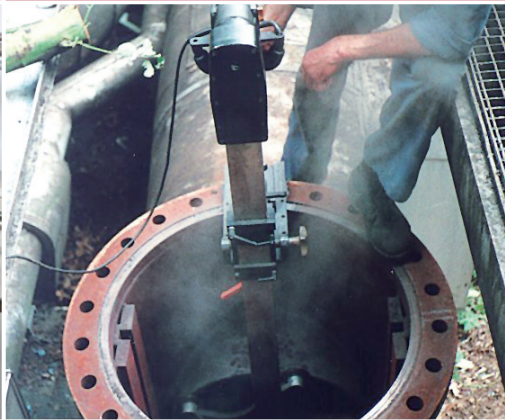


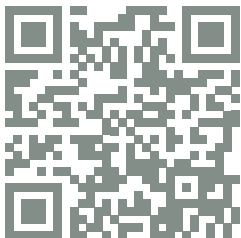
QUALITY **MADE IN GERMANY** by *unigrind* GmbH & Co. KG



VALVE MACHINING AND TESTING TECHNOLOGY

THE HIGHEST STANDARD IN PRECISION





Please use your smartphone with the relevant software, scan the QR code and you will be connected to the **unigrind** homepage.



Here you will get further information about our Company and Products.

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Factory I, Frackersberg

THE HIGHEST STANDARD IN PRECISION



Since 1984 **unigrind** has been offering high-quality machining and testing products for industrial valves. This includes products for the machining of sealing surfaces on industrial valves, pumps, pipelines, turbine housings, compressors, etc.

unigrind develops and produces industrial valve test stands for pressure, leak, and flow testing on gates, butterfly valves, valves, ball valves, safety valves, etc. Our company has been certified according to DIN EN ISO 9001 since 1999. Our products are developed and produced in-house.

At **unigrind** 'Made in Germany' means 'Made in Stolberg'. Only in this way is it possible to always provide our customers with products in the highest quality.

The **unigrind** product range includes:

- Portable grinding and lapping machines
- Technology and processes for grinding safety valves
- Portable turning and milling machines
- High-speed grinding technology
- Stationary grinding and turning technology
- Flat lapping machines
- Portable devices for pressure testing
- Stationary and mobile valve test stands
- Project planning of workshops for repair of valves
- Project planning and construction of special workshop containers

The introduction of a patented high-speed valve grinding machine in 1999 was a milestone for valve service. **unigrind** is a technological leader in high-speed grinding and safety valve grinding technology. **unigrind** currently sells products in more than 80 countries around the world. The industrial valves sector can rely on **unigrind**'s comprehensive know-how now and in the future.

APPLICATIONS

- Plant construction
- Apparatus construction
- Valve trade
- Manufacturers of valves
- Valve service companies
- Mining
- Chemical industry
- Fertilizer plants
- Gas manufacturers
- Rubber manufacturers
- Combined heat and power stations
- Heating plant
- Nuclear power stations
- Boiler manufacturers
- Steel works
- Food industry
- Refuse incinerators
- Pharmaceutical industry
- Pipelines
- Steel industry



Factory II, Jägerhausstraße

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

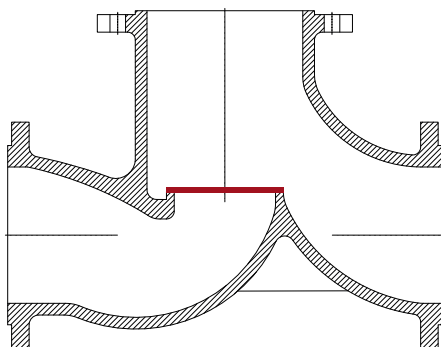
- Globe valves
- Safety relief valves
- Check valves

Drives:

- Electric 230 V/110 V AC, 50/60 Hz,
- Battery drive for VENTA 50, 50 SV VENTA 150, 150 SV
- Pneumatic drive 5 - 7 bar (72 - 90 psi)

Comment:

VENTA 50 SV and VENTA 150 SV are supplied with special micro finishing film in the grits P150, 280, 500, 1000 and 1800 for grinding and polishing safety relief valve seat surfaces. Hand guided grinding machines up to working range DN 150 (6"). For the machines type VENTA 300, 600 and 1600 a mounting device is used to fix the machine on the valves.



VENTA 300

Type:	Working ranges:	Inches:
VENTA 50	DN 8 - 50 mm	1/4" - 2"
VENTA 50 SV	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 80 - 350 mm	3" - 14"
VENTA 300 S	DN 80 - 450 mm	3" - 18"
VENTA 600	DN 200 - 700 mm	8" - 28"
VENTA 1600	DN 500 - 1600 mm	20" - 64"



VENTA 150 transport box with grinding tools



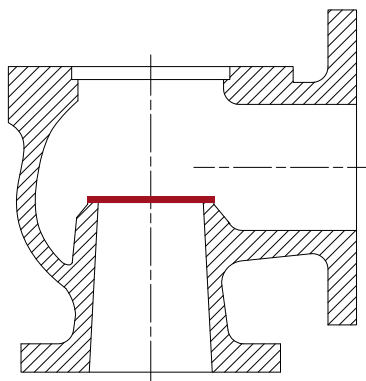
VENTA 150 transport box with abrasive set

Options:

- Lapping equipment (lapping paste and lapping disks)
- Micro finishing film abrasives grit P80 - 1800 and 4000
- Working depth extensions
- Slight changes in working range
- Customized grinding tools
- Additional tools for grinding gate valve seats with VENTA 150 in work shop
- Grinding tools for tapered seat grinding with various angles (KVS tools)
- Stainless steel transport boxes for VENTA 300 - 600
- HDPE transport boxes for VENTA 50, 50 SV, 150, 150 SV

Standard:

- VENTA machines are supplied complete with all tools and in metal boxes
- Spring loaded drive spindle to control working pressure



VENTA 150

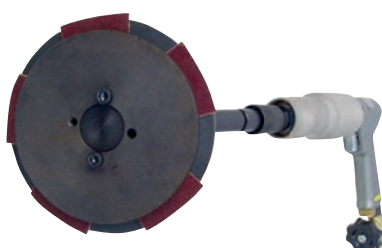
Advantage:

VENTA tools are compatible with other unigrind machines:

Spring loaded grinding adapters size 1 - 4 for stationary drill press, Stationary grinding machines STM 500 and STM 800E.

