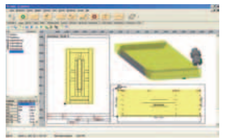
Control system

Control system with integrated safety concept
The ARTIS-X is equipped with the latest generation of control systems, the Sinumerik 840D solution line (sl) of Siemens make, whose openness and modular system architecture perfectly match the design concept of the ARTIS-X. The machine is operated and programmed in a time-saving and intuitive manner by means of a graphic user surface (NC-HOPS). Above all, the control system is able to handle the short reaction times resulting from the high processing speeds. This means that the ultimate machining precision is even guaranteed during high-speed milling. The high speeds also require a sophisticated safety concept. With its safety concept Safety Integrated the Sinumerik 840D sl offers the best conditions in this regard. As all the safety functions are directly integrated into the control and drive technology, this intelligent solution provides a high level of protection for man and machine whilst featuring convenient handling.

Software

NC-HOPS
Using NC-HOPS as a CAD/CAM solution permits the visual development of dynamic parts within a very short time. Thanks to the machine-neutral component description, time-consuming movements, positioning processes and special functions do not need to be programmed at the machine.

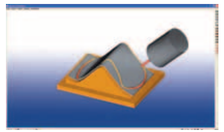
- quick learnability
- efficient working environment
- graphic identification (click to get)
- extensive processing functions
- reusable macros (libraries)
- side-neutral processing



Door frame elements with 5-axes machining and layout, programmed in NC-HOPS

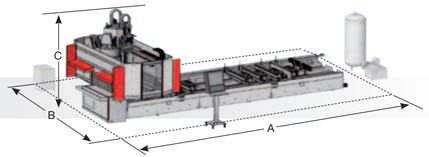
Licom AlphaCAM
is a modular CAD/CAM system for wood and plastics processing. The emphasis lies on the programming on solid models, the graphic parametric, excellent nesting solutions and many other highlights, from the 2.5D up to 5-axes milling.

- tool-specific positioning of the working head
- support of the positioning aids for pods and components
- workshop-oriented system



5-axes trimming with the tool edge, programmed in AlphaCAM

Dimensions for installation



	ARTIS X4	ARTIS X6
Measure A mm	8,520	10,500
Measure B mm	5,300	5,300
Measure C mm	3,000	3,000

→ *taking into consideration a safety distance of 800 mm*

ARTIS-X

Technical Features

Working unit	Performance 14.0/16.8 kW, maximum performance as of 18,000 rpm Number of revolutions programmable from 500 – 24,000 rpm (in steps of 100 rpm) Tool fixtures with hollow cone shank HSK-F63
Cardanic working head	B-axis, swivelling range +/- 180°, C-axis, swivelling range +/- 360°
Drilling unit	Multi-spindle drilling unit in L-shape with 15 vertical and horizontal drilling spindles Multi-spindle drilling unit in L-shape with 25 vertical and horizontal drilling spindles
Tool changer	The automatic tool changer system is inside the portal. A magazine plate with 22 tool places is integrated, maximum tool diameter 300 mm, maximum tool length 240 mm (or chain magazine with 36 places), pick-up place as an option.
ARTIS X4	
Machine table	HPL-table plate (plain or grooved) 4,270 mm x 1,400 mm Portal passage 390 mm
Axes movements	X-axis 4,685 mm - maximum 70 m/min Y-axis 1,550 mm - maximum 70 m/min Z-axis 530 mm - maximum 20 m/min
Working area 5-axes operation	Tool diameter 20 mm Total tool length 120 mm X = 4,020 mm, Y = 1,390 mm, Z = 390 mm (vertical spindle position)
ARTIS X6	
Machine table	HPL-table plate (plain or grooved) 6,020 mm x 1,400 mm Portal passage 390 mm
Axes movements	X-axis 6,665 mm - maximum 70 m/min Y-axis 1,550 mm - maximum 70 m/min Z-axis 530 mm - maximum 20 m/min
Working area 5-axes operation	Tool diameter 20 mm Total tool length 120 mm X = 6,000 mm, Y = 1,390 mm, Z = 390 mm (vertical spindle position)
Additional equipment	Manual or automatic beam table, vacuum system up to 250 m³, chip removal belt, special clamping devices, laser projection system, modem for tele-diagnostic, barcode scanner, software for the graphically supported programme generation.
Control system	Siemens Sinumerik 840D sl (Solution Line)

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ARTIS-X

CNC-technology at its best

HAMUEL REICHENBACHER
A member of the SCHERDEL group

ARTIS-X

Universal application for the most different workpieces in the furniture and interior production – furniture parts today, tomorrow an interior part and the day after a solid wood part for stairs. For numerous machining tasks, such as formatting, profiling, drilling, grooving and separating with material like MDF, chip or core boards, solid wood, plastics and many more.

