



User's Manual

BERINGER mobile compactor Type BP x5 / x6-520



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1. Safety instructions

important instructions concerning technical safety and security are highlighted with the following signs:



BE AWARE: refers to work procedures which have to be followed in order to avoid dangers for persons.



ATTENTION: refers to work procedures in order to avoid damages of the machine.

1. Please read the user's manual carefully before initial operation. Make sure you also read the additional instructions for options of your reducer. The user's manual has to be carried along with the reducer.
2. If the mobile reducer is located in public places (e.g. markets, schools, etc.) and is unsupervised, additional safety measurements appropriate to individual case, have to be made.
3. Only authorized persons are allowed to operate, maintain or repair the reducer.
4. Only employ qualified or trained staff and define clear competences for operation, service and repair works.
5. Allow the person in charge to defeat safety instructions of third persons.
6. Only train your staff on the reducer with experienced persons and under permanent surveillance.
7. Periodically check if your staff obeys to the safety instructions.
8. Wear safety garment while working at or on the reducer and keep in mind:
 - 1) Avoid wearing rings, watches, ties, scarves, open jackets or loose fitting cloths. Those items carry the risk to get stuck in the reducer.
 - 2) For some works safety shoes, helmets and work gloves are compulsory.
 - 3) Depending on the compacted material, the staff might need special safety garment (e.g. ear plugs, safety glasses).
9. Don't use fire or candles in the surrounding of the reducer. Make yourself familiar with the locations of extinguishers and inform you about the local institutions of fire protection.
10. For ergonomic reasons the employment of platforms can be reasonable. For platforms and their accesses, the minimum carrying capacity has to be 3000 N/m². The surface has to be levelled and free of rough spots. At a height of more than 1 meter, a safety rail as to be adjusted. A platform can only be used at the front side of the reducer.
11. If the mobile reducer is located at a ramp or in an under floor bunker, safety rails have to be adjusted. Ensure the free access to the emergency stop switch (eventually use a remote control).
12. The reducer has to be checked periodically – at least once a year – for workers' safety.

13. To ensure before initial operation:

- 1) Before initial operation, the reducer has to be inspected by the operator. Don't operate the reducer before having made a proper inspection. Please especially check the labelling.
- 2) Please take note of all labels with danger and safety instructions.
- 3) Fix all loose parts on the machine.
- 4) All lids and cover panels have to be closed before initial operation and after maintenance works.
- 5) Check if the cleanout door is properly locked.
- 6) Make sure that nobody is working in or on the compactor.
- 7) During operation nobody is allowed to be in the sphere of the hydraulic jack / ram plate. Danger of squeezing by pivoting jack!

ATTENTION: Doors / Flaps have to be closed.

14. For special employment the reducer has to be equipped with specific safety devices. In this case only operate the reducer if those parts are assembled and all maintenance doors are closed.

15. Inspection, maintenance and repair works (instruction p. 11)

- 1) For maintenance and repair works please proceed as described in the following:
 - (1) Switch off motor
 - (2) Switch off main switch.
 - (3) The key at the key switch has to be taken off in 0-position.
 - (4) Plug off power cable
 - (5) Main switch has to be locked with a padlock against switch on.
- 2) The system sections and pressure pipes of the hydraulic have to be at zero pressure before repair works.
- 3) Make sure that all fixtures and protective shields against vibrations, abrasion and heat accumulation are installed according to instructions.
- 4) The electric installation has to be inspected by an electrician. All damages like loose connections or wore through cables should immediately be repaired by an expert.
- 5) Check in periodical intervals all cables, hydraulic hoses and hydraulic connections for leaks and damages.
- 6) Hydraulic oil has to be changed in cooled down condition.
- 7) Never jump off the compactor. Use intended footstep, ladder or base to climb down.

ATTENTION:



Leaking oil can easily lead to fire. While searching for leaks safety gloves should be worn. The hydraulic oil is hot when the reducer is close to operating temperature. Avoid skin contact to hot oil or oil bearing parts.

16. Never operate a damaged compactor. Repair all damages immediately.

17. Cleaning the reducer:

- 1) Be aware while using wear parts and additives. Don't use inflammable liquids.
- 2) All openings where no water should impinge during cleaning have to be closed, glued or removed.

18. Transport of the reducer:
 - 1) For transport of the mobile reducer, vehicles according to DIN 30722 (hook-lift-trucks), are appropriate. Watch out for load safety!
 - 2) The instructor has to be in visual range or speaking contact to the driver.
 - 3) The reducer always has to be picked in the manner that shifting of weight doesn't endanger stability. Avoid steel-to-steel contact.
 - 4) Use ramps or ladder while working overheads.
19. Don't do any modifications at the reducer without permission of the supplier. This also means installation of safety devices and –valves as well as welding on bearing components.
20. For safety reasons necessary functional sequences can't be changed. Therefore it is not allowed to remove or invalidate safety devices.
21. For all flexible supply cables a heavy rubber hose pipe (H 07 RN-F according to DIN VDE 0100) has to be used.
22. Never open the door if the reducer is partly filled. The door is under pre-stressing and opens abruptly. Eventually the door can't be closed again before emptying.
23. Long and bulky goods have to be inserted completely into the feed opening.
24. Immediately secure the compactor against roll away after installation e. g. with a stop block.

BE AWARE

Never grasp or step into the feed opening during operation



MORTAL DANGER !!!

25. Labels on the reducer which indicate dangers:

At the maintenance door of header:



at the ratchet lock:



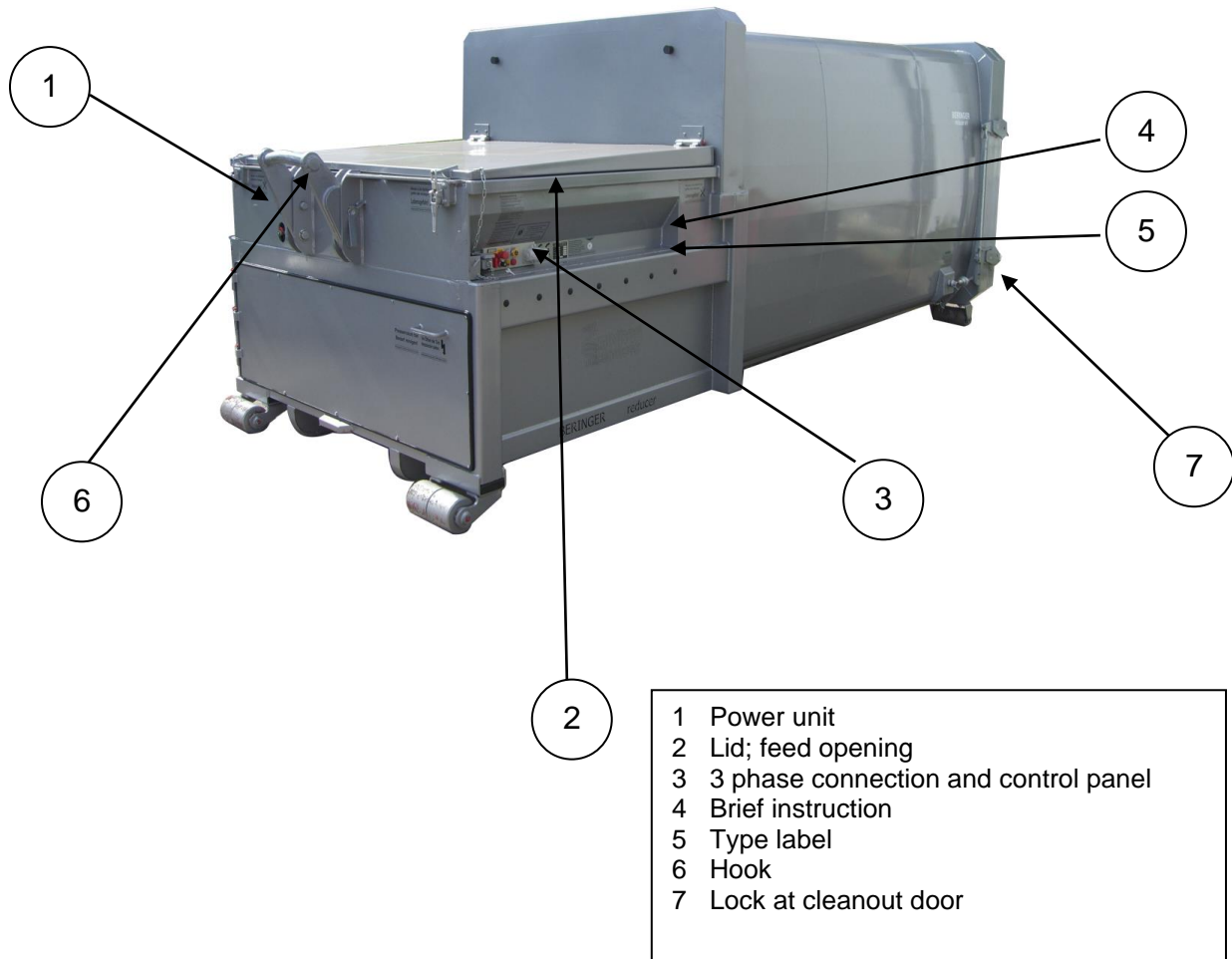
26. Generally, it is advisable to use only original spare parts of the manufacturer.

2. DESCRIPTION

2.1 Intended use

The mobile reducer can be picked up with all change systems according to DIN 30722 (hook-lift - trucks). The mobile reducer compacts domestic waste and commercial waste (e.g. paper, residual waste, cartons). Never fill in sand, construction waste, stones, glass, hot ash, inflammables, acid or base containing materials as well as heavy metal parts (e.g. hollow sections, beams) or wooden beams. The reducer is not appropriate for operation in explosive areas (e. g. chemical factories).

