

FDA 1200



FDA 500

## External mounted flange facing machines:

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

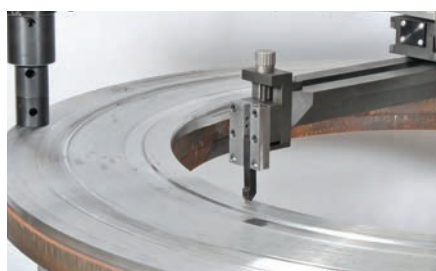
## Features:

- Facing with continuous feed
- Boring feed with striker
- Toolpost max. 120° swivel

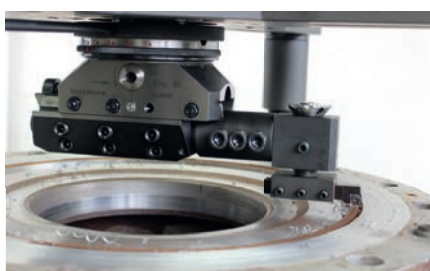
## Drives:

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

Type:	Working ranges:	Inches:
FDA 500	DN 0 - 500 mm	0" - 19,7"
FDA 1000	DN 200 - 1000 mm	8" - 40"
FDA 1200	DN 300 - 1200 mm	12" - 48"



facing machining



facing machining



tapered machining

# SINGLE-PLATE SURFACE LAPPING MACHINES

■ **unigrind ULM**



**Single-plate surface lapping machine for precision lapping and polishing of surfaces from components such us:**

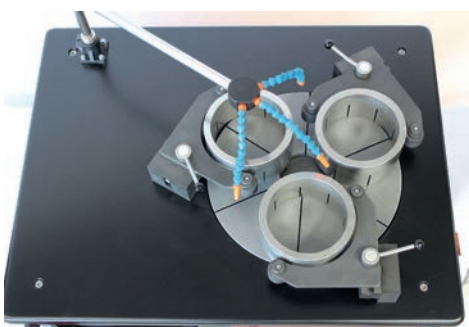
- Valve parts (valve disks and wedges)
- Compressor parts
- Mechanical seals of pumps

## **Design:**

- Grooved lapping plate made of high density cast iron (Optional other materials)
- Conditioning rings made of cast iron
- Tubular steel construction of machine base
- Three adjustable roller guide arms with guide rolls
- Work table vertically adjustable
- Timer (0 - 60 min) included
- Drive with infinite Speed setting via Frequency Converter
- Lapping compound mixing facility with adjustable feeding system. The lapping plate is continuously fed with lapping mixture via a pump system. The Volume of the lapping mixture fed is precisely adjustable by the pump speed.



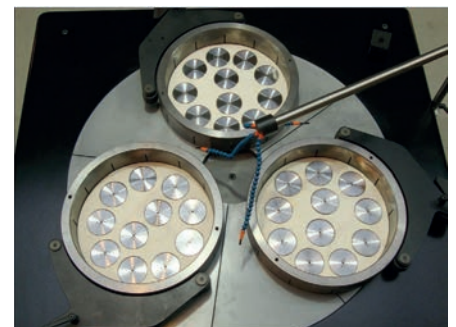
ULM 1500 Machine view into the machine



Lapping with ULM, view from top



Control desktop



Conditioning rings with work pieces

# SINGLE-PLATE SURFACE LAPPING MACHINES

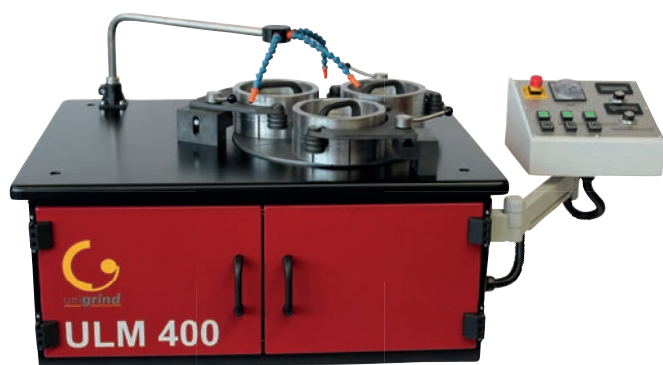
■ **unigrind ULM**



ULM 400 Stand machine

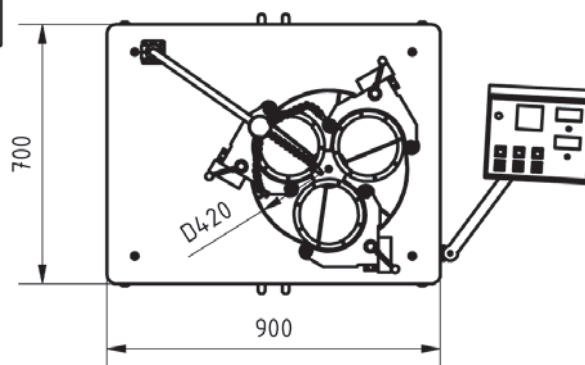
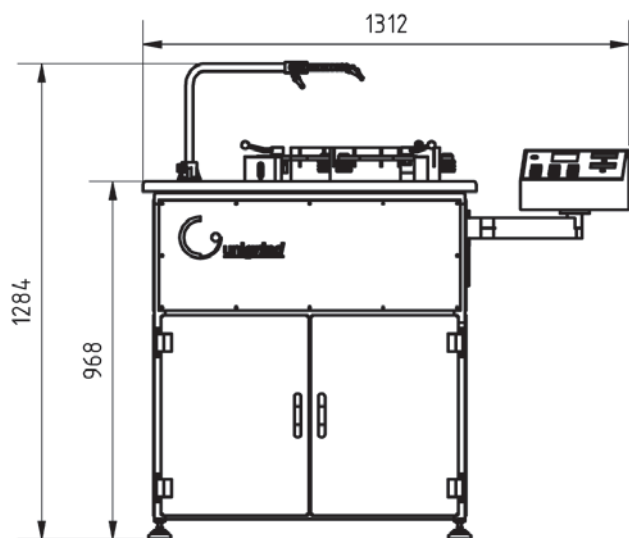


