

Pass-through centre SBZ 628: Versatile all-rounder for cost-effective and flexible non-stop profile machining – from blank bars to the finished product

- Automation minimizes expensive handling and personnel costs
- Compact, space-saving layout
- No conversions thanks to the rotation module
- Fast and precise thanks to the 360° rotating router spindle and the continuously adjustable pivoting saw
- High process reliability thanks to the combination clamping system for on-the-fly and stationary machining
- Continuous flow of products optimizes planning and productivity

The pass-through centre SBZ 628 for aluminium and PVC is designed for one-man operations and offers fully automatic machining of various profiles types with high precision and process reliability. Intelligent solutions such as a rotation module, a second X-axis for machining thick-walled profiles and a saw that can approach the profile from three sides make the SBZ 628 a powerful tool for metalworking and industrial companies who want less expensive, easier to plan and more flexible production.

Economic and strategic advantages

The pass-through centre takes care of all profile machining tasks securely, precisely and efficiently – from the infeed of the unmachined part to the finished product, with no manual intervention. By replacing several individual machining stations with one pass-through centre, companies can save on expensive handling and minimize personnel costs. However, the SBZ 628 has more to offer than simply increasing efficiency; it also provides strategic advantages. Through automation, users benefit from a consistently high quality and gain the ability to optimize their planning and react more flexibly during peak times.

Machining from every angle

The SBZ 628 can process vertical or horizontal profiles with cross-sections up to 320 x 160 mm. The rotation module is the machine's centrepiece. Equipped with up to eight drilling or cutting tools, it can move around the whole profile, machining all profile sides at any angle between 0 and 360 degrees. The powerful 6 kW spindle variant ensures speed and precision. On-the-fly changing saves even more time: as the current spindle finishes its machining task, the next spindle already starts up. The rotation module also operates at high speed: it can complete an entire rotation in less than two seconds.

Depending on the requirements and materials, the user can choose between on-the-fly or stationary machining. When machining lightweight, thin-walled profiles, the bar is moved via the pusher axis of the patented gripper system. For heavy duty machining tasks with long feed distances, such as thick-walled aluminium bars, the workpiece can be positioned via a second 400 mm X-axis. The rotation module then performs the machining tasks with the workpiece stationary on this axis.



Profile machining centre SBZ 628

Combination clamping system for safe and precise operation

In order to guarantee best-of-class results for both heavy duty stationary profiles and efficient on-the-fly machining, the combination clamping system reliably secures the workpiece from above and from the side. The servo-controlled tensioning block minimizes the clamp spacing, ensuring that less stable profiles also remain vibration-free. The clamping plates and tensioning rollers are equipped with a quick-change system and are height-adjustable, making it possible to easily secure complex profile geometries.

Continuously adjustable pivoting saw blade for three-sided length cutting

The 4-axis saw unit can be pivoted continuously to any angle between 0 and 360 degrees. The max. 650 mm saw blade can approach the profile from three sides and perform pull-back, plunge and notch cuts, for example. These machining tasks can be performed on both ends of the good part. Kerf spreading after sawing prevents re-cutting and ensures clean cut faces. The large saw blade diameter makes machining large profile geometries possible as well. This means that a profile with a width or height of 320 mm can be processed using the 650 mm saw blade. Swarf and residual pieces are transported out of the machine via the swarf conveyor belt.

Continuous production flow from infeed to outfeed

The automation already starts with the infeed of the profiles. The loading magazine holds up to ten 7.5 m or shorter profile bars. The conveyor belt transfers them to the patented gripper system. It features motorized rotation and horizontal as well as vertical adjustment, and automatically aligns itself based on the profile parameters. The gripper pushes the profile to the machining unit. A patent-pending moving clamp additionally secures the profiles from above and from the side, which is extremely helpful for precisely positioning heavy profiles or profiles with difficult geometries. Outfeed is handled by an external gripper, which already grips the good part during length cutting.



Machining module



Saw unit

Technical specifications

- Loading magazine for five or ten profiles (depending on the profile cross-section)
- 4-axis machining module with four router spindles (option: eight router spindles)
- Router spindles, 6.0 kW S1 with HSK 40 C tool holder
- Second 400 mm X-axis
- 3-axis saw portal 5.5 kW
- Saw: pivoting range, 0 - 360°
- Saw blade, 550 mm (option: 650 mm)
- Axis-controlled saw feed
- Profile pullout with external gripper
- Label printer (optional)

About elumatec AG

elumatec AG is an international leader in the manufacturing of machines for processing aluminium, PVC and steel profiles. With its extensive product range, the company covers the entire spectrum of applications from small craftsman's businesses to industrial profile processors. Custom-designed and modular machinery concepts provide flexible and individualized industry solutions for all groups of customers. The company, founded in 1928 with headquarters in the Swabian town of Mühlacker in Germany, has subsidiaries and dealers in more than 50 countries and, with over 700 employees worldwide, most recently achieved consolidated sales of about 120 million euros.

Pictures and other information about the enterprise are available from the News area of the elumatec AG website at www.elumatec.com.

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