

## Diesel Generator Set

# 16V2000 DS1000

Air charge-air cooling/1000kVA/50 Hz/  
standby power (fuel consumption optimized)/380 - 415V



Optional equipment shown. Standard equipment and colors (base frame, generator: grey, engine: blue) may vary.

## Product highlights

### Benefits

- Industry-leading average load factor
- Outstanding fuel economy
- Optimized maintenance intervals
- Low installation costs
- Best-in-class reliability and availability
- Lifting vertically or with diagonal pull
- Compact design

## System ratings<sup>1)</sup>

Standby power	16V2000 DS1000	16V2000 DS1000	16V2000 DS1000
Voltage (L-L)	380V	400V	415V
Phase	3	3	3
PF	0.8	0.8	0.8
Hz	50	50	50
kW	800	800	800
kVA	1000	1000	1000
Amps	1519	1443	1319
Generator model	575RSL7074	575RSL7074	575RSL7074
Temp rise	150°C/40°C	150°C/40°C	150°C/40°C
Connection	6 LEAD HI WYE	6 LEAD HI WYE	6 LEAD HI 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 filters
- Oil pump for draining
- Full flow oil filters
- Closed crankcase ventilation
- Jacket water pump
- Thermostats
- Exhaust manifold – dry
- Belt driven radiator fan
- Radiator – unit mounted
- Electric starting motor – 24V
- Governor – electronic isochronous
- Base – formed steel
- SAE flywheel & bell housing
- Charging alternator
- Flexible fuel connectors
- Flexible exhaust connection

### Generator

- NEMA MG1, IEEE and ANSI standards compliance for temperature rise and motor
- VDE 0530, IEC 60034-1, BS 4999, BS 5000, CSA 22.2-100, AS 1359
- Sustained short circuit current of up to 250% of the rated current for up to 10 seconds
- Self-ventilated and drip-proof IP23
- Superior voltage waveform
- Digital, 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
- Heavy duty shielded ball bearings with a minimum B-10 life of 40,000 hrs
- Flexible coupling
- Full amortisseur windings
- 3-phase voltage sensing
- ±0.25% voltage regulation
- 100% of rated load – one step according to NFPA 110
- 3% maximum harmonic content

## Standard features <sup>1)</sup>

- The engine-generator set complies to G3
- Engine generator set tested according to ISO 8528-5 for transient response
- Accepts rated load in one step as per NFPA 110
- All engine-generator sets are type and factory tested
- Global product support
- Cooling System (integral set-mounted; engine driven fan)
- 16V2000 diesel engine (31,84 liter (1943 cu inch) displacement; 4-stroke)
- Engine-generator resiliently mounted
- Complete range of accessories
- Brushless, rotating field generator (PMG excitation; 250% short circuit capability; 2/3 pitch stator windings)
- Complete system metering
- LCD display

<sup>1)</sup> Represents standard product only. Consult your local MTU distributor for additional configurations.

### Application data

#### Engine

Manufacturer	MTU
Model	16V2000G25TD
Type	4-stroke
Arrangement	16V
Displacement/cylinder: l (cu inch)	1.99 (121)
Bore: mm (inch)	130 (5.1)
Stroke: mm (inch)	150 (5.9)
Compression ratio	16:1
Rated speed: rpm	1500
Engine governor	electronic isochronous
Max power: kWm (bhp)	890 (1197)
Speed regulation	±0.25%
Air filter	dry

#### Lube oil capacity

Total oil system: l (gal)	102 (27)
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#### Electrical

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

#### Fuel system

Fuel supply connection size	M22 x 1,5 - 60°/male
Fuel return connection size	M12 x 1,5 - 60°/male
Maximum fuel lift: m (ft)	5 (16)
Recommended fuel	see MTU fluids & lubrication spec.
Total fuel flow: l/hr (gal/hr)	600 (159)

#### Fuel consumption<sup>1)</sup>

	gal/hr	l/hr	g/kwh
At 100% of power rating:	56	212	198
At 75% of power rating:	42	158	196
At 50% of power rating:	28	108	201