View into the machine



ULM 400 Table machine

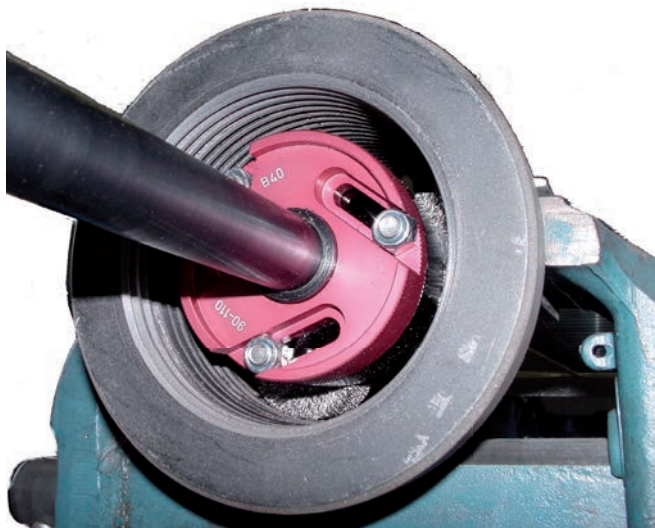
Type:	Lapping wheel mm/Inch	Max. work piece mm/Inch	Lapping wheel speed	Drive:
ULM 400	Ø 420 mm / 16,50"	Ø 150 mm / 6,10"	15 - 100 rpm	0,55 kw
ULM 600	Ø 620 mm / 24,40"	Ø 250 mm / 9,85"	8 - 70 rpm	3 kW
ULM 900	Ø 920 mm / 36,20"	Ø 380 mm / 14,96"	7 - 50 rpm	7,5 kW
ULM 1200	Ø 1220 mm / 48,00"	Ø 505 mm / 19,88"	7 - 40 rpm	11 kW
ULM 1500	Ø 1520 mm / 59,84"	Ø 625 mm / 24,60"	7 - 40 rpm	11 kW





# THREAD CLEANING EQUIPMENT

## ■ unigrind IR/AR



IR female thread cleaning head

### Portable Female Thread Cleaning Equipment: Type IR

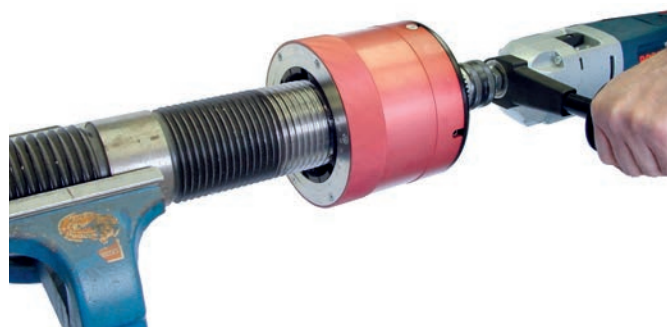
Mechanical cleaning of female threads in housing, nuts and blind holes by using adjustable cleaning heads with stainless steel brushes.

#### Working ranges:

8 - 180 mm thread diameter

#### Comment:

For sizes below diameter 60 mm single cleaning brushes, infinitely adjustable female thread cleaning heads for thread diameter 60-180 mm.



AR male thread cleaning head

### Portable Male Thread Cleaning Equipment: Type AR

Mechanical cleaning of male threads and bolts with infinitely adjustable cleaning heads with stainless steel brushes.

#### Drives:

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

Vacuum device and extensions are available for the complete AR & IR tools. The thread cleaning equipment is supplied in a steel case with all accessories.

Type:	Working Range:	Type:	Working Range:
IR	Ø 8 - 72 mm	IR	Ø 90 - 110 mm
IR	Ø 60 - 72 mm	IR	Ø 110 - 130 mm
IR	Ø 70 - 80 mm	IR	Ø 130 - 150 mm
IR	Ø 80 - 90 mm	IR	Ø 150 - 180 mm

Type:	Working Range:
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



IR Cleaning brushes



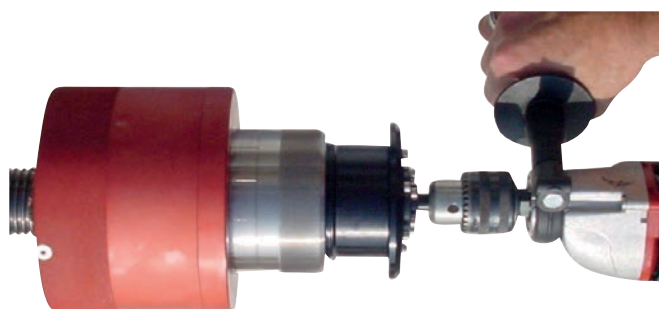
IR transport box with accessories



AR Adjustable cleaning head

# THREAD CLEANING EQUIPMENT

## ■ unigrind ARG/SAM



ARG Male thread cleaning head

### Portable Male Thread Cleaning Equipment: Type ARG

Mechanical cleaning of male threads and bolts with infinitely adjustable cleaning heads with stainless steel brushes.

#### Drives:

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

Vacuum device and extensions are available for the complete ARG tools. The thread cleaning equipment is supplied in a steel case with all accessories.

Type:	Working Range:
ARG 10-27	M 10 - M 27
ARG 22-54	M 22 - M 54
ARG 36-68	M 36 - M 68
ARG 52-88	M 52 - M 88
ARG 86-120	M 86 - M 120



SAM

### Stationary Male Thread Cleaning Equipment: Type SAM 80

Mechanical cleaning of male threads and bolts with infinitely adjustable cleaning head with stainless steel brushes.

#### Drives:

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

Vacuum device and extensions are available.

#### Working ranges:

Outer diameter of thread 10 - 80 mm (1/2" - 3")  
Cleaning length 450 mm (18")

#### Optional extras:

Cleaning equipment for female threads to also clean nuts.



ARG Front view of the cleaning head



SAM Detail view



SAM Detail view

## ■ GENERAL DESCRIPTION

unigrind designs, manufactures and delivers test units for pressure and leak testing of any type of:

gate, globe, plug, ball, check, butterfly and safety relief valves according to the international standards.

