A top performer

Mikron Multistar CX-24
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A top performer!

What makes the Multistar CX-24 so special? It’s unbeatably precise performance and speed. The Multistar CX-24 transfer machine supports serial production of part families and workpieces which demand perfect processing. The Multistar CX-24 is precise, fast, versatile and customizable – simply a top performer!

What else do you need?
The Multistar CX-24 controls the spindle movements via linear curves. The quickly changeable control curves provide processing flexibility. The highly productive rotary transfer machines work economically, even with quantities of only a few thousand workpieces per parts variation. What else? The precise interplay of all elements assures faultless processing quality, even when used over a long period of time. 24 additional intermediate stations allow measuring, controlling and cleaning procedures in the processing cycle.

One identity, two types
There are two types of the Multistar CX-24: a monoblock and an adjustable version. The rigid monoblock version is suitable for workpieces with mainly centric operations. Does your part need off-center and/or sloping processing? No problem. We have installed the working spindles in adjustable stations which increases the flexibility of the machine. Another advantage, Multistar CX with adjustable stations also allows the turning of partly processed workpieces into clamping systems with a different shape or diameter.

Advantages at a glance
- Precise serial production of part families and demanding workpieces
- ± 2.5 µm table index repeatability
- 24 stations with up to 44 machining units allow very high output rate

Monoblock station supports (above and below) with embedded indexing table.

Adjustable work station supports (above and below) with embedded indexing table.
**Mikron Multistar CX-24**

an exceptional mechanism

Thanks to the exclusive cinematic (Mikron patent), Multistar is able to perfectly drive up to 48 machining units from above, below or horizontally and also for loading/unloading operations. Your advantages:

- Long-life and reliability
- High productivity
- Perfect accuracy and repeatability

Each machining unit has its independent linear curve, in order to quickly adapt the system to each different parts of a family. Your benefit:

- Fast changeover between parts of a family
- Perfect surface finish and long life of cutting tools since each unit is set to the optimal tool feed

Multistar is the only machining system that can be equipped with up to 48 clamping collets: 24 main collets and 24 additional collets with different section. This exclusive allows the part to be turned-over and clamped on different section/sides of the part. Example:

- A square section blank is fixed in the collet and turning operations are made.
- The part is turned-over and fixed in an alternative collet, this time with a round section, for the machining of the other side of the part.

Part turn-over in different section collet
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Spring chucks, a strategic element
Developed and manufactured by Mikron, the Multistar spring chucks fit perfectly to the machine concept.

Special features
- Safety: The chuck clamping force which is equally distributed on the parts outer edges, always ensures that the workpieces will not become deformed.
- Precision: Precise and compact spring chucks guarantee highly accurate repeatability in few μm.
- Productivity: Compact construction allows for a higher concentration of spring chuck in a tight space.
- Versatility: Ideal for round and randomly profiled parts with precise outer edges, up to a diameter of 30 mm.
- Orientation: The spring chucks can be turned to any position for transverse machining.
- Rotation: Rotating spring chucks ensure perfect concentricity for turning and plunge cutting operations.
Some Multistar CX-24 units at one glance

Loading / unloading unit

Wire coil feeding device incl straightening & cutting

Machining units operating from all directions

Part turn-over unit

Vertical milling unit

Horizontal milling unit
## CASE HISTORY Air Spring Valves (Ventless Molds)

On Mikron Multistar CX-24

### The challenge
- 30+30 million parts per year
- 2 pieces made in steel, with turning, drilling & milling operations
- Production of male & female component simultaneously on the same machine
- Tolerances: ± 10µm on diameters
- Raw material supply from wire coil (instead from bar-stock)

### The traditional solution
- Production area: **136.2 m²**
- Required machines: **16**
- Employees: **3.2 + 3.2 + 3.2**
- Cost/part
- Raw material from bar-stock

### Mikron: The innovative solution
- Production area: **38.64 m²**
- Required machines: **1 Mikron Multistar CX-24**
- Employees: **0.5 + 0.5 + 0.5**
- Cost/part
- Raw material from wire coil

