

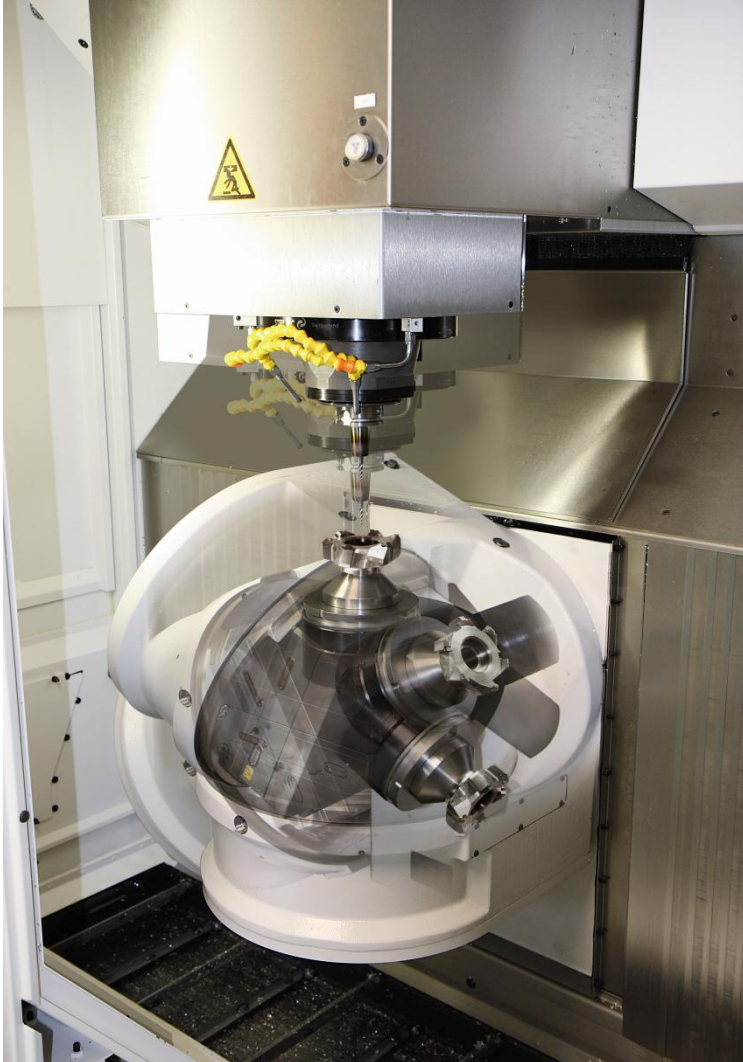
+GF+

Mikron HPM 450U



MIKRON HPM 450U





HPC-Technology

Single part production

- Ø 450 mm x 450 mm
- 150 kg

Automated production

- 350x350 mm x 350 mm
- 90 kg

MIKRON HPM 450U

Working range

X	mm	600
Y	mm	450
Z	mm	450
Tilting	B/°	-120° / +45°
Rotation	C/°	n x 360°

Table RTT

Surface (radial T-slots)	mm	∅ 450
Maximal weight on table (5 axis milling)	kg	150

Weight machine

kg	7700
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Spindles for all machines

Max. Speed	min-1	12'000	20'000
Power 40% ED/S6	kW	13	30
Tool holder		ISO 40	HSK 63A

Tool changer for all machines

Number of tools in magazine	pcs.	30,60,120,170,220
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Control

Heidenhain iTNC 530



Choose the Correct Spindle

In the case of the MIKRON HPM 450U, the choice between the following spindles (S6, 40% ED):

12'000 rpm
ISO40 100 Nm
13 kW (S6, 40% ED):



