

**TECHNICAL DATASHEET**

**CNC – Vertical - Machining Centre**

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manufacturer	<b>UNISIGN</b>
type	<b>UNIVERS 6</b>
control	<b>SIEMENS 840 D</b>
built	<b>2006</b>

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**Working area**

Size Clamping table 1	850 x 1.500	mm
Size Clamping table 2	850 x 1.200	mm
Table load max.	1.000	kg
Tables height-adjustable	3 x 65 mm	

**Travels**

X-axis (longitudinal)	3.000	mm
Y-axis (lateral)	800	mm
Z-axis (vertical)	600	mm

## Feeds

X-, Y- and Z-axis, stepless	5 - 32.000	mm/min.
Max. feed power X- and Y-axis	10.000	N
Max. feed power Z-axis	16.000	N
rapid in X / Y / Z	32	m/min

## Working spindle

AC-main drive – water cooled		
power, S6 -60% ED	26	kW
Gear steps	2	i = 1:4
Speed, stepless	30 – 6.000	1/min
Max. torque 40% ED	650	Nm
Tool taper	SK 50 – DIN 69871 Form A	
Spindle diam. in front bearing	90	mm 6-fold bearing
Max. boring capacity	Ø 100	mm In steel C45
Max. Ø rigid tapping	M 40	In steel C45
Max. milling power	600	cm <sup>3</sup> /min In steel C 45

## Tool changer

Travelling tool magazine placed on portal column		
Tool places on travelling magazine	52	Plätze
Additional tool magazine	83	Plätze
Tool change time in spindle	ca. 5	sec
Chip to chip time	ca. 9	sec
Tool diam. max.	180 / 120	mm Neighbour places free /occupied
Bridge tools	max. 250 x 180	mm
Tool length max.	400	mm
Tool weight max.	15	kg
Tool swivelling system for providing tools from the magazine in a horizontal position for automatic insertion in angle-, boring- and milling head		

### CNC-control

#### SIEMENS SINUMERIK 840 D

Combined with digital drive control, hard disk storage, 15" TFT – color screen, 1 Gbyte hard disc, external machine control panel, QWERTY-full keyboard, standard drilling and milling cycles, threading without compensation chuck, lineare interpolation, circular interpolation, processing level swivel, helical curve etc. Siemens tool management for managing tools and tool magazine, program input while editing, spindle power display, electronical handheld terminal, USB-interface, UNISIGN diagnostic system.

### Chip conveyor

- Installed longitudinally below the table
- Ejection right
- Discharge high ca. 1.200 mm
- Integrated coolant tank with lifting pump

### Guides, drive and measuring system

- All axis drives with digital servomotors
- Direct measuring system for X- and Y-axis
- Z-axis with encoder measuring system
- X-, Y- and Z-axis with high-precision linear guides for maximum precision and dynamics
- Steel covers of the X-axis with roller guide and prallelogram drive

### Coolant equipment

- Cooling through spindle including paper band filter
- Clean water tank ca. 450 l, 2 clean water pumps:
- Normal coolant supply 40 l/min 4 bar
- High pressure pump 40 bar
- Monitoring the coolant pressure
- Internal coolant through spindle centre taper DIN 69871 Form A
- Clamping bolt DIN 69872

### Angle Boring- and Milling head

angle milling- and boring head, automatic changing over Pick Up Station

Automatic positioning	72 x 5 °	(Hirth)
speed, stepless	30 – 4.000	1/min
Max. torque 40% ED	650	Nm
power 40% ED	26	kW

### Complete enclosure, pendulum machining

When the doors are closed, the working space is completely closed. The automatic sliding doors allow loading by crane. Removable cover for pendulum machining. Opening in the left sid panel 400 x 500 mm for insertion of long workpieces.

### Measurement, weight

Floor space without swith cabinet	ca. 8,0 x 4,5	m
Machine height	ca. 4,5	m
Machine weight ca.	20.000	kg

### Electrical supply data

Total connected load	55	kVA
Operating voltage	400	V
Operating frequency	50	Hz

### equipment

- Complete enclosure
- Radio touch probe manufacturer M&H
- Angle milling head incl. Pick Up Station
- Coolant equipment with 2 coolant circuits and internal coolant through spindle
- Chip conveyor
- Cooling unit for spindle
- Div. tool tapers SK 50