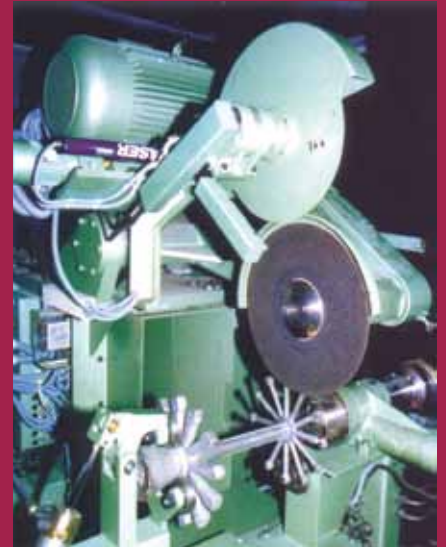




Grinding, Fettling and Cutting Machines for Castings





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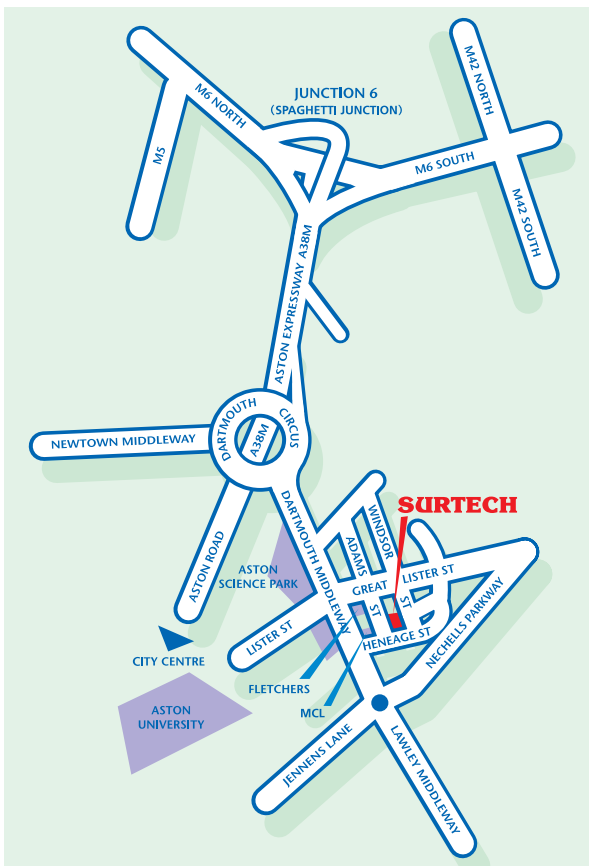
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Surtech was founded in 1973 and is now in its second generation as a family business.

We offer the largest range of grinding, fettling, deburring, cutting, finishing and polishing machines in the UK.

We are situated 5 minutes from Spaghetti Junction in Birmingham, where we occupy 15,000 sq. ft. of which, more than 5,000 sq. ft. are dedicated to working showrooms with over 100 machines that can be used for practical tests.



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The majority of machines in this catalogue are designed and built by Messrs. Reichmann & Son GmbH, in Weissenhorn, near Ulm, situated East of Stuttgart and North of Munich.

Reichmann is a medium sized company now in its fourth generation, one of a very few European manufacturers of foundry machines and in our opinion the leading one for:

- Grinding, Fettling, Cutting, Finishing, Deburring and Polishing machines for foundries, forges and other heavy industry.
- Traditional Manual machines
- CNC machines
- Dedicated machines
- Robot cells
- Machines designed and built to order



REICHMANN

Visit the SURTECH Abrasive Test Centre



At the Surtech Abrasive Test Centre where you will find the UK's largest selection of the very latest grinding, deburring, polishing, satin finishing & brushing machines.

Bring your own parts and discuss your requirements with our skilled engineers who will also set up practical demonstrations. See for yourself how our machines can be used to solve problems and improve efficiency.

Surtech was formed in 1973 to specialise in the manufacture and distribution of mechanical surface finishing equipment and materials.

Within this field we aim to provide the latest available technology from anywhere in the world. We are constantly reviewing the needs of our customers and we tailor our product range accordingly.



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Automatic Cutting Machines



Model TSF500

Totally enclosed automatic cutting machine for separating from moulds and for cutting castings of the feeder system. Parts are mounted on a T-slot table with simple fixtures. The table can be moved into the cutting position by a handwheel at the front of the machine and aided by a line laser. The table can also be tilted. The cutting head has a back and forth stroke of 250mm and a vertical stroke of 440mm. To improve cutting efficiency and to reduce heat, the cutting head oscillates. The cutting wheel dia is 500mm and thickness 4.5 - 6mm. Motor power is 30 kW. An optional part rotation is available to further facilitate cutting operations.



Cutting head in position for vertical stroke. Table horizontal.



Cutting head in front position of horizontal stroke. Table horizontal.



Cutting head in back position of horizontal stroke. Table horizontal.



Table tilted.



Model FTS500

High capacity automatic cutting machine for cutting castings off the mould.

The mould is hydraulically clamped in the jig. If a variety of different moulds are used it may be necessary to redesign the two mould ends and to use the same design throughout in order to facilitate clamping and to avoid having to change clamps.

The clamping head can hold the mould in a vertical or horizontal position and it can rotate 360°. The mould can also be positioned sideways. Thus the mould is presented to the cutting head in the best possible position.

During loading and unloading the cutting disc is parked inside an internal guard.

A line laser aids finding the correct, precise cutting position.

Cutting disc motor: 45 kW (optional up to 75 kW)
Cutting disc size: 500mm dia x 5mm thick x 60mm bore

Cutting speed: 80 m/sec
Max. mould size: 500mm x 500mm

SPS control system:



Mould clamped in the horizontal position

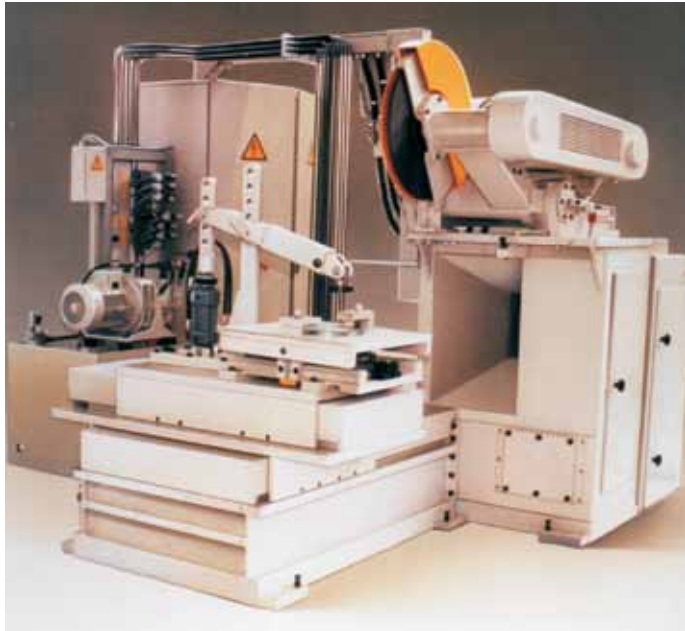


Mould clamped in the vertical position

Automatic Cutting of Castings

Model Range TS

High capacity Automatic Cutting Machines for removal of feeders from castings



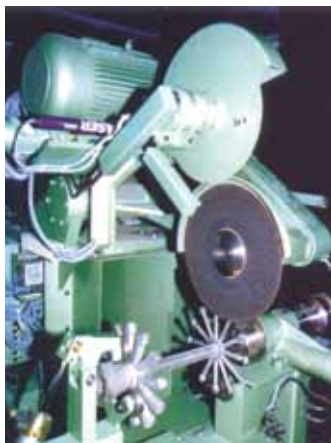
Model TS 600 shown here without enclosure. With vertical cutting stroke only. With X and Y table only.

Model TS 600

For Investment Castings, vertical cut only.

This is the smallest and simplest machine in the TS range.

- Electric drive.
- Vertical cutting stroke only.
- 55 or 75 KW motor.
- Cutting wheel 600mm dia.
- Cutting head stroke 500mm max.
- Y axis travel 800mm, X axis travel 500mm.
- Built in line laser for setting cutting line.
- Max feeder dia. approx. 120mm.
- Dimensions: approx. 3700mm x 4000mm x 3000mm.
- Controlled via a joystick.



Model TS 600 in action. With special jig cutting turbine blades off the mould.



Model TS 600 in action. Cutting exhaust manifolds.



Model TS 600 inside an acoustic booth.

OPTIONS

- NC control
- Additional rotary table
- Teaching controls
- **TS 400** with 400mm dia. cutting wheel.
- **TS 800** with 400mm dia. cutting wheel.

Model TS 800 /110

Vertical cut only, chop or traverse cut.



- Hydraulic cutting wheel clamping unit.
- 110 kW.
- Cut off wheel diameter 815mm.
- Traverse travel 1300mm.
- Longitudinal travel 1700mm.
- Cutting head stroke 1000mm.

Workable with integrated NC-round table, infinitely adjustable 0-90°, to cut any angle between 0-90°.