2.2 Description of main parts

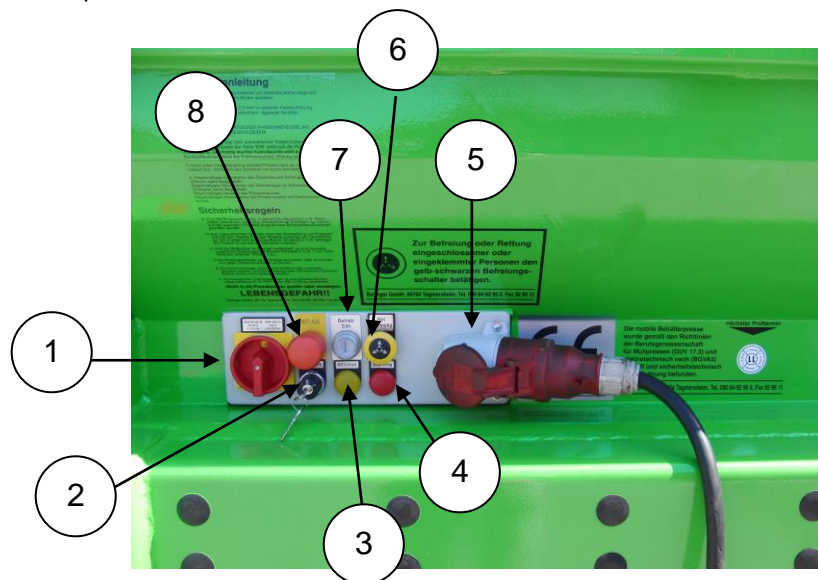


2.3 Additional options

- Lid for feed opening; connected front sides or divided long sides
- Lid for feed opening; divided long sides with aluminium crossbar or safety net
- Lid for feed opening; divided long sides with control panel at lid
- BERINGER bin lifter; (mobile or integrated)
- Mobile reducer wet waste variation
- Pick-up system in the rear with 2 rollers front sides (only for maneuvering purpose)
- Container fill level signal

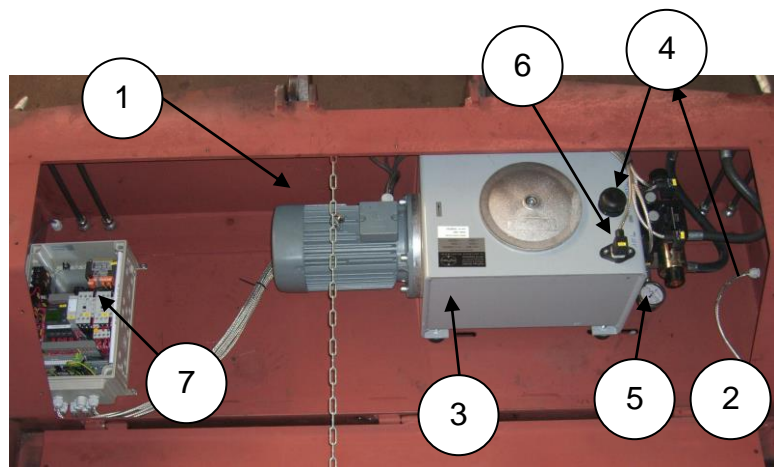
2.4 Control Panels

- 1 Main switch; power supply ON / OFF
- 2 Key switch; security against unauthorized use
- 3 Light: 80 % fill level signal; if light flashes in orange, reducer is filled 80 %
- 4 Light dysfunction, motor-circuit relay F1 releases – reducer switches off automatically
- 5 Socket: to connect power supply cable with a CEE-plug
- 6 Emergency OFF push-button, by pressing this button, the ram plate stops in its current position and persons can be rescued.
- 7 ON button, ON push-button starts the reducing process (keep button pressed for 3-5 sec.). With the integrated time-lag relay the reducer accomplishes about three pressing cycles automatically. The ON-button flashes during operation.
- 8 Emergency stop push-button, by pressing the button the ram plate stops in its current position. Resetting operation is only possible by unlocking (pull emergency push-button). Then the ram plate moves back to the retraced position.



2.5 Power Unit

- 1 Motor with hydraulic pump
- 2 4/3 directional valve
- 3 Oil tank
- 4 Filling and breather filter
- 5 Manometer
- 6 Oil deficiency switch
- 7 Control box



2.6 Hooks and Header

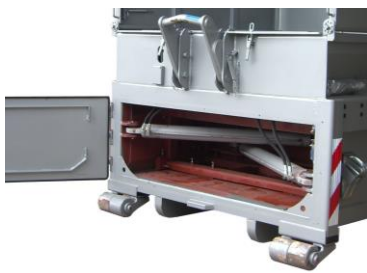
The reducer is equipped with two hooks, one at the front side (removable hook) and one at the rear side. The compactor can only be transported with the removable hook. The hook at the rear side can only be used for manoeuvring purpose.

Be Aware:



Never drive on roads, when the compactor was picked up with the hook at the rear side.

Before the mobile reducer can be picked up with a hook-lift-truck, please check that the removable hook is in good condition (check for wearing down).and that it is properly fixed with the intended bolt and spring.



In the header, the ram plate is located, which is run by two hydraulic jacks. Those are installed underneath the power unit box.

2.7 Additional limit switch maintenance door

The maintenance door of the header is equipped with an additional limit switch. If the maintenance door is opened during the pressing cycle, the limit switch, switches off the reducer.



Be Aware:



Pull plug before opening the door and secure against engaging.

2.8 Lock at cleanout door

ATTENTION: Before starting the compactor, the cleanout door has to be locked.



2.9 Fixation for door during tipping



ATTENTION



Close door interlock with ratchet and secure with spring connector after each cleanout.

3 SET UP AND OPERATION

3.1 Set up

BE AWARE



Please read the following safety instructions and the ones in chapter 1 before set up and obey to those!

- 1 The bearing capacity of the ground at reducer's location has to be at least 17.00 N/m².
- 2 The reducer is not appropriate for operation in explosive areas. (e.g. chemical plants).
- 3 At reducer's location has to be enough space for the transport with a hook-lift-truck.
- 4 If the mobile compactor is filled from a ramp, the compactor's feed opening has to be at least 1,10 meters above the ramp.
- 5 The ground has to be solid and levelled to avoid bracing of the reducer.
- 6 Provide enough light at reducer's location.
- 7 The location should be protected against unauthorized access.
- 8 The electricity supply at location has to be protected with a fault current circuit breaker (F1 switch), sensitive trigger of max. 30 mA and fuse protection min. 16 A delay. The feed cable has to have a lateral cut of min. 4 x 2,5 mm² copper, 400 V 50 Hz, electricity network: TN – C – S, CEE plug, 16 A, fuse protection with 3-pole breaker performance 3 x 16 A, characteristic C/D connected upstream with a fault current circuit switch with max. 0,03 A release current.
- 9 Immediately secure the compactor against roll away after installation e. g. with a stop block.
- 10 For flexible supply cables a heavy rubber hose pipe HO/RN-F VDE 0100 has to be used.

3.2 Initial operation

The mobile compactor has been tested before delivery and is ready for operation after proper installation. Before initial operation, the following safety instructions have to be followed:

BE AWARE



the operating staff has to be trained on handling and safety instructions of the mobile reducer.

The header has to be closed.

The cleanout door has to be closed and locked.

No person is supposed to be in the filling device.

The maintenance door at the power unit box has to be closed during operation.

Adjust motor-circuit switch to nominal current and watch out for the rotary field (right).

- 1) CEE-plug has to be connected to the coupling mouth at the control panel.
- 2) Switch on main switch
- 3) Unlock (by pulling) emergency OFF button.
- 4) Key switch has to be in position "I".
- 5) Press ON pushbutton for at least 3-5 sec. The mobile reducer accomplishes about 3 pressing cycles and switches off automatically when the ram plate is short before the retraced position.

ATTENTION:



During pressing cycles the operating staff has to stay at the control panel in order to be able to stop the reducer in case of emergency. The staff can only leave the control panel, if the key at the key switch has been taken off in 0-position.

3.3 Diagnostic fault-finding

Disturbance	Reason	Solution
Machine is not functioning	Power supply	Check power supply network, switch on main switch; unlock all OFF button; close maintenance door of header; check fuses and motor circuit (F1) at the electric box; check fault current circuit breaker of supply cable; check cable for leaks.
Motor runs; ram plate doesn't move	Insufficient hydraulic oil, oil deficiency switch switches off the reducer automatically, motor only runs if ON button is pushed	Check hydraulic oil indicator; refill hydraulic oil if necessary
	Control valve failure	Call service staff
	Hydraulic hoses and/or hydraulic system leaky	Recover impermeability; call service staff if necessary
Ram Plate twists during operation	Loose ram plate guiding	Call service staff
Drawer leaves guiding		Call service staff

ATTENTION.

In case of disturbances which can't be repaired by the operating staff, please call the manufacturer's service staff.

4. MAINTENANCE AND CLEANING

The mobile compactor has to be checked periodically – at least once a year for safety at work.

Generally we advise you to conclude a service contract with the manufacturer. Periodical inspections by an expert ensure safety and a long life-time cycle of the compactor.

Please ask for a quotation concerning the service contract.

The maintenance contract includes the following yearly benefits:

- Visual inspection of external damages, door latches, notches
- Check of the control panel, plugs, feed cables
- Check of tube, hose pipes and fittings
- Check of the jack and the hydraulic system
- Assessment and adjustment of pressure
- Assessment of contactor and motor-circuit switch
- Assessment of the control box for condensation water
- Assessment of slide stones and plunger
- Oil change/ filter change
- Lubricating and oiling
- Small repair works

ATTENTION:

Obey to the following safety instructions during maintenance work (including the safety instructions in chapter 1)

1. Switch off main switch (lock with padlock) and detach key (key has kept by service staff)
2. Press all emergency OFF Buttons
3. Don't remove or invalidate safety devices
4. Calibrations of hydraulic panel are not to change (sealed). Only use original spare parts of the manufacturer in the hydraulic system.

4.1 Periodical Maintenance

Check / correct oil level

It is necessary to check the level of hydraulic oil in periodic intervals especially after a leakage or maintenance work. After finishing repair work on the hydraulic jacks the reducer has to be operated unfilled for about 15 minutes in order to aerate the jacks. Afterwards the power unit has to be shut down for 6 hours to degas the oil.

At the reducer's front side (direction of heading; right), the oil level indicator and the drain cock are situated. With the ram plate fully extended (piston rod of the jack fully extended), the oil level should be higher than 10 mm above the minimum check mark.

The reducer switches off automatically if the oil level is too low, due to an installed oil deficiency switch.

If hydraulic oil has to be refilled, the ram plate has to be extended fully to be positioned safely on the drawer. Afterwards the power unit cover can be opened (remove 11 pcs screws M8x20). The power unit cover can be removed if required (the security chain's snap hook is to be hung out and the cover is to be pulled off the hinge side wards).

Unscrew the oil-filler neck (black plastic, with covers) so hydraulic oil can be filled in with a cranked hopper.

Oil change

After each 3000 operating hours it is necessary to conduct a change of hydraulic oil, the return filter has to be changed.

