

# DIESEL ENGINE

## KDG SERIES FOR GENERATOR

<b>Model: 4KDG-53</b>	<b>Prime power</b>	<b>48.0KW (65.0HP)/1500 rpm</b>	<b>53.0KW(72.0HP)/1800 rpm</b>
	<b>Standby Power</b>	<b>53.0KW(72.0HP)/1500 rpm</b>	<b>58.0KW(79.0HP)/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

In-Line, 4 stroke, water-cooled, Natural Aspiration	
Combustion type	Direct injection
Cylinders - Bore × stroke	4 - 108 × 135 mm
Displacement	4947 cc
Firing order	1 – 3 – 4 – 2
Compression ratio	17 : 1
Dry weight	Approx. 360 kg
Dimension(LxWxH)	890 × 650 × 810 mm
Rotation	Anti-clockwise
Flywheel / Housing	SAE # 11.5 / # 3

### Fuel System

Injection pump	Direct Injection type
Governor	Mechanical type
Feed pump	Mechanical type
Injection nozzle	Multi-hole type/ 0.255 mm
Opening pressure	25+0.5MPa
Fuel filter	Single Stage, Paper

### Fuel Consumption

Prime power at 1500rpm	12.8 liters/h
Standby power at 1500rpm	14.1 liters/h
Prime power at 1800rpm	14.6 liters/h
Standby power at 1800rpm	16.1 liters/h

### Cooling System

Cooling method	Fresh water forced type
Water pump	Centrifugal, Belt driven
Water Capacity	6 liters (engine only)
Max. water Temp	95 degree C.
Cooling Fan	Blade 7EA - Ø 510 mm

### Lubrication System

Lub. Oil Pan Capacity	14.0 liters
Max. allowable Oil Temp	110 degree C.
Oil pressure	Min. 294 kPa Max. 490 kPa

