

180515MD1-S1, SVS 1

## **uni grind® Special Safety Relief Valve Seat Grinder Model SVS 1**

### ■ Application:

Portable grinding, polishing andlapping machine for working on seats in safety (relief) valves and Valve disks applicable on site (when butt-welded) or in work shop.

On site use: Machine mounted to cover flange using 3-jaw-chuck also for precise centring

In shop use: Machine arm to be mounted to a machine stand.

The valve housing and the valve disks are mounted on the 3-Jaw Chuck of the machine stand, capacity up to dia. 320 mm (12 ½"). Precise centring achieved on table. User optimised pneumatic machine arm lifting system resp. lowering With fine adjust valve.

### ■ Machine description and advantages:

- Pneumatic motor for grinding tool rotation and eccentric spindle movement with infinitely speed setting
- **infinitely adjustment of eccentric spindle movement, range 0 – 3 mm**
- **grinding time adjustable by timer**
- grinding disk rotation clockwise while eccentric movement counter-clockwise
- spring loaded drive spindle for precise working pressure adjustment
- crosshatched grinding due to individually adjustable rotation speeds thus resulting in a perfect utilization of abrasives, absolute seat flatness and reproducible grinding results
- **mirror finish valve seat surfaces**
- because of the precise machine arm positioning to the seat centre, the pre-selection of working pressure, grinding time and abrasives there are no negative or indefinite influences involved (always possible while doing grinding manually).

### ■ Working range: DN 10 – 300 (3/8" – 12")

seat diameter: min. 10 mm (¾") max. (10") 240 mm (mounted to stand)  
 seat diameter: min. 100mm (4") max. (14") 350 mm (with 3-jaw-chuck)

### ■ Submerging depth: 350 mm (13 ¾") extendible if requested

### ■ Technical data:

Spindle rotation speed: 25 - 190 U/min / rpm, infinitely adjustable

Eccentric rotation speed: 5 – 45 U/min / rpm

Eccentricity of grinding spindle adjustable: **0 – 3 mm**

Clamping capacity 3-jaw-chuck: 80 - 450 mm (3" -18")  
 (extendible using longer claws)

Capacity grinding motor and eccentric motor: 0,6 kW, at 6 bar working pressure

180515MD1-S1, SVS 1

## ■ Scope of delivery:

<u>Machine arm</u>	1	machine arm with pneumatic drive, spring-loaded grinding spindle, with adjustable eccentricity (alternatively Electric drive 230 V, 50-60 Hz)
<u>Mounting:</u>	1	3-jaw-chuck mounting and centring device with clamping range 80 – 450 mm, for mounting machine to valve.
	1	in shop machine stand with lifting cylinder and 3 Jaw chuck for precise centing and mounting the valves and valve disks as described
<u>Grinding tools:</u>	1	grinding disk made of steel, with integrated spherical hub hardened and lapped, Ø 20 mm
	1	grinding disk made of steel, with integrated spherical hub hardened and lapped, Ø 25 mm
	1	grinding disk made of steel, with integrated spherical hub hardened and lapped, Ø 30 mm
	1	grinding disk made of steel, hardened and lapped, Ø 35 mm
	1	grinding disk made of steel, hardened and lapped, Ø 40 mm
	1	grinding disk made of steel, hardened and lapped, Ø 45 mm
	1	grinding disk made of steel, hardened and lapped, Ø 50 mm
	1	grinding disk made of steel, hardened and lapped, Ø 55 mm
	1	grinding disk made of steel, hardened and lapped, Ø 60 mm
	1	grinding disk made of steel, hardened and lapped, Ø 65 mm
	1	grinding disk made of steel, hardened and lapped, Ø 80 mm, with 4 pc. Steel cams dia.30 mm
	1	grinding disk made of steel, hardened and lapped, Ø 100 mm, with 4 pc. Steel cams dia.34 mm
	1	grinding disk made of steel, hardened and lapped, Ø 140 mm, with 4 pc. Steel cams dia.34 mm
	1	grinding disk made of steel, hardened and lapped, Ø 165 mm, with 6 pc. Steel cams dia.34 mm
	1	grinding disk made of steel, hardened and lapped, Ø 215 mm, with 6 pc. Steel cams dia.34 mm, steel cams on both side on outer diameter 215 mm and 200 mm
	1	grinding disk made of steel, hardened and lapped, Ø 260/230 mm, with 6 pc. Steel cams dia.34 mm, steel cams on both side on outer diameter 260 mm and 230 mm
	1	grinding disk made of steel, hardened and lapped, Ø 300/360 mm, with 6 pc. Steel cams dia.34 mm, steel cams on both side on outer diameter 360 mm and 300 mm
	1	Special ball socket for mounting grinding disks with Ø 80 – 100 mm
	1	Special ball socket for mounting grinding disks with Ø 140 – 420 mm
	1	Ball pin with diameter 10 mm for the Grinding disks Ø 20 – 35 mm
	1	Ball pin with diameter 15 mm for the Grinding disks Ø 40 – 420 mm
		Trouble free disk change without using screws allows fast abrasive change.