An appropriate tank has to be put beneath the drain cock and its cap has to be removed.

The reducer's power unit contains a tube equipped with a cap nut R ½", that is used to drain the oil at the drain cock, afterwards the drain cock is to be opened with a jaw wrench SW 12.

ATTENTION

Maintenance work at the power unit can only be conducted, if the power unit is cool.



Weekly

Check all parts of the hydraulic system for leaks

1. Cleaning return flow filter: open covering of power unit; loosen fixture screws of return flow filter, take out return flow filter and clean it.
2. Check oil indicator; refill hydraulic oil if necessary

Check all electric cables for damages.

Quarterly

- Check hydraulic system for impermeability and oil level; lubricate ram plate guiding with multi-purpose grease
- Lubricate grease nipples of rollers, hydraulic jack and door hinges with multi-purpose grease

Yearly

- Change hydraulic oil (HLP 32).

4.2 Electric system

Before opening the control box, detach system from electricity!

It is necessary to open the control box, if the red light "fault" glows. In this case the motor circuit switch "F1" actuates (usually failure of motor power supply or motor is overloaded).

In the power unit, the control box is situated. By a left quarter turn of the locking mechanism the clear cover can be removed.

After cooling down the system, the motor circuit switch "F1" unlocks automatically and the reducer is ready for operation. Before operation it is necessary to check motor's power cable.

If the reducer doesn't start although feed cable works faultlessly and the emergency OFF pushbuttons are unlocked, the "F2" fuse of the control circuit may be defect. In order to check this, the fuse cartridge situated at the transformer setting has to be opened and the glass tube fuse is to be changed.

Watch out for the rubber seal when closing the clear cover.

In order to close the power unit cover (transparent) it is advisable to screw-on the 4 screws at the chamfer to assure a better grasp on the upper side.

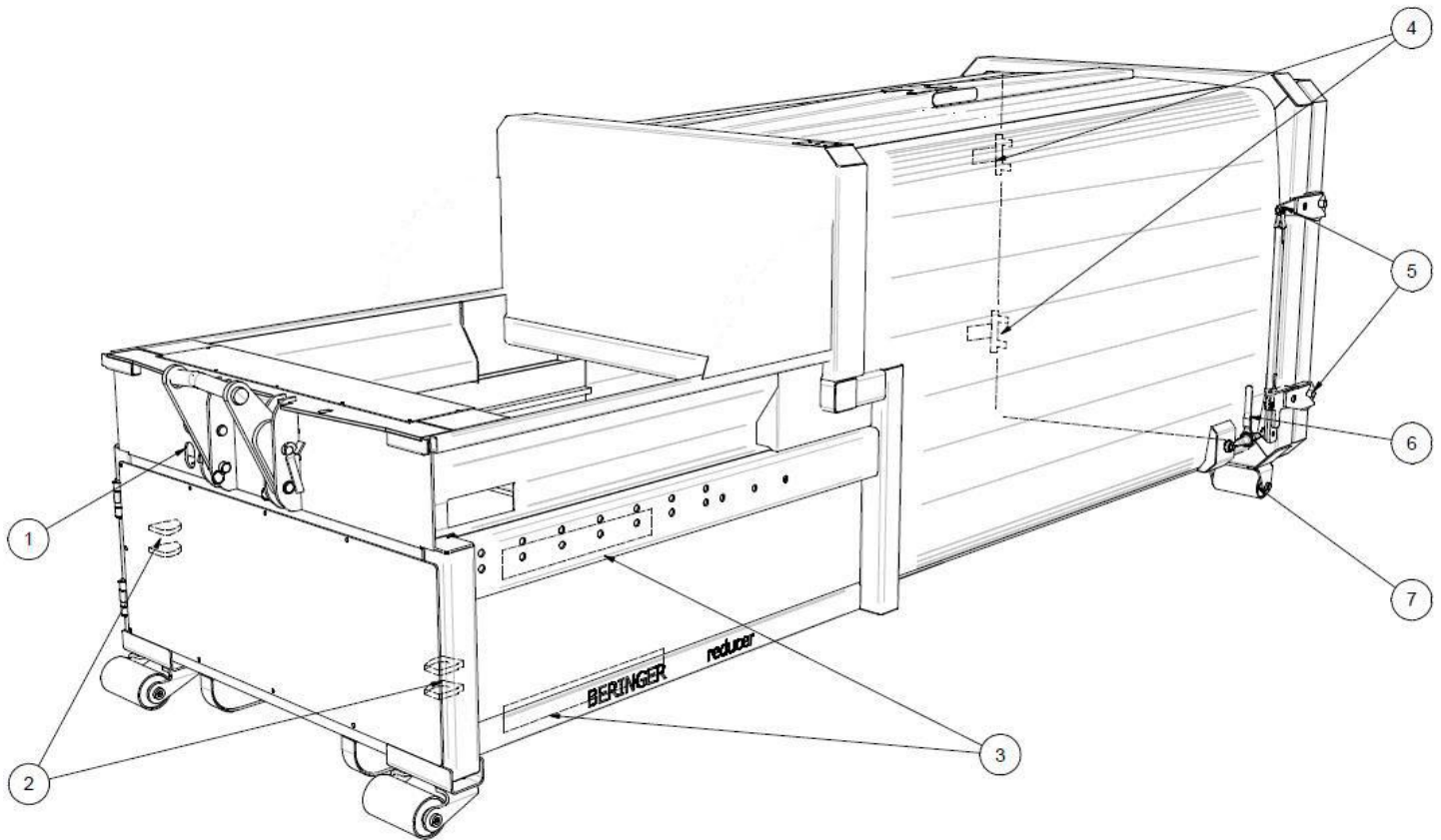
5. APPENDIX

5.1 Technical data

System		Hook-Lift-Trucks	
Type	reducer	x 5 - MB	x 6-520 - MB
Actuating power	kw	5,5	5,5
Fuse protection	A	16 A delay*	16 A delay*
Length compactor part	mm	1800	2440
Hopper height	mm	1480	1480
Upper feed opening	mm	1380 x 2090	1810 x 2090
Lower feed opening	mm	1000 x 1860	1480 x 2090
Ram capacity / stroke	cbm	1,2	1,9
Plunger stroke	mm	1280	1825
Retraction depth	mm	410	545
Compaction force (at 225 bar)	kN	330	330
Cycle time	sec.	48,8	76,1
Hydraulic oil	Ltr.	35	35
Control voltage	V / Hz	400 / 50	400 / 50
Max. total weight	Kg (approx)	12.000	12.000

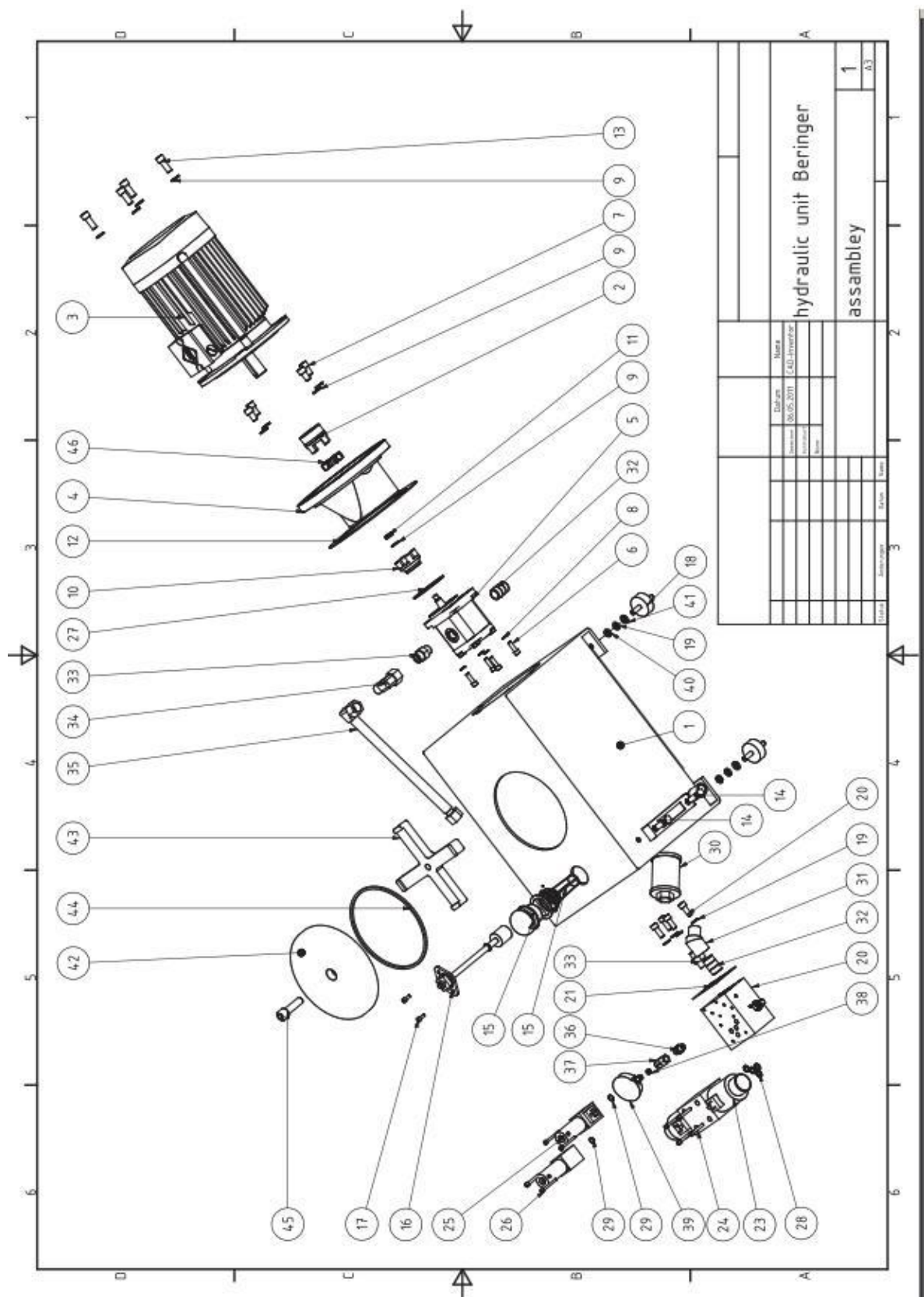
* The fuse protection of the mobile compactor is control circuit 0,4 A delay. The fuse protection of the power circuit, as described in chapter 3.1 has to be provided by the customer. Charging rate of motor is 11,7 A.

