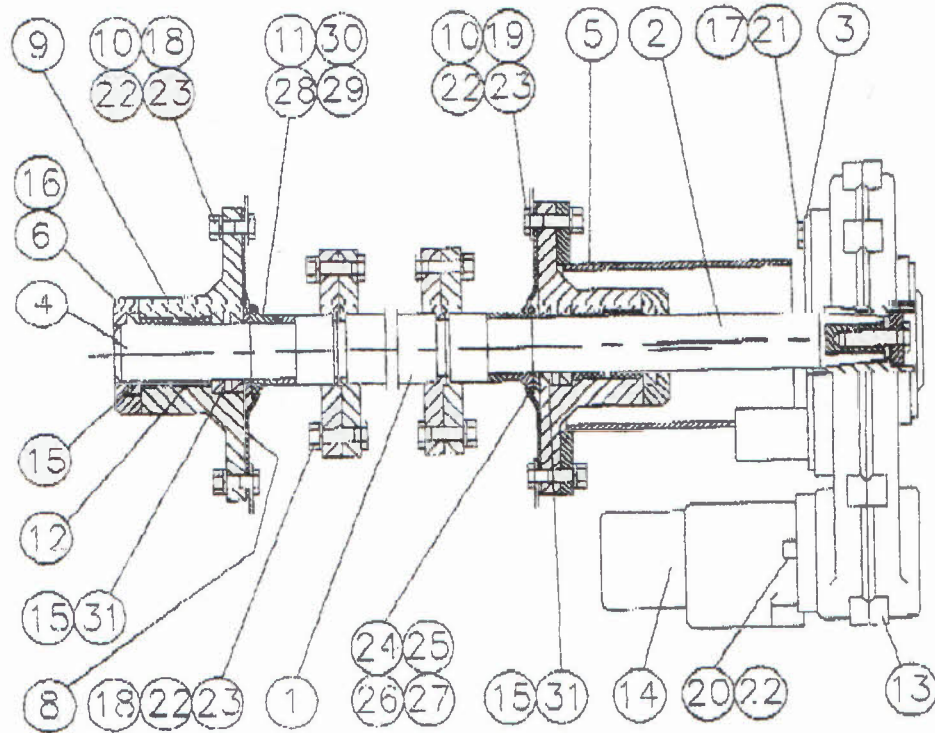


Reich

Rührwerk mit Antrieb Agitator with drive

420 420



Pos.	Benennung Denomination	Abmessungen Dimensions	Bestell-Nr. Order No.	Menge Quantity
/	Rührwerk mit Antrieb Agitator with drive	komplett complete	420420	1
1	Rührwerkswelle Agitator shaft	komplett complete	414615	1
2	Antriebswelle Drive shaft		411823	1
3	Haltering Retaining ring		410064	1
4	Flansch Flange	komplett complete	420421	1
5	Momentstütze Support		410067	1
6	Flansch Flange		411915	2

Ersatzteile / Spare parts

SP 25-01-1



ЗАПЧАСТИ ДЛЯ БЕТОННАСОСОВ
+79180710333

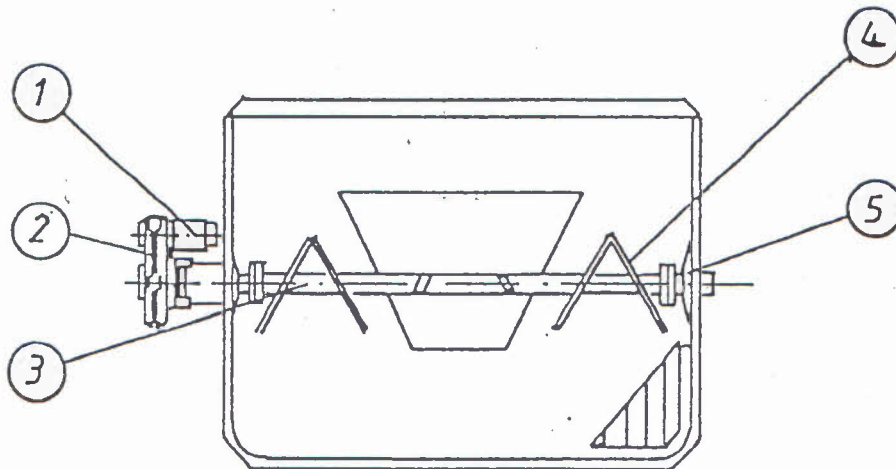
Reich**Rührwerk mit Antrieb
Agltator with drive****420 420**

Pos.	Benennung Denomination	Abmessungen Dimensions	Bestell-Nr. Order No.	Menge Quantity
8	Dichtscheibe Sealing disk	5 x 200	410022	2
9	Flanschlagergehäuse Bearing flange		420390	2
10	Distanzring Spacer	22x2x6	411758	12
11	Buchse Bushing	Besteht aus Pos.: 28, 29, 30 consisting of pos.: 28, 29, 30	420750	2
12	Buchse Bushing	45x50x30	915781	4
13	Aufsteckgetriebe Agltator gear box		913293	1
14	Hydraulik Motor Hydraulic motor		912730	1
15	Wellendichtring Shaft seal ring	45x55x7	900101	6
16	Zylinderschraube Allen bolt	M6x26 DIN 912	900758	8
17	6-kt Schraube Hexagon bolt	M10x25 DIN 933	912578	6
18	6-kt Schraube Hexagon bolt	M14x25 DIN 933	912578	4
19	6-kt Schraube Hexagon bolt	M12x45 DIN 931	900239	6
20	Zylinderschraube Allen bolt	M12x36 DIN 912	900760	2
21	Federring Spring washer	A 10 DIN 127	901136	6
22	Federring Spring washer	A 12 DIN 127	901137	22
23	6-kt Mutter Hexagon nut	M12-8 DIN 934	901165	20
24	Deckel Cover ring		420394	2
25	Senkschraube Countersunk screw	M4x10 DIN 963	900494	8
26	Anlaufscheibe Gliding washer	48x74x2	921235	2

Ersatzteile / Spare parts**SP 25-01-2**
ЗАПЧАСТИ ДЛЯ БЕТОННАСОСОВ
+79180710333

II. Function and servicing of pump systems

Agitator:



The agitator is driven by a hydraulic motor (1) and spur wheel gearbox (2). The blades (4) welded to the agitator shaft (3) feed the concrete constantly towards the intake openings of the delivery cylinders and ensure that the concrete is kept in motion during short breaks in pumping. The agitator's direction of rotation can be reversed using the lever on the control panel. The agitator bearings are greased by the central lube system (see Page 15).

Servicing:

1. Checking oil level in gearbox

First oil change after 100 operating hours. Further oil changes once a year. Regularly check gearbox for signs of leakage. See also Lubricating chart on Page 18.

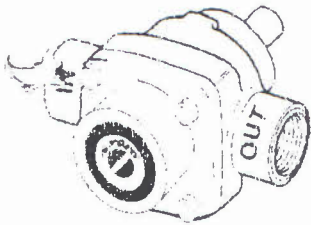
2. Checking agitator seals

Regularly check that the rubber seals (5) on the agitator shaft are in a good condition. The seals must be changed as soon as any signs of leakage are noticed. See Page 35.

Description

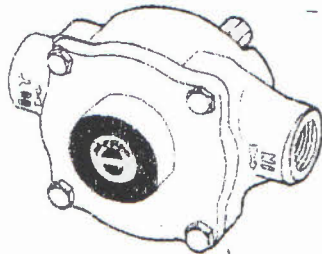
Hydro roller pumps are designed for agricultural and industrial spraying and transfer of a variety fluids. These include insecticides, herbicides, emulsives, aromatic solvents, liquid fertilizers and many other liquids. The economical rotary-action roller principle requires no check valves while providing positive displacement characteristics with less friction and lower starting torque than other pumps. Construction features include a cast-iron, Ni-Resist or the new

SilverCast™ body and rotor, 416 stainless steel shaft, sealed factory-lubricated ball bearings, cartridge-type lip seals of Viton, Buna-N or leather, and versatile Super Rollers. (Super Rollers feature the life of polypropylene and the chemical resistance of nylon.) Rotation for all models is counter-clockwise for easy tractor PTO drive, except models 4001 and 4101 which are clockwise. Pumps are available in reverse rotation.



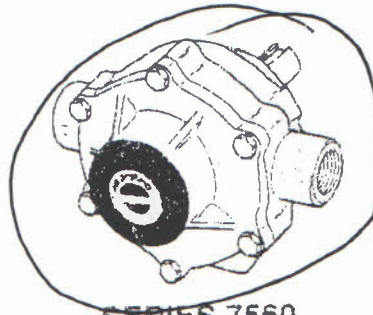
SERIES 4001 & 4101
4-ROLLER PUMP

Max. Flow Rate: 9 gpm (4001)
7 gpm (4101)
Max. Pressure: 150 psi
Max. RPM: 1800 rpm (4001)
2600 rpm (4101)
Ports: 3/4" NPT Inlet & Outlet
Shaft: 5/8" Dia. (Solid)
1/2" Dia. (Hollow)
Continuous Operation ... 100 psi
Intermittent Operation ... 150 psi



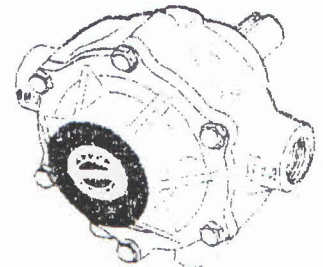
SERIES 6500
6-ROLLER PUMP

Max. Flow Rate: 22 gpm
Max. Pressure: 300 psi
Max. RPM: 1200 rpm
Ports: 3/4" NPT Inlet & Outlet
1" Hose Barb Included
Shaft: 5/8" Dia. (Solid)
Continuous Op. 100-150 psi
Intermittent Operation ... 300 psi



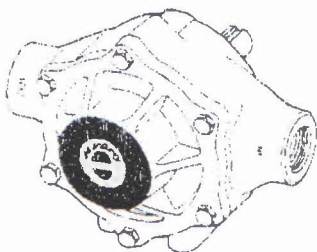
SERIES 7560
8-ROLLER PUMP

Max. Flow Rate: 22 gpm
Max. Pressure: 300 psi
Max. RPM: 1000 rpm
Ports: 3/4" NPT Inlet & Outlet
1" Hose Barb Included
Shaft: 15/16" Dia. (Solid)
Continuous Operation ... 100 psi
Intermittent Operation ... 300 psi



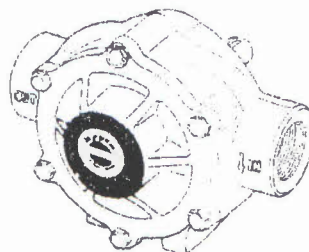
SERIES 7700
7-ROLLER PUMP

Max. Flow Rate: 22.4 gpm
Max Pressure: 200 psi
Max. RPM: 800 rpm
Ports: 3/4" NPT Inlet & Outlet
1" Hose Barb Included
Shaft: 15/16" Dia. (Solid)
Continuous Operation ... 100 psi
Intermittent Operation ... 200 psi



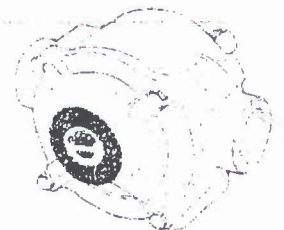
SERIES 1700
5-ROLLER PUMP

Max. Flow Rate: 45 gpm
Max. Pressure: 200 psi
Max. RPM: 1000 rpm
Ports: 1" NPT Inlet & Outlet
1-1/4" Hose Barb Included
Shaft: 15/16" Dia. (Solid)
Continuous Operation ... 100 psi
Intermittent Operation ... 200 psi



SERIES 1500
6-ROLLER PUMP

Max. Flow Rate: 62 gpm
Max. Pressure: 150 psi
Max. RPM: 1000 rpm
Ports: ... 1-1/2" NPT Inlet & Outlet
Shaft: 15/16" Dia. (Solid)
Continuous Operation ... 100 psi
Intermittent Operation ... 150 psi



SERIES 1200
4-ROLLER PUMP

Max. Flow Rate: 74 gpm
Max. Pressure: 150 psi
Max. RPM: 800 rpm
Ports: ... 1-1/2" NPT Inlet & Outlet
Shaft: 1" Dia. (Solid)
Continuous Operation ... 100 psi
Intermittent Operation ... 150 psi



SN. Murat Bygin Dikketine

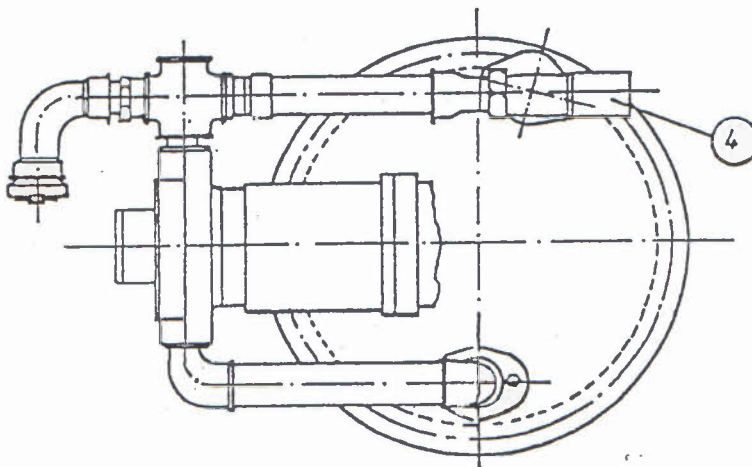
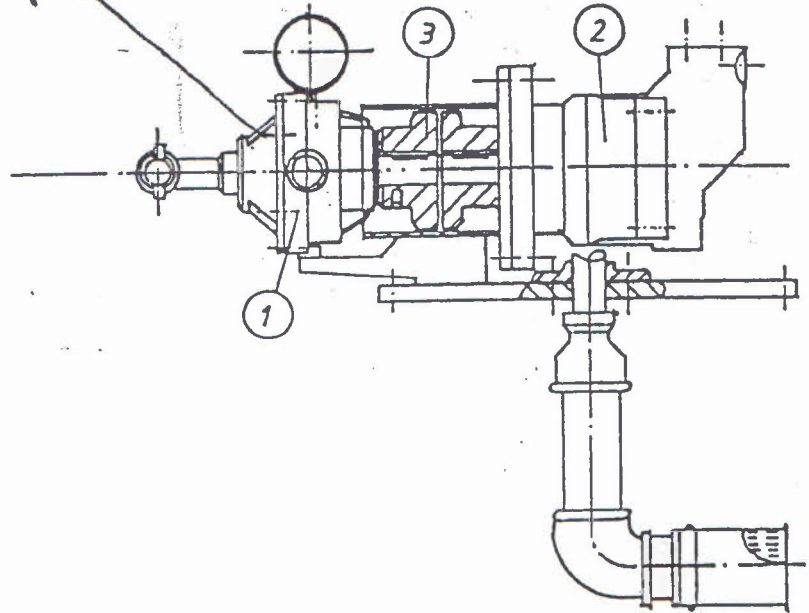
Concrete Pump

Reich

II. Function and servicing of pump systems

Water pump:

Su Pompası



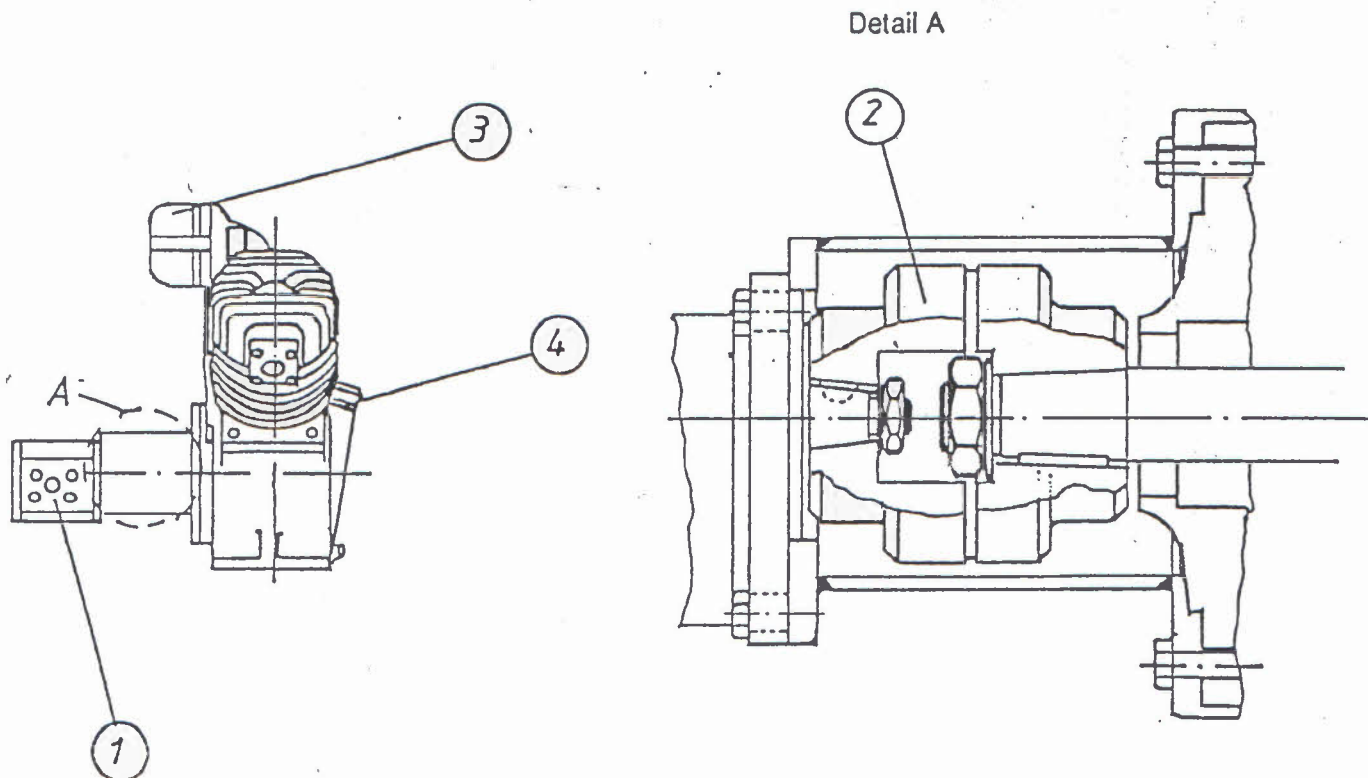
The water pump (1) is located on the water tank. It is practically maintenance free. The water pump is driven by hydraulic motor (2) which is connected via coupling (3). Pressure relief valve (4), set at 20 bar, limits the water pressure and prevents system overload.

If the local water is very aggressive, it is advisable to add a soluble corrosion inhibitor to the water and then to flush the whole water system before taking the concrete pump out of operation for a long downtime.

Important: The water pump must not be allowed to run dry. Always check that the tank contains sufficient water before switching the pump on.

II. Function and servicing of pump systems

Compressor:



The compressor is driven by hydraulic motor (1) to which it is connected via elastic coupling (2). When the compressor pistons are on the downward stroke, they draw in air through filter (3). On the upward stroke, the air is compressed and fed into the pressure line. Always check that there is sufficient compressor oil in the crankcase before switching the compressor on.

Servicing:

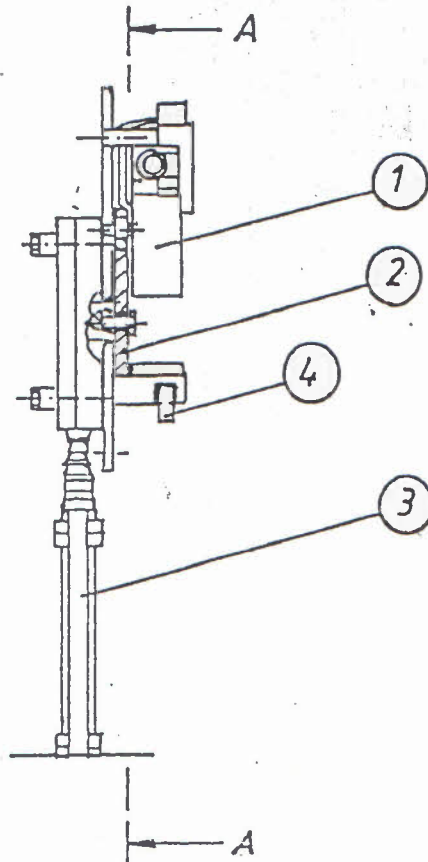
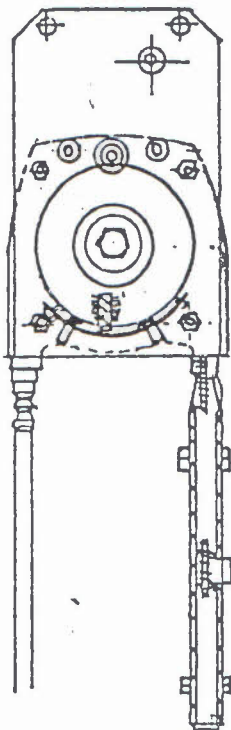
1. Checking oil level

Oil in the compressor should lie between the markers on dipstick (4). Top up if necessary. See Lubricant Chart on Page 20. First oil change after 50; second oil change after 100 operating hours. Further oil changes every 1000 operating hours, at the latest once a year. Change the filter at the same time. See Lubricating Chart on Page 18.

II. Function and servicing of pump systems

Electrical engine speed adjustment

Section A-A



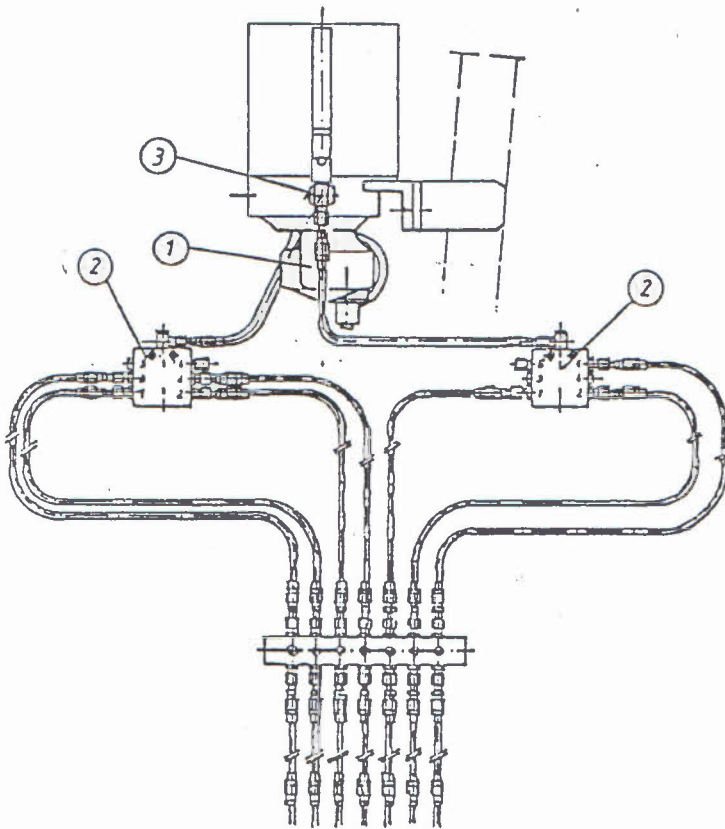
The electrically powered engine speed adjustment is located either on the right-hand side of the control panel or in the vicinity of the injector pump (on the engine). The pinion on DC motor (1) drives the cog wheel (2) which moves the adjustment linkage (3). The speed of the engine can therefore be altered from idle to top speed either from the control panel or via remote control. Adjustable limit switches (4) govern the idle and top speed settings. The limit switches must not be altered.

Servicing:

Lubricate gear wheels (2) from time to time.

II. Function and servicing of pump systems

Central lubricating system



The central lube system's pump (1) and distributor (2) supply grease to the major points on the concrete pump battery; namely to the 5 lube points on the swing tube bearing, and to the two agitator bearings. Regular lubrication is of decisive importance for longterm running of the bearing points. The bearing points are constantly supplied with grease (in fixed quantities) while the concrete pump is running. A switch on the control panel can be used to call up independent lubrication when the concrete pump has been switched off. Grease emerging from the safety valve (3) indicates a fault in the system, i.e. no lubrication.

Servicing:

1. Checking grease level

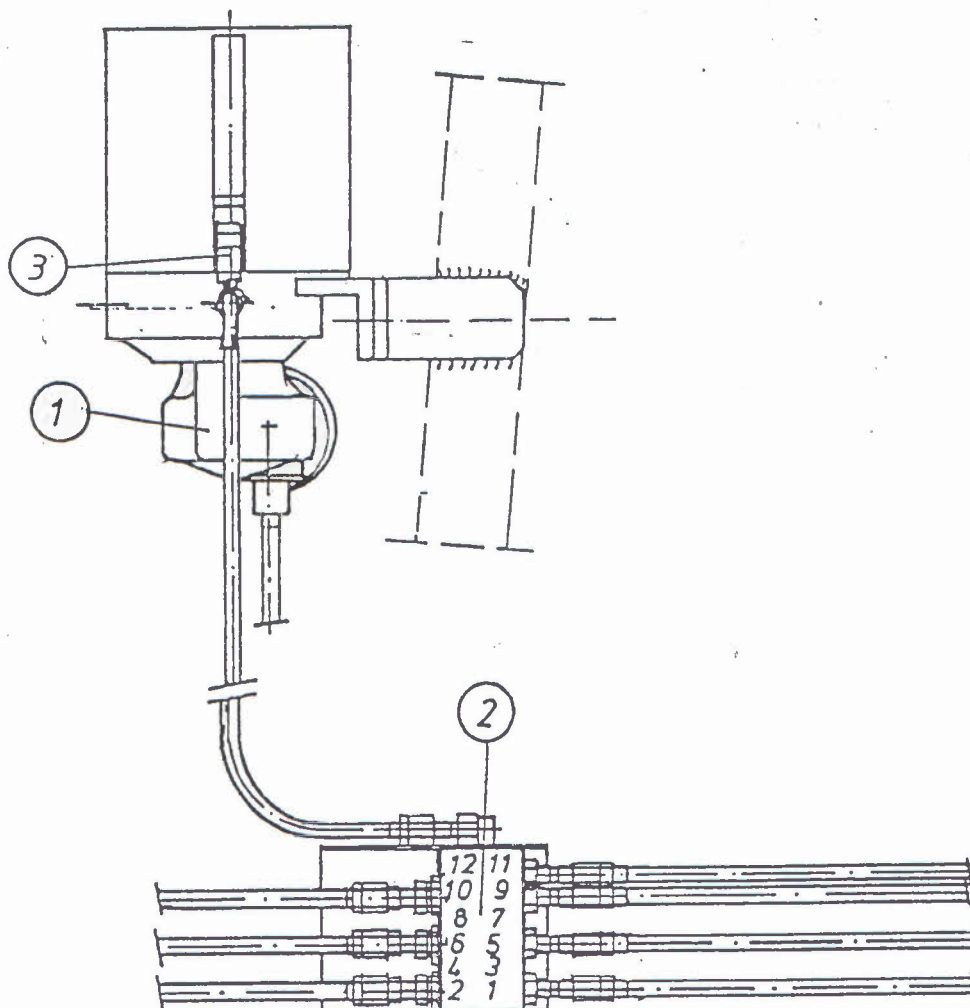
The grease level must not be allowed to drop below the marker on the grease pot. Top up grease according to the instructions in Lubricant table on Page 19.