Conventional
machining



- **Air through spindle**
- **Compressed air blow off external**

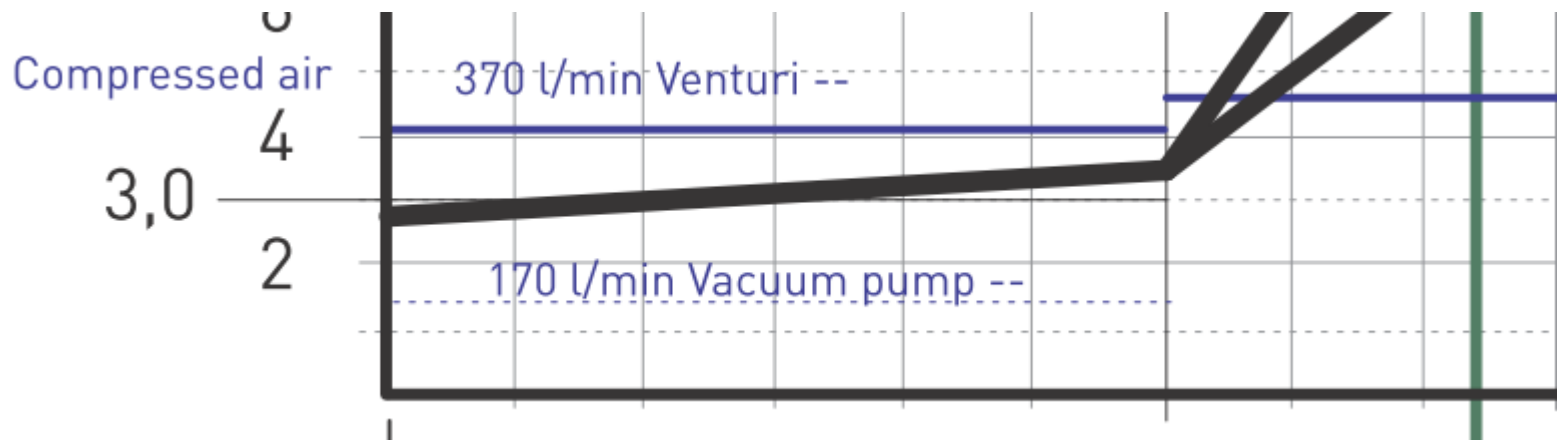
20'000 rpm
HSK63, A91Nm,
30 kW (S6, 40% ED):



Machining several
different materials

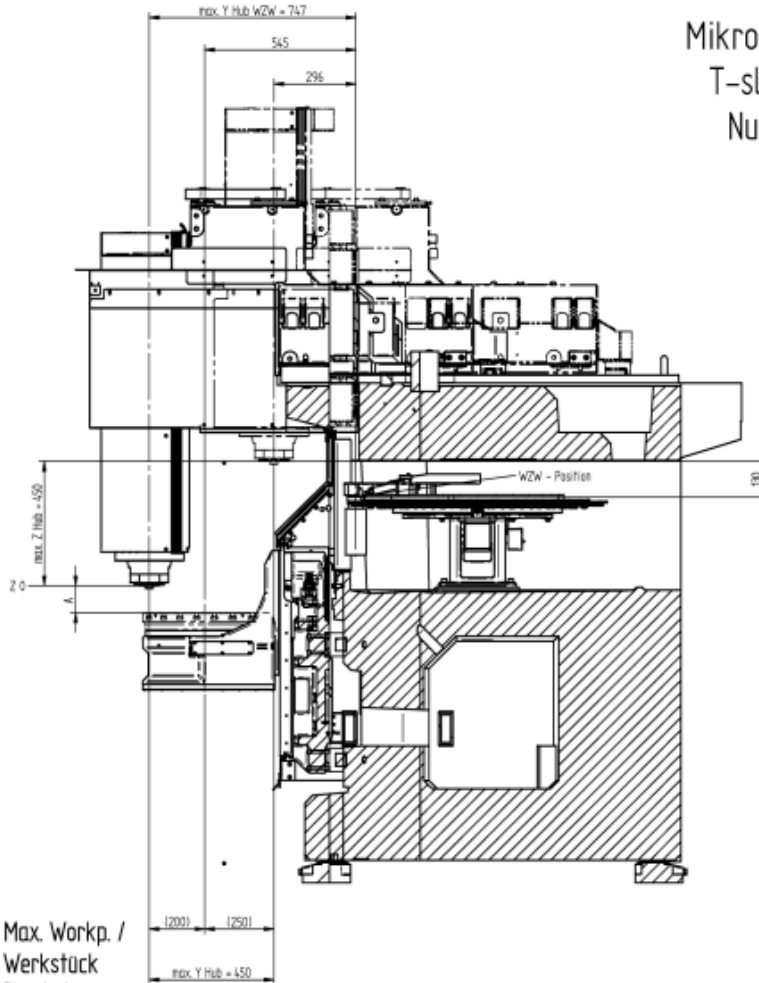
The 12'000 rpm and the 20'000 rpm spindles are also available with **TSC**.

