

MACHINING CENTRES BA 722 | BA 732 | BA 742



PERFECT PERFORMANCE



QUBE construction Bigger, stronger and faster – that are the BA 7 horizontal machining centres compared to previous HSK 100 MC's. Bigger – to meet the market requirements on machining large work pieces. Stronger – through an increased table load capacity and spindles. Faster – because of more power and higher torques. Additionally, the MC's are more energy-efficient. The patented monobloc design as a stiff 'cube' (QUBE) carries the 3-axis unit equipped with two, three or four spindles.

CDrum architecture The double swivel carrier (DDRUM) clamped on both ends, as well as the direct absolute measuring system in all axes guarantee stable processes. Overhead machining provides an optimum chip flow. BA 722 also with independent X-axes for an individual, adjustable spindle distance (600-700 mm) that allows a flexible and economical production. Horizontal clamping fixtures provide for excellent ergonomic positioning.

BA 722
BA 732
BA 742



- Machine bed as a monobloc patented by SW
- Two, three or four spindles
- 3-axis unit as a box-in-box design (nodular iron)
- Gantry drive in the Y-axis
- Two independent Z-axes (BA 722)
- Optionally a robust, block-type ram
- Motor spindles up to 10,000 rpm
- Torque up to 615 Nm
- Integrated, upgradable hydraulic system (250 bar)
- Crane hook machine, for easy transport and fast installation
- Double swivel carrier
- 4- or 5-axis machining
- Optionally two independent X-axes (BA 722)
- Direct and absolute measuring system in all axes
- Up to 12 hydraulic lines and 8 pneumatic lines per table
- Modular tool magazine, extensible from 70 to 120 pockets
- SW broken tool detection system < 0.2 s
- Central cooling unit
- Energy saving: power recovery, 'Stand-by' and 'Sleep'

SUPERIOR TECHNOLOGY FOR MAXIMUM PRODUCTIVITY



The BA 722 provides a perfect solution for the machining of medium and high volume quantities of complex cast iron, cast steel and steel components. The integrated rotary axis bridge enables loading and unloading during the machining process. Only minimum adjustment is required for the machining of different work pieces.

That guarantees a high flexibility. Modular clamping fixtures designed and manufactured by SW, robust and reliable.

Productivity. Machining processes defined by our experienced project engineers provide for optimum quality and cycle times, giving lowest cost-per-part and long-term quality performance. These results can be achieved either as a stand-alone machine or as a turn-key facility and can include automation and other processes. In our technology centre we test and optimize established methods and try out new techniques. Whatever it concerns new tools, hardware or software, we advance your cutting processes.