Important: In order to ensure correct function, grease lines must be filled with grease before they are installed.

Further instructions concerning the central lube system can be found in the separate manual.

II. Function and servicing of pump systems

Central lubricating system



The central lube system's pump (1) and distributor (2) supply grease to the major points on the concrete pump battery; namely to the 5 lube points on the swing tube bearing, and to the two agitator bearings. Regular lubrication is of decisive importance for longterm running of the bearing points. The bearing points are constantly supplied with grease (in fixed quantities) while the concrete pump is running. A switch on the control panel can be used to call up independent lubrication when the concrete pump has been switched off. Grease emerging from the safety valve (3) indicates a fault in the system, i.e. no lubrication.

Servicing:

1. Checking grease level

The grease level must not be allowed to drop below the marker on the grease pot. Top up grease according to the instructions in Lubricant table on Page 19.

Important: In order to ensure correct function, grease lines must be filled with grease before they are installed.

Further instructions concerning the central lube system can be found in the separate manual.

II. Function and servicing of pump systems

Lubricating instructions:

The use of suitable lubricants is especially important for trouble-free pump operation. Only suitable lubricants keep component wear to a minimum.

We therefore recommend that only reputable brands of lubricants are used – such brands are listed in the Lubricant table on page 19.

Gearboxes:

First oil change on spur-wheel gearboxes after 100 operating hours. Thereafter, every 2000 operating hours or at the latest once a year.

The information on the data plates on the gearboxes is binding.

Changing hydraulic oil:

The hydraulic oil for the concrete pump unit (400 litres) is to be changed after the first 500 operating hours. Thereafter, change oil every 4000 operating hours, at the latest once a year. When changing oil, clean all traces of oil sludge from the bottom of the tank. From time to time, check for condensation in the oil tanks. Drain off through the drain cock.

Cleaning the filters:

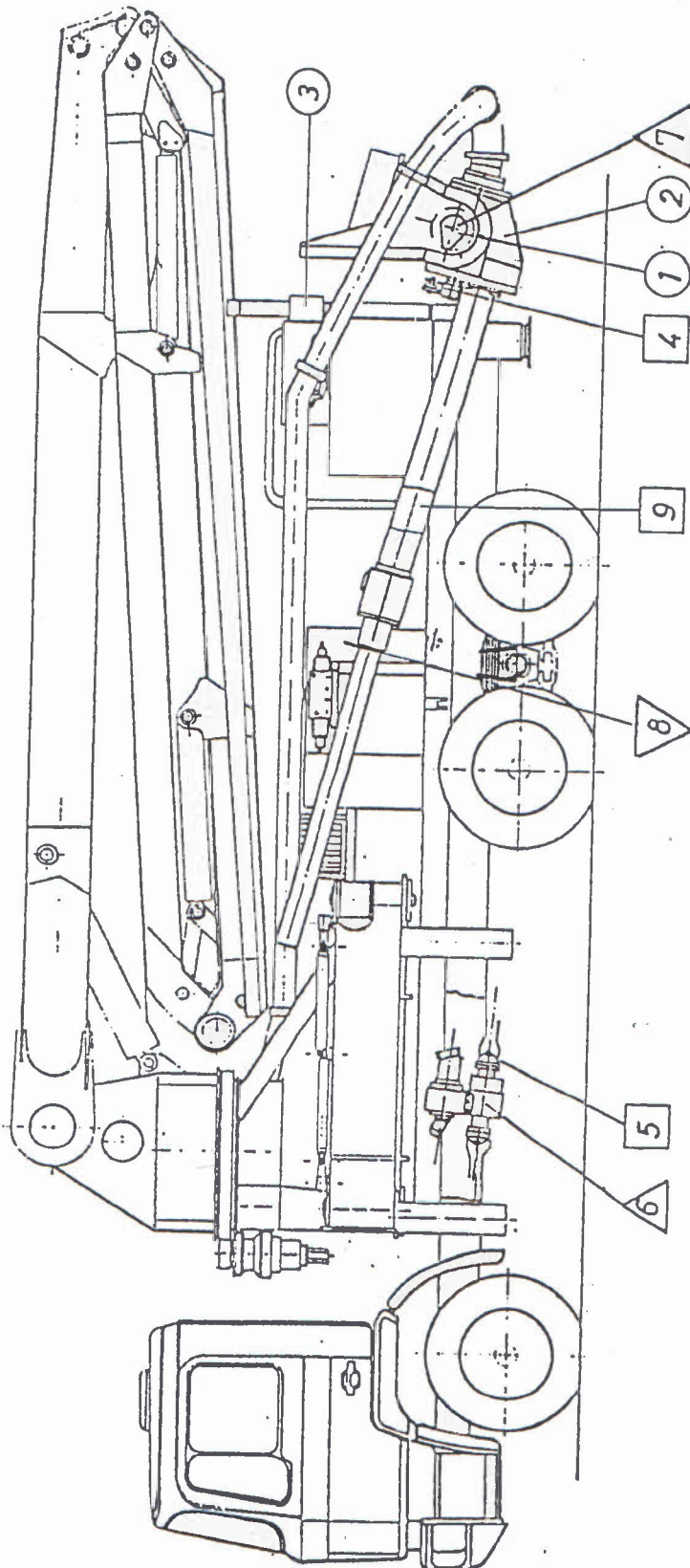
The return flow filters clean the hydraulic oil flowing back into the tank. Dirt is retained by the filter insert, metal particles by the magnet rods.

If the pressure in the filter rises above a certain level (i.e. filter clogged), the by-pass valve opens and allows the oil to flow unfiltered back into the tank. A warning light on the control panel then comes on and indicates that the filter element needs to be changed and the magnet rod cleaned. Fit a new filter and clean the magnet rod each time oil is being changed.

Filter element for concrete pump:
Part No. FI 913 568

II. Function and servicing of pump systems

Lube points – overview



○ automatic lubrication

□ manual lubrication

△ gearbox

▽ hydraulics

◻ open greasing points

Note: for boom lubrication, see boom manual

II. Function and servicing of pump systems

Lubricating chart

Lube point No.	Lubrication/filling intervals	Number of lube points	Lube point & location	Lubricant code No.
1	Continual (central lube system)	2	Both agitator bearings	IV
2	Continual (central lube system)	5	S tube swing bearings	IV
3	Before pot runs empty	1	Grease pot for lube system	IV
4	Weekly	4	Nipples on shift cylinder & bearing	IV
5	Weekly	2	Nipples on Prop shaft	IV
6	1st oil change after 100 op. hrs. then every 2000 op. hrs. at least yearly Oil qty. = 5.5 litres	1	Transfer shift gearbox (splitter box)	I
7	1st oil change after 100 op. hrs. then every 2000 op. hrs. at least yearly Oil qty. = 0.25 litres	1	Agitator gearbox (splitter box)	I
8	1st oil change after 500 op. hrs. then every 4000 op. hrs. at least yearly Oil qty. = 400 litres	1	Oil tank – concrete pump (splitter box)	III
9	Daily	2	Lubricate concrete pistons in their end positions	
10	1st oil change after 50 op. hrs. 2nd after 100 op. hrs. then every 1000 op. hrs. at least yearly Oil qty. = approx. 0.1 l	1	Compressor	V

- 1) After finishing pumping and cleaning, run the central lube system until grease emerges from each of the points connected to it.
- 2) Fill the grease pot only from below using the filling nipple, or by using the special filler connection.

I. General

General directions

These Operating Instructions contain important directions for the operation and servicing of your REICH concrete pump. Correct operation and servicing of the machine are only possible when the Operating Instructions are followed exactly.

In order to avoid any injury and/or damage, it is the duty of the pump owner, contractor and/or operator to read through the Operating Instructions repeatedly and thoroughly, and to make himself fully acquainted with the machine itself.

A copy of the operating Instructions should be available to the machine operator at all times.

Long-term operational safety and reliability can only be ensured when the machine is used only for the intended purpose, and when it is operated and serviced correctly.

We cannot accept any liability for injury or damage occurring as a result of incorrect operation or servicing.

Values set or stipulated by REICH, e.g. speeds, hydraulic pressures, bolt torques etc., must be observed and must not be altered.

Use only GENUINE REICH SPARE PARTS. No liability or warranty can be accepted for parts not obtained from REICH.

The relevant safety and accident prevention regulations are to be observed during all operating, servicing and repair procedures.

Any enquiries concerning technical matters, or orders for spare parts are to be directed to:

REICH-Maschinen GmbH + Co.
Handelsgesellschaft
Im Riedle
D-7916 Nersingen/Germany

Telephone: 0 73 08/8 50
Telefax: 0 73 08/85 50
Telex: 712 844

or to your nearest REICH agent.

In any correspondence, please state the model of machine, it's serial No. and the data on its data plate. The truck and its engine are to be operated and serviced according to the manufacturer's instructions.

These operating instructions are intended only for the owner and operator of the REICH machine. They are not to be handed over to others (either in whole or in part), nor are they to be copied or misused in any way.

II. Function and servicing of pump systems

Lubricants

Lubricant code No.	I		II		III		IV		V	
	Gear oils		Gear oils		Hydraulic oils		Greases		Compressor oils	
	Coding acc. DIN 51519	ISO-VG 220	Coding acc. DIN 51519	ISO-VG 680	Outside temperatures	Outside temperatures	(cartridges)	DIN 51506	ISO-VG 150	
Aral	Aral Degol BG 220	Aral Degol BG 680	Vitam GF 46	Vitam GF 68	Vitam GF 68	Aralub HL 2	Aral Metanol HE 150			
AVIA	RSX 220	RSX 680	Avilub RSL 46	Avilub RSL 68	Avilub RSL 68	Avilub Spezialfett LD				
BP	BP Energol GRXP 220	BP Energol GRXP 680	Energol HPL 46	Energol HPL 68	Energol HLP 68	Energrease LS2	BP Energol RC 150			
Esso	Spartan EP 220	Spartan EP 680	Esslic Nuto H 46	Esslic Nuto H 68	Esslic Nuto H 68	Beacon 2	Esso Verdichteröl 3022 N			
Shell	Omala Öl 220	Omala Öl 680	Tellus Öl C 46	Tellus Öl C 68	Tellus Öl C 68	Alvania Fett R 2				

III. Electrical systems

- Power supply:** 12 or 24 V DC depending upon model of truck
- Fuses:** The individual circuits have fuses depending upon their requirements
- Control:** Concrete pump
- Electrical control of following functions:
1. Pump battery: PUMP / OFF / DRAW BACK
 2. Engine speed adjustment
 3. Hydraulic oil cooler (via thermostat)
 4. Pump cut-out (via thermostat)
 5. EMERGENCY OFF
- Control points:**
1. Main control panel
 2. Remote control box
 3. Radio remote control (optional)

Electrical functions – see circuit diagram

IV. Pump operation

Safety regulations:

a) General:

The following REICH safety regulations and the laws and regulations valid in the country of operation must be observed in all situations. In Germany, the legal requirements are contained in the publication ZH 1/573.

According to the regulations valid in Germany, truck-mounted concrete pumps with booms are "working machines" and are therefore not allowed to transport any goods or materials other than those essential for pump operation.

Distributor booms are only to be used to place concrete or other pumpable substances with densities of up to 2.4 kg/dm³. The placing line diameter and end hose length as stated on the data plate must not be exceeded.

Important: Individual pipes in the slickline must not be allowed to wear below the minimum wall thickness of 3 mm. The maximum pump pressure is 80 bar.

Pay attention to all warning and instruction signs on the pump and the boom.

Safety devices must not be altered or removed. They must be operated in a correct manner. The operator of the machine is fully responsible for the safety of any persons in the danger area of the machine while it is working. He must therefore ensure that the machine is always operated in a safe manner.

The operator and any assistants are fully liable for any injuries or damage occurring as a result of the safety and accident prevention regulations being ignored, or as a result of negligent operation.

b) Safety at work and during servicing

Trouble-shooting, repairs and servicing work are only to be undertaken when the engine (or motor) has been stopped, and all hydraulic systems and the concrete pipeline have been freed of pressure. Remove the starter key when the engine (or motor) has been stopped.

It is absolutely forbidden to alter the settings of any pressure relief or safety valves, or to alter the hydraulic pipes and hoses in any way.

c) Electrical systems

Before commencing any electric-arc welding, always disconnect the cable harness from the control panel and disconnect the battery.

Before commencing any electric-arc welding, always disconnect electrical and electronic systems (e.g. radio remote control).

IV. Pump operation

d) Safety during pump operation

Carry out a daily check of the wall thicknesses of concrete pipes. Check by tapping with a hammer or, for more accuracy, by using a wall thickness tester. See wall thickness diagram on Page 37.

Always secure pipe couplings with safety pins to prevent them working loose.

Check that all pipelines, couplings and hoses are secure before commencing pump operation.

Always wear safety and protective clothing. This applies especially when working with cement or chemically based mortar additives.

No unauthorized persons are to be present in the machine's danger area during operation.

Before starting the pump, make sure that the end hose is hanging freely. No-one is to be present in the swinging range of the end hose.

The remote control box is only to be put down when the EMERGENCY OFF button has been pressed and is engaged (impact button).

The manufacturer cannot accept any responsibility or liability when the concrete line is cleaned with compressed air. The operator is fully responsible for this.

e) Replacement wear and spare parts

Only genuine REICH pipes, bends and pipeline accessories are to be used in the concrete line. High-pressure pipelines and accessories are necessary for concrete pressures of between 85 and 130 bar.

IV. Pump operation

Safety regulations

Excerpt from German regulations ZH 1/573

- 5.1.1 Concrete pumps and concrete distributor booms are only to be operated according to the manufacturer's operating instructions. A copy of the operating instructions must be available on/in the machine at all times.
- 5.1.2 Concrete pumps and concrete distributor booms are only to be operated and serviced by persons:
 - 1. Over 18 years of age
 - 2. Who are physically and mentally capable
 - 3. Who have been trained in operating and servicing the pump and boom, and have convinced their employer of their ability
 - 4. Who can be expected to carry out their duties in a responsible manner
- 5.2.1 Distributer booms must be set up in a stable manner. All supports must be checked by the operator during operation and correction carried out if necessary. If necessary, suitably sized load distributing devices are to be used. Adequate safety clearance is to be observed between the machine and the edges of pits, trenches etc.
- 5.2.2 Conveying lines, especially riser lines, that are not connected to the boom are to be fastened securely to ensure that all reaction forces can be transferred into a building or other structure. Conveying lines are to be routed in such a way that kinks, sharp bends and any damage is avoided during operation.
- 5.2.3 Distributer booms are not to be lengthened in excess of the maximum length given in the operation instructions. It is forbidden to add extensions to end hoses.
- 5.2.4 Any extension lines connected to the end of distributor booms must not stress the boom in any way.
- 5.2.5 When cleaning out conveying lines with compressed air, the end hose is to be removed and a ball catcher or similar, appropriate device attached.
- 5.2.6 Couplings and end pieces are only to be connected or swaged into end hoses by persons with suitable experience, using suitable tools.
- 5.2.7 Mobile distributor booms which require supports in their operating positions must not be moved with the boom extended. Transport / movement is only to be undertaken according to the operating instructions.
- 5.2.8 The operator must bring the distributor boom into the rest position as stated in the operating instructions at the end of operation and in case of storm.
- 5.3 If the tip of the end hose cannot be kept in the operator's range of vision when moving the boom, a banksman or spotter is to be called in.
- 5.4.1 Operation is to be interrupted if any fault or situation occurs which could affect the safety of the machine and its users. Operation is only to be recommenced after the fault or situation has been remedied or eliminated.
- 5.4.2 The pump and concrete conveying line are to be freed of pressure before any pipeline couplings are opened (e.g. to free blockages).

IV. Pump operation

- 5.5.1 Servicing, installation and inspection work that cannot be carried out from ground level are only to be undertaken from safe working platforms or other devices (e.g. aerial platforms, ladders etc.).
- 5.5.2 Alterations (repairs, setting, exchange) of safety devices are only to be undertaken by authorized specialists.
- 5.5.3 Any safety devices removed for servicing work are to be installed again before operation is commenced.
- 6.1 Distributor booms are to be inspected by an authorized specialist prior to initial commissioning or commissioning after major alteration or repair.
- 6.2 Distributor booms are to be inspected by an authorized specialist as required and in intervals adequate for the relevant operating conditions, at the latest, however, once a year.
- 6.3 The results of inspections according to 6.2 are to be entered into the boom's log book. The log book must be provided for inspection upon demand.
- 6.4 Before commencing operation, the operator must check the concrete pump, the distributor boom and the concrete conveying line for signs of fault or damage and to have such remedied immediately. If a fault or faults that could affect operational safety cannot be remedied immediately, operation is to be interrupted until remedial work is possible.

According to Section 4.2.9, a clearly visible and permanent sign with the following instructions must be provided on the control panel:

- 1. Follow the directions in the operating instructions at all times.
- 2. Set up the machine in a stable manner.
- 3. Keep sufficient clearance to pits, trenches etc.
- 4. Ensure that all conveying lines are attached securely.
- 5. It is generally forbidden to fasten extensions to booms and end hoses.
- 6. The boom must not be used for lifting purposes.
- 7. Do not move the truck when the boom is extended.
- 8. Call in a banksman / spotter if visibility is impaired.
- 9. Operation is to be interrupted if any fault occurs that could affect operational safety.
- 10. Pump in reverse to release all pressure from the system before opening conveying lines (also in case of blockage)
- 11. When cleaning with compressed air, remove the end hose and attach a ball catcher.

IV. Pump operation

12. Safety devices must not be altered or removed.

13. Observe following safety clearance to electrical lines:

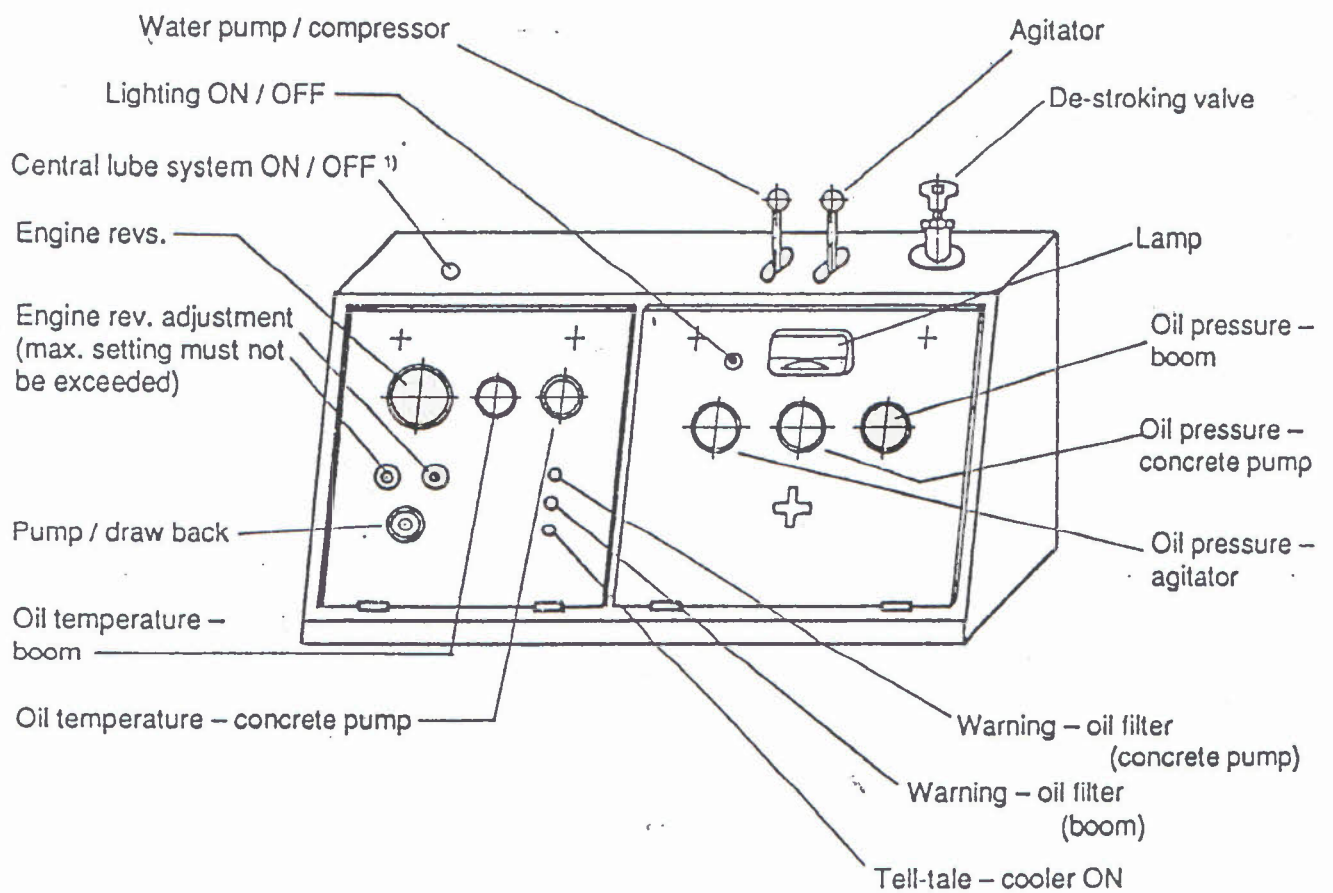
Rated voltage (Volt)	Safety clearance (metres)
up to 1000 V	1.0 m
from 1 kV to 110 kV	3.0 m
from 110 kV to 110 kV	4.0 m
from 220 kV to 380 kV	5.0 m
or if voltage unknown	5.0 m

14. Fold the boom into its rest position when operation is finished or in case of storm.

IV. Pump operation

Control panel:

The control panel contains all of the controls, warnings and indicators needed for pump operation.

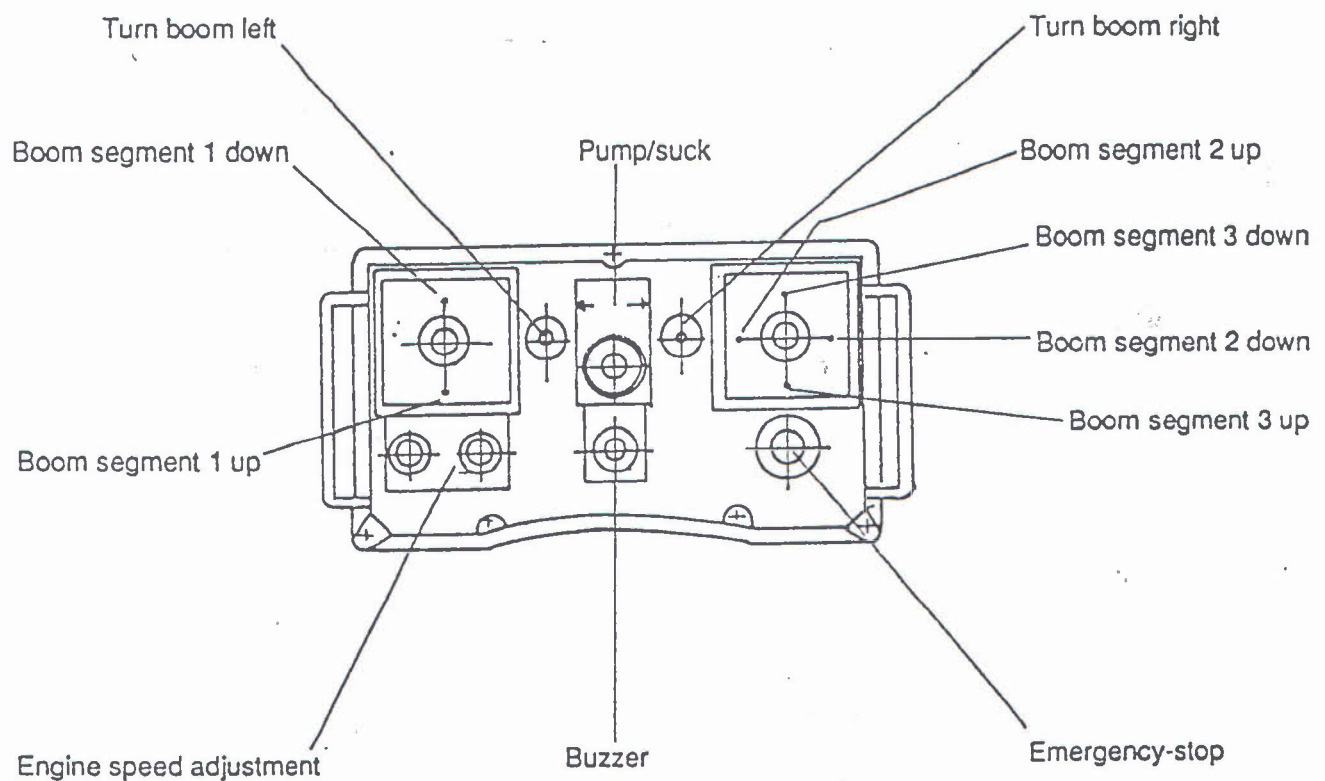


1) for lubricating with concrete pump OFF

IV. Pump operation

Remote control:

With this portable remote control is it possible to operate all distributor boom and main functions in the pump-mode.



