## G Drive Diesel and Gas Engines

### Data rounded to 3 significant figures. [1]. Denotes emissions compliant to EU Stage 2 only. [2]. Weights are net of radiator, except for GAMMA and OMEGA G-Builds. [3]. Lengths are fan to flywheel, except for GAMMA, SIGMA and OMEGA G-Builds where they include radiator. N/A = not applicable. N/D = no data available. [4]. Rating at maximum speed available.

#### Key to Emissions Compliance:
- EU Stage 3A only
- USA EPA Tier 4 Final
- EU Stage 3A, USA EPA Tier 4 Final
- EU Stage 3A, USA EPA Tier 4 Interim
- EU Stage 3, India GSR 448(E)
- EU Stage 3A, USA EPA Tier 4 Interim and India GSR 448(E).

#### Displacement per cylinder

<table>
<thead>
<tr>
<th>Model</th>
<th>L</th>
<th>Bore (mm)</th>
<th>Stroke (mm)</th>
<th>Length (mm)</th>
<th>Number of cylinders</th>
</tr>
</thead>
<tbody>
<tr>
<td>AC1</td>
<td>19.3</td>
<td>18.6</td>
<td>25.5</td>
<td>25.0</td>
<td>1</td>
</tr>
<tr>
<td>K172</td>
<td>19.1</td>
<td>18.0</td>
<td>21.0</td>
<td>22.0</td>
<td>1</td>
</tr>
<tr>
<td>LT1</td>
<td>19.1</td>
<td>18.0</td>
<td>21.0</td>
<td>22.0</td>
<td>1</td>
</tr>
<tr>
<td>TR2</td>
<td>20.1</td>
<td>19.0</td>
<td>25.0</td>
<td>25.0</td>
<td>1</td>
</tr>
<tr>
<td>PH1</td>
<td>21.6</td>
<td>20.0</td>
<td>25.0</td>
<td>25.0</td>
<td>1</td>
</tr>
<tr>
<td>LPW3</td>
<td>22.1</td>
<td>21.0</td>
<td>26.0</td>
<td>26.0</td>
<td>1</td>
</tr>
<tr>
<td>LPWT4</td>
<td>23.1</td>
<td>22.0</td>
<td>27.0</td>
<td>27.0</td>
<td>1</td>
</tr>
<tr>
<td>LPWS4</td>
<td>24.1</td>
<td>23.0</td>
<td>28.0</td>
<td>28.0</td>
<td>1</td>
</tr>
</tbody>
</table>

#### Maximum dry weight (kg):

<table>
<thead>
<tr>
<th>Model</th>
<th>Dry Weight (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>AC1</td>
<td>27.5</td>
</tr>
<tr>
<td>K172</td>
<td>28.7</td>
</tr>
<tr>
<td>LT1</td>
<td>29.8</td>
</tr>
<tr>
<td>TR2</td>
<td>31.0</td>
</tr>
<tr>
<td>PH1</td>
<td>33.2</td>
</tr>
<tr>
<td>LPW3</td>
<td>35.4</td>
</tr>
<tr>
<td>LPWT4</td>
<td>37.6</td>
</tr>
<tr>
<td>LPWS4</td>
<td>39.8</td>
</tr>
</tbody>
</table>

#### Max dimension (L=width, H=height):

<table>
<thead>
<tr>
<th>Model</th>
<th>Max Dimension (L=width, H=height)</th>
</tr>
</thead>
<tbody>
<tr>
<td>AC1</td>
<td>180.0 mm x 200.0 mm</td>
</tr>
<tr>
<td>K172</td>
<td>190.0 mm x 250.0 mm</td>
</tr>
<tr>
<td>LT1</td>
<td>190.0 mm x 250.0 mm</td>
</tr>
<tr>
<td>TR2</td>
<td>200.0 mm x 260.0 mm</td>
</tr>
<tr>
<td>PH1</td>
<td>210.0 mm x 270.0 mm</td>
</tr>
<tr>
<td>LPW3</td>
<td>220.0 mm x 280.0 mm</td>
</tr>
<tr>
<td>LPWT4</td>
<td>230.0 mm x 300.0 mm</td>
</tr>
<tr>
<td>LPWS4</td>
<td>240.0 mm x 320.0 mm</td>
</tr>
</tbody>
</table>