Energy consumption



- 600.50/03 Vacuum spindle oil extraction

Work area T-slot

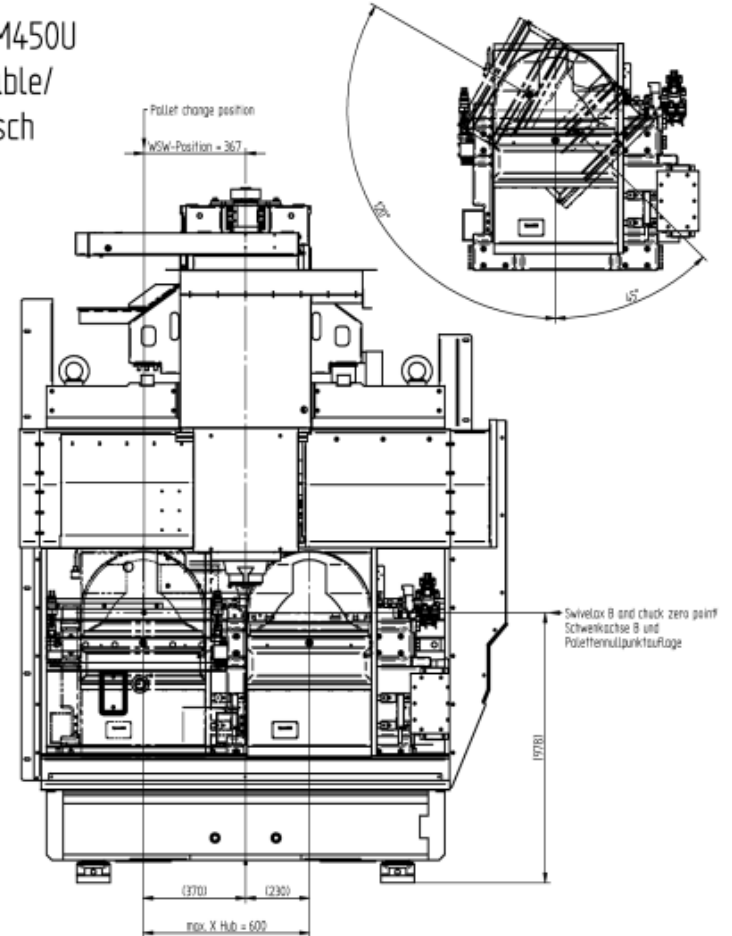


Max. Workp. /
Werkstück

Diameter/
Durchmesser 450mm
Height from surface T-slot table/
Höhe ab der T-Nuten-Tischoberfläche 450mm

	Mass A
HVC212 HSK-A63 20'000rpm	98.4
HVC230 ISO 40 12'000rpm	75.4

Mikron HPM450U
T-slot table/
Nutentisch



Zusätzliche Bearbeitungsparameter		Nennmax über		Nennmax bis		Nennmax über		Nennmax bis		Nennmax über		Nennmax bis		Nennmax über		Nennmax bis	
Trucken	SpW 1	SpW 2	SpW 3	SpW 4	SpW 5	SpW 6	SpW 7	SpW 8	SpW 9	SpW 10	SpW 11	SpW 12	SpW 13	SpW 14	SpW 15	SpW 16	SpW 17
...

