



REINEX Hochdrucktechnik GmbH - Geraer Str. 7 - 07973 Greiz

---

# Operating Instructions

acc. to VDMA 24414

for the

Intermediate Pressure Attachment

**Citytrac 4200**

**Attachment no.: MDA 500-0099-13**



REINEX Hochdrucktechnik GmbH - Geraer Str. 7 - 07973 Greiz

---

<b><u>Contents</u></b>	<b>Page</b>
1. Applicability	2
2. Technical data	3
3. Description of device	4
3.1. Attachment	4
3.2. Function	4
4. Initial commissioning and operation	5
5. Device fitting with the setting-down device	7
6. Winter operation	9
6.1. Frost protection	9
7. Decommissioning	9
8. Recommissioning	10
9. Notes on maintenance	10
10. Errors	11
11. Checks	11
12. Prevention of accidents, danger analysis	12
13. General regulations and notes	13
13.1. Guarantee	13
13.2. Regulations for the base vehicle	13
14. Service	14
15. Index of enclosures	14



REINEX Hochdrucktechnik GmbH - Geraer Str. 7 - 07973 Greiz

## **1. Applicability**

This device is only authorised for the designated usage in compliance with the relevant technical standards and the notes on safety in these operating instructions, in particular sections 3.2 and 12.

With the accessories authorised by us as the manufacturer, the device is suitable for many cleaning tasks in the community area when used with water:

- in combination with washing brushes
- service work in parks (watering parks and lawns)
- diverse application possibilities of the device combination  
with low-pressure spray bar
- surface cleaning when using a spray bar
- fertilising when using an additive (Dosatron)
- bringing out brine

With the aid of a special pump it is possible to fill containers with a large feed quantity and to operate work devices with a small feed quantity.

The feed quantity of the pump adapts itself to the relevant pressure conditions.

Since the vehicle has convenient proportions it is very manoeuvrable and can thus be used on narrow streets with gateways, in parks, pedestrian precincts, sports grounds and similar areas.

Any application of the unit which does not conform to the safety instructions and technical specifications is prohibited. Any misuse lies under the responsibility of the owner, user or operator.

Moreover, the producer's operating and maintenance instructions must be applied by all means.

The device must only be used, maintained and repaired by persons who are familiar with the device and who have been instructed as to the dangers.

## **2. Technical data**

- Machine type MDA 500

	<i><b>Pump type Kappa 100</b></i>
feed quantity hydraulic motor	40 l/min
hydraulic pressure	160 bar
output	10,5 KW
feed quantity water pump water pressure	approx. 90 l/min 40 bar

	<i><b>Pump type ACE</b></i>
feed quantity hydraulic motor	15 l/min
hydraulic pressure	60 bar
feed quantity water pump	60 l/min
water pressure	6 bar

- dimensions L x W x H (mm)	1500 x 1100 x 800
- filling quantity of barrel (l)	500
- empty weight (t)	0.15
- useful load (with filled barrel 500l) (t)	0.65



REINEX Hochdrucktechnik GmbH - Geraer Str. 7 - 07973 Greiz

### **3. Description of device**

#### **3.1. Attachment**

The attachment is a combined unit, which can be mounted on a carrier vehicle Hako Citytrac 4200 or Hako Citymaster 1200. The attachment is screwed onto the tipper floor with 4 screws. Prerequisite for the carrier vehicle is the equipping with a hydraulic unit (required hydraulic output, see point 2) and the fitting of a crawling speed when using a spray bar.

The attachment consists of the components:

- hollow profile base frame with mountings for parking supports
- water barrel made from glass fibre reinforced plastic
- spray bar attachment
- spring tension reel
- rear slide-in frame with intermediate pressure pump unit
- rear slide-in frame with low-pressure pump unit

The base frame is designed in such a way that only one rear slide-in frame can be mounted, that is, the attachment can be used either as intermediate pressure or as low pressure unit.

When using the attachment as intermediate pressure unit, it is also possible to bring out brine.

#### **3.2. Function**

Dependent on which rear slide-in is mounted, the attachment can be utilised as intermediate or low pressure unit. The required water pressure is created with a pump and lies against the ball cocks. The drive is carried out hydraulically via a toothed wheel motor. To enlarge the usable liquid volume, the container is connected with the tank of the carrier vehicle with a hose.

When filling with the filling device, the water is first guided into the 500 l container of the attachment and runs from there into the water tank of the carrier vehicle.

The suction line of the pump is connected to the water tank of the vehicle. During operation of the pump, water is fed out of the vehicle tank. At the same time this quantity is fed from the attachment container via the connection hose until this container is empty.

A shut-off cock and a suction filter are located in the suction line. The suction filter can be removed for cleaning without problems if the shut-off cock is closed. A further ball cock is for emptying the barrel.

An overflow valve is fitted to each pump, where the water pressure can be set.

With closed ball cocks to the consumer and opened suction line, the pressure water is pumped over the overflow valve and guided back into the container.



REINEX Hochdrucktechnik GmbH - Geraer Str. 7 - 07973 Greiz

### **CAUTION! Avoid a dry run of the pump.**

On each pump unit there are two pressure outlets to the consumer

- spring tension reel
- attached spray bar.

A shut-off cock is fitted in each pressure line.

### **4. Initial commissioning and operation**

- fix and lock the attachment on the tipper floor with the aid of 4 screws M10
- connect the hydraulic hoses to the relevant vehicle couplings
- connect the connection line between the container and the suction line to the water tank of the carrier vehicle
- fit the front attachment to the coupling triangle
- connect the front attachment with the pressure connection at the pump
- plug in the coding plug into the electric socket
- close all cocks
- fill the container via the filling device with clean water
- check the suction filter for cleanliness
- open suction cock
- start the vehicle motor
- switching on the hydraulic unit starts the pump operating

To work with the individual consumers, the relevant ball cock must be opened.

### **CAUTION!**

**When mounting the low pressure unit, care must be taken that the setting for the feed quantity of the hydraulic unit at the carrier vehicle is correct.**

Pump type ACE-low pressure pump

Set the hydraulic unit to a feed quantity of 15 l/min. A flow limiting valve is fitted in the pressure line to the pump motor.

This valve protects the water pump against a speed which is too high.

If the oil flow is too high, the pressure line is closed so that the pump is switched off.



REINEX Hochdrucktechnik GmbH - Geraer Str. 7 - 07973 Greiz

### **Caution, danger of accident**

- Water supply lines and hydraulic lines must be absolutely tight and must be checked again.
- A dry run of the pump must be avoided.
- Open ball cocks when the spray unit is under control.

**Caution !** The equipment must only be operated, maintained and repaired by persons who are familiar with it and who have been instructed as to the dangers. Please take care that the backflow lines are connected correctly. If the coupling is not connected properly, the backpressure cone is not pushed back and a back pressure is created in the backflow lines, which causes the sealing ring at the shaft of the hydraulic motor to be pushed out.

The attachment is finished as combination attachment, that is, it is possible to fit different pump units at the base frame.

#### 1. Intermediate pressure unit

- Connect to the front work cycle, the connection lines must be guided at the attachment to the front through the tunnel underneath the cab.
- Mount the unit at the base frame with 2 bolts and hang the lower mountings at the rear of the carrier vehicle.

#### 2. Low-pressure unit

- Connect to the couplings of the rear work cycle
- Mount the unit at the base frame with 2 screws M20.

#### *Exchanging the pump unit:*

When exchanging the pump units with each other, the required connection lines (water, hydraulic) must be released.

#### *Removing the intermediate pressure unit:*

- Remove the connection bolt  $\varnothing$  20 at the frame.
- Lift the frame, pull it to the back and set it down.

#### *Removing the low-pressure unit:*

- Remove the hexagon screws M20, hold the frame tight for this.
- Pull the frame out downwards and set it down.

Mounting is carried out in reverse order.



REINEX Hochdrucktechnik GmbH - Geraer Str. 7 - 07973 Greiz

### **CAUTION!**

Peculiarity when checking the oil level at the vehicle.

The oil level dipstick is located underneath the tipper bridge, which must be tipped for this.

The following must be noted or carried out at the vehicle:

- with the intermediate pressure unit, remove the bottom plugs at the vehicle
- with the low-pressure unit, release the retaining screws M20
- release the couplings of the water hoses at the water tank of the vehicle
- **tip the tipper bridge as far as the hydraulic hoses allow**
- **tip the attachment only with empty container**

### **CAUTION!**

At the tipper cylinder, the full stroke is not possible.

## **5. Device fitting with the setting-down device**

### **CAUTION !**

**The mounting of the device must only be carried out if the motor is switched off!**

The mounting and dismounting of the device on the carrier vehicle can be carried out with a setting-down device in form of setting-down supports.

These setting-down supports are pushed into the frame and the hydraulic hoses are coupled on or off.

The connection hoses for the intermediate pressure unit must be pulled forward, together with the hose for the front attachment, through the mounting support at the tipper and through the vehicle tunnel.

**Set down the unit only on an even surface on firm ground (concrete), as otherwise there is a danger of tilting!**

**Disassembly of the assembly only with empty container!**



REINEX Hochdrucktechnik GmbH - Geraer Str. 7 - 07973 Greiz

Hose guide for tank pooling in the center at the front mount tipper.  
(see photo)





REINEX Hochdrucktechnik GmbH - Geraer Str. 7 - 07973 Greiz

## **6. Winter operation**

**ATTENTION, ACCIDENT HAZARD!**  
**When the unit is frozen all safety devices are blocked!**

Before the unit is switched on, please make sure that it has thawed completely! Exclude damage caused by frost, e.g. cracks in elements delivering water. If a frozen unit is switched on, heavy damage to the pump may be the result.

**ATTENTION, ACCIDENT HAZARD!**  
**Sometimes, ice pieces remain in the pressure hose. When the pressure is increased, they shoot out of the hose with high speed.**

### **6.1. Frost protection**

The following measures can prevent frost damage:

#### **Emptying the complete unit:**

- open the outlet ball cock and empty the water container, open outlet cock pump.
- it is essential that the filler hose between pressure regulation valve and water container is emptied for reasons of safety by pulling the hose off.
- disposal is carried out with the hose hanging down.

**Potential damages caused by frost can only be avoided when the unit is emptied entirely!**

The emptying of the unit can be assisted with compressed air.

**Filling the unit with a chemical antifreeze agent (down to  $-30^{\circ}\text{C}$ ) is another possibility to make the unit frost-resistant.**

## **7. Decommissioning**

When decommissioning over a longer period, the low pressure equipment must be kept protected against frost and, if necessary, must be filled with a frost protection agent.



REINEX Hochdrucktechnik GmbH - Geraer Str. 7 - 07973 Greiz

## **8. Recommissioning**

Prior to each recommissioning, the entire pressure system must be checked as to satisfactory condition, especially the hose lines and spray units.

Any existing faults must be eliminated.

The pressure system must be rinsed through with clear water at idling speed prior to commencing work.

## **9. Notes on maintenance**

**Maintenance and repairs are always to be carried out with switched off device!**

### **Maintenance periods:**

The first maintenance should be done after the 50 hours of operation, the following ones every 100 hours of operation.

### **Fixing the unit:**

Make sure that all bolts and pressure hoses are fixed.

### **Basic vehicle:**

See operating and maintenance instructions by the producer.

### **Hydraulic unit:**

see separate operating and maintenance regulations of the vehicle manufacturer

### **Water pump:**

see separate operating instructions

### **Option: hose wind-up**

see separate operating instructions

### **Water container:**

Fill only with clean, filtered water!

When using water from the main system, let the water run until it is clear before filling.

Clean the water container annually with a jet pistol and let the waste water run off.



REINEX Hochdrucktechnik GmbH - Geraer Str. 7 - 07973 Greiz

### **Water filter:**

The water filter must be cleaned according to requirement, however, at least once a week. It is essential that faulty filter inserts (sieves) are renewed!

