



mitsubishi S8U-C2MPTK

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**MITSUBISHI DIESEL ENGINE
TECHNICAL INFORMATION**

IFM NO.

JN10411-003(1/6)

DATE

January 22, 2010

TITLE

Specification Sheets of S8U-C2MPTK Engine (IMO Certified Engine)

Specification Sheets of S8U-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

S8U-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	8
Bore mm (in)	240 (9.45)
Stroke mm (in)	260 (10.24)
Displacement liter (in ³)	94.097 (5742)
Compression Ratio	12.7 : 1
Dry Weight - Engine only - kg (lb)	11000 (24250)
Wet Weight - Engine only - kg (lb)	11900 (26235)

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)	228.6 (5425)
(Includes Std. Flywheel)	
Cyclic Speed Variation with Flywheel at 1200 rpm	1/139
1000 rpm	1/95

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.)	450 (118.9)
Low - liter (U.S. gal.)	300 (79.2)
Total System Capacity (Includes Oil Filter) - liter (U.S. gal.)	490 (129.5)
Maximum Installation Angle (Std. Pan)	Front Up - °
(Includes Trim Angle)	Front Down - °
Maximum Instantaneous Operating Angle	Front Up - ° 19.....
(Engine Level)	Front Down - °
	Side to Side - °

APPLICATION: MARINE-USE

S8U-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.)	360 (95.1)
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 × 8
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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S8U-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 UG8 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.

S8U-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			1492 2000	1343 1800	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	kW			181	170	
Absorption Capacity	HP			243	228	
Intake Air Flow	m ³ /min CFM			135 4767	120 4237	
Exhaust Gas Flow	m ³ /min CFM			321 11335	288 10169	
Coolant (Jacket Water) Flow	l/min US GPM			1320 349	1270 335	
Coolant(Jacket Water) Pressure (Water Pump Outlet)	MPa psi			0.15 21	0.13 18	
Cooling water (A/C & O/C) Flow	l/min US GPM			1320 349	1270 335	FW temp<40°C
Oil Flow	l/min US GPM			665 176	640 169	
Radiated Heat to Ambient	×10 ⁴ kcal/h BTU/min			9.60 6349	8.64 5714	
Heat Rejection to Coolant (Jacket Water)	×10 ⁴ kcal/h BTU/min			28.74 19008	25.92 17143	
Heat Rejection to Air & Oil Cooler	×10 ⁴ kcal/h BTU/min			43.14 28532	38.88 25715	

APPLICATION:MARINE-USE

S8U-C2MPTK

SPECIFICATION SHEET

**MITSUBISHI
DIESEL ENGINES**

ITEM	UNIT	Propulsion use				Remarks
				B	C	
Heat Rejection to Exhaust	$\times 10^4$ kcal/h BTU/min			109.80 72620	98.82 65358	
Noise Level (Excludes exhaust gas)	dB(A)					Mechanical 1 m Dis. 1.5m H.
Max. No Load Governored Speed	rpm			1183	1140	

