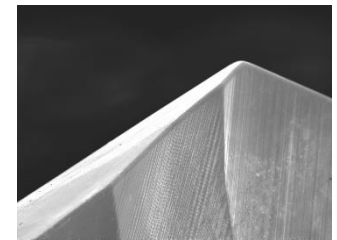


The flexible & autonomic brush polishing machine



**3D Parts, intelligent & autonomous
machined**

—

**efficient and process reliable during
deburring, honing and polishing**



The BS Robo – intelligent and autonomous for complex motion sequences

The **BS Robo** was developed to combine the different processes and at the same time to obtain a high autonomy during the machining. With the **BS Robo** we offer our customers a new generation of an intelligent brushing and polishing machine. It works with several processing stations and an integrated robot. This robot not only takes over the function of loading or unloading, but also processes the components at the respective stations (a total of 3 different possible) by means of complex motion sequences matched to the workpiece.

With camera recognition, the components are selected for processing by image recognition and robot control and gripped at the right place. For different work steps, the robot requires different grippers, which it changes completely independently. The necessary grippers are provided in the gripper station. An integrated cleaning box for cleaning the individual workpieces after processing rounds off the concept.

Multiple process steps, different machining operations, complex geometries - all this is possible with the new **BS Robo**.

MAXIMUM PRODUCTIVITY

- Planar or radial machining at up to 3 different machining stations
- Freely definable kinematics for the machining of all geometries and surfaces
- Buffer sequence can be extended
- Camera recognition or mechanically fixed positions
- Scrap handling
- Position orientation / length measurement via camera
- Possibility of reclamping during the process

APPLICATION

- Round tools
- Specific polishing of the flute of drills
- 3D complex parts
- Geometrically complex parts requiring highest precision and defined processing
- Future machining of additive manufacturing parts planned

CHARACTERISTICS OF THE MACHINE

- Highest autonomy
- Buffer sequence
- Autonomous robot
- Multiple grippers can be used
- Autonomous changeover
- Highly precisely defined machining of 3 D surfaces
- High variety of parts can be machined
- Intended for integration into process chain
- 3 brushing stations with infinite possibilities
- Rinsing at the end of the process

APPLICATION AREAS:



Technical Data

Machine

Total weight	kg	1200
Dimension Width/Depth/Height	mm	1900 / 1020 / 2000
Sphere robot	mm	Radius 670mm
Electrical connection	VAC; Hz	3 x 230 / PE ; 60 / 3 x 400 / N / PE ; 50 / 3 x 480 / PE ; 60
Buffer sequence for pieces	kW	1200
Coolant of work area		Liquid (emulsion, oil, polishing liquid)
Programs		Storage / export (300 machining programmes)
Housing		Painted or stainless steel

Brush-/Polishing process

Brush diameter	mm	Up to 300, radial, planar or others
Speed of planetary brush head	1/min	0 – 1000 (planar), 0-3000 (radial, or special tools)
Brush drive power	kW	2.2
Parts recognition, mount	1/min	Recognition via camera, pneumatic picker arm
Cleaning	mm	Integrated sprayer and cleaning blower
Process options	/	Planar or radial machining on up to 3 different machining stations, free defined kinematics for the machining of all geometries and surfaces
Brush types	/	SiC; ceramic or diamond-loaded synthetic bristles – straight or diagonally equipped
Control of the brush head infeed (incl. compensation for the wear of the brush)	/	Automatic

Optionen

Workpiece carrier handling	/	Buffer sequence extendible, camera recognition or mechanic fix positions, scrap handling, position orientation / linear measurement over camera, possibility for transforming during process
Coolant device	/	Emulsion / oil
Extraction	/	Emulsion / oil / dust
Industry 4.0	/	OPC-UA / remote maintenance
Further options	/	Automated picker arm change Transformer station for workpieces 4th machining station Free combinable process sequences

Workpieces and their dimensions

Typical parts	/	Round tools, 3D parts, parts with machining on abutting face and skin surface
Size of parts (Ø), nominal to	mm	2 – 100
Part thickness /part length	mm	5...200
Part weight	kg	Up to 3kg



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