Cleaning of the filter in the inlet of the water pump can also be carried out with the water tank filled, by closing the ball cock between the tank and the filter. After cleaning the filter, the ball cock must be opened again.

Heavily soiled filter impair the suction behaviour of the water pump and can therefore lead to damage of the water pump.

### **Oil – hydraulic system:**

The oil level of the hydraulic aggregate should be checked every 100 operating hours. If necessary, fill up oil.

## **10. Errors**

- see separate operating instructions in the appendix (pumps)

## **11. Checks**

Liquids sprayers must be checked as to their work safe condition by the manufacturer or by a specialist

- prior to the initial commissioning
- after modification or repairs of parts, which influence the safety
- after an interruption in operation for more than 6 months
- however, at least every 12 months.

„Specialists,, are persons who have sufficient knowledge in the area of liquids sprayers due to their technical training and experience and who are sufficiently familiar with the specific government regulations for work safety, regulations for the prevention of accidents and the guidelines of technology (i.e. DIN sheets) so that they are able to evaluate the work safe condition of liquids sprayers.

**The result of the check must be recorded in writing.**



REINEX Hochdrucktechnik GmbH - Geraer Str. 7 - 07973 Greiz

## **12. Prevention of accidents, danger analysis**

Regulations for the user:

- The equipment must only be operated by persons who are familiar with its operation.
- The maximum pressure according to the type plate must never be exceeded.
- The notes on assembly and the mounting guidelines according to DIN 2066 must be complied with when connecting the pressure hoses.
- Hoses must be arranged in such a way that they cannot be damaged.
- Hoses must only be repaired by the manufacturer – if the operator wants to repair hoses himself he must obtain the authorisation of the trade organisation.
- The low-pressure device must be checked for operating safety at least every 12 months by a specialist (fitter). The result must be recorded in writing.
- Unauthorised alterations to the equipment exclude liability of the manufacturer for damages resulting from this.
- The jet of liquids must not be directed onto electrical units.
- Damaged or leaking hose lines must be exchanged.
- The device must be checked as to proper condition prior to every commissioning (sight check).



REINEX Hochdrucktechnik GmbH - Geraer Str. 7 - 07973 Greiz

## **13. General regulations and notes**

### **13.1. Guarantee**

Our conditions are the basis for the guarantee. The guarantee starts at the day of delivery and includes a period of 12 months.

Damage caused by

- wear
- ignorance of the given instructions
- improper use and
- strangers

is excluded from the guarantee.

The guarantee expires when repairs and other interferences have been carried out by persons who have not been authorized by us.

Moreover, the operator loses any rights of guarantee if he retrofits the unit with other than the original pieces and if he adds supplements or carries out changes.

During the period of guarantee, transport costs (from the customer to the producer and back) are at the customer's expense.

### **13.2. Regulations for the base vehicle**

The admissible total weight and the axis load must not be exceeded.

The equipment guidelines of the vehicle manufacturer guidelines and basic notes for the operation of the equipment must be complied with.

#### **Note:**

The travelling speed must be adjusted to the highway and traffic conditions in each case, whereby the influence of the device during braking, negotiating bends etc. must be considered.

The operator is responsible for compliance with the legal regulations of StVO and StVZO, the regulations for work protection and the prevention of accidents of the relevant trade organisation, as well as the operating instructions of the device manufacturer.



REINEX Hochdrucktechnik GmbH - Geraer Str. 7 - 07973 Greiz

## **14. Service**

Service address of the manufacturer:

REINEX Hochdrucktechnik GmbH  
Gewerbegebiet Geraer Straße 7  
**D-07973 Greiz**

Phone: 0049 3661/6285-0  
Fax: 0049 3661/628519

Service is carried out through the trader networks of the Hako-Werke.

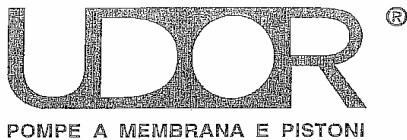
## **15. Index of enclosures:**

- Enclosure 1: Operating instructions intermediate pressure pump
- Enclosure 2: Operating instructions hose wind-up
- Enclosure 3: Tank amalgamation
- Enclosure 4: Spare parts list
- Enclosure 5: Hydraulic diagram, electric diagram
- Enclosure 6: Acceptance protocol
- Enclosure 7: EC conformity declaration



REINEX Hochdrucktechnik GmbH - Geraer Str. 7 - 07973 Greiz

Enclosure 1

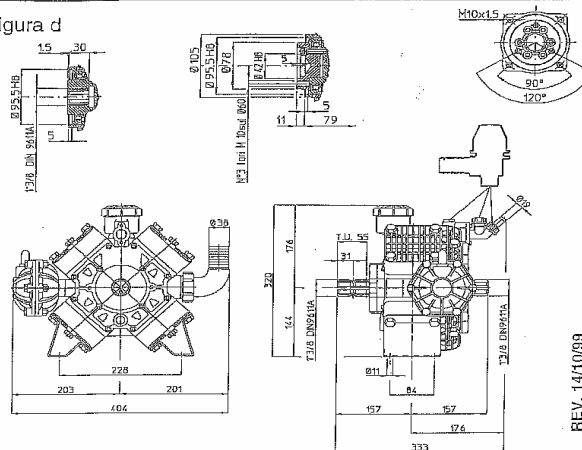


LIBRETTO USO E MANUTENZIONE POMPE SERIE KAPPA 75-100  
 OPERATING AND MAINTENANCE MANUAL KAPPA 75-100 SERIES PUMPS  
 MANUEL DE MODE D'EMPLOI ET D'ENTRETIEN POMPES SERIE KAPPA 75-100  
 BEDIENUNGS- UND WARTUNGSANLEITUNGEN PUMPEN SERIE KAPPA 75-100  
 MANUAL DE USO Y MANTENIMIENTO BOMBAS SERIE KAPPA 75-100  
 ΕΓΧΕΙΡΙΔΙΟ ΧΡΗΣΗΣ ΚΑΙ ΣΥΝΤΗΡΗΣΗΣ ΑΝΤΙΛΙΣΣ ΣΕΙΡΑΣ KAPPA 75-100  
 MANUAL DE USO E MANUTENÇÃO BOMBAS SÉRIE KAPPA 75-100

- valvola di massima pressione
- pressure relief valve
- clapet de pression maximum
- Überdruckventil
- Válvula de máxima presión
- Βαλβίδα μελέσης κωστής
- válvula de máxima pressão

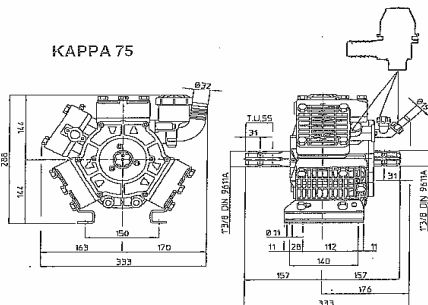


figura d



REV. 14/10/99

KAPPA 75



PARTI DI RICAMBIO - SPARE PARTS - PIÈCES DE RECHANGE - ERSATZTEILE - REPUESTOS - ΑΝΤΑΛΛΑΚΤΙΚΑ - PEÇAS DE TROCA

KAPPA 100

POS.	CODICE	DESCRIZIONE	Q.TA'
S	7042000107	ANELLO FERMA BIELLA .....	2
87	7045000268	ALBERO ECCENTRICO .....	1
81	7014000315	ACCUMUL.PRESSIONE .....	1
170	7047000727	ANELLO DI TENUTA .....	1
* 240	7015010204	BULLONE FERMA MEMBRANA .....	3-4
376	7600140888	CONNES.ASPIRAZIONE .....	1
497	7045020924	CAMICIA .....	3-4
552	7014020807	COPERCHIO PIPA CARICO OLIO .....	1
557	7018020820	COPERCHIO ACCUM.PRESSIONE .....	1
632	7055020945	CARTER KAPPA 100 .....	1
698	7001021401	CUSCINETTO .....	1
701	7402021405	CUSCINETTO .....	1
* 794	7015030114	DISCO FERMA MEMBRANA .....	3-4
804	7045030132	DISCO RASAMENTO .....	1
832	7045030251	DISTANZIALE BIELLA .....	2
845	7001030301	DADO .....	6
864	7055050187	FLANGIA CARTER .....	1
924	7045050189	FLANGIA PORTA ACCOPLIAMENTI .....	1
925	7047050170	FLANGIA PORTA INNESTI .....	1
977	7401060205	GUARNIZIONE .....	1
1055	7600060450	GHIERA .....	1
1072	7004080509	GUARNIZIONE .....	1-2
1126	5038060816	VALVOLA ARIA .....	1
*1299	7015090513	MEMBRANA PISTONE .....	3-4
*1300	7015090314	MEMBRANA ACCUMULATORE .....	1
1376	7010110116	O-RING .....	1
1390	7003110125	O-RING .....	1
*1391	7015110127	O-RING .....	6-8
1392	7015110129	O-RING .....	6-9
1395	7040110148	O-RING .....	1
1398	7014110142	O-RING .....	1
1408	7045110193	O-RING .....	1
1409	7048110169	O-RING .....	1
1421	7055110159	O-RING .....	1
1480	7055120237	PIEDE .....	2
1490	7202120348	PIPA CARICO OLIO .....	1
1578	7045120518	PISTONE .....	3-4
*1702	4015600601	PREM.VALV.ASP.MAND. ....	6-8
1721	4038601708	PREM.TESTATA .....	6-4
1740	4021803504	PREM.PIPA CARICO OLIO .....	1
1801	4055601529	PREM.SEMBIELLA .....	3-4
1811	4023803105	PREM.ACCUMULATORE .....	1
1843	7003140307	ROSETTA PIANA .....	2
1845	7002140310	ROSETTA PIANA .....	6
1967	7045150207	SPINOTTO .....	3-4
2061	7015150615	SEGGER INTERNO .....	6-8
2152	7055151919	SEMBIELLA .....	3-4
2246	7202180571	TAPPO 1/2 GAS CONICO .....	1
2251	7004180302	TAPPO .....	1-2
2266	7038180332	TAPPO TESTATA KAPPA .....	7-8
2321	7088180439	TESTATA .....	3-4
2482	7207180409	V.T.E. ....	6
2563	7402180508	V.T.C.E.I. ....	6
2598	7207180553	V.T.C.E.I. ....	3-12
2599	7004180528	V.T.C.E.I. ....	2
2594	7207180524	V.T.C.E.I. ....	6
7671	7015140309	ROSETTA PIANA .....	15-12
7948	7202180445	V.T.E. ....	19-20
8145	4039870312	KIT ACCESSORI ASPIRAZIONE K75 .....	1

