

Leak Testing Device for Knife Gate Valves

Type Staffsjö WB, BV, MV, XV and SLV



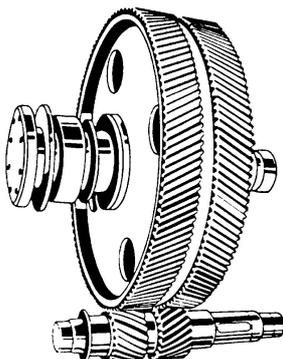
Manual

September, 2012

Contents

1.	Description of Device	Page 3
2.	Installation and Installation Requirements	Page 3
3.	Taking in Use	Page 3
4.	Mechanical Components	Page 4-7
5.	Modular Press Frames	Page 8-9
6.	Preparation for Testing	Page 9-12
7.	Operation	Page 13-16
8.	Change Values or create a new Data Set	Page 16-17
9.	Dimensions and technical Data Basic Unit	Page 18-19
10.	Electrical Components and Diagram	Page 20-22
11.	Piping, Valves and Transmitters	Page 23-24
12.	Hydraulic Set	Page 25-26
13.	Press Frames	Page 27-29
14.	Declaration of Conformity	Page 30-33
	Appendix	
	Quick Reference	Page 34-35
	Maintenance Schedule Form	Page 36

Manufacturer and Supplier:



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1. Description of Device

The leak testing devices are built to easily detect a pressure loss of either the valve body when valve is opened or of both sides of the closed Valve.

For that reason and for safety reasons because of the high testing pressure, the test medium is water.

To provide easy operation, the items get tested in vertical position. It is unavoidable to enclose an air reservoir when the valve is clamped vertically. There for it gets evacuated before it is flooded with water.

The valve is clamped hydraulically between two plates. After the remaining air got removed, the valve is pressurized and an eventual loss of pressure is taken during the specified period.

All functions as well as the specified testing data are controlled respectively stored in a programmable logic control.

The test benches are designed as a modular system. The basic unit contains all technical installations to perform the tests. This are the electrics with PLC, the control-valve system and piping, the pressure amplifiers, the hydraulic set and the water tank with its dirt drawer.

According to valve type and size, there are different press frames which can be installed easily to the basic frame.

2. Installation and Installation Requirements

For proper operation the equipment needs a pressurized air supply of 8 bars, filtered, dehydrated but not oiled.



Do not use oiled air! It will block the vacuum nozzles and cause irreparable damages of the testing equipment!

For electrical supply, a connecting cable of 5m length is fitted and equipped with a power plug acc. to IEC 60309-2 CEE 5x16A 400V 6h, including a phase changer.

3. Taking in Use

Connect to mains and air, adjust air pressure according to instructions. Fill up water into the tank, approx. 45 litres. Add anti-freezing agent (1:20, i.e. 2 litres to 1 filling of tank). Install press frame of suitable size. Connect hydraulic hose to cylinder via coupling. Connect water hoses via cap nuts. Tighten moderately only. Switch on main control switch. Choose Maintenance via Up and Down buttons, confirm with OK button. According to advice, open de-aeration ball valves inside switch cabinet and confirm. Close valves again after venting action and confirm.

Select Choose Valve on the initial screen, confirm with OK. Choose any valve and start Body Test. Actuate both buttons Chuck. The hydraulic cylinder now should come out. If not, switch off the machine and change phase at the plug. Terminate with Abort and retract cylinder via Release button.

The test rig now is ready for use.

4. Mechanical Components



Picture 1: Basic Machine

Picture 2: Phase Changer Plug



Picture 3: Connections



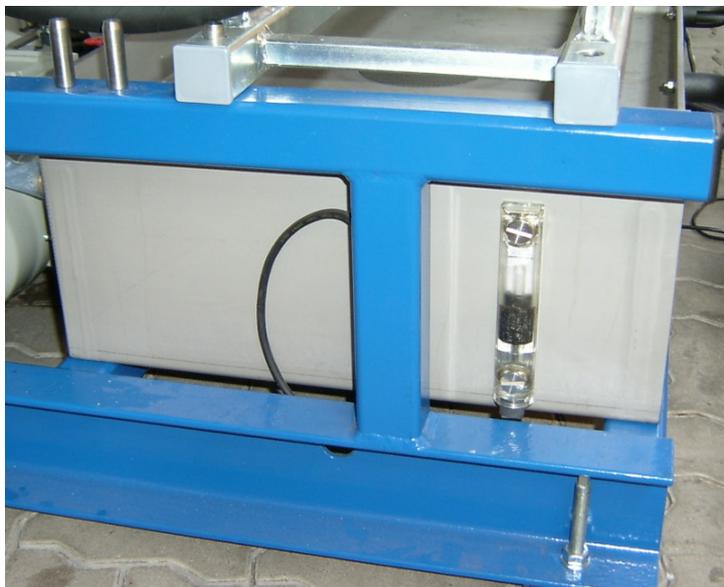
Picture 4: Pressure Gauges





Picture 5: Actuator Connection

To operate the pneumatic valve actuator connectors, gauge and regulator are provided. Adjust the pressure to the operation value; connect the upper fitting for closing the valve, the lower one for opening.



Picture 6: Water Level Indicator

The main tank contains 45 litres. Warning is given at 25 litres. Refill with water and anti-freeze agent 1:20. The equipment will not start if water level is low.



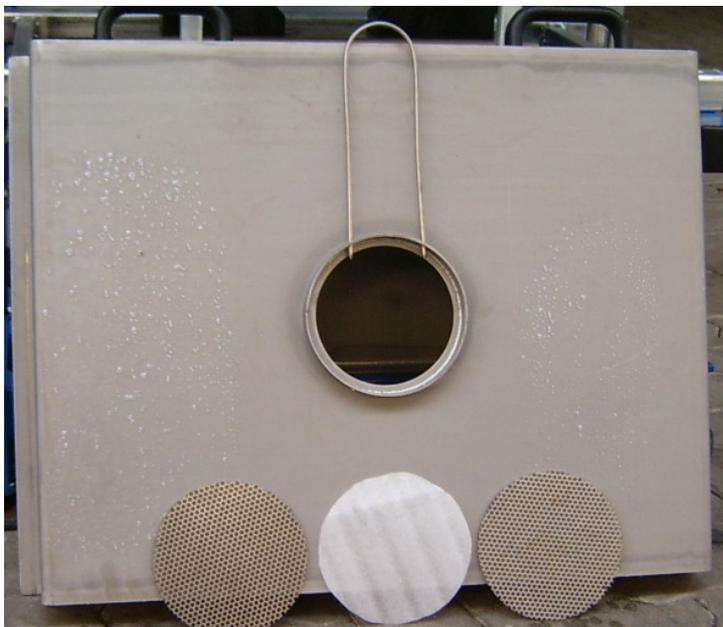
Picture 7: Frame Detectors and Filter Cartridge

To change the filter cartridge unscrew the transparent plastic cap and replace the filter element. Use a 5" replacement cartridge filter mesh 1u. Follow the instructions for maintenance to de-aerate the system.



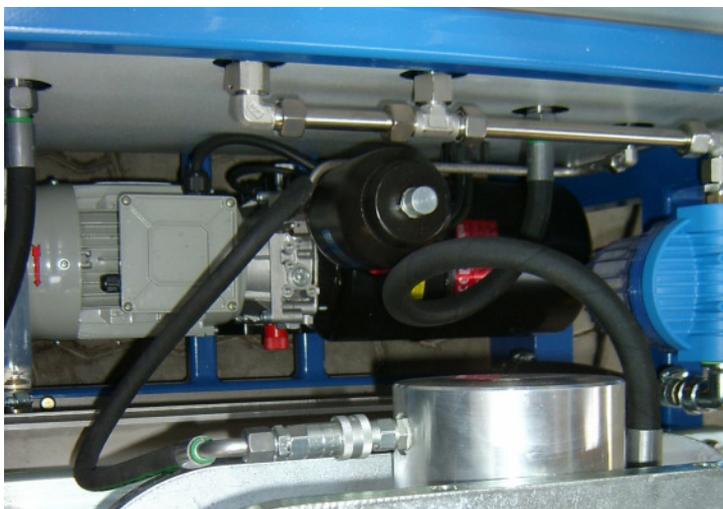
Picture 8: Coarse Dirt Drawer and Drain Valve

Coarse dirt will be kept by the dirt drawer. Pull out and clean if necessary.



Picture 9: Dirt Drawer Filter Pad

If water does not drain from the drawer, take off the filter-pad retainer and clean or replace the filter-pad.



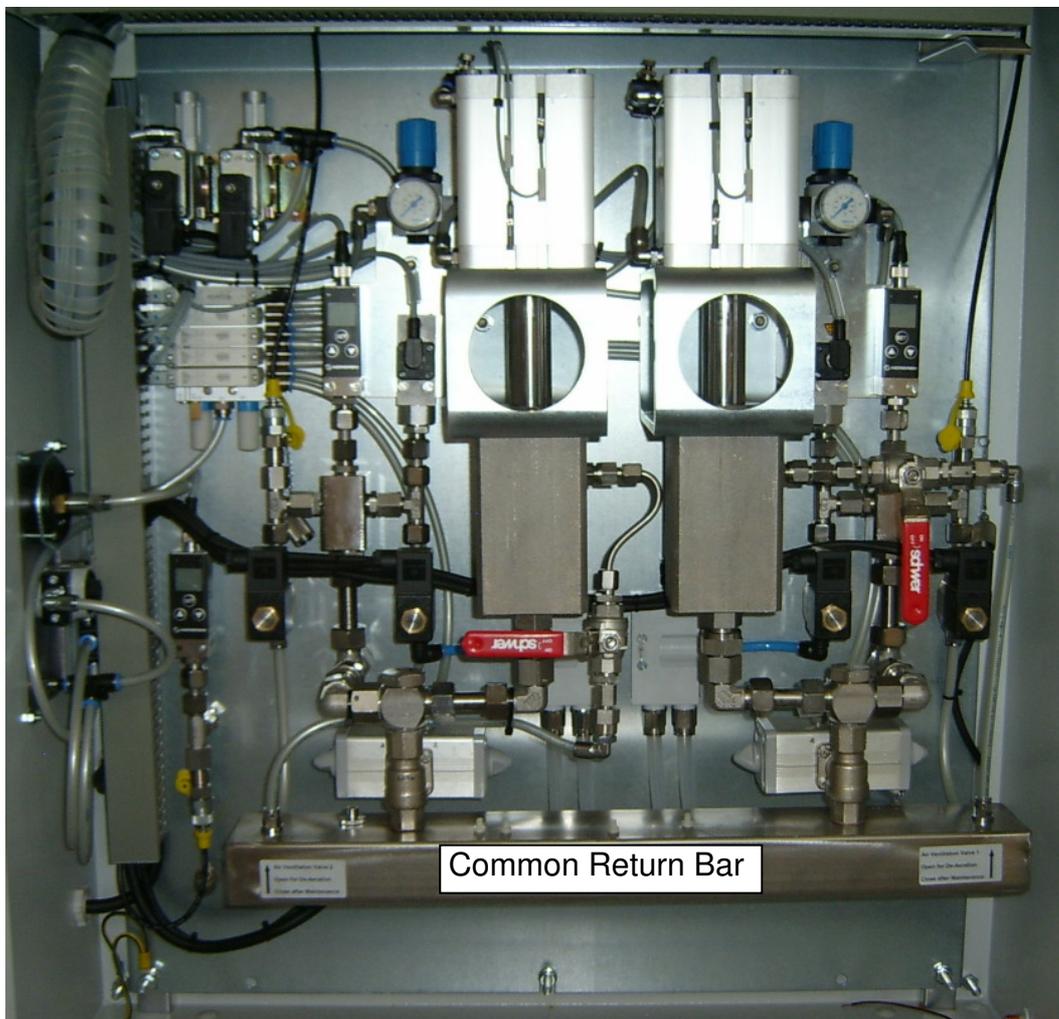
Picture 10: Hydraulic Set

The hydraulic set is situated between the switch cabinet and the main tank. Maintenance must be performed according to the separate manual.



Picture 11: Electrical Components

Picture 12: Common Return Bar



All reflow lines are connected to the common reflow bar. A translucent hose leads back from there into the main tank. That enables to detect any leakage of the valve-system at one glance.

