ROVER A SMART 1643

CNC machining center

	AMOUNT
9080888	1

ROVER A SMART CNC Machining Centers

The products and services offered by the BIESSE Company are guaranteed by the ISO 9001 certification, obtained in 1995, and by its compliance with UNI EN ISO 9001: 2015 standards.
Most of the technological components used on the machining centers are produced by factories of the BIESSE group or by globally recognized companies that are part of the "Official Suppliers" of BIESSE, with whom there is a very close technical collaboration.

The test cycle for each machining center includes the following phases:

- ☑ Intermediate checks of operating groups and pre-assembled components; Continuous operating
- ☑ test in simulation for a minimum of 10 hours; Measurement of the accuracy and repetition of the
- ☑ positioning of the X and Y axes, by interferometric laser (VDI / 3441 standard);

- ☑ Calibration of the X and Y axes by compensation function: the values recorded during the laser tests are processed by the NC and transmitted to the actuators of the axes to improve positioning accuracy;

- ☑ Functional drilling and milling tests of parts placed on all machine origins.

Structure
The design of the structure was carried out by a CAD software package for solid modeling allowing to visualize the deformations of the structure subjected to static and dynamic loads. The sizing of critical components is assisted by the finite element structural calculation software, thus making it possible to simulate the working conditions by highlighting the areas requiring more rigidity.
The solutions thus defined give BIESSE machining centers maximum robustness and guarantee

high precision standards and a superior degree of finish even in the heaviest processing phases.

The one-piece frame is formed from a frame of very thick electro-welded steel sheets and is reinforced at the most stressed points.
The longitudinally movable upright (X axis) consists of 1 X carriage and 1 Y beam made of very thick electro-welded sheets of steel and stiffening brackets to minimize the deformations generated during machining.

The transverse (Y axis) and vertical (Z axis) carriages are made of aluminum alloy and are stabilized and then machine-machined in a single pass.

Axis displacement

- Engines
  Biesse uses Brushless type motors, driven by digital actuators. Digital interface between digital control and axis actuation.
  The Mechatrolink digital system ensures:
  - A faster feed rate in machining because the development of the trajectory is carried out in part by actuation rather than by digital control;
  - Extreme machining precision thanks to the faster processing speed;
  - Extreme reliability thanks to the reduction of cabling and the elimination of electrical interference from analog systems;
  - Clear diagnostic messages directly on the CN and consequent reduction in machine downtime.

- Dual X-axis and Y-axis transmission
  For the movement of the mobile upright along the longitudinal (X axis) and transverse (Y axis) axis, Biesse has chosen the rack and pinion solution, allowing for very high acceleration and movement speed.

  Rack and pinions are made with precision class 6 (DIN 3962 standard).

- Z axis transmission
  For movements of the vertical operator group (Z axis), where the strokes are limited, Biesse has chosen the solution of pre-loaded recirculating ball screws and nuts to eliminate play and guarantee positioning accuracy. The motorization is applied to the screw by an elastic seal. The ball screws are made with ISO precision class 5.

- Axis guides
  Hardened and ground steel guides as well as pre-loaded ball bearings are used on all axes. Each pad is equipped with 4 wiper seals for optimal protection against dust and chips. The sizing of the guides and the large center distance between the guides themselves guarantee precision and excellent finish.

Manual centralized lubrication system
To facilitate preventive maintenance of the machine, a centralized lubrication system with 2 supply points is fitted: at each interval, programmable by digital control, a message is displayed requiring lubrication. With the supplied pump, you can manually supply the 2 lubricant distributors, lubricant which will then be sent to:

- Linear guide pads for the X, Y and Z axes;
- X and Y axis transmission pinions and racks; Z axis transmission
- ball screw nuts;

Electrical Installation
The machine mounts control devices (solenoid valves, input / output modules, ...) near the devices to be controlled and the electronic circuits necessary to allow the interface with the field bus. This simplifies the electrical installation to make diagnosis and maintainability easier on the part.
technicians.

Electrical cabinet
The machine can be supplied with voltages of 380/400/415 V - 50/60 Hz.

The electrical cabinet and its internal components comply with CEI EN 60204-1 and CEI EN 60439- standards.
1.
The auxiliary transformer supplies the supply voltage to the PC, the air conditioner and the fan rotors of the electrospindles, avoiding the use of the neutral conductor which is not always available. The electronic devices are supplied by a stabilized 24 V DC power supply.

