

Kemet

Precision Lapping | Polishing | Cleaning | Materialography

PORTABLE VALVE GRINDING



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Kemet Portable Valve Grinding Machines, Accessories & Consumables

Since 1938, Kemet has been at the forefront of precision polishing technology, producing diamond pastes, slurries and composite lapping and polishing materials in our purpose built facilities, strictly manufactured to ISO 9001:2015 quality standards.

The range of portable industrial valve grinders offered by Kemet are a patented design concept that are a proven solution for on-site valve reconditioning.

Repairing leaking valves in industrial pipelines is a laborious operation involving extended downtime, production losses and substantial unwanted costs. Losses are minimised if valves can be reground in situ, precluding the need to dismantle and remove defective valves from the pipeline. Available in overlapping sizes, these grinders combine unsurpassed versatility with exceptional ease of handling and operation. A combination guaranteed to give these grinders cutting edge performance, whatever the valve location.

These valve grinding machines have a unique, lightweight universal clamping system which allows rapid and accurate mounting for grinding valve seats or wedges. Operating checks and replacement of abrasive discs can be carried out without disturbing the assembly. No realignment is necessary when repositioning the grinding head.

Which Machine do you need?

Valve Dimension		Model												
mm	inches	K		SH		S			FL-H		FL	G	DF	DG
		C	A	E	A	B	E	A	C	D	F	F	C	C
8	1/4	█												
10	1/2		█											
50	2				█			█			█		█	
65	2 1/2	█												
80	3													
100	4													
125	5													
150	6													
175	7													
200	8													
225	9													
250	10													
275	11													
300	12													
325	13													
350	14													
400	16													
450	18													
500	20													
600	24													
700	28													
800 - 1300	32 - 52													
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Key for above - Ideal for ...

- A = Gate Valves
- B = Parallel Slide Valves and Discs
- C = Globe, Safety and Control Valves
- D = Check Valves
- E = Wedges
- F = All of the above

Special kits can be supplied

- █ = Flat Seats
- █ = Angled Seats



Model K & K Universal - Suitable for valves with flat seats \varnothing 8 - 150 mm (1/4" - 6") and/or angled seats \varnothing 8 - 65 mm (1/4" - 2 1/2")

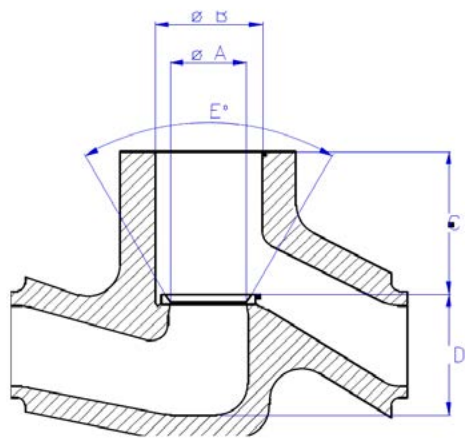
- **Ideal for globe, control and safety valves**

- Model K Universal allows you to use a standard drilling machine of your choice as the motor
- Available with compressed air drive unit (6 - 7 bar), electric battery drive unit or electric 110/220 V drive unit (Model K only)
- Heavy duty carrying/storage case for the complete machine with all the necessary accessories
- Only three sizes of abrasive grinding discs required for full seat size range
- Self-adhesive grinding discs for quick attachment to the grinding heads
- Supplied with rough, medium and fine grinding discs
- Self-adhesive grinding discs 40 to 1000 grit are available
- Extended grinding plates and Diamond grinding discs available
- All drive units are reversible and have variable grinding speed (Model K only)
- Guiding plates for a more precise grinding

Accessories Available	
Conical seat kit	8-65mm (1/4" - 2 1/2") 15 - 30 - 45°
	8-65mm (1/4"-2 1/2") 15 - 20 - 30 - 37.5 - 45°
	8-100mm (1/4"-4") 15-30 - 45°
Flat seat kit	8-100mm (1/4" - 4") 15 - 20 - 30 - 37.5 - 45°
	8-150mm (1/4" - 6")
Grinding disc kit K 8 - 100	

Possible range for Model K & K Universal:

- A Min: 8 mm E: 30 (2 x 15)
- A Max: 150 mm E: 40 (2 x 20)
- B Min: 18 mm E: 60 (2 x 30)
- B Max: 170 mm E: 75 (2 x 37.5)
- C Min: 80 mm E: 90 (2 x 45)
- C Max: 280 mm
- D Min: 20 mm
- Carrying case: 530 x 400 x 240 mm
- Total weight: 20 kg (42 lb)



Model K

Model K Universal



Model SH - Suitable for valves with flat seats \varnothing 10 - 50mm (0.4" - 2")

- **A handheld machine for gate valves and wedges with flat seats**
- Air drive unit standard 6 - 7 bar
- Various grinding speeds for close control of the finished surface
- Only three sizes of abrasive discs required for full seat size range
- Self-adhesive grinding discs for quick attachment to the grinding heads
- Supplied with rough, medium and fine grinding discs
- Self-adhesive grinding discs 40 to 1000 grit are available
- Heavy duty carrying/storage case for the complete machine with all the necessary accessories
- Diamond grinding discs available

Possible range for Model SH:

A: 10 - 50 mm (0.4" - 2")

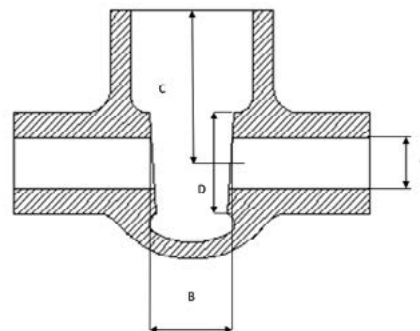
D: 20 - 65 mm (0.8" - 2.5")

B: 15 mm (0.5")

C: 120 mm (4.7")

Carrying case: 570 x 390 x 170mm
 (22.4" x 15.3" x 6.7")

Total weight: 9 kg (19.8 lb)



Model FL-H - Suitable for valves with flat seats \varnothing 50 - 200 mm (2" - 8")

- **Ideal for gate, globe, check, safety and control valves**
- Individually driven grinding heads for absolute flat seats
- Available with compressed air drive unit (6 - 7 bar), electric battery drive unit or electric 110/220V drive unit
- All drive units are reversible and have variable grinding speed
- Easy to change between gate and globe valve grinding
- Only three sizes of abrasive discs required for full seat range
- Self-adhesive grinding discs for quick attachment to the grinding heads
- Supplied with rough, medium and fine grinding discs
- Self-adhesive grinding discs 40 to 1000 grit are available
- Heavy duty carrying/storage case for the complete machine with all the necessary accessories
- Grinding heads for angled seats are available
- Diamond grinding discs available
- Adjustable guiding plates for extra stability available

Possible range for Model FL-H:

A: 50 - 200 mm (2" - 8")

B: 39 mm (1.56") min

C: 100mm (4") min

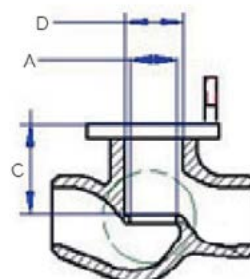
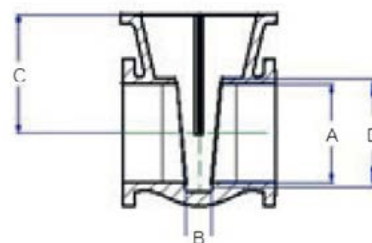
600mm (24") standard

1000 mm (60") max (option)

D: 80 - 257 mm (3.20" - 10,8")

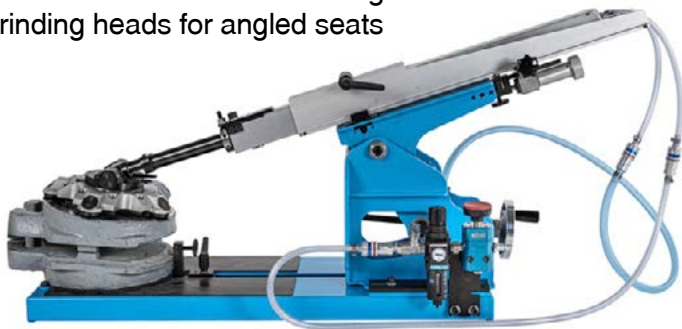
Carrying case: 750 x 615 x 135mm
 (30" x 24" x 5")