Comment:

A large range of self-adhesive rings, disks and segments in quality aluminium oxide, silicon carbide and zirconium oxide available in various grits and DIAPLAN - CBN (= Cubic Boron Nitride) galvanic bonded high performance grinding heads are also available for the planet grinding disks.



VENTA 150 drive with grinding tools



VENTA 300 transport box with accessories

■ unigrind KVS



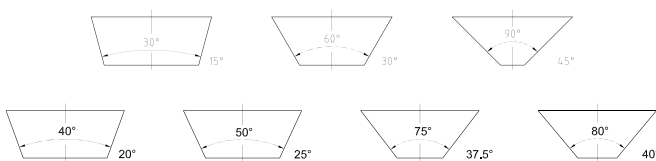
KVS

Portable grinding machine for working on valves with tapered seats:

- Globe valves
- Control valves

Standard:

- Angles: 30°, 60°, 90°
- Other available angles: 40°, 50°, 75°, 80°

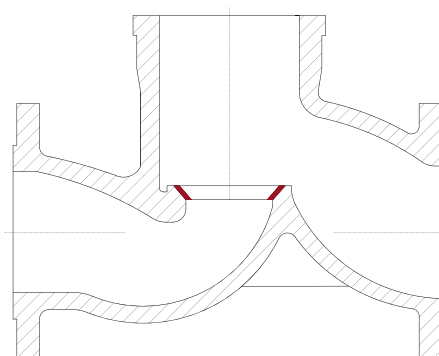


Drives:

- Electric 230 V/110 V AC, 50/60 Hz,
- Battery drive for KVS up to DN 150
- Pneumatic drive 5 - 7 bar (72 - 90 psi)



KVS 369/65 Transport box with grinding tools and with abrasive set



Type:	Working ranges:	Inches:
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 369/80 - 300K	DN 80 - 300 mm	3" - 12"
KVS 369/8 - 300K	DN 8 - 300 mm	1/4" - 12"

KVS 369 = 30°, 60° and 90° seat angle grinding tools.

Comment:

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.

Options:

Other combination of angles or additional angles are available on customer request. Also slight changes in the working range are possible. Tool holders for working depth extension.



KVS Grinding tools, range DN 80-150 (3"-6")

PORTABLE GRINDING & LAPPING MACHINES

■ **unigrind KVS**



KVS 369/300K

unigrind KVS 369/300K grinding machine with 3-jaw-chuck

For the big sizes DN 6" - 12" and the very deep valves we recommend to use the machine with upper gear housing and internal spring loaded grinding spindle.



KVS grinding on-site

unigrind KVS 369/150K grinding machine with 3-jaw-chuck



KVS 369/150K Transport box with grinding tools and abrasive set

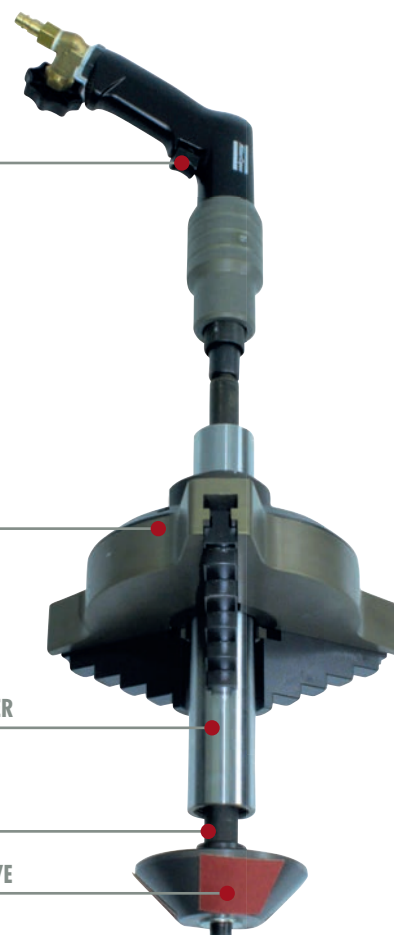
HAND GUIDED AIR MOTOR

3-JAW-CHUCK

GUIDING TUBE FOR TOOL HOLDER

TOOL HOLDER

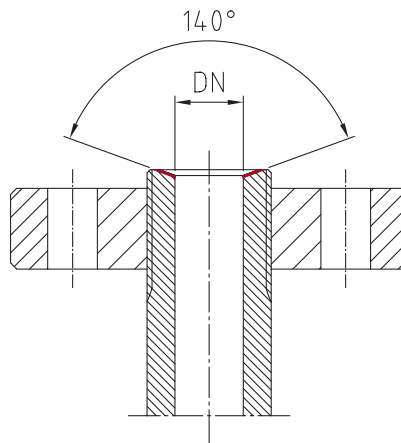
GRINDING CONE WITH ABRASIVE



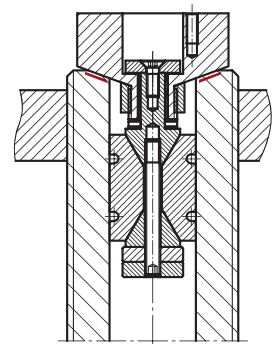
■ unigrind KVS-LENS



KVS-Lens Grinding sealing surface



Lensseat



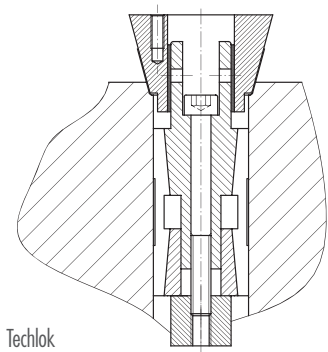
Lensseat 140°

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

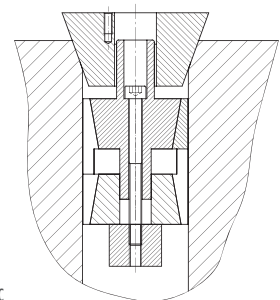
- High pressure pipes
- Flanges
- Valves
- Sealing Surface angle 140°
- Special design for TechLok and GrayLoc
- Working range: DN 10 - 300 (3/8" - 12")
- Grinding tools according to DIN and other manufacturer standards
- Working ranges as per your request