POS.	CODICE	DESCRIZIONE	Q.TA'
365	7008020252	VAR. PER K75 VA RISPETTO K100 VA	+
567	7038020834	CONNESSIONE ASPIRAZIONE .....	1
622	7045020929	COPERCHIO ACCUMULATORE .....	1
871	7801030404	CARTER KAPPA 75 .....	1
922	7045050168	DADO .....	2
1038	7003060418	FLANGIA CARTER .....	1
1126	5038060816	GHIERA .....	1
1389	7014110141	VALVOLA ARIA .....	1
1407	7045110162	O-RING .....	1
1450	7014120211	O-RING .....	2
2274	7004160344	PIEDE 3/8 GAS .....	1
2490	7112180459	TAPPO 3/8 GAS .....	2
8185	4058970322	V.T.E. ....	2
		KIT ACCESSORI .....	1
		VAR. PER K100 TS 2C RISPETTO K100 VA	⊕
63	7047000252	ALBERO ECCENTRICO .....	1
156	7004000702	ANELLO DI TENUTA .....	1
169	7047000726	ANELLO DI TENUTA .....	1
693	7055020947	CARTER KAPPA 100 TS 2C .....	1
700	7004021404	CUSCINETTO .....	1
804	7045030132	DISCO RASAMENTO .....	1
923	7045050171	FLANGIA .....	1
1395	7040110148	O-RING .....	1
1845	7002140310	RODELLE .....	4
2593	7402180505	V.T.C.E.I. ....	4
2594	7207180524	V.T.C.E.I. ....	4
7660	7202121902	PROTEZIONE .....	2
		VAR. PER K75/100 1C RISPETTO K75/100 VA	⊕
66	7045000255	ALBERO ECCENTRICO .....	1
156	7004000702	ANELLO DI TENUTA .....	1
700	7004021404	CUSCINETTO .....	1
804	7045030132	DISCO RASAMENTO .....	1
923	7045050171	FLANGIA .....	1
1395	7040110148	O-RING .....	1
2593	7402180505	V.T.C.E.I. ....	4
		VAR. PER K75 TS2C RISPETTO K100 TS2C	⊕
623	7047020930	CARTER KAPPA 75 TS 2C .....	1
		VAR. PER K75/100 TS VA/MP RISPETTO K75/100 VA	⊕
64	7047000253	ALBERO ECCENTRICO KAPPA 75/100 TS VA .....	1
85	7047000254	ALBERO ECCENTRICO KAPPA 75/100 TS FVA .....	1
169	7047000726	ANELLO DI TENUTA .....	1
623	7047020930	CARTER KAPPA 75 .....	1
693	7055020947	CARTER KAPPA 100 .....	1
		VERSIONE C.DO DISTANZA LATO POMPA	⊕
1398	7002110104	O-RING .....	1
1374	7011110112	O-RING .....	2
1843	7003140307	ROSETTA PIANA .....	4
2478	7011180489	V.T.E. ....	2
7050	7201020268	CONNES.MAND.C.DO DIST.D.16 OTTONE .....	1
7051	7201020269	CONNES.MAND.C.DO DIST.D.19 OTTONE .....	1
7261	7201050806	FLANGIA PORTA GOMMA FIL.3/4GAS .....	1
7330	7201060429	GHIERA 3/8 GAS .....	2
7700	7201160322	TAPPO C.DO DISTANZA .....	1



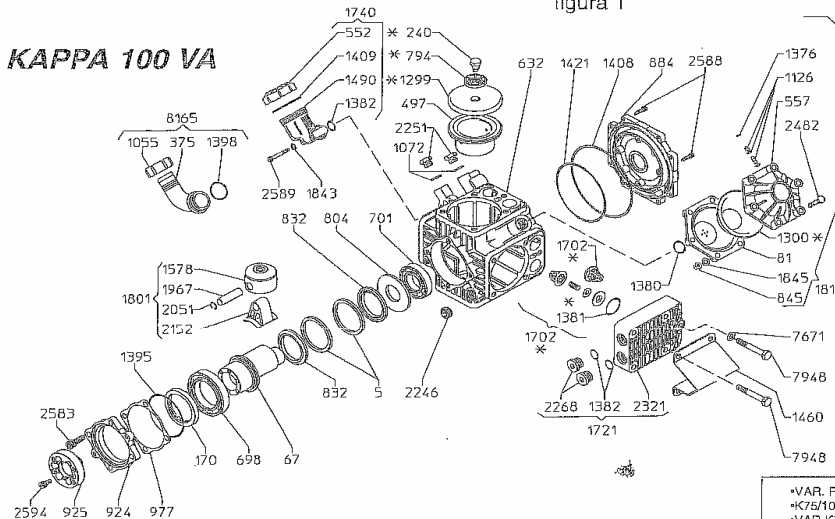


REINEX Hochdrucktechnik GmbH - Geraer Str. 7 - 07973 Greiz

ESPLOSO PARTI DI RICAMBIO-EXPLODED SPARE PARTS DIAGRAM-VUE ÉCLATÉE DES PIÈCES DE RECHANGE-EXPLOSIONSZEICHNUNG DER ERSATZTEILE-DIBUJO PORMENORIZADO DE LOS REPUESTOS-ΣΧΕΔΙΑΓΡΑΜΜΑ ΑΝΤΑΛΛΑΚΤΙΚΩΝ ΕΞΑΡΤΗΜΑΤΩΝ-DESENHO DETALHADO DAS PEÇAS DE TROCA

figura 1

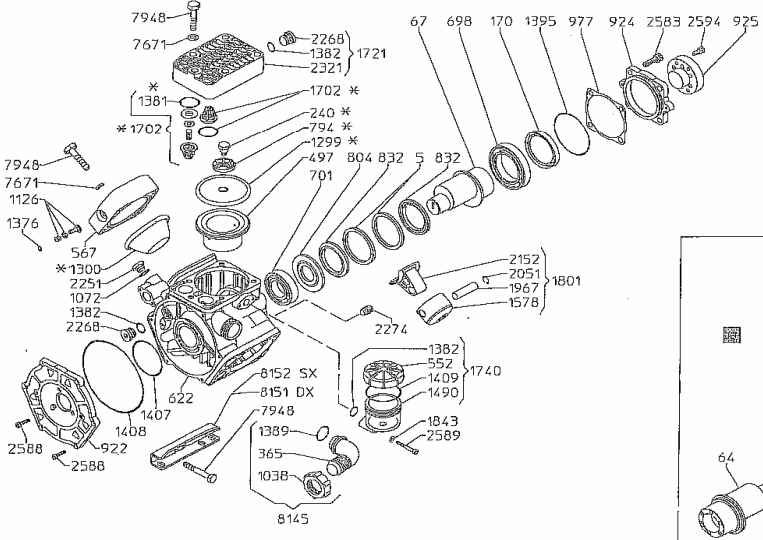
**KAPPA 100 VA**



\*VAR. PER K75 TS2C RISPETTO K100 TS2C  
 \*K75 TS2C DIFF. WITH RESPECT TO K100 TS2C  
 \*VAR.K75 TS2C PAR RAPPORT À K100 TS2C  
 \*VARIANTE K75 TS2C GEGENÜBER K100 TS2C  
 \*VAR.K75 TS2C RESPECTO A K100 TS2C  
 \*ΤΡΟΠΟΠΟΙΗΣΗ Κ75 TS2C ΩΣ ΠΡΟΣ ΤΟ Κ100 TS2C  
 \*VAR. K75 TS2C EM RELAÇÃO A K100 TS2C

\*VAR. PER K75/100 1C RISPETTO K75/100 VA  
 \*K75/100 1C DIFF. WITH RESPECT TO K75/100 VA  
 \*VAR.K75/100 1C PAR RAPPORT À K75/100 VA  
 \*VARIANTE K75/100 1C GEGENÜBER K75/100 VA  
 \*VAR.K75/100 1C RESPECTO A K75/100 VA  
 \*ΤΡΟΠΟΠΟΙΗΣΗ Κ75/100 1C ΩΣ ΠΡΟΣ ΤΟ Κ75/100 VA  
 \*VAR. K75/100 1C EM RELAÇÃO A K75/100 VA

**KAPPA 75 VA**



A RICHIESTA  
 ON REQUEST  
 SUR DEMANDE  
 AUF WUNSCH  
 BAJO PEDIDO  
 ΚΑΤ' ΑΠΑΙΤΗΣΗ  
 A PEDIDO

\*VAR. PER K75/100 TS VAMF RISPETTO K75/100 VA  
 \*K75/100 TS VAMF DIFF. WITH RESPECT TO K75/100 VA  
 \*VAR.K75/100 TS VAMF PAR RAPPORT À K75/100 VA  
 \*VARIANTE K75/100 TS VAMF GEGENÜBER K75/100 VA  
 \*VAR.K75/100 TS VAMF RESPECTO A K75/100 VA  
 \*ΤΡΟΠΟΠΟΙΗΣΗ Κ75/100 TS VAMF ΩΣ ΠΡΟΣ ΤΟ Κ75/100 VA  
 \*VAR. K75/100 TS VAMF EM RELAÇÃO A K75/100 VA

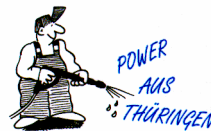
\*VAR. PER K100 TS 2C RISPETTO K100 VA  
 \*K100 TS 2C DIFF. WITH RESPECT TO K100 VA  
 \*VAR.K100 TS 2C PAR RAPPORT À K100 VA  
 \*VARIANTE K100 TS 2C GEGENÜBER K100 VA  
 \*VAR.K100 TS 2C RESPECTO A K100 VA  
 \*ΤΡΟΠΟΠΟΙΗΣΗ Κ100 TS 2C ΩΣ ΠΡΟΣ ΤΟ Κ100 VA  
 \*VAR. K100 TS 2C EM RELAÇÃO A K100 VA

A RICHIESTA  
 ON REQUEST  
 SUR DEMANDE  
 AUF WUNSCH  
 BAJO PEDIDO  
 ΚΑΤ' ΑΠΑΙΤΗΣΗ  
 A PEDIDO

(\*) VENDUTI SOLO IN KIT  
 ONLY SOLD IN KIT  
 VENDU SEULEMENT COMME KIT  
 NUR ALS BAUSATZ LIEFERBAR  
 VENDIBLE SOLO POR KIT  
 ΠΑΡΑΧΩΝΤΑΙ ΜΟΝΟ ΣΕ ΣΕΤ  
 VENDIDAS SÓ EM KIT

KIT 504		KIT 505		KIT 507		KIT 508		KIT 509		KIT 511	
CODICE CODE	Q.TA' Q.TY	CODICE CODE	Q.TA' Q.TY	CODICE CODE	Q.TA' Q.TY	CODICE CODE	Q.TA' Q.TY	CODICE CODE	Q.TA' Q.TY	CODICE CODE	Q.TA' Q.TY
1299	3	1702	5	240	3	1299	4	1702	8	240	4
1300	1			794	3	1300	1			794	4
1381	5					1381	8				

KAPPA 75
KAPPA 100




REINEX Hochdrucktechnik GmbH - Geraer Str. 7 - 07973 Greiz

## ENGLISH

### FOREWORD

BEFORE STARTING TO USE THE PUMP, READ THESE INSTRUCTIONS CAREFULLY AND GET TO KNOW THE SAFETY SYMBOLS. THE CONTENTS OF THIS OPERATING AND MAINTENANCE MANUAL COMPLY WITH THE EEC 89/392 MACHINES DIRECTIVE AND SUBSEQUENT AMENDMENTS. AS THE MANUFACTURER, UDOR RESERVES THE RIGHT TO MAKE CHANGES WITHOUT PRIOR NOTIFICATION AND WITHOUT THIS INCURRING ANY PENALTY WHATSOEVER, WITHOUT PREJUDICE TO THE OBLIGATION OF COMPLYING WITH THE PRINCIPAL TECHNICAL SAFETY CHARACTERISTICS.

THE SYMBOL  REPRESENTS A SAFETY WARNING AND INDICATES THAT THE INSTRUCTIONS MUST BE CARRIED OUT IN ORDER TO PREVENT PERSONAL INJURY. FAILURE TO FOLLOW THE INSTRUCTIONS MAY RESULT IN PERSONAL INJURY, IN SOME CASES EVEN SERIOUS.

### PLATE INFORMATION

WHEN RECEIVING THE PUMP, CHECK THE INFORMATION ON THE PLATE, WHICH MUST BE IDENTICAL TO THAT SHOWN BELOW (MODEL AND SPECIFICATIONS).

### INTRODUCTION

THE "KAPPA 75-100" SERIES PUMPS MAKE USE OF SPECIAL RUBBER DIAPHRAGMS AND THE INTERNAL MECHANISM IS CONTAINED ENTIRELY IN AN OIL BATH. THE HIGH QUALITY OF MATERIALS AND THE EXCELLENT LEVEL OF WORKMANSHIP ENSURE THAT THE PUMP IS LONG LASTING AND EFFICIENT. ALL MATERIALS IN CONTACT WITH THE LIQUID HAVE HIGH CORROSION RESISTANCE CHARACTERISTICS. THE USE OF PRESSURE COMPENSATORS AS A STANDARD FEATURE ENSURES EXTREMELY BALANCED OPERATION.

