## Gas system

# SERIES 4000 NATURAL GAS

## 400V/50 Hz/NOx < 500 mg/Nm³

## System ratings

**Gas genset with optional heat recovery module**

| Genset type | Engine type | Output Elect. [1] | Therm. [2] | Exhaust [3] | Low Temp. | Energy input [4] | Efficiency Electr. | Efficiency Total | Methane number [5] |
|---|---|---|---|---|---|---|---|---|---|
| | | $kW_{el.}$ | $kW_{th.}$ | $kW_{th}$ (°C) | $kW_{th}$ (°C) | kW | $n_{el.}$ (%) | $n_{tot}$ (%) | |
| MTU 8V4000 GS | L33 | 776 | 414 | 422 (120) | 47 (40) | 1832 | 42,4 | 88,0 | ≥ 70 |
| MTU 8V4000 GS | L33 | 854 | 457 | 448 (120) | 49 (40) | 1993 | 42,8 | 88,3 | ≥ 80 |
| MTU 8V4000 GS | L64 FNER | 999 | 522 | 490 (120) | 99 (43) | 2258 | 44,3 | 89,1 | ≥ 72 |
| MTU 8V4000 GS | L64 | 1013 | 503 | 486 (120) | 69 (43) | 2304 | 44,0 | 86,9 | ≥ 80 |
| MTU 8V4000 GS | L64 FNER | 1013 | 530 | 494 (120) | 59 (43) | 2287 | 44,3 | 89,1 | ≥ 72 |
| MTU 12V4000 GS | L33 | 1287 | 685 | 659 (120) | 88 (40) | 2974 | 43,3 | 88,5 | ≥ 80 |
| MTU 12V4000 GS | L64 | 1521 | 766 | 691 (120) | 104 (43) | 3438 | 44,2 | 85,7 | ≥ 80 |
| MTU 16V4000 GS | L33 | 1714 | 1005 | 821 (120) | 113 (40) | 3991 | 42,9 | 88,7 | ≥ 80 |
| MTU 16V4000 GS | L64 FNER | 1999 | 1043 | 984 (120) | 143 (43) | 4519 | 44,2 | 89,1 | ≥ 72 |
| MTU 16V4000 GS | L64 | 2028 | 996 | 936 (120) | 127 (43) | 4573 | 44,3 | 86,6 | ≥ 80 |
| MTU 16V4000 GS | L64 FNER | 2028 | 1060 | 995 (120) | 145 (43) | 4583 | 44,3 | 89,0 | ≥ 72 |
| MTU 20V4000 GS | L33 | 2145 | 1196 | 1078 (120) | 142 (40) | 4990 | 43,0 | 88,6 | ≥ 80 |
| MTU 20V4000 GS | L64 | 2538 | 1241 | 1212 (120) | 176 (43) | 5751 | 44,1 | 86,6 | ≥ 80 |
| **Hot ambient conditions** | | | | | | | | | |
| MTU 8V4000 GS | L32 | 776 | 460 | 420 (120) | 32 (53) | 1853 | 41,9 | 89,4 | ≥ 80 |
| MTU 12V4000 GS | L32 | 1169 | 652 | 638 (120) | 43 (53) | 2747 | 42,6 | 89,5 | ≥ 80 |
| MTU 16V4000 GS | L32 | 1560 | 890 | 805 (120) | 76 (53) | 3651 | 42,7 | 89,2 | ≥ 80 |
| MTU 16V4000 GS | L64 FNER | 1999 | 1155 | 965 (120) | 90 (58) | 4558 | 43,9 | 90,4 | ≥ 80 |
| MTU 16V4000 GS | L64 FNER | 2028 | 1173 | 974 (120) | 93 (58) | 4622 | 43,9 | 90,3 | ≥ 80 |
| MTU 20V40 00 GS | L64 FNER | 2538 | 1441 | 1243 (120) | 150 (58) | 5781 | 43,9 | 90,3 | ≥ 80 |

1 Rated power at nominal voltage, power factor = 1,0 and nominal frequency
2 Heat output from engine cooling with tolerance of ± 8%
3 Heat output from exhaust (exhaust cooling to 120°C) with tolerance of ± 8%
4 Performance data in accordance with ISO 3046/I-2002 with tolerance of 5%
5 Referenced methane number

