VA02 Wheel Drive Double Reduction

Max. Continuous torque: 8,850 in-lbf (1,000 Nm)
Max. intermittent torque: 17,701 in-lbf (2,000 Nm)
Max. input speed: 4,000 RPM
Approximate weight: 60 lbs (27 Kg)
Approximate oil capacity: 13.5 fl oz (0.4 L)

Feature Chart

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
<th>Code</th>
<th>Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEAR RATIO</td>
<td>11.95</td>
<td>12</td>
<td>VA0212</td>
</tr>
<tr>
<td>SAE INPUT²</td>
<td>ø2.75&quot; 2X M12X1.75 on ø5.75&quot; B.C.</td>
<td>ø6.0&quot;</td>
<td>RB</td>
</tr>
<tr>
<td>Motor Pilot</td>
<td>6X M12X1.5 on ø8.25&quot; B.C.</td>
<td></td>
<td>VA0212RB</td>
</tr>
<tr>
<td>Motor Mount</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spindle Pilot</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spindle Mount</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Motor Coupling</td>
<td>Teeth 13T</td>
<td>16/32</td>
<td>VA0212RB13</td>
</tr>
<tr>
<td>Motor Coupling</td>
<td>Pitch</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HUB</td>
<td>Wheel Pilot Dia. 6.0&quot;</td>
<td>0.591&quot;</td>
<td>H1</td>
</tr>
<tr>
<td></td>
<td>Flange Thk.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>8X 1/2&quot; on ø8.0&quot; B.C.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Bolt Pattern</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>Size &amp; Pitch</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Stud Length 1/2&quot;-13 UNF 1.37&quot;</td>
<td></td>
<td>NS</td>
</tr>
<tr>
<td>STUDS</td>
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<td></td>
<td>VA0212RB13H1AE</td>
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</table>

Note: These bearing curves are supplied for design purposes only relating to radial load. They illustrate the importance of maintaining load properly over the bearing center.
VA02 WHEEL DRIVE DOUBLE REDUCTION, SAE INPUT
### VA07 Wheel Drive Double Reduction

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
<th>Code</th>
<th>Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gear Ratio</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>18.78</td>
<td>19</td>
<td></td>
</tr>
<tr>
<td></td>
<td>24.92</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td></td>
<td>35.92</td>
<td>36</td>
<td></td>
</tr>
<tr>
<td></td>
<td>47.60</td>
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</tr>
<tr>
<td></td>
<td>57.49</td>
<td>58</td>
<td></td>
</tr>
<tr>
<td></td>
<td>54.08</td>
<td>64</td>
<td></td>
</tr>
<tr>
<td>SAE Input</td>
<td>Ø4.00”</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>4X 1/2”-13UNC-2B on Ø5.75” B.C.</td>
<td>Ø7.00”</td>
<td>Ø8.25” B.C.</td>
</tr>
<tr>
<td></td>
<td>VA0750B2</td>
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<tr>
<td>Motor Coupling</td>
<td>Teeth</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>15T</td>
<td>16.32</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>13T</td>
<td>16.32</td>
<td>13</td>
</tr>
<tr>
<td>Hub</td>
<td>Wheel Pilot Dia.</td>
<td>Flange Thk.</td>
<td>Bolt Pattern</td>
</tr>
<tr>
<td></td>
<td>7.885”</td>
<td>0.33”</td>
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</tr>
<tr>
<td></td>
<td>9X Ø 0.631” on Ø9.25” B.C.</td>
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</tr>
<tr>
<td>Studs</td>
<td>Size &amp; Pitch</td>
<td>Stud Length</td>
<td></td>
</tr>
<tr>
<td></td>
<td>No Stud</td>
<td>--</td>
<td>NS</td>
</tr>
<tr>
<td></td>
<td>1/2”-20 UNF-2A</td>
<td>2.23”(56.6)</td>
<td>2.43”(61.7)</td>
</tr>
<tr>
<td></td>
<td>9/16”-18UNF-2A</td>
<td>2.23”(56.6)</td>
<td>2.43”(61.7)</td>
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<tr>
<td></td>
<td>5/8”-11 UNC-2A</td>
<td>2.23”(56.6)</td>
<td>2.43”(61.7)</td>
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<td></td>
<td>M16X1.5-6g</td>
<td>2.23”(56.6)</td>
<td>2.43”(61.7)</td>
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<tr>
<td>Brake Rating</td>
<td>in-lbf</td>
<td>Nm</td>
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</tr>
<tr>
<td></td>
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</tr>
</tbody>
</table>

