

GENERAL ENGINE DATA

Type	4-Cycle, Water Cooled	
Aspiration	Turbo-Charged, Inter Cooler (Raw Water)	
Cylinder Arrangement	Inline	
No. of Cylinders	6	
Bore mm(in.)	150	(5.91)
Stroke mm(in.)	175	(6.89)
Displacement liter(in ³)	18.56	(1133)
Compression Ratio	14.5:1	
Dry Weight - Engine only - kg(lb)	1900	(4190)
Wet Weight - Engine only - kg(lb)	2030	(4476)

PERFORMANCE DATA

Idling Speed -rpm	600~650	
Maximum Overspeed Capacity - rpm	2195	
Moment of inertia of Rotating Components - kgf•m ² (lbf•ft ²)	18.9	(449)
(Includes 14 inch Flywheel)		

ENGINE MOUNTING

Maximum Bending Moment at Rear Face of Flywheel Housing - N•m(lbf•ft)	1373	(1013)
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AIR INLET SYSTEM

Maximum Intake Air Restriction (Includes piping)- kPa (in.H ₂ O)	3.92	(15.7)
Maximum Allowable Intake Air Temperature - °C(°F)	45	(113)

EXHAUST SYSTEM

Maximum Allowable Back Pressure - kPa (in.H ₂ O)	4.41	(17.7)
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LUBRICATION SYSTEM

Oil Pressure at Idle - MPa(psi)	0.2~0.3 (29~43)	
at Rate Speed - MPa(psi)	0.5~0.6 (71~86)	
Maximum Oil Temperature - °C(°F)	110	(230)
Oil Capacity of Marine Pan High - liter (U.S.gal)	100	(26.4)
Low - liter (U.S.gal)	70	(18.5)
Total System Capacity (Includes Oil Filter) - liter (U.S.gal)	110	(29.1)
Maximum Installation Angle Front Up	16°	
Front Down	11.5°	
Maximum Instantaneous Operating Angle Front Up	25°	
(Engine Level) Front Down	14°	
Side to Side	22.5°	

COOLING SYSTEM

Coolant Capacity of Jacket (Engine Only) - liter (U.S.gal)	36	(9.5)
Maximum External Friction Head at Engine Outlet - MPa(psi)	0.034	(5.0)
Maximum Static Head of Coolant above Crankshaft Center - m(ft)	10	(32.8)
Standard Thermostat (modulating) Range of Jacket- °C(°F)	71~85	(160~185)
Maximum Coolant Temperature at Engine Outlet- °C(°F)	95	(203)
Recommended Coolant Temperature at Engine Outlet- °C(°F)	80	(176)
Minimum Coolant Expansion Space - % of System Capacity	10	
Maximum Coolant Temperature at Inter Cooler Inlet, TK type- °C(°F)	see page 4/4	

The specifications are subject to change without notice.

FUEL SYSTEM

Fuel Injection Pump	-----	Bosch S7S Type x 1
Maximum Suction Head of Feed Pump - kPa (in. Hg)	-----	14.7 (4.3)
Maximum Level of Fuel Tank - m	-----	5.0
	Continuous Use	-----
	Stand-by Use	-----
		2.0
Minimum Fuel Oil Supply Pipe Inner Diameter - mm(in.)	-----	16 (0.63)
Minimum Fuel Oil Leak Pipe Inner Diameter - mm(in.)	-----	12 (0.47)

STARTING SYSTEM

Battery Charging Alternator - V-Ah	-----	24-35
Starting Motor Capacity - V -kW	-----	24-6.0
Maximum Allowable Resistance of Cranking Circuit - m Ω	-----	2.5
Recommended Minimum Battery Capacity		
At 5°C(41°F) and above - Ah	-----	200
Below 5°C(41°F) through - 5°C(23°F)	-----	400
Cranking Ampere of Starter at 5°C (41°F) / -5°C (23°F)		
Static Ampere -A		300 / 330
Momentary Ampere -A		525 / 585

ACCESSORY EQUIPMENT

Air Cleaner	Silencer Type
Exhaust Manifold	Air Cooled
Turbocharger	Air Cooled
Air Cooler	Raw Water Cooled
Breather	Conduction Type
Governor	Mechanical RSUV Type
Fuel Injection Pump	
Fuel Feed Pump	
Fuel Injection Pipe	Standard Type
Fuel Injection Nozzle	
Fuel Filter	Paper Element Type
Lubricating Oil Pump	
Lubricating Oil Cooler	
Lubricating Oil Filter(Full-Flow)	Paper Element Type
Lubricating Oil Filter(By-Pass Flow)	Paper Element Type
Oil Pan	Large Capacity,aluminium
Cooling Water Pump	
Cooling Water Thermostat	
Starter	Earth Float Type
Alternator	Earth Float Type
Stop Solenoid	DC24V-25A-0.5A
Engine Support	Marine Type
Accessory Drive	Front Drive Pulley

ACCESSORY EQUIPMENT(LOOSE SUPPLY)

Relay Safety	For Starter
Jack Bolt	
Companion Flange	
Standard Tools	
Standard Spare Parts	

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S6A3-Y3MPTK

SPECIFICATION SHEET

ENGINE RATING

All data represent net performance according to ISO3046 with standard accessories such as fuel injection pump, water pump L.O. pump and charging alternator under the condition of 100kPa(750 mm Hg), barometric pressure 298K(25°C) ambient temperature and 30% relative humidity.

HD: Heavy duty

ITEM		UNIT	Propulsion use			Generator use		
Engine Model					-Y3MPTK-3			
					HD			
Engine Speed		rpm			1840			
No. of Cylinders			6					
Bore		mm (in.)	150 (5.91)					
Stroke		mm (in.)	175 (6.89)					
Displacement		liter (in. ³)	18.56 (1133)					
Brake Horse Power		kW (HP)			405 (543)			
Brake Mean Effective Pressure		MPa (psi)			1.42 (206)			
Mean Piston Speed		m/s (ft/min)			10.7 (2106)			
Maximum Regenerative Power		kW (HP)			56 (75)			
Absorption Capacity								
Intake Air Flow		m ³ /min (CFM)			40 (1412)			
Exhaust Gas Flow		m ³ /min (CFM)			107 (3778)			
Coolant Flow		liter/min (U.S. GPM)			590 (156)			
Coolant(Jacket water) Pressure (water pump outlet)		MPa (psi)			0.14 (21)			
Minimum Coolant Flow to Inter Cooler (Max. Flow: 180 liter/min)		liter/min (U.S. GPM)			325 (86)			
Oil Flow		liter/min (U.S. GPM)			255 (67)			
Radiated Heat to Ambient		kJ/hr (BTU/min)			127283 (2011)			
Heat Rejection to Coolant (include water cooled manifold)		kJ/hr (BTU/min)			784914 (12402)			
Heat Rejection to Inter Cooler		kJ/hr (BTU/min)			487919 (7709)			
Heat Rejection to Exhaust		kJ/hr (BTU/min)			1384683 (21878)			
Cooling system	Direct Sea Water Cooling Max. sea water temp. at inter cooler inlet		Max. 32°C					
	Intermediate Fresh Water Cooling Max. fresh water temp. at inter cooler inlet				N/A			
	Radiator Cooling Max. coolant temp. at inter cooler inlet				N/A			
Noise Level (1 m height & distance) (excludes, Intake,Exhaust)		dB(A)			TBD			
Maximum No Load Governed Speed		rpm			1978			

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APPLICATION : MARINE