Surtech

Portable Abrasive Power Tools







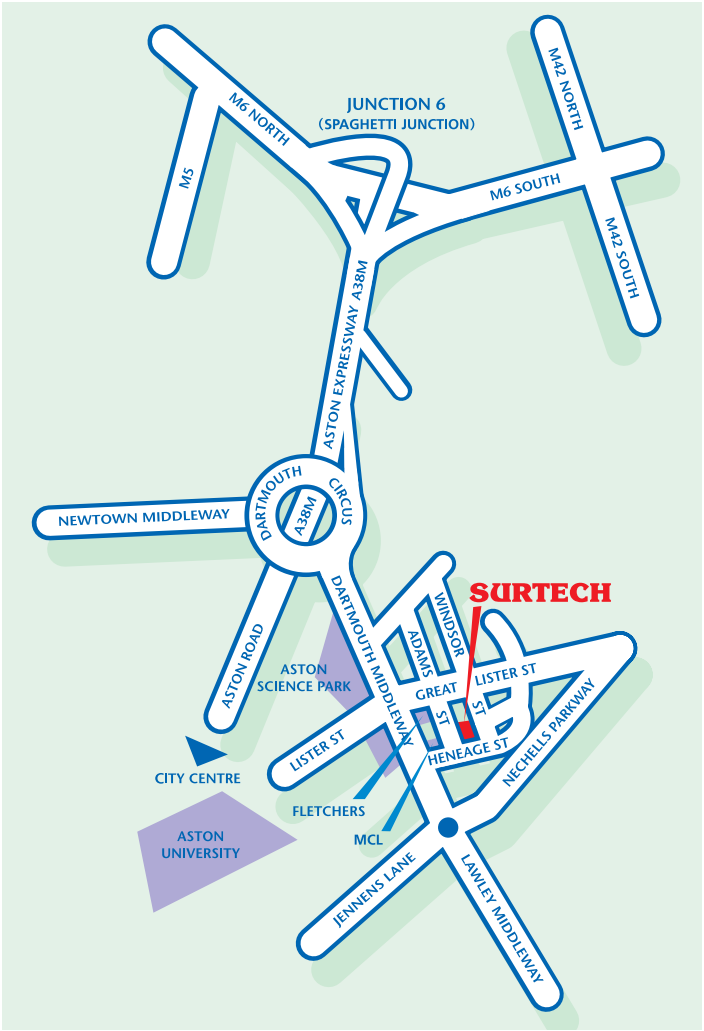

www.surtech.co.uk

WHO ARE SURTECH?

Surtech have been supplying the latest abrasive machines and materials from around the world for over 30 years.

Abrasive Test Centre

Here you will find a large selection of the very latest grinding, deburring, polishing, satin finishing and brushing machines. Bring your own parts and discuss your requirements with our skilled engineers, who will also set up practical demonstrations.



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CONTENTS

PORTABLE ABRASIVE POWER TOOLS

INTRODUCTION

The ubiquitous angle grinder is slowly being replaced by dedicated portable abrasive power tools which are more versatile, more efficient, more economical and which produce more consistent results.

POWER SOURCES FOR PORTABLE ABRASIVE POWER TOOLS

The power source can be either electrical or pneumatic

Which power source you choose will depend on your individual circumstances.

For site work 110 V electrical tools are normally chosen. For in house work it is either 230 V ,110 V or pneumatic.

Not all tools are available in both 110 V and 230 V. On the Continent 230 V is acceptable for both site work and in house work. As a result many tools are not available in 110 V.

INTRODUCTION TO ROTO-SAT MACHINES

Roto-Sats are Surtech's portable abrasive power tools using abrasive belts, abrasive wheels, nylon wheels, abrasive impregnated elastomer wheels and polishing mops to produce virtually any finish from grained to mirror polish.

SURTECH can offer two Roto-Sat machines: Model ROTO-SAT-FX and Model SURTX ROTO-SAT-FN. Both have electric motors.

All Roto-Sat models can carry out exactly the same work, use the same consumables, but differ in their ergonomic design and price.

Portable Tools
for Finishing Stainless Steel
In-line Grinders • Angle Grinders
Fillet Weld Grinders

Roto-Sat-FN

Roto-Sat in action

Roto-Sat-FX

Roto-Vario-Angle FX Fast speed

Roto-Vario-Angle-FN
Slow speed

Roto-Vario-Fillet-CM in action

Roto-Vario-Angle-FX Set

Roto-Liner

Roto-Vario-Fillet-FX

Roto-Vario-Fillet-FX Set

Model	Motor KW (HP)	Voltage	RPM	Belt, Wheel or Disc mm	Weight Kg (approx)
Roto-Sat-FN	1.2 (1.6)	110	900 - 2700	Wheel, max 100mm OD	2.7
Roto-Sat-FX	1.2 (1.6)	230 or 110	1200 - 3700	Wheel, max 100mm OD	2.5
Roto-Angle-FN	1.2 (1.6)	110	900 - 2700	Disc, max 125mm OD	2.3
Roto-Angle-FX	1.4 (1.8)	230 or 110	2100 - 7500	Disc, max 125mm OD	2.4
Roto-Fillet-CM	1.2 (1.6)	230 or 110	1200 - 3700	Wheel, max 150mm OD	2.9
Roto-Fillet-FX	1.2 (1.6)	230 or 110	1500 - 4700	Wheel, max 150mm OD	3.4
Roto-Liner	Air	n/a	Variable	Belt, 260mm x 60mm	1.2

ROTO-SAT ACCESSORIES

ROTOCUSHION 120
Pneumatic contact wheel.
Wheel size:
120mm OD x 80mm wide.
How to mount:
Screws straight on to M14 spindle.
Belt size: 90mm x 395mm.

ROTOCUSHION 90
Pneumatic contact wheel.
Wheel size:
90mm OD x 100mm wide.
How to mount:
Fits on to extension spindle.
Belt size: 100mm x 280mm.

ROTO-X-WHEELS
Expanding contact wheels.

Expanding contact wheels are available in one hardness only. Used with abrasive belts, they are the most aggressive tools for Roto-Sat machines.
Wheel size:
90mm OD x 100mm wide *or:*
100mm OD x 100mm wide
How to mount:
Fits on to extension spindle.
Belt size:
100mm x 280mm
(for 90mm x 100mm wheel)
100mm x 316mm
(for 100mm x 100mm wheel)

ROTO DRIVE WHEEL
Fits on to the 100mm M14 extension spindle.

TAPERED SPINDLE
With M14 bore. Screws straight on to the M14 spindle of the electric angle grinder.

EXTENSION SPINDLES
With M14 bore. 19mm dia keywayed 50mm and 100mm long.
Screw straight on to the M14 spindle of the electric angle grinder.

EXTENSION HANDLE
With guard. To replace standard handle and guard and for use with polishing mops.

