

# DIESEL ENGINE

## KDG SERIES FOR GENERATOR

### Model: 16KDG-780

<b>Prime power</b>	<b>705.0KW(959.0HP)/1500 rpm</b>	<b>790.0KW(1074.0HP)/1800 rpm</b>
<b>Standby Power</b>	<b>780.0KW(1061.0HP)/1500 rpm</b>	<b>875.0KW(1190.0HP)/1800 rpm</b>

- The engine performance is as per ISO 3046. Type of operation is based on ISO 8528.
- Prime power is available for an unlimited number of hours per year in a variable load application.
- The permissible average power output over 24 hours of operation shall not exceed 80% of the prime power rating.

#### Engine Specifications

V-Type, 4 stroke, water-cooled, Turbocharged, air-to-air intercooled.	
Combustion type	Direct injection
Cylinders - Bore × stroke	16 - 128 × 142 mm
Displacement	29,236 cc
	1-12-5-8-3-10-6-7-2-11
Firing order	-4-9
Compression ratio	14.6 : 1
Dry weight	Approx. 2,100 kg
Dimension(LxWxH)	1,950 × 1,389 × 1,288 mm
Rotation	Anti-clockwise
Flywheel / Housing	SAE # 18 / # 0

#### Cooling System

Cooling method	Fresh water forced type
Water pump	Centrifugal, Belt driven
Water Capacity	26.0 liters (engine only)
Max. water Temp	95 degree C.
Cooling Fan	Blade 7EA - Ø 1450 mm

#### Intake & Exhaust System

Max air restriction	Clean 2 kPa / Dirty 5 kPa
Exhaust back	Max 6 kPa

#### Electric System

Charging generator	27.5 V × 45 A
Starting motor	24 V × 11.0 kW
Battery	12 V x 2 x 120 Ah

#### Fuel System

Injection pump	Direct Injection type
Governor	Electronic type
Feed pump	Mechanical type
Injection nozzle	Multi-hole type/ 0.255 mm
Opening pressure	27+0.5MPa
Fuel filter	Single Stage, Paper

#### Fuel Consumption

Prime power at 1500rpm	176.6 liters/h
Standby power at 1500rpm	194.8 liters/h
Prime power at 1800rpm	201.8 liters/h
Standby power at 1800rpm	223.6 liters/h

#### Lubrication System

Lub. Oil Pan Capacity	78.0 liters
Max. allowable Oil Temp	120 degree C.
Oil pressure	Min. 300 kPa Max. 650 kPa

#### Engineering Data

Combustion Air at 1500rpm	55.8 m <sup>3</sup> /min
Exhaust Gas at 1500rpm	145.0 m <sup>3</sup> /min
Combustion Air at 1800rpm	63.8 m <sup>3</sup> /min
Exhaust Gas at 1800rpm	165.7 m <sup>3</sup> /min

#### Conversion Table

PS = kW × 1.3596	in. = mm × 0.0394
psi = kg/cm <sup>2</sup> × 14.2233	
HP= PS x 0.98635	