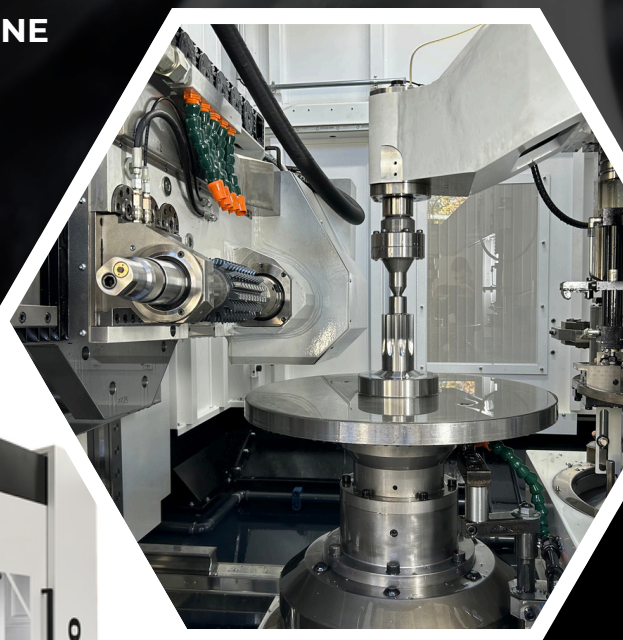
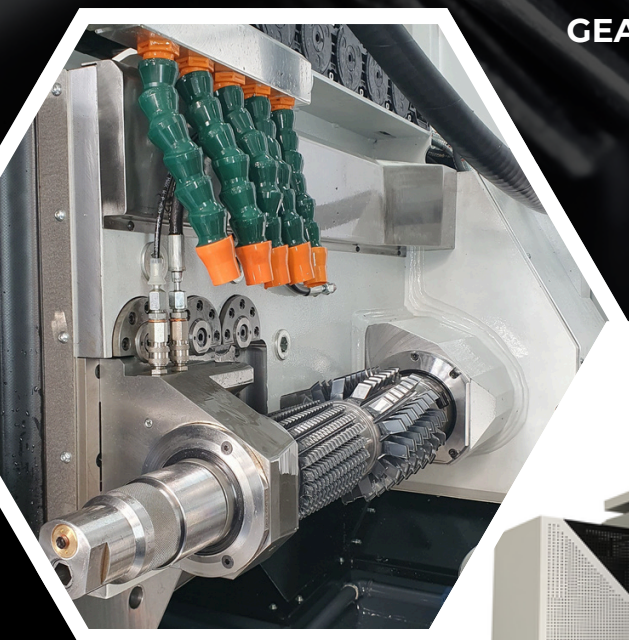


UNSTOPPABLE **EVOLUTION**

GEAR HOBBING MACHINE

EVO 400



**5.0
READY**



FOCUS

- ⚙️ Fast set-up
- ⚙️ Asymmetric hob head
- ⚙️ Special programs included
- ⚙️ Ring-loader (optional)



COMUR



TECHNICAL DATA

MACHINE

Max. nominal module	mm 10
Max. workpiece diameter	mm 500
Max. hobbing width	mm 600
Max. swing diameter	mm 570
Min./max. distance between hob C/L and worktable C/L	mm 20/330
Min./max. distance between hob C/L and worktable surface	mm 210/810

HOB HEAD

Tangential shifting	mm 300
Max. swivel angle	+ 45° / - 45°
Hob arbor taper	SK45 hydraulic
Max. hob diameter	mm 160
Max. hob length	mm 360
Spindle speed	rpm 100 - 1200
Nominal torque	Nm 516

TAILSTOCK

Min./max. distance to worktable face	mm 410/960
Travel	mm 550

WORKTABLE

Diameter of through hole	mm 375/160 H6
Rotational speed	rpm 0 - 120
Nominal torque	Nm 560

RAPID TRAVERSE

X AXIS	mm/min 10.000
Z AXIS	mm/min 6.000
Y AXIS	mm/min 3.000

OVERALL DIMENSIONS (mm)

Length, width, height	4350, 2945, 3210
-----------------------	------------------

SIEMENS SOFTWARE SINUMERIK ONE

The first **Digital Native CNC** introducing a **digital twin** which allows:

- Process optimization and business efficiency
- Virtual simulation of programming, job preparation and machine operation
- Collision check
- Realistic calculation of program runtime for preparing offers in third-party production
- Virtual training of technicians using the digital twin with no risk of damage to real workpieces or machines
- Real-time production monitoring and machine data analysis even offline
- Significant reduction in design phase and time-to-market
- Simplified interface for fast set-up



**BASIC &
SPECIAL
SOFTWARE
PROGRAMS
INCLUDED**



4.0 READY



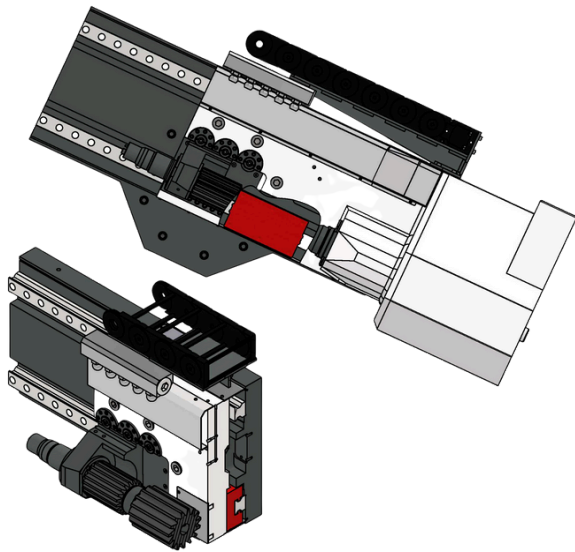
**ENERGY
EFFICIENCY
& 5.0 READY**



SPECIAL FEATURES

OVERALL RIGIDITY

The slides of radial, axial and tangential axes slide on high-precision recirculating roller guides with high load, to ensure maximum rigidity during the movement of the axes.



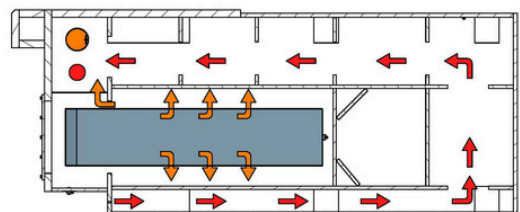
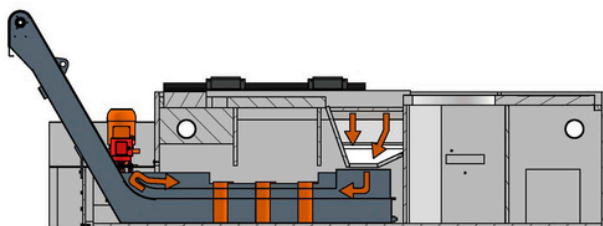
SHIFTING

High rigidity obtained with pre-loaded recirculating roller guides. Special backlash-free and high-load deformation shifting carriage lock, positioned under the hob axis.

THERMAL STABILIZATION

Independent pump dedicated to the recirculation of the oil inside the base to maintain the temperature of the structure uniform and reduce thermal expansion.

Probes positioned at reference points in the work area detect the temperature in real time and, using a special algorithm, any measurement deviations on the workpieces are compensated for.





SPECIAL FEATURES

ASYMMETRIC HOB HEAD

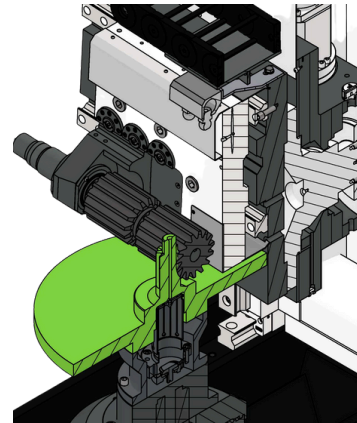
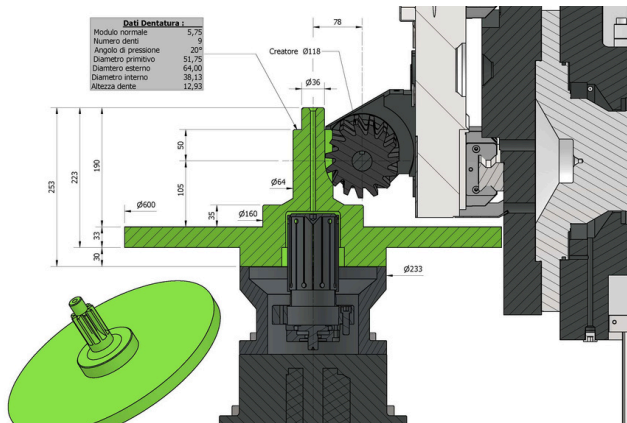
The hob head is designed to allow the production of very small hobbing toothing in the proximity of large diameter dimensions or other geometric elements.

