OMICRON MSG CNC

TRAVELLING WHEELHEAD, CILYNDRICAL GRINDING MACHINES WITH ROLL GROOVING ATTACHMENT

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MACHINE TOOL

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OMICRON MSG CNC - TRAVELLING WHEELHEAD, CILYNDRICA

The Robbi Group offers the MSG CNC series of travelling wheelhead grinding machines which are ideally suited to the grinding of carbon fibre, rubber, ceramic, composite and ferrous alloy rolls.

Base

- The rigid machine base structure is manufactured from normalised cast iron. A stabilised process ensures the guides will not deform over the life of the machine.

Wheelhead Carriage

- The wheelhead carriage is manufactured from normalised cast iron and designed to dampen any grinding vibration and provides optimal rigidity for increased surface finish.
- The finished ground face of the wheelhead, is equipped with two high precision, linear guide rails to which 5 pairs of linear guide roller bearings ensure the maximum precision and rigidity of the carriage over the longitudinal travel (Z-axis). The axis travel is carried out via a rack and pinion transmission.
- In the transverse axis (X-axis), the carriage runs on linear guide rails with roller guide bearings and travel is controlled by a ballscrew with a 0.1µ, closed loop linear encoder.
- As usual, for sliding and moving the wheelhead carriage (longitudinally and transversely) Robbi Group uses materials supplied by leading companies in the sector, specific for the construction of high precision CNC machine tools.
- High precision, linear roller bearings and guide rails provides minimal friction between moving parts especially at lower feedrates. Optimal linear machine motion across the full machine axes travels.

Wheelhead

- The external grinding wheelhead hydrodynamic spindle rotates on anti-friction metal bushes ensuring a high precision surface finish.
- Wheel head rotation is undertaken manually, and on request, automatic wheelhead rotation can be offered.

Workhead

- A normalised, stabilised cast iron workhead is equipped with a high precision spindle bearings providing maximum rigidity and high performance. The workhead can easily be locked for grinding between dead centres.
- On request, the workhead rotation can be controlled with a C Axis to allow the grinding of grooves etc.

AL GRINDING MACHINES WITH ROLL GROOVING ATTACHMENT

ROBBI MSG CNC – designed for the grinding of rolls and cylinders			
Product Line	Maximum grinding lengths	Maximum diameter	MaximumWeight
Omicron MSG 60	3–4-5-6-7–8-9-10 meters	695 mm	2000 Kg
Omicron MSG 80		995 mm	8000 kg

Grooving attachment

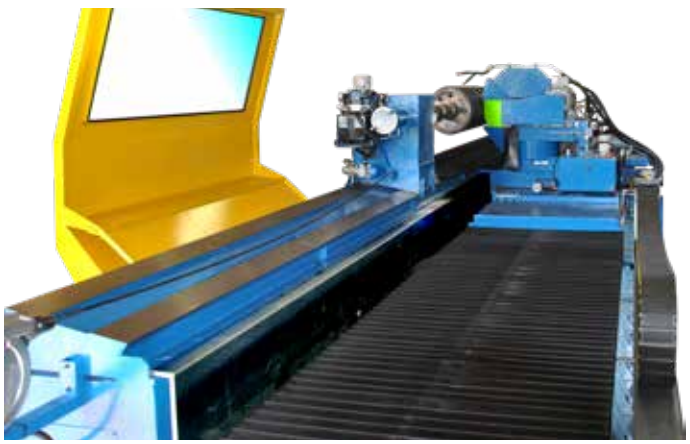
- The grooves in the rolls are performed by rotating the wheelhead electro-spindle by 90˚ in relation to the main grinding wheel.
- The ROBBI Group designed, grooving attachment utilises electric motors that are able to cope with most types of groove.

Safety

- The front of the machine is equipped with a travelling guard that follows the movement of the wheelhead carriage.
- Fixed guards to the rear of the machine, ensure the working area is protected.

Optional Accessories: - On request.

- All machine models are available with a wide range of options. ROBBI has always had a strong reputation with the ability to customise machines to suit customer applications. On request, the machine can be offered with automatic measurement detection devices both for in-process and post-process measuring.
- An ability to also profile the grinding wheel is also available for specific geometries to suit customer applications.
- Equipping the workhead with a C axis allows interpolation with specific software and allows increased accuracy on the grinding of very high precision grooves along with the ability to make adjustments to non-cylindrical shapes.