#### Maximum full-load speed (r/min):

<table>
<thead>
<tr>
<th>Model</th>
<th>Max Speed (r/min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>AC1</td>
<td>1800</td>
</tr>
<tr>
<td>K172</td>
<td>1800</td>
</tr>
<tr>
<td>LT1</td>
<td>1800</td>
</tr>
<tr>
<td>TR2</td>
<td>1800</td>
</tr>
<tr>
<td>PH1</td>
<td>1800</td>
</tr>
<tr>
<td>LPW3</td>
<td>1800</td>
</tr>
<tr>
<td>LPWT4</td>
<td>1800</td>
</tr>
<tr>
<td>LPWS4</td>
<td>1800</td>
</tr>
</tbody>
</table>

#### Fuel Injection:

- Direct: H (Horsepower) = H (in-lb) * 0.13829
- Indirect: H (Horsepower) = H (in-lb) / 0.13829

---

### Figures

- **P027-08327 © Lister Petter Ltd, December 2010**
### G Drive Diesel and Gas Engines

**Cooling**

<table>
<thead>
<tr>
<th>SW20</th>
<th>DWS4</th>
<th>GWT46</th>
<th>OWT46</th>
<th>LPWS4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liquid Cooled</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Fuel**

<table>
<thead>
<tr>
<th>Engine series</th>
<th>SW20</th>
<th>SW25</th>
<th>SW30</th>
<th>SW40</th>
<th>DWS4</th>
<th>SW4</th>
<th>GWT4</th>
<th>GWT61A</th>
<th>GWT62A</th>
<th>OWT46</th>
<th>OWT64</th>
<th>SW46</th>
<th>LPWS4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engine model</td>
<td>GAMA</td>
<td>DELTA</td>
<td>GAMMA</td>
<td>OMEGA</td>
<td>ALPHA GAS</td>
<td>LPWS4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>G build (fixed speed)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Minimum full-load speed (r/min)</td>
<td>1500</td>
<td>1500</td>
<td>1500</td>
<td>1500</td>
<td>1500</td>
<td>1500</td>
<td>1500</td>
<td>1500</td>
<td>1500</td>
<td>1500</td>
<td>1500</td>
<td>1500</td>
<td>1500</td>
</tr>
<tr>
<td>Maximum full-load speed (r/min)</td>
<td>1800</td>
<td>1800</td>
<td>1800</td>
<td>1800</td>
<td>1800</td>
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<td>1800</td>
<td>1800</td>
<td>1800</td>
<td>1800</td>
<td>1800</td>
<td>1800</td>
</tr>
</tbody>
</table>

**Liquid Cooled**

<table>
<thead>
<tr>
<th>Engine series</th>
<th>SW20</th>
<th>DWS4</th>
<th>GWT46</th>
<th>OWT46</th>
<th>LPWS4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engine model</td>
<td>SIGMA</td>
<td>DELTA</td>
<td>GAMMA</td>
<td>OMEGA</td>
<td>ALPHA GAS</td>
</tr>
<tr>
<td>G build (fixed speed)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Minimum full-load speed (r/min)</td>
<td>1500</td>
<td>1500</td>
<td>1500</td>
<td>1500</td>
<td>1500</td>
</tr>
<tr>
<td>Maximum full-load speed (r/min)</td>
<td>1800</td>
<td>1800</td>
<td>1800</td>
<td>1800</td>
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</table>