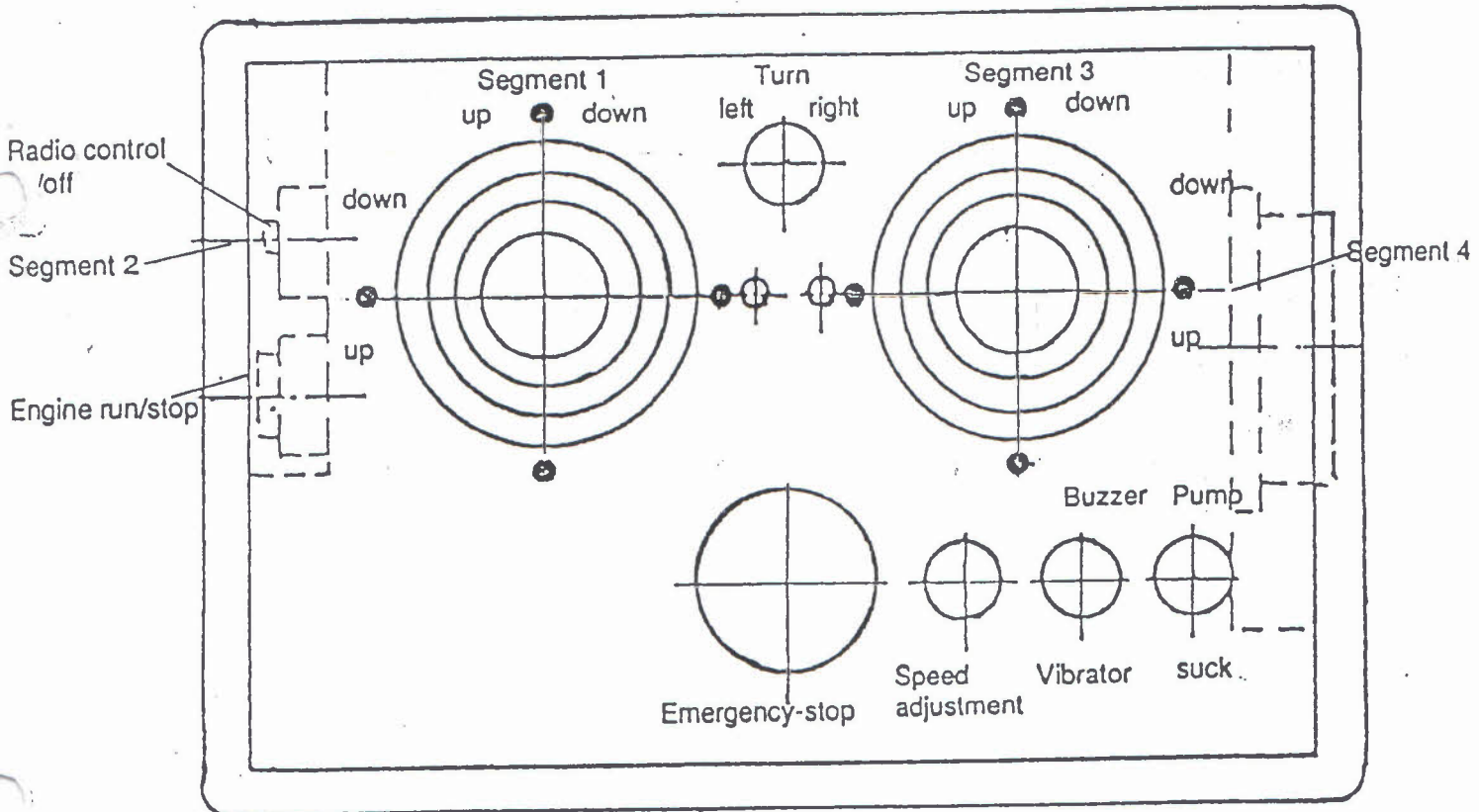
Do not exceed
Permissible speed

IV. Pump operation

Radio remote control

All boom functions and the major pump functions can be called up from the portable radio remote control box.

Boom functions



II. Function and servicing of pump systems

Hydraulic systems I und II:

All of the systems on the concrete pump are open-loop hydraulic circuits, each of which has a pressure relief valve to protect it against overload. The pressure relief valves are works set and are only to be re-set (if necessary) by the REICH service team.

System I:

The pumping and shifting cylinders of the concrete pump battery are supplied with oil from 2 variable displacement, output-governed pumps. A pressure relief valve (setting as given in "Technical data") protects the main pump circuit against overload. The output of the concrete pump can be set to any level by altering either the speed of the truck engine or by using the hydraulic adjusting valve in the control panel to stroke / de-stroke the main pumps from zero to maximum flow.

The oil cooler switches on automatically at an oil temperature of 65° C which is indicated by the tell-tale in the control panel. If the oil reaches a temperature of 80° C, hydraulic system I goes automatically to idle flow and the concrete pump battery stops.

See circuit diagram for details.

System II:

The water pump or compressor, and the agitator motor are driven by a fixed-displacement pump. Each of the three circuits is protected by its own pressure relief valve (settings – see Technical Data).

See circuit diagram for details.

Servicing:

1. Checking oil level / Changing oil

Check oil level on the oil tank gauge daily before commencing operation. Oil should reach up to between the two markers.

First oil change after 500 operating hours.

Further oil changes every 4000 operating hours, but at least once a year.

Change oil only when at operating temperature.

See also Lubricating chart on Page 18.

2. Changing the filter

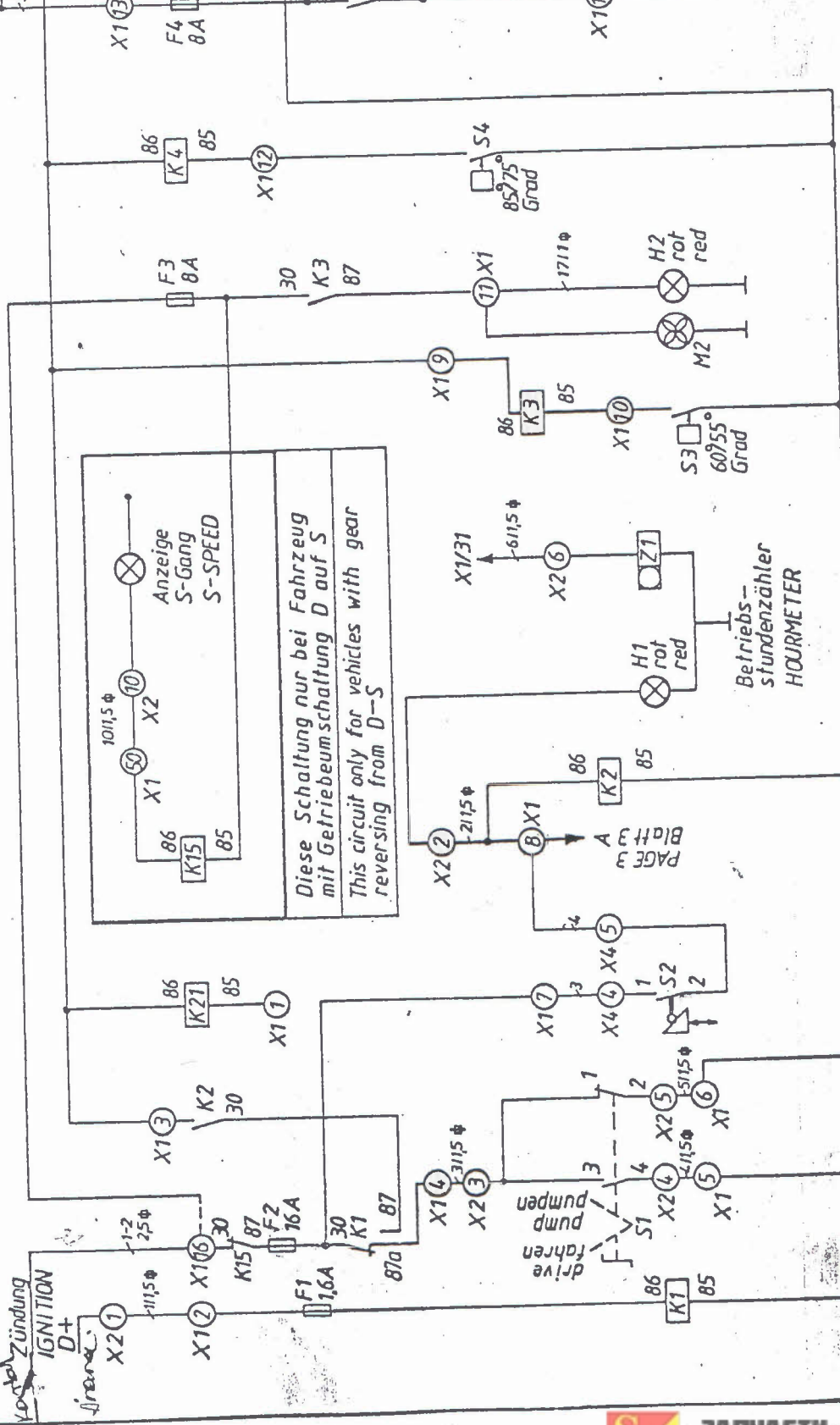
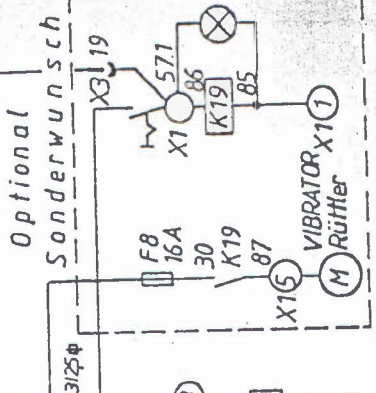
Change the filter cartridge and clean the magnet rods as soon as the warning light "Oil filter" (systems I and II) comes on. Change cartridge and clean rods also during each oil change. See also Page 16.

Abänderung

BATTE Batterie

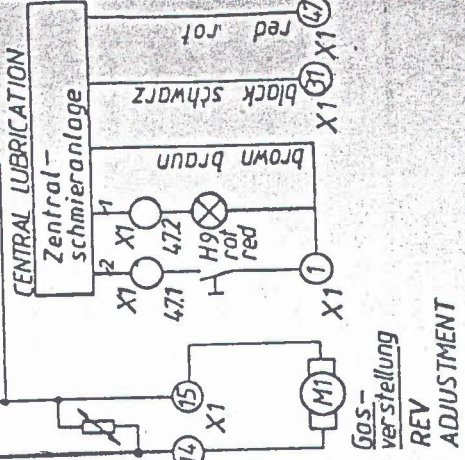
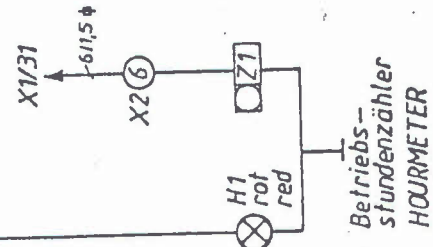
Vorabzündung
IGNITION
D+

3125φ

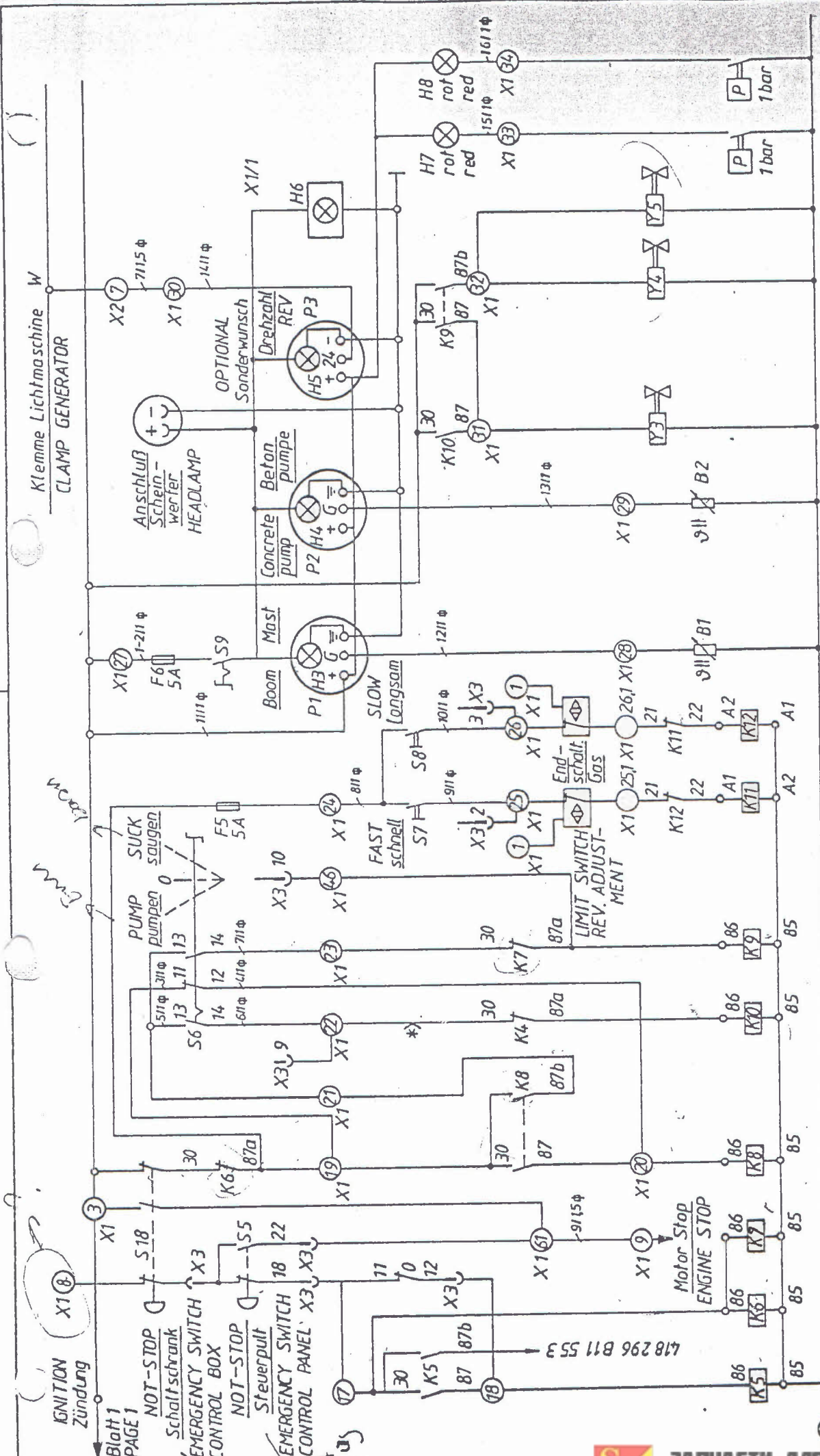


1011,5φ
X1 50 X2 10
Anzeige S-Gang S-SPEED

Diese Schaltung nur bei Fahrzeug mit Getriebeumschaltung D auf S
This circuit only for vehicles with gear reversing from D-S



neu		Ar1 der Änderung		Name		Abmessa	
Mod.	Datum	MITL.-Nr.	Datum	Name	Paßmaß	Typ	Abmessa
				REICH Maschinen GmbH & Co			
				Schaltplan BP u. VM			
				Blatt 1 von 7			
				Zeichn.-Nr. 416 736B81 55			
				Ersatz für Ersetzt durch			



neu	Art der Änderung	Mitl.-Nr.	Datum	Name	Peßmaß	Abnabe
Änd.						
REICH Maschinen GmbH & Co						
Schaltplan BP u. VM						
Blatt 2 von 7						
Zeichn.-Nr. 416 736B81-55 3						
Typ						
Bezug.-Nr.						
Ersatz für						

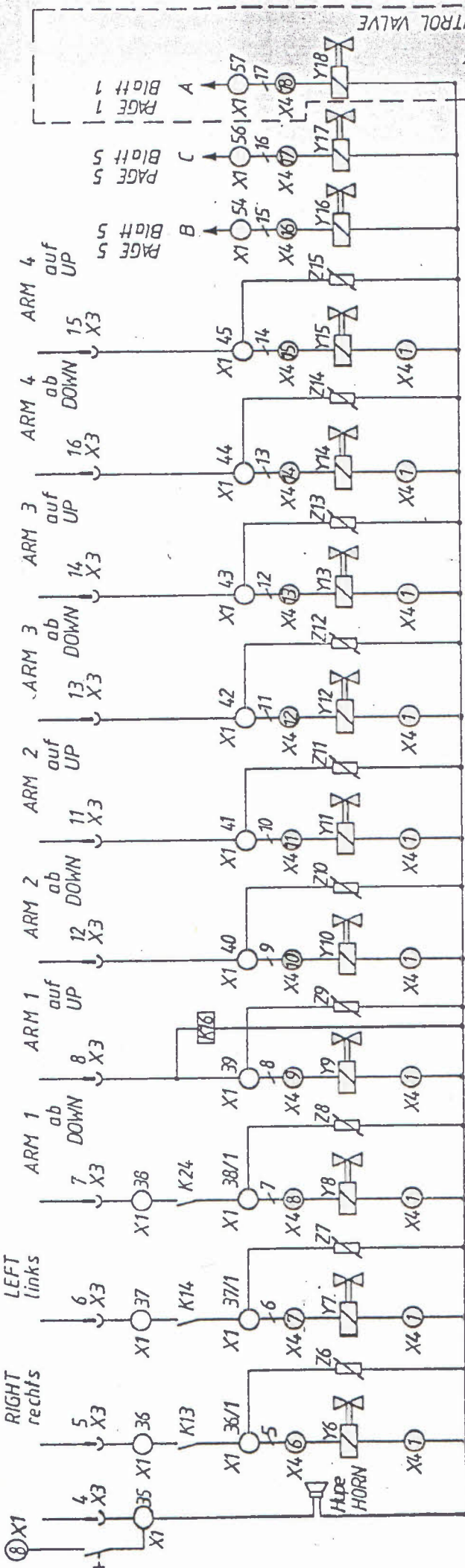
X1(22) DEN K4(30) A KADAN
 OLAN KABLO BALELANTIŞI
 STROK JONUNDA POMPANIN
 ELEKTRIKI OLATK DEVRIC DIZI
 *) ATTENTION ! KANALASITLA
 İPTAL EDİLİR
 WIRE STRAP FROM X1(22)
 TO K4(30) IS CANCELED BY
 ELECTRIC PUMP CUT OFF
 BY END OF STROKE.

***Achtung!**
 Drahtverbindung von X1(22)
 auf K4(30) entfällt bei
 elektr. Pumpenabschaltung.



EMERGENCY SWITCH CONTROL PANEL X3
 Steuerpult
 EMERGENCY SWITCH CONTROL PANEL X3
 selbst
 evet

BUTTON FOR HORN Hupe Schaltschrank

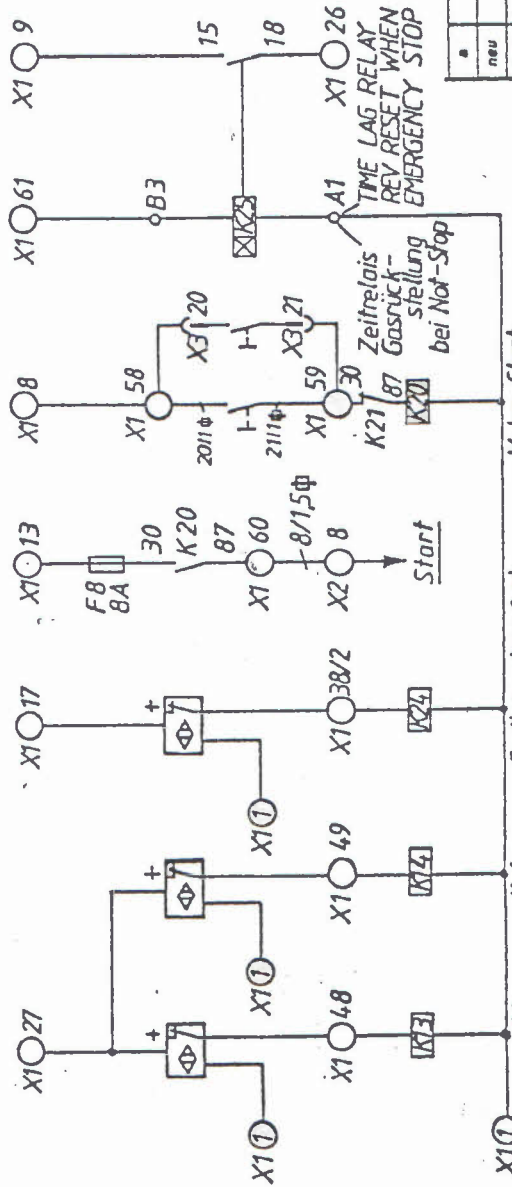


Hauptventil
Main Valve
Maststeuerblock
DIRECTIONAL CONTROL VALVE

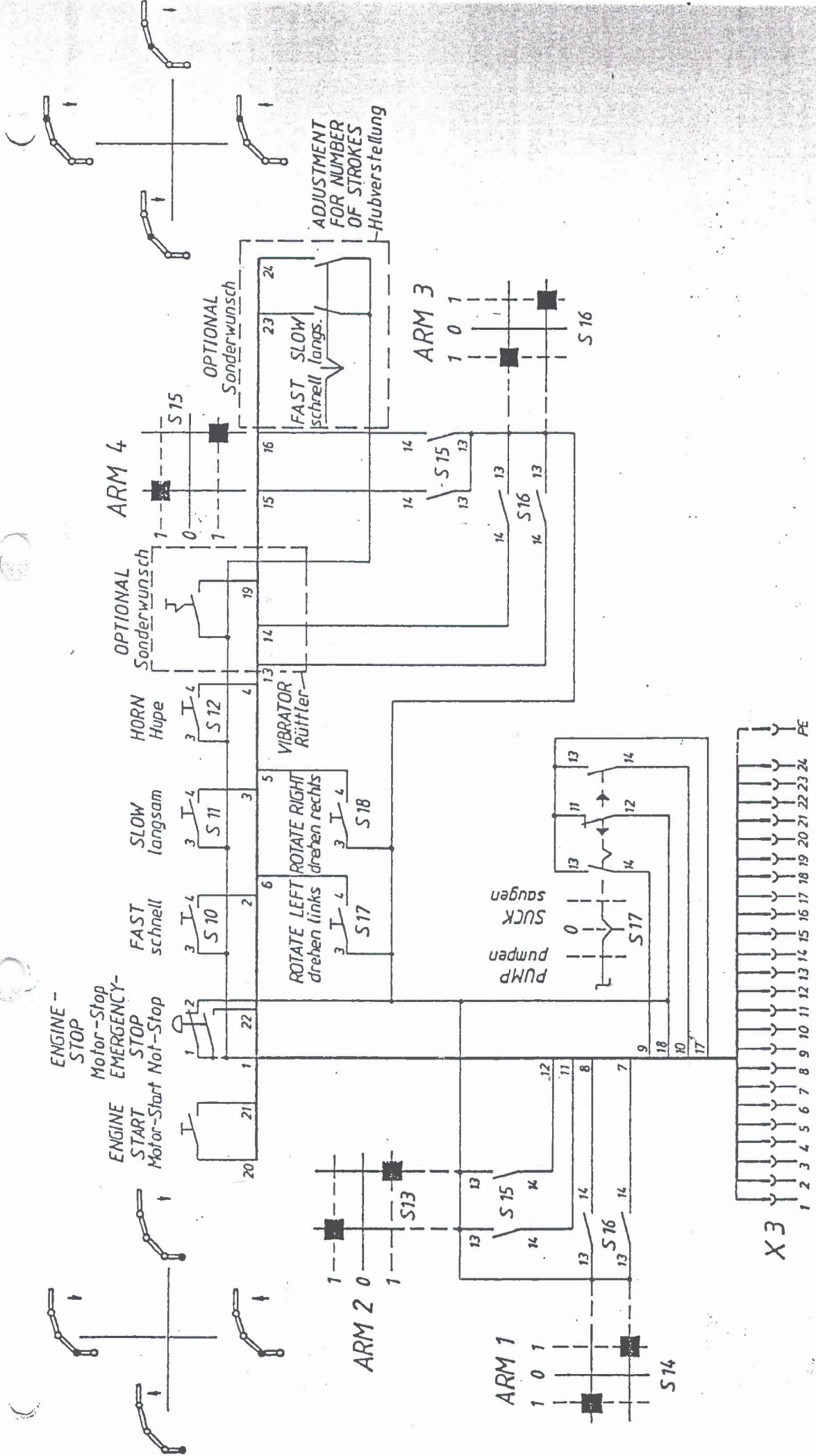
E-Abstützung
ELECTR.
OUTRIGGER

E-Abstützung
ELECTR.
OUTRIGGER

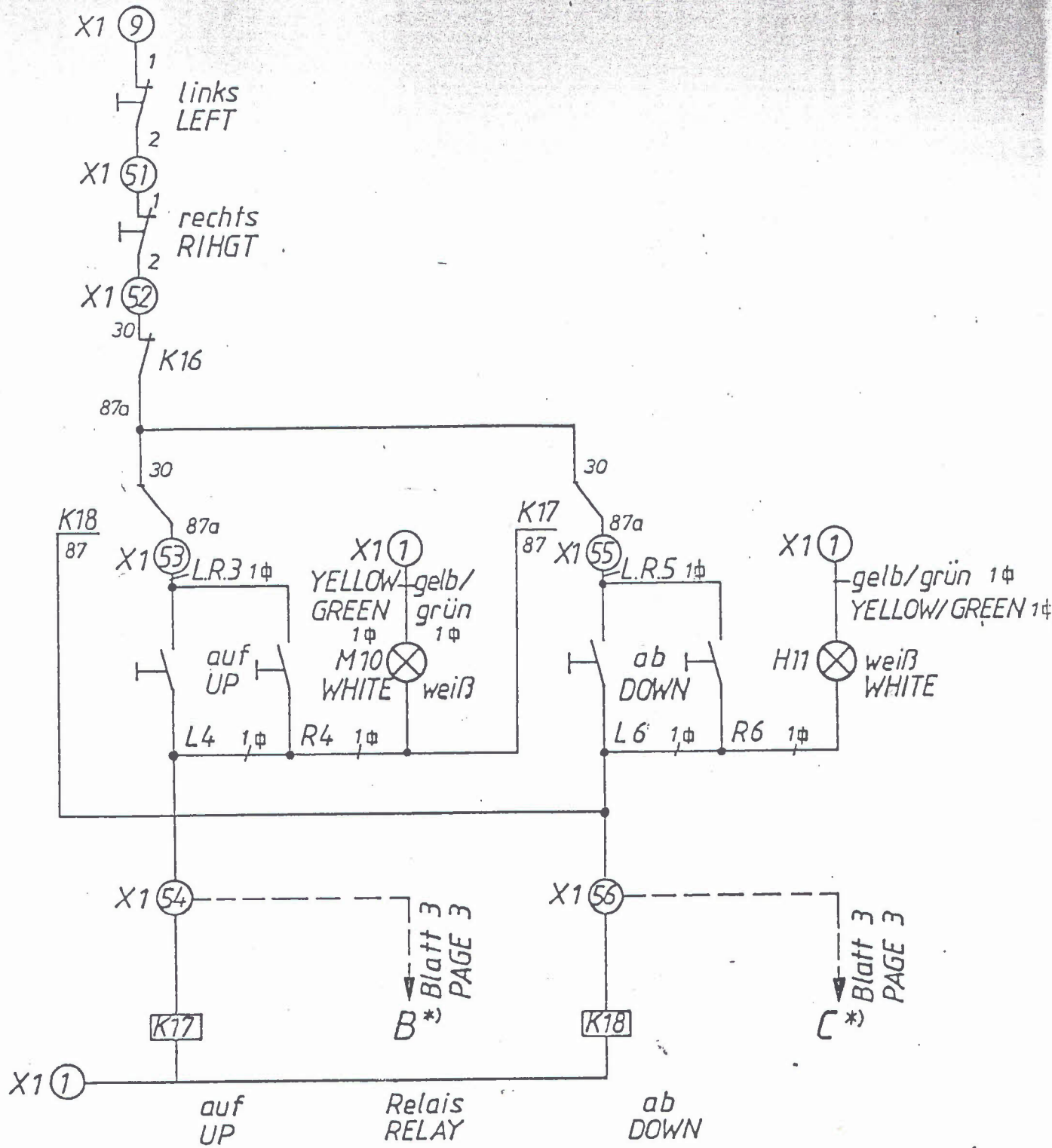
nur bei prop. Steuerung
ONLY FOR PROPORTIONAL
CONTROL



