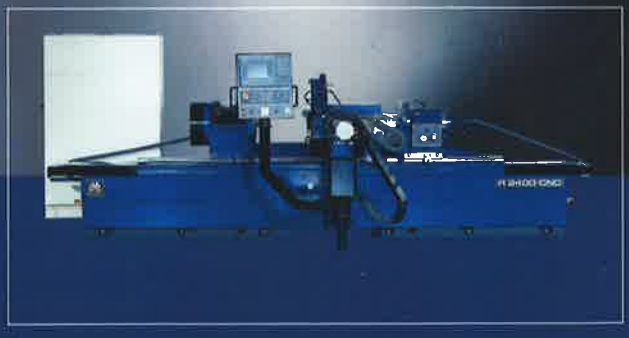
AMC-SCHOU Cylindrical Grinding Machines For Rubber Roller Grinding



The Benefits of Precision

AMC-SCHOU CYLINDRICAL GRINDING MACHINES FOR RUBBER ROLLER GRINDING

The AMC-SCHOU cylindrical grinding machines are used in industries demanding the highest degree of accuracy and productivity.

AMC-SCHOU has for many years been the leading force in providing the rubber roller manufacturer with grinding machines specially designed for this industry. Today the majority of the high-end rubber roller manufacturers in Europe and more and more in the USA are using the AMC-SCHOU machines.

We take great pride in being at the forefront of developments within this industry, and in meeting the needs of our customers in an ever-changing market.

We supply state-of-art grinding equipment that meets every need – from simple straight grinding to parabolic and grooved rollers in any possible shape.

High speed grinding with either rubberhog- or vitrified grinding wheels is quite common in this industry and also widely used with the AMC-SCHOU machines.

Within this industry, rollers covered with various material such as rubber, silicone, polyester, urethane, nylon, photopolymer sleeves, fiberglass sleeves and polyurethane sleeves are grounded.

Our machines are the only cast iron CNC controlled grinder/groover in the world capable of grinding all thinkable grooves plus convex,concave, tapers and various other surface contours. **The ultimate machine that covers all needs within the rubber roller industry.**

AMC-SCHOU Heavy-duty line of CNC-controlled grinding machines.	Capable of grinding workpieces up to: Length = 6000 mm/236" Grinding diameter = 1100 mm/43" Max. workpiece weight = 15 tons/33000 lbs

Model R-6000CNC HD with grooving system

At AMC-SCHOU we cooperate with our customers on the final solution to design the most efficient, user-friendly and sturdy machines.

Rollers come in many shapes and sizes, all depending of the end product and the manufacturing process. Many of our customers grind sleeves for the flexographic industry as well.

Our competitive edge in the rubber roller industry is the speed of grinding, amount of stock removal, surface finish and very accurate measurements.

A traditional lathe mounted with a grind post is still commonly used, but these types of machines are slow and inaccurate, and the market has begun to dem and improved surfaces and higher accuracy.

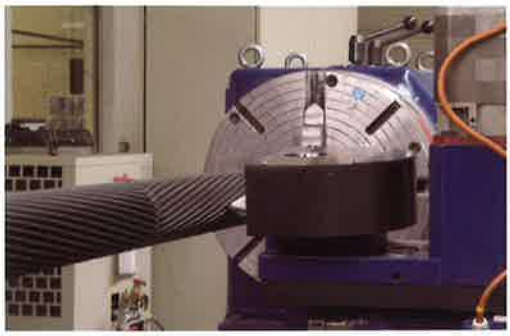
Our grinder can replace three or four lathes, saving you manpower, space and energy. It also grind to a higher quality while providing the same output.

AMC-SCHOU CYLINDRICAL GRINDING MACHINES FOR RUBBER ROLLER GRINDING

- Travelling table design ensuring stability and accuracy for decades.
- Capable of grinding all thinkable grooves plus convex, concave, tapers and various other surface contours.
- Programmed through the Siemens 840d controller, allowing you to grind various surface contours such as cylindrical, parabolic, sine curves, crowns, convex and concave, radius, tapers, angles and multiple diameters.
- Siemens servomotors offering variable speed, high accuracy, low vibration and large torque also at low speeds.
- SKF and Deutsche Star high precision ball screws for X- and Z-axis ensuring smooth, accurate and trouble free movements of the antifriction covered table and wheel slide.

