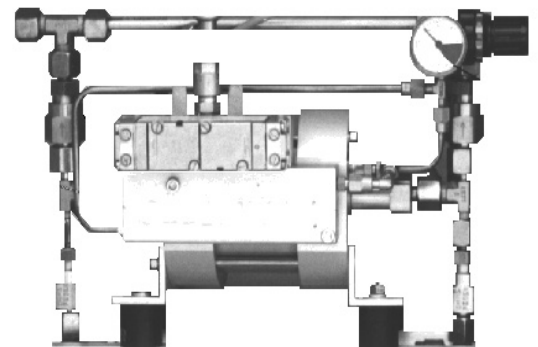
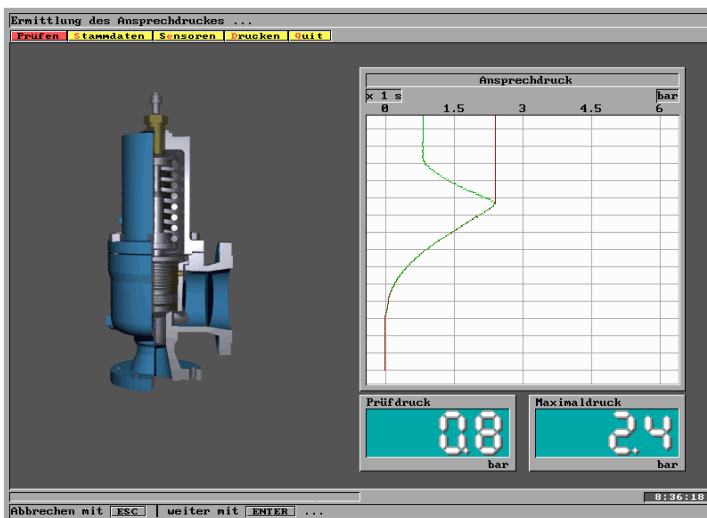
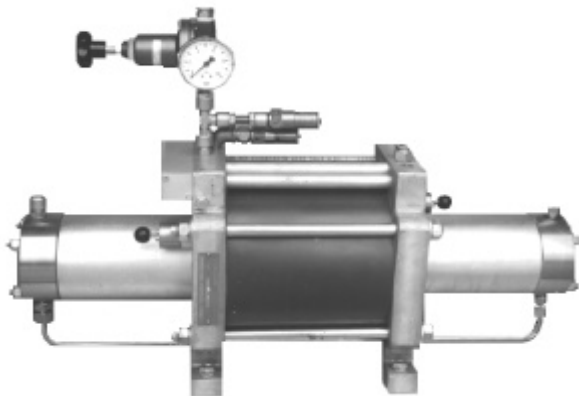
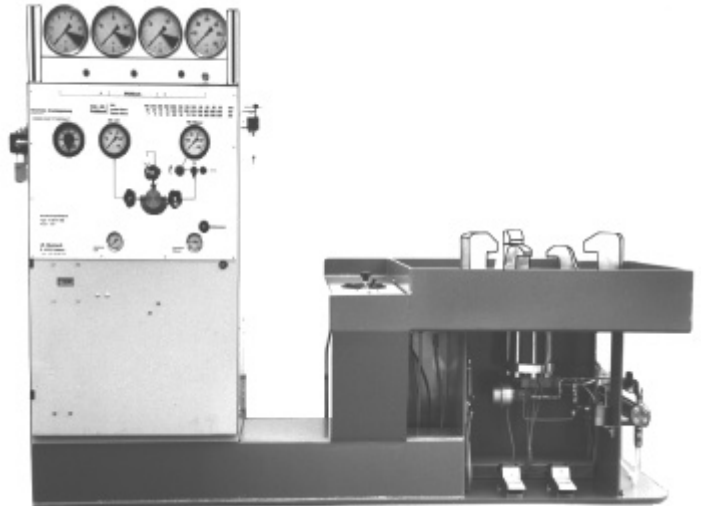


LS-MECHANIK

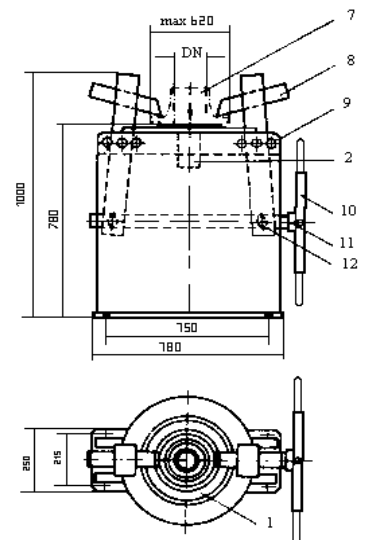
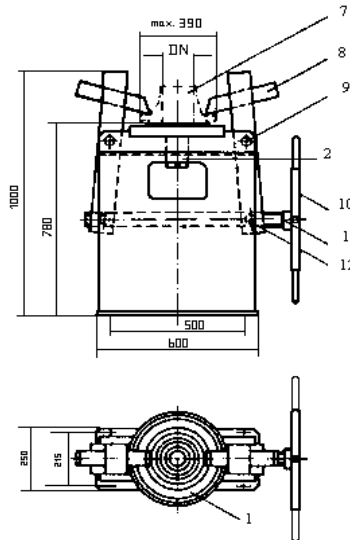
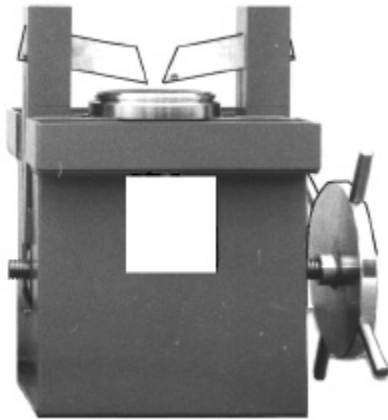
TESTBENCH FOR PRESSURE AND LEAKTESTING



CLAMPING - TABLE PK1 / PK2

**TYPE PK1
DN 10 - 200 mm**

**TYPE PK2
DN 10 - 400 mm**



APPLICATIONS

Clamping valves with flanges - clamping from underside only - particularly suitable for setting safetyvalves and for leaktesting of valves, for instance after repairs.

Testbench PK2 has an extended clampingrange which can be quickly varied by just one man relocating the bolts (9). The testbody (7) will be clamped to an o-ring sealplate (1) by means of two empty dimensioned shiftable clamping claws (8). The o-rings in this plate are arranged so, that all DIN and ASA-flanges (except with tongue) are realably seald.

Clamping is done by turning the spoked wheel (10). For lower pressure (50% of max. pressure of tables) clamping by hand is sufficient. For testpressure above 50% of max. pressure of tables an extension tube should be used. There are „normal“-claws (8) and „T“-claws for higher max. testpressure (see table).

The table below gives the maximum allowable testpressure:

DN	mm	32	40	50	65	80	100	125	150	200	250	300	350	400
VALVE	inch		1 1/2			3	4	5	6	8	10	12	14	16
TYPE		PK1 + PK2										PK2		
NORM	bar	1000	470	270	180	125	90	60	44	25	14	12	8	7
T-CLAW	bar	1000	540	540	360	250	180	120	88	50	28	24	16	14

The clamping claws apply uniform load on the testbody flange as a resiliently supported spindle (11) takes care of force compensation. Directly underneath the o-ring sealingplate there is a small size buffer tank (2) fitted from which the measuring circuit is carried to the pressure gauges. Wrong measurements when setting safetyvalves are avoided this way.