Inverter
Inverter for electrospindle and power drilling unit adapted to the type of configuration selected. Static frequency converter.
The apparatus comprises:

- Reset button;
- Automatic control of the braking action of the rotation of the tool;
- Braking resistor;
- Tool rotation speed CNC programming.

Air conditioner for electrical cabinet
Allow:

- Perfect operation of the electronic components of the electrical cabinet at ambient temperatures up to 40 ° C (104 ° F);
- Perfect protection against dust because the electrical cabinet does not have a ventilation fan.

Digital control
BH660 control system entirely on PC basis.
Thanks to the new Biesse WRT (Windows Real Time) technology which increases the functions of Windows, making real-time processing possible, machine control is directly developed from the PC, eliminating all unnecessary components.
The machine control software is produced directly on the PC and not on a special device. This simplifies the structure of the system and further increases reliability and performance.

Desktop computer
Main technical characteristics:

- CPU Intel (R) Core I7
- RAM 8 GB
- 128 GB SSD hard drive or higher 21.5
- "LCD screen
- Dedicated graphics card
- Keyboard
- Mouse
- USB ports
- Ethernet card for network connections with PC from the office

The technical data indicated above may undergo modifications in order to be improved.
The machine PC is a control system; For this, Biesse does not authorize the installation of additional unauthorized software packages, under penalty of forfeiture of the warranty.

Statistical report
Statistics are used to record machine and production events to monitor reliability and productivity.

The statistical environment can be customized by the customer, to allow recording of particular events such as machine tooling, machining control, authorized breaks, lubrication cycles, etc.

Profile feedback function
Allows resuming a shaping interrupted following an emergency stop. The program starts again from the point where it was interrupted by following a particular restoration procedure. Machining can be restored when
the machine emergency occurred during:

- Machining with an electrospindle; A
- drilling cycle;

- Of a cut with blade;
- An automatic tool change on a tape or gun magazine; Any movement controlled by
- ISO lines

This function makes it possible to finish the machining of a part without having to throw it away, thus saving material especially in the case of expensive materials and saving time in the case of long programs.

Tool path counting function
The NC records the meters traveled by each milling tool, in order to compare them with the maximum number programmed by the operator.
When the maximum number is reached, a message is displayed on the screen. This message will be displayed whenever a tool is used that exceeds the limit programmed by the operator. An output signal (alternating or direct, as desired) is used to connect an external device (for example a rotating beacon or an audible signal) which will be activated with the message.

Safety devices compliant with the essential provisions of Directive 2006/42 / EC
The solution complies with:

- The Machinery Directive 2006/42 / EC;
- The Electromagnetic Compatibility Directive 2004/108 / CE; The
- Low Voltage Directive 2006/95 / CE.

The solution includes:

- sound-absorbing hood with transparent polycarbonate panel that allows working in total safety since it guarantees complete visibility;
- vertical movement of safety bands; emergency
- stop buttons;
- Front detection mats equipped with a control unit with integrated safety device, capable of guaranteeing alternate machining;
- device with mechanical cam and safety microswitch to protect the operator during alternate machining;
- side fences with 2 meter high metal grilles.

Teleservice
Allows direct and immediate modem access to digital machine control to control machine data, user programs, input / output signals, system variables and to install
software updates, ensuring:

- Real-time intervention
- Quick problem solving
- A drastic reduction in machine downtime
- Updating software in real time

The Teleservice service is free during the warranty period.

User Documentation

- Manual
- Operating instructions for the machine and accessories
- Operating instructions for the software
- Electrical and pneumatic diagrams;
- InDocs CD containing the spare parts catalog Declaration of
- tests and inspections carried out in the factory

Maintenance equipment

- Device for disassembling and assembling tools on tool holders; Set of keys;
-
- Lubrication pump;
- Lubricating grease for ball bearings;
- Lubricating grease for drill heads and aggregates.

ROVER A SMART 1643 CNC machining center

Fields of work *:
X = 4320 mm
Y = from 1580 to 1660 mm, depending on the machining conditions
Z = 200 mm with 5-axis unit and drilling group, with modules H = 74 mm Z = 245 mm
with 5-axis unit and drilling group, with modules H = 29 mm

Y-piece passage: 1900 mm

Axis strokes *:
X = 4746 mm; Y = 2294 mm; Z1 = 515 mm: Z2 = 371 mm.

Vacuum installation
Division of the vacuum into 2 shaping zones and 2 blocking zones in X.
The machine is predisposed to be equipped with up to 2 pumps among those available.
The electro-pneumatic installation is suitably sized according to the number and type of pumps chosen.

