



VEGA

Product Presentation

- [Advantages and Applications](#)
- [Main Features and Options](#)



ADVANTAGES AND APPLICATIONS

Advantages and Applications

Better performances

Higher Precision & Backlash Recovery

Coded linear scales up to 72 m stroke, with modular housing in metal tape adjustable with a special Heidenhain device.

Electro-welded structure with thermal stabilization to guarantee **high precision and stability** overtime, with thickness dimension of 10 mm and including internal ribs.

Dual Drive System: double motor for X, Y and Z axes Z in order to increase positioning accuracy and eliminate backlash.

Low-backlash ALPHA planetary gearboxes ≤ 1 arcmin.

Higher Rigidity

M4 rack and pinion module for greater rigidity.

Preloaded runner blocks, elongated version, mounted on **recirculating ball guides** size 45.

Increased number and distance between the runner blocks for higher rigidity.

Dual Drive System: double motor with electronic preload **to improve axis rigidity and stability.**

Higher Speed and Dynamic

Fast exchange arm to avoid dust or chips in the tool holders.

Increased tool change speed up to 10".*

M4 rack and pinion module to increase **the dynamics of the machine.**

Double bridge to increase productivity: both bridges perform the operations simultaneously.*

Safe & Clean Environment

The upper bellow limits the escape of dust and chips from the workstation area.*

Chip reader system for automatic recognition and information on the tool life cycle.*

Customizable suction systems, with air ducting and requalification (filtered air refilling) to **increase the internal cleaning of the working area.***

Tool changer with up to 200 positions, managed by a robot on the side of the machine.*

Dedicated cameras set on the spindle housing to **verify the working cycle and monitor unattended machining.***

* Optional

Enhanced precision

EXAMPLE: VEGA 2632

AXIS	TYPE	STROKE	POSITIONING PRECISION	REPEATABILITY
X	Linear	2600 mm	0,035 mm ($\leq 0,02/m$)	0,018 mm
Y	Linear	3200 mm	0,04 mm ($\leq 0,02/m$)	0,018 mm
Z	Linear	1500 mm	0,022 mm ($\leq 0,018/m$)	0,012 mm
C	Rotary	+/- 270°	30 arcsec	12 arcsec
A	Rotary	+/- 120°	30 arcsec	12 arcsec

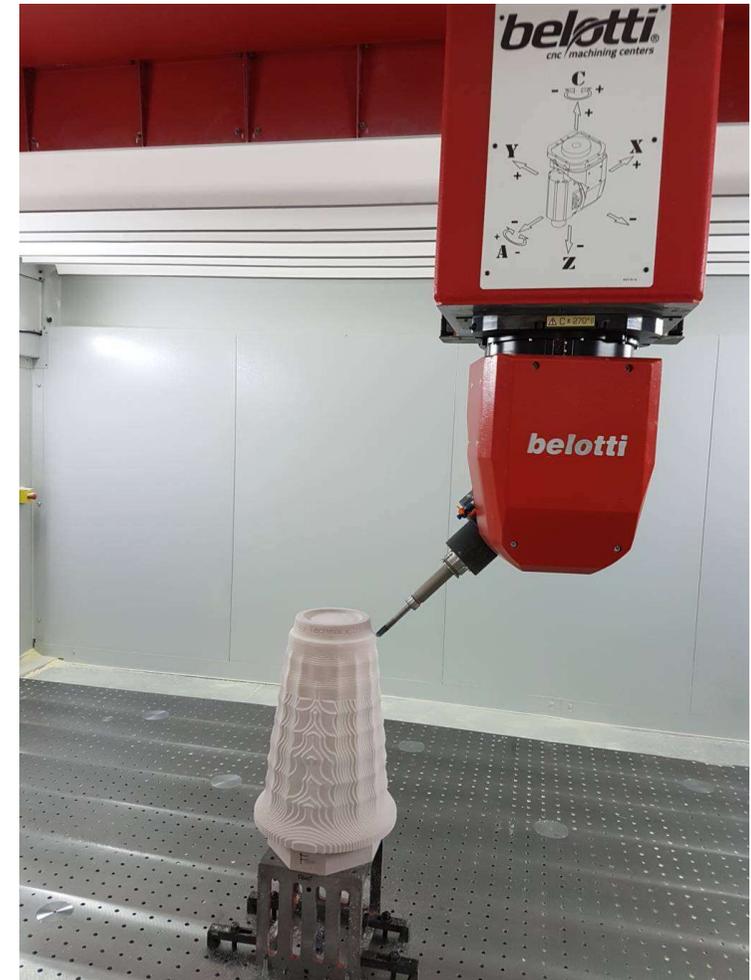
MAXIMUM ACCURACY FOR THE PRODUCTION OF RESIN PROTOTYPES AND COMPONENTS IN COMPOSITE MATERIALS OF LARGE DIMENSIONS.

Processed materials: composites (carbon, kevlar, fiberglass, honeycomb); resins; aluminium and light alloys.