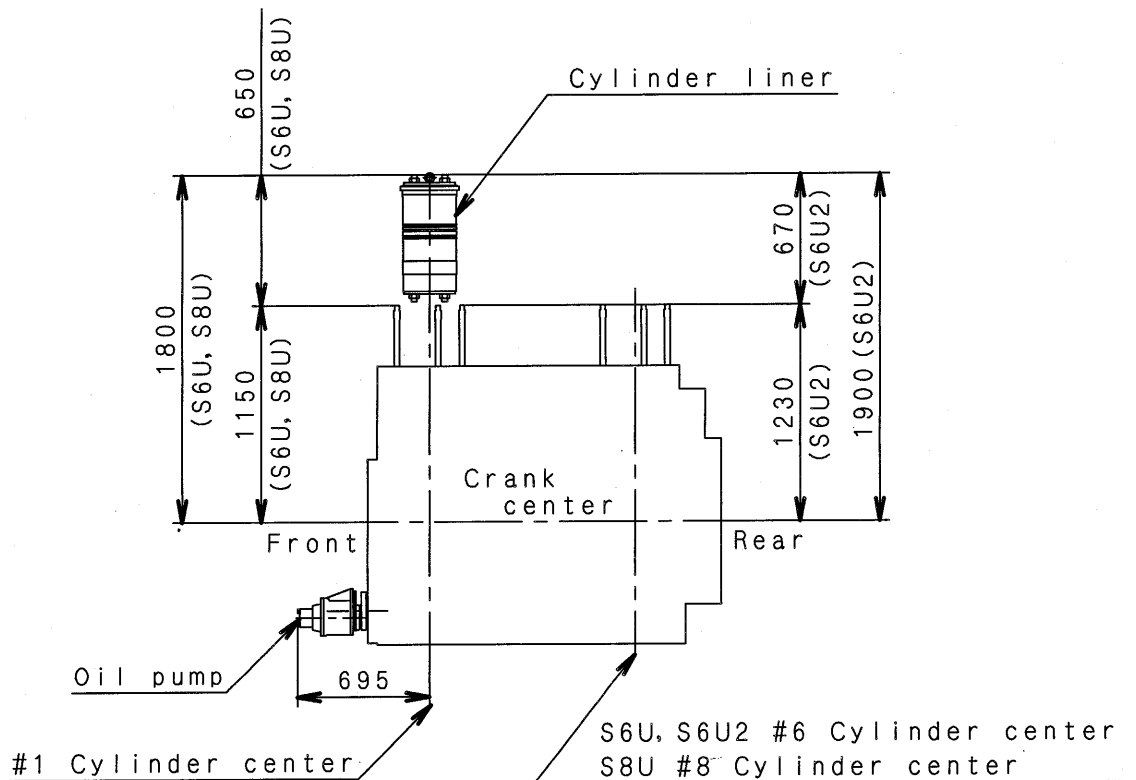
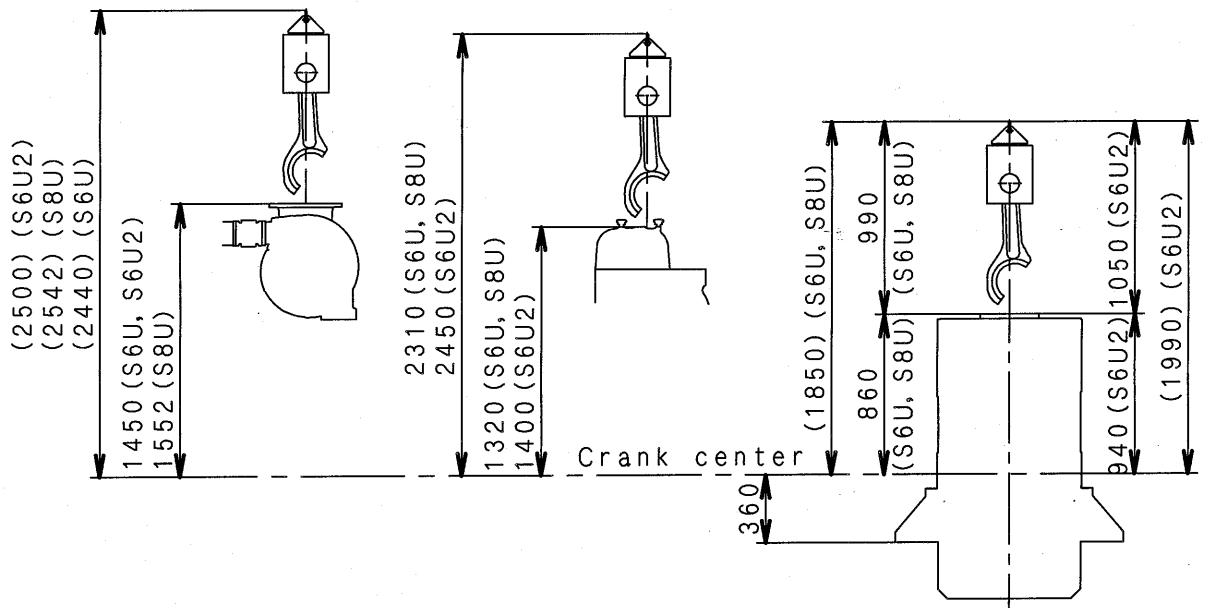
Note: Brake Horse Power at flywheel end.

The specifications are subject to change without notification.