Auxiliary vacuum system - 2 vacuum zones.
Used to block parts being machined using special shapeable suction cups.
At the end of a machining cycle, only the machined part is released. The shapeable suction cup remains blocked on the plan to load the next part.
Includes 4 locking zones on the left and 4 on the right for pendulum shaping.

Length of the worktops (not included) equal to 1280 mm.

RM850 remote console.

* For technical details refer to the corresponding diagrams

Configurations

7800151	1

Configuration 2
Compatible with 16-place and 12-place rack-type tool magazines. Tool magazines can be retrofitted.

Protection devices

7350673	4

Panel support for the part exceeding the support on the worktop.
Each support is fixed to the worktop and can be removed manually easily and quickly.
* For machines with vacuum modules H = 74 mm

Transformers and uninterruptible power supply

7510179	1

Power Maintenance Group (UPS) for the machine computer.
In the event of an electrical power cut, it helps prevent data loss.
The maximum time for data logging is 7 to 10 minutes depending on the conditions.
functioning.

Machining plan

7300727	1

8 ATS plans - 24 trolleys
The machining area is made up of:

- ☑ 8 aluminum worktops. The planes slide by means of ball sliding blocks on hardened and ground linear guides. The blocking is carried out on the two linear guides, front and rear, by four pneumatic cylinders. The command is activated by a push-button located in front of the worktop.

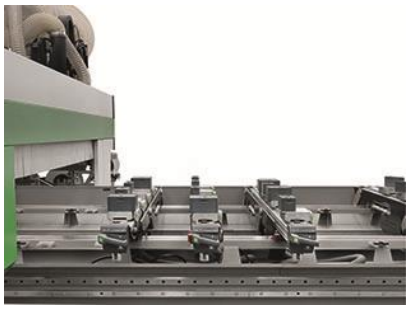
- ☑ 1 metric ruler on the X axis for the correct positioning of the worktops.
- ☑ 8 metric rulers on the Y axis for the correct positioning of the workpiece locking systems. 24 trolleys 132 x 132
- ☑ x H 41.5 mm. Each trolley is equipped with an independent pneumatic lock and is predisposed to receive the locking systems for parts of different shapes and sizes. Each carriage also allows the rotation, every 15 °, of the empty modules, ideal solution for profiled parts.

- ☑ 24 shutters for closing trolleys without vacuum modules.

7350912	8

Assisted plan SA (Set-Up Assistant).
Assisted manual positioning system with illuminated direction and position indicators.
The system patented by Biesse includes:

- ☑ Sensors on each work plane and along the X axis of the work area.
- ☑ A magnet on each trolley and on each work surface. Handles of the
- ☑ ATS plans with LED indicators of the direction and audible signal of the position reached.
- ☑ Direction display and position reached for the trolley in positioning, mounted on each work surface.
- ☑ 2 Extensions for positioning the rear carriages.



The system, depending on the programming of the worktops on the software interface, indicates to the user the direction of movement of each worktop and carriage, and signals via green and audible LED the position reached with an error of + / - 1.5 mm.

* Quantity dependent on the total number of planes present in the machine.

Machining areas and blocking areas

7350900	1

Pneumatic locking system divided into 2 X-shaped shaping zones
Adds the installation with compressed air which makes it possible to have, on each trolley, the depression necessary to block the parts and the compressed air to be able to use the pneumatic blocking systems as vices and reconcilers.
* For machines with one or two working areas.

7351054	8

Supplement for worktop for solid wood machining.

* Mandatory for vices with thickness 40-98 mm
* Quantity dependent on the total number of plans present in the m achine

Reference systems

7350943	8

Rear line stopper with 115 mm stroke and 25 mm extension.
The pneumatic retractable stops controlled by CN have a 22 mm diameter rod to guarantee maximum rigidity, and are predisposed to receive the vices, the reference devices for the parts to be protruding coating and sensors for detecting the descent of the stops.
* Quantity dependent on the total number of planes present in the machine.

