



UNISIGN

Univers 6

**Travelling Column Vertical
CNC Machining Centre**



Univers 6

UNISIGN

The economical solution to flexible manufacturing!

Since its introduction at the higher end of the UNISIGN range of travelling column machining centres, UNIVERS 6 has gained the reputation of an extremely flexible and reliable machining platform that, due to its flexible design, has found numerous applications throughout the metalworking industry.

The large X-axis travel of 2.000 to 18.000 mm in combination with the vertical clamping front enable the machine to be easily adapted for very specific applications, both as a stand alone machining centre or as part of a completely automated Flexible Manufacturing System (FMS).

The vertical clamping front, which has become a trademark for the UNIVERS machines, enables integration of very specific features such as customer specific fixtures, vertical turning stations, rotating and tilting tables for true 5-axis machining, horizontal and/or vertical rotary tables as A-, B- or C-axis, etc.

The capability of dividing the X-axis in two individual work zones for pendulum machining adds further to the flexibility of UNIVERS 6. Pendulum machining enables loading of one zone while machining continuous in the other zone, thus resulting in nearly 100% spindle up-time.

The standard enclosure guarding with electronic safety door locks may be completed with an additional enclosure guarding for the top and electrostatic filter units for even higher operating comfort.

Various spindle configurations are available as 6.000 rpm direct drive for general machining tasks, 6.000 or 9.000 rpm Gearbox drive for heavy duty cutting or even integrated motor spindles of up to 25.000 rpm for high speed cutting.

The chain type tool storage is located on the travelling column of the machine and it offers space to 36 tools. Optionally, it may be extended to hold 52 tools and include a pick-and-place unit to automatically load tools into the UNISIGN Right Angle Head (option).



UNIVERS 6 with full enclosure guarding

STANDARD CONFIGURATION



UNIVERS 6 in X=4.000 mm execution with several options

- Travelling column vertical CNC-machining centre with vertical clamping front
- Working area X-axis 2.000 mm; Y-axis 600 mm; Z-axis 600 mm
- Digital main drive AC 26 kW (S6-60%)
- Direct driven main spindle 6.000 rpm
- Digital AC Servo drives on all axes
- High accuracy linear guides on all axes
- Automatic tool change from 36-pocket tool storage mounted on the travelling column
- Taper size ISO 50 (DIN 69871/72 Form A)
- Tool change time approx. 9 sec.
- Tool taper cleaning by compressed air
- Full enclosure guarding (except for top) with electronic safety door locks
- Chip container with integrated chip conveyor and coolant tank of 320 litres
- Flood coolant 40 l/min at 4 bar
- Automatic central lubrication with function control
- Two-tone machine painting RAL 7035/7024
- SIEMENS Sinumerik 840D CNC-Control
- TFT 15" colour monitor
- SIEMENS tool management system
- Rigid tapping
- User interface under MS-Windows
- Remote access via integrated modem
- Ethernet connection

Column Vertical CNC Machining Centre

AVAILABLE OPTIONS

Selection of available options

- Extension to $X_{max} = 18.000$ mm per 1.000 mm
- One large working area or two individual working zones ('Pendulum Machining') with separator screen
- Pendulum machining software
- Gearbox drive 6.000 rpm / 26 kW / 650 Nm
- Gearbox drive 9.000 rpm / 26 kW / 650 Nm
- Extension of the tool storage to 52 pockets
- Right angle head, incl. automatic tool change
- Tool break detection
- Tool identification with Balluff chips
- Coolant trough the spindle, incl. filter unit
- Angular tables in various sizes
- NC rotary tables in various sizes as A-, B- or C-Axis
- Position feedback with linear scales in X-, Y- and Z
- Radiographic part probe
- Coolant spray gun for cleaning parts and fixtures
- Machine cooling system
- Full enclosure guarding with mist collector filters
- Manual pulse generator
- Heidenhain iTNC 530 CNC-control



UNISIGN right angle head with automatic tool change from tool storage and automatic attachment procedures from pickup station (located just outside the working area)



UNISIGN vertical turning station with turning tool adapter



NC rotary table, designated as A-axis, with tail stock centre. Rotary table is located just outside the machine work area for maximum work area exploitation



Wireless measuring probe for gauging / calibrating of reference points. The receiver is connected to the CNC control via an interface

APPLICATIONS

Components typically suite for UNIVERS 6



UNIVERS 6 as a flexible manufacturing system for complete machining of forklift mast channels