**The selection of the test unit and clamping system is made according to:**

- Test types
- Valve sizes
- Valve types
- Test pressure according to valve size

**Test types:**

- Body Test
- Leakage test of spindle glands
- Leak test of valve seat
- Set pressure of safety relief valves

**Valve size:**

1/4" - 40" (DN 10 - 1000 mm)

**Test pressures:**

- Water: 0 - 690 bar/0 - 10000 psi
- Compressed Air: 0 - 400 bar/0 - 5800 psi
- Nitrogen: 0 - 680 bar/0 - 9860 psi
- Other pressure ranges on request

**Test Media:**

- Water
- Compressed air
- Nitrogen

**Design:**

- Stationary test units for work shop
- Portable test units for on-site use or installation in containers etc.
- Data Acquisition System for valve data, test results and test report
- Hydraulic clamping system with manual clamping force control according to test pressure
- Hydraulic clamping system with automatic proportional clamping force control
- Vertical hydraulic quick clamping system – the valves are clamped only by the flange
- Vertical hydraulic quick clamping system – the valves are clamped only by the valve flange or between the test table plates
- Automatic centring system for clamping brackets
- Horizontal clamping system
- Horizontal and tilting clamping system for testing in horizontal and vertical position
- Portable power packs for testing pipes and pressure vessel etc.

**Optional features:**

- Data Acquisition System for valve data, test results and test report
- Set pressure detection system for Safety Relief valves
- Analogue and digital indication of test pressures
- Hydraulic clamping system with automatic clamping force control
- Electric or pneumatic driven high pressure compressor and storage system
- Adapters for male and female thread connections
- Quick clamp tools for clamping and sealing of flanges
- Flow meters for leak detection
- 0 - 30 psi and 0 - 50 psi air actuator and positioner circuit,
- 0 - 26 V DC Power supply
- 4 - 20 mA controller, Data Acquisition system
- Digital bubble counter



TS 50-S



TS 30

### Test unit for testing of Safety Relief Valves, Control valves and Shut-Off valves:

- Test unit with Vertical hydraulic quick clamping system
- The valves are clamped only by the flange
- Valves with thread connection are clamped with adapter flange
- For body testing of the valves it is required to close the outlet flange with a blind flange or special quick clamp and sealing tool
- Test units are also available in a combined version with two clamping devices of different design, working range or clamping force

### Hydraulic clamping systems are available with:

18, 30, 55, 85 and 105 tons clamping force

### Optional features:

- flow meters for leak detection
- 0 - 30 psi + 0 - 50 psi air actuator and positioner circuit
- 0 - 26 V DC Power supply, 4 - 20 mA controller
- Data acquisition system
- Hydraulic clamping system with automatic clamping force control
- Digital bubble counter
- Combined Test Units



TS 18

Type:		Working ranges:	Inches:
TS	18	DN 10 - 250 mm	3/8" - 10"
TS	30	DN 10 - 250, 300, 400 mm	3/8" - 16"
TS	50	DN 10 - 250, 400, 500, 600 mm	3/8" - 24"
TS	80	DN 25 - 250, 400, 500, 600 mm	1" - 24"
TS	100	DN 50 - 400, 600 mm	2" - 24"

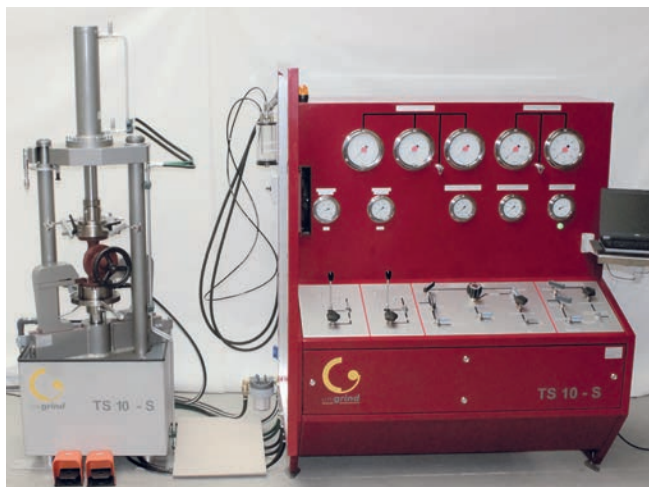
### Standard features:

- Hydraulic clamping system
- Hydrostatic test circuit
- Air test circuit
- Nitrogen test circuit
- Bubble counter for leak test
- Safety interlock system
- Gauge calibration ports
- Pre-filling and filter system for water



TS 100 and TS 30





TS 10-S



TS 50-S

### Test unit for testing of Shut-Off valves, Control valves and Safety relief Valves:

- Test unit with vertical hydraulic quick clamping system
- The valves will be clamped by the flange or between lower and upper test table
- Swing out top plate for clamping and testing valves from both sides
- Valves with welding ends are clamped between bottom and top plate by using special seal adapters
- For body testing the valves are clamped and sealed between bottom and top plate
- Test units are also available in a combined version with two clamping devices of different design, working range or clamping force

### Hydraulic clamping systems are available with:

18, 30, 55, 85, 105 and 150 tons clamping force

### Optional features:

- flow meters for leak detection
- 0 - 30 psi + 0 - 50 psi air actuator and positioner circuit
- 0 - 26 V DC Power supply, 4 - 20 mA controller
- Data acquisition system
- Hydraulic clamping system with automatic clamping force control
- Digital bubble counter

Type:	Working ranges:	Inches:
TS 18-S	DN 10 - 250 mm	3/8" - 10"
TS 30-S	DN 10 - 250, 300, 400 mm	3/8" - 16"
TS 50-S	DN 10 - 250, 400, 500, 600 mm	3/8" - 24"
TS 80-S	DN 25 - 250, 400, 500, 600 mm	1" - 24"
TS 100-S	DN 50 - 400, 600 mm	2" - 24"
TS 150-S	DN 100 - 400, 600, 800 mm	4" - 32"

### Standard features:

- Hydraulic clamping system
- Hydrostatic test circuit
- Air test circuit
- Nitrogen test circuit
- Bubble counter for leak test
- Safety Interlock System
- Gauge calibration ports
- Pre-filling and filter system for water



TS 80-S and TS 18-S





TSH 50-S

Type:	Working ranges:	Inches:
TSH 18-S	DN 10 - 250 mm	3/8" - 10"
TSH 30-S	DN 10 - 250, 400 mm	3/8" - 16"
TSH 50-S	DN 10 - 250, 500 mm	3/8" - 20"
TSH 80-S	DN 25 - 250, 500 mm	1" - 20"
TSH 150-S	DN 100 - 400, 600 mm	4" - 24"

### Standard features:

- Hydraulic clamping system
- Hydrostatic test circuit
- Air test circuit
- Nitrogen test circuit
- Bubble counter for leak test
- Safety Interlock System
- Gauge calibration ports
- Pre-filling and filter system for water

