

ژنراتور : MTU

موتور دیزل : MTU

Standby		Prime		دیزل ژنراتور
KVA	KW	KVA	KW	
990	792	900	720	



موتور دیزل

Manufacturer	MTU	تولید کننده
Model	16V2000G25TD	مدل
Number of cylinders	16	تعداد سیلندر ها
Cylinder arrangement	vertical	آرایش سیلندر ها
Displacement , Liters	1.99	جا به جایی
Bore × Stroke , mm	130× 150	قطر سیلندر × کورس پیستون
Compression Ratio	16:1	نسبت تراکم
Aspirating m ³ /min	60	سیستم تنفس
Gross engine power, kWb	720	قدرت نافالص موتور
Fuel Consumption At 100% of power rating L/hr	193	مصرف سوخت در 100% بار
Fuel Consumption At 75% of power rating L/hr	145	مصرف سوخت در 75% بار
Fuel Consumption At 50% of power rating L/hr	99	مصرف سوخت در 50% بار
Exhaust gas temp.(after turbo) , °C	530 °	دمای گاز خروجی از اگزوز

ژنراتور

Manufacturer	MTU	تولید کننده
Model	575RSL7074	مدل
Standby power at rated voltage ,KVA	990	توان standby در ولتاژ نامی
Power factor	0.8	ضریب قدرت
Phase	3	فاز
Frequency, Hz	50	فرکانس
Speed, Rpm	1500	سرعت
Voltage, V	380	ولتاژ
Voltage Regulator	Three phase sensing	رگولاتور ولتاژ
Voltage Regulation, %	±0.25%	تنظیم ولتاژ
Over speed, Rpm	2250	مداکثر سرعت مجاز
Insulation class	H	کلاس عایق
Connection	6 LEAD HI WYE	اتصال
Protection class	IP23	کلاس حفاظتی

DIESEL GENERATOR SET

MTU 16V2000 DS1000

PRIME POWER: 910 KVA

380V - 415V/50 Hz/Air Charge Air Cooling



Optional equipment and finishing shown. Standard may vary.

PRODUCT HIGHLIGHTS

// Benefits

- Low fuel consumption
- Optimized system integration ability
- High reliability and availability of power
- Long maintenance intervals
- Optimized ratio between size and power
- Wide operating range without derating

// MTU Onsite Energy is a single-source supplier

// Global product support

// Standards

- Engine-generator set is designed and manufactured in facilities certified to standards ISO 2008:9001 and ISO 2004:14001
- Generator set complies to G3 according to ISO 8528
- Generator meets NEMA MG1, BS5000, ISO, DIN EN and IEC standards
- NFPA 110

// Power Rating

- System rating: 910 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 for prime power applications
- 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 radiator
- Container and Canopy

// Emissions

- Fuel consumption optimized
- TA-Luft, Tier 2 and NEA (ORDE) optimization optionally available

// Certifications

- CE certification option
- German Grid Code Certification (BDEW) option

APPLICATION DATA^①

// Engine

		Fuel consumption optimized	Emission optimized ^②
Manufacturer		MTU	MTU
Model		16V2000G16F	16V2000G16F
Type		4-cycle	4-cycle
Arrangement		16V	16V
Displacement:	l	35.7	35.7
Bore:	mm	135	135
Stroke:	mm	156	156
Compression ratio		17.5	17.5
Rated speed:	rpm	1500	1500
Engine governor		ADEC	ADEC
Speed regulation		± 0.25%	± 0.25%
Max power:	kWm	806	806
Mean effective pressure:	bar	18.1	18.1
Air cleaner		Dry	Dry

// Fuel System

Maximum fuel lift:	m	5	5
Total fuel flow:	l/min	30	30

// Fuel Consumption^③

At 100% of power rating:	l/hr	186.5	196.2
	g/kWh	192	202
At 75% of power rating:	l/hr	142.0	150.0
	g/kWh	195	206
At 50% of power rating:	l/hr	99.0	103.9
	g/kWh	204	214

// Lube oil system

Total oil system capacity:	l	102	102
Max. lube oil temperature (alarm):	°C	103	103
Max. lube oil temperature (shutdown):	°C	105	105
Min. lube oil pressure (alarm):	bar	4.5	4.5
Min. lube oil pressure (shutdown):	bar	4	4

// Combustion Air Requirements

Combustion air volume:	m ³ /s	0.93	1.10
Max. air intake restriction:	mbar	40	40

① All data refers only to the engine and is based on ISO standard conditions (25°C and 100m above sea level).

② Emission optimized data refer to TA-Luft optimized and NEA (ORDE) optimized/Tier 2 compliant engines.

③ 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.