**Bio Diesel**

<table>
<thead>
<tr>
<th>Engine series</th>
<th>SW20</th>
<th>DWS4</th>
<th>GWT46</th>
<th>OWT46</th>
<th>LPWS4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engine model</td>
<td>SIGMA</td>
<td>DELTA</td>
<td>GAMMA</td>
<td>OMEGA</td>
<td>ALPHA GAS</td>
</tr>
<tr>
<td>G build (fixed speed)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Minimum full-load speed (r/min)</td>
<td>1500</td>
<td>1500</td>
<td>1500</td>
<td>1500</td>
<td>1500</td>
</tr>
<tr>
<td>Maximum full-load speed (r/min)</td>
<td>1800</td>
<td>1800</td>
<td>1800</td>
<td>1800</td>
<td>1800</td>
</tr>
</tbody>
</table>

**Key to Emissions Compliance:**
- EU Stage 3A only
- USA EPA Interim Tier 4 only
- EU Stage 3A, USA EPA Interim Tier 4 and India GSR 448(E)

**Engine Specifications:**
- Number of cylinders (L=in-line; H=horizontal)
- Bore (mm)
- Stroke (mm)
- Displacement per cylinder (in.³)

**Fuel Outputs to ISO 3046:**
- Maximum full-load speed (r/min)
- Minimum full-load speed (r/min)
- R=rope; E=electric; ()=optional

**Engine Series:**
- 1500 r/min, 50 Hz
- 1800 r/min, 60 Hz

**Fuel Supply:**
- Continuous
- Intermittent

**Starting:**
- Hand
- Electric

**Injection:**
- Natural
- Direct

**Cooling:**
- Liquid
- Liquid

**Engine Model:**
- SW20
- DWS4
- GWT46
- OWT46
- LPWS4

**Engine Series:**
- SIGMA
- DELTA
- GAMMA
- OMEGA
- ALPHA GAS
- LPWS4

**Key to Emissions Compliance:**
- EU Stage 3A only
- USA EPA Interim Tier 4 only
- EU Stage 3A, USA EPA Interim Tier 4 and India GSR 448(E)

**Engine Specifications:**
- Number of cylinders (L=in-line; H=horizontal)
- Bore (mm)
- Stroke (mm)
- Displacement per cylinder (in.³)

**Fuel Outputs to ISO 3046:**
- Maximum full-load speed (r/min)
- Minimum full-load speed (r/min)
- R=rope; E=electric; ()=optional

**Engine Series:**
- 1500 r/min, 50 Hz
- 1800 r/min, 60 Hz

**Fuel Supply:**
- Continuous
- Intermittent

**Starting:**
- Hand
- Electric

**Injection:**
- Natural
- Direct

**Cooling:**
- Liquid
- Liquid

**Engine Model:**
- SW20
- DWS4
- GWT46
- OWT46
- LPWS4

**Engine Specifications:**
- Number of cylinders (L=in-line; H=horizontal)
- Bore (mm)
- Stroke (mm)
- Displacement per cylinder (in.³)

**Fuel Outputs to ISO 3046:**
- Maximum full-load speed (r/min)
- Minimum full-load speed (r/min)
- R=rope; E=electric; ()=optional

