Diesel Generator Set

MTU 20V4000 DS3300

380V – 11 kV/50 Hz/prime power/fuel consumption optimized
20V4000G34F/water charge air cooling

Optional equipment and finishing shown. Standard may vary.

Product highlights

Benefits
— Low fuel consumption
— Optimized system integration ability
— High reliability
— High availability of power
— Long maintenance intervals

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: 3110 kVA - 3130 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
— 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
— Fuel consumption optimized

Certifications
— CE certification option
— Unit certificate acc. to BDEW (German Grid-Code)
Application data 1)

**Engine**
- Manufacturer: MTU
- Model: 20V4000G34F
- Type: 4-cycle
- Arrangement: 20V
- Displacement: l
- Bore: mm
- Stroke: mm
- Compression ratio: 16.4
- Rated speed: rpm
- Engine governor: ECU 9
- Max power: kWm
- Air cleaner: dry

**Fuel system**
- Maximum fuel lift: m
- Total fuel flow: l/min

**Fuel consumption** 2)
- At 100% of power rating:
  - 380 V: 599.1 l/hr, 192 g/kwh
  - 400 V: 449.3 l/hr, 192 g/kwh
  - 415 V: 312 l/hr, 200 g/kwh

**Liquid capacity (lubrication)**
- Total oil system capacity: l
- Engine jacket water capacity: l
- Intercooler coolant capacity: l

**Combustion air requirements**
- Combustion air volume: m³/s
- Max. air intake restriction: mbar

**Cooling/radiator system**
- Coolant flow rate (HT circuit): m³/hr
- Coolant flow rate (LT circuit): m³/hr
- Heat rejection to coolant: kW
- Heat radiated to charge air cooling: kW
- Heat radiated to ambient: kW
- Fan power for electr. radiator (40°C): kW

**Exhaust system**
- Exhaust gas temp. (after turbocharger): °C
- Exhaust gas volume: m³/s
- Maximum allowable back pressure: mbar
- Minimum allowable back pressure: mbar

<table>
<thead>
<tr>
<th>Standard and optional features</th>
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</table>

**System ratings (kW/kVA)**

<table>
<thead>
<tr>
<th>Generator model</th>
<th>Voltage</th>
<th>fuel consumption optimized</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td>without radiator</td>
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<td></td>
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<td>kWel</td>
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<tr>
<td>Leroy Somer LSA53.2 M12 (Low voltage Leroy Somer standard)</td>
<td>380 V</td>
<td>2488</td>
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<tr>
<td></td>
<td>400 V</td>
<td>2488</td>
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<tr>
<td></td>
<td>415 V</td>
<td>2488</td>
</tr>
<tr>
<td>Marathon 1030FDL7094 (Low voltage Marathon)</td>
<td>380 V</td>
<td>2496</td>
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<tr>
<td></td>
<td>400 V</td>
<td>2488</td>
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<tr>
<td></td>
<td>415 V</td>
<td>2488</td>
</tr>
<tr>
<td>Marathon 1040FDH7102 (Medium volt. marathon)</td>
<td>11kV</td>
<td>2496</td>
</tr>
<tr>
<td>Leroy Somer LSA54.2 XL11 (Medium volt. Leroy Somer)</td>
<td>11 kV</td>
<td>2504</td>
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* 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

**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

**Cooling system**
- Jacket water pump
- Thermostat(s)
- Water charge air cooling

**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)

**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

**Control panel**
- 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 programable contact inputs
- Multiple contact outputs
- Event recording

**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 45kW – 75kW (PP 600x1000)

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| 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 heavy-duty
- Switchable fuel filter with water separator
- Separate fuel cooler
- Fuel cooler integrated into cooling equipment

#### Starting/charging system
- 24V starter
- Starter batteries, cables, rack, disconnect switch
- Battery charger

#### 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
Weights and dimensions

**System**
- Open power unit (OPU)

**Dimensions (L x W x H)**
- 5760 x 1887 x 2332 mm

**Weight (dry/less tank)**
- 15819 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: ≤ 75%.
- Consult your local MTU Distributor for derating information.