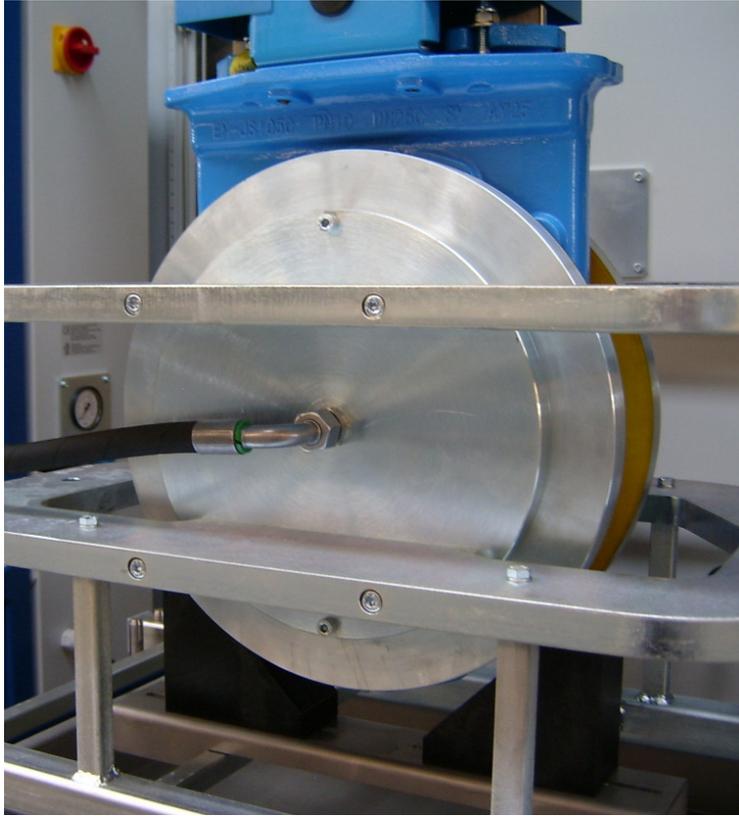
5. Modular Press Frames



Picture 13: Press Frame Size 100



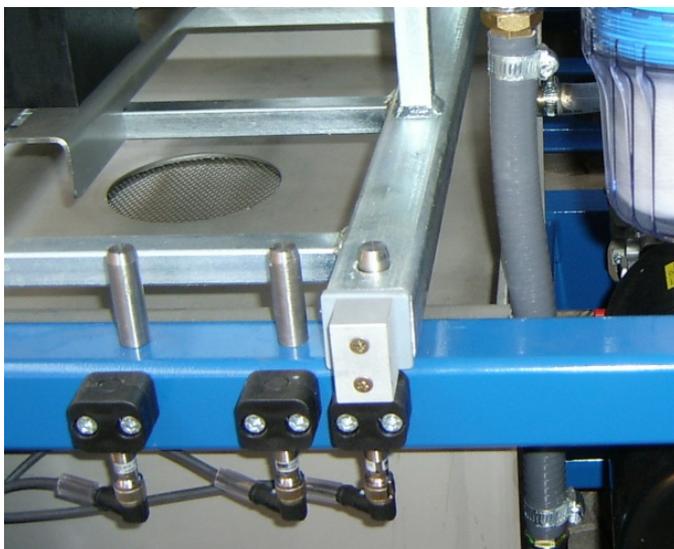
Picture 14: Press Frame Size 200



Picture 15: Press Frame Size 300

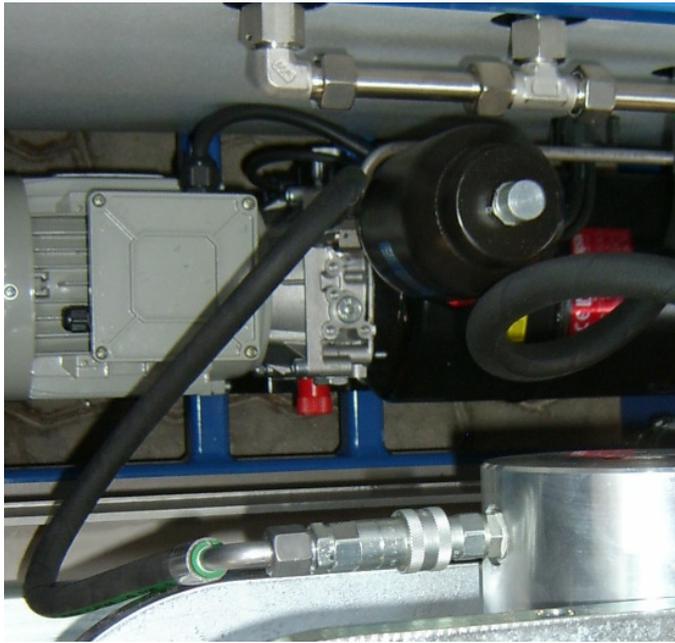
6. Preparation for Testing

Install a suitable press frame to the basic unit, following the advices below.



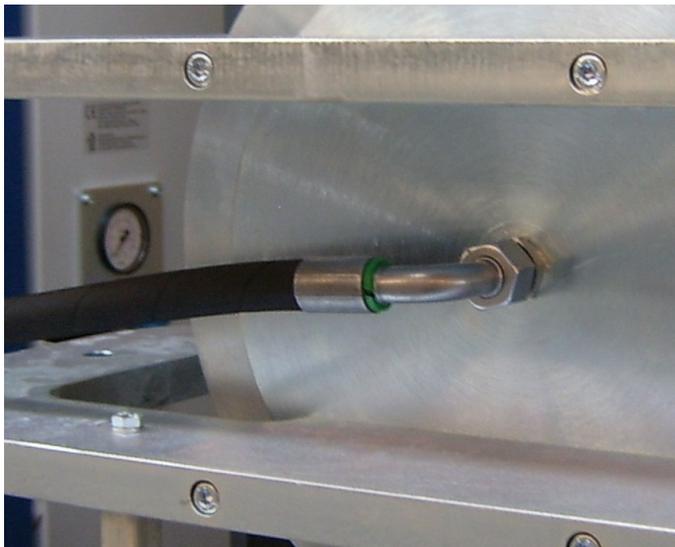
Picture 16: Placing Press Frame

Place the press-frame carrier safely onto the basic unit. Make sure the carrier sits correctly on the positioning studs and the frame size detection is covered by the actuation.



Picture 17: Connecting Hydraulic Coupling

Make sure there is no hydraulic pressure in the system. Retire the coupling cap at the hose coupling. Push the coupling onto the cylinder stud. Release the cap when the coupling is safely connected. Disengage vice versa. Use a clean absorbent cloth to prevent oil from dripping into the dirt drawer.



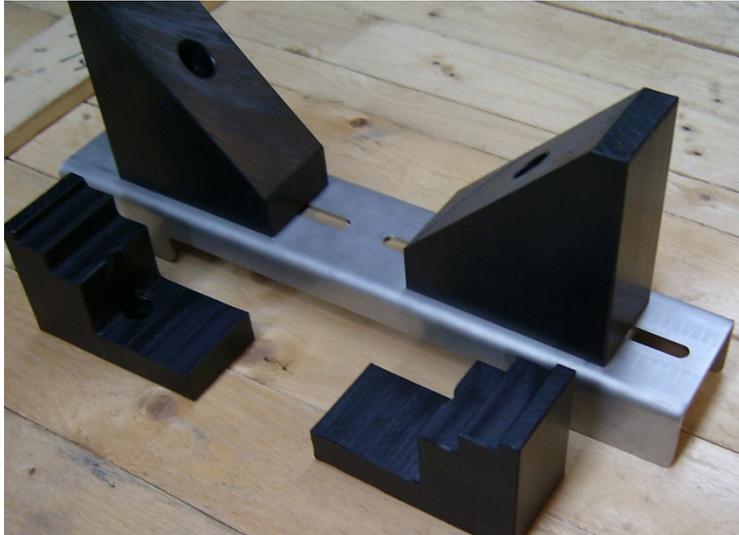
Picture 18: Connecting Front Water Hose

Connect the cap nut of the front-side hose to the fitting on the press-plate carrier. Tighten moderately using a 27mm spanner.



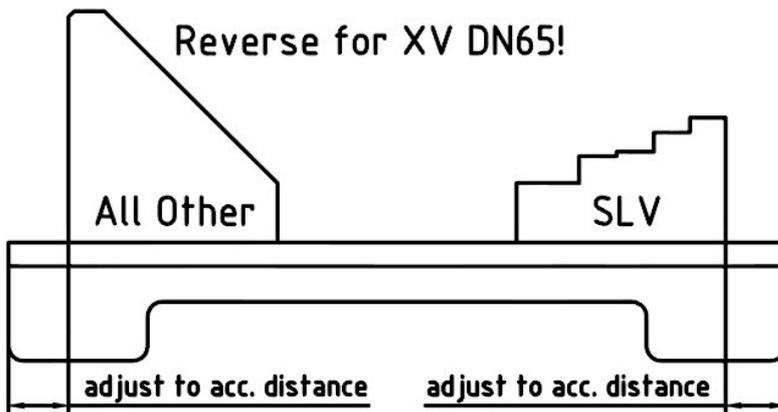
Picture 19: Connecting Rear Water Hose

Connect the cap nut of the rear-side hose to the fitting on the press-plate carrier. Tighten moderately using a 27mm spanner.



Picture 20: Adjustable Valve Support

There is a scale marked on the carrier to facilitate the adjustment of the valve bearers.
 Adjust the distances according to the table below and fasten the Allen screws.
 Place the support onto the press-frame carrier.



Picture 21: Valve Support Adjust

Adjust to the distances shown in the table below

Table 1: Distances for Valve Support Adjust

SLV	WB11	WB14	MV	XV	BV
50-60	50-54	50-54	50-56	50-59	50-45
65-41	65-40	65-40	65-42	65-43	65-31
80-22	80-28	80-29	80-38	80-30	80-21
100- 0	100- 9	100- 7	100-18	100-10	100- 0
125-80	125-81	125-81	125-79	125-64	125-64
150-49	150-60	150-60	150-59	150-50	150-42
200- 0	200-25	200- 6	200-19	200-11	200- 0
250-47	250-54	250-50	250-74	250-51	250-48
300- 0	300- 3	300- 0	300-51	300- 2	300-20

Picture 22: Knife Gate Valve DN300 ready for Testing



7. Operation

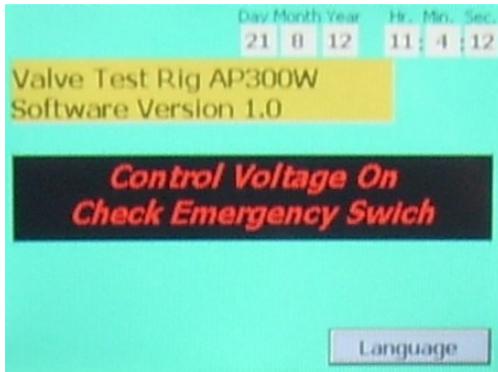
Picture 23: Control Panel



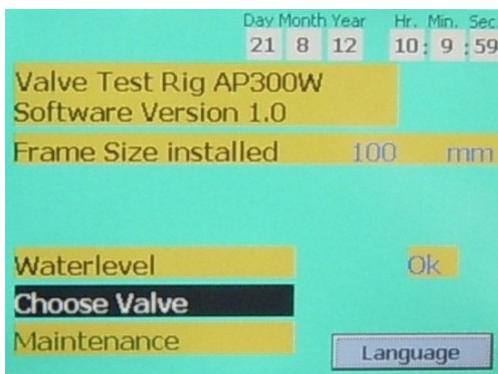
All commands are given by push buttons. Except changing or creating data sets, this is operated via touch-screen. Buttons in use are lit.