Bearbeitungsbedingungen	Material	Gr. des W. / mm	Werkstoff	Gr. des W. / mm	Werkstoff	Gr. des W. / mm	Werkstoff	Gr. des W. / mm	Werkstoff	Gr. des W. / mm	Werkstoff	Gr. des W. / mm	Werkstoff	Gr. des W. / mm	Werkstoff	Gr. des W. / mm	Werkstoff
...

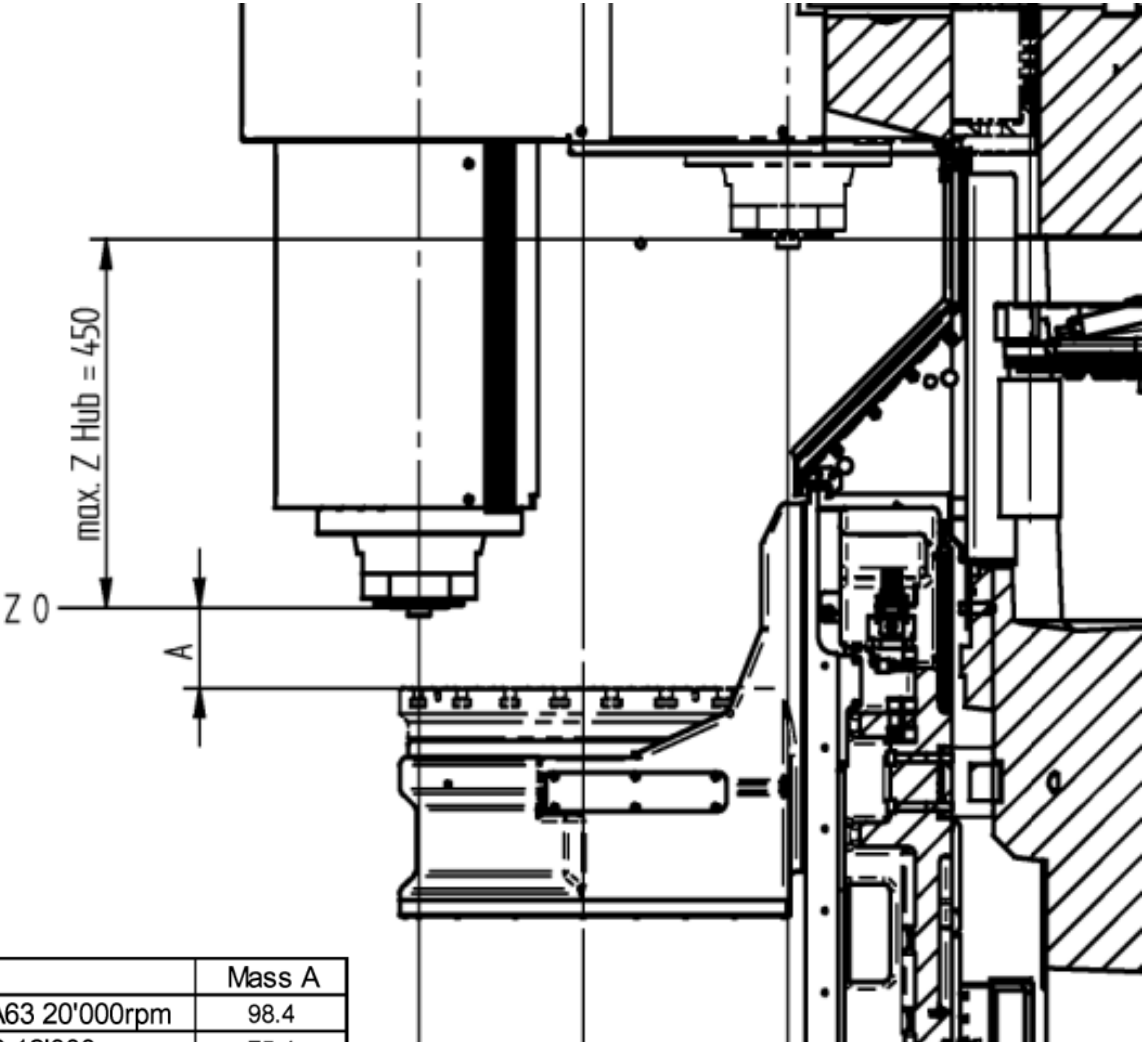
Zusätzliche Bearbeitungsparameter		Nennmax über		Nennmax bis		Nennmax über		Nennmax bis		Nennmax über		Nennmax bis		Nennmax über		Nennmax bis	
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...



