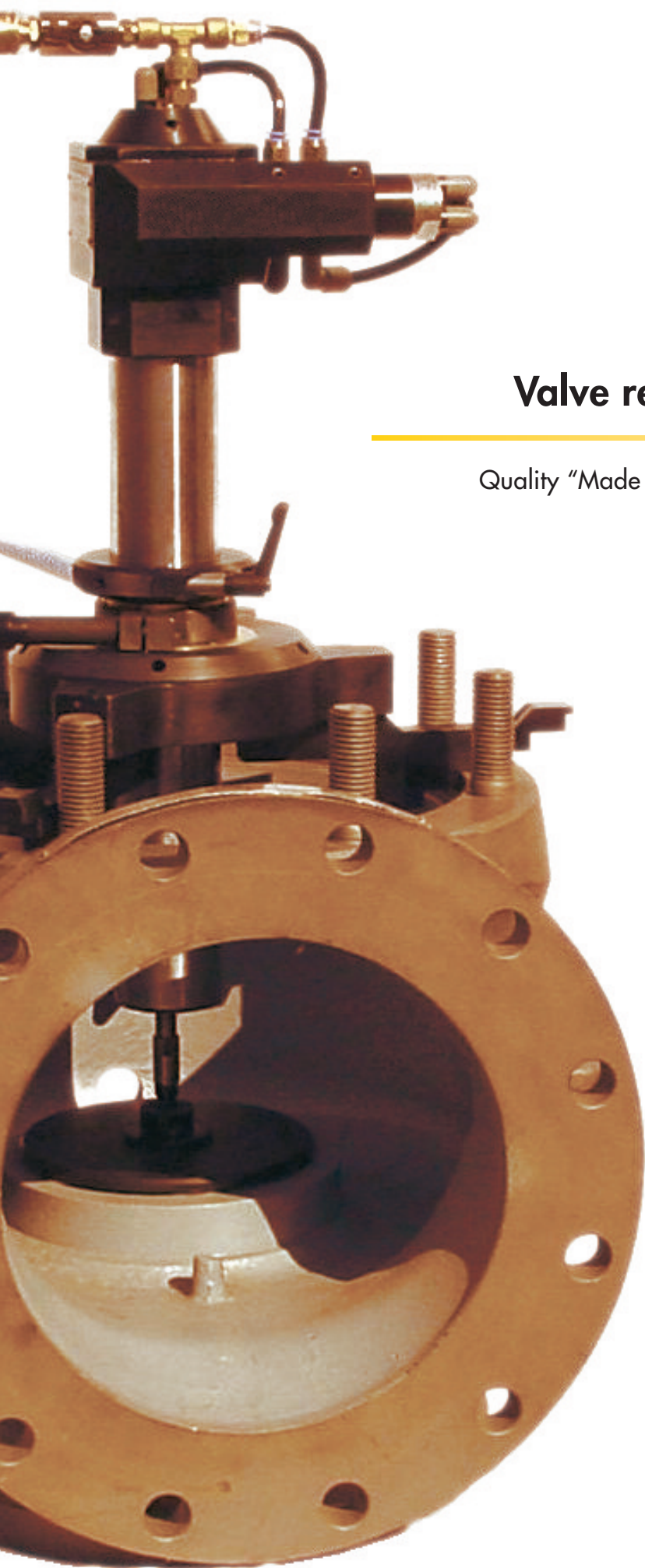




High standard in precision.

Valve repair and testing technique

Quality "Made in Germany" by **unigrind** GmbH & Co. KG



Grinding and Lapping Machines for Industrial Valves

● unigrind VENTA

Portable grinding and lapping machines for repairing valves with flat seating faces:

- Globe valves
- Safety relief valves
- Valve globes
- Check valves

Type:

Working ranges:

VENTA 50	DN..... 8 - 50 mm (1/4"-2")
VENTA 150	DN..... 8 - 150 mm (1/4"-6")
VENTA 150 SV	DN..... 15 - 150 mm (1/2"-6")
VENTA 300	DN..... 100 - 400 mm (4"-16")
VENTA 600	DN..... 150 - 700 mm (6"-28")
VENTA 1600	DN..... 500 - 1640 mm (20"-64")

VENTA 150 SV special folio abrasives and tools for grinding and polishing the seat surfaces of Safety Relief Valves.

