

Operator's Manual

for

6 000 KN

SWAGING PRESS

Type: 060-17
No. of machine: 456
Comm.-No.: P00/060-039
Year of constr.: 2012

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Meaning of signs



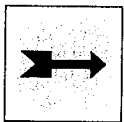
= Operating by skilled workers only



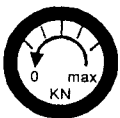
= One person only is allowed to operate



= Instructions for maintenance and repair



= Important indication



= Pressure regulation



= Caution! Danger!

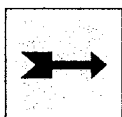
1 Technical Data

Hydraulic 6 000 KN SWAGING PRESS • Type: 060-17

Construction:

The SWAGING PRESS is a UP-STROKE-PRESS with single column made of high quality steel. The hydraulic unit (modular design) is mount on the machine base plate.

The SWAGING PRESS must be installed within dry and well aired rooms with ambient temperature. Be sure that the erection floor is flat and has sufficient ground bearing capacity.



The working area beyond the SWAGING PRESS has to be designed that operator's motions will not be locally restricted. Ensure that he can do his work without any risk.

The SWAGING PRESS is equipped with a connecting cable and a CEE-plug (63 A).

Power data:

Max. force:		6 000 KN
Ferrule area:	(Form A, DIN EN 13411-3)	up to <u>ZEN</u> 36
Max. oil pressure:		425 bar
Max. piston stroke:	(efficient lift)	85 mm
Stroke limit:	(continuous control)	from 5 - 85 mm
Stroke speed:	(press up to 1 570 KN)	10 mm/s
Stroke speed:	(press up to 6 000 KN)	2,7 mm/s
Reversing speed:	(hydraulic return)	18,2 mm/s

Measurements:

Length:		2 190 mm
Width:		865 mm
Height:		1 992 mm
Diameter of piston:		420 mm
Diameter of piston rod:		250 mm
Surface of piston:		138 544 mm ²
Measurements of swaging dies:	(B x H)	156 x 110 mm
Measurements of swaging dies:	(B x H)	100 x 78 mm
(with angle packing):		or 80 x 78 mm
Working height above floor:		1 127 mm

Weight:

Total weight with oil filling: (ready for operation) approx. 4 310 kg

Electrical equipment:

Three-phase motor:	18,5 kW
Electric voltage/frequency:	400 V / 50 Hz
Current consumption:	37 A at 400 V
Protective system:	IP 54
Start:	star-delta
Motor protective switch:	Present
Control system:	230 V / 24 V DC
SPS-control	
Foot operated switch, double-pedal type, with protective cap	

Hydraulic equipment:

High pressure pump:	0,8-22,2 dm ³ /min
Low pressure pump:	75,0 dm ³ /min
Oil container:	approx. 260 dm ³
Magnetic control valves:	24 V DC

(effective content)

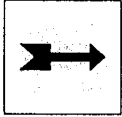
Standard equipment:

- Automatic mode
- Electrical connection with CEE-plug
- Hours counter for hydraulic pump

Special equipment:

- Working place illumination
- Level- and temperature switch

2 Safety instructions



The operator must strictly obey the safety regulations of authority. The following points are to be especially observed while working at the SWAGING PRESS due to reasons for safety:



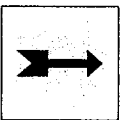
- Only skilled and qualified workers are allowed to operate the SWAGING PRESS.
- In case that some operators have not worked at the SWAGING PRESS yet, it would be necessary to coach them concerning the operation of the machine and to inform them regarding possible danger. Furthermore, it is necessary to supervise the operators until they were coached.



- **Only one person at the same time is allowed to operate the SWAGING PRESS.**
- The operators must always observe attentively all cycles of operation.
- The operators must wear the necessary protective clothing.
- When the SWAGING PRESS runs, unauthorized persons are not allowed to be present at the danger area.

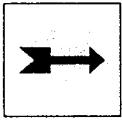


In the danger area of the SWAGING PRESS foreign parts (parts of the body, tools, etc.) are not allowed.



Every time when shift begins, following checks will have to be made after starting the machine:

- perfect function of emergency-stop circuit,
- perfect function of pressure regulating valve,
- perfect reverse/forward of the piston,
- perfect operation of the automatic control.



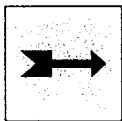
Failures or irregularities during the machine operation are to be advised at the competent foreman. The machine must be stopped until the failure will be eliminated.



In case that the irregularity cannot be eliminated by a specialist on site, it will be necessary to inform the competent after sales service:

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SEILKLEMMEN GmbH

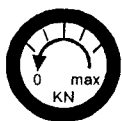
Herwigstrasse 38
27572 Bremerhaven
Phone: (+49) (0) 4 71/9 31 59 - 0
Fax: (+49) (0) 4 71/3 33 18
e-mail: info@talurit.de



The SWAGING PRESS is to be used for the handling of ferrules made from steel, aluminium or copper, only!. Any other use of the SWAGING PRESS is not allowed and could cause danger to life, health and machine.

The producer's handling specifications of ferrules must be strictly observed.

The operation must be carried according to the valid, relevant regulations (e.g. DIN EN 13411-3). These standard specifications must be known to your workers.

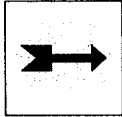


In order to adjust the SWAGING PRESS, the following points are to be considered:

- At first, the pressure regulating valve (PRESSURE) must be totally released. Then increase the pressure carefully!
- The pressure must be adjusted to the requirements of each using purpose.
- The necessary pressure will be reached if the contact surfaces of the swaging dies will touch.
- The necessary pressure is allowed to exceed by 20 % maximum.
- The forced of swaging during the automatic operation must not be lower than 400 KN.



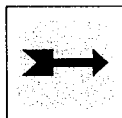
**It is not allowed to pass over the max. pression of 6 000 KN
(= 425 bar)!**



- The SWAGING PRESS may not be run without inserted swaging dies.



Damaged swaging dies may not be used on any account!



- You will have to use swaging dies delivered by the producer or distributor, only!
- All parts of the SWAGING PRESS must be checked concerning to safety of work by a highly skilled worker at least once a year.
- In case of changing the location it is necessary to interrupt the electric circuit.
- It is not allowed to make any alterations at the SWAGING PRESS or at the SWAGING PRESS CONTROL because the EC (CE) Certificate of conformity will lose its validity.
- Any kind of arbitrary alteration will release the producer from his warranty obligation.



Any kind of arbitrary alteration will be dangerous for life, health and machine!

3 Commissioning



Within the area of danger foreign parts (e.g. parts of the body, tools, etc.) are not allowed!

Electrical connection:

- Main switch position „0“
- Emergency-Stop switch actuated
- Selector switch position „MANUAL“
- The SWAGING PRESS must be installed corresponding to the attached Circuit Diagram No. 6003-010.
The installation must be carried out by skilled personnel only.
- Kind of electricity and voltage must be checked (see technical data)
- Ensure that the motor rotates in the right direction. (The direction sign is to be found on the motor cover)!

Attention: Please start the motor **shortly** only!



