

Squaring saw

Herbert Arnold GmbH & Co. KG Weilburg
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According to specification:
25.02.2010
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Squaring saw 72/475

Item number: VT3-00016

Category: Squaring saw

with two parallel arranged diamond precision cutting disks. Machine is suitable for squaring of mono crystalline ingots as grown with workpiece diameter of 100 x 100 mm up to 156 x 156 mm. Machine is equipped with 5 workpiece carrier supports for processing workpiece length of 3 x 800 mm resp. 4 x 550 mm all at once. The fully automatic machine excels by the following advantages:

- equipped with two loading areas for manual loading
- high flexible machine concept
- flexible and easy processing of different ingot lengths and diameters
- low investment costs
- ingot as grown can be processed without preparation

Quality data of workpiece:

- average value Ra $\leq 0,6 \mu\text{m}$
- angularity $\leq \pm 6,5$ min
- geometric tolerance block width $\leq \pm 0,2\text{mm}$



- SPS Simatic – S7
- operator manual OP 17
- machine table driven via AC-servo motor, toothed belt and ballscrew
- cutting aggregate driven via AC-servo motor with infinitely variable torque adjustment
- precision spindle bearing with air protection
- pneumatic clamping of workpiece
- fixation and hold of the slabs via vacuum
- cutting spindle with centrifugal cooling
- Optional: ARPAT – „Arnold Remote Production Analysis Tool“ - machine internal MES (option)

Squaring saw 72/476

Item number: VT3-00261

Category: Squaring saw

With two parallel arranged diamond precision cutting disks. Machine is suitable for squaring of mono crystalline ingot work pieces with workpiece diameter of 100 x 100 mm up to 156 x 156 mm. Workpiece length of 800 – 2500 mm can be processed. The fully automatic machine excels by the following advantages:

- equipped with two loading areas for manual and fully automatic loading with the help of an industrial robot
- high flexible machine concept
- flexible and easy processing of different ingot lengths and diameters
- low investment costs
- high process safety
- low tool costs
- high lifetime of cutting disk
- low kerf-loss by thin blade guidance $\leq 1,7 \text{ mm}$ waste
- high technical machine availability 97%
- thin blade guidance for precision cutting blades thickness $\leq 1,2 \text{ mm}$
- cutting force supervision for optimization of cutting process and avoiding tool damages based SiC-inclusion
- ingot as grown can be processed without preparation

Quality data of workpiece:

- average value: $Ra \leq 0,6$



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μm angularity: $\pm 6,5$
p: $\pm 0,2$
sp: $\pm 0,2$
min geometric tolerance block width: $\pm 0,2$ mm

- SPS Simatic – S7/317
- High end industrial PC with dual core processor
- 15" touch panel with HMI, visualisation on WinCC flexible
- machine table driven via AC-servo motor, toothed belt and ballscrew
- cutting aggregate driven via AC-servo motor with infinitely variable torque adjustment
- precision spindle bearing with air protection
- pneumatic clamping of workpiece
- automatic fixation and hold of slabs via vacuum
- cutting spindle with centrifugal cooling
- ARPAT – „Arnold Remote Production Analysis Tool“ - machine internal MES (option)

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