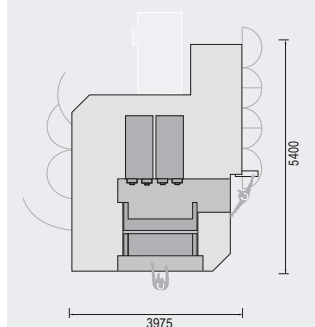
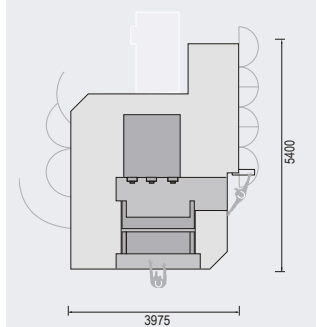
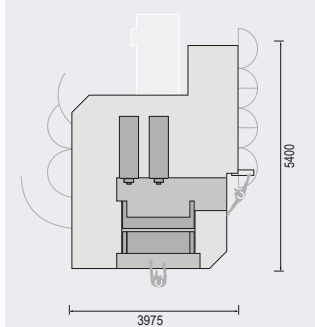
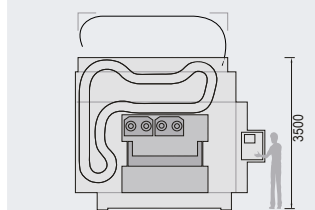
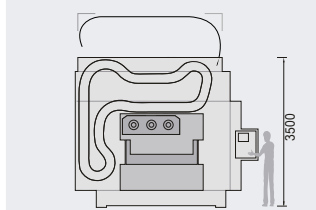
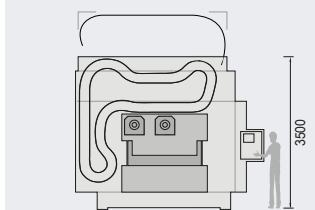
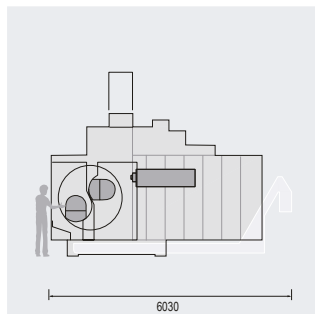
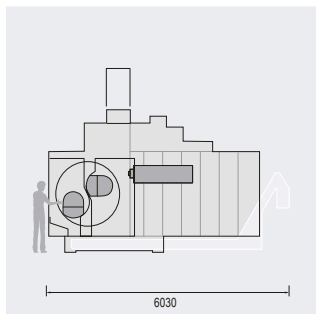
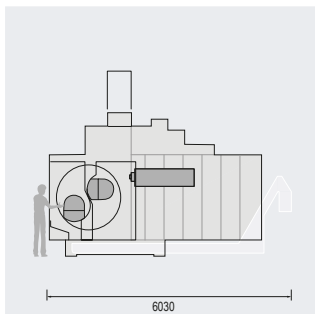
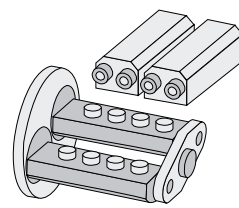
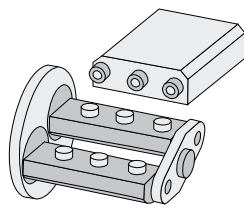
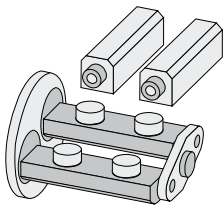
- For cast iron, cast steel and steel
- Adjustment during machining
- Direct driven ball screws
- Torque drive in rotary axes
- Additional coolers for all types of climate
- A rapid fixture changeover capability
- Optimum accessibility to all assemblies
- Energy-efficient, adjustable, coolant supply
- Process design and simulation
- Fixture design and collision detection
- Tool trials
- Process development
- Process optimization on site and at SW
- Cost-per-part calculations
- Multi-spindle, 5-axis simultaneous machining
- Maintenance contracts and individual services
- Training at the SW-Academy
- SW Online Service, including Condition Monitoring

