### Dimensions 50 Hz

<table>
<thead>
<tr>
<th>Genset</th>
<th>Length</th>
<th>Width</th>
<th>Height</th>
</tr>
</thead>
<tbody>
<tr>
<td>TBG 620 V12 K</td>
<td>4700</td>
<td>1800</td>
<td>2650</td>
</tr>
<tr>
<td>TBG 620 V16 K</td>
<td>5500</td>
<td>1800</td>
<td>2650</td>
</tr>
</tbody>
</table>

### Noise emissions* 50 Hz

<table>
<thead>
<tr>
<th>Noise frequency band</th>
<th>63</th>
<th>125</th>
<th>250</th>
<th>500</th>
<th>1000</th>
<th>2000</th>
<th>4000</th>
<th>8000</th>
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</thead>
<tbody>
<tr>
<td><strong>Engine type TBG 620 V12 K</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exhaust noise</td>
<td>120 dB (A)</td>
<td>116 dB (A)</td>
<td>121 dB (A)</td>
<td>120 dB (A)</td>
<td>118 dB (A)</td>
<td>112 dB (A)</td>
<td>111 dB (A)</td>
<td>108 dB (A)</td>
</tr>
<tr>
<td>Air-borne noise</td>
<td>102 dB (A)</td>
<td>102 dB (A)</td>
<td>94 dB (A)</td>
<td>94 dB (A)</td>
<td>95 dB (A)</td>
<td>96 dB (A)</td>
<td>94 dB (A)</td>
<td>95 dB (A)</td>
</tr>
<tr>
<td><strong>Engine type TBG 620 V16 K</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exhaust noise</td>
<td>122 dB (A)</td>
<td>119 dB (A)</td>
<td>128 dB (A)</td>
<td>120 dB (A)</td>
<td>117 dB (A)</td>
<td>116 dB (A)</td>
<td>115 dB (A)</td>
<td>112 dB (A)</td>
</tr>
<tr>
<td>Air-borne noise</td>
<td>104 dB (A)</td>
<td>92 dB (A)</td>
<td>96 dB (A)</td>
<td>98 dB (A)</td>
<td>97 dB (A)</td>
<td>99 dB (A)</td>
<td>97 dB (A)</td>
<td>96 dB (A)</td>
</tr>
</tbody>
</table>

* Values apply to natural gas applications, measured as noise pressure level.

---

**TBG 620 K.** The gas engine.

970-1400 kW at 1500 min⁻¹ (50 Hz)

---

These are the characteristics of the TBG 620 K:

State-of-the-art 12 and 16-cylinder V-engines.

Turbocharging and two-stage intercooling.

Single cylinder heads with four-valve technology.

Centrally arranged industrial spark plug with intensive plug seat cooling.

Microprocessor-controlled high-voltage ignition system.

One ignition coil per cylinder.

Electronic control and monitoring of genset operation through TEM.

Exhaust emissions controlled according to combustion chamber temperature.

**Your benefits:**

- Package of favourable investment and low operating costs.
- Low energy consumption thanks to maximum primary energy utilization.
- Long service intervals and ease of service guarantee additional cost savings.
- Efficient energy conversion with outstanding efficiencies.
- Intercooling permits maximum power even when using gases with low methane numbers.
- Reliable control and monitoring with high safety standards ensure optimum combustion and maximum engine protection.
- All governing, service, control and monitoring functions are easy and comfortable to operate.
### Technical data 50 Hz

