SBZ 122
FAMILY OF MODELS
PROFILE MACHINING CENTRES

A MODULAR FAMILY OF MODELS FOR VARIOUS NEEDS.
FAST. VERSATILE. INTELLIGENT.
ALU | PVC | Steel

THE SBZ 122/7X FAMILY OF PROFILE MACHINING CENTRE MODELS

The family of entirely redesigned SBZ 122 models have set new benchmarks in terms of performance, ergonomics and utility in the entry-level segment of the aluminium, PVC and steel profile machining industry. Intelligent control technology, powerful servo motors and a machine bed designed for high rates of travel deliver perfect finishing with high speed and efficiency. State-of-the-art components such as the control system, the RPM-regulated spindles and the energy-efficient drives save operating costs and ensure optimal machining results.

The new generation of SBZ 122 machines maximize the available machining area while minimizing the footprint, providing an additional boost to the total productivity per square meter. The model series' modular design is another advantage. It makes it easy to configure the machine to perfectly match the customer’s various requirements.

Your advantages at a glance

- Machining area up to 300 x 300 mm depending on the model
- Minimized footprint thanks to the machine’s protective enclosure
- Precise machining results even at high rates of travel
- Low power consumption thanks to the intelligent control technology
- High process reliability, even under quickly changing loads, due to RPM-regulated spindles
- Short machining cycles thanks to the servo axes’ high rate of travel
- Ergonomic operation thanks to the modern inclined bed, uncovered spindle and height-adjustable control unit
- Increased work safety thanks to remote-controlled clamp activation and protective enclosure
- Machine installation within a very short period of time

Configuration options

- Protective enclosure can optionally completely enclose the machine on all sides, with additional sound insulation
- Easy and intuitive operation thanks to the modern elumatec Customer Interface (ECI)
- Stationary tool magazine
- Four clamps as standard. Can be equipped with up to eight clamps
- Material reference stop (right) for positioning workpieces with overlength machining
- Additional stop for overlength machining (left)
- Length measurement on both sides
- Double clamping and other accessories on request

The different models and equipment variants allow users to configure and select a machine the perfectly fits their requirements:

• SBZ 122/70 plus: 3-axis basic model automatic clamp positioning, tapping without compensation chuck, large machining area, machining from above, 5-sided machining optionally with rotating angle head

• SBZ 122/71: 3-axis model for metal construction applications includes automatic clamp positioning, tapping without a compensation chuck, 5-sided machining with rotating angle head

• SBZ 122/73: 4-axis model for metal construction applications includes automatic clamp positioning, tapping without a compensation chuck, A-axis for continuously variable angle adjustment, 3-sided machining

• SBZ 122/74: 4-axis model for metal construction and industrial applications includes autonomous clamp positioning, clamps with linear guides, tapping without a compensation chuck, A-axis for continuously variable angle adjustment, 3-sided machining

• SBZ 122/75: 5-axis model for metal construction and industrial applications includes autonomous clamp positioning, clamps with linear guides, tapping without a compensation chuck, C-axis for profiling and machining from the left and right, 5-sided machining

New machine bed
The new design is fully comprehensive. The traveling column moves on a machine bed that is executed as a modern inclined bed. Swarf automatically falls off of the 45° incline, making cleaning much easier. The operator can step close to the workpiece table when positioning profiles, ensuring an ergonomic economy of motion. The bed has a large work area despite its small overall footprint. Noise reduction is a further benefit of the protective enclosure.

Clamps
Included as standard equipment on the SBZ 122 are four completely redesigned clamps featuring a slim form and high degree of stiffness. The machine can optionally be equipped with up to eight clamps. In the SBZ 122/74 and SBZ 122/75, the clamps are equipped with linear guides instead of round guides.