UP	Selects a line on the screen, valve type and size, opens the valve
Down	Selects a line on the screen, valve type and size, closes the valve
OK	Confirms a selection or a choice
Start	Starts or restarts a selected test
Stop	Breaks a running test, time countdown comes to a halt
Resume	Restarts test after Stop, pumps will rebuilt pressure
Chuck	Clamps the valve, two hand operations is required
CV On	Switches on the PLC
CV Off	Switches off the PLC
Failed	Indicates the result of the test according to the tolerated value
Passed	Indicates the result of the test according to the tolerated value
Admin	Allows changing or creating a data set
Release	Sets free the valve
Abort	Terminates the test and any action and leads back to initial screen
Emergency	Releases test pressure, but valve will kept clamped

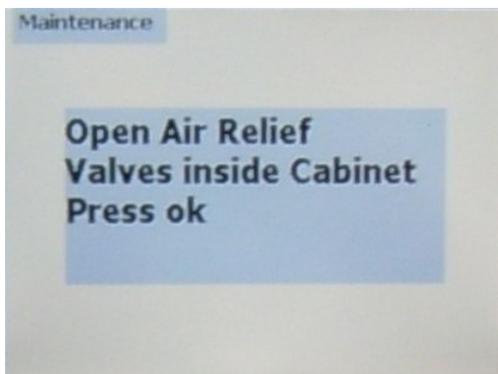
Operation



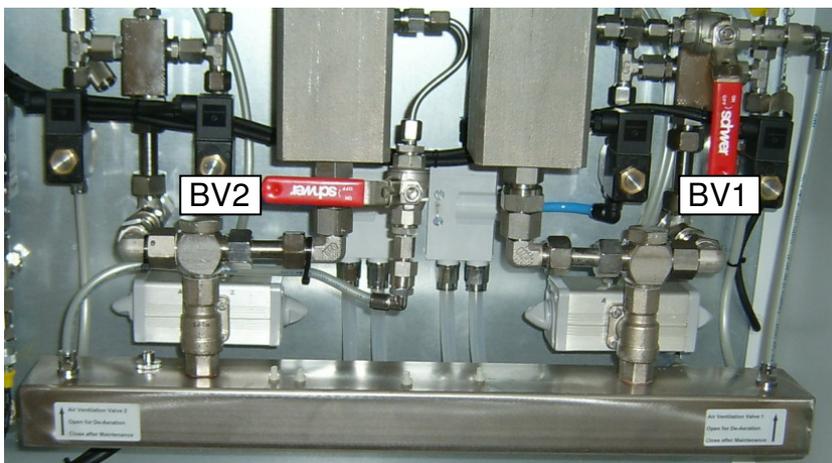
When main power is switched on, the system will boot and show the hardware and software version. You are asked to check the emergency switch which should be pulled out. Switch on the control voltage by depressing the according button. All button lights will flash several times to make sure that they are working. After this the initial screen will be displayed.



The initial screen displays the system clock, the machine versions again and the press frame size installed. The system time can be corrected by tipping on the touch-screen. If water-level shows failure, it must be checked. Choose valve is preferred; just depress the OK button to proceed. If maintenance is necessary, Depress Down button and OK. The following screen will show up.

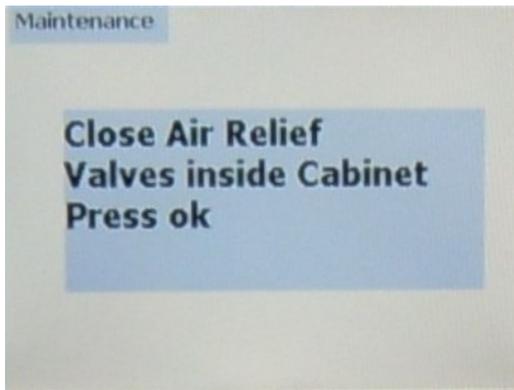


Taking in use for the first time, cleaning the tank or changing the filter cartridge causes air inside the intake line. De-aeration of the pumps is required. Open air relieve ball valves inside the switch cabinet (picture below) and press OK. Pump action will be taken until the intake line is clear of air.

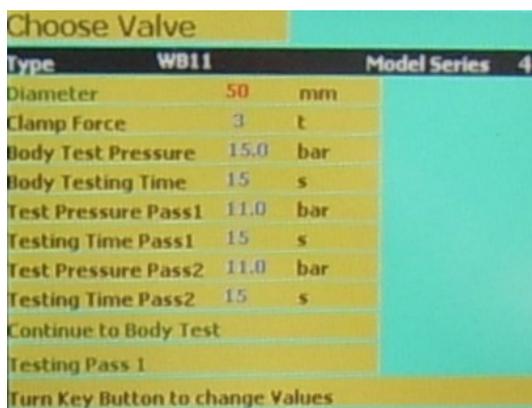


Picture: 24

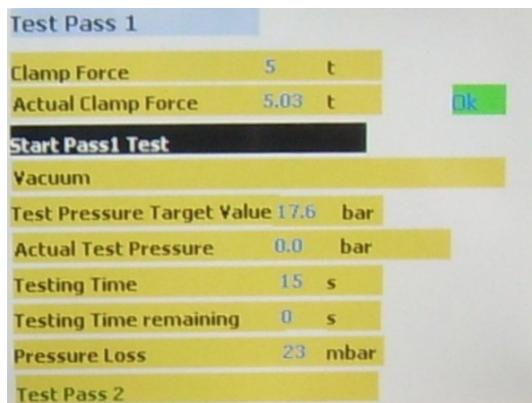
BV1 and BV2:
De-aeration ball valves



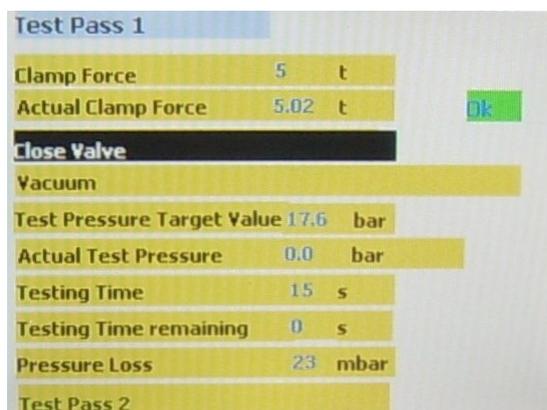
As soon as de-aeration is finished, you are asked to close the ball valves again. Do so and confirm with OK. The system will jump back to the initial screen then. Go to Choose Valve and press OK. The next screen will show up.



Go to Type via Up or Down and press OK. Now you can scroll through the stored valve types. Take your choice and confirm with OK. Proceed the same way to select Diameter. Only valve sizes corresponding to the installed press frame are displayed and can be chosen. When input is complete, the complete data set for the testing cycles is displayed. Continue with Body Test or Pass1 Test as desired by Up or Down and confirm with OK.



The further operation is shown at the basis of Pass 1 Test. Test 2 operates the same way just with reversed sides. So does Body Test, except it needs the valve to be opened and both of the pressure pumps are in charge. Depress both buttons Clamp until Clamp Force OK is shown. The hydraulic will keep the force when reached for the first time. Press Start and the next screen will be displayed.



You are now asked to close the valve (or open it on Body Test). Do this via Down button. If a manually or electrically operated valve is in test, close valve accordingly and confirm with Down. The test run now will start automatically. First the test item will be evacuated, then Test Pressure will be created by the pumps. The actual pressure will be displayed.

Test Pass 1		
Clamp Force	5	t
Actual Clamp Force	5.04	t
Start Pass1 Test		
Vacuum		
Test Pressure Target Value	17.6	bar
Actual Test Pressure	18.7	bar
Testing Time	15	s
Testing Time remaining	0	s
Pressure Loss	23	mbar
Test Pass 2		

For the first 20sec, pressure will be kept by the pumps. After that calm down time of 60sec follows. No pump action is taken any more. When calm down time is elapsed, the actual pressure is stored and the Testing Time specified in the data set runs down. This is shown as count down on the screen. At the end of the test, Time Remaining gets to zero. The result now is given by the difference of the pressures at the start and at the end of the testing time. Finish the test by Abort or go to Test 2.

Any Test can be discontinued by depressing the Stop button. This is indicated by Passed, Start and Resume buttons flashing. During the break the valve is not depressurized, but no pump action will be performed. Thus pressure loss is visible on the display. Also long-term tests can be performed this way.

Resume will restart the test, building up pressure again and setting the count down to zero.

Abort will finish the test (and any other action) at any stage and will bring you to the initial screen.

After a test, Body, Pass 1 or 2 is performed, it can be restarted via Start button if a repetition is wanted.

8. Change Values or Create a new Data Set

Choose Valve		
Type	WB11	Model Series 4
Diameter	50	mm
Clamp Force	3	t
Body Test Pressure	15.0	bar
Body Testing Time	15	s
Test Pressure Pass1	11.0	bar
Testing Time Pass1	15	s
Test Pressure Pass2	11.0	bar
Testing Time Pass2	15	s
Continue to Body Test		
Testing Pass 1		
Turn Key Button to change Values		

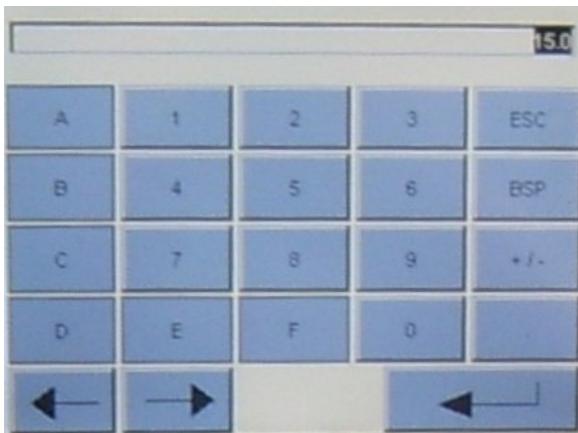
When Choose Valve is displayed, turn the key of the Admin button. The following screen comes up.

Change Valve		
Type	0	Model Series 13
Diameter	65	mm
Clamp Force	3	t
Body Test Pressure	15.0	bar
Body Testing Time	60	s
Test Pressure Pass1	11.0	bar
Testing Time Pass1	15	s
Test Pressure Pass2	11.0	bar
Testing Time Pass2	15	s
Max. Pressure loss	200	mbar
Return Key Button for Test Operation		

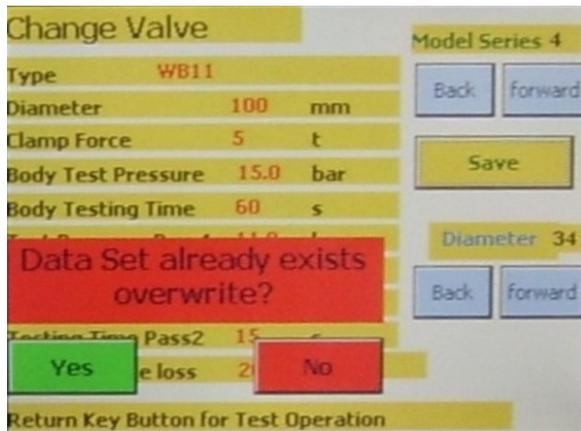
You can go through the valve types and Diameters using Back and Forward. Model Series and Diameter will count up or down. You can change all values displayed by tipping on the value. According to the desired input a numeric (data) or alphanumeric (Type) input box will pop up. If the input screen does not react tip on Save and confirm with Yes.



Alphanumeric input box for changing the name or creating a new valve type. Overwrite the description and get back via return.



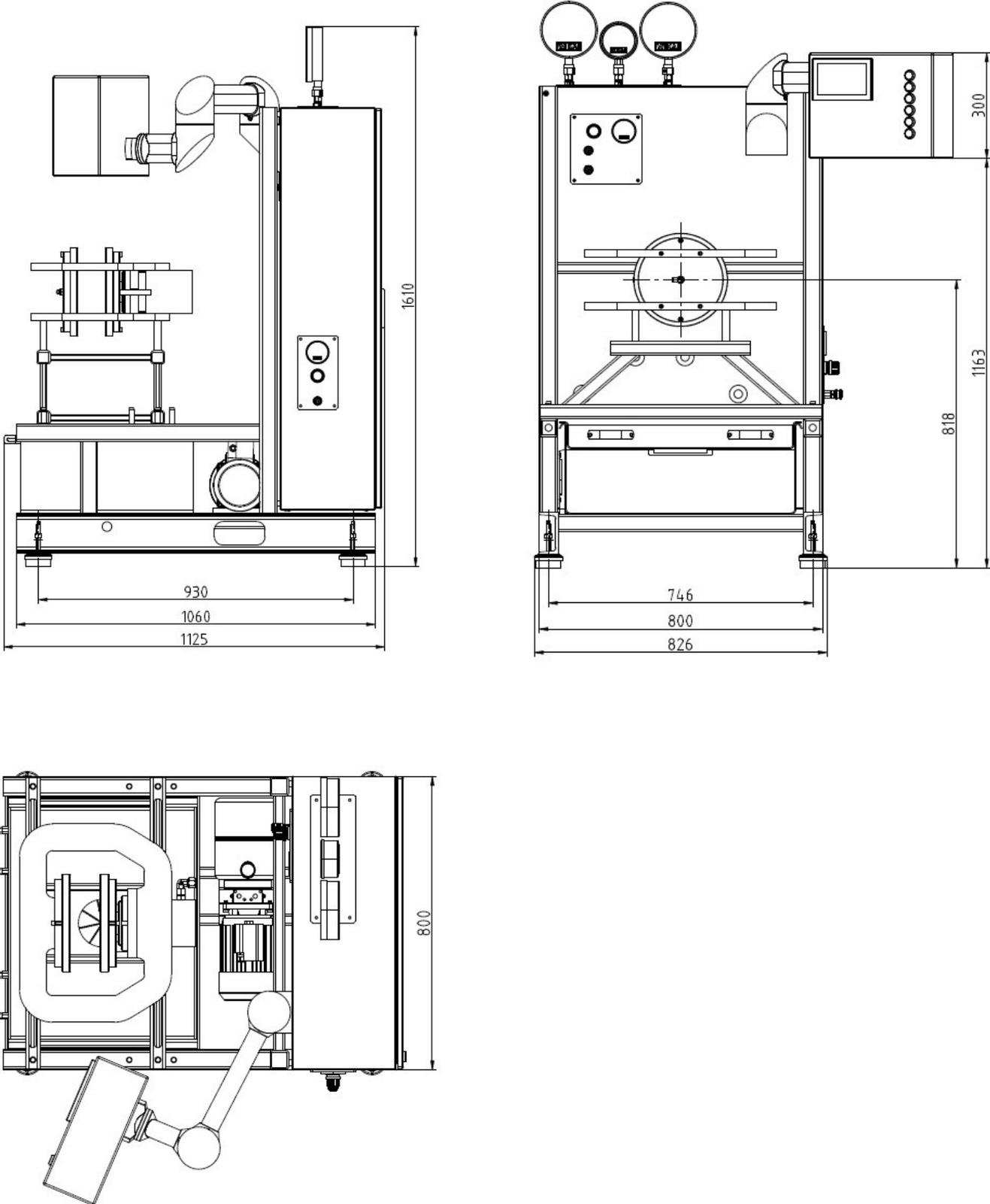
Numeric input box for changing data or creating a new data set. Overwrite the value and get back via return.