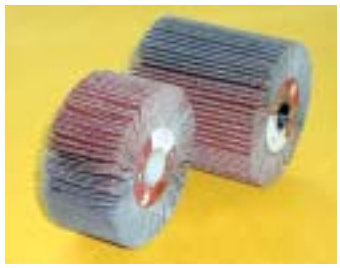
ROTO-SAT CONSUMABLES FOR GRINDING & COURSE GRAINING

These abrasives cut aggressively and remove material.

ZIRCONIA BELTS
For stainless steel.
Grit:

CERAMIC BELTS
For stainless steel. Even better and longer lasting than zirconia belts.
Grits: 24 -120
For ROTOCUSHIONS
For ROTO-X-WHEELS

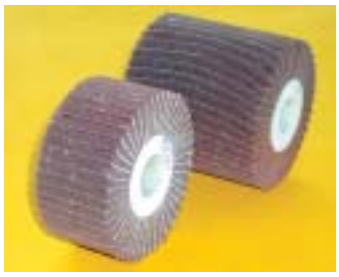
ALUMINIUM OXIDE BELTS
For general purpose applications.
Grits: 24 - 600 All metals.
For ROTOCUSHIONS
For ROTO-X-WHEELS



ABRASIVE CLOTH FLAP WHEELS
Can be used instead of belts.
Less aggressive.
100mm OD x 100mm wide
100mm OD x 50mm wide
Grits: 40 - 240.
Bore: 19mm keyway or 25mm round.

ROTO-SAT CONSUMABLES FOR BLENDING & FINE GRAINING

These abrasives remove very little material and leave a finely grained surface.



ROTO COMBI
Mixed abrasive non-woven and abrasive cloth.
100mm OD x 100mm wide
100mm OD x 50mm wide
Grits: 60, 80, 120, 180, 240.
Bore: 19mm keyway or 25mm round. Fits on to extension spindles.

ROTO-SAT CONSUMABLES FOR CLEANING

These abrasives remove coatings, rust, paint, etc without damaging the parent metal.

ROTO STRIP
Coarse abrasive non-woven Sic mineral.
100mm OD x 100mm wide
Grit: Coarse only.
Bore: 19mm keyway only.
Fits on to extension spindles.

ROTO-SAT CONSUMABLES FOR BLENDING & SATIN FINISHING

These abrasives do not remove material but produce a fine satin finish or blend after abrasive cloth belts and abrasive cloth flap wheels.

ROTOFLAP - FLEECE A/O
Abrasive non-woven only.
Aluminium oxide.
100mm OD x 100mm wide
100mm OD x 50mm wide
Grits: Very fine, fine, medium, coarse.
Bore: 19mm keyway or 25mm round. Fits on to extension spindles.

ROTOFLAP - FLEECE SIC
Abrasive non-woven only. Silicon Carbide (leaves brighter finish than aluminium oxide).
100mm OD x 100mm wide
100mm OD x 50mm wide
Grits: Very fine, fine, medium.
Bore: 19mm keyway or 25mm round. Fits on to extension spindles.

ROTO - LASTIC
Abrasive impregnated elastomer. Elastomer wheels are made from rubber impregnated with silicon carbide mineral. Silicon carbide produces a pleasing, bright, finely grained finish on stainless steel.
100mm OD x 100mm wide
Grits: Coarse, medium, fine.
Bore: 19mm keyway.
Fits on to extension spindles.

FLEECE SLEEVES
For Roto-Cushions and Roto-X-Wheels. Can be used instead of Rotoflap fleece wheels.
Grits: Coarse *(beige),*
Medium *(red),* Fine *(blue).*

BUTTON HOLE FLEECE BELTS
Use with Roto-Drive Wheel.
Abrasive non-woven.
Grits: Coarse *(beige),*
Medium *(red),* Fine *(blue).*
Size: 600mm x 30mm.

HOOK AND LOOP BELTS
Use with Roto-Drive Wheel.
Abrasive Cloth
Grits: 60, 80, 120, 220, 320.
Abrasive non-woven.
Grits: Coarse *(beige),*
Medium *(red),* Fine *(blue).*
Size: 600mm x 40mm.
Hook and loop strap turns abrasive strips into belts.

ROTO-SAT CONSUMABLES FOR POLISHING

These mops and felt sleeves are used with polishing compo to produce mirror polished surfaces. Use with No. 76 cut and colour bar compo or No. G300A mirror polish bar compo.

ROTOMOP COLOUR
Coloured cotton stitched mop with tapered bore.
Size: 100mm x 50mm or 100mm x 25mm. Fit tapered spindle.

ROTOMOP WHITE
White cotton stitched mop with tapered bore.
Size: 100mm x 50mm or 100mm x 25mm. Fit tapered spindle.

ROTOFELT
Felt sleeve for use on Roto-X-Wheel 100mm x 90mm
Size: 100mm x 280mm only.

Gritty says . . .

Roto-Sat portable abrasive power tools, equipped with abrasive belts, nylon belts, abrasive flap wheels, nylon flap wheels, elastomer wheels are ideal for grinding, graining and deburring of small quantities of flat parts: sheet, plate ,hollow sections, flat bar, etc.

Smoothy says . . .

Roto-Sat portable abrasive power tools, equipped with structured abrasive belts, polishing belts or polishing buffs will mirror polish small quantities of flat parts: sheet, plate, hollow sections, flat bars, etc.

ANGLE GRINDERS AND POLISHERS

INTRODUCTION

Angle grinders are the most common portable tools used for finishing fabricated sheet metal work. Standard single speed angle grinders are suitable for fast removal of metal with grinding wheels and discs but rather limited for finishing and polishing with nylon, composite and felt wheels and discs

Since most of our customers are stainless steel fabricators who need to both remove metal and finish or polish we have chosen what we believe is the best tool on the market, the variable speed Model Roto-Vario FX. And for customers who prefer air tools the Surtx Roto-Angle.

Model **SURTX ROTO-ANGLE**

Heavy duty air powered Angle Grinder

- 4½" max. disc size.
- With governor.
- 83 dBA.
- 9 position swivel guard.
- Vibration reducing handle.
- 10,000 rpm.
- M14 spindle.
- Air inlet ¼" NPT.
- Hose size: 3/8" (10mm).
- Recommended air pressure: 90 psi (6.2 bar).
- Average air consumption: 4 cfm (113 l/min).
- Length: 238mm.
- Weight: 2 kg.

Recommended for use with the following consumables:

Abrasive cloth flap wheels

Gritty says . . .

Dress corner welds with a ROTO-ANGLE machine and abrasive discs to keep sides flat.

Then dress the radius with a BELTFILE.

Abrasive cloth V-fold wheels

Felt polishing wheels

Optional extras:

Air line swivel
EH6192 SUB silencer kit.
(Reduces noise to 78 DBA).

SURTX ROTO-LINER

The SURTX ROTO-LINER shown with guide to run straight along the edge for graining.

Portable pneumatic in-line grainer and finisher. With contact wheels available in a variety of hardnesses from very soft 20 shore to hard 65 shore.

Rear support wheel to facilitate straight movement. With side guide to run perfect straight line along an edge.