### Intake & Exhaust System

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

### Engineering Data

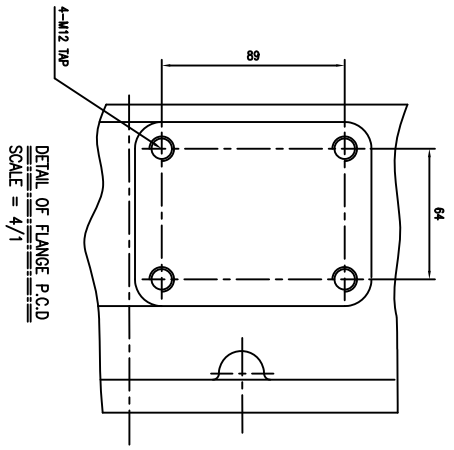
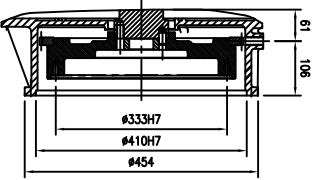
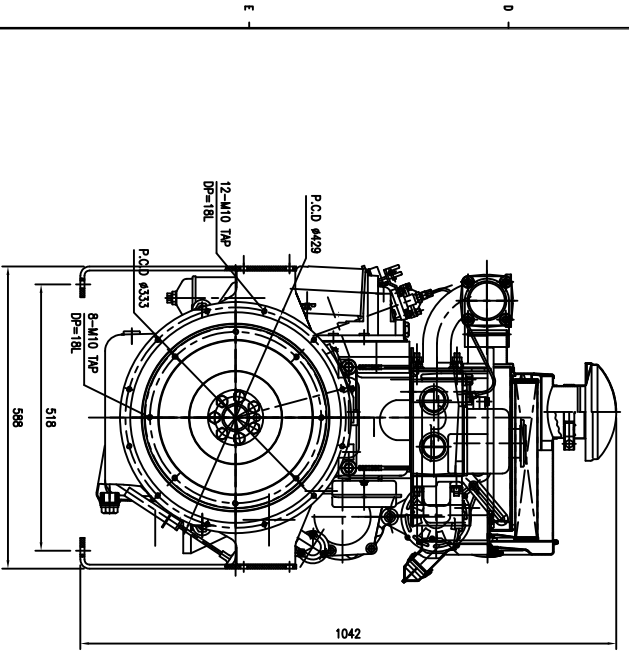
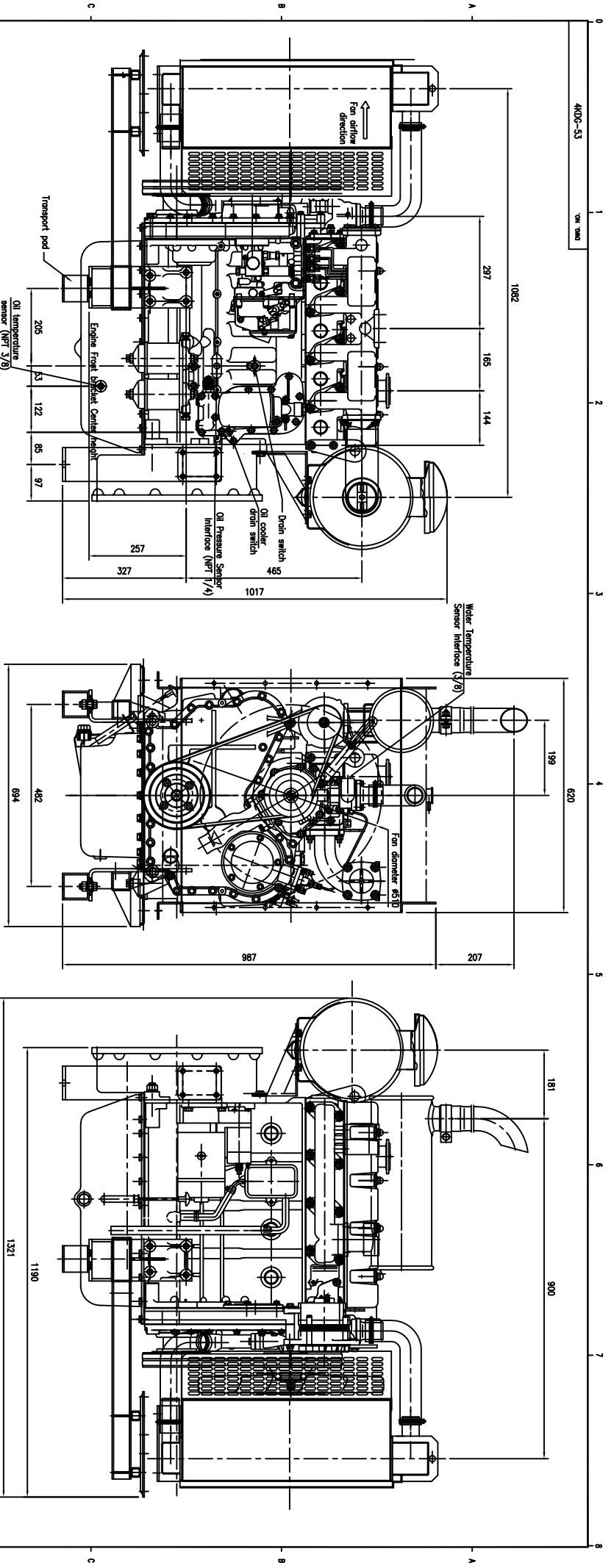
Combustion Air at 1500rpm	2.7 m3/min
Exhaust Gas at 1500rpm	6.7 m3/min
Combustion Air at 1800rpm	3.2 m3/min
Exhaust Gas at 1800rpm	7.7 m3/min

### Electric System

Charging generator	13.5 V × 65 A
Starting motor	12 V × 3.7 kW
Battery	12 Vx 120 Ah

### Conversion Table

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



DETAIL OF FLYWHEEL HOUSING  
SCALE = 1/1

FLYWHEEL : SAE#11.5  
FLYWHEEL HOUSING : SAE#3

DETAIL OF FLANGE P.C.D.  
SCALE = 4/1

CUSTOMER		TITLE	
SCALE	1/1	DATE	11.09.20
DESIGNED		CHECKED	
DRAWN		APPROVED	
REVISED		APPROVAL	
CUSTOMER		DRAWN NO.	
-		4K00-53	
-		REVISED NO.	
-		20100000-00	
-		REVISED	
-		4K00-53	