### CONDITIONS AND LIMITS OF USE

THE PUMP IS DESIGNED AND MANUFACTURED FOR TRANSFERRING LIQUID INSECTICIDES AND WEED-KILLERS TO BE USED IN ACCORDANCE WITH THE INSTRUCTIONS PROVIDED BY THE MANUFACTURERS OF THESE PRODUCTS. NO OTHER USE IS PERMITTED WITHOUT WRITTEN AUTHORIZATION FROM OUR TECHNICAL SERVICE DEPARTMENT.

N.B.: NOT TO BE USED FOR FLAMMABLE OR EXPLOSIVE LIQUIDS.  
N.B.: WHEN THE PUMP IS SUPPLIED WITH THE EXPRESS PURPOSE OF BEING INSTALLED ON A MORE COMPLEX MACHINE, THE MANUFACTURER OF THIS MACHINE MUST PROVIDE ALL RELEVANT INFORMATION CONCERNING THE SAFETY OF THE MACHINE AND OF ITS CONNECTION WITH THE PUMP.

N.B.: THE PUMP'S FLOW RATE MUST BE AT LEAST 20-30% HIGHER THAN THAT OF THE SERVICES IN WORKING CONDITIONS (SEE TABLE GIVING THE PUMP FLOW RATE IN RELATION TO THE PRESSURE AND NUMBER OF R.P.M.).

### WARRANTY

THE WARRANTY PERIOD IS TWELVE MONTHS. UDOR GUARANTEES ITS PRODUCTS TO BE FREE FROM DEFECTS IN MATERIALS AND WORKMANSHIP FOR A PERIOD OF ONE YEAR FROM THE DATE OF THE DELIVERY NOTE. THIS WARRANTY IS LIMITED TO REPAIR OR REPLACEMENT OF PARTS OR PRODUCTS WHICH IN UDOR'S UNQUESTIONABLE JUDGEMENT WERE DEFECTIVE AS FROM THE TIME OF DELIVERY. ALL PRODUCTS COVERED BY THIS LIMITED WARRANTY MUST BE RETURNED TO UDOR BY THE CUSTOMER, TRANSPORT PRE-PAID, FOR INSPECTION, REPAIR OR REPLACEMENT. THIS LIMITED WARRANTY IS THE SOLE TO BE VALID IN LIEU OF ANY OTHER WARRANTY, IMPLICIT OR EXPLICIT, INCLUDING ALL MARKETABILITY OR SPECIAL PURPOSE WARRANTIES; SUCH WARRANTIES SHALL BE RENDERED NULL BY THIS DECLARATION AND WILL NOT BE ACCEPTED BY UDOR. REPAIR OR REPLACEMENT OF DEFECTIVE PARTS OR PRODUCTS WILL BE CARRIED OUT EXCLUSIVELY IN THE WAYS SET OUT BELOW AND UDOR SHALL NOT BE HELD RESPONSIBLE FOR ANY FURTHER LOSS, DAMAGE OR EXPENSE INCLUDING ACCIDENTAL OR INDIRECT DAMAGE CAUSED DIRECTLY OR INDIRECTLY BY THE SALE OR USE OF THESE PRODUCTS.

THE UNAUTHORITY BY THE SALE OR USE OF SPARE PARTS NOT MANUFACTURED BY UDOR AUTOMATICALLY INVALIDATES THIS WARRANTY, WHICH IS CONDITIONAL UPON OBSERVANCE OF THE SPECIFIED INSTALLATION AND OPERATING INSTRUCTIONS. NO WARRANTIES SHALL APPLY FURTHER THAN SPECIFIED HEREIN. ANY DISPUTE SHALL FALL WITHIN THE COMPETENCE OF THE REGGIO EMILIA COURT OF LAW.

### INSTALLATION

THE PUMP MUST BE INSTALLED WITH THE SHAFT HORIZONTAL WITH RESPECT TO THE GROUND. THE DIRECTION OF ROTATION MAY BE EITHER CLOCKWISE OR ANTICLOCKWISE. CHECK THE FOLLOWING BEFORE STARTING THE PUMP:

- 1) THE OIL LEVEL IN THE SPECIAL LEVEL GAUGE (1490), IF THE LEVEL IS BELOW THE INDICATED VALUE, TOP UP (USE THE OIL RECOMMENDED ON THE PLATE OR ANOTHER WITH CORRESPONDING CHARACTERISTICS).
- 2) THAT THE LIQUID SUCKED BY THE PUMP IS SUITABLY FILTERED USING AN APPROPRIATE FILTER FOR THE CHARACTERISTICS OF THE PUMP. THIS OPERATION IS ESSENTIAL EVEN FOR JUST A SINGLE TEST. THE FILTER MUST BE KEPT IN GOOD CONDITION SO AS NOT TO JEOPARDIZE THE EFFICIENT OPERATION OF THE PUMP.
- 3) THE VALUE OF THE AIR PRESSURE IN THE COMPENSATOR (1811 / 567). THIS OPERATION MAY BE CARRIED OUT USING A NORMAL CAR TYRE PRESSURE GAUGE ON THE INFLATION VALVE (1126). THE INFLATION PRESSURE MUST BE EQUAL TO APPROXIMATELY 1/10 OF THE PUMP'S WORKING PRESSURE. DIFFERENT VALUES MAY LEAD TO PUMP MALFUNCTIONS. UDOR NORMALLY INFLATES TO A PRESSURE OF 1/10 OF THE PUMP'S MAXIMUM WORKING PRESSURE (4 BAR).
- 4) THAT A PRESSURE RELIEF VALVE IS INSTALLED IN THE PRESSURE CIRCUIT SO AS TO PREVENT THE PRESSURE FROM RISING TO MORE THAN 20% ABOVE THE MAXIMUM VALUE INDICATED ON THE PUMP (THUS 48 BAR). THIS VALVE MUST BE TAMPER PROOF AND MUST NOT ALLOW LIQUID TO LEAK OR DRIP OUT OF THE CIRCUIT (REF. EN 907). UDOR PROVIDES TWO OPTIONS FOR FITTING THE VALVE:
  - A) ON THE PUMP: IF A PRESSURE REGULATOR IS NOT INSTALLED ON THE PUMP, THE VALVE MAY BE ATTACHED TO PART 7261 (FIG.2 AND FIG. D) (ON ONE OF THE FREE 3/4" THREADS).
  - B) ON THE UDOR DS SERIES REGULATOR.
- 5) THAT THE PUMP'S POWER TAKE-OFFS ARE PROTECTED WITH AN ADEQUATE COVER TO PREVENT ACCESS (SEE FIGURE A).
- 6) THAT THE CONNECTION TO THE DRIVE TRANSMISSION POWER TAKE-OFF IS MADE IN A CORRECT AND SAFE MANNER.
- 7) THAT THE PUMP IS FIRMLY ATTACHED TO A SUITABLE BASE USING THE FEET (1460 / 1450).
- 8) THAT THE VALUE OF THE MAXIMUM ALLOWED PRESSURE IS MARKED DIRECTLY

AND IN A PERMANENT MANNER ON ALL HOSES UNDER PRESSURE. THIS PRESSURE MUST BE AT LEAST EQUAL TO THE MAXIMUM PRESSURE OF THE PUMP. THE HOSES MUST SHOW NO SIGNS OF ABRASION AND MUST BE INSTALLED WITHOUT EXCESSIVELY SHARP ELBOWS OR POINTS OF CONSTRICTION. THE HOSES MUST BE FIXED FIRMLY TO THE FITTINGS SO AS TO ENSURE SAFE ATTACHMENT.

### GENERAL SAFETY PRECAUTIONS

- CHECK CONTINUALLY THAT THE HOSES AND FITTINGS, ESPECIALLY THOSE UNDER PRESSURE, ARE NOT WORN.
- NEVER TAKE OFF THE COMPENSATOR COVER (557 / 567) WITHOUT FIRST HAVING REMOVED ALL THE AIR CONTAINED INSIDE IT.
- ONLY OPERATE WITHIN THE PERMITTED RANGE OF R.P.M. (0 - 550).
- NEVER EXCEED THE MAXIMUM PRESSURE (40 BAR).
- NEVER STOP THE PUMP UNDER PRESSURE.
- NEVER START THE PUMP UNDER PRESSURE.
- NEVER DIRECT THE JET OF LIQUID UNDER PRESSURE TOWARDS ELECTRICAL POWER SOURCES.
- NEVER DIRECT THE JET OF LIQUID UNDER PRESSURE TOWARDS PEOPLE OR ANIMALS.

### STARTING

AFTER CHECKING EVERYTHING SPECIFIED IN THE "INSTALLATION" AND "GENERAL SAFETY PRECAUTIONS" SECTIONS, THE PUMP MAY BE STARTED, MAKING IT TURN AT A MAXIMUM SPEED OF 550 R.P.M. THE PUMP MUST NOT BE UNDER PRESSURE WHEN IT IS STARTED AND THE DISCHARGE LINES TO THE SERVICES MUST BE CLOSED SO AS TO REMOVE ALL AIR FROM THE CIRCUIT. AFTER A FEW SECONDS THE PUMP PRESSURE MAY BE INCREASED TO THE DESIRED VALUE (WITHOUT HOWEVER EXCEEDING THE MAXIMUM VALUE OF 40 BAR).

### STANDARD MAINTENANCE

A) AFTER USING THE PUMP  
AT THE END OF EVERY TREATMENT OR WHENEVER THE PUMP IS TO REMAIN INOPERATIVE EVEN FOR SHORT PERIODS OF TIME, IT IS NECESSARY TO WASH THE INTERNAL PARTS THAT COME INTO CONTACT WITH THE LIQUIDS USED. TO DO THIS, RUN THE PUMP UNDER PRESSURE WITH CLEAN WATER FOR A FEW (4-5) MINUTES. THEN REMOVE THE SUCTION HOSE FROM THE PUMP AND LET IT RUN FOR A FEW (15-20) SECONDS SO AS TO REMOVE ALL THE WATER INSIDE IT. WARNING: THE PRODUCT DILUTED WITH THE CLEANING WATER MUST BE DISCHARGED EITHER ON THE SAME PIECE OF LAND THAT WAS PREVIOUSLY TREATED OR, PREFERABLY, ON A PIECE OF LAND THAT HAS NOT YET BEEN TREATED BUT WHICH IS COMPATIBLE WITH THE DILUTED CHEMICAL PRODUCTS.

B) WINTER BREAKS  
CARRY OUT THE OPERATION DESCRIBED IN SECTION A), USING AN ANTIFREEZE LIQUID DILUTED ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS.

C) CHANGE OF OIL (THIS OPERATION MUST BE CARRIED OUT WITH THE PUMP TURNED OFF). THE FIRST OIL CHANGE MUST BE PERFORMED AFTER APPROX. 50 HOURS OF OPERATION. SUBSEQUENT CHANGES SHOULD BE PERFORMED EVERY 300-350 HOURS OF OPERATION. USE THE OIL SPECIFIED ON THE PLATE OR OIL WITH THE SAME CHARACTERISTICS. TO CARRY OUT THIS OPERATION, ALLOW THE OIL TO EMPTY FROM THE OUTLET LOCATED UNDERNEATH THE PUMP. THE USED OIL MUST NOT BE RELEASED INTO THE ENVIRONMENT BUT TAKEN TO SPECIALIZED DISPOSAL CENTRES.

