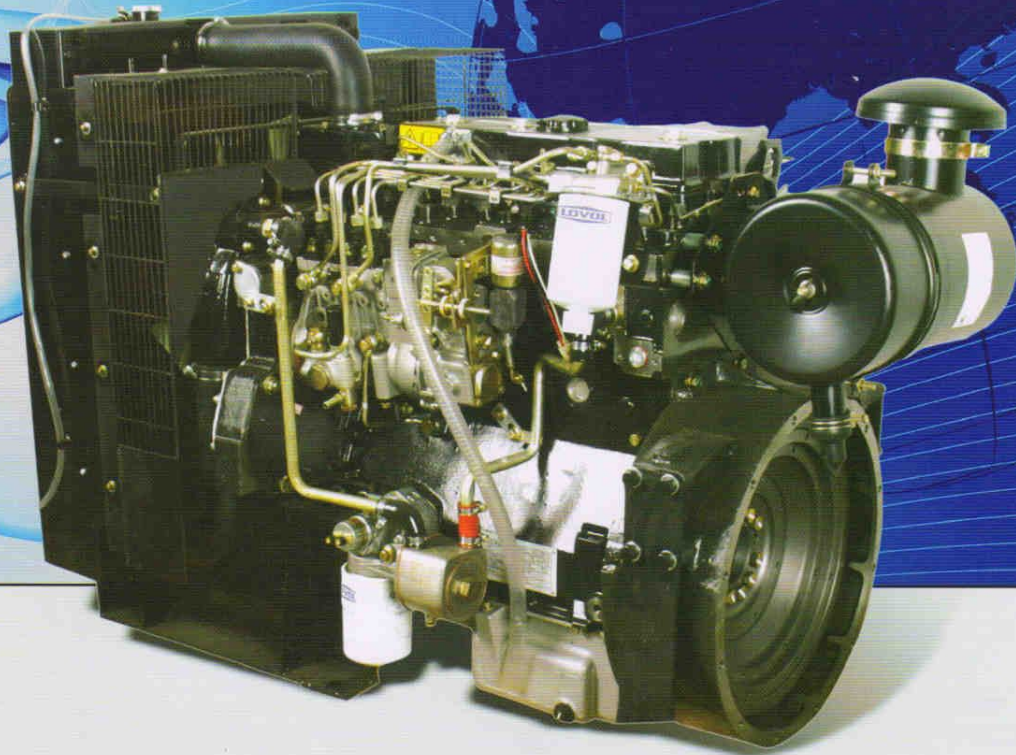


Inheriting from the world's leading technology

**LOVOL**



## Leading technology, Strong power, Good fuel economy and environmental protection, Excellent manufacture

### ■ EXCELLENT STRUCTURE DESIGN

1. The engine has a compact modular structure and suitable parts layout, which is attributed to computer aided optimization design.
2. The design of the cylinder block with integral crankcase by Finite Element Analysis, results in a stiff cylinder block and a solid main bearing support.
3. The integral plate-type oil cooler has a compact structure and occupies less space. A bypass valve is used to ensure sufficient oil supply during the engine startup. Nozzles with safety valve are used in turbocharged engines to cool pistons by injecting oil, which guarantees the engine durability.
4. The water pump in the cooling system is gear-driven, which has a high efficiency and reliability. So engine overheat caused by failure of belt transmission is avoided. The dual-thermostat design further enhances the reliability of the cooling system.
5. The engine can be easily started without aid at an environmental temperature of 10°C below zero. And with the help of preheater, the engine can be started at an environmental temperature of 25°C below zero.
6. A radiator and a separate fan are used to keep the intake air under 50°C, enabling the engine to work at an atmospheric temperature of 50°C.

### ■ UNIQUE QUADRAM FUEL SYSTEM

The Europe patented Quadram combustion system can help to decrease fuel consumption, pollutant emission and engine noises. Meanwhile, the engine has a bigger power and torque output.

The laser Doppler velocimetry can be used to measure gas flow in the combustion chamber, and play an important role in the development of Quadram piston.

With the help of Quadram piston, the ignition delay, in-cylinder pressure ratio and peak pressure are decreased, which results in less noises and lower mechanical stress, as well as better reliability and durability.

The air motion in the four corners of the piston is controlled through balancing of swirl and turbulence. The air motion is suitable for P type pumps and low inertia injectors, and engines with smaller displacement and higher compression ratio. The air motion causes a better air fuel mixture, which in turn results in higher combustion efficiency, lower fuel consumption, lower NO<sub>x</sub>, HC and CO concentration in the exhaust gas, as well as the world's leading mean effective pressure and specific power.