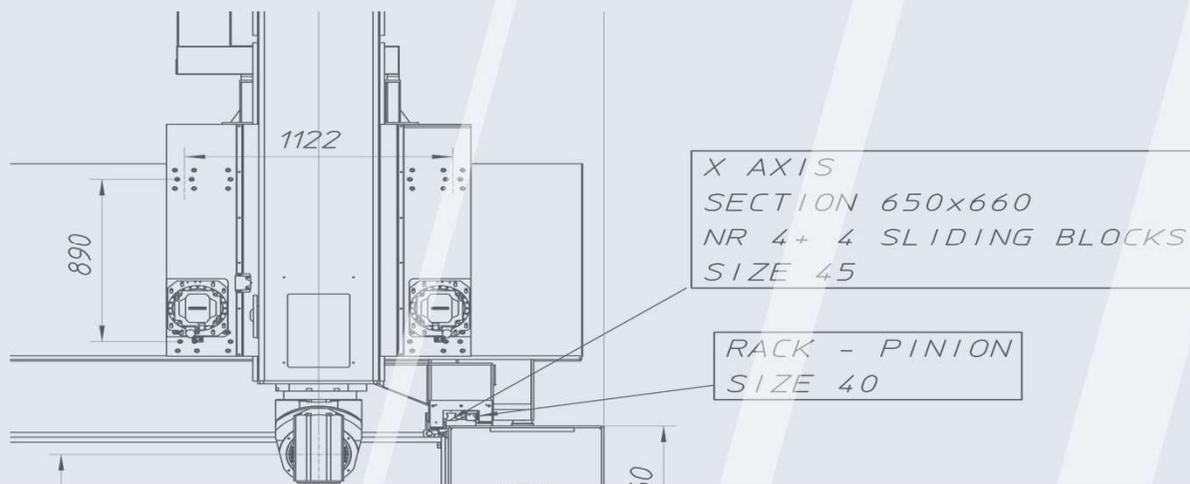
Application sectors:



AUTOMOTIVE | AEROSPACE | RAILWAY | MILITARY | PATTERNS & MOULDS

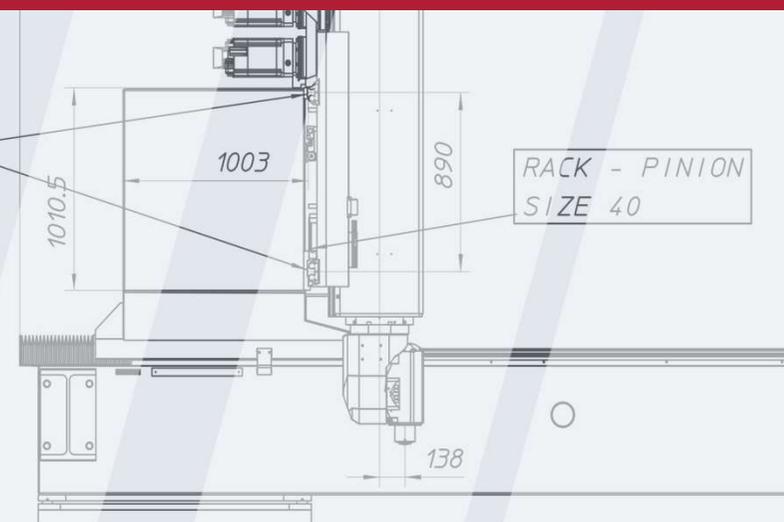


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MAIN FEATURES AND OPTIONS

Y AXIS
SECTION 1005x686
NR 4+ 4 SLIDING BLOCKS
SIZE 45



Description

VEGA Series machines are 5 axes simultaneous CNC High Speed Gantry Machining Centers enable **to best meet the needs of the automotive and aeronautical sectors and, more generally, of patterns production and components in different composite materials machining.**

VEGA

Axis	X	Y	Z	C	A
Stroke	2,6/6/8/12/17/20/ 23/30/43 m	3,2/4,2/6,2/ 7,2/8,8 m	1,5/2/3/3,3/4 4,2/5,3/6,9 m	+/- 270°	+/- 120°
Speed	100 m/min		45 m/min	44 rpm	40 rpm
Spindle	From 15 kW up to 42 kW at 24.000 rpm max.				
CNC	Siemens, Heidenhain, Fanuc				
Tool change	From 18 to 60 positions				
Linear accuracy	≤ 0,015 mm/m for linear axes				
Rotary accuracy	+/- 15 arc sec for rotary axes				
Measurement system	Heidenhain glass linear scales, 5 micron resolution				

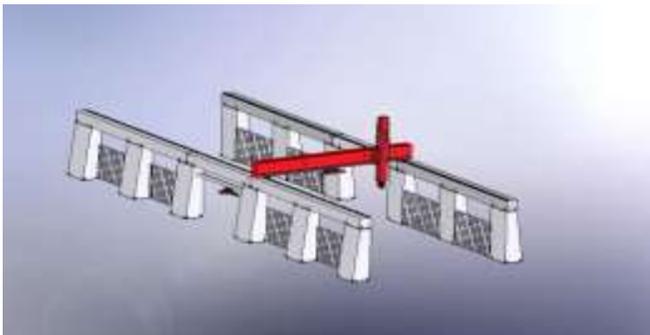
Main Features and Options

Structure

Cartesian structure featuring a motorized suspended bridge structure sliding on the two extremities, made of very thick welded heat treated steel.

The rigid structure is designed to offer a **unique combination of performance: short processing times, flexibility, high surface finish quality and durability.**

Rigid portal structure suspended on modular beams and columns on both sides.



Main Features and Options

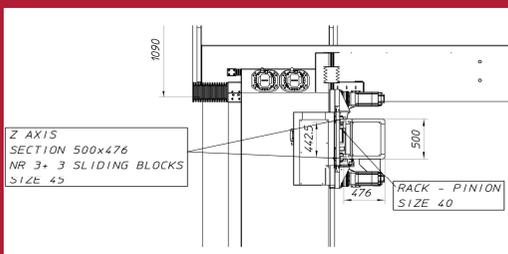
Handling and axes

Longitudinal movement (X axis): made by a weight-optimized and structurally rigid portal, for high dynamic performance and precision.

Transversal movement (Y axis): made by the carriage which runs on the bridge, and on which is mounted a vertical ram (Z axis) with high bending strength for large ranges.

The X and Y axes are driven by a system realized by two motors having two helicoidal pinions matched on the same rack. **The backlash recovery and mechanical compensation reduction** are obtained thanks to **the digital servo-drive**, which generates a mechanical preload between the two pinions.