Comment:

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



Techlok



Grayloc



KVS-Lens Grinding tool



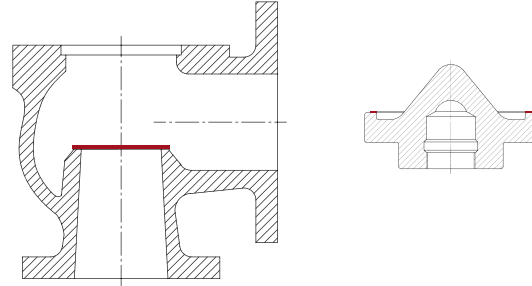
KVS-Lens Grinding tool



KVS-Lens Transportbox with Grinding tools



SVS 1 mounted on safety relief valve



Portable grinding and lapping machine for working on sealing surfaces of safety (relief) valves and disks:

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 device and pneumatic lifting device for the machine.

Working ranges:

DN 15 - 300 mm (1/2" - 12")

Advantages of SVS 1:

- 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
- Eccentricity adjustable 0 - 3 mm
- Machine stand with pneumatic cylinder

Drives:

- Electric 230 V/110 V AC, 50/60 Hz,
- Pneumatic drive 5 - 7 bar (72/90 psi)

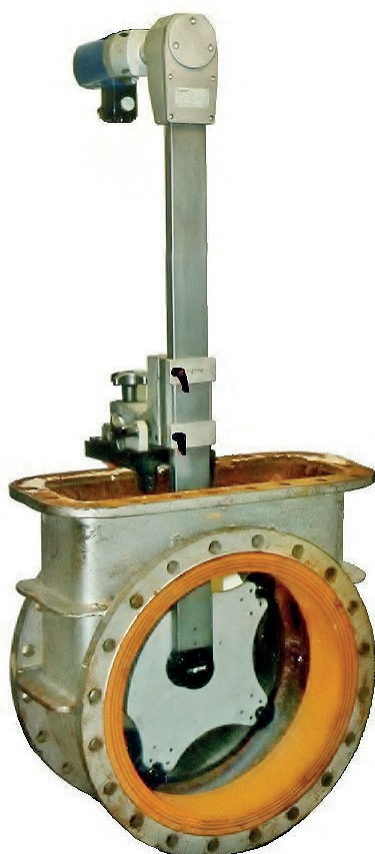


SVS 1 grinding a valve on machine stand



SVS 1 Scope of delivery

■ unigrind SLIM



SLIM 600

Portable grinding and lapping machine for working on sealing surfaces of:

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

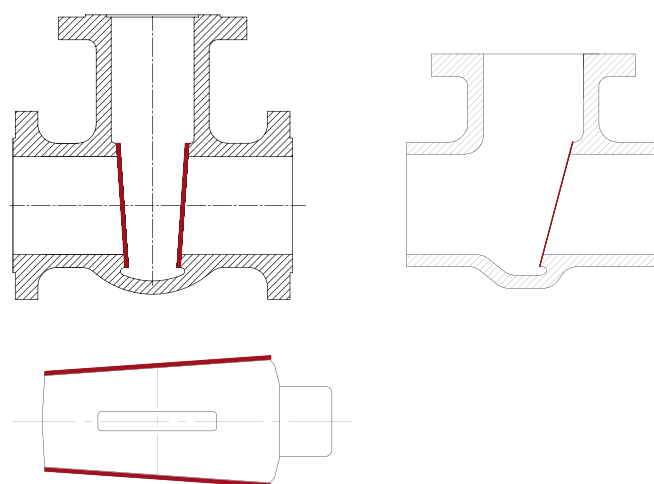
Both for on site or in workshop use.

Drives:

- Electric 230 V/110 V AC, 50/60 Hz
- Pneumatic 90 psi (5 - 7 bar)
- Battery drive for SLIM 75

Comment:

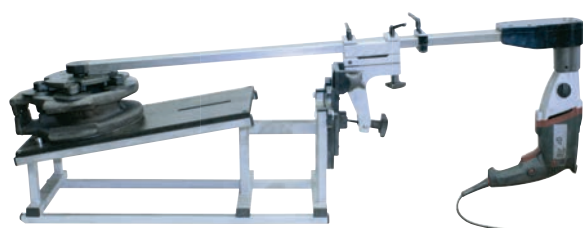
The type SLIM 300 and SLIM 600 are also available in combined versions for gate- and globe valves.



Type:		Working ranges:	Inches:
SLIM	32	DN 15 - 50 mm	1/2" - 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	300S	DN 65 - 450 mm	2 1/2" - 18"
SLIM	600	DN 200 - 700 mm	8" - 28"
SLIM	600S	DN 200 - 900 mm	8" - 36"
SLIM	1000	DN 400 - 1600 mm	16" - 64"

Combined machines for gate and globe valves

SLIM	300-COMBI	DN 50 - 350 mm	2" - 14"
SLIM	300S-COMBI	DN 65 - 450 mm	2 1/2" - 18"
SLIM	600-COMBI	DN 200 - 700 mm	8" - 28"
SLIM	600S-COMBI	DN 200 - 900 mm	8" - 36"



SLIM 300 grinding of gate valve wedge



SLIM 600 Scope of delivery

PORTABLE GRINDING & LAPPING MACHINES

■ unigrind **SLIM**



SLIM 300



SLIM 150



SLIM 32

Options:

- Lapping equipment (lapping paste and lapping disks)
- Transport boxes stainless steel
- Swing check valve adapter-set
- Portable grinding table for gate valve wedges

DIAPLAN BOR:

High performance CBN (Cubic Boron Nitride) grinding heads.



