Diesel Generator Set

MTU 4R0113 DS94

400 – 230 V/85 kVA/50 Hz/Prime Power
400 – 230 V/94 kVA/50 Hz/Standby Power
IVECO – NEF45 SM5

Product highlights

Benefits
— Low fuel consumption
— Emissions optimizations available
— High availability and reliability
— Outstanding load acceptance
— Long maintenance intervals

Support
— Global product support offered

Standards
— Engine-generator set is designed and manufactured in facilities certified to standards ISO 2008:9001
— Generator set complies to ISO 8528 and fulfills performance level G2
— Generator meets BS5000; NEMA MG 1; ISO; DIN EN and IEC standards
— NFPA 110

Available emissions optimizations
— Fuel optimized

Wide Standard Scope of Supply
— 4P circuit breaker
— Island operation control panel
— Integrated fuel tank
— Industrial silencer (15 dB(A))
— Batteries & battery charger

Complete range of accessories available
— Sound attenuated enclosure
— Fuel system accessories
— Control panel & ATS
— Range of additional electronical options

Warranty
— Standard 36 months warranty after shipment

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

Engine

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufacturer</td>
<td>IVECO</td>
</tr>
<tr>
<td>Model</td>
<td>NEF45 SM5</td>
</tr>
<tr>
<td>Type</td>
<td>4-cycle</td>
</tr>
<tr>
<td>Arrangement</td>
<td>4-L</td>
</tr>
<tr>
<td>Displacement: L</td>
<td>4.5</td>
</tr>
<tr>
<td>Bore: mm</td>
<td>104</td>
</tr>
<tr>
<td>Stroke: mm</td>
<td>132</td>
</tr>
<tr>
<td>Compression ratio</td>
<td>17.5</td>
</tr>
<tr>
<td>Rated rpm</td>
<td>1500</td>
</tr>
<tr>
<td>Engine governor</td>
<td>mechanical</td>
</tr>
<tr>
<td>Air cleaner</td>
<td>Dry</td>
</tr>
</tbody>
</table>

Fuel system

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fuel tank capacity: OPU (EPU) in l</td>
<td>145 (288)</td>
</tr>
<tr>
<td>Autonomy: hr</td>
<td>11</td>
</tr>
</tbody>
</table>

Fuel consumption

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>At standby power rating:</td>
<td>19</td>
</tr>
<tr>
<td>At 100% of power rating:</td>
<td>17.1</td>
</tr>
<tr>
<td>At 50% of power rating:</td>
<td>8.6</td>
</tr>
</tbody>
</table>

Liquid capacity

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total oil system: l</td>
<td>12.8</td>
</tr>
<tr>
<td>Total coolant capacity: l</td>
<td>18.5</td>
</tr>
</tbody>
</table>

Generator

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Generator brand</td>
<td>Mecc-Alte</td>
</tr>
<tr>
<td>Generator type</td>
<td>HM250B1</td>
</tr>
<tr>
<td>Insulation class</td>
<td>H-class</td>
</tr>
<tr>
<td>Bearing</td>
<td>single bearing</td>
</tr>
<tr>
<td>Voltage regulation</td>
<td>A.V.R. (electronic)</td>
</tr>
<tr>
<td>Exciting system</td>
<td>self-excited, brushless</td>
</tr>
</tbody>
</table>

Electrical

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electric system volts DC</td>
<td>12</td>
</tr>
<tr>
<td>Battery capacity: Ah</td>
<td>100</td>
</tr>
</tbody>
</table>

Air requirements

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aspirating: m³/hr</td>
<td>325</td>
</tr>
<tr>
<td>Cooling air flow: m³/s</td>
<td>1.86</td>
</tr>
</tbody>
</table>

Exhaust system

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gas temp. (stack): °C</td>
<td>620</td>
</tr>
<tr>
<td>Gas volume at stack temp.: kg/hr</td>
<td>400</td>
</tr>
<tr>
<td>Maximum allowable back pressure: kPa</td>
<td>5</td>
</tr>
</tbody>
</table>

Cooling/radiator system

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ambient capacity of radiator: OPU (EPU) in °C</td>
<td>50 (40)</td>
</tr>
</tbody>
</table>

