

GIORIA s. p. a.

FONDERIE E COSTRUZIONI MECCANICHE
GHISE COMUNI E SPECIALI & RETTIFICATRICI UNIVERSALI



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GIORIA COMPANY PRESENTATION



Aerial view of GIORIA nowadays

GIORIA was founded in 1962 as a common and special cast iron foundry and a few years later took over a company which had been manufacturing external cylindrical grinding machines since the forties.

The company is located in Northern Italy, 40 kilometers North of Milan, the business and industrial capital of the country in the very heart of the hystorical "machine tool district".



GIORIA business consists of two production activities:

- **Cast iron foundry**
- **Production of precision cylindrical grinding machines**

The two activities are very closely interrelated and both take place within the same manufacturing facilities which has been the same ever since the company's foundation.

They optimally complete one another to create a strategic synergy which is at the basis of the success of the company over the years.



CAST IRON FOUNDRY



Casting a component moulded in underground pit

GIORIA has been producing iron castings ever since its foundation in 1962.

The production capacity is around 3000 tons per year.

GIORIA machine shop is the first "customer" of the foundry absorbing the 30% of the total production.

The rest of the production is sold on the market where the majority of GIORIA foundry customers are leading machine tool builders.



The weight of each single casting ranges from 2 to 31.000 Kilograms (the heaviest single casting ever realized is the bed of a very lage GIORIA wheel moving grinder, see pictures here below).





MACHINE SHOP



Wheel moving machines assembly area in the foreground.

Guideways grinding machine in the background

GIORIA has been a leading player in the production of precision grinding machines for more than 40 years selling in Italy and worldwide more than one thousand grinding machines.

Nowadays GIORIA has a good dynamism at the management, commercial and engineering level which allows to satisfy even the most demanding customers, providing them with the best and most updated technology in the field of precision grinding with either conventional hydraulic machines or CNC machines.



The production programme of GIORIA grinding machines includes the following versions:

- Conventional table moving machines - hydraulic version (max weight 3000 kg.)
- Conventional table moving machines – CNC controlled (max weight 3000 kg.)
- Single bed wheel moving machines – CNC controlled (max weight 8000 kg.)
- Double bed wheel moving roll grinding machines – CNC (max weight 40000 kg. or higher)

As far as size is concerned, GIORIA is perhaps the most comprehensive supplier of cylindrical grinding machines:

- Smallest machine is 600 mm between centers.
- Largest machine is 10000 mm between centers.

The clientele is very varied in fact the production range of cylindrical grinders built by GIORIA can meet the requirements of small workshops as well as big companies.

These are the main fields of application where GIORIA machines are employed with success:

Contracting job shops for general mechanical production or maintenance reworks

Power Generation Industry

Oil & Gas Industry

Aircraft and aerospace industry

Rolling mills (steel, aluminium)

Rolls manufacturers

Pulp & Paper industry

Printing industries

Packaging industry – Rotogravure cylinders

Earth Moving equipment (hydraulic piston rods & truck struts)