Total weight: 17 kg (37.5 lb)



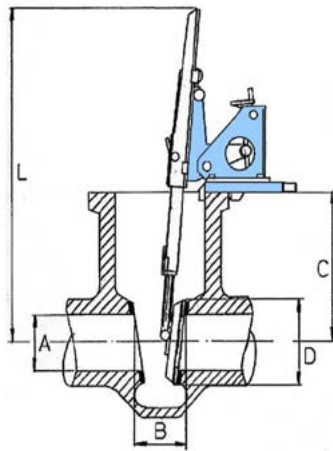
Model G - Suitable for valves with flat seats \varnothing 150 - 1300 mm (6" - 52")

- Ideal for gate, parallel slide, globe, check, safety and control valves, discs and wedges.
- Tilting driving head gives flexibility to grind both gate and globe valves with the same drive unit
- Individually driven grinding heads for an absolute flat sealing surface
- The driving heads have diametrically adjustable grinding heads
- Air drive unit as standard 6 - 7 bar
- Electric drive unit available as alternative
- Variable grinding speed on all drive units
- Self-adhesive grinding discs for quick attachment to the grinding heads
- Supplied with rough, medium and fine grinding discs
- Self-adhesive grinding discs 40 to 1000 grit are available
- Heavy duty carrying/storage case for the complete machine with all the necessary accessories
- **Optional extras:** Diamond grinding discs. Adaptor plates for wider seats. Thin section driving heads. Grinding heads for angled seats



Possible range for Model G:

- A: 150 - 1300 mm (6" - 52")
- B: 68 mm (2.72") min
- C: 100 mm (4") min
900 mm (36") standard
1500 mm (60") max (option)
- D: 150 - 1371 mm (6" - 54.8")
- L: 730 mm (29.2") min
- Carrying case: 960 x 520 x 380mm (15.2" x 20.8" x 38.4")
- Total weight: 67 kg (148 lb)



Accessories	
Driving head	I 150-300mm (6"-12") Only the Driving head.
	II 300-800mm (12"-32") Only the Driving head.
	IV (Only the Driving head.)
	Complete kit inc. arms etc in a case
	IV 600-1100mm (24"-43")
	IV 600-1300mm (24"-52")
Chamfering Kit 3' G	150-600mm (6"- 24") in case
	150-800mm (6"- 32") in case
	300-600mm (12"- 24") in case
	300-800mm (12"- 32") in case
Adding plate 50mm (2")	
Adding plate 70mm (2 3/4")	
Adding plate 105mm (4 1/4")	
Grinding disc kit G	
Electric drive kit G 220V with gear box	
Electric drive kit G 110V with gear box	
Extended holder G 1200mm	

Accessories	
Solid grinding plate G DN	150mm (6")
	200mm (8")
	250mm (10")
	300mm (12")
	350mm (14")
	400mm (16")
	450mm (18")
	500mm (20")
	600mm (24")
	800mm (32")
1000mm (40")	
Driving head GFL Gear	100mm (4")
	125mm (5")
	150mm (6")
	200mm (8")
	250mm (10")
	300mm (12")

Accessories	
Grinding arm	I L=61 mm
	II L=109mm
	III L= 200mm
	IV L=250mm
	VI L=350mm
Guiding plate	150-200mm (6"-8")
	200-250mm (8"-10")
	250-300mm (10"-12")
	250-600mm (10"-24")
	600-800mm (24"-32")

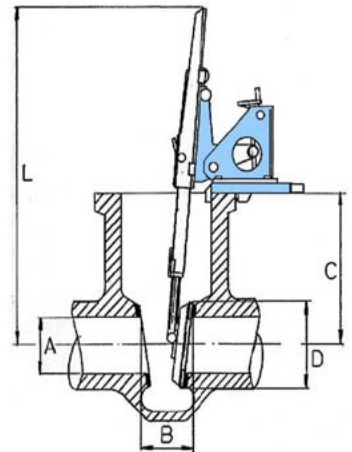
Accessories	
Dust stopper G	150mm (6")
	200mm (8")
	250mm (10")
	300mm (12")
	350mm (14")
	400mm (16")
	600mm (24")

Model FL - Suitable for valves with flat Seats ø 50 - 300 mm (2" - 12")