SLIM 300 transport box with accessories



SLIM 1000 transport box with accessories

PORTABLE GRINDING & LAPPING MACHINES

■ unigrind SHS 600

unigrind PATENT



SHS 600

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

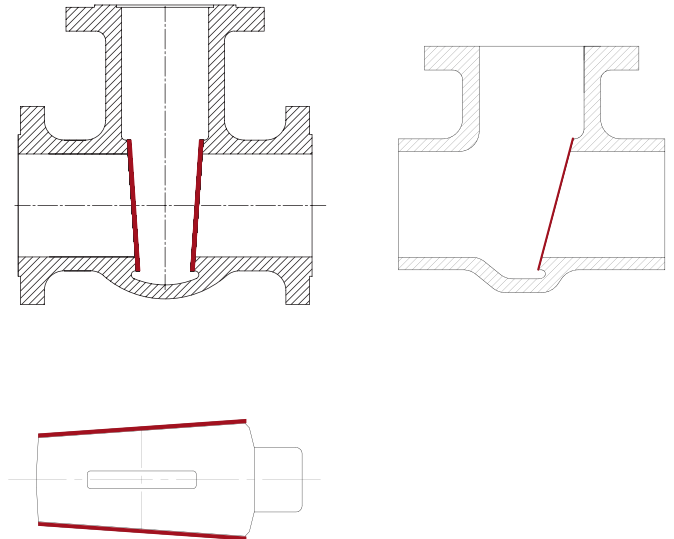
- Gate valves
- Swing check valves
- Gate valve wedges and disks

Advantages:

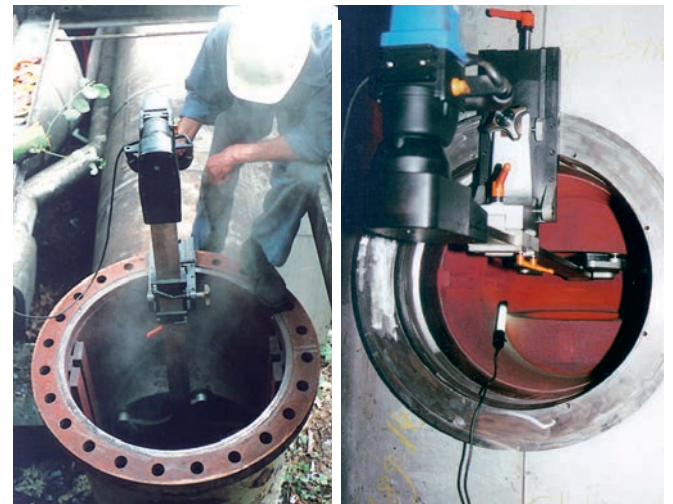
- Excellent removal rates thanks to high cutting speeds: 6 - 8 times above standard
- Absolutely flat surfaces
- Grinding heads rotate with 2000 rpm
- Free tilting SHS planet grinding disks
- Particularly applicable where clearance between seats and casing is very limited

Drives:

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



Type:		Working ranges:	Inches:
SHS	600-1	DN 125 - 350 mm	5" - 14"
SHS	600-2	DN 125 - 600 mm	5" - 24"
SHS	600-3	DN 200 - 600 mm	8" - 24"
SHS	600-4	DN 200 - 800 mm	8" - 32"



SHS 600 grinding on-site



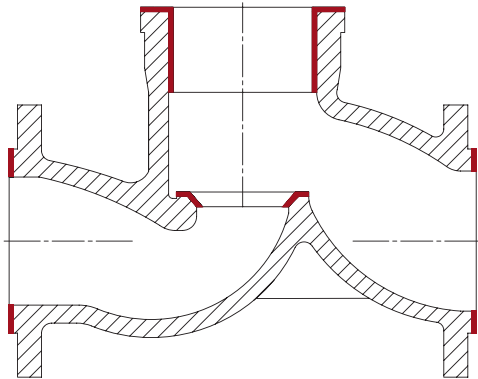
SHS 600 grinding of gate valve wedge



SHS 600 planet disk



SHS 600 planet disk



HTS 150

Type:	Working ranges:	Inches:
HTS 150	DN 50 - 250 mm	2" - 10"
HTS 400	DN 80 - 600 mm	3" - 24"
HTS 800	DN 200 - 1000 mm	8" - 40"

The max. working range of HTS 400 diameter 700 mm

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

Control valves, globe valves, check valves, safety relief valves

Advantages:

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

Drives:

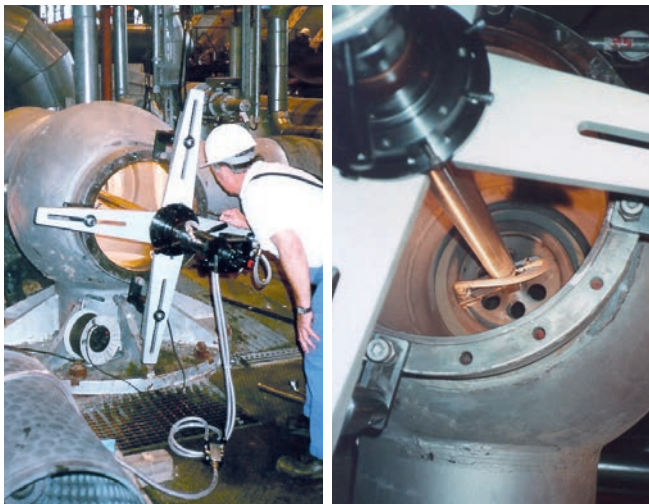
- Pneumatic 90 psi (5 - 7 bar)

