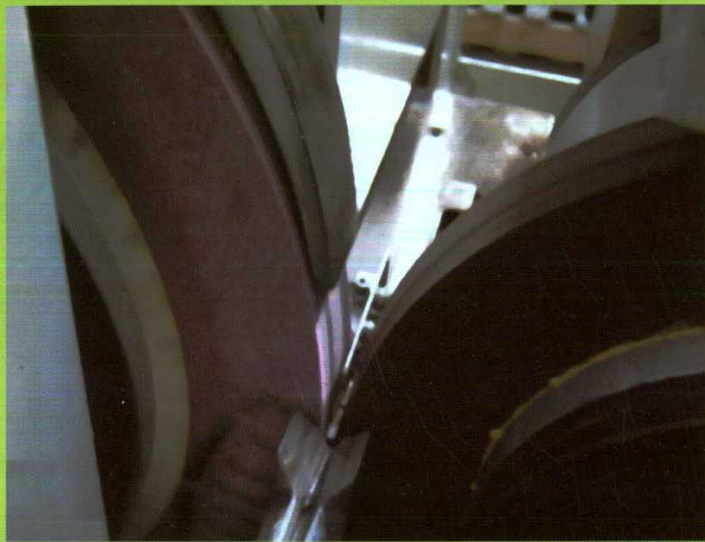


**SMT**



# SMT - BMS CENTERLESS GRINDERS



**Bocca & Malandrone Sunebo Centerless combine  
new technologies and tradition to guarantee  
high productivity, reliability, precision and flexibility.**

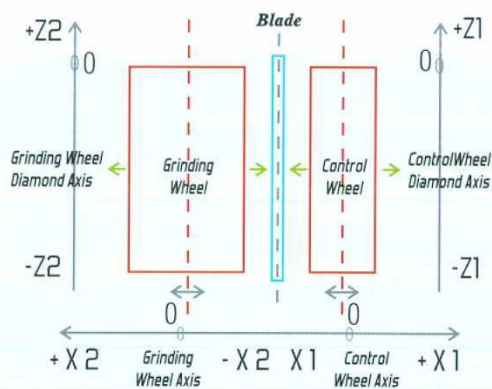


Since the sixties Bocca & Malandrone produces Centerless Grinders characterized by rigidity, stability, precision and reliability thanks to the adopted technical solution derived from the long mechanical experience developed in Turin area in Italy.

With the coming of electronic application on the machine tools, Bocca & Malandrone has completely re-designed and rationalized its range of machines and developed a new family of products which was suitable to make the most use of CNC controls, measurement devices and automation loading unloading devices but maintaining unchanged the reliability and machine stability due to the mechanical solutions.

At the present, Bocca & Malandrone range of centerless grinders consist of three models, all of them guarantee maximum flexibility in application since they are designed to be suitable to work in through feed or plunge feed.

The Bocca & Malandrone centerless are "Fixed centers machine" it means that the work rest blade support is firmly fixed on the machine base. Grinding and regulating wheels are mounted on solid support fixed on the hydrostatic slides which can move toward dressing unit and backward to the blade.



Bocca & Malandrone centerless are completely CNC controlled. As shown in the sketch, the grinding wheel axis named (X2) manages the grinding wheel slide movement toward dressing unit and backward to the blade (the part to be machined), as well the control wheel axis named (X1) manages the control wheel slide movement toward the dressing unit and backward to the blade (the part to be machined).

The axis named (Z2) and (Z1) respectively manage the longitudinal movement of dressing tool of grinding and control wheel and can interpolate with X2 and X1.

The above mentioned four axes together with the axis to manage the regulating wheel rotation speed and the axis to manage the grinding wheel constant rotation speed (4 plus 2 axes) are then enough to completely control all the machines movements.

The precision of Bocca & Malandrone grinders is achieved thanks to the high rigidity of the system. The machine bed in electro-welded steel is fulfilled with a special elastic concrete to absorb the vibration and it is designed to guarantee the better discharge of coolant and avoid leakage of liquid.

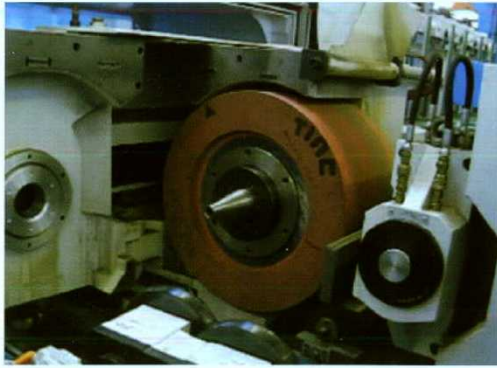
All Bocca & Malandrone models of centerless grinders are equipped with hydrostatic slides and hydrodynamic spindles for grinding and regulating wheels.

Hydrostatic slide is the best technological solution for the reliability of the precision in long time (even more than 15 years). The slides are driven with brushless motor and precision reduction gear units; a thin film of lubricant separate the two sliding surfaces, and maintain them at a defined distance avoiding the wear of parts. No pulley system is used and no linear re-circulating bearings are used.

The spindles are hydrodynamic and triple supported by three special bronze alloy bushing each of them composed in three sectors held by spherical rest which make the bushing self oriented. The hydrodynamic spindle gives the best warranty of quality and reliability during the time.

The dresser of the machine are CNC type, but in order to increase the reliability of the geometrical linearity of the traverse movement of the dresser, a template act as reference point for infeed axis of CNC. Thanks to this system the dresser doesn't require any intervention of maintenance for long time.

