Utilizing properly sized shafts and bores is critical to the installation and operation of an encoder. A small clearance slip fit is recommended to prevent the possibility of damage during installation and to maintain accuracy.


The chart below lists all standard US Digital encoder sizes and their relative shaft and bore tolerances.

<table>
<thead>
<tr>
<th>USD Encoder Sizes</th>
<th>Nominal</th>
<th>Bore Tolerance (H7)</th>
<th>Shaft Tolerance (g6)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.5mm</td>
<td>0.0591&quot;</td>
<td>+0.0004&quot;</td>
<td>-0.0000&quot;</td>
</tr>
<tr>
<td>2mm</td>
<td>0.0787&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.3mm</td>
<td>0.0906&quot;</td>
<td>-0.0001&quot;</td>
<td>-0.0004&quot;</td>
</tr>
<tr>
<td>2.5mm</td>
<td>0.0984&quot;</td>
<td>-0.0002&quot;</td>
<td></td>
</tr>
<tr>
<td>3mm</td>
<td>0.1181&quot;</td>
<td>-0.0003&quot;</td>
<td></td>
</tr>
<tr>
<td>1/8&quot;</td>
<td>0.1250&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5/32&quot;</td>
<td>0.1563&quot;</td>
<td>-0.0005&quot;</td>
<td></td>
</tr>
<tr>
<td>4mm</td>
<td>0.1575&quot;</td>
<td>-0.0006&quot;</td>
<td></td>
</tr>
<tr>
<td>3/16&quot;</td>
<td>0.1875&quot;</td>
<td>-0.0008&quot;</td>
<td></td>
</tr>
<tr>
<td>5mm</td>
<td>0.1969&quot;</td>
<td>-0.0003&quot;</td>
<td></td>
</tr>
<tr>
<td>6mm</td>
<td>0.2362&quot;</td>
<td>-0.0005&quot;</td>
<td></td>
</tr>
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<td>1/4&quot;</td>
<td>0.2500&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7mm</td>
<td>0.2756&quot;</td>
<td>+0.0006&quot;</td>
<td></td>
</tr>
<tr>
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<td>0.3125&quot;</td>
<td>-0.0000&quot;</td>
<td></td>
</tr>
<tr>
<td>8mm</td>
<td>0.3150&quot;</td>
<td></td>
<td>-0.0002&quot;</td>
</tr>
<tr>
<td>3/8&quot;</td>
<td>0.3750&quot;</td>
<td>-0.0000&quot;</td>
<td>-0.0006&quot;</td>
</tr>
<tr>
<td>10mm</td>
<td>0.3937&quot;</td>
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</tr>
<tr>
<td>12mm</td>
<td>0.4724&quot;</td>
<td>+0.0007&quot;</td>
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<tr>
<td>1/2&quot;</td>
<td>0.5000&quot;</td>
<td>-0.0000&quot;</td>
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<tr>
<td>14mm</td>
<td>0.5512&quot;</td>
<td>-0.0000&quot;</td>
<td></td>
</tr>
<tr>
<td>5/8&quot;</td>
<td>0.6250&quot;</td>
<td>-0.0003&quot;</td>
<td></td>
</tr>
<tr>
<td>3/4&quot;</td>
<td>0.7500&quot;</td>
<td>-0.0008&quot;</td>
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</tr>
<tr>
<td>20mm</td>
<td>0.7874&quot;</td>
<td>+0.0008&quot;</td>
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<tr>
<td>7/8&quot;</td>
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<td>-0.0000&quot;</td>
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<td>-0.0003&quot;</td>
<td></td>
</tr>
<tr>
<td>1&quot;</td>
<td>1.0000&quot;</td>
<td>-0.0008&quot;</td>
<td></td>
</tr>
</tbody>
</table>

1 Although US Digital push on hubs are not manufactured to these same bore tolerances they are designed to fit on customer shafts following the g6 shaft tolerance listed. Shafts outside the listed range may present trouble with installation of the hub or may not have a tight enough fit for reliable operation. Additionally, our push on hubs are designed to go on shafts with a chamfered lead for easier installation and to prevent damage to the hub bore.