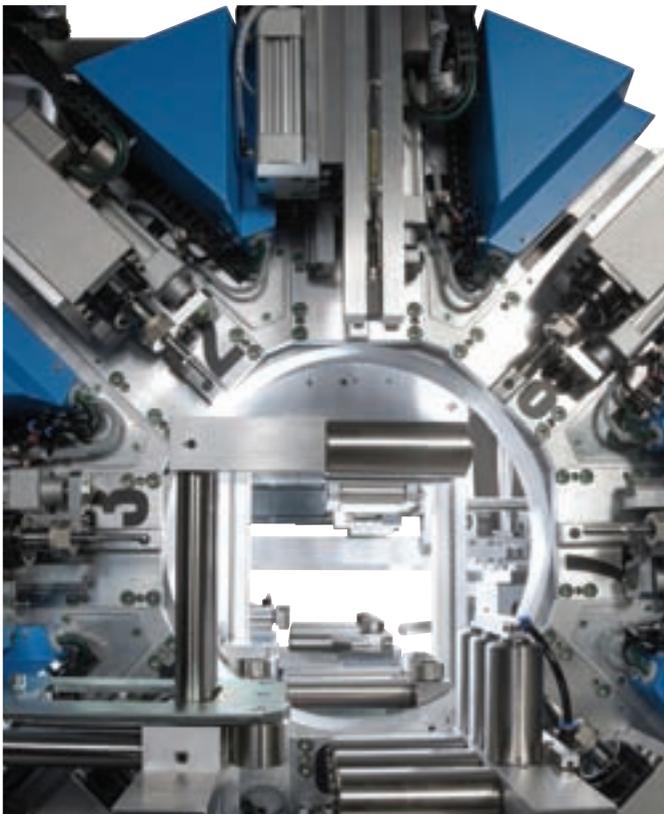


Never standing still

The Stuga ZX4 has been the top of the Stuga range of sawing and machining centers since 2005 and although being updated many times technology moves relentlessly which meant a big decision for Stuga. It needed to replace what has been a very successful product. With the ZX4 becoming more and more the choice of new machinery purchases Stuga decided way back in 2016 to work out what would be the blueprint for the next flagship model

The high cost of designing and developing new machines meant the project had to be carefully planned in the knowledge that even with computer aided design technology there would be testing, improvements, changes and upgrades along the way. The target for the project was The Fit Show 2017 and making the machine ready for that date was a major challenge. With the high cost of exhibiting at such a show the machine had to be right and look right, so development certainly went down to the wire.

Since the launch of the ZX4 in 2005 each major upgrade has been designated with a 'MK' ie MK1, MK2, MK3, MK4, MK5, MK6. The new machine was considered as perhaps being the ZX4-MK7 but it was quickly realised that this machine was so different from previous models so the latest model became the ZX5.



Ultimately this will be the ZX5-MK1 because Stuga technology never stands still.

The ZX5 has all of the features of the ZX4 but in addition has a new gripper system known as 'tru-loc' that has a positive impact on holding modern PVC-U systems firmly gripped for complex machining operations when

both pushing and pulling profiles. The machine also incorporates a system called 'Y-drive' for fast and accurate production of 'Y' notches. Much work has been done to create smoothness and low friction throughout the on-board transporting and transferring processes to increase reliability and reduce wear and tear. All this helps to increase output as well.

The top of the range machine with the highest output was chosen for this development project in line with the perceived trend for PVC-U fabricators to commit to buying top of the range kit. The realisation seems to be that to survive in this market top



level investment is

required on a regular basis. Stuga has been supplying automatic sawing and machining centers into the market since the start of 2000 and with all of its machines still operational. The earlier ones are at or near the end of their life and when these machines are considered for replacement and compared with the competition this very old technology can be compared to our competitor's latest technology. So Stuga has to be quick to ensure the fabricator looks at the Stuga ZX5 when these comparisons are being made.

A great attraction for Stuga customers is the fact the machines are built here in the United Kingdom utilising parts resourced entirely in this country. Service and back-up are taken very seriously and spare parts are readily available for all current machines.

