

MACHINING CENTER **BA 622**

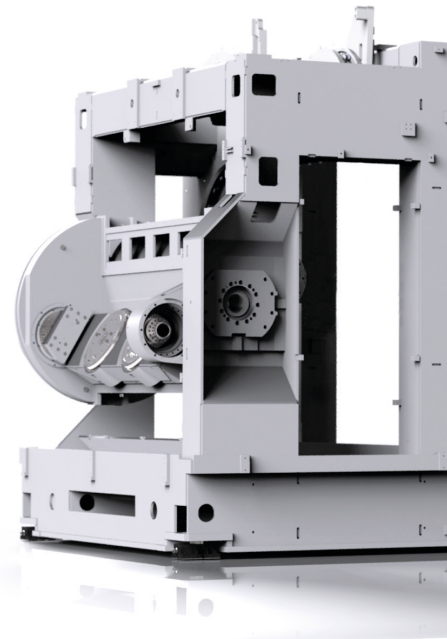




FOR WORKPIECES WITH
600X600X500 MM



SUPERIOR TECHNOLOGY FOR MAXIMUM PRODUCTIVITY.

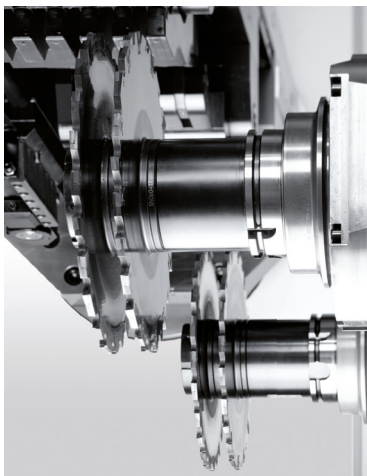
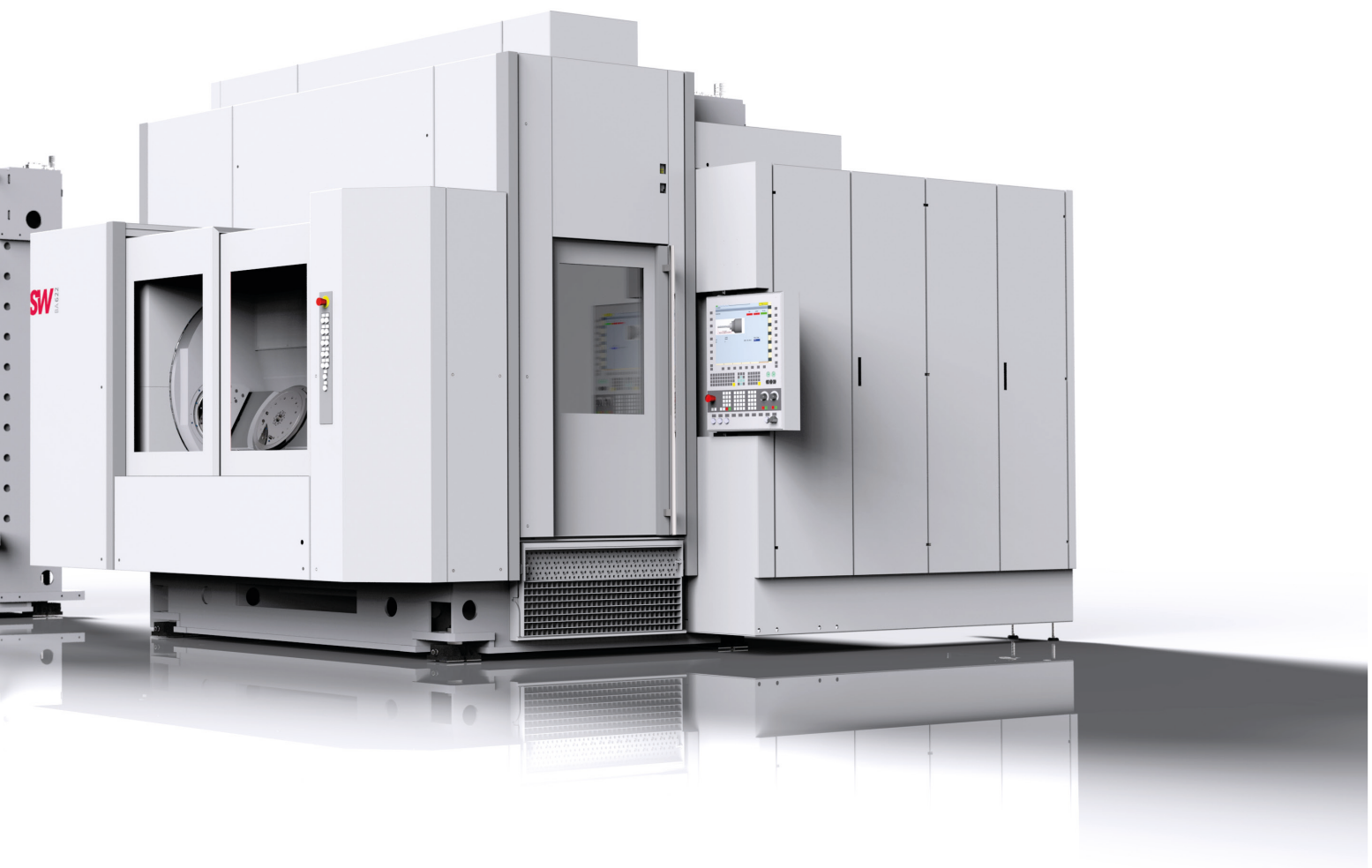


