

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 | 14.0:1 | |
| 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 | | |
| Hydraulic (std.) or Electric Governor - % | ±0.25 or better | |
| Maximum Overspeed Capacity - rpm | 2100 | |
| Moment of inertia of Rotating Components - kgf·m ² (lbf·ft ²) (Includes Std. Flywheel) | 75.3 | (1787) |
| Cyclic Speed Variation with Flywheel at | 1800rpm | 1/565 |
| | 1500rpm | 1/394 |
| | 1200rpm | 1/253 |

ENGINE MOUNTING

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

AIR INLET SYSTEM

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

EXHAUST SYSTEM

| | | |
|--|-----|--------|
| Maximum Allowable Back Pressure - mm H ₂ O (in. H ₂ O) | 600 | (23.6) |
|--|-----|--------|

LUBRICATION SYSTEM

| | | |
|---|---|------------|
| Oil Pressure at Idle - kgf/cm ² (psi) | #REF! | #REF! |
| | at Rate Speed - kgf/cm ² (psi) | #REF! |
| 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) (Engine Only) | Front Down | 6.5° |
| | Front Up | 6.5° |
| | Side to Side | 22.5° |

COOLING SYSTEM

| | | |
|---|-------|--------|
| Coolant Capacity (Engine only) - liter (U.S.gal) | 125 | (33.0) |
| Maximum External Friction Head at Engine Outlet - kgf/cm ² (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) | #REF! | #REF! |
| 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 29.38 in. (746 mm) Hg barometric pressure, 85°F(29.4°C) ambient temperature and 0.38 in.(9.7mm) Hg vapor pressure.

| ITEM | UNIT | STAND-BY POWER | | | PRIME POWER | | |
|--|------------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| | | 60Hz | 50Hz | 60Hz | 60Hz | 50Hz | 60Hz |
| Engine Speed | rpm | 1800 | 1500 | 1200 | 1800 | 1500 | 1200 |
| 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) | 1769 (1320) | 1635 (1220) | 1126 (840) | 1595 (1190) | 1488 (1110) | 1019 (760) |
| Brake Mean Effective Pressure without Fan | kgf/cm ² (psi) | 18.3 (260) | 20.3 (289) | 17.5 (249) | 16.5 (235) | 18.5 (263) | 15.8 (225) |
| Mean Piston Speed | m/s (ft/min) | 10.8 (2126) | 9.0 (1772) | 7.2 (1417) | 10.8 (2126) | 9.0 (1772) | 7.2 (1417) |
| Maximum Regenerative Power Absorption Capacity without Fan | HP (kW) | 193 (144) | 141 (105) | 97 (72) | 193 (144) | 141 (105) | 97 (72) |
| Intake Air flow | m ³ /min (CFM) | 109 (3849) | 98 (3460) | 66 (2330) | 97 (3425) | 89 (3143) | 60 (2119) |
| Exhaust Gas Flow | m ³ /min (CFM) | 287 (10134) | 258 (9110) | 176 (6215) | 257 (9075) | 235 (8298) | 159 (5614) |
| Coolant Flow | liter/min (U.S. GPM) | 1850 (489) | 1650 (436) | 1300 (343) | 1850 (489) | 1650 (436) | 1300 (343) |
| Coolant Flow to Intercooler (TK only) | liter/min (U.S. GPM) | | | | | | |
| Cooling Air Flow (Std. Fan) | m ³ /min (CFM) | 1800 (63558) | 1800 (63558) | 1410 (49787) | 1800 (63558) | 1800 (63558) | 1410 (49787) |
| Fan Loss Horse Power (Std. Fan) | HP (kW) | 67 (50) | 40 (30) | 27 (20) | 67 (50) | 40 (30) | 27 (20) |
| Radiated Heat to Ambient | kcal/hr (BTU/min) | 81738 (5406) | 73546 (4864) | 49961 (3304) | 73211 (4842) | 66933 (4427) | 45213 (2990) |
| Heat Rejection to Coolant | kcal/hr (BTU/min) | 681153 (45051) | 612880 (40535) | 416339 (27536) | 610088 (40350) | 557777 (36891) | 376775 (24919) |
| Heat Rejection to Inter Cooler (TK Version) | kcal/hr (BTU/min) | | | | | | |
| Heat Rejection to Exhaust | kcal/hr (BTU/min) | 827025 (54698) | 716349 (47378) | 476800 (31535) | 733965 (48543) | 651944 (43119) | 431492 (28538) |
| Noise Level (1 m height & distance) (excludes, Intake,Exhaust & Fan) | dB(A) | 110 | 107 | | 108 | 105 | |

The specifications are subject to change without notice.