REICH Maschinen GmbH & Co		Schaltplan BP u. VM	
Blatt 3 von 7		Blatt 3 von 7	
neu	Abm.	M.Hl.-Nr.	Abmaß
Art der Änderung		Datum	Name
Maßstab	Datum	Name	Typ
Gez.	Gepr.	Zeichn.-Nr.	Baugr.-Nr.
Reihe	Reihen-Nr.	416 736B81 55	
Werkst.	Reihen-Nr.	Ersetzt für	
Ersetzt durch		Ersetzt durch	

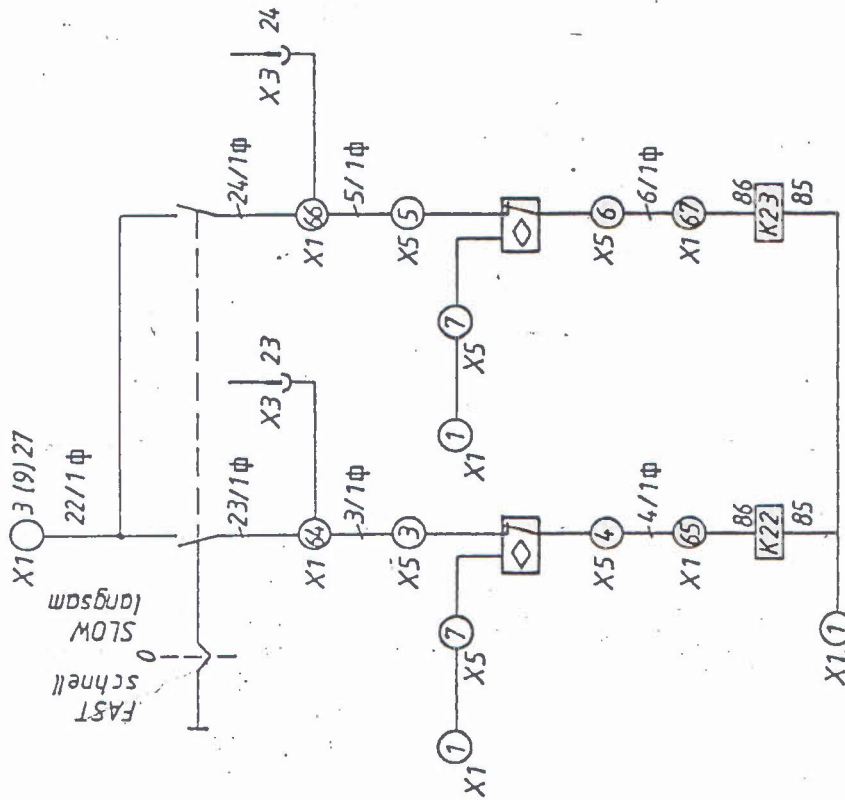


Art der Änderung	Mitt.-Nr.	Datum	Name	Peßmaß	Abmaße
REICH Maschinen GmbH & Co					
Maßstab	Datum	Name	Schaltplan Bpu.VM		
1/					
Blatt 4 von 7	Werkstoff	Rob.-Nr.	416 736B81 55		
Blatt 4 von 7	Werkstoff	Rob.-Nr.			
Ersatz für			Ersetzt durch		



*) X4 nur bei proportionaler Steuerung
 X4 ONLY FOR PROPORTIONAL CONTROL

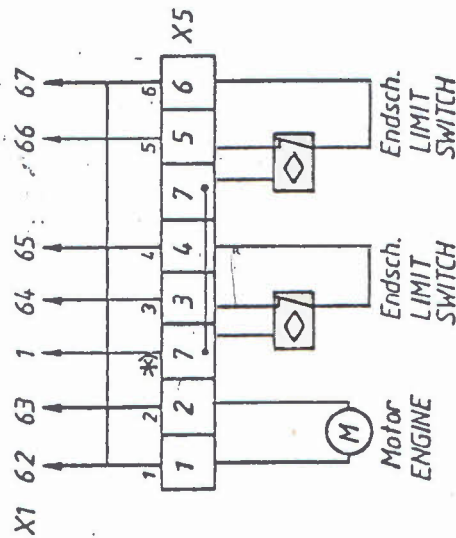
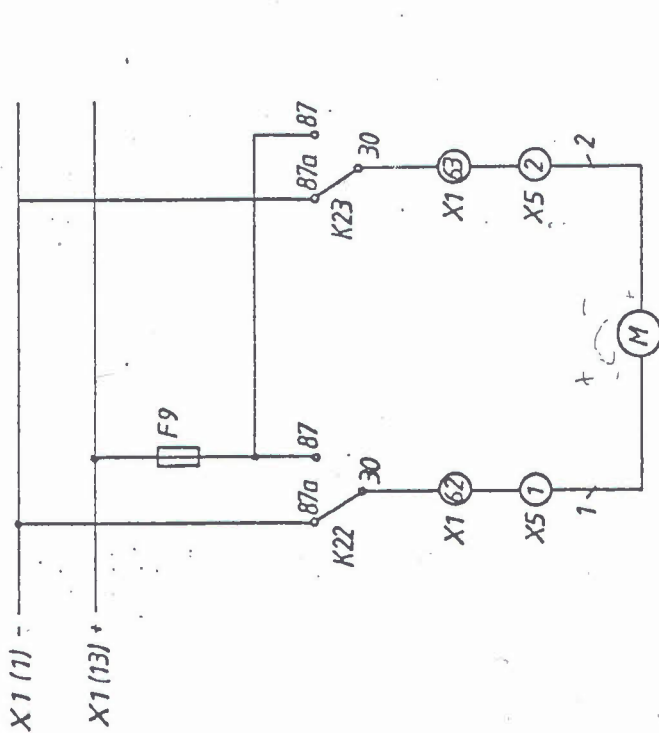
a							
neu							
Änd.	Art der Änderung	Mitt.-Nr.	Datum	Name	Paßmaß	Abmaße	
REICH Maschinen GmbH & Co						Typ	
						Baugr.-Nr.	
Maßstab	Datum	Name	Schaltplan BPu.VM (elektrische Abstützung) Blatt 5 von 7			416 736B81 55	
/.	Gez.						
	Gepr.						
Rohmaße	DIN-Nr.	Werkstoff	Rohteil-Nr.	ЗАПЧАСТИ ДЛЯ ЭЛЕКТРОМАШИН			
				+7918611107			



FAST
schnell

SLOW
langsam

*) gelb/grün
YELLOW/GREEN



Abzweigdose
Hubverstellung
BRANCH CONNECTOR
ADJ. FOR NUMBER
OF STROKES

Hubverstellung
ADJUSTMENT FOR
NUMBER OF STROKES

Art der Änderung		Name	
neu	Änd.	Mitt.-Nr.	Datum
REICH Maschinen GmbH & Co			
Maßstab		Name	
%		Schaltplan BP u. VM (Pumpenverstellung)	
Zeichn.-Nr.		Blatt 6 von 7	
416 736B81 553			
Typ		Abmaß	
Baugr.-Nr.		Abmaß	
Zeichn.-Nr.		416 736B81 553	
Ersetzt durch		Ersetzt durch	
Nochmal		Nochmal	
DIN-Nr.		DIN-Nr.	



ЗАПЧАСТИ ДЛЯ БЕТОННАСОСОВ
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IV. Pump operation

Preparing for pump operation

1. Fill the water tank with water (approx. 600 litres). To fill, unscrew the filler cap and fill water through the filter. When filling the tank from the bottom, connect the water hose to the quick-seal coupling, open the water cock and fill water into the tank. When the tank is full, close the cock and disconnect the hose.

Use only clean water. To protect the water system against corrosion, and to lubricate it, it is recommended to add a soluble lubricant or a corrosion inhibitor to the water from time to time.

2. Fill the water box.
3. Plug the remote control into the socket on the control panel.
4. Remove the tail light from the boom.

IV. Pump operation

Engaging pump drive

When the concrete pump is fitted with a transfer shift (splitter) box, a pneumatic cylinder is used to engage the pump drive. Sufficient air pressure must be available in the truck's receiver to allow the cylinder to be actuated. With the truck ignition ON but with the engine stopped, shift the switch in the cab to "Pump operation". The tell-tale light then comes on. Depress the clutch pedal and start the truck engine. Engage the relevant gear range (for 1:1 direct drive) and allow the clutch to engage.

When the concrete pump is driven from the truck P. T. O., refer to the instructions contained in the truck's instruction manual.

IV. Pump operation

Pump operation

1. Allow the hydraulic systems to run at a low speed until the oil has warmed up.
2. Set the agitator to "Forwards".
3. For trouble-free pumping, it is advisable to pour a lubricating mix of cement, sand and water into the hopper first of all. The quantity required (usually about 30 litres) depends upon the size and length of slickline connected.
4. Set the concrete pump to "Pump" (i.e. "forwards") and pump the lubricating mix into the slickline. As soon as the swing tube has shifted, fill concrete into the hopper. Raise the boom arms so that they have a continual incline towards the end hose and pump until the lubricating mix and concrete emerge from the end hose. When starting to pump, keep the stroke speed (i.e. output) low. A blockage can otherwise occur.

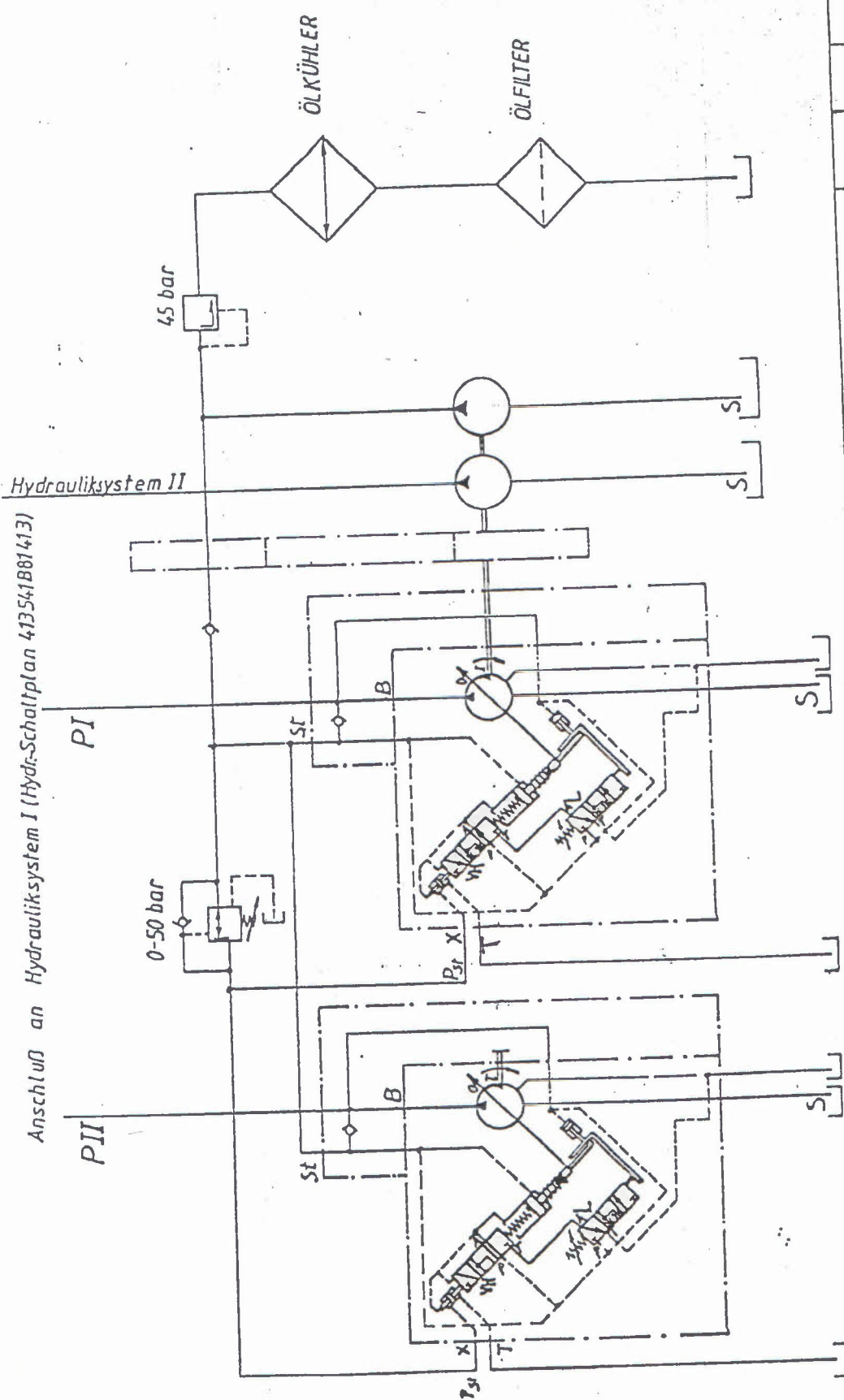
Important: The concrete must be well mixed, homogenous and pumpable.

5. In case of blockage, draw the concrete back into the hopper and re-mix. Take care when starting to pump again.

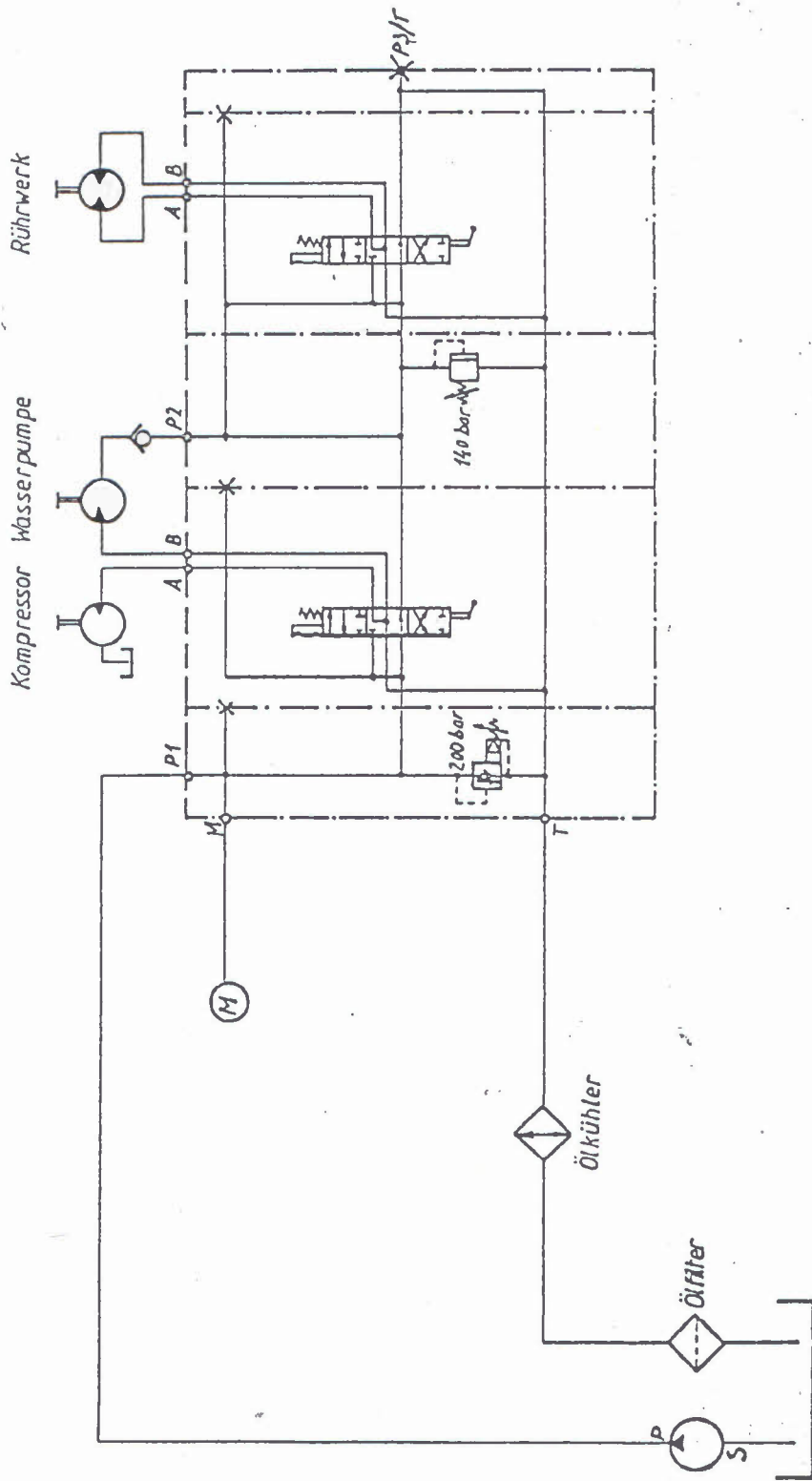
Causes of blockage:

- Lubricating mix was too thin
- Not enough lubricating mix used
- Pipelines and / or couplings leaking
- Concrete residues in swing tube and / or slickline
- Unfavourable concrete mix

6. During long breaks in pumping, draw the concrete back into the hopper and stop the truck engine (vibration can otherwise cause the concrete to segregate and cause blockages later on). About every 10 minutes during the break (especially in warm weather), pump the concrete forwards and then draw it back into the hopper to keep it moving and "workable".
7. During pump operation, pay constant attention to:
 - Hydraulic oil pressure (if pressure is higher than 90 % of maximum valve setting, reduce the stroking speed of the pump and improve concrete pumpability if possible)
 - Hydraulic oil temperature
 - Truck (engine) temperature
 - Level of water in water box (drain water if dirty and refill)
 - Machine stability (outriggers not sagging)
 - Agitator function (rocks might jam the agitator blades, if so, shift briefly to "reverse")



№	neu							
Kind.								
Art der Änderung			Mit.-Nr.	Datum	Name	Formel. - Abmabe		
REICH Maschinen GmbH						Typ	B.P	
Bezahl-Nr.						Zeich.-Nr.		
417 143 881 413						Credit für		
Meßstab		Datum		Name				
Gez.	25.02.97	Kc.						
Gepr.								
Rechnung-Nr.		DW-Nr.		Werkst.-Nr.		Credit für		
Hydr.-Schaltplan						Pumpeneinheit		

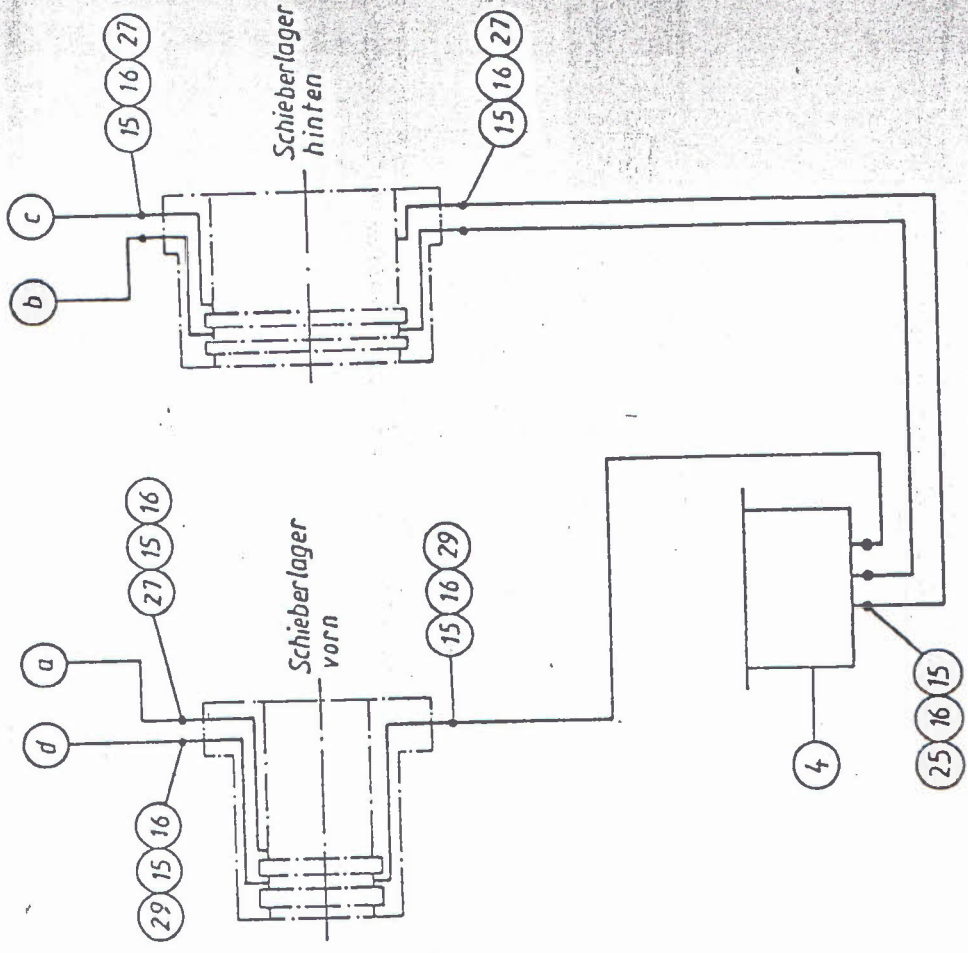
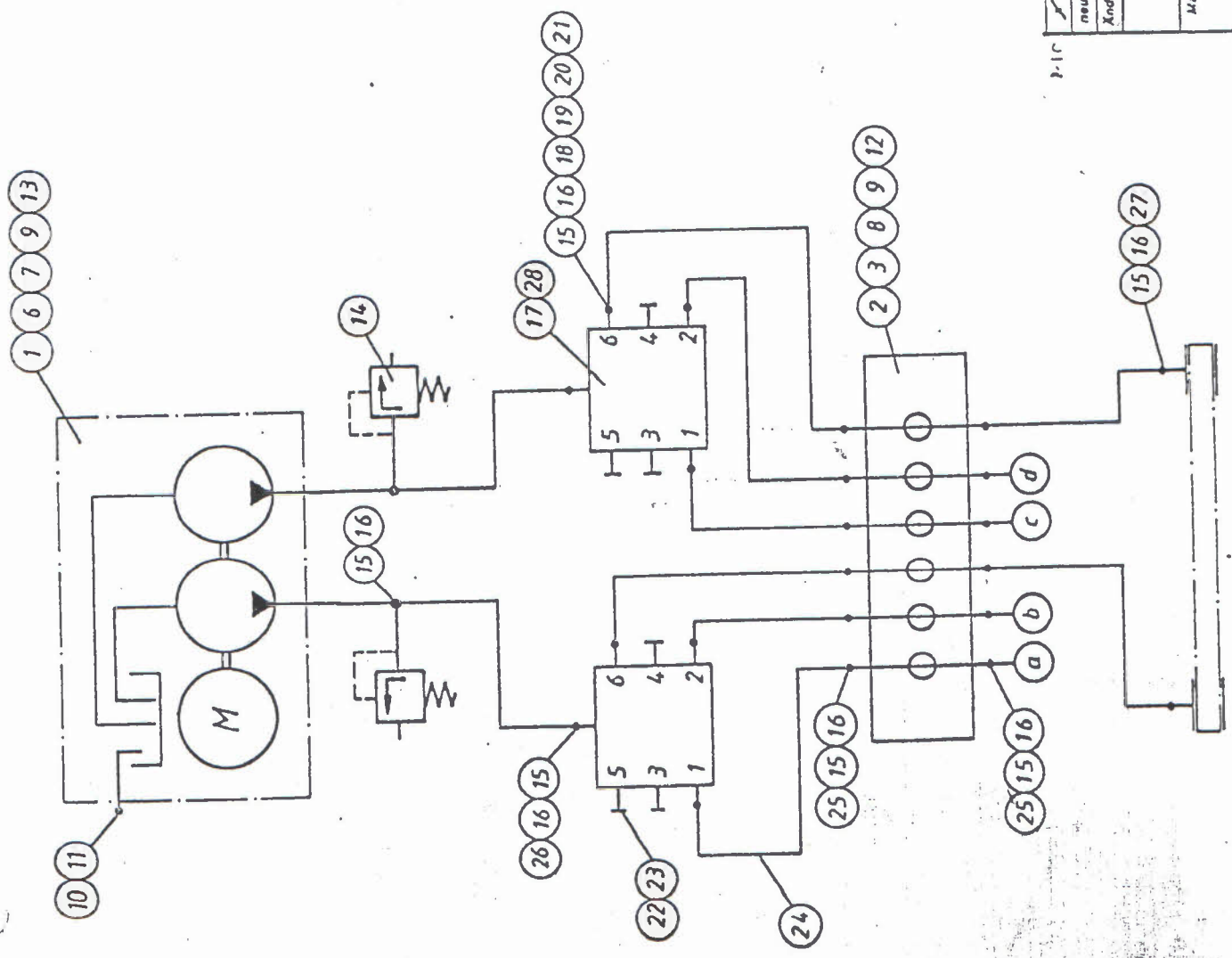


M G 1/4
 P1/P2 G 1/2
 A, B G 1/2
 T G 3/4

Art der Änderung	Mitt.-Nr.	Datum	Name
REICH Maschinen GmbH			
Maßstab	Datum	Name	
%	02.11.01.02	KmSch	
Gepr.			
Typ	Paßmaß	Abmaße	BP
Bezugs-Nr.			
Zeichn.-Nr.	417 147 B81 423		
Reihe-Nr.	Wertstoff	Reihe-Nr.	Ersatz für
		Hydr.-Schaltplan II	



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Art	new	9427		26.2.92	Zeit
	Änd.	Siehe Änderungsmitteilung			
Abmaß	Art der Änderung		Mitl.-Nr.	Datum	Name
REICH Maschinen GmbH					
Maßstab	Name		Typ BP		
	Gez. 30.11.90		Zeichn.-Nr. 38		
Gepr.		Beogr.-Nr. 18			Erst für
		Zeichn.-Nr. 415577 B81183			
Rührwerkklagerung re./li.		Werkstoff		Pencil-Nr.	
Abmaß					

Schalter

- S 1 = Schlüsselschalter Fahrerhaus
- S 2 = Druckschalter Verteilergeltriebe
- S 3 = ThermoSchalter Ölkühler "ein"
- S 4 = ThermoSchalter (Öltemp. > 85°C)
- S 5 = NOT-STOP Steuerpult / Fernst.
- S 6 = Pumpen / Saugen
- S 7 = Drehzahl "+-" -Schaltschrank
- S 8 = Drehzahl "--" -Schaltschrank
- S 9 = Beleuchtung/Steckdose ein
- S 10 = Drehzahl "+-" -Steuerpult/Fernst.
- S 11 = Drehzahl "--" -Steuerpult/Fernst.
- S 12 = Hupe Steuerpult/Fernst.
- S 13 = Arm 2 Steuerpult / Fernst.
- S 14 = Arm 1 Steuerpult / Fernst.
- S 15 = Arm 4 Steuerpult / Fernst.
- S 16 = Arm 3 Steuerpult / Fernst.
- S 17 = Drehen gegen Uhrzeigersinn (links)
- S 18 = Drehen im Uhrzeigersinn (rechts)
- S 19 = Not-Stop Schaltschrank