5.2 Lubrication plan



Lubrication spot	Wear part	Quantity	interval
1 Power unit	Hydraulic oil - DEA HLP 32 Or: biol. absorbable - DEA Econa 46 / Fuchs Plantohyd	approx. 35 liters	each 3000 operating hours
2 Cylindrical pivot bearing	Multi-purpose grease	Press 4 – 5 times	
3 PE-slide stone	Multi-purpose grease	Tiny little bit	As required
4 door hinges	Multi-purpose grease	Press 2 – 3 times	As required
5 Locking lever	Multi-purpose grease	Press 2 – 3 times	As required
6 Ratchet lock	Multi-purpose grease	Press 2 – 3 times	As required
7 rollers	Multi-purpose grease	Press 5 – 8 times	Each 200 operating hours

5.4 Hydraulic plan including parts list

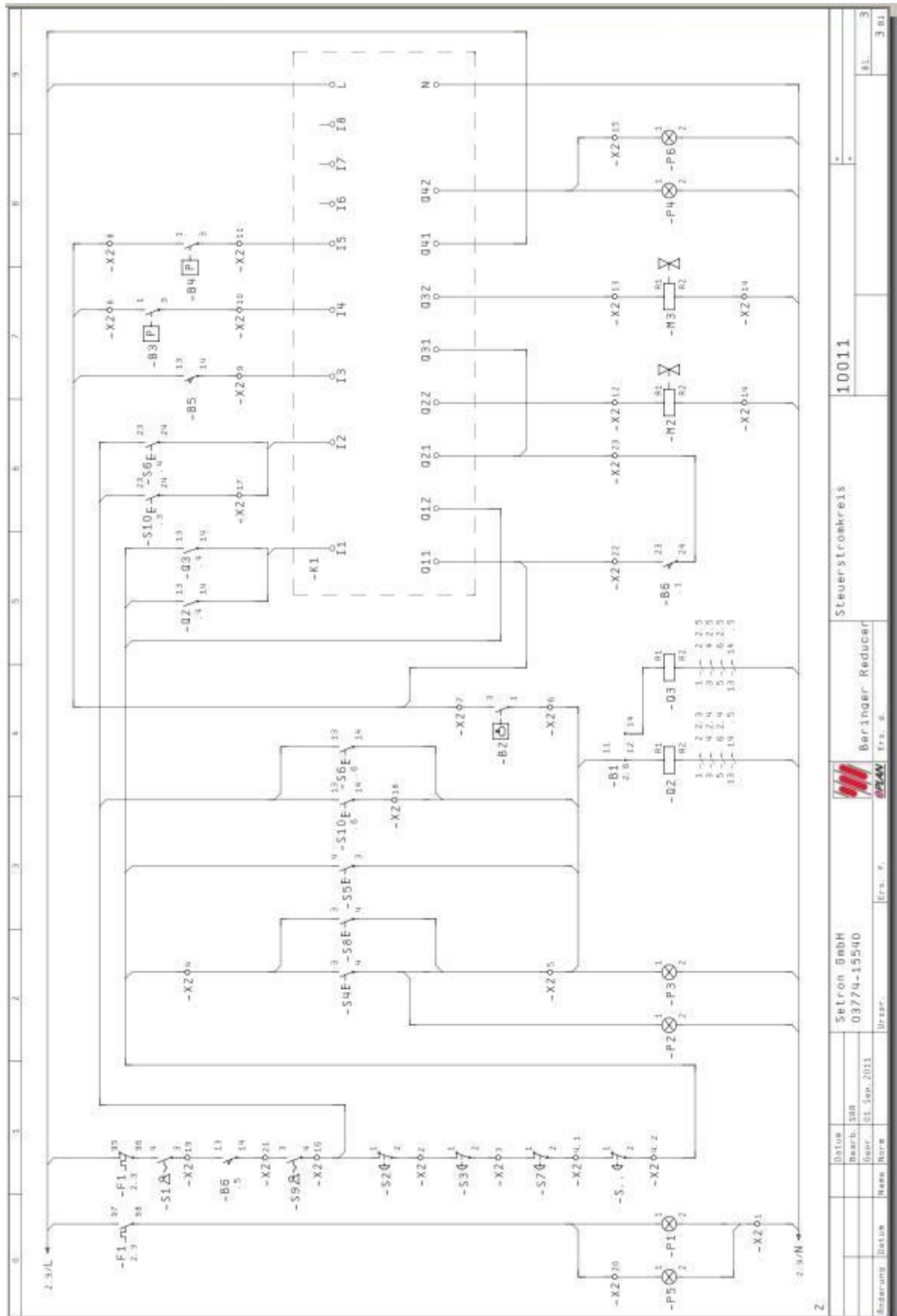


Parts List hydraulic plan

Pos.	Pieces	Article	Artikel (german)	Order Number
1	1	oil tank	Öltank	EPHY01
2	1	coupling (motor hub)	Kupplung (Motornabe)	
3	1	motor	Elektromotor	EPHY11
4	1	pump flange	Pumpenträger	EPHY09
5	1	gear pump	Zahnradpumpe	EPHY08
6	4	Imbus M8 x 25	Innensechskantschraube M8 x 25	
7	4	Imbus M12 x 20	Innensechskantschraube M12 x 20	
8	4	Snap ring DIN 128 – A8	Federring DIN 128 – A8	
9	9	Snap ring DIN 128 – A 12	Federring DIN 128 – A12	
10	1	Coupling (pump hub)	Kupplung (Pumpennabe)	
11	1	Nut with metric thread M12 x 1,25	Mutter M12 x 1,25 (metr. Feingewinde)	
12	1	Seal for pump flange	Korkdichtung / Pumpenträger	EPHY12
13	4	Imbus M12 x 30	Innensechskantschraube	
14	1	Oil level indicator	Ölstandsanzeige	EPHY02
15	1	Breather filter	BelüftungsfILTER	EPHY03
16	1	Oil deficiency switch	Niveauschalter	EPHY04
17	2	Imbus M6 x 16	Innensechskantschraube	
18	4	Rubber buffer 50 / 20	Silentblock 50 / 20	EP87
19	8	Snap ring A 10	Federring A 10	
20	1	Control block without valves	Steuerblock (ohne Ventile)	EPHY14
21	1	Seal valve block	Dichtung Ventilblock	EPHY21
22	4	Imbus M10 x 25	Innensechskantschraube M10 x 25	
23	1	Directional valve	Wegeventil	EPHY18
24	4	Imbus M10 x 40	Innensechskantschraube M10 x 40	
25	2	Pressure switch 185 bar	Druckschalter 185 bar	EPHY17
		Pressure switch 145 bar	Pressure switch 145 bar	EPHY17-145
26	4	Imbus M5 x 60	Innensechskantschraube M5x60	
27	1	O-Ring ø 80	O-Ring ø 80	EPHY20
28	4	O-Ring ø 12	O-Ring ø 12	
29	2	O-Ring ø 10	O – Ring ø 10	
30	1	filter	filter	EPHY06
31	1	45° angle	45° Winkel	
32	2	Double nipple	Doppelnippel	
33	2	Straight connection screwed ½"	Gerade Verschraubung ½"	
34	1	Angle (adjustable)	Einstellbarer Winkel	
35	1	Hose pipe	Schlauchleitung	EPHY13
36	1	Straight connection screwed ½"	Gerade Verschraubung ½"	
37	1	Manometer	Manometer Verschraubung	
38	1	seal	Dichtung	
39	1	Manometer	Manometer	EPHY19
40	4	Hex nut with metric thread M 10	Sechskantmutter M 10	
41	4	Washer A 10,5	Scheibe A 10,5	
42	1	cleaning tap	Reinigungsdeckel	EPHY05
43	1	Retaining ring	Befestigungskreuz für Reinigungsdeckel	
44	1	O-Ring ø 213	O-Ring ø 213	
45	1	Imbus M16	Innensechskantschraube M16	
46	1	Gear rim	Zahnkranz	

[illegible]

5.4.1 Electronic Plan option remote control



5.4.2 Parts list electronic plan

Descr.	Descr. (old)	Article
S1	S1	Key switch
S2	S2	Emergency OFF
S3	S3	Emergency OFF control panel (2 parts)
S4	S4	Operation ON control panel (2 parts)
S5	S5	Operation ON
S6	S6	Emergency stop
S7		Emergency OFF option with remote control
S8		Operation ON option with remote control
S9		Key switch option remote control
S10		Emergency stop option with remote control
S..		Emergency stop other options
Q1	Q1	Main switch
Q2	K1	Contactor rotating field (right)
Q3	K2	Contactor rotating field (left)
F1	F1	Motor circuit switch
F2	F2	Control fuse T0,4A
T1	F1	Control transformer 400V/230V
M1	M1	Motor hydraulic pump
M2	Y1	Magnet valve compactor forwards
K1	A1	Logic tool
P1	H1	Disturbance
P2	H2	Operation ON control panel (2 parts)
P3	H3	Operation ON
P4	H4	80% fill level signal
P5		Disturbance option remote control
P6		80% fill level signal option remote control
X1		Plug CEE16A or Option CEE32A
X2	X1	Terminal strip
X3		Socket 24 pol.
B1	d1	Phase sequence relay
B2	Sd1	Oil deficiency switch
B3	Sd2	Pressure sensor 180bar
B4	Sd3	Pressure sensor 140bar
B5	E1	Position switch compactor backside
B6	E2	Position switch maintenance doors

Attention!

Obey to local instructions for electrical operating conditions.

Please keep in mind before initial operation!!!

- Switch motor circuit switch to nominal current.
- Watch out for rotary field (right)
- Changes of control panel lead to loss of guarantee and warranty.

5.4 Damage Report

Damage report

Dear Sir or Madam,

This is a damage report for mobile compactors. Please fill the form and send it back as soon as possible by e-mail or fax!

Without filling this form, our service staff won't process your request.

The below mentioned prices are only valid if the damage is not covered by guarantee or warranty conditions.

Please note:

- Don't open power unit, header or control panel, this voids all warranty claims.
- Don't remove any parts of the compactor without written instruction by the supplier, this also voids all warranty claims.

Damage report for mobile compactors

Date: _____ Time: _____
Customer: _____ Phone.: _____
Address: _____
Compactor's location: _____
Contact person: _____ Phone.: _____
Compactor can be inspected _____ o'clock till _____ o'clock
Manu. No.. _____ Type: _____ Model year: _____

Check the following points carefully and tack if you checked:

- ☐ Read user's manual carefully
- ☐ check if power supply is functioning properly.(16 Amp.; 3 phase connection)
- ☐ check if power supply cable is not broken or damaged
- ☐ check if house main switch box is in ON position
- ☐ oil level has been checked and oil level is between min. and max.

