Clamping principle

A pack of RINGSPANN Clamping Discs sits on the draw bush. Above that, there is a slotted Expanding Sleeve screwed together with a Intermediate Flange. When axial actuating force is applied, the Clamping Discs are evenly expanded over their entire circumference – and the Expanding Sleeve at the same time as a result. Reinforced by tapered design of the deformation zones, the slotted Expanding Sleeve shortens causing the clamped workpiece to be pulled back against the backstop. An additional tailstock or centering tip gives the Expanding Sleeve Mandrel a greater total stiffness after the clamping action. The tailstock or centering tip supports the Expanding Sleeve only.

Features

- For clamping diameters from 22 mm to 82.5 mm
- Excellent suitability for the clamping of workpieces to gearing processing works
- High true running accuracy ≤ 0.005 mm
- Permissible component tolerance up to IT 10
- Pull-back against external Intermediate Flange ring by the customer
- Also suitable for clamping on short clamping lengths or clamping surfaces interrupted by grooves
- Hand clamping optional possible
- Impervious to ingress of foreign objects due to the rubberized slots in the Expanding Sleeve

Configuration

The Expanding Sleeve Mandrel is composed of the assembly group draw bush and the assembly group Expanding Sleeve. For manual clamping, the addition of a threaded plate is required. The Expanding Sleeve Mandrel is screwed together with the Intermediate Flange to the machine connection. The highest level of true running accuracy is achieved when the Expanding Sleeve is finished by grinding with the Intermediate Flange after assembly. The Clamping Fixture is operated by the central assembly group draw bush, which is connected to the power clamping device of the machine.

Key:

- Axial actuating force
- Radial clamping force
- Axial pull-back force
**Expanding Sleeve Mandrels HDDS**

**Patented**

![Diagram of Expanding Sleeve Mandrels HDDS](image)

<table>
<thead>
<tr>
<th>Size</th>
<th>Clamping range</th>
<th>Maximum diameter change*</th>
<th>D mm</th>
<th>Δ D mm</th>
<th>Max. transmissible torque M Nm</th>
<th>Max. actuating force F kN</th>
<th>Tightening torque M Aa</th>
<th>Aa mm</th>
<th>Az mm</th>
<th>Baz mm</th>
<th>Bzs mm</th>
<th>dp mm</th>
<th>Ga mm</th>
<th>Gz mm</th>
<th>H max. mm</th>
<th>Hz mm</th>
<th>SW mm</th>
<th>Ta mm</th>
<th>Y**</th>
<th>Z***</th>
<th>Hole pattern</th>
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<tbody>
<tr>
<td>HDDS 11</td>
<td>25,00 - 32,50</td>
<td>0,10</td>
<td>10</td>
<td>7</td>
<td>2,8</td>
<td>2,6</td>
<td>33</td>
<td>11</td>
<td>11</td>
<td>5</td>
<td>20,8</td>
<td>M 4</td>
<td>M 5</td>
<td>0,3</td>
<td>8,5</td>
<td>4</td>
<td>24</td>
<td>4</td>
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<tr>
<td>HDDS 15</td>
<td>32,00 - 42,50</td>
<td>0,15</td>
<td>15</td>
<td>15</td>
<td>3,2</td>
<td>3,2</td>
<td>43</td>
<td>15</td>
<td>15</td>
<td>5</td>
<td>24,3</td>
<td>M 4</td>
<td>M 6</td>
<td>0,6</td>
<td>7,2</td>
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<td>24</td>
<td>4</td>
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<td>HDDS 20</td>
<td>42,00 - 52,50</td>
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<td>40</td>
<td>7,2</td>
<td>9,7</td>
<td>53</td>
<td>15</td>
<td>20</td>
<td>6</td>
<td>34,3</td>
<td>M 5</td>
<td>M 8</td>
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<td>17,0</td>
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<td>30</td>
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<td>3</td>
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<tr>
<td>HDDS 30</td>
<td>52,00 - 62,50</td>
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<td>80</td>
<td>10,4</td>
<td>17,0</td>
<td>63</td>
<td>20</td>
<td>30</td>
<td>6</td>
<td>44,0</td>
<td>M 5</td>
<td>M 10</td>
<td>1,0</td>
<td>17,7</td>
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<td>40</td>
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<tr>
<td>HDDS 40</td>
<td>62,00 - 72,50</td>
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</table>

* of the clamping diameter of the Clamping Element.

** Y = Number of threaded holes Ga on pitch circle diameter Ta

** Z = Number of counterbores Ga on pitch circle diameter Ta, depth of counterbore 1 mm

**Pattern of fixing threads and counterbores for push off screws**

![Pattern of fixing threads and counterbores for push off screws](image)

**Example for ordering**

Please indicate the size of the Clamping Fixture and the clamping diameter of your component, including component tolerance, in your order:

- **Size:** HDDS 20
- **Clamping diameter:** 42,50 mm
- **Component tolerance:** H7

→ HDDS 20-42,50H7