Field of application
Measuring and correction of unbalance of wound armatures of various sizes and of rotors which permit milling correction. Main Application for fully automatic production lines with high production rate. Unbalance correction by milling in one or two planes.

Correction procedure
Slot milling in components
Vectorial distribution of the measured unbalance to the respective pole heads
Profile milling
Polar unbalance correction directly in the determined angular position.

Polar slot milling
By axial adjusting of the milling spindle equipped with double slot milling cutters.

Integrated overhead rotary transfer machine
Fully automatic function
NC axes for all movements
Linkage with production lines
Powerful measuring unit CAB 850 based on industrial PC

Fully automatic balancing machine for electric armatures
Type 440 KBTU
Special features

- High speed rotor transfer with overhead rotary transfer at small operating radius; shock-free transfer of the rotors due to sinusoidal movement. Grippers equipped with damage protection device.

- Correction station with digitally controlled milling and positioning device as well as with cutters touchpoint signal.

Milling procedure can be selected without modification of control; swarf extraction from below.

- Flexible use, easy retooling and fast troubleshooting.

- Powerful measuring unit CAB 850 on the basis of an industrial PC: 15” touchscreen, digital signal processing, software module for the calculation of various correction procedures, automatic calibration of the correction curve, large memory for data storage, operator support, retooling supported by photo sequence, diagnosis programs, statistics software, external interface.

Set-up (example)

4-station machine with fully automatic functions. Linking of stations and of the peripherals by an integrated overhead rotary transfer. Rotors can be conveyed to the machine on belt conveyors or pallets.

![Set-up diagram]

1. Transfer
2. Measuring station
3. Correction station
4. Checking station
5. Control cabinet
6. Measuring system, positioning control
7. Swarf extractor

Important data at a glance

<table>
<thead>
<tr>
<th>Machine type</th>
<th>441 KBTU</th>
<th>442 KBTU</th>
<th>443 KBTU</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unbalance correction</td>
<td>Polar profile milling</td>
<td>Slot milling in components</td>
<td>Polar slot milling</td>
</tr>
<tr>
<td>Cycle time</td>
<td>Correct. in 1 plane</td>
<td>4,3 s - 4,5 s</td>
<td>6 s</td>
</tr>
<tr>
<td></td>
<td>Correct. in 2 planes</td>
<td>7 s</td>
<td>10 s</td>
</tr>
<tr>
<td>Retooling time: rotor specific</td>
<td></td>
<td>5 - 15 min</td>
<td></td>
</tr>
<tr>
<td>Achievable residual unbalance</td>
<td></td>
<td>depending on the rotor &lt; 3 gmm/kg (µm)</td>
<td></td>
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</tbody>
</table>

Balancing and Diagnostic Systems

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