OPTIONS

- Teach-in-control with programmable memory.
- Pallet loader to reduce cycle time of operation.
- Hydraulic cutting wheel clamping unit.



Model TS 800 / 130

Vertical cut only, with pallet feeder.



- 130 kW.
- Cut off wheel diameter 815mm.
- Traverse travel 1300mm.
- Longitudinal travel 1600mm.
- Cutting head stroke 1000mm.

Designed for chop cut or traverse cutting.
Workable with integrated NC-round table.
Sound proof cabinet with spark pre-separator.

OPTIONS

- Hydraulic cutting wheel clamping unit.
- Teach-in-control.
- Pallet loader to reduce cycle time of operation.



Model TS 600 S-90

Vertical and horizontal cut, with pallet feeder.

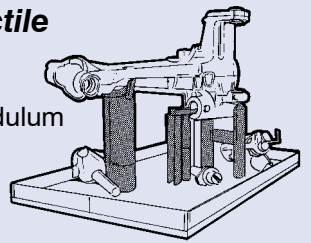
For removal of feeders from castings.



*Model TS 600 S-90
shown here with total enclosure
and optional pallet loading system.*

Feeder removal on ductile steel axle housings

- X Before: 15 min.**
Manually operated pendulum
cut off machine.
- ✓ After: 2.8 min.**
Automatic
REMA TS 600 S-90



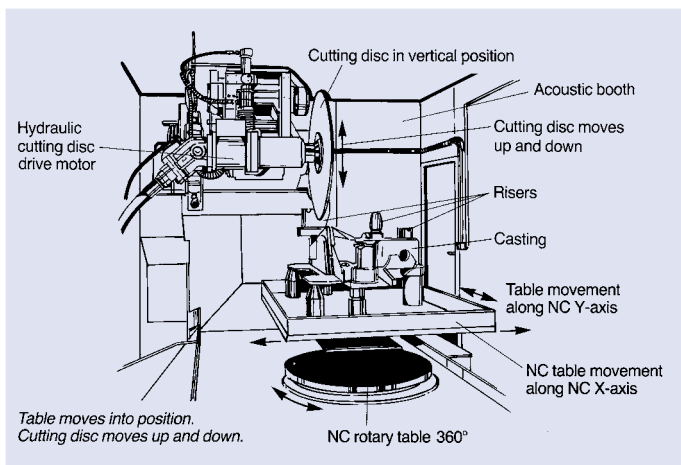
*An example of how a casting can be jigged and the line it takes
to cut feeders.*

Model **TS 600 S-90** is very similar to **Model TS 600**
but with more powerful drives and more sophisticated
controls, plus a horizontal cutting facility.

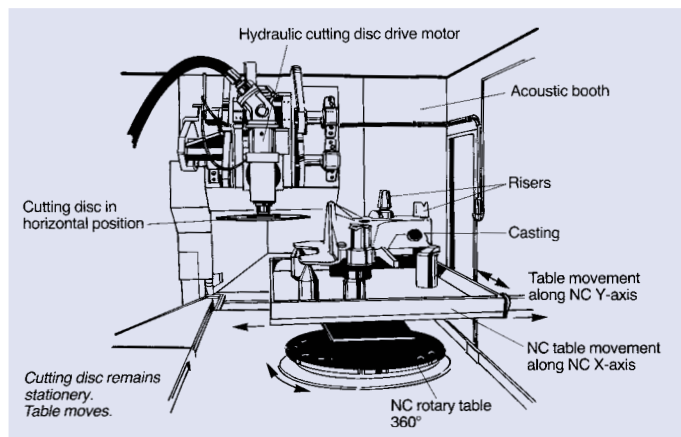
- Hydraulic drives.
- 110 KW motor.
- Vertical and horizontal cutting stroke.



*Model TS600-S90 in action. Whilst the operator loads and
unloads one pallet, another is inside the machine and the
casting is cut as programmed*



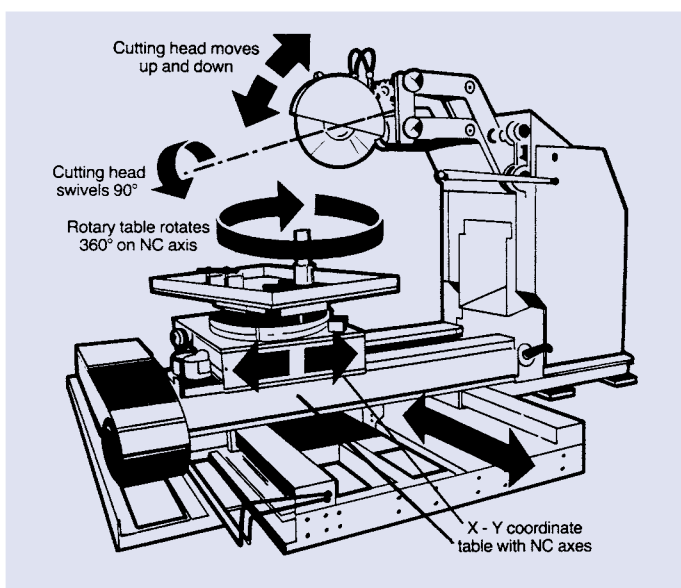
Internal view of Model TS 600-S90 with cutting head in vertical position.



Internal view of Model TS 600-S90 with cutting head in horizontal position.

- Length of cutting stroke 700mm.
- Cutting wheel diameter 600mm.
- Cutting speed 80 m/sec.

The cutting head works within a repeatable tolerance of 1/10mm, close enough to warrant no further machining in most cases.



Schematic operation of Model TS 600 S-90

- Table with X and Y axes and NC controls.
- X axis travel 1400mm, Y axis travel 1400mm.
- Built in line laser for setting cutting line.
- Max feeder dia. approx. 120mm.
- Dimensions: 4500mm x 3600mm x 2200mm.

OPTIONS

- Additional to the X and Y axis table, a rotary NC table.
- Machine with 800mm dia. cutting wheel - **Model TS 800 S-90.**

Model TS 800 S-90

Vertical and horizontal chop and traverse cut.



- 110 kW.
- Cut off wheel diameter 800mm.
- Traverse travel 1150mm.
- Longitudinal travel 1600mm.
- Cutting head stroke 800mm.

NC - controlled round-table.
Repeatable accuracy of cuts.
Fully guarded machine prevents noise and dust.

OPTIONS

- Hydraulic cutting wheel clamping device.
- Teach-in-control.



Operator panel



Horizontal cut

Cut Off Machines for Bar Stock

Model TR-O-K 600

Dry operation.



- Cutting wheel diameter 600mm.
- Power up to 90 kW.
- Speed 80 m/s.
- NC controlled.

Cutting of hardened guide rods, guide rails, threaded bars, etc.
The bar stock will be delivered from a magazine or roller conveyor to the cut off machine.
The cutting mode is fully automatic.
Automatic cutting wheel compensation.
Machine status is monitored.
Modern Link for diagnosis of the controller functions can be installed.

OPTIONS

- Marking unit for cut parts.



Model NTS 450

Wet operation.



- Cutting wheel diameter 450mm.
- Power 18.5 kW.
- Speed regulation: Frequency inverter 20 till 80 m/s.
- NC controlled with setting data for 100 workpieces can be stored.

Cutting of hardened guide rods, chromed piston rods, guide rails, threaded bars, etc.
The workpiece infeed is manual, but the cutting mode works fully automatic.
Automatic cutting blade compensation.
Machine status is monitored.

OPTIONS

- End stop adjustment via hand wheel, digitally monitored.



Digital End Stop



Cutting Operation



Chromed bars cut to length without burrs.

Model NTS 600
Wet operation.



- Cutting wheel diameter 600mm.
- Power 90 kW.
- Cutting speed 80 m/s or variable.
- NC controlled.



Cutting of hardened guide rods, chromed piston rods, guide rails, threaded bars, etc. Loading and unloading conveyor. Wheel wear compensation is automatic.

OPTIONS

- Marking unit for cut parts.



Input magazine



Output magazine



Total view

Model ST 400
Alloy Bar Grinder.



For diameters from 70mm to 225mm and lengths from 250mm to 2000mm.

Model ST 4000. Top photo fully enclosed with load and unload tables outside the enclosure. Bottom photo shown without enclosure. Loading table on left with transport carriage behind, grinding station in the centre and end face grinding unit and unload table on right.

Operation:

Bars are loaded from the loading table onto the transport carriage with variable speed rotating rollers. The carriage then moves into the grinding position under the grinding head. Grinding parameters can be set and programmed from the control panel outside the machine.

After the OD grinding operation, bars are offloaded on to the end face grinder from where they are moved to the unload table after end faces have been ground.

Technical Specification:

OD grinding head motor: 37 kW

End face grinding head: 25 kW

Grinding speed: 60 m/sec

Grinding wheel size: 500mm OD x 50mm wide

Grinding head hydraulically controlled

Choice of manual or automatic

setting of grinding cycle.

PLC controls.