APPLICATION: MARINE-USE

S Uエンジンオーバーホール時の所要寸法
 SU ENGINE OVERHAUL HEIGHT AND LENGTH

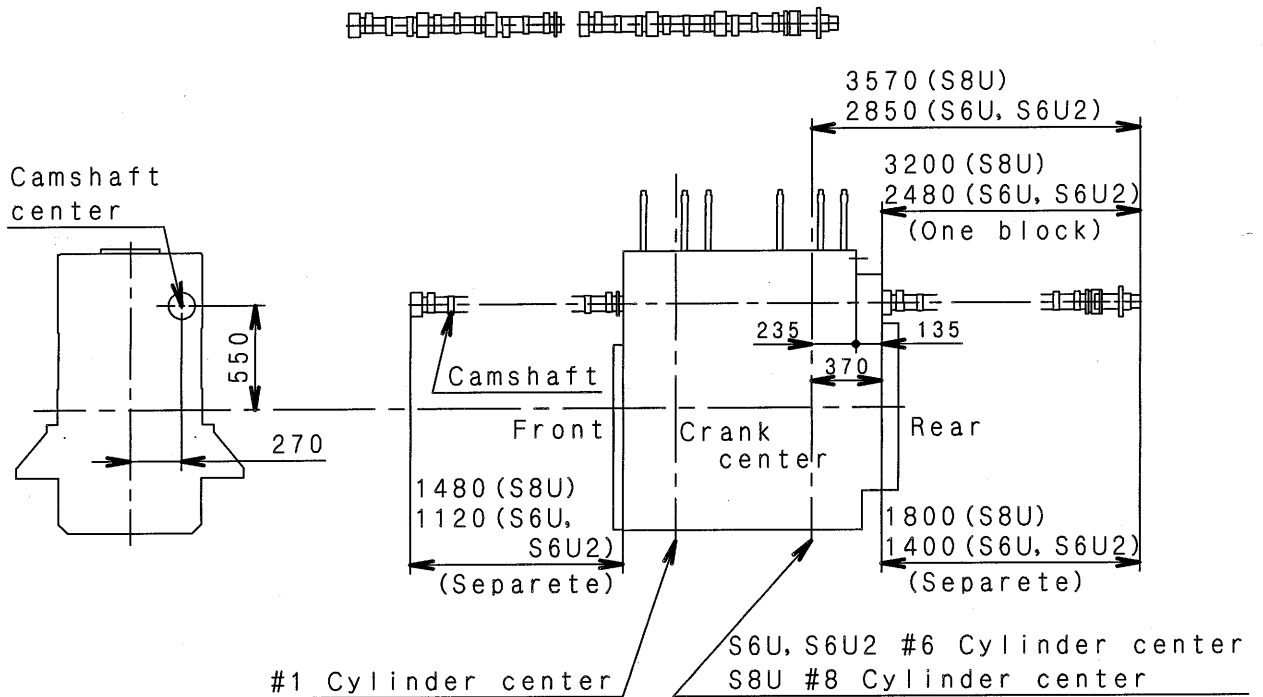
(S6U, S6U2, S8U)



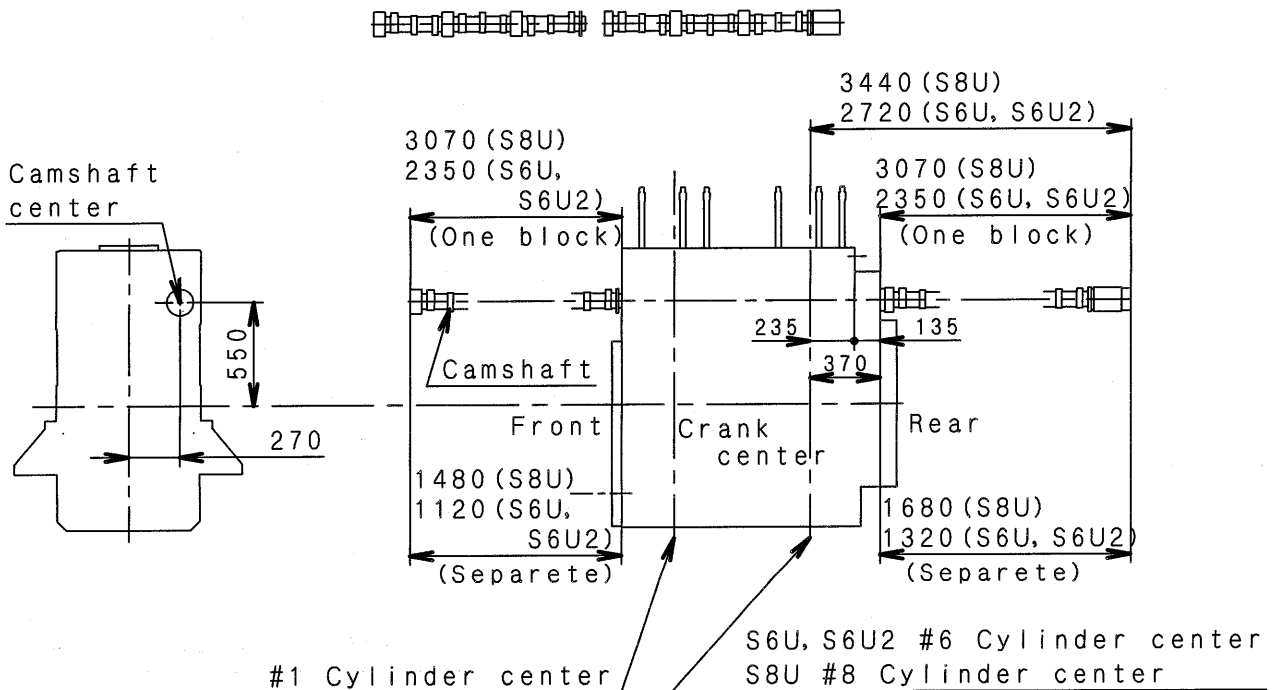
SUエンジンオーバーホール時の所要寸法
 SU ENGINE OVERHAUL HEIGHT AND LENGTH

