

TECHNICAL SPECIFICATIONS

Max. grinding diameter	mm.	250
Height of centers over table	mm.	180 / 230*
Swing over table	mm.	355 / 455*
Max. distance between workhead plate and spindle support	mm.	1000
Spindle support diameter	mm.	100
Max. table swivel	deg.	8°
Table translation speed	m./min.	0 - 4
Workpiece rotation speed	r.p.m./min.	0 - 500
Chuck diameter (*)	mm.	200*
Wheelhead motor	kw.	3
Workhead motor	kw.	0,75
Workspace required	mm.	3200 x 2100
Net weight	kg.	2400

(*) ON REQUEST

FACING DEVICE

Max. grinding diameter	mm.	355
Wheel diameter	mm.	125
Max. swivel	deg.	10°
Wheel motor	kw.	1,1

PERFORMANCE AND PRECISION DEGREE

Robbi grinding machines are according to the international precision normes ISO 2433.
The table movement linearity is guaranteed by a max. deviation of 0,002 mm/mt.

The obtainable grinding roundness is : 0,4 μ (**)

(**) for a test workpiece ground in our factory during machine testing

The CNC controls :

- Wheel head movement (AXIS X)
- Longitudinal table movement (AXIS Z)
- Work head spindle rotation speed

The available programs permit the programming of the following grinding cycles

- Plunge
- Cylindrical pass
- Cylindrical pass with interpolation between table and wheel movement to grind taper workpieces
- Radius

The software for the workpiece grinding operation is very simple and intuitive. To facilitate the programming the software is equipped with an exemplifying graphics, to input the data for each parameter. The software, has been specially studied, so as to permit also non specialised operators to programme without any problems complex workpieces.

When the workpiece grinding programme has been completed the CNC will automatically make up a summary list, where only the geometric parameters are evidenced. This list permits with a glance to verify the complete programme; this operation is very helpful to verify eventual input data errors or to check rapidly a workpiece programme when reloaded from the file.

While the programme is in execution, it is possible to intervene and modify in real time the technologic parameters, such as: increments, dwell inversion times, sparkout passes. Also, it is possible to intervene with the jog handwheel.

The Grinding Machine is composed of :

BASE

Structure in normalised and stabilised cast iron with large ground guides. The lubrication plant supplies a constant oil flow distributed over the complete length of the guides. In the middle of the base, there is positioned the ball screw for the table longitudinal movement. On all the lower part of the perimeter are situated the recesses for machine levelling. Considering the base structure, usually a foundation is not required.

TABLE

The table is manufactured in two parts, both are in normalised and stabilised cast iron. The lower part is composed of wide guides which are ground and accurately hand scrapped, for a better sliding. The upper part, is swivelable in the two directions, suitable for grinding tapered workpieces. It includes a micrometric device with centesimal dial gauge for taper control.

WORKHEAD

The structure in normalised, stabilised and well ribbed cast iron, allows to support the workpiece weight and the force generated by the grinding operation. The spindle rotates on high precision ball bearings, guaranteeing restricted tolerance and maximum rigidity in the working. The spindle rotation is by means of a three phase motor with variable speed controlled by an inverter.

INTERNAL GRINDING SPINDLE CARRIAGE

The structure is composed of a carriage, where the internal grinding spindle is located. The working feed, is obtained by a re-circulating ball screw and preloaded nut. The screw movement is assured by a brushless motor. The incremental optic rule guarantees a wheelhead positioning precision of 0,001 mm.

INTERNAL GRINDING SPINDLE

As there are many and various types of Internal Grinding Spindles, according to the diameters and lengths that need to be ground, the machine is supplied without an internal grinding spindle, so that the customer may select which type is more suitable for his job. The machine is manufactured standard with a belt transmission suitable for diam. mm. 60, diam. mm. 80 and diam. mm. 100 internal grinding spindles. On request, high frequency spindles may be assembled.

WHEELHEAD FOR FACE GRINDING

The structure is composed of a carriage, where the face grinding device is located. The positioning is obtained by an hydraulic cylinder. The diamond dressing device is assembled on the face grinding device casing.

MANUAL FEED HANDWHEELS

Electronic type, with double selection of the increments division 0.1 - 0.01 and 0.001 mm. for wheelhead and table movements.

DIAMOND DRESSER

The internal diamond dressing device is very strong and is positioned on the table. It starts hydraulically, when the dressing operation is selected, by the operator. The dressing operation may be carried out manually or in automatic cycle.

EQUIPMENT AND ELECTRICAL PLANT

In a cooled cabinet, separate from the machine.

HYDRAULIC PLANT

The hydraulic power pack, is separate from the machine and activates the hydraulic diamond dresser and face grinding device.

LUBRICATION PLANT

The lubrication power pack, is separate from the machine and supplies continuous oil to the wheelhead guides. The recovered oil is filtered and then resent to the power pack. The re-circulating ball screw nut for the working feed, is grease lubricated.

COOLANT PLANT

Large capacity tank for the coolant water, complete with electric equipment. Equipped with coolant magnet cleaner and coolant paper roll cleaner.

PROTECTIONS

For the protection of the operator all movable parts are covered with suitable guards. Precisely: protection casing for belts, protection casing for grinding wheel and bellows for guides. The machine is completely closed and the front protection is a sheet sliding doors with poly-carbonate shields. A safety device, does not permit the automatic cycle to start if the front sliding doors are open.