Defence facilities



ADDED VALUES WHEN CHOOSING A GIORIA CYLINDRICAL GRINDER

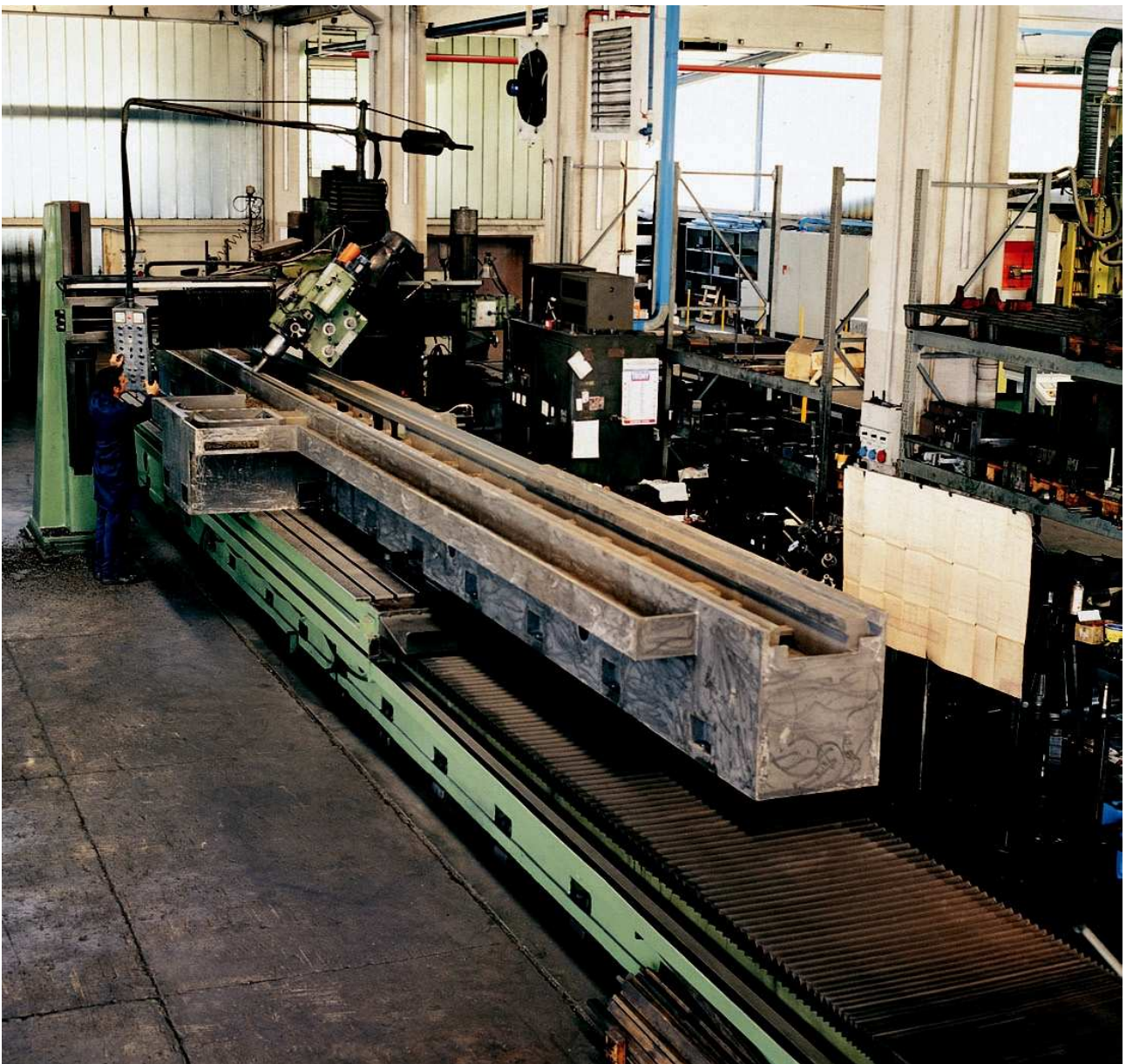
Every GIORIA grinding machine is built completely at GIORIA.

As widely described above, the castings are produced inside GIORIA owned cast iron foundry.

Also the machining of the castings takes place in GIORIA machine shop.

This guarantees a direct control of the entire production process.

Production at GIORIA also include: painting, assembly, wiring (machine and control cabinets), software development.