7350944	8

Intermediate line stop positioned at 670 mm with 140 mm stroke.
The stops, with pneumatic retraction controlled by CN, have a 22 mm diameter rod to guarantee maximum rigidity, and are predisposed to receive the vices, the reference devices for the parts to be protruding coating and sensors for detecting the descent of the stops.
* Quantity dependent on the total number of planes present in the machine

7350191	1

4 lateral stops with 140 mm stroke (2 G. + 2 D.) equipped with pneumatic installation.
The stops, with pneumatic retraction controlled by CN, have a 22 mm diameter rod to guarantee maximum rigidity, and are predisposed to receive the vices, the reference devices for the workpieces.
protruding coating and sensors for detecting the descent of the stops. The stops can be manually positioned along the Y axis
Includes 2 aluminum bars (1 Left and 1 Right) on which the side stops slide.
* The selection of this code is mandatory on all machines

7350192	1

2 additional side stops with 140 mm stroke (1 G. + 1 D.)

* Requires pneumatically installed side stops (140mm stroke)

7350068	8

Stopper for panels with protruding coating

Applicable on a pneumatic retractable stopper managed by CN and easily removable.
In the lower position, it serves as a reference for parts with protruding coating and reduces the working field by 20 mm.
If it is excluded without being removed, it serves as a reference for the standard stop.

* For machines with a worktop with automatic positioning by CN (EPS), install it only on the rear, side and central stops so as not to prevent the passage of trolleys.
* If mounted on stops with 140 mm stroke, requires vacuum modules H = 74
* If mounted on stops with 115 mm stroke, requires vacuum modules H = 48
* If mounted on stops with 96 mm stroke, requires vacuum modules H = 29
* For machining that does not require high precision positioning of parts

7350056	1

12 vice devices for clamping narrow parts.
Installed on the standard stops managed by numerical control, they allow, through a machining cycle special, to block narrow parts.
On Rover C cannot be used on the rear stops.

7350054	8

Hinged reference stop

It can be positioned at any Y dimension of the work plane to create an additional origin which will serve as a reference for the carriage.
It can be easily excluded if we do not want to constrain the Y-sliding of the carriage, or it can be

moved to another position on the work plane to create a new origin.

* Incompatible with automatic positioning plans (EPS)

7350975	1

1 retractable linear stopper for raw panels.
For the reference of raw panels (for example arches), to be mounted on 2 lateral or central stops.

7350960	22

Stopper descent detection sensor.
A sensor is required for each stopper installed on the machine. For FT machines with unloading or loading / unloading systems and their predisposition, the sensors are included.

Assisted loading

7350947	1

6 bar supports for modules H = 74 mm.
The bar supports, which can be automatically excluded by Numerical Control, facilitate the loading and unloading operations of heavy and / or large panels.
Each support can carry a weight of 36 kg (at 7 bars). Includes pneumatic installation.

Vacuum blocking devices

7300804	1

250 m3 / h cam vacuum pump

Dry running with non-contact cams that ensure high efficiency without the need for lubrication. The cam pump maintains constant efficiency over time and does not require costly maintenance.
Scope:

- ☑ 250 m3 / h at 50 Hz
- ☑ 300 m3 / h at 60 Hz

* Requires the corresponding vacuum installation.

7350991	22

Vacuum module 132x172 - H74 mm, with high friction surface and integrated vacuum seal.
The surface of the module, with a high coefficient of friction, ensures a secure blocking, thanks to the large surface on which the vacuum acts.
The easily replaceable gasket is positioned on the outer perimeter of the module to increase the surface area of the void and is pressed into a suitable seat, to prevent detachment during handling of the panel.

Each module is easily removable and orientable on the trolley, 15 ° intervals.
The total height, including the trolley, is 115.5 mm.

7350992	2

Vacuum module 132x75 - H74 mm with high friction surface, integrated vacuum seal and provision for pins.
The surface of the module, with a high coefficient of friction, ensures a secure blocking, thanks to the large surface on which the vacuum acts.
This vacuum module is predisposed to house nr. 2 plates with pins to improve the blocking of the panel.
The easily replaceable gasket is positioned on the outer perimeter of the module to increase the surface area of the void and is pressed into a suitable seat, to prevent detachment during handling of the panel.

Each module is easily removable and orientable on the trolley, 15 ° intervals.
The total height, including the trolley, is 115.5 mm.

7350993	2

Vacuum module 132x54 - H74 mm with high friction surface, integrated vacuum seal and predisposition for pins.
The surface of the module, with a high coefficient of friction, ensures a secure blocking, thanks to the large surface on which the vacuum acts.
This vacuum module is predisposed to house nr. 2 plates with pins to improve the blocking of the panel.
The easily replaceable gasket is positioned on the outer perimeter of the module to increase the surface area of the void and is pressed into a suitable seat, to prevent detachment during handling of the panel.