The end face grinding unit



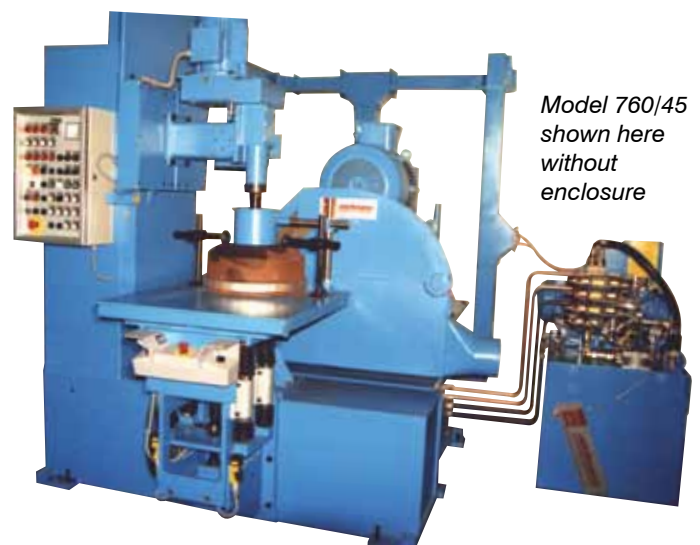
The OD grinding head and carriage inside the enclosure

Automatic Grinding and Fettling of Brake Discs, Fly Wheels and other Circular Parts

Model BTA 760/45 RT

Automatic machine with rotary table for grinding, removal of flash and feeders on circular parts. 37 kW main motor. Grinding wheel 760mm OD x 76mm x 560mm. Grinding head can be inclined $\pm 6^\circ$. For parts from 65mm to 400mm dia. Shown here without enclosure.

Model BTA 760/45 RT shown here without enclosure



Model 760/45 shown here without enclosure

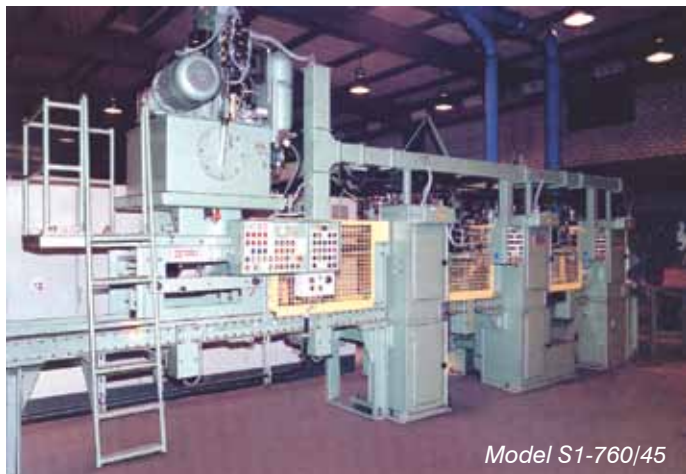
Model 760/45

Automatic machine with rotary table for grinding, flash and feeder removal on circular parts like brake drums and fly wheels. 37 kW main motor. Grinding wheel 760mm OD x 76mm x 560mm. Grinding head can be inclined $\pm 6^\circ$. For parts from 250mm to 600mm dia. With additional grinding head for internal bores. Shown here without enclosure.

REMA are world leaders in grinding machines for brake discs and other circular parts. We can provide a list of major manufacturers throughout the world who have been using **REMA** machines for decades.

Model S1-760/45

Fully Automated Line.



- Grinding power up to 37 kW.
- Grinding wheel diameter 760 x 76 x 560mm.
- Grinding speed 45 m/s.
- Workpiece diameter 220 - 450mm.

Grinding machine for brake discs, flywheels, brake drums, etc.
For removal of joint flash and ingates on the periphery.

OPTIONS

- Separate station to debur the centre bore.



Automatic Line

For grinding, flash and feeder removal on circular parts like brake drums and fly wheels, etc.

37 kW main motor.

Grinding wheel 760mm OD x 76mm x 560mm.

For parts from 220mm to 450mm dia. With automatic wheel wear compensation.

Grinding head can be inclined $\pm 6^\circ$.

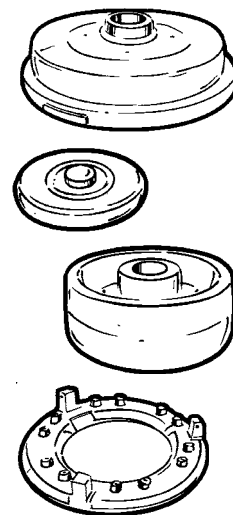
With parts separator and roller conveyor.

With PLC controls and panel diagnostics.

With optional additional internal grinding head with 3 kW motor and 120mm OD grinding wheel.

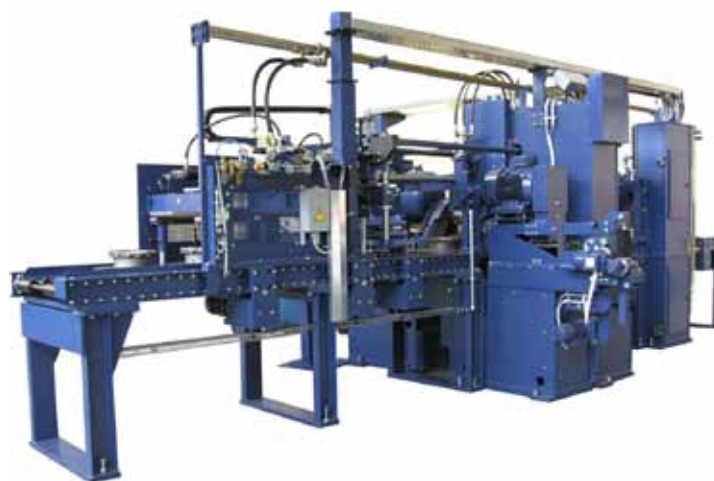


Parts magazine



Model S1-760/45

For grinding lorry brake discs.



- Grinding power up to 37 kW.
- Grinding wheel diameter 760 x 76 x 560mm.
- Grinding speed 45 m/s.
- Workpiece diameter 220 - 450mm.

For removal of joint flash and ingates on the periphery.
Inclinable head stock $\pm 6^\circ$.

OPTIONS

- Separate station to debur the centre bore.



Centre bore grinding station



Parts magazine

Model BTA 760/46

For grinding brake discs, drums, flywheels, impellers,

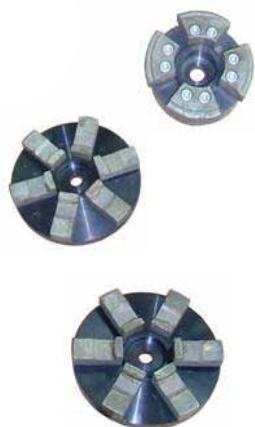


- Grinding power up to 37 kW.
- Grinding wheel diameter 760 x 76 x 560mm.
- Grinding speed 45 m/s.
- Workpiece diameter 140 - 450mm.

For removal of joint flash and ingates on the periphery.
Inclinable head stock $\pm 6^\circ$.
Rotary table to load and reload parts.



Grinding station



Fixtures



Workpieces

Grinding Machines

For motor blocks and cylinder heads.

Model DPM 600 - 4/KF

Dedicated Automatic Machine



For grinding 4 sides of motor blocks, cylinder heads, gear boxes, etc. in a single pass.

- With chain conveyor and hydraulic clamps.
- Automatic unload unit.

Technical Specification:

Four grinding heads with 55 or 75 kW drive motor on each.

Grinding wheel size: 610mm, 760mm or 900mm dia.

Hydraulically driven chain conveyor.

Fully guarded with acoustic booth.

Optional models for V-8 motors available.



Chain conveyor



Finished engine block

Model DPM 760

For grinding motor blocks and cylinder heads.



Two twin-sided flat surface deburring machines to grind four sides fully automatically within a short cycle time. Hydraulic clamping system to fix the workpiece during the grinding process.

- Grinding spindle 4 x 75 kW.
- Grinding wheel diameter 760mm.
- Grinding speed 45 m/s.
- NC controlled, hydraulically driven.

OPTIONS

- Fixture changing system fully automatic with robot.
- Automatic loading and unloading units.



Model PLM

CNC cylinder head grinding and deburring machine.

Cylinder heads are automatically loaded on to a fixture on the turntable. The table rotates 180° into the machine and under the grinding units.

During the grinding process the fixtures are supported from the bottom. Whilst one part is ground, a finished part is unloaded and a new part is loaded.



Face grinding wheel:	610mm dia.
Face grinding wheel drive:	75 HP
Straight grinding wheel:	300mm dia.
Straight grinding wheel drive:	30 HP



Face grinding



Flash line grinding

Model DPM / H-V

For grinding cylinder heads.



- Grinding spindle 2 x 75 kW.
- Grinding wheel diameter 610,760 or 900mm.
- Grinding speed 45 m/s.
- NC controlled, hydraulically driven.

The twin-sided flat surface deburring machine to grind crankcases, cylinder heads, gear boxes, etc. The machine can be supplied for grinding up to six faces fully automatically.