Advantages of the Travelling wheelhead grinding machine compared to a traditional lathe

The competitive advantages of a grinding machines within the machining of the roller industry includes;
Grinding speed
Increased amount of material removal
Superior surface finish and increased part accuracy

A traditional lathe, mounted with a grinding toopost is offered by some manufacturers, however, this arrangement has several flaws including, a slow and inaccurate process where todays engineers are demanding improved surface finishes and part accuracy.

A Robbi moving wheelhead grinding machine can maximise production and replace several lathes reducing costly labour, floorspace and energy overheads. Furthermore, you will also see a superior quality finished component using a reduced amount of electricity.

Roll Grooving

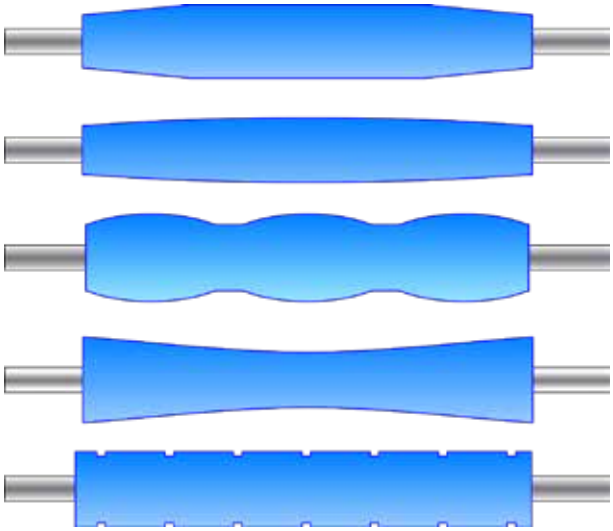
The roll grooving attachment is mounted to the rear of the machines wheelhead. The wheelhead rotation can be manually adjusted or, on request, automatic rotation is available.

Programs for almost every imaginable type of groove are provided as standard with the machine.

Grinding Roll Profiles

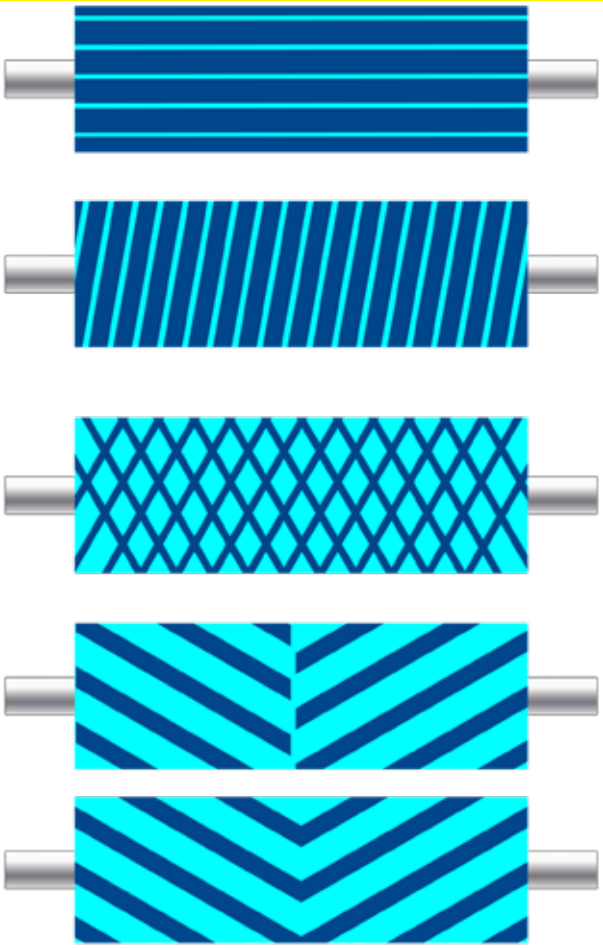
- Parallel
- Concave Camber
- Convex Camber
- Taper
- Conical
- Multi Camber

Robbi Group are always available to develop new grinding roll profiles.



Grooving Roll Profiles

- Linear
- Helical Right
- Helical Left
- Diamond
- Chevron
- Spreader



Equipment: Siemens Cnc Control

ROBBI grinding machine are equipped with the latest generation of Siemens 840D sl CNC Control systems.

Easy programming

The Siemens 840D sl CNC control allows the machine operator to create a program, including complex programs with no ISO programming knowledge.

Guided Compilation

The compilation of the parameters to be ground are guided through a series of messages and icons, that explain step by step the meaning of the parameters required.
The programming of the working cycles is carried out by filling in pre-defined data fields.
Once the working cycle has been programmed, it is also possible to modify the program and sequence of cycles easily and intuitively.

