

## 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.



#### DRESSING SLIDE - "Y" AXIS.

- Support slide of diamond disc, driven by digital servo motor and precision ball screw.
- Stroke reading by glass scale.
- Max. stroke speed: 3.000 mm/min.
- Roll guideways.

#### DRESSER.

- Possibility to dress with diamond disc by controlled interpolation with the "Y" axis of CNC.
- Possibility to dress corrected profiles function of the angular correction and wheel diameter.
- Dressing by profiled diamond roll or diamond disc.
- Driven by A.C. motor of 0.74 kw (2 directions).
- Dressing cycle and wheel wear compensation are both CNC controlled.

#### GRINDING CYCLES AVAILABLE.

- Internal thread grinding.
- Wheel dressing (different profiles).
- Wheel wear compensation.
- Pitch correction and allowable shift.

#### SOFTWARE.

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

#### CNC CONTROL SIEMENS SINUMERIK 840 D.

#### ROTARY BASE: (Helix angle ). "W" AXIS.

- Driven by digital motor, notched sector and worm.
- Maximum tilting on both sides: 20°.
- Automatic lock.
- Positioning by rotary encoder.

#### WHEELHEAD SLIDE - "X" AXIS.

- Installed on the rotary base ("W" axis).
- Slide driven by digital type A.C. servo motor and precision ballscrew.
- Slide stroke reading by glass scale.
- Roll guideways.
- Max. stroke speed: 6.000 mm/min.

#### WHEELHEAD FOR THREAD GRINDING.

- Driven by high frequency spindle of 42.000 rpm.
- Spindle lubrication by oil nebulized.
- Frequency variator to keep constant peripheral wheel speed.

#### WORKHEAD -"C" AXIS.

- Spindle driven by digital type A.C. servomotor.
- Through bore of 35 mm diameter with MT N° 5 at the front of the shaft.
- 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 and controlled through high resolution encoder.
- Spindle speeds are infinitely variable between 0,5 ÷ 200 rpm.
- Angular positioning through encoder of high resolution.



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