Options:

- Grinding of cylindrical surfaces with bore grinding device
- Dressing device for grinding stones
- Cubic Boron Nitride grinding tools

Comment:

The working range of the HTS machine can be increased with additional tools. Slight changes in the working range are possible



HTS 800 grinding on-site



HTS transport container with accessories



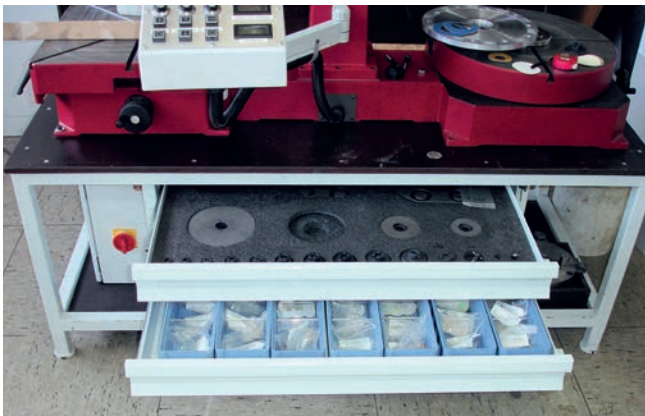
HTS 400 grinding on-site



■ unigrind STM



STM 500 SV-Combi with workbench



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

STM 500 SV-Combi:

- Max. flange diameter 600 mm (23,6")
- Max. valve height 700 mm (27,5")
- Tilt table size 500 x 500 mm (19,7")
- Tilting range $\pm 13^\circ$
- Rotary table diameter $\varnothing 500$ mm (19,7")
- Eccentric adjustment 0 - 20 mm (0,8")
- Working range DN 10 - 300/350 (3/8" - 12"/14")

STM 500 SV - 1 (special for safety relief valves):

- Max. valve height 700 mm (27,5")
- Rotary table diameter $\varnothing 500$ mm (19,7")
- Eccentric adjustment 0 - 20 mm (0,8")
- Working range DN 10 - 300 (3/8" - 12")

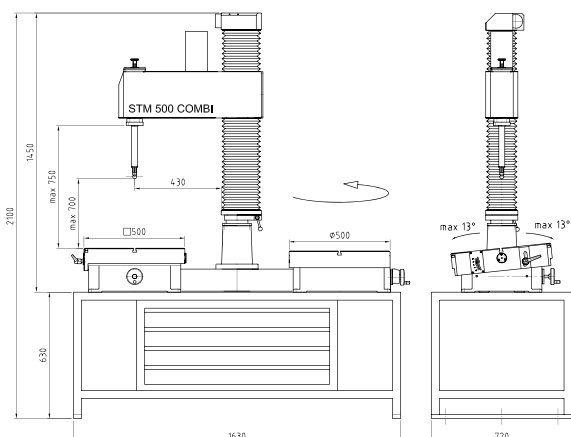
STM 500 SV - 2 (with two rotary tables):

- Max. valve height 700 mm (27,5")
- Rotary table diameter $\varnothing 500$ mm (19,7")
- Eccentric adjustment 0 - 20 mm (0,8")
- Working range DN 10 - 300 (3/8" - 12")

STM 500

Also available only with tilting table.

- Max. flange diameter 600 mm (23,6")
- Tilt table size 500 x 500 mm (19,7")
- Tilting range $\pm 13^\circ$
- Working range DN 10 - 350 (3/8" - 14")



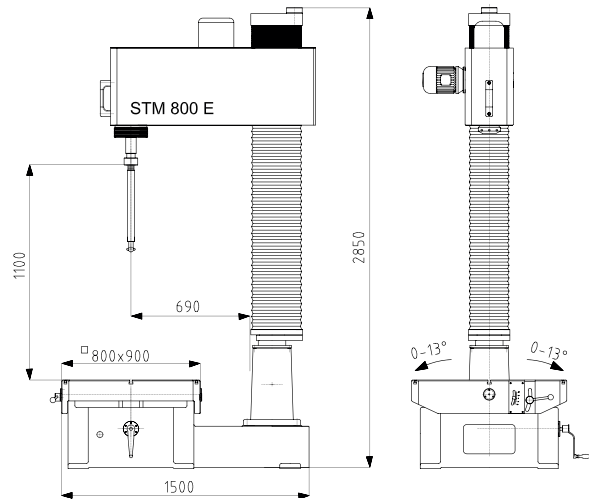
Grinding gate valve on tilting table



Grinding safety relief valve on rotary table

STATIONARY GRINDING & LAPPING MACHINES

■ **unigrind STM**



STM 800 E:

- Working range DN 15-1000 (1/2" - 40")
- Eccentric spindle drive adjustable
- Max. flange diameter 1370 mm (56")
- Max. valve height on the table 1100 mm (43,3")
- Tilting table dimension 800 x 900 mm (31,5" x 35,4")
- Tilting range +/- 13°

Comment:

The Model STM 800 E is also available with 2 pc. tilting table or in combination with tilting- and rotary table.