Drives:-Electric 230 V/110 V AC, 50/60 Hz

- Cordless drive
- Pneumatic drive 90 psi (5-7 bar)

The machines are supplied in transport boxes with all necessary accessories and large set of abrasives.

Hand guided grinding machines up to working range DN 150 (6"). For bigger valves a mounting device is used to fix the machine on the valve.



Grinding the valve seat with **VENTA 150**



VENTA 300, mounted on 12" Globe valve for grinding the sealing surface



VENTA 150 Transport box and abrasive set



VENTA 300 Transport box with accessories



KVS machine with 3-jaw chuck mounted on 6" control valve



KVS machine grinding 1" globe valve



KVS 369/65 Transport box with grinding tools

unigrind KVS

Portable grinding machine for repairing valves with tapered seats:

- Globe valves
- Control valves
- Standard angles: 30°; 40°; 60°; 75°; 90°
(other angles: 38°, 50°, 80°)

Drives: Electric 230 / 110 V AC, 50/60 Hz, and Cordless
Pneumatic 90 psi (5 – 7 bar)

Type:	Working ranges:
KVS 369/50	DN..... 8 - 50 mm (1/4"-2")
KVS 369/65	DN..... 8 - 65 mm (1/4"-2 1/2")
KVS 369/100	DN..... 8 - 100 mm (1/4"-4")
KVS 369/150K	DN..... 8 - 150 mm (1/4"-6")
KVS 369/300K	DN..... 8 - 300 mm (3"-12")

The machines are supplied in transport boxes with all accessories and large assortment of abrasives.

The grinding tools for the corresponding angles and nominal width can also be combined according to the customer's individual wishes. The machine's working range can be extended with additional tools at any time.



Transport box with grinding tools for working range 3"-6"



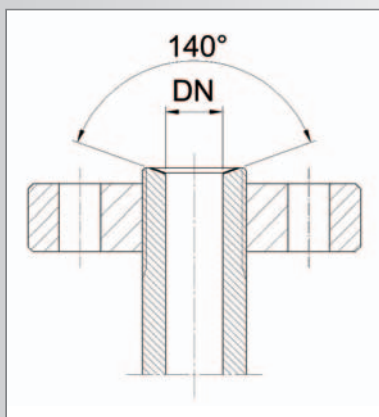
KVS 369/65 abrasive set

● unigrind KVS - Lens

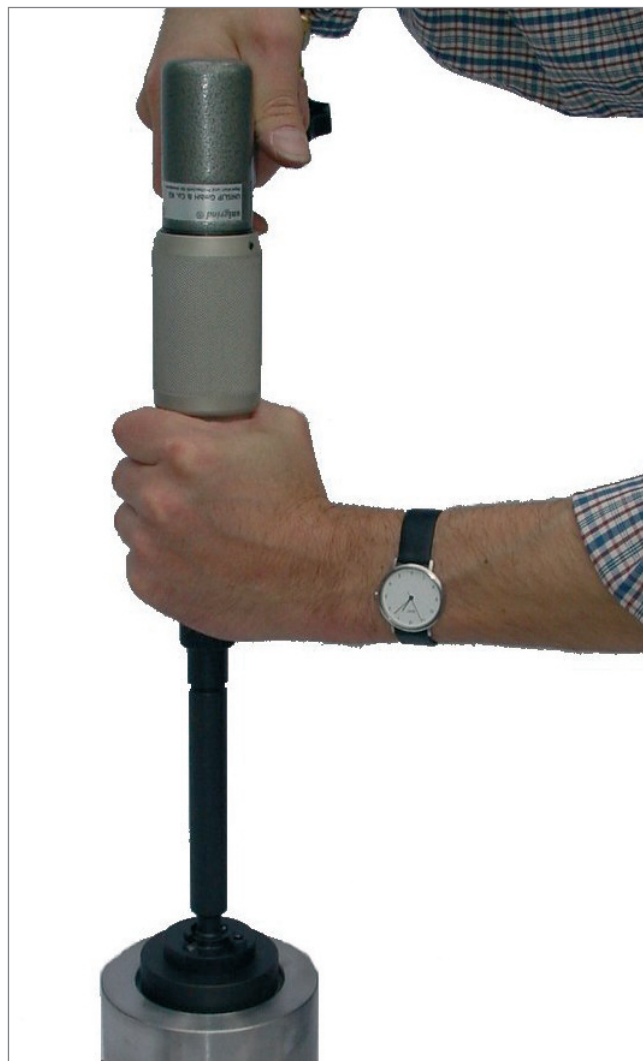
Grinding tools for repairing tapered sealing surfaces on pipes and flanges for metallic lens ring.