Produces an in-line scratch pattern of various roughness levels on most surfaces. Also suitable for cutting down and blending welds.

Will condition surfaces prior to glueing, powder coating and plating.

Belt size: 260 x 60mm.

Optional dust extraction.

SURTX ROTO-LINER shown blending in an outside corner weld and regraining surrounding surface.

Before

After

GRINDING & POLISHING CONSUMABLES FOR ANGLE GRINDERS

ROTO-VARIO ANGLE-FX SET

Kit contains:

Roto-Vario Variable speed angle grinder.

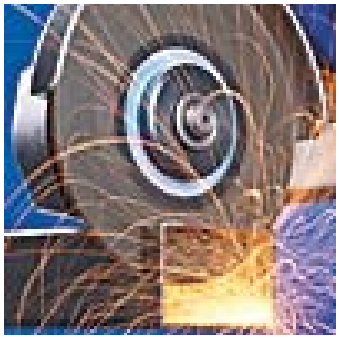
1.4 kW, 2100 - 7500 rpm, 2.4 kg. Dust guard with tool free quick adjustment.

With FixTec tool free clamp nut.

With soft start and tachogenerator for constant speed under load.

With SoftVib handle for reduced vibration.

With set of consumables as listed here. All packed in carrying case.



1 x **Thin cutting discs for stainless steel.**

125mm dia x 1mm thick x 22.2mm bore.

Run at 7000 rpm.

1 x **SC-VL non woven nylon flap wheel**.

Medium, 125mm dia x 22.2mm bore.

Run at 2500 - 4500 rpm.

For removing surface imperfections. Also available in coarse and fine.

1 x **Each non woven nylon discs, hook and loop backed.**

125mm dia, coarse, medium, very fine.

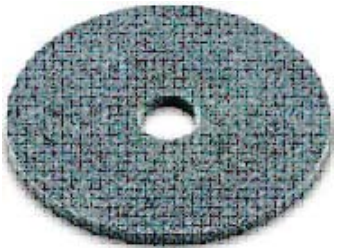
Run at 2500 - 4500 rpm.

For satin finishing.

1 x **Zirconia flap disc**.
125mm dia x 22.2mm bore.
Grit 60.

Run at 4000 - 7000 rpm.

For general stock removal, welds, etc.



1 x **Fillet disc**.

125mm dia x 6mm thick x 22.2mm bore.

Run at 2500 - 5000 rpm.

For finishing fillet welds.

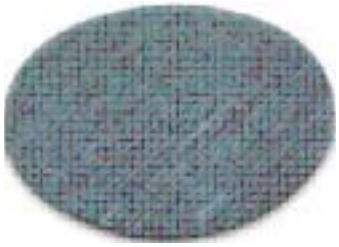
3 x **Polishflex discs**.

125mm dia.

Run at 2500 - 3000 rpm.

For mirror polishing with compound. I bar each compo supplied with set: blue, white and crème.

For cutting, colouring and mirror polishing.



1 x **Each Pyraflex structured abrasive discs**.

125mm dia.
Grit A 160 (P120), A65 (P240), A45 (P400), A30 (P600).

Run at 4000 - 5000 rpm.

For fine grinding.

1 x **Hook and loop backing pad**.

125mm dia x M14.

For use with Polishflex disc, Pyraflex discs, non woven nylon discs.

OTHER CONSUMABLES FOR THE ROTO-VARIO ANGLE-FX

Not included in the Roto-Vario Set. Available to order.

XF 870 Fibre discs with ceramic mineral.

The best fibre disc available at present.

125mm dia x 22mm bore.

Grit 24 - 120.

ZF 844 Fibre discs with zircona mineral.

Mineral. The standard grade for stainless steel.

125mm dia x 22mm bore.

Grit 24 - 80.

RUG Grinding wheel.

Available in many grades and for many metals.

For stainless steel:
SG-INOX 125mm x 22mm bore.

Max. speed: 12,000 rpm.

KEMP SATIFLEX-Z non woven nylon discs with vertical flaps.

115mm dia x 20mm thick x 22mm bore.

Available in A coarse (P60) or A very fine (P240).

Max 4,000 rpm.

For removing surface imperfections, cleaning and satin finishing.

ROS Non woven nylon discs with horizontal flaps.

Interleaved with abrasive cloth.

125mm dia x 22mm bore.

Coarse, medium, very fine.

Recommended speed 3,000 rpm.

ROS Coarse abrasive impregnated nylon discs.

Aggressive disc for removing rust, oxidisation, paint, etc without damaging the parent metal.

125mm x 22mm bore.

Max. speed: 5,000 rpm.

KEMP FPT Felt wheel.

125mm dia x 25mm thick x M14.

Max 11,000 rpm.

For mirror polishing.
For use with polishing compound.

KEMP BOLD-KVR Abrasive cloth flap wheel.

For use in horizontal position.

125mm dia x 20mm thick x M14.

Grit 40 - 120. Max. 12,000 rpm.

CONSUMABLES FOR FILLET GRINDERS

ROTO-VARIO FILLET-FX SET

Kit contains:

Roto-Vario Fillet FX.

1.2 kW Motor.

Variable speed 1500 - 4700 rpm.

With FixTec quick clamp clamp M14 nut tool free quick clamping.

Weight 3.4 kg.

Soft start and constant speed control. With consumables as listed here. All packed in a sturdy carry case.

Fillet grinder in action

Unitised abrasive impregnated grinding and finishing discs.

152mm dia x 3mm thick x 25mm bore - 1 x Soft, 1 x Hard.

152mm dia x 6mm thick x 25mm bore - 1 x Soft, 1 x Hard.

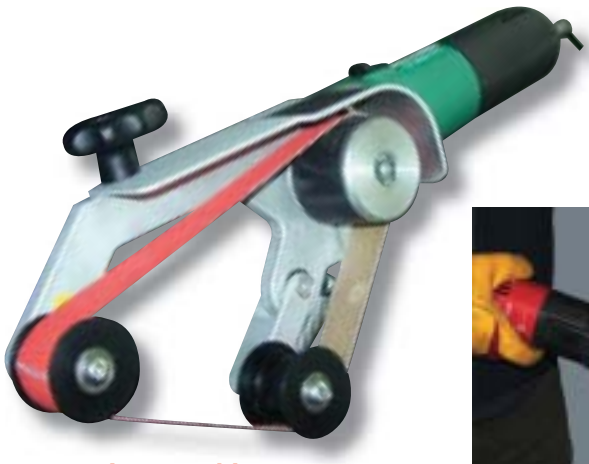
Use hard discs for grinding and soft discs for polishing.

1 x **Profiling stone.**

For profiling the unitised abrasive impregnated grinding and finishing discs.

Portable Tube Finishers

Five Portable Tube Finishers to suit all requirements. They all perform well, but which is the right one for you depends very much on your personal preferences.