Oil level gauge:

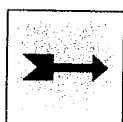
- Pressure regulation valve (PRESSURE) initial position „min.“
- Main switch position „1“
- unlock Emergency-Stop switch
- start motor actuate switch „ON“
- Selector switch position „MANUAL“
- actuate the foot operated switch reserve „RETURN“
- run the piston totally down
- check the level of the oil level gauge

Correct oil level:

The upper mark must be reached. If the upper mark was not reached it is necessary to fill up hydraulic oil. The oil must be filled-in into the charging hole. Do not remove the filter screen in the charging hole.
For the kind of oil please see the attached oil recommendation.

**Training:**

A training of the operators must be effected by a qualified person. During the phase of training it will be necessary to observe the operators.

**Information:**

The user of the machine will have to inquire whether an acceptance of the SWAGING PRESS by the corresponding supervising authority is necessary. In this case you will have to take corresponding steps.

4 Set in the swaging dies



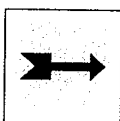
The set in or change of the swaging dies require a total attention in order to avoid any hurts and damages.

For the processing of ZEN ferrules you must use the corresponding sets of swaging dies depending on rope diameter and construction.

The swaging dies with measuring 156 x 110 mm can be directly installed.

The swaging dies with measuring 100 x 78 mm and 80 x 78 mm must be set-in by the corresponding angle packing into the die pockets.

Before the clamping bolt are tightened it must be observed that the swaging dies are correctly aligned.



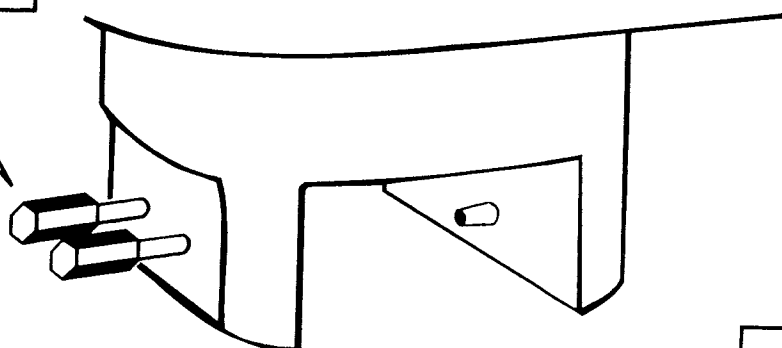
Before changing the swaging dies it is necessary to release the pressure regulating valve totally by left-hand rotation and to turn the selector switch to position „Manual“.

Before the swaging dies are changed the contact surfaces within the die pocket must be cleaned carefully. The operator needs to ensure of the proper condition of the swaging dies. Damaged swaging dies **may not be set-in, at all!**
The special regulation of the tool manufacturer must be strictly observed.

How to set in the swaging dies 1

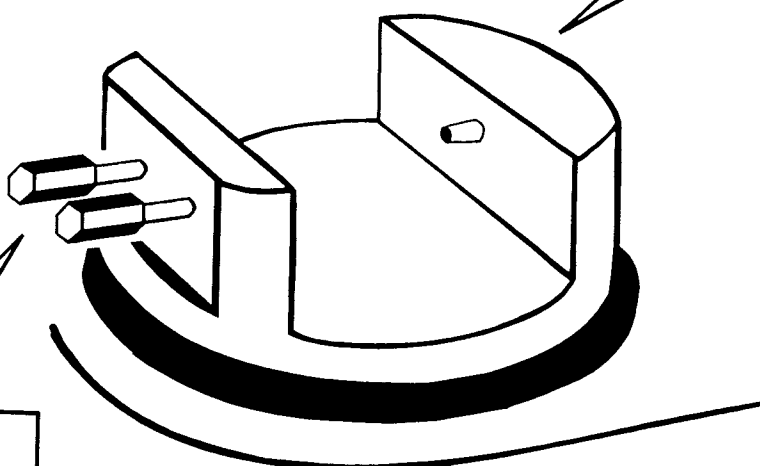
Step 1

Move out the
fixing bolts until
they aligned on
backside



Step 3

Clean all surfaces
thoroughly



Step 2

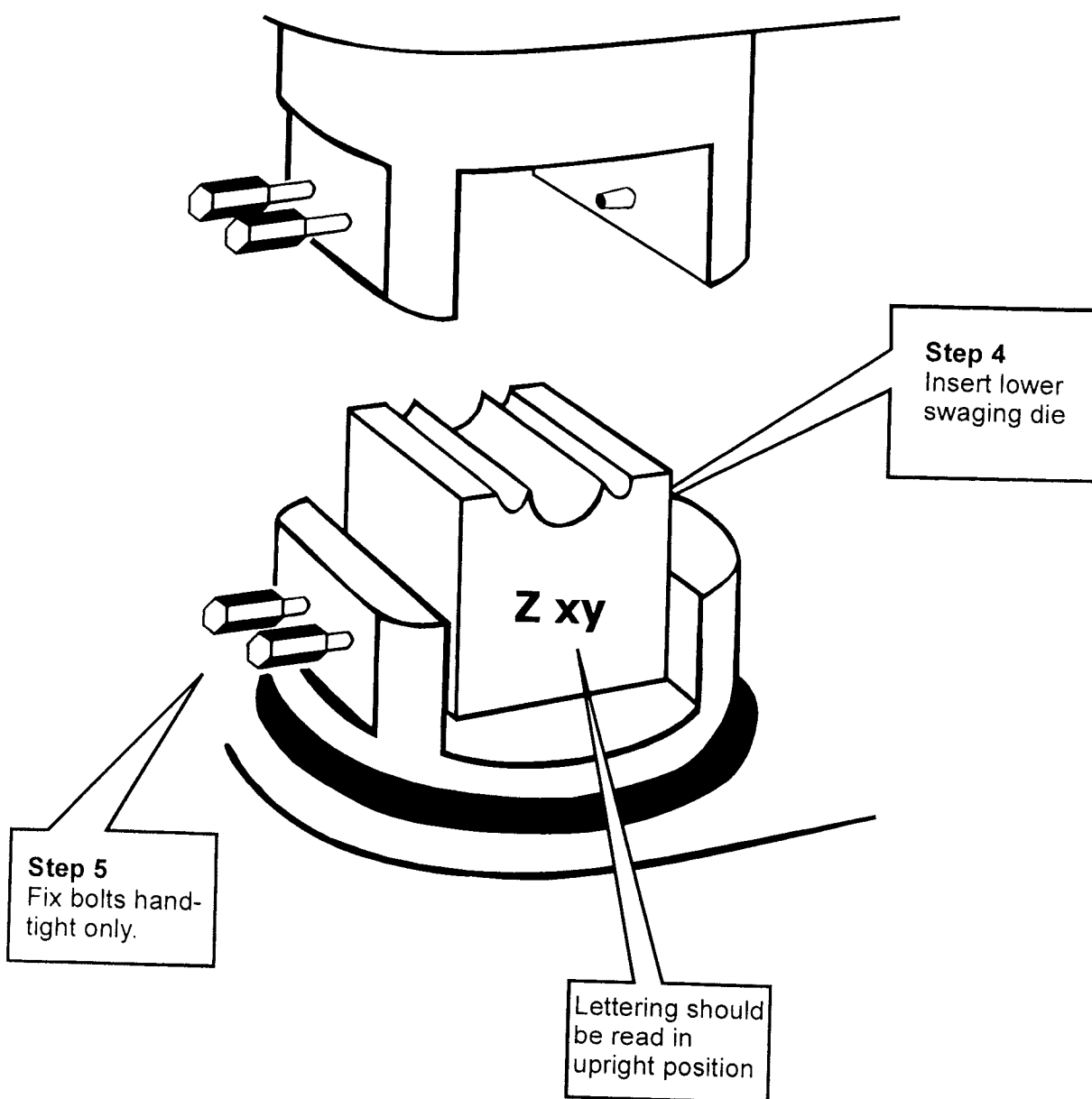
Move out the
fixing bolts until
they aligned on
backside



