unisign

Uniport 6000

CNC Portal Machining Centre with Pallet Changer

www.unisign.nl

Uniport 6000

UNISIGN

The economical solution to flexible manufacturing!

Since the introduction of the UNIPORT portal machining centres, Unisign has become established as one of the world's leading manufacturers of portal type machining centres. Traditionally, the UNIPORT machines were available only as travelling bridge "gantry"-machines. The latest generation of UNIPORT 6000 machines, however, are available both as "gantry"-machines and as portal machines with moving table and pallet changer.

UNIPORT 6000 is the successor of the proven UNIPORT 6 machine. Flexibility, power, precision, reliability and service-ability are the main features of this entirely new series of machines. The large work envelope in conjunction with the powerful Unisign right angle milling and drilling head enable multi sided machining of large and bulky components.

The configuration with a stationary portal bridge with moving table with pallet changer make the machine predestined for almost any manufacturing application. From the machining of large welded fabrications and castings to the high speed machining of intricate and high precision aluminium components; a large selection of available options and accessories allow UNIPORT 6000 to be adopted to almost any machining task!

Many of the heat generating sub-assemblies are either installed thermally isolated from the machine or are included in a closed loop cooling circuit with heat exchanger, resulting in an extremely high thermal stability. This thermal stability in conjunction with the moving table concept make the machine predestined to be successfully utilized in manufacturing environments where highest accuracies are required.

The cartridge type milling and drilling spindle is installed easily exchangeable in the lower end of the ram. The upper end of the ram holds the main drive unit which consists of a two-stage gearbox with water cooled drive motor. A central drive shaft is installed between the drive unit and the main spindle.

For flexible multi-sided machining, the Unisign right angle milling and drilling head is available. This right angle head can be indexed in the horizontal plane in 5° increments (2,5° increments as option) via C-axis. For even more flexibility, the Unisign universal angular head is available which allows the tool to be positioned at almost any angle in 5° increments (option: 2,5°) via B- and C-axis.

The standard fully enclosed guarding section complies with the highest safety requirements and guarantees a comfortable and safe operation. The location of the control panel near the spindle and the large window in the operator access door ensure an excellent view on the machining process inside the machine.

The pallet changer includes two pallets, each with their dedicated loading station. The loading stations are installed at the far end of the X-axis travel, one on each side at the front of the machine. Two large vertical sliding doors offer access for the pallet changer to the machine moving table.

The control panel and the operator access door are located near the spindle for a comfortable operation.

CNC Port
with

STANDARD CONFIGURATION

- Portal machine with moving table and pallet changer
- Pallet length 3.000, 4.000 or 6.000 mm
  Pallet width 1.500, 2.000 or 2.500 mm
- Water cooled main spindle motor AC 36 kW
- Two-stage gearbox, automatically shifting
- Main spindle 6.000 rpm
- Digital AC-servo drives on all axes
- High accuracy linear guides on all axes
- Chain type tool magazine with 30 pockets for automatic tool change
- Taper size ISO 50 (per DIN 69871/72, Form A)
- Taper cleaning by compressed air
- Tool change time of 10 sec.
- Closed loop cooling system with heat exchanger for main drive, spindle bearings, spindle carrier, gearbox and electrical cabinet
- Hydraulic counter weight for the spindle carrier
- Steel telescope covers fort he X-axis, folding bellow covers for the Y-axis
- Integrated chip conveyor on each side of the moving table
- Guarding section with vertical sliding door for pallet changer access
- Coolant collecting tank with coolant feed pump 40 l/min at 4 bar
- Automatic central lubrication with function control
- Two-tone machine painting light grey RAL 7035/7024
- SIEMENS Sinumerik 840-D control
- Colour display 15”
- Remote access for teleservice via modem

tal Machining Centre
Pallet Changer

APPLICATIONS

Components, typically suited for UNIPORT 6000

1. **Large, high precision components for printing machines**

2. **Diesel engine manufacturing: machining of diesel engine casings**

3. **Large fabrications, such as rolling stock bogey frames and related components**