- Reparatur- und Prüftechnik für Armaturen
- Transportable und stationäre Drehtechnik
- Sondermaschinenbau
- Gewinde-Reinigungsgeräte

- Valve repair and testing technique
- Portable and in shop facing and boring machines
- Customized special purpose machines
- Thread cleaning equipment



180515MD1-S1, SVS 1

#### Pneumatic

Control box: 1 with ON/OFF switches, timer for precise grinding time setting 0-100 sec., Filter unit for Lifting cylinder of machine stand

Accessories: 1 set of tools

Abrasives: 1 assortment of plastic backed folio abrasive rounds (total 3000 pc)

	Quantity / Abrasive round per diameter in mm									
Grit	Ø 20	Ø 25	Ø 30	Ø 35	Ø 40	Ø 45	Ø 50	Ø 55	Ø 60	Ø 65
P 150 ( = 100 µ)	50	50	100	100	50	50	50	50	50	50
P 280 ( = 60 µ)	50	50	100	100	50	50	50	50	50	50
P 500 ( = 30 µ)	50	50	100	100	50	50	50	50	50	50
P 1000 ( = 15 µ)	50	50	100	100	50	50	50	50	50	50
P 1800 ( = 9 µ)	50	50	100	100	50	50	50	50	50	50
Total Qty./ Diameter	250	250	500	500	250	250	250	250	250	250
	Total Quantity: 3000 pc. To grind about 400 Surfaces on Valve disks and housings - nozzles									

The machine type uni**grind**® SVS 1 will be delivered with all accessories complete in transport and storing box with wheels.