X axis
Y axis



X axis



Y axis

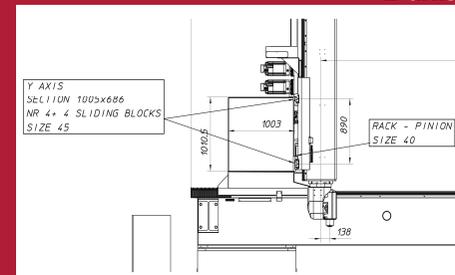
Handling and axes

The **Z axis** also is **driven by a system realized by two motors** having two helicoidal pinions matched on the same rack and is **equipped with electrical and brake balancing on the servomotors for locking the movement in the event of a power failure.**

The **fourth axis (C)** rotates the unit around the vertical Z axis and the **fifth one (A)** inclines the spindle in the vertical plan.

The rotary axes are equipped with special gearbox having a system for the backlash recovery.

Z axis



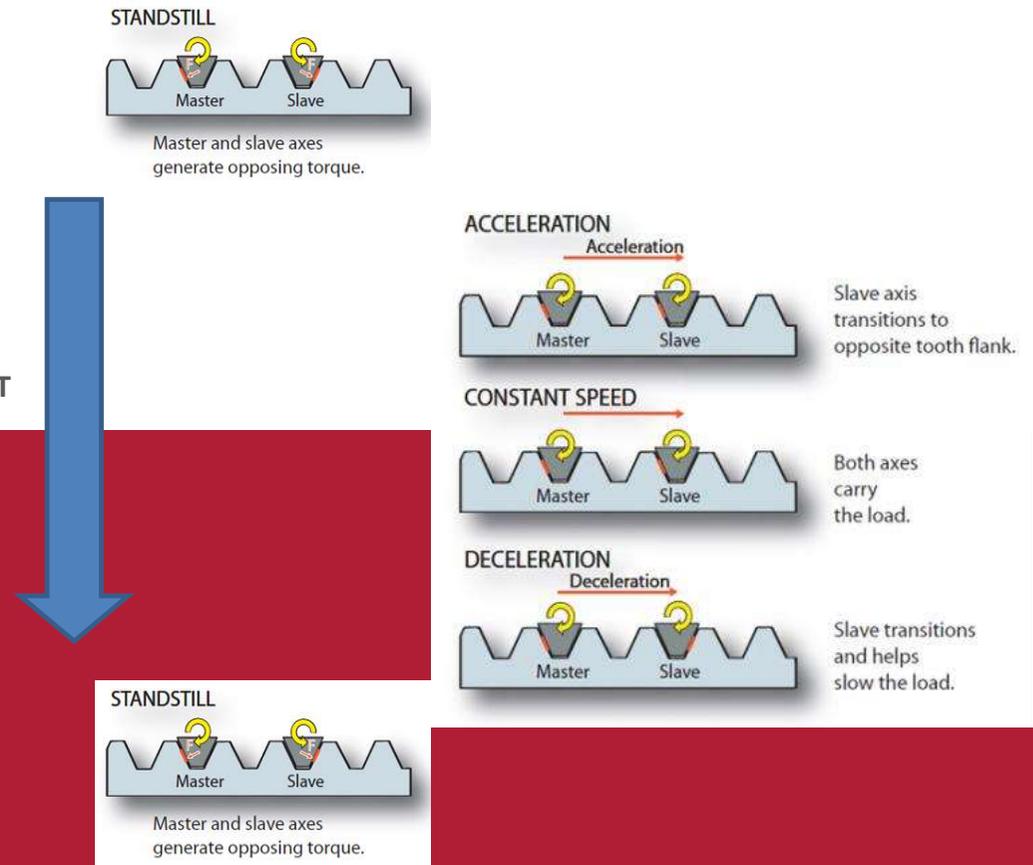
Handling and axes

DOUBLE MOTOR ELECTRONIC PRELOAD

This technical solution allow the **recovery the backlash due to the inversion movement of the axis.**

The diagrams alongside explain how the system works.

MOVEMENT



ADVANTAGES

- The electronic preloading system of the linear axes, compared to a single motor system, **eliminates the backlash and makes the axis more rigid and ready for the machining load.**

Main Features and Options

Handling and axes

STRUCTURE AS AN ADVANTAGE: Y AXIS

Double motor to eliminate play with rack pinion size 40 mm

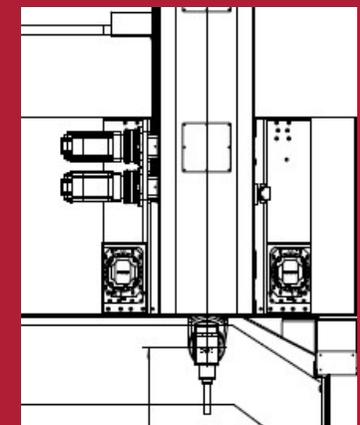
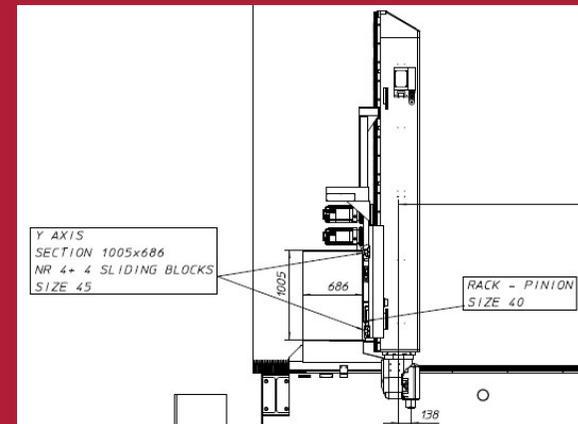
4 + 4 recirculating runner blocks size 45

Distance between the external runner blocks NEW SERIES
1120x890 mm



ADVANTAGES

- The performance of the VEGA Series new generation has been improved by increasing the number and the distance between the external runner blocks, to achieve greater rigidity.



