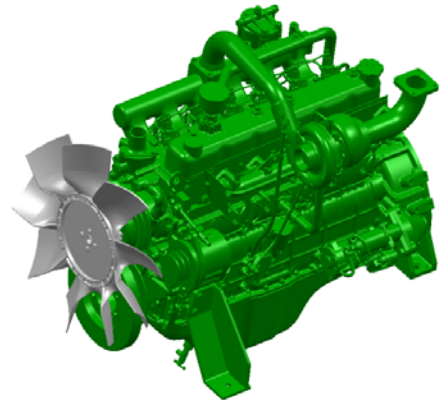


# DOOSAN INFRACORE GENERATOR ENGINE

## DP066TA



Ratings ( kWm/PS)	Gross Engine Output - without Cooling Fan			Net Engine Output - with Cooling Fan		
	Standby	Prime	Continuous	Standby	Prime	Continuous
50Hz	85/116	77/105	54/73	83/113	75/102	53/71
60Hz	120/163	109/148	76/104	116/158	105/143	74/100

### Ratings Definitions

The power ratings of Emergency Standby and Prime are in accordance with ISO 8528.

Fuel Stop power in accordance with ISO 3046.

Electric power(kWe) should be estimated by considering generator efficiency, cooling fan power loss and power derating due to altitude and ambient temperature.

STANDBY POWER RATING is applicable for supplying emergency power for the duration of the utility power outage.

No overload capability is available for this rating. A standby rated engine should be sized for a maximum of an 70% average load factor and 200 hours of operation per year. This includes less than 25 hours per year at the Standby Power rating.

PRIME POWER RATING is available for an unlimited of hours per year in variable load application. Variable load should not exceed a 70% average of the Prime Power rating during any operating period of 24 hours. The Total operating time at 100% Prime Power shall not exceed 500 hours per year. A 10% overload capability is available for a period of 1 hour within a 12 hour period of operation. Total operating time at the 10% overload power shall not exceed 25 hours per year.

CONTINUOUS POWER RATING is applicable for supplying utility power at a constant 100% load for an unlimited of hours per year.

No overload capability is available for this rating.

### ◎ GENERAL ENGINE DATA

○ Engine Model	DP066TA
○ Engine Type	4-Cycle, In-line, 6-Cylinder, water cooled, Turbo charged
○ Bore x stroke	102 x 118 mm
○ Displacement	5.8 liters
○ Compression ratio	18.5 : 1
○ Rotation	Counter clockwise viewed from Flywheel
○ Firing order	1-5-3-6-2-4
○ Injection timing	13°±1° BTDC
○ Dry weight	493 kg(with Fan)
○ Dimension (LxWxH)	1,166 x 749 x 995 mm
○ Fly wheel housing	SAE NO. 3M
○ Fly wheel	Clutch NO. 11-1/2M
○ Number of teeth on flywheel	129

### ◎ ENGINE MOUNTING

○ Maximum Bending Moment at Rear Face to Block	1,325 N.m
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### ◎ EXHAUST SYSTEM

○ Maximum Back Pressure	5.9 kPa
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### ◎ AIR INDUCTION SYSTEM

○ Maximum Intake Air Restriction	
. With Clean Filter Element	2.16 kPa
. With Dirty Filter Element	6.23 kPa
○ Max. static pressure after Radiator	0.125 kPa
○ Air to Air Core Requirements	
. Maximum Temp. Rise Between Engine Air intake and intake manifold.	-
. Maximum air pressure drop from turbo air outlet to intake manifold.	-
. Maximum intake manifold temperature for engine protection.	-

## ◎ COOLING SYSTEM

Water circulation by centrifugal pump on engine.