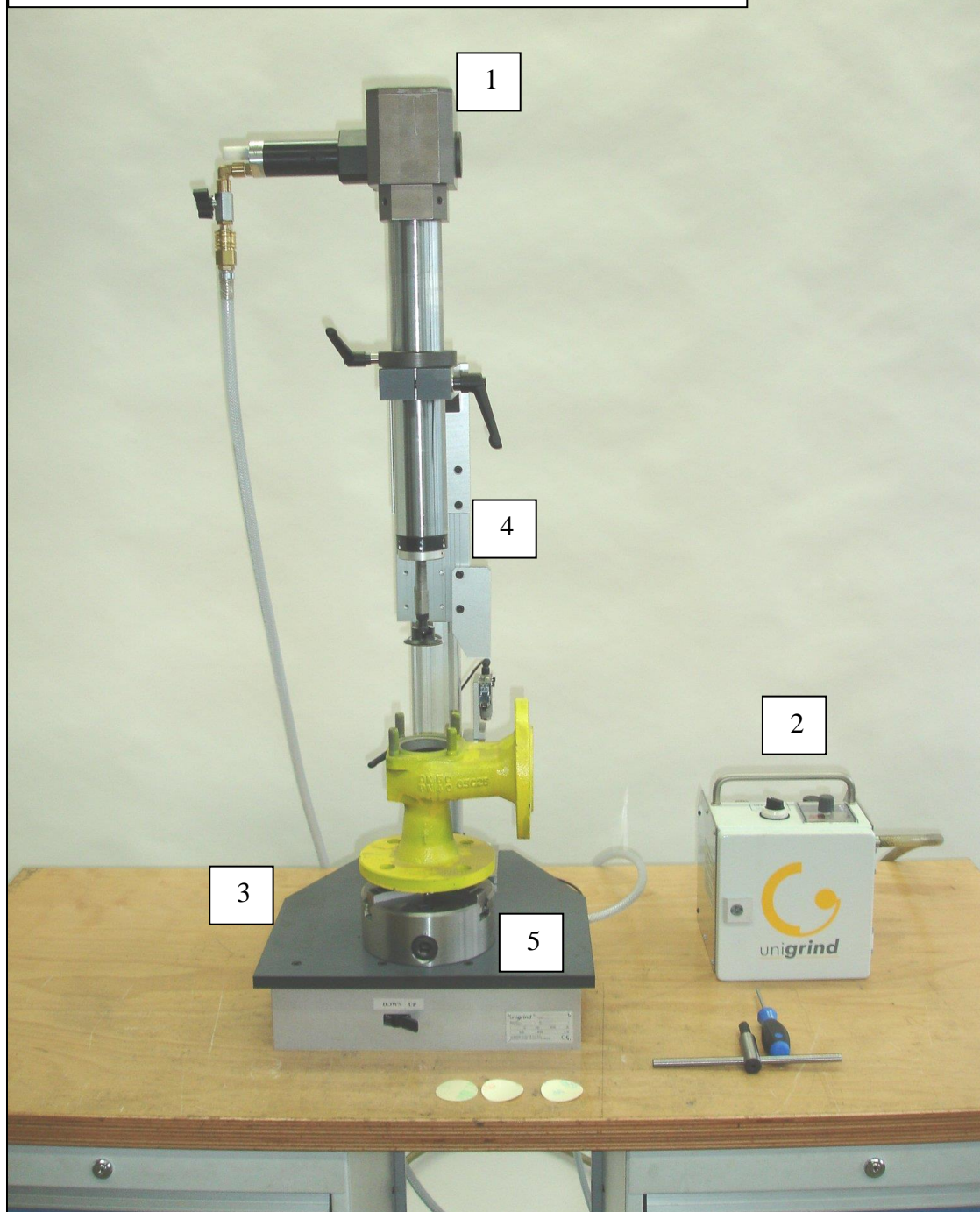
- Reparatur- und Prüftechnik für Armaturen
- Transportable und stationäre Drehtechnik
- Sondermaschinenbau
- Gewinde-Reinigungsgeräte

- Valve repair and testing technique
- Portable and in shop facing and boring machines
- Customized special purpose machines
- Thread cleaning equipment

180515MD1-S1, SVS 1

Unigrind SVS 1 machine configuration working with machine stand for grinding and polishing  
Small size PSV's and valve disks

- 1 SVS 1 Machine arm with pneumatic drive
- 2 Control box with ON/OFF & Timer for grinding time
- 3 Machine Stand
- 4 Lifting Cylinder for machine arm
- 5 3-Jaw chuck Clamping valves and valve discs





- Reparatur- und Prüftechnik für Armaturen
- Transportable und stationäre Drehtechnik
- Sondermaschinenbau
- Gewinde-Reinigungsgeräte

- Valve repair and testing technique
- Portable and in shop facing and boring machines
- Customized special purpose machines
- Thread cleaning equipment