Switches

- Key switch driver's cab.
- Pressure switch distributor gear box
- Thermo switch Oil-cooler "ON"
- Thermo switch Oil temp. > 85°C
- Emergency stop Remote / Radio remote contr.
- Pump / Suck
- Rev "+-" Control panel
- Rev "--" Control panel
- Lighting / Socket
- Rev "+-" Remote / Radio remote contr.
- Rev "--" Remote / Radio remote contr.
- Horn Remote / Radio remote contr.
- Arm 2 Remote / Radio remote contr.
- Arm 1 Remote / Radio remote contr.
- Arm 4 Remote / Radio remote contr.
- Arm 3 Remote / Radio remote contr.
- Rotate counterclockwise (left)
- Rotate clockwise (rechts)
- Emergency Stop control panel

- P 1 = Temperaturanzeige Mast
- P 2 = Temperaturanzeige Betonpumpe
- P 3 = Drehzahlmesser

- Temperature indicator boom
- Temperature indicator concrete pump
- Rev counter

Anzeigeleuchten

- H 1 = Fahrerhaus
- H 2 = Ölkühler "ein"
- H 3 = Temperaturanzeige Mast
- H 4 = Temperaturanzeige Betonp.
- H 5 = Drehzahlmesser
- H 7 = Ölfilter Mast
- H 8 = Ölfilter Betonpumpe

Indicator lights

- Driver's cab
- Oil cooler
- Temp. indic. boom
- Temp. indic. concrete pump
- Rev counter
- Oil filter, boom
- Oil filter, concrete pump

- H 6 = Leuchte für Pult Pumpe

- Lamp at control panel

- M 1 = Motor Gasverstellung
- M 2 = Motor Ölkühler

- Electric motor rev adjustment
- Electric motor oil cooler

Ventile

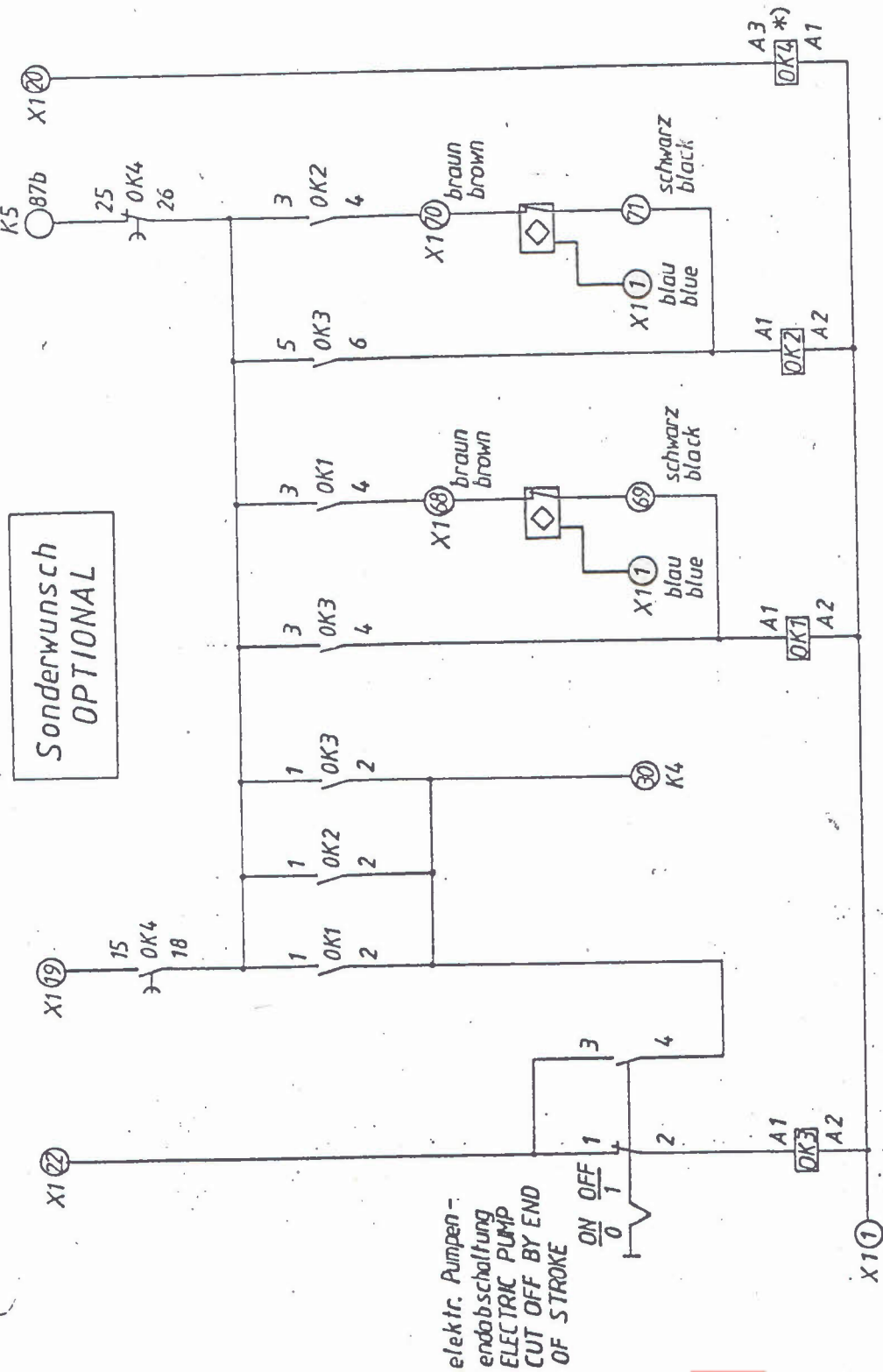
- Y 1 = Fahrbetrieb
- Y 2 = Pumpbetrieb
- Y 3 = Saugen+Pumpen
- Y 4 = Pumpen
- Y 5 = Pumpen
- Y 6 = Schwenken im Uhrzeigers. (Rechts)
- Y 7 = Schwenken gegen Uhrzeigers. (Links)
- Y 8 = Arm 1 ab
- Y 9 = Arm 1 auf
- Y 10 = Arm 2 ab
- Y 11 = Arm 2 auf
- Y 12 = Arm 3 ab
- Y 13 = Arm 3 auf
- Y 14 = Arm 4 ab
- Y 15 = Arm 4 auf

Valves

- Driving mode
- Pump mode
- Pump + suck
- Pump
- Pump
- Rotate clockwise (right)
- Rotate counterclockwise (left)
- Arm 1 down
- Arm 1 up
- Arm 2 down
- Arm 2 up
- Arm 3 down
- Arm 3 up
- Arm 4 down
- Arm 4 up

a						
neu						
Änd.	Art der Änderung	Mitt.-Nr.	Datum	Name	Paßmaß	Abmaße
REICH Maschinen GmbH & Co					Typ	
					Baugr.-Nr.	
Maßstab	Datum	Name		Schaltplan BP u. VM Blatt 7 von 7		
Gez.						
Gepr.						
Zeichn.-Nr.		416 736B81 55				
Rohmaße	DIN-Nr.	Werkstoff	Rohteil-Nr.	Ersatz für		





neu	Art der Änderung	Mitt.-Nr.	Datum	Name	Paßmaß	Abmaße
And.						
REICH Maschinen GmbH & Co						
Meßstab	Gez.	Gepr.	Datum	Name	Typ	
1/					Baugr.-Nr.	
				Zeichn.-Nr.		
				418 296 B11 55		
				Schaltplan BP u. VM		
				elektr. Pumpenendabschaltung		
				Werkstoff		Ersatz durch
				DIN-Nr.		
				Werkst.-Nr.		
				Paßmaß		

Reich

Operating Instructions

Distributor Boom

Reich Maschinen GmbH & Co. Handelsgesellschaft
Im Riedle 8 u. 9
89276 Nersingen / Germany
Telephone : 07308 / 85 0
Telefax : 07308 / 85 50
Telex : 712844



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I. General

General directions

These Operating Instructions contain important directions for the operation and servicing of your REICH concrete pump. Correct operation and servicing of the machine are only possible when the Operating Instructions are followed exactly.

In order to avoid any injury and/or damage, it is the duty of the pump owner, contractor and/or operator to read through the Operating Instructions repeatedly and thoroughly, and to make himself fully acquainted with the machine itself.
A copy of the Operating Instructions should be available to the machine operator at all times.

Long-term operational safety and reliability can only be ensured when the machine is used only for the intended purpose, and when it is operated and serviced correctly.

We cannot accept any liability for injury or damage occurring as a result of incorrect operation or servicing.

Values set or stipulated by REICH, e.g. speeds, hydraulic pressures, bolt torques etc., must be observed and must not be altered.

Use only GENUINE REICH SPARE PARTS. No liability or warranty can be accepted for parts not obtained from REICH.

The relevant safety and accident prevention regulations are to be observed during all operating, servicing and repair procedures.

Any enquiries concerning technical matters, or orders for spare parts are to be directed to:

REICH-Maschinen GmbH + Co.
Handelsgesellschaft
Im Riedle
D-7916 Nersingen/Germany

Telephone: 0 73 08/8 50
Telefax: 0 73 08/85 50
Telex: 712 844

or to your nearest REICH agent.

In any correspondence, please state the model of machine, its serial No. and the data on its data plate. The truck and its engine are to be operated and serviced according to the manufacturer's instructions.

These operating instructions are intended only for the owner and operator of the REICH machine. They are not to be handed over to others (either in whole or in part), nor are they to be copied or misused in any way.

I. General

Data plates

- Data plate for concrete pump

Reich		<i>MASCHINEN GMBH & Co</i> 7916 Nersingen/W.-Germany	
Type	<input type="text"/>	Fabrik-Nr.	<input type="text"/>
	<input type="text"/>	Baujahr	<input type="text"/>
		max. Hydraulikdruck	<input type="text"/> bar
		max. Förderdruck	<input type="text"/> bar

The data plate is located on the right-hand side of the concrete pump frame.

- Data plate for distributor boom

Reich		<i>MASCHINEN GMBH & Co</i> 7916 Nersingen/W.-Germany	
Type	<input type="text"/>	Fabrik-Nr.	<input type="text"/>
		Baujahr	<input type="text"/>
		max. Hydraulikdruck	<input type="text"/> bar
		max. Förderrohr- ϕ	<input type="text"/> mm
		max. Endschlauchlänge	<input type="text"/> m

The data plate is located on the boom turret.

I. General

Description

The outriggers, turret and the individual arms of the distributor boom are constructed of box sections of highgrade, fine-grain steel.

The linkage geometry of the boom arms make it possible to bring the boom into the best possible position for distributing the concrete.

The outriggers have been designed to ensure the stability and steadiness needed during operation.

The boom can be equipped with either a 100 mm, 120 mm or 125 mm slickline which is made up of standard 90° bends and straight pipes for ease of replacement when worn.

Snap couplings are used to connect the individual pipes/bends and to act as rotary joints. The slickline and the end hose are designed for operating pressures of up to 80 bar.

All boom functions are powered hydraulically. The boom cylinders have safety valves (fitted directly to the cylinders) to hold the boom in case of a hose bursting, and to protect the system against overload.

The outrigger cylinders are locked using pilot-controlled check valves (integrated into the cylinders).

The actuation speeds of the boom cylinders are matched to one another and permit several arms to be actuated simultaneously.

The hydraulic control block for the boom functions can be actuated manually, electrically, electro-pneumatically or electro-hydraulically.

All boom movements can be called up using either the remote control or the (optional) radio remote control.

IV. Pump operation

Cleaning the pump:

When pump operation is finished, all traces of concrete must be cleaned from the machine. Careful cleaning is essential for optimum machine availability, trouble-free operation and easy servicing.

Important: Always press the EMERGENCY OFF button or stop the truck engine before opening the reducer bend at the swing tube outlet, or before raising the hopper grid. Pay attention to the relevant warning signs.

The 3 most common methods of cleaning are:

1. Drawing back:

- Pump the hopper as empty as possible.
- Set the agitator to "Reverse".
- Push a water-soaked sponge ball into the end hose.
- Set concrete pump to "Draw back" and draw concrete back into the hopper until the ball reaches the reducer bend in front of the swing tube outlet.
- Release the coupling on the reducer bend and swing the bend back. Take out the sponge ball.
- Open the hopper bottom hatch and let concrete escape (use a collecting tray if necessary).
- Switch on the water pump and wash all traces of concrete out of hopper, swing tube and concrete cylinders.
- Close hopper bottom hatch. Swing reducer bend back into place and fasten the coupling.
- Drain water from water box and flush out.

2. Water blow-out:

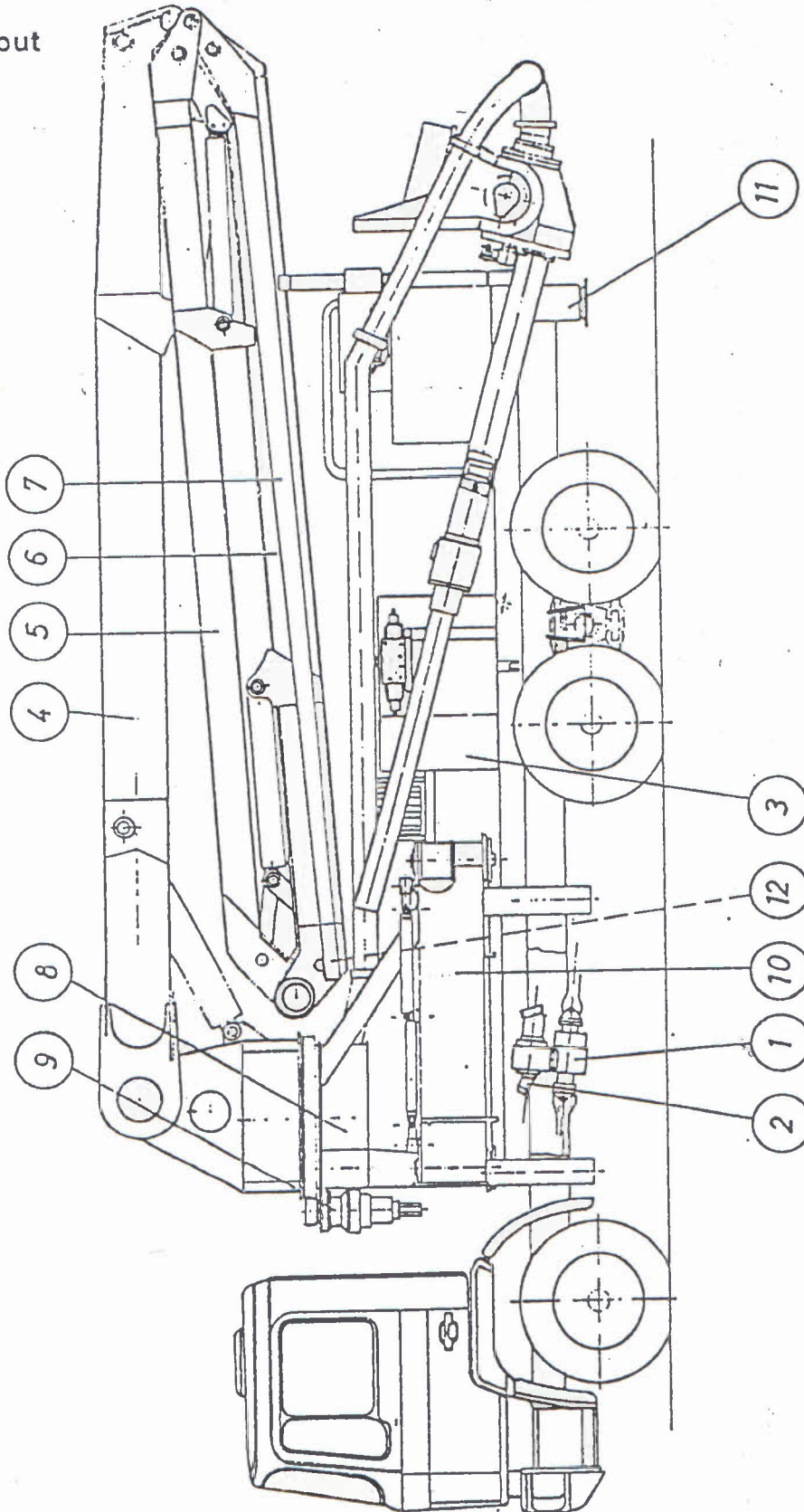
- Pump the hopper as empty as possible.
- Open the hopper bottom hatch and let concrete escape (use a collecting tray if necessary).
- Release the coupling on the reducer bend and swing the bend back.
- Use a scraper to remove about 50 - 60 cms of concrete from the straight reducer.
- Push 2 water-soaked sponge balls into the reducer and fit the blow-out cap.
- Connect the water hose to the end cap.
- Switch on the water pump and pump the balls and the remaining concrete out of the end of the slickline.
- Wash all traces of concrete out of hopper, swing tube and concrete cylinders.
- Close hopper bottom hatch. Swing reducer bend back into place and fasten the coupling.
- Drain water from water box and flush out.

Important: When cleaning the hopper, take care not to damage the bearing seals of the swing tube and the agitator.

Note: After cleaning, check the swing tube wear parts (wear plates, wear ring and tension rings) for signs of wear.

I. General

Layout



- 1. Splitter box (transfer shift box)
- 2. Hydraulic pump, system III
- 3. Oil tank for boom system
- 4. Arm 1
- 5. Arm 2
- 6. Arm 3

- 7. Arm 4
- 8. Boom pedestal
- 9. Stewing gear
- 10. Front outriggers
- 11. Rear outriggers
- 12. End hose (not shown)

I. General

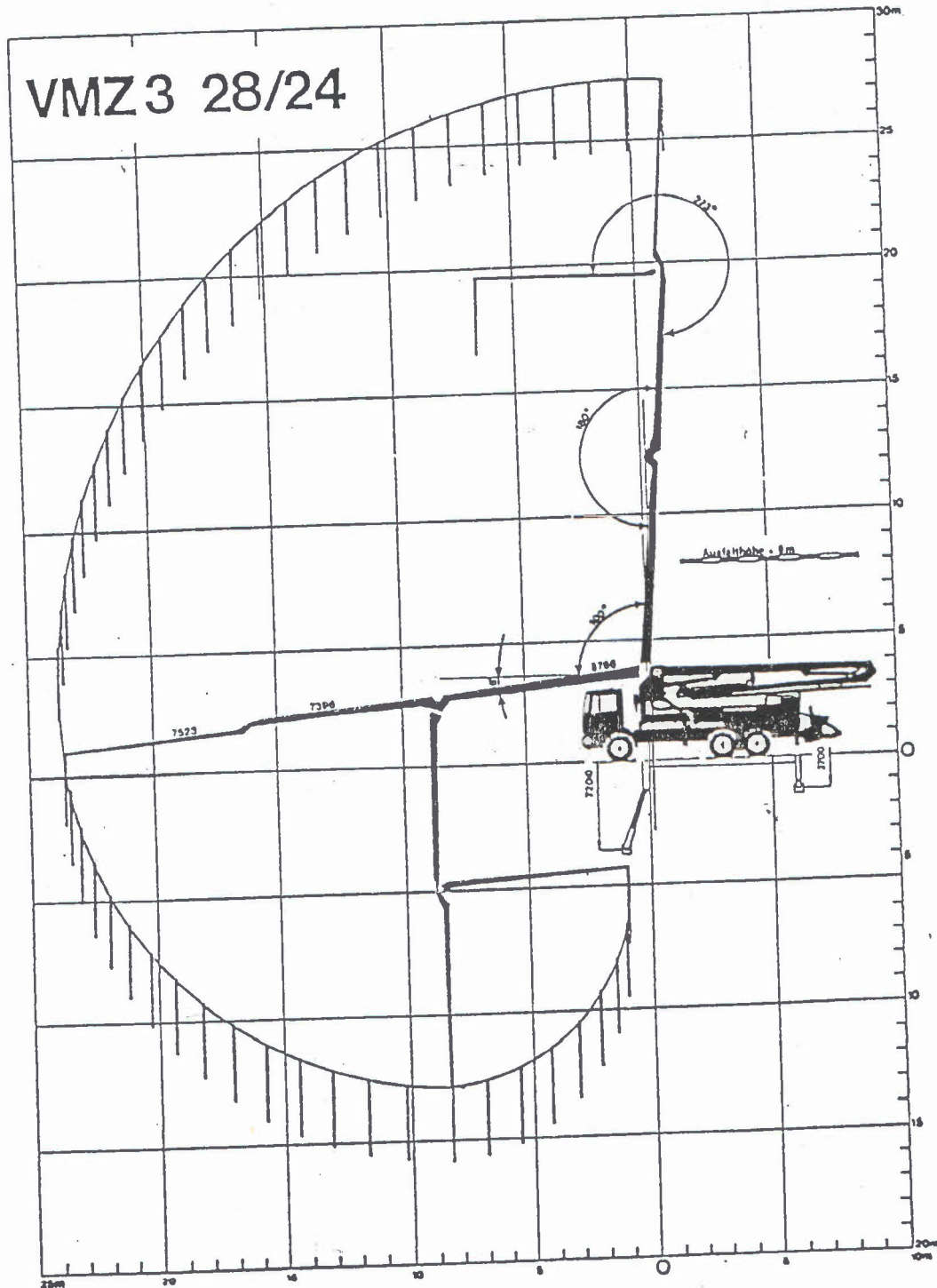
Technical data

Boom model		Working bubble VMZ 3 28/24	Working bubble VMR 4 33/29	Working bubble VMR 4 37/33	VM
Slickline diameter	mm	125	125	125	
End hose length	m	3	3	3	
Vertical reach	m	27,5	32,5	36,5	
Horizontal reach	m	23,7	28,9	32,7	
Number of arms	m	3	4	4	
Knuckle angles 1st joint	Grad	100°	109°	98°	
2nd joint	Grad	180°	180°	180°	
3rd joint	Grad	273°	180°	180°	
4th joint	Grad		256°	255°	
Slew range	Grad	355°	355°	355°	
Max. hyd. pressure	bar	320	310	340	

