HIPOWER®
your partner for power

# INDUSTRIAL Diesel Generator
# Model: HTW 2000 T6

## MITSUBISHI Diesel Series

Specification & Application Data

Generator depicted with sound attenuated option, some accessories for display only.

### 60Hz Power Ratings kW (kVA)

| Voltage VAC | Phase | PF | Standby | | Prime* | |
|---|---|---|---|---|---|---|
| | | | kW | kVA | kW | kVA |
| 277/480 | 3 | 0.8 | 2000 | 2500 | 1600 | 2000 |
| | | | | | | |
| 347/600** | 3 | 0.8 | 2000 | 2500 | 1600 | 2000 |
| | | | | | | |

**Rating Definitions:** *(N/A = Not available for model designated)*
Standby - All Industrial Sets are Standby Rated, applicable for a varying emergency load for the duration of a utility power outage with no overload capability. Alternator winding temperature rise is 120˚C.
Prime - Prime rating is applicable for supplying power to a varying load in lieu of utility for an unlimited amount of running time. (Max. load factor = 80%) A 10% overload capacity is available for 1 out of every 12 hours.
*** 600 Volt configuration not available as UL2200 certified generator set.*

## Overview of the HIPOWER® MITSUBISHI Diesel Series of Industrial Generator Sets:

HIPOWER® Industrial generators are factory-built in facilities that utilize the latest technology in sheet metal fabrication, mechanical and electrical component assembly, production and testing.

Each model is the result of computer aided design and modeling backed up by exhaustive prototype-testing. Our development technology results in a unique range of inovative designs for highly reliable generator sets backed-up by a limited warranty covering all components.

## Standard Configuration of Industrial Sets:

- **MITSUBISHI Diesel Engine:** Long-life, heavy-duty, 4-cycle, direct injection engine from a world renown manufacturer for economy of operation and maximum reliability and durability. Capable of full rated load acceptance in one step.
- **Cooling:** Radiator with belt driven pusher fan.
- **Filtration:** Heavy duty replaceable element air-cleaner
- **Alternator:** Single bearing, 4-pole, rotating field, self-excited, self-ventilated, 12-wire re-connectable, 60Hz brushless alternator with Class H insulation. Automatic voltage regulator (AVR) providing close voltage regulation.
- **Certification:** Generator set is UL2200 and CSA certified and meets ISO 8528-5.
- **Arrangement:** Open skid with engine and alternator units closed coupled together and with resilent anti-vibration isolators mounted between the assembly and a heavy-duty steel base. The sturdy base frame has openings allowing for winching, slinging and forklift pockets for ease of handling
- **Auto Start Control Panel:** Digital auto-start microprocessor based control panel with remote start capability.
- **Starting System:** 24 volt starter motor, battery cables, battery and belt driven charging alternator.

## Standard Features of Industrial Sets:

- HIPOWER® is a single source for all the generator system
- Generators are produced in a facility dedicated to generator set manufacture
- The generator set can accept rated load in one step
- 2-year limited warranty given as standard. Extended warranties offered as options to the standard
- Base set meets NFPA 110, Level 1, when accessorized with the required equipment and installed per NFPA standards
- Test certificates available for the fully factory tested industrial generator sets
- HIPOWER® generator sets are designed to fit a full range of options for complying with many diverse applications
- Full range of safety features to ensure full protection of the generator system. (See back-page for details).

Packaged in the US

HIPOWER®

Application & Specification Data

# INDUSTRIAL Diesel Generator
# Model: HTW 2000 T6U
# MITSUBISHI Diesel Series

## Industrial Generator Set Specification:

| | |
|---|---|
| Governor regulation class | ISO 8528 Part 1 Class G3 |
| Voltage regulation, no load to full load | plus or minus 1% |
| Frequency regulation | Ischronous |
| Radio frequency emissions compliance | Meets requirements of most industrial and commercial applications |
| skVA with 30% voltage dip at 480 volts (600V) | 3930 (4750) |
| Main Line Circuit breaker – amps capacity | 3200A (480V) - 2400A (600V) |