DIMENSIONS

BA 722

BA 732

BA 742



TECHNICAL DATA

| | BA 722 | BA 732 | BA 742 |
|--|--|--|--|
| ■ Working range | | | |
| X-axis | 650 mm | 450 mm | 350 mm |
| Y-axis (toolchange position) | 650 mm (1025 mm) | 650 mm (1025 mm) | 650 mm (1025 mm) |
| Z-, (Z ₂ -)axis | 550 mm | 550 mm | 550 mm |
| Spindle distance A | 700 mm | 450 mm | 350 mm |
| ■ Workpiece carrier | | | |
| Swivel carrier / counter bearing with grown gear: swivel time 0/180° | approx. 4.75 s | approx. 4.75 s | approx. 4.75 s |
| A- and U-axis, prepared for mounting a fixture plate, up to max. | Ø 775 mm x 1600 mm | Ø 775 mm x 1600 mm | Ø 775 mm x 1600 mm |
| Drive system | Torque motor | Torque motor | Torque motor |
| Load capacity | 2 x 800 kg | 2 x 800 kg | 2 x 800 kg |
| Speed range A-, U-axis | 1 - 40 rpm | 1 - 40 rpm | 1 - 40 rpm |
| C- and W-axis* | 2 / 4 satellites | 3 satellites | 4 satellites |
| ■ Work spindle | | | |
| Spindle taper | Hollow shank DIN 69893 – HSK – A100 | Hollow shank DIN 69893 – HSK – A100 | Hollow shank DIN 69893 – HSK – A100 |
| Spindle bearings ø | 100 mm | 100 mm | 100 mm |
| Type 1 Power / Torque (25% duty cycle) | 2 x 42 kW / 400 Nm | 3 x 28 kW / 340 Nm | 4 x 28 kW / 340 Nm |
| Speed range | 1 – 10,000 rpm | 1 – 10,000 rpm | 1 – 10,000 rpm |
| Run up time 0 - n _{max} | < 1.95 s | < 1.75 s | < 1.75 s |
| Type 2 Power / Torque (25% duty cycle) | 2 x 52 kW / 615 Nm | - | - |
| Speed range | 1 – 6,000 rpm | - | - |
| Run up time 0 - n _{max} | < 1.4 s | - | - |
| ■ Feed drive | | | |
| Drive system | Ballscrew | Ballscrew | Ballscrew |
| Rapid traverse X / Y / Z | 60 / 60 / 60 m/min | 60 / 60 / 70 m/min | 60 / 60 / 70 m/min |
| Axis acceleration X / Y / Z | 8 / 6 / 10 m/s ² | 7 / 6 / 10 m/s ² | 7 / 6 / 10 m/s ² |
| Max. feed thrust X / Y / Z | 15,000 / 15,000 / 15,000 N | 15,000 / 15,000 / 20,000 N | 15,000 / 15,000 / 2 x 10,000 N |
| ■ Accuracy (according to VDI/DGQ 3441) | | | |
| Position measuring system | Direct, absolute | Direct, absolute | Direct, absolute |
| Positioning tolerance X / Y / Z | Tp=0.008 mm | Tp=0.008 mm | Tp=0.008 mm |
| ■ Tool magazine | | | |
| Toolchange system | Pick-Up, p=140 mm | Pick-Up, p=150 mm | Pick-Up, p=175 mm |
| Capacity | 2 x 35 (2 x 60)* | 3 x 21 (3 x 36)* | 4 x 14 (4 x 24)* |
| Max. tool ø | 105 mm / 250 mm (free adjacent pocket) | 115 mm / 250 mm (free adjacent pocket) | 125 mm / 250x205 mm (free adjacent pocket) |
| Max. tool length | 425 mm | 425 mm | 425 mm |
| Max. tool weight | 20 kg | 15 kg | 20 kg |
| ■ Toolchange | | | |
| Chip-to-chip time | approx. 3.50 s | approx. 3.75 s | approx. 3.75 s |
| ■ Weight / Dimensions | | | |
| Transport dimensions W x H x L | 3.97 m x 3.50 m x 5.40 m | 3.97 m x 3.50 m x 5.40 m | 3.97 m x 3.50 m x 5.40 m |
| Transport dimensions* W x H x L | 3.50 m x 3.50 m x 5.40 m | 3.50 m x 3.50 m x 5.40 m | 3.50 m x 3.50 m x 5.40 m |
| Total weight | approx. 24,000 kg | approx. 24,000 kg | approx. 24,000 kg |
| Machine installed W x H x L | 5.05 m x 4.20 m x 7.80 m | 5.05 m x 4.20 m x 7.80 m | 5.05 m x 4.20 m x 7.80 m |
| ■ Connected load | | | |
| Operating voltage | 3 x 400 Volt, 50 Hz, TN-S/TN-C network | 3 x 400 Volt, 50 Hz, TN-S/TN-C network | 3 x 400 Volt, 50 Hz, TN-S/TN-C network |
| Total connected load | 133 kVA | 147 kVA | 160 kVA |
| Mean air consumption | 0.6 Nm ³ /min (6 bar) | 0.8 Nm ³ /min (6 bar) | 1.0 Nm ³ /min (6 bar) |
| ■ CNC control system | | | |
| Siemens | SINUMERIK 840 D sl | SINUMERIK 840 D sl | SINUMERIK 840 D sl |



TECHNOLOGY PEOPLE: FORWARD THINKING.

There are quite many who build machining centres. But only a few take such intensive and successful care of the entire technological demand of your project like we do. The highest priority is given to deliver the best economical and sustainable solution for your manufacturing task. Which machine model ends up being the right one and how it will be applied most effectively, depends on your requirements for materials to be machined, quality and production volumes.

We proclaim to be 'Technology People'. This is more than building machine tools. Competent counsel in all technological and commercial questions from 'A' like Automation to 'Z' like Z-axis thrust. All topics are addressed before the first chip falls. We provide cost-per-part calculations and we are flexible in crafting your project finance. So your decision for SW as your preferred business partner is based on dependable data. We develop our machines from the inside out to make sure it is tailored for its future effective use in your plant.

Schwäbische
Werkzeugmaschinen GmbH
Seedorfer Straße 91
78713 Waldmössingen
Germany

Phone +49 7402 74-0
Fax +49 7402 74-211
info@sw-machines.de
www.sw-machines.de

SW Technology
People