



mitsubishi S6U-C2MPTK

Click on the headlines below to get redirected to the respective sections in this document.

[Technical data](#)
[Starting air system](#)
[Cooling system](#)
[Performance curves](#)



**MITSUBISHI DIESEL ENGINE
TECHNICAL INFORMATION**

IFM NO.

JN10411-002(1/6)

DATE

January 22, 2010

TITLE

Specification Sheets of S6U-C2MPTK Engine (IMO Certified Engine)

Specification Sheets of S6U-C2MPTK Engine that is satisfied with CCNR-2 and IMO Tier-II (E2+E3 cycles) certified engines are enclosed herein.

These specifications are subject to change without notification.

No.	DATE	SIGNATURE	CAUSE
0			

S6U-C2MPTK

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
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)
--	------------

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-C2MPTK

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)
--------------------------	------------

S6U-C2MPTK

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 UG8L or UG 25+ 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	Solenoid 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-C2MPTK

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

C:Heavy Duty B:Medium Duty

ITEM	UNIT	Propulsion use				Remarks
				B	C	
Engine Speed	rpm			1100	1060	
Brake Horse Power	kW HP			1119 1500	1007 1350	Fuel Set Power Flywheel End
Specific Fuel Consumption	g/kWh g/HPH			210 154	210 154	Allowance +5%
Break Mean Effective Press.	MPa psi			1.73 251	1.62 234	
Mean Piston Speed	m/s ft/min			9.5 1877	9.2 1808	
Maximum Regenerative Power Absorption Capacity	kW HP			101 136	95 127	
Intake Air Flow	m ³ /min CFM			101 3552	90 3176	
Exhaust Gas Flow	m ³ /min CFM			241 8524	216 7622	
Coolant (Jacket Water) Flow	l/min US GPM			1200 317	1150 304	
Coolant(Jacket Water) Pressure (Water Pump Outlet)	MPa psi			0.15 21	0.14 20	
Cooling water (A/C & O/C) Flow	l/min US GPM			1200 317	1150 304	FW temp<40°C
Oil Flow	l/min US GPM			510 135	485 128	
Radiated Heat to Ambient	×10 ⁴ kcal/h BTU/min			7.20 4762	6.48 4286	
Heat Rejection to Coolant (Jacket Water)	×10 ⁴ kcal/h BTU/min			21.60 14286	19.44 12857	
Heat Rejection to Air & Oil Cooler	×10 ⁴ kcal/h BTU/min			32.40 21429	29.16 19286	