Each module is easily removable and orientable on the trolley, at 15 ° intervals.

The total height, including the trolley, is 115.5 mm.

Pneumatic locking devices

7350017	3

Horizontal vice H = 74.
The horizontal vice, orientable on the XY plane, allows the part to be blocked by adapting to its shape. The vice swivels from 0 ° to 360 ° continuously, position reading by vernier.
Total height of the trolley with vice: 115.5 mm.

Width of the elements to be blocked: from 30 mm to 160 mm.

- ☑ It requires at least two vices for proper locking and referencing of the panel.
- ☑ Requires predisposition for the application of pneumatic devices in case of Rover machine.
- ☑ For ATS and EPS worktops with H = 74 mm modules.

Mat for chips and waste

7300516	1

Conveyor belt for chips and waste.
Allows the automatic evacuation of machining waste by conveying it in a chip bin on wheels, supplied with the belt and located to the right of the machine.
The bin has wheels to be easily removed when it needs to be emptied.

Automatic lubrication

7000207	1

Automatic lubrication system
At the intervals set on the digital control, the pump automatically sends lubricant to the displacement and sliding members without stopping the machine and avoiding the intervention of the operator.
If the quantity of lubricant in the reservoir drops below the minimum level, a warning message is displayed on the digital control screen.

Machining unit

7212875	1

Shaping unit with 5 interpolating axes 13 kW (17.4 HP), HSK F63 hitch, with liquid cooling.
Allows the electrospindle to interpolate on 5 axes, managed by digital control. To control the orientation of the operator group, BIESSE uses a Brushless motor controlled by digital actuation and a Harmonic Drive reduction gear without mechanical play. The 5-axis forming unit is attached directly to the vertical carriage (Z axis) without pneumatic movements, ensuring greater rigidity of the group as well as more precise machining. Thanks to the reduced size of the group, it is possible to machine in areas of the part that are inaccessible to other types of 5-axis machining units on the market. The electrospindle has 4 ceramic bearings (2 front and 2 rear) which can machine at high speeds as well as

For optimum dissipation of the heat produced by the electrospindle during machining, a coolant cooling unit is used.

The 5-axis shaping unit does not need regular lubrication, as its components are lubricated for life. Three compressed air streams, installed in the operator group, allow the use of veneer aggregates with 3 air streams, copiers, aggregates with blowers, etc.
The electrospindle is equipped with an internal protection system which includes:

- ☑ A sensor for controlling the vibrations generated by the tool, for checking the balancing of the tool and the forces during processing;
- ☑ A sensor to control the engine temperature;
- ☑ A sensor to control the temperature of the front bearings.

If one of the monitored values exceeds a first safety threshold, a warning is issued on the screen. If there is no intervention, if a second threshold is exceeded, the machine is stopped to avoid damaging the electrospindle.

Technical data :

- ☑ 11 kW (15 HP) from 12,000 to 20,000 revolutions / 1 'in S1 service
- ☑ 13 kW (17.4 HP) from 12,000 to 20,000 revolutions / 1' in S6 service
- ☑ Maximum rotation speed: 24,000 revolutions / min C-axis joint: 360
- ☑ ° rotation continuously
- ☑ C axis rotation speed: 18 turns / 1 'B axis
- ☑ travel: 360 ° continuous rotation Maximum
- ☑ undercut angle: -10 ° B axis rotation speed:
- ☑ 18 turns / 1'

To program machining operations requiring the 5-axis machining unit in angular positioning, bSolid or BiesseWorks Advanced can be used, which allow:

- ☑ Define a "virtual" inclined plane oriented in space and program the machining operations to be carried out on this face;
- ☑ Define the orientation of the group and carry out the angular positioning of the group.

To program machining operations requiring the 5-axis shaping unit with 5-axis interpolation, bSolid, with the additional module for 5-axis machining, or special software to be chosen from among those available on the market, if accepted by BIESSE, is required.
This software package also includes the management of the angular positioning of the group.
During the programming phase, bSolid checks for possible interference between moving parts and the work surface (including the blocked panel).
As there is no type of control on the tooling of the worktops in the machine, the operator will have to

check for any risk of collision.