Bearbeitung
Arbeitsraum Mikron HPM450U
Lüftung nach Mikron UDM / CH1

Dokument / Material
1099917
0000000

Work area T-slot



	Mass A
HVC212 HSK-A63 20'000rpm	98.4
HVC230 ISO 40 12'000rpm	75.4



Wide choice of RTT (Rotary Tilting Table)

Pallet versions

- System 3R (Dynafix, GPS)
- Erowa (UPC)
- others on request

Table versions

- Table top dia 450 mm,
parallel arrangement of T-slots
- Ergonomically optimized
 - Low charging height
 - Short charging depth
- Cartesian layout of B and C axes



Powerful HPM-Machining

Rotating axis C

Range of rotation:	n x 360°
Rapid rotary speed:	50'400°/min or 140 min ⁻¹
Rotary acceleration:	50 rad/s ² or 3000°/s ²
Max rotary torque [Peak]:	310Nm
Clamping torque C-axis:	1200 Nm

Swivel axis B

Swivel range:	- 120° / + 45°
Rapid swivel speed:	18'000 °/min or 50 min ⁻¹
Swivel acceleration:	12 rad/s ² or 700°/s ²
Max. swivel torque [Peak]:	530 Nm
Clamping torque B-axis:	1200 Nm

Max. Weight on table: 150 kg

Large tool magazine diversity

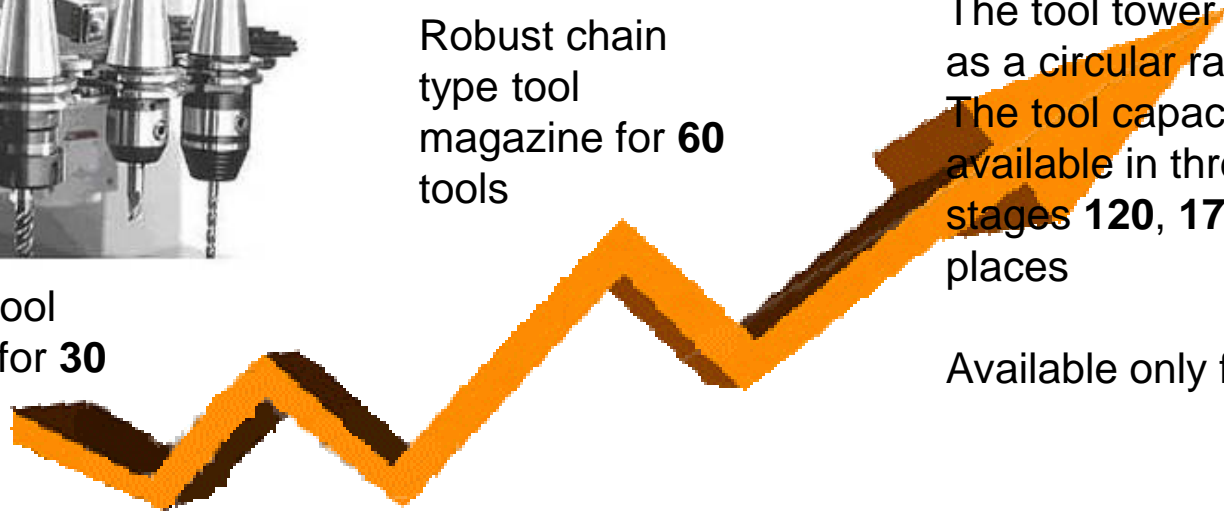


Disc type tool magazine for **30** tools

Robust chain type tool magazine for **60** tools

The tool tower is built as a circular rack
The tool capacity is available in three stages **120, 170 or 220** places

Available only for HSK!