#### Cooling/radiator system

Ambient capacity of radiator: °C	40 (optional 50) <sup>2)</sup>
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)	667 (176)
Heat rejection to coolant: kW (BTUM)	400 (22,748)
Heat rejection to after cooler: kW (BTUM)	170 (9,668)
Heat radiated to ambient: kW (BTUM)	45 (2,559)
Engine coolant capacity: l (gal)	110 (29)
Coolant to cooler temperature: °C (°F)	95 (203)

#### Air requirements<sup>3)</sup>

Aspirating: m <sup>3</sup> /min (SCFM)	66 (2329)
Air flow required for rad. cooled unit: m <sup>3</sup> /min	1236 (43606)

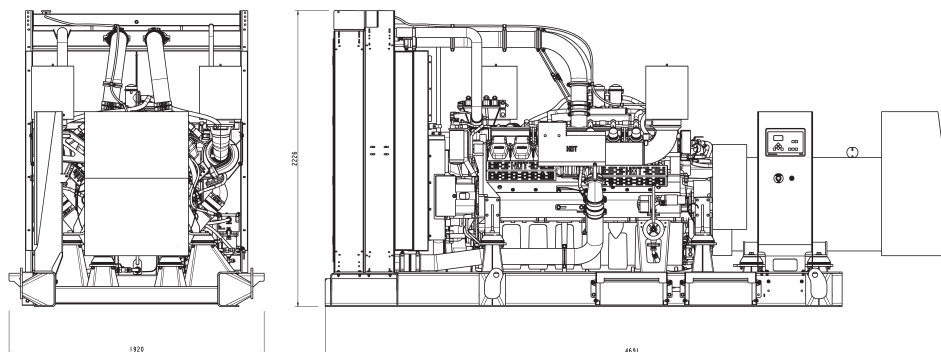
#### Exhaust system

Gas temp. (stack): °C (°F)	530 (986)
Gas volume flow temp: m <sup>3</sup> /min (SCFM)	180 (6350)
Maximum allowable back pressure: kPa	8,5 (34)

1 Values in accordance with ISO 3046-1. Conversion calculated with fuel density of 0.83 g/ml.

2 System ratings at 50°C may differ.

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



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)	4691 x 1920 x 2226 mm (185 x 76 x 88 inch)	6388 kg (14,084 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 distributor for sound data.

## Emissions data

– Consult your local MTU 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 and AS 2789. Average load factor: ≤ 85%. Operating hours/year: max. 500.
- Consult your local MTU distributor for derating information.



## Diesel Generator Set

# 16V2000 DS1140

Water charge-air cooling/1140kVA/50 Hz/  
standby power (fuel consumption optimized)/380 - 415V



Optional equipment shown. Standard equipment and colors (base frame, generator: grey, engine: blue) may vary.

## Product highlights

### Benefits

- Low installation costs
- Best fuel consumption values
- Long maintenance intervals
- Best-in-class reliability and availability
- Lifting vertically or with diagonal pull
- Compact design

## System ratings <sup>1)</sup>

Standby power	16V2000 DS1140	16V2000 DS1140	16V2000 DS1140
Voltage (L-L)	380V	400V	415V
Phase	3	3	3
PF	0.8	0.8	0.8
Hz	50	50	50
kW	904	912	840
kVA	1130	1140	1050
Amps	1717	1645	1461
Generator model	575RSL7074	575RSL7074	575RSL7074
Temp rise	150°C/40°C	150°C/40°C	150°C/40°C
Connection	6 LEAD HI WYE	6 LEAD HI WYE	6 LEAD HI WYE

<sup>1)</sup> Power available up to 40°C/400 m



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solution

## 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 filters
- Oil pump for draining
- Full flow oil filters
- Closed crankcase ventilation
- Jacket water pump
- Thermostats
- Exhaust manifold – dry
- Belt driven radiator fan
- Electric starting motor – 24V
- Governor – electronic isochronous
- Base – formed steel
- SAE flywheel & bell housing
- Charging alternator
- Flexible fuel connectors
- Flexible exhaust connection