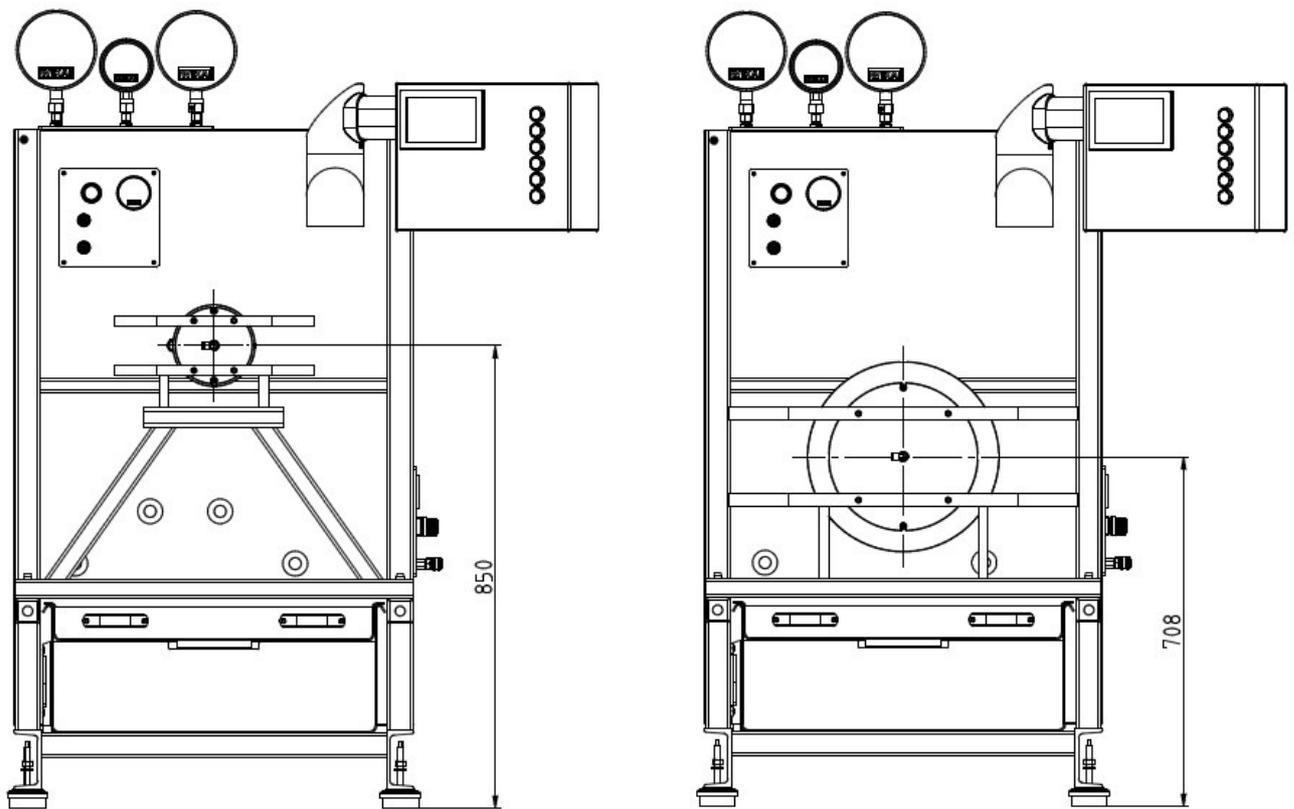
After you have finished the input, tip on Save. You are asked now to confirm your changes. 50 different valve types in 10 diameters can be stored. Changes can be made to all data sets, regardless the frame size installed. At the state of delivery the first 9 model series are preoccupied by the data provided by the customer.

9. Dimensions and technical Data Basic Unit

Picture 25: Basic Unit Dimensions and Working Height Frame Size 200



Picture 26: Working Height Frame Size 100 and Size 300

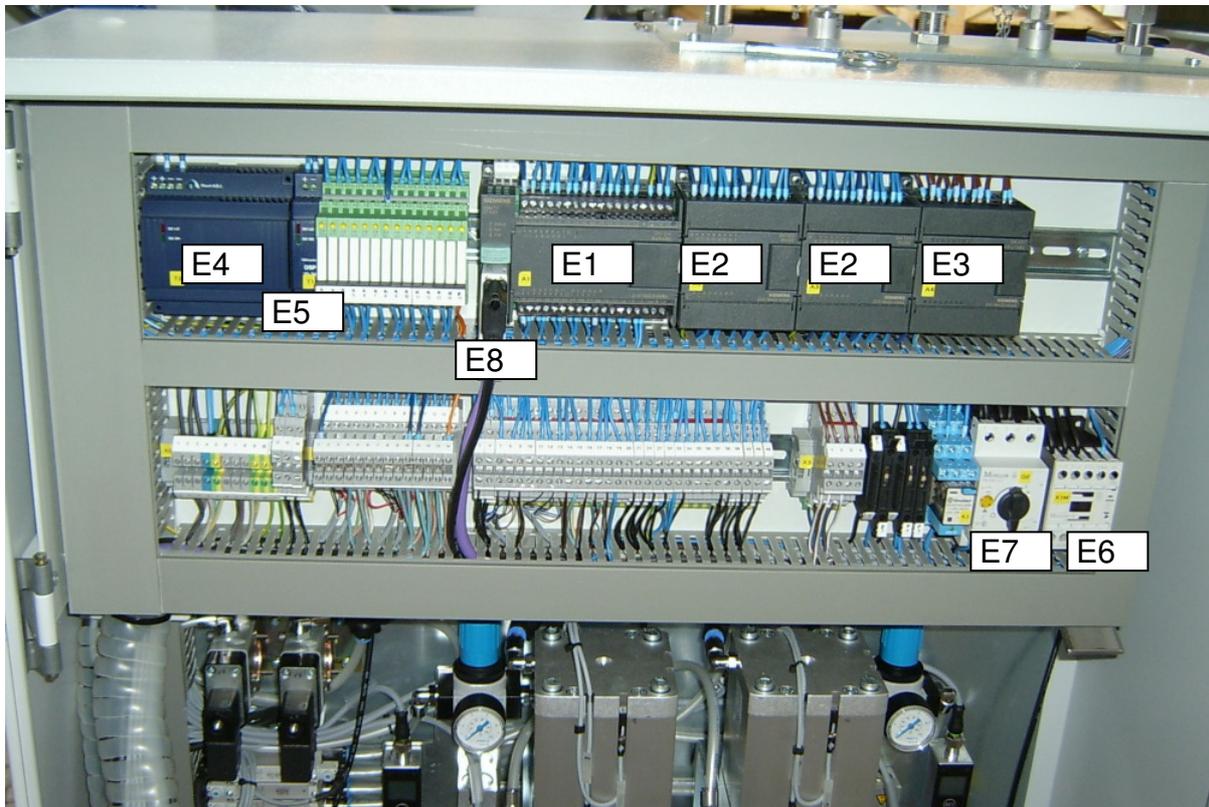


Technical Data Basic Unit

Mains Connection:	400V – 3Phase
Power Consumption:	1.0kW
Compressed Air:	8bar
PLC Control:	Siematic S7-200
Hydraulic Unit:	Hydropa KL-1-B-ZP1,2-BH 06-EDJ (0,75)/1-ZT7-DB 1/300 (260)-H 1
Dimensions:	826 x 1125 x 1610 (W x L x H)
Weight::	250kg
Test Fluid:	Water with Anti-Freeze Agent 1:20
Tank Contains:	45L
Maximum Test Pressure:	35bar
Maximum Hydraulic Pressure:	250bar