OPTIONS

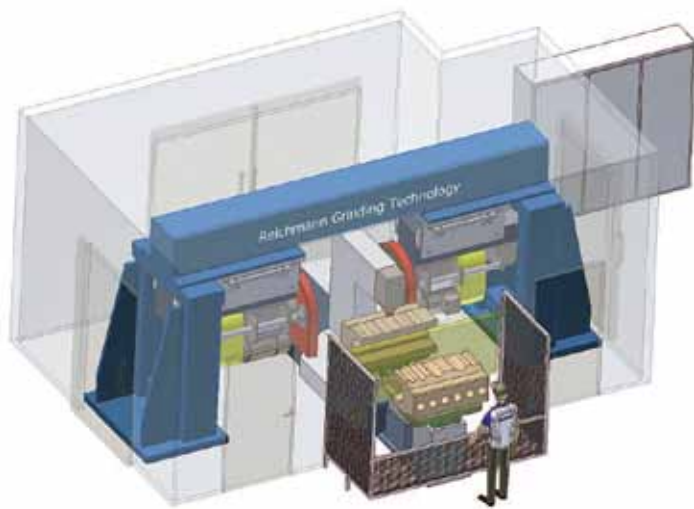
- Conveyor system.
- Automatic loading and unloading units with robot.



Pallet loader

Model DPM

For grinding motor blocks.



Grinding machine with reciprocating machine table to grind four sides of motor blocks, gear boxes, etc. Hydraulic clamping system to fix the workpiece during the grinding process.

- 2 x Grinding station 55 kW or 75 kW.
- Grinding wheel diameter 610, 760 or 900mm.
- NC controlled, hydraulically driven.
- For car and truck applications.
- Special designs for V-8 motors available.
- Fully guarded with sound proof cabin.

OPTIONS

- Charging and discharging unit with robot.
- Grit removal with conveyor system.



Grinding station



Total view

Duplex Grinders

Model 760/45

For precision grinding of two flat surfaces in one pass. Crank cases, cylinder heads, gear boxes, etc.



- 2 x Grinding heads with 75 kW motor on each.
- Grinding wheel diameter 610 x 102 x 457mm.
- Grinding speed 45 m/s
- Hydraulically controlled.

OPTIONS

- Indexing table 4 x 90°, pallet loading system and automatic load and unload units.
- Optional four sided grinding.



Example of a fixture

Power Grinders

Power Grinders have now been available for more than 10 years. They were made possible through advances in abrasive belt technology. New minerals in the form of ceramics, lubricants included in the top coat, new Y grade extra heavy duty backings and secure joints allow motors of up to 75 kW to be used.

At the very high contact pressures that these motors can apply, the abrasive belts achieve stock removal rates similar to milling and turning with the added benefit that the parts remain relatively cool. The heat is removed with the chips. The chance of heat cracks is thus considerably reduced.

Power Grinders are ideal for removing remnants of feeders on high alloy castings after cutting.

Power Grinders are widely used by manufacturers of turbine blades, surgical implants, turbine wheels for the automotive industry and for many other precision castings.

Reichmann Power Grinders are hydraulically operated for greater accuracy.

There are two basic models:

Power Grinder with rise and fall table for smaller parts.
Power Grinder with reciprocating table for larger parts.



Showing the tremendous metal removal rate that is possible with a Power Grinder

Model HBM 3500

Rise and Fall Table.

With motors from 25 kW to 50 kW. Abrasive belt size 150mm x 3500mm. Contact wheel 150mm x 500mm dia. The rise and fall table has its own controls.

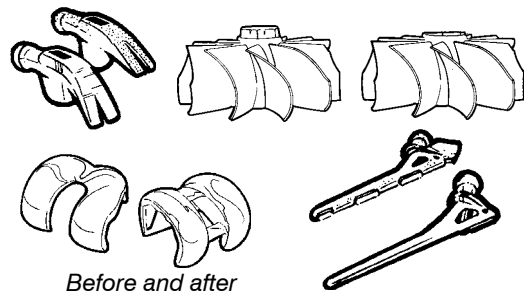
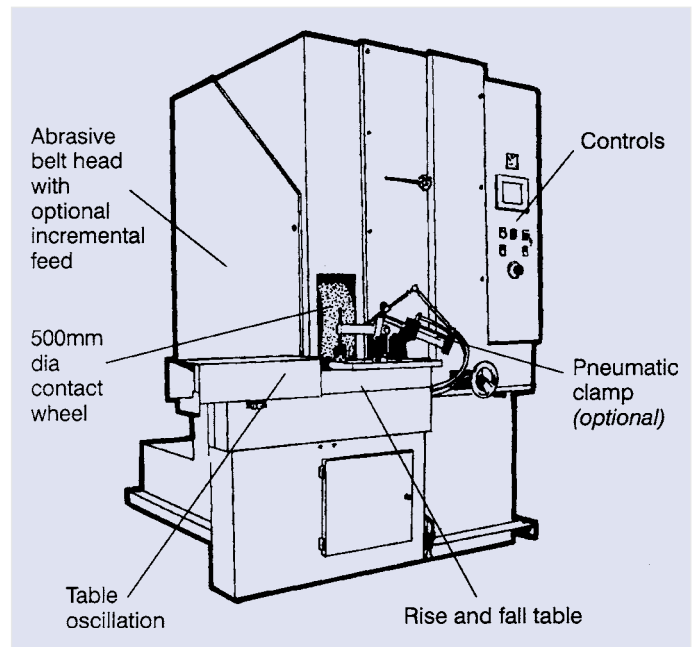
The amount of cut and contact pressure is applied by separate controls of the abrasive belt head. Traditional power grinders had all controls incorporated into the table. By separating rise and fall control and contact pressure control much greater final tolerances can be achieved. It also allows for an optional incremental feed system with pre-determined rates of cut.



Pneumatically assisted clamp

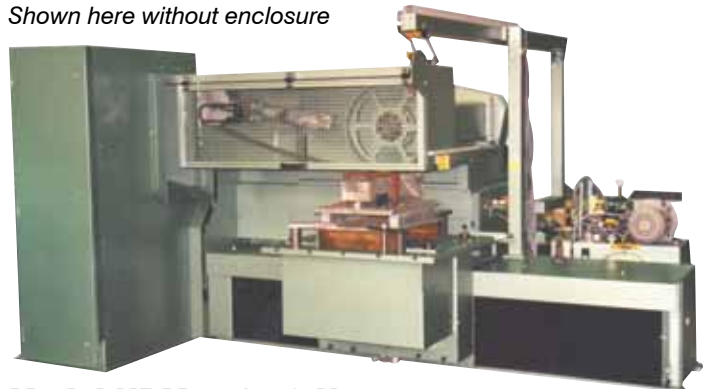


Abrasive belt head with 3500mm long belt and 500mm dia. steel face contact wheel



Before and after

Shown here without enclosure



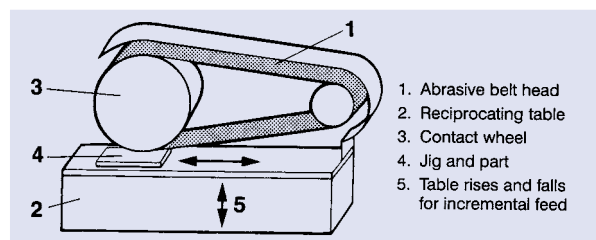
Model HBM 55/150-H

Reciprocating Table.

With motors from 25 KW to 50 KW. Abrasive belt size 150mm x 3500mm. Contact wheel 150mm x 500mm dia. Reciprocating table with incremental feed. The machine is totally enclosed in an acoustic booth with access door and viewing window. It has a facility to lift large parts in and out though the ceiling.



Shown here with enclosure





- 55 kW 3-phase.
- Abrasive belt sie 3500 x 150mm.
- Maximum contact pressure 10 KN.
- Recommended dust extraction capacity: 5000 cbm/h with 1200 N/m².

The High Pressure Abrasive Belt Grinder HBM 55/150-H is used for grinding hard steels like CR-Ni alloys. Often feeders on precision castings are ground to close tolerances after cutting.

- The machine is totally enclosed by an acoustic booth. Noise and dust levels are kept to a minimum.
- Parts can be clamped with simple jigs. The work table is T-slotted.
- PLC controlled settings.



Robot Cells for Grinding, Fettingling, Linishing, Deburring & Polishing of Castings

Robots have been used for over 10 years for the grinding, linishing and polishing of castings.

It all started with sanitary brass fittings and zinc or aluminium door handles. For these applications robot cells are now standard equipment throughout the world. No manufacturer of repute is without a robot.



For other parts we have had to wait for new robot technology, particularly software to become available. Robot cell manufacturers who master this new technology are rare but they do exist.

It is now possible to deburr complicated castings, to grind turbine blades and surgical implants to the very fine tollerances demanded by the industry, and to cut and trim castings with dedicated robot cells.

Since no two applications are the same, **Surtech** works with several robot cell manufacturers, each with their particular field of expertise.



Between our partners and us, we can offer solutions for basic and for state of the art applications. There is certainly no other company that can offer more advanced systems than **Surtech**.





Robot de-flashing and finishing of sub-frame



Robot finishing a cast aluminium chair base



Robot deburring an engine block



Robot removing die lines from lorry axles



Robot finishing a turbine blade



Robot fettling a casting



Robot finishing a knee joint



Robot cutting a brass casting



Robot finishing and polishing motorcycle castings



Robot deburring an alloy wheel

BELT GRINDERS FOR FOUNDRIES

Machines with Vertical Abrasive Belt Heads

Model DP 40 with abrasive belt head on right and polishing head with floor mounted guard on left.