D) CHECKING THE SUCTION AND DISCHARGE VALVES (THIS OPERATION MUST BE CARRIED OUT WITH THE PUMP TURNED OFF). ONCE A YEAR IT IS NECESSARY TO CHECK THAT THE VALVES (1702). TO DO THIS, REMOVE THE HEADS, TAKE OUT THE VALVES AND CHECK THAT THEY ARE NOT WORN OR CLOGGED UP WITH FOREIGN MATTER. REASSEMBLE, MAKING SURE THAT THE VALVES ARE INSERTED THE RIGHT WAY ROUND (FIGURE C).

E) CHECKING DIAPHRAGMS (THIS OPERATION MUST BE CARRIED OUT WITH THE MACHINE TURNED OFF). THE DIAPHRAGMS MUST BE CHECKED AT YEARLY INTERVALS. FIRST DISMANTLE THE PUMP AS DESCRIBED IN SECTION D) CHECK THAT THE DIAPHRAGMS ARE NOT CUT OR SWOLLEN. IF NECESSARY REPLACE.

N.B.: THE OPERATIONS DESCRIBED IN SECTIONS D) AND E) MUST BE CARRIED OUT BY QUALIFIED PERSONNEL.

### SPECIAL MAINTENANCE

WHIPPING OF THE HOSES CONNECTED TO THE PUMP AND PRESSURE INSTABILITY:  
- CHECK THAT THE SUCTION HOSE CONNECTED TO THE FITTING 375 / 365 IS NOT PINCHED AT ANY POINT SO AS TO OBSTRUCT THE ENTRY OF LIQUID. CHECK THAT THE O-RING (1398 / 1389) UNDERNEATH THE FITTING 375 / 365 IS IN GOOD CONDITION AND MOUNTED CORRECTLY. MAKE SURE THAT THE RING NUT 1042 / 1038 IS TIGHT. CHECK THAT THE SUCTION FILTER IS NOT CLOGGED (SECTION 2 UNDER INSTALLATION). CHECK THAT THE PRESSURE COMPENSATOR IS CORRECTLY INFLATED AS DESCRIBED IN SECTION 3) UNDER INSTALLATION AND THAT THE DIAPHRAGM 1300 INSIDE IT IS IN GOOD CONDITION. MAKE SURE THAT NEITHER OF THE VALVES (EITHER SUCTION OR DISCHARGE) ARE WORN OR CLOGGED WITH FOREIGN MATTER (SEE SECTION D) UNDER STANDARD MAINTENANCE).

OIL/WATER EMULSION IN THE LEVEL GAUGE 1740:  
TURN OFF THE PUMP IMMEDIATELY. CARRY OUT THE OPERATIONS DESCRIBED IN SECTION D) UNDER STANDARD MAINTENANCE, THEN REMOVE THE HEADS (2321) AFTER ALLOWING THE OIL TO EMPTY, THE DIAPHRAGMS (1299) LOCATED UNDERNEATH EACH HEAD AND THE SLEEVES (497). WASH INSIDE USING DIESEL FUEL. CHECK THE DIAPHRAGMS AND REPLACE ANY THAT ARE BROKEN (REFER TO FIGURE 1). THIS OPERATION MUST BE CARRIED OUT BY QUALIFIED PERSONNEL.

## Enclosure 2

### User's manual for hose reels Series ST

Valid as of 01.01.2004

#### 1. Purpose and application

- 1.1 Application range Water, oil, air and grease.
- 1.2 Possibilities of application Industry, garages, workshops, transporting companies, etc.  
Food industry: Meat-products, abattoirs, milk factories, breweries, bottling-rooms for lemonade, mineral water, etc.
- 1.3 Pressure range 0-300 bar (0-4000 PSI)
- 1.4 Temperature range 0-100°C
- 1.5 Max. repulsion power 150 N
- 1.6 Nominal Ø 8 – 19 mm ( 3/8" – 3/4" )

#### 2. Weight

Series ST									
	ST14/10	ST20/10-12	ST20/19	ST40/10/2	ST40/12/1	ST40/12/2	ST40/19/1	ST40/19/2	ST60/10/3
Weight [kg]	14	16	17	25	19	25	20	26,5	32,5

#### 3. Hose mounting

- 3.1 Apply only hoses which are suitable for the required pressure and temperature range.
- 3.2 Fit the right adjusting nipples, if any, onto the swivel (illustration 1, pos. 6) and onto the hose connector in the drum of the reel
- 3.3 Remove the closing cap from the mounting opening (ill 1, pos. 5.)  
Mount the hose reel with for 4 bolts M8 or M10 onto the intended plate or fix the hose reel to a solid base with two screw clamps.
- 3.4 Bend the return spring as far as it will go by turning the drum in the direction of the arrow and then slacken it for one turn. Fix the drum with the fixing screw (ill.2, pos.9), so that the pipe connection (ill.1, pos.4) is accessible in the mounting opening (ill.1, pos.5).  
Attention: When tending the return spring the drum has to be locked and held after each rotation. Uncontrolled snapping back of the drum might lead to injuries of the operating personnel as well as to damage of the spring unit.
- 3.5 Roll out the hose in full length. Lead one end of the hose (without bending protection) through the hose outlet (ill.1 pos.1) and the drum opening and connect it to the connection pipe (ill.1, pos.4).
- 3.6 Unscrew the locking screw (ill.2, pos.9). Now let the hose retract while leading it by hand and controlling it that way.

#### 4. Adjustment of the hose outlet

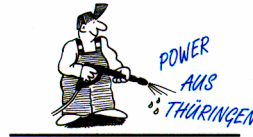
- 4.1 Upon delivery the hose outlet is arranged in position I, ill. 1, 2 and 3.
- 4.2 For the adjustment as in position II, ill. 2, 3 and 4, you have to proceed as follows:
  - a. Unbolt the hose outlet (ill.1 pos.1.)
  - b. Unbolt the distance axle (ill1, pos.3) and mount it into the prepared holes.
  - c. Mount the hose outlet in position II, according to ill. 2, 3 and 4.
- 4.3 For the adjustment as in position III, ill. 2, you have to proceed as follows:
  - a. Unbolt the hose outlet (ill.1, pos.1) and mount it in position III, according to ill. 2.
  - b. Fix an additional distance axle, ill.1, pos.3, in the prepared holes, ill.1, pos.2 (Please order this from your supplier!)

#### 4.4 Braking the hose

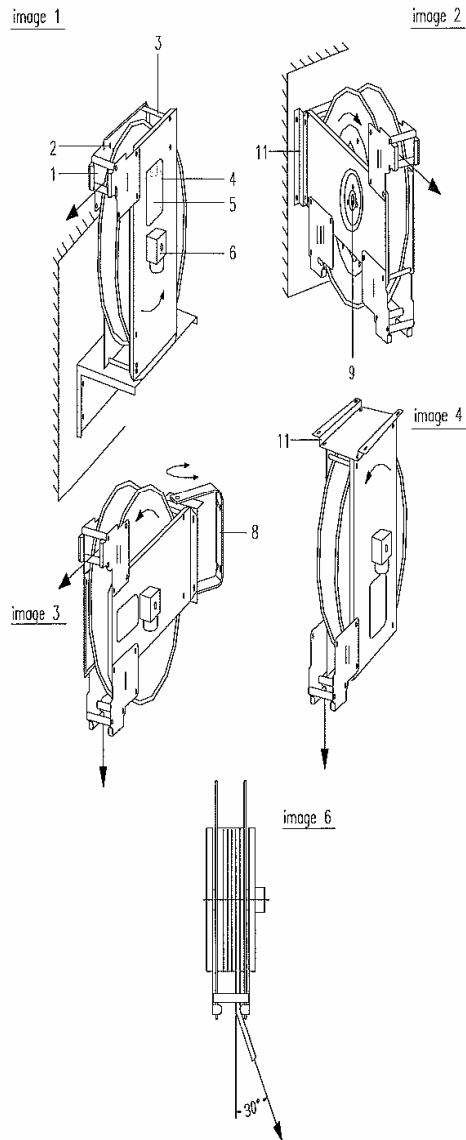
The lower guiding roll of the hose outlet. ill.1, pos.1, is mounted in elongated holes and can be moved. By adjusting the gap according to the outer diameter of the hose, both rolls will work like hose brakes. Thus an uncontrolled snapping back of the hose can be avoided.

#### 5. Mounting of the hose reel

- 5.1 Mounting and possibilities of application: see page 2 !
- 5.2 Apply fast mounting, ill.1 and 2, only, if the pulling direction of the hose will not be U-bent to more than 30°. Otherwise swinging consoles according to ill.3 have to be used.  
The mounting of the hose reels requires an even and stable subsoil. The following materials can be applied: wood, steel, concrete, brickwork, panel walls (In this case a counter plate is necessary.)  
The fixing holes have to correspond absolutely with the holes of the hose reel. The mounting in constrained position will lead to tensions of the bearing and consequently to a blocking of the drum. For avoiding mounting errors of this kind we strongly recommend the use of the mounting consoles Type KWH, ill.2 and 4, pos.II; Type SKW, ill.3, pos.8 or Type KHD, ill. 1.



REINEX Hochdrucktechnik GmbH - Geraer Str. 7 - 07973 Greiz



5.3 The hose reel and the chosen console have to be mounted safely with 4 M8 or M10 bolts. In case pegs are being used special attention has to be paid to good bearing brickwork (see also Item 8.1).

#### 5.4 Pistols:

When using pistols the power of repulsion has to be kept under 15 kp by limiting the rate of flow (for example by using apertures). See also "Guidelines for liquid streamers". Otherwise injuries of the operating personnel and damages of the hose reel might be caused.



REINEX Hochdrucktechnik GmbH - Geraer Str. 7 - 07973 Greiz

---

**5.4 Hose stopper:**

In general the hose reels are being supplied with a hose stopper. The enclosed insert kit can be used for hose diameters from 10 to 34 mm.

**6. Repairs:**

Repairs in the section of the spring unit absolutely have to be carried out by qualified personnel only. (See also Item 8.4!)

**7. Maintenance**

The hose reels require almost no maintenance at all, except for the two bearings of the drum, which should be lubricated every half year by using commercially available grease.

Every month the hose should be examined for cracks or tears. Especially the hose endings (press couplings and joints) need careful checking. Any high pressurized jet of liquid can cause injuries.

**8. Warning!**

Possible dangers that may occur due to inexpert mounting, handling or repairs:

- 8.1 The hose reel and the swinging console have to be fixed safely with for 4 bolts M8 or M10. Make sure that the surface you work on has an appropriate load-bearing capacity. Falling reels can lead to serious and under certain circumstances even fatal accidents.
- 8.2 Never ever allow the hose to retract uncontrolled. The swaying end of the hose or the pistol with extension pole can seriously injure people that are about.
- 8.3 After mounting the hose as well as after working on the blocking device, the mounting window (ill.1, pos.5) always has to be closed with the lid. Otherwise the rotating drum might cause injuries of the hands.,
- 8.4 Before carrying out any repairs the hose must be depressurized by turning of the high pressure unit, closing the inlet valve to the hose and opening the pistol. Furthermore the spring unit has to be released entirely. Repairs on the spring unit have to be executed by qualified personnel only. Uncontrolled movement of the spring unit or ignorance of the instructions mentioned above can lead to serious injuries.

**Warranty:**

The legally required warranty for our hose reels and spare parts is 1 year from the date of delivery.

In case the product will be resold by the customer from his store after a longer storage period, the one-year-warranty will be extended only, if the final customer returns to us the completely filled in warranty card.

The manufacturer's liability is not valid, if the user does not follow the directions for assembly and uses spare parts that are not covered by warranty.

In all other cases our general conditions for sale and supply shall apply.



REINEX Hochdrucktechnik GmbH - Geraer Str. 7 - 07973 Greiz

### Enclosure 3

Hako Citymaster 1200/Citytrac 4200

#### Tank amalgamation

To increase the usable liquid volume, the container of the superstructure is connected with the tank of the carrier vehicle with a hose. When filling with the filling device, the water is first guided into the 500 l container of the superstructure and then runs from there into the water tank of the carrier vehicle. When the pump is operating, the water is pumped out of the vehicle tank. At the same time, this quantity runs over the connection hose from the container of the superstructure until this is empty. To vent the vehicle tank, a riser line with venting valve is mounted at the back wall of the cab.