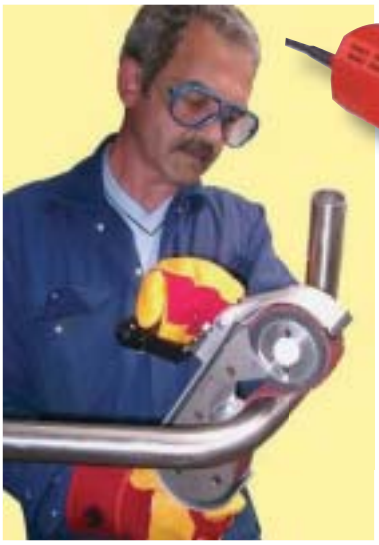
Roto-Tube-CH with Surtx motor

Roto-Tube GRI with German FLEX motor

Roto-Tube-POL with German FLEX motor. Used in horizontal position above and vertical position, right

Roto-Tube-BOA

Available as a set only. With consumables in carrying case. With German FLEX motor.



Roto-Belter

The only dual purpose machine. Can be used on slack of belt for tube finishing or on front contact wheel for heavy duty grinding. With German FLEX motor.

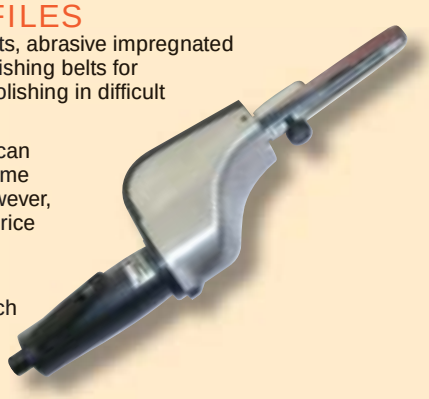
*All **Roto-Tube** machines can be used with abrasive belts, structured belts, nylon belts or polishing belts.*

Model	Motor Power kw	Voltage	Speed m/sec	Abrasive Belt Size Size mm	Tube dia coverage in degrees	Weight Kg (approx)
Roto-Tube-GRI	1.2	230 or 110	Variable	650mm x 12, 15 or 30mm	160	4.3
Roto-Tube-CH	0.8	230 or 110	Variable	650mm x 12, 15 or 30mm	160	3.9
Roto-Tube-POL	1.2	230 or 110	Variable	820mm x 10, 20 or 40mm	180	4.4
Roto-Belter	1.2	230 or 110	Variable	620 x 20 or 40mm	n/a	4.2
Roto-Tube BOA	1.2	230 or 110	Variable	760 x 20 or 40mm	270	3.7

ABRASIVE BELT FILES

POWER BELT FILES

Belt Files use abrasive belts, abrasive impregnated nylon belts and cotton polishing belts for grinding, deburring and polishing in difficult to reach areas.



All belt files shown below can be used for most of the same applications. They do, however, differ in design, size and price

Typical jobs are:
Grinding, deburring and polishing in difficult to reach areas
Grinding, blending and polishing of fillet welds.
Deburring of sheet metal edges. Blending and re-graining of corner welds. Grinding, finishing and polishing tubular parts.

All Belt Files have quick change contact arms which can be used on the contact wheel, a platen or on the slack of the belt.

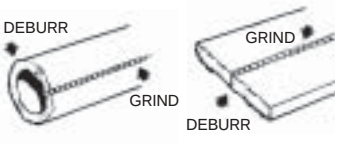
Both air and electric versions are available.

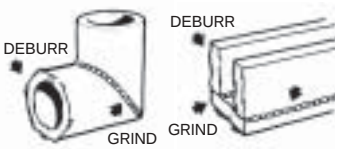
Grind and blend fillet welds

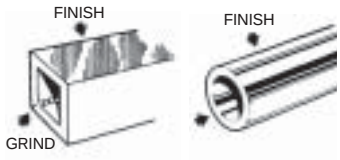
General finishing of stainless steel fabrications

Grind, blend and polish stainless steel tubular fabrications

Polish fillet welds







Polish tubes

AIR BELT FILE MODEL III

BELT FILE III
Air driven.
A larger and more powerful version of the Belt File Model II.
Belt sizes: 6mm, 13mm, 19mm and 25mm x 457mm long.
More than 10 quick change contact arms.

SURTX AIR FILE 610

Air driven

0.37 HP, 20,000 rpm, 85 dBA.
1 kg. 310mm long.
Vibration 1.3 m/s^2
Smallest of the air Belt Files.
Belt sizes: 6mm, 10mm and 13mm wide x 305mm long.
4 standard contact arms.
Available in kit form only.

Model 610 air belt file deburring a sheet edge

Model 610 air belt file blending a corner weld.

Model 610 air belt file polishing a weld on a tubular ring

Model 610 air belt file blending a fillet weld

A belt file is the ideal tool for blending fillet welds. Use the cranked contact arm and work on the slack of belt for a perfect finish.

SURTX AIR FILE 610 KIT

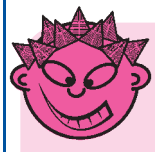
Kit contains: Air file 610, 4 contact arms and a selection of abrasive belts packed in a carrying case.

0.37 HP air motor,
20,000 rpm, 85 dBA.
Weight 1 kg, 310mm long.
Vibration 1.3 m/s2.

For use with abrasive belts 305mm long x 6mm, 10mm and 13mm wide.

SURTX AIR-FILES are available in kit form only. The AIR-FILE 610 is packed in a carrying case together with 4 contact arms and a selection of abrasive belts.

The four contact arms supplied with the Model 610 air belt file kit.



Gritty says . . .

SURTX Air Files Models 610 and 620 offer unbeatable value for money.

SURTX AIR FILE 620
Air driven

0.45 HP, 18,000 rpm, 85 dBA.
1.3 kg. 390mm long.
Vibration: 0.8 m/s2.

Larger and more powerful than the SURTX AIR FILE 610.

Belt sizes 6mm, 10mm, 13mm, 20mm and 25mm wide x 457mm long.

5 standard contact arms.
Available in kit form only.

SURTX AIR FILE 620 KIT

Contains:
Air file 620,
6 contact arms and a selection of abrasive belts packed in a carrying case.

0.45 HP air motor, 18,000 rpm, 85dBA, Weight 1,3 kg, 390mm long. Vibration 0,8 m/s2.
For use with abrasive belts 460mm long x 6 mm, 10mm, 13mm, 20mm and 25mm wide.

SURTEX AIR-FILES are available in kit form only.

The AIR-FILE 620 is packed in a carrying case together with 6 contact arms and a selection of abrasive belts.

The five standard contact arms that are supplied with the Model 620 kit.

The large contact arm that is supplied with the Model 620 kit.

Model 620 grinding a weld inside a ring.

EXTRA HEAVY DUTY PORTABLE ABRASIVE BELT GRINDERS

MODEL 3800
Portable Abrasive Belt Grinder.
1 kW, variable speed. Belt size: 820 x 15 - 30mm. Use on contact wheel or slack of belt.
Longer belts than Rotobelter.

