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the evolution of experience

Monzesi presents two new grinder lines: the centerless model "Monza Line 20" produced by Monza division and the "RV2CNC760" which belongs to Viotto division, both resuming important technological developments compared to the previous versions.

The manufacturing evolution has enabled Monzesi to present a new grinder centerless line (Monza division), ruled by a numerical control called "Monza Line 20". As concerns the Viotto division (double disk grinders), Monzesi has introduced the RV2CNC760 model which has important technological developments compared to the previous versions.

These developments arise from different transformations in the basement and positioning sets, in the inferior and superior head set, in the dressing set and in the power supply module.

The advantages are many: more stability, less vibration, better manufacturing and precision, better ergonomics, good flexibility and of course, an improvement in security and appearance.

CNC GRINDINGS. Specifically, the new model "Monza Line 20" has been entirely created in CNC through a solution of an axis with eight controlled axis and six sizes with operating grinding wheels with a diameter from 300x100 to a 610x500 mm of segment. This increase in measures enables to contain pieces of 200 mm diameter and to provide huge removals and high precision finishing.

The fusion in cast iron of the base has been projected to receive the new entire safety protection in order to guarantee more security and a better access to the machine.

Moreover, the thickness of the side walls and the transverse ribs have been increased to obtain more rigidity and assimilation of the vibrations.

Two company divisions.

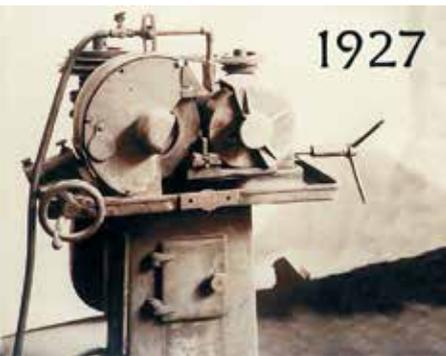
The company includes two manufacturing lines well separated. The Monza Division produces centerless grindings and the Viotto division, the double disk ones. The first centerless grinder was built in 1927 after an initial experience in the manufacturing of other tools machines and in the mechanic production.

In the 90's, Officine Monzesi arrives in America with the foundation of Monza Corporation. The aim was to sell and give technical assistance in the NAFTA market. In 1999, Officine Monzesi buys Viotto, specialized in the production of double disk grinders. In this way, the company could supply aimed solutions for various technical applications in different situations. The machines are fast - growing all over the world and they achieve immediately new markets both in different geographical areas and application fields. In 2009, Officine Monzesi, as the majority of the mechanic industries, was affected by the global crisis. In 2010, they decided to make the composition with creditors. This solution led to the reorganization of Monzesi SRL. So far, Monzesi has ambitious projects both in the international developing commercial field (soon the opening of a seat in San Paolo, Brazil and new hiring already in January).

officine monzesi

MONZESI

VIOTTO



The first Monzesi centerless grinder from 1927, centerless grinder Monza 520 CNC 6 and a centerless grinder in a working cycle.



The new slides movement system, can get closer to the grinding head always remaining supported by the guides even when they grind small diameters or when the grinding wheel is completely consumed. The wheels dresser devices, when the translation is not regulated by the CNC, has been transformed from hydraulics to electrical axis avoiding complications related to the oil-hydraulics. All the axis motors have a drive and digital transducer including the motor for the grinding wheel rotation. The grinding wheel motor, has variable speed and can be modified with the constant speed option; the grinding wheel balancing can be also executed, automatically, in a dynamic way. The Grinders are provided with specific software which, in many situations, are able to replace the expert operator's analysis and reaction ability. These grinders are easy to handle thanks to the human-machine interface which enables to display a serial number of pages customized for the production schedule monitoring.

The Fanuc numerical control uses software developed by Monzesi. The operator, using graphical pages scheduled by a parametrized programming system, is able to enter to a numerical control without using ISO programming systems. We have managed to accelerate considerably the machine approach also for the most inexperienced operator, through the simplicity of the system in which there is a diagnostics able to reveal software and hardware errors. The fulfilment is suitable to receive different measure post systems of loading and unloading pieces; mono and pluridiameter systems which provide a size control of manufacturing pieces and a feedback transmissions for the machine regulation. CAD/ CAM system is available for the operating and driving grinding wheel.



Double disc grinder Viotto RV2 CNC 760 and a numeric control touchscreen Siemens 810D Solution Line.

A TRIPLE SYSTEM. The RV2 CNC 760 Viotto grinder machine, in the new version with the screw mother groups spindle head positioning, located in correspondence of the push processing, presents a triple manufacturing system: a power system of interpolated axis (piece linear oscillation and dip of the superior grinding wheel), a second power system (piece rotating oscillation and dip of the superior grinding wheel) and an interrupted rotating supply. The machine weights 15.500 kg, has an installed power of 150 KW, a working height ground table of 1.400 mm, an electric spindle power of 55 + 55 KW to 1.000 rpm and a grinding wheel diameter of 460/990 mm. It is made of an electro-welded base, electric spindles with a motor regulated by a liquid cooled frequency convertor. The spindle shafts are manufactured in one piece (mushroom shape) in chromium steel, manufactured and grinded. The balls bearing are with oblique contacts in Abec class precision. The spindles are empty to allow the coolant circulation. The wheel center heads, have vertical axis and are strongly innervated in order to obtain the highest level of stability and stiffness. They are also sliding on prismatic guides covered by grinding and lubricate trite. Heads are mechanically counterbalanced. The superior grinding wheel layout control system is on dial gauges connected to the quill spindle. The moving devices of the wheel center heads are with recirculating-ball screws and preloading leadnuts controlled by CNC (Z and Q axis). The front push axis is directly on the work place.

The supply group of the pieces is installed on a double zipper in order to give a rapid access to the wheel grinding zone and to guarantee a quick substitution of the grinding wheels and/or of the pieces supply disk. The disks are made of steel covered in grinding chromium and support the pieces before and after the grinding zone.

A RICH EQUIPMENT. An adaptor is also furnished for the supply disk rotation with brushless motor, controlled by CNC (X axis). The slide for the supply disk oscillation is installed on cylindrical guides with linear bushings. The disk oscillation is regulated by a recirculating-ball screw and a brushless motor (controlled by CNC) for the interpolated supply cycle execution. The lubrication main plant is controlled by the CNC. The wheel dresser device has an electro spindle assembled on the alternative slide which is regulated by the brushless motor (A axis). It has also a diamond roller which delineates the grinding wheels during the automatic process. The CNC Siemens is used for the interpolated supply cycles (supply disk rotation- x axis-slide oscillation- y axis and infeed cycle superior grinding wheels- Z axis), the dresser interpolated cycles (superior-inferior grinding wheel feed- Z/Q axis) and dresser slide movement (A axis). Between other features, there is the measure managing cycle of the Marposs, the grinding wheel consume recovery thanks to Marposs or CNC statistic system, positioning heads automatic cycle (Z/Q axis). The control panel Touchscreen Siemens with connection to PCU for operator interface, data entry indications, tele diagnosis with modem, alarms, piece programs file.