Project specific data on request:
- different alternator voltage
- different flow-/return-temperatures, hot cooling, methane number, installation conditions etc.
- Container

A Rolls-Royce solution

## System ratings

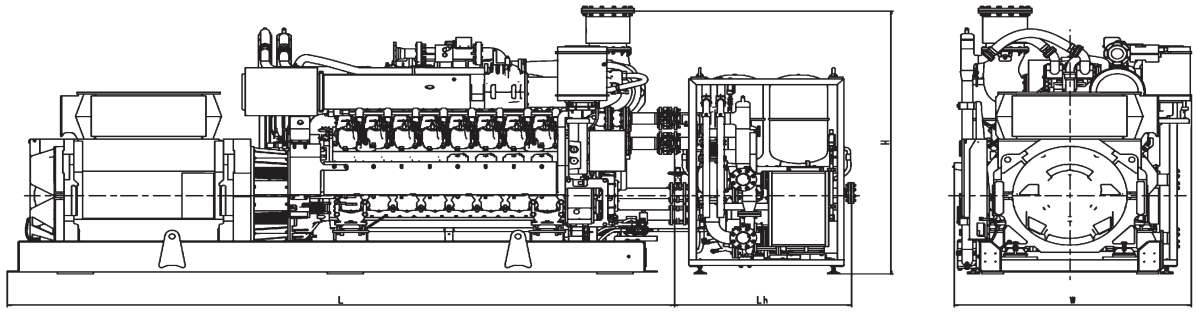
**Gas genset with optional heat recovery module**

| Genset type | Engine type | Output Elect. [1] | Therm. [2] | Exhaust [3] | Low Temp. | Energy input [4] | Efficiency Electr. | Efficiency Total | Methane number [5] |
|---|---|---|---|---|---|---|---|---|---|
| **Low methane number** | | $kW_{el.}$ | $kW_{th.}$ | $kW_{th}$ (°C) | $kW_{th}$ (°C) | kW | $n_{el.}$ (%) | $n_{tot}$ (%) | |
| MTU 16V4000 GS | L32 ER | 1560 | 951 | 951 (120) | 84 (53) | 3848 | 40,5 | 89,6 | ≥ 60 |
| MTU 20V4000 GS | L32 ER | 1948 | 1180 | 1181 (120) | 99 (53) | 4812 | 40,5 | 89,5 | ≥ 60 |

1 Rated power at nominal voltage, power factor = 1,0 and nominal frequency
2 Heat output from engine cooling with tolerance of ± 8%
3 Heat output from exhaust (exhaust cooling to 120°C) with tolerance of ± 8%
4 Performance data in accordance with ISO 3046/I-2002 with tolerance of 5%
5 Referenced methane number

Project specific data on request:
- different alternator voltage
- different flow-/return-temperatures, hot cooling, methane number, installation conditions etc.
- Container

## Drawings and dimensions




Note: This drawing is provided for reference only and should not be used for installation planning.

| Genset type | Dimensions genset (L x W x H) | Heat recovery module (Lh x W x H) |
|---|---|---|
| MTU 8V4000 GS | 4200 x 2000 x 2300 mm | 1500 x 1900 x 2000 mm |
| MTU 12V4000 GS | 5000 x 2000 x 2300 mm | 1500 x 1900 x 2000 mm |
| MTU 16V4000 GS | 5500 x 2000 x 2300 mm | 1500 x 1900 x 2000 mm |
| MTU 20V4000 GS | 6600 x 2000 x 2300 mm | 1500 x 1900 x 2000 mm |

## Engine data

| 4000 | |
|---|---|
| Configuration | 90° V |
| No. of cylinders | 8/12/16/20 |
| Bore/stroke | 170/210 mm |
| Cyl. displacement | 4,77 lit. |

## Design and equipment (extract)

- Sliding gear starter 24V
- Gas supply with electronically controlled gas metering valve
- Electronic high-voltage capacitor ignition system with one ignition coil per cylinder
- Electronic speed governor for speed and power output control with automatic knocking control



Subject to change. | 3234731 | Edition 01/20 | ESM 2020-03.

**Rolls-Royce Group**
www.mtu-solutions.com/powergen