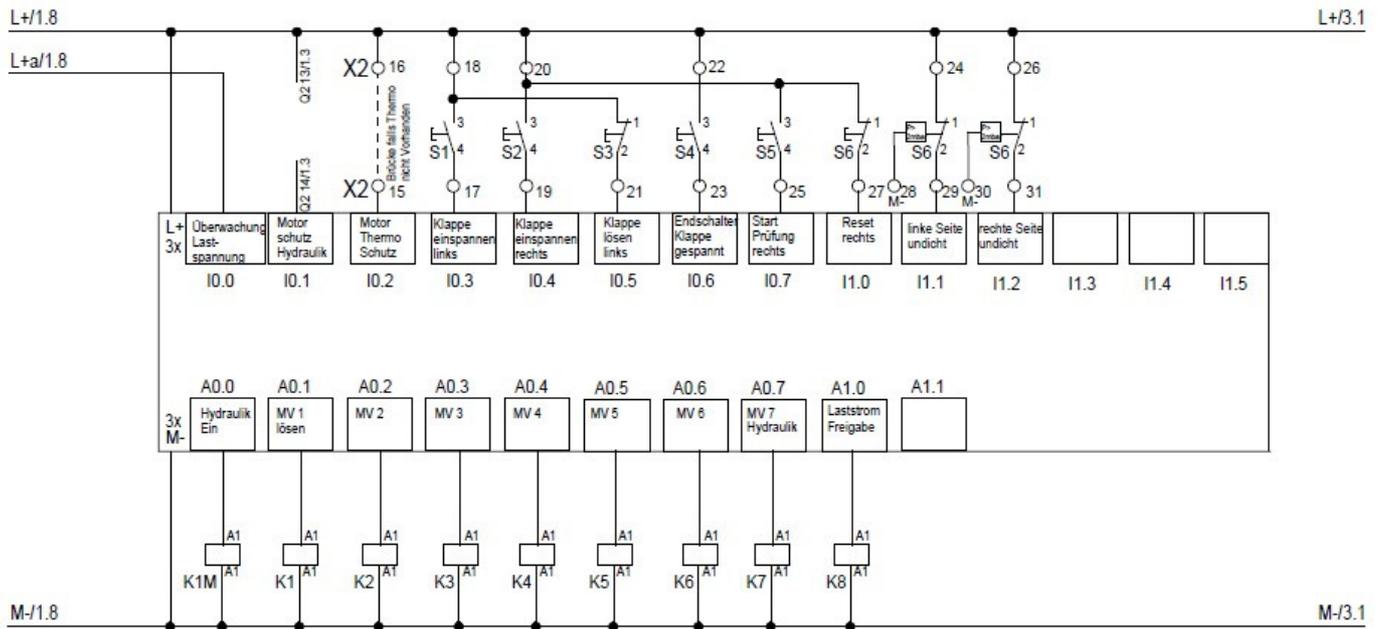
10. Electrical Components and Diagram

Picture 27: Switch Cabinet electrical Installation

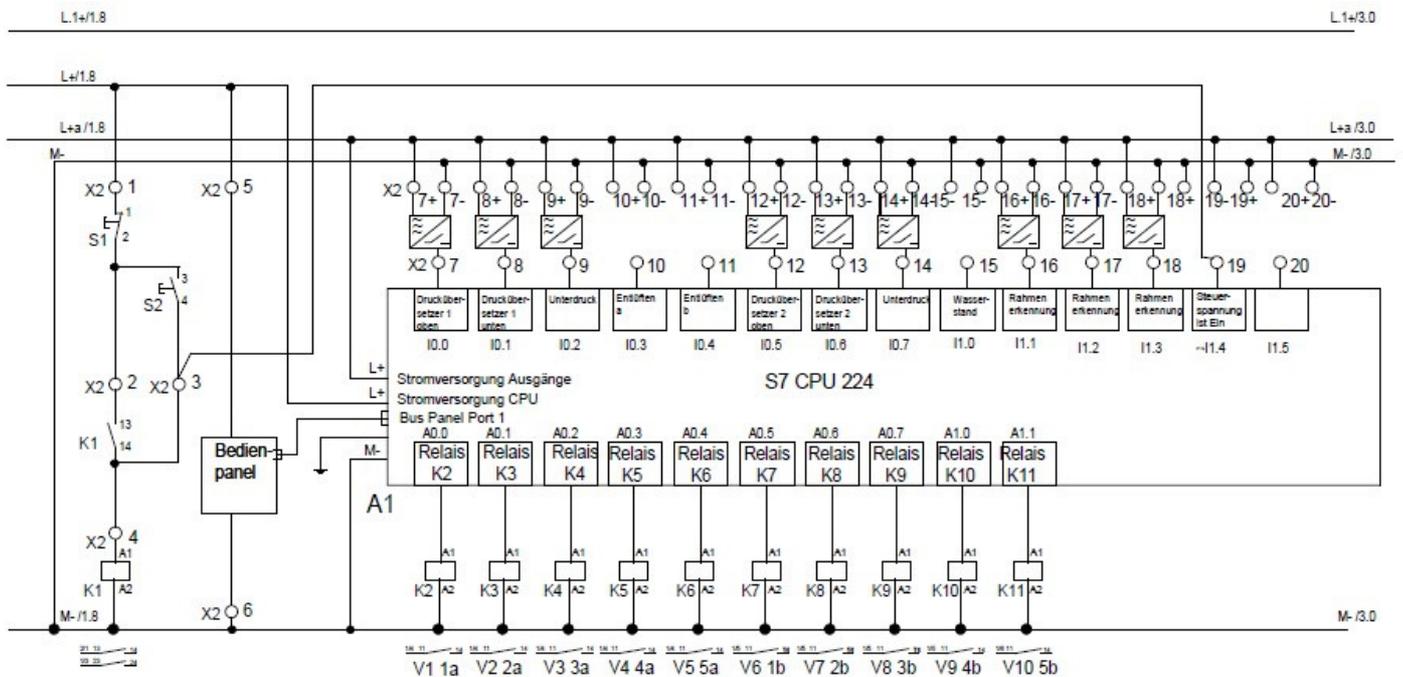


- E1: SPS S7-200 CPU 224
- E2: SPS S7-200 Extension EM 8A 8E 24V DC
- E3: SPS S7-200 Extension EM 231 4x Analog Input
- E4: Power Converter 24V 4,2A
- E5: Power Converter 24V 0,4A
- E6: Contactor Hydraulic Set
- E7: Motor Overload Switch Hydraulic Set
- E8: Bus Connector Wago 750

