

# GAS SYSTEM

## SERIES 4000 NATURAL GAS

6,3 kV / 50 Hz\*



### SYSTEM RATINGS

Natural gas genset without heat extraction (heat recovery unit not included in delivery)

MTU Onsite Energy Type	Former Genset Type AoE	Output			Energy input <sup>4)</sup> kW	Efficiency		Methane Number <sup>5)</sup>	Dimensions (L x W x H) mm
		Elect. <sup>1)</sup>	Therm. <sup>2)</sup>	Low Temp.		Elect. (%)	Total (%)		
<b>L33 (Methane number 70)</b>									
GB 1166 N5	12V4000L33	1166	(600)	80 (40)	2731	42.7	(64.7)	≥ 70	4700x1800x2400
GB 1557 N5	16V4000L33	1557	(885)	99 (40)	3649	42.7	(66.9)	≥ 70	5500x1800x2400
GB 1950 N5	20V4000L33	1950	(1050)	125 (40)	4560	42.8	(65.8)	≥ 70	6000x1800x2400
<b>L32 (High ambient temperatures)</b>									
GB 1166 N5	12V4000L32	1166	(632)	43 (53)	2747	42.4	(65.5)	≥ 80	4700x1800x2400
GB 1557 N5	16V4000L32	1557	(863)	76 (53)	3651	42.6	(66.3)	≥ 80	5500x1800x2400
GB 1950 N5	20V4000L32	1950	(1035)	78 (53)	4577	42.6	(65.2)	≥ 80	6000x1800x2400
<b>L33 (Highest output)</b>									
GB 1284 N5	12V4000L33	1284	(664)	88 (40)	2974	43.2	(65.5)	≥ 80	4700x1800x2400
GB 1713 N5	16V4000L33	1713	(974)	113 (40)	3991	42.9	(67.3)	≥ 80	5500x1800x2400
GB 2145 N5	20V4000L33	2145	(1158)	142 (40)	4985	43.0	(66.3)	≥ 80	6000x1800x2400

\* NOx < 500 mg/m<sup>3</sup> (NOx < 250 mg/m<sup>3</sup> available)

1) Rated power at nominal voltage, power factor = 1 and nominal frequency

2) from jacket water, tolerance 8%

3) from jacket water and exhaust gas (120°C), tolerance 8%

4) performance data in accordance with ISO 3046, tolerance 5%

5) referenced methane number

6) dimensions without exhaust gas heat exchanger

All data according to full load, indicated gas mixture cooler water inlet temperature and are subject to technical development.

#### Project specific data on request:

- Other gas types
- Individual data (e.g. flow-/return-temperatures, hot cooling, methane number, assembly space, etc.)
- Container
- Gas Processing

# GAS SYSTEM

## SERIES 4000 NATURAL GAS

6,3 kV / 50 Hz\*



### SYSTEM RATINGS

Natural gas genset with heat extraction from jacket water (heat recovery unit included in delivery)

MTU Onsite Energy Type	Former KWK Type AE	Output			Energy input <sup>4)</sup> kW	Efficiency		Methane Number <sup>5)</sup>	Dimensions (L x W x H) mm
		Elect. <sup>1)</sup>	Therm. <sup>2)</sup>	Low Temp.		Elect.	Total		
		kW <sub>el.</sub>	kW <sub>th.</sub>	kW <sub>th.</sub> (°C)		η <sub>el.</sub> (%)	η <sub>tot.</sub> (%)		
<b>L33 (Methane number 70)</b>									
GR 1166 N5	12V4000L33	1166	600	80 (40)	2731	42.7	64.7	≥ 70	6300x1850x2400
GR 1557 N5	16V4000L33	1557	885	99 (40)	3649	42.7	66.9	≥ 70	7100x1850x2400
GR 1950 N5	20V4000L33	1950	1050	125 (40)	4560	42.8	65.8	≥ 70	7600x1850x2400
<b>L32 (High ambient temperatures)</b>									
GR 1166 N5	12V4000L32	1166	632	43 (53)	2747	42.4	65.5	≥ 80	6300x1850x2400
GR 1557 N5	16V4000L32	1557	863	76 (53)	3651	42.6	66.3	≥ 80	7100x1850x2400
GR 1950 N5	20V4000L32	1950	1035	78 (53)	4577	42.6	65.2	≥ 80	7600x1850x2400
<b>L33 (Highest output)</b>									
GR 1284 N5	12V4000L33	1284	664	88 (40)	2974	43.2	65.5	≥ 80	6300x1850x2400
GR 1713 N5	16V4000L33	1713	974	113 (40)	3991	42.9	67.3	≥ 80	7100x1850x2400
GR 2145 N5	20V4000L33	2145	1158	142 (40)	4985	43.0	66.3	≥ 80	7600x1850x2400

\* NOx < 500 mg/m<sup>3</sup> (NOx < 250 mg/m<sup>3</sup> available)

1) Rated power at nominal voltage, power factor = 1 and nominal frequency

2) from jacket water, tolerance 8%

3) from jacket water and exhaust gas (120°C), tolerance 8%

4) performance data in accordance with ISO 3046, tolerance 5%

5) referenced methane number

6) dimensions without exhaust gas heat exchanger

All data according to full load, indicated gas mixture cooler water inlet temperature and are subject to technical development.