**Natural gas applications**

<table>
<thead>
<tr>
<th>Engine type</th>
<th>TBG 620 V12 K</th>
<th>TBG 620 V16 K</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Engine power</strong>&lt;sup&gt;2)&lt;/sup&gt; kW</td>
<td>1050</td>
<td>1400</td>
</tr>
<tr>
<td><strong>Speed</strong> min&lt;sup&gt;−1&lt;/sup&gt;</td>
<td>1500</td>
<td>1500</td>
</tr>
<tr>
<td><strong>Mean effective pressure</strong> bar</td>
<td>15.8</td>
<td>15.8</td>
</tr>
<tr>
<td><strong>Exhaust temperature</strong> approx. °C</td>
<td>515</td>
<td>523</td>
</tr>
<tr>
<td><strong>Exhaust mass flow wet</strong> approx. kg/h</td>
<td>5499</td>
<td>7332</td>
</tr>
<tr>
<td><strong>Combustion air mass flow</strong>&lt;sup&gt;2)&lt;/sup&gt; approx. kg/h</td>
<td>5312</td>
<td>7082</td>
</tr>
<tr>
<td><strong>Combustion air temperature minimum/design</strong> °C</td>
<td>20/25</td>
<td>20/25</td>
</tr>
<tr>
<td><strong>Ventilation air flow</strong>&lt;sup&gt;3)&lt;/sup&gt; approx. kg/h</td>
<td>26327</td>
<td>32634</td>
</tr>
</tbody>
</table>

**Generator**

| Efficiency<sup>4)</sup> % | 97.3 | 97.5 |

**Energy balance**

- **Electrical power<sup>4)</sup> kW** | 1022 | 1365 |
- **Jacket water heat ± 8 % kW** | 475 | 624 |
- **Intercooler LT heat<sup>5)</sup> ± 8 % kW** | 87 | 112 |
- **Exhaust cooled to 120°C ± 8 % kW** | 678 | 924 |
- **Exhaust cooled to 150°C ± 8 % kW** | 627 | 855 |
- **Engine radiation heat kW** | 60 | 72 |
- **Generator radiation heat kW** | 28 | 35 |
- **Fuel consumption<sup>6)</sup> + 5 % kW** | 2545 | 3393 |
- **Specific fuel consumption<sup>6)</sup> ± 5 % kWh/kWh** | 2.42 | 2.42 |
- **Combustion air temperature minimum/design °C** | 20/25 | 20/25 |
- **Ventilation air flow<sup>3)</sup> approx. kg/h** | 20774 | 27040 |
- **Efficiency<sup>4)</sup> %** | 97.3 | 97.5 |
- **Electrical power<sup>4)</sup> kW** | 944 | 1262 |
- **Jacket water heat ± 8 % kW** | 656 | 873 |
- **Intercooler LT heat<sup>5)</sup> ± 8 % kW** | 79 | 106 |
- **Exhaust cooled to 120°C ± 8 % kW** | 539 | 720 |
- **Exhaust cooled to 150°C ± 8 % kW** | 494 | 660 |
- **Engine radiation heat kW** | 42 | 56 |
- **Generator radiation heat kW** | 26 | 32 |
- **Fuel consumption<sup>6)</sup> ± 5 % kW** | 2454 | 3274 |
- **Specific fuel consumption<sup>6)</sup> ± 5 % kWh/kWh** | 2.53 | 2.53 |
- **Efficiency<sup>4)</sup> %** | 48.7 | 48.7 |
- **Total efficiency %** | 87.2 | 87.2 |

**System parameters**

- **Engine jacket water flow rate min./max. m³/h** | 36/56 | 50/65 |
- **Engine K VS-value<sup>7)</sup> m³/h** | 44 | 50 |
- **Intercooler coolant flow rate m³/h** | 42.9 | 42.9 |
- **Engine exhaust gas volume m³/h** | 111 | 151 |
- **Coolant flow rate m³/h** | 28 | 28 |
- **Engine jacket water temperature max.<sup>8)</sup> °C** | 82/92 | 82/92 |
- **- with glycol<sup>9)</sup> °C** | (79/89) | (79/89) |
- **Intake air flow rate mbar** | 40/– | 40/– |
- **Exhaust backpressure min./max. mbar** | 30/50 | 30/50 |
- **Maximum pressure loss of air cleaner mbar** | 5 | 5 |
- **Gas flow pressure, fixed between (pressure variation +/- 10 %) mbar** | 20...100 | 20...100 |
- **Starter battery 24 V, capacity required Ah** | 286 | 420 |
- **Dry weight engine kg** | 4200 | 5800 |
- **Dry weight genset kg** | 8480 | 10830 |