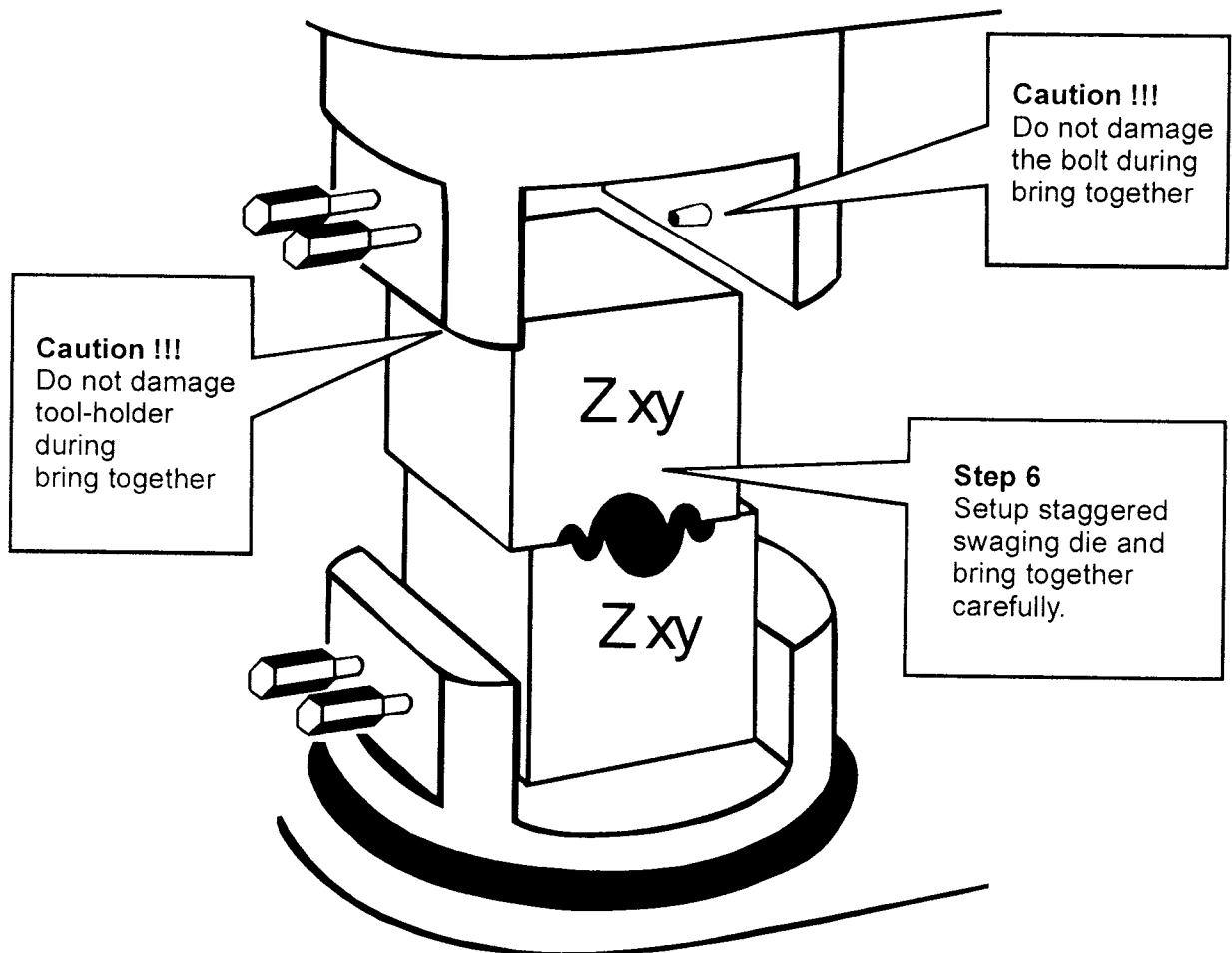
How to set in the swaging dies 2

CAUTION!!!

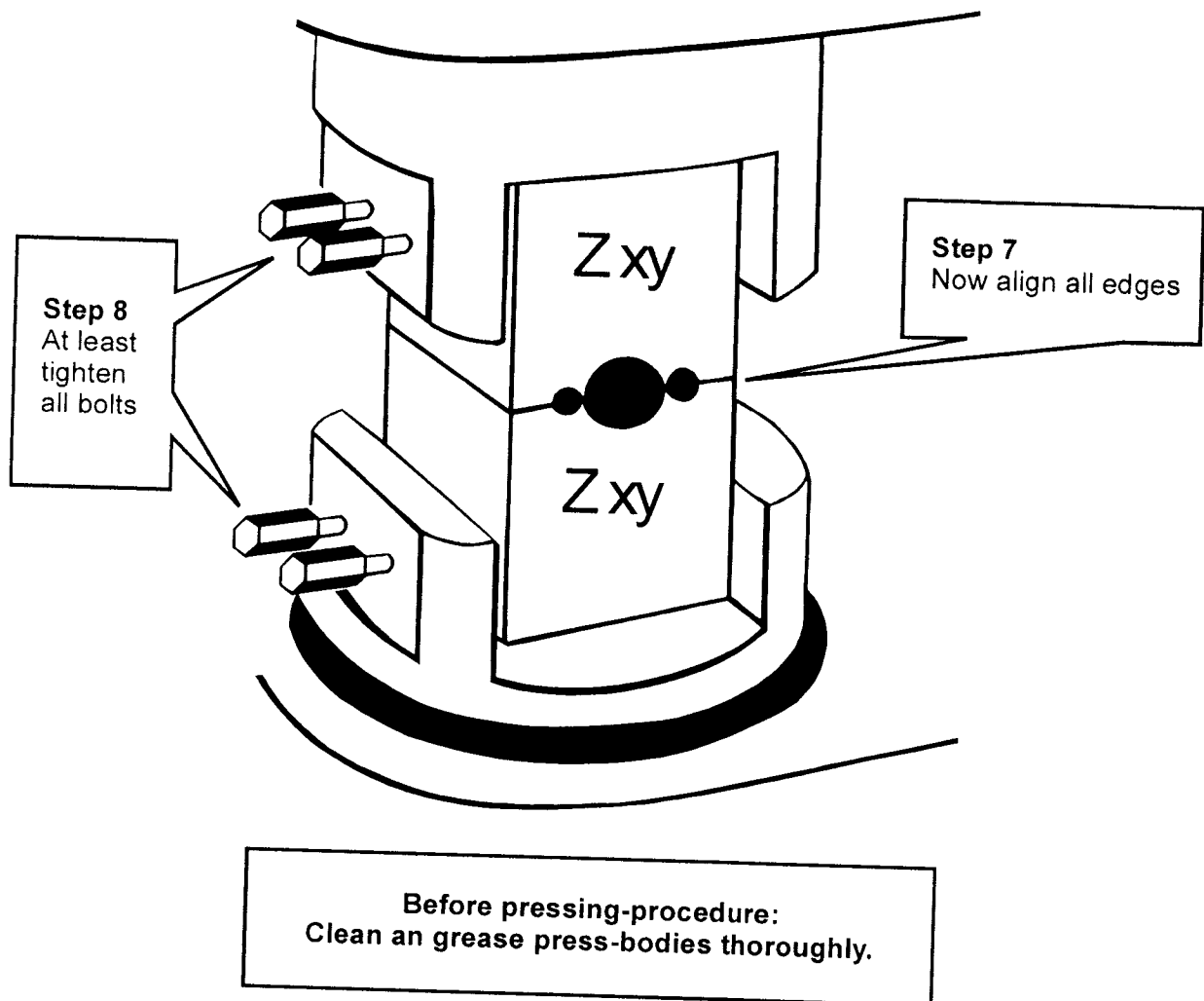
Upper swaging die to the top,
lower swaging die to the bottom.