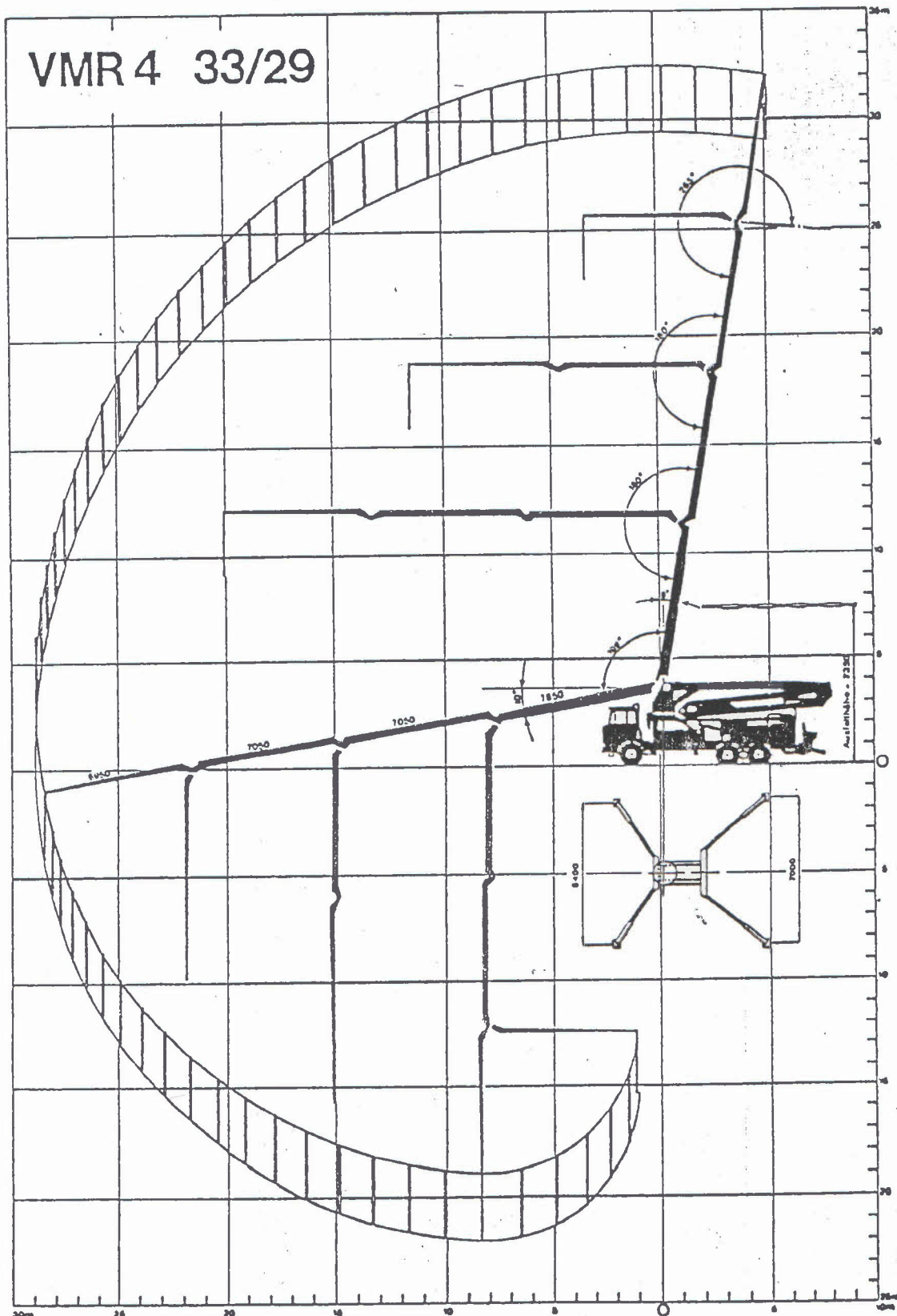
Distributor Boom

Reich

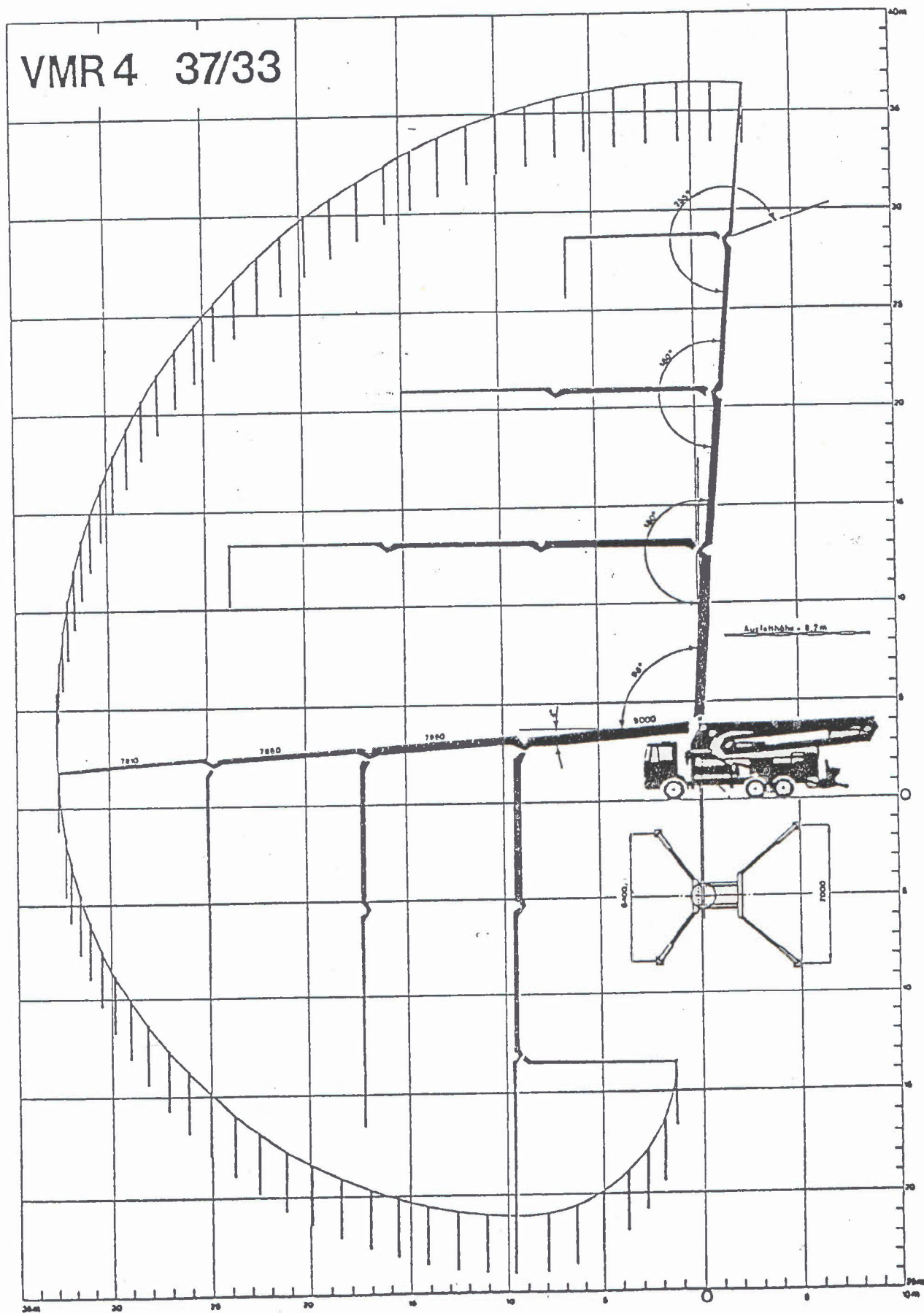
I. General



I. General

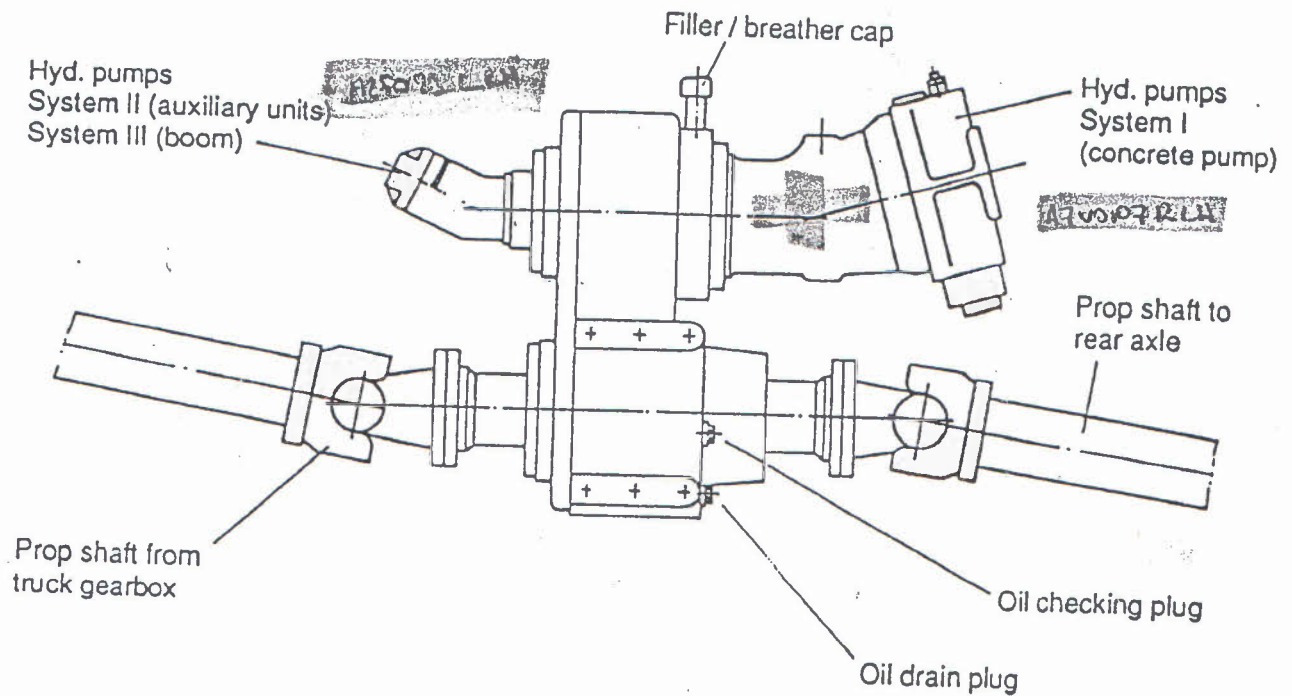


I. General



II. Function and servicing of boom systems

Splitter box / P.T.O.



The primary drive for the concrete pump is provided by a splitter (transfer) gearbox installed in the drive line to the truck's rear axle.

Switching the gearbox from "truck drive" to "pump" actuates the hydraulic pumps for systems I, II and III. Engaging the gearbox – see Page 24.

Important: The splitter (transfer) gearbox is only to be engaged when the pump is stationary.

If the concrete pump is driven from the truck's P.T.O., a separate prop shaft is installed which connects the output of the truck's gearbox (P.T.O.) to the pump gearbox.

Servicing:

1. Checking oil level

Check oil level once a week at the checking plug. Check gearbox for signs of leakage. Change oil according to instructions on Page 12.

2. Greasing the prop shafts

Grease the prop shafts once a week (see Page 12).

II. Function and servicing of boom systems

Hydraulic system III

The distributor boom and its outriggers are supplied with oil by a fixed displacement pump. Pressure relief valves (settings – see Technical Data) protect the individual components against overpressure. The boom and outrigger functions are controlled from the control block which can be actuated either manually or via remote control.

See circuit diagram for details.

Servicing:

1. Checking oil level / Changing oil

Check oil level on the oil tank gauge daily before commencing operation. Oil should reach up to between the two markers. Top up oil as given in Lubricants table on Page 13.

First oil change after 500 operating hours.

Further oil changes every 4000 operating hours, but at least once a year.

Change oil only when at operating temperature.

See also Lubricating chart on Page 12.

2. Changing the filter

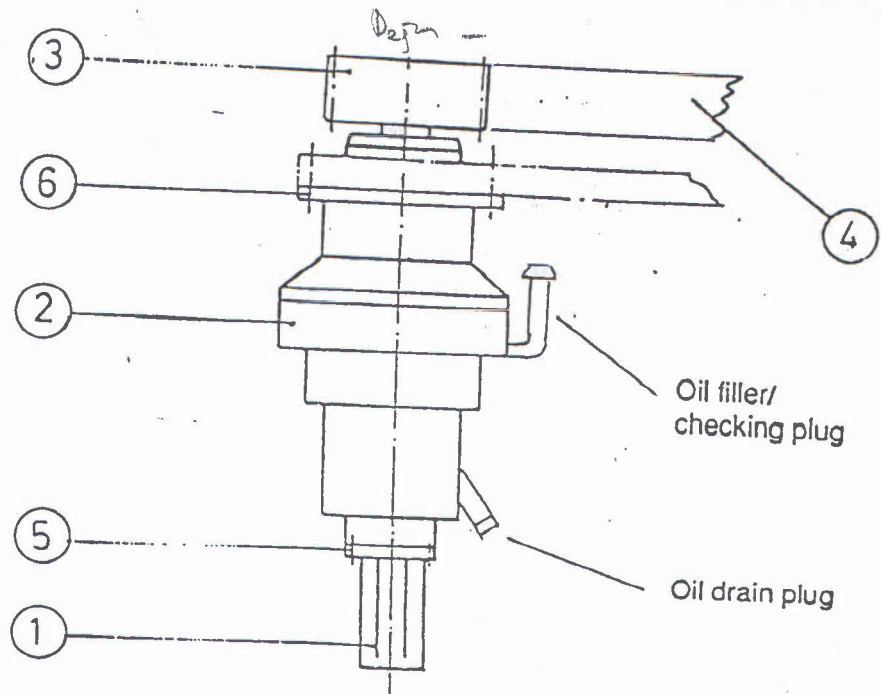
Change the filter cartridge and clean the magnet rods as soon as the warning light "Boom oil filter" comes on. Change cartridge and clean rods also during each oil change.

Distributor Boom

Re

II. Function and servicing of boom systems

Slewing gear



The slewing gear is powered by a hydraulic motor (1) which drives into a 2-stage planetary gearbox (2) whose pinion (3) engages into the slewing ring (4). A hydraulically released spring-actuated multi-disk brake (5) is fitted between the motor and the gearbox. This type of brake ensures fast, gentle braking and accurate positioning of the boom.

Servicing:

1. Checking oil level in gearbox

Check oil level (on checking plug) once a week and check the gearbox for signs of leakage. First oil change after 500 operating hours. Further oil changes every 4000 operating hours but at least once a year. See also Lubricating chart on Page 12.

2. Lubricating the slewing ring

Grease the slewing ring once a week. See Lubricating chart on Page 12.

II. Function and servicing of pump systems

Lubricating instructions:

The use of suitable lubricants is especially important for trouble-free operation. Only suitable lubricants keep component wear to a minimum.

We therefore recommend that only reputable brands of lubricants are used – such brands are listed in the Lubricant table on page 13.

Gearboxes:

First oil change on spur-wheel gearboxes after 100 operating hours. Thereafter, every 2000 operating hours or at the latest once a year.

The information on the data plates on the gearboxes is binding.

Changing hydraulic oil:

The hydraulic oil for the boom system (160 litres) is to be changed after the first 500 operating hours. Thereafter, change oil every 4000 operating hours, at the latest once a year. When changing oil, clean all traces of oil sludge from the bottom of the tank. From time to time, check for condensation in the oil tanks. Drain off through the drain cock.

Cleaning the filter:

The return flow filters clean the hydraulic oil flowing back into the tank. Dirt is retained by the filter insert, metal particles by the magnet rods.

If the pressure in the filter rises above a certain level (i.e. filter clogged), the by-pass valve opens and allows the oil to flow unfiltered back into the tank. A warning light on the control panel then comes on and indicates that the filter element needs to be changed and the magnet rod cleaned.

Fit a new filter and clean the magnet rods each time oil is being changed.

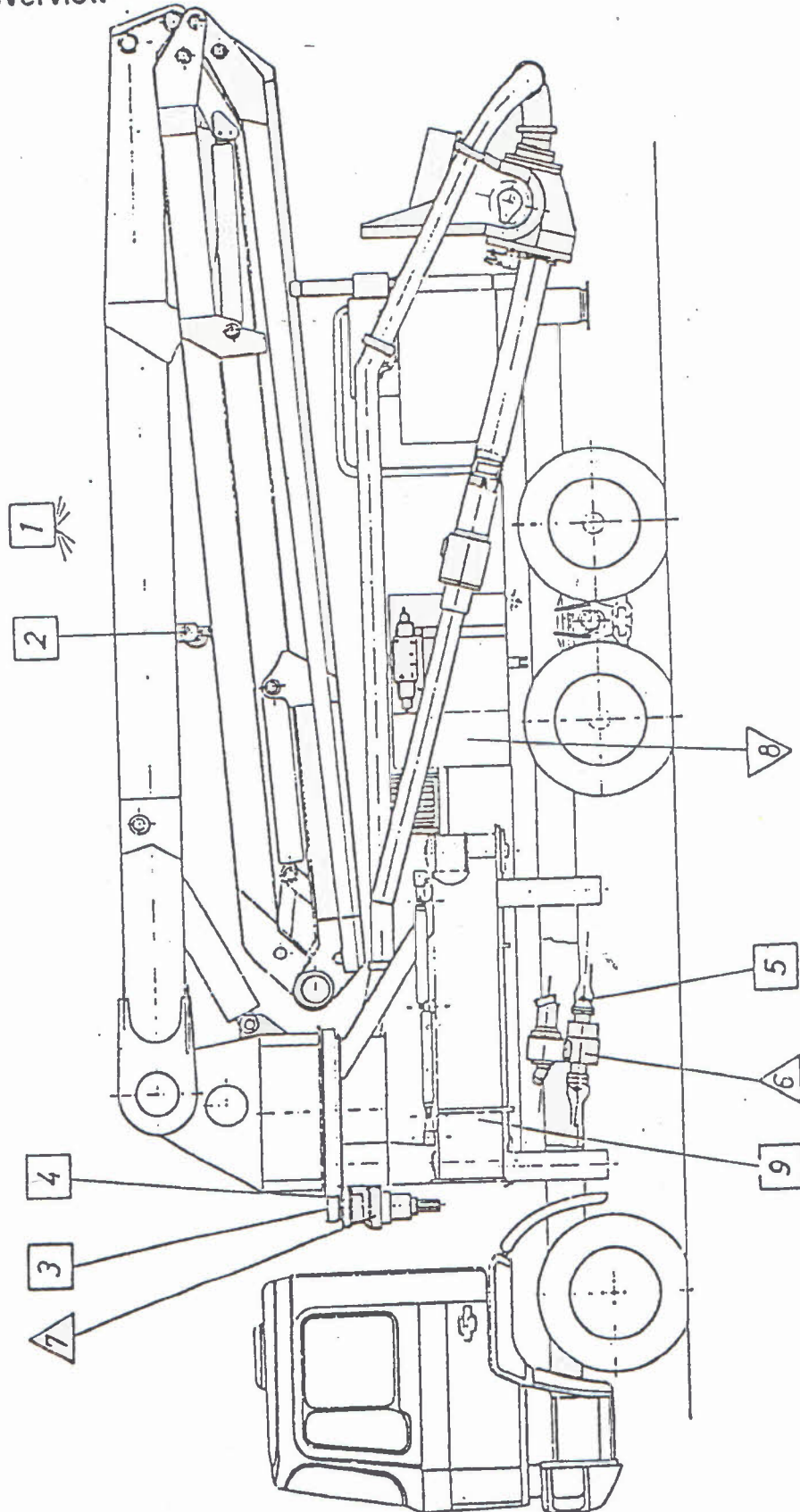
Filter element for boom:
Part No. FI 913 569

Distributor Boom

Reich

II. Function and servicing of pump systems

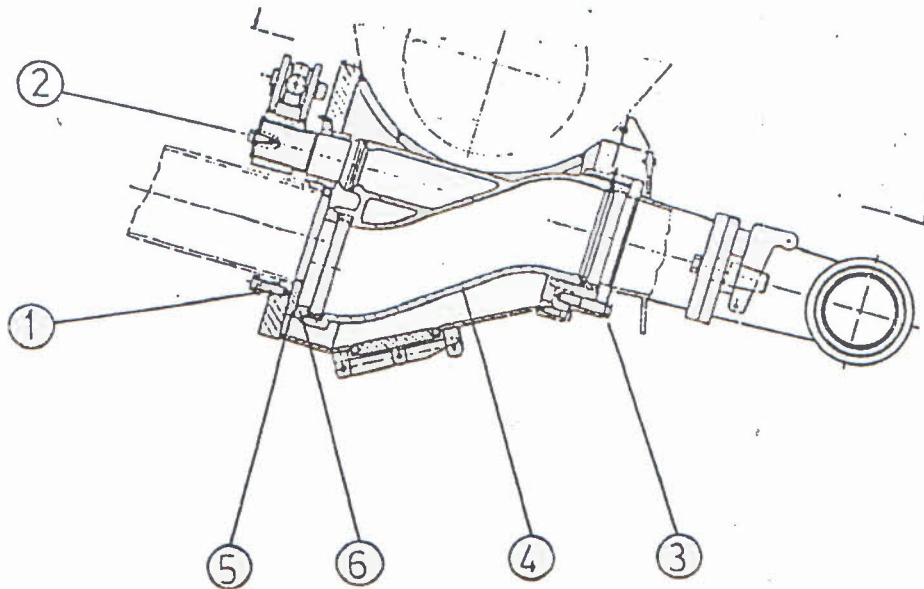
Lube points – overview



- manual lubrication
- ▽ hydraulics
- (with triangle) open greasing points
- △ gearbox

V. Changing wear parts

Changing spectacle plate and wear ring:



1. Loosen the eight bolts (1) in the delivery cylinder flanges. Loosen bolt (2) in shift lever.
 2. Release tension on swing tube (4) by loosening the four bolts (3) and inserting jacking bolts into the outlet reducer.
- Note:** The bearing on the outlet side of the swing tube must be absolutely clean and must be coated with grease before the swing tube is slackened. The bearing seals can otherwise be damaged.
3. Remove the free half of the spectacle.
 4. Shift the swing tube (4) into the opposite position and change wear ring (6).
 5. Change the second half of the spectacle.
 6. Shift the swing tube (4) back and change the first half of the spectacle.
 7. Tension the swing tube again by tightening the bolts (3) on the outlet reducer. Tighten bolt (2) on swing lever and bolts (1) in delivery cylinder flanges.

Important: Bolts (1) and (3) to be tightened to torque. See bolt torques on Page 36.

II. Function and servicing of pump systems

Lubricating chart

Lube point No.	Lubrication/filling intervals	Number of lube points	Lube point & location	Lubricant code No.
1	Weekly	21	Nipples on pins	IV
2	Weekly	1	Nipple on boom hook	IV
3	Weekly	6	Nipples on slewing ring	IV
4	Weekly	1	Gearing of slewing ring	IV
5	Weekly	2	Nipples on prop shaft	IV
6	1st oil change after 100 op. hrs. then every 2000 op. hrs. at least yearly Oil qty. = 5.5 litres	1	Transfer shift gearbox (splitter box)	I
7	1st oil change after 500 op. hrs. then every 4000 op. hrs. at least yearly Oil qty. = 3.8 litres	1	Slew gearbox (splitter box)	I
8	1st oil change after 500 op. hrs. then every 4000 op. hrs. at least yearly Oil qty. = 160 litres	1	Oil tank – boom	III
9	As required	4	Slides of front and rear outriggers	IV

II. Function and servicing of pump systems

Lubricants

Lubricant code No.	I		II		III		IV		V	
	Gear oils		Gear oils		Hydraulic oil		Greases (cartridges)		Compressor oils	
	Coding acc. DIN 51519		Coding acc. DIN 51519		Outside temperatures					
	ISO-VG 220	ISO-VG 680	up to 65°C	up to 85°C						
Aral	Aral Degol BG 220	Aral Degol BG 680	Vitam GF 46	Vitam GF 68	Aralub HL 2				Aral Metanol HE 150	
AVIA	RSX 220	RSX 680	Avilub RSL 46	Avilub RSL 68	Avilub Spezialfett LD				Avilub 150	
BP	BP Energol GRXP 220	BP Energol GRXP 680	Energol HPL 46	Energol HLP 68	Energrease LS2				BP Energol RC 150	
Esso	Spartan EP 220	Spartan EP 680	Esstic Nuto H 46	Esstic Nuto H 68	Beacon 2				Esso Verdichteröl 3022 N	
Shell	Omala Öl 220	Omala Öl 680	Tellus Öl C 46	Tellus Öl 46	Alvania Fett R 2					

Distributor Boom

III. Electrical systems

- Power supply: 12 or 24 V DC depending upon model of truck
- Fuses: The individual circuits have fuses depending upon their requirements
- Control: Distributor boom
- All boom/arm movements are servo controlled through the remote control
- Control points:
1. Hydraulic control block
 2. Remote control box
 3. Radio remote control (optional)

Electrical functions – see circuit diagram

IV. Boom operation

Safety regulations:

a) General:

The following REICH safety regulations and the laws and regulations valid in the country of operation must be observed in all situations. In Germany, the legal requirements are contained in the publication ZH 1/573.

According to the regulations valid in Germany, truck-mounted concrete pumps with booms are "working machines" and are therefore not allowed to transport any goods or materials other than those essential for pump operation.

Distributor booms are only to be used to place concrete or other pumpable substances with densities of up to 2.4 kg/dm³.

The placing line diameter and end hose length as stated on the data plate must not be exceeded.

Important: The distributor boom must not be used as a crane to lift objects.
Individual pipes in the slickline must not be allowed to wear below the minimum wall thickness of 3 mm. The maximum pump (concrete) pressure is 80 bar.

Pay attention to all warning and instruction signs on the pump and the boom.

Safety devices must not be altered or removed. They must be operated in a correct manner.

The operator and any assistants or supervisors are fully liable for any injuries or damage occurring as a result of the safety and accident prevention regulations being ignored, or as a result of negligent operation.

The operator of the machine is fully responsible for the safety of any persons in the danger area of the machine while it is working. He must therefore ensure that the machine is always operated in a safe manner.

Distributor booms are only to be operated in strict compliance to the operating instructions.
The manufacturer cannot accept any liability for injury or damage occurring as a result of incorrect operation (e.g. outriggers not being extended in the correct manner to support the machine fully).

b) Safety at work and during servicing

Trouble-shooting, repairs and servicing work are only to be undertaken when the engine (or motor) has been stopped, and all hydraulic systems and the concrete pipeline have been freed of pressure. Remove the starter key when the engine (or motor) has been stopped.

Retrofitting, modification, welding or repair work on the distributor boom and its allied components such as the boom foundations, its sub-frame and outriggers, as well as any parts or components that are subject to pressure when in operation is only to be undertaken by persons authorized by the manufacturer. Such procedures are to be carried out according to the laws and regulations in the respective country. Completed work is to be inspected for correctness by an authorized specialist.

Servicing and repair work on the boom is only to be undertaken with the boom folded and secured or, if extended, with the boom on suitable supports. In addition, the engine/motor must be stopped and the outriggers locked in a safe position.

It is absolutely forbidden to alter the settings of any pressure relief or safety valves, or to alter the hydraulic pipes and hoses in any way.

IV. Boom operation

c) Electrical systems

Before commencing any electric-arc welding, always disconnect the cable harness from the control panel and disconnect the battery.

Before commencing any electric-arc welding, always disconnect electrical and electronic systems (e.g. radio remote control).

d) Safety during pump operation

Carry out a daily check of the wall thicknesses of concrete pipes. Check by tapping with a hammer or, for more accuracy, by using a wall thickness tester. See wall thickness diagram on Page 29.

Always secure pipe couplings with safety pins to prevent them working loose.

Check that all pipelines, couplings and hoses are secure before commencing pump operation.

Always wear safety and protective clothing. This applies especially when working with cement or chemically based mortar additives.

The distributor boom is only to be extended when the outriggers have been correctly extended and locked. Observe the relevant safety regulations.

When working on sloping ground, place chocks under the wheels, release the parking brake and let the truck roll onto the chocks. Apply the parking brake again and extend the outriggers.

On two-axle trucks, the rear axle spring lock is to be engaged before the outriggers are extended.

The machine is to be set up in such a way that its stability is ensured over the whole working area. Allow sufficient safety clearance to embankments, ditches, trenches and other depressions. Never set up the machine on loose or heaped material. The max. load on the outriggers is given on the plates on the outrigger legs.

The ground must be sufficiently solid to take the load of the machine and therefore ensure stability. If the ground is not sufficiently solid, boards or plates are to be placed under the outrigger feet to increase the loaded area.

Outriggers and outrigger feet must be locked both mechanically and hydraulically.

Always set up the machine so that it is horizontal – reset individual outriggers if necessary. After resetting, always close the relevant shutoff cock as any oil escape can cause the machine to sag on one side.

Keep all unauthorized persons out of the danger area when the boom is working.

Before starting the pump, make sure that the end hose is hanging freely. No-one is to be present in the swinging range of the end hose.

The remote control box is only to be put down when the EMERGENCY OFF button has been pressed and is engaged (impact button).

Always fasten a catcher cable/rope to the end hose. Never allow the end hose to get kinked during operation. Blockages in the hose can be dangerous.

Distributor Boom

Reich

IV. Boom operation

The manufacturer cannot accept any responsibility or liability when the concrete line is cleaned with compressed air. The operator is fully responsible for this.

e) Replacement wear and spare parts

Only genuine REICH pipes, bends and pipeline accessories are to be used in the concrete line.

High-pressure pipelines and accessories are necessary for concrete pressures of between 80 and 130 bar.

IV. Boom operation

Safety regulations

Excerpt from German regulations ZH 1/573

- 5.1.1 Concrete pumps and concrete distributor booms are only to be operated according to the manufacturer's operating instructions. A copy of the operating instructions must be available on/in the machine at all times.
- 5.1.2 Concrete pumps and concrete distributor booms are only to be operated and serviced by persons:
1. Over 18 years of age
 2. Who are physically and mentally capable
 3. Who have been trained in operating and servicing the pump and boom, and have convinced their employer of their ability
 4. Who can be expected to carry out their duties in a responsible manner
- 5.2.1 Distributor booms must be set up in a stable manner. All supports must be checked by the operator during operation and correction carried out if necessary.
- If necessary, suitably sized load distributing devices are to be used. Adequate safety clearance is to be observed between the machine and the edges of pits, trenches etc.
- 5.2.2 Conveying lines, especially riser lines, that are not connected to the boom are to be fastened securely to ensure that all reaction forces can be transferred into the ground, a building or other structure. Conveying lines are to be routed in such a way that kinks, sharp bends and any damage is avoided during operation.
- 5.2.3 Distributor booms are not to be lengthened in excess of the maximum length given in the operation instructions. It is forbidden to add extensions to end hoses.
- 5.2.4 Any extension lines connected to the end of distributor booms must not stress the boom in any way.
- 5.2.5 When cleaning out conveying lines with compressed air, the end hose is to be removed and a ball catcher or similar, appropriate device attached.
- 5.2.6 Couplings and end pieces are only to be connected or swaged into end hoses by persons with suitable experience, using suitable tools.
- 5.2.7 Mobile distributor booms which require supports in their operating positions must not be moved with the boom extended. Transport/movement is only to be undertaken according to the operating instructions.
- 5.2.8 The operator must bring the distributor boom into the rest position as stated in the operating instructions at the end of operation and in case of storm.
- 5.3 If the tip of the end hose cannot be kept in the operator's range of vision when moving the boom, a banksman or spotter is to be called in.
- 5.4.1 Operation is to be interrupted if any fault or situation occurs which could affect the safety of the machine and its users. Operation is only to be recommenced after the fault or situation has been remedied or eliminated.

IV. Boom operation

- 5.4.2 The pump and concrete conveying line are to be freed of pressure before any pipeline couplings are opened (e.g. to free blockages).
- 5.5.1 Servicing, installation and inspection work that cannot be carried out from ground level are only to be undertaken from safe working platforms or other devices (e.g. aerial platforms, ladders etc.).
- 5.5.2 Alterations (repairs, setting, exchange) of safety devices are only to be undertaken by authorized specialists.
- 5.5.3 Any safety devices removed for servicing work are to be installed again before operation is commenced.
- 6.1 Distributor booms are to be inspected by an authorized specialist prior to initial commissioning or commissioning after major alteration or repair.
- 6.2 Distributor booms are to be inspected by an authorized specialist as required and in intervals adequate for the relevant operating conditions, at the latest, however, once a year.
- 6.3 The results of inspections according to 6.2 are to be entered into the boom's log book. The log book must be provided for inspection upon demand.
- 6.4 Before commencing operation, the operator must check the concrete pump, the distributor boom and the concrete conveying line for signs of fault or damage and to have such remedied immediately. If a fault or faults that could affect operational safety cannot be remedied immediately, operation is to be interrupted until remedial work is possible.