1. DP 40 STANDARD DUTY, SINGLE MOTOR RANGE

Machines with one motor driving one or two vertical abrasive belt heads or one abrasive belt head and one buff head. Single ended versions available to order.

This is the entry level of our extra heavy duty abrasive belt grinder range. Recommended for single shift work.

The distance between spindle ends is sufficiently long to allow two operators to work simultaneously.

Motor sizes: From 2,2 KW to 5,2 KW
Motor drive: Direct

Number of bearings: One per side
Abrasive belt sizes: 2000 x 50mm or 3500X100mm max.

Contact wheel diameters 200mm - 450mm

Distance between shaft ends on twin headed machines 1200mm

Motor spindle diameters 35mm
Motor speeds 950rpm, 1450rpm, 900rpm, 1450/2900rpm

Working height 1000mm

Model DPNS with abrasive belt head on right and polishing head with bolt on guard on left.



2. DPNS HEAVY DUTY, SINGLE MOTOR RANGE

Machines with one motor driving one or two vertical abrasive belt heads or one abrasive belt head and one buff head. Single ended versions available to order.

Part of our extra heavy duty abrasive belt grinder range. Recommended for multi shift work.

DPNS machines are as robust and long lasting as all of our machines recommended for multi shift work.



The difference is only that one motor drives both ends and once a speed has been chosen it applies to both ends.

The distance between spindle ends is sufficiently long to allow two operators to work simultaneously. Available as single head.

Motor sizes: 6 KW - 12,5 KW
 Motor drive: Direct
 Number of bearings: Two on each side:
 Abrasive belt size: 3500 x 100mm standard, 3500 x 200mm max.

Contact wheel diameters 200mm - 450mm

Distance between spindle ends on twin headed machines 1300mm - 1400mm

Motor spindle diameters 40mm
 Motor speeds 1450rpm, 2900rpm, 1450/2900rpm

Working height 1000mm

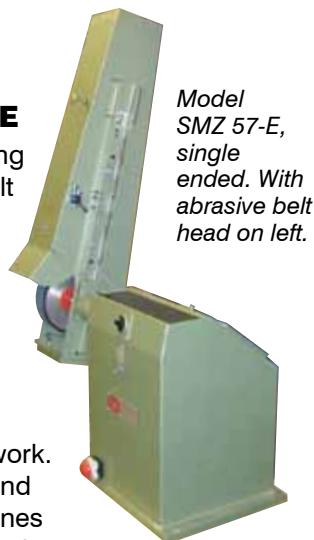
3. SMZ 57, EXTRA HEAVY DUTY INTERNAL MOTOR, THREE SPEED RANGE

Machines with one motor driving one or two vertical abrasive belt heads or one abrasive belt head and one buff head. The cheapest way to have the benefits of a multi speed machine.

Part of our extra heavy duty abrasive belt grinder range. Recommended for multi shift work. SMZ machines are as robust and long lasting as all of our machines recommended for multi shift work.

The difference is that they are V-belt driven and the motors are inside the body. This makes the distance between spindle ends longer. All models have 3 speeds and the chosen speed is set for both ends, not independently. Ideal suited for two operators and with the added benefit of being able to set cutting speeds independently on each end.

Available as single head.



Model SMZ 57-E, single ended. With abrasive belt head on left.



Available with high or low stand for standing or sitting operation.



Motor sizes : 3 KW - 7,5 KW
 Motor drive: Via V-belts
 Number of bearings: 2 per side
 Abrasive belt size: 3500mm x 100mm std. 3500mm x 200mm max.

Contact wheel diameters 200mm - 450mm
 Distance between shaft ends on twin headed machines 1688mm
 Motor spindle diameters 35mm
 Motor speeds All machines with 3 speeds. 1200-3500rpm

Working height 1000mm

Optional electronically variable speed also available.
 Optional foot pedal controls, motor brakes, interlocks, etc.
 Optional support tables, jigs and dust extractors.



Model SMG 58 with 2 abrasive belt heads. With low stand for sitting operation.

Model SMG 58 with abrasive belt head on right and buff head on left. With high stand for standing operation.

4. SMG 58. EXTRA HEAVY DUTY EXTERNAL MOTORS, THREE SPEED RANGE

Machines with two motors on the outside of the machine body, driving two abrasive belt heads or one abrasive belt head and one buff head.

Part of our extra heavy duty range of abrasive belt grinders, Recommended for multi shift work. SMG58 machines are as robust and long lasting as all of our machines recommended for multi shift work.

The difference is that they are V-belt driven and the motors are outside the body. This makes the distance between spindle ends shorter but still sufficiently long to allow two operators to work simultaneously. SMG 58 machines have 3 speeds and the speed for each end can be set independently. Also available with single head.

Optional electronically variable speed also available. Optional foot pedal controls, motor brakes, interlocks, etc. Optional support tables, jigs and dust extractors.

Motor sizes: 2,2 KW - 4 KW
 Motor drive Via V-belts
 Number of bearings: 2 per side
 Abrasive belt size: 3500mm x 100mm std. 3500mm x 200mm max.

Contact wheel diameters 200mm - 450mm

Distance between shaft ends on twin headed machines 1688 mm

Motor spindle diameters 35 mm

Motor speeds All m/c 1200 - 3500 rpm

Working height 1000mm



The quick change, 3 speed pulley / v-belt transmission



Model 506

Single belt head

Model 566

With belt / wheel head

Model 556

Twin belt head

5. 5-SERIES. STANDARD DUTY, SINGLE MOTORS RANGE

These machines are more than adequate for light to medium heavy grinding. Motors are robust and highly heat resistant. Belt heads are simple to adjust.

Unlike the extra heavy duty machines with contact wheels up to 450mm dia and belt widths up to 200mm and belt lengths of 3500mm these machines have 250mm dia contact wheels, max. belt width 75mm and belt lengths of 2500mm. 3 - 4 HP two speed motors.

Model	Motor	Belt size	Contact Wheel dia.
506	4kW	2500 x 25-75mm	250mm
556	4kW	2500 x 25-75mm	250mm
566	4kW	2500 x 25-75mm	250mm

Machines with Horizontal Abrasive Belt Heads

There are three quality levels for these machines. To the untrained eye they all look very similar. They all are height adjustable. They all have the motor at the back, the contact wheel at the front and a platen on top. The lighter machines have 2000 mm long abrasive belts, 200 mm dia. contact wheels and motors between 3 and 4 HP. The heavier machines have 2500 mm long abrasive belts, 250 mm dia. contact wheels and motors between 5 and 7 HP.

The better machines also have dust extraction spigots both at the front and the rear, an important feature for heavy duty fettling operations.

Horizontal abrasive belt machines cost a fraction of machines with vertical heads. Many Companies prefer buying new horizontal head machines at regular intervals rather than investing in the more expensive vertical head machines. However, if your work is extra heavy duty we strongly recommend the vertical machines.

Our horizontal machines are the most robust and best value for money in this category. We have omitted the lighter models which are more suited to sheet metal grinding and we have concentrated on machines that will perform well at the entry level for fettling.

Max. motor size is 7.5 HP. Max. contact wheel dia is 250mm. Max. belt width is 200mm. Max. belt length is 2500mm.

Horizontal belt head machines are working height adjustable. Vertical belt head machines have a fixed working height.

Special Double Ended Polishing Machine

Model

For finishing turbine blades, surgical implants and other precision parts with a wide variety of polishing mops, wheels and discs.

- Two motors, each with its own controls.
- Infinitely variable speed controls on each motor.
- Brake on each motor.
- Specially designed oversized motor shafts and bearings for absolutely vibration free running.
- Additional foot controls.
- Adjustable guards
- With heavy fabricated base including storage shelves



Bolt on guard

Model Range SURTX AC

The Surtx AC range was designed for heavy duty grinding at affordable prices in the foundry industry.

The horizontal heads have a contact wheel at the front and a flat platen on the top.

All machines are height adjustable. The front work supports and dust buckets can be removed for greater versatility.

These two models are the most robust and most powerful horizontal belt grinders in the market:



50mm dia motor shaft



Extension tapered spindle



Extension parallel spindle

Surtx AC BG 150

with 150 x 2000mm abrasive belt, 5HP twin speed motor, 250mm dia contact wheel and 150 x 470mm top platen.

Surtx AC BG 200 with 200 x 2500mm abrasive belt, 7HP twin speed motor, 250 mm dia contact wheel and 200 x 230mm top platen.

Max. cutting speed on both models is 36 m/sec.

On both machines the abrasive belt heads are mounted on cabinet stands, with door and storage shelf.

Electrical controls are to industrial standard, with rotary speed switch, mains lock and red stop button.

Model 531

The most powerful of the horizontal head belt grinders. With a 7 HP motor, abrasive belt 2500mm x 100mm and a 250mm dia contact wheel. Shown here with optional built-in dust extractor for small amounts of dust. You will need a stand alone extractor for heavy duty work.