(S6U, S6U2, S8U)

TYPE I



TYPE II

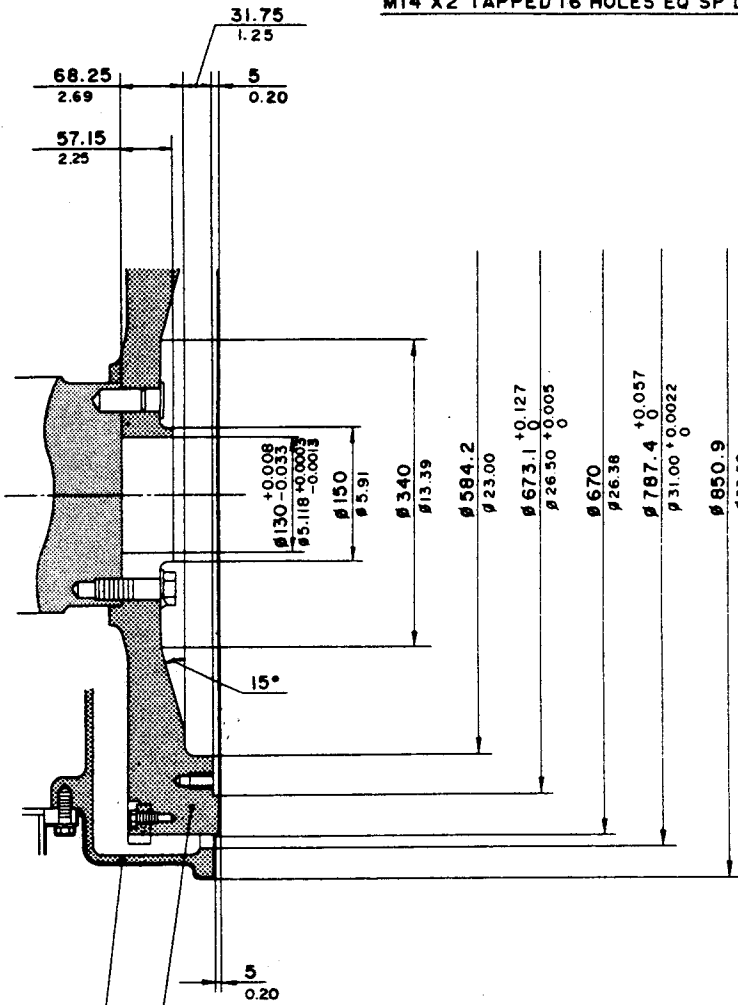


S8U JOINT DETAIL (1/2)