### Test unit for testing of shut-off valves and control valves:

- Test unit with horizontal hydraulic clamping system for clamping the valve at both flanges between the test tables
- For testing valves with butt-weld or socket-weld connections, special seal adapters are required
- In horizontal position it is easier to load the valve with actuators inside the clamping system
- Test units are also available in a combined version with two clamping devices of different design, working range or clamping force

### Hydraulic clamping systems are available with:

18, 30, 55, 85, 105 and 150 tons clamping force

### Optional features:

- flow meters for leak detection
- 0 - 30 psi + 0 - 50 psi air actuator and positioner circuit
- 0 - 26 V DC power supply, 4 - 20 mA controller
- Data Acquisition system
- Hydraulic clamping system with automatic clamping force control
- Digital bubble counter



TSH 30-S



TSH 18-S



TS 30-S/TS 50

### Test unit for testing of shut-off valves and control valves:

- Test unit with horizontal hydraulic clamping system and 90 degree rotation for clamping the valve at both flanges between the test tables.
- The Clamping system is able to test valves in a horizontal, vertical or inclined position.
- Advantages of the rotating clamping system are: it is easier to load the valve with actuators inside the clamping system in the horizontal position. In a vertical position the evacuation of the air out of the valve is assured during filling with water.
- For testing valves with butt-weld or socket-weld connections, special seal adapters are required
- Test units are also available in combined version with two clamping devices of different design, working range or clamping force

### Hydraulic clamping systems are available with clamping force of:

30, 55 and 85 tons



TSHV 80-S

Type:		Working ranges:	Inches:
TSHV	30-S	DN 10 - 250 mm	3/8" - 10"
TSHV	50-S	DN 10 - 250, 500 mm	3/8" - 20"
TSHV	80-S	DN 25 - 250, 400, 500 mm	1" - 20"

### Standard features:

- Hydraulic clamping system
- Hydrostatic test circuit
- Air test circuit
- Nitrogen test circuit
- Bubble counter for leak test
- Safety Interlock System
- Gauge calibration ports
- Pre-filling and filter system for water

### Optional features:

- flow meters for leak detection
- 0 - 30 psi + 0 - 50 psi air actuator and positioner circuit
- 0 - 26 V DC Power supply, 4 - 20 mA controller
- Data Acquisition system
- Hydraulic clamping system with automatic clamping force control
- Digital bubble counter

TSHV 80-S





TS 30-S



TS 50-S

Type:	Working ranges:	Inches:
TS 18	DN 10 - 250 mm	3/8" - 10"
TS 30	DN 10 - 250, 400 mm	3/8" - 16"
TS 50	DN 10 - 250, 400, 500, 600 mm	3/8" - 24"

### Portable Test unit for testing of safety relief valves and other industrial valves:

- Test unit with vertical hydraulic quick clamping system – the valves are clamped only by the flange
- Valves with thread connection are clamped with adapter flange
- For body testing of the valve it is required to close the outlet flange with blind flange or special quick clamp and sealing tools (hydraulic and manual)

### Hydraulic clamping systems are available with:

18, 30, 55 tons clamping force

### Standard features:

- Hydraulic clamping system
- Hydrostatic test circuit
- Air test circuit
- Nitrogen test circuit
- Bubble counter for leak test
- Safety interlock system
- Gauge calibration ports
- Pre-filling and filter system for water

### Optional features:

- Data acquisition system
- Digital bubble counter

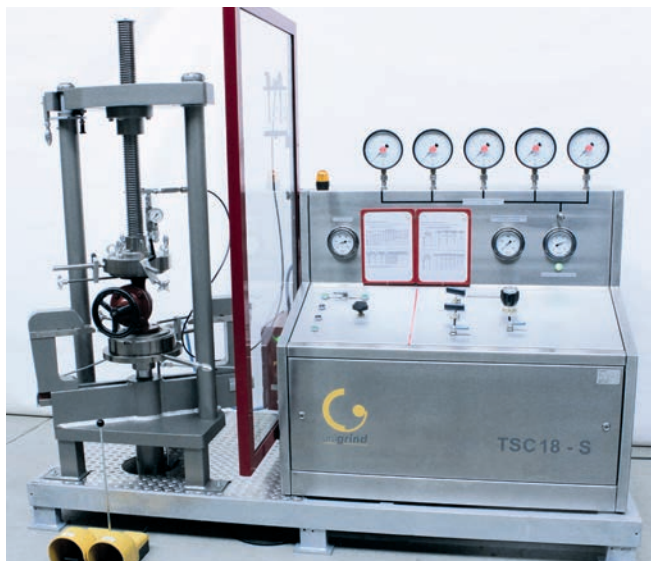


TSHV 30-S



# TEST UNITS

## ■ unigrind TSC - S



TSC 18-S

### Portable Test unit for testing of shut-off, safety relief and control valves:

- Test unit with vertical hydraulic quick clamping system
- The valves are clamped by the flange or between lower and upper test table
- Swing out top plate for clamping and testing valves from both sides
- Valves with thread connection are clamped with adapter flange
- Valves with welding ends are clamped between bottom and top plate by using special seal adapters
- For body testing the valves are clamped and sealed between bottom and top plate

**Hydraulic clamping systems are available with clamping force of:**  
18, 30, 55 tons

Type:	Working ranges:	Inches:
TSC 18 S	DN 10 - 250 mm	3/8" - 10"
TSC 30 S	DN 10 - 250 mm	3/8" - 10"
TSC 50 S	DN 10 - 250, 400, 500 mm	3/8" - 20"