According to Section 4.2.9, a clearly visible and permanent sign with the following instructions must be provided on the control panel:

1. Follow the directions in the operating instructions at all times.
2. Set up the machine in a stable manner.
3. Keep sufficient clearance to pits, trenches etc.
4. Ensure that all conveying lines are attached securely.
5. It is generally forbidden to fasten extensions to booms and end hoses.
6. The boom must not be used for lifting purposes.
7. Do not move the truck when the boom is extended.
8. Call in a banksman / spotter if visibility is impaired.
9. Operation is to be interrupted if any fault occurs that could affect operational safety.
10. Pump in reverse to release all pressure from the system before opening conveying lines (also in case of blockage)
11. When cleaning with compressed air, remove the end hose and attach a ball catcher.

IV. Boom operation

12. Safety devices must not be altered or removed.

13. Observe following safety clearance to electrical lines:

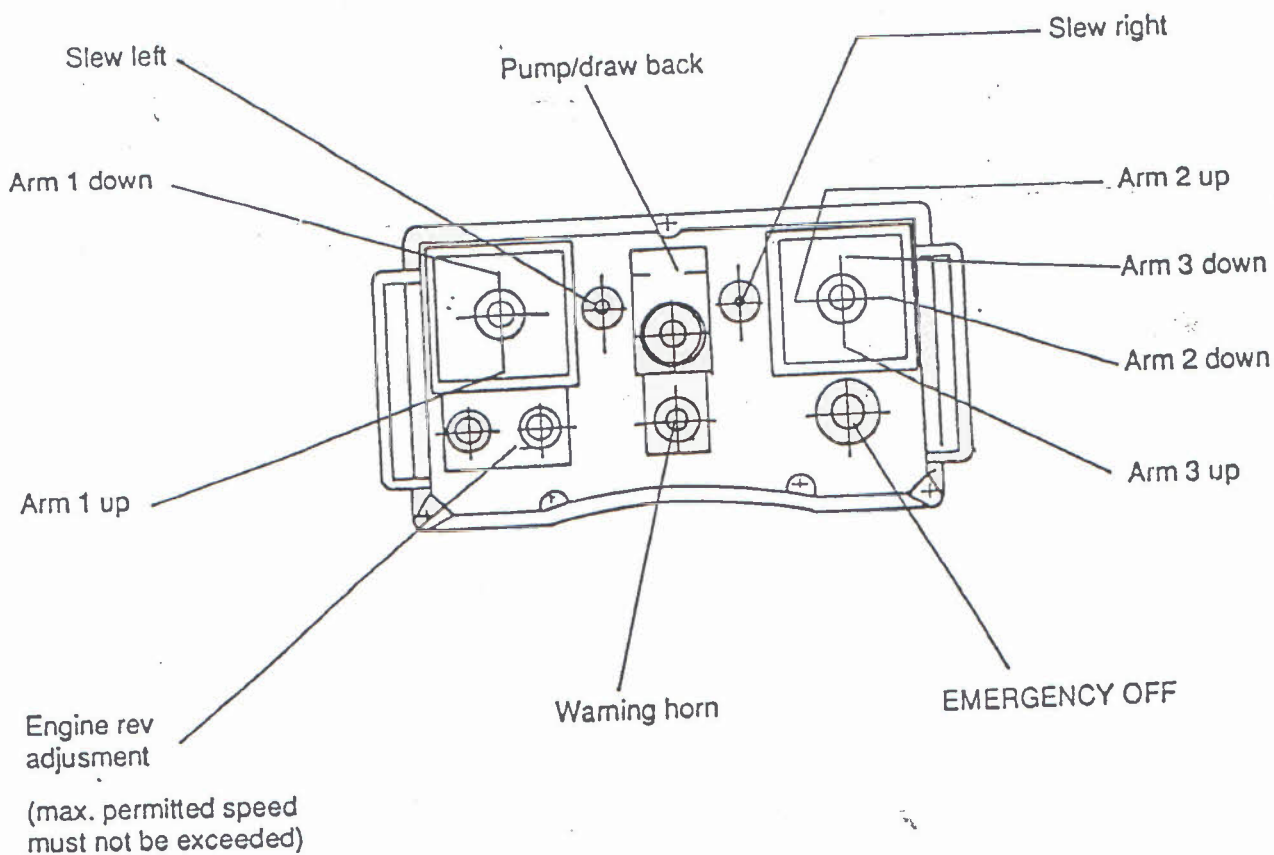
Rated voltage (Volt)	Safety clearance (metres)
up to 1000 V	1.0 m
from 1 kV to 110 kV	3.0 m
from 110 kV to 110 kV	4.0 m
from 220 kV to 380 kV or if voltage unknown	5.0 m

14. Fold the boom into its rest position when operation is finished or in case of storm.

IV. Boom operation

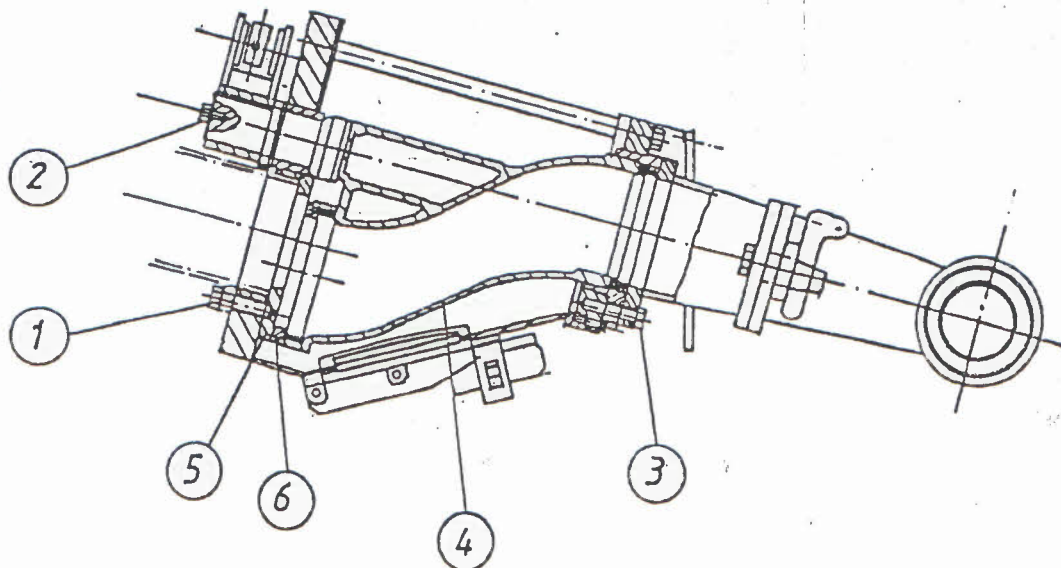
Remote control

The portable remote control box can be used to call up all boom functions and the main functions of the concrete pump.



V. Changing wear parts

Changing spectacle plate and wear ring:



1. Loosen the eight bolts (1) in the delivery cylinder flanges. Loosen bolt (2) in shift lever.
 2. Release tension on swing tube (4) by loosening the four bolts (3) and inserting jacking bolts into the outlet reducer.
- Note: The bearing on the outlet side of the swing tube must be absolutely clean and must be coated with grease before the swing tube is slackened. The bearing seals can otherwise be damaged.
3. Remove the free half of the spectacle.
 4. Shift the swing tube (4) into the opposite position and change wear ring (6).
 5. Change the second half of the spectacle.
 6. Shift the swing tube (4) back and change the first half of the spectacle.
 7. Tension the swing tube again by tightening the bolts (3) on the outlet reducer. Tighten bolt (2) on swing lever and bolts (1) in delivery cylinder flanges.

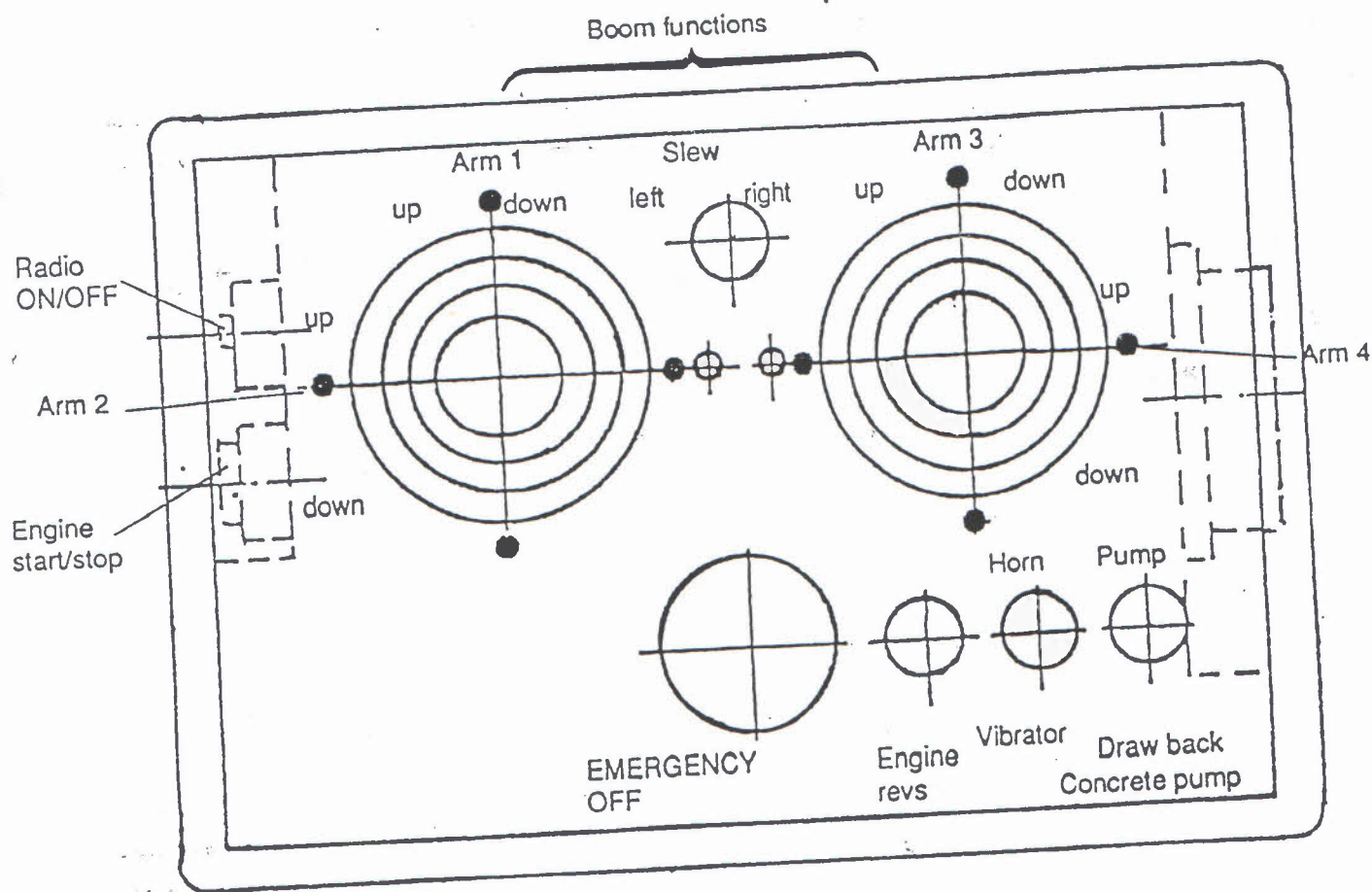
Important: Bolts (1) and (3) to be tightened to torque. See bolt torques on Page 36.

Distributor Boom

IV. Boom operation

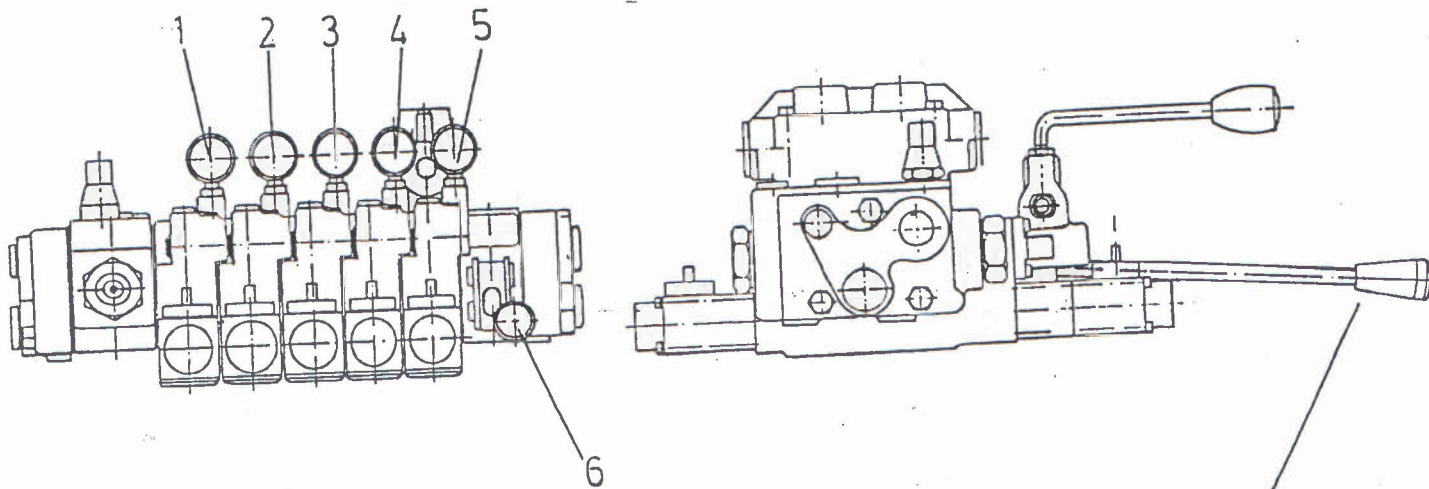
Radio remote control

The portable radio remote control box can be used to call up all boom functions and the main functions of the concrete pump.



IV. Boom operation

Boom control block (manual actuation)



- 1 = Arm 1 up/down
- 2 = Arm 2 up/down
- 3 = Arm 3 up/down
- 4 = Arm 4 up/down
- 5 = Slew right/left
- 6 = Outriggers in/out (lever has detent)

IV. Boom operation

Pump drive

- Pump operation

When the concrete pump is fitted with a transfer shift (splitter) box, a pneumatic cylinder is used to engage the pump drive. Sufficient air pressure must be available in the truck's receiver to allow the cylinder to be actuated. With the truck ignition ON but with the engine stopped, shift the switch in the cab to "Pump operation". The tell-tale light then comes on. Depress the clutch pedal and start the truck engine. Engage the relevant gear range (for 1:1 direct drive) and allow the clutch to engage.

When the concrete pump is driven from the truck P.T.O., refer to the instructions contained in the truck's instruction manual.

- To drive the truck

When the concrete pump is fitted with a transfer shift (splitter) box, sufficient air pressure must be available in the truck's receiver to allow the shift cylinder to be actuated. With the truck ignition ON but with the engine stopped, shift the switch in the cab to "Drive truck". The tell-tale light then goes out.

If the concrete pump is P.T.O. driven, disengage the P.T.O. according to the instructions contained in the truck's instruction manual.

IV. Boom operation

Setting the outriggers

Folding outriggers on boom turret:

Release the mechanical locks on the outriggers. Shift the lever "Outriggers" (see Page 23) to the "out" position. Open the shutoff cocks for the rear outriggers and swing outriggers out. Open the cocks for the front outriggers and swing outriggers out. Open the cocks to extend the outrigger arms and telescope the arms fully to their end positions.

Important: Outriggers arms must always be extended fully. It is forbidden to set the telescope less than their full extension.

Rear outriggers:

Release the mechanical locks on the outriggers. Shift the lever "Outriggers" (see Page 23) to the "out" position. Open the relevant cocks to extend the outriggers and telescope the arms to their end positions.

Important: When extending the outriggers, take care to ensure that the hydraulic hoses do not get snagged.

Setting the outrigger feet:

Actuate the lever "Outriggers" (see Page 23) to the "out" position and open the relevant cocks to lower the outrigger feet.

Important: If the truck has a tandem rear axle, extend the outrigger feet only so far that the rear tyres still have slight ground contact.

If the truck has a single rear axle, engage the rear axle spring lock. Extend the outrigger feet only so far that the rear tyres still have slight ground contact.

Important: The ground under the outriggers must be solid enough to take up the outrigger load (see data plates on outriggers or entry in log book). If necessary, the load must be distributed by using suitable pads under the feet. Allow sufficient safety clearance to trenches, pits etc.

After setting the outriggers, close the relevant shutoff cocks and shift the "Outrigger" lever back to its neutral position.

Note: Observe the safety regulations on Pages 15 - 20.

IV. Boom operation

Folding out the boom

Maximum care must be taken when folding out the boom.

The method of folding out the boom depends upon its type of arm linkage, i.e. whether the boom has

"Z" fold (models VMZ ...) or "roll" fold (models VMR ...)

1. Boom with "Z" fold

- Actuate the relevant lever (control block or remote control) to raise Arm 1 to approx. 60°.
- Actuate the relevant lever (control block or remote control) to move Arm 2 slightly in towards Arm 1 until the boom hook releases.
- As soon as the boom hook has released, actuate the relevant control lever to bring the boom into the required position.

Permissible working range – see diagrams 6 a - c.

2. Boom with "roll" fold

- Actuate the relevant lever (control block or remote control) to raise Arm 1 to approx. 60°.
- Actuate the relevant lever (control block or remote control) to move Arm 2 slightly in towards Arm 1 until the boom hook releases.
- As soon as the boom hook has released, actuate the relevant control lever to bring the boom into the required position.

Permissible working range – see diagrams 6 a - c.

IV. Boom operation

Folding in the boom

Fold in the boom in the reverse sequence to that given on Page 26.

Retracting the outriggers

Retract the outriggers in the reverse sequence to that given on Page 25.

Preparing to drive off site

1. Secure the end hose and any objects carried on the pump so that they cannot fall off.
2. Connect the tail light to the boom and check that it is working correctly.
3. Shift to truck drive (see Page 24).

V. Changing wear parts

Changing pipes in slickline

Before starting pump operation, check the pipes in the slickline for sufficient wall thickness. Check by knocking the pipes with a hammer or (if available) with a wall thickness tester.

The minimum wall thickness must not be below the value given in the diagram on page 30 (depending upon pipe diameter and the concrete pressure during operation).

Change pipes with the boom arms folded in (to avoid tension in the slickline).

Ensure that couplings are correctly fitted and are locked.

VI. Appendix

Nuts and bolts

Tightening torques

Following torques are guiding values according to the German VDI 2230 for coefficient of friction of $\mu = 0.125$ and for bolts / nuts with threads and seating surfaces according to German standards DIN 912, 931, 933 etc.

Nominal thread \varnothing mm	Torque for bolt grade 8.8 (8G) Nm	Torque for bolt grade 10.9 Nm
M 8	23	32
M 10	46	64
M 12	80	110
M 14	125	180
M 16	195	275
M 18	270	390
M 20	385	540
M 22	510	720
M 24	660	930
M 27	980	1400
M 30	1350	1850

Important: high-tensile bolts

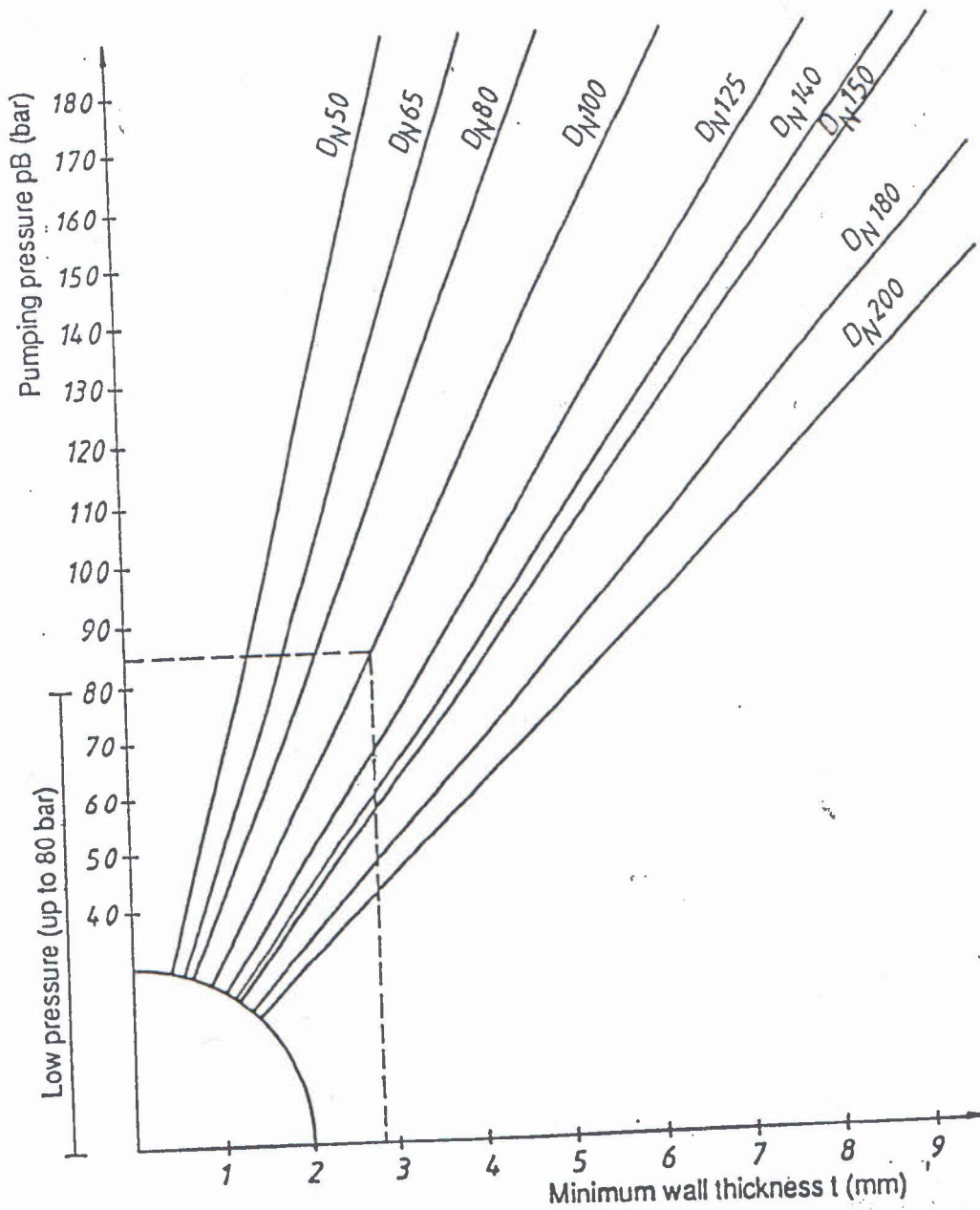
High-tensile bolts / nuts must always be tightened with an accurate, tested torque wrench.

Nuts / bolts must be lightly oiled or greased.

VI. Appendix

Minimum wall thickness of concrete pipes

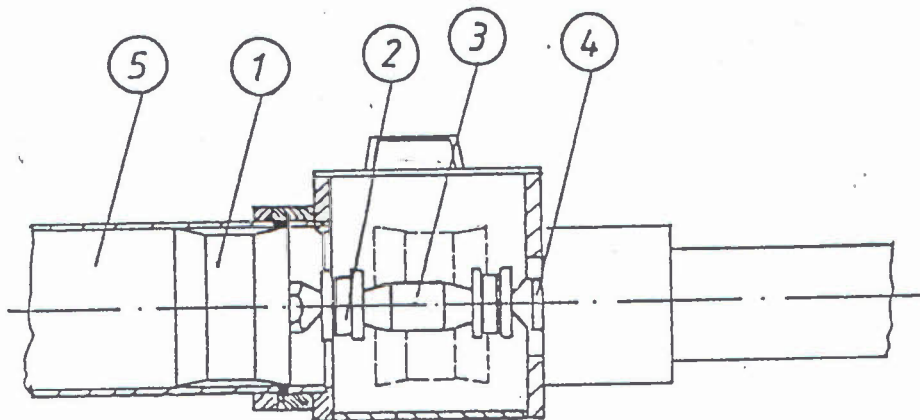
Wall thickness diagram (with example)



Using the diagram: Pumping pressure $p_B = 85$ bar
Pipe nominal diameter DN = 100 mm
→ minimum wall thickness $t = 2.8$ mm

V. Changing wear parts

Changing the conveying pistons:



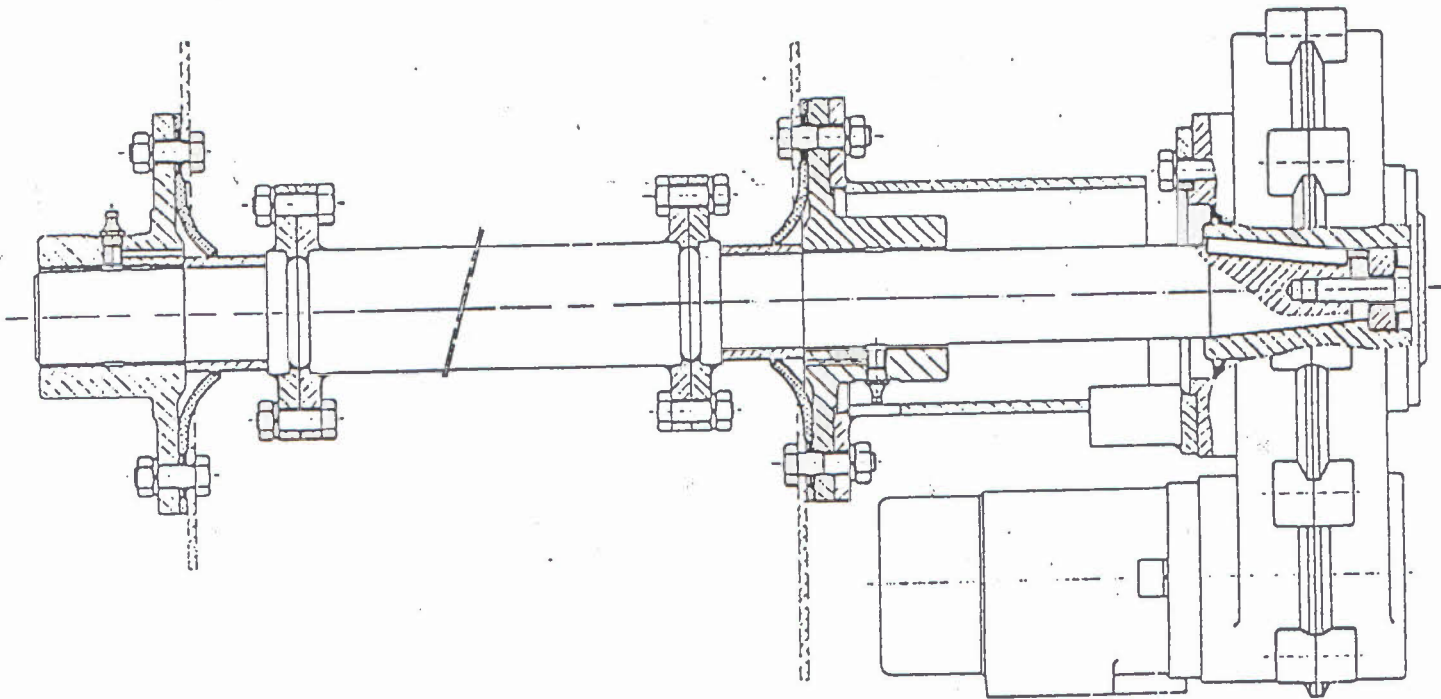
1. Set pump drive (see Page 30) to 3rd or 4th gear and reduce engine speed.
2. Pull piston (1) all the way back in "Pump" mode.
3. Remove couplings (2) and dumbbell (3).
4. Set unit to "Draw back" and carefully advance piston rod (4) of hydraulic cylinder up against piston (1). Connect coupling. See note opposite.
5. Set unit to "Pump" and draw piston (1) out of cylinder (5).
6. Change the pistons.
7. Carefully push new piston (1) into delivery cylinder with the pump battery running in "Draw back" mode. The piston is to be inserted only so far that the coupling can be easily removed and fitted again.
8. Release the coupling on the piston (1). Shift the pump to "Pump" mode and draw piston rod (3) back. Fit dumbbell (3) and fasten couplings to piston (1) and piston rod (4).