4. **High speed routing of large aluminium plates**

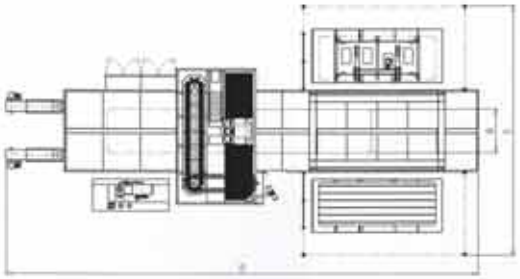
AVAILABLE OPTIONS

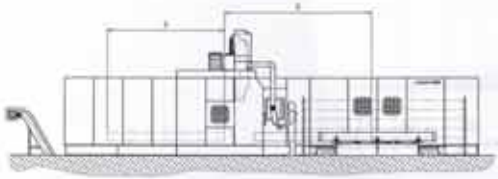
Selection of available options

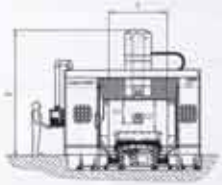
- Extended Z-axis travel of 1.000 mm
- Elevation of the cross rail for increased distance spindle nose to pallet top face of 1.300 mm
- Tooling system HSK 100-A per DIN 69893
- Main spindle 9.000 rpm / 720 Nm / 36 kW
- Tool magazine extension: one additional magazine with +61 / +69 / +77 extra pockets or two additional magazines with +122 / +138 / +154 extra pockets (depending on clearance between columns)
- Right angle milling and drilling head 4.000 rpm or 6.000 rpm
- Universal milling and drilling head 4.000 rpm or 6.000 rpm for combined A- and C-axis positioning in 5° or 2,5° increments
- High pressure through the spindle coolant supply
- Tool probe
- Tool identification system with data chips
- Tool life control with sister tool selection
- In-process tool break detection
- Spindle loaded measuring probe
- Handheld pulse generator with electronic hand wheel
- Ethernet connection via integrated network card
- Mist extraction system with electrostatic filter units
- Additional pallets

1. *Right angle head for horizontal milling and drilling operations.*
2. *Universal angular head for combined A- and C-axis positioning.*
3. *Narrow design right angle head for machining of less accessible areas.*

TECHNICAL SPECIFICATIONS



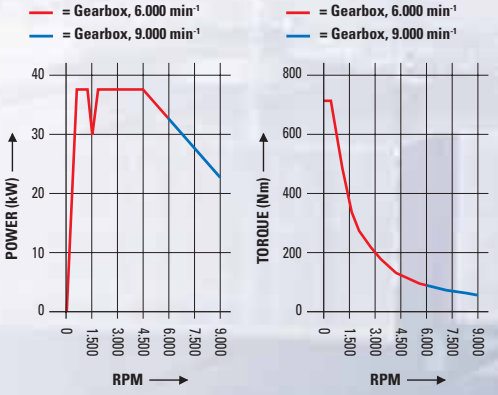




DIMENSIONS

[A] Pallet length	**3.000**	**4.000**	**6.000**
[X] X-axis	4.000	5.000	7.000
[D] Overall length	14.200	16.200	20.200
[B] Pallet width	**1.500**	**2.000**	**2.500**
[Y] Y-axis	2.000	2.500	3.000
[E] Overall width	8.500	10.000	11.500
[Z] Z-axis	**800**	**800**	**1.000**
[C] Vertical clearance	1.100	1.300	1.300
[F] Overall height	4.300	4.500	4.900

POWER/TORQUE CHARTS



Work Area

Number of pallets		-	2
Pallet size	length	mm	3.000 - 6.000
	width	mm	1.500 - 2.500
X-axis, table travel		mm	4.000 - 7.000
Y-axis, cross travel		mm	2.000 - 3.000
Z-axis, spindle height travel	standard	mm	800
	option	mm	1.000
Clearance between the columns		mm	2.000 - 3.000
Clearance under the cross rail		mm	1.100 - 1.300
Distance spindle nose to pallet top			
	standard	mm	300 - 1.100
	option	mm	500 - 1.300
	option	mm	300 - 1.300

Milling and Drilling Spindle

Main drive motor	(S6-40%)	kW	36
	(S1-100%)	kW	26
Spindle speed	standard	rpm	6.000
	option	rpm	9.000
Gearbox		-	2-speed
Maximum available spindle torque		Nm	720
Main spindle bearing diameter		mm	100

Tool System

Chain type tool magazine located at the column

Taper size DIN 69871/72, Form A		-	ISO 50
Number of pockets	standard	-	30
	option (1)		+61/+69/+77
	option (2)		+122/+138/+154
Maximum tool size			
- w. loaded adjacent pockets		mm	Ø 150
- w. empty adjacent pockets		mm	Ø 200
Maximum tool length		mm	450
Maximum tool weight		kgs	25
Tool change time		sec.	10

Axis Drive- and Feed System

Digital AC-Servo drives

Rapid traverse	X-, Y-, Z-axis	mm/min	30.000
Feed rate	X-, Y-, Z-axis	mm/min	5 - 30.000
Acceleration / deceleration	X-, Y-, Z-axis	m/sec^2	2,5 / 2,1 / 2,1
Thrust	X-, Y-axis	N	30.000
	Z-axis	N	20.000

Capacity in C45

With 6.000 rpm Gearbox Drive Spindle

Drilling	mm	Ø 120
Tapping	-	M 55
Milling	cm^3/min	1.000

Various

Power supply, approx.	KVA	55
Electrical cabinet		400 V / 3 ph / 50 Hz

We reserve the right to change technical specifications without prior notice.

UNISIGN

The Unisign range of standard products, UNIVERS, UNIPRO, UNIPORT 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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