Dear Colleague,

Thank you for visiting our website and downloading a product catalog from the R.M. Hoffman Company. We hope this information will be useful to you in solving the application you are working on.

The R.M. Hoffman Company is located in the Silicon Valley and has been in business for over 50 years. We are engineers who specialize in mechanical components such as gearbox, flex couplings, rotary unions, and torque releases, as well as hardware items such as actuators, brakes, clutches, and electrical slip rings. We sell our solutions worldwide to semiconductor, medical, packaging, robotic machine and other builders.

We often find that our customers want a customized version of standard product offerings. We pride ourselves on our ability to help match our customer’s engineering requirements to the exact products needed. Quite often, we work closely with customers to provide modified products or an assembly of products.

Please give us a call and let us know how we can assist you. We look forward to talking to you soon.

Thank you.

The R.M. Hoffman Team
408-739-6580
info@rmhoffman.com
IMC’s Torq/Gard overload clutches help protect the entire drive train of your machinery from damage due to excessive torque generated by overloads and jamming. Instant reaction when torque exceeds preset limits provides protection far superior to that of clutches employing friction surfaces. Torq/Gard features include:

- Modular Design: one unit for direct drive, chain drive or other power transmission options
- Universal Mounting: eliminates special bore requirements
- Single Position, Automatic Reset
- Reversible
- Torque Repeatability
**Torq/Gard™ Features**

- **SEALED FOR LIFE** Gasket and O-ring sealed body, packed with high-performance, moisture resistant grease for outdoor and wash-down applications.
- **FLAT WIRE HELICAL SPRING** Maintains torque limit within narrow tolerance.
- **HEX-SOCKET HEAD TORQUE CONTROL** Permits quick, easy adjustment of torque limit.
- **DRILLED AND TAPPED MOUNTING LUGS** Registered for plate sprocket or other output options.
- **ALLOY STEEL FORGED CAM** One piece hardened steel cam and hub.
- **HEAVY-DUTY NEEDLE BEARINGS** for greater overhung load capacity.
- **FORGED STEEL HUB** Heat-treated with oversized bore.
- **PRECISION NEEDLE BEARINGS** for years of wear-free service at lever arm pivot points.
- **ALUMINUM HOUSING WITH INTERNATIONAL ORANGE FINISH.**
- **MAXIMUM SHAFT BORE** Arranged to accommodate stock shaft bushings.
- **RUGGED ANTI-FRICTION CAM FOLLOWER** Hardened, precision-ground tool steel.
Torq/Gard™ Sizing and Selection

Torq/Gard overload clutches are available in seven sizes with capacities trip torques from 13 in-lbs to 8000 in-lbs.

Torq/Gard Clutches may be sized using the Speed-Horsepower Chart, the Speed-Torque Chart and these formulas:

Torque (in-lb) = Horsepower (hp) x 63025 / RPM
Horsepower (hp) = Torque (in-lbs) x RPM / 63025
Tripping Torque (in-lbs) = Operating Torque x Service Factor

### SPEED/HORSEPOWER CHART

<table>
<thead>
<tr>
<th>Model</th>
<th>Min. Trip Torque (in-lbs)</th>
<th>Max. Trip Torque (in-lbs)</th>
<th>HP Max</th>
<th>RPM Max</th>
<th>Weight (lbs)</th>
<th>Inertia (lb-in²)</th>
<th>Maximum Bore Dia. (in)</th>
</tr>
</thead>
<tbody>
<tr>
<td>TG3</td>
<td>13.3</td>
<td>32.7</td>
<td>1.5</td>
<td>1800</td>
<td>1.32</td>
<td>1.45</td>
<td>0.500</td>
</tr>
<tr>
<td>TG6</td>
<td>23</td>
<td>56.6</td>
<td>2.5</td>
<td>1800</td>
<td>1.32</td>
<td>1.45</td>
<td>0.500</td>
</tr>
<tr>
<td>TG20</td>
<td>56.6</td>
<td>204</td>
<td>4</td>
<td>1500</td>
<td>2.42</td>
<td>5.72</td>
<td>0.787</td>
</tr>
<tr>
<td>TG60</td>
<td>200</td>
<td>600</td>
<td>8.5</td>
<td>900</td>
<td>5.5</td>
<td>10</td>
<td>1 1/4</td>
</tr>
<tr>
<td>TG200</td>
<td>600</td>
<td>2000</td>
<td>21.5</td>
<td>680</td>
<td>12</td>
<td>46</td>
<td>1 15/16</td>
</tr>
<tr>
<td>TG400</td>
<td>2000</td>
<td>4000</td>
<td>22.2</td>
<td>350</td>
<td>38</td>
<td>455</td>
<td>2 7/16</td>
</tr>
<tr>
<td>TG800</td>
<td>4000</td>
<td>8000</td>
<td>44.4</td>
<td>350</td>
<td>38</td>
<td>455</td>
<td>2 7/16</td>
</tr>
</tbody>
</table>
M-4