GENERAL SPECIFICATIONS

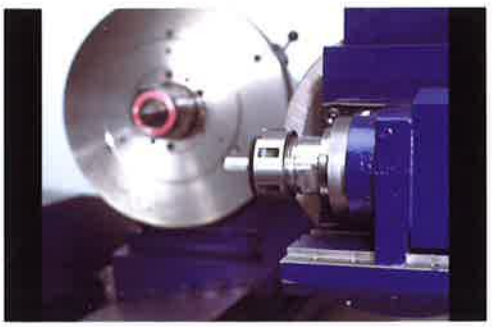
- SKF bearings in heavy-duty design in head- and tailstock ensuring smooth and trouble free rotation of extra heavy workpieces.
- Hydrodynamic grinding wheel spindle ensuring no vibrations and no wear as the spindle is rotating on an oiled film. Runout less than 0.001 mm.
- All main components are made of high quality castings from well-established foundries. These are specially processed to avoid any internal stresses in the material ending up in machines that are entirely free of vibrations.
- Simple, stable design with very few movable components resulting in next to no downtime at all to do mechanical problems. Great savings on maintenance costs, as maintenance is limited to cleaning and lubrication alone.



Grooving system
The system consists of 4 programmable motors, operated through the Siemens 840SL controller.

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

The grooving attachment is placed in front of the machine and the system offers the possibility of grinding and milling.



Milling is performed with variable speed up to 17,500 rpm and using a mounted 12 mm / 1/2" clamping system for various tools.

Grinding is performed using a Siemens digital 5.75 hp servomotor with variable speeds of up to 9,000 rpm, max. grinding wheel 300 mm / 11,8" and max. width 30 mm / 1.2".

The angle is positioned using a Siemens digital servomotor with a brake and enhanced with an Alpha gear ratio 1:10.

The grooving unit slide moves along linear guides.

The number of rollers used in all kinds of industry is almost innumerable. Many everyday products we come across are either fully or partially made using rollers.

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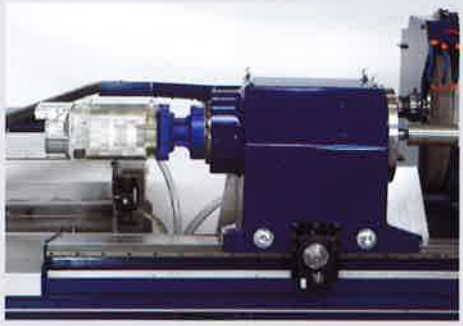
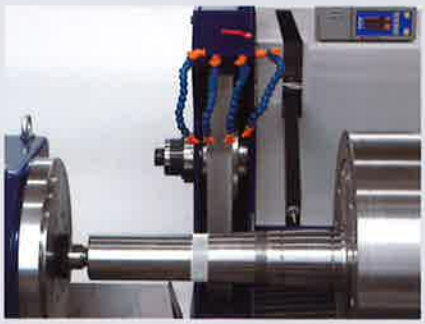
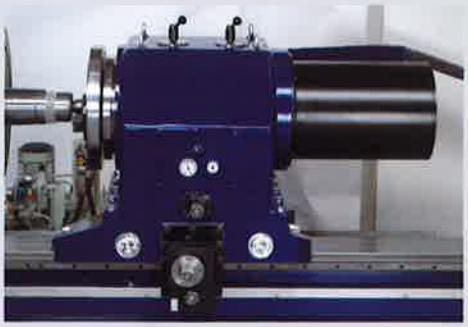


SKF and Deutsche Star Rexroth high-precision ball screws for X- and Z-axis.



Heavy duty SKF bearings in head- and tailstock



AMC-SCHOU line of CNC- controlled grinding machines.

Capable of grinding workpieces up to:
Length = 4000 mm/157"
Grinding diameter = 610 mm/24"
Max. workpiece weight = 2,5 tons/5510 lbs

Display for automatic balancing system

X-2 axis
The X-2 axis is an additional axis that can be installed next to the main grinding wheel on the rear side of the bed.

It is used for an extra grinding wheel for rough grinding or for installation of a polishing unit and is integrated with the CNC controls of the machine.

AMC-SCHOU CYLINDRICAL GRINDING MACHINES AMC-SCHOU CYLINDRICAL GRINDING MACHINES FOR RUBBER ROLLER GRINDING

Our close partnership with SIEMENS ensures that we always use the most recent and up-to date controls on our CNC machines.

In addition, all our heavy duty machines are equipped with a WEISS spindle. WEISS is also an affiliated SIEMENS company.

SIEMENS Simodrive motors are used for powering the headstock and grinding wheel spindle.