Multi Purpose Horizontal Belt Grinders

Model Series 7

Model 706

Single Head

Model 776 Twin Head

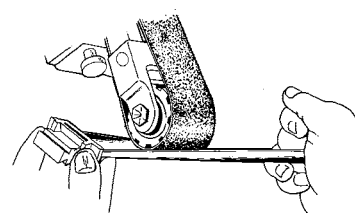
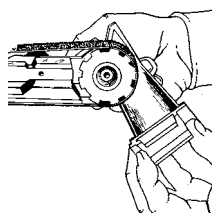
Horizontal abrasive belt grinders / polishers with telescopic belt arms that adjust to contact wheel diameters from 25mm to 200mm and widths from 25mm to 75mm. 3 - 4 HP, 2 speed motors, variable speed motors optional. Abrasive belt length 2500mm. Working height is adjustable. Interlock, foot controls, motor brakes, etc. available.



Model 706 in action. Fitted with 50mm dia contact wheel. No side restrictions.



Model 776 twin belt machine. Fully guarded with optional bolt-on extractor.



7 Series machines are ideal for finishing turbine blades



Three twin head models 776 installed for sit down operation at a major turbine blade repair facility in the UK

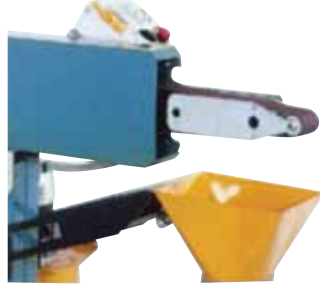
Model	Motor	Belt size	Contact Wheel dia.
706	4kW	2500 x 12 - 50mm	20 - 200mm
776	4kW	2500 x 12 - 50mm	20 - 200mm
Optional variable speed			

Model 491

Horizontal abrasive belt grinder. Not quite as versatile and sophisticated as Model Series 7, but a good alternative where a simpler machine will suffice. Available with single head only. Contact wheels from 50mm to 200mm dia. and 50mm to 75mm wide. Abrasive belt 2500mm long.



Model 491 in action. With 50mm dia contact wheel and extended belt arm. Large dust capture hood.



1. Adjustable top guard
2. Adjustable bottom guard with dust capture hood and 80mm spigot
3. Optional inverter
4. Bench mount
5. Bench mount bracket with working height adjustment
6. Quick change contact wheel assembly
7. Hinged access door for belt change
8. Separate dust channel to rear spigot 80mm dia.



Model AE Powertronic

Variable speed grinding, deburring, sanding, denibbing, finishing and polishing machine.

Suitable for all metals, wood, plastics, paint, ceramics, etc.

For use with abrasive belts, abrasive wheels, abrasive discs, abrasive brushes, mops, buffs, etc.



Available as pedestal model or bench model.

Pedestal model shown above with spindles and guards.

Bench model shown left without spindles and guards.

	AE4000/0.5	AE 5000/0.55	AE 5000/1.5
Motor	Single phase AC, 220/240V 50 Hz	AC, 220/240V 50 Hz	DC, 220/240V, 50 Hz
Input supply	220V/240V AC	220V/240V AC	220V/240V AC
kW	0.5	0.55	1.5
RPM	340-4000	400-5000	400-5000
Right hand Spindle thread	M33	M33	M33
Left hand Spindle thread	M20	M20	M20
Weight	30 kg	30 kg	30 kg

Mini Abrasive Belt Grinders

Model Series 411

Single or variable speed.

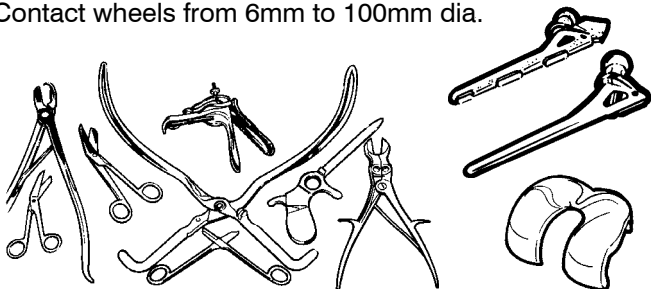
For grinding and polishing difficult to reach areas. Ideal for turbine blades, surgical implants, surgical instruments, small castings, etc.

For rectification of porcelain, earthenware and glass. Available as bench model, on a pedestal or mounted on a dust extractor.

Over 50 quick change contact arms.

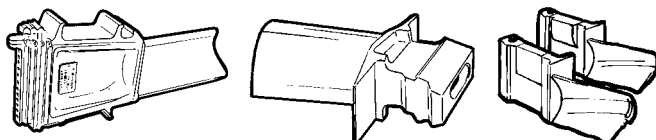
For belts from 5mm to 50mm wide.

Contact wheels from 6mm to 100mm dia.

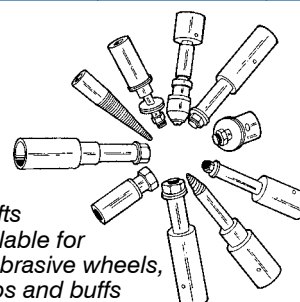


Surgical Instruments

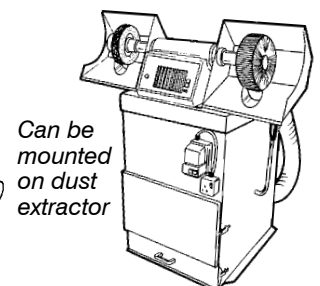
Surgical Implants



Turbine Blades



Shafts available for all abrasive wheels, mops and buffs



Can be mounted on dust extractor



Finishing difficult areas with Sandex abrasives.



Polising small radii.



Superfinishing turbine blades with diamond brushes.



Satin finishing with abrasive nylon belts.

Manual Abrasive Belt Grinders for Dedicated and Difficult Grinding Operations in Foundries

Model 127

Horizontal abrasive belt grinder with large adjustable support table.

Adjust support table height to make use of total belt width.

Adjust support table angle to grind exactly where you want. 3.5 HP standard motor, 6 HP optional.

Abrasive belt size 75mm x 2000mm. Contact wheel diameters from 75mm to 200mm.



Model 127 in action. Removing the flash line on the outside diameter of a round casting.

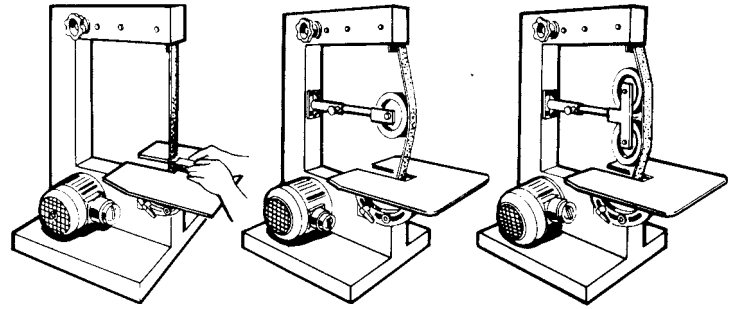


Model 213

Four wheel abrasive belt grinder with large choice of contact platens and wheels. With large adjustable support table.

Work on slack of belt to avoid grinding flats on cylindrical parts. Work on platen to grind flat surfaces. Work on contact wheel for high stock removal.

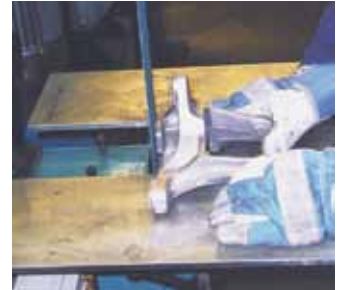
3 - 2 HP, 2 speed motor. Abrasive belt size: 25mm - 100mm wide x 2000mm long.



Various belt configurations. Slack of belt, contact wheel, combination.



Ideal for contoured surfaces.



Ideal for flat surfaces.



Ideal for awkwardly shaped castings.



Ideal for difficult to reach areas.

Dry Operation Flatbed Linishers

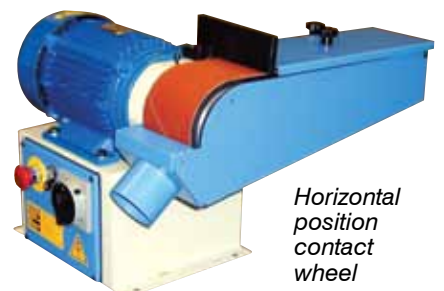
Working widths from 100mm to 500mm. With motors from 3kW to 5.5kW.

Model	HP	Platen Size (mm)	Abrasive Belt Size (mm)	Position
L61	3	100 x 250	100 x 1000	Vertical-horizontal
L83	4	150 x 500	150 x 1750	Vertical-horizontal
332	4	200 x 535	200 x 2000	Horizontal only
333	4	200 x 535	200 x 2000	Horizontal / side
304	4	250 x 625	250 x 2000	Vertical-horizontal
64	5.5	300 x 900	300 x 2500	Horizontal only

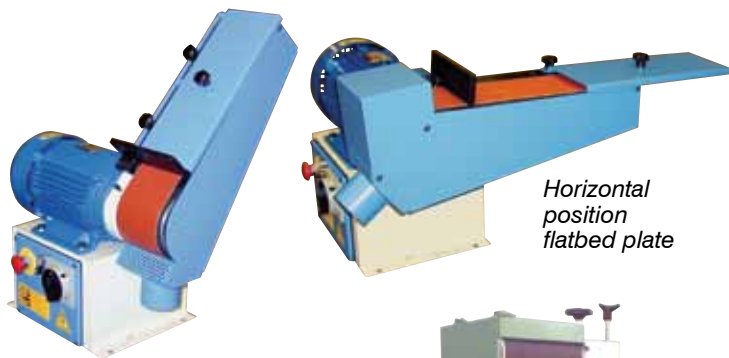
Model L61

Linisher with unusual two workstations. Front contact wheel, top platen. Head can be positioned anywhere between vertical and horizontal. Bench or pedestal models available.

