

DIESEL GENERATOR SET

AIR CHARGE-AIR COOLING

550 kVA / 50 Hz / Standby (Fuel-Optimized)
380 - 415V

(Reference DP500D5S-Fuel Optimized and DP500D5S-Exhaust Optimized for Prime Rating Technical Data)

BENEFITS

- // Low installment cost
- // Best fuel consumption values
- // Long maintenance intervals
- // High-efficiency components
- // Best-in-class reliability and availability



SYSTEM RATINGS

Standby	DS550D5S	DS550D5S	DS550D5S
Voltage (L-L)	380V	400V	415V
Phase	3	3	3
PF	0.8	0.8	0.8
Hz	50	50	50
kW	440	440	440
kVA	550	550	550
AMPS	836	794	765
skVA@30%			
Voltage Dip	980	1100	1200
Generator Model	572RSL7727	572RSL7727	572RSL7729
Temp Rise	150 °C/40 °C	150 °C/40 °C	150 °C/40 °C
Connection	4 LEAD HI WYE	4 LEAD HI WYE	4 LEAD HI WYE

* Power available up to 40°C / 400 m

CERTIFICATIONS AND STANDARDS

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

// **Performance Assurance Certification (PAC)**

- Engine-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**

- Permissible average power output during 24 hours of operation is approved up to 85%.

STANDARD FEATURES*

- // The generator set complies to G2
- // Engine-generator set tested to ISO 8528-5 for transient response
- // Accepts rated load in one step per NFPA 110
- // All engine-generator sets are prototype and factory tested
- // MTU Onsite Energy is a single source supplier
- // Global Product Support
- // 2 Year Standard Warranty
- // 10V1600 Diesel Engine
 - 17.5 Liter Displacement
 - Common Rail Fuel Injection
 - 4-Cycle
- // Engine-generator resilient mounted
- // Complete Range of Accessories
- // Permanent Magnet Generator (PMG)
 - Brushless, Rotating Field Generator
 - 300% Short Circuit Capability
 - 2/3 Pitch Windings
- // Cooling System 50° C
 - Integral Set-Mounted
 - Engine Driven Fan
- // Terminal Box

STANDARD EQUIPMENT*

// Engine

Air Cleaners
 Oil Pump
 Oil Drain Extension & S/O Valve
 Full Flow Oil Filters
 Closed Crankcase Ventilation
 Jacket Water Pump
 Thermostat
 Exhaust Manifold - Dry
 Blower Fan & Fan Drive
 Radiator - Unit Mounted
 Electric Starting Motor - 24V
 Governor – Electronic Isochronous
 Base - Formed Steel
 SAE Flywheel & Bell Housing
 Charging Alternator - 24V
 Flexible Fuel Connectors
 Fuel System: Common Rail

// Customer Interface

Smart Connect

// Generator

NEMA MG1, IEEE and ANSI standards compliance for temperature rise and motor starting
 VDE 0530, IEC 34.1, BS5000, CSA C22.2-100, AS1359
 Sustained short circuit current of up to 300% of the rated current for up to 10 seconds
 Self-Ventilated
 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
 150 °C Maximum Standby 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
 3% Maximum Harmonic Content
 Insulation Class H
 Protection Class IP20

APPLICATION DATA

// Engine

Manufacturer	MTU
Model	10V1600G80F
Type	4-Cycle
Arrangement	10-V
Displacement: L (Cu In)	17.5 (1,068)
Bore: cm (in)	12.2 (4.8)
Stroke: cm (in)	15 (5.91)
Compression Ratio	17.5:1
Rated RPM	1,500
Engine Governor	Electronic Isochronous)
Max Power: kWm (bhp)	493 (661)
Speed Regulation	±0.25%
Air Cleaner	Dry

// Liquid Capacity (Lubrication)

Total Oil System: L (gal)	61 (16)
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// Electrical