#### Project specific data on request:

- Other gas types
- Individual data (e.g. flow-/return-temperatures, hot cooling, methane number, assembly space, etc.)
- Container
- Gas Processing

# GAS SYSTEM

## SERIES 4000 NATURAL GAS

6,3 kV / 50 Hz\*



### SYSTEM RATINGS

Natural gas genset with heat extraction from jacket water (heat recovery unit included in delivery) and exhaust gas (exhaust gas heat exchanger loose supply)

MTU Onsite Energy Type	Former KWK Type AE	Output			Energy input <sup>4)</sup> kW	Efficiency		Methane Number <sup>5)</sup>	Dimensions <sup>6)</sup> (L x W x H) mm
		Elect. <sup>1)</sup>	Therm. <sup>3)</sup>	Low Temp.		Elect. (%)	Total (%)		
		kW <sub>el.</sub>	kW <sub>th.</sub>	kW <sub>th.</sub> (°C)		η <sub>el.</sub> (%)	η <sub>tot.</sub> (%)		
<b>L33 (Methane number 70)</b>									
GC 1166 N5	12V 4000 L33	1166	1228	80 (40)	2731	42.7	87.7	≥ 70	6300x1850x2400
GC 1557 N5	16V 4000 L33	1557	1662	99 (40)	3649	42.7	88.2	≥ 70	7100x1850x2400
GC 1950 N5	20V 4000 L33	1950	2098	125 (40)	4560	42.8	88.8	≥ 70	7600x1850x2400
<b>L32 (High ambient temperatures)</b>									
GC 1166 N5	12V 4000 L32	1166	1270	43 (53)	2747	42.4	88.7	≥ 80	6300x1850x2400
GC 1557 N5	16V 4000 L32	1557	1668	76 (53)	3651	42.6	88.3	≥ 80	7100x1850x2400
GC 1950 N5	20V 4000 L32	1950	2170	78 (53)	4577	42.6	90.0	≥ 80	7600x1850x2400
<b>L33 (Highest output)</b>									
GC 1284 N5	12V 4000 L33	1284	1323	88 (40)	2974	43.2	87.7	≥ 80	6300x1850x2400
GC 1713 N5	16V 4000 L33	1713	1795	113 (40)	3991	42.9	87.9	≥ 80	7100x1850x2400
GC 2145 N5	20V 4000 L33	2145	2268	142 (40)	4985	43.0	88.5	≥ 80	7600x1850x2400

\* NO<sub>x</sub> < 500 mg/m<sup>3</sup> (NO<sub>x</sub> < 250 mg/m<sup>3</sup> available)

1) Rated power at nominal voltage, power factor = 1 and nominal frequency

2) from jacket water, tolerance 8%

3) from jacket water and exhaust gas (120°C), tolerance 8%

4) performance data in accordance with ISO 3046, tolerance 5%

5) referenced methane number

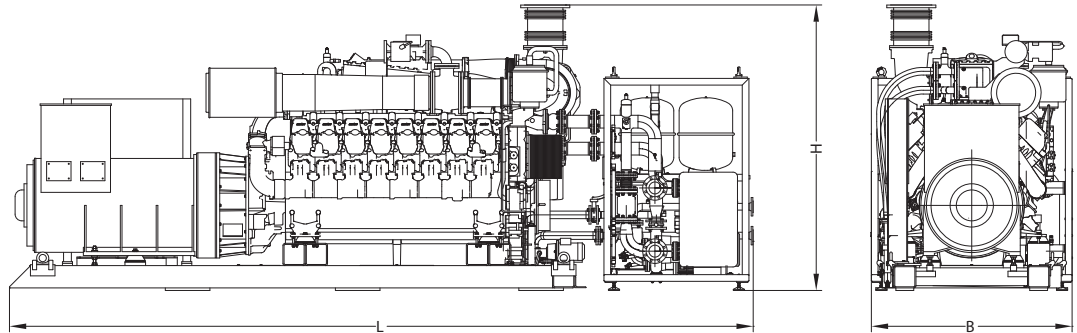
6) dimensions without exhaust gas heat exchanger

All data according to full load, indicated gas mixture cooler water inlet temperature and are subject to technical development.

#### Project specific data on request:

- Other gas types
- Individual data (e.g. flow-/return-temperatures, hot cooling, methane number, assembly space, etc.)
- Container
- Gas Processing

## DRAWINGS AND DIMENSIONS



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

## ENGINE DATA

### 4000

Configuration	90° V
No. of cylinders	12/16/20
Bore/Stroke	170/210 mm
Cyl. displacement	4.77 lit.
Rated speed	1500 rpm

## DESIGN AND EQUIPMENT (EXTRACT)

- // Sliding gear starter 24V, 2 x 9 kW
- // Gas supply through venturi air-gas mixer 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
- // Oil sump, removable without lifting the engine

Version: 11.04.2013, materials and specifications subject to change without notice due to technical advances.