Tool magazine (SBZ 122/70 plus, SBZ 122/71)
SBZ 122 models with a machining length of four meters are equipped with a stationary tool magazine with four positions as standard. Additional tool magazines can be installed as needed anywhere along the X-axis. (16 standard tools und two angle heads)

Tool magazine (SBZ 122/73/74/75)
The tool magazine with 12-fold tool changer allows quick, easy setup and minimal secondary time

A-axis angle adjustment (SBZ 122/73/74/75)
Continuously adjustable angle setting from -120° to +120°

C-axis (SBZ 122/75)
Continuously adjustable angle setting from -220° to +220° Enables profile end machining from the left and right
3-AXIS PROFILE MACHINING CENTRE

Profile machining centre SBZ 122/70 plus

3-axis model for metal construction applications

- Designed for economical and efficient machining of aluminium, PVC and steel profiles
- All operations, such as routing, drilling and tapping, are performed while the profile bar is stationary to protect the profile surfaces
- Better machining results thanks to the 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
- Automatic tool changer with four tool tray positions (without tools)
- State-of-the-art 3-axis controller
- Ergonomic operation thanks to the modern inclined bed
- The absolute rotary encoder system means no axis homing is required
- Automatic clamp recognition and positioning prevents collisions
- Power torque routing motor with enclosed speed control for short spindle start-up and braking times.
- Certified, drive-integrated safety functions
- Low power consumption thanks to the intelligent control technology
- QC 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
- Remote online maintenance

Machine configuration

- Air-cooled 8 kW, 51 routing spindle
- Enclosure to protect the operator
- Four horizontal, pneumatic material clamping units
- A material stop on the left
- Tool holder HSK-F63
- Minimum-volume lubrication system
- High-performance cutting fluid
- Hand-held operator terminal
- Depth gauge

Options

- Tools
- Tool holders
- Automatic tool changer for four standard tools
- Automatic tool changer for angle head
- HSK-F63 rotating angle head for two tools
- Green Line cooling unit for the control cabinet with reduced energy consumption
- Barcode scanner
- Protective enclosure can optionally completely enclose the machine on all sides
- Four clamps as standard. Can be equipped with up to eight clamps
- Material stop (right) for positioning workpieces with overlength machining
- Additional stop for overlength machining (left)
- Length measurement on both sides
- Double clamping and other accessories on request
- 18.5” panel PC, i5 processor
- 21.6” panel PC, i7 processor
- Note holder
- Sound insulation hood
- Swarf trays for swarf removal
3-AXIS PROFILE MACHINING CENTRE

Profile machining centre SBZ 122/71

3-axis model for metal construction applications

- Designed for economical and efficient machining of aluminium, PVC and steel profiles
- All operations, such as routing, drilling and tapping, are performed while the profile bar is stationary to protect the profile surfaces
- A rotation unit (rotating mechanism) integrated into the spindle makes it possible to adjust the rotating angle head to 0°, -90°, -180° and -270°
- Better machining results thanks to the intelligent control technology
- Fast positioning of the machining unit with up to 120 m/min thanks to dynamic servo drives
- Tapping without compensation chuck
- Automatic clamp recognition and clamp positioning
- Ergonomic operation thanks to the modern inclined bed
- Automatic tool changer with four tool tray positions (without tools)
- Automatic tool changer for an angle head
- State-of-the-art 3-axis controller
- The absolute rotary encoder system means no axis homing is required
- Automatic clamp recognition and positioning prevents collisions
- Power torque routing motor with enclosed speed control for short spindle start-up and braking times.
- Certified, drive-integrated safety functions
- Low power consumption thanks to the intelligent control technology
- DC link coupling in the axis drives for greater energy efficiency
- Enclosure to protect the operator
- Uninterruptible power supply (UPS)
- Certified, drive-integrated safety functions
- Low power consumption thanks to the intelligent control technology
- Windows operating system
- 18.5" panel PC, i5 processor, USB ports and network connection
- Simple, stress-free program entry with eluCam on the operating panel, even during operation
- Remote online maintenance

Machine configuration

- Air-cooled 8 kW, S1 routing spindle
- Enclosure to protect the operator
- Four horizontal, pneumatic material clamping units
- A material stop on the left
- Tool holder HSK-F63
- Routing spindle with integrated rotation unit (0°, -90°, -180° and -270°) for angle head
- HSK-F63 rotating angle head for two tools
- Swarf trays for swarf removal
- Minimum-volume lubrication system
- High performance cutting fluid
- Hand-held operator terminal
- Depth gauge