Handling and axes

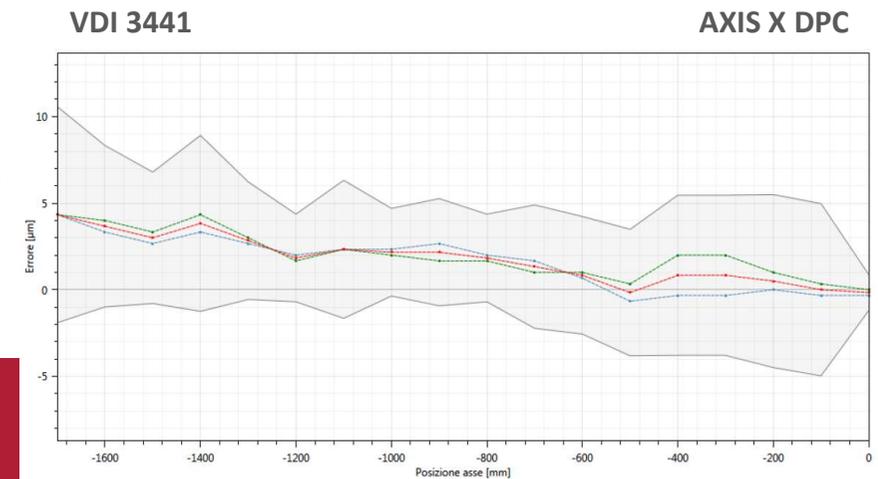
VDI-DGQ 3441

Specified machine accuracy can be achieved at a constant environmental temperature of 20°C (+/-2°C).

Even in the absence of linear scales, accuracy can be optimized by creating a calibration table with axis position detection by means of an interferometer. The calibration table is stored in the CNC memory. The CNC uses this data to automatically compensate the positions of the axes. The laser interferometric system issues a positioning accuracy certificate based on the VDI-DGQ 3441.

ADVANTAGES

- **Guaranteed performances in terms of precision and repeatability as well as complete calibration of the linear and rotative axes at the initial levels (of the installation).**
- It is possible to create **different tables of compensation that can be activated directly from the CNC**, in case of non-air-conditioned environments with temperature variations upon season changes. *



Accuracy (10 axis strokes test):

Positioning accuracy

P = 30 µm

Repeatability

PS=18 µm

* Optional

Main Features and Options

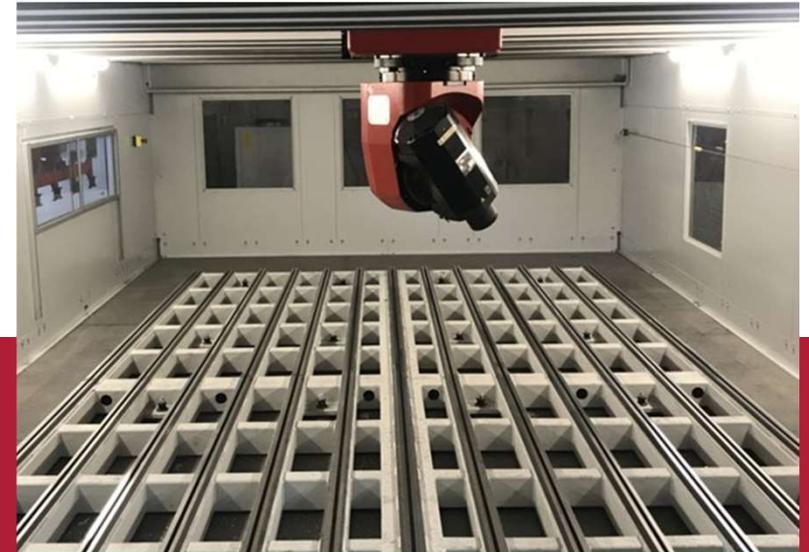
Working table

ELECTRO-WELDED FRAME TABLE

Electro-welded tubular or IPE table equipped with threaded holes or T-slots **for piece clamping**. Load capacity of 800 kg/m² and customizable locking systems interaxis.

ADVANTAGES

- **High customization of the configuration:** the table can be combined with an integrated suction system with grids.



Working table

CAST IRON TABLE WITH T-SLOTS

Cast iron table with **T-slots for fixing** : H12 up to 22 mm, with 250 mm interaxis and loading capacity of **5.000 kg/m²**.

The table is equipped with a special V-shaped processing, which avoids the gluing of the piece to the table due to the vacuum during machining with coolant.

ADVANTAGES

- **The most rigid and precise solution:** the table is mechanically connected to the monolithic structure of the machine and allows to have a single machine/piece body, granting stability and machining precision.
- Particularly suitable for mechanically clamping equipment and pieces to the table.



Working table

TABLE WITH T-SLOTS AND ZERO POINT

The T-slot table could be customized with embedded zero point connection, pneumatic or hydraulic, according to the clamping force required.

The zero point distance can be agree with the jig size. The operator can also open or close the zero point using a dedicated M function, that will guarantee the positioning.

ADVANTAGES

- **The zero point system is the fastest way to change jigs:** the pieces or equipment can be positioned within the working area with a repeatability <0,01mm, without changing alignment/positioning and using customized reference pins.



Head and Electrospindle

SINGLE SHOULDER HEAD

This simultaneous 5-axis machining head **enables tool inclination and orientation in any 3D direction**. It is equipped with a scale inductive type measuring system which grant high **dynamic and accuracy performances**.

The head is equipped with a pneumatic rotary axis locking system which allows a **higher machining rigidity**.

ADVANTAGES

- **Compact design to decrease collision issues:** particularly suitable for working in small and indoor spaces. The spindle can be very close to the part, without using very long tool holders.