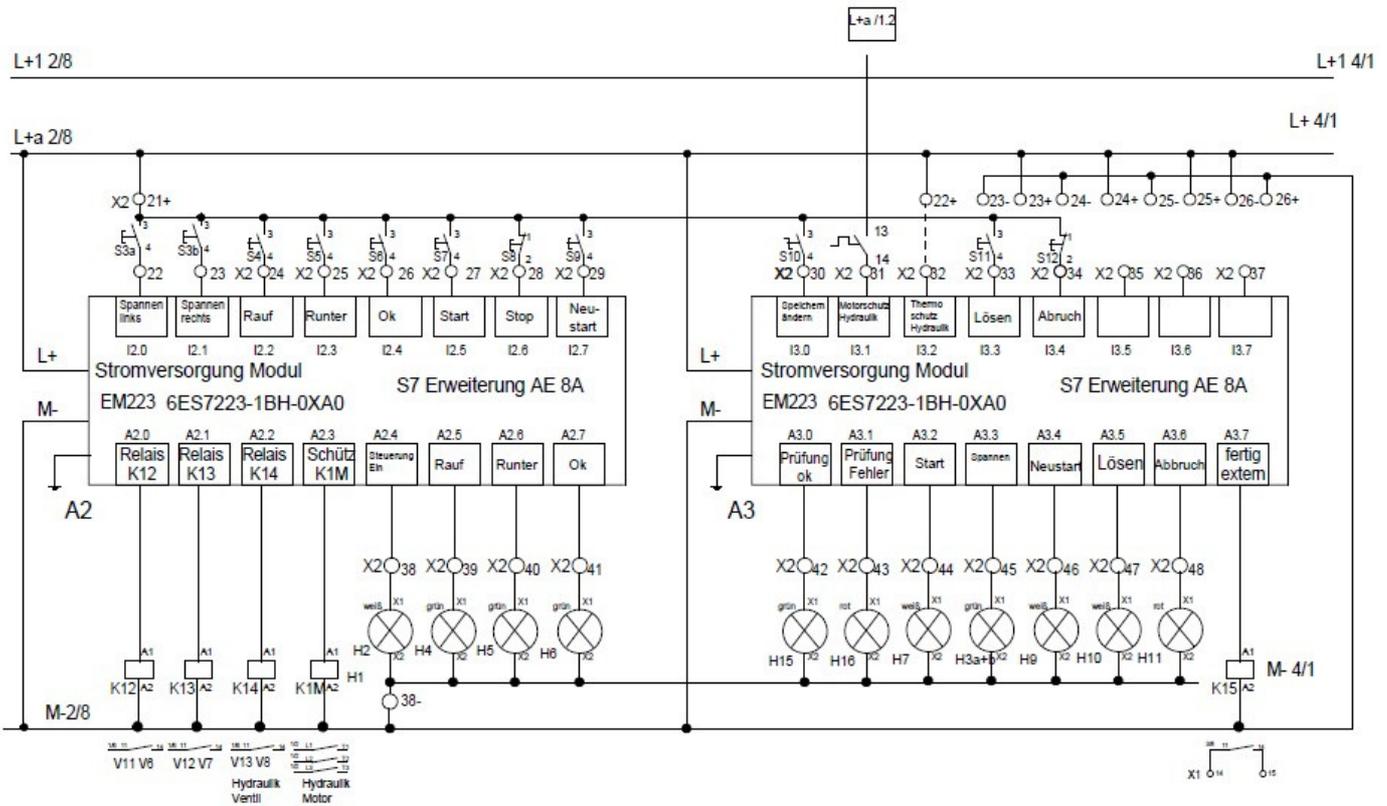
Picture 28: Wiring Diagram Part 1



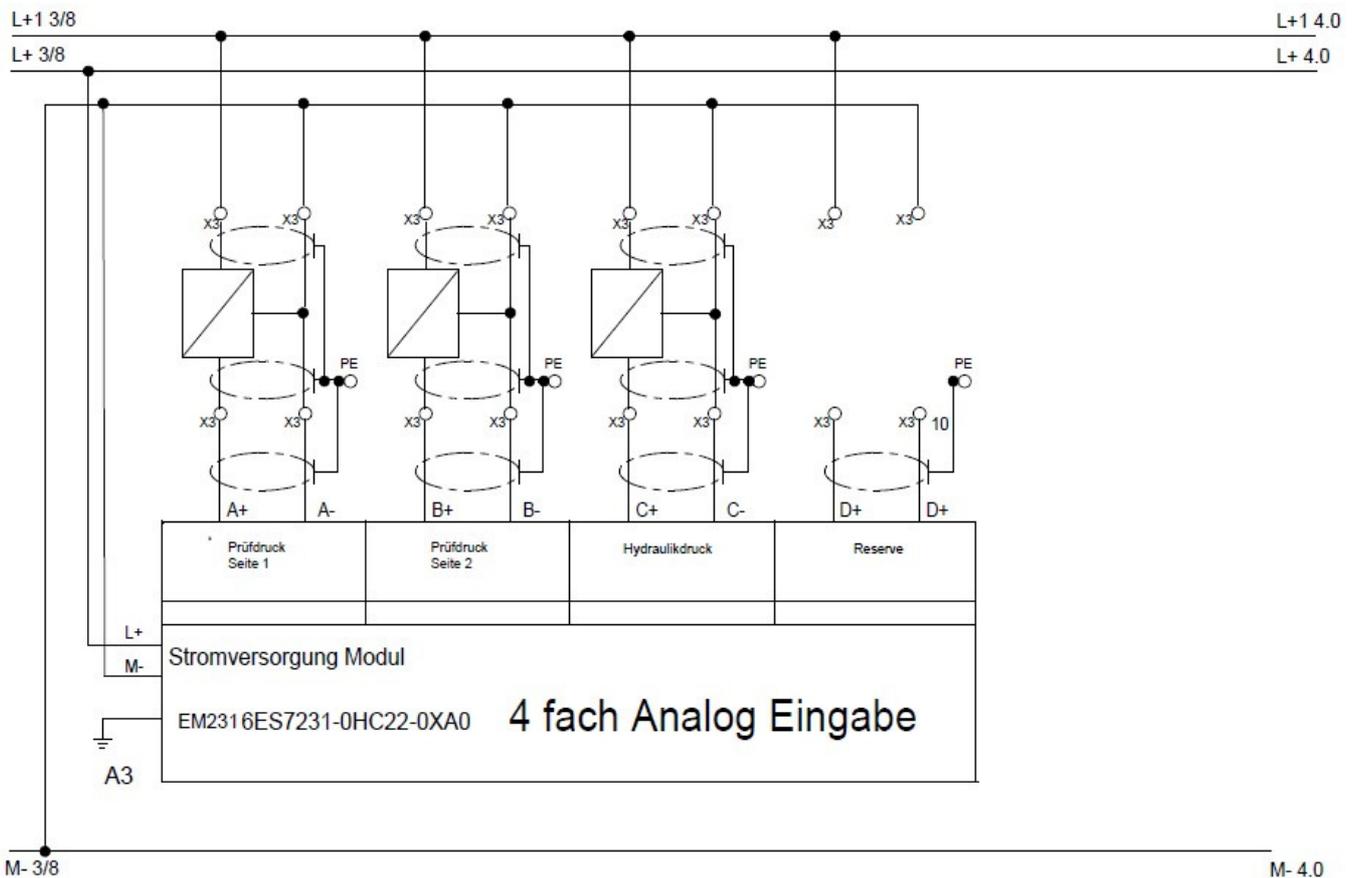
Picture 29: Wiring Diagram Part 2



Picture 30: Wiring Diagram Part 3

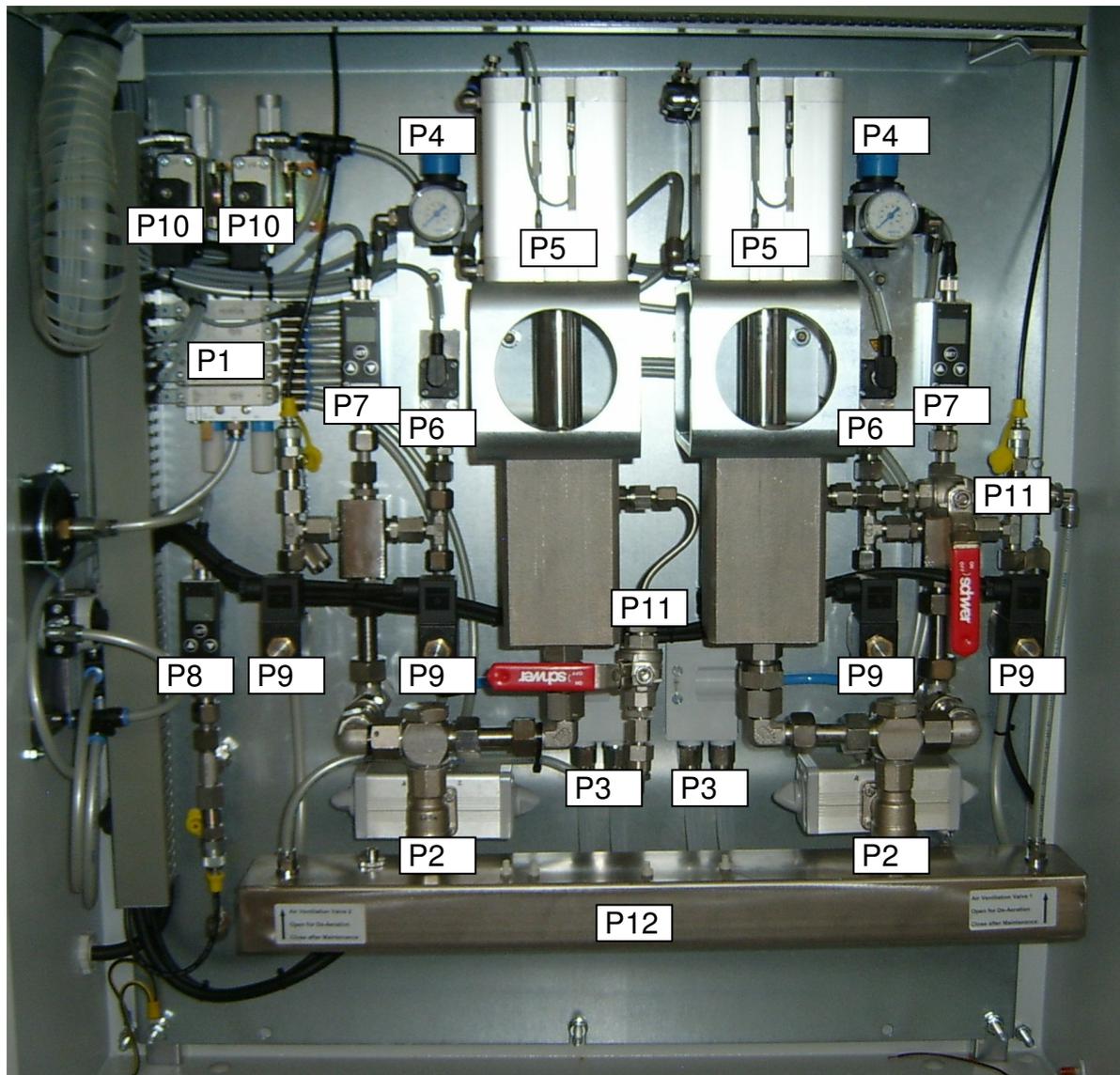


Picture 31: Wiring Diagram Part 4



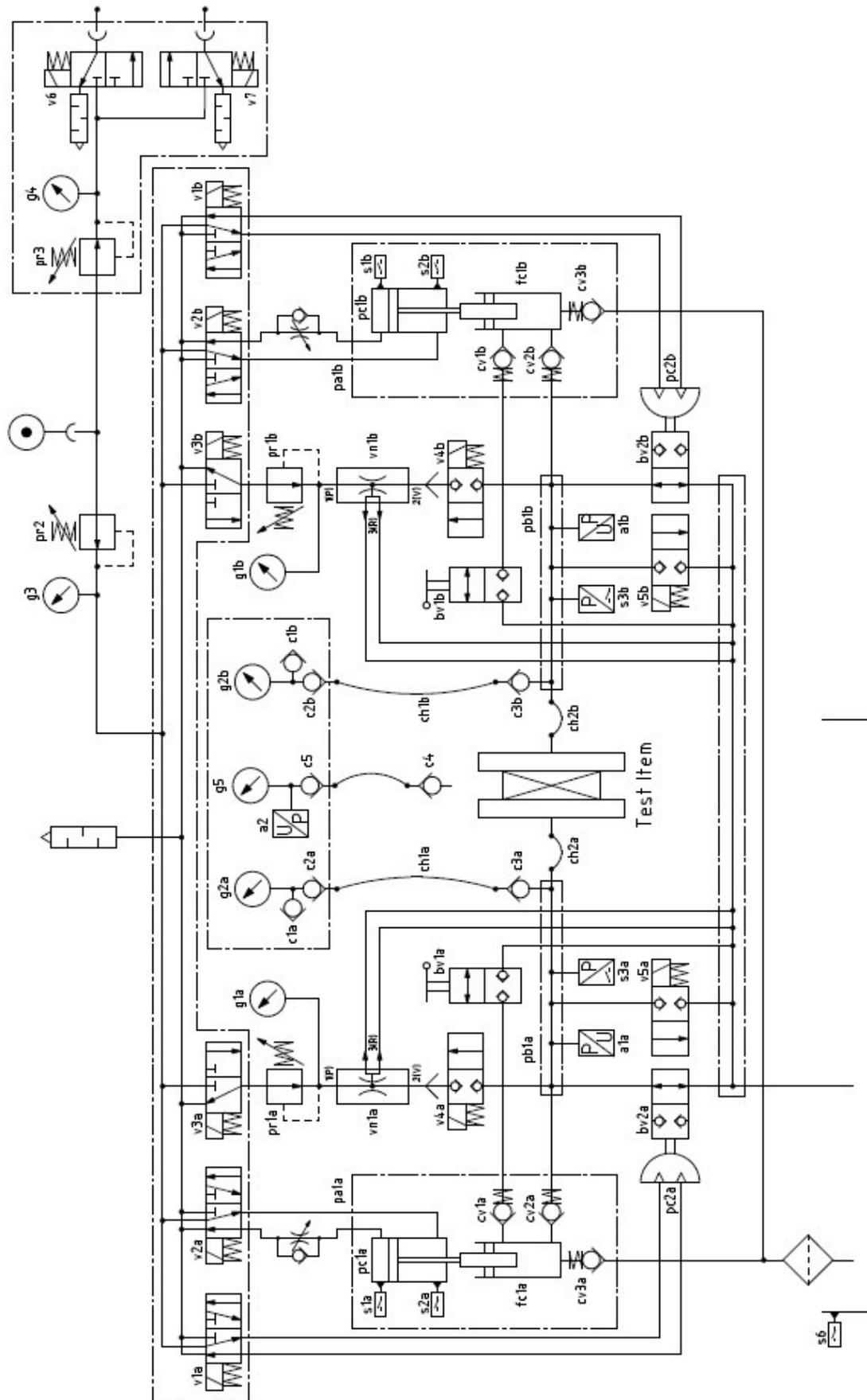
11. Piping, Valves and Transmitters

Picture 32: Location of Valves



- P1 - V1, V2, V3 a/b: Valve Cluster VTUG-14-SS3-B1T-Q12LA-UL-Q8S-4MK+TV
- P2 - BV2 a/b: Ball Valve VZPR-BPD-22-R12
- P3 - VN1 a/b: Vacuum Nozzle VN-20-H-T6-PQ4-VQ5-R02
- P4 - PR1 a/b: Pressure Regulator LR-1/4-D-7-Mini
- P5 - PC1 a/b: Pneumatic Cylinder ADN-80-80-A-P-A
- P6 - S3 a/b: Pressure Switch -1 – 0 bar M12
- P7 - A1 a/b: Pressure Transmitter 0 – 40 bar 4 – 20 mA
- P8 - A2: Pressure Transmitter 0 – 400 bar 4 – 20 mA
- P9 - V4, V5 a/b: 2/2 Solenoid Valve NC G1/4 24V
- P10 - V6, V7: 3/2 Solenoid Valve NC G1/4 24V
- P11 - BV1 a/b: Ball Valve Hand Lever
- P12 - CR: Common Return Rail

Picture 33: Pneumatic and Fluid Diagram



12. Hydraulic Set

Picture 34: Hydraulic Set

Characteristics Mini Power Pack



Small and Lightweight
the characteristic of these mini power packs

Electrical motors

DC	0,35 - 3,0 kW
Three-phase current	0,12 - 3,0 kW
AC	0,12 - 2,2 kW

External gear pumps
from 0,25 up to 7,8 cm³ /revolution

Oil tanks from 1 up to 25 l

Working pressure up to 250 bar
(Standard 150 bar)

Duty cycle : Intermittent service

General data

Design	Compact power unit	
Mounting position	horizontal (H1) = Mounting " below " (Standard) (H2) = Mounting " lateral " or vertical (V*)	
Temperature range	from -25° C up to 80° C (reduced torque at higher temperatures)	
Threaded connection	P and T up to ZP2,6 = G 1/4 (G 3/8 on request) from ZP3,2 = G 1/4 or G 3/8 (ZT1) A and B = G 3/8 (G 1/4 on request)	
Mounting	2 x M10 female thread or mounting foot (ZT 7)	

Hydraulic data

Pump type	External gear pump	
Flow volume	0,25 - 0,45 - 0,56 - 0,76 cm ³ / revolution [Group 0,5] 1,2 - 1,7 - 2,2 - 2,6 - 3,2 - 3,8 - 4,3 - 6,0 - 7,8 cm ³ / revolution [Group 1,0]	
Constant / Maximum pressure	150 / 250 bar	
Pressure fluid	HLP Mineral oil	
Tank volume	1, 2, 3, 5, 6, 7, 8, 12, 14 and 25 litres (Steel) 13 litres (Aluminium)	

Electrical data

Driven motor	DC-, three-phase or AC-motor	
Protection class	IP 10 - IP 54, ISO F	
Nominal voltage	12 and 24 Volt (DC) 230 / 400 Volt (three-phase current) 230 Volt (AC)	