When a tank amalgamation is to be fitted on an existing superstructure, the following must be carried out:

The components are in part preassembled.

Dismantling of all parts screwed to the two connecting pieces of the vehicle water tank

Assembly of suction and filling connection of the tank amalgamation at the relevant connecting piece (see enclosed picture)

Suction connection at the small connecting piece

Filling connection at the large connecting piece

Assembly of the venting valve (see enclosed picture)

Fastening the supplied angle underneath the all-round lamp holder

Assembly of the stainless steel hose guide centred at the front side of the tilting bridge

Assembly of the hoses

Suction hose to the suction connection of the pump

Filling line at the T-piece of the container outlet

Hose guide see enclosed pictures

To connect the filling hose at the container, the blind stopper at the T-piece must be removed and replaced with a pipe socket



REINEX Hochdrucktechnik GmbH - Geraer Str. 7 - 07973 Greiz







REINEX Hochdrucktechnik GmbH - Geraer Str. 7 - 07973 Greiz

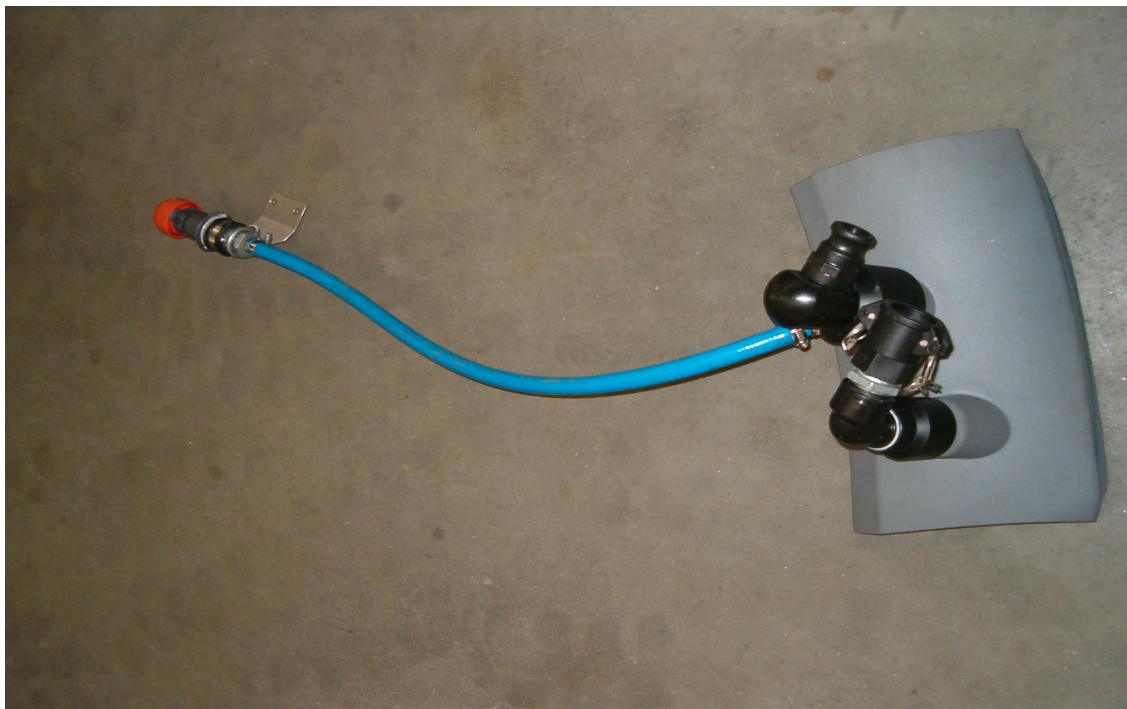


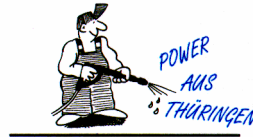
REINEX Hochdrucktechnik GmbH - Geraer Str. 7 - 07973 Greiz