* Requires bSolid or other accepted 5-axis converting unit programming software package
* Requires cooling unit to choose between refrigerator and heat exchanger
* Requires sensors on all pneumatic stops
* Requires at least one magazine for automatic tool change or one Pick-up magazine
* For Rover B FT, requires the selection of the line of 6 additional stops inside the FT plan, when the vacuum modules H = 74 are selected (see technical layouts)

7570034 1

Heat exchanger for coolant
Can cool a shaping unit with 5 interpolating axes and a drilling unit with liquid cooling.

The refrigerator gives a longer life to the shaping unit with 5 interpolating axes and to the drilling unit, even during the most severe operation, keeping the temperature within the levels.
normal.
The operating temperatures of the heat exchanger are between + 5 ° C and + 40 ° C.
Absorbed power: 660W
* Not available for Canada and the United States.

7210041 1

Flange for the predisposition of the shaping unit with 5 interpolating axes for the assembly of aggregates.
Flange installed on the electrospindle of the shaping unit with 5 interpolating axes, equipped with 4 indexing holes positioned at 90 °, for referencing and using aggregates.

* The aggregates can only be used with the motor spindle in vertical position
* Requires the 5 interpolating axis shaping unit
* Any use of aggregates not supplied with Biesse price list and without evaluation of use requested from Biesse, may compromise the recognition of the warranty of electrospindles and connected devices.

7212830 1

Additional Z carriage for rear operator groups, controlled by independent Z axis.
Can accommodate the drilling group and / or a multifunctional group or a horizontal milling group in addition to the main operating unit.
The trolley is equipped with an independent Z axis, managed by digital control by Brushless motor and screw balls, which reduces machining times.
* Not catch-up

7200064 1

Drilling unit BH 17 L
Unit that can receive a maximum m of 17 independent tools for making single and multiple holes on the 5 sides of the part and grooves with blade in X direction on the upper side.
The spindles rotate alternately to the right and to the left by precision gears with rectified heliocoidal teeth guaranteeing extreme precision and total silence.
The drilling group consists of:

- ☑ 10 independent vertical spindles with center distance of 32 mm, of which 5 placed in the direction of the X axis and 5 placed in the direction of the Y axis;
- ☑ 3 independent horizontal spindles opposite, with center distance of 32 mm, of which 2 oriented in the direction of the X axis and 1 in the direction of the Y axis;
- ☑ 1 circular blade 120 mm in diameter for slotting in the direction of the X axis (useful cut 25 mm).

The motor used is supplied by an inverter (motor power: 1.7 kW at 2800 rpm / 1 '- 3 kW at 6000 rpm / 1'):

the spindle rotation speed varies up to 6000 revolutions / 1 ', to achieve rapid drilling cycles and therefore reduce machining times. It is possible to choose the rotation speed according to the tool
used and material to be drilled.
* Requires additional Z carriage on machines with 2 independent Z axes.

Stores for automatic tool change

7291163	1

16-place revolver-type tool magazine mounted on the X carriage
This magazine is mounted on the "X" moving upright and allows a maximum of 16 tools to be always available, at any point on the machine, and changes the tool very quickly. Main Features:

- ☑ Center distance between tool holders 113
- ☑ mm Maximum number of tools: 16
- ☑ Aggregates: see magazine overview
- ☑ Max.diameter tools: see magazine diagram Max.
- ☑ tools: see store overview
- ☑ Max weight tool weight or aggregate with tool: 6.0 kg with the standard tool holder and 10.0 kg with the reinforced tool holder
- ☑ Max total weight: 55 kg

If the standard deflector is used, the two metal tool holders must be moved from positions adjacent to the loading position.

* Incompatible with the chain tool magazine with 14 or 21 places mounted on the X carriage
* On Rover B, only for Configurations 1 and 3
* On Rover B Edge is available for Configurations 1, 3, 4, 5; in Configurations 5 can be used only by the 4-axis electrospindle

7210049	2

Reinforced tool holder

* Required for all aggregates and for tools over 6 kg

7270066	1

Tool holder with HSK F63 grip, with integrated flange, for blades on 5-axis shaping unit.
Main Features:
- ☑ Flange diameter: 100 mm.
- ☑ Tool socket by flange and drive pin.
- ☑ Direction of rotation: right or left depending on the blade assembly.
- ☑ Equipped with tool keys

7001109	1

Blade dia. 300 mm, for tool holder cone.
- ☑ Fixing by clamping flange and flared screws.
- ☑ Number of teeth: Z = 24.
- ☑ Blade thickness: 3.2 mm.
- ☑ Maximum rotation speed: 5,800 rpm

For 5-axis operator group.