MODEL 4100
Portable Abrasive Belt Grinder.
2 kW, single speed. Belt size: 1000 x 40mm. Use on contact wheel or slack of belt.
Longer belts than Rotobelter or Model 3800.

These Extra Heavy Duty Portable Abrasive Belt Grinders are built to order. Please discuss your applications and requirements with us.

Portable Abrasive Belt Files

Belt files are designed to grind difficult to reach areas. Apart from the Roto-Belter they can all be used with quick change contact arms.

All belt files are suitable for abrasive cloth belts, structured belts, nylon belts and polishing belts, covering grinding, deburring, satinizing and mirror polishing.

Roto-File 24A and selection of contact arms

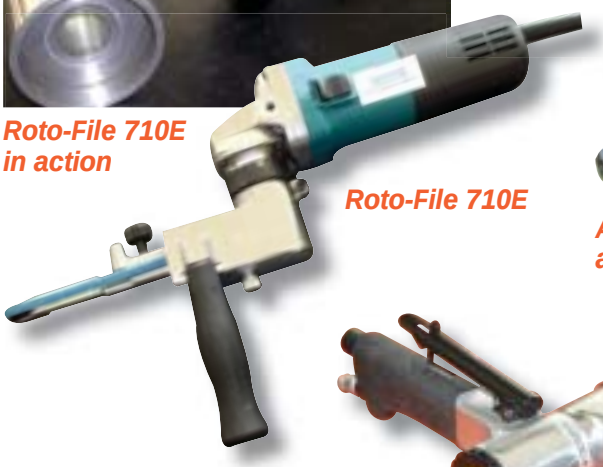
Roto-File 610A in action

Roto-File 610A

Roto-File 710E in action

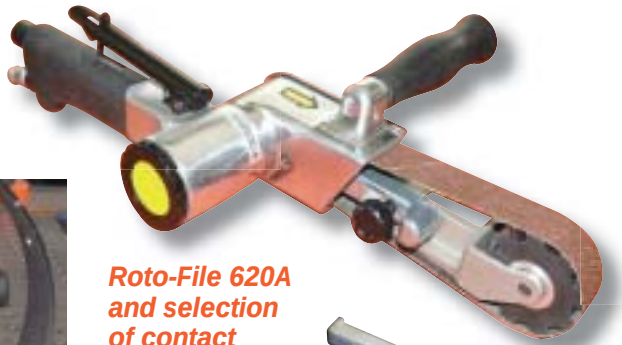
Roto-File 610A in a set

A selection of contact arms



Roto-File 710E

Roto-Belter E



Roto-File 620A and selection of contact arms

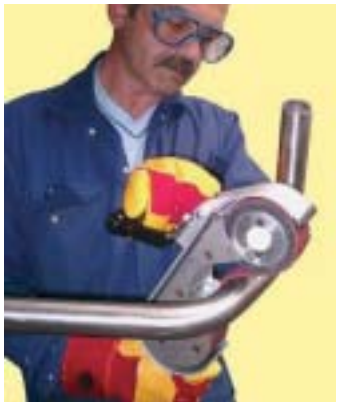
Roto-File 620A in action

Roto-Belter E in action

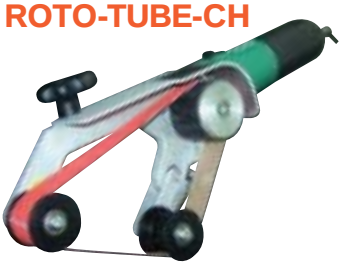
Model	AIR Motor KW	ELECTRIC Motor KW	Belt Size mm	Contact Wheel dia mm	Weight Kg (approx)
Roto-File 24A	0.5 HP	-	610 x 3, 6 or 12mm	6 - 25mm	1.36
Roto-File 610A	0.37 HP	-	305 x 3, 6 or 12mm	6 - 25mm	1.0
Roto-File 620A	0.45 HP	-	457 or 610 x 3, 6, 13, 20 or 25mm	6 - 50mm	1.4
Roto-File 710E	-	0.7	457 or 610 x 3, 6 or 12mm	6 - 25mm	2.2
Roto-Belter E	-	1.2	620 x 40mm	80mm	4.2

CONSUMABLES FOR PORTABLE BELT GRINDERS

Model ROTO-BELTER



Model ROTO-TUBE-CH



Model ROTO-TUBE-GRI

Model ROTO-TUBE-BOA

Model ROTO-TUBE-POL

For belt sizes see page ??.

Abrasive Belts for Belt Grinders and Tube Grinders

VZ1
Zirconia mineral, open coated to prevent premature clogging.

Grit 24 - 240.
Polyester x-weight (stiff) backing grit 24 - 150.
Cotton backing grit 180 - 240.

Zirconia mineral belts are the recommended belts for stainless steel.

Zirconia mineral is tougher than aluminium oxide mineral and therefore better suited for stainless steel.

VZ2
Zirconia mineral with top size to keep cool. High zirconia content.

Grit 24 - 80.
Polyester X-weight (stiff) backing

Zirconia mineral belts are the recommended belts for stainless steel.

Zirconia mineral is tougher than aluminium oxide and therefore better suited for stainless steel.

VCER2
Ceramic mineral with top size to keep cool.

Grit 36 - 80.
Polyester X-weight (stiff) backing

Next to diamonds and boron nitride minerals ceramics are the toughest available today. They are more expensive but should perform better and last longer than zirconia.

VCA1
Granulated aluminium oxide compact grain.

Grit 80 - 1200.
Polyester J-weight (flexible) backing.

Also called compact grain. A multilayer grain structure with self sharpening action. Compact grain belts are more consistent, last longer and can reduce the steps in a finishing sequence. Because of their wide grit range they are particularly well suited for finishing stainless steel

VNYL1
Abrasive impregnated non woven nylon. Coarse, Medium, Fine, Very fine

Not suitable for stock removal but best for finishing and blending. Ideal for satin finishes.

For more detailed descriptions see our abrasive belt catalogue.

CONSUMABLES FOR PORTABLE ABRASIVE BELT FILES

Model ROTO-FILE 24A

Portable abrasive air power tool

Model ROTO-FILE 620A

Portable abrasive air power tool

Model ROTO-FILE 610A

Portable abrasive air power tool

Model ROTO-FILE 710E

Portable abrasive air power tool

For belt sizes see page ??.

Abrasive Belts for Belt Files

VA1
Aluminium Oxide. Very flexible.

Grit 60 - 800.
Polyester J-weight (flexible) backing. Aluminium belts are the basic grade for general grinding and blending.

VZ2
Zirconia mineral with top size to keep cool. High zirconia content..

Grit 24 - 80.
Polyester X-weight (stiff) backing

Zirconia mineral belts are the recommended belts for stainless steel. Zirconia is tougher than aluminium oxide and therefore better suited for stainless steel.

VCER1
Ceramic mineral with top size to keep cool.

Grit 24 - 120.
Polyester X-weight (stiff) backing.

