

Rev.

0

## ENGINE SPECIFICATIONS

Engine Model	Base Model :	BH-6WG1X (Intercooler turbo)
	Model No. :	BH-6WG1XYGV-01
Customer	EXPORT	
Application	Generator	
Drawing No.	E9-1020-040-0	
( 3D Data Code )		

Symbol	Date	Revision Record	Issue No.
0	30 Oct. 2008	: For confirmation of prototype specification	:
	:	:	:
	:	:	:
	:	:	:
	:	:	:
	:	:	:

ISUZU MOTORS LIMITED  
Powertrain Business Dept.

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## Engine Specifications

Model No. BH-6WG1XYGV-01

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Manufacturer	ISUZU MOTORS LIMITED
Engine Model	Base Model: 6WG1X Intercooler Turbo Model No. BH-6WG1XYGV-01
Application	Generator
Emission regulation	EPA Tier-3 / EC Stage-III A
Engine type	Four cycle, water cooled, overhead camshaft, vertical in-line, direct injection type, with turbocharger
No. of cylinders - bore x stroke	6 - 147.0 mm x 154.0 mm
Total piston displacement	15.681 L
Compression ratio	16 to 1
<b>Engine performance Rating</b>	
Test conditions	Standard atmospheric condition
Conforming standard JPN;JIS D0006-1 US;SAEJ1349 EU;ISO15550	Break-in time 30 hrs
	With AC generator and Without cooling fan
	With air cleaner and exh. silencer
	Fuel : JPN: JIS-NO.2
Rated Output	: 397.0 ± 8.0 kW / 1800 min-1
Continuous rating	: 348.3 kW / 1800 min-1
S.F.C at Continuous rating	: 210.0 ± 13.6 g/kWh ( at 1800 min-1 )
No load max. speed	: 1800 ± 10 min-1
Low idle speed	: 900 ± 25 min-1
Type of fuel	Diesel fuel only ( JPN:JIS-NO.2, US:ASTM-2D, EU:EN590 )
Engine dry weight	Approx. 1150 kg
Dimensions	L 1788.0 x W 1016.0 x H 1333.0 (with cooling fan)
Firing order	1 - 5 - 3 - 6 - 2 - 4
Rotating direction	Clockwise viewed from cooling fan
Valve device	Overhead camshaft

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**Supercharging device**

Supercharging system	With Exhaust turbocharger
Driving system	---
Lubricating system	Full forced pressure feed type (Oil-cooled)
Manufacturer	mitsubishi heavy industries ltd.
Name of type	TD08H型

**Fuel device**

Injection pump	
Manufacturer	Denso corporation
Name of type	Common rail 6HD type
Plunger	2 - Diameter 8.5 mm x Stroke 12.0 mm
Injection nozzle	
Manufacturer	Denso corporation
Name of type	Electrical multi-hole type ( G2 type )
Fuel injection time regulator	Electrical controlled
Manufacturer	---
Name of type	---
Fuel feed pump	With
Manufacturer	Denso corporation
Name of type	Plunger type
Fuel filter	With
Filtering system	Paper element type (Spin-On type)
Manufacturer	WAKO INDUSTRIAL CO.,LTD
Name of type	Element type x 2
Governor	
Speed control system	Electrical variable speed control
Lubricating system	---
Manufacturer	TRANSTRON Inc.
Name of type	Electrical control type

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**Lubricating device**

Lubricating system Full forced pressure feed type

Lubricating pump

Type of pump Gear pump

Driving system Crank gear driven

Oil pressure regulating device Piston - spring type

Oil pressure indicating device With engine oil pressure sensor

Oil filter

Filtering system Full flow paper element, Combined type (Twin cartridge, Remote type)

Manufacturer Nippon Donaldson,Ltd

Oil cooler

Cooling system Water cooled type (Built-in Engine)

Manufacturer TOKYO ROKI CO.,LTD

**Cooling device**

Cooling system Pressurized water forced circulation type

Cooling fan

Type of fan Dia 1016 mm - Pusher - 6 Blade

Driving system Belt driven by crankshaft, speed ratio: 0.90

Water pump

Type of pump Impeller type

Driving system Driven by gear train

Thermostat

Regulating system Wax-pellet type

Manufacturer Fuji Bellows Co., Ltd.

