



## Shanghai Youngfor Power Co., Ltd.

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### D30 Series for 800kVA – 900kVA – 975kVA generator

Ratings (KW/PS)	1500rpm/50Hz			
	D30A	D30A1	D30A2	D30A3
Prime		880/1197	815/1108	720/979
Standby	1020/1387	970/1319	900/1224	800/1080

Ratings (KW/PS)	1800rpm/60Hz			
	D30B1	D30B2	D30B3	D30B4
Prime	930/1265	880/1197	825/1122	750/1020
Standby	1020/1388	970/1319	910/1238	850/1156

#### 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 (kW) 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 a 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.

#### ◆ GENERAL ENGINE DATA

● Engine Type	4-Cycle, V-type, 16-Cylinder Turbo, charged & intercooled (air to air)
● Bore x stroke	128x142 mm
● Displacement	29.235 L
● Compression ratio	14.6:1
● Rotation	Counter clockwise viewed from Flywheel
● Firing order	1-15-6-12-8-5-16-7-11-4-9-2-14-10-3-13
● Injection timing	18°±1° BTDC @ 1500 rpm, 20°±1° BTDC @ 1800 rpm
● Dry weight	2100 kg
● Dimension(L x W x H)	1950 x 1389 x 1288 mm
● Fly wheel housing	SAE 0
● Fly wheel	18(PCD : 543 mm/31.38 inch)
● Number of teeth on flywheel	160

#### ◆ INTAKE & EXHAUST SYSTEM

● Combustion Air Consumption	4268-6580m <sup>3</sup> /h
● Max. Intake Restriction	5 kPa

● Max. Exhaust Temperature (After Turbo)	465-540 °C
● Max. Exhaust Back Pressure	5 kPa
● Exhaust Gas Flow	9706-16487 m <sup>3</sup> /h
● Cooling fan air flow	1365 m <sup>3</sup> /min (D30A3)/1755 m <sup>3</sup> /min (D30A/D30A1/D30A2) 1400 m <sup>3</sup> /min (D30B3/D30B4)/1750 m <sup>3</sup> /min (D30B1/D30B2)

#### ◆ ENGINE MOUNTING

● Maximum Bending Moment at Rear Face to Block	1325 N·m
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#### ◆ COOLING SYSTEM

● Coolant Capacity for Engine	26 L
● Max. Permissible Temperature	90 °C
● Max. Coolant Warning Temperature	95 °C
● Max. Coolant Shutdown Temperature	105 °C
● Thermostat Open Temperature	71 °C
● 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 40°C / Air On 50°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.

#### ◆ FUEL SYSTEM

In-line pump type with integrated, electromagnetic actuator.

● Governor	Electric type			
● Used fuel	Diesel fuel oil			
● Fuel Consumption of generator set prime output	25%(L/h)	50%(L/h)	75%(L/h)	100%(L/h)
--D30A	74.23	125.44	179.75	242.25
--D30A1	68.79	115.86	165.88	223.07
--D30A2	61.06	104.12	148.70	200.28
--D30A3	53.30	91.31	127.03	174.98
--D30B1	73.78	131.43	183.03	247.63
--D30B2	66.56	115.75	164.13	223.50
--D30B3	60.38	104.37	147.61	197.30
--D30B4	56.02	96.23	137.58	179.82
● Lowest Fuel Consumption Ratio	197-218 g/kW · h			

#### ◆ LUBRICATION SYSTEM

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

● Oil capacity	60-78L
● Lube oil specification	CF-4
● Lub oil pressure	Idle Speed: Min 160 kPa Governed Speed: Min 200 kPa
● Maximum oil temperature	110 °C
● Max. Permissible Oil Temperature	90 °C
● Oil Consumption ( as % of fuel consumption )	≤0.5

#### ◆ ELECTRICAL SYSTEM

● Charging Alternator Voltage	28 V
● Charging Alternator Capacity	45 A
● Starting Voltage	24 V

• Starting Motor Capacity	11 kW
• Minimum Battery Capacity	2×250 Ah
• Minimum Temperature for Unaided Cold Start	-10 °C

#### ◆ VALVE SYSTEM

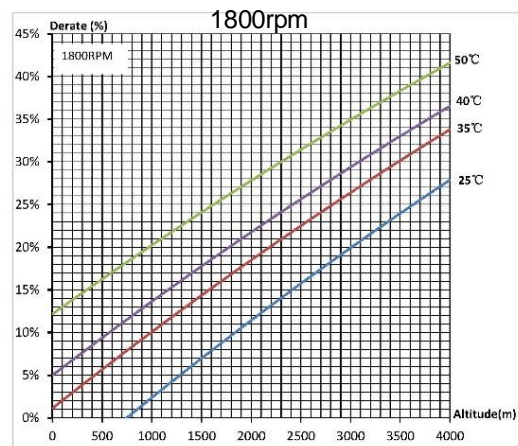
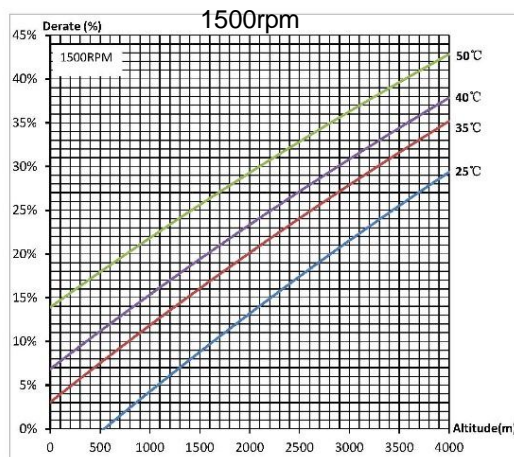
• Type	Overhead valve type	
• Number of valve	Intake 1, exhaust 1 per cylinder	
• Valve lashes at cold	Intake 0.3 mm , Exhaust 0.4 mm	
• Valve timing	Opening	Close
- .Intake valve	24 deg.BTDC	36 deg.ABDC
- .Exhaust valve	63 deg.BBDC	27 deg.ATDC

#### ◆ Engine Data with Dry Type Exhaust Manifold

• Heat Rejection to Exhaust	672-1081 kW
• Heat Rejection to Coolant	319-513 kW
• Heat Rejection to Intercooler	163-262 kW
• Radiated Heat to Ambient	68-110 kW
• Cooling water circulation	866 L/min (1500 rpm), 1040 L/min (1800 rpm)

#### ◆ DERATING FROM ISO 3046 STANDARD CONDITIONS

The maximum power is the STANDBY rating when assessing derate parameters.  
Ambient temperature is air cleaner inlet temperature.



#### ◆ ENGINE DIMENSION