**Engine Series:**
- 1500 r/min, 50 Hz
- 1800 r/min, 60 Hz

**Fuel Supply:**
- Continuous
- Intermittent

**Starting:**
- Hand
- Electric

**Injection:**
- Natural
- Direct

**Cooling:**
- Liquid
- Liquid

**Engine Model:**
- SW20
- DWS4
- GWT46
- OWT46
- LPWS4

**Key to Emissions Compliance:**
- EU Stage 3A only
- USA EPA Interim Tier 4 only
- EU Stage 3A, USA EPA Interim Tier 4 and India GSR 448(E)
<table>
<thead>
<tr>
<th>Engine series</th>
<th>A-Series</th>
<th>K-Series</th>
<th>L-Series</th>
<th>T-Series</th>
<th>PH Classic</th>
<th>ALPHAA</th>
</tr>
</thead>
<tbody>
<tr>
<td>V build (=variable speed)</td>
<td>V</td>
<td>V</td>
<td>V</td>
<td>V</td>
<td>V</td>
<td>V</td>
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<tr>
<td>Minimum full-load speed (r/min)</td>
<td>1500</td>
<td>1500</td>
<td>2000</td>
<td>2000</td>
<td>1000</td>
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<td>Maximum full-load speed (r/min)</td>
<td>3600</td>
<td>3600</td>
<td>3600</td>
<td>3600</td>
<td>3000</td>
<td>3000</td>
</tr>
<tr>
<td>Number of cylinders</td>
<td>L=in-line; H=horizontal</td>
<td>1 L</td>
<td>1 L</td>
<td>1</td>
<td>1 L</td>
<td>1 L</td>
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<tr>
<td>Bore (mm)</td>
<td>mm</td>
<td>76</td>
<td>80</td>
<td>78</td>
<td>86</td>
<td>83</td>
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<tr>
<td>Stroke (mm)</td>
<td>mm</td>
<td>67</td>
<td>73</td>
<td>64</td>
<td>72</td>
<td>76</td>
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<tr>
<td>Displacement per cylinder</td>
<td>L/min</td>
<td>2.64</td>
<td>2.87</td>
<td>2.52</td>
<td>2.83</td>
<td>3.00</td>
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**Typical Outputs to ISO 3046**

<table>
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<tr>
<th></th>
<th>Continuous</th>
<th>Intermittent</th>
<th>Continuous</th>
<th>Intermittent</th>
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<th>Intermittent</th>
<th>Continuous</th>
<th>Intermittent</th>
<th>Continuous</th>
<th>Intermittent</th>
</tr>
</thead>
<tbody>
<tr>
<td>kW</td>
<td>2.1</td>
<td>2.5</td>
<td>3.0</td>
<td>3.5</td>
<td>5.5</td>
<td>11.0</td>
<td>16.8</td>
<td>5.5</td>
<td>11.0</td>
<td>6.8</td>
</tr>
<tr>
<td>bhp</td>
<td>2.8</td>
<td>3.4</td>
<td>4.0</td>
<td>4.8</td>
<td>7.4</td>
<td>14.8</td>
<td>22.5</td>
<td>7.5</td>
<td>15.0</td>
<td>9.1</td>
</tr>
<tr>
<td>r/min</td>
<td>1500</td>
<td>1500</td>
<td>2000</td>
<td>2000</td>
<td>3000</td>
<td>3000</td>
<td>3600</td>
<td>3600</td>
<td>3600</td>
<td>3600</td>
</tr>
</tbody>
</table>

**Max. BMEP (bar)**

<table>
<thead>
<tr>
<th></th>
<th>Continuous</th>
<th>Intermittent</th>
<th>Continuous</th>
<th>Intermittent</th>
<th>Continuous</th>
<th>Intermittent</th>
<th>Continuous</th>
<th>Intermittent</th>
</tr>
</thead>
<tbody>
<tr>
<td>L=width; W=length</td>
<td>kW</td>
<td>4.1</td>
<td>4.8</td>
<td>3.02</td>
<td>3.69</td>
<td>5.48</td>
<td>8.66</td>
<td>17.3</td>
</tr>
<tr>
<td>bhp</td>
<td>5.5</td>
<td>6.4</td>
<td>4.05</td>
<td>5.66</td>
<td>8.29</td>
<td>13.8</td>
<td>27.5</td>
<td>38.2</td>
</tr>
<tr>
<td>r/min</td>
<td>1500</td>
<td>1500</td>
<td>2000</td>
<td>2000</td>
<td>3000</td>
<td>3000</td>
<td>3600</td>
<td>3600</td>
</tr>
</tbody>
</table>