### ■ SIMPLE AND CONVENIENT MAINTENANCE

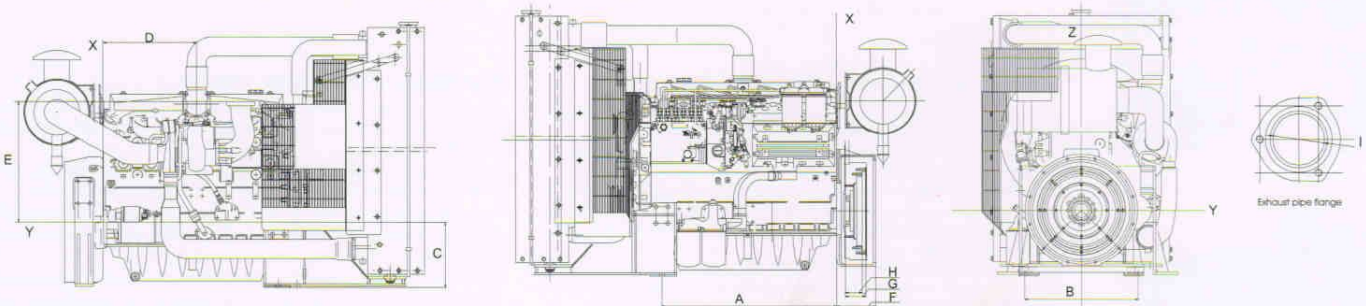
1. All fasteners including bolts adopt metric standard, without need for special tools.
2. Oil filters, fuel filters and fuel pumps, etc. are all mounted on the left side of the engine, resulting in convenient maintenance.

Lovol 1000 Series **Diesel Engine for Generating Set**

## Performance Parameter

Model	1003G	1003TG	1004G	1004TG	1006TG1A	1006TG2A	1006TAG	
Cylinder number	3	3	4	4	6	6	6	
Cylinder arrangement	In line	In line	In line	In line	In line	In line	In line	
Induction system	Turbocharged	Turbocharged	Turbocharged	Turbocharged	Turbocharged	Turbocharged	Turbocharged Intercooled	
Bore x Stroke (mm)	100 x 127	100 x 127	100 x 127	100 x 127	100 x 127	100 x 127	100 x 127	
Displacement(L)	2.99	2.99	3.99	3.99	5.99	5.99	5.99	
Compression ratio	16.5:1	17.5:1	16.5:1	17.5:1	17.5:1	17.5:1	17.5:1	
Lubricating system capacity(L)	7.48-8.68	7.48-8.68	8.1	8.5	16.1	16.1	19	
Firing order	1,2,3	1,2,3	1,3,4,2	1,3,4,2	1,5,3,6,2,4	1,5,3,6,2,4	1,5,3,6,2,4	
Max. Power (kW)	1500rpm	30	44	44	72.3	92.7	102	134
	1800rpm	33	55	48	83.2	107.3	119.2	147
Continuous Power(kW)	1500rpm	28	40	40	65.7	84.3	92.3	121
	1800rpm	30	50	44	75.6	97.6	108.4	134
Corresponding Leroy-Somer alternator type	LSA42.2 M7	LSA43.2 S15	LSG26.2	LSG29.2	LSG31.2	LSG32.2	LSG34.2	
Genset power (kW/1500 rpm)	Prime (Continue)	27	40	34	56	71	78	102
	standby (Maximum)	30	44	38	61	80	86	112
Genset power (kW/1800 rpm)	Prime (Continue)	27	40	37	64	83	92	113
	standby (Maximum)	30	44	41	70	91	101	124
Average sound dB(A)	94	94	92	93	94	94	95	
Governing rate	Mechanical	≤5%	≤5%	≤5%	≤5%	≤5%	≤5%	≤5%
	Electronic	≤1%	≤1%	≤1%	≤1%	≤1%	≤1%	≤1%
Area of heat dissipation(m <sup>2</sup> )	17	19	19.7	26.94	33.27	33.27	25.86(Radiator) 33.27(InterCooler)	
Net weight(kg)	410	415	540	550	710	710	730	
Electrical system	24V(12V optional)	24V(12V optional)	24V(12V optional)	24V(12V optional)	24V(12V optional)	24V(12V optional)	24V(12V optional)	
Overall dimension L x W x H(mm)	1012 x 715 x 940	1012 x 715 x 940	1253 x 706 x 946	1253 x 706 x 946	1484 x 740 x 1107	1484 x 740 x 110	1600 x 800 x 1064	

## Outline dimension



MODEL	A	B	C	D	E	F	G	H	I
1003G	338.1	430.5±1.5	260.2	284.8	441.5	156.4	81.8	67.5	60
1004G	455.6	430.5±1.5	260.2	258.6	434	156.4	81.8	67.5	60
1004TG	455.6	430.5±1.5	260.2	353.9	354	156.4	81.8	67.5	60
1006TG1A	701.7	456.5±1.5	260.2	374.7	488	156.4	81.8	67.5	69
1006TG2A	701.7	456.5±1.5	260.2	374.7	488	156.4	81.8	67.5	69
1006TAG	701.7	430.5±1.5	260.2	551.69	488	156.4	81.8	67.5	69