Testbench for valves PK1.103/PK2.103



Testbench PK1.103/PK2.103 is suitable to clamp and test valves with flanges from dia 10-200 (400) mm (1/2 - 8 (16)inch). Testvalve will be clamped only at one side (bottom), opposite side remains open.

Testbench PK1.103/PK2.103 is consisting of:

Quickclamping testbench PK1.000/PK2.000 and Controlpaneel with following instruments:

- precision needle valve , to let in air/ N2-pressure up to 250 bar from bottle at site
- precision needle valve to let out pressure
- gauges dia 160 mm, class 1,0 to indicate testpressure inside testvalve.
- gauge dia 63 mm, class 1,6 oilfilled, to indicate pressure supply pressure supply.

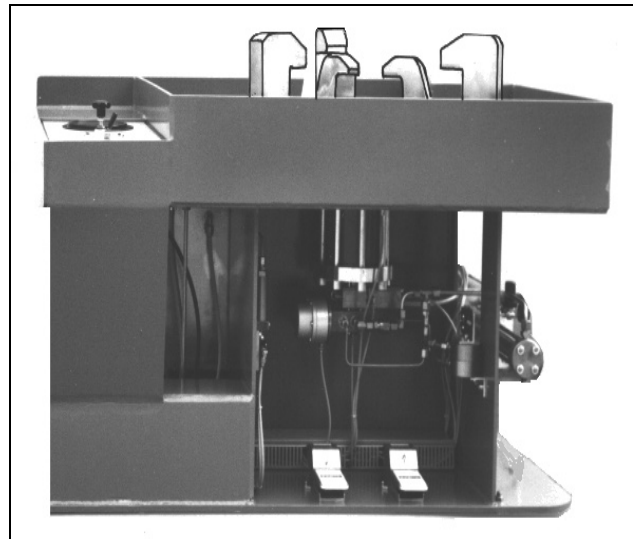
This Testbench is ready to work. You may fix it with bolts to the ground.

The table below gives the maximum allowable testpressure:

DN	mm	32	40	50	65	80	100	125	150	200	250	300	350	400
Valve	Zoll		1 1/2			3	4	5	6	8	10	12	14	16
PK-Typ		PK1 + PK2										PK2		
Normal	bar	1000	470	270	180	125	90	60	44	25	14	12	8	7
T-Claw	bar	1000	540	540	360	250	180	120	88	50	28	24	16	14

CLAMPING - TABLE FOR VALVES

PK35 / PK36



Clamping-bench PK35 /PK36 is suitable for clamping valves, especially safetyvalves with flanges from DN 10 - DN 400 mm (1/2“ .. 16“).

- Max. testload: - PK 35 120 kN / 240 kN small clamps / big clamps
- PK 36 240 kN / 480 kN small clamps / big clamps

DN	mm	10	40	50	65	80	100	125	150	200	250	300	400
DN	inch	0.5	1.5	2	2.5	3	4	5	6	8	10	12	16
480 kN	bar	600	600	600	600	600	400	290	210	120	76	54	30
240 kN	bar	600	600	600	400	300	200	145	105	60	38	17	15
120 kN	bar	480	480	300	200	150	105	72	52	30	19	13	7

Testbody is to put on one of the 4 sealingplates (DN 10-40, 50-125, 150-200, 300-400), move by hand the 3 clamps over the flange and clamp by handling the footswitch. Now testspeciem will be together with sealingplate lifted hydraulic up and preclamped against clamps. Switch on tumbler switch (clamping-pressure) and it will be clamped with preadjusted clamping pressure. At regulator and gauge (with scale DN - testpressure) clamping pressure is stepless preadjustable. Preadjust clamping pressure according this scale in order to get correct pressure. To high pressure may damage small flanges, to low pressure effects untightness of sealing.

As far as testspeciem is clamped with pressure, clamping can not opened by footswitch, and if testpressure arises above 1 bar clamping pressure is completely blocked. Now it is impossible to lower or switch out clamping pressure at tumbler switch nor to open by footswitch, but clamping pump is able to feed pressure if there should be a leak in pressure line (only in connection with a control panel).

Seperate pressurelines for air- and water may be installed from operating panel. Only one of this line can be connected to clamping bench by handmoved thread - connection. Seperate lines are efficient while testing safetyvalves with hp-pressure, in order to hinder waterdrops to get into safetyvalve and damage the seat of it.

CLAMPING - TABLE FOR VALVES AND SAFETYVALVES

PKS 10/25 - 620
PKS 20/50 - 620

The clamping - testbench PKS for valves and safetyvalves dia DN 10 - DN 400 mm (1/2" - 16") has two different possibilities of fixing the testbody:

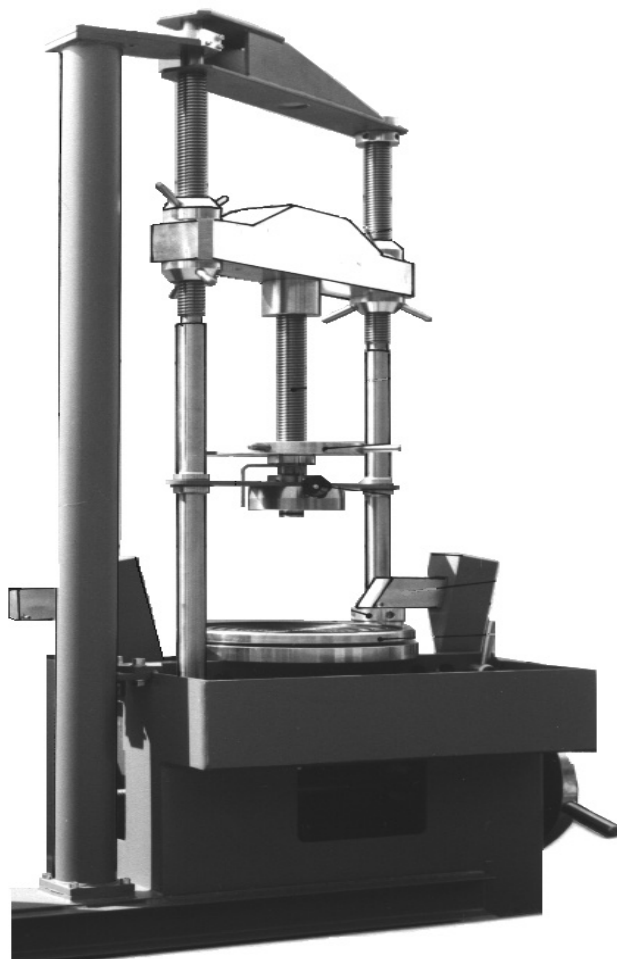
- clamping of flanges from one side only by turning back the swingable headbeam

Claming range may be variated quickly by clamping bolt-locations. The testbody is to put concentric on the sealingplate. Clamping is done by turning the spoked wheel.

- fixing valves with flanges or with welding-ends by swingable headbeam to close from both sides

Put the testbody on the sealingplate in same way as described. For high testpressere use the automatic-sealingheads. Turn forward the swingable headbeam and fix it carefully. Close testbody on upper side by turning the screwspindle.