Errors Control

To minimise and eliminate errors within a program, a summary page is available to control the main geometric dimensions within every single working cycle.

Standard Programs

	Od
Pass	√
Plunge	√
Facing	√
Multi Plunge	√
Angular Plunge	√
Taper	√

Wheel Dressing Programming

It is possible, to program all the automatic grinding wheel dressing cycle parameters, and the dressing operation can be carried out:

- Outside of the grinding cycle
- Automatically inside the grinding cycle
- Automatically using a pre-defined cycle/part counter

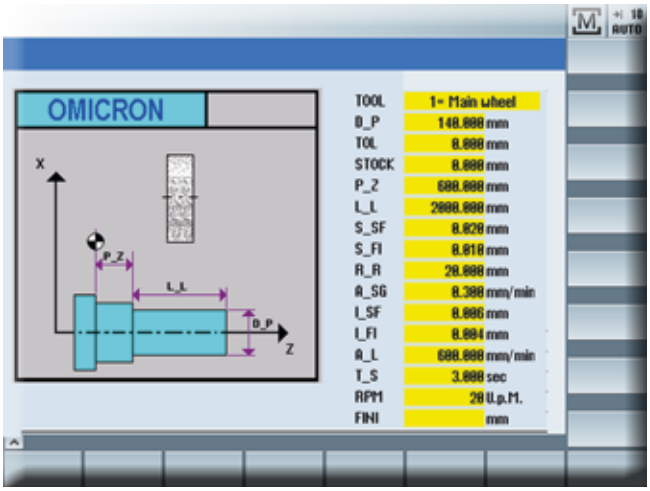
Shoulder Grinding

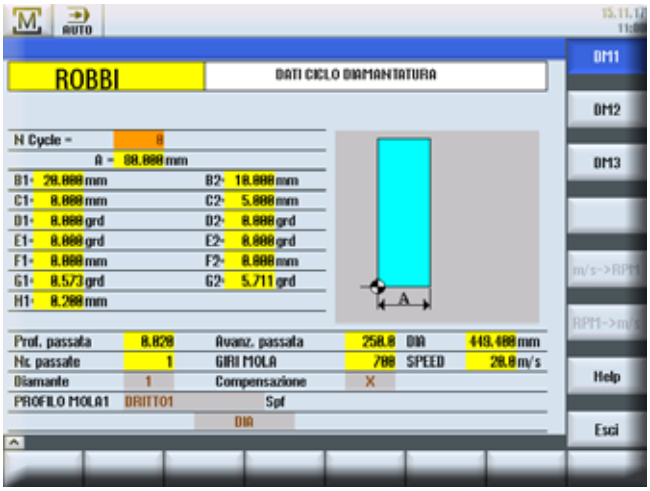
Within each cycle, it is possible to introduce a shoulder grinding operation:

- **Manually**
- **Automatically**
- **Automatically with Gap control device**

Industry 4.0

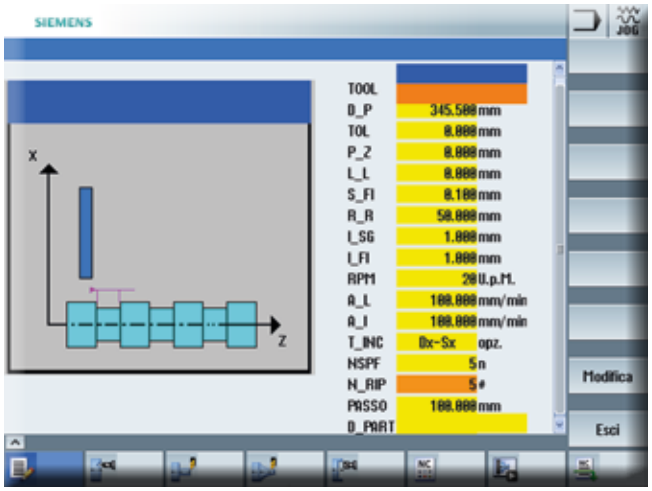
To meet todays production demands, and on request, the range of Robbi grinding machines can be equipped with Industry 4.0 monitoring devices.