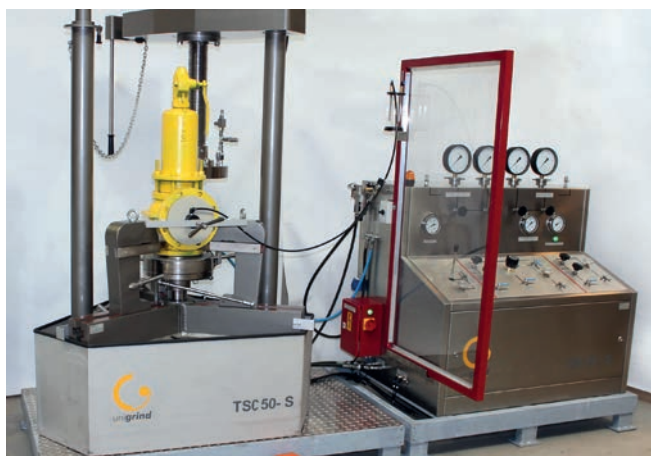
TSC 50-S

### Standard features:

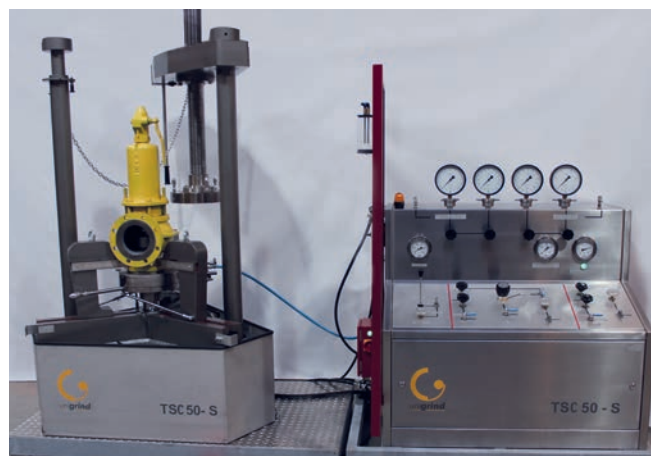
- Hydraulic clamping system
- Hydrostatic test circuit
- Air test circuit
- Nitrogen test circuit
- Bubble counter for leak test
- Safety interlock system
- Gauge calibration ports
- Pre-filling and filter system for water

### Optional features:

- flow meters for leak detection
- 0 - 30 psi + 0 - 50 psi air actuator and positioner circuit
- 0 - 26 V DC Power supply, 4 - 20 mA controller
- Data Acquisition system
- Digital bubble counter



TSC 50-S



TSC 50-S



TS 10 M



TS 10 M-H with air- and water test

### Portable Test unit for testing of shut-off valves and safety relief valves:

- Portable valve test unit with manual vertical clamping system
- The valves are clamped only by the flange with 2, 3 or 4 pc. clamping brackets
- Valves with thread connection are clamped with adapter flange
- For body testing of the valve it is required to close the outlet flange with blind flange or special quick clamp and sealing tools (hydraulic and manual)

### Mechanical clamping system with clamping force of:

10 tons

### Working range:

1/4" - 8"

### Pressure range:

0 - 240 bar (0 - 3480 psi)

### Test systems TS 10 M:

- Compressed Air and Nitrogen test circuit 0 - 240 bar (0 - 3480 psi)
- Bubble counter for leak test

### Test systems TS 10 M-H:

- Compressed air and nitrogen test circuit 0 - 240 bar (0 - 3480 psi)
- Bubble counter for leak test
- Hydrostatic test circuit 0 - 240 bar (0 - 3480 psi)
- Stainless steel water tank

### Standard features:

- Stainless steel frame and control panel
- Galvanized: test table
- O-Ring plates
- Clamping brackets and screws

**For existing valve test units we can supply hydraulic clamping systems for Safety Relief valves, shut-off valves and control valves.**

### Standard features:

- Hydraulic clamping system, clamping force adjustable according to test pressure
- Requires only air supply 70 - 90 psi, and 230 V, 50-60Hz.
- Clamping brackets with adapter clamps
- Safety interlock system
- Interchangeable test table plates
- O-Ring seal plates

### Hydraulic clamping systems build with clamping force of:

18, 30, 55, 85 tons

### Design of clamping systems:

- Model TS clamping by the flange alone
- TS-S clamping by the flange and with swing out top plate and stem screw for clamping between bottom and top plate

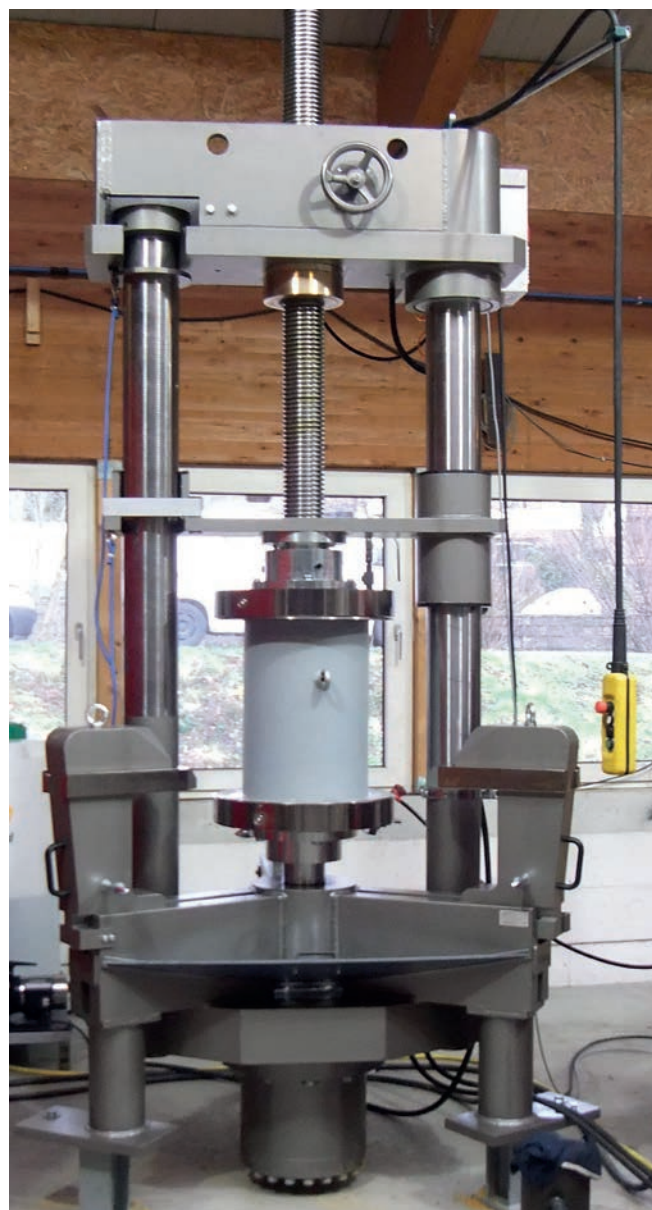
### Comment:

The Clamping system can also be supplied with stainless steel water reservoir for test medium.

