

TECHNOLOGY
MACHINES
SYSTEMS



BA SPACE3

#beprosw
Superior technology
for the highest productivity

Triad of productivity, precision, and process control



The BA space3 was developed primarily for EV applications. With an impressive working range of 3 000 x 1 800 x 875 mm on the X-, Y- and Z-axes, it is easily able to accommodate large structural components (battery housings) made of light metal. The machine is available in two basic variants - as a 5-axis machining center with a 2-axis swivel head, or as a 3-axis version with a rigid spindle (HSK-63). The variant with a 2-axis swivel head enables machining from all angles, while the version with a rigid spindle ensures high flexibility and quality thanks to simple correction in all axes.

The tool magazine for the BA space3 is designed as a chain magazine with 40 tool spaces, which can be optionally expanded to 80 tool spaces. The maximum tool length is 450-500 mm. All feed axes are equipped with linear drives, so that the BA space3 allows fast machining of large workpieces. Machining operations on the BA space3 are characterized by its highly dynamic HSK-63 work spindle. This enables high-precision single-spindle machining, even on the largest workpieces.

The user experience on the BA space3 is as innovative as the machine itself. The C|one control panel is designed as a multi-touch display that enables the seamless embedding of your production line into an Industry 4.0 environment. SW's core software is already integrated and access is chip-based. Via the IO-Link, you are able to monitor performance data with central data in the PLC. In addition to its I4 features, the C|one control panel offers a highly intuitive user experience.

VIDEO

Scan the QR code and experience the BA space3 in action!

100 000 workpieces per year

Machine	BA space3
Workpiece size/mm	1222 x 605 x 135 mm
Material	Aluminium
Cycle time per workpiece	3.5 min

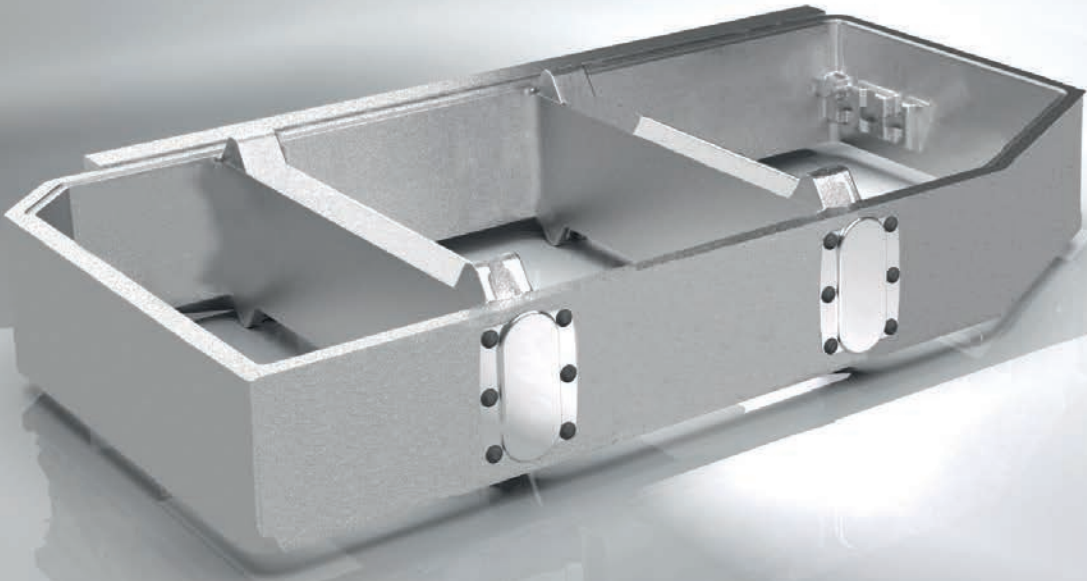
- Both clamping positions on one clamping bridge (complete machining)
- Minimum quantity lubrication (MQL)
- Traceability of all workpieces and process parameters (DMC)



40 000 workpieces per year

Machine	BA space3
Workpiece size/mm	834 x 430 x 150 mm
Material	Aluminium
Cycle time per workpiece	21.5 min

- Both clamping positions on one clamping bride (complete machining)
- 5-axis swivelhead
- Traceability of all workpieces and process parameters (DMC)