**Max. tor (V build only)**

<table>
<thead>
<tr>
<th></th>
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<th>Intermittent</th>
<th>Continuous</th>
<th>Intermittent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nm</td>
<td>15.7</td>
<td>18.6</td>
<td>11.77</td>
<td>18.38</td>
</tr>
<tr>
<td>r/min</td>
<td>11.6</td>
<td>13.7</td>
<td>8.65</td>
<td>13.5</td>
</tr>
<tr>
<td>Maximum dry weight (lb)</td>
<td>kg</td>
<td>67.0</td>
<td>53.0</td>
<td>33.1</td>
</tr>
<tr>
<td>lb</td>
<td>103</td>
<td>117</td>
<td>72.6</td>
<td>103.4</td>
</tr>
</tbody>
</table>

**Data rounded to 3 significant figures. 1. Denotes emissions compliant to EU Stage 2 only. 2. Weights are net of radiator, except for GAMMA and OMEGA G-Builds. 3. Lengths are fan to flywheel, except for GAMMA, SIGMA and OMEGA G-Builds where they include radiator. N/A = not applicable. N/D = no data available. 4. Rating at maximum speed available. 5. SW30 V/S Engine bore is 102mm.**
## Variable Speed Diesel Engines

### Key to Emissions Compliance:
- **EU Stage 3A only**
- **USA EPA Interim Tier 4 only**
- **EU Stage 3A, USA EPA Interim Tier 4**
- **EU Stage 3A, India GSR 448(E)**
- **EU Stage 4, India GSR 448(E)**

### Engine model
- LPWS2
- LPWS3
- LPWS4
- SW20
- SW25
- SW30
- DWS4
- GW4
- GWT4
- GWT6A
- GWT6
- GWT6A
- OT4
- OT4A

### Engine series
- **Alpha (EPA)**
- **SIGMA**
- **DELTA**
- **GAMMA**
- **GAMMA**
- **GAMMA**
- **GAMMA**
- **GAMMA**
- **GAMMA**
- **GAMMA**
- **GAMMA**
- **OMEGA**

### Engine configuration
- **L=inline; H=horizontal**

### Key to Emissions Compliance:
- **USA EPA Interim Tier 4 only**
- **EU Stage 3A, USA EPA Interim**
- **EU Stage 3A, USA EPA Interim Tier 4 and India GSR 448(E)**
- **Tier 4 and India GSR 448(E).**

### Displacement per cylinder
- **litres**

### Max dimension (L=length, W=width, H=height)

### Data rounded to 3 significant figures.

### Rating at maximum speed available.

### Weights are net of radiator, except for GAMMA and OMEGA G-Builds.

### Ratings at maximum speed available.

### Aspiration: **N=natural; D=direct; I=indirect**

### Starting: **H=hand; R=rope; E=electric; [optional]**

### Variable Speed Builds

### Liquid Cooled Diesel

### Fuel

### Cooling

### Liquid Cooled

### Variable Speed Diesel Engines

### Key to Emissions Compliance:
- **EU Stage 3A only**
- **USA EPA Interim Tier 4 only**
- **EU Stage 3A, USA EPA Interim Tier 4**
- **EU Stage 3A, India GSR 448(E)**
- **EU Stage 4, India GSR 448(E)**

### Engine model
- LPWS2
- LPWS3
- LPWS4
- SW20
- SW25
- SW30
- DWS4
- GW4
- GWT4
- GWT6A
- GWT6
- GWT6A
- OT4
- OT4A

### Engine series
- **Alpha (EPA)**
- **SIGMA**
- **DELTA**
- **GAMMA**
- **GAMMA**
- **GAMMA**
- **GAMMA**
- **GAMMA**
- **GAMMA**
- **GAMMA**
- **OMEGA**

### Engine configuration
- **L=inline; H=horizontal**

### Key to Emissions Compliance:
- **USA EPA Interim Tier 4 only**
- **EU Stage 3A, USA EPA Interim**
- **EU Stage 3A, USA EPA Interim Tier 4 and India GSR 448(E)**
- **Tier 4 and India GSR 448(E).**