STM 800 E, grinding gate valve



Eccentric spindle drive



STM 800 E Grinding of gate valve wedge



Grinding of gate valve



Tool cabinet with accessories

■ unigrind KSM



KSM 600-2

Stationary grinding tables for surface grinding of:

- Gate valve wedges
- Wedge disks
- Valve disks
- Other machine parts

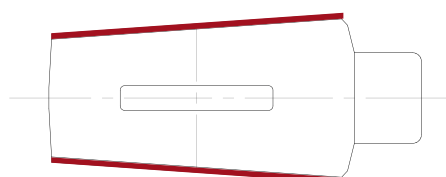
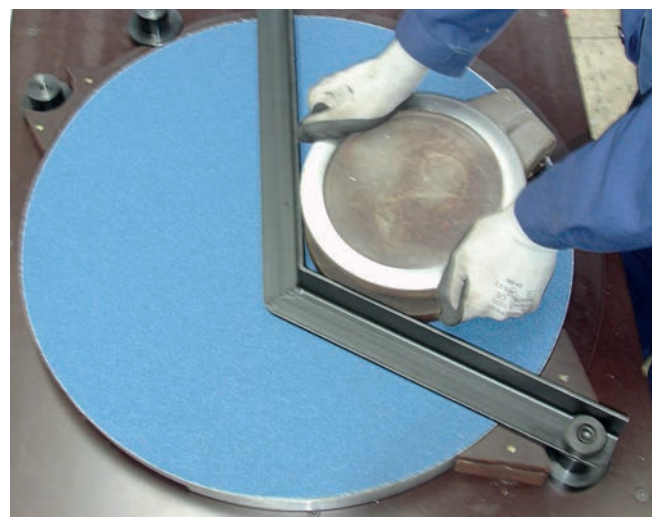
Drives:

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

Comment:

Self-adhesive abrasive disks are stuck on the turntable plate in different grits in quality aluminium oxide and zirconium oxide available.

Type:		Table plate:	Inches:
KSM	600	Ø 600 mm	23,6"
KSM	600-2	Ø 600 mm	23,6"
KSM	750	Ø 750 mm	29,5"
KSM	750-2	Ø 750 mm	29,5"



Grinding applications



UNT 2 + Adapter, Grinding gate valve wedge



UNT 2 + Adapter, Grinding gate valve seat

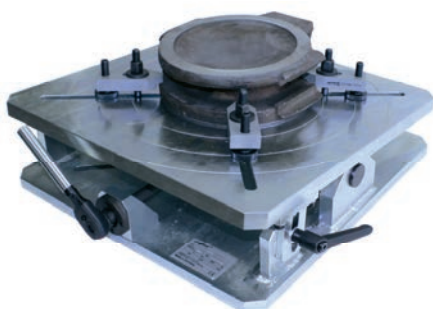
Spring loaded grinding adapter:		Working ranges:		Inches:
SIZE	1 (MT 2)	DN	15 - 400 mm	1/2" - 16"
SIZE	2 (MT 3)	DN	80 - 700 mm	3" - 28"
SIZE	3 (MT 4)	DN	80 - 900 mm	3" - 36"
SIZE	4 (MT 5)	DN	400 - 1600 mm	16" - 64"

Grinding Adapters and Tilt Tables:

With spring-loaded adapters fixed onto a stationary drill press and suitable grinding and lapping accessories, quick and precise in-shop seat repairs can be carried out.

Tilt tables are recommended for accurate alignment of gate valves and wedges (continuous adjustable 0° - 13°).

Tilt Table:		Table size:	Inches:
UNT	1	350 x 350 mm	13,8"
UNT	2	500 x 500 mm	19,7"
UNT	3	1000 x 1000 mm	39,4"
UNT	4	1500 x 1500 mm	59"



UNT 1



Adapter size 3



UNT 3

STATIONARY GRINDING & LAPPING MACHINES

■ unigrind PLANET GRINDING DISKS



Planet disk



Planet disk

Description:

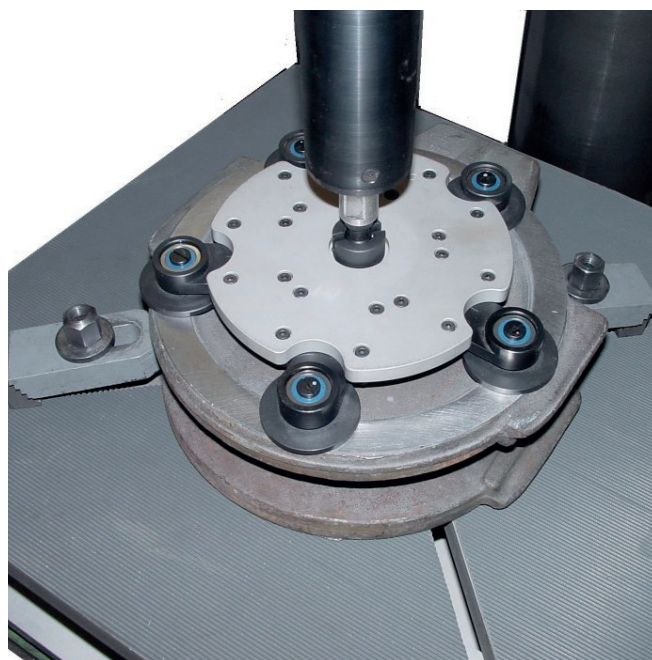
For grinding/lapping of valve seats on column or radial drill machine.

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

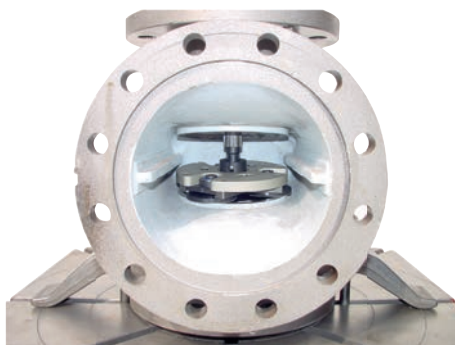
Working ranges:

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

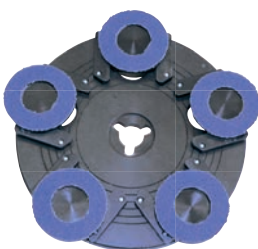
Solid flat grinding disks DN 10 - 200 mm (3/8" - 8")