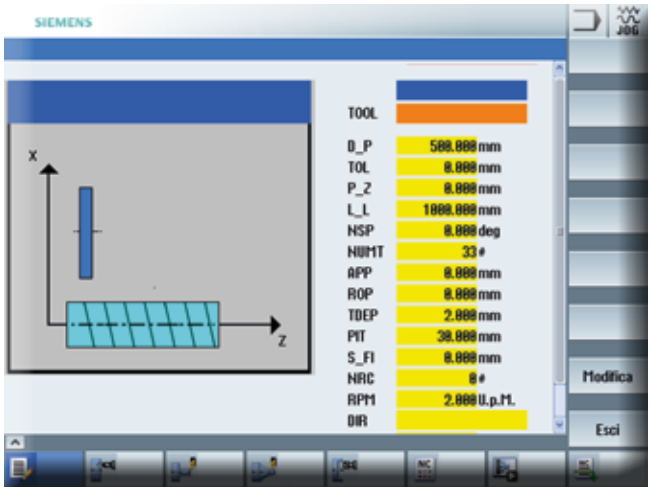


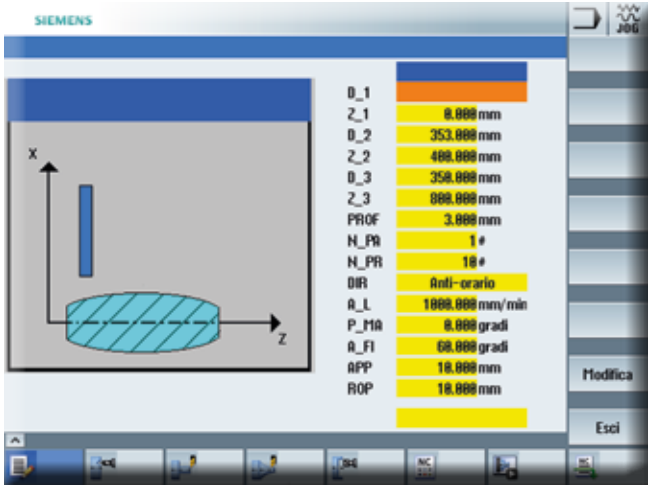


Human Machine Interface (HMI)

The machine operator has the ability to control the machine with an intuitive, easy to operate, and Robbi designed machine interface. This allows a faster machine set-up for the efficient grinding of roller profiles including complex grooving cycles.







OMICRON MSG 60 CNC

Omicron MSG 60 Cnc Technical Data

MSG 60

Grinding length

MSG - 6030	3000	mm
MSG - 6040	4000	mm
MSG - 6050	5000	mm
MSG - 6060	6000	mm
MSG - 6070	7000	mm
MSG - 6080	8000	mm
MSG - 6090	9000	mm
MSG - 6100	10000	mm

Height of centers over table		300	mm
Swing over table	max.	595	mm
Weight on centers	max.	2000	kg

Options

Height of centers over table	Swing over table	
01	350	695 mm

Wheel Head (X - Axis)

Swivel		max.	+/- 90°	
Handwheel division	0,001	0,01	0,1	mm
Stroke		max	480	mm
Speed	max	0,2-3000		mm/min
Rotation speed		600-1250		rpm

Wheel Head (Z - Axis)

Automatic traverse		3		mm
Speed		1-7000		mm/min
Handwheel division	0,001	0,01	0,1	mm

Grinding Wheel Specifications

Diameter	max.	610	mm
Hole		230	mm
Width	min.	50	mm
	max.	120	mm

WorkHead

Rotation speed	0-350	rpm
Spindle hole diameter	44	mm
Internal center taper	6	MT
External center taper	8	ASA
Swivel	90°	

Tail Stock

Spindle stroke	70	mm
Spindle diameter	80	mm
Internal center taper	5	MT

The MSG 60 series is suitable for cylinders made of composite and rubber material of usual production

Diameter	**Max**	**695 mm**
Weight	**Max**	**2.000 Kg**
Grinding length	**Max**	**10 meters**