Flexible CNC-technology for the woodworking industry

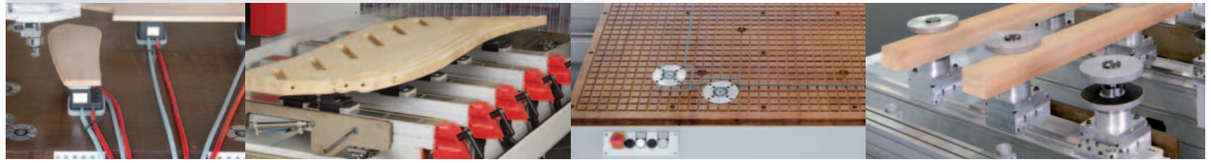
High quality of repeat parts and flexibility for small quantities are the typical requirements of most small and medium-sized joinery shops. With the ARTIS-X, Reichenbacher Hamuel satisfies the demand for an efficient, flexible CNC-machining centre, which provides high performance at an affordable price. Short set-up times, a variety of machining options and ease of operation are essential requirements for increased production efficiency in businesses where investment in technology is often limited to a few important purchases. Reichenbacher Hamuel machines are renowned for their consistently high output, excellent up-time and highest mechanical reliability. The products are characterized by their long operational life, easy handling and low maintenance requirements. Delivering first-class component machining quality is the number one priority for Reichenbacher Hamuel – as it has been for decades. All these qualities can be found in the two expandable standard versions of the modular 5-axes ARTIS-X machining centre.

Possible machine configuration

- Charging by robot for unmanned operation
- Automatic set-up table with supporting beams
- Reciprocal machining left and right side of table
- 5-axes working head
- Drilling unit with 25 spindles mounted in L-shape
- Chain magazine with 36 tools

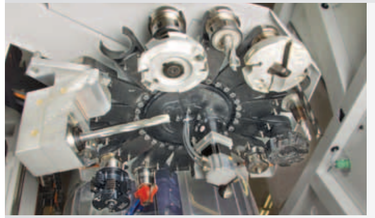
Machining at its highest level

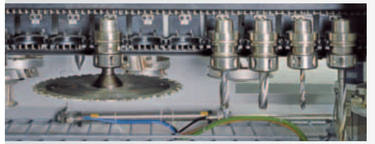
Table types



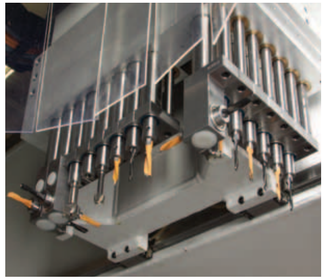
The protection of the entire working area with safety bumpers optimizes the reciprocal loading possibilities and dispenses with the need for pressure sensitive mats. The only difference between the two basic types is the varying table length, as both are equipped with a full 5-axes cardanic working head as a standard. The equipment versions cover the requirements of the craft up to those of industrial production. The different table types – plain table, beam table, grooved table and automatic set-up table – meet every user's needs. The machine bed is in solid welded design. Exact positioning of the aggregate cantilever in X-direction is done by ground precision guides and rack drive powered by highly dynamic and maintenance-free servo drives.

Versions

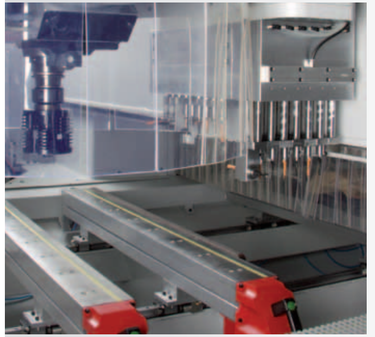




The aggregates move within the enclosed portal – the tools performing all the feed movements. The moveable automatic tool changing systems with up to 36 places (chain magazine) and a maximum outer diameter of 300 mm permits the use of larger tools and additional standard heads.

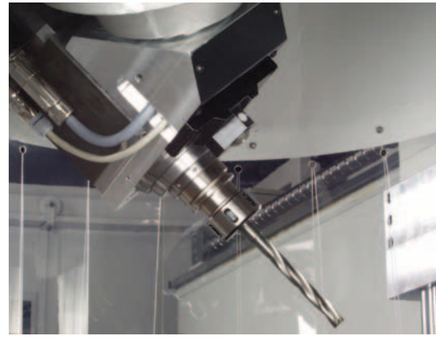


In addition to the basic equipment of one milling spindle, an optional tool interface HSK-F63 and a multi-spindle drilling box with 15 or 25 individually controllable spindles are available. The power consumption of a milling spindle with water-cooling is permanently controlled; this protects the spindle from damage.



The clamping supports are bedded on ball bearing units and can be adjusted in a quick and easy way via a push button at the lever. This stable clamping is the basis for achieving high machining quality. Supply to the clamping supports is bundled in a flexible protective tube, which is routed through the machine bed.

The X-drive employs the proven and unique Reichenbacher Hamuel construction principle with pre-clamping mechanism. This guarantees high positioning accuracy and minimises wear of the toothed rack throughout the life of the machine.



The ARTIS-X is equipped with a full 5-axes control system – the Siemens 840D sl. Digitally driven axes with absolute measuring systems, together with process optimised control functionality, guarantee best machining results.