elumatec

a voilàp company

SBZ 118

CABINET MACHINING CENTERS



The SBZ 118, a 3-axis profile machining centre with optional 5-sided machining that's easy to use and has a minimal footprint, expands the elumatec range of entry-level products for automated CNC machining of aluminium, PVC and thin-walled steel profiles. With its machining length of three metres, this versatile and powerful model is the most compact CNC machine in the current elumatec range.

The SBZ 118 offers full functionality for milling, drilling and notching in a small space. It was developed for machining up to five sides with an optional angle head and end milling machine, depending on the individual configuration. The proven inclined bed technology and the on-board 5-fold tool changer make it easy to use.

The SBZ 118 is made particularly attractive by individually configurable optional equipment, including up to two on-board angle head changers, expansion to up to six clamps, an additional length stop with overlength machining and a barcode scanner. A side service door facilitates set-up and maintenance, and the new front visor enables ergonomic and above all safe operation – even for tall people. Plus, the SBZ 118 is eluCloud ready to meet the requirements of Industry 4.0.

- Designed for economical and efficient machining of aluminium, PVC and thin-walled steel profiles
- All operations, such as routing, drilling, notching and tapping, are performed while the profile bar is stationary to protect the profile surfaces
- Better machining results thanks to intelligent control technology
- Fast positioning of the machining unit with up to 60 m/min thanks to dynamic servo drives
- Tapping without compensation chuck
- Automatic clamp recognition and clamp positioning

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- Automatic on-board tool changer with five tool tray positions (without tools)
- State-of-the-art 3-axis controller
- Ergonomic and stable operation thanks to the advanced inclined bed
- Automatic clamp recognition and positioning prevents collisions
- Power torque routing motor with enclosed speed control for short spindle start-up and braking times.
- Low power consumption thanks to intelligent control technology
- DC link coupling in the axis drives for greater energy efficiency
- Uninterruptible power supply (UPS)
- Windows operating system
- 15.6" panel PC, i3 processor, USB ports and network connection
- Simple, stress-free program entry with eluCam on the operating panel, even during operation
- eluCloud ready
- Remote online maintenance

Machine configuration

- Air-cooled 5 kW, S1 routing spindle
- Protective cabin with side service door
- Four horizontal, pneumatic material clamping units
- A material stop on the left
- HSK-F63 tool holder
- Minimum-volume lubrication system
- High-performance cutting fluid

Options

- 1 or 2 optional on-board tool changers for rotating angle heads for 5-sided machining
- HSK-F63 rotating angle head for two tools
- Tools and tool holders with process data
- Barcode scanner
- Length measurement on both sides
- Double clamping and other accessories on request
- 18.5" panel PC, i5 processor
- 21.6" panel PC, i7 processor
- Green Line cooling unit for the control cabinet with reduced energy consumption
- Four clamps as standard. Can be equipped with up to six clamps
- Material reference stop (right) for positioning workpieces with overlength machining
- CE version as standard, UL version optional

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Tool magazines

Short changeover times thanks to the on-board tool magazine for five tools for machining from above. Two optional magazines for two rotating angle heads (with two tools) allow the machine to be expanded for 5-sided machining.



Inclined bed and large working area

The machining unit (X-Y-Z axis) moves on a cleverly designed inclined machine bed, offering excellent ergonomics. Cleaning is much easier thanks to the 45-degree inclination, which makes the chips fall downwards, and the operator can stand close to the machine table when inserting the profile to make their work easier. The machine also combines a large working area with optimum machining stability in a compact space.



Material stop, automatic clamps, longer profiles

Optimum machining results on profiles up to 3,000 millimetres long thanks to the material stop on the left and four compact clamps made from vibration-damping cast steel in a slim yet highly rigid design. Individual clamping pieces and support blocks are easy to add and use, while linear guides allow precise automatic adjustment of the clamping system. The SBZ 118/20 can be equipped with two additional clamps and a material stop on the right. Material feed-throughs in the protective cabin and a variable length stop also allow profiles longer than 3 m to be

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HMI and machine control

The SBZ 118/20 is the quick way to get started with CNC machining: it runs on Windows, is controlled via the proven SBZ 1xx series ECI user interface and uses the latest hardware and controller technology. A wide range of metal construction programs can be controlled via eluCad and the full functionality of a CAD-CAM module from the industrial sector is available. Like the larger CNC centres from elumatec, the compact SBZ 118/20 is also eluCloud ready to meet the requirements of Industry 4.0: machine and process data can be recorded and optionally evaluated, allowing you to analyse and optimise operation and to send a real-time finished parts message to the production control computer or the



Machining unit

Fast machining changeovers and flexible 5-sided machining: the machining unit has a 5.0 kW routing spindle and optional HSK-F63 rotating angle head for two tools, an automatic tool changer and optional angle heads.

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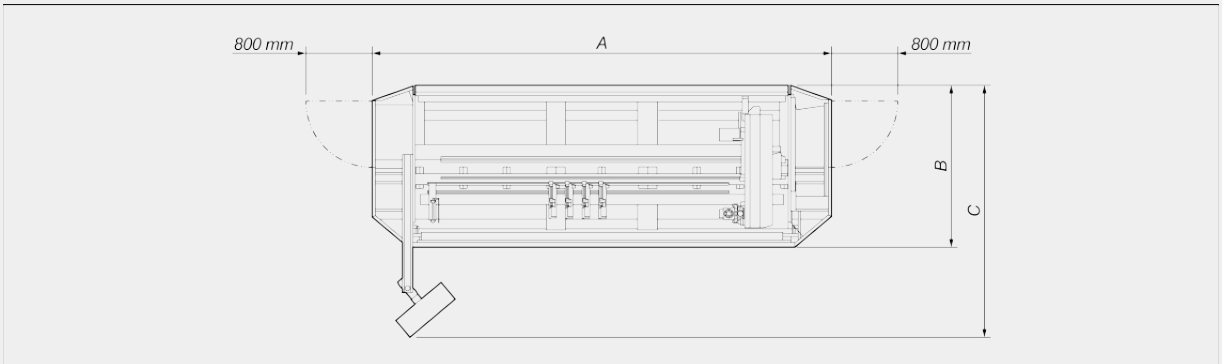
SBZ 118 / CABINET MACHINING CENTERS

