



**MITSUBISHI DIESEL ENGINE
TECHNICAL INFORMATION**

IFM NO.

JN02411-011(1/6)

DATE

Aug. 8, 2002

TITLE

Specification Sheets of S6U-MPTK Engine (IMO Certified Engine)

Specification Sheets of S6U-MPTK Engine that is satisfied with IMO certified engine are enclosed herein.

These specifications are subject to change without notification.

No.	DATE	SIGNATURE	CAUSE
			
			
			
			
			

S6U-MPTK**SPECIFICATION SHEET****mitsubishi
DIESEL ENGINES****GENERAL ENGINE DATA**

Type	4-Cycle, Water Cooled
Aspiration	Turbo-Charged, Inter Cooler (Fresh Water to Cooler)
Cylinder Arrangement	Inline
No. of Cylinders	6
Bore mm (in)	240 (9.45)
Stroke mm (in)	260 (10.24)
Displacement liter (in ³)	70.573 (4306)
Compression Ratio	12.7 : 1 (13.5:1)
Dry Weight - Engine only - kg (lb)	8350 (18408)
Wet Weight - Engine only - kg (lb)	9060 (19974)

PERFORMANCE DATA

Steady State Speed Stability Band at any Constant Load - %	±0.5
Idling Speed -rpm.....	370 - 420
Maximum Overspeed Capacity - rpm	1400
Moment of Inertia of Rotating Components GD ² - kgf · m ² (lbf · ft ²)	227.5 (5399)
(Includes Std. Flywheel)	
Cyclic Speed Variation with Flywheel at 1200 rpm	1/242
1000 rpm	1/157

AIR INLET SYSTEM

Maximum Allowable Intake Air Restriction	
With Clean Filter Element - mm H ₂ O (in. H ₂ O)	300 (11.8)
With Dirty Filter Element - mm H ₂ O (in. H ₂ O)	760 (29.9)
Maximum Allowable Intake Air Temperature - °C (°F)	45 (113)

EXHAUST SYSTEM

Maximum Allowable Back Pressure - mm H ₂ O (in. H ₂ O)	450 (17.7)
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LUBRICATION SYSTEM

Oil Pressure at Idle - MPa (psi)	0.15 - 0.2 (21 - 28)
at Rate Speed - MPa (psi)	0.45 - 0.7 (64 - 100)
Standard Thermostat (modulating) Range - °C (°F)	55 - 75 (131 - 167)
Maximum Oil Temperature - °C (°F)	95 (203)
Oil Capacity of Standard Pan High - liter (U.S. gal.)	340 (89.8)
Low - liter (U.S. gal.)	230 (60.8)
Total System Capacity (Includes Oil Filter) - liter (U.S. gal.)	370 (97.8)
Maximum Installation Angle (Std. Pan) Front Up - °	10
(Includes Trim Angle) Front Down - °	10
Maximum Instantaneous Operating Angle	Front Up - ° 19
(Engine Level) Front Down - °	19
Side to Side - °	25

S6U-MPTK**SPECIFICATION SHEET****mitsubishi
DIESEL ENGINES****COOLING SYSTEM**

MPTK (FW) Maximum Coolant (Fresh Water) Temperature at Air Cooler Inlet - °C (°F)	40(104)
Coolant Capacity (Engine only) - liter (U.S. gal.)	270 (71.3)
Maximum External Friction Head at Engine Outlet - MPa (psi)	0.1 (14.2)
Maximum Static Head of Coolant above Crankshaft Center - m (ft)	12.5 (41.0)
Maximum Outlet Pressure of Engine Water Pump - MPa (psi)	0.25 (35.6)
Standard Thermostat (modulating) Range - °C (°F)	65 -75 (149 - 167)
Maximum Allowable Coolant Temperature at Engine Outlet -°C (°F)	95 (203)
Maximum Recommended Coolant Temperature at Engine Outlet -°C (°F)	80 (176)
Maximum Allowable Pressure of Expansion Tank- MPa (psi)	0.07(10)
Minimum Coolant Expansion Space - % of System Capacity	10

FUEL SYSTEM

Fuel Injection Pump Type	Bosch Type × 6
Maximum Suction Head of Feed Pump - mmHg (in. Hg)	110 (4.3)
Maximum Static Head of Leak Pipe - mmHg (in. Hg)	370 (14.6)
Minimum Fuel Oil Supply Pipe Inner Diameter - mm(in)	25(1.0)
Minimum Fuel Oil Return Pipe Inner Diameter - mm(in)	25(1.0)
Minimum Fuel Oil Leak Pipe Inner Diameter - mm(in)	25(1.0)
Fuel Oil Tank Height from Inlet Port of Fuel Injection Pump - m (ft)	0 - 2 (0 ? 6.56)