Water temperature  
indicating device

With engine coolant water temperature sensor

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**Air cleaner** ---

Cleaning system ---

Manufacturer ---

**Starting device**

Starting motor

Manufacturer MITSUBISHI LTD.

Name of type Reduction type

Voltage 24 V

Output 7.0 kW

**Engine stop device** Fuel cut (Electronic controlled)**Preheating device** QOS- II**Alternator**

Generating system A/C type

Manufacturer MITSUBISHI LTD.

Voltage 24 V

Output 50 A

Driving system Belt driven by crankshaft pulley

**Regulator**

Regulating system Built-in IC regulator

Manufacturer MITSUBISHI LTD.

Charging discharging indicating system: ---

**Hour meter** Without

System ---

Manufacturer ---

Fitting position ---

Driving system ---

Speed ratio ---

Rated speed indicator ---

**Power Take Off** Without

Maximum torque

Speed ratio

Rotation

Flange type

Spline number of teeth

Diametric pitch

Pressure angle

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**Allowable inclination angle** 0.61 rad. for all directions viewed from flywheel

**Capacity**

Lubrication oil MAX: approx. 52.0 L MIN: approx. 37.0 L (Oil pan only)  
 Air cleaner ---  
 Injection pump ---  
 Governor ---  
 Cooling water 36 L (Engine only)  
 Others ---

**Maintenance data**

Valve clearance and adjustment	Valve	Valve clearance	Valve timing: open	Valve timing: close
Inlet	0.4 mm at cold	0.37 rad BTDC	0.47 rad ABDC	
Exhaust	0.4 mm at cold	0.92 rad BBDC	0.31 rad ATDC	

Injection timing Electrical control  
 Initial injection pressure ---  
 Compressive pressure 2.94 MPa ( 31 kgf/cm<sup>2</sup>) (At engine speed 200 min<sup>-1</sup>)

**Reference data**

Thermostat Initial opening temperature at atmospheric pressure: 83.0°C  
 Temperature at valve lift of 10.0 mm and over: 95.0°C

Painting color Clear, except for cooling fan, electrical part connectors, and labels

**Lubricating oil at delivery** There is no engine oil when engine deliver from Isuzu factory.

Recommended lubrication oil API Grade CD, CE, CF, CF-4 or ACEA Grade B2/B3, E2/E3  
 \*Please refer to "Engine Instruction Manual" for details.

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## Dress Level

No.	Item	Description
1	HOUSING ; FLYWHEEL	SAE J617c #1
2	FLYWHEEL	SAE J620 14"
3	COOLING FAN	Dia 1016 mm - Pusher - 6 Blade
4	AC GENERATOR	24V - 50A
5	STARTER	24V - 7.0kW
6	FUEL FILTER	With
7	WATER SEDIMENTER	With (Integrated with fuel filter)
8	FUEL FILTER ASM;PRE.	Loose parts (Remote type)
9	OIL FILTER	Spin-on, dual cartridge type (Remote)
10	POWER TAKE OFF	With

