



HIPOWER®

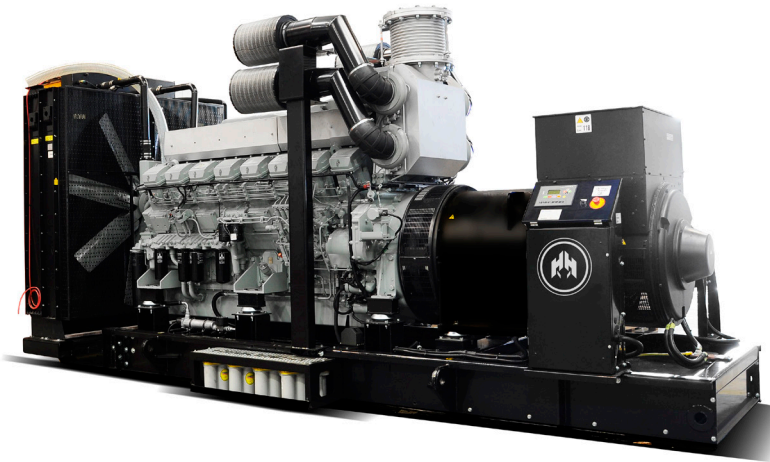
your partner for power

INDUSTRIAL Diesel Generator

Model: HTW 1600 T6U

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	1630	2038	1467	1834
347/600**	3	0.8	1635	2044	1472	1840

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 innovative 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 renowned 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 resilient 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).



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)	4600 (3900)
Main Line Circuit breaker – amps capacity	2500A (480V) - 2000A (600V)

Engine Specification:

Manufacturer	MITSUBISHI
Model	S16R-Y2PTAW-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 60°
Displacement CID (liters)	3989 (65.37)
Bore and Stroke ins (mm)	6.7 x 7.1 (170x180)
Nominal h.p. power	2249 hp
Cooling	Liquid
Governor	Electrical
Starting motor and alternator	24 V
Compression ratio	14.5:1
Air cleaner type	Dry
Exhaust gas flow cu. ft/min (cu. m/min)	15,642 (443)
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	128.4	TBD
75% load - US gallons/hour	96.3	TBD
50% load - US gallons/hour	64.2	TBD
25% load - US gallons/hour	32.1	TBD

Alternator Specification:

Manufacturer	Stamford
Model	PI734E (480V) - PI734D (600V)
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:

<input type="checkbox"/> Different voltages	<input type="checkbox"/> Alternator anti-condensation heaters	
<input type="checkbox"/> Residential silencer -35dBA (for open skid only)	<input type="checkbox"/> Control panel heater	
<input type="checkbox"/> Static battery charger 10A	<input type="checkbox"/> Remote annunciator	
<input type="checkbox"/> Engine block heater 12Kw	<input type="checkbox"/> Battery blanket	
<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>		
Auto Transfer Switch (ATS) Options:	<input type="checkbox"/> Open transition ATS	<input type="checkbox"/> Closed transition ATS
	<input type="checkbox"/> Delayed transition ATS	<input type="checkbox"/> Service entrance ATS

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

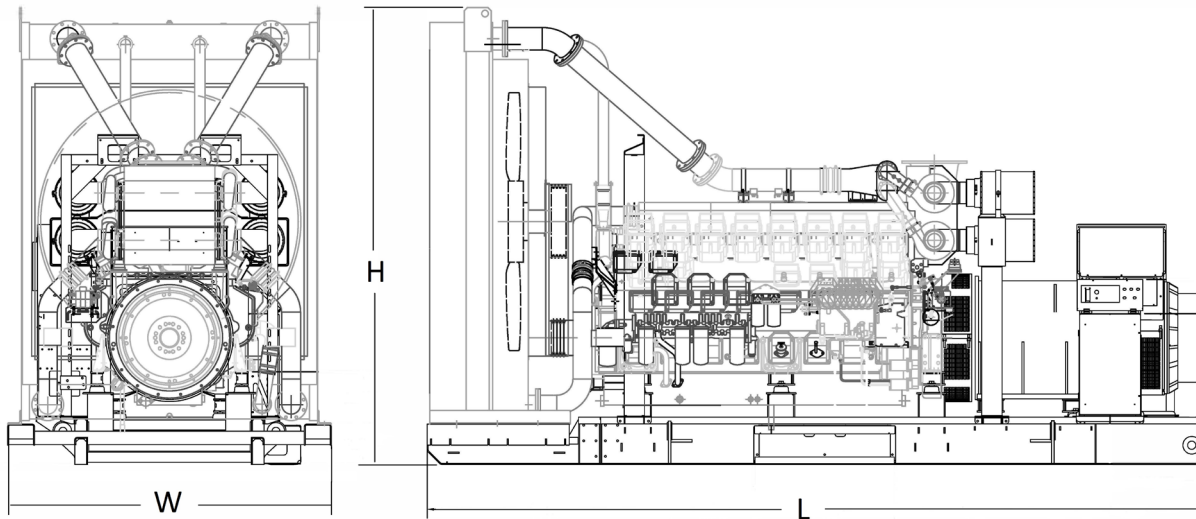
Alternator alarms included: Overload, unbalanced voltage, over voltage, under voltage, over frequency, under frequency, short circuit, reverse power, and incorrect phase sequence.



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"	34,000	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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- NFPA 99
- NFPA 110
- ISO 8528-5
- ISO 1708A.5
- ISO 3046
- BS5514
- SAE J1349
- DIN6271
- IEE C62.41 TESTING
- NEMA ICS 1

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