- seat angle 140°
- working range DN 10 – 200 (3/8"–8")
- as per DIN 2696 and other standards
- working ranges as per your request

Ranges of grinding tools are combined according to the customer's individual wishes.



Sealing surface for Lens ring



Grinding sealing surface with KVS-LENS



KVS-Lens Transport box with accessories



Grinding tools are guided and centred in the bore using adjustable expansion mandrels.



SVS 1 with 3-jaw chuck mounted on Safety Relief Valve



Grinding/lapping a valve disk with SVS 1 on machine stand



SVS 1 Transport box with accessories

● unigrind SVS 1

Portable grinding and lapping machine for working and sealing surfaces and seats of Safety Relief Valves (PSV) and valve disks.

Working range: DN 15 – 300 (1/2" - 12")

For grinding/lapping big valves and butt-welded valves the machine is mounted with 3-jaw chuck on the valve housing.

Small valves and globes are done on the machine stand with centring vice and pneumatic lifting device for the machine.

Advantages:

- Crosshatched grinding/lapping to achieve absolute seat flatness
- Accurate centring of the machine with the 3-jaw chuck
- Accurate and fast centring of small valves and disks on the machine stand
- Reproducible grinding/lapping results within minutes
- Easy and safe operation
- Pneumatic Control unit with timer for setting grinding time

Drives: Pneumatic 90 psi (5-7 bar)



Grinding/lapping a Safety Relief Valve with SVS 1

● unigrind SLIM

Portable grinding and lapping machine for repairing sealing surfaces of:

- Gate valves
- Swing check valves
- Gate valve wedges and disks
- Valve flanges

Type:

Working ranges:

SLIM 32	DN.....	10 -	40 mm (3/8"-1 1/2")
SLIM 75	DN.....	20 -	80 mm (3/4"-3")
SLIM 150	DN.....	40 -	200 mm (1 1/2"-8")
SLIM 300	DN.....	50 -	350 mm (2"-14")
SLIM 300 S	DN.....	65 -	450 mm (2 1/2"-18")
SLIM 600	DN.....	200 -	700 mm (8"-28")
SLIM 600 S	DN.....	200 -	900 mm (8"-36")
SLIM 1000	DN	400 -	1600 mm (16"-64")

Drives: Electric 230 / 110 V AC, 50/60 Hz,
Pneumatic 90 psi (5-7 bar)

The machines are supplied in transport boxes with all accessories and large set of abrasives.