How to set in the swaging dies 3



How to set in the swaging dies 4



5 Manual operation

The SWAGING PRESS is able to operate either manual or automatic mode.

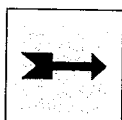
Manual operation:

- release pressure regulating valve (PRESSURE) totally by left rotation
- Selector switch position „MANUAL“ (white signal) (MANUAL)
- The pump motor is started via push button „ON“ (green signal) (POWER)
- **grease** the bore of the swaging dies prior to each swaging (**no oil**)
- put the rope together with the ferrule vertically and in centre into the press dish

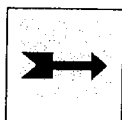


The rope must be seized by both hands beyond the area of danger!

- start the closing process by operating the left foot pedal „Press“, i.e. the swaging dies will close.
- if the ferrule lies form-fit between both swaging dies, the pressure regulating valve must be increased slowly till the swaging dies close.



- if the contact surfaces of the swaging dies get in contact, the required pressure is reached.
- the stated pressure is indicated (in KN) with the black pointer at the pressure gauge (see automatic mode).
- actuate foot switch „RETURN“ until it is possible to take off the rope without any problems.
- with this adjustment of the pressure regulating valve (PRESSURE), further processing of a series could be carried out, now.



After finishing a series, it is **absolutely** necessary to retract the piston and to release the pressure regulating valve (PRESSURE) totally!

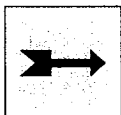
- If necessary by longer downtime, switch the main switch off.



Interruption of the manual operation in case of danger:

- a) Release foot contact
- b) Activate the emergency stop switch

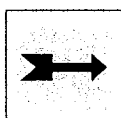
6 Automatic mode



Before the first automatic operation can be carried out, it is necessary to determine the required pressure during a manual process.

Automatic operation:

- Selector switch position „Auto“ (yellow signal) (Auto).
- set the red pointer on the pressure gauge to the required pressure.
- in order to reach a perfect automatic operation the pressure regulating valve (PRESSURE) should be turned $\frac{1}{4}$ to $\frac{1}{2}$ turns clockwise (approx. 100 KN higher).



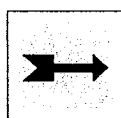
In automatic mode never set the red pointer of the pressure gauge below 400 KN!

- adjust the way of return (see chapter 7 „Stroke limitation“).
- **grease** the bore of the swaging dies (**no oil**)!
- put the rope with the ferrules vertically and in centre into the die bore.

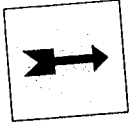


The rope must be kept by both hands beyond the area of danger!

- start the closing process by operating the left side of the foot pedal „PRESS“.
- the activated foot pedal must be pressed until the process of closing and return of the swaging dies is finished.



In order to take out the swaged rope with the ferrule after swaging, the swaging dies can be opened by activate the right foot switch “RETURN”.



After finishing a series, it is **absolutely** necessary to retract the piston and to release the pressure regulating valve (PRESSURE) completely (turn counter clockwise)!

- If necessary by longer downtime, switch the main switch off.



Interruption of the automatic operation in case of danger:

- a) Release foot contact
- b) Activate the emergency stop switch

7 Stroke limitation

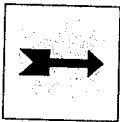
By means of the electronics stroke limitation it is possible to adjust the reverse of the piston by continuous control. The opening width between the swaging dies can be adjusted by means of this installation.

The stroke limitation is only activate in automatic mode.

For the adjustment the rotary switch (Stroke Limitation) is adjusted on an investigated value:

Position „0“ = minimum width
Position „10“ = maximum width

The alteration of the stroke limitation is possible at any time, however, also on load.



Remarks:

The rotary switch for the stroke limitation must be actuated carefully and must not exceed the stud.

8 Routine checks and maintenance



The safety instructions (chapter 2) must be strictly obeyed!

- The oil level check has to be carried out on piston position run in, if necessary suitable hydraulic oil must be refilled up to the upper mark (daily).
- During the operation it is necessary to check the temperature of oil occasionally. The working temperature of the oil should not exceed 70°C.



Sudden raises in temperature are emergency signals and it will be absolutely necessary to stop the machine at once for investigation!

- Check of all visible pipe fittings in view of density (leakage of oil). Leak pipe fittings must be tightened under depressurised conditions.



During maintenance work at the electrical control cabinet of the SWAGING PRESS as well as the hydraulic, it is absolutely necessary to interrupt the circuit!

9 Oil specification and disposal



Condition of the hydraulic oil

Deterioration of the oil depends on several working conditions such as temperature, environmental dirt, working pressure, humidity, etc.. The degree of deterioration and with that the usability could be determined by a simple visual check.

Oil change:

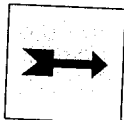
Oil change will be necessary after approx. 2000 up to 4000 working hours. However, it must be guaranteed that the operation temperature is not higher than 70 °C and that the oil filters are regular changed. A corresponding maintenance of oil and regular checks will prolong the intervals of change.

Recommendation of oil

Within the SWAGING PRESS hydraulic unit only hydraulic oils are allowed which are sociable for the used seal elements. The reliability of operation and the economy of a hydraulic installation are depending on the quality of the used oil.

For this SWAGING PRESS we recommend HLP- Hydraulic oil of the class ISO VG 46 according to DIN 51524 part II.