- A midrange portable machine for gate, parallel slide, globe, check, safety and control valves, discs and wedges
- Individually driven grinding heads for perfectly flat seats
- Gives you an absolutely flat sealing surface.
- Air drive unit as standard 6 - 7 bar
- Variable grinding speed on all drive units
- Supplied with a mounting plate for grinding discs and wedges
- Heavy duty carrying/storage case for the complete machine with all the necessary accessories
- Self-adhesive grinding discs for quick attachment to the grinding heads
- Supplied with rough, medium and fine grinding discs
- Self-adhesive grinding discs 40 to 1000 grit are available
- **Optional extras:** Electric drive unit. Extended grinding heads. Very thin section driving heads. Grinding heads for angled seats available. Diamond grinding discs available

Possible range for Model FL:

- A: 50 - 300 mm (2" - 12")
- B: 39 mm (1.56") min
- C: 100 mm (4") min
600 mm (24") standard
1000 mm (60") max (option)
- D: 80 - 357 mm (3,20" - 14,8")
- L: 570 mm (22,8") min
- Carrying case: 760 x 560 x 280mm
(30.4" x 22.4" x 11.2")
- Total weight: 39 kg (87.8 lb)



Accessories	
FL-Gear Kit 065-200mm (2 1/2"-8")	
I FL-Gear Kit 065-300mm (2 1/2"-12")	
Drillpress adaptor FL	
Chamfering 3° kit FL 65-300mm (2 1/2"-12") in case	
Chamfering 3° kit FL 65-200mm (2 1/2" - 8") in case	
Conical segment kit with FL jaw chuck 50-300mm (2"-12") in case	
Electric drive kit FL 220V	
Electric drive kit FL 110V	
Pneumatic drive kit FL	
Extended holder FL 690mm	
Extended holder FL 900mm	
Grinding disc kit FL	

Accessories	
	65mm (2 1/2")
	80mm (3")
	100mm (4")
	125mm (5")
Driving head o-ring	150mm (6")
	175mm (7")
	200mm (8")
	225mm (9")
	250mm (10")
	300mm (12")
Grinding head o-ring (kit of five pcs)	35mm
	40mm
	50mm
	70mm

Accessories	
	65mm (2 1/2")
	80mm (3")
	100mm (4")
	125mm (5")
Driving head Gear	150mm (6")
	175mm (7")
	200mm (8")
	225mm (9")
	250mm (10")
	300mm (12")
Grinding head Gear (kit of five pcs)	35mm
	40mm
	50mm
	70mm



Model S - Suitable for valves with flat seats 25 - 150mm (1" - 6")

- Ideal for gate and parallel slide valves, discs and wedges
- 3° angle grinding plates as standard
- Air drive unit standard 6 - 7 bar
- Electric drive unit available
- Variable grinding speed on all drive units
- Supplied with a mounting plate for grinding discs and wedges
- Only three sizes of abrasive discs required for full seat size range
- Heavy duty carrying/storage case for the complete machine with all the necessary accessories
- Self-adhesive grinding discs for quick attachment to the grinding heads
- Supplied with rough, medium and fine grinding discs
- Self-adhesive grinding discs 40 to 1000 grit are available
- Diamond grinding discs available

Possible range for Model S:

A: 25 - 150 mm (1" - 6")

B: 19 mm (0.74") min

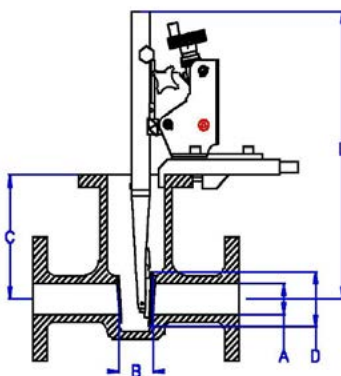
C: 40 mm (1.6") min
350 mm (13.8") max

D: 35 - 120 mm (1.38" - 4.72")

L: 320 mm (12.6") min
440 mm (17.3") max

Carrying case: 600 x 470 x 230 mm
(23.6" x 18.5" x 9")

Total weight: 15 kg (33.75 lb)



Accessories Available
Lapping kit S Grinding/lapping discs 9, 15, 30 and 60 microns
Silencer kit S
S-C grinding head extension kit 125 and 150mm
SH-C grinding head replacement kit 8-50mm



Model STC - Works with Models S, FL and G

Faster and easier than working with an ordinary stationary machine

The STC table makes it possible to work in the shop with your equipment just as you would do with a stationary machine. In most cases actually faster and easier than working with an ordinary stationary machine.