The **SLIM 300** and **SLIM 600** are also available in combined version for **Gate- and Globe valves**: **SLIM 300-COMBI** and **SLIM 600-COMBI**



SLIM 300 mounted on Gate valve



Planet disk with continuous adjustable grinding heads



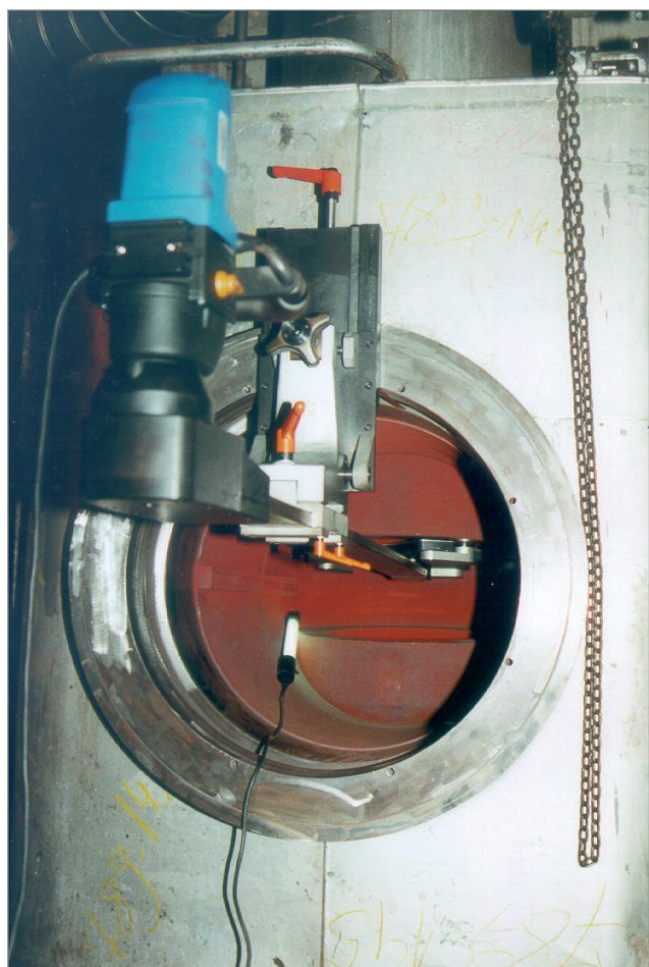
SLIM 300 Transport box with accessories



SLIM 600 mounted on Gate valve



SHS 600 grinding a 24" Gate valve (vertical)



SHS 600 grinding in horizontal position a high pressure Gate valve

● unigrind SHS 600

PATENTED

Portable high-speed gate valve grinding machine for on site or in shop use, for working on sealing surfaces of:

- Gate valves
- Swing check valves
- Gate valve wedges and disks

Advantages:

- Excellent removal rates due to high cutting speeds: 6 – 8 times above standard
- Absolutely flat surfaces
- Grinding heads are rotating with 2000 rpm
- Free tilting SHS planet grinding disks
- Particularly applicable if clearance between seta and casing is very limited

Type: Working ranges:

SHS 600-1: DN 125 – 350 (5" - 14")

SHS 600-2: DN 125 – 600 (5" - 24")

SHS 600-3: DN 200 – 600 (8" - 24")

SHS 600-4: DN 200 – 800 (8" - 32")

Drives: Electric 230 V AC, 50/60 Hz
Pneumatic 90 psi (5 - 7bar)



SHS 600 Transport and storing box with accessories



SHS 600 planet disk; the working diameter is adjusted by swivelling the arms with grinding heads.

● unigrind HTS

Portable High Speed Globe valve grinding machine for flat and tapered sealing surfaces in:

- Control Valves, Safety Valves
- Turbine Bypass valves
- Globe valves
- Flanges
- Pumps

Features of HTS machines:

- Accurate centring and adjusting the machine
- Precise grinding of flat and tapered surfaces
- Control and correction of existing seat surfaces
- Automatic and manual feed
- Grinding of cylindrical surfaces with bore grinding device

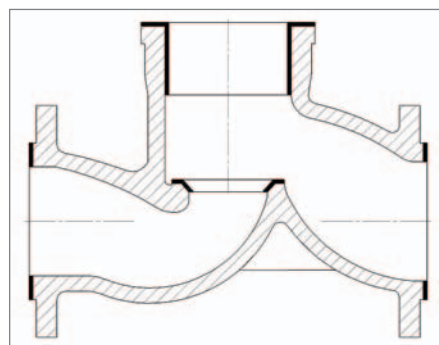
Type:	Working ranges:	Grinding diameter:
HTS 150 .. DN50 - 200 mm (2"-8")		35 - 270 mm
HTS 400 .. DN ... 80 - 400 mm (3"-16")		100 - 500 mm
(the max. working range of HTS 400 diameter 700 mm)		
HTS 800 ...DN . 250 -1000 mm (10"-40")		250 - 1080 mm

The working range of HTS 400 and HTS 800 machines can be increased with additional tools.

