

DIESEL GENERATOR SET

MTU 6R0113 DS180

180 kWe / 60 Hz / Standby
208 - 600V

Reference MTU 6R0113 DS180 (180 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	180	180	180	180	180	180
kVA	180	180	225	225	225	225
Amps	750	750	625	541	271	217
skVA@30%						
Voltage Dip	267	370	433	433	451	510
Generator Model	432CSL6210	432PSL6228	431CSL6206	431CSL6206	431CSL6204	431PSL6243
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 ZIG-ZAG	4 LEAD	12 LEAD LOW WYE	12 LEAD HI DELTA	12 LEAD HI WYE	4 LEAD WYE

** UL 2200 Offered

CERTIFICATIONS AND STANDARDS

// **Emissions** – EPA Tier 3 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

STANDARD FEATURES*

- // MTU Onsite Energy is a single source supplier
- // Global Product Support
- // 2 Year Standard Warranty
- // 6068HFG85 Diesel Engine
 - 6.8 Liter Displacement
 - Electronic Unit Pump Injection
 - 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

.....
Air Cleaners
.....
Oil Pump
.....
Oil Drain Extension & S/O Valve
.....
Full Flow Oil Filter
.....
Fuel Filter with Water Separator
.....
Jacket Water Pump
.....
Thermostat
.....
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

.....
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
.....

.....
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)

.....
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
.....
NFPA110 Compatible
.....

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

APPLICATION DATA

// Engine

Manufacturer	John Deere
Model	6068HFG85
Type	4-Cycle
Arrangement	6-Inline
Displacement: L (in ³)	6.8 (415)
Bore: cm (in)	10.6 (4.2)
Stroke: cm (in)	12.7 (5)
Compression Ratio	17:1
Rated RPM	1,800
Engine Governor	JDEC
Maximum Power: kWm (bhp)	235 (315)
Speed Regulation	±0.25%
Air Cleaner	Dry

// Liquid Capacity (Lubrication)

Total Oil System: L (gal)	32.2 (8.5)
Engine Jacket Water Capacity: L (gal)	11.9 (3.3)
System Coolant Capacity: L (gal)	29.3 (7.75)

// 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)	93 (24.5)

// Fuel Consumption

At 100% of Power Rating: L/hr (gal/hr)	51.9 (13.5)
At 75% of Power Rating: L/hr (gal/hr)	40.5 (10.7)
At 50% of Power Rating: L/hr (gal/hr)	27.6 (7.3)

// 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)	265 (70)
Heat Rejection to Coolant: kW (BTUM)	83.7 (4,766)
Heat Rejection to Air to Air: kW (BTUM)	40 (2,298)
Heat Radiated to Ambient: kW (BTUM)	24.2 (1,378)
Fan Power: kW (hp)	8.6 (11.5)

// Air Requirements

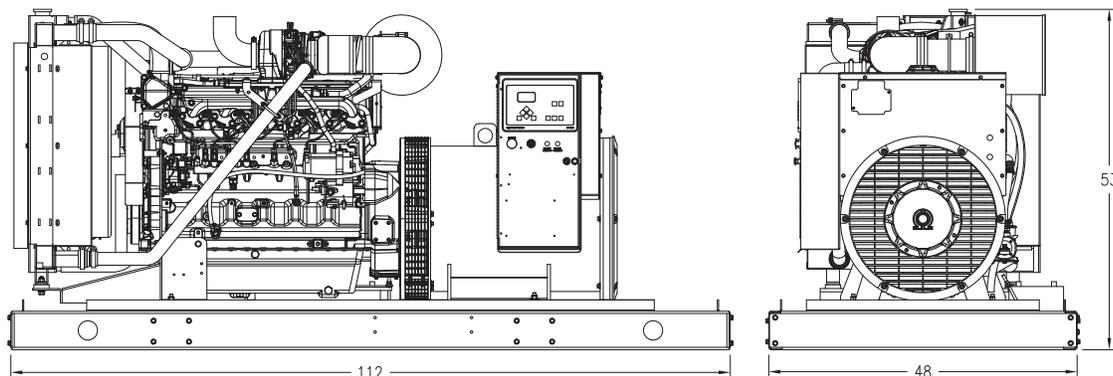
Aspirating: *m ³ /min (SCFM)	14.7 (520)
Air Flow Required for Rad.	
Cooled Unit: *m ³ /min (SCFM)	412 (14,537)
Remote Cooled Applications; Air Flow Required for Dissipation of Radiated Gen-set Heat for a Max of 25 °F Rise: *m ³ /min (SCFM)	89 (3,108)

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

// Exhaust System

Gas Temp. (Stack): °C (°F)	528 (982)
Gas Volume at Stack	
Temp: m ³ /min (CFM)	38.8 (1,371)
Maximum Allowable Back Pressure: kPa (in. H ₂ O)	10 (40)

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)

2,845 x 1,219 x 1,346 mm (112 x 48 x 53 in)

Weight (less tank)

1,720 kg (3,755 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

87.2

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

4.63

CO

0.49

PM

0.09

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

A Rolls-Royce Power Systems Brand

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