With SIEMENS worldwide service and support, machine breakdowns are quickly dealt with and downtime is kept to a minimum.

OUR PARTNERSHIPS

We also use SKF and Rexroth high precision ball screws for X- and Z-axis ensuring smooth, accurate and trouble-free movements of the antifriction covered table and wheel slide.

Heavy duty SKF bearings in head- and tailstock ensure smooth and trouble-free rotation of even extra heavy work-pieces.

Enclosures in various designs can be fitted on the machines.

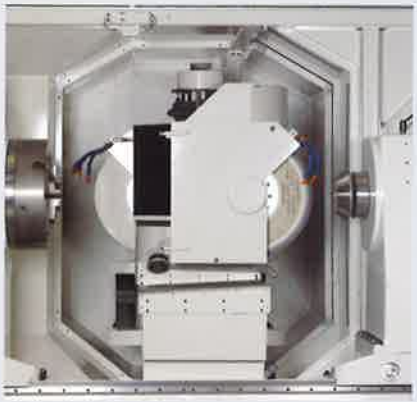
Model R-3000CNC

The smallest machine in the program is the R-1800CNC and is perfect for small rollers.

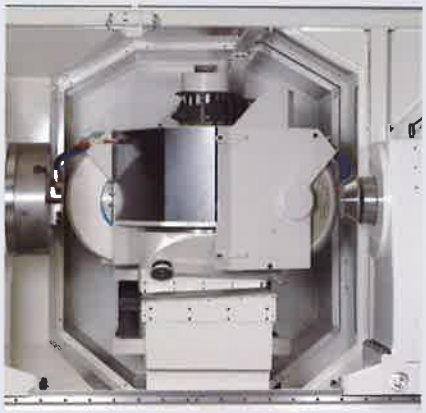
AMC-SCHOU also manufactures a conventional line of manual and semi-automatic grinding machines.

Capable of grinding workpieces of up to:
Length = 4000 mm/157"
Grinding diameter = 610 mm/24"
Max. workpiece weight = 2 ton/4408 lbs

AMC-SCHOU CYLINDRICAL GRINDING MACHINES FOR RUBBER ROLLER GRINDING



CNC B-axis



AMC-SCHOU line of CNC- controlled grinding machines with B-axis
Index range -45 to +195° with various wheel head options.

Capable of grinding workpieces up to:
Length = 2000 mm/79"
Grinding diameter = 610 mm/24"
Max. workpiece weight = 5 tons/11020 lbs

Model R-2000CNC with B-axis

The machine can be equipped with acoustic sensors to prevent unforeseen and unintended movements and actions causing collisions with work-piece, dresser, headstock, tailstock, etc.

Electrical cabinet

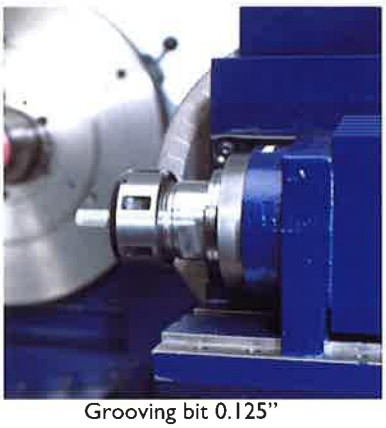
EXTRA EQUIPMENT

X-2 axis

Self-centering chucks with adjustable jaws

Electronic safety light grid

Grinding wheel for groover diam.300 / diam.60



Grooving bit 0.125"

Journal supports

Steady rest capacity diam. 30-180 mm

Heavy duty steady rest capacity diam. 50-300 mm

Dressing fixture for radius dressing

Air-condition in power supply box

Centering device with dial gauge

Dressing fixture for face and side of wheel

AMC-SCHOU CYLINDRICAL GRINDING MACHINES FOR RUBBER ROLLER GRINDING

EXTRA EQUIPMENT

Dressing diamond, 10mm (0,4") shank (on the wheel).

Automatic balancing system for grinding wheel, incl. display

Driving dogs with copper shoes

Dressing fixture for face and side dressing – HD version

Dressing tools

Live tailstock centre Morse Taper No.6

Dead centre Morse Taper No. 6

Grinding wheel balancing stand

Grinding wheel hub HD diam.305mm (12")

Grinding wheel hub diam.305mm (12")

AFTER SERVICE

AMC-SCHOU is renowned for its commitment to servicing all machines –both old and new.

Our team of experienced service engineers provides installation, commissioning and training of local machine operators around the world.