You are also allowed to use hydraulic liquids with low pollution and which are biodegradable. They should be based on synthetic or rape seed oil.



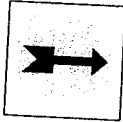
Disposal:

The waste oil must be disposed off absolutely in conformity with the usual laws and regulations.

Attention!

You must strictly observe that the hydraulic oil cannot intrude into the food chain!

10 Operational guidelines



The operation pressure of SWAGING PRESS is depending on:

- Size of ferrule
- Material of ferrule (aluminium, steel, copper)
- Size of rope (rope diameter)
- Construction of rope, grade of wire, metallic cross sectional area factor
- Shape of ferrule: cylindrical (form A), rounded (form B), tapered (form C)
- Condition of swaging dies
- Swaging dies greased/ not greased



Max. force of pressure 20 % at the outside over required force of pressure!



It is not allowed to pass over the max. pressure of 425 bar (= 6000 KN)!

11 List of spare parts • 1

Pos.	Description	Spare Part-No.
001	Press pillar	
002	Press foundation	060-01-001
003	Control panel	060-01-002
004	Oil container	060-01-003
005	Die pocket	060-01-004
006	Press piston	060-01-005
007	Cylinder bottom	060-01-006
008	Cylinder bushing	060-01-007
009	Pressure ring	060-01-008
010	Sleeve ring	060-01-009
011	Piston guide bolt	060-01-010
012	Fixing bolt	060-01-011
014	Tank lid	060-01-012
016	Manifold	060-01-014
017	Protection cover	060-01-016
101	Socket head cap screw (M10 x 25)	060-01-017
102	Socket countersunk head screw (M6 x 16)	060-01-101
103	Socket head cap screw (M16 x 50)	060-01-102
104	Socket head cap screw (M24 x 60)	060-01-103
105	Spring type straight pin (Ø14 x 70)	060-01-104
106	Hexagon screw (M16 x 35)	060-01-105
107	Hexagon nut (M16)	060-01-106
108	Spring washer (A16)	060-01-107
109	Hexagon screw (M8 x 25)	060-01-108
110	Hexagon nut (M8)	060-01-109
111	Spring washer (A8)	060-01-110
112	Socket head cap screw (M8 x 15)	060-01-111
113	Socket head cap screw (M6 x 20)	060-01-112
114	Socket head cap screw (M5 x 12)	060-01-113
117	Fixing screw (M16 x 50)	060-01-114
201	Bellow (Ø250 x 100)	060-01-117
202	Piston seal (Kodi)	060-01-201
203	Double wiper	060-01-202
204	Piston rod seal (Stadi)	060-01-203
205	O-Ring	060-01-204
206	Piston guide band	060-01-205
207	Back-up ring with O-Ring	060-01-206
208	Locking screw	060-01-207
209	Control panel	060-01-208
210	Oil-level/temperature indicator	060-01-209
211	Contact pressure gauge	060-01-210
212	Knob	060-01-211
213	Footswitch	060-01-212
214	Threaded bushing	060-01-213
215	Locking screw	060-01-214
		060-01-215

11 List of spare parts • 2

[illegible]

12 Electrical circuit diagram

Type: 060-17
No. of machine 456
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Year of constr.: 2012

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STROMLAUFPLÄNE KLEMMPLÄNE STÜCKLISTEN

CIRCUIT DIAGRAMS TERMINAL LIST PARTLIST

Lieferant
Supplier

TALURIT SAHM - Seilklemmen GmbH
Herwigstrasse 38
D - 27572 Bremerhaven
Tel. +49 (0)471 93159-0 / Fax 33318

Hersteller
Manufacturer

**Industriemontagen Maschinenleit-
und Steuerungstechnik GmbH**
Bahnhofstrasse 13
D - 27619 Sellstedt
Tel +49 (0)4703 920213 / Fax 920214

KOMM.-NR.
ORDER-NR.

KENNWORT
CODE NAME

KUNDE
CUSTOMER

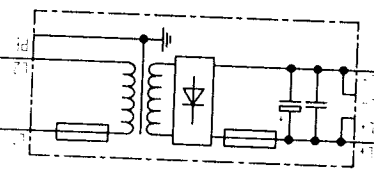
DATUM
DATE

Maschinen-Nr.:
Serial - No.:

Hydraulikpresse 6000 KN / 400V 50Hz 18,5 kW

161

AC - primär:
Up: 400V ac
DC - sekundär:
Us: 24V dc
1:5 = 54

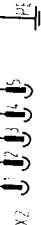


1S10
NOT AUS

101 F

1 3 5
2 4 6

N



EINSPEISUNG
400V 50Hz 18,5 kW
CIF-SYSTEM 5-0010 634

STROMSPANNUNG: 24VDC

IMS

Industriemontagen Maschinenbau
und Steuerungstechnik GmbH
Bismarckstr. 11 D-27619 Seelsucht
Tel. 0474/2192073 / Fax 276274

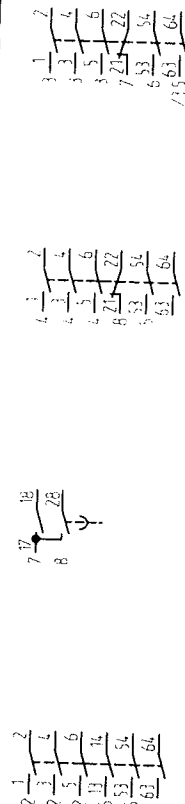
Zu den Schmelzsicherungen
Hauptkategorie 2
276274 verwenden

EINSPEISUNG
STROMSPANNUNG

Pressensteuerung

6000 KN 6003 - 010

Sheet 1
Page 1



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Industriemontage Maschinenbau
und Steuerungstechnik GmbH
Bahnhofstr. 110-27639 Salzkotten
Tel. 05470392023 / Fax 920216