### Your advantage
- **-71%**
  - Production area
- **-94%**
  - Machines
- **-85%**
  - Employees
- **-45%**
  - Cost/part
### Technical Data Multistar CX-24

#### Machine

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of stations</td>
<td>24</td>
</tr>
<tr>
<td>Max. number of upper units</td>
<td>23</td>
</tr>
<tr>
<td>Max. number of lower units</td>
<td>22</td>
</tr>
<tr>
<td>Max. number of lateral units</td>
<td>22</td>
</tr>
<tr>
<td>Number of clamping fixtures</td>
<td>24 / 48</td>
</tr>
<tr>
<td>Table position repeatability</td>
<td>µm ± 2.5</td>
</tr>
<tr>
<td>Table indexing time</td>
<td>sec 0.4</td>
</tr>
<tr>
<td>Max. workpiece dimension</td>
<td>mm Ø 30 L65</td>
</tr>
<tr>
<td>Max. cycles</td>
<td>pcs/min. 70</td>
</tr>
<tr>
<td>Multiple cycle up to</td>
<td>pcs/min. 280</td>
</tr>
</tbody>
</table>

#### Clamping devices

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Min. clamping diameter</td>
<td>mm</td>
</tr>
<tr>
<td>Max. clamping diameter</td>
<td>mm</td>
</tr>
<tr>
<td>Max. clamping diameter indexable</td>
<td>mm</td>
</tr>
<tr>
<td>Max. clamping diameter rotating</td>
<td>mm</td>
</tr>
</tbody>
</table>

#### Machining units

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. machining length</td>
<td>mm</td>
</tr>
<tr>
<td>Central cam for working feed (machining units)</td>
<td>no</td>
</tr>
<tr>
<td>Linear cam for working feed (machining units)</td>
<td>yes</td>
</tr>
<tr>
<td>Multistar CX-24 CNC version</td>
<td>yes, max 20 axis</td>
</tr>
<tr>
<td>Chuck indexing for workpiece machining around 360°</td>
<td>yes</td>
</tr>
<tr>
<td>Rotation of workpiece (chuck drive), speed adjustable</td>
<td>rpm 6'000</td>
</tr>
</tbody>
</table>

#### Machining spindles

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spindle speed</td>
<td>rpm</td>
</tr>
<tr>
<td>Spindle diameter</td>
<td>mm</td>
</tr>
<tr>
<td>Max. spindle rating</td>
<td>kW</td>
</tr>
</tbody>
</table>

#### Installation

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main drive power</td>
<td>kW / Hz</td>
</tr>
<tr>
<td>Input voltage</td>
<td>V</td>
</tr>
<tr>
<td>Power consumption ca.</td>
<td>kW</td>
</tr>
<tr>
<td>Pressure of compressed air</td>
<td>bar</td>
</tr>
<tr>
<td>Consumption</td>
<td>m³/h</td>
</tr>
<tr>
<td>Approx. weight of machine</td>
<td>kg</td>
</tr>
<tr>
<td>Dimensions L x D x H</td>
<td>m</td>
</tr>
<tr>
<td>when machining from wire</td>
<td>m</td>
</tr>
</tbody>
</table>

The technical data listed are not binding and may be changed at any time without notice.
Mikron Machining

Headquarter
Mikron SA Agno
Via Ginnasio 17
6982 Agno
Switzerland
Tel. +41 91 610 61 11
Fax +41 91 610 66 80
mag@mikron.com

Mikron GmbH Rottweil
Berner Feld 71
D-78628 Rottweil
Tel. +49 741 5380 0
Fax +49 741 5380 580
mro@mikron.com

Mikron Corp. Monroe
200 Main Street
P.O. Box 268
Monroe, CT 06468 / USA
Tel. +1 203 261 31 00
Fax +1 203 268 47 52
mmo@mikron.com

www.youtube.com/mikrongroup
www.mikron.com

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