CUSTOMER STATEMENTS

"The CNC control system is great and very flexible. It only took us a short time to learn how to set up our programmes. Now it is very easy to produce rollers with difficult geometries and high-quality surfaces. AMC-SCHOU provides excellent customer service."

HEFNER GmbH & Co. Gummiwekfabrik
Konstantin Luda, Geschäftsfürer
Gärtringen, Germany

"The setting up of workpieces is very simple and these machines are very easy to work with. Ant not only that – they are also extremely productive."

Miller Graphics
Niels Henrik Engstrøm
Sunne, Sweden

"For several years we have been working with CNC cylindrical grinders from AMC-SCHOU AS.
Because of their high-quality grinders, and excellent customer service, we are planning to upgrade all our machines to only AMC-SCHOU AS grinders. We feel AMC-SCHOU AS provide quality and service at a level that meets our expectations."

Egberts Rubber bv
Ben Egberts – Technical Manager
Almelo, The Netherlands

AMC-SCHOU CYLINDRICAL GRINDING MACHINES - TECHNICAL SPECIFICATIONS

HEAVY-DUTY LINE OF CNC-CONTROLLED GRINDING MACHINES		R-2000CNC HD	R-4000CNC HD	R-6000CNC HD
Max. length between chucks	mm inch	2000 79	4000 157	6000 236
Max. length between centres	mm inch	2000 79	4000 157	6000 236
Max. swing over table	mm inch	1100 43	1100 43	1100 43
Max. weight of workpiece between chucks	kg lbs	15000 33069	15000 33069	15000 33069
Table speeds	mm/min inch/min	1-3000 0.04-118	1-3000 0.04-118	1-3000 0.04-118
Headstock spindle speeds, variable	rpm	2-140	2-140	2-140
Headstock motor	kW hp	17 23	17 23	17 23
Grinding wheel motor	kW hp	37 50	37 50	37 50
Max. grinding wheel diameter	mm inch	1000 40	1000 40	1000 40
Max. grinding wheel width	mm inch	100 4	100 4	100 4
Diameter of grinding wheel bore for hub	mm inch	305 12	305 12	305 12
Max. tailstock quill	mm inch	90 3.5	90 3.5	90 3.5
Working space (working machine)	mm inch	8700x3500 343x138	12500x3500 492x138	16500x3500 650x138
Net weight of basic machine	kg lbs	15600 34391	20700 45636	24100 53131
Gross weight of basic machine	kg lbs	17600 38801	22700 50045	26500 58202

LINE OF CNC CONTROLLED MACHINES WITH B-AXIS		R-2000CNC B
Max. distance between chucks	mm inch	2000 79
Max. swing over table	mm inch	2000 79
Max. weight of workpiece	kg lbs	5000 11023
Table speeds	mm/min inch/min	1-3000 0.04-118
Headstock spindle speeds, variable	rpm	1-100
Headstock spindle motor	kW hp	12 16
Grinding wheel motor	kW hp	15 20
X-axis motor	Nm Ft lbf	15 11
Z-axis motor	Nm Ft lbf	70 52
Tailstock quill	mm inch	90 3.5
Max. centre pressure	N Lbf	32000 7200
Max. grinding wheel diameter	mm inch	800 31.5
Max. grinding wheel width	mm inch	100 4
Working space (working machine)	mm inch	8100x4800 319x189
Height of highest point	mm inch	3100 122
Height of workpiece center	mm inch	1670 66
Net weight of basic machine	kg lbs	15600 34391

AMC-SCHOU CYLINDRICAL GRINDING MACHINES - TECHNICAL SPECIFICATIONS

LINE OF CNC-CONTROLLED GRINDING MACHINES		R-1800CNC	R-2400CNC	R-3000CNC	R-4000CNC
Max. distance between chucks	mm inch	1850 73	2450 96	3050 120	4050 160
Max. length between centres	mm inch	1800 71	2400 94	3000 118	4050 160
Max. swing over table	mm inch	680 27	680 27	680 27	680 27
Max. weight of workpiece between chucks	kg lbs	2500 5510	2500 5510	2500 5510	2500 5510
Max. grinding length	mm inch	1800 71	2400 94	3000 118	4000 157
Max. grinding diameter with new grinding wheel	mm inch	610 24	610 24	610 24	610 24
Table speeds	mm/min inch/min	1-4000 0.04-157	1-4000 0.04-157	1-4000 0.04-157	1-4000 0.04-157
Headstock spindle speeds, variable	rpm	2-500	2-500	2-500	2-500
Headstock motor	kW hp	7 9.5	7 9.5	7 9.5	7 9.5
Grinding wheel motor	kW hp	17 23	17 23	17 23	17 23
Max. grinding wheel diameter	mm inch	813 32	813 32	813 32	813 32
Max. grinding wheel width	mm inch	80 3.2	80 3.2	80 3.2	80 3.2
Diameter of grinding wheel bore for hub	mm inch	305 12	305 12	305 12	305 12
Max. tailstock quill	mm inch	70 2.8	70 2.8	70 2.8	70 2.8
Working space (working machine)	mm inch	6100x2900 240x114	7800x2900 307x114	9800x2900 386x114	12800x2900 504x114
Net weight of basic machine	kg lbs	4500 9923	5300 11687	6300 13891	7700 16979
Gross weight of basic machine	kg lbs	5300 11687	6300 13891	7400 16317	9000 19841