### Displacement per cylinder
- **litres**

### Max dimension (L=length, W=width, H=height)

### Data rounded to 3 significant figures.

### Rating at maximum speed available.

### Weights are net of radiator, except for GAMMA and OMEGA G-Builds.

### Ratings at maximum speed available.

### Aspiration: **N=natural; D=direct; I=indirect**

### Starting: **H=hand; R=rope; E=electric; [optional]**

### Variable Speed Builds

### Liquid Cooled Diesel

### Fuel

### Cooling

### Liquid Cooled

### Variable Speed Diesel Engines

### Key to Emissions Compliance:
- **EU Stage 3A only**
- **USA EPA Interim Tier 4 only**
- **EU Stage 3A, USA EPA Interim Tier 4**
- **EU Stage 3A, India GSR 448(E)**
- **EU Stage 4, India GSR 448(E)**

### Engine model
- LPWS2
- LPWS3
- LPWS4
- SW20
- SW25
- SW30
- DWS4
- GW4
- GWT4
- GWT6A
- GWT6
- GWT6A
- OT4
- OT4A

### Engine series
- **Alpha (EPA)**
- **SIGMA**
- **DELTA**
- **GAMMA**
- **GAMMA**
- **GAMMA**
- **GAMMA**
- **GAMMA**
- **GAMMA**
- **GAMMA**
- **OMEGA**

### Engine configuration
- **L=inline; H=horizontal**

### Key to Emissions Compliance:
- **USA EPA Interim Tier 4 only**
- **EU Stage 3A, USA EPA Interim**
- **EU Stage 3A, USA EPA Interim Tier 4 and India GSR 448(E)**
- **Tier 4 and India GSR 448(E).**

### Displacement per cylinder
- **litres**

### Max dimension (L=length, W=width, H=height)

### Data rounded to 3 significant figures.

### Rating at maximum speed available.

### Weights are net of radiator, except for GAMMA and OMEGA G-Builds.

### Ratings at maximum speed available.

### Aspiration: **N=natural; D=direct; I=indirect**

### Starting: **H=hand; R=rope; E=electric; [optional]**

### Variable Speed Builds

### Liquid Cooled Diesel

### Fuel

### Cooling

### Liquid Cooled

### Variable Speed Diesel Engines

### Key to Emissions Compliance:
- **EU Stage 3A only**
- **USA EPA Interim Tier 4 only**
- **EU Stage 3A, USA EPA Interim Tier 4**
- **EU Stage 3A, India GSR 448(E)**
- **EU Stage 4, India GSR 448(E)**

### Engine model
- LPWS2
- LPWS3
- LPWS4
- SW20
- SW25
- SW30
- DWS4
- GW4
- GWT4
- GWT6A
- GWT6
- GWT6A
- OT4
- OT4A

### Engine series
- **Alpha (EPA)**
- **SIGMA**
- **DELTA**
- **GAMMA**
- **GAMMA**
- **GAMMA**
- **GAMMA**
- **GAMMA**
- **GAMMA**
- **GAMMA**
- **OMEGA**

### Engine configuration
- **L=inline; H=horizontal**

### Key to Emissions Compliance:
- **USA EPA Interim Tier 4 only**
- **EU Stage 3A, USA EPA Interim**
- **EU Stage 3A, USA EPA Interim Tier 4 and India GSR 448(E)**
- **Tier 4 and India GSR 448(E).**

### Displacement per cylinder
- **litres**

### Max dimension (L=length, W=width, H=height)

### Data rounded to 3 significant figures.

### Rating at maximum speed available.

### Weights are net of radiator, except for GAMMA and OMEGA G-Builds.

### Ratings at maximum speed available.

### Aspiration: **N=natural; D=direct; I=indirect**

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### Variable Speed Builds

### Liquid Cooled Diesel

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