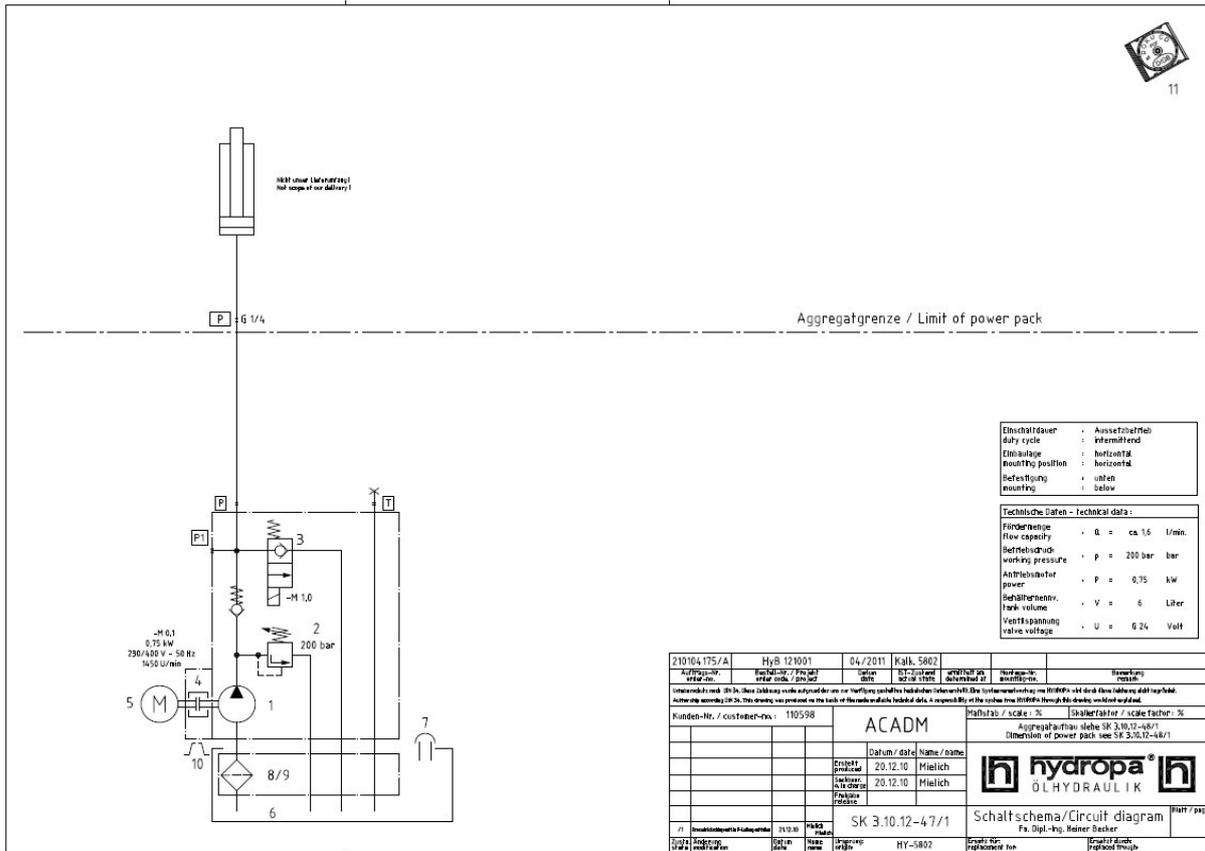
■ ex stock

How to order

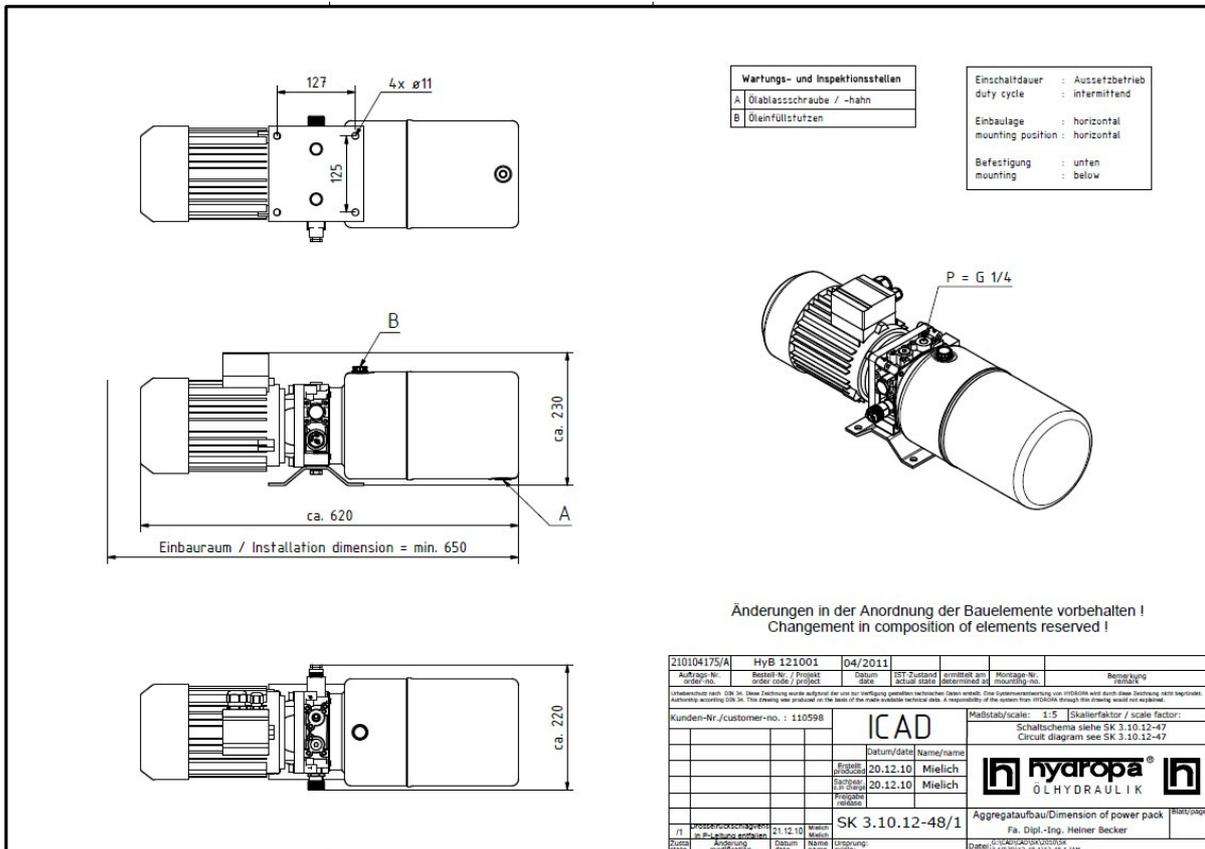
KL - [] - ZP [] - B [] / [] - E [] ([]) / [] - ZT [] - DB [] / [] ([]) - SEV [] - []

e.g. KL - 3(G3/8)/H3M	- ZP 2,6	- B1 06	- EDK (1, 1) / 2	- ZT 2	- DB 1 / 200 (150)	- H 1
Standard design Page 3 and 4	Gear pump Page 4	Oil tank * only necessary when using following tanks: BV 7, BV 13K, BV 14 and BV 25 Page 5	Electrical motor Page 6 and 7	Additional equipments no indication = no additional equipment Page 8	Pressure relief valve no indication (***) = no setting pressure Page 9	Overcentre valve no indication = no overcentre valve function Page 9
						Mounting position Page 10

Picture 35: Hydraulic Diagram

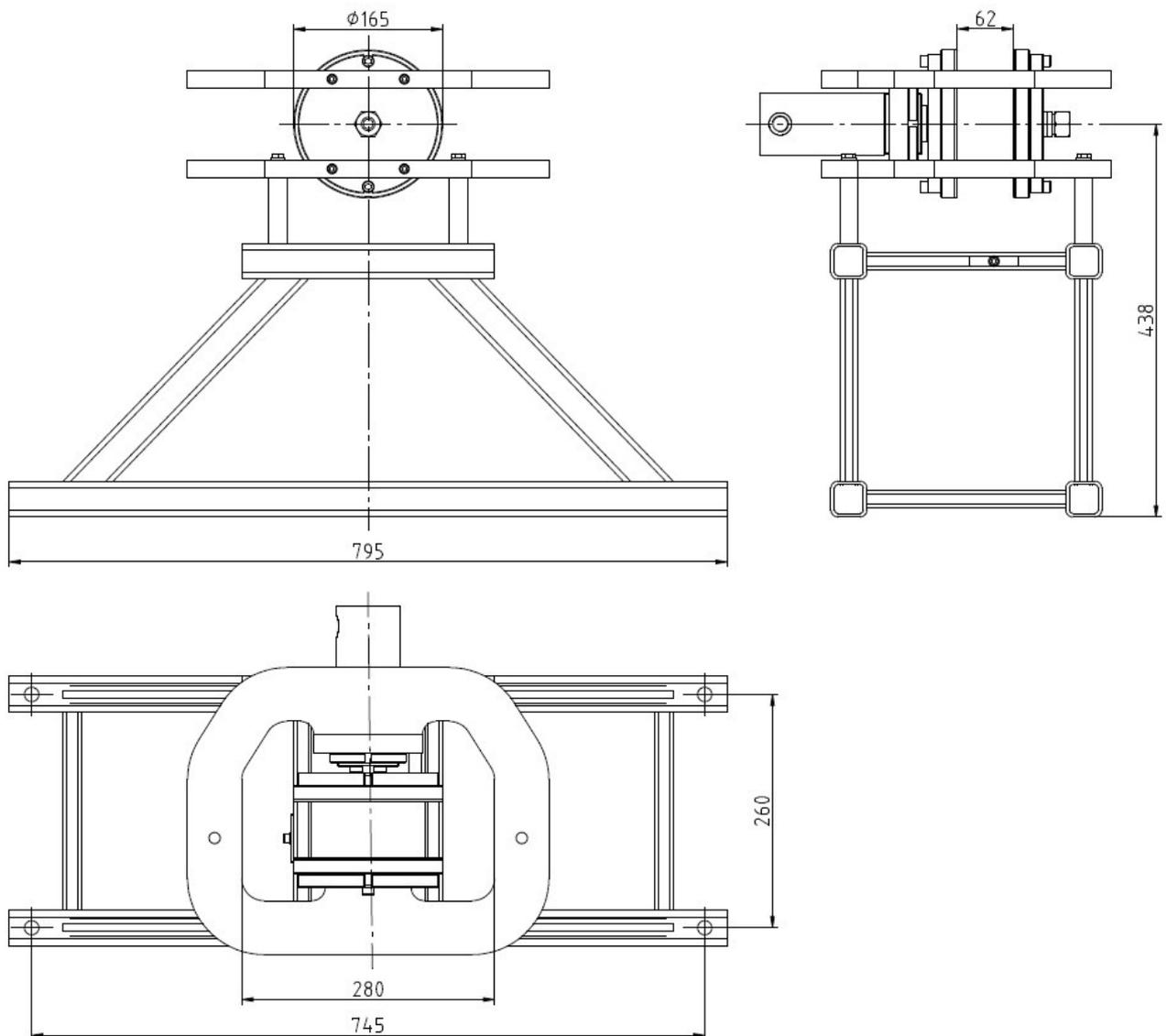


Picture 36: Hydraulic Set Dimensions



13. Press Frames

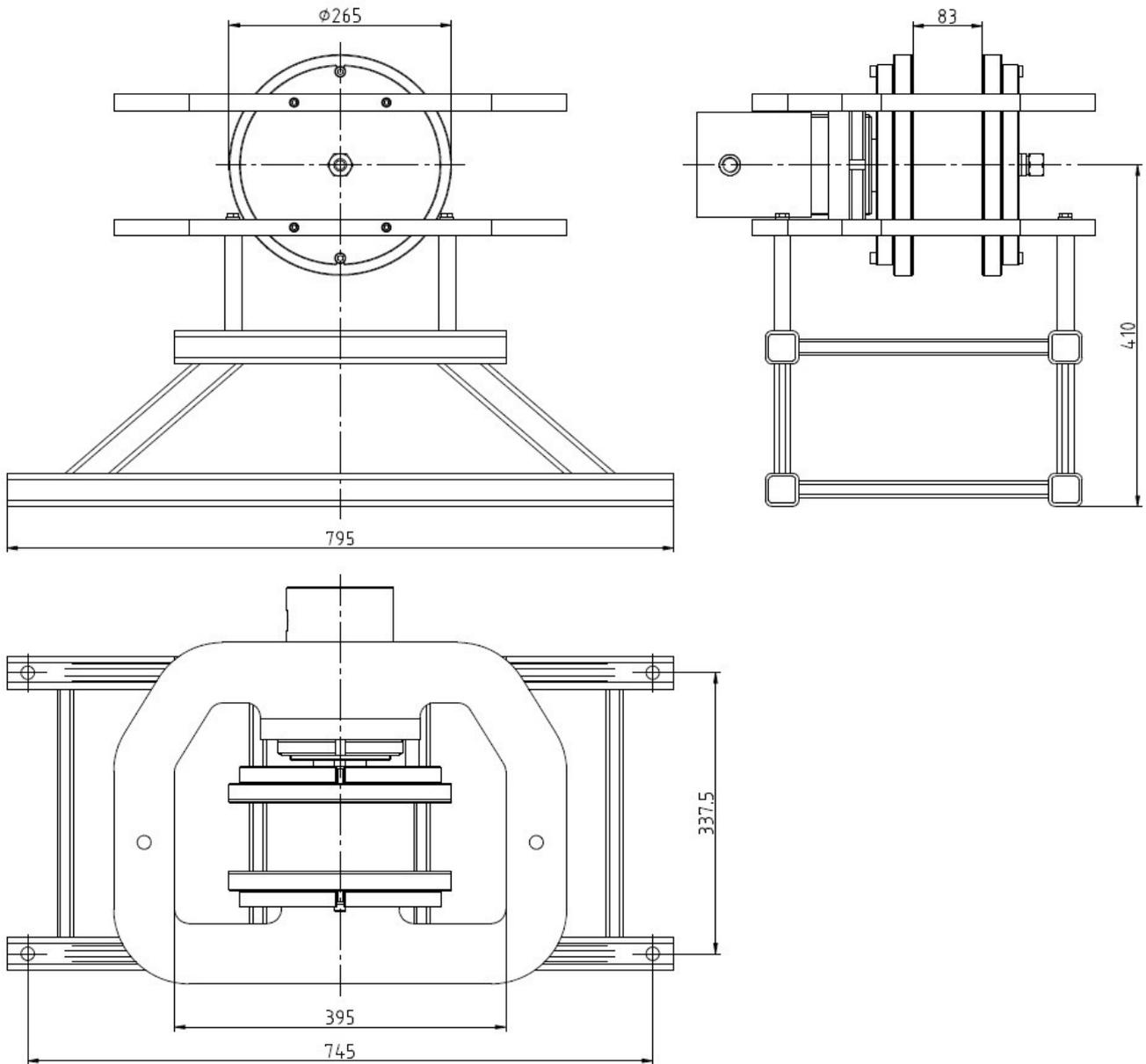
Picture 37: Press Frame Size 100



Technical Data Press Frame Size 100

Plate Diameter:	165mm
Clamping Range:	17mm to 62mm
Max. Clamping Force:	50kN (5tons) at 250bar
Max. Pressure Load:	35bars
Weight:	50kg

