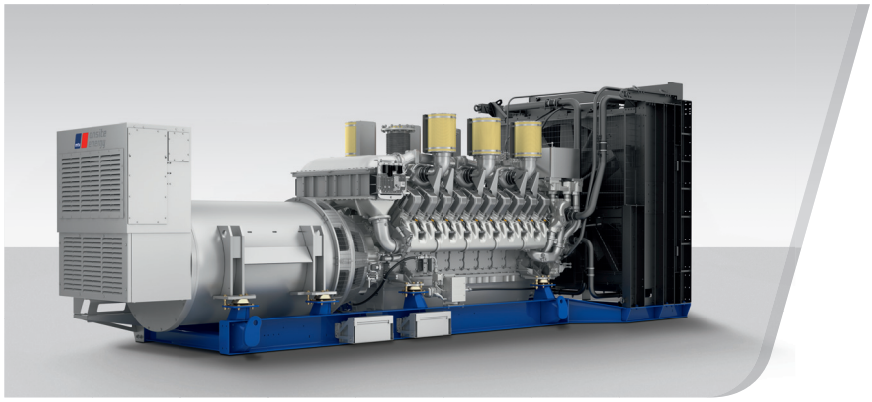
DIESEL GENERATOR SET
DP02800D5S

380V – 11 kV/50 Hz/Prime/TA-Luft Optimized
MTU 20V4000G63/Water Charge Air Cooling



Optional equipment and finishing shown. Standard may vary.

PRODUCT HIGHLIGHTS

// **Benefits**
- Low fuel consumtion
- Optimized system integration ability
- High reliability
- High availability of power
- Long maintenance intervals

// **MTU Onsite Energy is a single-source supplier**

// **Support**
- Global product support offered

// **Standards**
- Engine-generator set is designed and manufactured in facilities certified to standards ISO 2008:9001 and ISO 2004:14001
- Generator set complies to ISO 8528
- Generator meets NEMA MG1, BS5000, ISO, DIN EN and IEC standards
- NFPA 110

// **Power Rating**
- System ratings: 2800 kVA - 2900 kVA
- Accepts rated load in one step per NFPA 110
- Generator set complies to G3 according to ISO 8528-5
- Generator set exceeds load steps according to ISO 8528-5

// **Performance Assurance Certification (PAC)**
- Engine-generator set tested to ISO 8528-5 for transient response
- 75% load factor
- Verified product design, quality and performance integrity
- All engine systems are prototype and factory tested

// **Complete range of accessories available**
- Control panel
- Circuit breaker/power distribution
- Fuel system
- Fuel connections with shut-off valve mounted to base frame
- Starting/charging system
- Exhaust system
- Mechanical and electrical driven radiators
- Medium voltage alternators

// **Emissions**
- TA-Luft optimized

// **Certifications**
- CE certification option

APPLICATION DATA①

// Engine

Manufacturer	MTU
Model	20V4000G63
Type	4-cycle
Arrangement	20V
Displacement: l	95.4
Bore: mm	170
Stroke: mm	210
Compression ratio	16.4
Rated speed: rpm	1500
Engine governor	ADEC (ECU 7)
Max power: kWm	2420
Air cleaner	Dry

// Fuel System

Maximum fuel lift: m	5
Total fuel flow: l/min	27

// Fuel Consumption②

	l/hr	g/kwh
At 100% of power rating:	644.4	221
At 75% of power rating:	465.8	213
At 50% of power rating:	313.4	215

// Liquid Capacity (Lubrication)

Total oil system capacity: l	390
Engine jacket water capacity: l	205
System coolant capacity: l	50

// Combustion Air Requirements

Combustion air volume: m^3/s	3.5
Max. air intake restriction: mbar	50

// Cooling/Radiator System

Coolant flow rate (HT circuit): m^3/h	80
Coolant flow rate (LT circuit): m^3/h	33
Heat rejection to coolant: kW	1040
Heat radiated to charge air cooling: kW	600
Heat radiated to ambient: kW	105
Fan power for mech. radiator (40°C): kWm	70

