

## INTERNAL THREAD GRINDING MACHINE : RIR



### MAIN TECHNICAL DATA

- Max. diameter of piece: 275 mm
- Max. diameter of thread: 225 mm.
- Max. length of thread: 350 mm.
- Max. helix angle: 20 °.
- Pitch range to be ground: 1-300 mm.

### TECNICAL FEATURES

#### 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.
- Coolant flushing around the base to eliminate the accumulation of swarf.

#### TABLE -"Z" AXIS

- Table driven by digital type A.C. servo motor and precision ball screw.
- Guides covered with antifriction blades to allow them appropriate lubrication and stick slip free stroke even at slow speeds.
- Lubrication is carried out through independent circuit.
- Stroke reading by high precision linear glass scale.
- Max. stroke speed: 6.000 mm/min.

### WHEEL DRESSER (with 2 axis cnc controlled).

- "X1" axis: Dressing unit - Feeding movement  
Vertical stroke with infinitely variable speed between 0 and 2.000 mm/min.  
Sizing system by encoder.  
Resolution: 0,001 mm.
- "Z1" axis: Dressing unit.  
Horizontal stroke with infinitely variables speed between 0 and 2.000 mm/min.  
Sizing system by encoder.  
Resolution: 0,001 mm.
- Dressing cycle and the wheel wear compensation are both programmable.



### GRINDING CYCLES AVAILABLE

- Outside reciprocating cycle.
- Outside squared cycle.
- Grinding of taper threads.
- Wheel dressing.
- Wheel wear compensation.
- Taper correction by sections.
- Pitch correction.
- Parameter modification during work.

### CNC CONTROL SIEMENS SINUMERIK 840 D

### SOFTWARE

- It is a set of sub-programmes corresponding with each grinding cycle, being managed all of them through the main program developed by DOIMAK to these special purposes.

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### BASE

- Amply sized perlitic cast iron with the internal ribs necessary to ensure good machine rigidity and vibration-free running.

### TABLE -"Z" AXIS

- Table driven by digital type A.C. servomotor and precision ball screw.
- Guides covered with antifriction blades – turcite .
- Stroke reading by high precision linear glass scale.

### WORKHEAD -"C" AXIS-

- Spindle index by digital type A.C. direct motor.
- The synchronizing of spindle rotation with table stroke is carried out by means of CNC control.
- Possibility for controlling part rotation in one or several different positions.
- Spindle speeds are infinitely variable between 0,5 ÷ 270 rpm.
- Angular positioning though encoder of high resolution.

### TAILSTOCK

- Two pieces device with upper side laterally movement for taper correction. A graduated dial is available for this purpose.
- Sleeve mounted on bronze bearings, manually operated by lever.

### WHEEL HEAD SLIDE -"X" AXIS

- Slide driven by digital type A.C. servo motor and precision ball screw.
- Slide stroke reading by glass scale.
- Maximum tilting on both sides:  $\pm 45^\circ$ .
- Spindle driven by 11 kW powered, A.C.direct motor.
- Speed variator of 11 kW to keep constant peripheral speed on grinding wheel.
- Spindle mounted on high precision preloaded angular contact ball bearings.
- Guides covered with antifriction blades – turcite .