### Generator

- NEMA MG1, IEEE and ANSI standards compliance for temperature rise and motor
- VDE 0530, IEC 60034-1, BS4999, BS5000, CSA22.2-100, AS 1361
- Sustained short circuit current of up to 250% of the rated current for up to 10 seconds
- Self-ventilated and drip-proof according to IP23
- Superior voltage waveform
- Digital, 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
- Heavy duty shielded ball bearings with a minimum B-10 life of 40,000 hrs
- Flexible coupling
- Full amortisseur windings
- 3-phase voltage sensing
- ±0.25% voltage regulation
- 100% of rated load – one step according to NFPA 110
- 3% maximum harmonic content

## Standard features <sup>1)</sup>

- The engine-generator set complies to G3
- Engine generator set tested according to ISO 8528-5 for transient response
- Accepts rated load in one step as per NFPA 110
- All engine-generator sets are type and factory tested
- Global product support
- 16V2000 diesel engine (31,84 liter (1943 cu inch) displacement; 4-stroke)
- Engine-generator resiliently mounted
- Complete range of accessories
- Brushless, rotating field generator (PMG excitation; 250% short circuit capability; 2/3 pitch stator windings)
- Complete system metering
- LCD display

### Application data

#### Engine

Manufacturer	MTU
Model	16V2000G65TB
Type	4-stroke
Arrangement	16V
Displacement/cylinder: l (cu inch)	1.99 (121)
Bore: mm (inch)	130 (5.1)
Stroke: mm (inch)	150 (5.9)
Compression ratio	16:1
Rated speed: rpm	1500
Engine governor	electronic isochronous
Max power: kWm (bhp)	975 (1307)
Speed regulation	±0.25%
Air filter	dry

#### Lube oil capacity

Total oil system: l (gal)	102 (27)
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#### Electrical

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

#### Fuel system

Fuel supply connection size	M22 x 1,5 - 60°/male
Fuel return connection size	M12 x 1,5 - 60°/male
Maximum fuel lift: m (ft)	5 (16)
Recommended fuel	see MTU fluids & lubrication spec.
Total fuel flow: l/hr (gal/hr)	600 (159)

#### Fuel consumption<sup>1)</sup>

	gal/hr	l/hr	g/kwh
At 100% of power rating:	62	234	199
At 75% of power rating:	45	172	195
At 50% of power rating:	31	116	198

#### Cooling/radiator system


Water pump capacity: l/min (gpm)	667 (176)
Heat rejection to coolant: kW (BTUM)	395 (22,463)
Heat rejection to after cooler: kW (BTUM)	225 (12,796)
Heat radiated to ambient: kW (BTUM)	45 (2,559)
Engine coolant capacity: l (gal)	130 (34)

#### Air requirements<sup>2)</sup>

Aspirating: m <sup>3</sup> /min (SCFM)	72 (2540)
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#### Exhaust system


Gas temp. (stack): °C (°F)	565 (1049)
Gas volume flow temp: m <sup>3</sup> /min (SCFM)	198 (6991)
Maximum allowable back pressure: kPa	8.5

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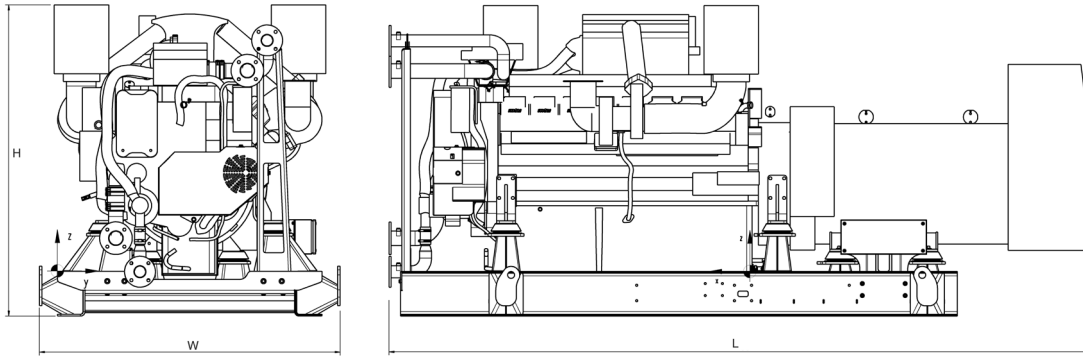
تهران، کیلومتر ۲۱ بزرگراه لشگری (جاده مخصوص کرج)