Drives: Pneumatic 90 psi (5 – 7 bar)



HTS 400 grinding on site



Application of HTS machines



HTS 800 grinding the sealing surface of a Turbine Bypass valve in 1100 mm (44") depth



HTS 150 grinding sealing surface in 6" Control valve



Grinding table **KSM 600**

● unigrind KSM

Portable grinding tables for surface grinding of:

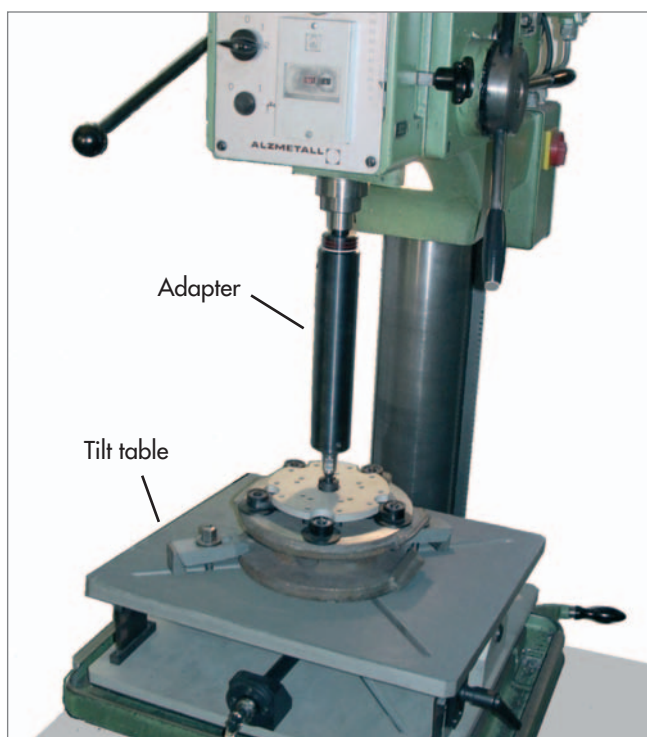
- Gate valve wedges
- Valve disks
- Other machine parts

KSM 600 Table plate ø 600 mm

KSM 750 Table plate ø 750 mm

- Drives: Electric 400 V AC, 50/60 Hz, 3 kW
- Speed of table plate infinitely adjustable

Self adhesive abrasives disks of different grits are stick on the Turntable plate.



Grinding Gate valve wedge on Column drill machine with **unigrind** adapter and planet grinding disk.

● unigrind Adapter MK and Tilt Tables UNT

With adapters fixed onto a stationary drill press and suitable grinding and lapping accessories, quick and precise in-shop seat repairs are done. Tilt tables a recommended for accurate alignment of gate valves and wedges (continuous adjustable 0 – 15°).

Spring loaded grinding Adapter:

Type:	Working ranges:
Size 1 (MK 2)	DN 15-400 (1/2" – 16")
Size 2 (MK 3)	DN 80 – 700 (3" – 28")
Size 3 (MK 4)	DN 80 – 900 (3" – 36")
Size 4 (MK 5)	DN 400 – 1600 (16" – 64")

Tilt Table:	Table size:
UNT 1	350 x 350 mm
UNT 2	500 x 500 mm
UNT 3	1000 x 1000 mm



Planet grinding disk **DN 800-900** (32"-36") and **DN 80-100** (3"-4")

● unigrind Grinding disks

For grinding/lapping of valve seats on column or Radial drill machine.

The grinding heads of the planet disks are continuous adjustable according to the required working diameter.