- Quick and easy set up
- Gate and globe valve grinding
- Lifting table available depending on size range
- Creates a good working environment
- Optional external lifting table suitable for large range Model G



Model D - Suitable for valves with flat and angle seats \varnothing 50 - 800mm (2" - 32")

This machine is mounted to the valve body using a unique three segments, adjustable, self centering jaw chuck, allowing a quick and accurate set up whether in the workshop or on site. Available with electric or pneumatic drive, the Model DF/DG valve grinding machine system can be supplied as a standard kit or customized to suit your exact requirements.

- **Ideal for globe, control and safety valves with flat or angled seats**
- Absolutely flat sealing surface
- Individually driven grinding heads
- Air drive unit as standard 6 - 7 bar
- Variable grinding speed on all drive units
- Fine adjustment of pressure for precise grinding of surface
- Self-adhesive grinding discs for quick attachment to the grinding heads
- Supplied with rough, medium and fine grinding discs
- Heavy duty carrying/storage case for the complete machine with all the necessary accessories
- Cone segments in different angles available
- Self-adhesive grinding discs 40 to 1000 grit are available
- Diamond grinding discs available

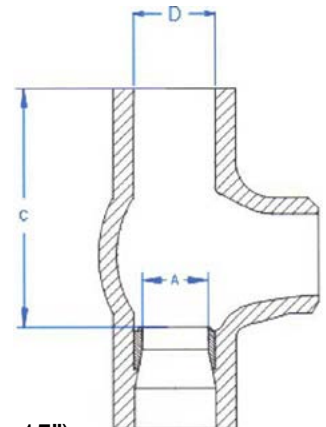
Model D base unit comes in two sizes:

Model DF

Internal diameter A: 40 - 300 mm
 External diameter D: 80 - 357 mm
 Maximum depth C: 500 mm

Model DG

Internal diameter A: 140 - 861 mm
 External diameter D: 150 - 871 mm
 Maximum depth C: 1000 mm
 Total weight: 50 kg (110 lbs)
 Carrying case: 950 x 520 x 370 mm (38" x 21" x 15")



Accessories for Model DF

K-AB kit 10-65mm (1 /4"-2 1 /2") 15-30-45° Only for electric version
K-AB kit 10-65mm (1 /4"-2 1 /2") 15-20-30-37,5-45° Only for electric version
K-B kit 8-100mm (1/4"-4") Only for electric version
Conical seat segment kit 65-200mm (2 1/2"-8") 15-30-45°
Conical seat segment kit 65-200mm (2 1 /2"-8") 15-20-30-37,5-45°
Conical seat segment kit 65-300mm (2 1/2"-12") 15-30-45°
Conical seat segment kit 65-300mm (2 1/2"-12") 15-20-30-37,5-45°
Dust stopper kit 65-200mm (2 1 /2"-8")
Dust stopper kit 250-300mm (10"-12")
Drillpress adaptor DF
Driving head o-ring and gear 175mm (7")
Driving head o-ring and gear 225mm (9")

Accessories for Model DG

Drillpress adaptor
Grinding disc kit G

Model C - A portable, easy to mount, cutting, milling and grinding machine. Ideal for globe, safety and control valves.

As a rule, control and reduction valves of the globe type have an integrated plug that narrowly constrains the tolerances for the seat position. In the event of damage to the seat, it is often unfeasible or extremely expensive to dismantle the valve from the pipe system in order to repair it in the workshop. If the damage is to be repaired in situ, the device to be used must be of stable construction without being bulky or heavy.

As these valves show a large range of dimensional variation, the repair device must be adaptable to the largest possible mounting and seat area. Possible repairs include the grinding of gasket surfaces damaged by crushing or abrasion of damaged cylindricals and flat control areas, various treatments of gasket welds and cutting the seats in situ. The model C has been designed to ensure flexibility as well as speed and ease of handling.