180515MD1-S1, SVS 1

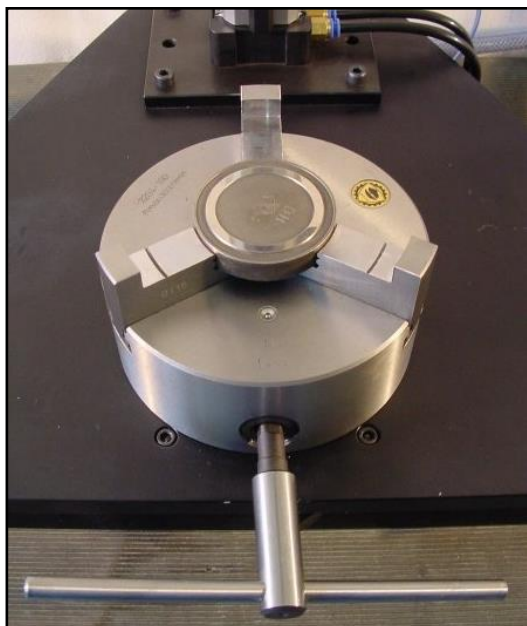
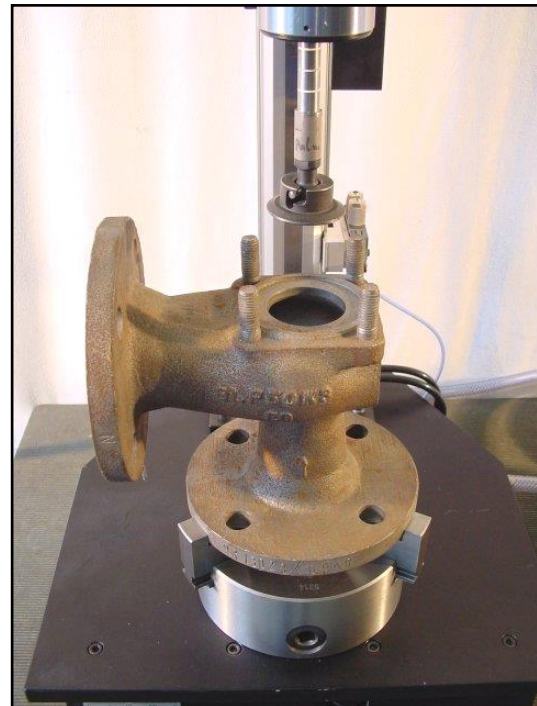
## Details: Clamping the Valve or Valve discs on the machine stand

The 3-Jaw chuck is supplied with 1 set Outside Clamping jaws and 1 set Inside Clamping jaws. The Operator has to select the Jaw type according to the Flange/valve size, if possible he should try to clamp the flange at the inside diameter, because the bore surface is usually machined and the centring of the valve is more precise.

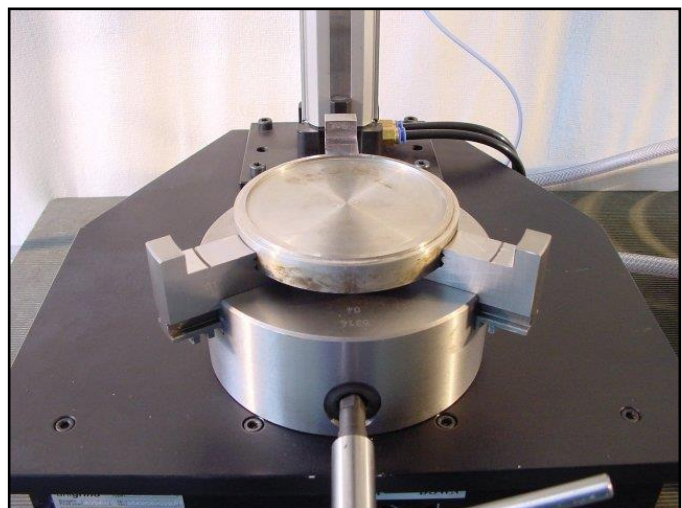
Clamping the valve flange with Inside Jaws at the flange bore



Clamping the valve flange with Outside jaws



Valve disks are always clamped with the Outside jaws



- Reparatur- und Prüftechnik für Armaturen
- Transportable und stationäre Drehtechnik
- Sondermaschinenbau
- Gewinde-Reinigungsgeräte

- Valve repair and testing technique
- Portable and in shop facing and boring machines
- Customized special purpose machines
- Thread cleaning equipment