APPLICATION : GENERATOR

Pub. No. T13-0309-E

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 29.38 in. (746 mm) Hg barometric pressure, 85°F(29.4°C) ambient temperature and 0.38 in.(9.7mm) Hg vapor pressure.

| ITEM | UNIT | STAND-BY POWER | | | PRIME POWER | | | CONTINUOUS C | | CONTINUOUS D | |
|---|------------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| | | 60Hz | 50Hz | 60Hz | 60Hz | 50Hz | 60Hz | 60Hz | 50Hz | 60Hz | 50Hz |
| Engine Speed | rpm | 1800 | 1500 | 1200 | 1800 | 1500 | 1200 | 1800 | 1500 | 1800 | 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) | 1769 (1320) | 1635 (1220) | 1126 (840) | 1595 (1190) | 1488 (1110) | 1019 (760) | 1367 (1020) | 1327 (990) | 1220 (910) | 1180 (880) |
| Brake Mean Effective Pressure without Fan | kgf/cm ² (psi) | 18.3 (260) | 20.3 (289) | 17.5 (249) | 16.5 (235) | 18.5 (263) | 15.8 (225) | 14.1 (201) | 16.5 (235) | 12.6 (179) | 14.6 (208) |
| Mean Piston Speed | m/s (ft/min) | 10.8 (2126) | 9.0 (1772) | 7.2 (1417) | 10.8 (2126) | 9.0 (1772) | 7.2 (1417) | 10.8 (2126) | 9.0 (1772) | 10.8 (2126) | 9.0 (1772) |
| Maximum Regenerative Power Absorption Capacity without Fan | HP (kW) | 193 (144) | 141 (105) | 97 (72) | 193 (144) | 141 (105) | 97 (72) | 193 (144) | 141 (105) | 193 (144) | 141 (105) |
| Intake Air flow | m ³ /min (CFM) | 109 (3849) | 98 (3460) | 66 (2330) | 97 (3425) | 89 (3143) | 60 (2119) | 85 (3001) | 80 (2825) | 76 (2684) | 72 (2542) |
| Exhaust Gas Flow | m ³ /min (CFM) | 287 (10134) | 258 (9110) | 176 (6215) | 257 (9075) | 235 (8298) | 159 (5614) | 225 (7945) | 213 (7521) | 202 (7133) | 190 (6709) |
| Coolant Flow | liter/min (U.S. GPM) | 1850 (489) | 1650 (436) | 1300 (343) | 1850 (489) | 1650 (436) | 1300 (343) | 1850 (489) | 1650 (436) | 1850 (489) | 1650 (436) |
| Coolant Flow to Intercooler (TK only) | liter/min (U.S. GPM) | — | — | — | — | — | — | — | — | — | — |
| Cooling Air Flow (Std. Fan) | m ³ /min (CFM) | 1800 (63558) | 1800 (63558) | 1410 (49787) | 1800 (63558) | 1800 (63558) | 1410 (49787) | 1800 (63558) | 1800 (63558) | 1800 (63558) | 1800 (63558) |
| Fan Loss Horse Power (Std. Fan) | HP (kW) | 67 (50) | 40 (30) | 27 (20) | 67 (50) | 40 (30) | 27 (20) | 67 (50) | 40 (30) | 67 (50) | 40 (30) |
| Radiated Heat to Ambient | kcal/hr (BTU/min) | 81738 (5406) | 73546 (4864) | 49961 (3304) | 73211 (4842) | 66933 (4427) | 45213 (2990) | 64000 (4233) | 60503 (4002) | 57491 (3802) | 54162 (3582) |
| Heat Rejection to Coolant | kcal/hr (BTU/min) | 681153 (45051) | 612880 (40535) | 416339 (27536) | 610088 (40350) | 557777 (36891) | 376775 (24919) | 533335 (35274) | 504194 (33347) | 479094 (31687) | 451350 (29852) |
| Heat Rejection to Inter Cooler (TK Version) | kcal/hr (BTU/min) | — | — | — | — | — | — | — | — | — | — |
| Heat Rejection to Exhaust | kcal/hr (BTU/min) | 827025 (54698) | 716349 (47378) | 476800 (31535) | 733965 (48543) | 651944 (43119) | 431492 (28538) | 659165 (43596) | 600895 (39742) | 597241 (39501) | 542996 (35913) |
| Noise Level (1 m height & distance) (excludes, Intake, Exhaust & Fan) | dB(A) | 107 | 107 | 105 | 105 | 105 | 103 | 104 | 103 | 103 | 102 |

The specifications are subject to change without notice.

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Pub. No. T13-0309-E