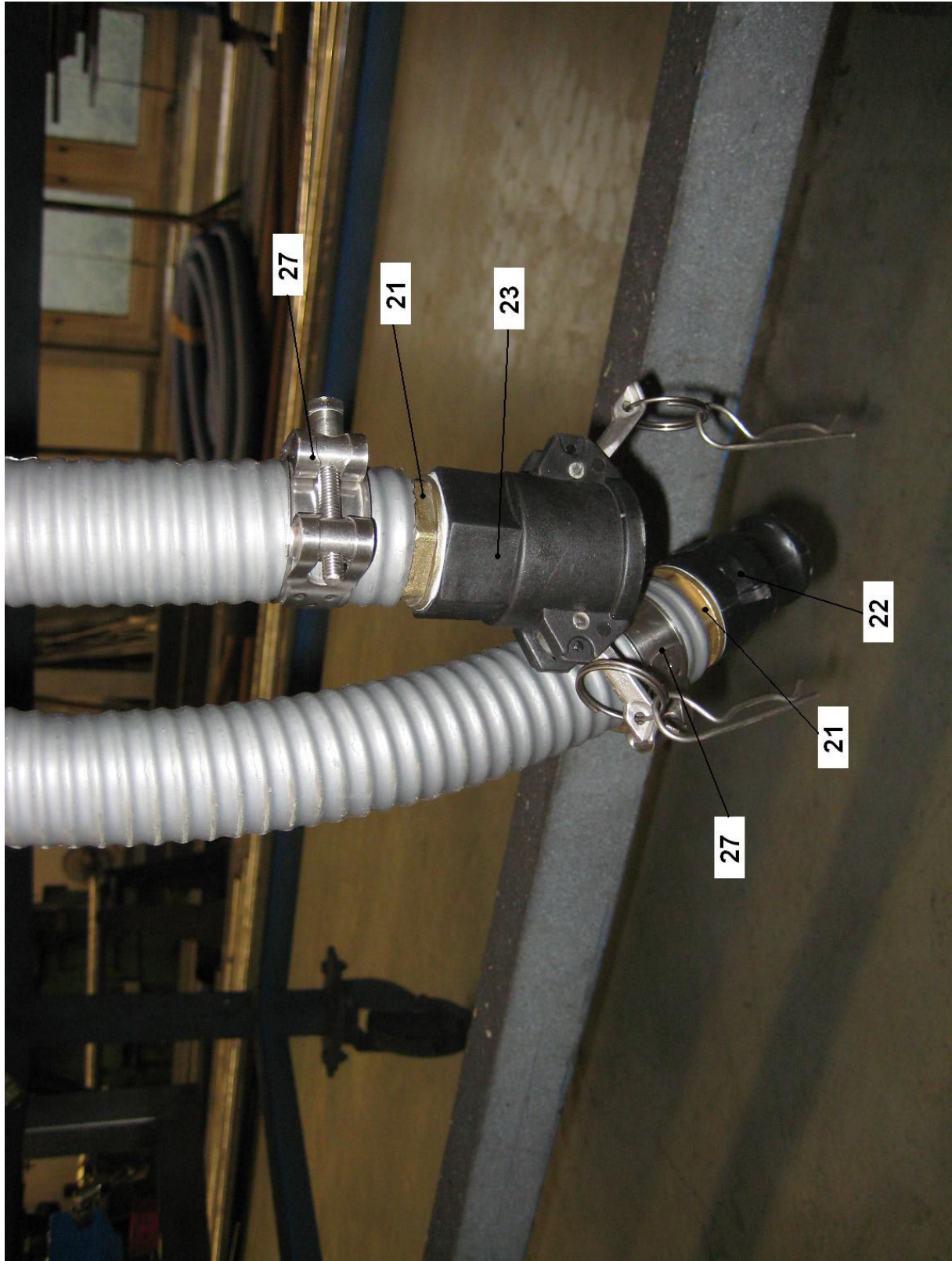




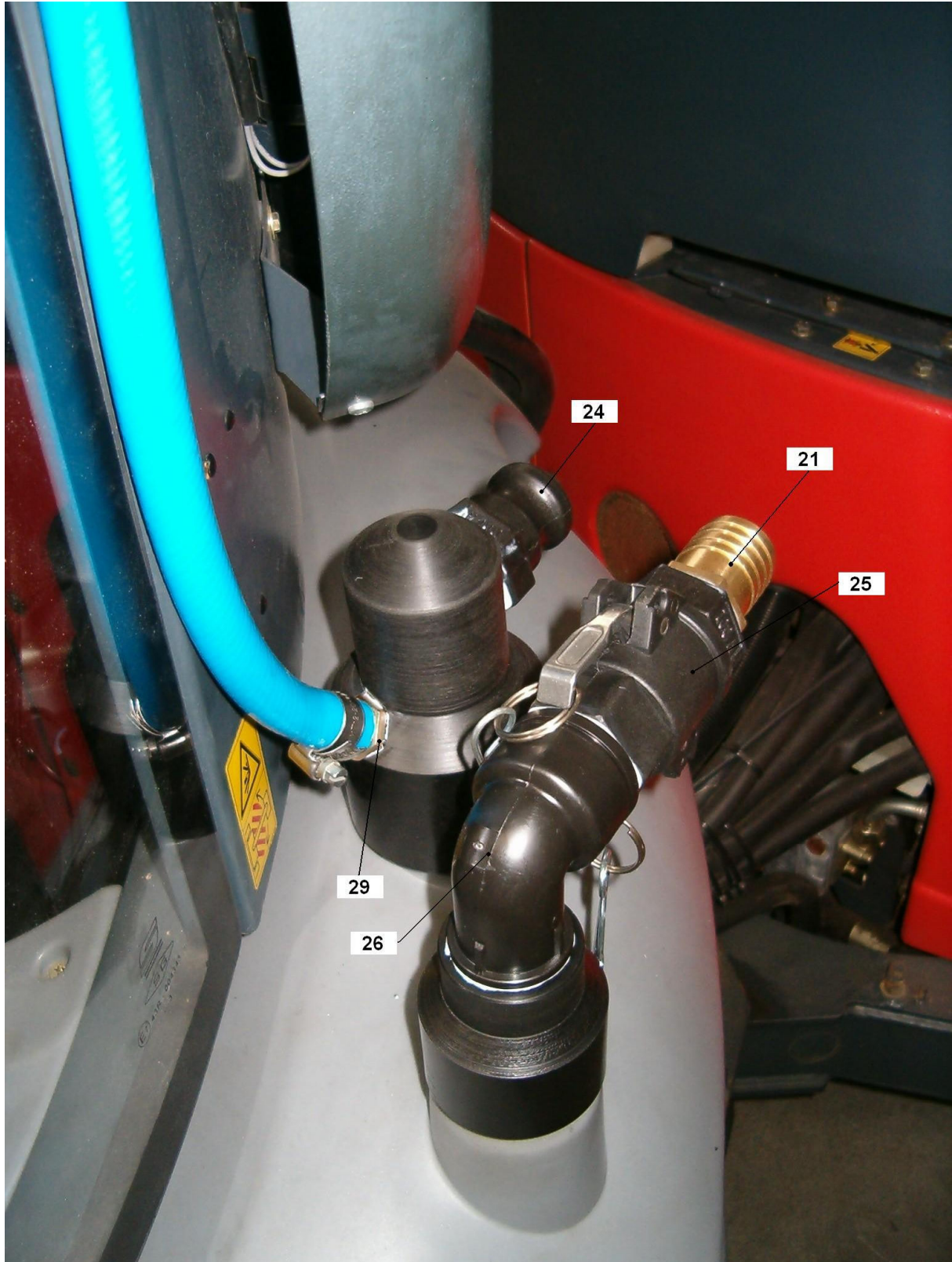
## Enclosure 4

### Spare parts list MD attachment

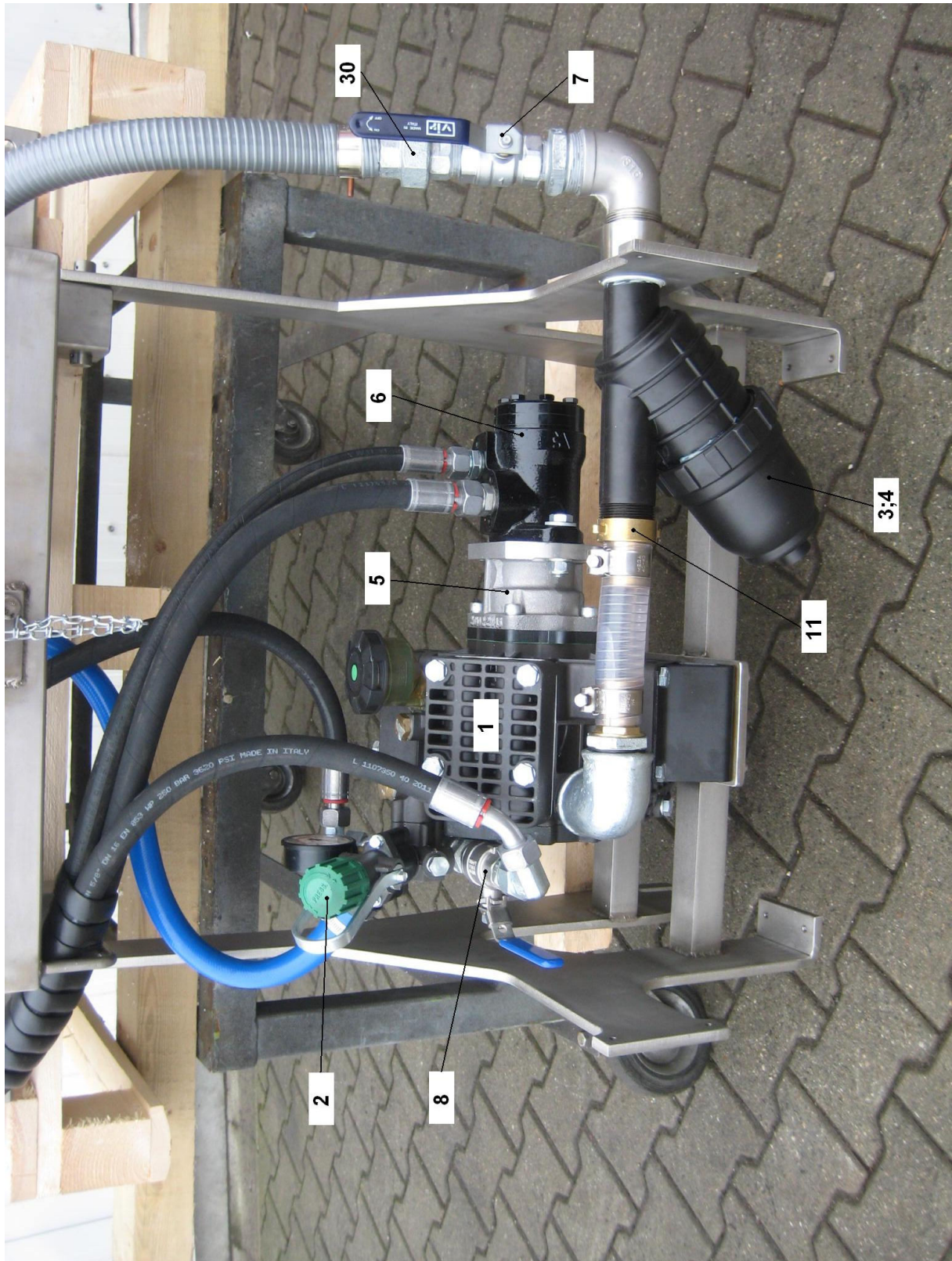
Pos.	Teil-Nummer	Bezeichnung	Stück
1	8020002015	Pump high pressure KAPPA 100	1
2	6040001010	Overflow valve DS/2	1
3	6010001110	Filter 1 1/2"	1
4	6010001112	Filter sieve for 02070050	1
5	8020003009	Intermediate flange	1
6	5073004050	Motor hydraulic	1
7	6020001005	Ball cock low-pressure 1"	2
8	6020001006	Ball cock low-pressure 3/4" stainless steel	1
9	7080010010	Hose reel with stroke	1
10	8040003013	Hose DN 12	10m
11	6060002015	Hose liner with retaining nut	1
12	8030003005	pistol	1
13	6020002020	Ball cock low-pressure 1/2" stainless steel	1
14	7050000205	Check valve „York“ 1 1/4"	1
15	6050000105	Coupling low-pressure Storz-C 1 1/4" AG	1
16	6050000150	Coupling low-pressure, blind coupling	1
17	8040002005	Hose „Heliflex“	2,9m
18	8040002005	Hose „Heliflex“	4,1m
19	8040002005	Hose „Heliflex“	1,0m
20	8040002005	Hose „Heliflex“	0,18m
21	6060001028	Hose liner 1"	3
22	6050003009	Kamlök-Coupling V-part, IG	1
23	6050003005	Kamlök-Coupling M-part, IG	1
24	6050003011	Kamlök-Coupling V-part, AG	1
25	6050003007	Kamlök-Coupling M-part, AG	1
26	8030003310	Angle plastic 90° 1" IG-AG	1
27	6070001006	Clamping jaw collar	8
28	5020003050	Ventilating and air exhaust valve	1
29	6060001010	Hose liner 1/2"	2
30	5050001185	Verschraubung, gerade 1" IG-AG	1
31	5073001012	Swivel cylinder	1
32	7070002501	Locking nut 3/8" for nozzle	9
33	7070002012	Nozzle flat jet 6504	9
34	8010000010	dipstick for spray bar	2
35	6070004048	pipe clamp	2