// Exhaust System

Exhaust gas temp. (after turbocharger): °C	530
Exhaust gas volume: m^3/s	9.5
Maximum allowable back pressure: mbar	85
Minimum allowable back pressure: mbar	30

① All data refers only to the engine and is based on ISO standard conditions (25°C and 100m above sea level).
② Values referenced are in accordance with ISO 3046-1. Conversion calculated with fuel density of 0.83 g/ml.
All fuel consumption values refer to rated engine power.

STANDARD AND OPTIONAL FEATURES

// System Ratings (kW/kVA)

Generator model	Voltage	TA-Luft optimized 40°C/400m								
		without radiator			with mechanical radiator			with electr. driven radiator		
		kWel*	kVA**	AMPS	kWel*	kVA**	AMPS	kWel*	kVA*	AMPS
Marathon 1030FDL7094	380 V	2280	2850	4330	2240	2800	4254	2240	2800	4254
(Low voltage	400 V	2280	2850	4114	2240	2800	4041	2240	2800	4041
marathon standard)	415 V	2320	2900	4034	2240	2800	3895	2240	2800	3895
n.a.	380 V	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
(Low voltage	400 V	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
marathon oversized)	415 V	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Marathon 1030FDH7101	11 kV	2280	2850	150	2240	2800	147	2240	2800	147
(Medium volt. marathon)										

* cos phi = 1,0
** cos phi = 0,8

// Engine

- ■ 4-Cycle
- ■ Standard single stage air filter
- ■ Oil drain extension & shut-off valve
- ■ Closed crankcase ventilation
- ■ Governor-electronic isochronous
- ■ Common rail fuel injection
- ■ TA-Luft optimized engine

// Generator

- ■ NEMA MG1, BS5000, ISO, DIN EN and IEC standards
- ■ Self-ventilated
- ■ Superior voltage waveform
- ■ Solid state, volts-per-Hertz regulator
- ■ No load to full load regulation
- ■ ±0,25% voltage regulation no load to full load
- ■ Brushless alternator with brushless pilot exciter
- ■ 4 pole, rotating field
- ■ Sustained short circuit current of up to 250% of the rated current for up to 10 seconds (marathon generator)
- ☐ Sustained short circuit current of up to 300% of the rated current for up to 10 seconds (Leroy Somer generator)
- ■ Marathon low voltage generator
- ☐ Leroy Somer generator (please contact your local MTU Onsite Energy distribution partner for system ratings)
- ☐ Oversized generator
- ☐ Medium voltage generator

// Cooling System

- ■ Jacket water pump
- ■ Thermostat(s)
- ■ Water charge air cooling
- ☐ Mechanical radiator
- ☐ Electrical driven front-end cooler
- ☐ Jacket water heater

■ Represents standard features ☐ Represents optional features

STANDARD AND OPTIONAL FEATURES, CONTINUATION

// Control Panel

- ■ Pre-wired control cabinet for easy application of customized controller (V1+)
- ☐ Island operation (V2)
- ☐ Automatic mains failure operation with ATS (V3a)
- ☐ Automatic mains failure operation incl. control of generator and mains breaker (V3b)
- ☐ Island parallel operation of multiple gensets (V4)
- ☐ Automatic mains failure operation with short (< 10s) mains parallel overlap synchronization (V5)
- ☐ Mains parallel operation of a single genset (V6)
- ☐ Mains parallel operation of multiple gensets (V7)
- ☐ Basler controller
- ☐ Deif controller
- ■ Complete system metering
- ■ Digital metering
- ■ Engine parameters
- ■ Generator Protection Functions
- ■ Engine protection
- ■ SAE J1939 engine ECU communications
- ■ Parametrization software
- ■ Multilingual capability
- ■ Multiple programmable contact inputs
- ■ Multiple contact outputs
- ■ Event recording
- ■ IP 54 front panel rating with integrated gasket
- ☐ Different expansion modules
- ☐ Remote annunciator
- ☐ Daytank control
- ☐ Generator winding temperature monitoring
- ☐ Generator bearing temperature monitoring
- ☐ Differential protection with multi-finction protection relay
- ☐ Modbus RTU-TCP gateway