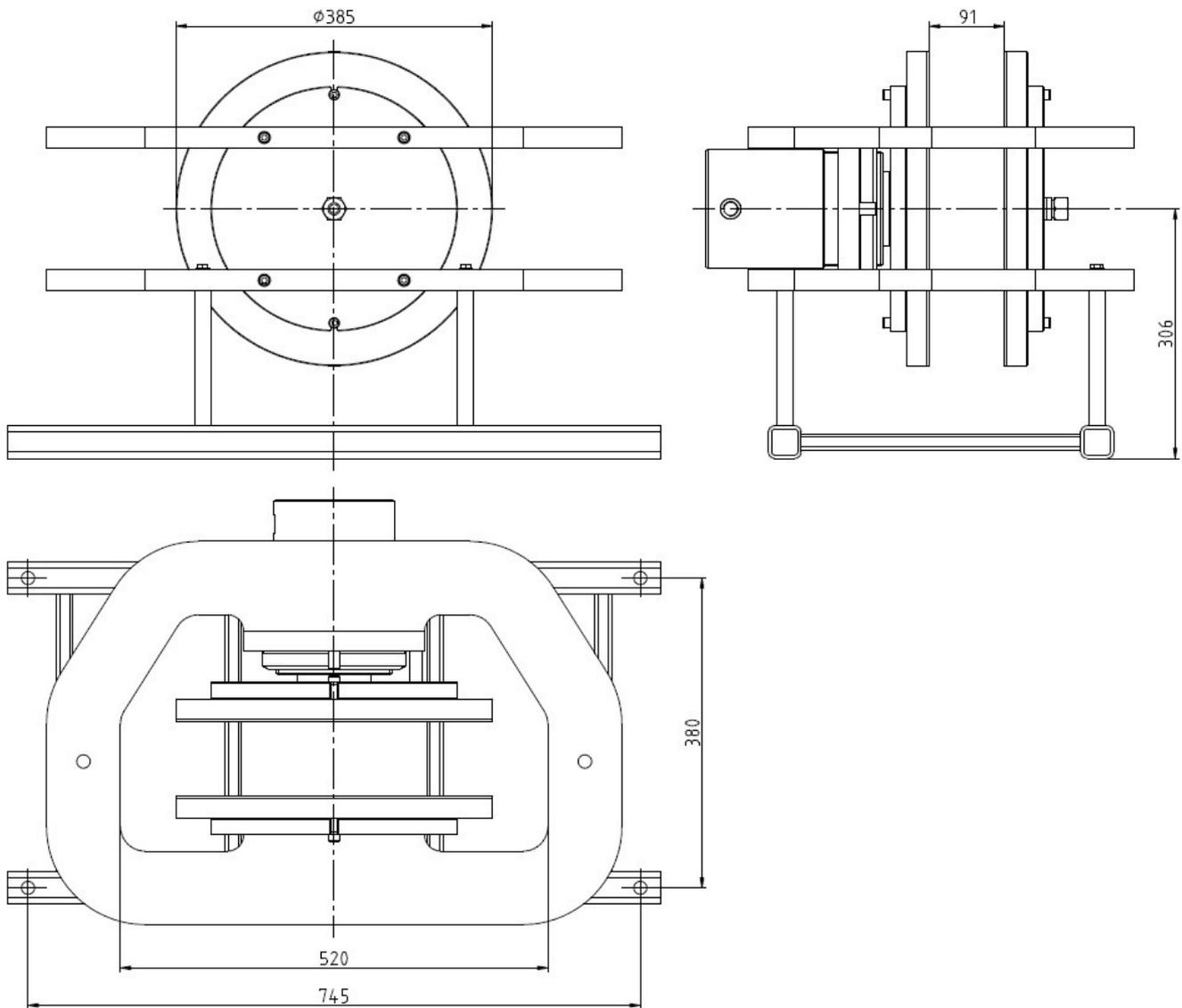
Picture 38: Press Frame Size 200



Technical Data Press Frame Size 200

Plate Diameter:	265mm
Clamping Range:	38mm to 83mm
Max. Clamping Force:	100kN (10tons) at 200bar
Max. Pressure Load:	35bars
Weight:	75kg

Picture 39: Press Frame Size 300



Technical Data Press Frame Size 300

Plate Diameter:	385mm
Clamping Range:	46mm to 91mm
Max. Clamping Force:	150kN (15tons) at 190bar
Max. Pressure Load:	35bars
Weight:	100kg

Declaration of Conformity (CE Declaration)

Declaration acc. to suffix II B of MaschRL 98/37/EG

Manufacturer:

Becker Maschinenbau
Handelsriege 18
58339 Breckerfeld
Germany
Tel.: +49-2338-379855

Type of Device and Description:

Leak testing Device - Basic Unit 300

Test bench to detect pressure loss of valves

Device - No. 001/07/2012, 002/07/2012, 003/07/2012

The design is done by the following standards, completely or in parts of it:

DIN EN ISO 12100-1, Ausgabe:2004-04
DIN EN ISO 12100-2, Ausgabe:2004-04
DIN EN ISO 14121-1, Ausgabe 2005-12
DIN EN 418, Ausgabe:1993-01
DIN EN 983; Ausgabe 1996-09
DIN EN 1127-1; Ausgabe 1997
DIN EN 1037, Ausgabe:1996-04
DIN EN 60204-1, Ausgabe:1998-11
DIN EN 13463-1; Ausgabe 2002-04
DIN EN 13463-5; Ausgabe 2004-03

The device must not be taken in use until it is made sure that the complete line of production meets the requirements of rule 97/38/EG.

Legally binding signature

Breckerfeld, September, 10th 2012



Dipl.-Ing. Heiner Becker

Becker Maschinenbau, Handelsriege 18, 58339 Breckerfeld Germany

Declaration of Conformity (CE Declaration)

Declaration acc. to suffix II B of MaschRL 98/37/EG

Manufacturer:

Becker Maschinenbau
Handelsriege 18
58339 Breckerfeld
Germany
Tel.: +49-2338-379855

Type of Device and Description:

Leak testing Device – Press Frame 100

Press Frame Size 100 for Use on Basic Unit 300

Frame - No. 100/001/07/2012, 100/002/07/2012

The design is done by the following standards, completely or in parts of it:

DIN EN ISO 12100-1, Ausgabe:2004-04
DIN EN ISO 12100-2, Ausgabe:2004-04
DIN EN ISO 14121-1, Ausgabe 2005-12
DIN EN 418, Ausgabe:1993-01
DIN EN 983; Ausgabe 1996-09
DIN EN 1127-1; Ausgabe 1997
DIN EN 1037, Ausgabe:1996-04
DIN EN 60204-1, Ausgabe:1998-11
DIN EN 13463-1; Ausgabe 2002-04
DIN EN 13463-5; Ausgabe 2004-03

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Manufacturer:

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Handelsriege 18
58339 Breckerfeld
Germany
Tel.: +49-2338-379855

Type of Device and Description:

Leak testing Device – Press Frame 200

Press Frame Size 200 for Use on Basic Unit 300

Frame - No. 200/001/07/2012, 200/002/07/2012

The design is done by the following standards, completely or in parts of it:

DIN EN ISO 12100-1, Ausgabe:2004-04
DIN EN ISO 12100-2, Ausgabe:2004-04
DIN EN ISO 14121-1, Ausgabe 2005-12
DIN EN 418, Ausgabe:1993-01
DIN EN 983; Ausgabe 1996-09
DIN EN 1127-1; Ausgabe 1997
DIN EN 1037, Ausgabe:1996-04
DIN EN 60204-1, Ausgabe:1998-11
DIN EN 13463-1; Ausgabe 2002-04
DIN EN 13463-5; Ausgabe 2004-03

The device must not be taken in use until it is made sure that the complete line of production meets the requirements of rule 97/38/EG.

Legally binding signature

Breckerfeld, September, 10th 2012



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Declaration of Conformity (CE Declaration)

Declaration acc. to suffix II B of MaschRL 98/37/EG

Manufacturer:

Becker Maschinenbau
Handelsriege 18
58339 Breckerfeld
Germany
Tel.: +49-2338-379855

Type of Device and Description:

Leak testing Device – Press Frame 300

Press Frame Size 300 for Use on Basic Unit 300

Frame - No. 300/001/07/2012

The design is done by the following standards, completely or in parts of it:

DIN EN ISO 12100-1, Ausgabe:2004-04
DIN EN ISO 12100-2, Ausgabe:2004-04
DIN EN ISO 14121-1, Ausgabe 2005-12
DIN EN 418, Ausgabe:1993-01
DIN EN 983; Ausgabe 1996-09
DIN EN 1127-1; Ausgabe 1997
DIN EN 1037, Ausgabe:1996-04
DIN EN 60204-1, Ausgabe:1998-11
DIN EN 13463-1; Ausgabe 2002-04
DIN EN 13463-5; Ausgabe 2004-03

The device must not be taken in use until it is made sure that the complete line of production meets the requirements of rule 97/38/EG.

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Valve Test Rig Quick Reference

Connections:

Mains 400V 3phase current, load 1kW, plug CEE 16A with phase changer (observe phase – sequence). Pressurized air 8bar, not oiled.

Taking in Use:

Connect to mains and air, adjust air pressure according to instructions. Fill up water into the tank, approx. 45 litres. Add anti-freezing agent (1:20, i.e. 2 litres to 1 filling of tank). Install press frame of suitable size. Connect hydraulic hose to cylinder via coupling. Connect water hoses via cap nuts. Tighten moderately only. Switch on main control switch. Choose Maintenance via Up and Down buttons, confirm with OK button. According to advice, open de-aeration ball valves inside switch cabinet and confirm. Close valves again after venting action and confirm.

Select Choose Valve on the initial screen, confirm with OK. Choose any valve and start Body Test. Actuate both buttons Chuck. The hydraulic cylinder now should come out. If not, switch off the machine and change phase at the plug. Terminate with Abort and retract cylinder via Release button.

The test rig now is ready for use.

Testing a Valve:

Adjust valve support acc. to the specified distance (see sticker at the front of the cabinet). Place the test item inside the press frame and connect to actuator air supply. Select Choose Valve on the initial screen and confirm with OK. Select valve type on the following screen using Up or Down and activate with OK. Choose valve type via Up and Down and confirm. Proceed the same way to choose valve size. Go to Body Test or Side 1 Test using Up and Down again. Confirm. Clamp valve using both buttons Chuck. As soon as the hydraulic pressure is achieved (possibly retension is necessary), press Start. Open or close valve on demand via Up or Down. The selected test now will start automatically. You can pause the test with the Stop button and continue with Resume. After testing time is elapsed, the pressure loss is displayed on the screen and the result is given by either the red or the green indicator light. When the body test is finished, you can go to Pass 1 Test, after Pass 1 Test you can continue with Pass 2 Test. The testing procedure is identical. After finishing the tests you get back to initial screen by depressing Abort. Release button will set free the valve.

Remarks:

Any test can be terminated immediately via Abort. Buttons in use are lit. For safety reasons, the valve only can be released when initial screen is displayed. Emergency Stop drains the testing pressure but does not release the hydraulic pressure. You only can choose valve sizes that correspond with the installed press frame size.

Change data in stored data set, create a new data set:

Confirm Choose Valve on the initial screen. Turn key button on the following screen. You can select now type and size by tipping on forward or back on the touch-screen. Tip on the value to be changed. An alpha-numeric (type) or numeric (data) input box comes up. You now can overwrite the existing values. Tip on return. If data input is finished, tip on save. Confirmation is required.

To create a new data set, amongst type choose an empty data set (type = 0) and fill in all required data the same way.

Capacity is 50 types each in 10 sizes, makes 500 data sets all together.

Remarks:

Changing of data or creation of a new set is not addicted to the frame size installed. Should data input not work immediately, first store and confirm once.

Maintenance:

Check device on damages daily, especially regarding the pressure plates. Check on loose parts and leakages. Refill water at the latest if water level warning is given on initial screen else the device will not start any test. Change or clean filter mat of the dirt drawer when the water does not drain any more. Change water inside the main tank every 2 weeks. For that, connect a suitable hose to the drain valve, drain the tank and take off the rest with a wet vacuum cleaner. Refill with water and anti-freeze agent (1:20). Change fine filter cartridge when discoloured, at least any 6 weeks. Perform de-aeration procedure as described. Change hydraulic fluid every 6 month.

Further Advices:

Tipping on Language on the initial screen switches over to another display language, German – English – Swedish. Abort terminates any operations and jumps back to initial screen. The valve remains clamped. Using Stop during a test gives the option to perform a long term check. During the Stop period no pump action is performed. In case the PLC gets stuck, switch off control voltage or mains breaker, wait a few seconds and switch on again.

Before a new test is started from on the initial screen, first release valve and drain remaining water. To release the valve it is recommended to actuate the Release button repeatedly for short. Thus water drains slowly and does not spill.