Options

- Tools
- Tool holders
- Automatic tool changer for max. four standard tools
- Automatic tool changer for angle head
- Green Line cooling unit for the control cabinet with reduced energy consumption
- Barcode scanner
- Protective enclosure can optionally completely enclose the machine on all sides
- Four clamps as standard. Can be equipped with up to eight clamps
- Simple, stress-free program entry with eluCam on the operating panel, even during operation
- Remote online maintenance
- Material reference stop (right) for positioning workpieces with overlength machining
- Additional stop for overlength machining (left)
- Length measurement on both sides
- Double clamping and other accessories on request
- 21.6" panel PC, i7 processor
- Note holder
- Sound insulation hood
4-AXIS PROFILE MACHINING CENTRE

Profile machining centre SBZ 122/73

4-axis model for metal construction applications

- Designed for economical and efficient machining of aluminium, PVC and steel profiles
- All operations, such as routing, drilling and tapping, are performed while the profile bar is stationary to protect the profile surfaces
- A-axis continuously adjustable from -120° to +120°
- Round guides for clamp positioning
- Better machining results thanks to the intelligent control technology
- Fast positioning of the machining unit with up to 120 m/min thanks to dynamic servo drives
- Tapping without compensation chuck
- Automatic tool changer with twelve tool tray positions (without tools)
- State-of-the-art 4-axis controller
- Ergonomic operation thanks to the modern inclined bed
- The absolute rotary encoder system means no main axis homing is required
- Automatic clamp recognition and positioning prevents collisions
- Power torque routing motor with enclosed speed control for short spindle start-up and braking times.
- Certified, drive-integrated safety functions
- Low power consumption thanks to the intelligent control technology
- DC link coupling in the axis drives for greater energy efficiency
- Window operating system
- 18.5” panel PC, i5 processor, USB ports and network connection
- Simple, stress-free program entry with eluCam on the operating panel, even during operation
- Remote online maintenance

Machine configuration

- Water-cooled 7 kW, S1 routing spindle
- Enclosure to protect the operator
- Four horizontal, pneumatic material clamping units
- A material stop on the left
- Tool holder HSK-F63
- Swarf trays for swarf removal
- Minimum-volume lubrication system
- High performance cutting fluid
- Hand-held operator terminal
- Depth gauge

Options

- Tools
- Tool holders
- Additional stop for overlength machining (left)
- Material reference stop (right) for positioning workpieces with overlength machining and second clamping disc
- Green Line cooling unit for the control cabinet with reduced energy consumption
- Barcode scanner
- Protective enclosure can optionally completely enclose the machine on all sides, with additional sound insulation
- Four clamps as standard. Can be equipped with up to eight clamps
- Double clamping and other accessories on request
- 21.6” panel PC, i7 processor
- Note holder
- Sound insulation hood
- Clamping unit optimised to prevent collisions
- Wireless measurement sensor
4-AXIS PROFILE MACHINING CENTRE

Profile machining centre SBZ 122/74

4-axis model for metal construction and industrial applications

- Designed for economical and efficient machining of aluminium, PVC and steel profiles
- All operations, such as routing, drilling and tapping, are performed while the profile bar is stationary to protect the profile surfaces
- A-axis continuously adjustable from -120° to +120°
- Linear guides for autonomous clamp positioning
- Better machining results thanks to the intelligent control technology
- Fast positioning of the machining unit with up to 120 m/min thanks to dynamic servo drives
- Tapping without compensation chuck
- Automatic clamp recognition and clamp positioning
- Automatic tool changer with twelve tool tray positions (without tools)
- State-of-the-art 4-axis controller
- Ergonomic operation thanks to the modern inclined bed
- The absolute rotary encoder system means no main axis homing is required
- Automatic clamp recognition and positioning prevents collisions
- Power torque routing motor with enclosed speed control for short spindle start-up and braking times
- Certified, drive-integrated safety functions
- Low power consumption thanks to the intelligent control technology
- QC link coupling in the axis drives for greater energy efficiency
- Uninterruptible power supply (UPS)
- Windows operating system
- 18.5" panel PC, i5 processor, USB ports and network connection
- Simple, stress-free program entry with eluCam on the operating panel, even during operation
- Remote online maintenance

Machine configuration

- Water-cooled 7 kW, S1 routing spindle
- Autonomous clamp positioning
- Automatic clamp recognition
- Enclosure to protect the operator
- Four horizontal, pneumatic material clamping units
- A material stop on the left
- Tool holder HSK-F63
- Swarf trays for swarf removal
- Minimum-volume lubrication system
- High performance cutting fluid
- Hand-held operator terminal
- Depth gauge