○ Cooling method	Fresh water forced circulation
○ Coolant capacity	Engine Only : Approx. 14 lit, With Radiator(*Air On 43°C) : Approx 44 lit.
○ Coolant flow rate	102 liters / min @ 1500 rpm, 123 liters / min @ 1800 rpm
○ Pressure Cap	90 kPa
○ Water Temperature	
- Maximum for Standby and Prime	103°C
Continuous	95°C
- Before start of full load	40.0°C
○ Water pump	Centrifugal type driven by belt
○ Thermostat Type and Range	Wax – pellet type, Opening temp. 82°C , Full open temp. 95°C
○ Cooling fan	Blower type, plastic , 590 mm diameter, 9 blades
○ Max. external coolant system restriction	Not available

\* Two radiator options are provided, based on allowable maximum Air temperature On radiator inlet (Air On) : Air On 43°C / Air On 52°C  
- ATB(Ambient Temperature before Boiling) of generator set varies depending on the engine room ventilation design, even if the same radiator applied.  
Adequate selection of radiator options by means of the cooling test is highly recommended, and generator set makers are responsible for the selection.

## ◎ LUBRICATION SYSTEM

Force-feed lubrication by gear pump, lubricating oil cooling in cooling water circuit of engine.

○ Lub. Method	Fully forced pressure feed type
○ Oil pump	Gear type driven by crank-shaft gear
○ Oil filter	Full flow, cartridge type
○ Oil capacity	Max. 19 liters , Min. 16 liters
○ Lub oil pressure	Idle Speed : Min 100 kPa Governed Speed : Min 300 kPa
○ Maximum oil temperature	120°C
○ Angularity limit	Front down 15 deg , Front up 15 deg , Side to side 15 deg
○ Lubrication oil	Refer to Operation Manual

## ◎ FUEL SYSTEM

Bosch type in-line pump with integrated, electromagnetic actuator.

○ Injection pump	WUXI WEIFU HIGH-TECH CO.,LTD
○ Governor	Electric type ( all speed control )
○ Speed drop	G2 Class ( ISO 8528 )
○ Feed pump	Mechanical type in injection pump
○ Injection nozzle	Multi hole type
○ Opening pressure	19.5 MPa
○ Fuel filter	Full flow, cartridge type with water drain valve
○ Maximum fuel inlet restriction	10 kPa
○ Maximum fuel return restriction	60 kPa
○ Fuel feed pump Capacity	182 Liters / hr
○ Used fuel	Diesel fuel

## ◎ ELECTRICAL SYSTEM

○ Battery Charging Alternator	24V x 45A alternator
○ Voltage regulator	Built-in type IC regulator
○ Starting motor	24V x 4.5 kW
○ Battery Voltage	24V
○ Battery Capacity	120 Ah (recommended)
○ Starting aid (Option)	-

◎ VALVE SYSTEM

○ Type	Overhead valve type	
○ Number of valve	Intake 1, exhaust 1 per cylinder	
○ Valve lashes at cold	Intake 0.4 mm , Exhaust 0.4 mm	
○ Valve timing	Opening	Close
- Intake valve	28 deg. BTDC	62 deg. ABDC
- Exhaust valve	70 deg. BBDC	28 deg. ATDC