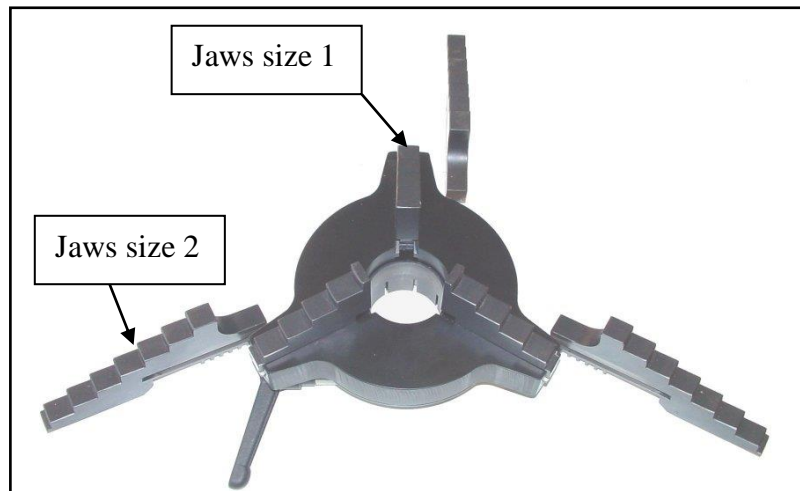
180515MD1-S1, SVS 1

**SVS 1 machine, 3-Jaw Chuck for grinding PSV' in the range from 4" – 14"**

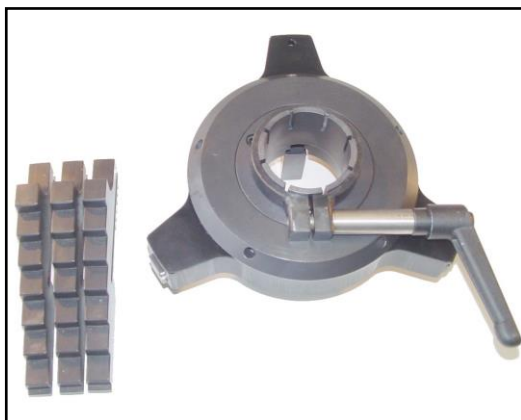
Mounting: 1 pc. 3-jaw-chuck with 2 sets of jaws  
for mounting machine arm to valve housing

Mounting range 80 - 440 mm diameter

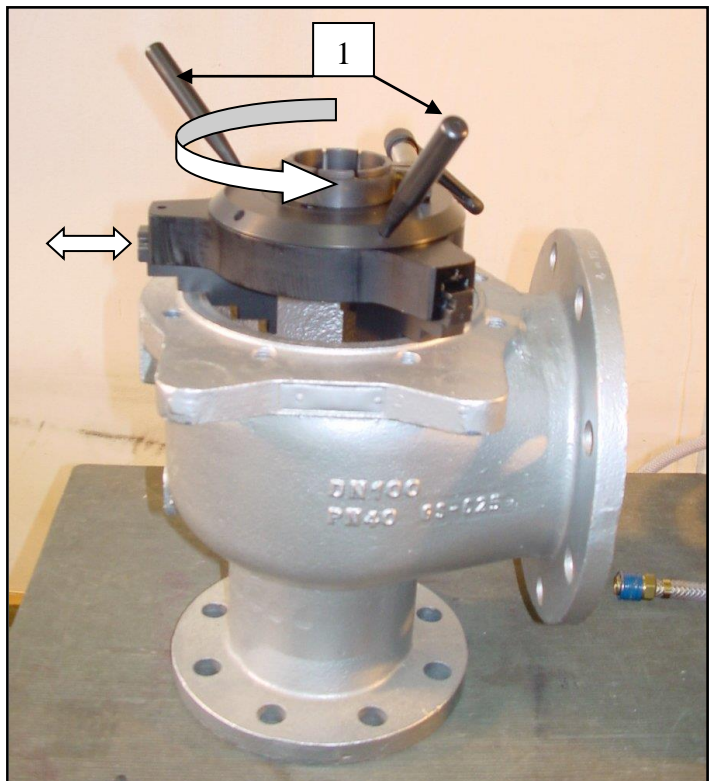
Picture right side:  
3-Jaw chuck view  
from bottom side



Picture bottom:  
3-Jaw chuck view  
from top side



Picture left side:  
3-Jaw chuck view from top  
side.  
Loose and tighten of the 3-Jaw  
chuck is done by turning the  
ring with the bars (1).



