Mikron XT-one

Dual spindle, 5 axis, flexible production center
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The Mikron XT-one machining center is worldwide amongst the most versatile and precise machines for complex parts. With its numerous configuration possibilities, every Mikron XT-one can be customized into a perfect solution for your requirements.
Exceptionally versatile and precise
Dual spindle, 5 axis, flexible production center

Benefit from our vast knowledge and skills regardless of whether you are using a standard clamping device or special clamping chucks. Multiple part clamping is possible on a single pallet. Over 100 dedicated turnkey solutions (for detailed clamping with dedicated or custom cutting tools…) are developed every year!

- **2 independent spindles** (configured as needed 15K or 40K rpm)
- **Chip to chip in 0.9sec** (even at maximum spindle speed)
- **2 fixtures for parallel operations** (machining and loading)
- **No loss in production time**
- **Simultaneous production of different applications**
- **System expandable, up to 4 working modules**
- **6 face machining capability**
- **Full 5 axis CNC (simultaneous)**
- **Workpiece size up to approx 8 inches cube (200x200x200mm)**
- **36 tools** (18+18 type HSK-A 40)
- **24 tools** (12+12 type HSK-A 63)
- **30 tools** (18+12 type HSK-A 40 & HSK-A 63)

**MAXIMUM STABILITY FOR HIGH PERFORMANCE**

Casted as a heavy duty slant bed with Thermo-symmetrical design. The slanted machine bed delivers optimal chip evacuation.
Invest flexible
Scale up for production as needed

The modularity and flexibility of the Mikron XT-one machining center is unique and unequalled in today’s market place. Mikron XT-one can be expanded to meet future production requirements at any time, with incomparable precision! There is one integrated loading/unloading module which can work with up to 4 machining center modules.

LOADING OPTIONS - WITH NO LOSS IN PRODUCTIVE TIME (Spindles are in the cut)
Hand loading or fully automatic loading with a pallet changer. Loading and preparing for the new parts are parallel to the machine cutting time. The material flow of blank and finished work-pieces can be managed to reach the optimal benefit.

SIMULTANEOUS PRODUCTION OF 2 DIFFERENT PARTS

Loading of part 1
Two-jaws clamping

Machining of part 2
Double clamping
Dual spindle concept
Increased productivity, returns enormous savings

The two independent working spindles of the Mikron XT-one enable it to work alternatively. While one spindle is machining, the other is changing the cutting tool - even at maximum spindle speed. This allows shortest non productive times with chip to chip of 0.9 s.

**Spindle 2**
Changing of the cutting tool, even at maximum spindle speed

**Spindle 1**
Changing of the cutting tool, even at maximum spindle speed

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**CUSTOMER CASE**

**SAVINGS OF UP TO 120’000 $US/YEAR**

**EXAMPLE 1**
With 4 tool changes per minute saving 470 hours per year equal US$ 30’000
Calculation: 16h/day, 220 days/year, 15’000 rpm (0.9 versus 3.4 seconds chip to chip time - a 2.5 second difference factor), 80% = 469.3 hours per year with 60 US$ per hour = 28’800 $US.

**EXAMPLE 2**
With 8 tool changes per minute saving 2’000 hours per year equal US$ 120’000
Calculation: 22h/day, 300 days/year, 15’000 rpm (0.9 versus 3.4 seconds chip to chip time - a 2.5 second difference factor), 90% = 1’980 hours per year at 60 US$ per hour = 118’800 $US.
# Technical Data

## Dual spindle, 5 axis, flexible production center

### Workpiece
- Max. diameter of working area: Ø 250 mm
- Max. length of working area: 300 mm
- Workpiece weight + clamping fixture: 21 kg

### Working spindle
- Tool holder: HSK-A 40
- Outside diameter: 140 mm
- Number of revolutions: 15000 1/min
- Spindle distance: 290 mm

### Connected Loads (standard value)
- Mains Connection: 3x400 V / N / PE
- Frequency: 50 Hz / 60 Hz
- Compressed air min.: 6 bar
- Weight c.a.: 7.5 t

More data on request
### Options
Dual spindle, 5 axis, flexible production center

#### TOOL HOLDER
- **Standard**: HSK-A 40 (18 tools tools per spindle)
- **Optional**: HSK-A 63 (12 tools per spindle)

#### LOADING
- **Standard**: Pallet changer, loading and preparing for new parts parallel to the productive time
- **Optional**: System with a fully automatic loading / unloading module, robot

#### SPINDLES
- **Standard**: 2 spindle concept for lowest chip to chip time
- **Optional**: 1 spindle concept, if highest productivity is not needed.

#### WORKING SPINDLES (HSK-A 40)
<table>
<thead>
<tr>
<th></th>
<th>Outside diameter</th>
<th>rpm</th>
<th>Torque (S6 45% ED)</th>
<th>Power (S6 45% ED)</th>
<th>Internal coolant feed</th>
<th>Spindle distance</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Standard</strong></td>
<td>140 mm</td>
<td>15000 1 / min</td>
<td>36 Nm</td>
<td>18 kW</td>
<td>150 bar</td>
<td>290 mm</td>
</tr>
<tr>
<td><strong>Optional</strong></td>
<td>140 mm</td>
<td>40000 1 / min</td>
<td>9 Nm</td>
<td>13.5 kW</td>
<td>120 bar</td>
<td>290 mm</td>
</tr>
</tbody>
</table>

#### COOLING UNIT
- **Standard**: Low pressure cooling system
  - Scraper belt conveyor
  - Coolant tank
  - 10 bar coolant pump
  - Perforated chip basket (manual cleaning)
- **Optional**: High pressure system
  - Additional coolant tank
  - 80 bar coolant pump
  - Paper band filter (automatic cleaning)

#### OTHER OPTIONS
- Electronic tool wear detector
- Tool breakage detection with mechanical sensor
- Tool coding with chip and reader
Mikron Machining
Your contacts

Headquarter
Mikron SA Agno
Via Ginnasio 17
CH-6982 Agno
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 SAS Nerviano
Via S. Ambrogio 16
I-20015 Parabiago (MI)
Tel. +39 0331 55 12 22
Fax +39 0331 55 12 86
mnv@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

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