MTU 18V2000 DS1400

380V - 415V/50 Hz/continuous/fuel consumption optimized
18V2000B26F/air charge air cooling

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 MGI, BS5000, ISO, DIN EN and IEC standards
- NFPA 110

Power rating

- System rating: 1010 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
- 100% load factor for continuous 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
- Oversized voltage alternators

Emissions

- Fuel consumption optimized

Certifications

- CE certification option
- VDE4110 certification

Optional equipment and finishing shown. Standard may vary.
### Application data

#### Engine
- **Manufacturer**: MTU
- **Model**: 18V2000B26F
- **Type**: 4-cycle
- **Arrangement**: 18V
- **Displacement**: l 40.2
- **Bore**: mm 135
- **Stroke**: mm 156
- **Compression ratio**: 17.5
- **Rated speed**: rpm 1500
- **Engine governor**: ADEC (ECU 9)
- **Speed regulation**: ± 0.25%
- **Max power**: kWm 887
- **Mean effective pressure**: bar 17.7
- **Air cleaner**

#### Fuel system
- **Maximum fuel lift**: m 5
- **Total fuel flow**: l/min 30

#### Fuel consumption
1. **At 100% of power rating**: l/hr 203, g/kwh 190
2. **At 75% of power rating**: l/hr 155, g/kwh 194
3. **At 50% of power rating**: l/hr 111, g/kwh 207

#### Lube oil system
- **Total oil system capacity**: l 110
- **Max. lube oil temperature (alarm)**: °C 103
- **Max. lube oil temperature (shutdown)**: °C 105
- **Min. lube oil pressure (alarm)**: bar 4.5
- **Min. lube oil pressure (shutdown)**: bar 4

#### Combustion air requirements
- **Combustion air volume**: m³/s 1.06
- **Heat rejection to coolant**: kW 375
- **Heat rejection to charge air**: kW 125
- **Heat radiated to ambient**: kW 45

#### Cooling/radiator system
- **Coolant flow rate (HT circuit)**: m³/hr 46.3
- **Max. air intake restriction**: mbar 40
- **Heat rejection to coolant**: kW 375
- **Heat rejection to charge air**: kW 125
- **Heat radiated to ambient**: kW 45
- **Fan power for mech. radiator (40°C)**: kWm 43.4
- **Fan power for mech. radiator (50°C)**: kWm 55.6

#### Lube oil system
- **Total oil system capacity**: l 110
- **Max. lube oil temperature (alarm)**: °C 103
- **Max. lube oil temperature (shutdown)**: °C 105

#### Exhaust system
- **Exhaust gas temp. (after turbocharger)**: °C 510
- **Exhaust gas volume**: m³/s 2.86
- **Maximum allowable back pressure**: mbar 50
- **Minimum allowable back pressure**: mbar 30

#### Cenerator
- **Protection class**: IP23
- **Insulation class**: H
- **Voltage regulation (steady state)**: ± 0.25%
- **Rado interference class**: N

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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.
## System ratings (kW/kVA)

<table>
<thead>
<tr>
<th>Generator model</th>
<th>Voltage</th>
<th>with mechanical radiator**</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>kWel</td>
<td>kVA*</td>
</tr>
<tr>
<td>LeRoy Somer SA 50.2 L7 (Low voltage LeRoy Somer standard)</td>
<td>380 V</td>
<td>808</td>
</tr>
<tr>
<td></td>
<td>400 V</td>
<td>808</td>
</tr>
<tr>
<td></td>
<td>415 V</td>
<td>808</td>
</tr>
<tr>
<td>LeRoy Somer LSA 50.2 L8 (Low voltage LeRoy Somer oversized)</td>
<td>380 V</td>
<td>808</td>
</tr>
<tr>
<td></td>
<td>400 V</td>
<td>808</td>
</tr>
<tr>
<td></td>
<td>415 V</td>
<td>808</td>
</tr>
<tr>
<td>Marathon 742RSL7185 (Low voltage Marathon standard)</td>
<td>380 V</td>
<td>808</td>
</tr>
<tr>
<td></td>
<td>400 V</td>
<td>808</td>
</tr>
<tr>
<td></td>
<td>415 V</td>
<td>808</td>
</tr>
<tr>
<td>Marathon 743RSL7187 (Low voltage Marathon oversized)</td>
<td>380 V</td>
<td>808</td>
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<tr>
<td></td>
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<td>808</td>
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<td></td>
<td>415 V</td>
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</tr>
</tbody>
</table>

* 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
- Governor-electronic isochronous ADEC/ECU9
- Common rail fuel injection
- Dry exhaust manifold
- Electric starting motor (24V)
- Fuel consumption optimized engine

## Generator
- LeRoy Somer low voltage generator
- Meets NEMA MG1, BS5000, IEC 60034-1, VDE 0530, DIN EN 12601, ASI359 and ISO 8528 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 3xlN 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
- □ 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- 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

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
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>4720 x 1990 x 2200 mm</td>
<td>7700 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

— Continuous power ratings apply to installations where the generator set serves as utility. At constant 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: ≤ 100%. Operating hours/year: unlimited.

— Consult your local MTU distributor for derating information.