Model C base unit comes in three sizes:

Model C1

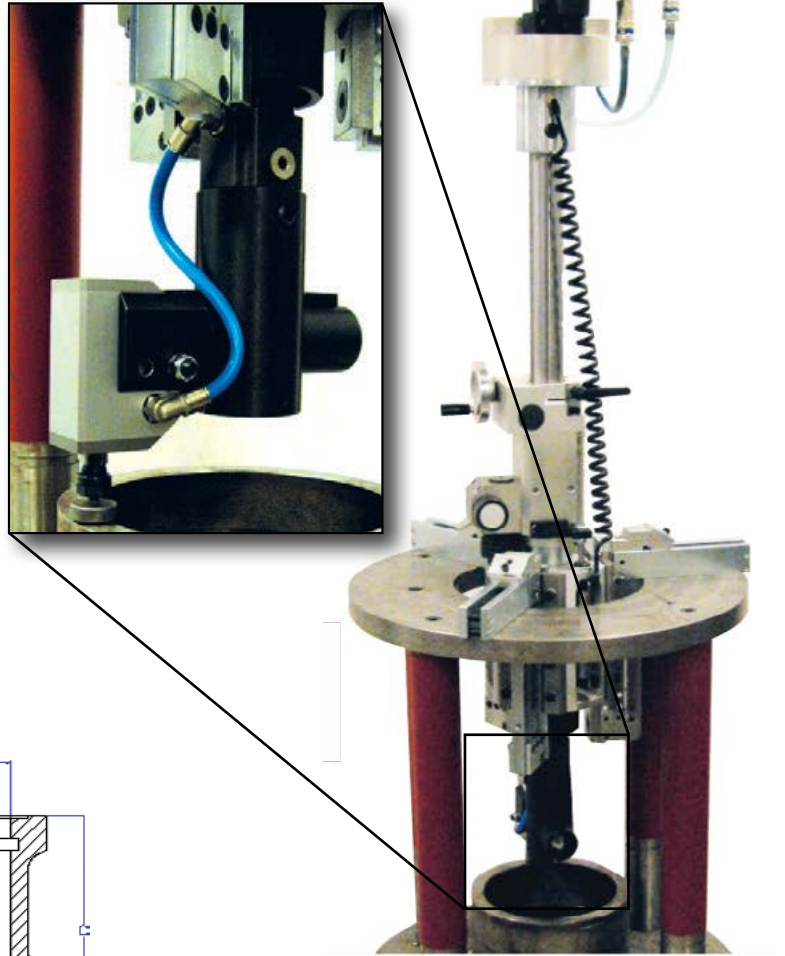
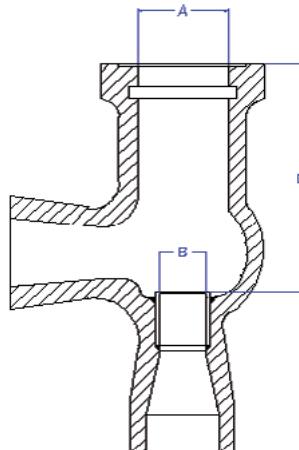
B: σ 25 - 250 mm (1" - 10")
 A max: 450 mm (18")
 C max: 600 mm (24")

Model C2

B: σ 50 - 400 mm (2" - 16")
 A max: 600 mm (24")
 C max: 1000 mm (40")

Model C3

B: σ 300 - 800 mm (12" - 32")
 A max: 900 mm (36")
 C max: 1000 mm (40")



Accessories

Milling tool basic kit C-2
Digital depth meter (requires workshop mounting)
High extension brackets C2
Chain mounting kit for C1 and C2
T-clamp for inner mounting C1

Pressure Relief Valve Lapping Kit

Kemet have produced a lapping kit that can be used on Tyco, Crosby, and Anderson Greenwood pressure relief valves. Product Code: 352900. Includes;

- 15 Lapping / Polishing blocks, **all blocks are double sided** (D through T2 orifice sizes)
- 1 x Applikator of 3 Micron Kemet Diamond Compound
- 1 x Applikator of 14 Micron Kemet Diamond Compound
- Bramet Silicon Carbide self adhesive papers with grades 60, 120, 180 & 320 Grit
- Housed in a strong plastic case (Weight approx. 11.5 Kg)



Consumables

The efficiency of the machine relies on the grinding discs used. The wrong discs will either slow you down drastically or in worst case damage the valve. The grinding discs are specially designed for valve grinding. They have been proven in our facilities and out on the field. To make you sure that you get the best out of your machine, we have a wide selection of grinding discs from 40 grit down to 3 microns.

