Technical data

VISION-FLEX	Basic concept of the machine
Equipment configuration	5-axes milling unit with cardanic spindle (-20° undercut)
Additional equipment	Minimum quantity lubrication Blasting nozzles Torque support Spotlight at the working head Vibration monitoring Measuring probe
Spindles	Reckerth make – 15 kW; 24,000 rpm; HSK-F63 Reckerth make – 35 kW; 24,000 rpm; HSK-F63
Tool changers	Plate changer with 20 places with space for saw blade Ø 500 mm
Extraction and chip removal	Oil mist extraction Chip conveyor
Machine table equipment	Automatic beam table with pneumatic clamping units Stop faces left / right
Working area layout (strokes of axes)	Single loading 7,300 x 500 x 350 mm Alternate loading 3,100 x 500 x 350 mm
Workpiece clamping technology	Pneumatic clamps
Control systems	Siemens Sinumerik 840D sl (user interface HMI Operate, WIN 10)
Control options	Mobile operator desk HT2 hand-held unit (as an option) Control option remote diagnostics (Teamviewer) Control option machine date recording Control option OEM run time licence

Changes in the course of technical progress are reserved.

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INFO

on a new machine concept



VISION-FLEX – The perfect choice for discerning customers

Progressive machining of aluminium profiles

CNC-machining centres to meet highest demands

HAMUEL REICHENBACHER
Members of the SCHERDELGroup

CNC-machining centre VISION-FLEX





Cardan 5-axes working head with attached milling spindle (undercut 20°) for milling, drilling, sawing and grinding work.

By our highly dynamic 5-axes CNC-machine VISON-FLEX we have created a perfect platform to make the processing of aluminium profiles even more efficient, as this machine revolutionises the cutting and machining even of large profile cross-sections up to 7,300 mm in length and permits three-sided and end-of-profile machining.

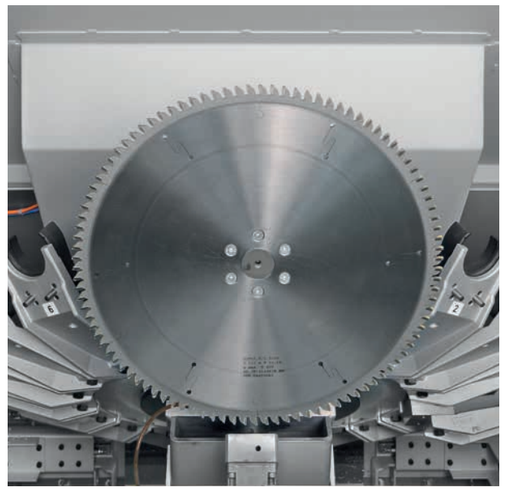
When you use this series, you will succeed in saving precious working time and thus in achieving cost reductions. How has this been realised for this machine concept? The absolute position measuring system for the CNC-axes, for example, renders referencing unnecessary. Clamping blocks with individual drives, which can also be displaced in groups, result in a significant reduction in set-up and manufacturing times. Positioning of the clamps for profile processing is carried out automatically by the control system. Even during processing, the motor-driven clamping blocks can be moved and displaced in groups. Without any problems it will also be possible to open the clamps as a function of the profile and to fix the profile with only one clamp. Moreover, the component can additionally be fixed in the Z-direction by a vertical clamp at the beam. And last but not least: if machining is to take place in the range of the clamp, the latter can be withdrawn.

The challenges within the industry are manifold, and we meet them with an innovative milling head technology, the cardan spindle mounting of which permits a pivot range with an undercut of up to -20°. This is rendered possible by the connection of the pivot block to the B-axis arm at an angle of 50°. In the case of the VISION-FLEX we have thought of everything and implemented the technology required for machining processes needed by all manufacturers of aluminium profiles: freeing of the saw blade, quick notching from below, bevel notching, notching step-by-step, embedded notching, undercut machining, cycled processing, friction drilling, thread forming and powerful 5-axes milling.

The automatic tool changer comprises 20 tools and is freely configurable by the operator. Also bigger tools and additional heads can be used. The magazine moves along with the portal, thus permitting a tool change during the portal movement, which in turn considerably reduces non-productive times. The locating edge at the front of the table provides an ergonomic advantage even for the loading of long profiles. Moreover, the typical Reichenbacher safety concept with bumpers, and therefore without protective grating, turns this line into a real space saver. This line takes any profile manufacturer a big step closer to the manufacturing of the future.

The VISION-FLEX system:

- CNC-centre for the 6-sided machining of aluminium and plastic profiles
- Very large machining area (7,300 x 500 x 350 mm) at a small footprint (12,800 x 3,000 x 3,000 mm)
- Efficient 5-axes machining with 15 kW spindle (35 kW spindle as an option)
- Sawing up to a saw blade diameter of 500 mm
- Measuring stop for measuring the profiles (as an option)
- No interruption of the machining operation for setting / loading: while machining takes place in station 1, loading can simultaneously be effected in station 2
- 8 - 10 clamping blocks: massive, inclined design for a better chip removal
- Machine bed with chip conveyor; a sheet-metal labyrinth protects all guide and drive elements against chip penetration
- No pressure mats, no protective grating: safety system in bumper design
- Control system Siemens Sinumerik 840D sl with mobile operator desk



The automatic changer for 20 tools is to be found inside the portal enclosure behind the working unit and moves along in the X-direction. A cover hood protects the tool cones against flying chips.