Options

- Tools
- Tool holders
- Length measurement on both sides
- Additional stop for overlength machining (left)
- Material reference stop (right) for positioning workpieces with overlength machining
- Green Line cooling unit for the control cabinet with reduced energy consumption
- Barcode scanner
- Protective enclosure can optionally completely enclose the machine on all sides
- Stationary tool magazine
- Four clamps as standard. Can be equipped with up to eight clamps
- 21.6" panel PC, i7 processor
- Note holder
- Sound insulation hood
- Clamping unit optimised to prevent collisions

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Machining area, Y and Z-axes
Profile machining from above

Machining area, Y and Z-axes
Profile machining from the front and from behind

Machining area, Y and Z-axes
Profile machining from above and from behind
5-AXIS PROFILE MACHINING CENTRE

Profile machining centre SBZ 122/75

5-axis model for metal construction and industrial applications

- Designed for economical and efficient machining of aluminium, PVC and steel profiles
- All operations, such as routing, drilling and tapping, are performed while the profile bar is stationary to protect the profile surfaces
- A-axis continuously adjustable from -120° to +120°
- C-axis continuously adjustable from -220° to +220°
- All five axes can move simultaneously with RTCP (Rotation Tool Centropoint)
- The additional C-axis makes it possible to machine the face of profiles from the left and right
- Linear guides for autonomous clamp positioning
- Better machining results thanks to the intelligent control technology
- Fast positioning of the machining unit with up to 120 m/min thanks to dynamic servo drives
- Tapping without compensation chuck
- The 2-axis add-on unit with the A-axis and C-axis can also accommodate a saw blade with a diameter of 180 mm
- Automatic clamp recognition and clamp positioning
- Ergonomic operation thanks to the modern inclined bed
- Automatic tool changer with twelve tool tray positions (without tools)
- State-of-the-art 5-axis controller
- The absolute rotary encoder system means no main axis homing is required
- Automatic clamp recognition and positioning prevents collisions
- Power torque routing motor with enclosed speed control for short spindle start-up and braking times.
- Certified, drive-integrated safety functions
- Low power consumption thanks to the intelligent control technology
- DC link coupling in the axis drives for greater energy efficiency
- Uninterruptible power supply (UPS)
- Windows operating system
- 18.5” panel PC, i5 processor, USB ports and network connection
- Simple, stress-free program entry with eluCam on the operating panel, even during operation
- Remote online maintenance

Machine configuration
- Water-cooled 7 kW, S1 routing spindle
- Autonomous clamp positioning
- Automatic clamp recognition
- Enclosure to protect the operator
- Four horizontal, pneumatic material clamping units
- A material stop on the left
- Tool holder HSK-F63
- Swarf trays for swarf removal
- Minimum-volume lubrication system
- High performance cutting fluid
- Hand-held operator terminal
- Depth gauge

Options
- Tools
- Tool holders
- Saw blade, 180 mm
- Length measurement on both sides
- Additional stop for overlength machining (left)
- Material reference stop (right) for positioning workpieces with overlength machining
- Green Line cooling unit for the control cabinet with reduced energy consumption
- Barcode scanner
- Protective enclosure can optionally completely enclose the machine on all sides
- Four clamps as standard. Can be equipped with up to eight clamps
- Double clamping and other accessories on request
- 21.6” panel PC, i7 processor
- Note holder
- Sound insulation hood
- Clamping unit optimised to prevent collisions
### TECHNICAL SPECIFICATIONS