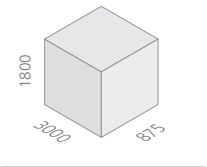
Working range	Rigid spindle	2-axis swivel head
X-axis	3 000 mm	3 000 mm
Y-axis	1 800 mm	1 800 mm
Z-axis	875 mm	875 mm
Spindle distance - Center of rotation of swivel carrier	425 mm - 1 300 mm	165 mm – 1 040 mm
Tool change position X / Y / Z	0 mm / 0 mm / -310 mm	0 mm / 0 mm / -50 mm
Workpiece carrier		
Swivel carrier with 2 opposing clamping surfaces	3 000 mm x 1 640 mm	3 000 mm x 1 640 mm
Swivel range (division of face gear)	0 - 358° (2°)	
Swivel range for loading in parallel to productive time	0° / 180°	-16° - 0° / 164° - 180°
Swivel time 0 / 180°	4.0 s	4.0 s
Max. load capacity	2 x 1 000 kg	2 x 1 000 kg
Workspindle HSK-A63		
Speed range / Run up time 0 - n _{max}	1 - 17 500 min ⁻¹ / < 0,65 s	1 - 20 000 min ⁻¹ / < 0,9 s
Spindle bearings ø	80 mm	70 mm
Power / Torque (40 % ED)	35 kW / 80 Nm	34 kW / 40 Nm
Swivel axis A / C		
Variant / Drive system	Swivel head / torque motor	
Speed range A / C	1 – 100 min ⁻¹	
Max. drive torque A / C	580 Nm / 680 Nm	
Holding torque axis clamped A / C	950 Nm	
Swivel range A / C	± 105° / ± 135°	
Feed drive		
Drive system	Linear motor	Linear motor
Rapid traverse X / Y / Z	120 m/min	120 m/min
Axis acceleration X / Y / Z	10 / 16 / 20 m/s ²	8 / 14 / 15 m/s ²
Max. feed thrust X / Y / Z	10 000 / 10 000 / 7 000 N	10 000 / 10 000 / 7 000 N
Accuracy X / Y / Z (ISO 230-2:2014)		
Position measuring system / Positioning tolerance	direct, absolute / ≤ 0,010 mm	direct, absolute / ≤ 0,010 mm
Accuracy A / C (ISO 230-2:2014)		
Position measuring system / Positioning tolerance	direct, absolute / ≤ 0,010	
Tool magazine HSK-A63		
Tool change system / Capacity	Pick-Up / 40 (80)*	Pick-Up / 40 (80)*
Max. tool ø	80 mm / 200 mm (-o-)	80 mm / 200 mm (-o-)
Max. tool length / weight	450 mm (500mm)* / 10 kg (-o-)	450 mm / 10 kg (-o-)
Tool change		
Chip-to-chip time	approx. 4,0 s	approx. 4,25 s
Weight / Dimensions		
Transport dimensions W x H x L	5,80 m x 3,70 m x 4,10 m	5,80 m x 3,70 m x 4,10 m
Weight / space requirement of machine	approx. 27 000 kg / 25,30 m ²	approx. 27 000 kg / 25,30 m ²
Machine installed W x H x L	8,10 m x 4,80 m x 6,60 m	8,10 m x 4,80 m x 6,60 m
Connected load		
Operating voltage	3 x 400 Volt, 50 Hz, TN-S/TN-C Netz	3 x 400 Volt, 50 Hz, TN-S/TN-C Netz
Total connected load	approx. 105 kVA	approx. 105 kVA
Mean air consumption	0,4 Nm ³ /min (5,5 bar)	0,5 Nm ³ /min (5,5 bar)
CNC control system		
Siemens	SINUMERIK 840 D sl	SINUMERIK 840 D sl

*Specifications depend on machine equipment.
-o- several magazine positions occupied.
Technical data according to project planning. Deviation +/-10 % reserved.
Subject to change without notice.

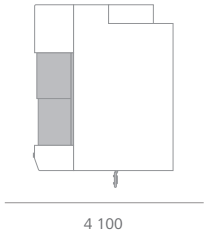
BA space3



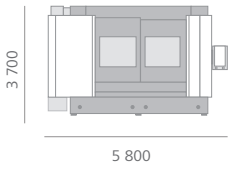
SWIVEL CARRIER



WORKSPACE PER SPINDLE



4 100



5 800

#beproductive Multi-Spindle Machining Centers



The SW portfolio features production solutions for the complete machining of components of various sizes and materials. Our multi-spindle machining centers are perfectly designed for the production of workpieces made of steel, cast iron or light metals.

The 4- and 5-axis machining centers machine with high precision and speed. We can also provide you with the suitable automation solution, including robots and other material flow solutions.

The focus is on your component. We design the solutions you need to produce tens or hundreds of thousands, or even millions of workpieces economically with consistent quality. We not only have the

right solution for your application, but also the necessary experience. Let our reference projects convince you that we're already familiar with the most efficient solution for your workpiece, too.