◎ PERFORMANCE DATA

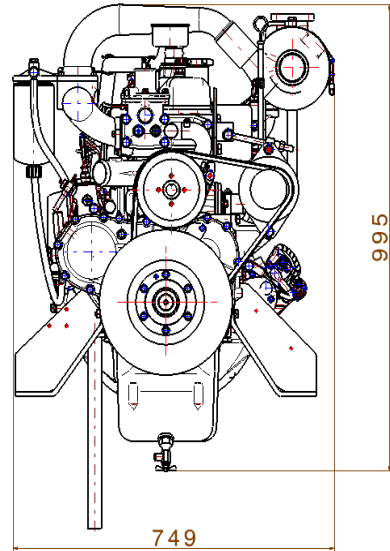
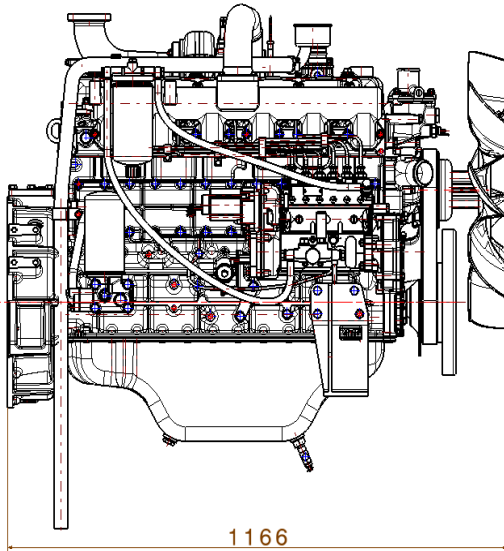
		Continuous Power		Prime Power		Standby Power	
○ Governed Engine speed	rpm	1500	1800	1500	1800	1500	1800
○ Engine Idle Speed	rpm	800	800	800	800	800	800
○ Over speed limit	rpm	1650	1980	1650	1980	1650	1980
○ Gross Engine Power Output	kW	54	76	77	109	85	120
	PS	73	104	105	148	116	163
○ Break Mean effective pressure	MPa	0.75	0.88	1.07	1.26	1.18	1.38
○ Mean Piston Speed	m/s	5.9	7.08	5.9	7.08	5.9	7.08
○ Friction Power	kW	13	17	13	17	13	17
	PS	17.7	23.1	17.7	23.1	17.7	23.1
○ Specific fuel consumption							
25% load	liters/hr	4.6	6.3	5.9	8.2	6.5	8.7
50% load	liters/hr	7.7	10.8	10.3	14.6	10.8	15.5
75% load	liters/hr	10.7	15.3	14.7	21.0	15.8	22.6
100% load	liters/hr	13.8	19.8	19.1	27.5	21.3	30.7
○ Fan Power	kW	2	4	2	4	2	4
○ Sound Pressure at 1m from the each side of Cylinder Block at Standby Power							
(without Fan)	dB(A)					91.60	93.70

The all data and the specific fuel consumption are based on ISO 3046/1, Standard reference conditions are in accordance with 298 K(25° Celsius) air temperature, 100kPa(1000mbar) air pressure, 60% relative humidity, 110m(361ft) altitude.

\* Running on light load (less than 25-35% of rated output) may cause high oil consumption, bore glazing, black smoke or abnormal carbon build up in the engine and exhaust system.

◎ Engine Data with Dry Type Exhaust Manifold

○ Intake Air Flow	m3/min	4.7	6.5	5.2	7.5	5.4	7.7
○ Exhaust gas temp. after turbo.	°C	384	470	482	545	515	567
○ Exhaust Gas Flow	m3/min	10.2	15.0	12.8	18.4	13.7	19.6
○ Heat Rejection to Exhaust	kW	36	60	52	84	59	94
○ Heat Rejection to Coolant	kW	40	45	51	67	53	76
○ Heat Rejection to Intercooler	kW	-	-	-	-	-	-
○ Radiated Heat to Ambient	kW	8	10	10	14	11	15
○ Cooling water circulation	liters/min	130	154	130	154	130	154
○ Cooling fan air flow	m3/min	152	182	152	182	152	182



◆ CONVERSION TABLE

in. = mm x 0.0394  
 PS = kW x 1.3596  
 psi = kg/cm<sup>2</sup> x 14.2233  
 in<sup>3</sup> = lit. x 61.02  
 hp = PS x 0.98635  
 lb = kg x 2.20462  
 kW = kcal/sec x 0.239

lb/ft = N.m x 0.737  
 U.S. gal = lit. x 0.264  
 kW = 0.2388 kcal/s  
 lb/PS.h = g/kW.h x 0.00162  
 cfm = m<sup>3</sup>/min x 35.336  
 MPa = kPa x 1000 = bar x 10



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※ Specifications are subject to change without prior notice.