Main Features and Options

Head and Electrospindle

22 kW SINGLE SHOULDER HEAD

- Axis C +/-270°
- Axis A +/-120°
- Rotary axes accuracy: 30 arcsec
- Repeatability: 12 arcsec
- **Pneumatic** rotary axes brakes
- C axis clamping force: **1.100 Nm**
- A axis clamping force: **1.100 Nm**

30 kW AND 42 kW SINGLE SHOULDER HEAD

- Axis C +/-270°
- Axis A +/-120°
- Rotary axes accuracy: 30 arcsec
- Repeatability: 12 arcsec
- **Hydraulic** rotary axes brakes
- C axis clamping force: **3.000 Nm**
- A axis clamping force: **2.000 Nm**

Equipped with:

22 kW ELECTROSPINDLE

- Power: **22kW** (S1)
- Max. rotation speed: **20.000 rpm**
- Max. torque: **28 Nm** at 7.500 rpm (S1)
- Tool taper: **HSK A63**
- Liquid cooled spindle
- Permanent grease lubrication
- Automatic pneumatic tool changer
- Rotary joint tool lubrication*

Equipped with:

30 kW ELECTROSPINDLE

- Power: **30kW** (S1)
- Max. rotation speed: **18.000 rpm**
- Max. torque: **48 Nm** at 6.000 rpm (S1)
- Tool taper: **HSK A63**
- Liquid cooled spindle
- Permanent grease lubrication
- Automatic hydraulic tool changer
- Rotary joint tool lubrication*

42 kW ELECTROSPINDLE

- Power: **42kW** (S1)
- Max. rotation speed: **24.0000 rpm**
- Max. torque: **67 Nm** at 6.000 rpm (S1)
- Tool taper: **HSK A63**
- Liquid cooled spindle
- Oil/air lubrication system
- Automatic hydraulic tool changer
- Rotary joint tool lubrication*

* Optional

Head and Electrospindle

SINGLE SHOULDER TORQUE HEAD

This simultaneous 5-axis machining head **enables tool inclination and orientation in any 3D direction.**

It is equipped with a scale inductive type measuring system which grant high **dynamic and accuracy performances.** The head is equipped with a pneumatic/oil-dynamic rotary axis locking system which allows a **higher machining rigidity.**

ADVANTAGES

- **Compact design to decrease collision issues:** the spindle can be very close to the part, without using very long tool holders.
- **Particularly suitable for working in small and indoor spaces.**

Main Features and Options

Head and Electros spindle

25 kW SINGLE SHOULDER TORQUE HEAD

- Axis C +/-270°
- Axis A +/-120°
- Rotary axes accuracy: 2 arcsec
- Repeatability: 2 arcsec
- Hydraulic rotary axes brakes
- C axis clamping force: **2.000 Nm**
- A axis clamping force: **1.800 Nm**

Equipped with:

ELECTROSPINDLE 25 kW

- Power: **25kW** (S1)
- Max. rotation speed: **20.000 rpm**
- Max. torque: **28 Nm** at 7.500 rpm (S1)
- Tool taper: **HSK A63**
- Liquid cooled spindle
- Permanent grease lubrication
- Automatic pneumatic tool changer
- Rotary joint tool lubrication*

* Optional

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Main Features and Options

Double bridge

DOUBLE INDEPENDENT BRIDGE

The second independent bridge is the best solution to increase productivity and flexibility.

It can be equipped with the same or different spindle as the first head.

ADVANTAGES

- **Versatility:** with two different heads it is possible to carry out special processes with the same machine.
- **Higher productivity:** possibility of machining even large pieces, as in the case of the nautical sector.



Main Features and Options

Tool changer

16-POSITIONS AUTOMATIC TOOL CHANGER

Mounted under the machine stroke ways and protected against dust by a retracting door.

Tool max weight: 10 kg

Tool max diameter: 350 mm

Tool max length: up to 70 with 4 central positions, up to 160 mm with 12 positions

ADVANTAGES

- Thanks to the tool changer location outside the working area, tools can be replaced **while the machine is in operation.**
- **Suitable for tools of greater size and weight compared to the carousel solution.**



Tool changer

18/24/30-POSITION AUTOMATIC TOOL CHANGER

The tool changer is integrated on the right/left side of the machine structure and **it consists of a carousel featuring HSK F63, HSK A63 toolholder collets.**

The carousel is driven by a gearbox and brushless motor with a maximum rotation of 180°/s to guarantee a faster movement for tool changing, a pneumatic cylinder move the carousel inside the working area during tool changes operations.

Tool dimensions: 110 mm diameter in the adjacent position, 300 mm length and 5 kg weight.



ADVANTAGES

- Thanks to the tool changer location outside the working area, **tools can be replaced manually through a safe side access.**
- **Greater safety:** each station is controlled by a **photocell that checks the presence of the tool holder, avoiding collisions caused by operator errors.**

Main Features and Options

Tool changer

TOOL CHANGER WITH ROBOT SOLUTION UP TO 200-POSITIONS

The ring or chain **tool changer with 200-positions** is managed by a robot on the right/left side of the machine. The robot arm is equipped with a clamping system which pre-loads the next tool automatically, **in order to decrease the tool change cycle time.**

Tool taper: HSK A63.

200 positions: maximum diameter is 130 mm in adjacent position, maximum length is 300 mm and weight is 10 kg.



ADVANTAGES

- **Greater safety and cleanliness:** tool changer installed outside of the working area with external protections.
- **Efficiency and safety:** it is possible to change the tools from the racks outside the machine while it is working.
- **Flexibility:** it is possible to manage very large tools such as angular heads and saw blades.

Main Features and Options

Protection system

PERIMETER PROTECTION WITH MANUAL-OPENING FRONT DOORS

The perimeter enclosure is provided with **wide windows for visual inspection** and is realised with **sound absorbing panels in order to reduce noise level in the working area**.

Doors are equipped with safety and locking devices to enable access to the working area only when machine is stopped.

ADVANTAGES

- **Greater safety: it is impossible to access the work area while the machine is working.**



Main Features and Options

Protection system

MOTORIZED UPPER ROLLING SHUTTER

The motorized rolling shutter limits the **escape of chips from the working area** and **makes the opening and closing operations easy and quick**, allowing loading by means of an overhead crane.

The special translucent fabric guarantees **ample light in the working area**, already artificially illuminated.



