

# PP Power

The powerful face polishing machine



Microfinishing and face polishing





Optimally combines deburring, edge honing and surface polishing – three processes in one plant

The innovative **PP Power** is the known solution on the market for polishing hard and super-hard materials. Polishing performance is certainly the most important feature but maintaining or creating highly accurate flatness is an outstanding characteristic. To achieve maximum output, the **PP Power** can be equipped with up to four quills. This increases the output capacity by up to 100% compared to conventional plant solutions. The speciality of the machine is the integrated overtweisting of the polishing wheel. The disc can be machined in a plane, concave, convex or conical shape according to the requirements. The plant is capable of producing flatness of 0.001mm on a diameter of 30mm. A peak value in the machining of ultra-hard materials as sapphire, tungsten carbide, carbide, and ceramic.

### MAXIMUM PRODUCTIVITY

- Solid construction ensures high accuracy
- Maximized stiffness / highest precision
- Effective cooling of the polishing wheel enables short cycle times with high stock removal rates
- Double the output comparing «PP400»
- Ability to automate inclusive data management (industry 4.0)

### MAIN AREAS

- The PowerPolish face polishing machine is used for
  - polishing very hard materials as sapphire, tungsten carbide, carbide, and ceramic.
  - in compliance or to generate highest flatness

### CHARACTERISTICS OF THE MACHINE

- The modular design enables user-specific solutions
- Due to the choice of polishing wheel alloy, the machine processes a wide range of materials and is used for everything from maximum materials removal to maximum surface quality.
- There is the possibility of mechanical or chemical polishing
- Fully integrated control head with 99 programs
- The polishing wheel is dressed directly on the machine. There are programs available for flat, concave, convex and conical.
- Optional cooling system, mist extractor
- Full enclosure for a clean process
- The machine can be equipped with 1, 2 or 4 driven spindle sleeves
- Spray head for diamond suspension



**Machine**

Total weight	kg	1'150
Dimension Width/Depth/Height	mm	1500/1150/1850
Pressure per sleeve	kg	25 - 250
Electrical connection	VAC; Hz	3 x 400/N/PE; 50/60
Main drive power	kW	4
Air connection (optional)	bar l/min	6 50
Polishing wheel cooling system		liquid (temperature controlled)
Control system	Siemens	S7-1200
Programs	/	Storage, export (99 memories)

**Brushes**

Polishing Table	mm	500 - 575
Table speed	1/min	50 - 300
Spindle's speed	1/min	50 - 100
Workpiece carrier	mm	50 - 250
Number of carriers	/	1,2 or 4

**Machining options**

Configuration: Mechanical polishing	/	The workpieces are glued to disk-shaped workpiece holder plates using special lacquers or laid loosely into cages. The polishing agent is added in the form of a suspension intermittently with minimum quantity dosing. The polishing wheel here is generally from a tin/zinc alloy and has inside a labyrinth of water cooling, to dissipate the heat from the process directly at the source
Configuration: Chemo-mechanical polishing	/	The polish is added continuously in large quantities in form of an emulsion. It also serves as a cooling medium and leads the heat from the process. A plastic polishing cloth serves as a polishing wheel.
Automation (industry 4.0)	/	Profibus/Ethernet/OPC-UA
Handling of the parts	/	Manual workstation, robots, etc.
Scope for extending	/	Rinsing device, blower unit, 2 planetary brush head plants, automatic infeed, automatic brush measurement, part measurement

**Workpieces and their dimensions**

Typical parts	/	Sapphire, ruby, carbide, ceramics, zirconia, new sintered materials (eg. SmCo)
Size of parts (Ø), nominal to	mm	0.5 - 250
Part thickness/part length	mm	0.1 - 50





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