**Engine type**

<table>
<thead>
<tr>
<th>Engine type</th>
<th>TBG 620 V12 K</th>
<th>TBG 620 V16 K</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Bore/stroke</em> mm</td>
<td>170/195</td>
<td>170/195</td>
</tr>
<tr>
<td><em>Displacement</em> dm³</td>
<td>53.1</td>
<td>70.8</td>
</tr>
<tr>
<td><em>Compression ratio</em></td>
<td>12 : 1</td>
<td>12 : 1</td>
</tr>
<tr>
<td><em>Mean piston speed</em> m/s</td>
<td>9.8</td>
<td>9.8</td>
</tr>
<tr>
<td><em>Lube oil content</em>&lt;sup&gt;10)&lt;/sup&gt; dm³</td>
<td>205</td>
<td>265</td>
</tr>
<tr>
<td><em>Lube oil consumption mineral oil</em>&lt;sup&gt;11)&lt;/sup&gt; +20 % g/kWh</td>
<td>0.3</td>
<td>0.3</td>
</tr>
</tbody>
</table>

<sup>1)</sup> Exhaust emissions with oxidizing catalyst:
- NOX ≤ 500 mg/m³
- CO ≤ 0.3 g/m³
- Formaldehyde ≤ 0.06 g/m³

<sup>2)</sup> Engine powers and combustion air volume (West a.c. to ISO 3046/1).

<sup>3)</sup> Intake air flow at std. T = 15°C including combustion air.

<sup>4)</sup> At 50 Hz, U = 0.4 kV, power factor = 1.

<sup>5)</sup> At full load.

<sup>6)</sup> Data for special gas and dual gas operation on request.

The values given in this data sheet are for information purposes only and not binding. The information given in the offer is decisive.
### Natural gas applications

**Minimum methane number MN:** 70

#### Engine type

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<th>TBG 620 V16 K</th>
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<tr>
<td><strong>Engine power</strong> 1)</td>
<td>kW</td>
<td>1050</td>
</tr>
<tr>
<td><strong>Speed</strong></td>
<td>min⁻¹</td>
<td>1500</td>
</tr>
<tr>
<td><strong>Mean effective pressure</strong></td>
<td>bar</td>
<td>15.8</td>
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<td><strong>Exhaust temperature</strong></td>
<td>°C</td>
<td>515</td>
</tr>
<tr>
<td><strong>Exhaust mass flow</strong></td>
<td>approx. kg/h</td>
<td>5499</td>
</tr>
<tr>
<td><strong>Combustion air flow</strong></td>
<td>approx. kg/h</td>
<td>5312</td>
</tr>
<tr>
<td><strong>Combustion air temperature</strong></td>
<td>°C 2)</td>
<td>20/25</td>
</tr>
<tr>
<td><strong>Ventilation air</strong></td>
<td>approx. kg/h</td>
<td>26.327</td>
</tr>
</tbody>
</table>