ADVANTAGES

- **Cleanliness and safety:** the rolling shutter closes completely the top of the machine, containing chips inside the working area during 5-axis operations.
- **Flexibility:** the motorized bellows can open completely the working area, allowing the access of pieces or equipment that must be loaded from above with an overhead crane, reducing time drastically.



Dust suction system

HIGH PRESSURE SUCTION SYSTEM for 5-axis head with pneumatic control for the removal of dust and shavings in the milling area. Also available in ATEX version.



PNEUMATIC SUCTION HOOD

To keep the hood close to the piece, increasing the effectiveness of the suction. The hood has 0-140 mm stroke, with the addition of intermediate positions 40 mm and 100 mm.

ADVANTAGES

- It allows to locate the high pressure suction flow near the tool tip.
- **Versatility:** the operator can manage by M codes different positioning according to the tool length.



Dust suction system

HIGH PRESSURE SUCTION SYSTEM for 5-axis head with electronic control for the removal of dust and shavings in the milling area. Also available in ATEX version.



MOTORIZED SUCTION HOOD

The extension of the electronic hood adapts automatically according to the length of the tool and the machining depth of the piece. Max. stroke: 140 mm.

ADVANTAGES

- Efficient suction guaranteed thanks to the possibility of locating the high pressure flow rate in contact with the piece and electronically adjusting the position of the hood during cutting operations.
- Possibility to control the hood as an axis, from the cutting program.
- Particularly suitable for dusty materials and for the composite profiling of composite, to avoid collisions or damage to the parts.

Main Features and Options

Dust suction system

GROUND OR SIDE SUCTION SYSTEM FOR HIGH REMOVAL VOLUMES

10.000 – 12.000 – 18.000 – 24.000 m³ capacity depending on the volume of the machine, with static and dynamic dust extraction ports.

Also available in ATEX version.



GRIDS

The machining center is equipped with dust extraction grids positioned under the two runways, or on the side panels of the machine that allow good dust extraction during milling operations.



Main Features and Options

Suction system

PUSH & PULL SUCTION SYSTEM

System with different flow rates according to the machine volume, complete with suction inlets on one side of the enclosure and inlets for re-integration of filtered air on the opposite side.

Also available in ATEX version.



ADVANTAGES

- **Cleanliness and safety: efficient evacuation of dust generated upon machining**, thanks to the air flow that inside the enclosure.
- **Particularly suitable for dusty environments.**

Main Features and Options

Cooling liquid system

COOLING LIQUID SYSTEM WITH CHIP CONVEYOR, LIQUID COLLECTION TANK WITH MECHANICAL PAPER FILTER AND HIGH / LOW PRESSURE PUMPS

Chip conveyor

- Watertight body with 250 l lubro-coolant liquid collection tank
- Belt with 400 mm centre distance and 3,5 m/’ feed
- Chip conveyor opening dimensions: mm 3100 x 250
- Booster/transfer pump with 180 l/min capacity
- Safety microswitch for rotation control with protection cover
- Dredging service lift with 60° inclination and chips exit at 1 m height

Coolant collection tank

- Paper filter with 220 l/min at 35µm filtering fabric
- Level adjustment for filtering fabric automatic feed
- Microswitch to signal roll end
- Control panel and filter control
- Dirty liquid conveyor
- Electrowelded steel sheet tank for collection of filtered emulsion, equipped with pump housings with the following dimensions: mm. 1.600 x 800 x H 700 – Net capacity 800 l
- Sheet steel tank for mud and used filtering fabric collection, with the following dimensions: mm. 800 x 200 x h 515 mm

Liquid coolant chiller*



* Optional

Cooling liquid system

LOW PRESSURE COOLING

Usually required when it is necessary to remove the scraps from the part and the machine table. The cooling liquid comes out from the nozzles mounted on the head. Electro-pump for delivery of low-pressure lubro-coolant (with different capacity and bar pressure, depending on the Serie) to the nozzles mounted on the spindle.

HIGH PRESSURE COOLING

Usually required when drilling with drilled bits and when milling with inserts. The cooling liquid comes out from the machine electrospindle. Electro-pump for delivery of high-pressure lubro-coolant with 30 l/min capacity and 40 bar pressure, equipped with no. 2 cartridge filters for liquid filtration at 10 μ m absolute.

In option, a rotary joint suitable for feeding the lubro-coolant through the tool at a 40 bar pressure and a 30.000 rpm rotation, or for spray-mist operation.



Cooling liquid system for composite materials

Specific cooling liquid system with filtering capacity 3/5 μm .

ADVANTAGES

- **Increased cutting tool life: up to 3 times** comparing to the MQL system.
- **Completely clean milling zone - no chips and small scraps** – thanks to the coolant pressure and flow during milling operations.
- **Ideal for very high precision machining:**
 - no melting of the material on the cutting edges thanks to the high pressure with dedicated cutting tools for internal coolant, **avoiding breakage or damage to the surface;**
 - control of the coolant temperature **avoiding thermal distortion of the part during milling process.**



Conventional Cutting
feed rate 543 mm/min

Spindle 24.000 rpm



Wet Cutting feed rate 1750
mm/min

Spindle 24.000 rpm

Tool life 3 times more

Options

CHIP READER*

Automatic reading and writing system of all tool parameters, which are written with a pre-setting external to the machining center. The CNC can automatically write the residual life in the chip when unloading the tool from the magazine.



ADVANTAGES

- **All information and parameters written automatically outside the machine**, during the tool holder loading operations.
- **Greater safety**: the recording of all data in the NC and the detection of the tool position allow to **minimize errors from operator**.



* Optional

Options

MQL – MINIMAL QUANTITY LEVEL

The MQL system, in the presence of a rotating joint, is used to **generate aerosols for internal and external lubrication**. This system refills itself automatically out of a separate tank and can be determined via parameter settings from the CNC-control regarding the requirements of the cutting operation.