The table below gives the maximum allowable testpressure :



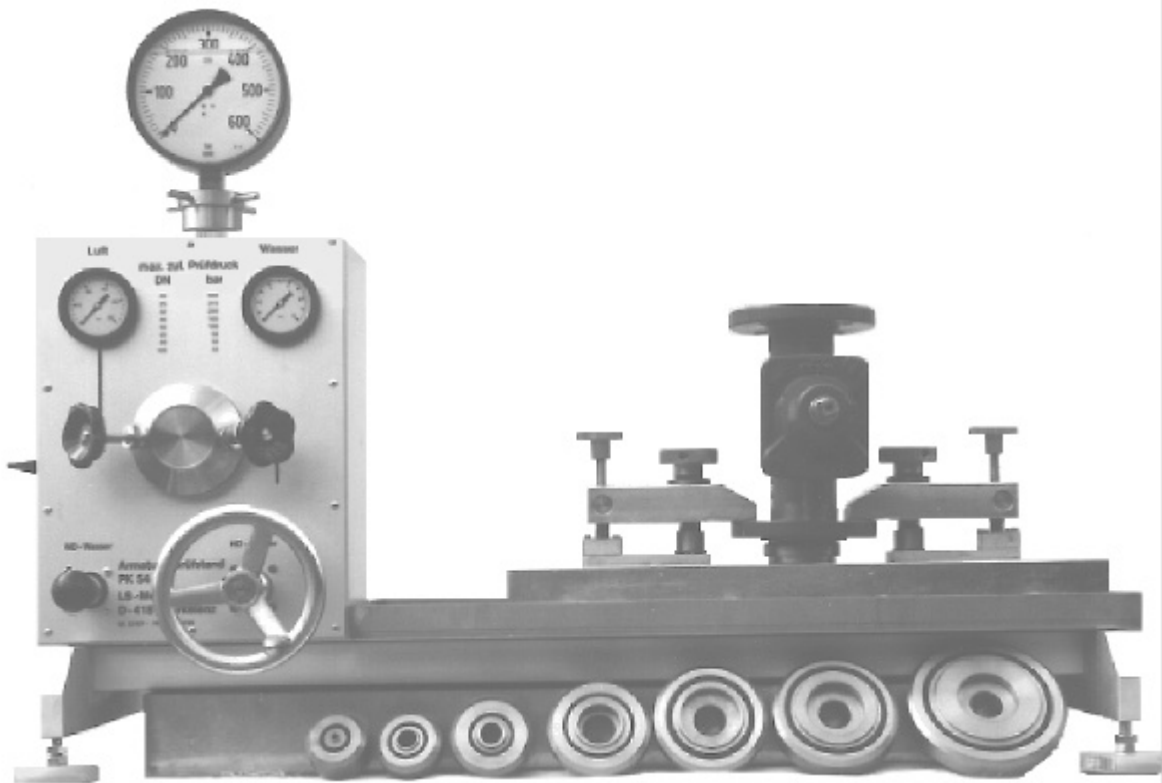
Type PKS 10/25-620

DN	mm	32	40	50	65	80	100	125	150	200	250	300	400
DN	Zoll	1	1.5	2	2.5	3	4	5	6	8	10	12	14
one side	bar	600	470	270	180	125	90	60	44	25	14	12	7
bothside	bar	600	600	550	440	300	190	40	96	60	60	28	16

Type PKS 20/50 -620

DN	mm	32	40	50	65	80	100	125	150	200	250	300	400
DN	Zoll	1	1.5	2	2.5	3	4	5	6	8	10	12	14
oneside	bar	600	600	600	350	240	150	110	80	45	28	21	12
bothside	bar	600	600	600	600	600	400	280	190	110	75	54	30

Testbench for Valves PK541



These are small portable testbenches especially for maintenance and workshop to place upon a normal workbench. Duty to clamp DIN and ASA-flanges, or two test gauges with special adapter.

Pressure medium, depending upon installation of operating panel:

Connection for normal workshop-air:	max. 10 bar
Connection for air/N ₂ -bottles:	up to 200 bar
Connection for normal line water:	max. 10 bar
Waterpressure-pump operated by hand:	up to 400 bar

Max. allowed testpressure:

DN	10 - 20	25	32	40	50	65	80	100	[mm]
p	400	315	250	165	100	68	50	33	[bar]

Clamping:

Clamping with two handmovable claws, easy to fix by hand operated screws. Infact of sealing with automatic-sealing heads you need only very small screw-force for safe sealing.

Claws are easy to move inside T-nuts, clamping force balanced by spherical form of washers. Weight of clamps balanced by springs, so that clamps always in "open-position" for easy both-hand clamping.

Sealing:

Sealing by automatic-sealing heads with o-rings (see leaflet DK.10E). With rising testpressure always the "right" sealingforce acts against testbody and avoids gaps between testbody and sealing-head. There is a seperate sealing-head efficient for every DN (10-20, 25, 32, 40, 50, 65, 80, 100 mm). All sealing heads are stored clearly arranged on side face of paneel; change of sealing heads easy, only to put onto plug within seconds.

Testing with Air/N₂-pressure:

Either workshop air or N₂ from bottles is connected. Indication of this pressure at gauge M2. For connection special hoses belonging to delivery. - Connected air pressure is let in at needlevalve V1 and let out at needlevalve V2.

Testing with Waterpressure up to 400 bar:

Waterpressure is build up by hand operated pumps installed. For filling pushing-pump is used (appr. 3 bar, 70 cm³ /stroke). Waterpressure from 3 to 400 bar by screw-pump with handwheel. Pressure higher than 400 bar by using a wrench. Feeding of both pumps are automatically by non return valves. Water will be filled inside waterpan (appr. 12 ltr contens) underneth clamping unit. Clamping unit additional is monted inside a waterdrippan, from wich rests of water runs back into lower waterpan.

If normal line water is connected, pushing-pump is not needed and inletpressure of water is indicated at gauge M3.

Indication of Testpressure:

Testpressure is indicated at gauge M1 on top of paneel. This gauge easily can be changed without using tools.

One gauge of optional range belongs to delivery. Optional you can get a portable case with 4 different gauges.