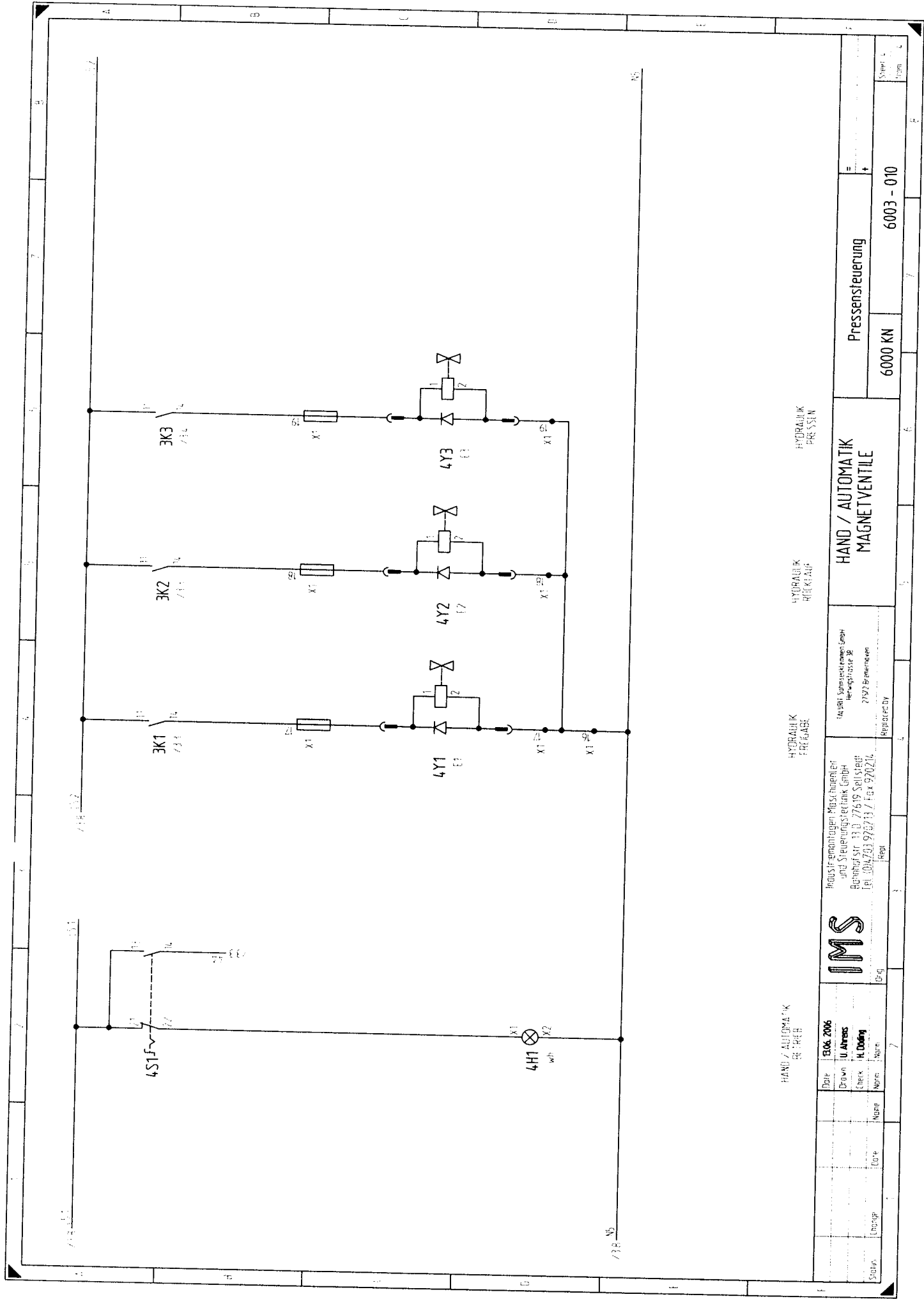
USA: 2010-08-27 22:22
 DE: 2010-08-27 22:22
 2010-08-27 22:22

HYDRAULIKPUMPE
EIN / AUS

Pressenotierung

5000 KN	6003 - 010
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Sept 2



HAND / AUTOMATIK
FREIHEIT

HYDRAULIK
FREIHEIT

HYDRAULIK
FREIHEIT

HYDRAULIK
FREIHEIT



Industrie-empfehlungen, Messungen
und Steuerungsregeln GmbH
Bismarckstr. 33 D-77619 Seelstede
Tel. (04473) 976733 / Fax 970214

140000, 140000, 140000
Herwegstraße 30
77527 Brunnshausen

HAND / AUTOMATIK
MAGNETVENTILE

Pressensteuerung

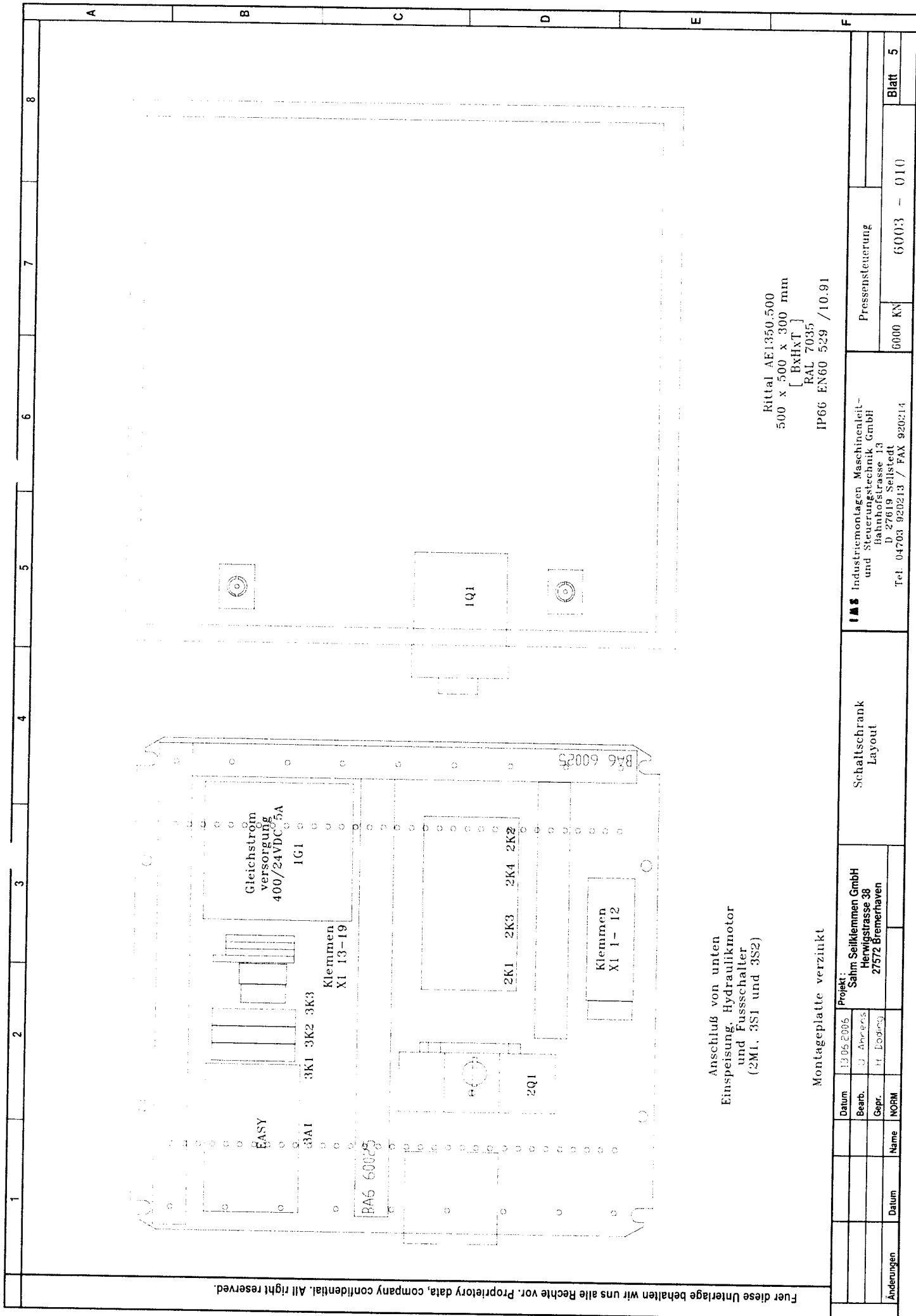
6000 KN 6003-010

Datei: 1306_2006
Drawn: U. Ams
Check: H. Dörm
Name: Norm

Druck: 100 bar

Druck: 100 bar

Druck: 100 bar



Anschluß von unten
Einspeisung, Hydraulikmotor
und Fusschalter
(2M1, 3S1 und 3S2)