ROTARY JOINT

The spindle can be equipped with a rotary joint to allow **the passage of the lubricant-coolant or air through the tool**. **The lubrication is carried out directly on the cutting edge, even in the presence of a suction hood.**

ADVANTAGES

- During the milling of aluminium, chip gluing is avoided, vibrations are reduced and the tool temperature is kept low.
- **Higher surface finishing quality.**
- **Increased tool life.**
- **Increased productivity:** higher working speed during aluminium milling.



Options

CLAMPING SYSTEM WITH VACUUM

In order to guarantee the highest level of precision for a fast and safety milling cycle, the clamping system with vacuum is a fundamental component for obtaining maximum performance.

The system consists of high depression dry vacuum pumps from 100 to 1050 m³/h, filters for protection from dust and chips, vacuum solenoid valves and adjustable vacuum switches for the control of the minimum vacuum threshold on the workpiece.

ADVANTAGES

- **Ease to use and maximum efficiency:** the clamping system with vacuum guarantees a rigid grip, avoiding any cluttered brackets and reducing the risk of collisions and damage to the piece and the machining center.



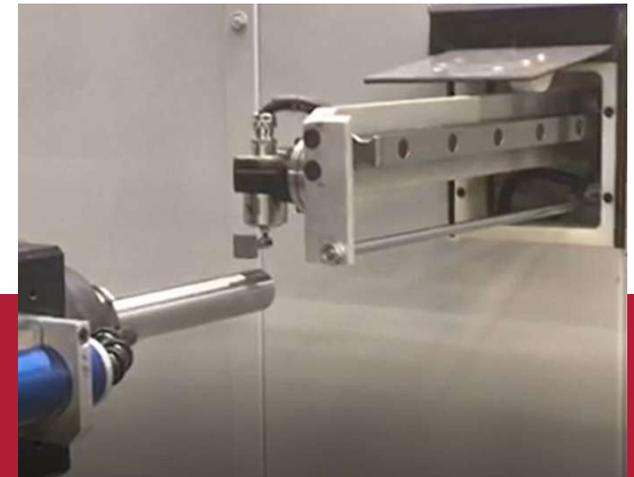
Options

SDS (Self Diagnostic System) MEASURING SYSTEM FOR ROTARY AXES AND TOOLS

This system allows to control the rotary axes alignment and the tool length measurement through a M function pre-installed in the NC.

The system is assembled on a **telescopic arm**, protected by dust or chips.

All operations take place in mechanical contact.



ADVANTAGES

- **One single system for axis requalification, length control and tool breakage.**
- **Automatic control.**
- **Possibility to manually recall the cycle with an M code, keeping the tool protected from dust or chips.**

Options

NON-CONTACT TOOL SETTING SYSTEM

Useful for monitoring the tool status and for tool life management, this is a **flexible laser** system with ultra-compact laser tool setting transmitter and receiver units.

It can quickly perform operations of:

- length and diameter pre-setting
- contactless breakage detection and tool wear upon real conditions at the spindle working speed.

ADVANTAGES

- **Ideal for non-contact and very high precision diameter and tool length measurements:** the fixed positioning in the working area ensures a micrometric measurement of the rotating tools.
- Possible **connection to the automatic tool recognition system** for status control.



Main Features and Options

Options

HEIDENHAIN LINEAR SCALES

Direct incremental measuring system for all linear axes with graduated metal and pressurized line.

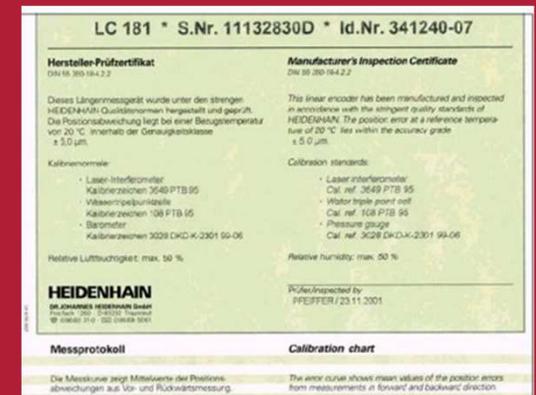
- up to 4 m in a single body with glass optical band
- from 4m up to 72m in modular body with steel optical band



Direct measuring system for all rotary axes



Linear axes thermal compensation system



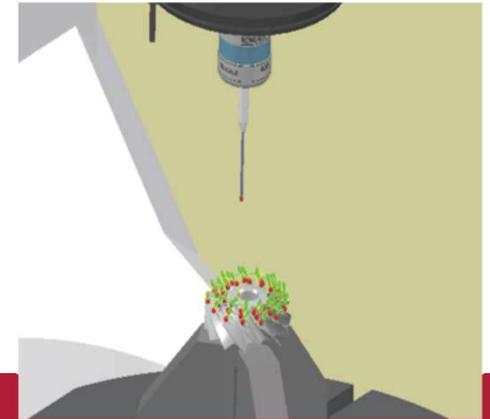
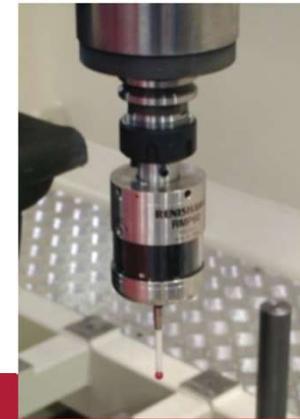
Original factory certificate

Opzioni

3D probing system with radio transmission

This system gets automatically the position of the piece and enables to auto-centre the cutting program taking into consideration possible piece deformations.

RPM 60 via radio mobile model is settled in the tool stock and is picked up automatically by the electrospindle without any manual operation.



OPTIONAL Kinematics inspection system*



* Only with 5-axes head

Options

VIBRATION MONITORING SYSTEM

Miniaturized monitoring system particularly recommended in aerospace sector and aluminium milling applications, to preserve spindle and CNC machine performance.

Using advanced monitoring modular techniques together with 8 different configurations, the device can monitor every machine tool or product process in real time.