// Circuit Breaker/Power Distribution

- ☐ 3-pole circuit breaker
- ☐ 4-pole circuit breaker
- ☐ Manual-actuated circuit breaker
- ☐ Electrical-actuated circuit breaker
- ☐ Stand-alone solution in seperate switch box

// Fuel System

- ■ Flexible fuel connectors mounted to base frame
- ☐ Fuel filter with water separator
- ☐ Switchable fuel filter with water separator
- ☐ Seperate fuel cooler
- ☐ Fuel cooler integrated into cooling equipment

// Starting/Charging System

- ■ 24V starter
- ☐ Starter batteries
- ☐ Battery rack & cables
- ☐ Battery charger

■ Represents standard features ☐ Represents optional features

STANDARD AND OPTIONAL FEATURES, CONTINUATION

// Mounting System

- ■ Welded base frame
- ■ Resilient engine and generator mounting
- ■ Modular base frame design

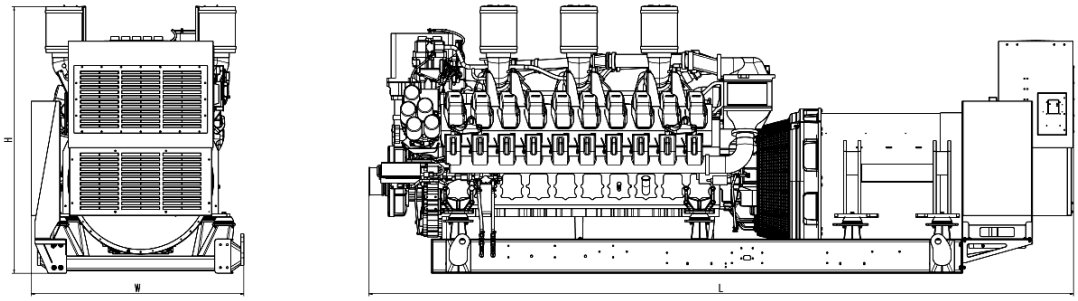
// Exhaust System

- ☐ Exhaust bellows with connection flange
- ☐ Exhaust silencer with 10 dB(A) sound attenuation
- ☐ Exhaust silencer with 30 dB(A) sound attenuation
- ☐ Exhaust silencer with 40 dB(A) sound attenuation
- ☐ Y-connection-pipe

■ Represents standard features

☐ Represents optional features

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/less tank)
Open Power Unit (OPU)	6315 x 1810 x 2332 mm	19955 kg

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

NO_x + NMHC	CO	PM
1700	300	50

All units are in mg/Nm³
Emission levels of the engine may vary as a function of ambient temperature, barometric pressure, humidity, fuel type and quality, installation parameters, measuring instrumentation, etc. The data provided refers to ISO standard ambient conditions (25°C and 100m above sea level). The data provided are laboratory results from one engine representing this rating. The data was obtained under controlled environmental conditions with calibrated instrumentation.

RATING DEFINITIONS AND CONDITIONS

// Prime power ratings apply to installations where utility power is unavailable or unreliable. At varying load, the number of generator set operating hours is unlimited. A 10% overload capacity is available for one hour in twelve. Ratings are in accordance with ISO 8528-1, ISO 3046-1, BS 5514, AS 2789 and DIN 6271. Average load factor: < 75%.
// 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.

Rated power is available up to 40°C and 400m above sea level.

Materials and specifications subject to change without notice.

Subject to change. | 3237701 | Edition 01/14 | ENC 2014-01.