Grinding of gate valve wedge



Grinding of gate valve seat



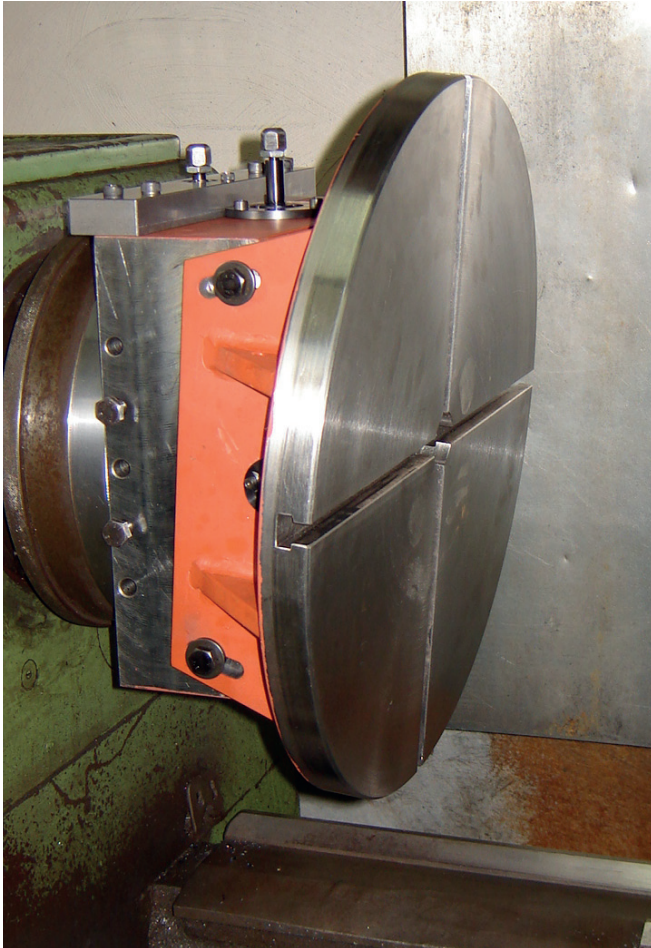
Planet disk



Planet disk

TILTING TABLE FOR LATHE MACHINE

■ unigrind **SKD 500**



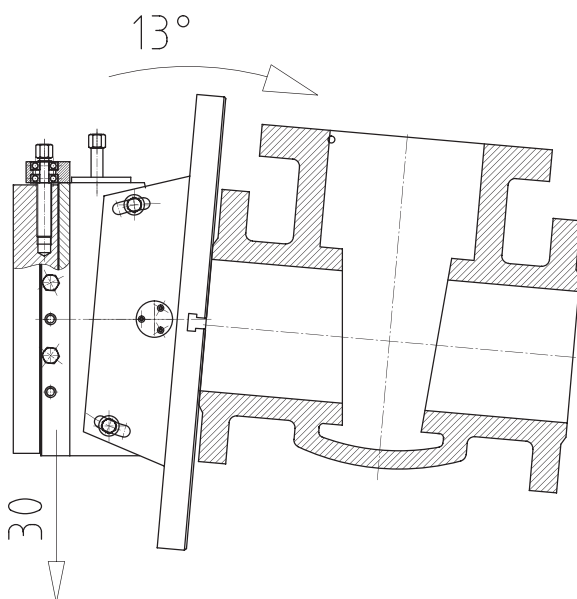
SKD 500:

Tilting table for precise alignment and machining of gate valve wedges and seat in gate valve bodies.

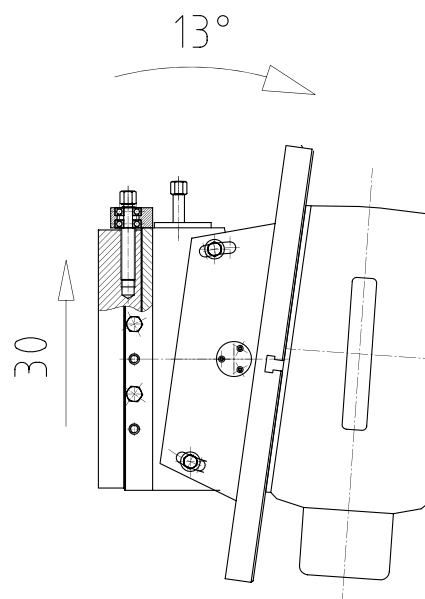
- Steel structure with connecting flange for lathe machine
- Table plate Ø 500 mm with 8 T-Slots,
- Angle infinitely adjustable 0 – 13°.
- Radial adjustment of seat surface to the machine centre max. 30 mm



Adjusting the tilting angle with digital measuring device



SKD 500 tilting table with gate valve body

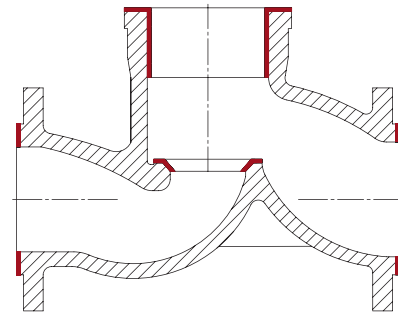


SKD 500 tilting table with gate valve wedge

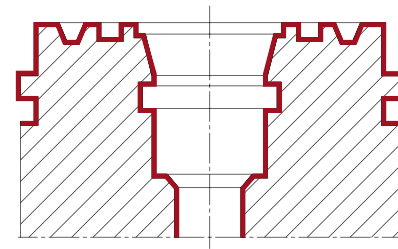
■ unigrind MD



MD 1 Machining of globe valve seat



Machining applications for MD machines



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
- Pump casings

Drives:

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

For MD 1 to MD 3:

- Automatic and manual axial feed: infinitely adjustable

For MD 250 to MD 3:

- Automatic radial feed

Optional available:

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



MD with grinding device

Type:	Working ranges:	Inches:	Workingdepth	Inches:
MD 250	to Ø 400 mm	15,7"	200 mm	7,9"
MD 1	to Ø 400 mm	15,7"	430 mm	16,9"
MD 2	to Ø 600 mm	3,6"	600 mm	23,6"
MD 3	to Ø 1000 mm	39,4"	600, 800, 1000 mm	



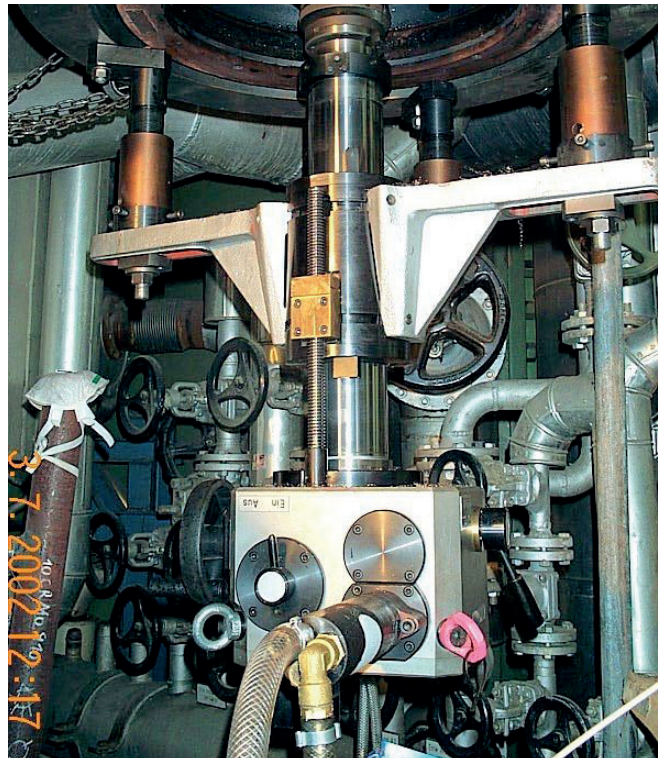
MD 250 with boring and facing head



MD 250 with taper boring head



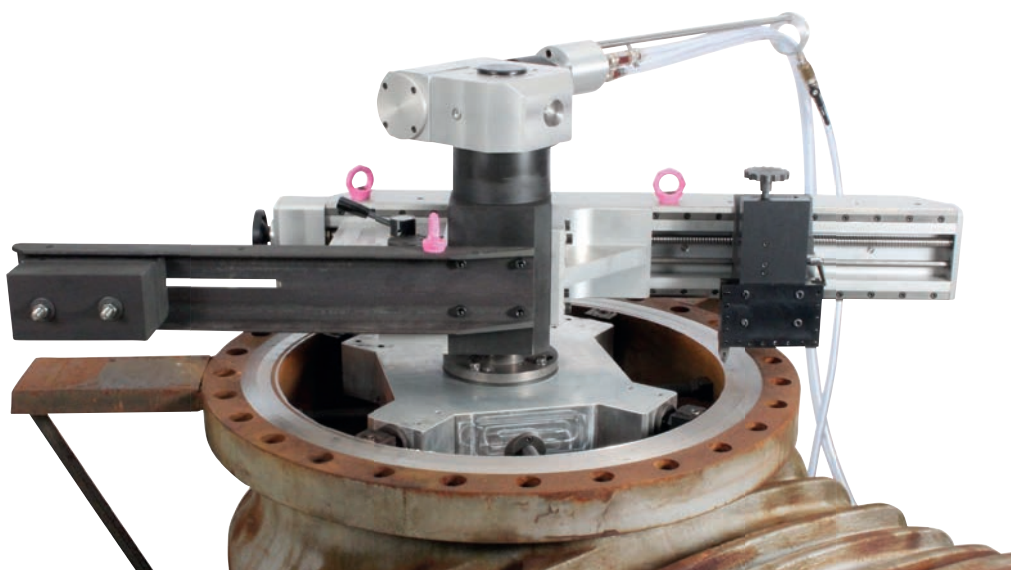
MD Application on site on a safety relief valve



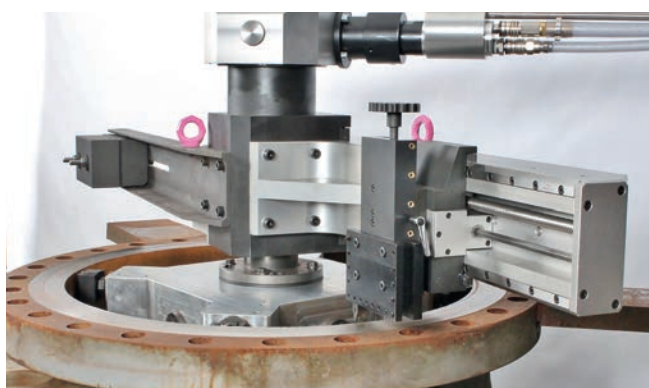
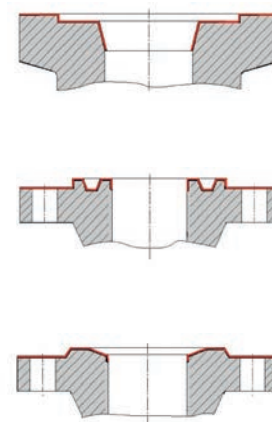
MD Application on site, overhead machining

PORTABLE FLANGE FACING MACHINES

■ **unigrind** **FD**



FD 1500



FD 1500

Internal mounted flange facing machines:

- Flange facing
- RTJ „V“ grooves
- Lens ring
- Weld prep

Features:

- Facing and boring with continuous feed
- Toolpost 360° swivel
- Linear guide and ball screw for tool post

Drives:

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



FD transport container with accessories

Type:		Working ranges:	Inches:
FD	600	DN 50 - 600 mm	24"
FD	1000	DN 150 - 1000 mm	40"
FD	1500	DN 300 - 1500 mm	59"



Sample of application