- ☐ check if main switch is in ON position



☐ check if emergency OFF button is in ON position



☐ check if key switch is in ON position



☐ check if compactor is not completely full

☐ check if header is clean



☐ check if compactor is situated on solid and levelled ground

☐ in case compactor is operated with a mobile bin lifter, check if mobile bin lifter is connected to power supply

If you checked all points and you didn't solve the problem, please describe the damage:

Damage description: _____

Supposed reason for damage: _____

with this signature you declare that you checked the above mentioned points and you agree with our service conditions. (see www.beringer-behaelter.com/downloads)

Service order placed: _____

5.5 User's manual Contraol Panel

User's manual control panel Beringer reducer

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ATTENTION !!

Any changes of the control panel lead to loss of guarantee and warranty!

1. Parameterization Siemens Logo Module

1.1 Select parameter menu

Switch on the reducer at the main control switch. In the display of the logic module you will see the following screen:

S	e	t	r	o	n		G	m	b	H	
T	e	l	.	0	3	7	7	4	-		
				1	5	5	4	-	0		

Press the arrow key
“down”.

D	a	t	u	m	:						
2	0	0	9	-	1	0	-	2	7		
Z	e	i	t	:							
T	u		0	8	:	1	3				

B	e	t	r	i	e	b	s	-			
s	t	d	.	:					1	0	

Afterwards the following screen appears in the display:

		T	u		0	8	:	1	3		
	2	0	0	9	-	1	0	-	2	7	

Press „ESC“

You are now in the menu of logic tool with the following screen:

>	S	t	o	p							
	P	a	r	a	m	S	e	t	z	e	n
	E	i	n	s	t	e	l	l	u	n	g
	P	r	o	g		N	a	m	e		

Select „ParamSetzen“

	S	t	o	p							
>	P	a	r	a	m	S	e	t	z	e	n
	E	i	n	s	t	e	l	l	u	n	g
	P	r	o	g		N	a	m	e		

To confirm select „OK“

Any time you want to go one step backward, press „ESC“.

1.2 Adjust lead time

Proceed as described in 1.1 and press the arrow key “down” until the following screen appears:

V	L	Z	e	i	t						
T			=	4	6	:	4	0	s		
T	a		=	0	0	:	0	0			

Press „OK“ to adjust the lead time. Afterwards a cursor flashes to change the numbers. Change with the arrow keys only the parameter “T”. Verify your selection with “OK”. To cancel press “ESC”.

With older program versions the lead time can be adjusted as described above but in the following screen:

B	0	1	4	Z	e	i	t				
T			=	4	6	:	4	0	s		
T	a		=	0	0	:	0	0			

For the exact lead time of your reducer please contact BERINGER Middle East FZC. Please find out the manufacturing number of your reducer before calling BERINGER Middle East FZC.

1.3 Adjust stroke rate

Proceed as described in 1.1 and press the arrow key “down” until the following screen appears:

H	u	b	z	a	h				1		
O	n		=						0		
O	f	f	=						4		
C	n	t	=						0		

Press „OK“ to change the stroke rate. Afterwards a cursor flashes to change the numbers. Change with the arrow keys only the parameter “OFF”. Verify your selection “OK”. To cancel press “ESC”.

2.0 Parameterization Setron Logo Module

2.1 Select parameter menu

Switch on the compactor at the main control switch. In the display of the logic module you get the following screen:



Setron GmbH
Telefon/Fax
03774-15540
03774-155454

Press „OK“.



Betriebsstd.
000010

You are now in the menu of the logo module with the following indication:



PASSWORT
STOP RUN
PARAMETER...
INFO...

Press the arrow key up or down until „Parameter“ flashes. Verify your selection with “OK”.

Any time you want to go one step back press “ESC”.

2.2 Adjust lead time

Proceed as described in 2.1 and press the arrow key “down” until the following screen appears:



Press the arrow keys up or down until the cursor flashes at „T 4“. Press “OK” to adjust lead time.

You get the following screen:



A cursor flashes to change the parameter. Select with the arrow key the parameter “I 1”. Change with the arrow keys the parameter “I1”. Press “OK” to verify your selection. To cancel press “ESC”.

For the exact lead time of your reducer please contact BERINGER Middle East FZC. Please find out the manufacturing number of your reducer before calling BERINGER Middle East FZC.

Change of lead time leads to loss of guarantee and warranty!

2.3 Adjust stroke rate

Proceed as described in 2.1 and press the arrow key bottom down until the following screen appears:



Press the arrow keys up or down until the cursor flashes at „C 2“. Press “OK” to adjust the stroke rate.

You get the following screen:



A cursor flashes to change the parameter. Select with the arrow keys the parameter “S” and press “OK”. Change with the arrow keys the parameter “S” and verify your selection with “OK”. To cancel the procedure press “ESC”.

3.0 Diagnostic fault-finding and elimination

Diagnostic fault-finding	Elimination
Hydraulic pump runs; ram plate is in the end position and doesn't move into reducing unit.	Check the pressure switch 180 bar (B3). Plug off B3 or clamp the cable off the control box. Check position switch B5 for functioning.
Motor hums – doesn't rotate, fuse actuates	Check the feed cable for disturbances and check function of hydraulic gates Q1, Q2 and the phase sequence relay B1.
By customers RCD actuates	Check the feed cable and the cables in the header for damages and check the position switch, pressure switch and activation of the electromagnetic valve for conductor connection.
Hydraulic motor rotates; ram plate doesn't move	Check the phase sequence relay and the agitator direction (M2 / M3) for mode of operation.
Reducer is switched on; compacting process doesn't start; emergency deliverance works in watch dog switch	Check the dynamic stop.
Reducer is switched on; compacting process doesn't start; emergency deliverance doesn't work.	Check the key switch, the control fuse of the transformer or the logo module.
Reducer is only switched on with pressed contactor; ram plates moves	Check outlet 1 logo module (clamp off all cables and check the outlet for run). Furthermore check the lack of oil switch (B2) or the oil level of the hydraulic power unit.

4.0 General information and service notes

4.1 Change control fuses

If a control fuse is broken, it is impossible to start the reducer. Furthermore, the emergency deliverance is not working.

In order to change the fuses, the power unit lid has to be opened. The control fuses are located in the control box at the transformer T1.

Please only use fuses with the following technical data:

For 230V: 0,4 A delay; size 32x6mm

For 24V: 0,5 A delay, size 32x6mm

4.2 Electricity supply

Operating voltage 3x400V, network configuration: TN – C – S – network

CEE socket 16A (32A), protection with 3-pole circuit breaker.

3x16A (32A) delay C/D over connected upstream CFGI with 0,03A Trip current.

Please check connecting cables, sockets and couplings before connecting. The sockets or couplings have to be put into the fixing device until the lids are locked.

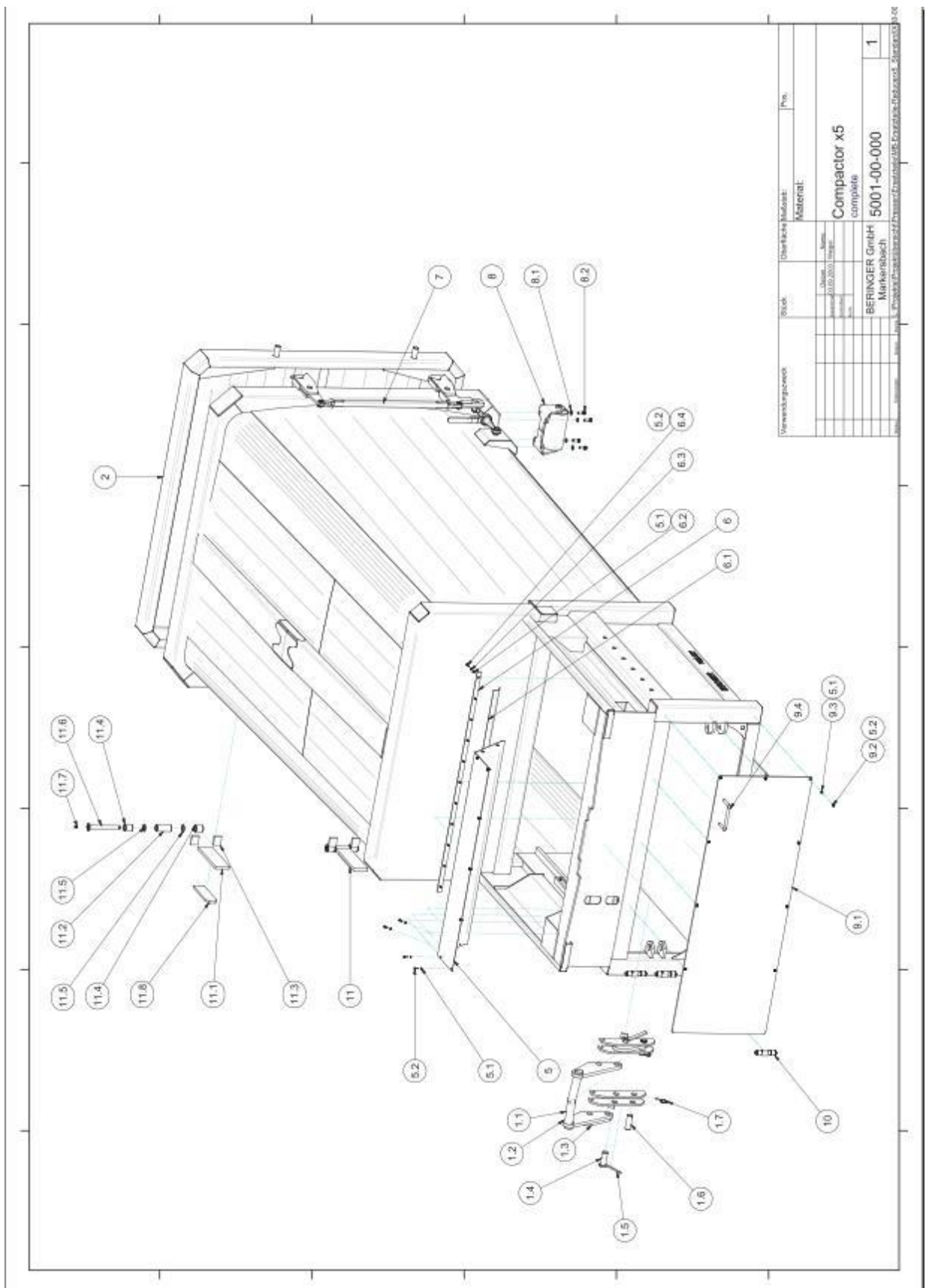
Loose plug connections or short interruptions in power supply lead to damages in the control system, increased wear or shortened life span of the reducer.

