DIESEL GENERATOR SET
1600-XC6DT2

1600 kWe / 60 Hz / Prime
380 - 4160V

(Reference 1750-XC6DT2 for Standby Rating Technical Data)

SYSTEM RATINGS

Prime

Voltage (L-L)	380V	480V**	600V**	4160V
Phase	3	3	3	3
PF	0.8	0.8	0.8	0.8
Hz	60	60	60	60
kW	1600	1600	1600	1600
kVA	2000	2000	2000	2000
Amps	3042	2406	1925	278
skVA@30%				
Voltage Dip	4200	4700	3600	4000
Generator Model*	744RSL4056	743RSL4052	744RSS4292	743FSM4370
Temp Rise	105 °C/40 °C	105 °C/40 °C	105 °C/40 °C	105 °C/40 °C
Connection	4 BAR WYE	4 BAR WYE	4 BAR WYE	6 LEAD WYE

* Consult the factory for alternate configuration.
** UL 2200 Offered

CERTIFICATIONS AND STANDARDS

// **Emissions –** EPA Tier 2 Certified

// **Generator set is designed and manufactured in facilities certified to standards ISO 9001:2008 and ISO 14001:2004**

// **Seismic Certification – Optional**
- IBC Certification
- OSHPD Pre-Approval

// **UL 2200 / CSA – Optional**
- UL 2200 Listed
- CSA Certified

// **Performance Assurance Certification (PAC)**
- Generator Set Tested to ISO 8528-5 for Transient Response
- Verified product design, quality and performance integrity
- All engine systems are prototype and factory tested

// **Power Rating**
- Accepts Rated Load in One Step Per NFPA 110
- Permissible average power output during 24 hours of operation is approved up to 75%.

STANDARD FEATURES*

// MTU Onsite Energy is a single source supplier
// Global Product Support
// 2 Year Standard Warranty
// 12V 4000 Diesel Engine
- 57.2 Liter Displacement
- Common Rail Fuel Injection
- 4-Cycle

// Complete Range of Accessories
// Generator
- Brushless, Rotating Field Generator
- 2/3 Pitch Windings
- PMG (Permanent Magnet Generator) supply to regulator
- 300% Short Circuit Capability

// Digital Control Panel(s)
- UL Recognized, CSA Certified, NFPA 110
- Complete System Metering
- LCD Display

// Cooling System
- Integral Set-Mounted
- Engine Driven Fan

STANDARD EQUIPMENT*

// Engine

Air Cleaners
Oil Pump
Oil Drain Extension & S/O Valve
Full Flow Oil Filter
Closed Crankcase Ventilation
Jacket Water Pump
Inter Cooler Water Pump
Thermostats
Blower Fan & Fan Drive
Radiator - Unit Mounted
Electric Starting Motor - 24V
Governor – Electronic Isochronous
Base - Structural Steel
SAE Flywheel & Bell Housing
Charging Alternator - 24V
Battery Box & Cables
Flexible Fuel Connectors
Flexible Exhaust Connection
EPA Certified Engine

// Generator

NEMA MG1, IEEE and ANSI standards compliance for temperature rise and motor starting
Sustained short circuit current of up to 300% of the rated current for up to 10 seconds
Self-Ventilated and Drip-Proof
Superior Voltage Waveform
Digital, Solid State, Volts-per-Hertz Regulator
No Load to Full Load Regulation
Brushless Alternator with Brushless Pilot Exciter
4 Pole, Rotating Field
105 °C Maximum Prime Temperature Rise
1 Bearing, Sealed
Flexible Coupling
Full Amortisseur Windings
125% Rotor Balancing
3-Phase Voltage Sensing
±0.25% Voltage Regulation
100% of Rated Load - One Step
5% Maximum Total Harmonic Distortion

// Digital Control Panel(s)

Digital Metering
Engine Parameters
Generator Protection Functions
Engine Protection
CAN Bus ECU Communications
Windows®-Based Software
Multilingual Capability
Remote Communications to RDP-110 Remote Annunciator
16 Programmable Contact Inputs
Up to 11 Contact Outputs
UL Recognized, CSA Certified, CE Approved
Event Recording
IP 54 Front Panel Rating with Integrated Gasket
NFPA110 Compatible

* Represents standard product only. Consult Factory/MTU Onsite Energy Distributor for additional configurations.

APPLICATION DATA

// Engine

Manufacturer	MTU
Model	12V 4000 G83
Type	4-Cycle
Arrangement	12-V
Displacement: L (in^3)	57.2 (3,491)
Bore: cm (in)	17 (6.69)
Stroke: cm (in)	21 (8.27)
Compression Ratio	16.5:1
Rated RPM	1,800
Engine Governor	Electronic Isochronous (ADEC)
Maximum Power: kWm (bhp)	1,736 (2,328)
Speed Regulation	±0.25%
Air Cleaner	Dry

// Liquid Capacity (Lubrication)

Total Oil System: L (gal)	260 (68.7)
Engine Jacket Water Capacity: L (gal)	160 (42.3)
After Cooler Water Capacity: L (gal)	40 (10.6)
System Coolant Capacity: L (gal)	583 (154)

