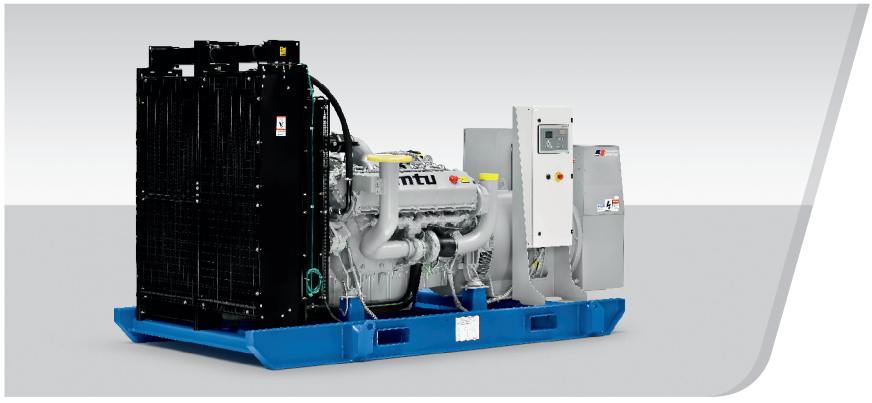
DIESEL GENERATOR SET
AIR CHARGE-AIR COOLING

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

(Reference DP590D5S – Fuel optimized and DP590D5S – Exhaust optimized for prime rating technical data)



Optional equipment shown. Standard equipment may vary.

BENEFITS

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

SYSTEM RATINGS①

Standby	DS650D5S	DS650D5S	DS650D5S
Voltage (L-L)	**380V**	**400V**	**415V**
Phase	3	3	3
PF	0.8	0.8	0.8
Hz	50	50	50
kW	520	520	520
kVA	650	650	650
AMPS	988	938	904
Generator Model	573RSL7733	573RSL7733	573RSL7733
Temp Rise	150°C/40°C	150°C/40°C	150°C/40°C
Connection	4 LEAD WYE	4 LEAD WYE	4 LEAD WYE

① 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 according 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 up to 85%

STANDARD EQUIPMENT①

// 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, BS 5000, CSA C22.2-100, AS 1359
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

① Represents standard product only. Consult Factory/MTU Onsite Energy distributor for additional configurations.

STANDARD FEATURES①

// 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 protoype and factory tested
// MTU Onsite Energy is a single source supplier
// Global product support
// 2 year standard warranty
// Cooling system 50°C (integral set-mounted; engine driven fan)
// 12V1600 diesel engine (21,0 liter displacement; common rail fuel injection; 4-cycle)
// Engine-generator resiliently mounted
// Complete range of accessories
// Brushless, rotating field generator (PMG excitation; 300% short circuit capability; 2/3 pitch stator windings)
// Terminal box

APPLICATION DATA

// Engine

Manufacturer	MTU
Model	12V1600G70F
Type	4-Cycle
Arrangement	12-V
Displacement/cylinder: l (cu in)	21 (1,281)
Bore: mm (in)	122 (4.8)
Stroke: mm (in)	150 (5.91)
Compression ratio	17.5:1
Rated speed rpm	1500
Engine governor	electronic isochronous
Max power: kWm (bhp)	576 (772)
Speed regulation	±0.25%
Air filter	Dry

// Lube Oil Capacity

Total oil system: l (gal)	73 (19.3)

// Electrical

Electric Volts DC	24
Cold cranking amps under -17.8°C (0°F)	1000

// Fuel System

Fuel supply connection size①	M 22 x 1.5 Male
Fuel return connection size①	M 16 x 1.5 Male
Maximum fuel lift: m (ft)	5 (16)
Recommended fuel	see MTU fluids & lubrication spec.
Total fuel flow: l/hr (gal/hr)	341.8 (90.3)

// Fuel Consumption

	STANDBY
At 100% of power rating: l/hr (gal/hr)	129.8 (34.3)
At 75% of power rating: l/hr (gal/hr)	99.9 (26.4)
At 50% of power rating: l/hr (gal/hr)	69.6 (18.4)

// 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_2O)	0,2 (0,803)
Water pump capacity: l/min (gpm)	433 (115)
Heat rejection to coolant: kW (BTUM)	236 (13,421)
Heat rejection to after cooler: kW (BTUM)	104 (5,914)
Heat radiated to ambient: kW (BTUM)	59.4 (3,378)
Engine coolant capacity: l (gal)	65 (17,2)
Radiator coolant capacity: l (gal)	41 (10,8)
Coolant to cooler temperature: °C (°F)	95 (203)

// Air Requirements③

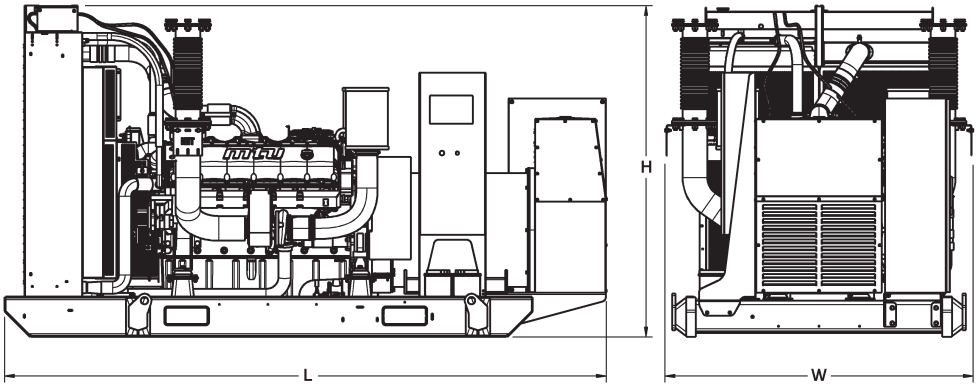
	STANDBY
Aspirating: m^3/min (SCFM)	48 (1,695)
Air flow required for rad. cooled unit: m^3/min (SCFM)	803 (28,350)
Remote cooled applications; air flow required for dissipation of radiated gen-set heat for a max of 25°F rise: m^3/min (SCFM)	216 (7,618)

// Exhaust System

	STANDBY
Gas temp. (stack): °C (°F)	484 (903)
Gas volume at stack temp: m^3/min (CFM)	126 (4,450)
Maximum allowable back pressure: kPA (in. H_2O)	15 (60.2)

① Represents standard product only. Consult Factory/MTU Onsite Energy distributor for additional configurations.
③ Air density = 1.184 kg/m^3 (0.0739 lbm/ft^3)

WEIGHTS AND DIMENSIONS



Drawing above for illustration purposes only, based an 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)
Open Power Unit (OPU)	3715 x 1900 x 2047 mm (146.26 x 74.80 x 80.59 in)	4545 kg (10,020 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

// Consult your local MTU Onsite Energy distributor for sound data.

EMISSIONS DATA

// Consult your local MTU Onsite Energy distributor for emissions data.

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.

Subject to change. | 3236001 | Edition 01/14 | ENC 2014-02.