The example below describes the limit conditions reached in hobbing an external diameter of $\varnothing 64\text{mm}$ with a hob cutter of $\varnothing 118\text{mm}$ near a $\varnothing 600\text{mm}$ volume.

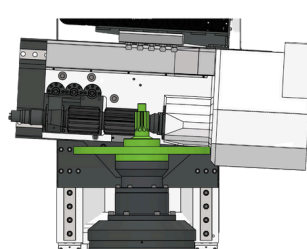
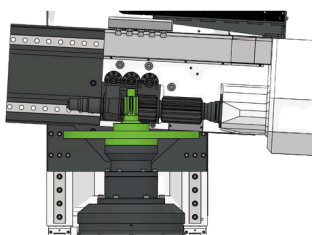
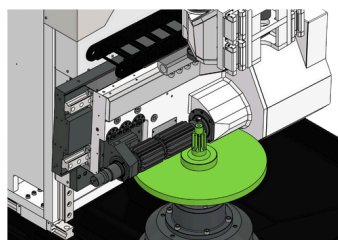
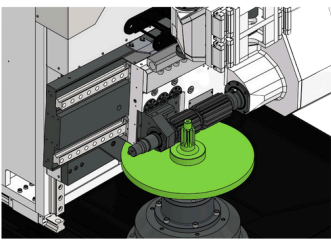
In addition to the machining of problematic parts, this peculiarity also allows the design of more rigid clamping fixtures, without collision risks.

The solid conformation is combined with the possibility of adjusting the position of the counter-support to increase the support for the hob shaft and therefore the machining rigidity.

The torque motor with nominal torque of 516 Nm installed integrally on the rotation axis guarantees power and speed, while the absolute ring encoder keyed directly on the motor ensures extremely high precision.

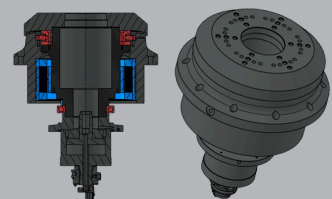


This feature can be used throughout the entire 300 mm shifting travel.



WORKTABLE

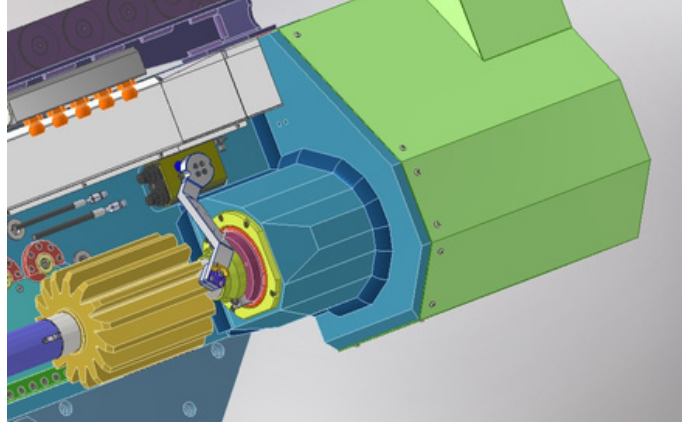
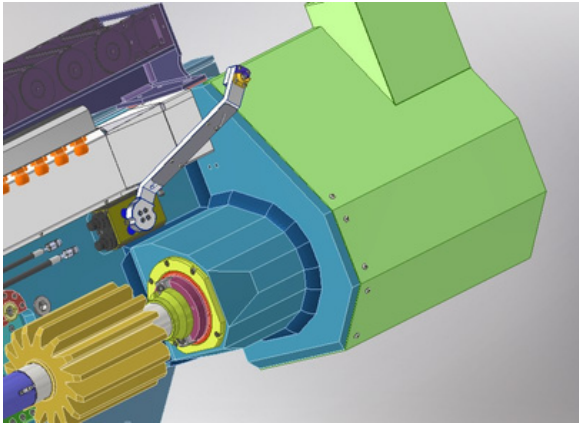
High rigidity and precision are possible thanks to the high-torque motor (560 Nm) integrally installed on the spindle and the relative absolute encoder, which is, in turn, directly coupled to the spindle.