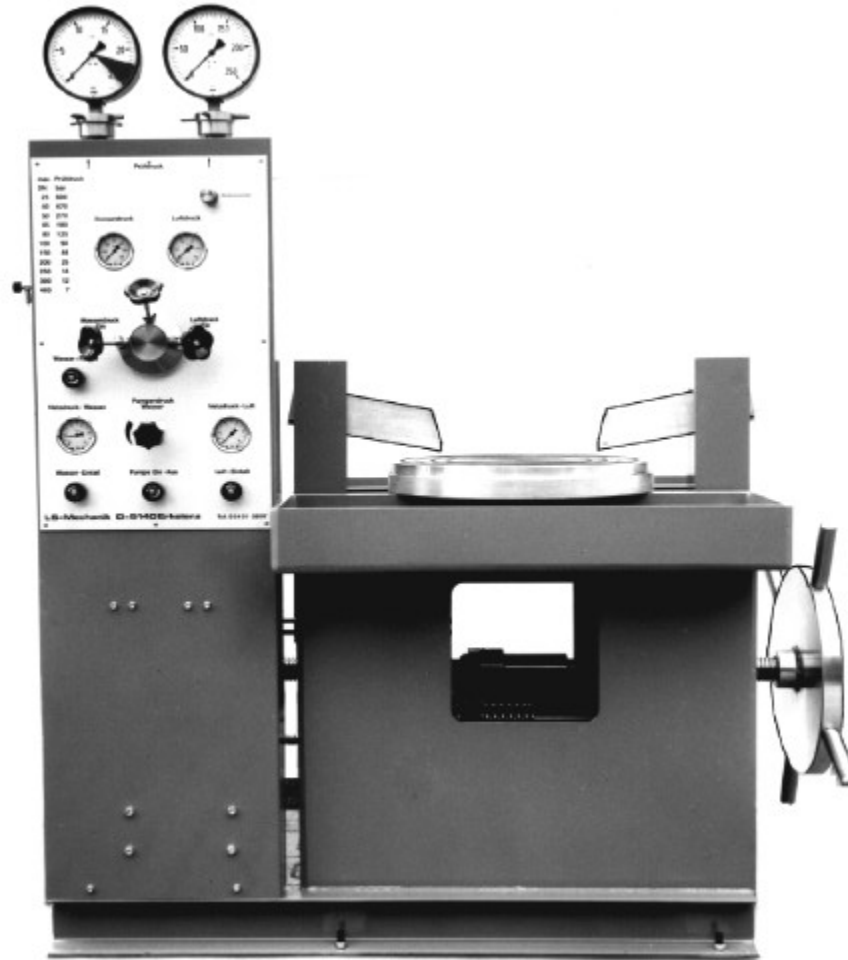
Materials:

Waterpan and water drippan, pumps from stainless steel. Pressurepipes and fittings from stainless steel/brass. Clamping unit and claws from carbon steel, galvanized. Sealing heads up to DN 100 from rustfree steel.

Optional Accessories:

- Bubbletester mounted beneath M1 with connection hose and rubber plugs "DG1" or clamping devise "PF" for seattesting of valves
- Portable case with 4 different gauges

Testbench for valves PK1.103.2 / PK2.103.2



Testbench PK1.103.2 / PK2.103.2 is suitable to clamp and test valves with flanges from dia 10-200 mm (400). Testvalve will be clamped only at one side (bottom), opposite side remains open.

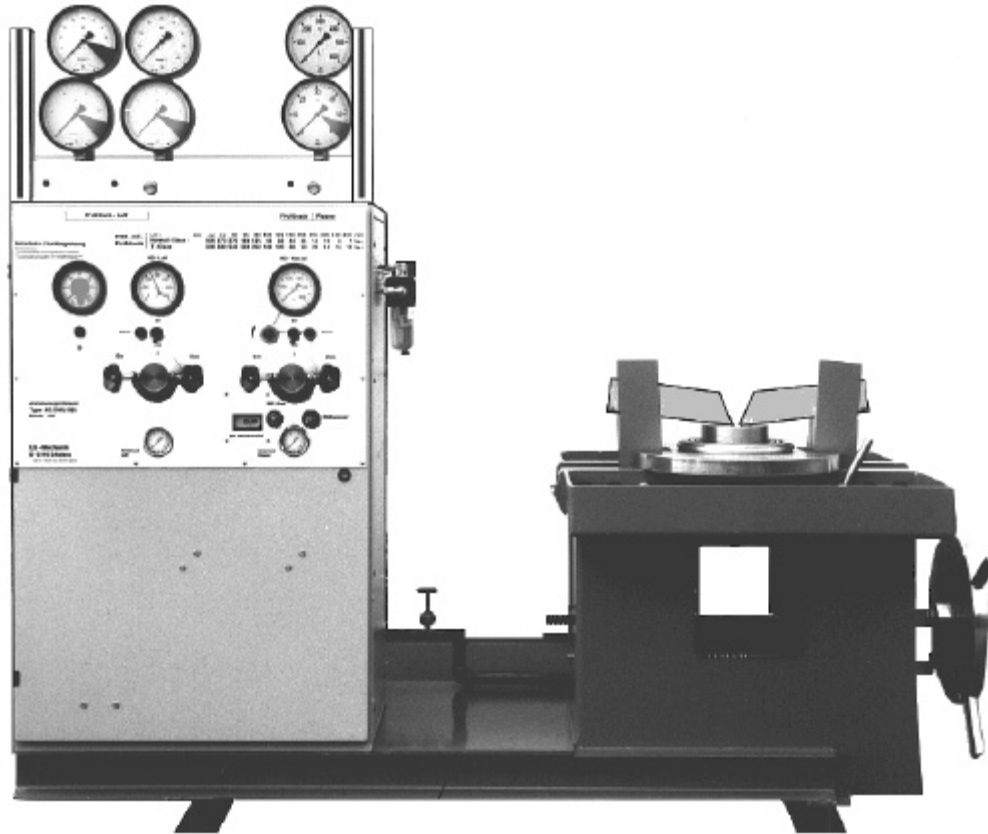
Testbench PK1.103.2 / PK2.103.2 is consisting of:

- Quickclamping testbench PK1.000 / PK2.000
- Controlpanel with hp-waterpump up to 600 bar
- Connection for hp-air up to 250 bar
- all instruments to handle testpressure

The table below gives the maximum allowable testpressure:

DN	mm	32	40	50	65	80	100	125	150	200	250	300	350	400
VALVE	inch		1 1/2			3	4	5	6	8	10	12	14	16
TYPE		PK1 + PK2										PK2		
NORM	bar	1000	470	270	180	125	90	60	44	25	14	12	8	7
T-CLAW	bar	1000	540	540	360	250	180	120	88	50	28	24	16	14

Testbench for Valves K2 DW



K2DW is a testbench for valves, especially safetyvalves with flanges from dia 10 mm - 400 mm. Inside the controll-paneel are all units to generate and handle water- and airpressure.

The pneumatic driven air-aftercompressor is avaiable to compress normal workshopair (5..7 bar) up to 400 bar into a 3 ltr storage-vessel, the pneumatic driven waterpump lp-water up to 600 bar.

The table below gives the maximum allowable testpressure:

DN	mm	32	40	50	65	80	100	125	150	200	250	300	350	400
VALVE	inch		1 1/2			3	4	5	6	8	10	12	14	16
NORM	bar	1000	470	270	180	125	90	60	44	25	14	12	8	7
T-CLAW	bar	1000	540	540	360	250	180	120	88	50	28	24	16	14

CLAMPING - TABLE FOR VALVES

PS1

This clamping-table is suitable for clamping valves with flanges, screwed or welding sockets from dia DN10 mm up to DN 400 mm (1/2" - 16").

Testspecimen will be sealed by o-rings, with automatic sealing-heads at the bottom and on the top. Sealing-heads on the top are fixed against falling down.

For each size of testvalve a comparing size of sealing-head is used. Changing of sealing-heads is very easy, only to put on plugs.

This sealing system needs very low force for tight sealing. This force is automatically build up with rising testpressure. There is to obtain, when testing seat-tightness (pressure acts only to one side of testspeciem) that full load of testpressure multiplied with area of sealing-heads forces to opposite side of testspeciem. Valves with flanges are normaly heavy enough to bear this load.

