TOX®-Marking Tools
Marking Tools Manual Type: PP

Manually adjustable numbering head
- safe, quick setting for frequent number changes
- available in many character sizes
- available with numbers, letters and logos
- replaceable individual wheels
- characters per DIN 1451 standards
- special types, character size, etc. available on request

Items included with delivery:
- marking head
- mounting shank (optional)

Custom marking tools/characters available upon request.

Ordering example:
PP 01.04.04. (wheel 1 – 4 “0 – 9”

Configuration of characters on wheels, e.g.
wheel 1 – 4 with characters 0 – 9

Character height (mm)
Number of characters
01 Medium type
(02 condensed)
Marking head

Automatically advancing numbering coining head
- a mechanical, pneumatic or electric mechanism with a minimum of 25 mm travel will automatically advance one count on each stroke
- available with up to max. 6 place automatic advance, up to max. 8 mm character height, marking wheels max. 10 places
- characters: numbers, letters, special symbols

Ordering example:
PP 01.05.05.A3
A3: last 3 digits automatic advance
Character height 5 mm
Number of characters 5
01 medium type
(02 medium condensed)
Marking head

Sequencing example:
1st wheel: fixed, without advance adjustable, e.g. for character change A, B, C
2nd wheel:
3rd – 5th wheels: automatic advance 1 – 999

Automatically advancing marking head

Dimensions on request.
Pneumatically controlled advancing device is also available.

All dimensions in mm.

Pneumatically controlled advancing device is also available.
Stamps holder type TH

All dimensions in mm
Special on request.

Items included with delivery
- Stamp holder without stamps
- Mounting shank (optional)

Ordering example:

TH 01.04.15
Slot length: 15
Slot width: 4
Single row
Stamp holder

Can be used with all TOX*-Drives including FinePress.

Stamps type PT

Stamps available individually or in sets

Sizes available

<table>
<thead>
<tr>
<th>SH = Character height</th>
<th>L = Length</th>
<th>B = Width</th>
<th>Characters available</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0</td>
<td>1.5</td>
<td>4.0</td>
<td>0–9</td>
</tr>
<tr>
<td>2.0</td>
<td>2.0</td>
<td>4.0</td>
<td>. (Period)</td>
</tr>
<tr>
<td>2.5</td>
<td>2.5</td>
<td>6.0</td>
<td>, (Comma)</td>
</tr>
<tr>
<td>3.0</td>
<td>3.0</td>
<td>6.0</td>
<td>- (Hyphen)</td>
</tr>
<tr>
<td>4.0</td>
<td>4.0</td>
<td>8.0</td>
<td>/ (Slash)</td>
</tr>
<tr>
<td>5.0</td>
<td>5.0</td>
<td>8.0</td>
<td></td>
</tr>
</tbody>
</table>

All dimensions in mm
Other sizes feasible

Please observe the corresponding stamp holder for the selected number of characters or stamps.

Characters according to DIN 1451 standards – medium type – beveled – nickel plated.

Ordering example:

PT 30.30.60.A
Character A
Width: 6.0 mm
Length: 3.0 mm
Height: 3.0 mm
Stamp types

Technical Information

Material characteristics for marking

Tensile strength $R_m$ (N/mm²) for various materials

<table>
<thead>
<tr>
<th>Material designation</th>
<th>$R_m$ N/mm²</th>
<th>Material designation</th>
<th>$R_m$ N/mm²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Steel</td>
<td></td>
<td>Non-ferrous metals</td>
<td></td>
</tr>
<tr>
<td>DC01 (St1203)</td>
<td>≤ 400</td>
<td>EN AW-5754 (AlMg3)</td>
<td>≤ 290</td>
</tr>
<tr>
<td>DC04 (St1403)</td>
<td>≤ 400</td>
<td>EN AW-5182 (AlMg5)</td>
<td>≤ 380</td>
</tr>
<tr>
<td>DD11 (SW22)</td>
<td>≤ 440</td>
<td>EN AW-2007 (AlCuMgPb)</td>
<td>≤ 470</td>
</tr>
<tr>
<td>S235JR-C (St37-K)</td>
<td>≤ 510</td>
<td>CC482K (CuSn11Pb2-C)</td>
<td>≤ 360</td>
</tr>
<tr>
<td>S355J2G3 (St52-3)</td>
<td>≤ 630</td>
<td>CW614N (CuZn39Pb3)</td>
<td>≤ 540</td>
</tr>
<tr>
<td>E355 (St60-2)</td>
<td>≤ 710</td>
<td>CW004A (E-Cu57)</td>
<td>≤ 390</td>
</tr>
<tr>
<td>X5CrNi18-10 (1.4301)</td>
<td>≤ 700</td>
<td>Pb99.94Cu</td>
<td>≤ 20</td>
</tr>
</tbody>
</table>

Letter height in mm

<table>
<thead>
<tr>
<th>Factor A, to be applied mm²</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.5</td>
</tr>
<tr>
<td>2</td>
</tr>
<tr>
<td>3</td>
</tr>
<tr>
<td>4</td>
</tr>
<tr>
<td>5</td>
</tr>
<tr>
<td>6</td>
</tr>
<tr>
<td>7</td>
</tr>
<tr>
<td>8</td>
</tr>
<tr>
<td>10</td>
</tr>
<tr>
<td>12</td>
</tr>
</tbody>
</table>

Base for the calculation of the required marking force for numbering tools

Formula: $F_p = A \times R_m \times ST$

$F_p$ = marking force
$A$ = factor, see table, mm²
$R_m$ = tensile strength, N/mm²
$ST$ = number of digits

When selecting the appropriate drive unit, allow about 30% reserve force to account for wear of the tools and tolerances in material strengths.

Example:

A marking tool with 6 digits, 5mm letter height, for a material with tensile strength $R_m = 400$ N/mm², requires the following stamping force:

$F_p = 17 \text{mm}^2 \times 400 \text{N/mm}^2 \times 6 = 40.800 \text{N}$

Recommended stamping force to be expected: $40.800 \text{N} + 30\%$ reserve $= 53.040 \text{N}$

Subject to technical modifications.

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