

# DIESEL GENERATOR SET AIR CHARGE-AIR COOLING

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

(Reference DP365D5S – Fuel optimized and DP365D5S – 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 RATINGS<sup>①</sup>

Standby	DS400D5S	DS400D5S	DS400D5S
Voltage (L-L)	380V	400V	415V
Phase	3	3	3
PF	0.8	0.8	0.8
Hz	50	50	50
kW	320	320	320
kVA	400	400	400
AMPS	608	577	556
Generator Model	572RSL7724	572RSL7724	572RSL7724
Temp Rise	150°C/40°C	150°C/40°C	150°C/40°C
Connection	10 LEAD HI WYE	10 LEAD HI WYE	10 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 EQUIPMENT<sup>①</sup>

### // 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  
 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

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

## STANDARD FEATURES<sup>①</sup>

- // 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
- // Cooling system 50°C (integral set-mounted; engine driven fan)
- // 8V1600 diesel engine (14,0 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	8V1600G70F
Type	4-Cycle
Arrangement	8-V
Displacement/cylinder: l (cu in)	14 (854)
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)	358 (480)
Speed regulation	±0.25%
Air filter	Dry

### // Lube Oil Capacity

Total oil system: l (gal)	46 (12.2)
---------------------------	-----------

### // Electrical

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

### // Fuel System

Fuel supply connection size <sup>②</sup>	24° Cone M22 x 1.5 Male
Fuel return connection size <sup>②</sup>	24° Cone M16 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)	402 (123)

### // Fuel Consumption

	STANDBY
At 100% of power rating: l/hr (gal/hr)	81 (21.4)
At 75% of power rating: l/hr (gal/hr)	61 (16.1)
At 50% of power rating: l/hr (gal/hr)	45 (12)

### // 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 <sub>2</sub> O)	0,2 (0,803)
Water pump capacity: l/min (gpm)	362 (95)
Heat rejection to coolant: kW (BTUM)	180 (10,237)
Heat rejection to after cooler: kW (BTUM)	60 (3,412)
Heat radiated to ambient: kW (BTUM)	16 (910)
Engine coolant capacity: l (gal)	50 (13,2)
Radiator coolant capacity: l (gal)	34 (9,0)
Coolant to cooler temperature: °C (°F)	95 (203)

### // Air Requirements<sup>③</sup>

	STANDBY
Aspirating: m <sup>3</sup> /min (SCFM)	23.4 (827)
Air flow required for rad. cooled unit: m <sup>3</sup> /min (SCFM)	510 (18,010)
Remote cooled applications; air flow required for dissipation of radiated gen-set heat for a max of 25°F rise: m <sup>3</sup> /min (SCFM)	58 (2,052)

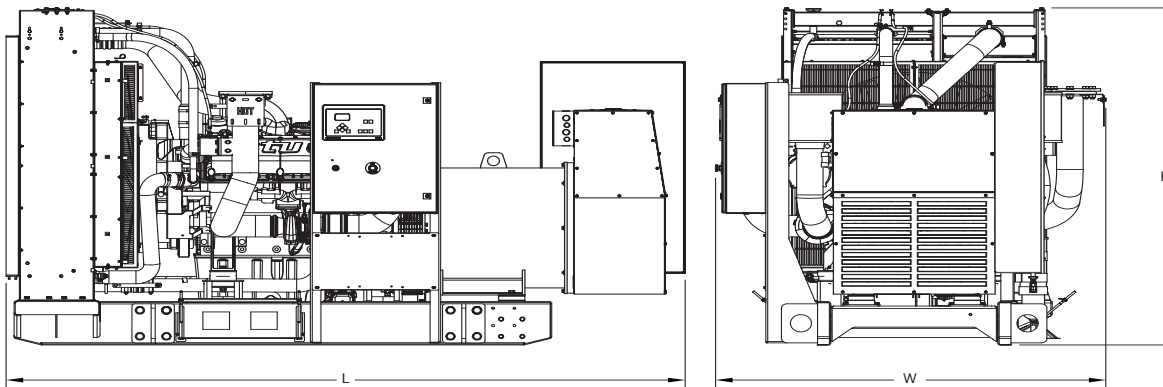
### // Exhaust System

	STANDBY
Gas temp. (stack): °C (°F)	476 (889)
Gas volume at stack temp: m <sup>3</sup> /min (CFM)	66 (2,331)
Maximum allowable back pressure: kPA (in. H <sub>2</sub> O)	15 (60.2)

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

③ Air density = 1.184 kg/m<sup>3</sup> (0.0739 lbm/ft<sup>3</sup>)

## WEIGHTS AND DIMENSIONS



Drawing above for illustration purposes only, based on a 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)	3255 x 1871 x 1975 mm (128.13 x 73.63 x 77.75 in)	3992 kg (8,800 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.

Materials and specifications subject to change without notice.