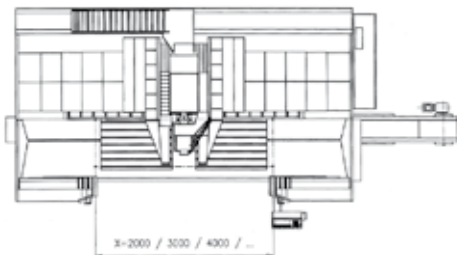
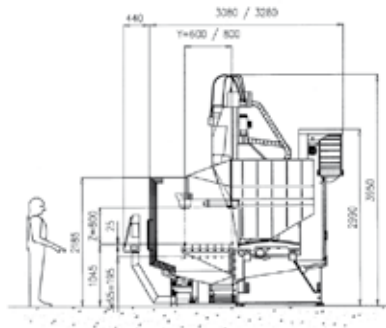
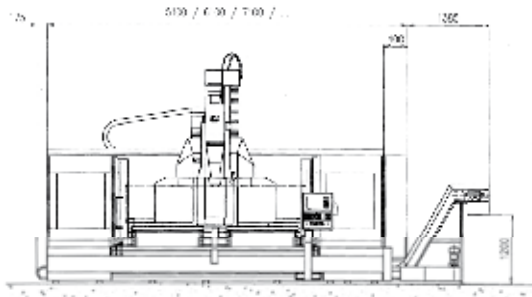
UNIVERS 6 as a flexible manufacturing system for complete machining of truck front axles



UNIVERS 6 with NC-table and tail stock centre for complete machining of bogey frame wheel carriers



TECHNICAL SPECIFICATIONS



Working area

X-axis, column travel	mm	2.000 to 18.000
Y-axis, cross travel	mm	600 or 800
Z-axis, height travel	mm	600
Distance spindle nose to table top	mm	25 - 820

Working area

Angular table height setting	mm	195 (3 x 65)
T-slots vertical clamping front (4 pieces)	mm	18H9 (1x), 18H12
T-slots angular table	mm	18H8
Distance T-slots	mm	125
Admissible table load, each	kg	1.000

Milling & drilling spindle

Main drive, AC (S6-60%)	kW	26
(S1-100%)	kW	20

Spindle speed

- Standard, direct drive	rpm	6.000
- Optional, gearbox drive	rpm	6.000
- Optional, gearbox drive	rpm	9.000

Max. available torque

- direct drive,	Nm	165
- gearbox drive	Nm	650
Main spindle bearing diameter	mm	90

Tool system

<i>Rotating tool storage around moving column</i>		
Taper size (DIN 69871/72 Form A)	#	50
Number of pockets	-	36 / 52
Maximum tool size		
- with loaded adjacent pockets	mm ø	120
- with empty adjacent pockets	mm ø	180
- depending on shape	mm	250 x 180
Maximum tool length	mm	400
Maximum tool weight	kg	15
Tool change time	sec.	9

Axis drive- and feed system

Digital AC-Servo drives

Rapid traverse	X-, Y- and Z-axis	mm/min	32.000
Feed rate	X-, Y- and Z-axis	mm/min	5 - 32.000
Feed thrust	X- and Y-axis	N	10.000
Drilling thrust	Z-axis	N	16.000

Capacity in C45

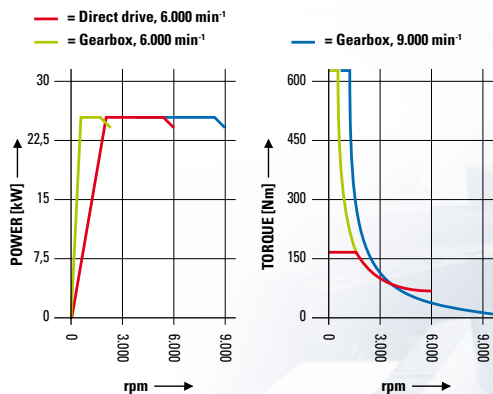
With 6.000 rpm gearbox drive

Drilling	mm ø	100
Tapping	-	M 40
Milling	cm ³ /min	600

Various

Power consumption, approximately	kVA	50
Electrical equipment for		400 V / 3 ph / 50 Hz

POWER/TORQUE CHARTS



We reserve the right for changes in technical specifications



PANNINGEN
THE NETHERLANDS

UNISIGN

The Unisign range of standard products, UNIVERS, UNI-PRO, UNI-PORT and UNICOM, are ideally suited for almost any machining task due to their flexibility. All configurations guarantee high productivity combined with competitive prices. The machining centres are developed and built by Unisign and supported by our well trained service technicians for fast and reliable service, direct from Unisign.

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