The first ZX5 was installed in January 2018 since which another four have been installed with a further four on order to be built during this year. Some orders having been won against strong competition from European manufacturers. British innovation is offered right here where and when needed. □

Accordant with wood

Founded by William Allan in 1811, and steadily developed by his sons James and Thomas, Allan Brothers is Britain's longest established specialist joinery company, crafting high quality timber windows and doors. Over 200 years on, Allan Bros is still located on the south bank of the River Tweed, in Tweedmouth, Berwick-upon-Tweed, and in 2007 the company became part of the Inwido Group, headquartered in Sweden

With around 3,500 employees, Inwido is Europe's largest manufacturer of windows and doors, and the market leader in the Nordic region, as well as supplying to other key markets in the UK, Ireland, Poland and Austria. The group supplies wooden windows, aluminium-clad wooden windows and doors, along with related accessories, and much of its output is made to measure and uniquely configured, with fittings, glazing bars and colours adapted to order.

CNC routing machinery is not a new concept for the company and Robert Frost, factory manager at Allan Bros, had the task of researching the market for a new machining centre to replace a previous single bed 3-axis router that had become too long in the tooth – the end result of his enquiries was the installation of a new SCM Accord 25 FX. “We looked at several comparable machines from different manufacturers,” says factory manager Robert Frost, “but for me the SCM machine was a well-made machine and overall represented much better value for money.”

“The new Accord was delivered on time, and the installation couldn't have gone more smoothly – SCM's engineers provided full training for our operators, and they are always happy to advise over the phone if we need it.”

Allan Bros is using the new Accord 25 FX to profile products in its timber door range and to machine the arched heads which are an option on its windows and doors.

The Accord 25 FX is designed for the demanding requirements of small to medium-sized workshops, and combines high-tech performance with intuitive, user-friendly operation and can be specified with a wide range of standard working areas up to a maximum of 6360mm x 1680mm, with the mobile gantry allowing precision machining across the entire bed. Allan Bros opted for an 'X-Y' machining area of 6360mm x 1380mm, which has the capacity for machining large workpieces up to 250mm



high in the 'Z' axis, and is equipped with 10 aluminium support bars that are manually and independently positioned along the 'X' axis. This specification allows for 'tandem working' on the machine, with machining of timber being undertaken at one end, whilst at the other end, finished product is offloaded and fresh timber blanks loaded ready for processing. Workpieces are held in position by suction cups which are fitted as required across the bars; Allan Bros have a selection of different sized cups to suit different shapes and sizes of workpiece. Two vacuum pumps provide the suction power. Each pump is rated at 250m³/hr.

The Prisma KT machining head, with five interpolating axes, is equipped with a 12kW 'high speed' electrospindle capable of rotation speeds up to 20,000 rpm, and is fixed directly to the mobile gantry to guarantee maximum strength and torque during routing; allowing high levels of stock removal, when necessary, and achieving the highest quality finish. The geometry of the 5-axis head also facilitates machining up to 10 degrees below the workpiece support level, and a conveying device revolving on the electrospindle removes sawdust and shavings from the work area.

Machining programs are created using SCM's Windows-based Xilog maestro CAD/CAM software suite – with 3-dimensional graphics, and an advanced yet simple and intuitive sketching environment. The software incorporates all the necessary tools for an operator to design parts, optimise work table layout, and manage tooling and machining operations, all from the standard console control unit. Allan Bros' specification also included SCM's 'TecPad' – a handheld, touchscreen, remote control unit which provides truly mobile control of electrospindle rotation speed and speed of axes adjustment – allowing constant monitoring of progress throughout machining operations.

Operator safety is ensured by SCM dual protection system: to allow loading and unloading to be undertaken safely a photocell controlled area temporarily limits the speed of the X axis to max 25m/min when entered, while SCM padded pressure sensitive bumpers, an integral feature of the moving gantry, instantly stop the machine in case of contact. The production program resumes in a CN controlled manner to avoid marks on the wood, and the max traverse speed up to 60m/min is reactivated once the photocell protected area is free. □

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