**TORQ/GARD™ Overload Clutches**

**Torq/Gard™ Dimensions**

![Diagram of Torq/Gard Dimensions]

---

**TORQ/GARD DIMENSIONS**

<table>
<thead>
<tr>
<th>Model</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>I</th>
<th>J</th>
<th>K</th>
<th>L</th>
<th>M</th>
<th>N</th>
<th>P</th>
<th>R</th>
</tr>
</thead>
<tbody>
<tr>
<td>TG3</td>
<td>2.36</td>
<td>2.31</td>
<td>0.16</td>
<td>1.89</td>
<td>0.27</td>
<td>1.62</td>
<td>0.500</td>
<td>0.87</td>
<td>1.187</td>
<td>1.97</td>
<td>3.15</td>
<td>0.32</td>
<td>#8-32</td>
<td>1.575</td>
<td>0.12</td>
<td>0.125</td>
</tr>
<tr>
<td>TG6</td>
<td>2.36</td>
<td>2.31</td>
<td>0.16</td>
<td>1.89</td>
<td>0.27</td>
<td>1.62</td>
<td>0.500</td>
<td>0.87</td>
<td>1.187</td>
<td>1.97</td>
<td>3.15</td>
<td>0.32</td>
<td>#8-32</td>
<td>1.575</td>
<td>0.12</td>
<td>0.125</td>
</tr>
<tr>
<td>TG20</td>
<td>2.76</td>
<td>2.72</td>
<td>0.16</td>
<td>2.24</td>
<td>0.36</td>
<td>1.94</td>
<td>0.787</td>
<td>1.18</td>
<td>1.563</td>
<td>2.36</td>
<td>3.94</td>
<td>0.39</td>
<td>#10-24</td>
<td>1.965</td>
<td>0.12</td>
<td>0.188</td>
</tr>
<tr>
<td>TG60</td>
<td>3.50</td>
<td>3.28</td>
<td>0.25</td>
<td>2.67</td>
<td>0.49</td>
<td>1.97</td>
<td>1.250</td>
<td>1.88</td>
<td>2.375</td>
<td>3.38</td>
<td>5.25</td>
<td>0.56</td>
<td>1/4-20</td>
<td>2.875</td>
<td>0.19</td>
<td>0.250</td>
</tr>
<tr>
<td>TG200</td>
<td>4.31</td>
<td>4.04</td>
<td>0.25</td>
<td>3.36</td>
<td>0.56</td>
<td>2.80</td>
<td>1.938</td>
<td>2.75</td>
<td>3.250</td>
<td>5.00</td>
<td>7.00</td>
<td>0.75</td>
<td>3/8-16</td>
<td>4.500</td>
<td>0.19</td>
<td>0.500</td>
</tr>
<tr>
<td>TG400</td>
<td>6.19</td>
<td>6.14</td>
<td>0.31</td>
<td>5.17</td>
<td>0.62</td>
<td>3.80</td>
<td>2.438</td>
<td>3.50</td>
<td>4.500</td>
<td>7.50</td>
<td>10.75</td>
<td>1.12</td>
<td>5/8-11</td>
<td>6.500</td>
<td>0.19</td>
<td>0.625</td>
</tr>
<tr>
<td>TG800</td>
<td>6.19</td>
<td>6.14</td>
<td>0.31</td>
<td>5.17</td>
<td>0.62</td>
<td>3.80</td>
<td>2.438</td>
<td>3.50</td>
<td>4.500</td>
<td>7.50</td>
<td>10.75</td>
<td>1.12</td>
<td>5/8-11</td>
<td>6.500</td>
<td>0.19</td>
<td>0.625</td>
</tr>
</tbody>
</table>

**Torq/Gard™ Application Considerations**

The Torq/Gard should be used on the low speed side of a speed reducer in several ways:

- **Direct Drive:** The Torq/Gard can be mounted on the speed reducer output (low speed) shaft and directly connected to the driven machine using a Browning Ever-Flex half coupling and the Universal Adapter Plate.

- **Chain Drive – Mounted on Driven Machine:** Mounting the Torq/Gard on the driven machine and powered through a chain and sprocket drive tends to absorb peak starting torques.

- **The Torq/Gard should never be used on the high speed side of a reducer.** Clutch sensitivity becomes a function of the reducer’s gear ratio. As an example, when used with a 100:1 reducer, a 100 in-lb torque variation on the output side of the reducer will reflect only a 1 in-lb change on the input side. Do not exceed the maximum RPM shown in the Torq/Gard selection tables.