Working ranges:

Planet grinding disks DN 65 – 1600 (2 1/2" – 64")

Solid flat grinding disks DN 10 - 200 (3/8" – 8")

● unigrind STM

Stationary valve grinding and lapping machine for reconditioning sealing surfaces in gate, globe, check valves, gate valve wedges and safety relief valves.

Type STM 500, range: DN 10 – 350 (3/8" – 14")

For gate-, globe valves and gate valve wedges.

- max. flange diameter 600 mm (24")
- max. valve height 700 mm (28")
- tilt table size 500 x 500 mm (20"x20")
- tilting range +/- 13°

Type STM 500 SV-1 and STM 500 SV-2

Special designed for grinding and lapping of seats in safety relief valves.

Working range DN 15-300 (1/2" - 12")

- max. flange diameter 600 mm (24")
- max. valve height 700 mm (28")
- rotary table size Ø 500 mm (20")
- eccentric table adjustment 0 - 20 mm (0"-3/4")
- spindle and rotary table speed setting infinitely adjustable

Type STM 500 SV-COMBI, range: 3/8" – 12"/14"

For safety relief valves, gate-, globe valves and gate valve wedges. Combined version with rotary and tilting table.

Type STM 800 E

For gate-, globe-, check valves, gate valve wedges, disks and safety relief valves.

Working range DN 15 – 1000 (1/2" – 40")

- max. flange diameter 1370 mm (55,9")
- max. valve height 1100 mm (44")
- tilt table size 800 x 900 mm (32"x36")
- tilting range +/- 13°
- eccentric spindle drive adjustable 0 - 20 mm (0"-3/4")

All **STM** machines are available with 2 working tables and in combination with tilting- and rotary table.



Grinding Gate Valve Wedge with **STM 800**

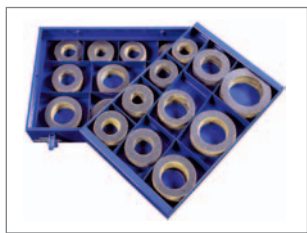


Grinding Safety Relief Valve with **STM 500 SV - COMBI**

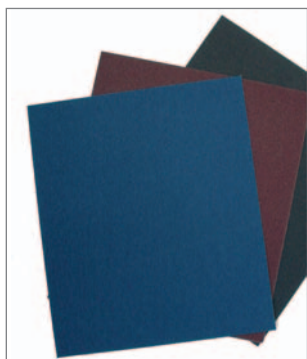


Grinding Gate Valve with **STM 800 E**

Abrasives for reconditioning Industrial Valves



Abrasive sets for portable machines are supplied in special storing box



Grinding Segments, Rings and Sheets



unigrind® DIAPLAN BOR grinding tools in special shapes

● unigrind High quality abrasives with various backings

We supply a wide range of high quality abrasives with various backings for all applications in all required forms and dimensions.

Application:

- Rough grinding
- Finish grinding
- Polishing (lapping)

Product range

Form:

- Grinding rings in all dimensions
- Grinding disks
- Grinding segments
- Sheets

Backing:

- paper, cloth, polyester and plastic film

Available Grits: 60 - 1800 (FEPA-Standards)

Abrasive:

- Silicon Carbide (SiC)
- Aluminium Oxid (Al_2O_3)
- Zirkon Oxid (ZrO_2)

● unigrind DIAPLAN BOR

High performance CBN (Cubic Boron Nitride) grinding heads, cup wheels and grinding cones for the portable and stationary unigrind machines stand for:

- Grinding surfaces made of wear-resistant and corrosion-proof Cr-steel or CrNi-steel, Stellite, Inconel, Hastelloy, High alloy steel
- High and constant material removal
- Aggressive grinding
- High temperature and chemical resistant

Boring, Turning and facing machines for Valves

● unigrind MD

Portable on-site boring- and facing machine for precision repairs of valve seats, pressure seal areas, bores and flanges, also for:

- Compressor casings
- Turbine casings
- Pipe ends
- Pump casings

Type:	Working ranges:	Working depth:
MD 1	up to Ø 400 mm (16")	430 mm (17")
MD 2	up to Ø 600 mm (24")	600 mm (24")
MD 3	up to Ø 1000 mm (40")	on Customer request

Drives: Electric 230 V AC, 50/60 Hz,
Pneumatic 90 psi (5 – 7 bar)

All machines with:

- Automatic and manual axial feed: infinitely adjustable
- Automatic and manual radial feed

Optional available:

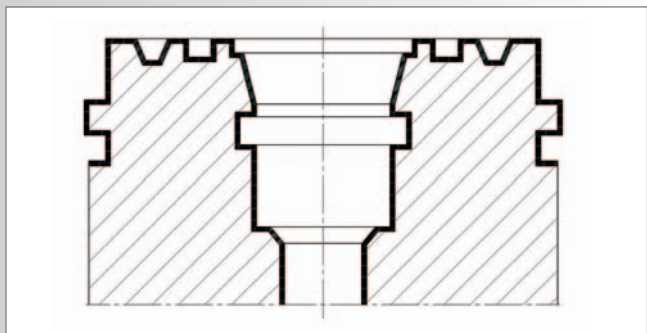
- High Speed grinding device
- Taper boring head
- Spindle extensions
- Extended spindle length
- Custom made cutting and grinding tools