Tools

7001203	1

Hi-Tech Tool Kit
Tool kit for testing Rover series machines.
Includes the following 9 pieces:

Milling tools for solid wood, particle board and medium board:
- ☑ 1 straight full HM cutter, D.16x110x55 mm, Z = 3 + chipbreaker for solid wood.
- ☑ 1 straight PCD point, with brazed polycrystalline diamond plates, D. 16x27 mm, 16x50 coupling, Z = 1 + 1, for particle board and medium.

Toolholders:
- ☑ 1 tool spindle HSK-F63 straight, DIN 69893, ERC40. 1 elastic
- ☑ clip ERC40 diameter 16/15 mm.

Drilling tools:
- ☑ 2 HM straight tips for blind holes with rounded engravers, D. 8 x 70 mm. 1 integral
- ☑ HM straight point for blind holes, D. 5 x 70 mm.
- ☑ 1 HM straight point for through holes, D. 8 x 70 mm.
- ☑ 1 HM straight point for hinge holes, D.35 x 70 2 + 2 mm.

Equipment

7510011	1

Laser device for manual reading of bar codes.
Understand:
☑ Station with connection to the machine's NC for data reception and barcode reader recharge functionality
☑ One-dimensional barcode reader with wireless data connection to the station

* Not suitable for reading codes with 2D characters (e.g. QR code)

Software

7530392	1

bSolid
The software running in a Windows environment allows the design of the final product, the definition of its machining, the definition of the work plan, the simulation of the machining on the 3D model of the machine and to generate the necessary programs.
It offers the following features:

☑ 2D CAD environment complete with:
- Commands for the design of geometries and texts on 2D plans and surfaces complete with classic design tools (lines, polylines, arcs, circles, ellipses, polygons) and design modifications (displacement, rotation, scale, symmetric copy ....)
- Dimensioning tools
- Design of vertical, inclined and curved custom faces from designed geometries
- Parametric mode (ability to link objects with formulas and conditions)

☑ General management tools (copy, paste, forward / backward) and project visualization (zoom, view rotation, defined face views) always available
☑ Import of DXF, CIX and BPP files
☑ Milling, drilling and cutting commands on flat, vertical, horizontal, oblique and curved surfaces with the ability to work on the face in a simplified 2D (with the consequent management of 4-axis machining)

☑ Simple 2D emptying creation commands (like creating slots on the part)
☑ Program creation "Wizard": innovative control for the automatic creation of programs on the basis of the rules for automatic association between geometry and tools
☑ Independent management of several machines
☑ Management of 5-axis machining only in positioning Management of
☑ probing cycles
☑ Creating user macros
☑ 3D simulation of the workpiece with visualization of material removal Complete tool
☑ management environment of:
- Custom creation of tools (cutters, bits, blades and their 3D shape)
- Definition of chip deflectors
- Definition and tooling of aggregates (both in price list and generics)

- Copy and search for tools (cutters, bits, blades), aggregates or deflectors
- Definition of machining sequences
- Environment for the definition of automatic machining rules

☑ 3D graphic machine tooling environment: it allows you to equip or unseat the magazines immediately displaying the dimensions of the tools, aggregates and deflectors 3D graphic worktop tooling environment

☑ including:

- Real and faithful 3D model of the machine used
- Warehouse management of vacuum modules and grippers
- Realistic positioning of worktops and machine trolleys
- Semi-automatic positioning of the work surface with optimized configuration parameters **(this command is a helper and does not replace tooling, as it has its limitations. Therefore, you should always simulate the program on the machine before running it)**

☑ Realistic simulation of the part on the machine's working plane capable of:

- Simulate the real dynamics of the machine without commissioning simulating the dynamics of the real machine, without actually running the machine itself
- Simulate the machining of the panel in 3D with the visualization of material removal
- Check any type of collision between all the components of the machine: tools, electrospindles, aggregates, worktops, carriages, counter-jig, Uniclamp modules and machining parts, anticipating each possible error on the processing itself (attention: there is no type of control over the tooling of the worktops in the machine: the type and position of each counter-jig are supported by the customer)
- Calculate the actual execution time of the part on the machine

* Recommended PC configuration for installation in the office:
- PC Intel Core I5 or I7
- At least 8 GB of RAM
- Windows 7 64 bit
- nVidia OpenGL Accelerated graphics card with at least 1 GB of RAM
- 1440x900 resolution with 16M colors
- At least 10 GB of free hard disk space

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Additional user license for bSolid
Allows installation and use of bSolid software on a second computer.