Model L61 has a working width of 100mm and powerful 3HP, 2 speed motor. Just one of more than ten flatbed linishers in our range.



Horizontal position contact wheel



Horizontal position flatbed plate

Vertical position contact wheel



Model 304

With optional large, sliding support table



Model 333

Unusual design. With belt head on side. Large adjustable support table. Work on platen only.



Model L83

With adjustable belt head. Vertical or horizontal. Work on platen or contact wheel.



Model 332

With horizontal belt head only. Work on platen only.



Model 64

With horizontal belt head only. Work on platen only.

Wet Operation Flatbed Linishers



Model Range BSW

In horizontal and vertical positions. Showing large coolant tray (red) and coolant tank with pump.

These machines are mandatory for some hazardous materials like titanium and magnesium. They can also be used for any other materials prone to clogging or that are heat sensitive.

Wet flatbed linishers consist of the abrasive belt head, a coolant tank, pump, hoses and nozzles and a large coolant tray to catch and recirculate the coolant.

Electrical controls are splash proof and machines are coated with a corrosion resistant paint.

Model	HP	Platen Size (mm)	Abrasive Belt Size (mm)	Position
BS 75W	1.5	100 x 225	100 x 950	Vertical-horizontal
BS 200W	4	200 x 410	200 x 1500	Vertical-horizontal
BS 300W	5	300 x 530	300 x 2000	Vertical-horizontal

Used Manual Belt Grinders



We always have a good selection of used and reconditioned machines in stock. Mainly traditional British makes like Canning, Morrisflex, Meggamaster, Greif, etc.



Traditional Extra Heavy Duty Foundry Grinders with Grinding Wheels

Grinding wheel machines have been around for more than 50 years. They are the forerunners of abrasive belt grinders at a time when abrasive belts were just not 'good enough' for the tough grinding operations in foundries.

But times have changed. Abrasive belts have improved to such an extent that they can now easily challenge grinding wheels in performance and finish.

Health and safety recommendations, particularly those concerned with vibration related diseases favour abrasive belts because of the reduced risks.

However, in our opinion the traditional grinding wheel machines should not be dismissed. The vibration problems are mostly due to the worn out state of most of these machines and the fact that they are used without 'hands off' fixtures. Messrs. Reichmann still build traditional abrasive wheel grinders. Their vibration levels are as low as those of abrasive belt grinders and by using them in conjunction with fixtures, pneumatic contact assemblies and reciprocating tables you can totally eliminate the risk of vibration induced diseases.

Model DS5

Double Ended Grinder. One motor drives both ends. With support table. Support table and guard can be adjusted to the wear of the grinding wheels.

Model DS5/500 with 3.3 kW motor and 500mm OD x 60mm wide grinding wheel.

Model DS5/600 with 3.7 kW motor and 600mm OD x 60mm wide grinding wheel. Spindle with 4 bearings. 30m/sec cutting speed.



Model S

Double Ended Grinder. One motor drives both ends. On left with grinding ring, on right with grinding wheel. With support table. Support table and guards can be adjusted to the wear of the grinding wheels.

Model S500 with 5.5 kW motor and 500mm OD x 60mm wide grinding wheel.

Model S600 with 7.5 kW motor and 600mm OD x 60mm wide grinding wheel. Available with 30 m/sec, 45 m/sec or 60 m/sec cutting speeds. Extra low vibration.



Model SK

Double Ended Grinder.

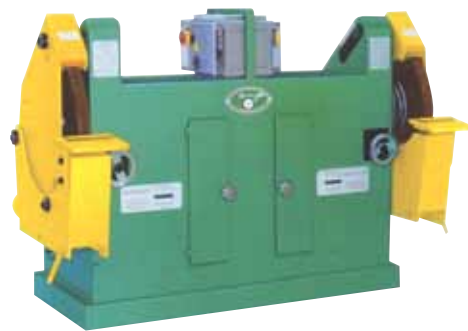
With 2 motors.

With support table.

Support table and guards can be adjusted to the wear of the grinding wheels.

Motors from 5 kW to

15 kW. Grinding wheels from 600mm OD to 800mm OD and from 60mm to 80mm wide. Available with cutting speeds from 30 m/sec to 60 m/sec.



Model SKE

Single Ended Grinder.

With support table. Support table and guards can be adjusted to the wear of the grinding wheels.

Motors from 5 kW to 15 kW.

Grinding wheels from 600mm OD to 800mm OD and from 60mm to 80mm wide.

Available with cutting speeds from 30 m/sec to 60 m/sec.



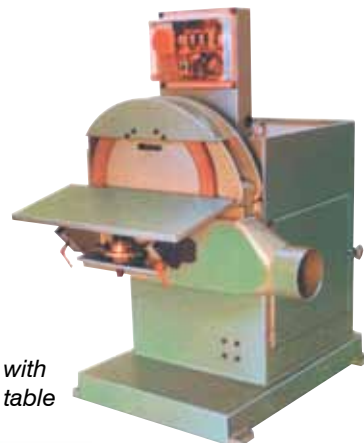
Model SKE with optional pressure assist jigs. For hands free operation. Up to 190 kg contact pressure. The answer to vibration white finger problems.

Model PLSK 600-F

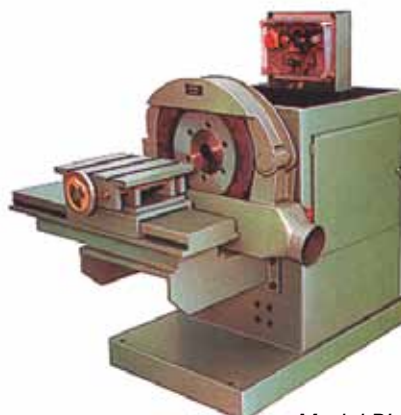
Single Ended Grinder.

With grinding ring. With large support table.

With 11 kW motor and 600mm OD x 90mm wide grinding ring.



Model PLSK 600-F with adjustable support table



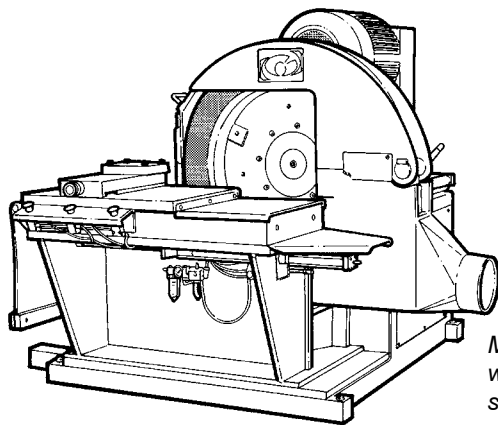
Model PLSK 600 with sliding jig

Model PLSK 600

Single Ended Grinder. With reciprocating jig. 600mm stroke.

Pneumatically controlled.

With 18.5 kW motor and 600mm OD x 90mm wide grinding ring.



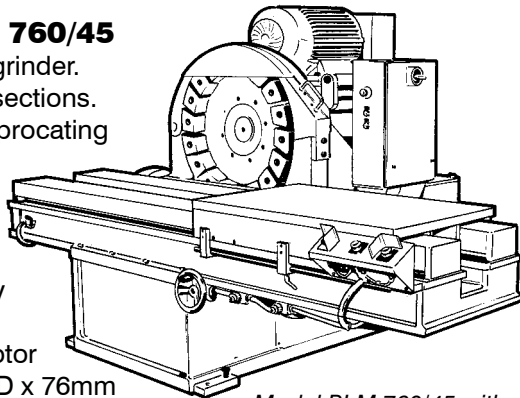
*Model PLSK
with automatic
sliding table*

Model PLSK

Single and double sided flat surface grinding machine. Available with grinding ring diameters 300mm, 400mm, 500mm, 610mm, 760mm and 900mm.

Model PLM 760/45

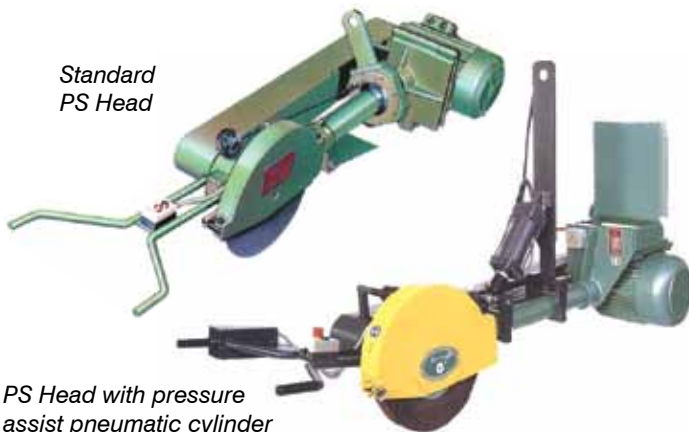
Single ended grinder. With grinding sections. With large reciprocating table 800mm long x 470mm wide. Pneumatically or hydraulically controlled. With 37 kW motor and 760mm OD x 76mm wide grinding section wheel.