روبروی پالایشگاه نفت پارس، پلاک ۱۲

1 Values in accordance with ISO 3046-1. Conversion calculated with fuel density of 0.83 g/ml.

2 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 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)	4100 x 1750 x 1809 mm (161.4 x 69 x 71.2 inch)	5945 kg (13,106 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 distributor for sound data.

## Emissions data

– Consult your local MTU 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 and AS 2789.  
Average load factor:  $\leq 85\%$ . Operating hours/year: max. 500.
- Consult your local MTU distributor for derating information.

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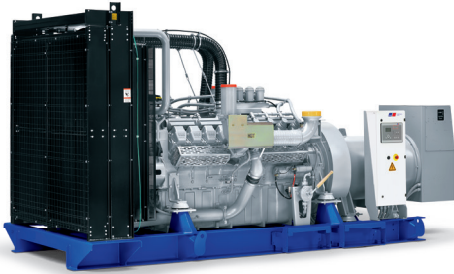




## Diesel Generator Set

# 18V2000 DS1250

Air charge-air cooling/1250kVA/50 Hz/  
standby power (fuel consumption optimized)/380 - 415V



Optional equipment shown. Standard equipment and colors (base frame, generator: grey, engine: blue) may vary.

## Product highlights

### Benefits

- Industry-leading average load factor
- Outstanding fuel economy
- Optimized maintenance intervals
- Low installation costs
- Best-in-class reliability and availability
- Lifting vertically or with diagonal pull
- Compact design

## System ratings<sup>1)</sup>

Standby power	18V2000 DS1250	18V2000 DS1250	18V2000 DS1250
Voltage (L-L)	380V	400V	415V
Phase	3	3	3
PF	0.8	0.8	0.8
Hz	50	50	50
kW	992	1000	1000
kVA	1240	1250	1250
Amps	1884	1804	1739
Generator model	740RSL7076	740RSL7076	740RSL7076
Temp rise	150°C/40°C	150°C/40°C	150°C/40°C
Connection	6 LEAD HI WYE	6 LEAD HI WYE	6 LEAD HI 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 filters
- Oil pump for draining
- Full flow oil filters
- Closed crankcase ventilation
- Jacket water pump
- Thermostats
- Exhaust manifold – dry
- Belt driven radiator fan
- Radiator – unit mounted
- Electric starting motor – 24V
- Governor – electronic isochronous
- Base – formed steel
- SAE flywheel & bell housing
- Charging alternator
- Flexible fuel connectors
- Flexible exhaust connection

### Generator

- NEMA MG1, IEEE and ANSI standards compliance for temperature rise and motor
- VDE 0530, IEC 60034-1, BS 4999, BS 5000, CSA 22.2-100, AS 1359
- Sustained short circuit current of up to 250% of the rated current for up to 10 seconds
- Self-ventilated and drip-proof IP23
- Superior voltage waveform
- Digital, 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
- Heavy duty shielded ball bearings with a minimum B-10 life of 40,000 hrs
- Flexible coupling
- Full amortisseur windings
- 3-phase voltage sensing
- ±0.25% voltage regulation
- 100% of rated load – one step according to NFPA 110
- 3% maximum harmonic content

