

DIESEL GENERATOR SET

MTU 4R0113 DS 100

100 kWe / 60 Hz / Standby
208 - 600V

Reference MTU 4R0113 DS100 (90 kWe) for Prime Rating Technical Data



SYSTEM RATINGS

Standby

Voltage (L-L)	240V**	240V**	208V**	240V**	480V**	600V**
Phase	1	1	3	3	3	3
PF	1	1	0.8	0.8	0.8	0.8
Hz	60	60	60	60	60	60
kW	100	100	100	100	100	100
kVA	100	100	125	125	125	125
Amps	417	417	347	301	150	120
skVA@30%						
Voltage Dip	136	311	258	258	344	270
Generator Model	431CSL6204	363CSL1617	362CSL1606	362CSL1606	362CSL1606	362PSL1636
Temp Rise	130 °C/40 °C	130 °C/40 °C	130 °C/40 °C	130 °C/40 °C	130 °C/40 °C	130 °C/40 °C
Connection	12 LEAD DOUBLE DELTA	4 LEAD	12 LEAD LOW WYE	12 LEAD HI DELTA	12 LEAD HI WYE	4 LEAD WYE

**UL2200 Offered

CERTIFICATIONS AND STANDARDS

// Emissions

- EPA Tier 3 Certified
- South Coast Air Quality Management District (SCAQMD)

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

// 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

STANDARD FEATURES*

- // MTU Onsite Energy is a single source supplier
 - // Global Product Support
 - // 2 Year Standard Warranty
 - // 4045HF285 Diesel Engine
 - 4.5 Liter Displacement
 - 4-Cycle
 - // Engine-generator resilient mounted
 - // Complete Range of Accessories
- // Generator
 - Brushless, Rotating Field Generator
 - 2/3 Pitch Windings
 - 300% Short Circuit Capability with Optional PMG
 - // 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

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 Air Cleaner

 Oil Pump

 Oil Drain Extension & S/O Valve

 Full Flow Oil Filter

 Fuel Filter with Water Separator

 Jacket Water Pump

 Thermostats

 Blower Fan & Fan Drive

 Radiator - Unit Mounted

 Electric Starting Motor - 12V

 Governor - Electronic Isochronous

 Base - Formed Steel

 SAE Flywheel & Bell Housing

 Charging Alternator - 12V

 Battery Box & Cables

 Flexible Fuel Connectors

 Flexible Exhaust Connection

 EPA Certified Engine

// Generator

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 NEMA MG1, IEEE and ANSI standards compliance for temperature rise
 and motor starting

 Self-Ventilated and Drip-Proof

 Superior Voltage Waveform

 Solid State, Volts-per-Hertz Regulator

 ±1% Voltage Regulation No Load to Full Load

 Brushless Alternator with Brushless Pilot Exciter

 4 Pole, Rotating Field

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 130 °C Maximum Standby Temperature Rise

 1 Bearing, Sealed

 Flexible Coupling

 Full Amortisseur Windings

 125% Rotor Balancing

 3-Phase Voltage Sensing

 100% of Rated Load - One Step

 5% Maximum Total Harmonic Distortion

// Digital Control Panel(s)

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 Digital Metering

 Engine Parameters

 Generator Protection Functions

 Engine Protection

 SAE J1939 Engine ECU Communications

 Windows®-Based Software

 Multilingual Capability

 Remote Communications to RDP-110 Remote Annunciator

 Programmable Input and Output Contacts

 UL Recognized, CSA Certified, CE Approved

 Event Recording

 IP 54 Front Panel Rating with Integrated Gasket

 NFPA 110 Compatible

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

APPLICATION DATA

// Engine

Manufacturer	John Deere
Model	4045HF285
Type	4-Cycle
Arrangement	4-Inline
Displacement: L (in ³)	4.5 (275)
Bore: cm (in)	10.6 (4.19)
Stroke: cm (in)	12.7 (5)
Compression Ratio	19:1
Rated RPM	1,800
Engine Governor	JDEC
Maximum Power: kWm (bhp)	118 (158)
Speed Regulation	±0.25%
Air Cleaner	Dry

// Liquid Capacity (Lubrication)

Total Oil System: L (gal)	12 (3.2)
Engine Jacket Water Capacity: L (gal)	12.5 (3.3)
System Coolant Capacity: L (gal)	20.1 (5.3)