- Reparatur- und Prüftechnik für Armaturen
- Transportable und stationäre Drehtechnik
- Sondermaschinenbau
- Gewinde-Reinigungsgeräte

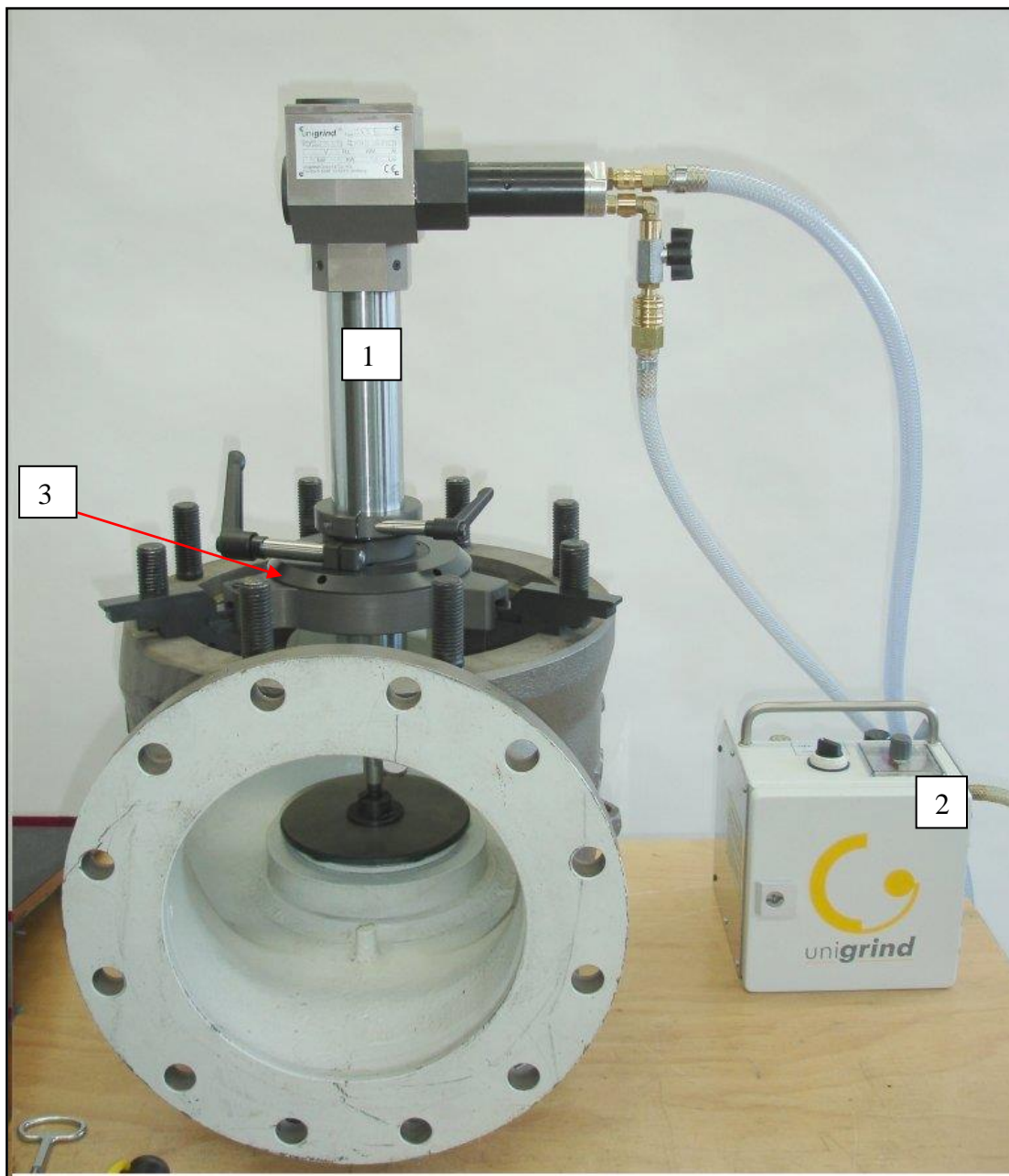
- Valve repair and testing technique
- Portable and in shop facing and boring machines
- Customized special purpose machines
- Thread cleaning equipment

