNICAL FEATURES

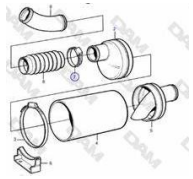
The "C" series silent diesel generator sets feature newly developed water-cooled generators and optional water-cooled silencers, building upon traditional designs. Compared to conventional units, this series demonstrates significant iterative upgrades with advantages including high cost-effectiveness, exceptional reliability, notable noise reduction, and simplified maintenance.

CORE TECHNOLOGY

- **Water-cooled generators**



- **Water-cooled silencer**



- **Common rail**

Technical parameters

	SINGLE-PHASE GENERATOR					THREE-PHASE GENERATOR		
TYPE	QB 10000 CM	QB 12000 CM	QB 15000 CM	QB 18000 CM	QB 25000 CM	QB 15000 CM3	QB 20000 CM3	QB 27000 CM3
Frequency/HZ	50					50		
Rated power/kW	8	10	12	15	20	12	15	20
Rated voltage/V	230					400		
Speed/rpm	1500	3000				3000		
Engine	3B11-XD41			3B11-YD41		3B11-XD41	3B11-YD41	
Engine displacement	1.123					1.123		
Engine structure form	Water-cooled, direct-injection common rail			Supercharger, water-cooled, direct-injection common rail		Water-cooled, direct-injection common rail	Supercharger, water-cooled, direct-injection common rail	
Emission	Euro V.					Euro V.		
Fuel consumption rate/g/kWh	204	213	213	209	217	218	209	217
Noise/dB	51	57	57	60	62	60	60	62
Fuel volume/L	40					40		
Runtime/h	15	13	11	9	9.5	11	9	9.5
Dimensions/mm	1450×680×780				1600×780×1090	1450×680×780		1600×780×1090
Weight/kg	365	375	440	480	630	440	480	630

THANKS!

Address： Building E10-1, Lane 4, Lane 866, Jinghui Road, Juxian Street, Yinzhou District, Ningbo City, Zhejiang Province
Tel：+86 13185992058
Postcode：315000
Website：www.auto-real.cn
Contact：hongjin@auto-real.cn

微信公众号