LINE OF CONVENTIONAL GRINDING MACHINES		R-1800Conv.	R-2400Conv.	R-3000Conv.	R-4000Conv.
Max. distance between chucks	mm inch	1850 73	2450 96	3050 120	4050 160
Max. length between centres	mm inch	1800 71	2400 94	3000 118	4050 160
Max. swing over table	mm inch	680 27	680 27	680 27	680 27
Max. weight of workpiece between chucks	kg lbs	2500 5510	2500 5510	2500 5510	2500 5510
Max. grinding length	mm inch	1800 71	2400 94	3000 118	4000 157
Max. grinding diameter with new grinding wheel	mm inch	610 24	610 24	610 24	610 24
Table speeds	mm/min inch/min	30-4000 1.2-157	30-4000 1.2-157	30-4000 1.2-157	30-4000 1.2-157
Headstock spindle speeds, variable	rpm	5-500	5-500	5-500	5-500
Headstock motor	kW hp	7 9.5	7 9.5	7 9.5	7 9.5
Grinding wheel motor	kW hp	15 20	15 20	15 20	15 20
Max. grinding wheel diameter	mm inch	813 32	813 32	813 32	813 32
Max. grinding wheel width	mm inch	80 3.2	80 3.2	80 3.2	80 3.2
Diameter of grinding wheel bore for hub	mm inch	305 12	305 12	305 12	305 12
Max. tailstock quill	mm inch	70 2.8	70 2.8	70 2.8	70 2.8
Working space (working machine)	mm inch	6100x2900 240x114	7800x2900 307x114	9800x2900 386x114	12800x2900 504x114
Net weight of basic machine	kg lbs	4500 9923	5300 11687	6300 13891	7700 16979
Gross weight of basic machine	kg lbs	5300 11687	6300 13891	7400 16317	9000 19841

AMC-SCHOU – CYLINDRICAL GRINDING MACHINES - FOR RUBBER ROLLER GRINDING

CURRENT STANDARD MODELS

Model	Swing	Grinding length	Weight between centres/chucks
R-1800	680 mm / 26.7"	1800 mm / 71"	800/2500 kg / 1764/5510 lbs
R-2400	680 mm / 26.7"	2400 mm / 94"	800/2500 kg / 1764/5510 lbs
R-3000	680 mm / 26.7"	3000 mm / 118"	800/2500 kg / 1764/5510 lbs
R-4000	680 mm / 26.7"	4000 mm / 157"	800/2500 kg / 1764/5510 lbs
R-1800 CNC	680 mm / 26.7"	1800 mm / 71"	800/2500 kg / 1764/5510 lbs
R-2400 CNC	680 mm / 26.7"	2400 mm / 94"	800/2500 kg / 1764/5510 lbs
R-3000 CNC	680 mm / 26.7"	3000 mm / 118"	800/2500 kg / 1764/5510 lbs
R-4000 CNC	680 mm / 26.7"	4000 mm / 157"	800/2500 kg / 1764/5510 lbs
R-2000 CNC HD	1100 mm / 43.3"	2000 mm / 79"	15000 kg / 33000 lbs
R-4000 CNC HD	1100 mm / 43.3"	4000 mm / 157"	15000 kg / 33000 lbs
R-6000 CNC HD	1100 mm / 43.3"	6000 mm / 236"	15000 kg / 33000 lbs
R-2000 CNC B-axis	2000 mm / 79"	2000 mm / 79"	5000 kg / 11023 lbs

As we are continuously improving our machines, descriptions, dimensions and illustrations are not binding in detail.

AMC SCHOU

The Benefits of Precision

AMC-SCHOU AS

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