



Cylindrical Grinding Machines

RSM 1000 NC



SKU : 470613

TRIAL MACHINE

Without CE mark, only for export to countries outside the EU

The RSM NC is a high precision cylindrical grinder designed especially for long and heavy workpieces. Instead of the conventional Hydraulic Unit, this model features a modern servo motor drive for both axes, which brings the dynamics, efficiency and precision of this machine to a new level. This machine is ideal for single parts and small batch productions, and the integrated inside grinder adds flexibility. The solid construction with a large machine bed, ground guideways and powerful drives for work spindle and grinding spindle has a proven record. Advanced NC control with touchscreen requires no previous programming knowledge, simplifies operation and increases productivity.

- NC control with touchscreen
- Grinding cycles for internal and external cylindrical grinding
- Servomotors in both axes

TECHNICAL SPECS

WORKING AREA

Center height	7 in
Center width	39.37 in
Grinding diameter	0.3 in - 12.6 in
With steady rest	1 in - 6 in
Grinding length	39 in
Inside grinding diameter with rest	1.4 in - 3.9 in
Inside grinding diameter without rest	1.2 in - 3.9 in
Inside grinding depth	4.9 in
Work piece weight between centers (max.)	330 lbs
Grinding wheel feed (min.)	0.00004 in
Table swivel range (max.)	-2° / +9°
Wheel speeds	1755 in/s
Work spindle speeds	25 rpm - 500 rpm

TRAVELS

Grinding head travel	10 in
Travel Z-axis	49 in

FEED

Table feed, Z axis, infinitely variable	0.1 fpm - 19.62 fpm
X axis feed, infinitely variable	0.1 fpm - 13.08 fpm

HEADSTOCK

Working headstock swivel range	90 deg
Working spindle taper	4 MT

GRINDING HEADSTOCK

Grinding spindle speed	2140 rpm
Grinding headstock swivel range (r+l)	10°
Inside grinding spindle speed	10000 rpm

TAILSTOCK

Tailstock taper	4 MT
Tailstock quill stroke	1 in

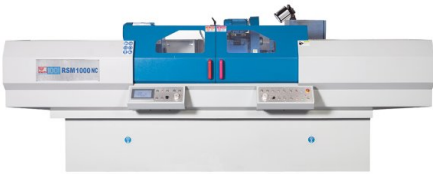
DRIVE CAPACITY

Motor rating - grinding spindle	5 Hp
Motor rating X-axis	2 Hp
Motor rating Z-axis	2.01 Hp
Motor rating working spindle	2 Hp
Motor rating coolant pump	0.2 Hp

MEASURES AND WEIGHTS

Grinding wheel dimensions	15.75 in x 1.97 in x 5 in
Grindstone dimensions, inside grinding (max.)	1.3 in x 1 in x 0.4 in
Overall dimensions (length x width x height)	154 in x 83 in x 58 in
Weight	7040 lbs

PRODUCT DETAILS



Machine bed

- The heavy machine bed is designed for high-precision machining of large and heavy workpieces
- The swiveling work table runs on precision-ground, wide and long v-block guides ensuring excellent vibration damping
- With this design the total weight of table and workpiece is distributed evenly over a large area, which ensures high rigidity and minimal tilting torque
- The robust tailstock ensures rigidity and accuracy during clamping of a workpiece between centers



Feed

- The use of servo-conventional feed technology instead of a hydraulic system results in a more consistent and vibration-free advance of the work table
- Premium servo drives allow axis movements with the precision and dynamics of modern CNC machines
- All feed settings can be set with high accuracy and repeatability, and electronic stop gauges provide precise travel limits
- Preloaded ball screws on all axes ensure reduced friction and significantly lower breakaway torques resulting in faster and more precise movements
- The significantly reduced heat build-up leads to more consistent conditions during continuous operation and long-term wear reduction
- Drives, spindles, and measuring systems are totally enclosed or mounted in protective enclosures and virtually maintenance-free



Grinding Headstock

- The headstock runs on premium linear guides that allow maximum positioning accuracy even at the slightest axis movements
- An extensively supported grinding spindle guarantees maximum precision and surface quality for roughing and finishing work
- The inside grinder can be pivoted into the work area as needed and is driven by a separate motor

Work spindle drive

- The work spindle headstock swivels to one side, and the spindle speed is infinitely variable
- A 3-jaw chuck with 7.9" diameter and superior concentricity is included in this series' standard equipment



Equipment

- The work area features large doors for easy access and easy loading and unloading
- All controls are arranged conveniently on two control panels
- LED lights ensure good visibility and safety during machining operations
- An automatic central lubrication system simplifies maintenance and reduces the operator's workload
- Two electronic hand-wheels (one at each control panel) simplify machine setup and reduce down times
- A rest for machining of long workpieces is included in the machine's standard equipment
- A powerful coolant system, dresser, grinding wheel balancer, and operating tools also are included in the standard package
- Technical parameters are displayed on a large touch screen monitor



NC control

- The NC positioning control allows the combination of roughing, finishing and spark-out in one operation
- Individual grinding cycles can be programmed via a touchscreen control, no programming knowledge required
- The HMI provides easy to use control menus for every longitudinal and traverse cylindrical grinding application
- Detailed graphics assist the user during data entry and show the current status during machining operations

Sample product

- Comparable machines in the KNUTH Portfolio 2025 have an enclosed cabinet and a centrally located control panel
- Knuth also offers 2 series of conventional Cylindrical Grinding Machines with hydraulic table movement
- The machine has been tested and is fully functional

Standard Equipment

- NC control with touchscreen
- 2 electronic hand-wheels
- Inside grinding feature
- Work area guard
- Pneumatic tailstock quill
- 3-jaw chuck, Ø 200 mm
- Grinding wheel dresser
- Balancing arbor and balancing stand
- Open and closed rest
- Coolant system
- Automatic central lubrication system
- Grinding accessories
- LED work lights
- Operation manual