Next to diamonds and boron nitride minerals ceramics are the toughest available today. They are more expensive but should perform better and last longer than zirconia.

VCER2
Ceramic mineral with top size to keep cool.

Grit 36 - 80.
Polyester X-weight (stiff)backing

Next to diamonds and boron nitride minerals ceramics are the toughest available today. They are more expensive but should perform better and last longer than zirconia.

VCA1
Granulated aluminium oxide compact grain.

Grit 80 - 1200.
Polyester J-weight (flexible) backing.

Also called compact grain. A multilayer grain structure with self sharpening action. Compact grain belts are more consistent, last longer and can reduce the steps in a finishing sequence. Because of their wide grit range they are particularly well suited for finishing stainless steel

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STRAIGHT PORTABLE GRINDERS AND POLISHERS

INTRODUCTION TO PORTABLE GRINDERS AND POLISHERS

Straight electric or pneumatic portable machines can be used for virtually any grinding, deburring and polishing operation with the possible exception of graining and polishing large areas for which dedicated machines like the ROTO-SAT are better.

The correct choice of straight tool depends on the type of abrasive or polishing consumables you want to use, the size of the tool and the amount of power that is needed to carry out the intended operation. efficiently and economically.

Each type and size of abrasive and polishing material has a different efficient and economical speed.

To get the best out of these consumables it is essential that you match them with the correct portable tool.

We can offer both electric and air powered models of varying sizes and motor powers and a wide variety of speeds.

The most versatile models are the electric ones with variable speed controls.

Some of the consumables that can be used on straight grinders and polishers:

Sisal and cotton polishing mops
Mostly with tapered bore to fit standard tapered spindles.

Recommended max. size for use on straight grinders with variable speed control is 150mm.

Dolly mops
Small diameter cotton and sisal polishing mops. With tapered bore to fit thin tapered spindles.

Nylon lap mops
With tapered bore to fit standard tapered spindles.

Flap wheels
With parallel bore to fit parallel spindles.

Also available with tapered bore to fit standard tapered spindles.

Expanding rubber wheels
For use with abrasive belts.
Standard size 150mm dia. x 50mm wide. With parallel bore to fit parallel spindle.

Pneumatic rubber wheel
For use with abrasive belts or nylon belts. Shown here on a straight air tool.
Standard size 120mm dia x 90mm wide. With 90mm x 395mm belts.

STRAIGHT ELECTRIC GRINDERS AND POLISHERS

ROTO-BUFFER-R

Heavy duty portable electric straight polisher with the best value for money ratio of all our straight tools.

1.5 KW electric motor.
230 V only. 6800 rpm.

With single speed only and therefore limited for use with consumables with max. operating speeds up to 6800 rpm.

Weight approx. 5.1 kg
With ergonomic handle and long neck for better grip and more operator comfort.

With M14 shaft on to which a tapered spindle can be mounted. Max. mop dia.: 115mm

Supplied with conversion kit for use with grinding wheels.

For straight grinders with variable speed see next two pages, Model SURTX ROTO-BUFFER and Model ROTO-VARIO USK 15-6R.

Gritty says . . .

Use straight grinder Model ROTO-VARIO USC 05-9R and bristle brushes for mechanically cleaning welds.

Smoothy says . . .

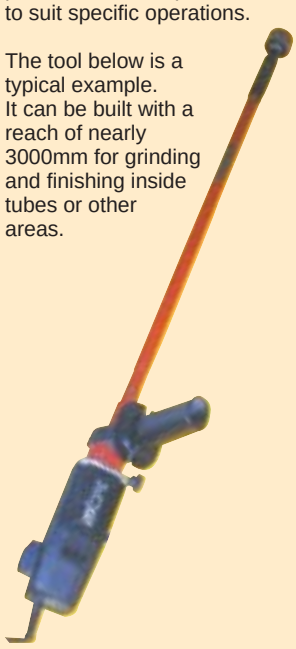
Use straight grinder Model ROTO-BUFFER-R and polishing buffs for mirror polishing flat bar and hollow sections.

For detailed information on consumables, see our consumables catalogue.

SPECIAL DESIGNS AND KITS

Surtech can design and build portable abrasive power tools to suit specific operations.

The tool below is a typical example.
It can be built with a reach of nearly 3000mm for grinding and finishing inside tubes or other areas.



Gritty says . . .

Grinding speeds with abrasive belts and polishing speeds with mops vary from approx. 30 m/sec to 38 m/sec. The following list shows the rpm necessary to work at 32 m/sec:

Contact Wheel	*rpm*
200mm OD	*3100*
150mm OD	*4100*
100mm OD	*6200*
75mm OD	*8200*
50mm OD	*12000*

Straight Portable Grinders & Polishers

This range of Straight Grinders covers the power and speed requirements for all standard and speciality abrasives.
See below for a list of recommended speeds. Observe maximum speeds which must be on every consumable product.

Recommended cutting speeds
Since cutting speeds depend on the diameter of the abrasive, we have given m/sec only. To work out the relevant rpm you must use a speed table.

Cartridge rolls, felt bobs	8 - 10 m/sec
Shaft mounted nylon wheels, 100mm OD	12 - 20 m/sec
Centre bore nylon wheels, corrugated nylon wheels	17 m/sec
Shaft mounted abrasive cloth flap wheels, abrasive cloth sleeves	20 m/sec
Centre bore abrasive cloth flap wheels	28 m/sec

Model	Motor Size in KW (HP)	RPM	Voltage	Collet Size in mm	Weight (approx)
Roto-Vario USC 05-9R	0.5	4000 - 9000	240 or 110	3, 6 or 8	1.4
Roto-Vario USC 05-25R	0.5	11000 - 25000	240 or 110	3, 6 or 8	1.7
Roto-Vario H1105VE	0.7	2500 - 6500	230	3, 6 or 8	2.1
Roto-Vario H1127VE	0.7	10000 - 30000	230	3, 6 or 8	1.8
Roto-Vario USG 1-33R	1.0	15000 - 33000	230 or 110	6	2.1
Roto-Vario USK 15-3R	1.5	1400 - 3000	230 or 110	3, 6 or 8	3.1
Roto-Vario USK 15-6R	1.5	2800 - 5800	230 or 110	3, 6, 8 or 12	3.0
Roto-Vario USK 15-6R/TS	1.5	2800 - 5800	230 or 110	Tapered	3.0
Roto-Vario USK 15-15R	1.5	6800 - 14500	230 or 110	3, 6, 8 or 12	3.1
Roto-Buffer	2.0	6800	230	Tapered	4.3

FLEXIBLE SHAFT MACHINES

INTRODUCTION

Flexible shaft machines have one drive unit only for more than 25 abrasive, deburring, finishing and polishing heads.

Since the following models are meant to be used for metal finishing we will concentrate on power ratings from 1.5 KW to 3 KW.

Each power rating has its own flexible shaft size. 7mm being the smallest we recommend for industrial use and 15mm for extra heavy duty use.