Note: Use the hydraulic stroke adjustment to de-stroke the pumps to minimum flow in order to obtain the slow speed and sensitivity necessary for removing and installing the pistons.

Important: Always switch off the pump battery and stop the truck engine when working with the hands in the water box (fitting couplings etc.).

V. Changing wear parts

Changing agitator seals and wear sleeves



1. Loosen the eight shaft bolts and take out agitator shaft (1).
2. Take cap (2) off agitator gear (3). Remove bolt (4) and jack off gearbox (3) with an M 16 jacking bolt.
3. Pull out input shaft (5). Heat up and draw off wear sleeve (6). Fit a new wear sleeve with Loctite No. 0638.
4. Remove the six bolts and take off flange (7). Change the rubber seal (8) and fit the flange back into position.
5. Push in input shaft (5) and fit agitator gearbox.
6. Fit agitator shaft (1) and tighten the eight bolts.

Important: Bolt (4) must be tightened to torque. See bolt torques on Page 36.

VI. Appendix

Nuts and bolts

Tightening torques

Following torques are guiding values according to the German VDI 2230 for coefficient of friction of $\mu = 0.125$ and for bolts / nuts with threads and seating surfaces according to German standards DIN 912, 931, 933 etc.

Nominal thread \varnothing mm	Torque for bolt grade 8.8 (8G) Nm	Torque for bolt grade 10.9 Nm
M 8	23	32
M 10	46	64
M 12	80	110
M 14	125	180
M 16	195	275
M 18	270	390
M 20	385	540
M 22	510	720
M 24	660	930
M 27	980	1400
M 30	1350	1850

Important: high-tensile bolts

High-tensile bolts / nuts must always be tightened with an accurate, tested torque wrench.

Nuts / bolts must be lightly oiled or greased.

VI. Appendix

Minimum wall thickness of concrete pipes and relevant pumping pressure

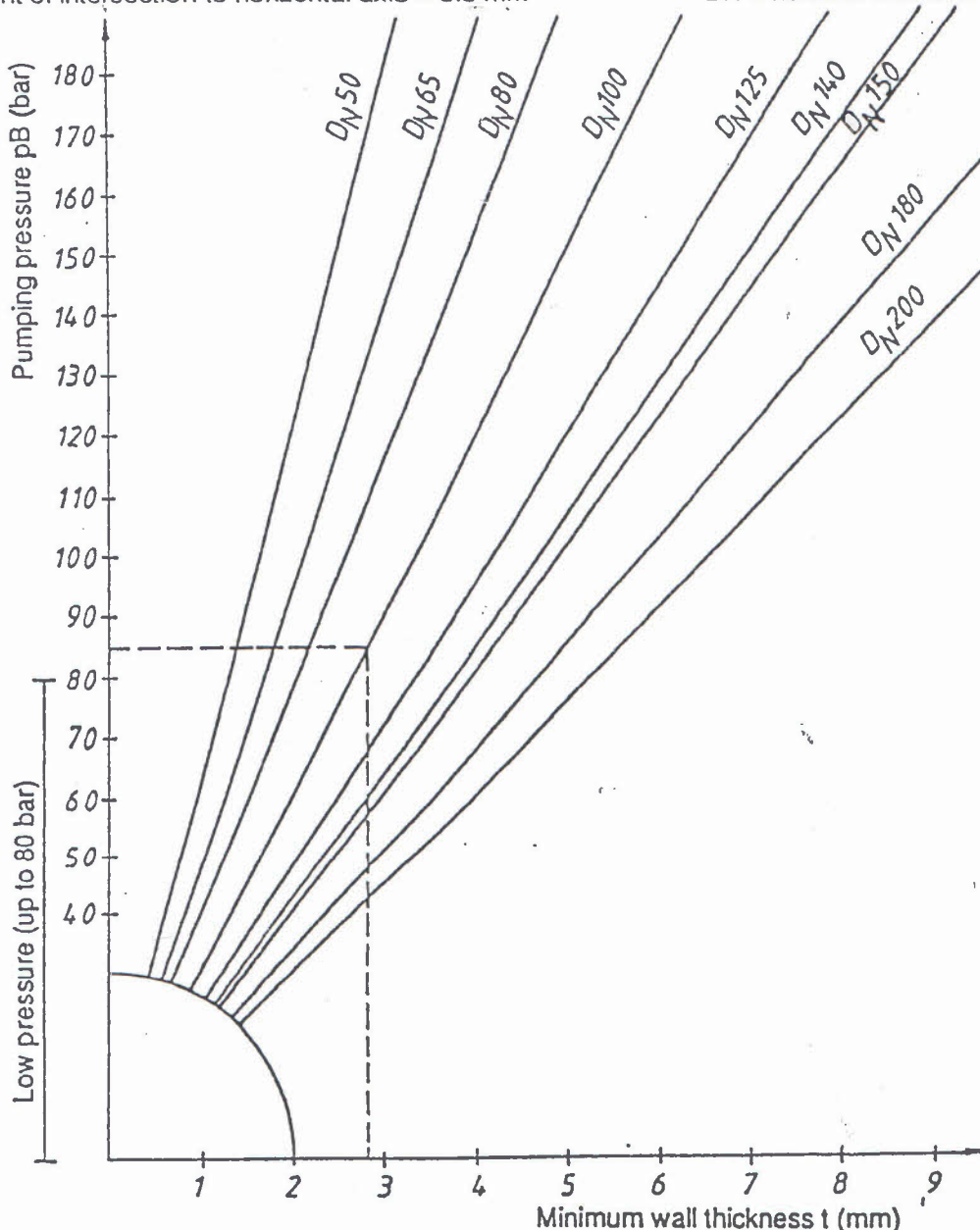
Using the diagram for minimum wall thickness *

Given values: BD = 120 bar, DN 150 mm

Finding the minimum thickness:

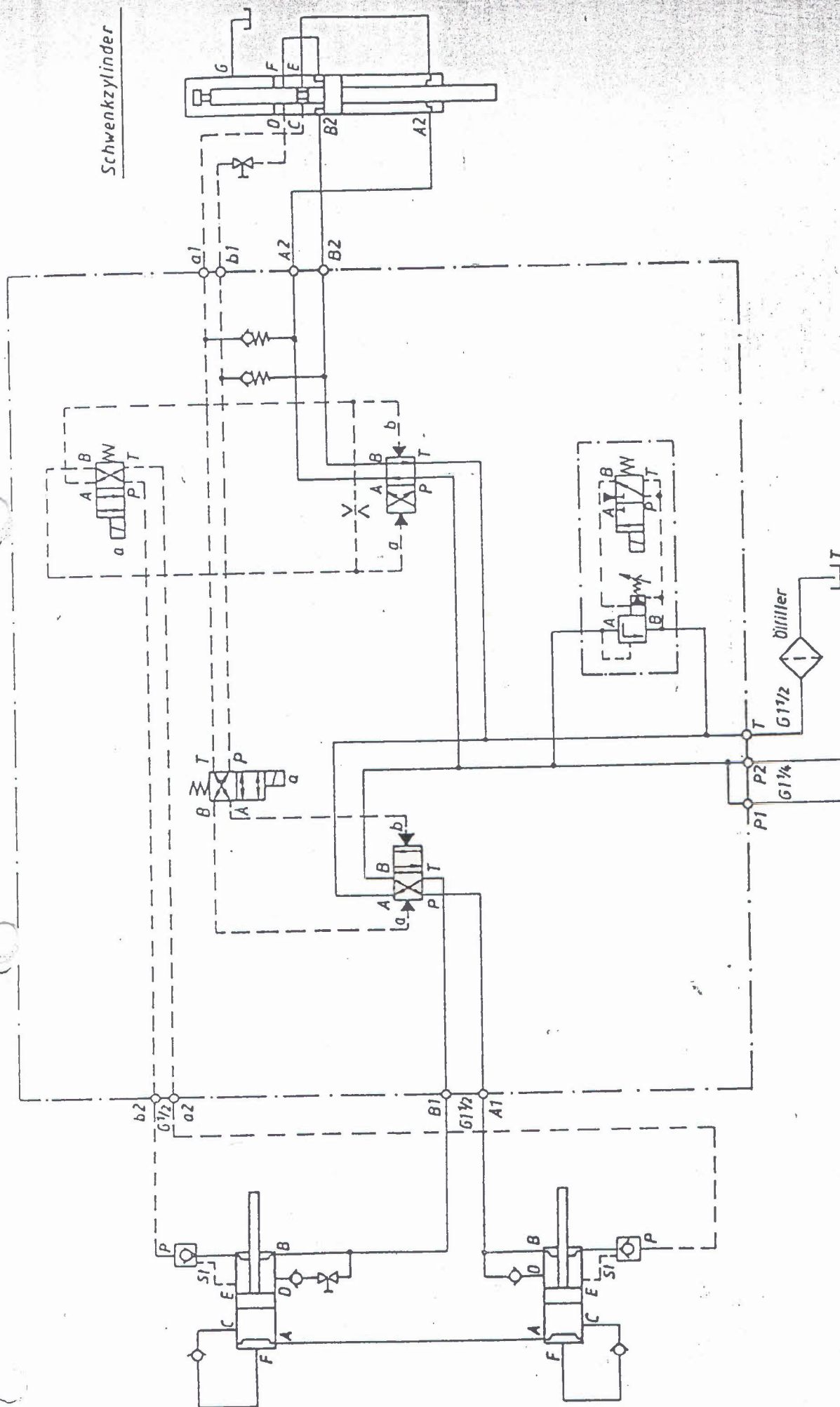
Proceed horizontally from "120" on the vertical axis (line a) to meet the line "DN 150". Then downwards (line b) to meet the horizontal axis. Minimum wall thickness at point of intersection to horizontal axis = 5.8 mm

ND = low pressure
 HD = high pressure
 BD = pumping pressure
 DN = nominal diameter



Using the diagram: Pumping pressure pB = 85 bar
 Pipe nominal diameter DN = 100 mm
 → minimum wall thickness t = 2.8 mm

Schwenkzylinder



Zyl. B1

Zyl. A1



ЗАПЧАСТИ ДЛЯ БЕТОННАСОСОВ
+79180710333

Art der Änderung		Name		Abmaß	
neu	Änd.	Mitl.-Nr.	Datum	Typ	BP
REICH Maschinen GmbH					
Masstab		Datum		Zeichn.-Nr.	
/.		19.12.88		413 541B81 413	
		HO.		Hydr. - Schaltplan BP	
		Gepr.			

Anschluß an Schaltplan
Pumpeneinheit

IV. Pump operation

Engaging pump drive

When the concrete pump is fitted with a transfer shift (splitter) box, a pneumatic cylinder is used to engage the pump drive. Sufficient air pressure must be available in the truck's receiver to allow the cylinder to be actuated. With the truck ignition ON but with the engine stopped, shift the switch in the cab to "Pump operation". The tell-tale light then comes on. Depress the clutch pedal and start the truck engine. Engage the relevant gear range (for 1:1 direct drive) and allow the clutch to engage.

When the concrete pump is driven from the truck P. T. O., refer to the instructions contained in the truck's instruction manual.

II. Function and servicing of pump systems

Distributor boom:

Operation, functions and servicing – see separate manual.

I. General

Data plates

- Data plate for concrete pump

Reich		<i>MASCHINEN GMBH & Co</i> 7916 Nersingen/W.-Germany	
Type	<input type="text"/>	Fabrik-Nr.	<input type="text"/>
	<input type="text"/>	Baujahr	<input type="text"/>
		max. Hydraulikdruck	<input type="text"/> bar
		max. Förderdruck	<input type="text"/> bar

The data plate is located on the right-hand side of the concrete pump frame.

- Data plate for distributor boom

Reich		<i>MASCHINEN GMBH & Co</i> 7916 Nersingen/W.-Germany	
Type	<input type="text"/>	Fabrik-Nr.	<input type="text"/>
		Baujahr	<input type="text"/>
		max. Hydraulikdruck	<input type="text"/> bar
		max. Förderrohr- ϕ	<input type="text"/> mm
		max. Endschlauchlänge	<input type="text"/> m

The data plate is located on the boom turret.

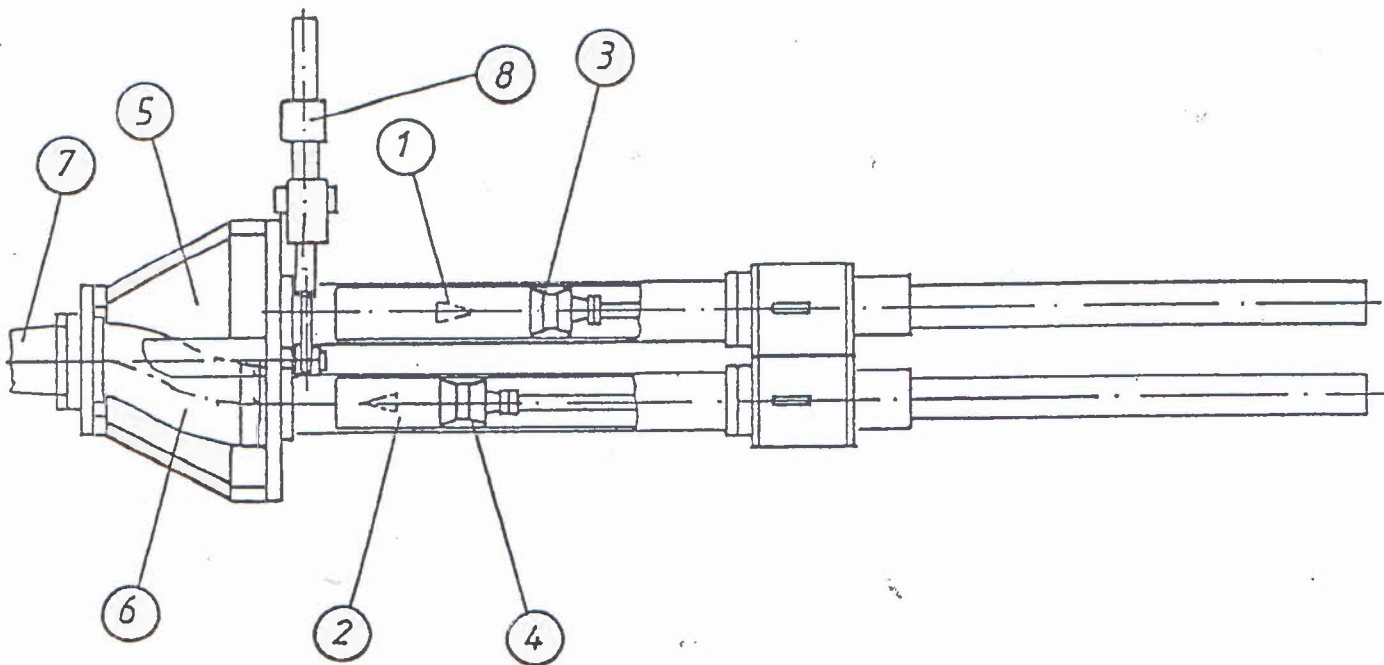
I. General

Description

REICH concrete pumps are hydraulically driven, fully hydraulically controlled twin-cylinder pumps with an S-type swing tube. They can pump concrete with max. grain size of up to 60 mm. Because of the special sealing of the swing tube, they can also be used to pump other pumpable substances such as screed, mortar, sludge, water etc.

REICH truck-mounted concrete pumps have all of their systems (including the boom) mounted on a sub-frame which is bolted to the truck chassis. Primary drive is provided by the truck engine. REICH trailer concrete pumps are driven either by a diesel engine or an electric motor.

Function of the concrete pump battery



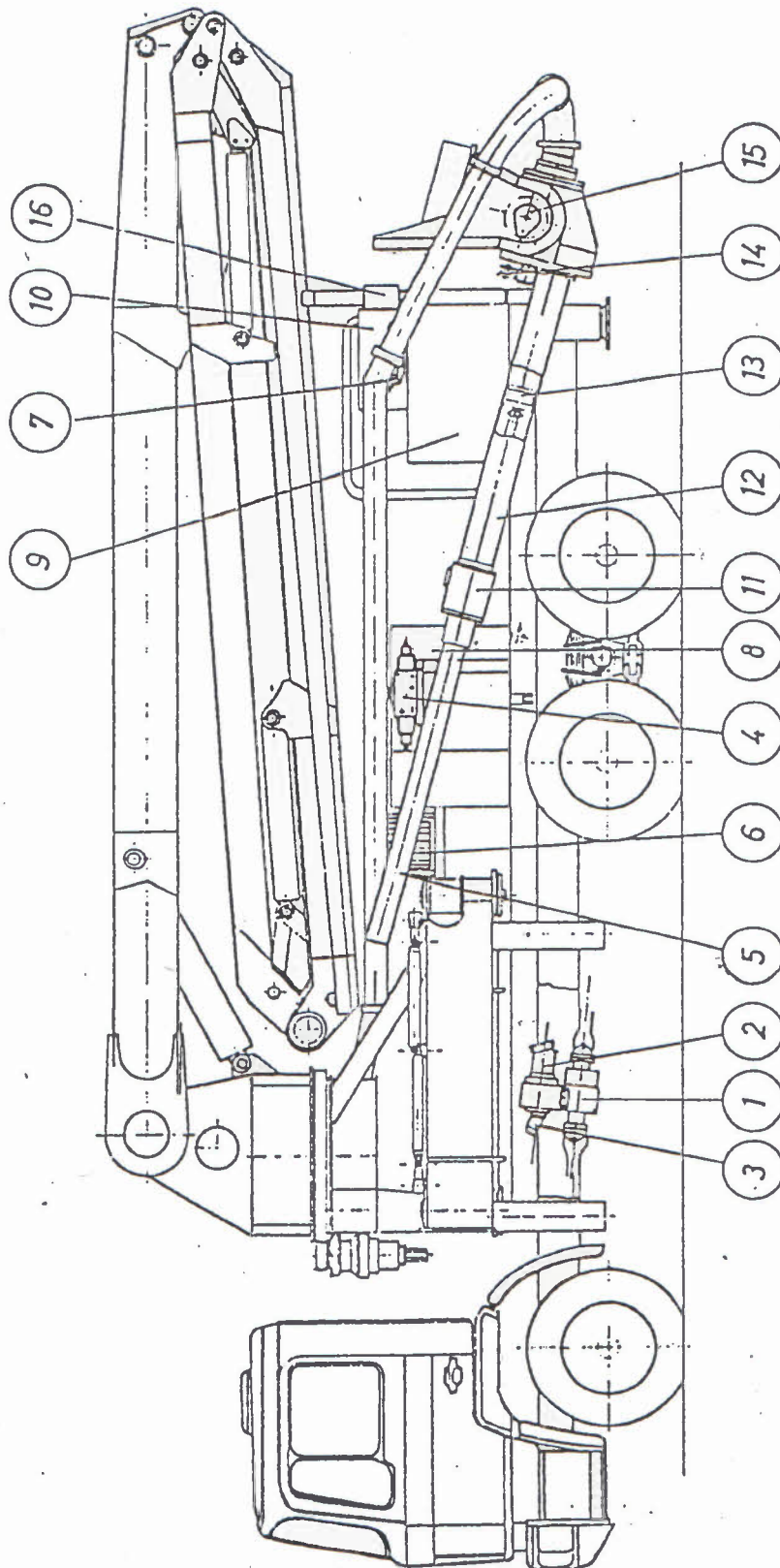
Concrete is drawn out of the hopper (5) by the intake piston (3) into the delivery cylinder (1). At the same time, the other piston (4) pumps concrete out of the cylinder (2) and through the S tube (6) into the slickline (7). When piston (4) reaches its end position (at the front), a signal is given that shifts the S tube (6). Piston (4) then reverses and draws in concrete from hopper (5) while piston (3) commences its forward stroke and pumps concrete through the S tube (6) into the line (7). The conveying pistons (3 & 4) and the S tube (6) are actuated by hydraulic cylinders that control each other hydraulically. The pump direction can be reversed from "pump" to "draw back" to allow concrete to be drawn out of the slickline and pumped back into the hopper.

Concrete Pump

Reich

I. General

Layout:



- | | | |
|-------------------------------|---------------------------------|-------------------------|
| 1. Splitter box | 7. Hydraulic motor - water pump | 13. Conveying pistons |
| 2. Hydraulic pumps, system I | 8. Oil tank - concrete pump | 14. Shift pistons |
| 3. Hydraulic pumps, system II | 9. Oil tank - distributor boom | 15. Agiator gearbox |
| 4. Main control block | 10. Control block | 16. Central lube system |
| 5. Hydraulic pump cylinders | 11. Water box | |
| 6. Oil cooler | 12. Conveying cylinders | |



Concrete Pump

Reich

I. General

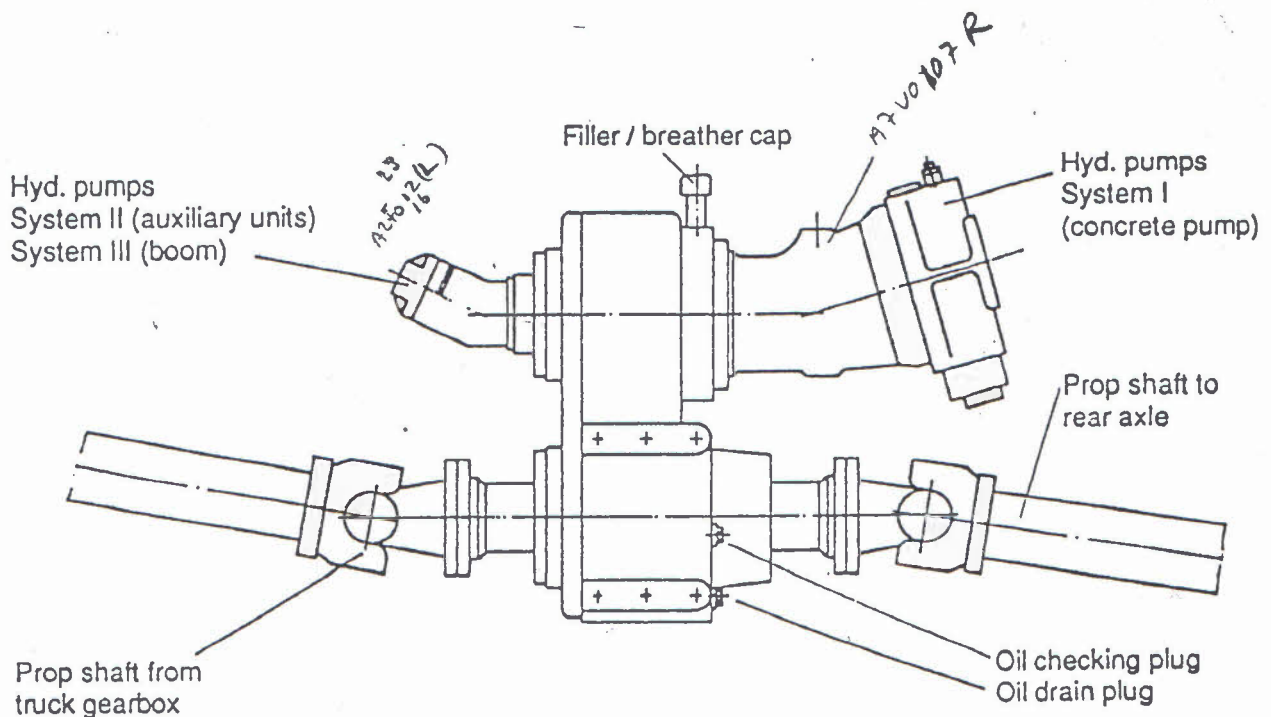
Technical data:

		RCP 10/70	RCP 13/70	✓ RCP 13/90	✓ RCP 16/90	RCP 16/120
Typ BPF		1814 - 066057	1814 - 069073	2014 - 085059	2020 - 094074	2320 - 124056
Concrete pump:						
Theor. output, max.	m ³ /h	68	69	85	94	124
Theor. concrete pressure, max.	bar	67	73	59	74	56
Delivery cylinder diameter	mm	180	180	200	200	230
Delivery cylinder stroke	mm	1400	1400	1400	2000	2000
Stroke speed	min ⁻¹	32	32	32	25	25
Main hydraulics:						
Pump flow, max.	l/min	250	330	330	400	400
Hydraulic pressure, max.	bar	290	290	290	320	320
Hopper:						
Capacity (approx.)	ltr	500	500	500	500	500
Filling height* (approx.)	mm	1400	1400	1400	1400	1400
Water tank:						
Capacity	l	600	600	600	600	600
Water pump flow	l/min	60	60	60	60	60
Water pressure, max.	bar	20	20	20	20	20

* depending upon model of truck

II. Function and servicing of pump systems

Splitter box / P. T. O.



The primary drive for the concrete pump is provided by a splitter (transfer) gearbox installed in the drive line to the truck's rear axle.

Switching the gearbox from "truck drive" to "pump" actuates the hydraulic pumps for systems I, II and III. Engaging the gearbox— see Page 30.

Important: The splitter (transfer) gearbox is only to be engaged when the pump is stationary.

If the concrete pump is driven from the truck's P. T. O., a separate prop shaft is installed which connects the output of the truck's gearbox (P. T. O.) to the pump gearbox.

Servicing:

1. Checking oil level

Check oil level once a week at the checking plug. Check gearbox for signs of leakage. Change oil according to instructions on Page 18.

2. Greasing the prop shafts

Grease the prop shafts once a week (see Page 18).