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## Loose parts

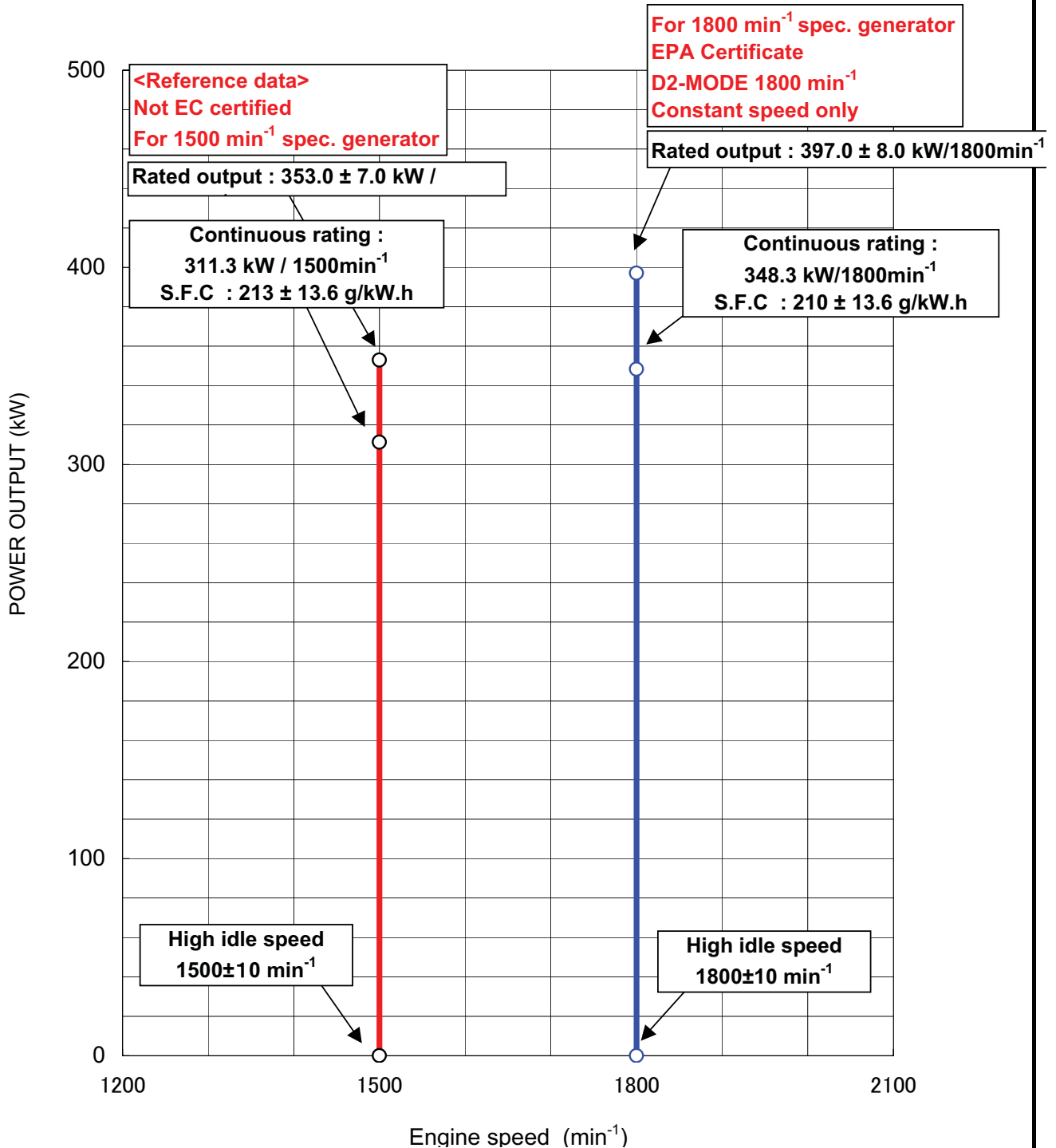
No.	Parts No.	Item	Qty	Remarks
1	812146-8300	SENSOR; Inlet air temp.	1	
2	897217-7780	SENSOR;Barometric press	1	
3	898073-2890	ECM	1	
4	113201-0192	OIL FILTER ASM	1	
5	898075-8551	FILTER;FUEL, PRE	2	
6	109675-0951	BOLT;EYE	4	
7	109630-1110	PACKING;Joint bolt	8	
8	898106-4710	PIPE ASM;PRE FILTER	4	
9	898013-7900	RELAY;MAIN	1	
10	894460-7061	RELAY;GLOW PLUG	1	
11	898005-6310	RELAY;STARTER	1	
13	114145-1750	Gasket;Turbo exh	1	
14	109400-0720	Nut;Exh duct-turbo	8	
15	109556-0200	Washer;exh duct	4	





**BH-6WG1XYGV-01 Target performance curve  
FOR GENERATOR-SET**

Condition	JIS D0006 / SAE J1349 / ISO15550
Temp.	Standard
Test hour	30Hr
Cooling fan	Without
Air cleaner	With (Intake restriction : 3.4kPa at 1800rpm)
Exh.silencer	With(Exhaust restriction : 13.3kPa at 1800rpm)
Generator	With (No load)



## Engine specifications Revision chart

Customer : EXPORT

Engine Model : BH-6WG1XYGV-01      Application : Generator

Rev. No.	IS No.	Date	Page	Item	Previous	Current	Description (Reason of change)
0	IS-08-175-0	30.Oct.08		For confirmation of prototype engine specifications			