PHASE DETECTION SYSTEM

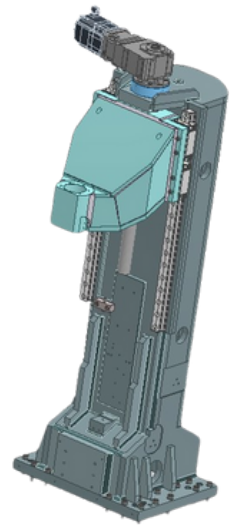
OPTIONAL

Integrated workpiece orientation system which allows the automatic adjustment of tooling in reference to an existing one or to other geometric elements. Detection is via an inductive sensor, available in different precision ranges, installed on a pneumatic arm with storage outside the working area.



TAILSTOCK

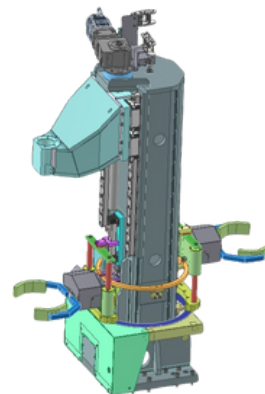
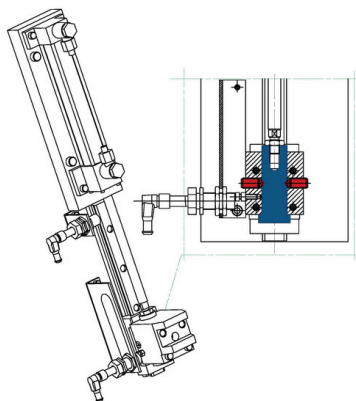
The tailstock with vertical excursion is managed by a controlled axis which allows the adjustment of the stroke and force by NC. Rigidity and speed with screw $\varnothing$ 50 mm - pitch 20.



RING-LOADER

OPTIONAL

Two-position ring system for quick part change: rotation managed by controlled axis with max. speed 24 rpm, automatic safety release of the internal part gripping station in case of abnormal effort to avoid damage.





ENERGY TRANSITION

HFK COMPACT HYDRAULIC POWER UNIT with FREQUENCY CONVERTER

New compact, enhanced and energy-saving model.

The inverter installed directly on the tank manages the speed variation of the high-efficiency electric motor that optimizes the consumption of the control unit, allowing the entire hydraulic circuit of the machine to operate at full capacity with a tank of only 30L of hydraulic oil.

The inverter is equipped with a PC interface that allows you to set the parameters and check their operation in real time.

It is possible to configure the frequency variation and therefore the speed of the pump revolutions with different modes.



HIGH EFFICIENCY CHILLER



High thermodynamic performance in compliance with Ecodesign regulations. ERP 2021 compliant thanks to oversized heat exchangers, standard electronic expansion valve and new high-efficiency fans.

