

## 2. MAIN TECHNICAL FEATURES

### 2.1 TECHNICAL – DIMENSIONAL FEATURES

•Maximum swing diameter over bed	900 mm
•Maximum grinding diameter with new wheel	820 mm
•Maximum grinding length	4000 mm
•Maximum static weight allowed on steady rests	3000 Kg
•Maximum weight allowed in chuck (Max overhang 250 mm from spindle nose)	300 Kg
•Size of OD conventional grinding wheel (Ø x thick. x bore)	915 x 100 x 305 mm
•Grinding wheel peripheral speed	45 - 60 mt./sec.
•Speed of infeed in plunge grinding: rough grinding	0.5 - 50 mm/min.
•Speed of infeed in plunge grinding: finish grinding	0.001 - 0.01 mm/min.
•Speed of infeed in traverse grinding: rough grinding	0.01 - 0.05 mm/min.
•Speed of infeed in traverse grinding: finish grinding	0.001 - 0.01 mm/min.
•Machine maximum length	9200 mm
•Machine maximum width	3800 mm
•Machine maximum height	2630 mm
•Overall weight (approximate)	25800 Kg
•Maximum noise level surveyed on the machine while motors are in run	80 dB

### 2.2 WORKHEAD

•Angle of the center	60 degrees
•Quill taper	Morse 6
•Spindle external fitting	ASA 6
•Motor for spindle "S1" rotation	22 kW
•Workhead speed of rotation	3 - 250 rpm

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## 2.3 ELECTRIC TAILSTOCK

•Angle of the centre	60 degrees
•Quill taper	Morse 6
•Quill external diameter	120 mm
•Quill overall travel (travel + center ejection)	78 + 15 mm
•Load cell maximum reading	10000 Kg
•Motor for tailstock quill displacement	6.1 Nm
•Motor for tailstock body longitudinal displacement along the table	0.18 kW

## 2.4 GRINDING WHEEL SIZE

•Outside diameter of the grinding wheel	915 mm
•Thickness of the grinding wheel	100 mm
•Grinding wheel bore	304.8 mm
•Maximum thickness of the grinding wheel	130 mm
•Minimum diameter of the grinding wheel (worn out wheel)	650 mm

## 2.5 WHEEL CARRIAGE

•Grinding wheel peripheral speed	45 - 60 mt./sec.
•Grinding wheel spindle speed of rotation (Maximum)	2000 rpm
•Grinding wheel variable A.C. motor (brushless)	37 kW
•A.C. variable mot. (brushless) for wheelhead slide cross travel (X AXIS)	7 Nm
•Speed of wheelhead cross slide rapid travel in manual (X AXIS)	7000 mm/min.
•Speed of wheelhead cross slide rapid travel by program (X AXIS)	10000 mm/min.
•Wheelhead cross slide travel (X AXIS)	510 mm
•A.C. variable motor (brushless) for wheel carriage longitudinal travel (Z AXIS)	14.7 Nm
•Speed of wheel carriage longitudinal rapid travel in manual (Z AXIS)	7000 mm/min.
•Speed of wheel carriage longitudinal rapid travel by program (Z AXIS)	15000 mm/min.
•Wheel carriage longitudinal travel (Z AXIS)	4300 mm

## **STANDARD ACCESSORIES**

- CNC control unit SIEMENS SINUMERIK 840D – PCU50 WINDOWS XP PRO SERVICE PACK 2
- Gap elimination safety device (MARPOSS P7)
- Hydraulic power pack for various duties on the machine
- Hydraulic power pack for automatic lubrication
- Hydrodynamic-bearing wheel spindle oil power pack
- Hydrodynamic-bearing wheel spindle
- Electric tailstock complete with load cell and digital displayer of thrust on part
- One (1) grinding wheel flange Ø 304,8 mm
- Two (2) carbide-tipped dead centers Morse Taper 6, complete with extraction ring nut
- One (1) grinding wheel balancing shaft
- Tie-rods and brackets for machine anchorage
- Modem for remote connection and data transfer from the CNC
- Set of service tools
- Geometric test certificate
- Hook for wheel change
- Linear glass scale on X axis movement (plus back up encoder)
- Water jets for machine bed cleaning

**OPTIONAL ACCESSORIES INCLUDED IN THE SCOPE OF SUPPLY**

- Height of centers increased to 450 mm
- One (1) spare grinding wheel flange Ø 304,8 mm
- Automatic dynamic grinding wheel balancing device make MARPOSS
- Wheel safety protection with hydraulic downward movement controlled by the CNC
- Electronic micrometric gage for part axial positioning control MARPOSS "UNIMAR POSITIONAR" complete with protection guard
- Electronic micrometric gage for part diameter comparative control MARPOSS "UNIMAR" with automatic connection, complete with protection guard (Minimum diameter 50mm – Maximum diameter 450mm)
- Preparation to accept One (1) open steady rest with two axes controlled by the CNC (LO1 - LV1) to accept diameters in the range 60 to 180 mm.
- Preparation to accept One (1) open steady rest with two axes controlled by the CNC (LO2 - LV2) to accept diameters in the range 180 to 400 mm.
- Two (2) V-shaped supports for part pre-positioning (Minimum dia. 60 mm - Maximum dia. 410 mm)
- Hand-held electronic handwheel with integrated controls
- Machine full enclosure complete with automatic opening of front sliding doors at the end of the grinding cycle and provision for the installation of oil and dust mist collector.  
(Mist collector and provision for mist collector housing on machine enclosure on customer's account)
- Additional coolant flush for wheel cleaning purposes (fitted inside the wheel guard)
- Diamond roll complete with high precision electro-spindle (housed on tailstock body side)

- Automatic swing-down type belt-superfinishing attachment
- 350 degrees swivelling of CNC control panel
- Flow-switch on coolant supply line for grinding wheel rapid safety reversal in case coolant-on-wheel flow is missing
- Hydraulic device for tailstock alignment setting prior to manual locking
- Viton seals on items exposed to coolant
- Aluminium roll-type cover make Kabelschlepp for additional protection of X Axis bellows
- Diamond dresser holding block with holes dia. 11.12 mm at 12° angle
- Machine preparation to use diamond grinding wheels
- Wheel spindle oriented stop at given position to facilitate wheel change operations.
- Induction hardening of table guideways
- Belt grinding capability through adaptation of the existing wheel carriage layout to operate diamond flexible belts plus polishing system mounted on machine wheel carriage