



**9.1.2 Machine number**

For inquiries and placing orders for spare parts, always communicate the machine number and the type of control system.

If the inquiry refers to a definite sheet of the Operating Instructions, always indicate the respective page number, too.

**Rating plate on electrical cabinet**

<b>MIKRON</b> 		Mikron AG Nidau Ipsachstraße 16 CH-2560 Nidau	
Type	UCP 1350 iTNC 530	11200	kg
Maschinen Nr. No. de machine Machine No.		73.XX	
3 Phasen 3 Phases	400	V	50
			Hz
	125	A	58
			kW
Steuerspannung Tension du circuit de commande Control circuit voltage		24	VDC
Schallpegel Sound level Niveau sonore		75	dB(A)
Baujahr Model Modle		2002	
			

**Control**

Continuous path control "Heidenhain" ITNC 530

**NC rotary table Ø 1'100**

Clamping surface:	Ø 1100 mm x 1000 mm
Table load (centre)	1500 kg
T-slots (parallel):	8 x 18H12, 1 ref. slot 18H7 (distance 100 mm)
Centering bore:	Ø 50 H6
Clamping torque:	7000 Nm
Mass inertia moment:	75 kg m <sup>2</sup>
Rapid traverse:	40 rpm. (S6)
Table height over floor:	Approx. 1120 mm
Drive:	direct, torque motor
Driving torque:	15'000 Nm (20% CD)

**Cooling system**

External coolant supply:	30 l/min., 3 bars (pump capacity)
Internal coolant supply (option):	30 l/min., 40 bars (pump capacity)
Scraping conveyor container	160 l
Coolant unit clean container (option)	approx. 650 l
Handwashing unit	10 l/min, 1 bar (pump capacity)

**Swivel axis (A-axis)**

Swivel range NC:	+15° to -120°
Measurement system:	Direct, absolute
Clamping principle:	Hirth rings
Swivel speed, max. advance:	3000°/min.
Max. operating swivel torque	600 Nm (S6, 40%)
Swivel time 0°/90°	1,7 s

**9.2.2 Tool changer**

**Tool magazine**

**42 fold changer**

Number of magazine positions	46 position coded or variable storage
Tool retention:	ISO40/DIN 69871 option. HSK 63 DIN 69063-1
Max. tool diameter:	80 mm compl. occup. / 130 mm part. occup.
Max. tool length:	300 mm
Max. tool weight:	8 kg
Max. Magazine load:	200 kg
Chip-to-chip time according to VDI 2852	approx. 11 sec. vertical

**9.2 Technical data**

**9.2.1 Performance data/machine**

**Working areas UCP 1350** Longitudinal X: 1350 mm with the rotary table or angle table  
 Cross Y: 1150 mm  
 Vertical Z: 700 mm with vertical work spindle  
 895 mm with horizontal work spindle

**Distance spindle face**  
 (nominal taper position resp. plane position)  
 to the centre of swivel registered as an example System folder

**Work spindle 12'000/15'000**

Speed range: 0 - 12'000 rpm, optional 15'000 rpm  
 Acceleration to the maximum speed: approx. 2.5 sec.  
 Power: 24 kW S6 (S6 = 40% CD, TS = 2 min.)

Torque: 191 Nm (S6=40%CD)  
 Tool retention HSK-A63/DIN 69063-1 DIN 69893 or  
 ISO-B-40/DIN 69871/DIN 69872

Max. tool diameter 12'000/15'000: Ø 130 mm  
 Bearing system: Ceramic-hybrid Ø 70/Cronidur-St  
 (Option)

Lubrication: Long-term grease  
 Cooling: Water with anticorrosive

**Work spindle 24'000 (option)**

Speed range: 0 - 24'000 rpm  
 Acceleration to the maximum speed: approx. 3.1 sec.  
 Power: 25 kW S6 (S6 = 40% CD, TS = 2 min.)

Torque: 62 Nm (S6=40%CD, TS = 2min.)  
 Tool retention HSK-A/B63/DIN 69063-1

Max. tool diameter: Ø 63 mm  
 Max. tool length: 220 mm

Lubrication: Oil-air  
 Cooling: Water with anticorrosive

**Feed drive**

Rapid traverse X, Y, Z: 32 m/min.

Way measuring system X, Y, Z: Linear meas. scale (direct), incremental

Max. feed force: 10 kN

Feedrate X, Y, Z: 0 - 10'000 mm/min.

