Zero point reference also on down draw clamps

A fixed zero point reference on down draw clamps is self-evident in the STARK zero point mounting system. This zero point reference on down draw clamps is a definite must on external setting-up and palletting work.

1) Down draw clamp with zero point
2) The workpiece can be machined on all sides
3) Washer
4) Down draw clamp
5) Retractable nipple
6) Precision collar bolt
7) Perforated pallet
8) Bolt DIN 912
Guidelines for working with clamping devices

Clamping devices for pegging out with zero point

To mount clamping devices only precision collar bolts of the property class 10.9 may be used. The bolts with adequate length have to be screwed into the plate to a depth of at least 12 mm.

Caution: Watch the length of the positioning socket!

Max. tightening torque

\[ M_{12} = 70 \, \text{Nm} \]

Adjustable clamping devices

In attaching clamping devices, screws of the property class 10.9 or 12.9 and hardened washers must be used.

To assure the downtime of the plate the length of the screw must be as given in the illustration at the right.

Maximum tightening torque

\[ M_{12} = 94 \, \text{Nm} \]
Clamping devices - mechanical

Down draw clamp for pegging out zero point

Order no. | Description
--- | ---
804 011 | Down draw clamp
704 054 | Precision collar bolt M12 10.9

1) Middle of the bore = End position of work piece ±0.01

Down draw clamp for pegging out zero point, narrow edition

Order no. | Description
--- | ---
804 025 | Down draw clamp
704 054 | Precision collar bolt M12 10.9 x L = 60mm

1) Middle of the bore = End position of work piece ±0.01
We recommend using washers when mounting the clamps.

<table>
<thead>
<tr>
<th>Order no.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>804 009</td>
<td>Down draw clamp</td>
</tr>
<tr>
<td>931 065</td>
<td>Bolt DIN 912, M12, 10.9, L = 60mm</td>
</tr>
<tr>
<td>704 020</td>
<td>Washer</td>
</tr>
</tbody>
</table>

1) Clamping distance

Down draw clamp for pegging out zero point

Down draw clamp in use
Clamping devices - mechanical

Down draw clamp for pegging out - zero point reference - raised model

Order no. Description
804 019 Down draw clamp
704 054 Precision collar bolt M12 10.9

1) Middle of the bore = End position of work piece ±0.01

Down draw clamp - adjustable - raised model

Max. torque 42 Nm
Max. clamp strength 62 000 N

We recommend using washers when mounting the clamps.

Order no. Description
804 017 Down draw clamp
931 068 Bolt DIN 912, M12, 8.8, L = 70mm
704 020 Washer

1) Clamping distance
Simple prism clamp, as cover with zero point

<table>
<thead>
<tr>
<th>Order no.</th>
<th>Description</th>
<th>ØA</th>
<th>B</th>
<th>C</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>804 050</td>
<td>Prism clamp</td>
<td>14-30</td>
<td>82-103</td>
<td>78</td>
<td>40</td>
</tr>
<tr>
<td>804 052</td>
<td>Prism clamp</td>
<td>29-50</td>
<td>82-110</td>
<td>78</td>
<td>40</td>
</tr>
<tr>
<td>804 054</td>
<td>Prism clamp</td>
<td>40-90</td>
<td>120-184</td>
<td>118</td>
<td>80</td>
</tr>
<tr>
<td>704 054</td>
<td>Precision collar bolt M12, 10.9</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1) Middle of the bore = End position of work piece ±0.01

The clamp distance “B” can be extended by exchanging the clamping screws and the support screws.

Example: Prism clamp
Clamping devices - mechanical

Stop rotatable by 360°, with zero point, straight version

<table>
<thead>
<tr>
<th>Order no.</th>
<th>Description</th>
<th>A</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td>904 404</td>
<td>Stop, straight version</td>
<td>30</td>
<td>38</td>
</tr>
<tr>
<td>904 405</td>
<td>Stop, straight version</td>
<td>60</td>
<td>68</td>
</tr>
<tr>
<td>704 054</td>
<td>Precision collar bolt M12 10.9 for 904 404</td>
<td></td>
<td></td>
</tr>
<tr>
<td>704 058</td>
<td>Precision collar bolt M12 10.9 for 904 405</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Stop rotatable by 360°, with zero point, corner version

<table>
<thead>
<tr>
<th>Order no.</th>
<th>Description</th>
<th>A</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td>904 406</td>
<td>Stop, corner version</td>
<td>30</td>
<td>38</td>
</tr>
<tr>
<td>904 407</td>
<td>Stop, corner version</td>
<td>60</td>
<td>68</td>
</tr>
<tr>
<td>704 054</td>
<td>Precision collar bolt M12 10.9 for 904 406</td>
<td></td>
<td></td>
</tr>
<tr>
<td>704 058</td>
<td>Precision collar bolt M12 10.9 for 904 407</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Clamping devices - mechanical

Base for flat clamps, deep drawing clamps etc.

Order no. Description H
704 100 Base 2
704 101 Base 3
704 102 Base 4
704 103 Base 5
704 104 Base 10
704 105 Base 15
704 106 Base 20
704 107 Base 30
704 108 Base 40
704 109 Base 50

Practical example

Flat clamps single

Flat clamps double

Precision collar bolt M12
Spacer
Perforated pallet
Clamping devices - mechanical

Flat clamp single, for setting out with zero point

Order no. | Description                  | A   | B   |
---       |-------------------------------|-----|-----|
904 010  | Flat clamp                   | 30  | 4 - 26 |
904 150  | Flat clamp                   | 60  | 0 - 45 |
704 054  | Precision collar bolt M12 10.9 |     |      |

1) Middle of the bore = End position of work piece +/- 0.01

The clamp distance "B" can be extended by exchanging the clamping screws and the support screws.

Flat clamp single, for setting out

Order no. | Description                  | A   | B   |
---       |-------------------------------|-----|-----|
904 110  | Flat clamp                   | 30  | 4 - 26 |
904 250  | Flat clamp                   | 60  | 0 - 45 |
931 065  | Bolt DIN 912, M12, 10.9, L = 60mm |     |      |

The clamp distance "B" can be extended by exchanging the clamping screws and the support screws.

We recommend the use of washers (order no. 704 020) when bolting on clamping elements.
Clamping devices - mechanical

Raw work piece clamped with down draw clamp, raised model

Finished work piece clamped with down draw clamp, raised model

Workpiece with flat clamp

Perforated pallet with retractable nipple 1000

Down draw clamp for pegging the zero point

Adjustable down draw clamp