Type:		Working ranges:	Inches:
TS	18	DN 10 - 250 mm	3/8" - 10"
TS	18-S	DN 10 - 250 mm	3/8" - 10"
TS	30	DN 10 - 250, 300, 400 mm	3/8" - 16"
TS	30-S	DN 10 - 250, 300, 400 mm	3/8" - 16"
TS	50	DN 10 - 250, 400, 500, 600 mm	3/8" - 24"
TS	50-S	DN 10 - 250, 400, 500, 600 mm	3/8" - 24"
TS	80	DN 10 - 250, 400, 500, 600 mm	1" - 24"
TS	80-S	DN 10 - 250, 400, 500, 600 mm	1" - 24"



TM 900



TS 100-S



TS clamping systems





TSP 20-250-G60



TSP 20-340

### Pressure ranges:

0 - 100	bar	1450	psi
0 - 240	bar	3480	psi
0 - 400	bar	5800	psi
0 - 630	bar	9135	psi
0 - 1000	bar	14500	psi

### Required air supply:

5 - 6 bar/70 - 85 psi

### Comment:

other pressure ranges on request

- Vacuum test 0 to -0,8 bar
- Leakage test 0 to 32 l/min.

**The portable test unit is a fully-assembled unit, ready for installation. The test unit can be used in all applications where high pressure and low flow rates are required.**

### For example for testing of:

pipes, vessels, valves etc.

### Standard features:

- Water tank (40 l) and frame made of stainless steel
- Available with 2 or 4 wheels
- Air driven water pump with wide adjustable pressure ranges
- Test circuit with pressure regulator, pressure gauge, shut-off and pressure release valve
- Air filter, water separator and pressure regulator



TSL 40 portable pressure test system



TSL 40 portable leakage test system

# TEST UNIT

## ■ unigrind DATA ACQUISITION SYSTEM



TS 100-S

### Digital data acquisition system

For data acquisition and test report generation a pre-installed, ready-to-use software package is used. A network version is also available. The communication in several languages is supported.

### System Characteristics:

The system comprises the data base for storing the results and the graphs obtained by testing. These can be analysed as and when requested (Trend function).

Contains relevant general and technical data, results and graph if pressure values obtained during the test.

The test report which can be printed immediately after test, contains all required data and results, diagrams, data related to certainty of measurement and accuracy of measuring chain/equipment, identification, safety and protections are also provided.



TS 30/TS 30/TM 900

### Standard Characteristic parameters for safety relief valves

- Opening pressure (bar/psi)
- Maximum opening pressure (bar/psi)
- Closing pressure - point (bar/psi)
- Repeatability of results
- Seat leakage after closing
- Set pressure detection by lift and acoustic sensor (option)

### For shut-off and control valves

- Test pressure
- Time
- Temperature
- Seat leakage



TS 30 with digital data system

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Email: info@unigrind.de  
Internet: www.unigrind.de

**TÜV SÜD**  
DIN EN ISO 9001:2008  
Zertifiziert 01 100 21025

**VALVE PRESSURE TEST REPORT**

Place of testing: **Stolberg** Certificate No.: **PTOA1-14/01**  
Customer: **PRYM** Date of testing: **15.04.2014**  
Work order: **10212**

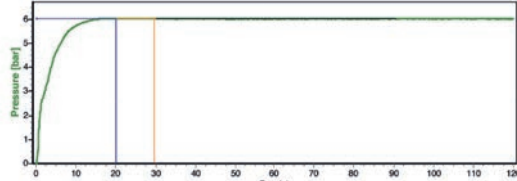
**VALVE DATA**

Manufacturer: **KSB** Valve No.: **3150**  
Type of valve: **Gate valve** Location: **Boiler**  
DN (inlet/outlet): **150 - 150** Medium at application: **Dryer unit 5**  
PN: **25** System: **Dryer unit 5**  
Material: **metallisch** Disc-Cone-Wedge: **Stainless steel** Housing: **GG**  
Seat: **metallisch**

**TEST DATA AND TEST RESULTS**

Type of test: **seat leakage test** TEST RESULTS  
Test pressure: **6.00 bar** Pressure at START: **6.02 bar**  
Test medium: **Air/N2** Pressure at END: **6.02 bar**  
Pressure diff.: **0.00 bar**  
Time: **60.49 s**  
Temperature at START: **/ °C**  
Temperature at END: **/ °C**  
Test standard: **EN 12266-1**

**Graph:**



**Seat leakage test**

Test pressure: **6 bar**  
Test medium: **Air**  
Seat leakage: **0 bubb./min**  
Acceptance criteria: **0 bubb./min**  
Test standard: **EN 12266-1**

Remarks:

Tested by: **test** Inspector / witness: **Kelava**  
Signature: \_\_\_\_\_ Signature: \_\_\_\_\_

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Email: info@unigrind.de  
Internet: www.unigrind.de

**TÜV SÜD**  
DIN EN ISO 9001:2008  
Zertifiziert 01 100 21025

**SAFETY VALVE TEST REPORT**

Place of testing: **Stolberg** Certificate No.: **VT11-14/01**  
Customer: **PRYM** Date of testing: **15.04.2014**  
Work order: **4711**

**VALVE DATA**

Manufacturer: **Leser** Valve No.: **32512**  
Type of valve: **PSV** Location: **Boiler 6**  
DN (inlet/outlet): **80 - 125** System: **Dryer unit 8**  
PN: **40** Medium at application: **Dryer unit 8**  
Orifice diameter do: **75 mm**

**Material:** **steel** Disc: **Stainless steel** Housing/Body: **Cast steel**

**Spring data:**

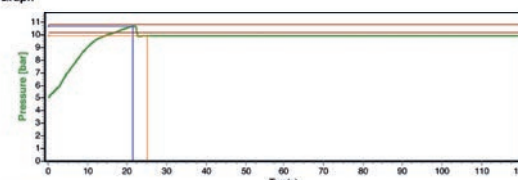
Spring No.: **3454**  
Outside diameter Do: **100 mm** Length of loose spring Lo: **240 mm**  
Wire diameter dw: **10 mm** Number of windings: **10**

**TEST RESULTS**

**Functional test:** Expected set pressure: **10.50 bar**  
Opening pressure: **10.68 bar**  
Closing pressure: **9.93 bar**  
Maximal pressure: **10.69 bar**  
Test medium: **Air/N2**  
Allow. upper limit: **10.815 bar**  
Allow. lower limit: **10.185 bar**  
Standard: **EN 4126-1 2004 (o.VV)**

