

GENERAL ENGINE DATA

Type	4-Cycle, Water Cooled	
Aspiration	Turbo-Charged, After Cooler (Jacket water to Cooler)	
Cylinder Arrangement	60°V	
No. of Cylinders	12	
Bore mm(in.)	170	(6.69)
Stroke mm(in.)	180	(7.09)
Displacement liter(in ³)	49.03	(2992)
Compression Ratio	15.0:1	
Dry Weight - Engine only - kg(lb)	4800	(10584)
Wet Weight - Engine only - kg(lb)	5080	(11201)

PERFORMANCE DATA

Steady State Speed Stability Band at any Constant Load		
Electric Governor - %	±0.25 or better	
Maximum Overspeed Capacity - rpm	2100	
Moment of inertia of Rotating Components - kgf · m ² (lbf · ft ²)	75.3	(1787)
(Includes Std. Flywheel)		
Cyclic Speed Variation with Flywheel at 1500rpm	1/394	

ENGINE MOUNTING

Maximum Bending Moment at Rear Face of Flywheel Housing - kgf · m(lbf · ft)	450	(3256)
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AIR INLET SYSTEM

Maximum Intake Air Restriction (Includes piping)	400	(15.7)
With Clean Filter Element - mm H ₂ O (in. H O)		
With Dirty Filter Element - mm H ₂ O (in. H O)	635	(25.0)

EXHAUST SYSTEM

Maximum Allowable Back Pressure - mm H O (in. H O)	600	(23.6)
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LUBRICATION SYSTEM

Oil Pressure at Idle - kgf/cm ² (psi)	2~3	(29~43)
at Rate Speed - kgf/cm ² (psi)	5~6.5	(71~93)
Maximum Oil Temperature - °C(°F)	110	(230)
Oil Capacity of Standard Pan	high – liter (U.S.gal)	150 (39.6)
	Low - liter (U.S.gal)	108 (28.5)
Total System Capacity (Includes Oil Filter) - liter (U.S.gal)	180	(47.6)
Maximum Angle of Installation (Std. Pan)	Front Down	6.5°
(Engine Only)	Front Up	6.5°
	Side to side	22.5°
		22.5°

COOLING SYSTEM

Coolant Capacity (Engine only) - liter (U.S.gal)	125	(33.0)
Maximum External Friction Head at Engine Outlet - kgf/cm (psi)	0.35	(5.0)
Maximum Static Head of Coolant above Crankshaft Center - m(ft)	10	(32.8)
Maximum Outlet Pressure of Engine Water Pump - kgf/cm ² (psi)	2	(28.6)
Standard Thermostat (modulating) Range- C(F)	71~85	(160~185)
Maximum Coolant Temperature at Engine Outlet- C(F)	98	(208)
Minimum Coolant Expansion Space - % of System Capacity	10	
Maximum Coolant Temperature at Intercooler Inlet, TK type- °C(°F)		
Maximum Air Restriction on Discharge Side of Radiator and Fan-mm H ₂ O(in. H ₂ O)	10	(0.4)

FUEL SYSTEM

Fuel Injector	Mitsubishi PS6 Type × 2
Maximum Suction Head of Feed Pump - mm Hg (in. Hg)	75 (3.0)
Maximum Static Head of Return & Leak Pipe - mm Hg (in.Hg)	150 (5.9)

STARTING SYSTEM

Battery Charging Alternator - V-Ah	24-30
Starting Motor Capacity - V -kW	24-7.5×2
Maximum Allowable Resistance of Cranking Circuit - m Ω	1.5
Recommended Minimum Battery Capacity	
At 5 °C(41 °F) and above - Ah	300
Below 5 °C(41 °F) through - 5 °C(23 °F)	600

ENGINE RATING

All data represent net performance with standard accessories such as air cleaner, inlet /exhaust manifolds, fuel oil system, L.O. pump, etc. under the condition of 100kPa(29.6inHg) barometric pressure, 77°F(25°C) ambient temperature and 30% relative humidity.

ITEM	UNIT	STAND-BY POWER	PRIME POWER		
		50Hz	50Hz		
Engine Speed	rpm	1500	1500		
No. of Cylinders		12			
Bore	mm (in.)	170 (6.69)			
Stroke	mm (in.)	180 (7.09)			
Displacement	liter (in. ³)	49.03 (2992)			
Brake Horse power without Fan	HP (kW)	1635 (1220)	1487 (1109)		
Brake Mean Effective Pressure without Fan	kgf/cm ² (psi)	20.3 (289)	18.4 (262)		
Mean Piston Speed	m/s (ft/min)	9.0 (1772)	9.0 (1772)		
Maximum Regenerative Power Absorption Capacity without Fan	HP (kW)	141 (105)	141 (105)		
Intake Air flow	m ³ /min (CFM)	101 (3566)	92 (3249)		
Exhaust Gas Flow	m ³ /min (CFM)	266 (9392)	242 (8545)		
Coolant Flow	liter/min (U.S. GPM)	1650 (436)	1650 (436)		
Coolant Flow to Intercooler (TK only)	liter/min (U.S. GPM)	-	-		
Cooling Air Flow (Std. Fan)	m ³ /min (CFM)	1500 (52965)	1500 (52965)		
Fan Loss Horse Power (Std. Fan)	HP (kW)	40 (30)	40 (30)		
Radiated Heat to Ambient	kcal/hr (BTU/min)	75815 (5014)	68963 (4561)		
Heat Rejection to Coolant	kcal/hr (BTU/min)	631792 (41786)	574688 (38009)		
Heat Rejection to Inter Cooler (TK Version)	kcal/hr (BTU/min)	-	-		
Heat Rejection to Exhaust	kcal/hr (BTU/min)	770566 (50964)	701549 (46400)		
Noise Level (1 m height & distance) (excludes, Intake,Exhaust & Fan)	dB(A)	107	105		