ENERGY DIAGNOSIS SYSTEM and TRANSITION 5.0

OPTIONAL



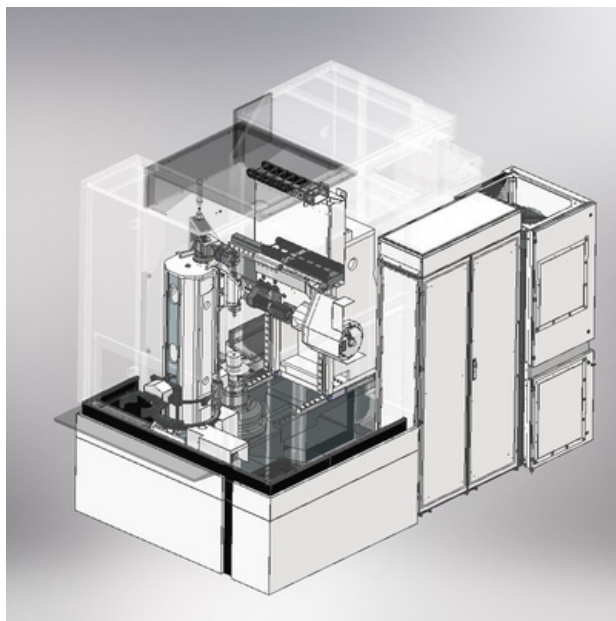
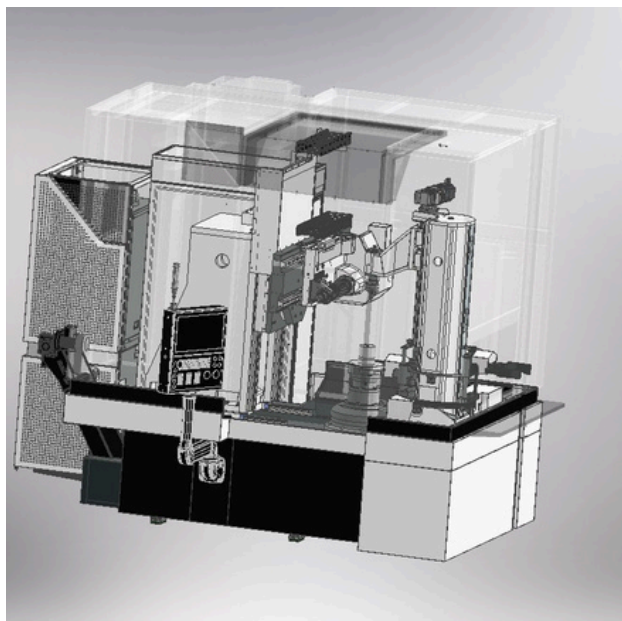
Possibility of installing a device to simplify the monitoring of the machine's energy consumption, a fundamental requirement for the 5.0 transition.

The system allows you to monitor energy efficiency thanks to the real-time analysis and control of the machine's consumption through an intuitive and user-friendly dashboard, highlighting updated data on both periodic efficiency and machine performance.

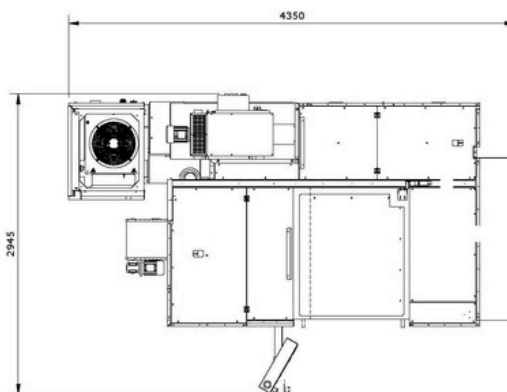
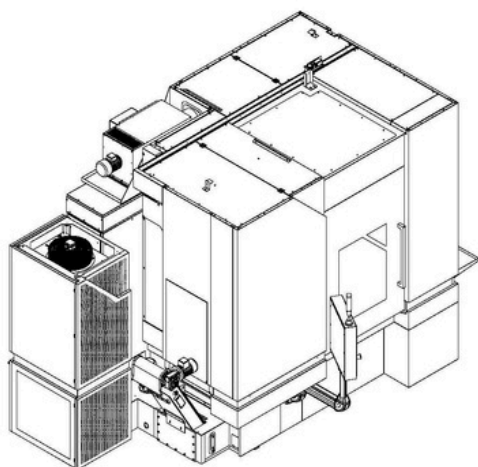
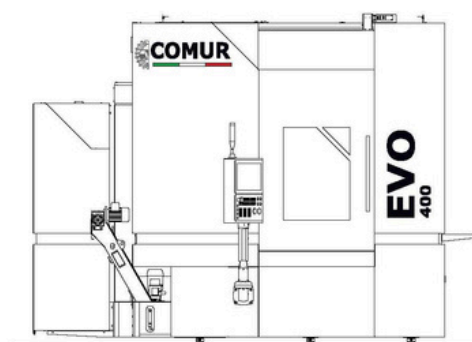
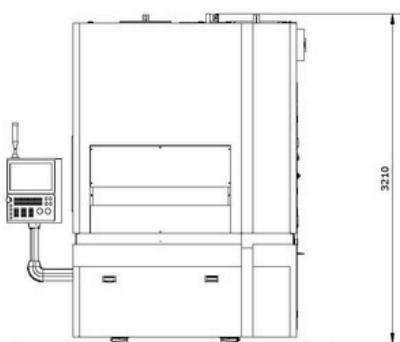
The program can also provide an overview of consumption related to the programs or machine tools that have the greatest impact in a selected period of time.

A useful tool for monitoring consumption in an ESG compliance perspective.

WORK AREA



LAYOUT



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