ADVANTAGES

- **Increased production capability.**
- **Higher performance control** by planned maintenance to avoid drastic damage, minimize collision effect and **decrease time machine down time and repair costs.**
- **Reduction of the impact of damage by 25/30 times** thanks to the high reactivity of the machining center equipped with MONTRONIX: **10 milli/sec from collision detection to machine downtime; 500milli/sec time interval for the machining center motors overload stop.**
- **The system detects any tool imbalances, giving the alarm and avoiding damage to the electrospindle bearings.**

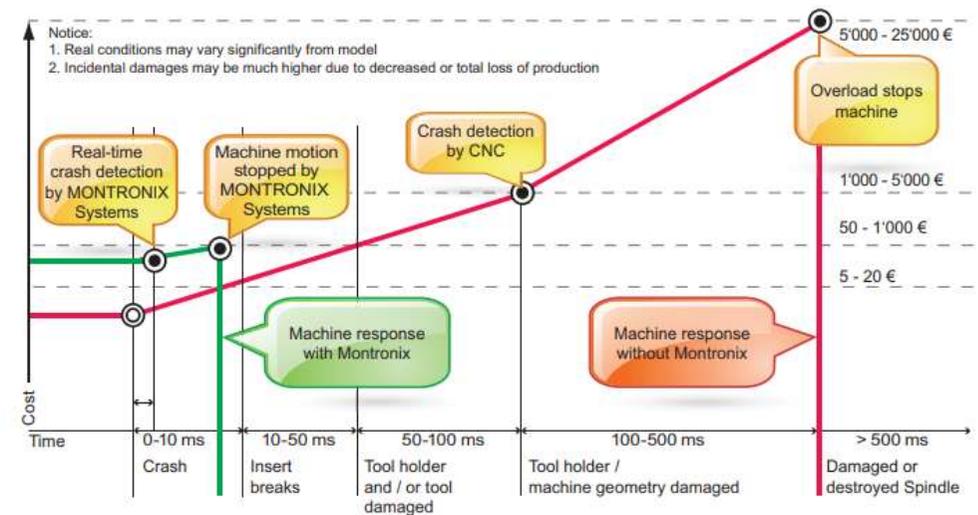
Options

MONTRONIX SOLUTIONS

- Reducing costs by avoiding machine shut downs
- Optimizing processing and station times
- Effectively generating and reading analytical data
- Protecting machines
- Protecting tools
- Protecting parts
- Assuring parts quality
- Securing the process chain for single and multi-part production
- Optimizing processes
- Assisting with preventive maintenance
- Extending tools and machine life

Productivity, Flexibility, Quality, Safety

■ COST - BENEFIT

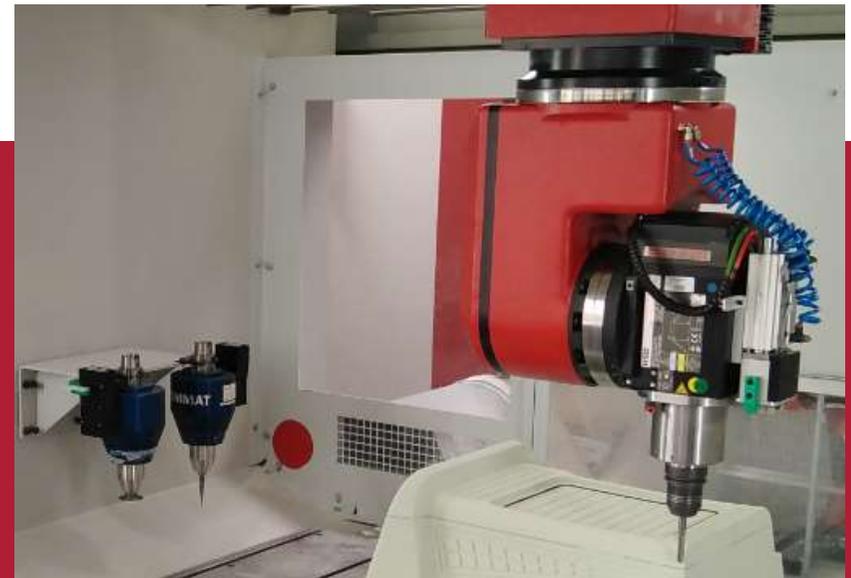
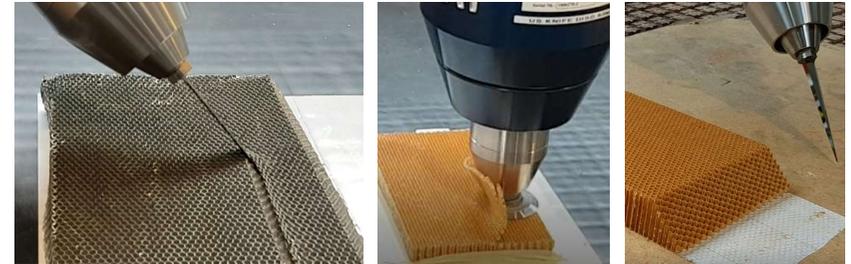


Options

ULTRASONIC TECHNOLOGY

The ultrasonic cutting system allows to work special materials (honeycomb) using an **ultrasonic frequency up to 20 Kiloherzt**. The system is supplied with automatic tool changer and can be equipped with **two cutting systems**:

- **oscillating blade** of different lengths that is oriented according to the geometry, controlled by CNC and interpolated with the movement of all linear and rotary axes;
- **oscillating and rotating disc** both clockwise and anticlockwise, controlled by CNC.



ADVANTAGES

- **Particularly suitable for processing soft materials:** fabrics, phenolic honeycomb, aluminium honeycomb, rock wool, carpet etc.
- **Accuracy and cleanliness:** thanks to the high frequency of blade oscillation, the separation of the material does not produce dust and, in the case of honeycomb, does not produce cells crushing.



THANK YOU