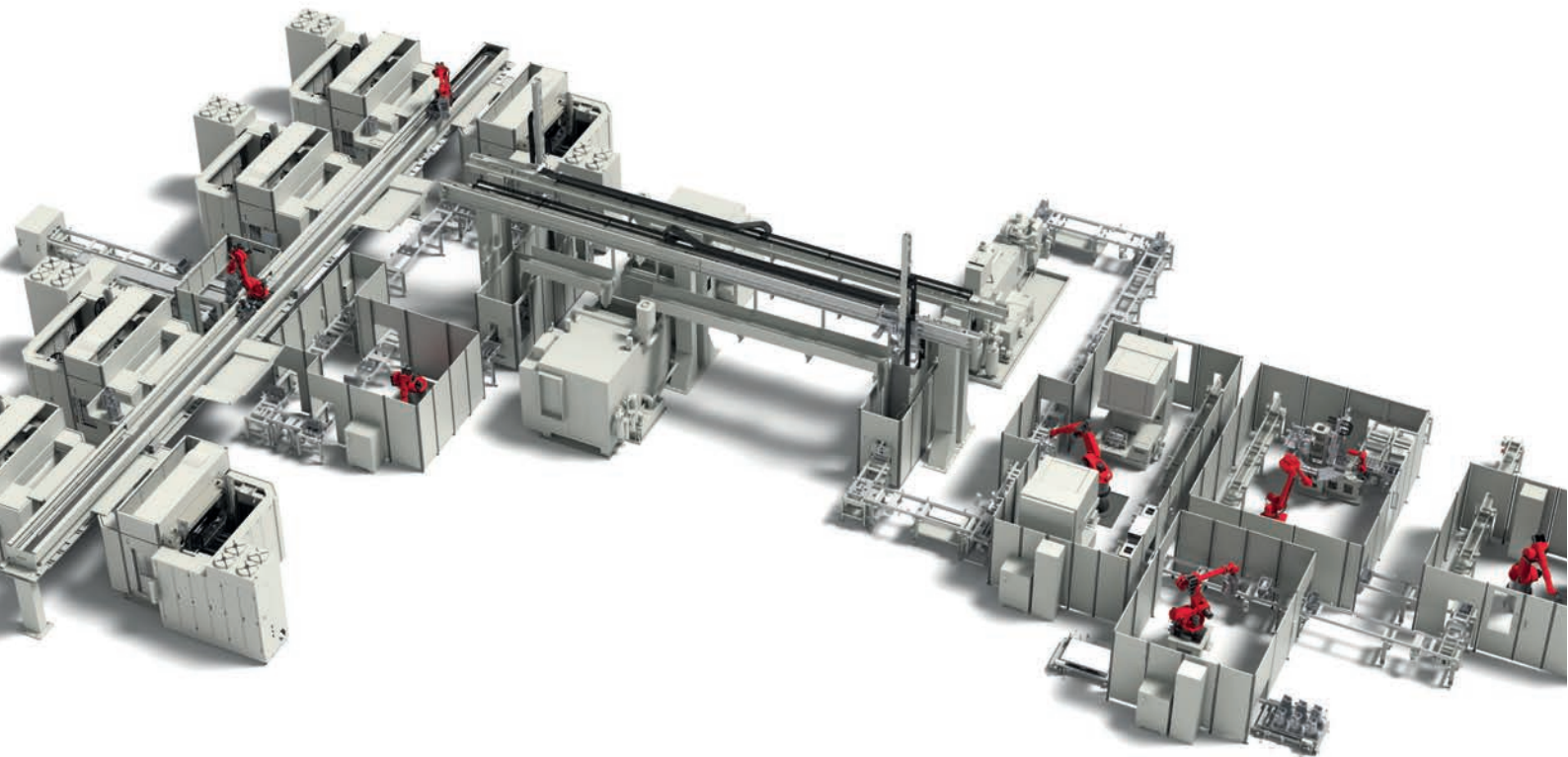
VIDEO



Scan the QR code
and experience our
machines in action!

#beprofitable

Productivity From a Single Source



SW supplies not only machines, but also complete manufacturing systems and associated automation solutions from its own company - productivity from a single source. State-of-the-art simulation methods are used for fact-based consultation in the design process of complete production lines. In advance, specialists prepare feasibility analyses, define the plant layout and undertake the cycle time design as well as the material flow analysis. The result: workpiece costs can be calculated as early as the planning phase. This provides companies with reliable return-on-investment figures for their investment and rules out unpleasant surprises. Although SW's machining centers encompass the core metal-cutting processes, complete production lines include many more process steps. Cleaning, drying, machining, assembling, leak testing and