Montageplatte verziinkt

Projekt:
Salm Seiklemmen GmbH
Hewigstrasse 38
27572 Bremerhaven

Datum: 13.05.2005
Begr.: U. Ahrens
Gepr.: H. Böding
NORM:

Name: _____
Datum: _____

Änderungen:

IMS Industriemontagen Maschinenleit-
und Steuerungstechnik GmbH
Bahnhofstrasse 13
D 27619 Sellstedt
Tel. 04703 920213 / FAX 920214

Schaltschrank
Layout

Pressensteuerung

6000 KN 6003 - 010 Blatt 5

Rittal AE1350.500
500 x 500 x 300 mm
[BxHxT]
RAL 7035
IP66 EN60 529 /10.91

Pos.	Bezeichnung Description	Hersteller Manufacturer	Einzelbezeichnung Factory designation	Ident.-Nr. Ident. No.	Bl./Pz. Page	Anmerkungen Remarks
1	101 IP3-63/EA/SVB-SW	Moeller Electric GmbH	057857	MKL M057857	12	
2	161 Gleichstromversorgung GLC 5A 400V 24V	Block Transformatoren	GLC 400/24-5	MBLGLC-5K0-400-24	15	
3	151 M22-PV/K01	Moeller Electric GmbH	216515	MKL M216515	15	
4	201 Motorschutzschalter PKZM4-40 1N01NC	Moeller Electric GmbH	PKZM4-40 + NH11-PKZO	SKL M0MT111-40K-PKZ4	22	
5	2K1 NH11-PKZO	Moeller Electric GmbH	222354	MKL M222354	22	
6	2K1 Leistungsschütz DILM25 24DC	Moeller Electric GmbH	072896	MKL M072896	22	
7	DILM25-10(R0C24)	Moeller Electric GmbH		SKL M330-20DILM25	25	
8	DILA-XH20	Moeller Electric GmbH	277146	SKL M277146	25	
9	2S1 Drucktaster grün X1 1N0	Moeller Electric GmbH	276422	MKL M276422	25	
10	M22-K10	Moeller Electric GmbH		SKL M276422	25	
11	M22-D-G-X1	Moeller Electric GmbH		SKL M276422	25	
12	M22-A	Moeller Electric GmbH	216376	SKL M276422	25	
13	2S2 Drucktaster rot X0 1NC	Moeller Electric GmbH	216607	SKL M276422	25	
14	M22-K01	Moeller Electric GmbH	216374	SKL M276422	25	
15	M22-D-R-X0	Moeller Electric GmbH		SKL M276422	25	
16	M22-A	Moeller Electric GmbH	216378	SKL M276422	25	
17	2K2 ETR4-51-A	Moeller Electric GmbH	216605	SKL M276422	25	
18	2K3 Leistungsschütz DILM17 24Vdc	Moeller Electric GmbH	216374	SKL M276422	25	
19	DILM17-01(R0C24)	Moeller Electric GmbH	031884	SKL M276422	25	
20	DILA-XH20	Moeller Electric GmbH		SKL M276422	25	
21	2K4 Leistungsschütz DILM25 24Vdc	Moeller Electric GmbH	277050	SKL M277050	26	
22	DILM25-01(R0C24)	Moeller Electric GmbH	276422	SKL M277050	27	
23	DILA-XH20	Moeller Electric GmbH		SKL M277050	27	
24	3A1 EASY821-DC-TC	Moeller Electric GmbH	277178	SKL M312-20DILM25	27	
25	3S1 Fußschalter für Pressen allgemein	Moeller Electric GmbH	276422	MKL M277178	28	
26	3K1 Relay 24VDC 1WS	NN	EASY821-DC-TC	MKL M276422	28	
27	3K2 Relay 24VDC 1WS	Finder GmbH	siehe mechan. Stückli	MKL M256273	31	
28	3S2 Fußschalter für Pressen allgemein	Finder GmbH	49 319 024 0050	MN Fuss-Schalter	32	
29	3K3 Relay 24VDC 1WS	NN	49 319 024 0050	MFINKRW1-20491WS	33	
30	3S3 Kontaktmanometer für Pressen	Finder GmbH	siehe mechan. Stückli	MFINKRW1-20491WS	33	
31	3K1 Meldeleuchte grün LED 24V DC	NN	49 319 024 0050	MN Fuss-Schalter	33	
32	M22-LED-G	Moeller Electric GmbH	siehe mechan. Stückli	MFINKRW1-20491WS	34	
33	M22-L-G	Moeller Electric GmbH		MN Kontaktmanometer	34	
34	M22-A	Moeller Electric GmbH	216559	SKL M312-20DILM25	34	
35	3A2 Zeitbaustein Typ AFZA 10s	Moeller Electric GmbH	216773	SKL M312-20DILM25	35	
36	3H2 Meldeleuchte gelb LED 24V DC	Plz GmbH & Co. Auf.	216374	MKL M216559	35	
37	M22-LED-W	Moeller Electric GmbH	AFZA / 10s	MKL M216773	35	
38	M22-L-Y	Moeller Electric GmbH		MKL M216374	35	
39	M22-A	Moeller Electric GmbH	216557	MPL ZAFZA 10s	35	
40	4H1 Meldeleuchte weiss LED 24V DC	Moeller Electric GmbH	216774	SKL M312-20DILM25	36	
41	M22-L-W	Moeller Electric GmbH	216374	MKL M216557	36	
42	M22-A	Moeller Electric GmbH		MKL M216774	36	
43	M22-LED-W	Moeller Electric GmbH	216771	MKL M216374	36	
44		Moeller Electric GmbH	216374	SKL M312-20DILM25	42	
45		Moeller Electric GmbH	216557	MKL M216771	42	
46		Moeller Electric GmbH		MKL M216374	42	
47		Moeller Electric GmbH		MKL M216557	42	



Industriemaschinenbau
und Steuerungstechnik GmbH
Bismarckstr. 13 D-27619 Seltseede
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Stückliste Partlist