* Contains a hardware key for software activation
* Requires bSolid code

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Sophia - IoT Connection
It makes it possible to detect, verify, report and resolve any problems encountered by the Purchaser during the use of the machine, as well as to plan on the basis of the data provided, appropriate maintenance activities / technical interventions as well as the supply of spare parts. Specifically this includes:

a) Remote diagnostics with a team dedicated to monitoring the connected Machine,
b) Mobile application with visibility of specific machine performance,

Additional information on the services detailed below.

The "Sophia" services will be automatically renewed on the basis of the price of the "Sophia" Package, unless the Buyer's cancellation is made within 30 days of the end of the validity of the service.
The price of the Basic Package package for renewals may vary according to market requirements or in correlation with variations in the costs of production, personnel or ancillary services, subject to any legislative provisions having an impact on prices. of sale.

** Requires:*
- Internet connection,
- Online registration to the service,
as specified in the separate user manual and / or documentation provided to the Purchaser.

DETAILS OF SERVICES

Remote Diagnosis - access to improved diagnostics thanks to a constant data flow (24 hours a day), generated by licensed software (without exclusive rights, non-transferable and pre-installed on the machine) which constantly monitors the working conditions and the parameters of Machine process. These data are transmitted via an Internet network at the customer's expense, on a Cloud platform and available to Customer Service for remote assistance.

Extension of Assistance - improvement of response times and methods by means of:
a) Increase in the availability of Customer Service;
b) remote assistance which can be activated directly via the Application via direct access to the telephone service;
c) proactive customer service telephone assistance in case the machine is stopped.

Mobile APP - machine remote monitoring and diagnostic program, accessible via compatible mobile devices (with user license for a single device, non-exclusive and non-transferable, subject to the conditions of acceptance during first use) which provides of the Purchaser, in synthetic form, part of the data collected and processed through Remote Diagnosis, with the possibility of 'push' notification (on events that the supplier wishes to bring to the attention of the Purchaser) and direct access to Customer Service.

DATA MANAGMENT

Technical data and information relating to the Services *"Sophia"* may be collected and used by Biesse in order to perform the related services, and also be used in aggregate form and on a statistical basis, to provide, improve and develop, in general, Biesse products / services / technologies.

PRE-INSTALLED SOFTWARE

The conditions of use of BIESSE software (or third-party licensed software) must be accepted from the first use of the Machine. The software is licensed without exclusivity and must be

used only for machines purchased, excluding any transfer rights or sublicenses. Ownership of the Software, and of any right not expressly granted, is and will remain the property of BIESSE (and / or of its related software publishers).

* Check that the area adheres to the project

Training

Before the machine is delivered to the premises of Biesse France.
This training in numerical control will be theoretical on a PC with practical and personalized applications on machines in the Biesse France showroom.
Travel, accommodation and meal costs are the responsibility of the customer.
On site when the machine is started up.
This training is recoverable under continuing training and is included in the selling price of the machine.

Commercial proposal amount

CNC machining center ROVER A SMART 1643

according to the configuration described above

HT amount of the machine Transport, Assembly and Training included	€ 120,000.00
20% VAT	€ 24,000.00
Amount incl.	€ 144,000.00

To study the possibility of financing by leasing or financial leasing without any obligation, please contact Jérôme Hugoniot, our administrative and financial director by phone on 04 78 96 48 55 or by email at the following address: jerome.hugoniot@biessefrance.fr

Additional options and Services not included in the price sales

	AMOUNT	UNIT PRICE	TOTAL PRICE
7270063	2		212.00

HSK F63 hitched tool holder - Clockwise rotation - For ERC40 collets
For tools with cylindrical coupling with a diameter between 6 and 25 mm This code includes:

- ☑ Rolling lock nuts to provide superior locking forces without deforming the spring clip.

This solution ensures greater precision and better balancing.

* Max speed 24,000 rpm
* The clamp is not included

3407078	1		16.00

Elastic tool locking pliers ERC40 - Diameter 6 / 7mm
Positioned in the tool holder, in the electric spindle with manual tool change or in the aggregate, the elastic deformation of the collet allows the tool to be blocked. The tool diameter is within the specified range.

3407080	1		16.00

Elastic tool locking pliers ERC40 - Diameter 12 / 13mm
Positioned in the tool holder, in the electric spindle with manual tool change or in the aggregate, the elastic deformation of the clamp allows the tool to be blocked.
The tool diameter is within the specified range.