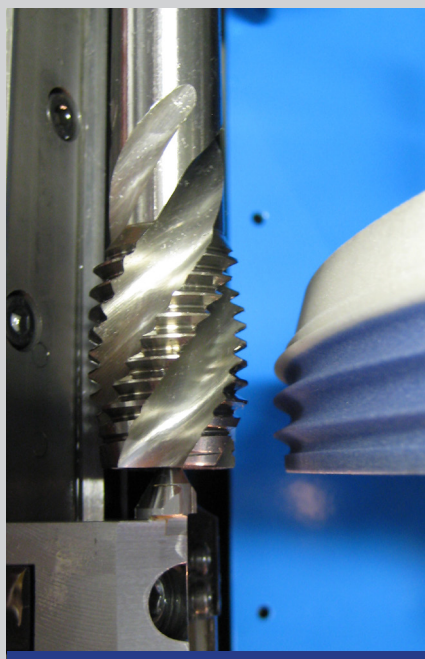


# GBA 202



## TECHNICAL DATA:

Workpiece diameter	M3 (M1) – M16	
Grinding length max.	80	mm
Clamping length	28 – 200	mm
Pitch (RH)	0,2 – 2,0	mm
Lead angle (fixed)	3,25	°
Flute number max.	9	
Relief	0 – 0,5	mm
Relief frequency max.	100	Hz
Wheel diameter	390 – 500	mm
Wheel width max.	10 - 25	mm
Wheel drive	7,5	kW
Cutting speed max.	80	m/s
Workpiece revolution max.	1.500	1/min

(technical changes reserved)

## PRODUCT INFORMATION

The **GBA 202** is a fully automated tap grinding machine, which has been specially developed for the mass production of standard thread-cutting taps with straight or spiral flutes as well as forming taps. The stable basic structure of the machine enables high productivity and precision.

The relief motion is performed by a mechanical unit with a replaceable relief grinding cam. This unit is driven by a servo motor and precisely synchronized with the other axes by the CNC control system, which enables very high speeds and relief strokes. In combination with the high-speed technology used on this machine, this guarantees exceptional productivity with very short cycle times.

The grinding wheel is automatically profiled in programmed cycles. The use of roller set's for the thread and chamfer makes it possible to grind both the thread as well as the chamfer in a single setup. The optional W-axis enables flexible 2-axis CNC dressing of the chamfer section using a diamond form roll.

Equipped with multiple pallet stations (raw/finished part), the integrated handling system provides for very short workpiece change times thanks to the use of a 6-axis FA-NUC robot.

The machine is equipped with the latest drive and control technology (digital servo drives: Siemens, precision length and angle measuring systems: Heidenhain). Thanks to the workpiece-specific user interface by SMS (HMI), the CNC control system (Siemens 840D sl) can easily be programmed by the operator in the dialogue system and ensures short setup times.

### Advantages and special features of the GBA 202:

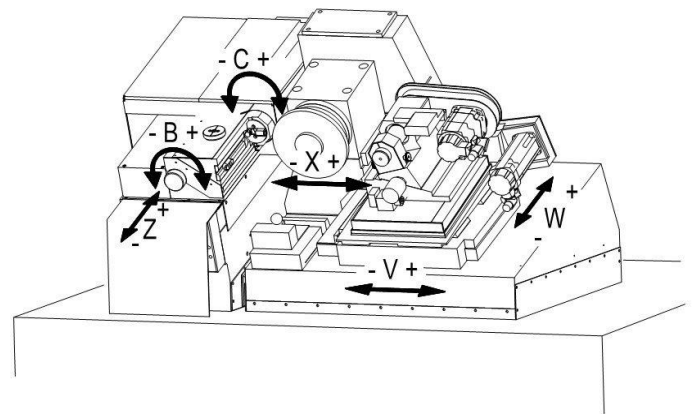
- Significantly reduced workpiece change times and short setup times lead to higher productivity
- Further improved machine availability
- Use of customer-specific pallets

### Available options:

- W-axis for flexible dressing (diamond form roll)
- Grinding of carbide tools
- M1 package: This option allows grinding of threading tools as of M1 using a single tooth grinding wheel (for forming taps with pitch correction)

### The machine is equipped with max. 6 CNC axes:

Workpiece slide:	Z-axis
Workpiece drive:	C-axis
Grinding support:	X-axis
Relieving cam drive:	B-axis
Dressing axis radial:	V-axis
Dressing axis axial (optional):	W-axis



### Machining example: Tap (ISO) M6

Lead p:	1.0 mm
Thread length:	10.0 mm
Number of flutes:	3 (spiral)
Flute angle:	40°
Chamfer angle:	16°
Cycle time:	37 sec. (thread + chamfer)



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