ROTO-FLEX

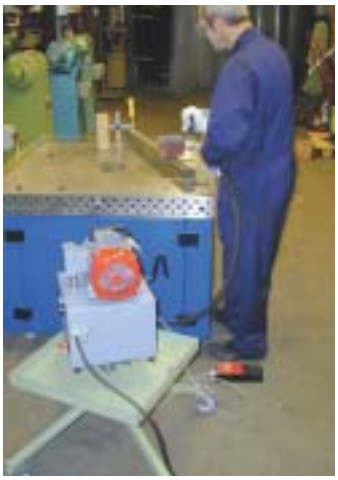
Variable speed flexible shaft machine. The most comprehensive grinding, deburring, finishing and polishing system available with a single power unit.

Variable speeds from 1000 - 14000 rpm.

Over 25 quick change grinding, deburring and polishing heads.

Operates on industrial 240V single phase, 20A electrical supply. Also available with 400V 3 phase motors. Foot control.

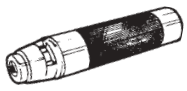
From 1.5 to 3 kW.



Roto-Flex in action graining hollow sections.

Roto-Flex in action polishing a wheel.

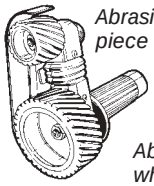
Flexible shaft machines are suitable for working in the factory and on site. They are initially more expensive than individual electric or air tools but they are significantly cheaper if used with several of the optional attachments.



Straight hand piece for all shaft mounted abrasives

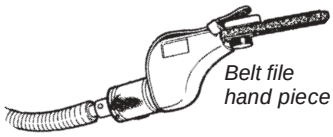
Angled hand piece for abrasive discs

Tapered spindle hand piece for polishing mops



Abrasive belt hand piece

Abrasive wheel hand piece



Belt file hand piece

The ROTO-FLEX system comprises more than 25 tools which can be connected to a single power source with motors from 1.5 KW to 3 KW and with variable speeds from 1,000 rpm to 14,000 rpm.

FLEXIBLE SHAFTS

S 7/3 - Light duty
S 10/4 - Medium duty
S 12/3 - Heavy duty
S 15/3 - Extra heavy duty

Recommended standard length 2000mm.

ROTO-STAR FLEXIBLE SHAFT DRIVE UNIT

230/110V electric motor. 1.7 KW. Mechanically variable speeds: 3000 rpm, 6000 rpm, 12000 rpm. With DIN 10 connection.

Available as starter kit: ROTOSTAR motor with 3 speeds, 3m cable with plug, 1 off flexible shaft NA 10 x 2000mm DIN 10 / G28, tool holder FH 10 (straight hand piece) with 6mm collet, set of spanners. All packed in metal case.

ROTO-FERA FLEXIBLE SHAFT DRIVE UNIT

400V, 50 Hz. 1 KW. Mechanically variable speeds: 850 rpm, 1600 rpm, 2100 rpm, 3200 rpm, 5700 rpm, 8000 rpm, 12000 rpm.

With DIN 10 connection.

Available as a starter kit.

HANDPIECES FOR ROTO-STAR AND ROTO-FERA

Straight and angled hand pieces.

Special design straight hand pieces.

Abrasive belt hand pieces.

Abrasive disc hand pieces

Gritty says . . .

Flexible shaft machines are by far the largest single drive grinding, deburring, finishing and polishing system available.

Smoothy says . . .

Polishing needs more power than grinding. Flexible shaft machines are the only portable system to offer this power.

WELD PREPARATION AND FINISHING MACHINES

INTRODUCTION

All our portable machines are available with milling heads either for bevelling or for radiusing.
The smaller bevelling machines have heads with between 1 and 2 carbide inserts, the larger bevelling machines have a class record 5 or even 8 inserts.
Most carbide inserts have several cutting edges. Once one edge is worn the insert can be turned to a new edge.
Motors range from fractional HP to 2,6 HP. In each case the motor is carefully matched to provide ample power for the max. bevel width that can be produced with the machine. Our SKF models are the most powerful portable milling machines available today.

If you need larger bevels we can offer stationary bevelling machines with milling heads or at the top of the range Abrasive Belt Rapid Grinding Bevelling Machines which can produce bevels up to 40 mm wide.

With the Abrasive Belt Rapid Grinding Bevelling Machines bevels are produced on straight edges of plates economically and with great precision. The repeatable highly accurate welding edges make it possible to achieve a very high degree of efficiency in the subsequent welding process and production of assemblies.
Abrasive belts can bevel materials that are impossible or not economical to bevel with milling machines.

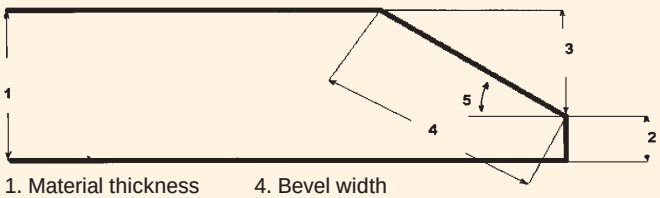
Up to 3mm wide bevels

Model ASO 314
Portable Milling Machine
For bevels up to 3mm wide. 45° angle only. For straight & contoured edges.

Model ASO 313
Portable Milling Machine
For bevels up to 3mm. At angles from 15° to 45°. For straight edges only.

DESCRIBING BEVEL SIZES & BEVEL ANGLES

Please adhere to these descriptions to avoid confusion and mistakes



1. Material thickness
2. Land
3. Bevel height
4. Bevel width
5. Bevel angle

Maximum Bevel Sizes

The figures given for maximum bevel sizes are not always for a single pass. Typically, mild steel can be bevelled up to approx. 7mm in a single pass, stainless steel up to approx. 3mm in a single pass. The machines can be adjusted for larger cuts for each pass until the required bevel size is reached.

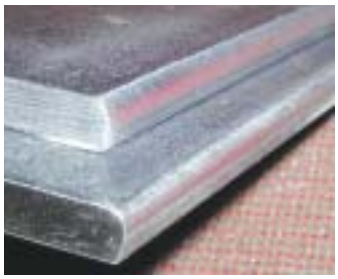
RADIUS MILLING MACHINES

INTRODUCTION

Edges are radiused either for decorative and safety purposes or for technical reasons.

For decorative and safety purposes small radii of between 1mm and 3mm suffice.

For technical reasons larger radii between 4mm and 6mm are required to form edges which prevent painted, enamelled and plated finishes from cracking and furthering corrosion.



Model 3015-R
Radiusing Machine
Our most popular radiusing machine for radii up to 6mm.

The milling head for our top of the range radiusing machines. With 5 carbide inserts.

The milling head for Model 2014-R milling machine with 3 carbide inserts.