FACTS BA 622

The BA 622 opens up new dimensions in productivity for OEMs in highly dynamic 4- and 5-axis machining of steel and cast components in the 600 mm range. Compared to the previous series BA 600, also with two spindles, this first model of the new series boosts productivity by up to 20 %. In comparison to a one-spindle machining center, users can achieve 2.4 times as much throughput with maximum precision and energy efficiency. The considerably higher productivity of the BA 622 is also based on acceleration values two to three times faster for all linear axes. The working spindles reach their maximum speed about 25 % faster. The swivel time is a mere 3.75 seconds. This will lower your cycle times to a whole new level.

The basic structure of the monoblock design minimizes sagging and ensures an optimal flow of force between the processing unit and the workpiece carrier. In this way we provide the basic requirements for uniform improved dynamic and precision in heavy machining. The Y-axis is positioned by a gantry drive system with an absolute distance measurement system. This ensures optimum accuracy, even with eccentric loading. You can also equip the BA 622 optionally with independent Z-axes to further increase flexibility in machining. Overall the BA 622 increases positional accuracy by 20 %.

- Two-spindle machining center for machining steel and cast components
- 4- and 5-axis machining in one clamping process
- Monoblock design
- 3-axis unit as box-in-box
- Double swivel carrier with two integrated directly driven rotary axes for loading and unloading in parallel to production time
- Ball screw in the linear axes
- Acceleration rates up to 12 m/s²
- Absolute path measurement system in the feed axes
- Gantry drive of the vertical axis to completely compensate for eccentric loading
- Sturdy block spindle box
- Two independent Z slides optionally available
- 2 liquid cooled HSK-A100 motor spindles based on AC asynchronous technology
- Two-channel control structure for working and loading area
- SW menu for diagnostics and management
- Energy management system
- Tool magazine protected from swarf and splash water with 2x 28 slots, optionally expandable up to 2x 72 slots.
- Safe protective covering with fully enclosed swarf removal area
- Unrestricted swarf fall for wet and dry swarf removal



FACTS BA 622

Reduce your operating costs with lower power consumption per component. With the Box-in-Box principle we use a block spindle box with a 3-axis unit optimized for damping in the monoblock. We have reduced movable weights by about 50 % with the new machine series. That boosts energy efficiency, along with the 8W valve technology and a memory charging circuit in the hydraulics. We also deliver the machine with an energy management system integrated into the control unit. The measurable result for you: a 20 % reduction in the connected load and significantly lower power consumption.

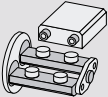
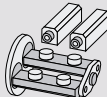
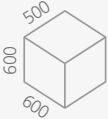
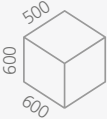
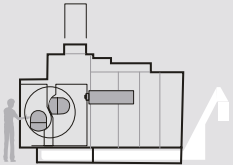
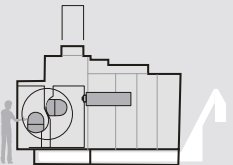
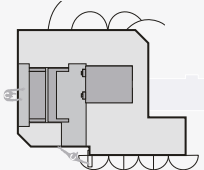
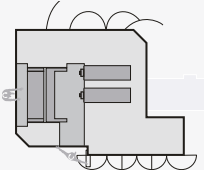
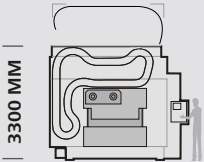
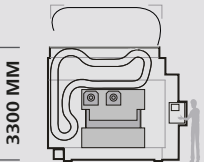
The compact crane hook machine requires 40 % less installation surface than the previous model. To set up the machine at a new installation location, simply adjust 4 fixators. Using this process will save you more than 60 % of the time required. The BA 622 offers numerous options to meet your needs for the right equipment such as independent Z-axes, torsion compensation, inductive broken tool control and analog workpiece holding surface monitoring. You can continue using the devices, tools and NC programs you already have for the BA 600 with the BA 622 without any restrictions. Open up new dimensions in productivity with SW.