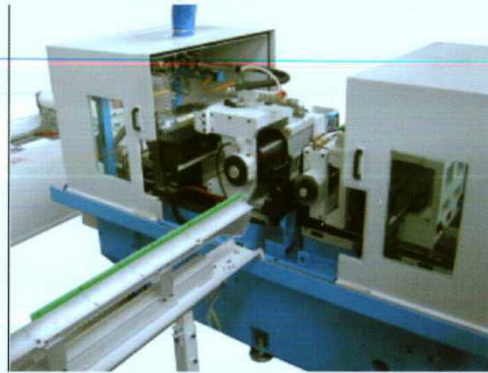




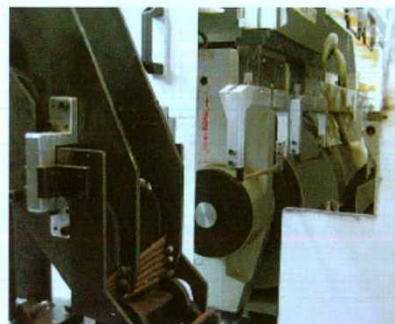
The patented BMS solution permits to change the grinding and regulating wheel rapidly without disassembling the spindle from the machine by means of open-able wheel front support.

The protection guard sliding on guide permits a complete opening of machines to facilitate machine set up, maintenance and cleaning operations.

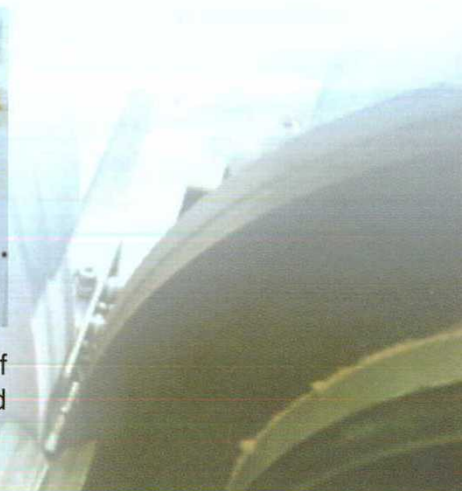
Bocca & Malandrone Sunebo further more than grinding machines offer to its customers solutions for the manufacturing process in order to achieve best results in quality but also shortening the process time specially reducing loading/unloading and eventual measuring time developing specific solutions for the part to be machined.



Sample of application for bar grinding with vertical re-circulations of bars and laser post process measurer.



Samples of application for shaft grinding with portal and 2 set of double grippers for loading the parts in the machine and unloading of machined parts in the gauge.





### BMS R50 CF



Work piece diameter	Ø 0,6 to 80mm
Work piece max length (plunge)	250mm
Grinding wheel Max. Ext Ø	610mm
Grinding wheel cutting speed	33-60m/s*
Grinding wheel motor	15-22KW
Regulating wheel Ext Ø	305mm
Regulating wheel speed	0-300rpm
Regulating wheel motor	10.4Nm
Machine weight	8,000Kg
Dimension	3,250x1.470x1,825mm (without electrical cabinet)

Suitable to work in plunge feed and through feed typical applications: rotor shaft, valves, joint, shaft for compressor, pump shaft, valves, bearing rolls, injectors.

### BMS R90 CF



Work piece diameter	Ø 0,6 to 150mm
Work piece max length (plunge)	350mm
Grinding wheel Max. Ext Ø	610mm
Grinding wheel cutting speed	33-60m/s*
Grinding wheel motor	45-55KW
Regulating wheel Ext Ø	305mm
Regulating wheel speed	0-300rpm
Regulating wheel motor	22.4Nm
Machine weight	13,000Kg
Dimension	3,630x1,800x2.000mm (without electrical cabinet)

Suitable to work in plunge feed and through feed typical applications: rotor shaft, drive shaft, shaft for electrical motor, shaft for compressors, bars diameter till 150mm.

### BMS R130 CF



Work piece diameter	Ø 0,6 to 350mm
Work piece max length (plunge)	600mm
Grinding wheel Max. Ext Ø	660mm
Grinding wheel cutting speed	33-60m/s
Grinding wheel motor	45-110KW
Regulating wheel Ext Ø	355mm
Regulating wheel speed	0-300rpm
Regulating wheel motor	42-58Nm
Machine weight	17,000Kg
Dimension	4,040x2,153x2.000mm (without electrical cabinet)

Suitable to work in plunge feed and through feed typical applications: piston, piston pin, bearing ring, bars diameter till 350mm, piston rod.

\* Cutting speed to be specified in order

#### SOLITAIRE MACHINE TOOLS LIMITED

292, Dharmsinh Desai Marg, Chhani Road,  
Vadodara – 390 002, India.

Phone: 91 265 277 2415 Fax: 91 265 277 1927

E-mail: [sales@smtgrinders.com](mailto:sales@smtgrinders.com)

Website: [www.smtgrinders.com](http://www.smtgrinders.com)

#### BOCCA & MALANDRONE SUNEBO S.p.A.

XXV Aprile, 166 – 10042 Nichelino,  
(TO), ITALY

Phone: +39.011.6807114 Fax: +39.011.6807634

E-mail: [boccamalandrone@sunebo.it](mailto:boccamalandrone@sunebo.it)

Website: [www.boccamalandronesunebo.it](http://www.boccamalandronesunebo.it)