#### Generator

**Efficiency** 3)  
- %: 97.3
- %: 97.5

**Energy balance**

#### Electrical power 4)

- kW: 970
- kW: 1294

#### Jacket water heat ± 8 %

- kW: 656
- kW: 792

#### Intercooler L T heat 5)

- kW: 78
- kW: 106

#### Exhaust cooled to 120 °C ± 8 %

- kW: 539
- kW: 660

#### Exhaust cooled to 150 °C ± 8 %

- kW: 494
- kW: 660

#### Engine radiation heat kW

- kW: 42
- kW: 56

#### Generator radiation heat kW

- kW: 26
- kW: 32

**Fuel consumption 6)** + 5 %

- kW: 2454
- kW: 3274

**Specific fuel consumption 6)** + 5 % kWh/kWh

- 2.53
- 2.53

#### Electrical efficiency %

- %: 48.7
- %: 48.7

#### Total efficiency %

- %: 87.2
- %: 87.2

**System parameters**

#### Engine jacket water flow rate min./max. m³/h

- 36/56
- 50/65

#### Engine K VS-value 7)

- m³/h: 44
- m³/h: 50

#### Intercooler coolant flow rate m³/h

- 35
- 35

#### Intercooler K VS-value 7)

- 42.9
- 42.9

#### Engine jacket water volume dm³

- 111
- 151

#### Intercooler coolant volume dm³

- 28
- 28

#### Engine jacket water temperature max. 8)

- °C: 82/92
- °C: 82/92

#### Intercooler coolant temperature 8)

- °C: 40/–
- °C: 40/–

#### Exhaust backpressure min./max. mbar

- 30/50
- 30/50

#### Maximum pressure loss of air cleaner mbar

- 5
- 5

#### Gas flow pressure, fixed between (pressure variation: +/– 10 %) mbar

- 20...100
- 20...100

#### Starter battery 24 V, capacity required Ah

- 286
- 420

#### Dry weight engine kg

- 4200
- 5800

**Engine type**

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</tr>
<tr>
<td><strong>Lube oil consumption mineral oil</strong> 9)</td>
<td>+ 20 % g/kWh</td>
<td>0.3</td>
</tr>
</tbody>
</table>

1) Exhaust emissions with catalytic system:
- NOx ≤500 mg/m³
- CO < 0.3 %
- CO₂ < 2.2 %
- CH₄ < 0.05 %
- Non-condensable max. 0.6 %
- Exhaust gas at 5 % O₂

2) Engine power ratings and combustion air volume (flue gases, 100 °C in ISO 3046/1-1).

3) Intake air flow at 15 °C including combustion air.

4) At 50 Hz, U = 0.4 kV, power factor = 1.

5) At 50 °C water inlet (50 °C for biogas).

6) With a tolerance of +5 %.

7) The K VS value is the parameter for the pressure loss in the cooling system (= flowrate for 1 bar pressure loss).

8) At full load.

9) Including pipes and heat exchangers.

10) At rated load.

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Dimensions 50 Hz

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<th>Genset</th>
<th>Length</th>
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<td>TBG620 V12 K</td>
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<td>5500</td>
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<td>2650</td>
</tr>
</tbody>
</table>

Noise emissions* 50 Hz

<table>
<thead>
<tr>
<th>Engine type TBG 620V12 K</th>
<th>Exhaust noise</th>
<th>dB (A)</th>
<th>Hz</th>
<th>63</th>
<th>125</th>
<th>250</th>
<th>500</th>
<th>1000</th>
<th>2000</th>
<th>4000</th>
<th>8000</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>dB (lin)</td>
<td>116</td>
<td>121</td>
<td>120</td>
<td>118</td>
<td>112</td>
<td>111</td>
<td>108</td>
<td>107</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Air-borne noise</td>
<td>dB (lin)</td>
<td>102</td>
<td>94</td>
<td>94</td>
<td>95</td>
<td>96</td>
<td>94</td>
<td>95</td>
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</table>

<table>
<thead>
<tr>
<th>Engine type TBG 620V16 K</th>
<th>Exhaust noise</th>
<th>dB (A)</th>
<th>Hz</th>
<th>63</th>
<th>125</th>
<th>250</th>
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<th>1000</th>
<th>2000</th>
<th>4000</th>
<th>8000</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>dB (lin)</td>
<td>119</td>
<td>128</td>
<td>120</td>
<td>117</td>
<td>116</td>
<td>115</td>
<td>112</td>
<td>107</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Air-borne noise</td>
<td>dB (lin)</td>
<td>104</td>
<td>96</td>
<td>98</td>
<td>97</td>
<td>99</td>
<td>97</td>
<td>96</td>
<td>98</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Exhaust noise at 1 m, ± 2.5 dB (A)
Air-borne noise at 1 m from the side, ± 1 dB (A)

* Values apply to natural gas applications, measured as noise pressure level.

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State-of-the-art 12 and 16-cylinder V-engines.
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