4.3 Guarantee and warranty

Subject to our general terms and conditions

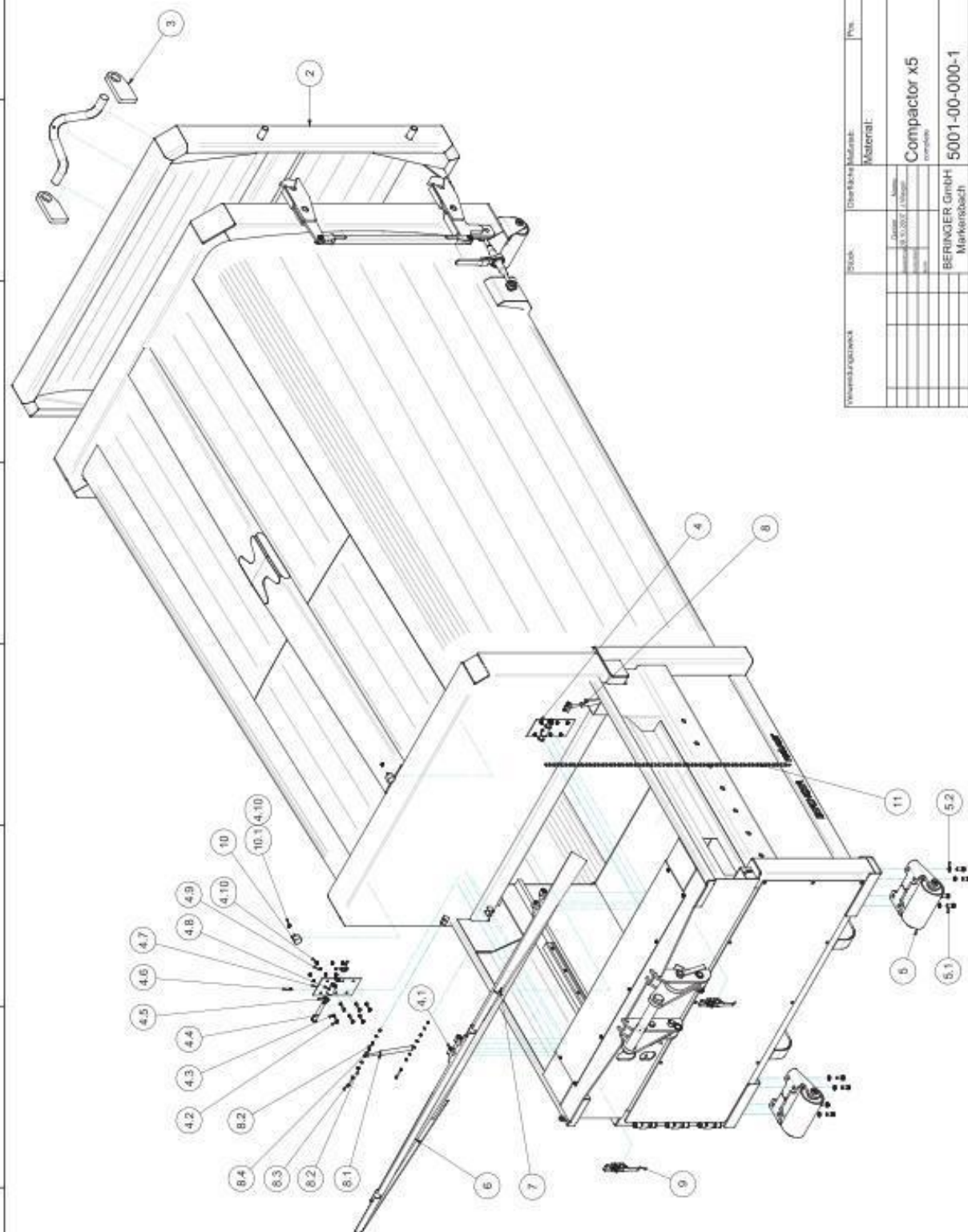
5.6

Partitional drawings and spare parts lists



Spare parts list for compactor x5 complete variation according to drawing number 5001-00-000

POS	Pcs.	Article	Artikel	Order Number
1	1	hook (complete)	Hakenaufnahme komplett	EP206-K
1.1	1	hook D 60	Haken D 60	as set
1.2	2	acceptance	Aufnahme	
1.3	2	reinforcement	Verstärkung	EP206
1.4	2	bolt D30	Bolzen D30	as set
1.5	2	handle	Handhebel	
1.6	2	bolt D30	Bolzen D30	as set
1.7	2	foldable spint	Klappspint	
2	1	door complete (without hook)	Tür komplett (ohne Haken)	EP191
5	1	aggregate's lid	Aggregatdeckel	EP110
5.1	27	washer DIN 125 - A 8.4	Scheibe DIN 125 - A 8.4	EPD001
5.2	27	hex bolt M8 x 20	Sechskantschraube M8 x 20	EPD002
5.3	1	corrugated head screw with seal 933 VZ	Sicherungsschraube mit Plombe 933 VZ	EPD003
5.4	1	snap hook D8 mm	Karabinerhaken D8 mm	EPD004
5.5	1	chain D4 (mention number of chain links)	Kette D4 (bei Bestellung Menge angeben!!!)	EP36-1
6	1	flat bar	Flacheisen	EP150
6.1	1	wiper lip 100x7x1850 transparent	Absteiferlippe 100x7x1850 transparent	EP06
6.2	(27)	washer DIN 125 - A8.4 (see Pos. 5.1)	Scheibe DIN 125 - A8.4 (siehe Pos. 5.1)	EPD001
6.3	11	snap ring D8.5mm	Federring D8.5 mm	EPD005
6.4	(27)	hex bolt M8x20 (see Pos. 5.2)	Sechskantschraube M8x20 (siehe Pos. 5.2)	EPD002
7	-	see spare parts interlock, complete (drawing no. X56-06-000)	siehe Ersatzteilliste Verriegelung komplett (Zg. X56-06-000)	-
8	2	custor complete (steel)	Ablaufrolle komplett Stahl	EP15
		custor complete (plastic)	oder Ablaufrolle komplett Polyamid	EP171
8.1	8	washer DIN 125 - A17	Scheibe DIN 125 - A17	EPD006
8.2	8	hex bolt M16x45	Sechskantschraube M16x45	EPD007
9	1	cleanout door (complete)	Wartungstür komplett	as set EP208
9.1	1	maintenance sheet with handle	Wartungsblech mit Griff	
9.2	(27)	hex bolt M8x20 (see Pos. 5.2)	Sechskantschraube M8x20 (siehe Pos. 5.2)	
9.3	(27)	washer DIN 125 - A8.4 (see Pos. 5.1)	Scheibe DIN 125 - A8.4 (siehe Pos. 5.1)	
9.4	1	handle	Griff	EP123
10	3	hinge maintenance door, complete	Scharnier Wartungstür kompl.	EP157
11	2	hinge, complete	Scharnier, komplett	EP145-X5/6-K
11.1	2	hinge sheet	Scharnierblech	as set EP145-X5/6
11.2	2	socket D51x120	Buchse D51x120	
11.3	4	flat bar 70x60x15 (hinge)	Flacheisen 70x60x15 (Scharnier)	as set
11.4	4	socket D51x60	Buchse D51x60	
11.5	4	washer D31	Scheibe D31	EPD021
11.6	2	bolt	Bolzen	EP145
11.7	2	grease nipple M10x1	Schmiermippel M10x1	ABC57
11.8	2	reinforcement (hinge)	Verstärkung (Scharnier)	only with hinge sheet (Pos. 11.1)
12	1	arris protection rubber profile Fa. Dirak (9m)	Kantenschutzdichtprofil Fa. Dirak (9m)	EP203



Material	Part	Quantity	Unit	Notes
Compactor x5				
BERINGER GmbH				
Markenstück				
5001-00-000-1				
1				

Spare parts list for compactor x5 complete variation according to drawing number 5001-00-000-1

POS	Pcs.	Article	Artikel	Order Number
1	1	hook (door)	Haken (Tür)	EP137
2	1	door complete (with hook)	Tür komplett (mit Haken)	EP191-H
3	2	oxygen-cut part (hook acceptance)	Brennteil, Hakenaufnahme	only with hook (door) (Pos. 1)
4	2	hinge, complete	Scharnier, komplett	EP76-K
4.1	4	socket D38x35	Buchse D38x35	ABC02A
4.2	12	hex bolt DIN 933, M10x30	Sechskantschraube DIN 933, M10x30	EPD009
4.3	12	snap ring DIN 127 - A10	Federring DIN 127-A10	EPD010
4.4	2	bolt, complete	Bolzen, kompl.	ABC02B
4.5	6	washer DIN 125-A23	Scheibe DIN 125-A23	EPD011
4.6	2	lubrication nipple M10x1	Schmiernippel M10x1	ABC57
4.7	2	hinge sheet	Scharnierblech	EP76
4.8	2	socket D38x70	Buchse D38x70	EPD008
4.9	12	washer DIN 125-A10,5	Scheibe DIN 125-A10,5	EPD012
4.10	12	hex nut DIN 934 M10	Sechskantmutter DIN 934 M10	EPD013
5	2	roller (front), complete (polyamide)	Rolle vorn, komplett (Polyamid)	EP171-F
5.1	8	hex bolt DIN 933, M16x45	Sechskantschraube DIN 933 M16x45	EPD007
5.2	8	washer DIN 125-A17	Scheibe DIN 125-A17	EPD006
6	1	lid frontides, complete	Deckel stirnseitig, komplett	EP207-K
7	1	spare link D4	Notglied D4	EP136
8	2	gas spring, complete	Gasfeder, komplett	-
8.1		gas spring 2500 KN EBL 500 mm	Gasfeder 2500 KN EBL 500 mm	EP63
		gas spring 1750 KN EBL 500 mm	Gasfeder 1750 KN EBL 500 mm	EP71
8.2	12	hex nut DIN 934 M8	Sechskantmutter DIN 934 M8	EPD014
8.3	4	hex bolt M8x60	Sechskantschrauben M8x60	EPD015
8.4	16	washer DIN 125-A8,4	Scheibe DIN 125-A8,4	EPD001
8.5	2	cover gas spring	Abdeckung Gasfeder	EPD016
9	2	lock	Exenterverschluß	EP200
10	2	ingate rubber	Anschlaggummi	EP116
10.1	2	hex nut DIN 934 M10	Sechskantmutter DIN 934 M10	EPD013
11	1	chain D4 (85 links) mention number of links	Kette D4 (bei Bestellung Menge angeben!!!)	EP36-1