Electric Volts DC	24
Cold Cranking Amps Under -17.8 °C (0 °F)	1,000

// Fuel System

Fuel Supply Connection Size (in)	M 20x1.5 Male/#10 JIC Female
Fuel Return Connection Size (in)	M 14x1.5 Male/#6 JIC Female
Maximum Fuel Lift: m (ft)	5 (16)
Recommended Fuel	see MTU Fluids & Lubrication Spec.
Total Fuel Flow: L/hr (gal/hr)	340.7 (90)

// Fuel Consumption

	STANDBY
At 100% of Power Rating: L/hr (gal/hr)	109.4 (28.9)
At 75% of Power Rating: L/hr (gal/hr)	82.9 (21.9)
At 50% of Power Rating: L/hr (gal/hr)	62.5 (16.5)

// Cooling - Radiator System

	STANDBY
Ambient Capacity of Radiator: °C (°F)	50 (122)
Max. Restriction of Cooling Air, Intake, and Discharge Side of Rad.: kPa (in. H ₂ O)	0.2 (0.8)
Water Pump Capacity: L/min (gpm)	390 (103)
Heat Rejection to Coolant: kW (BTUM)	227 (12,909)
Heat Rejection to After Cooler: kW (BTUM)	75 (4,265)
Heat Radiated to Ambient: kW (BTUM)	51.6 (2,934)
Engine Coolant Capacity: L (gal)	65 (17.2)
Radiator Coolant Capacity: L (gal)	39 (10.3)
Coolant to Cooler Temperature: °C (°F)	95 (203)

// Air Requirements

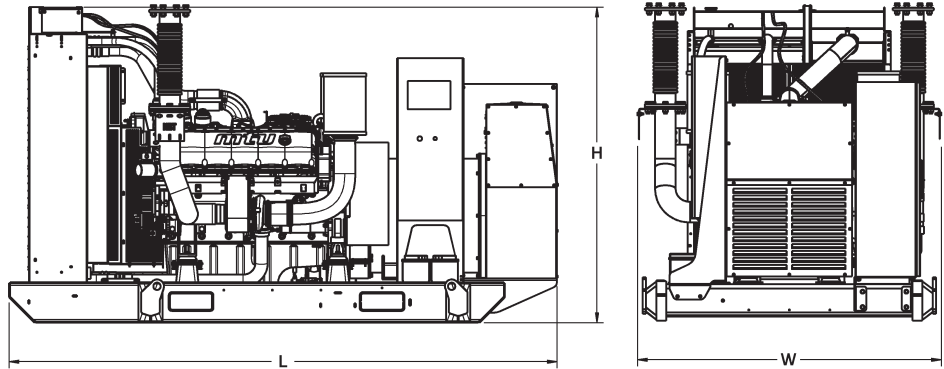
	STANDBY
Aspirating: *m ³ /min (SCFM)	29 (1,017)
Air Flow Required for Rad.	
Cooled Unit: *m ³ /min (SCFM)	654 (23,096)

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

// Exhaust System

	STANDBY
Gas Temp. (Stack): °C (°F)	540 (1,004)
Gas Volume at Stack	
Temp: m ³ /min (CFM)	83 (2,924)
Maximum Allowable	
Back Pressure: kPa (in. H ₂ O)	15 (60.2)

WEIGHTS AND DIMENSIONS



Drawing above for illustration purposes only, based on standard open power 400 volt engine-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 (dry/less tank)
Open Power Unit (OPU)	3,842 x 1,858 x 1,969 mm (151.25 x 73.13 x 77.5 in)	4,047 kg (8,922 lbs)

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

SOUND DATA

Unit Type	Standby Full Load
Level 0: Open Power Unit (dBA)	88.3

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

EMISSIONS DATA

NO _x + NMHC	CO	PM
C/F	C/F	C/F

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 8528-1, ISO 3046-1, BS 5514, AS 2789, and DIN 6271.
- // Deration Factor:
 - Altitude:** Consult your local MTU Onsite Energy Distributor for altitude derations.
 - Temperature:** Consult your local MTU Onsite Energy Distributor for temperature derations.

Materials and specifications subject to change without notice.

C/F = Consult Factory/MTU Onsite Energy Distributor