LAYOUT



SBZ 118	
Total length (A) (mm)	5.520
Depth without control panel (B) (mm)	1.955
Total depth with control panel (C) (mm)	~ 3.025
Height (mm)	~ 2.490
Weight (kg)	~ 3.220

The overall dimensions and the weight may vary depending on the product configuration

AXIS STROKES

X AXIS (mm)	3.595
Y AXIS (mm)	945
Z AXIS (mm)	374

POSITIONING ACCURACY

X AXIS (mm)	+/- 0,1
Y AXIS (mm)	+/- 0,1
Z AXIS (mm)	+/- 0,1

POSITIONING SPEED

X AXIS (m/min)	60
Y AXIS (m/min)	30
Z AXIS (m/min)	30

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AXIS ACCELERATION

X AXIS (m/s²)	2,5
Y AXIS (m/s²)	2,5
Z AXIS (m/s²)	2,5

ELECTROSPINDLE

Maximum power in S1 (kW)	5
Maximum speed (rpm)	24.000
Maximum torque (Nm)	4
Toolholder cone	HSK 63F
Aircooled	●

OPERATING MODE

Length measurement on both sides	○
Machining longer profiles over 3 m	○

SAFETY DEVICES AND PROTECTION

Machine integral protection booth	●
Side tunnels	○

LUBRICATION

Minimal oil diffusion lubrication system	●

MACHINING FACES

With direct tool (top)	1
With angular head (front/back, ends)	2 + 2

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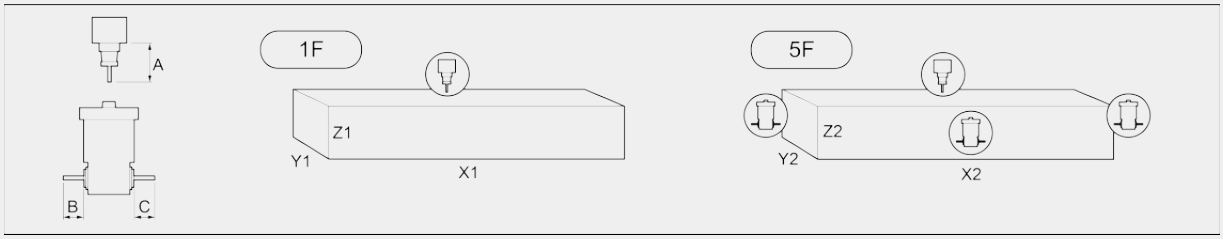
WORK AREA

1F = 1 face machining **5F = 5 faces machining**



	A	B	C	X1	Y1	Z1	X2	Y2	Z2
SBZ 118	185	50 / 80	50 / 80	3200	230	230	3000	175	210

Dimensions in mm

AUTOMATIC TOOL MAGAZINE

Tool magazine traveling along	●
Maximum number of magazine tools	5
Maximum disc milling cutter diameter (mm)	100
Maximum end mill diameter (mm)	16
Maximum tool length (from taper) (mm)	185
Maximum drill diameter (mm)	10

AUTOMATIC ANGULAR HEADS MAGAZINE (OPTIONAL)

Number of places tools	2
Angle head changer 1 traveling (contains the rotating device on the spindle 4x90°)	○
Angle head changer 2 moving along	○
Angular milling head 90°	○
Angle head adjustable from 90° to 180°	○

WORKPIECE LOCKING

Quick adjustment	●
Standard number of clamps	4
Maximum number of clamps	6
Automatic clamp positioning	●

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PROFILE POSITIONING

Number of material stop (clamping position left)	1
Number of optional material stop (clamping position right)	1

WORKING CAPACITY (aluminium)

Maximum drilling up to 2xD depth (mm)	10
Maximum drilling up to 10 mm depth (mm)	10
Maximum drilling up to 20 mm depth (mm)	10
Milling up to 3 mm thickness per operation	●
Maximum diameter milling up to 3 mm thickness with angular milling head (mm)	8
Maximum diameter milling up to 5 mm thickness with total length 140mm cutter and holder (mm)	16
Maximum thread cutting 2xD depth	M8
Maximum thread shapes 2xD depth	M6
Thread milling	●
Maximum flow hole shapes with main spindle with Aludrill (from top only)	M8
Maximum disc milling cutter diameter (mm)	100

WORKING CAPACITY (steel Up To 3 Mm)

Maximum drilling up to 2xD depth (mm)	6
Maximum diameter milling up to 3mm thickness with fine roughing cutter (mm)	6
Milling with angular milling head up to 3mm thickness with fine rough cutter	○
Maximum thread shapes 1xD depth	M5

ELECTRICAL CONNECTION

Connected load (KW)	12

PNEUMATIC CONNECTION

Pressure (bar)	7
Average air consumption per minute [l/min]	~ 185

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CONTROL UNIT

Microsoft® Windows® 10 Embedded	●
Panel PC 15,6" Processor i3	●
Panel PC 18,5" Processor i5	○
Panel PC 21,5" Processor i7	○
USB ports and network connection	●
UPS - Uninterruptible power supply	●
Depth caliper	●
Hand control	○
Barcode reader	○

SOFTWARE

eluCam 2d/3d Cad module	●

Included ● Available ○

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