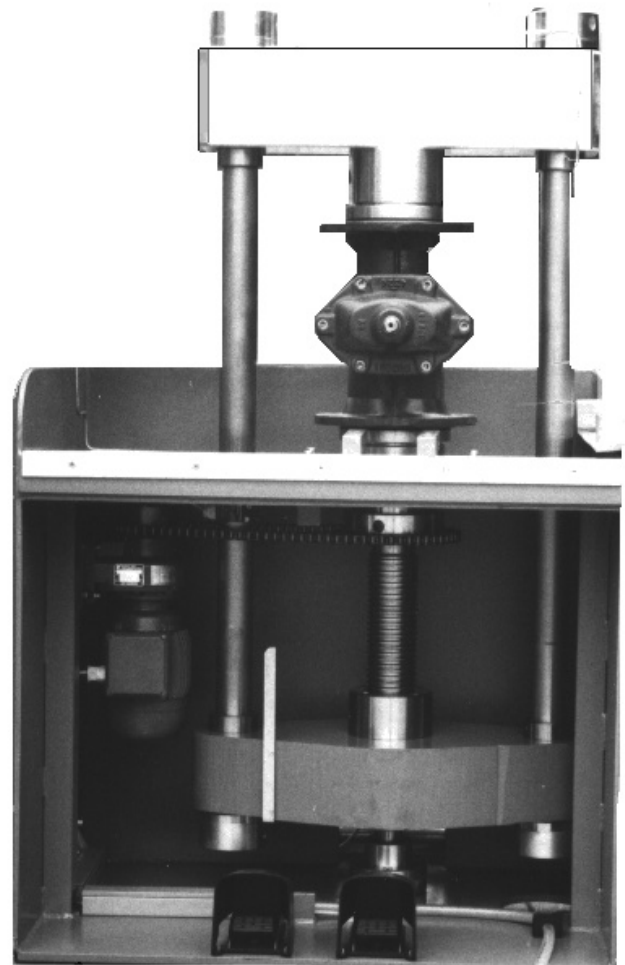
For testing valves of size 2,5" .. 16" sealing-heads are putted directly on plugs, for testing valves of size 1/2" . . 2" a distance piece is used, to bring the testvalve in a higher position.

The testspeciem is clamped between two traverses by heavy bolts. The bottom-traverse is fixed, and top-traverse is movable up and down by an electrical geardrive with a centric spindle.

The force of geardrive is limited in closing direction by a slide cuppling, so that only small force can act to testspeciem. The maximal testpressure of this type of clamping-tables is 600 bar, in special cases up to 1500 bar.

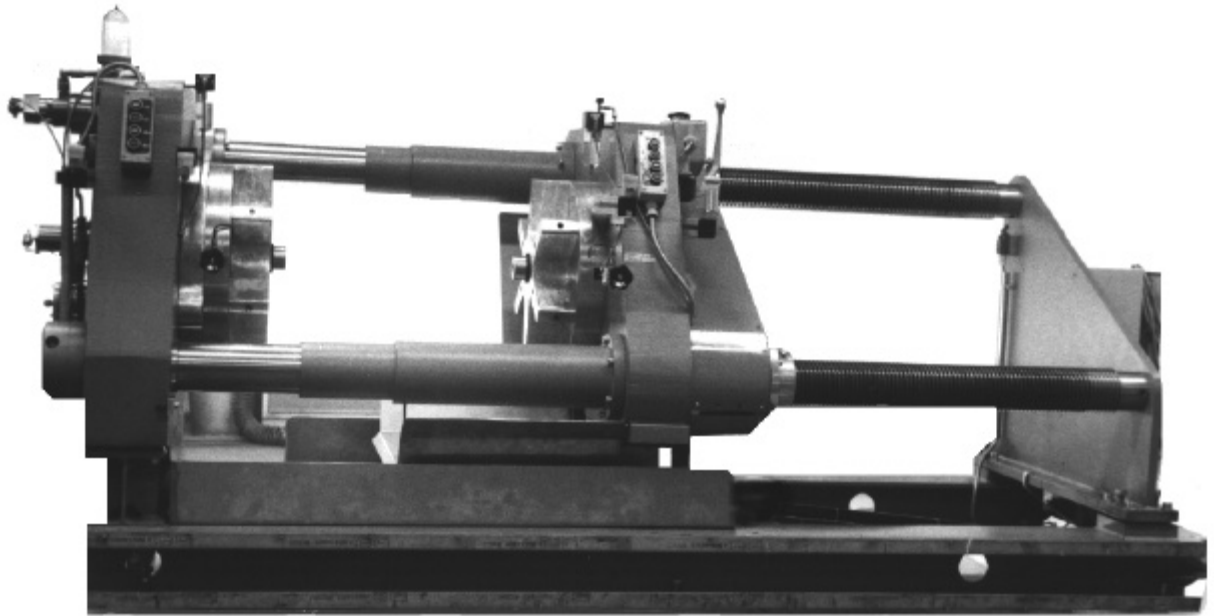
The table below gives the maximum allowable testpressure:

Type	mm	32	40	50	65	80	100	125	150	200	250	300	400
PS1 - 24 - 370	bar	1500	1500	620	420	300	195	140	100				
PS1 - 40 - 370	bar	1500	1500	1400	700	510	325	240	166				
PS1 - 40 - 490	bar	1500	1500	1400	700	510	325	240	166	95	46		
PS1 - 66 - 490	bar	1500	1500	1500	1150	830	530	390	275	160	108		
PS1 - 70 - 660	bar	1500	1500	1500	1200	900	570	415	290	168	114	80	44



CLAMPING - TABLE FOR VALVES

PS2



Clamping-table PS2 is suitable for clamping valves with flanges, screwed or welding sockets from dia DN 50 ... DN 1000 mm (2" ... 40"). Testload is hold between two traverses by threadbolts. Lefthand traverse is fixed to the ground frame, righthand traverse is moveable by a heavy chaindrive with a two-speedmotor in both directions. The weight of moveable traverse by the bigger types of PS2 is supported by 4 wheels on the groundframe.

Lefthand traverse has a conical borehole, covered by a turnable plate. This plate can be turned away, to inspect the valveseat under full pressure.

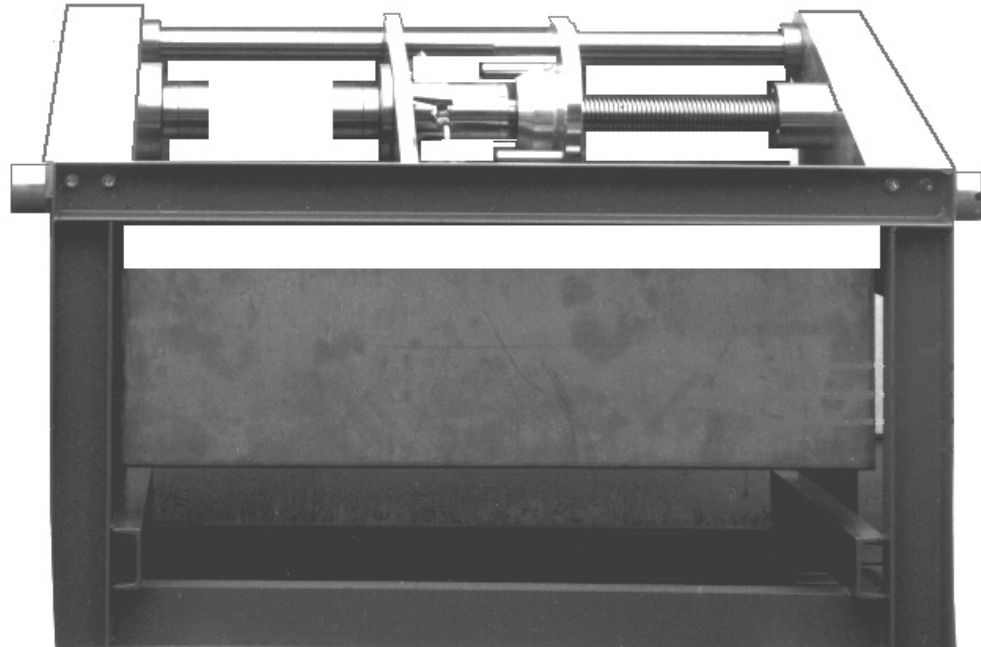
In closing direction (of testbench) chaindrive has a slide coupling, which can be adjusted, so that only small force can act to testspeciem.

