

S16U-TA

MITSUBISHI

DIESEL ENGINES

GENERAL ENGINE DATA

Type	4-Cycle, Water Cooled
Aspiration	Turbo-Charged, After Cooler (Jacket Water to Cooler)
Cylinder Arrangement	60°V
No. of Cylinders	16
Bore mm (in.)	240 (9.45)
Stroke mm (in)	260 (10.24)
Displacement liter (in ³)	188.194 (11484)
Compression Ratio	13.5 : 1
Dry Weight - Engine only - kg (lb)	20500 (45194)
Wet Weight - Engine only - kg (lb)	21900 (48280)

PERFORMANCE DATA

Steady State Speed Stability Band at any Constant Load - %	±0.5
Maximum Overspeed Capacity - rpm	1400
Moment of Inertia of Rotating Components GD ² - kgf · m ² (lbf · ft ²)	392.2 (9309) (Includes Std. Flywheel)
Cyclic Speed Variation with Flywheel at 1200 rpm	1/231
1000 rpm	1/156

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)

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 -kgf/cm ² (psi)	1.5 (21.3)
at Rate Speed - kgf/cm ² (psi)	4.5 - 7 (64 - 100)
Maximum Oil Temperature - °C (°F)	95 (203)
Oil Capacity of Standard Pan High - liter (U.S. gal.)	610 (161.1)
Low - liter (U.S. gal.)	440 (116.3)
Total System Capacity (Includes Oil Filter) - liter (U.S. gal.)	680 (179.6)
Maximum Installation Angle (Std. Pan) Front Down - °	14
(Engine only) Front Up - °	14
Side to Side - °	25

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COOLING SYSTEM

Coolant Capacity (Engine only) - liter (U.S. gal.)	700 (184.9)
Maximum External Friction Head at Engine Outlet - kgf/cm^2 (psi)	1.0 (14.2)
Maximum Static Head of Coolant above Crankshaft Center - m (ft)	12.5 (41.0)
Maximum Outlet Pressure of Engine Water Pump - kgf/cm^2 (psi)	2.5 (35.6)
Standard Thermostat (modulating) Range - $^{\circ}\text{C}$ ($^{\circ}\text{F}$)	65 -75 (149 - 167)
Maximum Coolant Temperature at Engine Outlet - $^{\circ}\text{C}$ ($^{\circ}\text{F}$)	95 (203)
Minimum Coolant Expansion Space - % of System Capacity	10

FUEL SYSTEM

Fuel Injection Pump Type	Bosch Type \times 16
Maximum Suction Head of Feed Pump - mmHg (in. Hg)	110 (4.3)
Maximum Static Head of Leak Pipe - mmHg (in. Hg)	370 (14.6)

STARTING AIR SYSTEM

Air Reservoir Capacity - liter (U.S. gal)	400 (105.6)
No. of Air Reservoir	2
Air Pressure - kgf/cm^2 (psi)	30 (427)

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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 ; 30%

Calorific value of fuel ;42,700kJ/kg

ITEM	UNIT	Engine Speed rpm				Remarks
		1200	1000	900	750	
Brake Horse Power	kW	3434	3238	2910	2157	Prime power
Specific Fuel Consumption	g/kWh	211	203	198	199	Allowance +5%
Break Mean Effective Press.	Kgf/cm ²	18.6	21.1	21.0	18.7	
Mean Piston Speed	m/s	10.4	8.7	7.8	6.5	
Intake Air Flow	m ³ /min	391.0	309.1	264.0	165.4	
Exhaust Gas Flow	m ³ /min	792.3	687.4	580.9	459.0	
Jacket Water Flow	l/min	1870	1570	1430	1210	
Jacket Water Pressure	kgf/cm ²	1.55	1.25	1.05	0.70	
Cooling water (A/C & O/C) Flow	l/min	1870	1570	1430	1210	
Oil Flow	l/min	1300	1080	980	780	
Radiated Heat to Ambient	×10 ⁴ kcal/h	22.17	20.11	17.63	N.A.	
Heat Rejection to Jacket Water	×10 ⁴ kcal/h	66.52	60.35	52.90	N.A.	
Heat Rejection to Air & Oil Cooler	×10 ⁴ kcal/h	77.60	73.75	64.64	N.A.	
Heat Rejection to Exhaust	×10 ⁴ kcal/h	277.49	237.81	202.29	N.A.	
Noise Level	dB(A)	108	106	105	N.A.	Mechanical 1 m Dis. 1.5m H.
Max. No Load Governored Speed	rpm	1260	1050	945	790	

Note: Break horse power at flywheel end

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Stroke mm (in)	260 (10.24)
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1000 rpm	1/156

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Total System Capacity (Includes Oil Filter) - liter (U.S. gal.)	680 (179.6)
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Maximum Static Head of Coolant above Crankshaft Center - m (ft)	12.5 (41.0)
Maximum Outlet Pressure of Engine Water Pump - kgf/cm ² (psi)	2.5 (35.6)
Standard Thermostat (modulating) Range - °C (°F)	65 -75 (149 - 167)
Maximum Coolant Temperature at Engine Outlet -°C (°F)	95 (203)
Minimum Coolant Expansion Space - % of System Capacity	10
Maximum Coolant Temperature at Intercooler inlet, PTK type - °C (°F)	45 (113)

FUEL SYSTEM

Fuel Injection Pump Type	Bosch Type × 16
Maximum Suction Head of Feed Pump - mmHg (in. Hg)	110 (4.3)
Maximum Static Head of Leak Pipe - mmHg (in. Hg)	370 (14.6)

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Air Reservoir Capacity - liter (U.S. gal)	400 (105.6)
No. of Air Reservoir	2
Air Pressure - kgf/cm ² (psi)	30 (427)

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ITEM	UNIT	Engine Speed rpm				Remarks
		1200	1000	900	750	
Brake Horse Power	kW	3653	3457	3128	2373	Prime power
Specific Fuel Consumption	g/kWh	210	202	198	197	Allowance +5%
Break Mean Effective Press.	Kgf/cm ²	19.8	22.5	22.6	20.6	
Mean Piston Speed	m/s	10.4	8.7	7.8	6.5	
Intake Air Flow	m ³ /min	391.7	318.7	270.7	206.8	
Exhaust Gas Flow	m ³ /min	846.1	737.1	603.9	549.2	
Jacket Water Flow	l/min	1870	1570	1430	1210	
Jacket Water Pressure	kgf/cm ²	1.55	1.25	1.05	0.70	
Cooling water (A/C & O/C) Flow	l/min	1870	1570	1430	1210	Raw water
Oil Flow	l/min	1300	1080	980	780	
Radiated Heat to Ambient	×10 ⁴ kcal/h	24.47	21.37	18.95	N.A.	
Heat Rejection to Jacket Water	×10 ⁴ kcal/h	70.43	64.11	56.86	N.A.	
Heat Rejection to Air & Oil Cooler	×10 ⁴ kcal/h	105.63	96.15	85.28	N.A.	
Heat Rejection to Exhaust	×10 ⁴ kcal/h	268.85	233.40	201.68	N.A.	
Noise Level	dB(A)	108	106	105	N.A.	Mechanical 1 m Dis. 1.5m H.
Max. No Load Governored Speed	Rpm	1260	1050	945	790	

Note: Break horse power at flywheel end