APPLICATION:MARINE-USE

S6U-C2MPTK

SPECIFICATION SHEET

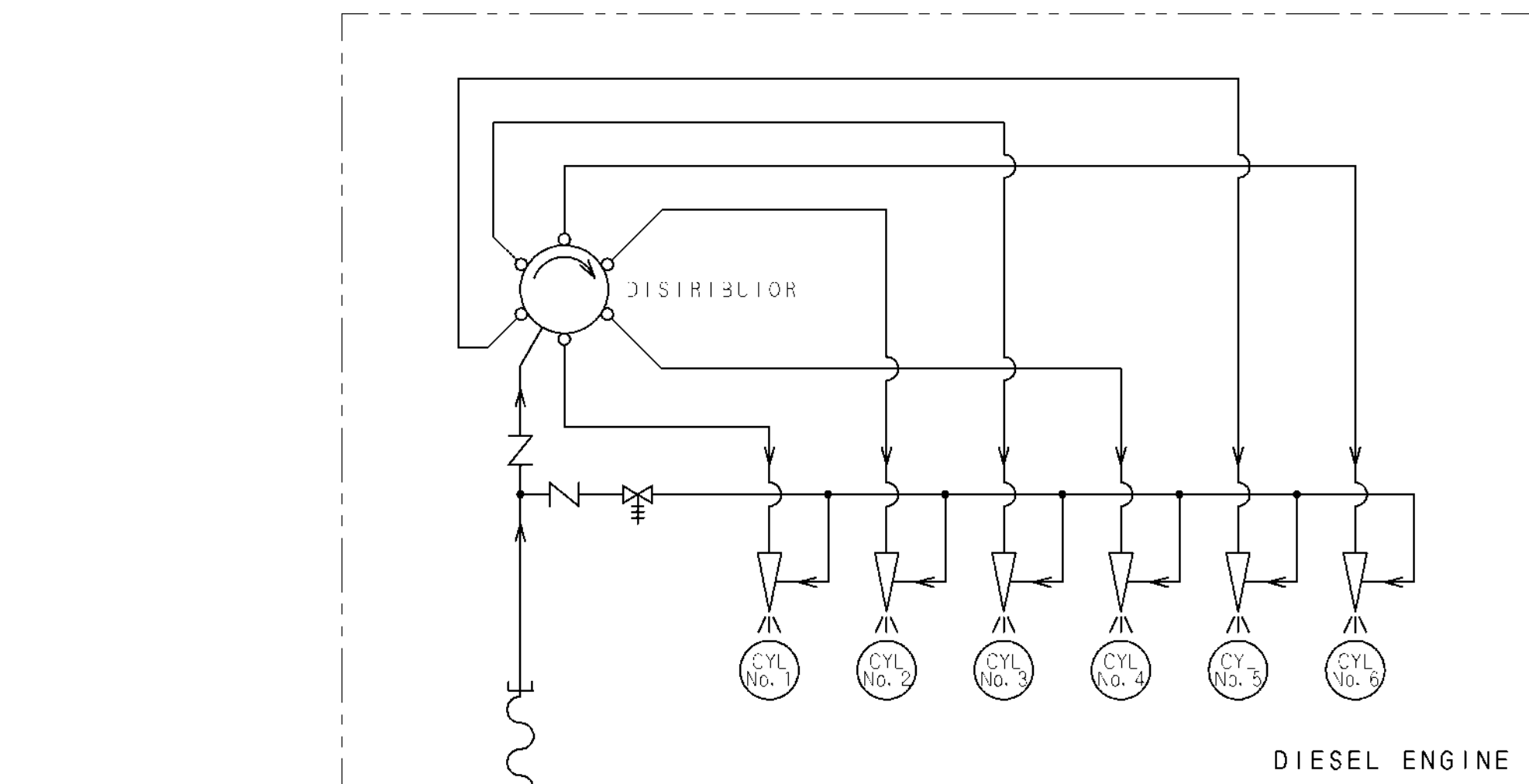
**mitsubishi
diesel engines**

ITEM	UNIT	Propulsion use				Remarks
				B	C	
Heat Rejection to Exhaust	×10 ⁴ kcal/h BTU/min			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			1183	1140	

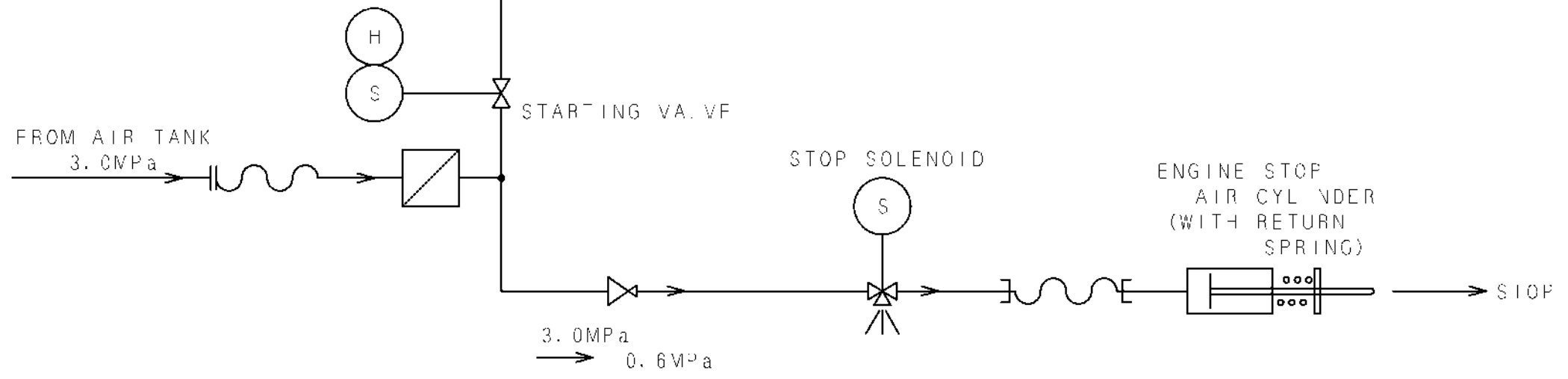
Note: Brake Horse Power at flywheel end.

The specifications are subject to change without notification.

APPLICATION: MARINE-USE



SYMBOL	DESIGNATION
	FLOW DIRECTION
	TEE PIPE CONNECTION
	FLEXIBLE JOINT
	SCREWED JOINT
	FILTER
	OPEN DRAIN
	SUPPLY SCOPE
	STOP VALVE
	THREE WAY COCK
	SAFETY OR RELIEF VALVE
	REDUCING VALVE
	CHECK VALVE
	SOLENOID DRIVE
	HAND DRIVE
	AIR STARTING VALVE
	DISTRIBUTOR
	PISTON CYLINDER
	LOCALLY MOUNTED
CYL	CYLINDER



出図

 汎特
 2010
 4.26

FULL-CAD

CHG	EC-NO	DATE	CHK	 3rd ANGLE PROJECTION 角度 SCALE

S6U-C2MPTK
 STARTING AIR SYSTEM

三菱重工業株式会社 汎用機・特車事業本部
 MITSUBISHI HEAVY INDUSTRIES, LTD. GENERAL MACHINERY & SPECIAL VEHICLE HEADQUARTERS.