APPLICATION DATA^①

// Cooling/Radiator System

		Fuel consumption optimized	Emission optimized ^②
Coolant flow rate (HT circuit):	m ³ /h	41.6	41.6
Heat rejection to coolant:	kW	340	325
Heat rejection to charge air:	kW	115	170
Heat radiated to ambient:	kW	40	40
Fan power for mech. radiator (40°C):	kWm	43.4	43.4
Fan power for mech. radiator (50°C):	kWm	43.4	43.4
Air flow required for mech. radiator (40°C) cooled unit:	m ³ /min	1462	1462
Air flow required for mech. radiator (50°C) cooled unit:	m ³ /min	1462	1462
Engine coolant capacity (without cooling equipment):	l	70	70
Radiator coolant capacity (40°C):	l	83	83
Radiator coolant capacity (50°C):	l	104	104
Max. coolant temperature (warning):	°C	102	102
Max. coolant temperature (shutdown):	°C	105	105

// Exhaust System

Exhaust gas temp. (after turbocharger):	°C	540	520
Exhaust gas volume:	m ³ /s	2.5	2.85
Maximum allowable back pressure:	mbar	50	50
Minimum allowable back pressure:	mbar	30	30

// Generator

Protection class		IP23	IP23
Insulation class		H	H
Voltage regulation (steady state)		± 0.25%	± 0.25%
Rado interference class		N	N

① All data refers only to the engine and is based on ISO standard conditions (25°C and 100m above sea level).

② Emission optimized data refer to TA-Luft optimized and NEA (ORDE) optimized/Tier 2 compliant engines.

STANDARD AND OPTIONAL FEATURES

// System Ratings (kW/kVA)

Generator model	Voltage	with mechanical radiator		
		kWel	kVA*	AMPS
Marathon 740RSL4046	380 V	728	910	1383
(Low voltage	400 V	728	910	1313
marathon standard)	415 V	728	910	1266
Marathon 742RSL4050	380 V	728	910	1383
(Low voltage	400 V	728	910	1313
marathon oversized)	415 V	728	910	1266
Leroy Somer LSA 50.2 M6	380 V	728	910	1383
(Low voltage	400 V	728	910	1313
Leroy Somer)	415 V	728	910	1266
Leroy Somer LSA 50.2 L7	380 V	728	910	1383
(Low voltage	400 V	728	910	1313
Leroy Somer oversized)	415 V	728	910	1266

* $\cos \phi = 0,8$

Marathon alternator types refer to the Marathon base models. Model names in MTU generator sets are different depending on the optional alternator scope.

// Engine

- 4-Cycle
- Standard single stage air filter
- Oil drain extension & shut-off valve
- Full flow oil filters
- Closed crankcase ventilation
- ADEC electronic isochronous engine governor
- Common rail fuel injection
- Dry exhaust manifold
- Electric starting motor (24V)
- Fuel consumption optimized engine
- TA-Luft optimized engine
- Tier 2 optimized engine
- NEA (ORDE) optimized engine

// Generator

- NEMA MG1, BS5000, ISO, DIN EN and IEC standards
- Self-ventilated
- Superior voltage waveform
- Solid state, volts-per-Hertz regulator
- Ingress protection IP 23
- 3 phase voltage sensing
- 3% maximum harmonic content
- 2/3 pitch stator windings
- No load to full load regulation
- $\pm 0.25\%$ 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
- Oversized generator

■ Represents standard features

□ Represents optional features

STANDARD AND OPTIONAL FEATURES, CONTINUATION

// Cooling System

- Jacket water pump
- Thermostat(s)
- Air charge air cooling
- Mechanical radiator
- Jacket water heater

// 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-function 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
- Base frame mounted circuit breaker
- Stand-alone circuit breaker in separate switch box

// Fuel System

- Flexible fuel connectors mounted to base frame
- Fuel filter with water separator
- Switchable fuel filter with water separator
- Fuel cooler

STANDARD AND OPTIONAL FEATURES, CONTINUATION

// Starting/Charging System

- 24V starter
- Starter batteries
- Battery charger
- Redundant starter

// Mounting System

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

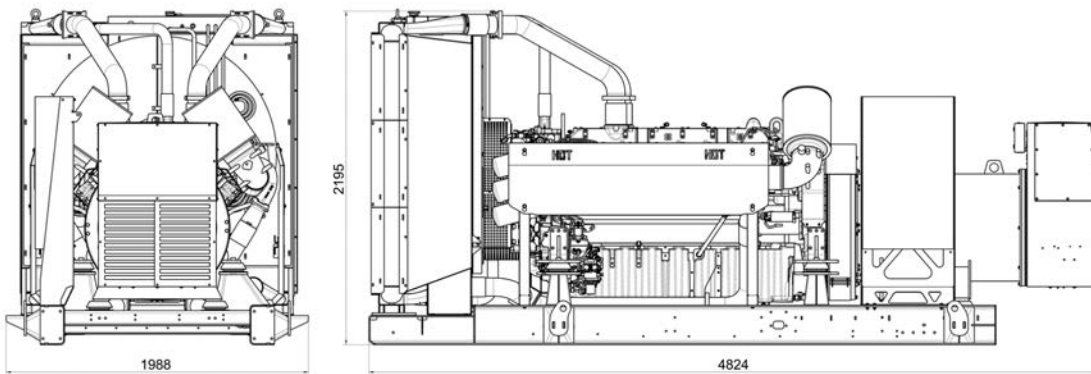
// Enclosures and Containers

- Canopy
- 20 foot container

// 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

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/less tank)
Open Power Unit (OPU)	4830 x 1990 x 2200 mm	7100 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

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

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 and AS 2789. Average load factor: $\leq 75\%$. Operating hours/year: unlimited

// 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.