Testspeciem will be sealed with automatic-sealingheads on both sides. The changing of this heads is very easy, only to put on plugs.

The table below gives the maximum allowable testpressure.

Type	mm	50	80	100	200	250	300	400	500	600	700	800	900
PS2 - 24 - 440	bar	620	420	195	58	39							
PS2 - 64 - 580	bar	1500	810	520	155	104	73						
PS2 - 100 - 700	bar	1500	1260	810	240	160	115	62					
PS2 - 150 - 755	bar	1500	1500	1200	360	240	170	94	62				
PS2-260 - 1250	bar	1500	1500	1500	1200	900	570	415	290	168	114	80	44
PS2-450 - 1000	bar	1500	1500	1500	1080	730	510	280	185	130	98		
PS2-1000-1000	bar	1500	1500	1500	1500	1500	1050	630	415	290	220		

Clamping-bench Type PS4



Clamping and sealing :

Testspeciem will be clamped within a frame by hand operated central threadspindle. Sealing is made by Automatic-sealing-heads (see leaflet DK10). For each dia a seperate sealing head is efficient. In fact of this automatic-sealing heads testspeciem has to be clamped only with little force.

Valves with welding ends, threads or tubes must be seald with special sealing heads.

Changing of sealing heads is easy, only putting on plugs.

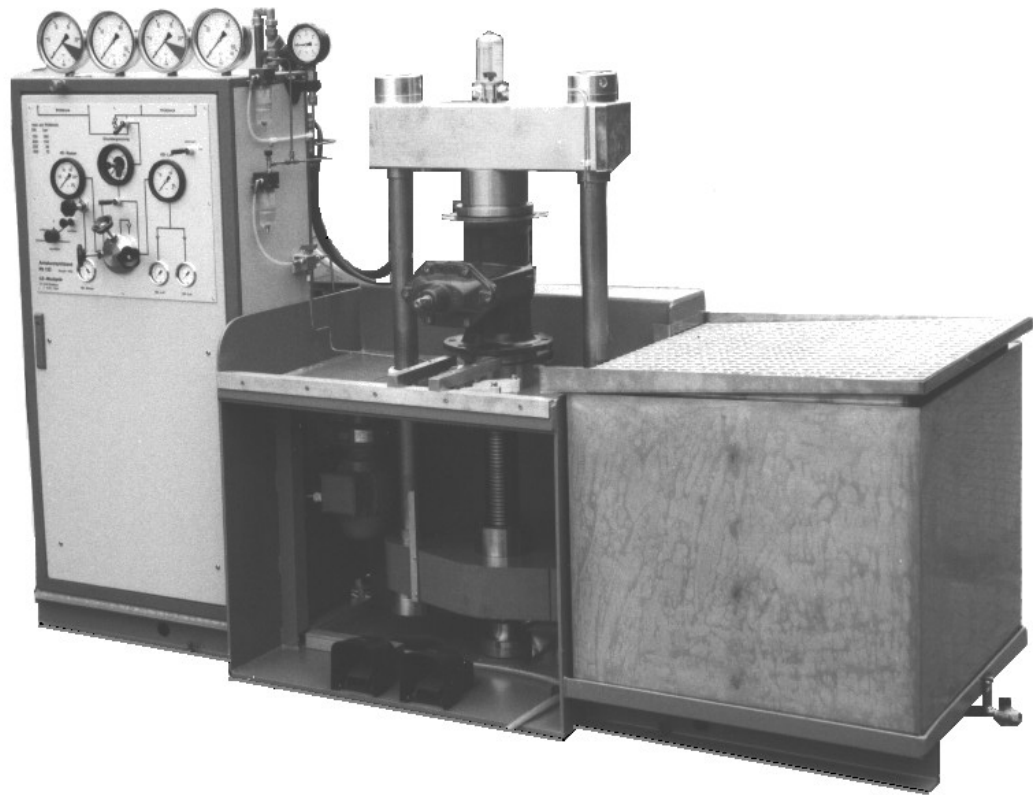
max. allowed testpressure :

DN	10 - 50	65	80	100	125	150	200	[mm]
p	600	310	250	165	100	68	50	[bar]

Clamping-Bench is complete assembled. All steel constructions are sandblasted and painted with acryl, colour green. Pipes and fittings are made of stainless steel, cupper or brass, depending of pressure.

Spindels and threadspindel of clamping-bench are made from rustresistant steel (1.4104). Traverses are made from carbon steel, galvanized.

Testbench for Valves PS 122



Testbench PS122 is consisting of:

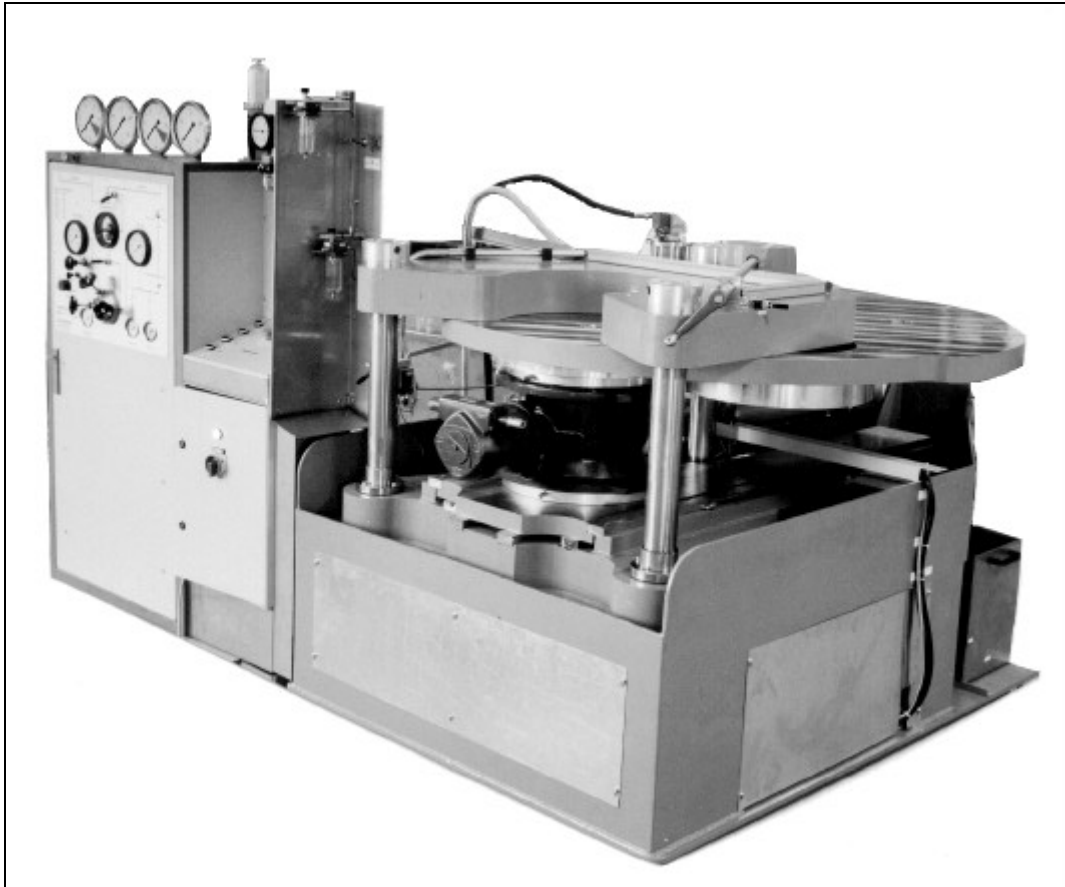
- clamping-unit PS1 for valves up to DN 200 mm
- paneel with
 - compressor for liquids up to 400 bar
 - connection for hp-air (250 bar)
 - connection for lp-air (6bar)
- closed watercircuit.