STARTING AIR SYSTEM

Air Reservoir Capacity - liter (U.S. gal)	200 (52.8)
No. of Air Reservoir	2
Air Pressure - MPa (psi)	2.94 (427)

STOP SYSTEM

Air Pressure - MPa (psi)	0.6 (85.4)
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S6U-MPTK**SPECIFICATION SHEET****mitsubishi
DIESEL ENGINES****ACCESSORY EQUIPMENT**

Air Cleaner	Silencer Type
Exhaust Manifold	Lagging and Heat Insulated Plate
Turbocharger	Air Cooled (Turbine Case)
Inter cooler.....	Fresh Water Cooled
Breather	Conduction Type
Governor.....	Hydraulic UG8 or Electric EG10P Type
Fuel Injection Pump	Individual Unit Pump
Fuel Feed Pump.....	Trochoid Type
Fuel Injection Pipe.....	Double Walled Tube Type
Fuel Injection Nozzle	Whole Nozzle Type
Fuel Filter	Paper Element Type
Lubricating Oil Pump.....	Gear Pump
Lubricating Oil Cooler	Shell and Tube Type
Lubricating Oil Filter (Full Flow)	Paper Element Type
Lubricating Oil Filter (By Pass Flow)	Paper Element Type
Oil Pan.....	Large Capacity, Steel
Lubricating Oil Thermostat	Wax Pellet Type
Cooling Water Pump.....	Centrifugal Type
Cooling Water Thermostat	Wax Pellet Type
Air Starter	Air Direct Type
Stop device	Air Cylinder Type

ACCESSORY EQUIPMENT (LOOSE SUPPLY)

Jack Bolt
Companion Flange
Standard Tools
Standard Spare Parts

The specifications are subject to change without notification.

APPLICATION:MARINE-USE

S6U-MPTK**SPECIFICATION SHEET****mitsubishi
DIESEL ENGINES****ENGINE RATING**

All data represent net performance with standard accessories such as fuel injection pump, water pump, L.O. pump under the following conditions;

Barometric pressure ; 100 kPa (750 mmHg)

Ambient temperature ; 298 K (25 °C)

Relative humidity ; 60%

Calorific value of fuel ; 42,700kJ/kg

S:Limited Light Duty, A:Light Duty, B:Medium Duty, C:Heavy Duty

ITEM	UNIT	Propulsion use				Remarks
		S	A	B	C	
Engine Speed	rpm	1200	1200	1100	1060	
Brake Horse Power	kW	1343	1231	1119	1007	Fuel Set Power Flywheel End
	HP	1800	1650	1500	1350	
Specific Fuel Consumption	g/kWh	217	215	210	210	Allowance +5%
	g/HPh	160	158	154	154	
Break Mean Effective Press.	MPa	1.90	1.74	1.73	1.62	
	psi	276	253	251	234	
Mean Piston Speed	m/s	10.4	10.4	9.5	9.2	
	ft/min	2047	2047	1877	1808	
Maximum Regenerative Power Absorption Capacity	kW	121	121	101	95	
	HP	162	162	136	127	
Intake Air Flow	m ³ /min	126	114	101	90	
	CFM	4437	4013	3552	3176	
Exhaust Gas Flow	m ³ /min	302	273	241	216	
	CFM	10649	9630	8524	7622	
Coolant (Jacket Water) Flow	l/min	1300	1300	1200	1150	
	US GPM	344	344	317	304	
Coolant(Jacket Water) Pressure (Water Pump Outlet)	MPa	0.17	0.17	0.15	0.14	
	psi	24	24	21	20	
Cooling water (A/C & O/C) Flow	l/min	1300	1300	1200	1150	FW temp<40°C
	US GPM	344	344	317	304	
Oil Flow	l/min	550	550	510	485	
	US GPM	146	146	135	128	
Radiated Heat to Ambient	×10 ⁴ kcal/h	8.94	8.10	7.20	6.48	
	BTU/min	5913	5357	4762	4286	
Heat Rejection to Coolant (Jacket Water)	×10 ⁴ kcal/h	29.70	24.30	21.60	19.44	
	BTU/min	19643	16072	14286	12857	
Heat Rejection to Air & Oil Cooler	×10 ⁴ kcal/h	31.20	36.42	32.40	29.16	
	BTU/min	20635	24088	21429	19286	

APPLICATION:MARINE-USE

ITEM	UNIT	Propulsion use				Remarks
		S	A	B	C	
Heat Rejection to Exhaust	$\times 10^4$ kcal/h BTU/min	111.90 74009	95.28 63017	82.38 54485	74.10 49009	
Noise Level (Excludes exhaust gas)	dB(A)					Mechanical 1 m Dis. 1.5m H.
Max. No Load Governored Speed	rpm	1290	1290	1183	1140	

Note: Brake Horse Power at flywheel end.

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APPLICATION: MARINE-USE