*Model PLM 760/45 with
automatic sliding table*

Manual Grinding of Castings with Pendulum Grinders

PS Pendulum Grinding Machines



*PS Head with pressure
assist pneumatic cylinder*

PS Models available

Model	Motor kW	Cutting Speed m/sec	Wheel Dia x thickness x bore	Approx Weight in kg
PS 350	7.5	60 or 80	350 x 60 x 127	330
PS 500	18.5 - 22	60 or 80	500 x 60 x 127	420
PS 600	22 - 30	60 or 80	600 x 60 x 127	600

Manual Cutting of Castings - Pendulum Cutting Machines

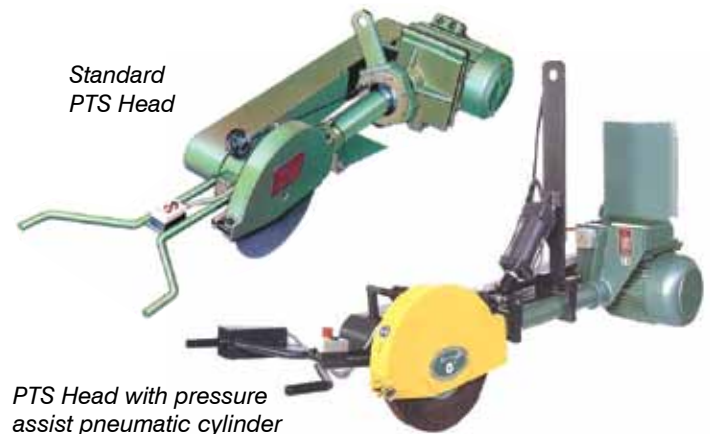
Model Range PTS Pendulum Cutting Machines

This is a traditional cutting head that used to be suspended and was used to cut castings. It is no longer

considered safe to use in such a way but the head is still incorporated in many ways to make up a safe, efficient and economical cutting machine.



PTS Pendulum Cutting Machines

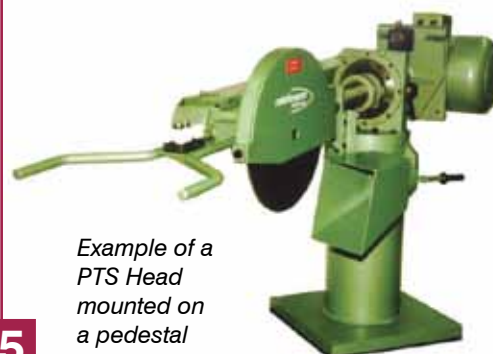


PTS Models available

Model	Motor kW	Cutting Speed m/sec	Wheel Dia x thickness x bore	Approx Weight in kg
PTS 400	18.5	80	400 x 4 x 40	350
PTS 500	22	80	500 x 5 x 60	410
PTS 600	45	80	600 x 6 x 60	595

PTS Heads Mounted on Pedestal

There are no standard models of PTS heads mounted on pedestals. Instead we will design and build a unit to your individual requirements. Any of the above PTS heads can be used. You can buy such a unit on its own or in combination with a number of clamping tables.



*Example of a
PTS Head
mounted on
a pedestal*

In its modern form the pendulum cutting head is mounted on a pedestal with up and down and sideways movement.

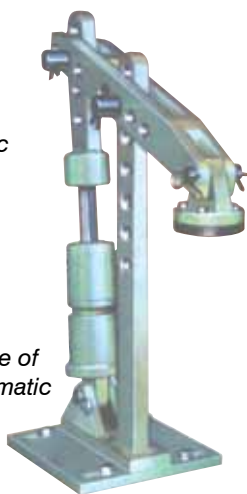
Clamping Tables and Clamps

The casting is clamped on a separate table.

A pneumatic clamp is available with a max clamping pressure of 6000N. Alternatively we can supply a complete clamping table. The top vice can be swivelled 180°. Max clamping capacity 500mm. Vice jaws max 340mm wide x 180mm high.



Pneumatic clamping table



Example of a pneumatic clamp

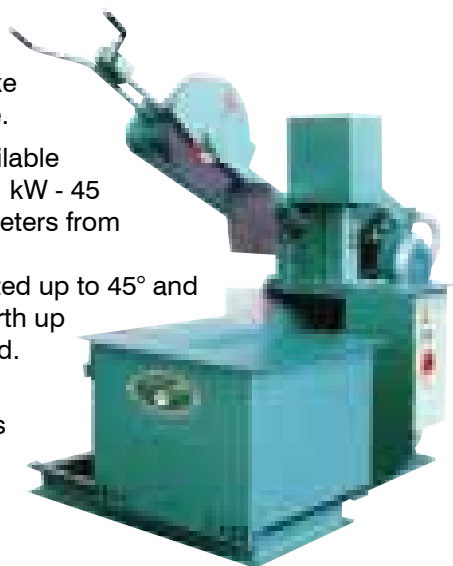
Model SFCM Manual Cut Off Machine

Pendulum cut off heads are also used to build dedicated cutting machines like the one shown here.

Model SFCM is available with motors from 11 kW - 45 kW and wheel diameters from 350mm - 600mm.

The head can be tilted up to 45° and moved back and forth up to 300mm motorised.

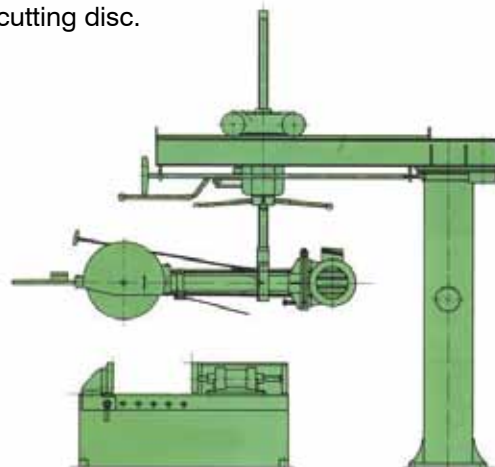
The table can be supplied with T-slots for mounting jigs. It incorporates a sideways travel of up to 500mm.



Cutting head tilts and can be moved back and forth 300mm

Model PTS/JIB

This is another example of how a PTS head can be mounted offering the largest possible reach for the cutting disc.



PTS Head suspended from jib.

For greater movement up and down, sideways and back and forth the same heads can be mounted on a jib crane with optional motorised controls.

A clamping table holds the casting. Operation is manual but movements along the jib can be motorised.



Model PTC-SF Cutting Centre

This is the most advanced use of a pendulum cutting head. Based on the manual PTS/JIB above, but available in semi-automatic or fully automated form.

Optionally available with remote controls.

Mounted inside an acoustic booth which incorporates dust extraction panels and connections to a separate dust extractor.

The perfect system to overcome vibration related problems.

Dust Extraction

To comply with Health & Safety recommendations, all grinding, fettling, deburring, cutting and polishing machines must be connected to a suitable dust extractor.

Hazards and Risks

All materials can present hazards or risks. Hazards include fires and explosions.

When steel is ground, hot sparks can set the fabric filters on fire. Aluminium dust can be ignited by a hot spark and start a fire or can cause an explosion. Aluminium and water produce hydrogen gas and if that gas can collect in a pocket a spark can ignite and explode it. Fine aluminium dust, when inhaled causes serious health problems. Titanium and magnesium are even more dangerous.

You should assess each operation and make sure you have the correct extractor.

Please ask - Surtech can advise.

Range of Dust Benches

1m, 1.5m and 2m wide. Connect to stand alone extractors.



Model ASP-T

Our smallest extractor. Suitable for belt grinders and finishers producing small amounts of dust.

Model 1200

A metal cyclone and fabric filter combined. The cyclone catches hot sparks, the fabric filter removes fine dust.



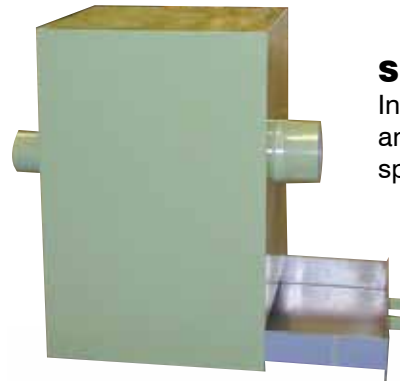
Model Range MS

Three sizes of dry extractors with fabric filters. With explosion panels and blast barrier.



Model Range

Six sizes of wet extractors. Suitable for hazardous dusts.



Spark Arrester

Install between machine and extractor to catch hot sparks.



A 'state of the art' dust extraction installation, with heavy duty bar cutting machine, spark arrester to separate hot sparks and dust extractor for large amounts of dust. Ducting is solid 14g galvanised steel.

REFERENCE LIST



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