

Doimak

HIGH SPEED PEEL GRINDING MACHINE : RAV



DOIMAK peel grinding machine model RAV is a high speed grinder which incorporates a CBN wheel. Peel grinding process is a longitudinal form grinding with a narrow wheel following a path similar to turning process. This grinding method offers a high degree of flexibility together with a high stock removal capacity.

Different part geometry only requires to modify wheel path during grinding process. In order to make easier this change, the machine has a user friendly graphic interface by means of iconographic masks. The application of a high speed CBN wheel provides stock removal rates higher than $100 \text{ mm}^3 / \text{s}$. Besides, the machine incorporates the latest technology in NC and digital drives, a very stiff mechanical design and a high dynamic response.

All these data make that DOIMAK machine model RAV had three main characteristics: **Flexibility, Accuracy and Production Capacity.**

TECHNICAL FEATURES

- Distance between centres: 500 mm, 1.000 mm and 1.500 mm.
- Maximum work piece diameter: 300 mm.
- Wheelhead of 30 kW on hydrostatic bearings.
- CBN wheel diameter: 400 mm.
- Maximum peripheral speed: 140 m/s.
- Maximum axes travel speed: 10.000 mm/min.
- Sinumerik 840 D Control.



WHEELHEAD INFEEED SLIDE "X" AXIS

- Mounted on the machine base. It moves on ground V and flat guideways continuously lubricated by a close circuit for stick-slip free infeed.
- Slide driven by A.C. digital type servomotor and precision ballscrew.
- Infinitely variable working speeds between 0,1 ÷ 6.000 mm/min.
- Stroke reading by linear encoder.
- Positioning resolution: 0,001 mm.

GRINDING WHEELHEAD

- Main shaft is driven by a 30 kW servomotor and direct transmission.
- It runs on hydrostatic high speed bearings.
- CBN grinding wheel \varnothing 400 mm.

WORKHEAD

- The main shaft of special steel is ground and lapped, and runs on angular bearings.
- The shaft is driven by an A.C. servomotor and direct transmission.
- CNC variable speed workdrive from 5 to 2.000 rpm.
- Spindle taper: MT-5.
- Spindle nose as DIN 55.021, AL.6 rules.

TAILSTOCK

- Rotating center.
- Automatic opening and closing by hydraulic cylinder.
- Sleeve mounted on lineal high accuracy ball bearings.
- Inside taper of sleeve: MT-4.
- Hydraulic pressure for rough grinding and with a spring for finish grinding.
- Micrometric manual device for taper correction.

BASE

- Amply sized perlitic cast iron with the internal ribs necessary to ensure good machine rigidity and vibration-free running.
- Designed with large spaces for collecting coolant and a sloping outlet to facilitate coolant removal and machine cleaning.

TABLE "Z" AXIS

- Slide driven by A.C. digital type servomotor and precision ballscrew.
- Infinitely variable working speeds between 0,1 ÷ 6.000 mm/min.
- Stroke reading by linear scale.
- Position resolution: 0,001 mm.
- It moves on ground V and flat guideways continuously lubricated by a close circuit for stick-slip free infeed.



DRESSER

- Mounted on the rear part of the work head.
- Dressing cycle is programmable through CNC control and can be integrated into the grinding cycle.
- Dressing is made by a diamond disc, driven by AC electrospindle and with rotation possibilities in both sides.

CONTROL -SIEMENS SINUMERIK 840 D