Testmedium is water and air. It is possible to let in testpressure from both sides of the valve.

Maximum allowed testpressure app. to DN

DN	mm	32	40	50	65	80	100	125	150	200
p	bar	1500	1500	1500	1150	830	530	390	275	160

Testbench for Valves KS 116



Testbench KS116 is consisting of:

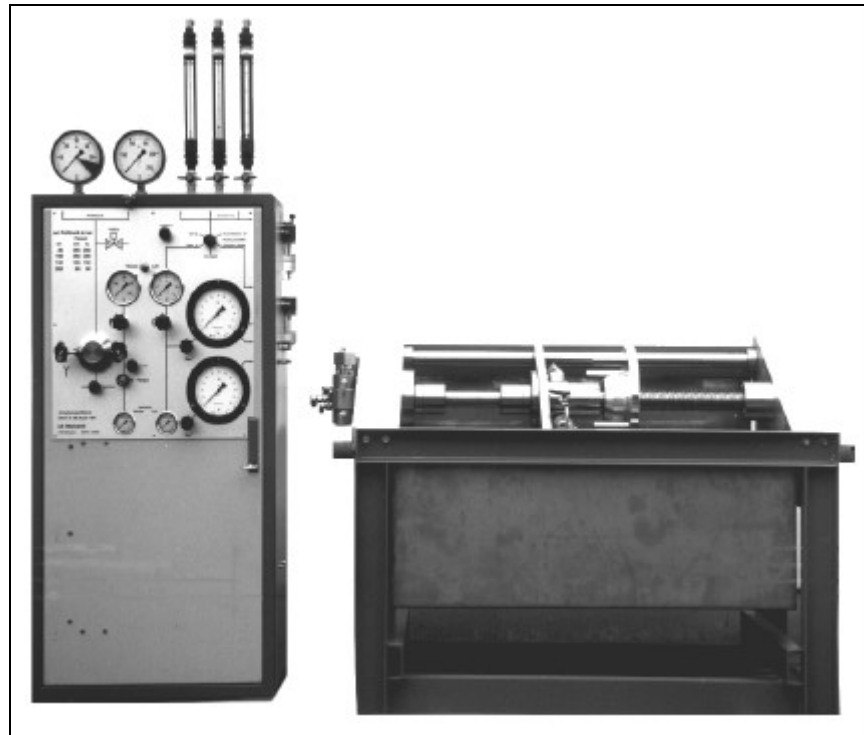
Clamping-unit for valves up to DN 600 mm, testload 90.000 kgs[DN600 mm = 24 bar].The top of the clampingbench is a turnable disk, so that it is possible to look into the valve under pressure.

Panel with

- compressor for liquids up to 60 bar
- connection for lp-air (6bar)
- all components to handle testpressure

Closed watercircuit

Valvetestbench Type KS4



Testbench type „KS4...“ is duty to carry out body- and seat-pressure-test at all kind of 2/2-way valves, especially control valves with straight flow direction. Axle of clamping is horizontal in order to test control valves with mounted operators. The testbench is designed to carry out body-test with hp-water, but it is specialized to make seat-leakttest with air from small to large leakage (% of flow capacity).

Valves : DN 10 up to 200 mm
 Testspeciem : hp-waterpressure up to 250 bar only from one side
 airpressure up to 6 bar only from one side
 max. Testload : 250 kN

max. allowed testpressure depending on DN :

DN	80	100	150	200	[mm]
P _{max}	250	200	100	60	[bar]

Following tests can be carried out:

- seat-tightness with air up to 6 bar from only one side
- body-tightness with air up to 6 bar
- body-test wit hp-water up to 250 bar

4 - Range - Pressuremeasuring

4-range pressure-measuring device should be used at testplaces, if range of measuring alternate very often. The gauges and or the electronic pressure-transducer are mounted on a turnable disc. To change the pressure-range push down handle and turn suitable gauge into frontposition. Let off handle again, and gauge is cuppled. Do not change under pressure. The cuppling can be opened by force until appr. 20 bar. Pressure goes out, and the o-ring will be pressed out.



Gauge - Quick- Connector

Best operation at testplaces with frequently different high of pressure. Quick-connector type „VS02...“ is due to connect gauges quickly and easily without using tooles. Sealing is made by rubber-rings, infact of using a differnt-piston.

Feature: Non acid gas and liquids up to 1000 bar.

Material: DIN: 1.4104 / 2.0550 / NB
 AISI: 430F / Brass / NB

available
 connections: M1 + M2: 1/4“ BSP 1/2“ BSP
 1/4“ NPT 1/2“ NPT



Spanntische PK1, PK2 Clampingtables PK1, PK2

Ammann-Technik Ag, CH-5742 Kölliken - BP, Ingolstadt - Calvo Sotello, Poertollano Spanien - Chem. Werke Viktor, Castrop-Rauxel - Christensen Diamond, Celle - Ciba Geigy, CH- 1870 Monthey - Deutsche Marathon Petroleum GmbH, Burghausen - Dynamit Nobel, Troisdorf - Erdölchemie, Dormagen - Erdölchemie, Dormagen - Esso-Raffinerie, Köln - Fisher Controlls, Düsseldorf - Fluor, Wilhelmshafen - Hydrobar, Wedel - Linde AG, Höllriegelskreuth - L.V.M. Tessenderloo, Belgien - Marathon, Burghausen - Mobil Oil, Bremen - Monsanto, Lingen - Mobil Oil, Lybia - Haskel Energy Systems Ltd, England - Preussag, Ibbenbüren - RWE, Niederhausen - Saarland Raffinerie, Klarenthal - Sempell-Armaturen, Mönchengladbach - Schering AG, Bergkamen - Stadtwerke, Wuppertal - Stadtwerke, Flensburg - Union-Kraftstoff, Wesseling - Wintershall, Salzbergen - Nova-Werke AG, CH-8307 Effretikon - Nova AG, Neu-Isenburg - Proserv A. S., N-4056 Tananger - Preussag AG, Ibbenbüren - Rosen Engineering, Lingen - RWE, Bergheim - Schering AG, Bergkamen - Union Kraftstoff, Wesseling - Wintershall AG, Lingen - Asmussen, Österreich - Haskel Energy System Co. LTD, Sunderland - Proserv, Dubai