## 9.3 Conditions with regard to connection and the environment

### 9.3.1 Ambient conditions

Max. ambient temperature permitted:	+ 10 ... + 35° C (for gen. function)
Max. relative humidity permitted*:	75 % humidity class F
Max. installation height**:	1000 mm
Max. room temperature fluctuation allowed to assure a high degree of precision	22± 1°C

### 9.3.2 Electrical supply data

Total installed rated load:	13 kW
Control voltage:	24 V DC
Standard service voltage and frequency:	3x400 V-50/60 Hz
EMV- noise protection as per:	EN 50082-1 and EN 50082-2
Degree of radio interference as per:	EN 55011 type A

Line fuse rating at 400V / 50Hz: 30 AT  
 Characteristics:  
 Protection not over  
 Fi protection switch.

Cross-section of leads at  $U_N$  400V: \*6 mm<sup>2</sup>  
 Motors, electric cabinet and operating panel: IP 54

Otherwise pay attention to the instructions in the „Electrical documentation

\* The national regulation must be observed.

### 9.3.3 Mains requirements\*\*

Permitted fluctuation of mains frequency	± 2 %
Permissible fluctuation of mains voltage (no-load and full load)	+6/-10%
Permissible mains interruption at $U_N$	max. 10 ms

If the network provides another voltage as 3 x 400 V it is necessary to superpose a transformer.

\*\* Complying with the stipulations of IEC 204-1(International Electrotechnical Commission)

### 9.3.4 Voltage stabilizer

If such large voltage fluctuations occur in the mains, that the operating voltage cannot be guaranteed (see chap. 9.2.5) at all times, we also recommend the use of a voltage regulator.

It should be noted that in power supply networks of low power, additional voltage losses may occur as a result of undervoltage or higher currents, which the regulator may not be able to compensate for. In such cases it is necessary to obtain detailed information about the mains conditions.

Furthermore it has to be taken into consideration, that our machines use regenera-

**92 fold changer**

The changer features two superimposed chain magazines, each for 46 positions, thus the changer accommodates 92 tools

Number of magazine positions	92 position coded or variable storage (within the upper/lower magazine)
Tool retention:	ISO40/DIN 69871 option, HSK 63 DIN 69063-1
Max. tool diameter:	80 mm compl. occup. / 130 mm part. occup.
Max. tool length:	300 mm (190 mm in the under magazine)
Max. tool weight:	8 kg
Mac. Magazine load:	200 kg
Chip-to-chip time according to VDI 2852	approx. 11 sec. vertically (only valid for upper magazine)

**9.2.3 Weight**

Machine weight (without accessories, options swivel range service doors)	11'200 kg
Space requirement L x W x H)	4130 x 3680x 3150 mm





tive braking, which means that energy is feed back to the network during axes or spindle decelerations. This can destructive to an unsuitable power stabilizer. Therefore a power stabilizer must be chosen according to the actual conditions and cannot be offered on a general recommendation. For further details please ask your local Mikron Agency or contact the After Sales Service at Mikron AG Nidau directly.

### 9.3.5 Pneumatic connection data

Compressed-air supply shall be ensured with a minimum flow rate of 300 l/min at a pressure of more than 6.3 + 0.5 bars. Compressed air shall be fed to the filtration/ control unit through a line of at least 12 mm inner diameter.

The quality of the compressed air is determined acc. to ISO 8573.1 (quality 5.4.5). The temperature if the compressed air should be equal to the one of the machine surroundings.

If there is a pressure loss below 5 bars, an error message is displayed and the machine is stopped.

### 9.3.6 Quality characteristics

The UCP is subjected to the severe Mikron quality regulations. Each machine is checked in the works according to VDI/DGQ 3441 resp. DIN 8615 section 4. The test results are registered in a protocol.

Axes		Y;Z	X	C	A
Positioning accuracy:	P	8 μm	10 μm	8"	
Position deviation:	Pa:	4 μm	6 μm	6"	
Reversing spread:	Umax:	4 μm	6 μm	2"	
Positioning spread:	PSmax:	5 μm	7 μm	3"	6"

The quality characteristics are valid for an ambient temperature of 22°C +/-2K.

With regard to the machine heating up due to long-term high speed operation, within this ambient temperature range, a zero shift of 40 μ in Z has to be taken into account. The same applies to the use of thermally unstable coolant. For higher requirements, please refer to the options.

In order to minimize the thermal error, the system can be equipped optionally with an electronic error compensation device.

### 9.3.7 Installation plan and working ranges



**Failure to comply with the conditions for the installation and the surroundings can result in the installation being damaged. At the same time, the manufacturer's guarantee will become void.**