## Engine Specification:

| | |
|---|---|
| Manufacturer | MITSUBISHI |
| Model | S16R-Y2PTAW2-1 |
| EPA certified | Tier 2 |
| Crankshaft speed | 1,800 rpm |
| Type | Diesel, 4-stroke |
| Injection | Direct |
| Aspiration | Turbocharged, intercooled |
| Number of cylinders | 16 |
| Cylinder arrangement | Vee 60º |
| Displacement CID (liters) | 3989 (65.37) |
| Bore and Stroke ins (mm) | 6.7 x 7.1 (170x180) |
| Nominal h.p. power | 2923hp |
| Cooling | Liquid |
| Governor | Electrical |
| Starting motor and alternator | 24 V |
| Compression ratio | 14.0:1 |
| Air cleaner type | Dry |
| Exhaust gas flow cu. ft/min (cu. m/min) | 19,209 (544) |
| Max. exhaust gas temp at full load ° F (° C) | 987 (516) |
| Max. permissible back pressure - ins H2O (mbar) | 23.6 (600) |

## Cooling System:

| | |
|---|---|
| Engine cooling air flow - cu.ft/min (cu. m/min) | 88,272 (2,490) |
| Alternator cooling flow - cu. ft/min (cu. m/min) | 5,700 (162) |
| Total cooling air flow (eng, alt, combustion) cu. ft/min (cu. m/min) | 99,904 (2,820) |
| Total cooling capacity - US gallons (liters) | 45 (170) |

## Lubrication system:

| | |
|---|---|
| Oil pan capacity - US gallons (liters) | 53 (200.0) |
| Oil pan capacity with filter - US gallons (liters) | 60.8 (230) |
| Oil cooler | Liquid |
| Recommended lubricating oil grade | S10 W40 |
| Oil consumption at full load | 1 % of fuel consumption |
| Oil pressure – psi (kPA) | 71~93 (489~641) |

## Engine Electrical System:

| | |
|---|---|
| Starting motor voltage | 24 V |
| Battery capacity | 300 Ah |
| Cold Cranking Amps - minimum | 1100 Amp |
| Starting current Amps | 600 |

## Fuel System:

| | |
|---|---|
| Recommended fuel | # 2 Diesel - ULSD |
| Fuel supply line, min. ID mm(in.) | 25 (1) |
| Fuel return line,min. ID, mm (in.) | 25 (1) |
| Max. lift, fuel pump, type, m (ft) | Engine-Driven, 1.0 (3) |
| Fuel filter | Secondary 4 Microns @ 98% Efficiency |

## Fuel consumption:

| | Standby Power Rating | Prime Power Rating |
|---|---|---|
| 100% load – US gallons/hour | 159.4 | TBD |
| 75% load - US gallons/hour | 117 | TBD |
| 50% load - US gallons/hour | 80.8 | TBD |
| 25% load - US gallons/hour | 46.2 | TBD |

## Alternator Specification:

| | |
|---|---|
| Manufacturer | Stamford |
| Model | PI734G (480V) - PI734F (480V) |
| Voltages | 277/480V - 347/600V |
| Alternator Type | Four pole, rotating field |
| Excitation System | Brushless. self-exciting |
| Power factor | 0.8 |
| Number of leads | 6 leads |
| Stator Pitch | 2/3 |
| Insulation | Class H |
| Windings – Temperature Rise | 150° C |
| Enclosure (IEC-34-S) | IP23 |
| Bearing | Single, sealed |
| Coupling | Flexible disc |
| Amortisseur windings | Full |
| Voltage regulation – no load to full load | plus or minus 1% |
| TIF | <50 |
| Line harmonics | 5% maximum |

## Standard Features: *(see back-page for control panel details)*

| | |
|---|---|
| • PMG AVR for Stamford Alternator | • Standard fuel filter |
| • Medium - duty, single-stage dry element filter | • All rotating components (i.e. fan) protected with metal guards |
| • Heavy-duty engine start batteries in rack with cables | • All hot components (i.e. exhaust) protected with metal guards |
| • External emergency stop switch | • Operation and installation literature |
| • Shunt trip on MLCB | • Main line ABB UL listed circuit breaker for overload protection |
| • Auxiliary contacts on MLCB | • UL2200 certified |
| • Steel base for mounting on fuel tank and/or concrete surface | • CSA certified |

## Available Options:

| | | |
|---|---|---|
| | | |
| ☐ Different voltages | ☐ Alternator anti-condensation heaters | |
| ☐ Residential silencer -35dBA (for open skid only) | ☐ Control panel heater | |
| ☐ Static battery charger 10A | ☐ Remote annunicator | |
| ☐ Engine block heater 12Kw | ☐ Battery blanket | |
| ☐ | ☐ | |
| ☐ | | |
| **Auto Transfer Switch (ATS) Options:** | ☐ Open transition ATS | ☐ Closed transition ATS |
| | ☐ Delayed transition ATS | ☐ Service entrance ATS |