Model 2014-R
Heavy Duty Portable Radiusing Machine
Our best value machine. 1.4kW motor, 110V & 240V. 2,000-11,000 rpm. For radiusing from 3mm to 5mm. *Bevelling and radiusing heads on models 2014 & 2014-R cannot be interchanged.*

Surtech

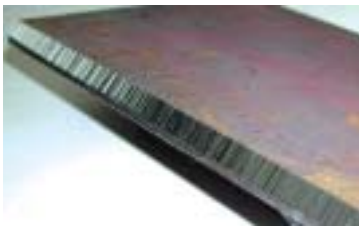
Chamfering, Bevelling & Radiusing Machines

We can offer the largest range of chamfering and bevelling machines in the UK. From light to extra heavy duty portable, bench or pedestal mounted. Special designs for heavy plate as used in ship and bridge building.

The machines shown here are a selection of our most popular models.

Bevel Finishes

Radiusing on one or both edges. 2 - 6mm radii.



The slightly rippled bevel finish from machines with milling cutters.

The smoothest finish produced by abrasive belts or discs.

Portable Bevelling machines with milling cutters

Model 2014

1.5 KW, 0 - 5mm chamfer

Model 2023

2.6 KW, 0 - 10mm chamfer

Model 760

1 KW, 0 - 15mm chamfer

Portable Radiusing machine

Model KaKi 2014-42

1.4 KW, 0.5 - 6mm radii

Pedestal and Bench Chamfering machine with abrasive discs

Model 43

0 - 3mm chamfer

Pedestal and Bench Chamfering machines with milling cutters

Model 61

0 - 6mm chamfer

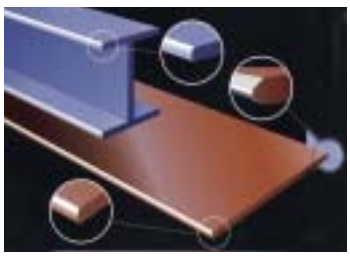
Model 650

0 - 10mm chamfer

0 - 10mm chamfer (horizontal cutting head)

Edge preparation for shipbuilders, bridgebuilders and the construction industry

These are our largest machines. For plate, flat bar, girders, bulb flats, etc. All of these machines use abrasive belts for faster stock removal and improved finish.



- Edge grinding
- Corner radiusing
- Bevelling
- Removing primer and rust
- Removing hardened surface
- Straightening edges

A typical installation with infeed and outfeed handling. With multihead abrasive belt power grinders inside acoustic booth. With central control cabinet.

Surtech

Bevelling Machines
With Rotary Shear Cutters

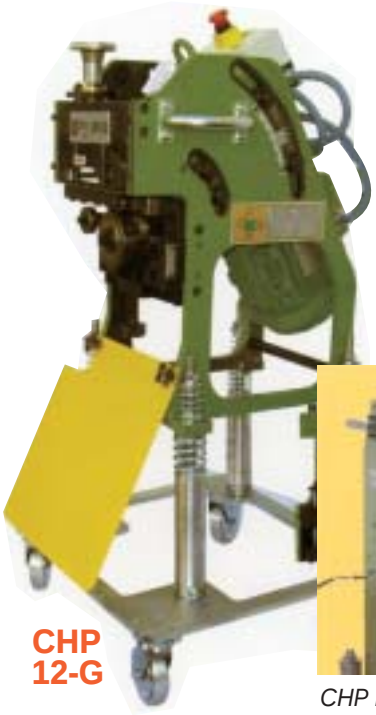
- ***Model CHP 6***
- ***Model CHP 12***
- ***Model CHP 12-G***
- ***Model CHP 12-G REV***
- ***Model CHP 21-G***
- ***Model CHP 21-G REV***

All CHP bevelling machines use rotary shears for cutting. Rotary shears cut faster than milling cutters used in many other bevelling machines, however the finish is not as smooth as produced by milling cutters but has a rippled surface.

CHP 6

Model CHP 12 is the most popular machine. It covers nearly 80% of all bevelling operations with portable and transportable machines. Model CHP 12 as well as Model CHP 21 can be mounted on wheeled carriages so that the machines self propel along the length of the plate.

CHP 12



CHP 12-G

CHP machines can also bevel tubes and small plates

CHP 21-G

MILLING CUTTERS	CHP 6	CHP 12	CHP 12-G CHP 12-G REV	CHP 21-G CHP 21-G INV
 **1026** for carbon sheets	X	X	X	
 **1026-1** for stainless steel	X	X	X	
 **1026-F** for aluminium	X	X	X	
 **2003-A** for carbon & stainless steel				X

Bevel angles

	CHP 6	CHP 12	CHP 12G CHP 12G REV	CHP 21G CHP 21G INV
Motor Power	0.75 HP	3 HP	3 HP	4 HP
Voltage	220/380 V	220/380 V	220/380 V	220/380 V
Approx Feed Speed per minute				
on mild steel	1.8m	2.6m	2.6m	1.7m
on stainless steel	0.9m	1.3m	1.3m	0.9m
Max bevel width				
on mild steel	6mm	12mm	12mm	20mm
on stainless steel	5mm	10mm	10mm	16mm
Bevel angle	30°	30°	20-45°	20-45°
Plate thickness	3-16mm	6-40mm	6-30mm	9-50mm
Approx weight	34 kg	65 kg	110 kg	370 kg

Introducing the largest and most advanced range of

DEBURRING • GRAINING • FINISHING • POLISHING

Machines, Tools, Accessories and Consumables for Sheet Metal Engineers • Sheet & Plate Fabricators • Profilers • Steel Centres

Traditional wide belt machines from 600 - 1500mm working widths

The only machines to work simultaneously on top and bottom

Newly designed dedicated machines for deburring, corner rounding and oxide removal

Narrow belt throughfeed machines

Single and multi-head tube polishers

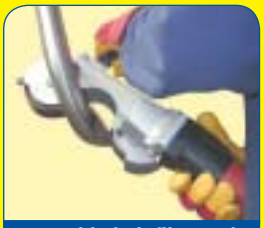
Portable abrasive wheel power tools

Surtech

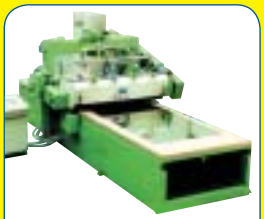
For the Largest range of ABRASIVE GRINDING, DEBURRING AND POLISHING MACHINES IN THE UK

CLICK ON www.surtech.co.uk or ring 0121 359 4322

Single and twin long belt finishing machines



Portable belt files and tube finishing tools



Sheet mirror polishing machines

Belt Grinders

Dust extractors Dry and wet

Portable and automatic bevelling machines

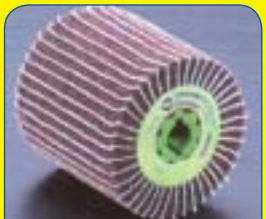
Straight and bent tube polishing machines

Weld Cleaning tools

Manual sheet Deburrers

Pneumatic, expanding & standard contact wheels

Polishing mops and compo



Graining, finishing and polishing wheels

Narrow and wide abrasive belts for all applications

Surface Technology Products Ltd 244 Heneage Street, Birmingham B7 4LY Email: sales@surtech.co.uk