Note: These bearing curves are supplied for design purposes only relating to radial load. They illustrate the importance of maintaining load properly over the bearing center.

---

1) Continuous unit rating is dependent on life requirements, duty cycle and ambient surroundings affecting heat dissipation. Customer testing for specific applications is strongly recommended.
2) C-rings for motor/brake port interface not included.
3) Length under stud head to end of thread equals usable stud length plus housing flange thickness.
VA07 WHEEL DRIVE DOUBLE REDUCTION, SAE INPUT

[Diagram of VA07 wheel drive double reduction with measurements and features listed on the page.]
Appendix: Application Instruction

To adjust life for loads and speeds other than shown on the curve

\[
\text{Life Factor (LF)} = \frac{SF \times R}{R'}
\]

- **R**: Allowable resultant load for a given location from the mounting flange
- **R'**: Anticipated load at location from mounting flange
- **SF**: Speed factor from table

1) Continuous unit rating is dependent on life requirements, duty cycle and ambient surroundings affecting heat dissipation. Customer testing for specific applications is strongly recommended.

2) O-rings for motor/brake port interface not included

3) Length under stud head to end of thread equals usable stud length plus housing flange thickness

**CAUTION**: The same torsional load parameters used in calculating the driving mode must be used in the braking mode!

<table>
<thead>
<tr>
<th>Output Speed (RPM)</th>
<th>SF</th>
<th>Bearing Life</th>
<th>Life Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>(LF)</td>
<td>Hours</td>
</tr>
<tr>
<td>5</td>
<td>2.456</td>
<td>0.584</td>
<td>500</td>
</tr>
<tr>
<td>10</td>
<td>1.944</td>
<td>0.719</td>
<td>1000</td>
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<tr>
<td>20</td>
<td>1.620</td>
<td>0.812</td>
<td>1500</td>
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<tr>
<td>30</td>
<td>1.435</td>
<td>0.886</td>
<td>2000</td>
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<tr>
<td>40</td>
<td>1.316</td>
<td>0.947</td>
<td>2500</td>
</tr>
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<td>50</td>
<td>1.231</td>
<td>1.000</td>
<td>3000</td>
</tr>
<tr>
<td>60</td>
<td>1.165</td>
<td>1.047</td>
<td>3500</td>
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<tr>
<td>70</td>
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<tr>
<td>80</td>
<td>1.069</td>
<td>1.130</td>
<td>4500</td>
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<tr>
<td>90</td>
<td>1.032</td>
<td>1.116</td>
<td>5000</td>
</tr>
<tr>
<td>100</td>
<td>1.000</td>
<td>1.231</td>
<td>6000</td>
</tr>
<tr>
<td>200</td>
<td>0.812</td>
<td>1.289</td>
<td>7000</td>
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<td>1.342</td>
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<tr>
<td>400</td>
<td>0.659</td>
<td>1.390</td>
<td>9000</td>
</tr>
<tr>
<td>500</td>
<td>0.617</td>
<td>1.435</td>
<td>10000</td>
</tr>
</tbody>
</table>
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With over 70 years of manufacturing experience in the engineering, production, and sale of construction and agricultural equipment, OMNI GEAR® has a solid foundation and vast understanding of the needs of today's equipment builders. With 42 years of manufacturing experience in Asia, OMNI GEAR® has become a recognized leader within the world-wide enclosed gear drive community.

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