図面番号 41096-02603
 DRAWING No.

① 新 ② 組立図 ③ 組立図 ④ 組立図 ⑤ 組立図 ⑥ 組立図
 1 旧引図 4 3 ① 組立図 2 鋳造部品 3 板金溶接品 4 組立品
 5 切削品 6 その他(購入品)

EMERGENCY WATER INLET
80A (φ89.1)

FROM HEAT EXCHANGER

LOW TEMP. WATER
(t < 32°C)
100A
(φ114.3)

WATER PUMP

AIR COOLER

AIR COOLER

OIL COOLER

TO EXPANSION TANK

AIR VENT
15A
(φ21.7)

80A
(φ89.1)

70A
(φ76.3)

FRESH WATER
100A
(φ114.3)

HEAT EXCHANGER

WATER PUMP

CYL CYL CYL CYL CYL CYL

DIESEL ENGINE

TO HEAT EXCHANGER

EMERGENCY WATER INLET
80A (φ89.1)

WATER HEATER
(2kW X 3)

WATER PUMP
(0.25kW)
(OPTION)

M

DRAIN

SYMBOL	DESIGNATION
	FLOW DIRECTION
	TEE PIPE CONNECTION
	FLANGED JOINT
	SPECTACLE FLANGE
	FLEXIBLE JOINT
	SCREWED JOINT
	SUPPLY SCOPE
	STOP VALVE
	CHECK VALVE
	THREE WAY THERMOSTAT
	MOTOR DRIVE
	CENTRIFUGAL TYPE PUMP
	COOLER
	HEATER
	TURBOCHARGER
	LOCALLY MOUNTED
CYL	CYLINDER
-C	TEMPERATURE CONTROL

出図
汎特
2009
12.2

FULL-CAD

CHG	EC-NO	DATE	CHK

3rd ANGLE PROJECTION
天度 SCALE

S6U-C2MPTK
COOLING WATER SYSTEM

三菱重工業株式会社 汎用機・特車事業本部
MITSUBISHI HEAVY INDUSTRIES, LTD. GENERAL MACHINERY & SPECIAL VEHICLE HEADQUARTERS.

図面番号
DRAWING No. 41096-02205

① 新 ② 組立 ③ 組立 ④ 組立 ⑤ 組立 ⑥ 組立
1 旧引図 4 3 ① 組立 2 鋳造部品 3 板金溶接品 4 組立品
5 切削品 6 その他(購入品)

CAPACITY OF COOLING WATER, LUBRICATING OIL AND FUEL OIL PUMP

Item	Engine speed (min ⁻¹)	Pump Capacity (l/min) / Total head (MPa)				
		S6U	S6U2	S8U	S12U	S16U
Jacket Water	1200	1300/0.17	—	1430/0.16	1700/0.17	1870/0.16
	1000	1100/0.14	1100/0.14	1210/0.13	1430/0.14	1570/0.13
	900	1000/0.12	1000/0.12	1100/0.11	1300/0.12	1430/0.11
	720 and 750	850/0.08	850/0.08	930/0.07	1100/0.08	1210/0.07
Raw water	1200	1300/0.17	—	1430/0.16	1700/0.17	1870/0.16
	1000	1100/0.14	1100/0.14	1210/0.13	1430/0.14	1570/0.13
	900	1000/0.12	1000/0.12	1100/0.11	1300/0.12	1430/0.11
	720 and 750	850/0.08	850/0.08	930/0.07	1100/0.08	1210/0.07
Lube oil	1200	550/0.56	—	725/0.56	1024/0.65	1300/0.85
	1000	460/0.52	604/0.52	604/0.52	850/0.57	1080/0.57
	900	410/0.50	544/0.50	544/0.50	770/0.53	980/0.53
	720 and 750	330/0.40	435/0.40	435/0.40	610/0.42	780/0.42
Fuel oil	1200	22.5/0.20	—	22.5/0.20	22.5/0.20	22.5/0.20
	1000	18.8/0.20	18.8/0.20	18.8/0.20	18.8/0.20	18.8/0.20
	900	16.9/0.20	16.9/0.20	16.9/0.20	16.9/0.20	16.9/0.20
	720 and 750	14.1/0.20	14.1/0.20	14.1/0.20	14.1/0.20	14.1/0.20

SU Water Pump Performance