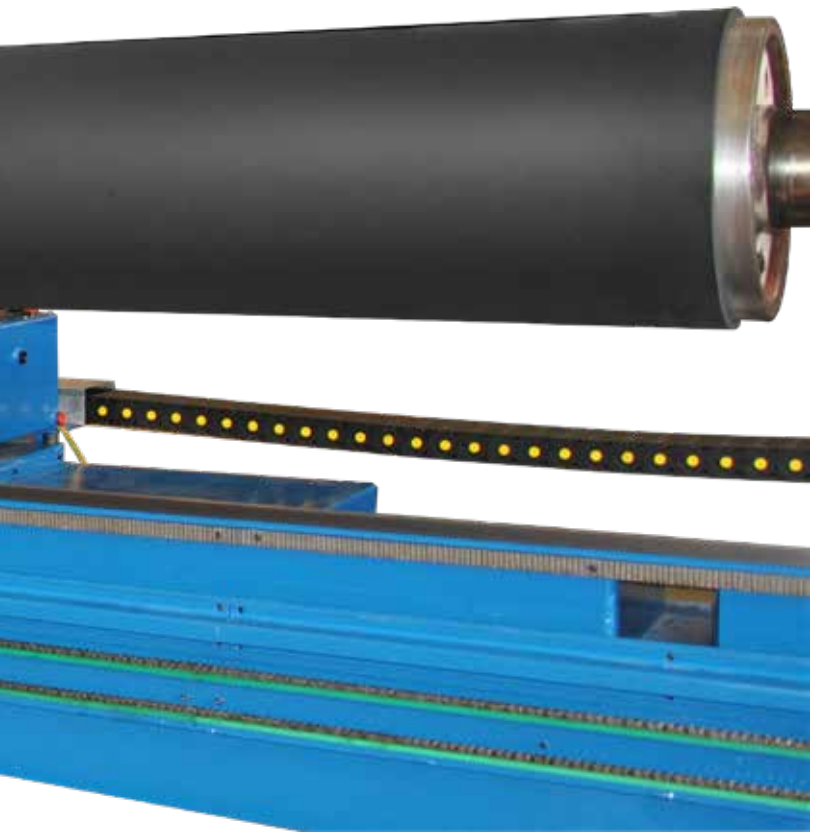
A structure,
designed in every part
to achieve maximum productivity

OMICRON MSG 80 CNC

The MSG 80 series is suitable for cylinders with a large diameter and weight

Diameter	Max	995 mm
Weight	Max	8.000 Kg
Grinding length	Max	10 meters

OMICRON MSG 80 CNC TECHNICAL DATA



A very robust structure, designed in every part to support heavy loads

GRINDING LENGTH

MSG - 8030		3000	mm
MSG - 8040		4000	mm
MSG - 8050		5000	mm
MSG - 8060		6000	mm
MSG - 8070		7000	mm
MSG - 8080		8000	mm
MSG - 8090		9000	mm
MSG - 8100		10000	mm

Height of centers over table		400	mm
Swing over table	max	795	mm
Weight on centers	max.	8000	kg

OPTIONS

	Height of centers over table	Swing over table	
01	450	895	mm
02	500	995	mm

WHEEL HEAD (X - AXIS)

Swivel		max.		+/- 90°	
Handwheel division		0,001	0,01	0,1	mm
Stroke		max		480	mm
Speed	max	0,2-3000			mm/min
Rotation speed		600-1250			rpm

WHEEL HEAD (Z - AXIS)

Automatic traverse		4		mm
Speed		1-7000		mm/min
Handwheel division	0,001	0,01	0,1	mm

GRINDING WHEEL SPECIFICATIONS

Diameter		760-1200	mm
Hole		305	mm
Width	min.	50	mm
	max.	120	mm

WORKHEAD

Rotation speed	0-150	rpm
Spindle hole diameter	44	mm
Internal center taper	6	MT
External center taper	8	ASA
Swivel	90°	

TAIL STOCK

Spindle stroke	80	mm
Spindle diameter	120	mm
Internal center taper	6	MT

At Your Service Since 1936

Robbi has operated in the machine tool market since 1936 and specialise in the manufacture of machines tailored to meet the more demanding needs of the customer's complexed and more specialised demands.

Whilst maintaining competitive prices, Robbi have ensured their machines have stability and precision.

Robbi grinding machines, use the best technology and the most robust and reliable components available on the market in their build programme.

Robbi have a commitment to assist and help, proactively, its customers to ensure they maximise the efficiency of the machine.

Robbi, in fact, offers various service solutions, including the:

- *development of manufacturing processes;*
- *replacement parts spare part programme,*
- *making parts available for older models,*
- *tailored operational training programs*
- *and maintenance training to maximise the features of grinding machines and maintain the Robbi Grinders longevity.*

Understanding the needs of our customers we are offer the best solutions and services that increase their return on productivity thus improving our customers return on his investment.

Ideas that may improve our business are always appreciated from customers.

If there's anything we can do to improve your experience with Robbi, please let us know.

Robbi have a commitment to ensure all customers are completely satisfied.

Choose Robbi precision for increased productivity and a faster return on your investment.

Call us today,we've have a solution for your grinding application.