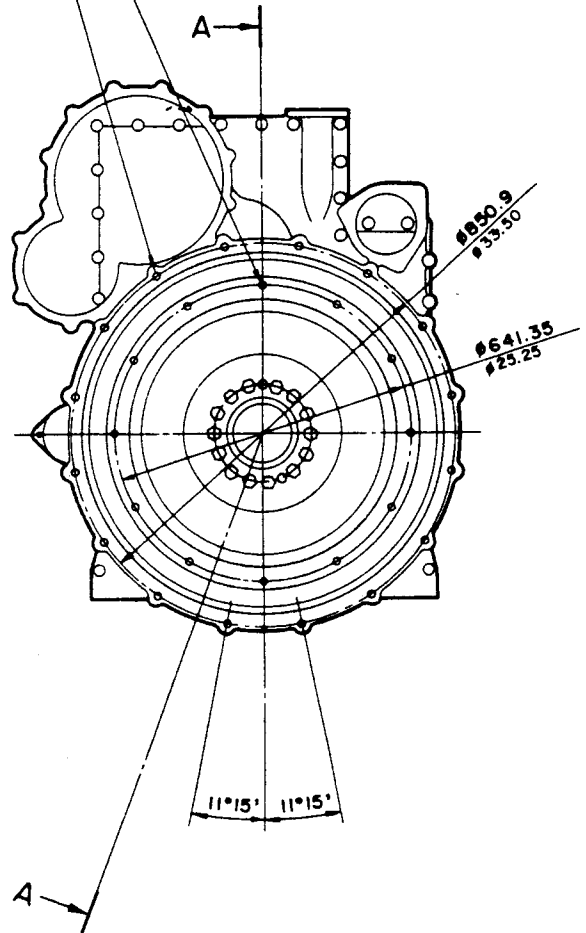
- ① FLYWHEEL
- ② FLYWHEEL HOUSING

M16X2 TAPPED 12 HOLES EQ SP DEP. 27
1.06

M14 X2 TAPPED 16 HOLES EQ SP DEP. 24
0.94

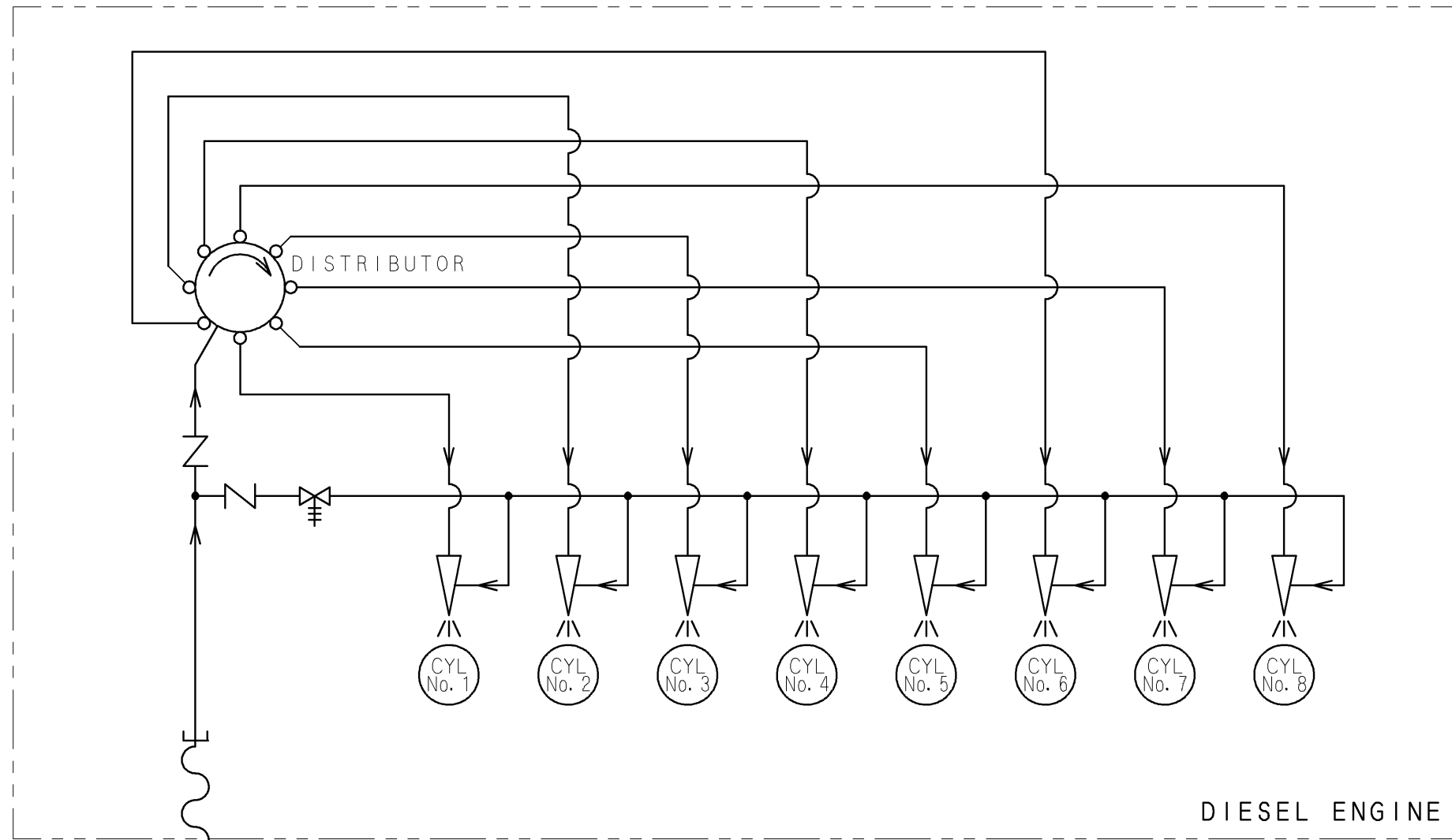


SECTION A-A

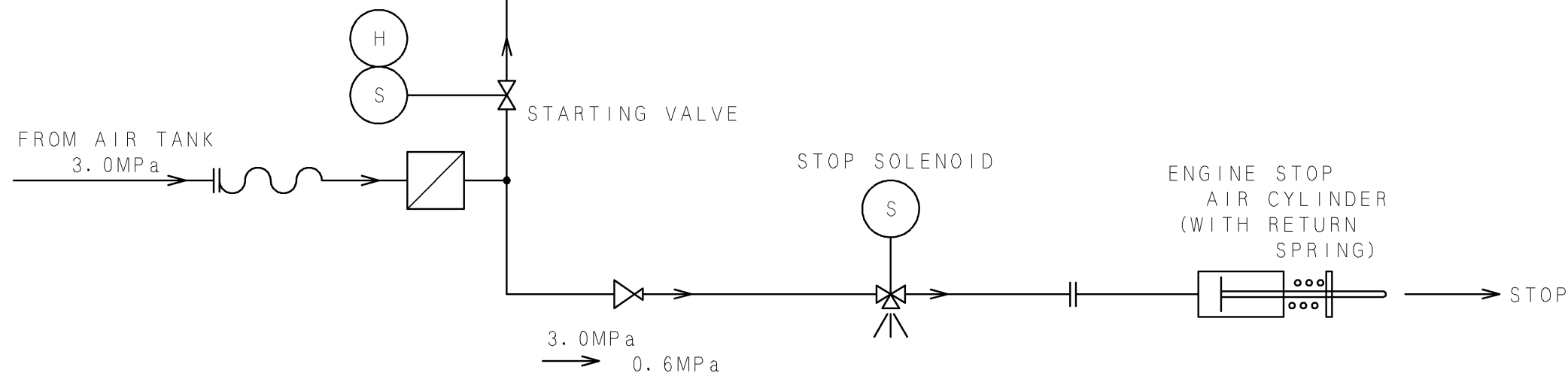


FLYWHEEL

FLYWHEEL HOUSING



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
	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	ED-NO	DATE	CHK

3rd ANGLE PROJECTION
 3rd 角 度 尺 度 SCALE

S8U-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 41196-02603
 DRAWING No.

③ 新図 ④ 組立図 ⑤ 2 鋳鍛歯車品 ⑥ 3 板金溶接品 ⑦ 4 組立品
 ④ 旧引図 ⑤ A 3 ⑥ 5 切削品 ⑦ 6 その他(購入品)

EMERGENCY WATER INLET
80A (φ89.1)

FROM HEAT EXCHANGER
LOW TEMP. WATER (t<32℃)
100A (φ114.3)

TO EXPANSION TANK
80A (φ89.1)
AIR VENT
15A (φ21.7)

TO HEAT EXCHANGER

EMERGENCY WATER INLET
80A (φ89.1)

FRESH WATER
100A (φ114.3)

WATER PUMP

AIR COOLER

AIR COOLER

OIL COOLER

HEAT EXCHANGER

WATER PUMP

DIESEL ENGINE

WATER HEATER (2kW X 3)

WATER PUMP (0.25kW)

DRAIN

(OPTION)

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

出図
汎特
2009
12.2

FULL-CAD

CHG	ED-NO	DATE	CHK

3rd ANGLE PROJECTION
尺度 SCALE

S8U-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. 41196-02205

③ 新図 サイズ A 3 ① 組立図 2 鋳鍛歯車品 3 板金溶接品 4 組立品
4 旧引図 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