## Standard features <sup>1)</sup>

- The engine-generator set complies to G3
- Engine generator set tested according to ISO 8528-5 for transient response
- Accepts rated load in one step as per NFPA 110
- All engine-generator sets are type and factory tested
- Global product support
- Cooling System (integral set-mounted; engine driven fan)
- 18V2000 diesel engine (35,82 liter (2186 cu inch) displacement; 4-stroke)
- Engine-generator resiliently mounted
- Complete range of accessories
- Brushless, rotating field generator (PMG excitation; 250% short circuit capability; 2/3 pitch stator windings)
- Complete system metering
- LCD display

## Application data

### Engine

Manufacturer	MTU
Model	18V2000G65TD
Type	4-stroke
Arrangement	18V
Displacement/cylinder: l (cu inch)	1.99 (121)
Bore: mm (inch)	130 (5.1)
Stroke: mm (inch)	150 (5.9)
Compression ratio	16:1
Rated speed: rpm	1500
Engine governor	electronic isochronous
Max power: kWm (bhp)	1100 (1475)
Speed regulation	±0.25%
Air filter	dry

### Lube oil capacity

Total oil system: l (gal)	130 (34)
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### Electrical

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

### Fuel system

Fuel supply connection size	M22 x 1,5 - 60°/male
Fuel return connection size	M12 x 1,5 - 60°/male
Maximum fuel lift: m (ft)	5 (16)
Recommended fuel	see MTU fluids & lubrication spec.
Total fuel flow: l/hr (gal/hr)	600 (159)

### Fuel consumption<sup>1)</sup>

	gal/hr	l/hr	g/kwh
At 100% of power rating:	71	269	203
At 75% of power rating:	53	199	200
At 50% of power rating:	35	133	201

### Cooling/radiator system


Ambient capacity of radiator: °C	32 (optional 50) <sup>2)</sup>
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)	667 (176)
Heat rejection to coolant: kW (BTUM)	470 (26,728)
Heat rejection to after cooler: kW (BTUM)	225 (12,796)
Heat radiated to ambient: kW (BTUM)	50 (2,843)
Engine coolant capacity: l (gal)	120 (32)
Coolant to cooler temperature: °C (°F)	95 (203)


### Air requirements<sup>3)</sup>


Aspirating: m <sup>3</sup> /min (SCFM)	75 (2646)
Air flow required for rad. cooled unit: m <sup>3</sup> /min	1362 (48051)


### Exhaust system


Gas temp. (stack): °C (°F)	560 (1040)
Gas volume flow temp: m <sup>3</sup> /min (SCFM)	216 (7620)
Maximum allowable back pressure: kPa	8,5 (34)

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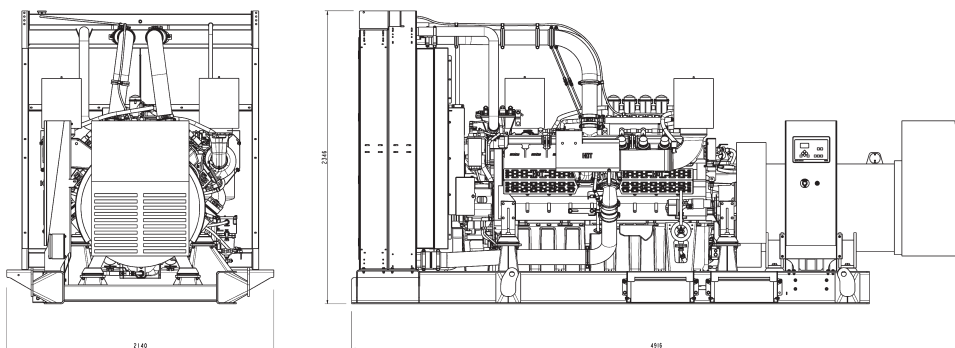
تهران، کیلومتر ۲۱ بزرگراه لشگری (جاده مخصوص کرج)

روبروی پالایشگاه نفت پارس، پلاک ۱۲

<sup>1)</sup> Values in accordance with ISO 3046-1. Conversion calculated with fuel density of 0.83 g/ml.

<sup>2)</sup> System ratings at 50°C may differ.