- Central cooling unit with 14 kW of power for temperature stabilization of the motor spindles, direct drives, switch cabinet and hydraulics
- Automatic lubrication system ensures long maintenance intervals
- Energy-efficient hydraulic weight compensation system for the Y-axis
- Hydraulic unit with 8-watt valve technology and a memory charging circuit
- Pneumatic system with maintenance unit and central manifold
- Prepared for connecting a cooling lubricant system with swarf conveyor as well as suction exhaust system
- Process design and simulation
- Device design and collision checking
- Tool testing
- Process development
- Process optimization on site and at SW
- Unit cost calculations
- Multi-spindle 5-axis simultaneous machining
- Maintenance contracts and individual services
- Training in the SW Academy
- SW PULSE Remote Services



WORKPIECES BA 622

DIMENSIONS BA 622

BA 622 BLOCK	BA 622
 <p>HSK-A100</p>	 <p>HSK-A100</p>
 <p>WORKSPACE PER SPINDLE</p>	 <p>WORKSPACE PER SPINDLE</p>
 <p>6030 MM</p>	 <p>6030 MM</p>
 <p>4750 MM</p>	 <p>4750 MM</p>
 <p>3300 MM</p> <p>3750 MM</p>	 <p>3300 MM</p> <p>3750 MM</p>

TECHNICAL DATA

BA 622



	BA 622 BLOCK	BA 622
Working range		
X-axis	600 mm	600 mm
Y-axis (toolchange position)	600 mm (950 mm)	600 mm (950 mm)
Z-axis	500 mm	500 mm (Z1/Z2)
Spindle distance	600 mm	600 mm
Workpiece carrier		
Swivel carrier / counter bearing with crown gear: swivel time 0/180°	approx. 3.75 s	approx. 3.75 s
A- and B-axis, prepared for mounting a fixture plate, up to max.	Ø 675 mm x 1,430 mm	Ø 675 mm x 1,430 mm
Drive system	Torque-Motor	Torque-Motor
Load capacity	2x 700 kg	2x 700 kg
Speed range A-, B-axis	1-50 rpm	1-50 rpm
C- and W-axis*	2 satellites/ 4 satellites	2 satellites/ 4 satellites
Work spindle		
Spindle taper	Hollowshank DIN 69893 HSK-A100	Hollowshank DIN 69893 HSK-A100
Speed range	1-10,000 rpm	1-10,000 rpm
Spindle bearings ø	100 mm	100 mm
Typ 1 Power/Torque (25% duty cycle)	28 kW / 340 Nm	28 kW / 340 Nm
Run up time 0 - n _{max}	1.75 s	1.75 s
Typ 2* Power/Torque (25% duty cycle)	30 kW / 375 Nm	30 kW / 375 Nm
Run up time 0 - n _{max}	1.70 s	1.70 s
Feed drive		
Drive system	Ballscrew	Ballscrew
Rapid traverse X / Y / Z	60 / 60 / 60 m/min	60 / 60 / 70 m/min
Axis acceleration X / Y / Z	8 / 8 / 12 m/s ²	7 / 7 / 12 m/s ²
Max. feed thrust X / Y / Z	15,000 / 15,000 / 15,000 N	15,000 / 15,000 / 15,000 N
Accuracy (according to VDI/DGQ3441)		
Position measuring system	Direct, absolute	Direct, absolute
Position tolerance X / Y / Z	Tp = 0,008 mm	Tp = 0,008 mm
Tool magazine HSK 100		
Toolchange system	Pick-Up	Pick-Up
Capacity	2x 28 (2x 48, 2x 72)*	2x 28 (2x 48, 2x 72)*
Max. tool ø	110 mm / 250 mm (-o-)	110 mm / 250 mm (-o-)
Max. tool length	425 mm	425 mm
Max. tool weight	20 kg	20 kg
Toolchange		
Chip-to-chip time	approx. 3.5 s	approx. 3.5 s
Weight / Dimensions		
Total weight	approx. 18,000 kg	approx. 18,000 kg
Transport dimensions W x H x L	3.75 m x 3.30 m x 4.75 m	3.75 m x 3.30 m x 4,5 m
Machine required space	13.5 m ²	13.5 m ²
Machine installed W x H x L	4.95 m x 3.60 m x 7.50 m	4.95 m x 3.60 m x 7.50 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
Total connected load	105 kVA	105 kVA
Mean air consumption	0.6 Nm ³ /min (6 bar)	0.6 Nm ³ /min (6 bar)
CNC-Steuerung		
Siemens	SINUMERIK 840 D sl	SINUMERIK 840 D sl

*Specification depends on machine equipment. The illustrations shown in this brochure may vary from actual facts showing additional or special equipment.
 ** Determined according to SW works standard WN-9665801. See also www.sw-machines.de.

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.

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