Universal semi-automatic machines for twisted-in wire brushes

- The cost-effective solution for twisted-in wire brushes
- Highest brush quality
- With many options for upgrades and automation
ZAHORANSKY has a well-established, proven solution for the semi-automated manufacturing of twisted-in brushes for industrial or household use: the KZA family of machines that twists-in and trims brushes. Some steps of the process can be further automated with add-on machines, e.g. with the KVL, DA 1 and DS for filament preparation or with the RSB machine for automatic straightening, cutting and bending.

The KZA is the specialist for all sorts of twisted-in brushes with many different filaments, single wire, double wire, open end, closed end, etc. A few examples:

- Twisted-in wire brushes
- Twisted-in wire brushes and paint brushes
- Brushes for musical instruments
- Paint brushes
First the core wire is clamped. The wire may be straightened, cut and pre-bent using an automated process (RSB series). Once the fill material has been inserted manually, the following steps run automatically: twisting the core wires together to create the desired number of turns, disengaging the tailstock shaft, trimming, unclamping the finished brushes and turning the clamping head to the start position. Typically 120 to 140 twisted-in brushes can be produced per hour this way.

The twisting process

The twisting process

**KZA**
Cost-effective and reliable in production – for high-quality end products.

**Two models** for different brush formats

Despite the high level of automation, the machines from the KZA family can be used universally, and are quick and easy to set up for another sample. The cutting unit with rotating cutters processes nylon, natural fibers and wire. The machine models differ primarily in terms of the length of the brushes that can be produced, and in the nature of the wire. The details are shown in the following table.

<table>
<thead>
<tr>
<th>KZA/A</th>
<th>KZA/A6</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Brush length:</strong></td>
<td>up to 900 mm, optionally up to 2,000 mm</td>
</tr>
<tr>
<td><strong>Trimming length:</strong></td>
<td>up to 450 mm (cylindrical, slightly conical)</td>
</tr>
<tr>
<td><strong>Brush diameter:</strong></td>
<td>5 – 160 mm</td>
</tr>
<tr>
<td><strong>Core wire / holding wire diameter:</strong></td>
<td>approx. 1.6 – 4 mm optionally 0.5 – 1.8 mm (or 4 x 4 mm holding wires)</td>
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</tbody>
</table>

**Add-ons** for special brushes

- There is a special tailstock KD for very fine brushes with core wires of 0.5 – 1.8 mm.
- There is a special set-up for profile trimming using a fully automated trimming process (e.g., for dairy brushes). A simple template sheet enables even conical and spherical brush shapes to be trimmed.
Even more performance

Solutions for fast insertion

The DA 1 machine lays out material in strip form via a picker bar from a two channel filament box. The strip is removed manually with the tongs and fed between the core wires which are clamped in the twisting chucks.

Plus points: For two material lengths or colors. Fast setting of the strip length and number of tufts. Suitable for all kinds of fill materials.

The automatic feeding device KVL (not shown) is available as an add-on. It lays out plastic filaments of approx. 20–300 mm in length and maximum strip length of 160 mm. The thickness and length of the material strip are infinitely variable.

For automatic straightening, bending and cutting

If the core wire needs to be automatically straightened, cut and bent, then the RSB machine is the perfect solution.

KD/E: For special applications

Brushes with abrasive nylon + wire

This is ideal for high-precision brushes made from abrasive nylon and wire. The KD/E is the electronically-controlled version that can also grind to most precise and smallest diameters.

The KD/E in figures *

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brush length:</td>
<td>up to 550 mm</td>
</tr>
<tr>
<td>Trimming length:</td>
<td>up to 470 mm</td>
</tr>
<tr>
<td>Grinding lengths:</td>
<td>up to 220 mm</td>
</tr>
<tr>
<td>Brush diameter:</td>
<td>3 – 200 mm</td>
</tr>
<tr>
<td>Core wire / holding wire diameter:</td>
<td>0.8 – 2.0 mm</td>
</tr>
</tbody>
</table>

* electronic
German Engineering with Passion & Perfection

More than a century ago, Anton Zahoransky marked the start of a new era in brush production when he developed the first drilling and tufting machine for brushes. The company has grown into an international business offering complete solutions in the field of machine building and automation technology. It now has four divisions: Mold Making, Systems Technology, Packaging Machines and Brush Machines.

The driving force is and always has been more than just solid “German Engineering” and concentrated innovative strength. It is the unbroken spirit of “Passion & Perfection”: lifeblood, persistence and an absolute desire to develop solutions that deliver exactly what they promise.

ZAHORANSKY – PERFECTLY DIFFERENT