// Electrical

Electric Volts DC	24
Cold Cranking Amps Under -17.8 °C (0 °F)	2,800

// Fuel System

Fuel Supply Connection Size	#16 JIC 37° Female 1" NPT Adapter Provided
Fuel Return Connection Size	#16 JIC 37° Female 1" NPT Adapter Provided
Maximum Fuel Lift: m (ft)	1 (3)
Recommended Fuel	Diesel #2
Total Fuel Flow: L/hr (gal/hr)	960 (254)

// Fuel Consumption

	PRIME
At 100% of Power Rating: L/hr (gal/hr)	420 (111)
At 75% of Power Rating: L/hr (gal/hr)	322 (85)
At 50% of Power Rating: L/hr (gal/hr)	227 (60)

// Cooling - Radiator System

	PRIME
Ambient Capacity of Radiator: °C (°F)	40 (104)
Maximum Restriction of Cooling Air, Intake, and Discharge Side of Rad.: kPa (in. H_20)	0.12 (0.5)
Water Pump Capacity: L/min (gpm)	1,117 (295)
After Cooler Pump Capacity: L/min (gpm)	583 (154)
Heat Rejection to Coolant: kW (BTUM)	666 (37,875)
Heat Rejection to After Cooler: kW (BTUM)	484 (27,525)
Heat Radiated to Ambient: kW (BTUM)	145.1 (8,254)
Fan Power: kW (hp)	48.7 (65.3)

// Air Requirements

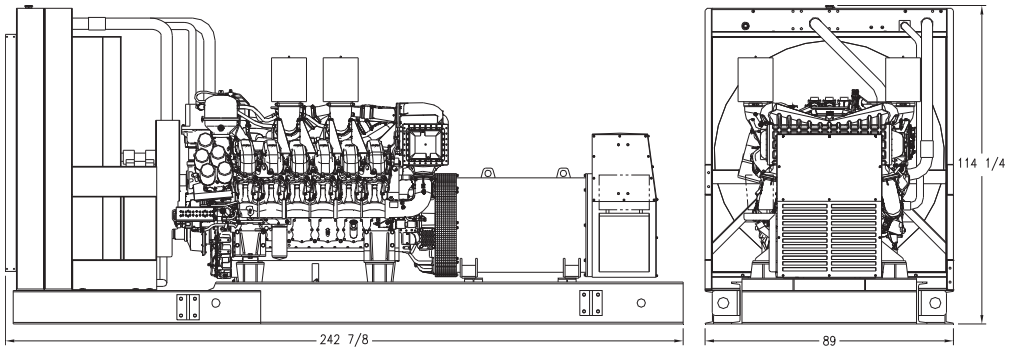
	PRIME
Aspirating: *m^3/min (SCFM)	138 (4,873)
Air Flow Required for Rad. Cooled Unit: *m^3/min (SCFM)	1,702 (60,120)
Remote Cooled Applications; Air Flow Required for Dissipation of Radiated Gen-set Heat for a Max of 25 °F Rise: *m^3/min (SCFM)	530 (18,616)

* Air density = 1.184 kg/m^3 (0.0739 lbm/ft^3)

// Exhaust System

	PRIME
Gas Temp. (Stack): °C (°F)	435 (815)
Gas Volume at Stack Temp: m^3/min (CFM)	342 (12,078)
Maximum Allowable Back Pressure: kPa (in. H_20)	8.5 (34.1)

WEIGHTS AND DIMENSIONS



Drawing above for illustration purposes only, based on standard open power 480 volt generator set. Lengths may vary with other voltages. Do not use for installation design. See website for unit specific template drawings.

System	Dimensions (L x W x H)	Weight (less tank)
OPU	6,170 x 2,260 x 2,900 mm (242.88 x 89 x 114.25 in)	14,511 kg (31,992 lb)

Weights and dimensions are based on open power units and are estimates only. Consult the factory for accurate weights and dimensions for your specific generator set.

SOUND DATA

Unit Type	Prime Full Load
Level 0: Open Power Unit dB(A)	92.8

Sound data is provided at 7 m (23 ft). Generator set tested in accordance with ISO 8528-10 and with infinite exhaust.

EMISSIONS DATA

NO_x + NMHC	CO	PM
5.09	0.64	0.05

All units are in g/hp-hr and at 100% load.
Emission levels of the engine may vary as a function of ambient temperature, barometric pressure, humidity, fuel type and quality, installation parameters, measuring instrumentation, etc. The data provided are laboratory results from one engine representing this rating. The data was obtained under controlled environmental conditions with calibrated instrumentation traceable to the United States National Bureau of Standards and in compliance with US EPA regulations found within 40 CFR Part 89. The weighted cycle value (not shown) from each engine is guaranteed to be below the US EPA Standards at the US EPA defined conditions.

RATING DEFINITIONS AND CONDITIONS

// Prime power ratings apply to installations where utility power is unavailable or unreliable. At varying load, the number of generator set operating hours is unlimited. A 10% overload capacity is available for one hour in twelve. Ratings are in accordance with ISO 8528-1, ISO 3046-1, BS 5514, AS 2789, and DIN 6271.

// Deration Factor:
Altitude: Consult your local MTU Onsite Energy Power Generation Distributor for altitude derations.
Temperature: Consult your local MTU Onsite Energy Power Generation Distributor for temperature derations.

Materials and specifications subject to change without notice.
C/F = Consult Factory/MTU Onsite Energy Distributor