Guideways milling machine working a 6000 mm between centres table moving grinder



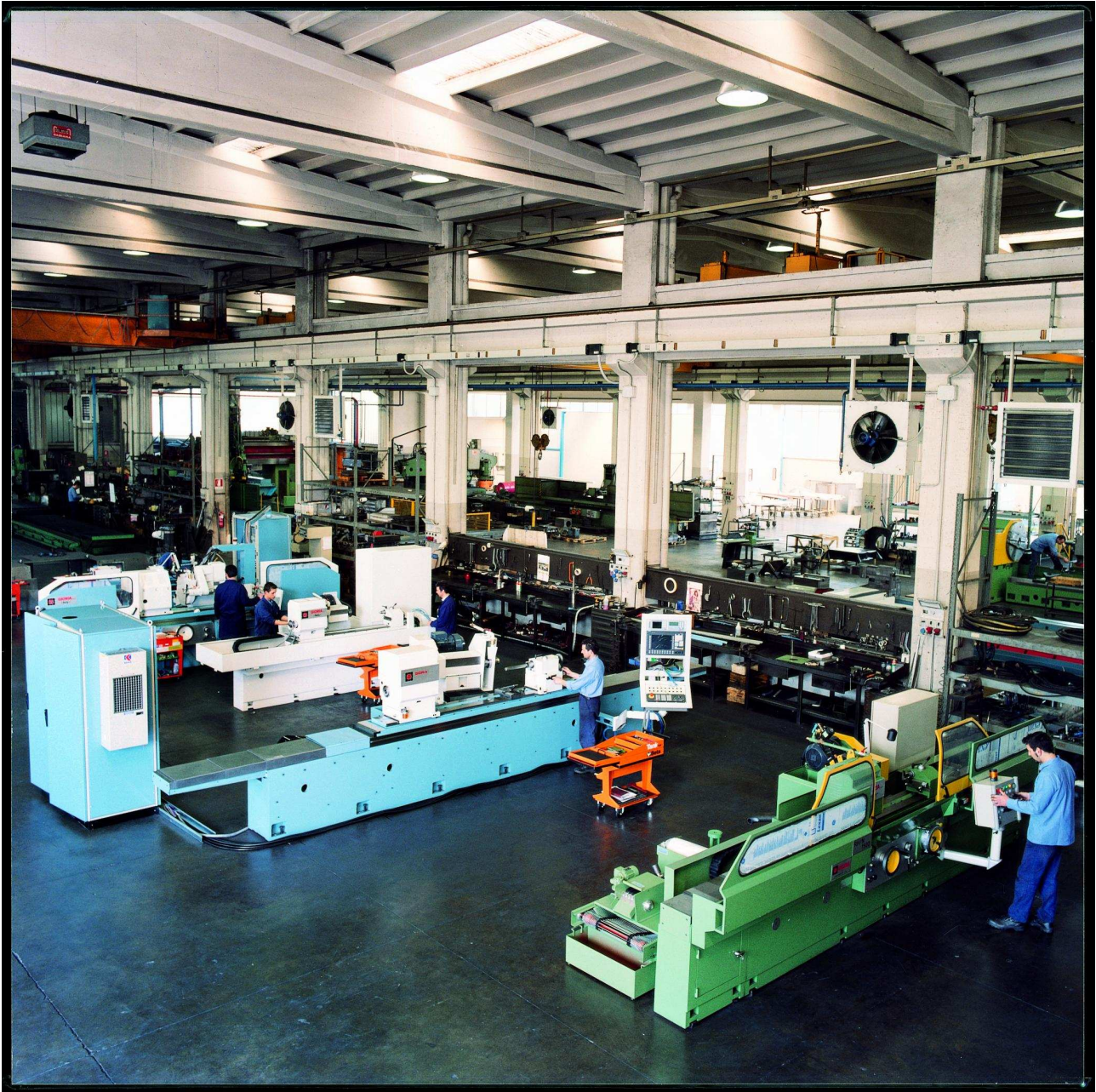
CNC-controlled Surface grinding machine

The above surface grinding machine was entirely designed and built by GIORIA. It features a grinding length of 12000 mm - width 2500 mm – height 1200 mm. Possibility to grind flat, face and V-profiles.

GIORIA prefers to stay focused on cylindrical grinding machines only even if it could sell surface grinders like this one on the market !!



Boring-milling machine ready for a GIORIA wheel moving roll grinder workhead



Assembly area of conventional table moving grinders (hydraulic & CNC)



Assembly area of large CNC wheel moving roll grinders



ADVANTAGES OF GIORIA WHEEL MOVING DESIGN

The first GIORIA wheel moving grinding machine was commissioned in 1980

Floorspace saving

Lengthwise, the space taken by a wheel moving grinder is, as an average, 40% less than the corresponding table moving grinder.

Some machine peripherals such as the electric cabinets and the coolant filter can be positioned freely around the machine depending on how the space is available.

Machine stability

The bed of all GIORIA wheel moving machines is made using highly resistant, thermally stabilized cast iron.

The box-like, squared shape of the bed guarantees higher stability with respect to the bed of a table moving machine.

A box shaped bed is more compact and solid for it is equally supported on all four sides.

Furthermore the bed is strengthened by properly sized longitudinal and cross ribbing.

In a wheel moving machine the mass being moved (longitudinal wheel carriage plus wheelhead cross slide) is always constant. It never changes.

Therefore the sizing of the linear axes (size of the guideways, spacing between the guideways, power of linear axes motor) is made referencing to a constant mass which is not affected by the weight of the workpiece to be ground.



Gioria machines in the rolling mill sector

Gioria roll grinders are successfully employed for the reconditioning grinding of rolls of any kind used in hot or cold rolling mills for either steel or aluminium as well as paper and plastic mills.

These machines are available in:

single-bed configuration, series R/16X - CNC for roll weight up to 8 ton

double-bed configuration, series R/15X - CNC for roll weight up to 40 ton or higher

The first Gioria roll grinder was manufactured and successfully commissioned in 1980.

It was a roll grinding machine model R/150 – 7000 CNC.



GIORIA roll grinder model R/150 – 7000 x 750 CNC



Roll grinding machine model R/150 – 9000 x 750 CNC



Wheel moving roll grinder model R/163 – 6000 x 500 CNC



Roll grinder model R/163 – 4000 x 600 CNC, complete with ID grinding.



Here below is a picture that illustrates a roll grinding machine in fully equipped configuration. In the following pages some of the features available with all of our roll grinders will be briefly described.