**Seat leakage test:** Leakage: **4 bubb./min**  
Test pressure: **9.6 bar**  
Temp. at START: **/ °C**  
Temp. at END: **/ °C**  
Test medium: **N2**  
Acceptance criteria: **10 bubb./min**  
Standard: **API 527**

**Graph:**



Remarks:

Tested by: **test** Inspector / witness: **Kelava**  
Signature: \_\_\_\_\_ Signature: \_\_\_\_\_

### TEST RESULTS

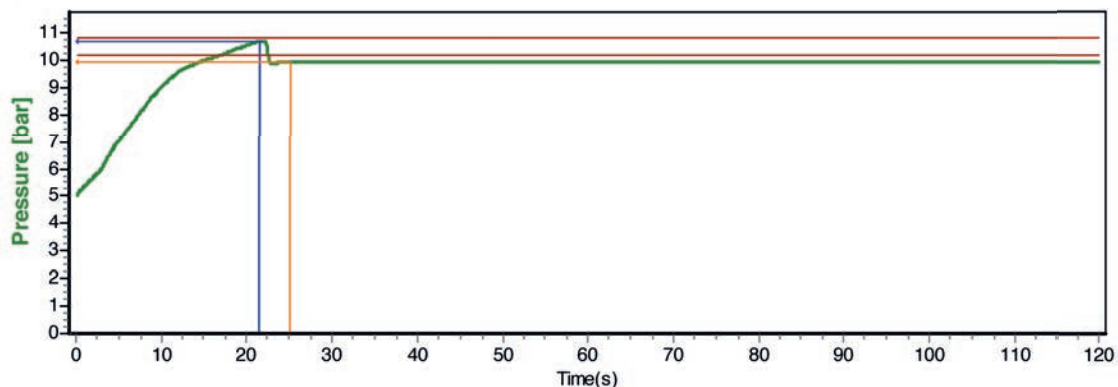
#### Functional test:

Expected set pressure: **10.50 bar**  
Opening pressure: **10.68 bar**  
Closing pressure: **9.93 bar**  
Maximal pressure: **10.69 bar**  
Test medium: **Air/N2**  
Allow. upper limit: **10.815 bar**  
Allow. lower limit: **10.185 bar**  
Standard: **EN 4126-1 2004 (o.VV)**

#### Seat leakage test:

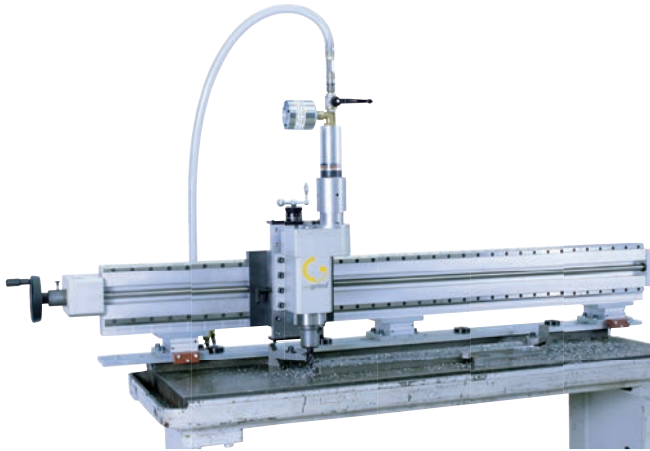
Leakage: **4 bubb./min**  
Test pressure: **9.6 bar**  
Temp. at START: **/ °C**  
Temp. at END: **/ °C**  
Test medium: **N2**  
Acceptance criteria: **10 bubb./min**  
Standard: **API 527**

#### Graph





## ■ unigrind MFM-2 AXIS MILLING MACHINE



General purpose in situ milling. Used on heat exchangers, pump and motor pads, steel mill stands, ship, building, turbine split lines and many more applications.

**Drive:**

- Pneumatic drive

**Feed Stroke:**

- 1000/1500/2000 mm

**Feed:**

- 20-210 mm/Min.

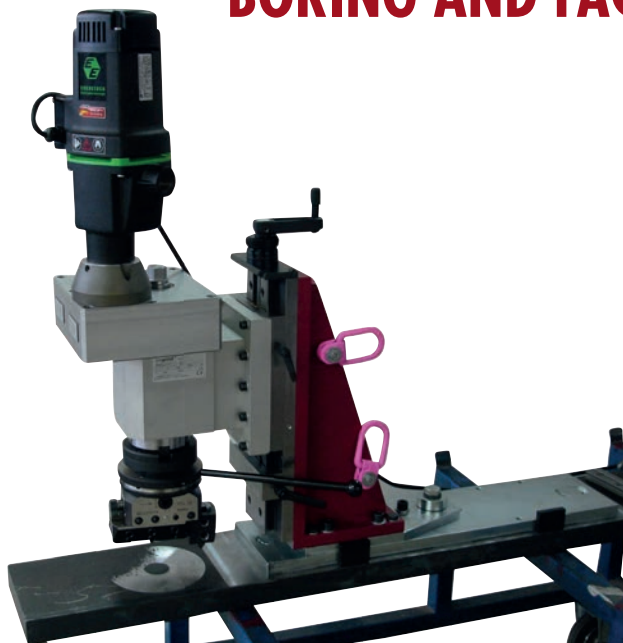
**Milling spindle Revolution:**

- 550 R.P.M

**Axial stroke:**

- 100 mm

## unigrind PORTABLE DRILLING, BORING AND FACING MACHINE



unigrind PB 250

Mobile boring and turning machine for all boring and turning operations during steel work.