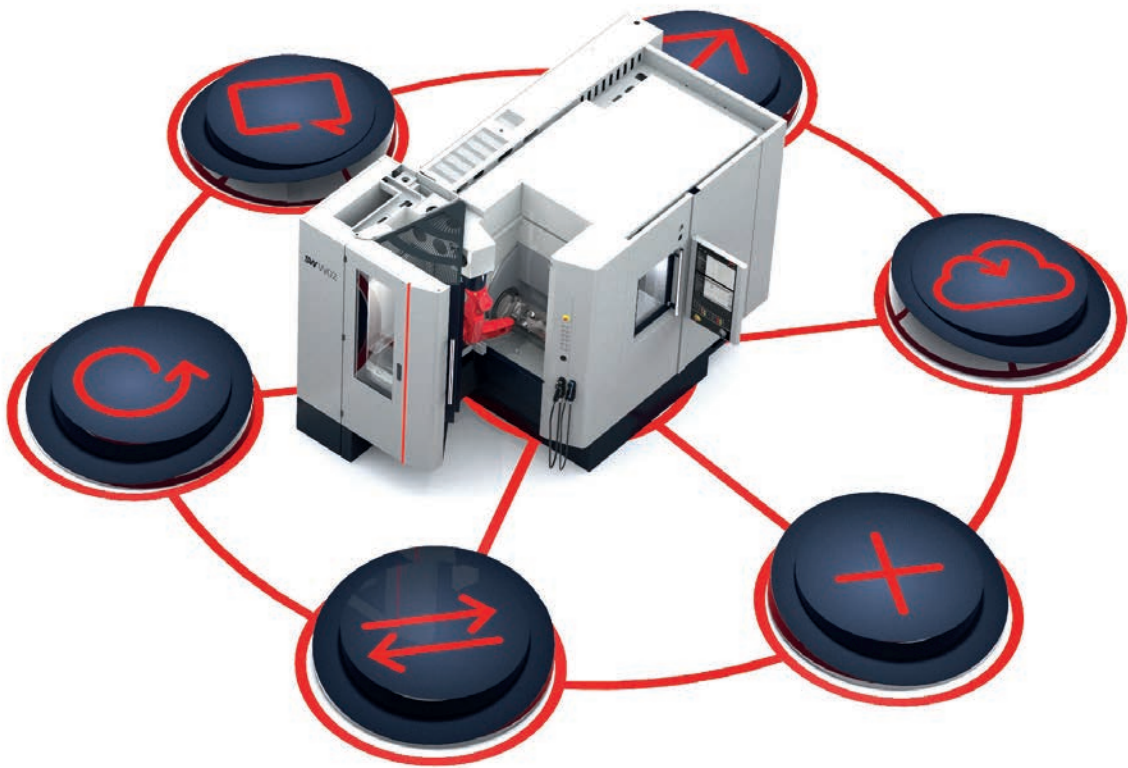
preservation: Each station is taken into account and automated as much as possible. This reduces personnel costs and lowers the cost of errors. Fewer employees accomplish more with the help of robots. With SW solutions, even unmanned shifts are possible. In addition, with automation, manufacturers meet the requirement for traceability of components through seamless documentation.

VIDEO

Scan QR code and experience complete production lines in action!

#beproactive

SW **life** Services



With **life**, you are connected with the OEM of your SW machine from start to finish through a whole new kind of service. With the engineers, technicians and service people who developed, tested and commissioned your machine. We, the Technology People, support you with our six modules over the entire life cycle of your machine - anytime, anywhere. **life**. That lasts. For the lifetime of the machine.

Like in a functioning organism, all life components interact intelligently with each other. Whether for a single SW machine, a fully automated system or complete lines: We provide you with individual support and take care of everything you need for a consistently efficient production. Our services are tailored to meet your practical requirements: from commissioning to training for employees, analysis of

machine data, hotline and field service, including spare parts delivery, and retrofitting of older machines.

- life academy
- life startUp
- life data
- life help
- life parts
- life upgrade

VIDEO

Scan QR code and discover our **life Services!**



#beprosw Worldwide Industry Leaders

SW is not only a machine manufacturer, but also a system solution provider for demanding, automated projects. They work closely with the automotive industry, as well as the aerospace, hydraulics, pneumatics, medical and precision engineering sectors, both nationally and internationally. SW is also the global leader in the field of multi-spindle machining centers.

Developing technologies with enthusiasm is what characterizes the people who work at SW. We at SW call ourselves Technology People because we like to work with technology, find the right solution for you and deliver it reliably.

That is why we think in larger contexts and always think beyond existing ideas. We see ourselves as a team in which everyone contributes their skills, ideas and energy.

SW currently employs over 1,100 people worldwide and generated group sales of approximately 400 million euros in 2018.

More than 8,000 spindles are installed in 3,500 SW machining centers in 42 countries. In addition to the automation supplier SW Automation in Tettang, Germany, SW has subsidiaries in France, Italy and Poland as well as in the USA, China and Mexico.

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