// Electrical

Electric Volts DC	12
Cold Cranking Amps Under -17.8 °C (0 °F)	925

// Fuel System

Fuel Supply Connection Size	3/8" NPT
Fuel Return Connection Size	3/8" NPT
Maximum Fuel Lift: m (ft)	2 (6.7)
Recommended Fuel	Diesel #2
Total Fuel Flow: L/hr (gal/hr)	74.6 (19.7)

// Fuel Consumption

At 100% of Power Rating: L/hr (gal/hr)	31 (8.2)
At 75% of Power Rating: L/hr (gal/hr)	25 (6.6)
At 50% of Power Rating: L/hr (gal/hr)	17.8 (4.7)

// Cooling - Radiator System

Ambient Capacity of Radiator: °C (°F)	50 (122)
Maximum Restriction of Cooling Air, Intake, and Discharge Side of Rad.: kPa (in. H ₂ O)	0.12 (0.5)
Water Pump Capacity: L/min (gpm)	180 (48)
Heat Rejection to Coolant: kW (BTUM)	62 (3,544)
Heat Rejection to Air to Air: kW (BTUM)	19.8 (1,127)
Heat Radiated to Ambient: kW (BTUM)	16.2 (919)
Fan Power: kW (hp)	6.5 (8.7)

// Air Requirements

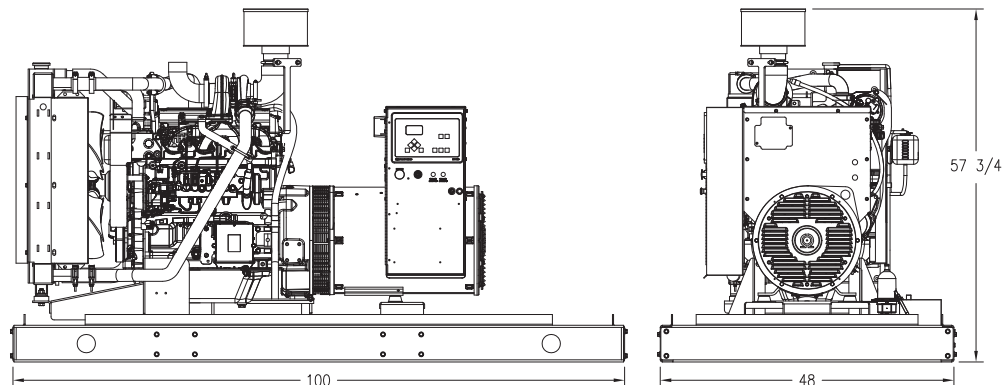
Aspirating: *m ³ /min (SCFM)	8.2 (288)
Air Flow Required for Rad. Cooled Unit: *m ³ /min (SCFM)	187 (6,587)
Remote Cooled Applications; Air Flow Required for Dissipation of Radiated Gen-set Heat for a Max of 25 °F Rise: *m ³ /min (SCFM)	59 (2,074)

* Air density = 1.184 kg/m³ (0.0739 lbm/ft³)

// Exhaust System

Gas Temp. (Stack): °C (°F)	580 (1,076)
Gas Volume at Stack Temp: m ³ /min (CFM)	22.8 (805)
Maximum Allowable Back Pressure: kPa (in. H ₂ O)	7.5 (30)

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

Open Power Unit (OPU)

Dimensions (LxWxH)

2,540 x 1,219 x 1,473 mm (100 x 48 x 58 in)

Weight (less tank)

1,196-1,839 kg (2,637-4,054 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

Level 0: Open Power Unit dB(A)

Standby Full Load

83.6

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

3.97

CO

0.72

PM

0.08

All units are in g/hp-hr and shown at 100% load (not comparable to EPA weighted cycle values).

Emission levels of the engine may vary with ambient temperature, barometric pressure, humidity, fuel type and quality, installation parameters, measuring instrumentation, etc. The data was obtained in compliance with US EPA regulations. The weighted cycle value (not shown) from each engine is guaranteed to be within the US EPA Standards. 5-mode emission data per 40 CFR 89 or 40 CFR 1039 (as applicable) is available upon request.

RATING DEFINITIONS AND CONDITIONS

// Standby ratings apply to installations served by a reliable utility source. The standby rating is applicable to varying loads for the duration of a power outage. No overload capability for this rating. Ratings are in accordance with ISO 3046-1, BS 5514, and AS 2789. Average load factor: ≤ 85%.

// 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.

C/F = Consult Factory/MTU Onsite Energy Distributor

N/A = Not Available

MTU Onsite Energy

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