Standard and optional features

System ratings (kW/kVA)

<table>
<thead>
<tr>
<th>Feature</th>
<th>MTU 4R0113 DS94 Prime operation</th>
<th>MTU 4R0113 DS94 Standby operation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voltage</td>
<td>400 V</td>
<td>400 V</td>
</tr>
<tr>
<td>Phase</td>
<td>Three phase</td>
<td>Three phase</td>
</tr>
<tr>
<td>Hz</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td>kWel*</td>
<td>68.0</td>
<td>75.2</td>
</tr>
<tr>
<td>kVA**</td>
<td>85</td>
<td>94</td>
</tr>
<tr>
<td>Rated AMPS</td>
<td>122.7</td>
<td>135.7</td>
</tr>
</tbody>
</table>

* cos phi = 1.0
** cos phi = 0.8 Also available for following voltages 380V & 415V - for details please contact your local MTU dealer.
Standard and optional features

## Engine
- 4-stroke diesel engine
- Flywheel housing SAE 3
- Flywheel 11 1/2"
- Oil pan
- Lube oil circulation pump
- Lube oil filter
- Dry exhaust manifolds
- Hot components and radiator guards
- Mobile components guards
- Electronic engine regulat

## Fuel system
- Fuel filter with water-separator
- Direct fuel injection system
- Automatic fuel transfer pump
- Heavy-duty fuel pre-filter with water separator
- 3-way valve for fuel filling
- Integrated fuel tank (level sensor and drain cap incl.)

## Generator
- 3-Phase, syncronos, brushless, self exciting, self regulating, self ventilating alternator
- IP23 M protection degree
- IP23 protection cover
- Winding temperature sensors
- Insulation class H
- Anti condensation

## Control panel & Electric Options
- Control and power electric panel, with measurements devices and controller
- ATS (Automatic Transfer Switch)
- Control version for parallel operation
- Control version for synchronizing a single genset with mains
- Programmable timer for MM7 and MC7
- Remote display
- Expansion module for CAN communication
- Change over power supply for MC7
- Input Output/LED expansion modules for DeepSea controllers
- ModBus connection to customer systems TCP/IP
- Control version for synchronizing with mains without blackout
- Converter kits CAN to RS485/USB/LAN

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

Circuit breaker/power distribution

- 4 poles manual circuit breaker
  (motorized with DeepSea controllers)

Starting/Charging System

- 12V electric system
- Starting batteries installed
- Pre-heating resistance/jacket water heater
- Battery charging alternator
- Battery disconnector
- Battery charger

Air Intake System

- Dry-type air filter
- Heavy duty air filter with automatic dust evacuation

Exhaust System

- Industrial silencer 15 dB(A)
- Residential silencer 35 dB(A)

Cooling System

- Coolant circulation pump
- Front type radiator for jacket water
- Engine mounted fan drive

Mounting System

- Mounted on steel base frame
- Resilent mounting of engine and generator

Enclosures

- Sound proof enclosure
- Socket box
- Increased fuel tank capacity

Documentation & Certifications

- Genset & component manuals
- Maintenance schedule
- CE-certification for EU
- Fluids and lubricants specification

- Represents standard features
- Represents optional features
Weights and dimensions

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, AS 2789 and DIN 6271. Average load factor: < 75%.

— 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, AS 2789 and DIN 6271. Average load factor: < 85%, max. 500hr/year.

— Derating factor: Altitude: Consult your local MTU distributor for altitude derating.
Temperature: Consult your local MTU distributor for temperature derating.
Rated power for reference conditions at 25°C and 100m above sea level.

Sound data

According to 2000/14/CE.
Sound data is provided at 7m for 75% prime power.

System | Dimensions (L x W x H) | Weight (wet/with standard accessories)
Open power unit (OPU) | 2150 x 780 x 1500 mm | 978 kg
Enclosed power unit | 2750 x 1100 x 1760 mm | 1568 kg

Consult the factory for accurate weights and dimensions for your specific engine-generator set. Lengths may vary with other voltages. Do not use for installation design.