Product	Grit or Micron	Dimensions (sheets)
Ceramix	40 grit	300 x 200mm
	80 grit	
	120 grit	
	180 grit	
	240 grit	
3M (For micron finishing)	P80	300 x 350mm
	100 micron	
	80 micron	
	60 micron	
	40 micron	
	30 micron	
	15 micron	
	9 micron	
	3 micron	
Diamond Grinding	60 grit	230 x 280mm
	120 grit	
	240 grit	



Product	Grit or Micron	Diameter (mm)								
		17	20	25	28	32	35	40	50	
Ceramix	40 grit	362366	362369	362354	362342	*	362345	362346	362349	*
	80 grit	362367	362370	362356	362343	*	362339	362347	362350	*
	120 grit	362368	362371	362355	362344	*	362310	362348	362351	*
	180 grit	*	*	*	*	*	362311	*	*	*
	240 grit	*	*	*	*	*	*	*	*	*
3M (For micron finishing)	P80	*	*	*	*	*	*	*	*	*
	100 micron	*	362340	*	*	*	*	*	*	*
	80 micron	*	*	*	*	*	*	*	*	*
	60 micron	*	362841	*	*	*	*	*	*	*
	40 micron	*	*	*	*	*	*	*	*	*
	30 micron	*	*	*	*	*	*	*	*	*
	15 micron	*	*	362376	*	*	*	*	*	*
	9 micron	*	*	362377	*	*	*	*	*	*
3 micron	*	*	362375	*	*	*	*	*	*	
Diamond Grinding	60 grit	*	*	*	*	*	*	*	*	*
	120 grit	*	*	*	*	*	362338	*	*	*
	240 grit	*	*	*	*	*	*	*	*	*

* Product code yet to be generated but available

Diamond Compound / Paste

For hand lapping and spherical polishing applications, Kemet offer a huge range of Diamond Compounds for rapid stock removal, superfine surface finish, lapping and pre-polishing. From 1/10 to 90 micron. Soluble in either oil (**Type L**), water (**Type W**) or both (**Type KD**). High thermal stability of the chemical carrier ensures that Kemet Diamond Compound resists frictional heat, remains stable, and keeps its suspension properties under operating conditions. **DiaVers** Diamond Paste has been specially formulated to give fast stock removal and at the same time a superior surface finish. **XtraPol** has been specially developed to polish aluminium.



For our full range of Diamond Compounds, please view our [website](#) or diamond catalogue (available on request)



Micron	Colour	DiaVers		
		5g AppliKator	10g Syringe	20g Syringe
1	Blue	115558	115541	115548
3	Green	115507	115542	115549
6	Yellow	115508	115543	115550
8	Red	115559	115544	115551
14	Brown	115560	115545	115552
25	Colourless	115561	115546	115553
45	Colourless	115562	115557	115555
60	Colourless	115563	115547	115554

Sabre Aluminium Oxide Paste

Specially formulated containing Aluminium Oxide Abrasive. It is suitable for a wide range of lapping/polishing operations, and it is particularly effective when used for smoothing soft metals such as brass, aluminium and copper. Sabre Pastes are also available based on both silicon carbide and boron carbide abrasives. Available in 20g syringes.

Micron	Code
0.1	300206
0.5	300205
3	300204
7	300203
9	300202
23	300201



Lapping Pastes

Kemet manufacture a wide range of abrasive lapping pastes. Our range of Silicon Carbide and Aluminium Oxide pastes have many applications but are particularly suited to the lapping of mechanical seals and valve seats. The pastes are **water soluble** and safe to use.

Product	Type	Micron	FEPA Grade	Pastes (1kg)
Silicon Carbide	Fine	3	1200	361547
		5	1000	361552
	Medium	7	800	362616
		9	600	361514
		17	400	361551
		23	360	361548
	Coarse	30	320	361558
		37	280	361538
		75	180	361549
		109	120	361689
Aluminium Oxide	Fine	3	1200	361544
		5	1000	361624
	Medium	7	800	361545
		9	600	361543
		13	500	361546
Coarse	23	360	361542	



Kemet



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