

Rev.

# ENGINE SPECIFICATIONS

Engine Model	Base Model      4BG1
	Model No.        4BG1TRW
Customer	Export Standard
Application	General Industrial
Drawing No.	E4-1021-113-1
Emission Regulation	EPA Tier-2, EC Stage- II

Revision	Date	Revision Record	Issue No.
0	14-Jul-08	Issued	:
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:	:	:	:
:	:	:	:

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**Engine Specification**

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Manufacturer	ISUZU MOTORS LIMITED		
Engine Model	Base Model	4BG1	Model No. 4BG1TRW
Application	General Industrial		
Engine type	Four cycle, water cooled, direct injection type, over head valve type		
No. of cylinders - bore x stroke	4 Inline - 105.0 mm x 125.0 mm		
Total piston displacement	4.329 liter		
Compression ratio	18		

Engine performance	Rating
Conditions	: Standard atmospheric condition
	: Breaking time 30 hours
	: With AC generator No load
	: Without air cleaner and exh. Silencer, and cooling fan
Rated output	: $91.7 \pm 4.6 \text{ kW} / 2500 \text{ min}^{-1}$
Maximum torque	: More than 387 Nm / Approx. $2000 \text{ min}^{-1}$
Fuel consumption (at rated output power)	: $253 \pm 13.5 \text{ g} / \text{kW.h}$
High idle speed	: $2760 \pm 25 \text{ min}^{-1}$
Low Idle speed	: $950 \pm 25 \text{ min}^{-1}$
Type of fuel	: Diesel fuel ( JPN:JIS-NO.2, US:ASTM-2D, EU:EN590 )
Engine dry weight	: Approx. 360 kg
Engine Dimensions (L x W x H)	: 934.5mm x 666mm x 855mm ( with Fan )
Firing order	: 1 - 3 - 4 - 2
Rotating direction	: Clockwise viewed from cooling fan side
Valve device	: Overhead valve

**Engine Specification**

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Aspiration	:	Turbocharged
Fuel device	:	Injection pump, Bosch In-line type
Injection nozzle	:	Multi-hole type
Governor	:	Centrifugal variable speed type
Fuel feed pump	:	Plunger type, Integrated in injection pump
Fuel filter	:	Paper element type
Lubrication device	:	Gear type, Camshaft driven, Full forced pressure
Oil pressure indicate device	:	Oil pressure warning switch
Oil filter	:	Full flow, Paper element type
Cooling fan	:	500mm dia., sucker, 7-blade, plastic (Shipped loose parts)
Water pump	:	Impeller type, Belt driven from crankshaft pulley
Thermostat	:	Wax pellet type
Starter	:	12V-2.5kW, Magnetically actuated type
Alternator	:	12V-60A, AC type, IC regulator build in type, Belt driven from crankshaft pulley
Pre-heating device	:	Glow plug, Quick on start-III (QOS-III) type
Engine stop device	:	Fuel cut lever
Power take off	:	Without
Inclination limit	:	All direction 35deg
Lubrication oil capacity	:	Maximum 13.2 litter - Minimum 11.0 litter (Oil pan only)
Cooling water capacity	:	8.5 litter

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Injection timing : 8 ±1 deg BTDC

Initial injection pressure : 18.1MPa

Compressive pressure : 3.04MPa at 200rpm engine speed

Valve clearance	Valve	Valve Clearance	Valve timing	
			Open	Close
Inlet		0.4mm at cold	19.0deg BTDC	47.0deg ABDC
Exhaust		0.4mm at cold	57.0deg BBDC	15.0deg ATDC

Paint : Clear

Recommended lubrication oil : API classification, Service CD class, SAE10W-30

**Shipped loose parts**

No.	Parts Name	Qty
1	Switch Asm; Starter	1
2	Resistance; Control	1
3	Cooling Fan Asm	1

**ISUZU**

**4BG1TRW  
Performance**

Condition	JIS D0006 / SAE J1349 / ISO15550
Atmospheric Condition	25 deg C
Braking time	30 hours
Cooling Fan	NONE
Air Cleaner	NONE
Alternator	With (No Load)
Exhaust Silencer	NONE