Spanntische mit Bedienfeld PK1.1..., PK2.1... Clampingtables with panel PK1.103, PK2.103

Ammann-Technik AG, CH-5742 Kölliken - Aral-AG, Gelsenkirchen - Bardenhagen, Stade - Ciba Geigy AG, Grenzach-Whylen - Ciba Geigy, CH-4002 Basel - Hüls AG, Steyersberg - KKW-Isar I, Essenbach - Mannesmann, Düsseldorf - Mobil Oil AG, Steyersberg - Nordwig Maschinenfabrik, Hamburg - RWE-Kraftwerk, Ibbenbüren - Saarland Raff. GmbH, Völklingen - Shokai GmbH, Hamburg - Siam GmbH, Wiesbaden - Stadtwerke Flensburg GmbH - Stadtwerke München - Stadtwerke Wuppertal - TIB-Lackmann KG, Essen - Uhde GmbH, Dortmund - Babcock Sempell Armaturenservice, Vetschau - Vapor S. A., Madrid - Valvue Armaturen, Hamburg - Montan Engeneering, Malaysia- RWE, Frimmersdorf - Rhein Braun, Köln

Kompaktprüfstände K 1... K 2... Compact Testbenches K 1... K 2...

Ahwaz Steel Complex - Bayer, Dormagen - Bewag-HKW-Charlottenburg, Berlin - Condea Petrolchemie GmbH, Brunsbüttel - Degussa AG, Wesseling - Esso-AG Raffinerie, Hamburg - Esso-AG, Ingolstadt - ESSO Tripoli, via Salzgitter Industriebau - Großkraftwerk Franken AG, Nürnberg - Gulde Regelarmaturen, Ludwigshafen-Oggersheim - Hamburgische Elektrizitäts Werke AG - Hoesch, Dortmund - Hoffmann, Hamburg - ICI, Wilhelmshafen - Keystone, Mönchengladbach - KKW, Brockdorf - KKW, RWE DEA Brunsbüttel - KKW, Grafenrheinfeld - KGB-Grundremmingen, Grundremmingen - KKW-Isar II, Essenbach - KKW, Mühlheim-Kärlich - KW-Unterweser, Stadland - Linde AG, Höllriegelskreuth - Lurgi GmbH, Frankfurt - North Aegean Petroleum Comp., Kavala Greece - Packsaudi, Karachi - Pakistan - Phillips Petroleum, London - Recon GmbH, Dreieich - Salzgitter-Ferngas GmbH, Salzgitter - Shiraz Steel Complex, via NPC-London - SIG, Salzgitter - Solvay, Torrelavega Spanien - Deutsche Texaco, Hamburg - Turkey Petrol Rafinerileri, Kirikale-Ankara Türkei - Vapor S. A., Madrid

Kompaktprüfstände K 3... Compact Testbenches K 3...

Bewag-HKW-Reuter, Berlin - Braunschweigische Kohlen-Bergwerke AG, Helmstedt - KKW, Brunsbüttel - KLE-Kernkraftwerk Emsland, Lingen - KKW-Grohnde, Emmerthal - KKL-Leibstadt, CH-4353 Leibstadt - KKW, Obrigheim - KKW, Philippsburg - Samson, NL-3750 GA Bunschoten - Vapor AG, CH-8702 Zollikon, ÖMV - Linz Austria, Münz - Würzburg

Kompaktprüfstände K 35... K 36... Compact Testbenches K 35... K 6...

Deutsche Shell AG, Köln - Gemeinschaftskraftwerk Neckar GmbH, Neckarwestheim - KKL-Leibstadt, CH-4353 Leibstadt - Sabo, Gummersbach - Vapor S. A., Madrid - Hoechst AG, Werk Knappsack

Kompaktprüfstände SK 160... Compact Testbenches SK 160...

Bayer AG, Brunsbüttel - Norsk Hydro Agrar, Brunsbüttel - Hoechst AG, Wiesbaden - Coppee Rust, Brüssel - Esso AG, Köln - Gewerkschaft Brigitta und Elwerath, Clenze-Lüchow - Hüls-Troisdorf AG, Troisdorf - Iqas, Istanbul - KKW-Isar I, Essenbach - Ölwerke Schindler, Hamburg - Phillips Petroleum, London - Phillips Petroleum, Emden - Phillips Petroleum, B-3980 Tessenderlo - Sabo, Gummersbach - SEAG, NL-2920 AC Krimpen - Shell AG, Hamburg - Techn. Hochschule, Darmstadt - TIB-Lackmann, Essen - Uhde GmbH, Dortmund - Vapor AG, CH-8702 Zollikon - Wacker Chemie, Köln -

Kompaktprüfstände K 4... Compact Testbenches K 4...

Bopp u. Reuther, Mannheim - Boehringer, Ingelheim - Hoechst AG, Frankfurt - Hoechst AG, Werk Knapsack - JCI Regelungstechnik, Essen - ÖMV Chemserv, Linz, Österreich - KKW Greifswald, Greifswald

Prüfstände für Klappen KS 1... Testbenches for Butterfly-Valves KS 1...

Ritterhuder Armaturen GmbH u. Co KG, Osterholz-Scharmbeck - Keystone, Mönchengladbach - Bopp und Reuther, Mannheim - ARCA-Regler, Tönisforst

Prüfstand für Regelventile KS 4... Testbenches for regulatingvalves KS 4...

Arca-Regler, Tönisvorst - HP+HP-Chemiestellglieder, Willich-Anrath - Wintershall, Lingen - Hüls AG, Marl

Automatische Prüfstände PA... Automatic Testbenches PA...

ARI-Armaturen, Schloß Holte Stuckenbrock - Schilling Armaturen, Bielefeld - von Roll AG, CH-4702 Oensingen - Siepman-Persta-Armaturen, Warstein-Belecke - Kernkraftwerk Grohnde GmbH - Wacker Chemie, Burghausen - Wittler Armaturen, Schloß-Holte-Stukenbrock - Klinger Armaturen, Austria, Wien - Baelz Armaturen, Heilbronn

Armaturenprüfstände PS 1... Testbenches for valves PS 1...

BASF, Ludwigshafen - Phönix-Armaturen, Volksmarsen - Schubert u. Salzer, Ingolstadt - Sempell, Korschenbroich - Friedrich Uhde GmbH, Hagen - Gehard Geier, Velbert-Neviges - MAW Gruppe Deutsche Babcock, Magdeburg - Kämmer Vannes, Schweiz - Pesch Armaturen, Köln

Armaturenprüfstände PS 2... Testbenches for valves PS 2...

Eckardt AG, Stuttgart - Kämmer Eckhard, Essen - KSB, Pegnitz - Persta, Belecke - Sempell, Korschenbroich - Magdeburger Armaturenwerke Gruppe Deutsche Babcock, Magdeburg - Bharat Heavy Electicals LTD, Tiruchi, India -

Armaturenprüfstände PS 3... Testbenches for valves PS 3...

HP+HP-Chemiestellglieder, Willich-Anrath - Nadzyka OHG, Recklinghausen - Siekmann, Dortmund - Steag, Herne - Valve Armaturen, Hamburg -

Armaturenprüfstand PK541/542.... Testbench for Valves PK541/542

BASF, Marl - Nordsee Gas, Brunsbüttel - Babcock Sempell, Korschenbroich - ÖMV, Linz Austria - MVB, Hamburg - Vapor S.A., Spanien