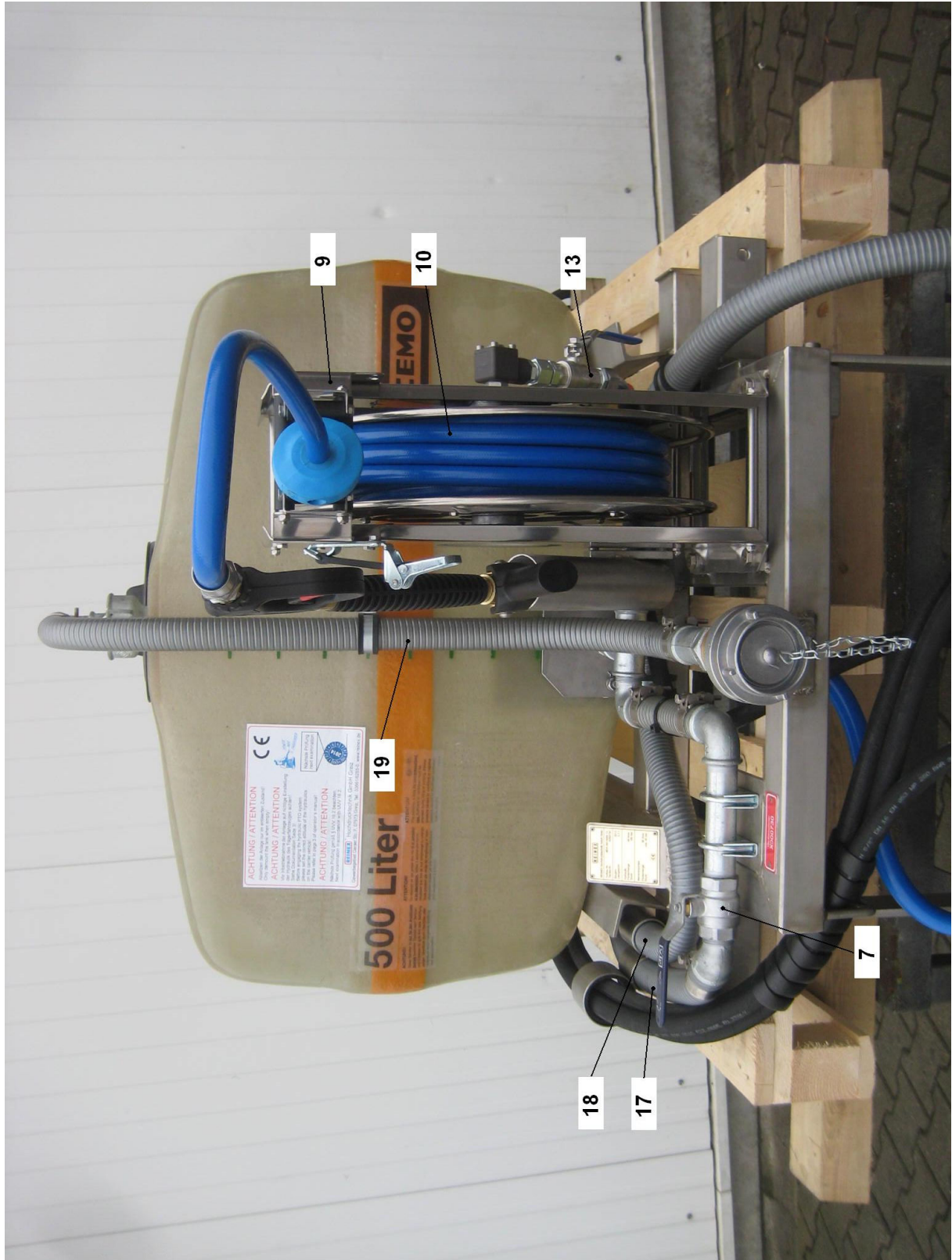


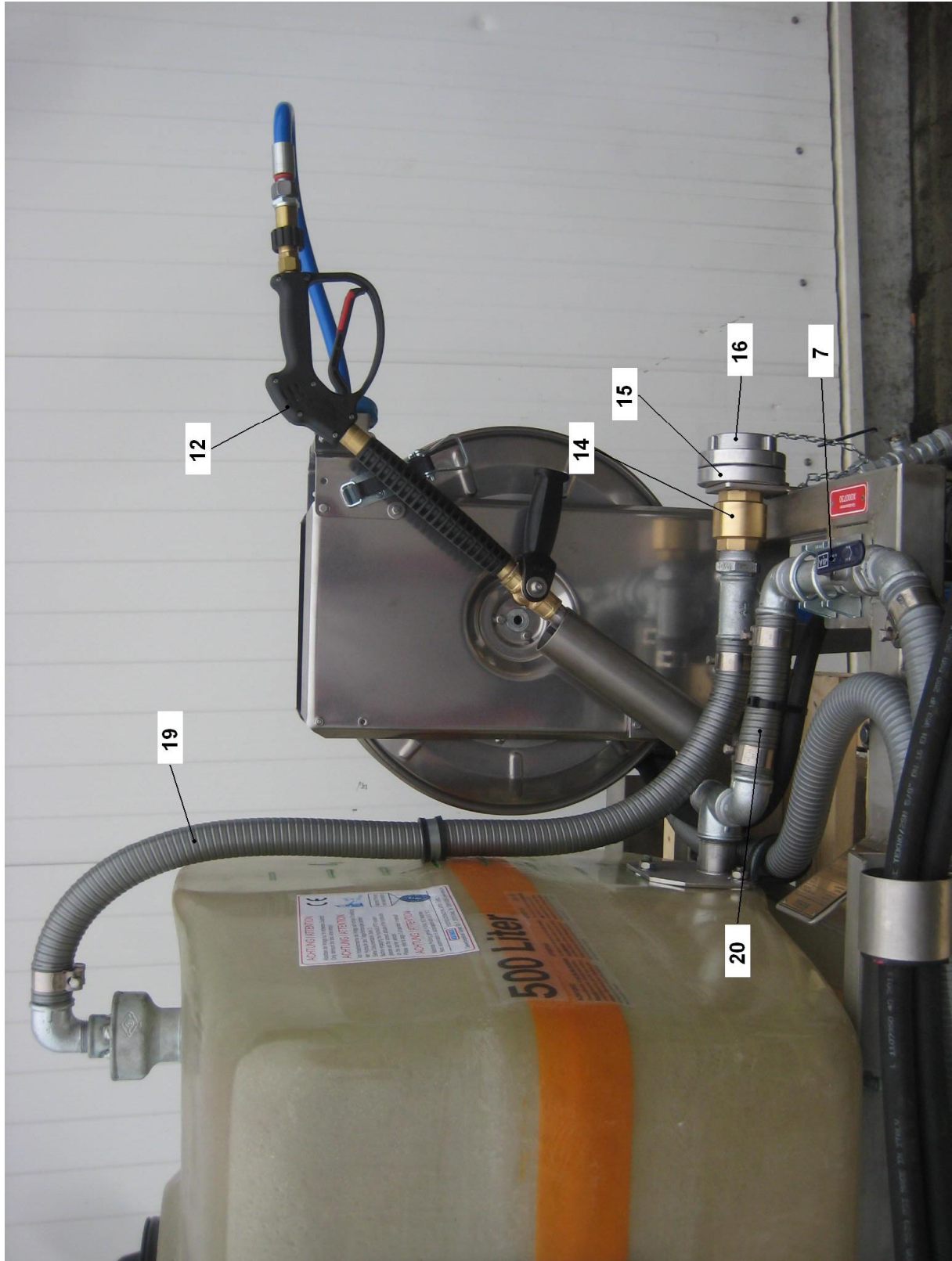


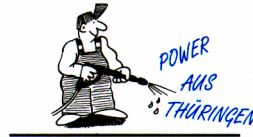




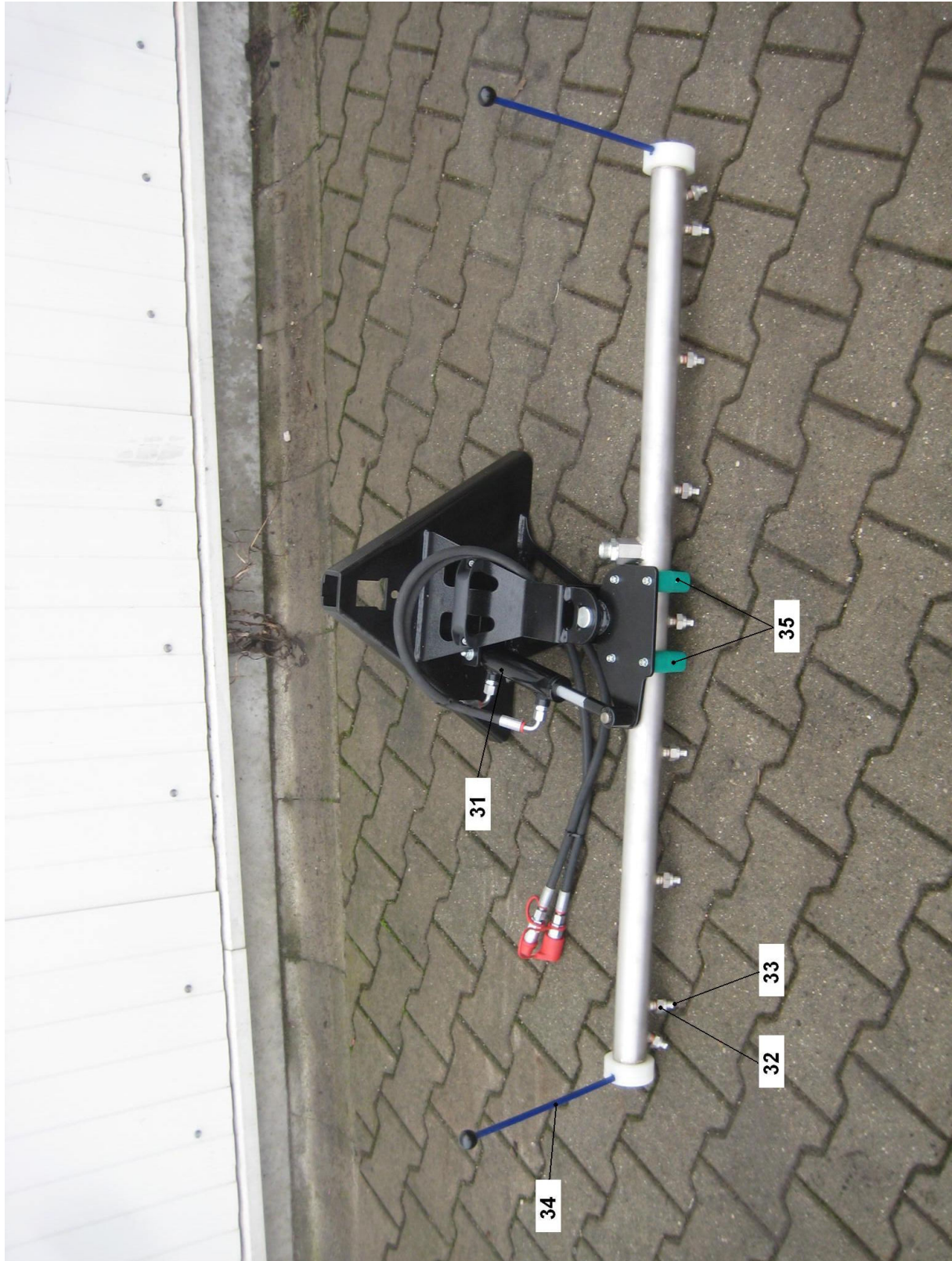


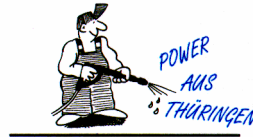






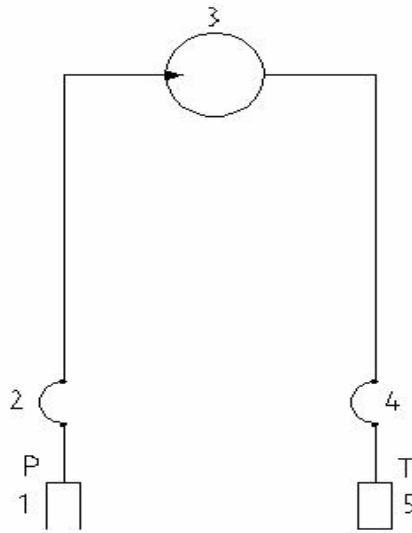
REINEX Hochdrucktechnik GmbH - Geraer Str. 7 - 07973 Greiz





REINEX Hochdrucktechnik GmbH - Geraer Str. 7 - 07973 Greiz

## Enclosure 5

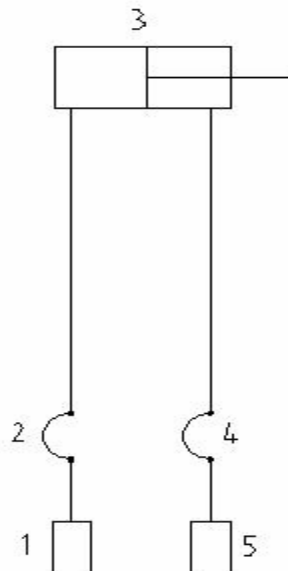


- 1 - FKM - BG4 - 15L (flat sealing)
- 2 - hydraulic hose DN 12 x 5600 - DKOL - DKOL 90°
- 3 - hydraulic motor
- 4 - hydraulic hose DN16 x 5600 - DKOL - DKOL 90°
- 5 - FKS - BG6 - 18L (flat sealing)

**Hydraulic diagram**  
Intermediate pressure unit



REINEX Hochdrucktechnik GmbH - Geraer Str. 7 - 07973 Greiz



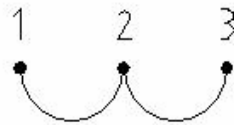
- 1 - FKM - BG2 - 8L (flat sealing)
- 2 - hydraulic hose DN 6 x 800 - DKOL - DKOL 90°
- 3 - swivel cylinder 100 strobe
- 4 - Hydraulikschlauch DN6 x 800 - DKOL - DKOL 90°
- 5 - FKS - BG2 - 8L (flat sealing)

Hydraulic diagram  
Spray bar



## Bridges in the plug

Intermediate pressure unit



Low pressure unit

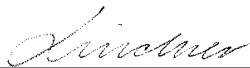


## Electric circuit diagram

## Enclosure 6

### Abnahmeprotokoll für hydrodynamisches Rohr- und Kanalreinigungsgerät; Hochdruckaufbau; Mitteldruckaufbau



Datum der Abnahme	<u>12.03.2013</u>	Betriebs-Nr	_____
Abnahmeort	<u>07973 Greiz</u>	Auftrags-Nr	<u>A13/100040 X000730</u>
Fahrgestell-Hersteller	<u>Hako</u>	Aufbau-Hersteller	<u>Reinex Hochdrucktechnik GmbH</u>
Fahrgestell-Typ	<u>Citytrac</u>	Aufbau-Typ	<u>Mitteldruckaufbau</u>
Fahrgestell-Nr	_____	Pumpentyp	<u>Kappa 100</u>
Nennvolumen des Behälters	<u>500l</u>	Aufbau-Nr	<u>MDA 500-0099-13</u>
Kunde	_____	Auftraggeber	<u>Hako GmbH</u>
	_____		<u>Hamburger Str. 209-239</u>
	_____		<u>23843 Bad Oldesloe</u>
<b>Durchgeführte Arbeiten und Prüfungen</b>			
	geprüft ohne Mängel	Prüfung nicht erforderlich	Name
1 Ölfüllung, Abschmierung	x		Lindner
2 Gerätebefestigung	x		Lindner
3 Geräteelektrik	x		Lindner
4 Dichtigkeit von Tank und Niederdruckleitungen	x		Lindner
5 Dichtigkeit von Hochdruckleitungen und Bauteile	x		Lindner
6 Hydraulikanlage	x		Lindner
7 Fernsteuerungssystem und Drehzahlregelung		x	Lindner
8 Anschlußgewinde Düsen Überprüft		x	Lindner
9 Gerät frostsicher gemacht	x		Lindner
10 Bemerkungen:	7 Stck Flachstrahldüsen 6504 Pumpentyp: Kappa 100 Hydraulikfördermenge 40l/min; Tankzusammenlegung Antriebsart: hydraulisch vom Trägerfahrzeug		
Unterschrift			



REINEX Hochdrucktechnik GmbH - Geraer Str. 7 - 07973 Greiz

## Enclosure 7

### ***EC – Declaration of Conformity within the meaning of the EC Machine Guideline 89/392 EWG***

We declare herewith that the type of construction of our high-pressure attachments

**type MDA, type MDA/S**


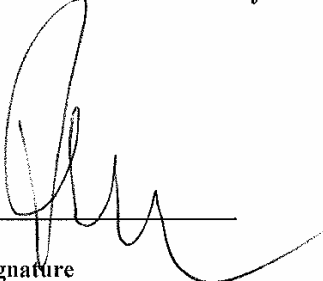
complies with the following relevant regulations:

#### **EC – Machine Guideline 89/392 EWG**

Applied national standards and technical specifications:

Guidelines for liquid jet sprayers (RFL)  
UVV16.2 (VBG87)      „Working with liquid jet sprayers“  
DIN 30705             „High-pressure rinsing vehicles“

**The supplied device complies with the EC- Declaration of Conformity.**

<u>August 2006</u>	 Hochdrucktechnik GmbH Gewerbegebiet Geraer Str.7 07973 Greiz	
Date	Stamp	Signature

REINEX Hochdrucktechnik GmbH  
Gewerbegebiet Geraer Str. 7  
07973 Greiz

Phone +49 3661/6285-0  
Fax +49 3661/628519