**Maximum drill capacity:**

- Ø 65 mm

**with Boring/Facing head**

**Facing and Boring capacity:**

- Ø 20 - 250 mm

**Axial stroke, manual  
(optional automatic feed):**

- 200 mm (other lengths are available)

**Machine spindle:**

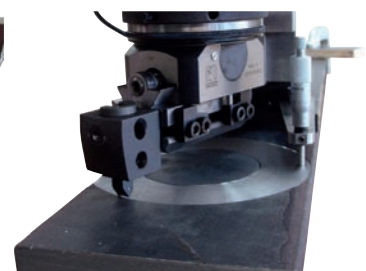
- ISO 40 taper for mounting all kinds of standard tools

**Drives:**

- Electric 230 V, 50-60 Hz,  
Pneumatic 5 - 7 bar, Hydraulic

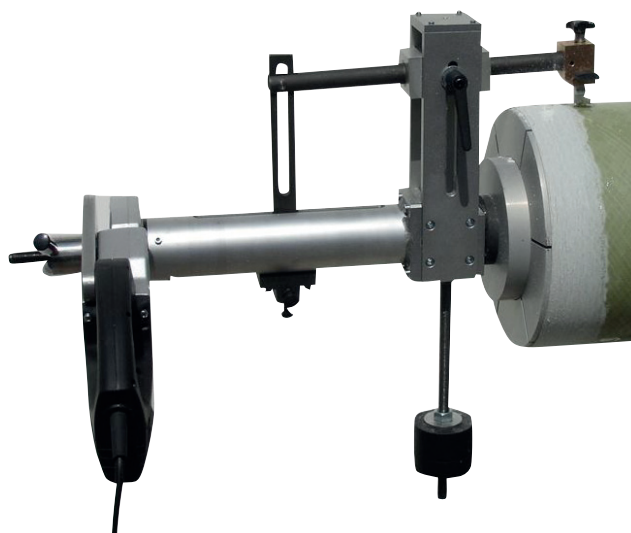


MFML Transport box with accessories





RDS 300



RDS 300

Type:	Working ranges:	Inches:
RDS 300	DN 50 - 300 mm	2" - 12"
RDS 400	DN 100 - 400 mm	4" - 16"
RDS 600	DN 300 - 600 mm	12" - 24"
RDS 800	DN 300 - 800 mm	12" - 32"
RDS 900	DN 300 - 900 mm	12" - 36"

**Portable pipe shaving machine for FRP pipes:**

For taper and cylindrical pipe ends

**Standard angles:**

- 2° and 0° ( other or additional angles on request)

**Drives:**

- Electric 230 V AC, 50/60 Hz

**For RDS machines:**

- Automatic axial feed



RDS 800



RDS 800



VENTA Transport box with abrasive set



KVS Transport box with abrasive set

## 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.

### Abrasive:

- Rough grinding
- Finish grinding
- Polishing (lapping)

### Product range Form:

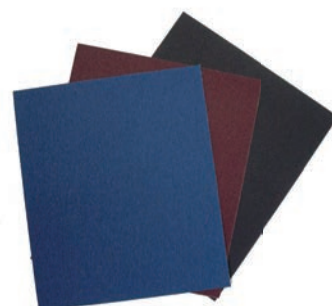
- Grinding rings in all dimensions
- Grinding disks
- Grinding segments
- Sheets

### Backing:

- paper, cloth, polyester and plastic film

### Abrasive:

- Silicon carbide (SiC)
- Aluminium oxide (Al<sub>2</sub>O<sub>3</sub>)
- Zirconium oxide (ZrO<sub>2</sub>)



Grinding sheets



Grinding segments



Planet disk with grinding rings



Grinding cone with abrasive

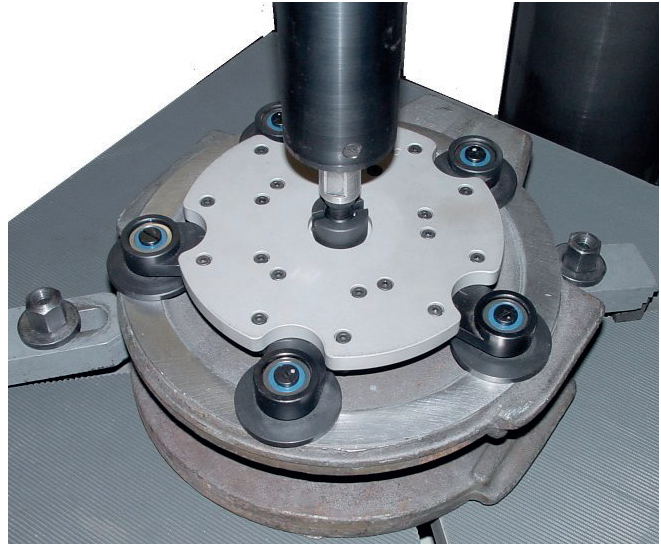


Grinding rings





Planet disk



Grinding gate valve wedge with planet grinding disk

### 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



CBN Grinding stone for facegrinding or circumference grinding



**unigrind** DIAPLAN BOR, grinding disk



CBN Grinding cones





## 40 ft or 20 ft High Cube overseas Containers equipped with:

- Electric installation with tube light and power outlets 230 V and 400 V
- Air Conditioning system for cooling and heating
- Compressed air installation 7 bar/100 psi, with quick coupler outlets
- Container thermal insulation of walls, back door and roof
- on request additional doors and windows
- Separate compartment with Ventilation system for Compressors, dryer and storage tanks for compressed air

## Specifications of valve test and repair equipment in the Containers:

- Universal pressure test unit for Safety Relief valves and Shut off valves, *unigrind* type TS and TS – S with 30 t and 50 t clamping force Range ½" – 10" or ½" – 16"
- Gas test system up to 300 bar/4350 psi
- Hydrostatic pressure test system up to 400 bar/5800 psi
- Seat leakage test of PSV's according to API 527
- Test unit for Control valves for testing according to ANSI FCI 70-2, *unigrind* TSH-S with 18 or 30 t clamping force
- Test units for Vacuum valves *unigrind* TM 600 and TM 900
- Combined Pressure test units for valves on Customer request
- Air compressor 7 bar/100 psi with air dryer and 200 litre storage tank
- High pressure Air Compressor 300 bar with 80 liter storage tank, to supply the test medium GAS/Air
- Pre-filling and filtering system with water reservoir for the test medium
- Lifting equipment to lift the valves with chain block 500 kg, 1000 kg, on request electric or pneumatic operated chain hoist
- Crane bridge with electric chain hoist max. capacity 2000 kg (optional)
- Work bench with vice and drawers, additional storage cabinets and shelf
- Portable Valve grinding and Lapping machines for Safety Relief valves, Globe valves, Control valves, Gate valves and Gate valve wedges, *unigrind* VENTA, KVS, SVS 1, SLIM and HTS
- On request Stationary Grinding and Lapping machines Type STM 500 SV, ULM 400 or KSM 600
- On request Portable Boring and Facing machines for Valves: *unigrind* MD 250, MD 1



Separate compartment with Compressors







**PORTABLE TEST &  
REPAIR CONTAINERS FOR VALVES**





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