

EVOLUTION



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Giustina EVOLUTION high speed peel grinder

The Cinetic Giustina grinder model Evolution is the ideal machine for the puntiform grinding contact of shafts with diameters 10 ÷ 150 mm.

The contouring process, the rigidity and the high removal speed allow a very high precision and an incomparable productivity.

Its guarding, completely sealed, can guarantee a better and easier fumes suction, no leakage and higher safety during the process, together with a lower noise level.

The Cinetic Giustina grinder model Evolution is a high speed grinder for the processing with only puntiform grinding contact, equipped with:

- CBN grinding wheel D = 400 mm, with dynamic balancing device
- Headstock - Tailstock with part clamping with dynamometric load control
- Grinding wheel and workpiece traversing high-speed sliding guides
- NC of all main functions
- Machine guarding

Fives Cinetic, designing today the grinding solution of the future



Cinetic Giustina

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EVOLUTION

Giustina **EVOLUTION**
high speed peel grinder



Loading/Unloading

Workpiece Loading and unloading on this machine is made in two different ways:

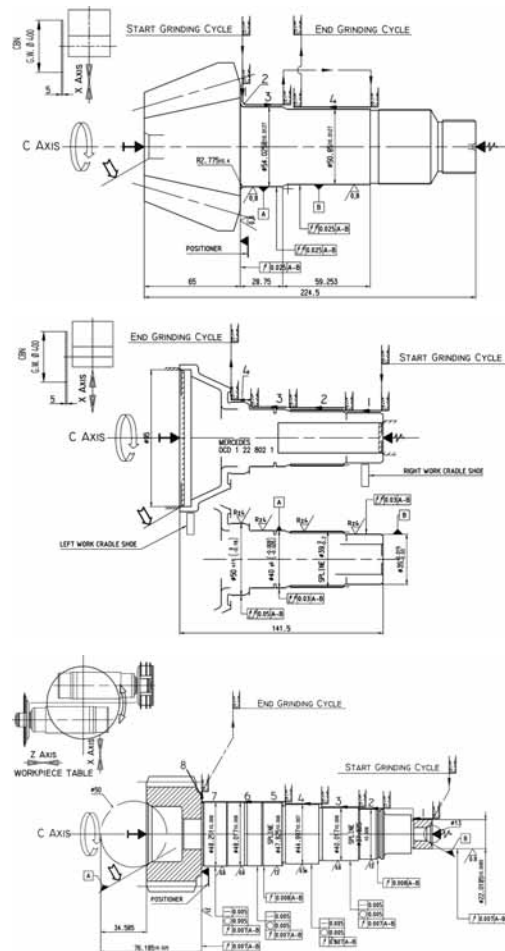
- **Manual mode:** an operator, at automatic opening of the guarding door, picks up and places safely (wheel protected), the machined part or the part to be ground on proper cradles. The door closure is activated by the operator through the two-hand-held unit. When the door is closed the grinding cycle starts.
- **Automatic mode:** the change of the finished part and of the one to be finished takes places automatically through a Cartesian gantry with grippers. The gantry picks up the part to be ground and places the ground part on load/unload conveyors. The cycle is completely automatic and CNC-controlled. During unloading it is possible to wash and dry automatically the finished part.

Machine Composition

- Granite machine bed
- High resistance cast iron grinding wheelheads sliding on prismatic anti-friction guides and driven by a linear motor and a CNC-controlled absolute linear encoder
- High speed grinding wheel rotary electro-spindle supported by high precision angular contact ball bearings (ABEC 9)
- Grinding wheel automatic dynamic balancing device
High-pressure wheel cleaning device (jet wheel cleaner)
- High speed headstock rotary electro-spindle supported by high precision angular contact ball bearings (ABEC 9)
- Rotary tailstock supported by high precision angular contact ball bearings (ABEC 9), with axial movement of quill and part clamping with CNC-controlled dynamometric load
- High resistance cast iron worktable sliding on anti-friction prismatic guides and driven by a ball screw, brushless motor and CNC-controlled absolute linear encoder
- Electronic positioner and gauge (optional)
- Workpiece holding pad (for long parts), bend-resistant under machining thrusts (optional)
- Machine guarding
- Pneumatic, lubrication and cooling systems
- Fumes suction

Process

In evolution grinders the workpiece is taken between centers and put into rotation at high speed by the headstock. The driving takes place due to centers friction. This is to avoid geometrical errors of the traditional driving grippers. The high speed rotary grinding wheel grinds "contouring" the finished workpiece profile. Numerical Control of all machine main functions. Different profiles can be stored inside the CNC and recalled if necessary. High speeds, infeed and cut lower grinding stress by avoiding machining tensions and strains, thus improving removal times.



Grinder type	365	368
Weight [kg]	10000	12000
Grinding wheel Type - Outer Diameter [mm] - Useful thickness [mm] - Surface speed [m/s]	400 x 5 150 - 250	400 x 5 150 - 250
Max. Power of wheelhead electro-spindle / wheel rotation [kW/RpM]	29 / 15000	29 / 15000
Max. Power of headstock electro-spindle / workpiece rotation [kW/RpM]	9,5 / 7500	9,5 / 7500
Wheel slide speed [min/max - mm/minutes]	0,25 / 30000	0,25 / 30000
Workpiece slide speed [min/max - mm/minutes]	0,25 / 10000	0,25 / 10000
Positioning precision [μmm]	0,1	0,1
Centers height [mm]	180	180
Centers distance [min/max-mm]	0/500	0/1000
Wheel dressing system (diamond disc)	YES	YES
Coolant delivery [l/min]	Oil / 200	Oil / 200

Specifications subject to change without notice.