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



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)	4916 x 2140 x 2346 mm (194 x 84 x 92 inch)	6920 kg (15,256 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 distributor for sound data.

## Emissions data

– Consult your local MTU 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 and AS 2789. Average load factor: ≤ 85%. Operating hours/year: max. 500.
- Consult your local MTU distributor for derating information.

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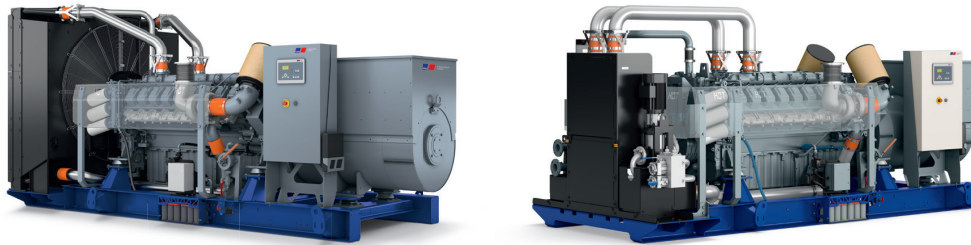
روبروی پالایشگاه نفت پارس، پلاک ۱۲



## Diesel Generator Set

# mtu 16V2000 DS1100

380V - 415V/50 Hz/prime power/fuel consumption optimized/  
NOx emission optimized/16V2000G26F



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

### 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 G3 according to ISO 8528
- Generator meets NEMA MG1, BS5000, ISO, DIN EN and IEC standards
- NFPA 110

### Power rating

- System rating: 1000 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
- Power panel
- Fuel system
- Fuel connections with shut-off valve mounted to base frame
- Starting/charging system
- Exhaust system
- Mechanical radiator
- Water Charge-Air-Cooler
- Oversized voltage alternators

### Cooling System

- Air-to-Air Charge-Air Cooling (TD)
- Water-to-Air Charge-Air Cooling (TB)

### Emissions

- Fuel consumption optimized
- NOx emission optimized, Tier 2 compliant and NEA (ORDE) optimization optionally available

### Certifications

- CE certification option
- Unit certificate acc. to VDE-AR-N 4110





## Standard and optional features

### System ratings (kW/kVA)

Generator model	Voltage	with mechanical radiator (TD) or charge-air-cooler (TB)**		
		kWel	kVA*	AMPS
Leroy Somer LSA 50.2 M6 (Low voltage Leroy Somer standard)	380 V	800	1000	1519
	400 V	800	1000	1443
	415 V	800	1000	1391
Leroy Somer LSA 50.2 L7 (Low voltage Leroy Somer oversized)	380 V	800	1000	1519
	400 V	800	1000	1443
	415 V	800	1000	1391
Marathon 740RSL7183 (Low voltage Marathon standard)	380 V	800	1000	1519
	400 V	800	1000	1443
	415 V	800	1000	1391
Marathon 742RSL7185 (Low voltage Marathon oversized)	380 V	800	1000	1519
	400 V	800	1000	1443
	415 V	800	1000	1391

\* cos phi = 0.8

\*\* BE, fuel optimized: max. power available up to: open power unit 40°C/400m; NOx emission optimized, EPA Tier 2 compl., NEA: standard operating conditions/open power unit 25°C/100m

Electrical outputs may vary depending on generator voltage and ambient conditions. For power outputs consult your **mtu** dealer.

Intake air depression/mbar: 15mbar

Exhaust back pressure/mbar: 30mbar

### 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
- NOx emission optimized engine
- Tier 2 optimized engine
- NEA (ORDE) optimized engine