Some basic features and options available for all GIORIA roll grinding machines



Absolute diameter and shape control automatic micrometric in process gage in the foreground.

Eddy Current and Ultra Sound crack inspection system in the background.

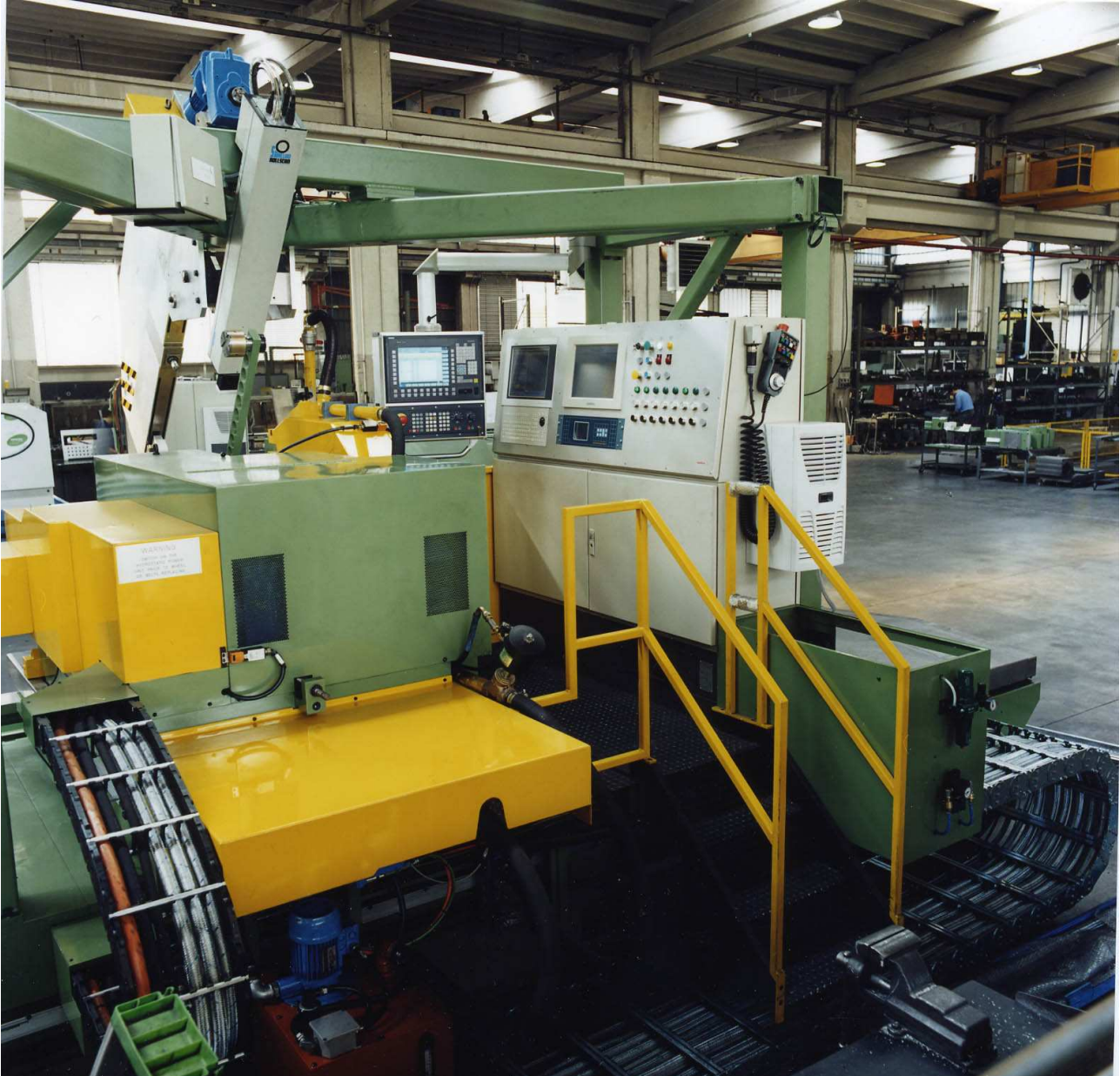
These two options are available from various worldwide leading suppliers.

Depending on the application the crack inspection system can be integrated into the absolute gage case.



Hydrostatic-bearing steady rest with micrometric adjustment of contact pads and roll soft landing device.

Steady rests are available in two-pad layout (for grinding only the roll barrel with roll accommodated on steady rest) or three-pad layout in case of grinding the barrel of the roll and the left and right journals.



Operator control desk, left to right:
CNC control panel make SIEMENS SINUMERIK 840D
Absolute diameter gage industrial PC
Surface and sub-surface crack detection unit