180515MD1-S1, SVS 1

SVS 1 machine:

mounted with 3-Jaw Chuck on 8" Safety Relief Valve housing for grinding and polishing the valve seat

- 1 SVS 1 Machine arm
- 2 Control box with ON/OFF & Timer for grinding time adjustment
- 3 3-Jaw chuck mounting and centring device for the machine arm



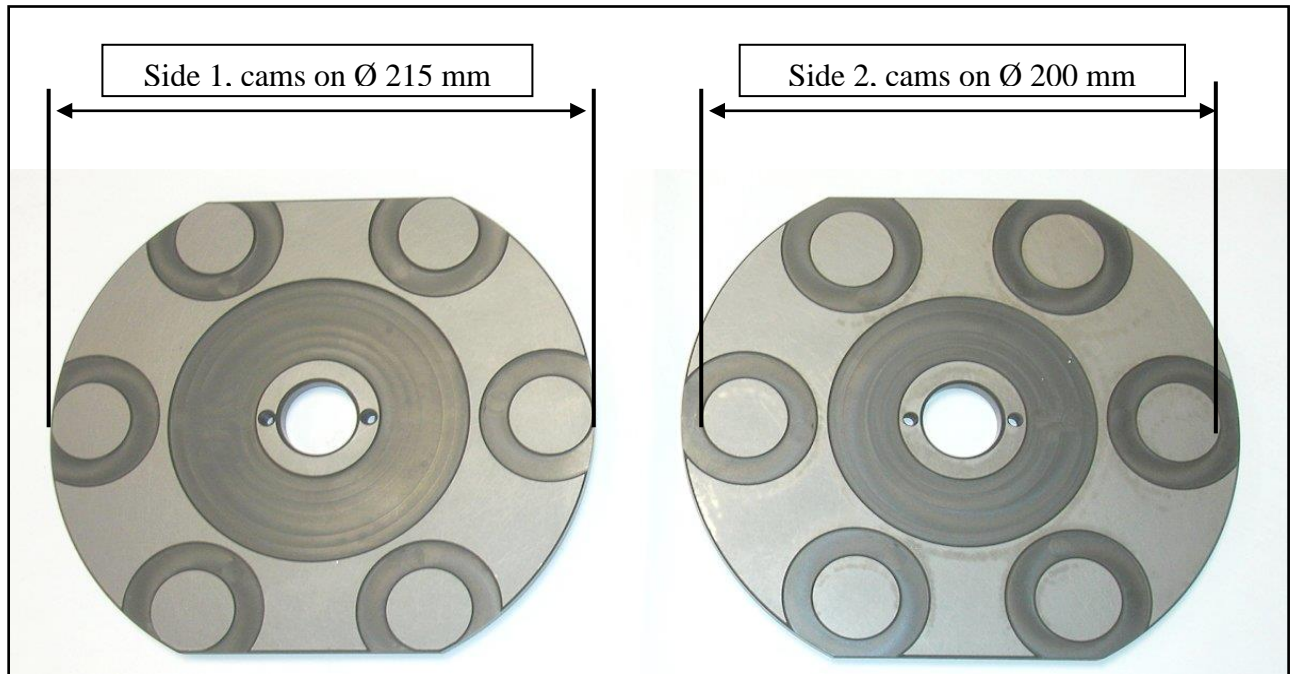


- Reparatur- und Prüftechnik für Armaturen
- Transportable und stationäre Drehtechnik
- Sondermaschinenbau
- Gewinde-Reinigungsgeräte

- Valve repair and testing technique
- Portable and in shop facing and boring machines
- Customized special purpose machines
- Thread cleaning equipment

180515MD1-S1, SVS 1

Grinding disks with cams for double side use



Transport box with Scope of delivery from SVS 1 machine





- Reparatur- und Prüftechnik für Armaturen
- Transportable und stationäre Drehtechnik
- Sondermaschinenbau
- Gewinde-Reinigungsgeräte

- Valve repair and testing technique
- Portable and in shop facing and boring machines
- Customized special purpose machines
- Thread cleaning equipment

180515MD1-S1, SVS 1

Transport box SVS 1