MIKRON HPM 450U – chip conveyor

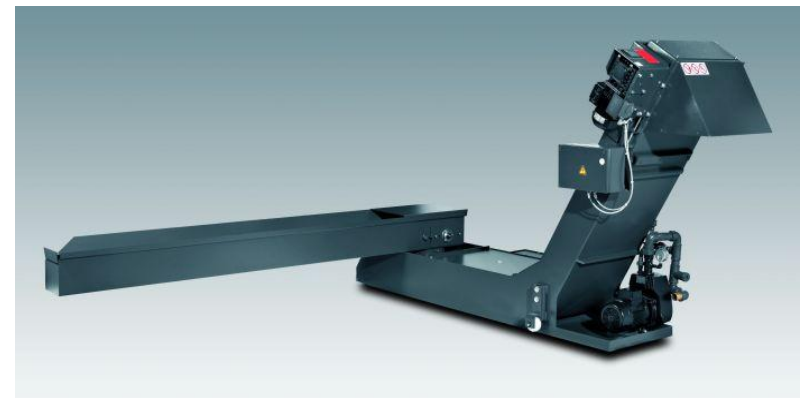
- Wider chip conveyor opening (400 mm)
- Removal over entire width
- Coolant volume approx. 210 l
- Better filtration with edge splitting filter (500 µm)
- Optimized sediment basin (small and accessible)
- MOCO (overload protection)
- Very high production reliability
- Complies with latest safety requirements
- Plug connection machine/conveyor



MIKRON HPM 450U – chip conveyor

for higher requirements

- “Knöll” chip conveyor
- Advisable for floating chips
- Better filtration with band filter





- Heidenhain iTNC 530 – WOP workshop optimized programming
- On PC processor based
- Parallel programming
- 15" color screen
- Standard Ethernet-card

Benefits:

- Short introduction training, easy and secure handling
- Ergonomic
- DNC-able / Network able
- Extendable, adaptable
- Movable hand wheel included



Never change a winning team

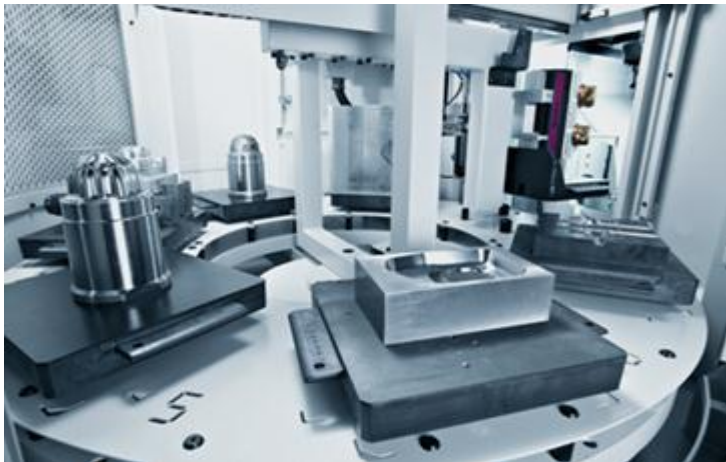
- Concept of two doors – with perfect view into the working area
- Unique access to the work piece
- Design is based on the popular MIKRON HPM Design
- Perfect automation with manual or crane loading of pallet changer





Integrated pallet magazine

- Automation on smallest footprint
- System 3R, Dynafix (280X280)
- System 3R, Dynafix (350X350)
- Erowa, UPC (320x320)
- System 3R, GPS (240x240)
- other systems on demand
- 7 pallets (e.g. Dynafix 280)
- 10 pallets GPS
- Best value for money in the market



Robot Interface



- Layout of the chip conveyor
 - 45° to the back
 - 90° to the front
- For the loading and unloading of the MIKRON HPM 450U with a robot system (Erowa, System 3R ...)



Automation - Robot





- ITC Intelligent Thermal C.
- ITC 5X

Accuracy



- APS Advanced Process System
- APS extended

Protection



Productivity



- RNS Remote notification system
- DXF File import
- DNC Remote network access on control





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