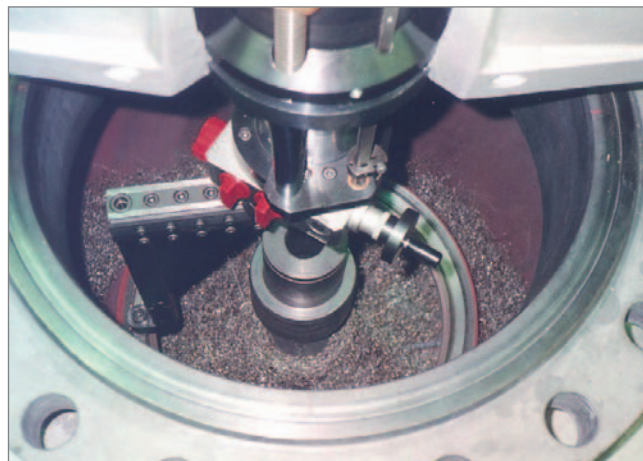
MD machine with grinding device



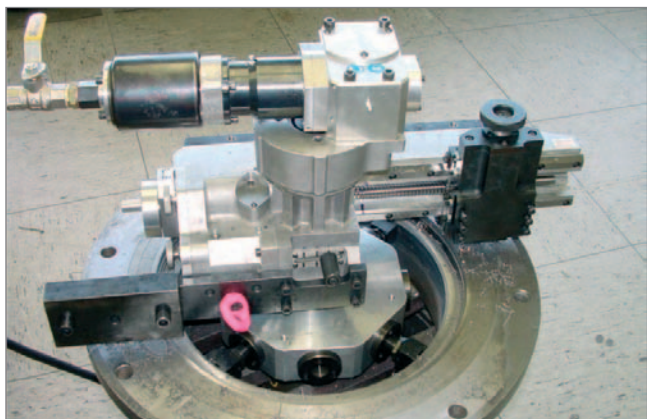
MD 1 machining globe valve seat



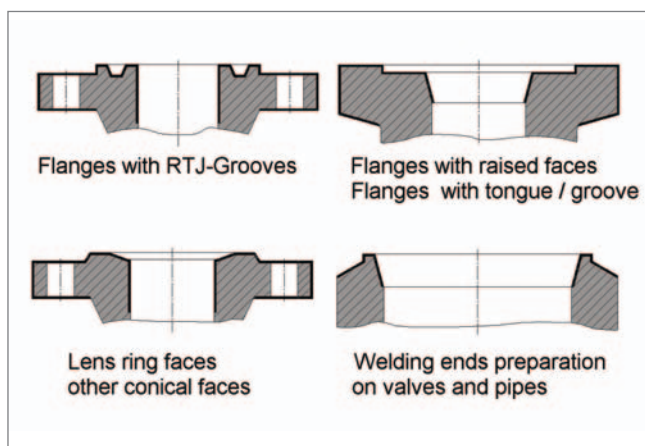
Machining applications for MD machines



Machining Valve seat with MD machine



Flange facing with MF 760i



Machining applications for MF machines: FLANGE FACING

● unigrind MF

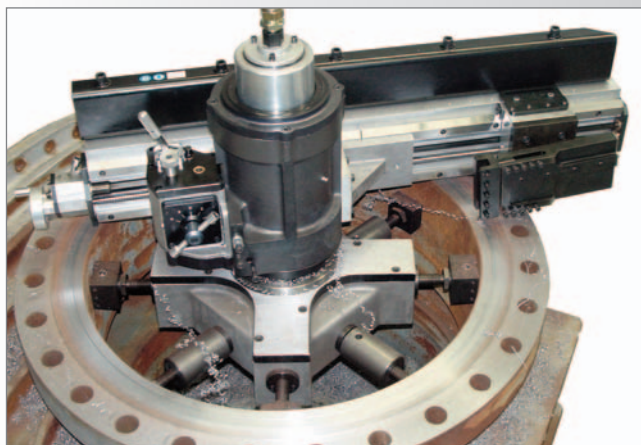
Portable machines Flange Facing/Boring Machines:

- Flange facing
- RTJ 'V' grooves
- Lens ring
- Weld preps

Type:

Working ranges:

MF 250i	50 - 250 mm (2"-10")
MF 500i	50 - 500 mm (2"-20")
MF 610i	100 - 610 mm (4"-24")
MF 760i	100 - 760 mm (4"-30")
MF 860i	150 - 860 mm (6"-34")
MF 1000i	150 - 1000 mm (6"-40")
MF 1500i	300 - 1500 mm (12"-60")
MF 2000i	600 - 2000 mm (24"-80")

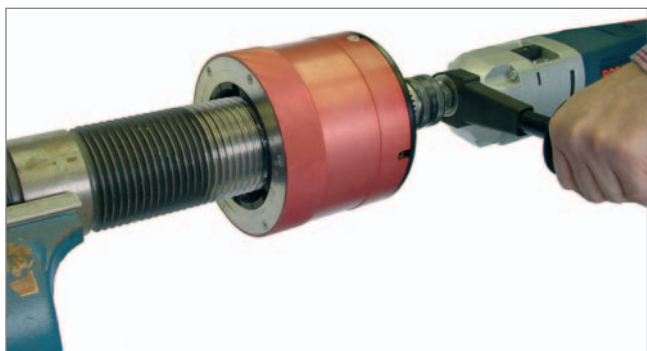


Flange facing with MF 1500i

Portable Thread Cleaning Equipment



Application Female thread Cleaning head Range 90-110 mm



Application Male thread cleaning head

● unigrind IR

Portable Female Thread Cleaning Equipment.

Working range: 8 – 180 mm thread diameter

For sizes below diameter 60 mm single cleaning brushes, continuous adjustable Female thread cleaning heads for thread diameter 60-180 mm

IR Types: IR Set M 8-72

Continuous adjustable heads

IR 60-72 mm, IR 70-80 mm, IR 90-110 mm, IR 110-130 mm, IR 130-150 mm, IR 150-180 mm

● unigrind AR

Portable Male Thread Cleaning Equipment for bolts and screws. The cleaning heads are continuous adjustable to the thread diameter.

AR 124	M 10 - M 24
AR 2748	M 27 - M 48
AR 4868	M 48 - M 68
AR 6890	M 68 - M 90
AR 90110	M 90 - M 110

Drives: Electric 230 V AC, 50/60 Hz, Pneumatic 90 psi (5-7 bar)
Suction and extensions is available for the complete AR & IR tools. The Thread cleaning equipment is supplied in a steel case with all accessories.