<table>
<thead>
<tr>
<th>SBZ 122/70 plus</th>
<th>SBZ 122/71</th>
<th>SBZ 122/73</th>
<th>SBZ 122/74</th>
<th>SBZ 122/75</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. machining length without profile end machining</td>
<td>4,150 mm</td>
<td>4,150 mm</td>
<td>4,150 mm</td>
<td>4,050 mm</td>
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<tr>
<td>Max. machining length with profile end machining</td>
<td>4,000 mm (optional)</td>
<td>4,000 mm</td>
<td>4,000 mm</td>
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<tr>
<td>Traverse path X-axis</td>
<td>4,295 mm, Vmax. 60 m/min.</td>
<td>4,295 mm, Vmax. 60 m/min.</td>
<td>4,176 mm, Vmax. 60 m/min.</td>
<td>4,176 mm, Vmax. 60 m/min.</td>
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<td>Traverse path Y-axis</td>
<td>910 mm, Vmax. 45 m/min.</td>
<td>910 mm, Vmax. 60 m/min.</td>
<td>1,040 mm, Vmax. 60 m/min.</td>
<td>1,040 mm, Vmax. 60 m/min.</td>
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<tr>
<td>Traverse path Z-axis</td>
<td>475 mm, Vmax. 45 m/min.</td>
<td>475 mm, Vmax. 50 m/min.</td>
<td>540 mm, Vmax. 30 m/min.</td>
<td>540 mm, Vmax. 30 m/min.</td>
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<tr>
<td>Direction of machining</td>
<td>1 (above), 3 (optional)</td>
<td>1 (above), 3 (optional)</td>
<td>1 (above), 3 (optional)</td>
<td>1 (above), 3 (optional)</td>
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<tr>
<td>Positioning accuracy</td>
<td>+/- 0.1 mm</td>
<td>+/- 0.1 mm</td>
<td>+/- 0.1 mm</td>
<td>+/- 0.1 mm</td>
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<td>Routing spindle speed</td>
<td>max. 24,000 rpm</td>
<td>max. 24,000 rpm</td>
<td>max. 20,000 rpm</td>
<td>max. 20,000 rpm</td>
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<tr>
<td>Routing spindle power</td>
<td>8 kW, S1 with feedback (air-cooled)</td>
<td>8 kW, S1 with feedback (air-cooled)</td>
<td>7 kW, S1 (water-cooled)</td>
<td>7 kW, S1 (water-cooled)</td>
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<tr>
<td>Tool holder</td>
<td>HSK-F63</td>
<td>HSK-F63</td>
<td>HSK-F63</td>
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<tr>
<td>Tool changing</td>
<td>automatic</td>
<td>automatic</td>
<td>automatic</td>
<td>automatic</td>
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<tr>
<td>Tool tray positions in the automatic magazine</td>
<td>4 (max. 16)</td>
<td>4 (max. 16)</td>
<td>12</td>
<td>12</td>
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<tr>
<td>Angle head</td>
<td>Optional</td>
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<td>No</td>
<td>No</td>
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<tr>
<td>Disc milling cutter diameter</td>
<td>100 mm</td>
<td>120 mm</td>
<td>-</td>
<td>-</td>
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<tr>
<td>Saw blade diameter</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
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<tr>
<td>Tool length (from extent of taper)</td>
<td>max. 150 mm</td>
<td>max. 150 mm</td>
<td>max. 150 mm</td>
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<td>Clamp positioning</td>
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<td>autonomous</td>
<td>autonomous</td>
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<td>Clamps Basic (with round guides)</td>
<td>Basic (with round guides)</td>
<td>Basic (with round guides)</td>
<td>Premium (with linear guides)</td>
<td>Premium (with linear guides)</td>
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<tr>
<td>Software</td>
<td>eluCam</td>
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<td>Compressed air supply</td>
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<td>&gt; 7 bar</td>
<td>&gt; 7 bar</td>
<td>&gt; 7 bar</td>
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<td>400 V; 3&quot;, 50 Hz, 25 A</td>
<td>400 V; 3&quot;, 50 Hz, 25 A</td>
<td>400 V; 3&quot;, 50 Hz, 25 A</td>
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<td>Air consumption per minute</td>
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<td>approx. 185 l with spraying</td>
<td>approx. 185 l with spraying</td>
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<tr>
<td>Total length</td>
<td>6,739 mm</td>
<td>6,739 mm</td>
<td>6,739 mm</td>
<td>6,743 mm</td>
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<tr>
<td>Depth</td>
<td>2,180 mm</td>
<td>2,180 mm</td>
<td>2,180 mm</td>
<td>2,180 mm</td>
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<tr>
<td>Height</td>
<td>3,000 mm</td>
<td>3,000 mm</td>
<td>3,000 mm</td>
<td>3,000 mm</td>
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<tr>
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<td>approx. 3,800 kg</td>
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