1. Aufl. Sonderkatalog für
Vertriebsstelle 18
2972 Bremen

6003 - 010

Pos.	Bemerkung Remarks	Hersteller Manufacturer	Factory designation	Order No. Bestell-Nr.	Zeichn.- Num.	Anmerkungen Remarks
22	4S1 Wahlschalter 1NC 1NO M22-WRK M22-A M22-K01 M22-K10	Moeller Electric GmbH Moeller Electric GmbH Moeller Electric GmbH Moeller Electric GmbH	216867 216374 216378 216376	SKLMSDROS-008KDFRC MKLM216867 MKLM216374 MKLM216378 MKLM216376	4,2 4,2 4,2 4,2	
23	4Y1 Magnetventile für Pressen Ventil für Pressen	NN NN	siehe Hydraulikplan 16 71 13 7	SNVVentil_Pressen MNVVentil_Pressen	4,2 4,4	
24	4Y2 Magnetventile für Pressen Ventil für Pressen	Phoenix Contact GmbH NN	16 71 13 7	MPHCSACC-V-3CON	4,4	
25	4Y3 Magnetventile für Pressen Ventil für Pressen	Phoenix Contact GmbH NN	siehe Hydraulikplan 16 71 13 7	SNVVentil_Pressen MNVVentil_Pressen MPHCSACC-V-3CON	4,4 4,5 4,5	
	Ventilstecker 24VDC	Phoenix Contact GmbH	siehe Hydraulikplan 16 71 13 7	SNVVentil_Pressen MNVVentil_Pressen MPHCSACC-V-3CON	4,5 4,6 4,6	



Industriemaschinenbau
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Tel. 042-703342011 / Fax 920214

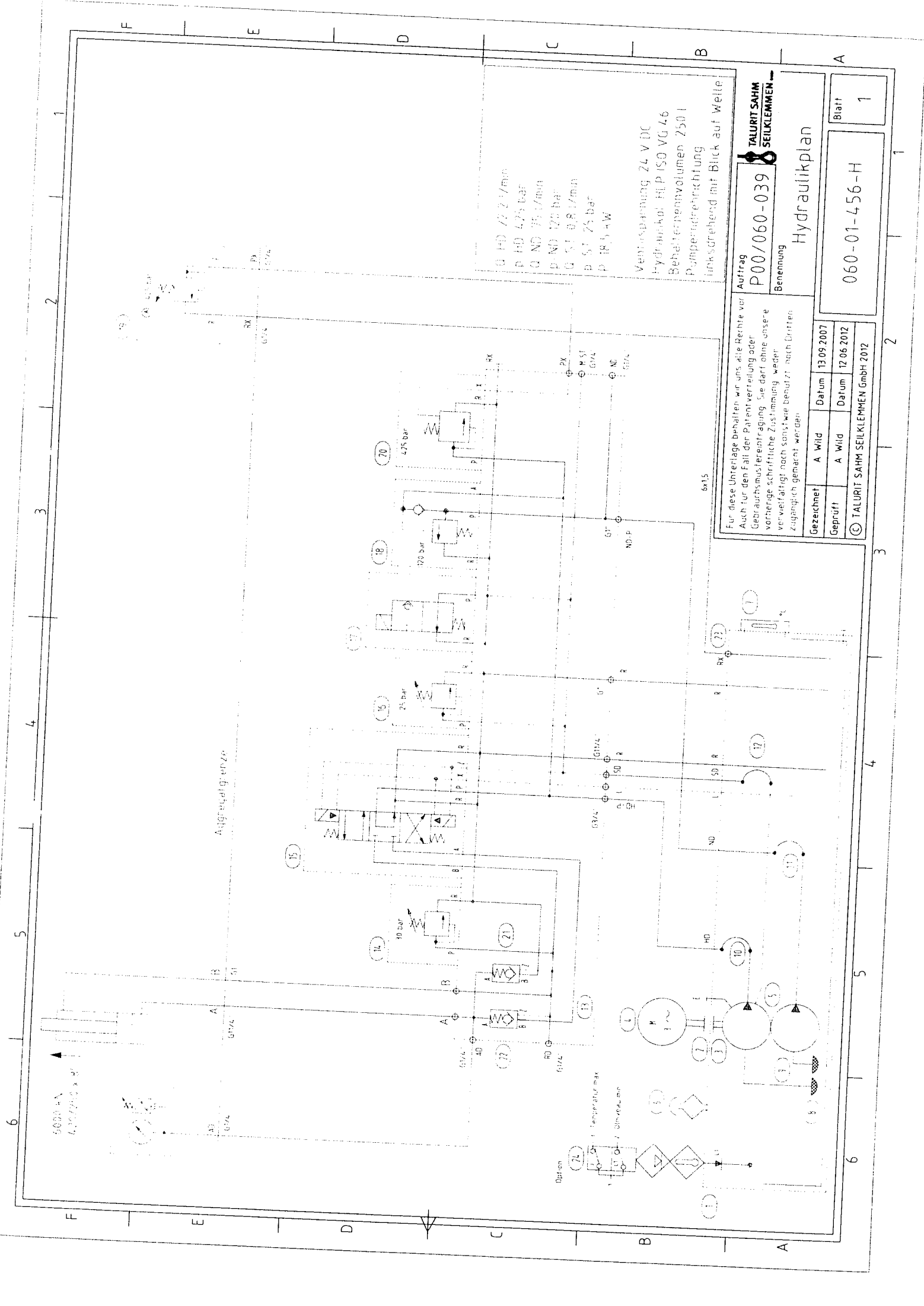
Stückliste Partlist

1. Aufl. Sommersemester 1997
Herstellung: 16
2772 Bremerhaven

6003 - 010

13 Hydraulic circuit diagram

Type: 060-17
No. of machine: 456
Comm.-No.: P00/060-039
Year of constr.: 2012



Auftrag
P00/060-039

Benennung
Hydraulikplan

Blatt
1

060-01-456-H

Gezeichnet
A. Wild

Datum
13.09.2007

Geprüft
A. Wild

Datum
12.06.2012

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Q HD 72 l/min
P HD 475 bar
Q ND 75 l/min
P ND 120 bar
Q ST 0.8 l/min
P ST 25 bar
P 18.5 kW

Vent: Spannung 24 VDC
Hydraulik: HL P ISO VG 46
Behältervolumen 250 l
Pumpenleistung 250 l
linksdrehend mit Blick auf Welle

List of spare parts • Hydraulic

Pos.	Description	Type
1	Oil tank	
2	Bell housing	40 133 H20
3	Coupling	RV 350/204/075
4	Three-phase motor	A 42/55.48-25
5	Dual stage pump	18,5 KW; 400 V; 50 Hz
6	Filler breather (with ventilation Filter)	RZ 22,2-0,8/3-75
7	Oil gauge	SES 3 – S 80
8	Filter	SNA 2 B/T/0/10
9	Filter	UC-SE-1457
10	High pressure hose	UC-SE-1324
11	High pressure hose	4 SP DN 16
12	High pressure hose	2 SN DN 25
13	Manifold block	2 SN DN 6
14	Pressure valve	20 180 H 01
15	4/3-way-valve	MVP 8 E-30
16	Pressure valve	HSF 4 L 1-X 24
17	2/2-Directional seated valve	CMV 1 F-20
18	Cut-off valve	WN 1 F-X 24
19	Pilot valve	AL 5 PM
20	Pressure valve	PG 1 HR-425
21	screw-in check valve with hydraulic release	DV 5 PH-425
22	screw-in check valve with hydraulic release; with pre-release	RHC 5
23	Tube execution	RHC 5 V
24	Level- and temperature switch	UC 2801
		OPTION

Notes