Spare parts list for compactor x5 complete variation according to drawing number 5001-00-000-2

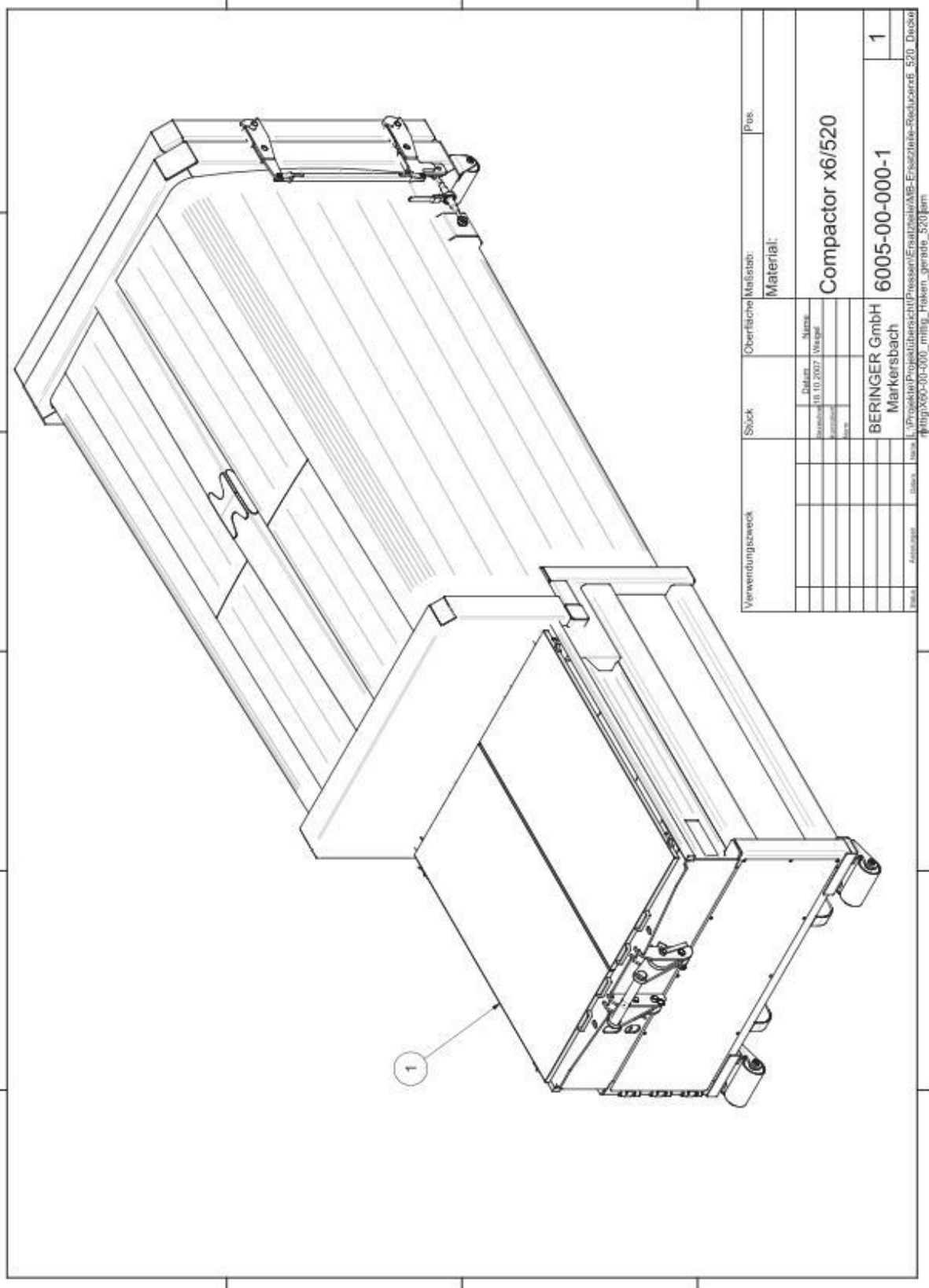
POS	Pcs.	Article	Artikel	Order Number
1	1	lid, divided long sides	Deckel mittig geteilt	EP211
1.1	2	rubber nub	Gumminoppen	EP144
1.2	2	hex bolt DIN 933 M4x16	Sechskantschraube DIN 933 M4x16	EPD017
1.3	2	ingate rubber	Anschlaggummi	EP116
1.4	6	hex nut DIN 934 M10	Sechskantmutter DIN 934 M10	EPD013
1.5	4	cylinder screw imbus M6x45	Zylinderschraube Innensechskant M6x45	EPD018
1.6	2	handle	Griff	EP123
2	2	rods	Gestänge	EP121
2.1	2	hex nut DIN 934 M12	Sechskantmutter DIN 934 M12	EPD019
2.2	2	hex bolt DIN 933 M12x30	Sechskantschraube DIN 933 M12x30	EPD020
3	2	gas spring 650 kN, EBL 400	Gasfeder 650 kN, EBL 400	GF5
3.1	2	cotter pin	Splint (Lagerschuh)	} as set EP125
3.2	2	fuse	Sicherung (Lagerschuh)	
4	1	aluminum bar	Alulatte	EP85
5	2	lock (lid)	Verriegelung Deckel	ABM19S
6	1	hook, complete	Haken komplett	EP206-K
7	1	maintenance door, complete	Wartungstür, kompl.	EP208 + EP111 + EP203
7.1	1	maintenance sheet	Wartungsblech	} as set EP208
7.2	9	washer, DIN 125, A8.4	Scheibe DIN 125 A8.4	
7.3	9	hex nut DIN 933 M8x20	Sechskantschraube DIN 933 M8x20	} EP111 (single part)
7.4	1	handle	Griff	
8	3	hinge (maintenance door)	Scharnier Wartungstür	EP157
9	1	arris protection rubber profile Fa. Dirak (9m)	Kantenschutzdichtprofil Fa. Dirak (9m)	EP203

Spare parts list for compactor x5 complete variation according to drawing number 5001-00-000-3

POS	Pcs.	Article	Artikel	Order Number
1	2	bracket ring bolts, complete	Halterung Ringschrauben, komplett	EPD023
1.1	2	ring nuts, DIN 582-M20	Ringmuttern, DIN 582-M20	EP102
1.2	2	hex nut M 18	Sechskantmutter M18	incl. 1.5
1.3	2	bracket for eye bolt	Halterung für Augenschraube	EP34
1.4	2	ring bolt DIN 44-A-M20x180	Ringschraube DIN 444-A-M20x180	EP100
1.5	2	fit bolt DIN 609-M18x70	Paßschraube DIN 609-M18x70	EP103
1.6	2	lock washer eye bolt	Sicherungsblech Augenschraube	EP65
2	1	adjustment, door, complete	Arretierung Tür, komplett	as set EP182
2.1	1	cam lobe Rd22	Welle Rd22	
2.2	2	socket D38x43	Buchse D38x43	
2.3	2	u-section 60/50/5	U-Profil 60/50/5	
2.4	1	plug	Stecker	ABC47
2.5	1	chain link D4 (chain 14 links)	Kettenglied D4 (Kette 14 Glieder)	as set
2.6	2	mention number of chain links		
3	1	safety clamp	Sicherungsspanner	EPD022
4	1	spare chain link D 10	Notglied D10	as set
5	1	foldable splint	Klappsplint	
6	1	chain link D4 (chain 13 links)	Kettenglied D4 (Kette 13 Glieder)	as set
7	1	chain link D4 (chain 5 links)	Kettenglied D4 (Kette 5 Glieder)	
		safety clamp	Sicherungsspanner	EP155-F

Spare parts list for compactor x6/520 complete variation according to drawing number 6005-00-000

POS	Pcs.	Article	Artikel	Order Number
1	1	chain, D4 complete mention number of chain links	Kette D4 (bei Bestellung Menge angeben!!!)	EP36-1
2	1	lid, frontside Reducer x6 (complete)	Deckel, stirnseitig Reducer x6 komplett	EP207-K
3	4	gas spring, complete	Gasfeder, komplett	-
3.1	20	hex nut DIN 934 M8	Sechskantmutter DIN 934 M8	EPD014
3.2	24	washer DIN 125-A8,4	Scheibe DIN 125-A8,4	EPD001
3.3	4	hex bolt M8x60	Sechskantschrauben M8x60	EPD015
3.4	4	gas spring 2500 N EBL 500 mm	Gasfeder 2500 N EBL 500 mm	EP63
3.5	2	lid, gas spring	Abdeckung Gasfeder	EPD016



Spare parts list for compactor x6/520 complete variation according to drawing number 6005-00-000-1