## Generator Digital Control Panel - *for manual, automatic and remote control* — Model AMF25

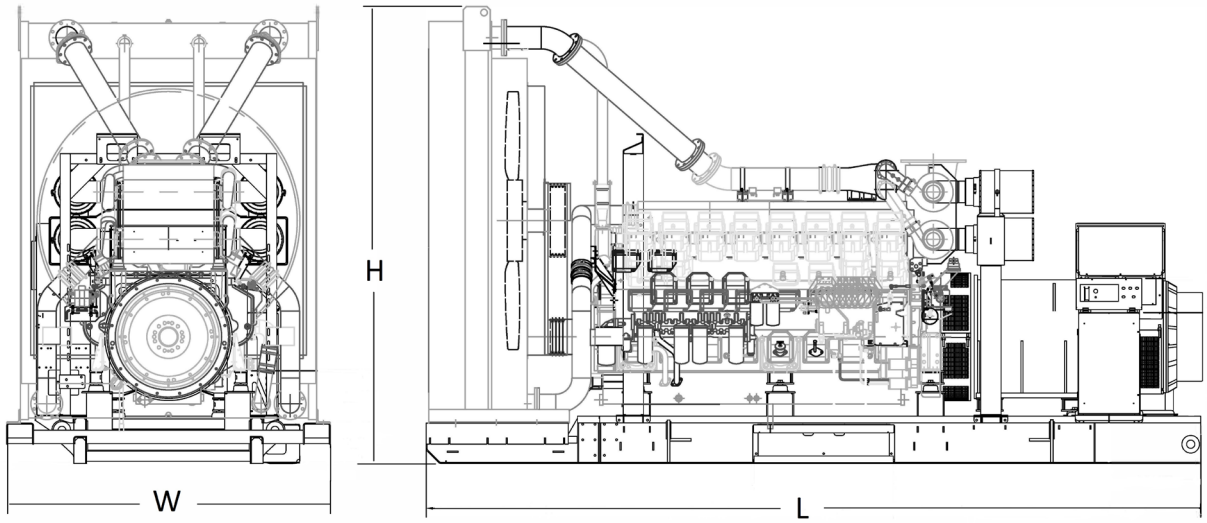
**HIPOWER AMF25 Control Panel:** HIPOWER's auto-start control panel AMF25 is supplied by COMAP with a manual or auto start selection switch with push button reset. Displays with indication of: phase to neutral voltage, voltage between phases, current (amps) per phase, frequency, power factor, kW and kVA outputs, fuel level, engine speed, hours run, battery voltage and battery charge voltage.

**Engine and generator alarms for**: battery charge failure, emergency stop activated, over-speed, under-speed, low oil pressure, high coolant temperature, low coolant level, low fuel level, overload, unbalanced voltage, over and under voltage, over frequency, short circuit, inverse power and incorrect phase sequence. All protections are programmable to: Warning alarm without engine shutdown or alarm with engine shutdown, with or without cooling period. Warning alarms for: low fuel level, battery voltage failure and battery charging alternator failure


**Alternator alarms included:** Overload, unbalanced voltage, over voltage, under voltage, over frequency, under frequency, short circuit, reverse power, and incorrect phase sequence.

*Pictures of Control Panel may include optional equipment and/or accessories*

## Model HTW 1600 T6 Open Set — key dimensions and sound levels




| Configuration | Generator Data * | | | | |
|---|---|---|---|---|---|
| | L = Length | W = Width | H = Height | Weight lbs | dBA |
| Open Set (as shown) | 235" | 95" | 120" | 37,000 | TBA |

* All measurements are approximate and for estimation purposes only. Weights are without fuel tank. Sound levels measured at 23ft (7m) and does not account for ambient site conditions.

## Codes and Standards Compliances used where applicable

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EGSA Electrical Generating Systems Association

| | |
|---|---|
| NFPA 99 | BS5514 |
| NFPA 110 | SAE J1349 |
| ISO 8528-5 | DIN6271 |
| ISO 1708A.5 | IEE C62.41 TESTING |
| ISO 3046 | NEMA ICS 1 |

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