### Generator

- Leroy Somer low voltage generator
- Meets NEMA MG1, BS5000, IEC 60034-1, VDE 0530, DIN EN 12601, AS1359 and ISO 8528-3 requirements
- Superior voltage waveform
- Solid state, volts-per-Hertz regulator
- 4 pole three-phase synchronous generator
- Brushless, self-excited, self-regulating, self-ventilated
- Digital voltage regulator
- Anti condensation heater
- Stator winding Y-connected, accessible neutral (brought out)
- Protection IP 23
- less than 5% harmonic distortion
- 2/3 pitch stator windings
- No load to full load regulation
- ± 0.25% voltage regulation no load to full load
- Insulation class H, utilization acc. to H
- Radio suppression EN55011, group 1, cl. B
- Short circuit capability 3xIn for 10sec
- Sustained short circuit current of up to 300% of the rated current for up to 10 seconds (Leroy Somer generator)
- Winding and bearing RTDs (without monitoring)
- Excitation by AREP + PMI
- Mounting of CT's: 3x 2 core CT's
- Voltage setpoint adjustment ±10V
- Sustained short circuit current of up to 250% of the rated current for up to 10 seconds (Marathon generator)
- Marathon low voltage generator
- Oversized generator

Represents standard features

Represents optional features

## Standard and optional features

### Cooling system

#### Air-to-Air Charge-Air-Cooling TD

- Mechanical radiator
- Jacket water pump
- Expansion tank
- Fan
- Thermostat(s)
- Jacket water heater

#### Water-to-Air Charge-Air-Cooling TB

- Coolant pump
- Manifold with thermostatic valves
- WCAC-base frame with safety covers
- HT-piping with flexible engine connection

### 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- and bearing temperature monitoring
- Differential protection with multi-function protection relay
- Modbus TCP-IP

### Power panel

- Available in 600x600
- Phase monitoring relay 230V/400V
- Supply for battery charger
- Supply for jacket water heater
- Plug socket cabinet for 230V compatible Euro

### Fuel system

- Flexible fuel connectors mounted to base frame
- Fuel filter with water separator
- Switchable fuel filter with water separator
- Fuel cooler (for TD-only)

### Starting/charging system

- 24V starter
- Starter batteries, cables, rack, disconnect switch
- Battery charger
- Redundant starter 2x 7.5KW

### Mounting system

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

### Exhaust system

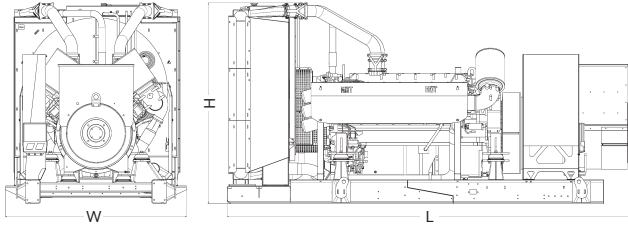
- Exhaust bellows with connection flange
- Exhaust silencer with 10 dB(A) sound attenuation
- Exhaust silencer with 30 dB(A) sound attenuation
- Exhaust silencer with 40 dB(A) sound attenuation
- Y-connection-pipe

- Represents standard features
- Represents optional features

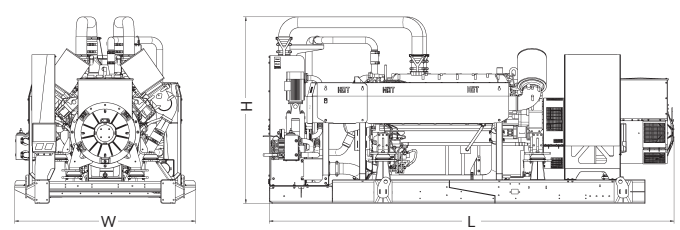


## Weights and dimensions

### Air-to-Air Charge-Air Cooling (TD)



### Water-to-Air Charge-Air Cooling (TB)



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 (LxWxH)	Weight (incl. engine-oil and coolant)
Open power unit (OPU) Air-to-Air (TD)	4440 x 1990 x 2200 mm	7300 kg
Open power unit (OPU) Water-to-Air (TB)	4447 x 1988 x 2046 mm	6900 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** distributor for sound data.

## Emissions data

– Consult your local **mtu** 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
- Consult your local **mtu** distributor for derating information

Rolls-Royce Group

[www.mtu-solutions.com/powergen](http://www.mtu-solutions.com/powergen)