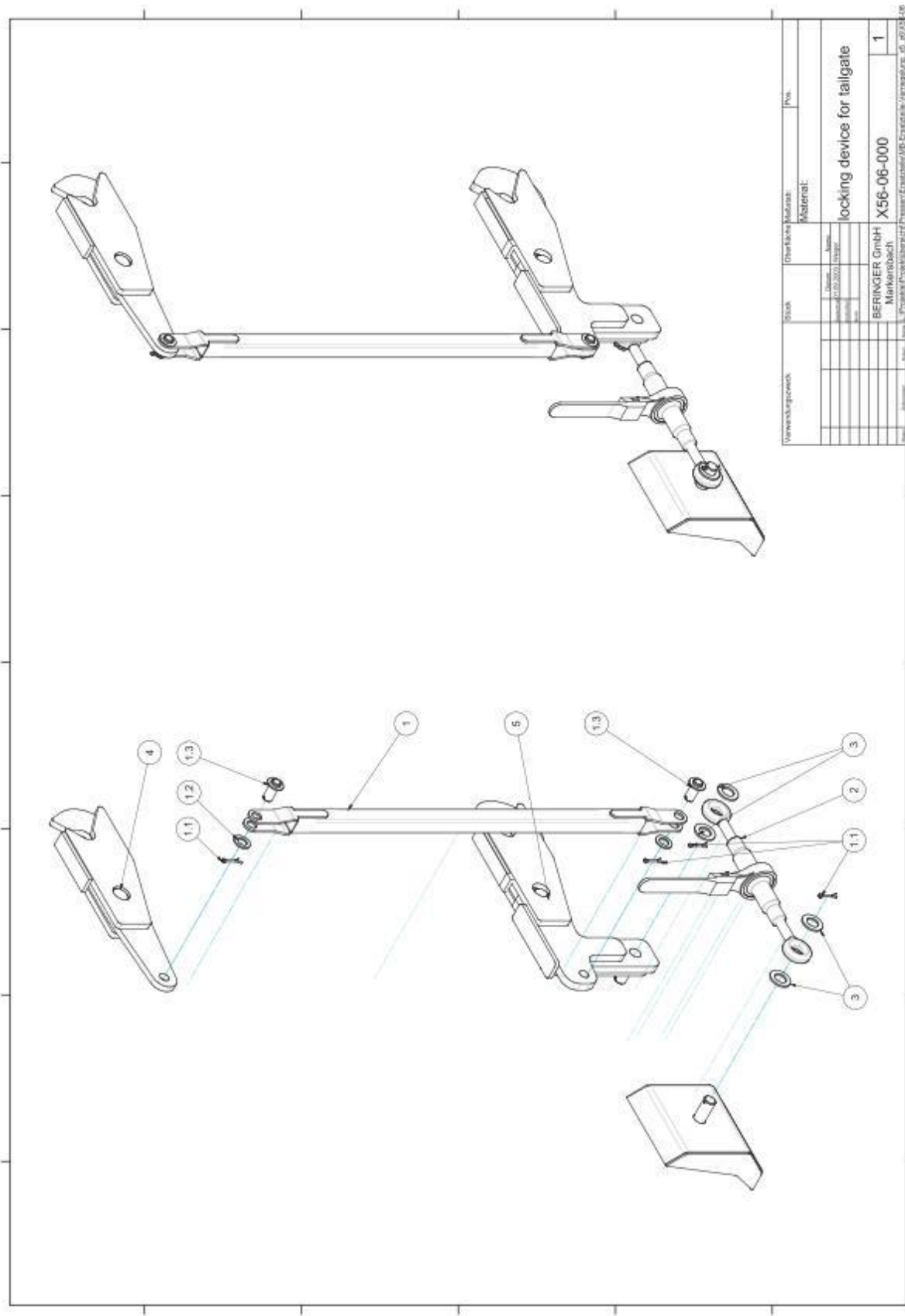
POS	Pcs.	Article	Artikel	Order Number
1	1	lid divided longsides (complete) for reducer x6/520	Deckel mittig geteilt komplett für Reducer x6/520	EP211-K
		spare parts like screws, safety washers etc.	Ersatzteile wie Schrauben, Sicherungsscheiben etc.	
		see spare parts reducer x5	siehe Ersatzteilliste Reducer x5	see drawing no. 5001-00-000-2
		(variation lid divided longsides)	(Ausführung Deckel, mittig geteilt)	

Spare parts list for header x5 according to drawing number X50-02-000

POS	Pcs.	Article	Artikel	Order Number
1	2	guiding rail 60x50x1300	Führungsschienen 60x50x1300	EP04
1.1	14	imbus M10x60 DIN 912	Innensechskantschraube M10x60 DIN 912	EP153
2	2	cylinder abutment (upper)	Zylinderwiderlager oben	EPD026
3	2	cylinder abutment (lower)	Zylinderwiderlager unten	EPD027
4	1	cylinder for type: BP x5	Zylinder für Typ: BP x5	EP29
5	2	cylindrical pins	Zylinderbolzen	EP65L
5.1	2	snap ring DIN 128 - A 10	Federring DIN 128 - A10	EPD010
5.2	4	screws M10x30	Schrauben M10x30	EPD009
6	2	cylindrical pins	Zylinderbolzen	EP65K
6.1	4	snap ring DIN 128 - A 10 (see Pos. 5.2)	Federring DIN 128 - A10 (wie Pos. 5.1)	EPD010
6.2	4	screws M10x30 (see Pos. 5.2)	Schrauben M10x30 (wie Pos. 5.2)	EPD009
6.3	2	washer, sheet 8 mm	Scheibe, Blech 8 mm	EPD028
6.4	2	snap ring DIN 128 - A 16	Federring DIN 128 - A16	EP65-FEDER
6.5	2	screw M16x35 DIN 933	Schraube M16x35 DIN 933	EP65-SCH
7	1	drawer	Schleppblech	EP78
8	2	actuator X5/x6, complete	Mitnehmer X5/X6, komplett	EP37
8.1	4	hex bolt M12x45 DIN 933 VZ	Sechskantschraube M12x45 Din 933 VZ	EPD029
8.2	4	snap ring DIN 128 - A12	Federring DIN 128 - A12	EPD030
8.3	8	washer DIN 125 - A13	Scheibe DIN 125 - A13	EPD031
8.4	4	nut M12 galv. 934-8	Mutter M12 verz. 934-8	EPD019
8.5	2	actuator sheet 12 mm	Mitnehmer Blech 12 mm	EP37-L
9	4	rack, complete	Rückhalte Zahn, komplett	EP122
9.1	4	bolt Rd 22 DIN 1013, L= 50 mm	Bolzen Rd 22 DIN 1013, L=50 mm	EPD032
9.2	8	rack	Rückhalte Zahn	EPD033
9.3	8	washer DIN 125 - A 23	Scheibe DIN 125 - A23	EPD011
9.4	4	cotter pin D4, 5x45	Splint D4, 5x45	EPD034
9.5	4	rack	Rückhalte Zahn	EP122-L
10	1	see spare parts list ram plate, complete drawing X50-02-000	siehe Ersatzteilliste Pressenschild, kompl. Zg. X50-02-000	-
11	1	wiper 70x45x1850 EPS	Abstreifer 70x45x1850 EPS	EP05
11.1	5	spring	Feder	EP05FE

Spare parts list for ramplate x5 / x6 - 520 according to drawing number X56-01-000

POS	Pcs.	Article	Artikel	Order Number
1	43	thread nipple M12 V2A	Gewindenippel M12 V2A	EPD035
1.1	43	nuts M12 galv. 934-8	Muttern M12 verz. 934-8	as set
1.2	40	screws M12x70 mm V2A 93B	Schrauben M12x70 mm V2A 93B	EP195
2	4	guide rails, sideways (100 x 50 x 675)	Gleitschienen seitlich (100 x 50 x 675)	
3	2	guide rails bottom back sides (100 x 50 x 338)	Gleitschienen Boden hinten (100 x 50 x 338)	EP01
4	1	guide rails bottom front sides (100 x 50 x 1810)	Gleitschiene Boden vorn (100 x 50 x 1810)	EP03
5	3	screws M12 x 45 mm V2A 933	Schrauben M12 x 45 mm V2A 933	EP02
6	1	steel wiper in front of ram plate complete (option)	Feinabstreifer komplett (optional)	EP196
7	2	shim (PE) 318x80x2	Abstandsblech (PE) 318x80x2	EP117
8	1	shim (PE) 1774x80x2	Abstandsblech (PE) 1774x80x2	EP03-SB
9	2	cover, complete (consisting of 2 different sheets)	Abdeckung, komplett	EP02-SB
9.1	8	counter sunk screw imbus M8 x 16 VZ 912	Senkkopfschrauben Innensechskant M8 x 16 VZ 912	EPD036
10	1	angle L-section (option)	Winkel L-Profil (optional)	EPD037
11	2	wiper sideways, complete	Seitenabstreifer, komplett	EPD038
11.1	8	washer D 10,5 mm (wiper sideways)	Scheiben D 10,5 mm (Seitenabstreifer)	EP96
11.2	8	snap rings D 10 mm (wiper sideways)	Federlinge D 10 mm (Seitenabstreifer)	EPD012
11.3	8	screws M10 x 30 (wiper sideways)	Schrauben M10 x 30 (Seitenabstreifer)	EPD010
12	2	bolt D28, L=60	Bolzen D28, L=60	EPD009
				EPD039



Spare parts list lock for tailgate x5 / x6 - 520 according to drawing number X56-06-000

POS	Pcs.	Article	Artikel	Order Number
1	1	lock linkage, complete	Verriegelungsgestänge, komplett	EP112-3
1.1	4	cotter pin D4, 5 x 45 mm	Splint D4,5 x45 mm	EPD034
1.2	2	washer D23	Scheibe D23	EPD011
1.3	2	bolt, complete D22, L=55	Bolzen, kompl. D22, L=55	EPD040
2	1	ratch	Ratsche	EP14
3	4	washer D29	Scheibe D29	EPD041
4	1	lock hook, complete	Verriegelungshaken, komplett	EP155O
5	1	lock hook, complete	Verriegelungshaken, komplett	EP155

Spare parts list lock for tailgate (rotary lock) x5 / x6 - 520 according to drawing number X56-06-500

POS	Pcs.	Article	Artikel	Order Number
1	1	cam lobe, complete	Welle, kompl.	only as set EPD042
1.1		tube D51	Rohr D51	
1.2		flap tube cam lobe	Klappenrohr Welle	
1.3		strap	Lasche	
1.4		bolt	Bolzen	
1.5		strap	Lasche	
1.6		bolt	Bolzen	
1.7		bolt	Bolzen	
1.8		strap	Lasche	
2	2	lock hook	Verniegelungshaken	EP155
2.1		washer	Scheibe	EPD041
3	1	ratch	Ratsche	EP14
3.1		cotter pin	Splint	EPD043
3.2		washer	Scheibe	EPD041
4	2	flat bar	Flacheisen	EPD044

[illegible]

5.7 Declaration of Conformity

EC – Declaration of Conformity

According to EC directive 2006/42/EC on machinery (Annex II A)

The Manufacturer: BERINGER GmbH
 Silberhofstrasse 12 + 14
 86704 Tagmersheim

Declares, that the machine described below:

Type: _____

Manufacturing No. _____

Model Year : _____

is complying with all essential requirements of the machinery directive 2006/42/EC

and the following directives of harmonized standards:

DIN EN 60204, DIN EN 60439, DIN VDE 0113-1, DIN VDE 0660-500

and the following european, national and technical directives:

EC machinery directive 2006/42/EC, EC low-voltage directive 2006/95/EC

Manufactured in
86704 Tagmersheim

Date/Place: _____

Signature _____