MTU 16V4000 DS2750

380V – 11 kV/50 Hz/prime power for stationary emergency/NEA (ORDE) + tier 2 optimized/16V4000G34F/water charge air cooling

Product highlights

Benefits
— Low fuel consumption
— 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: 2600 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
— 85% load factor
— Verified product design, quality and performance integrity
— All engine systems are prototype and factory tested

Complete range of accessories available
— Control panel
— Power 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 and oversized voltage alternators

Emissions
— Tier 2 optimized engine
— NEA (ORDE) optimized engine

Certifications
— CE certification option
### Application data

**Engine**
- Manufacturer: MTU
- Model: 16V4000G34F
- Type: 4-cycle
- Arrangement: 16V
- Displacement: \(76.3\) l
- Bore: \(170\) mm
- Stroke: \(210\) mm
- Compression ratio: \(16.4\)
- Rated speed: \(1500\) rpm
- Engine governor: ADEC (ECU 9)
- Max power: \(2387\) kW
- Air cleaner: Dry

**Fuel system**
- Maximum fuel lift: \(5\) m
- Total fuel flow: \(27\) l/min

**Fuel consumption**
- At 100% of power rating: \(561\) l/hr, \(195\) g/kwh
- At 75% of power rating: \(430\) l/hr, \(199\) g/kwh
- At 50% of power rating: \(297\) l/hr, \(206\) g/kwh

**Liquid capacity (lubrication)**
- Total oil system capacity: \(300\) l
- Engine jacket capacity: \(175\) l
- Intercooler coolant capacity: \(50\) l

**Combustion air requirements**
- Combustion air volume: \(2.7\) m³/s
- Max. air intake restriction: \(30\) mbar

**Cooling/radiator system**
- Coolant flow rate (HT circuit): \(53\) l/hr
- Heat rejection to coolant: \(920\) kW
- Heat radiated to charge air cooling: \(500\) kW
- Heat radiated to ambient: \(90\) kW

**Exhaust system**
- Exhaust gas temp. (after engine): \(450\) °C
- Exhaust gas temp., max (after engine): \(550\) °C
- Exhaust gas temp. (before turbocharger): \(680\) °C
- Exhaust gas volume: \(6.8\) m³/s
- Maximum allowable back pressure: \(50\) mbar

### Standard and optional features

#### System ratings (kW/kVA)

<table>
<thead>
<tr>
<th>Generator model</th>
<th>Voltage</th>
<th>Fuel consumption optimized</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>without radiator</td>
<td>with radiator</td>
</tr>
<tr>
<td></td>
<td>kWEl</td>
<td>kVA*</td>
</tr>
<tr>
<td>Leroy Somer LSA53.2 M7 (Low voltage Leroy Somer standard)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>380 V</td>
<td>2080</td>
<td>2600</td>
</tr>
<tr>
<td>400 V</td>
<td>2080</td>
<td>2600</td>
</tr>
<tr>
<td>415 V</td>
<td>2080</td>
<td>2600</td>
</tr>
<tr>
<td>Leroy Somer LSA53.2 M9 (Low voltage Leroy Somer oversized)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>380 V</td>
<td>2080</td>
<td>2600</td>
</tr>
<tr>
<td>400 V</td>
<td>2080</td>
<td>2600</td>
</tr>
<tr>
<td>415 V</td>
<td>2080</td>
<td>2600</td>
</tr>
<tr>
<td>Marathon 1020FDL7108 (Low voltage Marathon)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>380 V</td>
<td>2080</td>
<td>2600</td>
</tr>
<tr>
<td>400 V</td>
<td>2080</td>
<td>2600</td>
</tr>
<tr>
<td>415 V</td>
<td>2080</td>
<td>2600</td>
</tr>
<tr>
<td>Leroy Somer LSA 53.2 XL11 (Medium volt. Leroy Somer)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11 kV</td>
<td>2080</td>
<td>2600</td>
</tr>
<tr>
<td>Marathon 1030FDH7100 (Medium volt. Marathon)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11 kV</td>
<td>2032</td>
<td>2540</td>
</tr>
</tbody>
</table>

*\(\cos \phi = 0.8\)

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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

#### Engine
- 4-Cycle
- Standard single stage air filter
- Oil drain extension & shut-off valve
- Closed crankcase ventilation
- Governor-electronic isochronous
- Common rail fuel injection
- Fuel consumption optimized engine
- Tier 2 optimized engine
- NEA (ORDE) optimized engine

#### Generator
- 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 IP23
- Insulation class H, utilization acc. to H
- Radio suppression EN55011, group 1, cl. B
- Short circuit capability 3xIn for 10sec
- Winding and bearing RTDs (without monitoring)
- Excitation by AREP
- Mounting of CT’s: 3x 2 core CT’s
- Winding pitch: 5/6 winding
- Voltage setpoint adjustment ± 5%
- Meets NEMA MG-1, BS 5000, IEC 60034-1, VDE 0530, DIN EN 12601, AS1359 and ISO 8528 requirements
- Leroy Somer low voltage generator
- 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
- Pulley for Fan drive
- Mechanical radiator
- Electrical driven front-end cooler
- 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
- Modbus TCP-IP

#### Power panel
- Available in 600x600 and 600x1000
- Phase monitoring relay 230V/400V
- Supply for battery charger
- Supply for jacket water heater
- Supply for anti condensation heating
- Plug socket cabinet for 230V compatible Euro/USA
- Supply for electrical driven radiator from 75kW (PP 600x1000)

- Represents standard features
- Represents optional features
# Standard and optional features

## Circuit breaker/power distribution

- ☐ 3-pole circuit breaker  
- ☐ 4-pole circuit breaker  
- ☐ Manual-actuated circuit breaker  
- ☐ Electrical-actuated circuit breaker  
- ☐ Stand-alone solution in separate cabinet

## Fuel system

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

## Starting/charging system

- ■ 24V starter  
- ☐ Starter batteries, cables, rack, disconnect switch  
- ☐ Battery charger  
- ☐ Redundant Starter 2x 15kW

## 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  
- ■ 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 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.

<table>
<thead>
<tr>
<th>System</th>
<th>Dimensions (L x W x H)</th>
<th>Weight (dry/less tank)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Open power unit (OPU)</td>
<td>5290 x 1810 x 2350 mm</td>
<td>approx. 14.520 kg</td>
</tr>
</tbody>
</table>

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. A 10% overload capability 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: ≤ 85%. Operating hours/year: max. 500.
– Consult your local MTU distributor for derating information.