

**INSTRUCTION MANUAL**

**for TRAMUS**

**Herbicide Sprayer for undiluted ROUNDUP®**

**ATTENTION!**

Parts of the ULV-Sprayers should be cleaned with a damp cloth only.

**NEVER** use a high-pressure water source. Electronic components could be destroyed.



## **USER SAFETY RECOMMENDATIONS for TRAMUS**

- Always observe the safety recommendations for user protection in the "directions for use" of the chemical and wear the recommended personal protective equipment.
- Do not eat, smoke or drink when working with pesticides.
- Dispose of excess pesticide mix and rinsate in accordance with label instructions.
- Always keep pesticides and applicators out of the reach of children.
- After use, thoroughly clean the applicator.  
**Exchange the chemical in the tank for tap water and turn the wheel for approx. 2 minutes.**

### **SET-UP AND OPERATION OF THE APPLICATOR**

**Plug the 2-core plug of the powerpack in the socket of your tractor.  
Operate switch -7- of the powerpack.**

The atomiser is powered by the rechargeable battery. The fluid metering is handled by a metering pump. The droplets are formed by the centrifugal force of the atomiser and discharged downwards through an adjustable segment. Flow rate can be affected by temperature fluctuations, therefore the flow rate specified in the calibration table has to be checked and adjusted as required. Check the atomiser daily to be sure it is clean and operating smoothly. The spray hood should pass closely over the top of the area to be treated. During operation, some of the chemical will collect in the atomiser and will trickle out for approx. 30 sec. after closing the valve on top at the chemical tank. Be sure to close valve about one minute before end of treatment and allow atomiser to continue running. Switch off the atomiser at the end of the treatment.

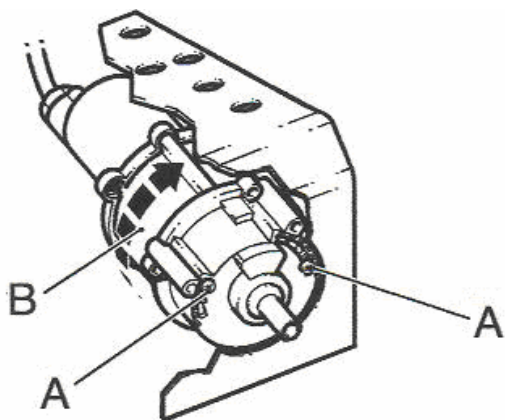
#### **CAUTION**

**Before lifting the spray hood, be sure to close valve and switch off atomiser.**

Set the Spray band of the atomiser by adjusting the spray limiters (see drawing). The spray band should be set so that the droplets are discharged across the entire compartment width. Fill tank and open the valve. Find a clean dry surface, preferably a concret base, or place a cardboard panel under the spray hood and check the coverage on the panel. Adjust as required and recheck. Be sure you understand all the functions of the applicator before starting treatment.

## Assembly Instruction

- A. Set height of sprayhood
- B. Connect electrical plug into powerpack socket
- C. Adjust spray width of atomizers (see drawing)



**A = Spray width variation**  
**B = Direction of rotation**

## Checking the Flow Rate

1. Fill tank with chemical solution.  
Fit screw cap with cock and filter.
2. Open shut-off valve.
3. Set metering knob to suggested letter (A-F).  
Refer to table.
4. Disconnect hose coupling.
5. Collect fluid in a metric measuring cup for  
50 wheel rotations.
6. Check table and (if required) adjust metering  
knob to obtain desired flow rate.
7. Repeat steps 5 & 6 (if necessary).

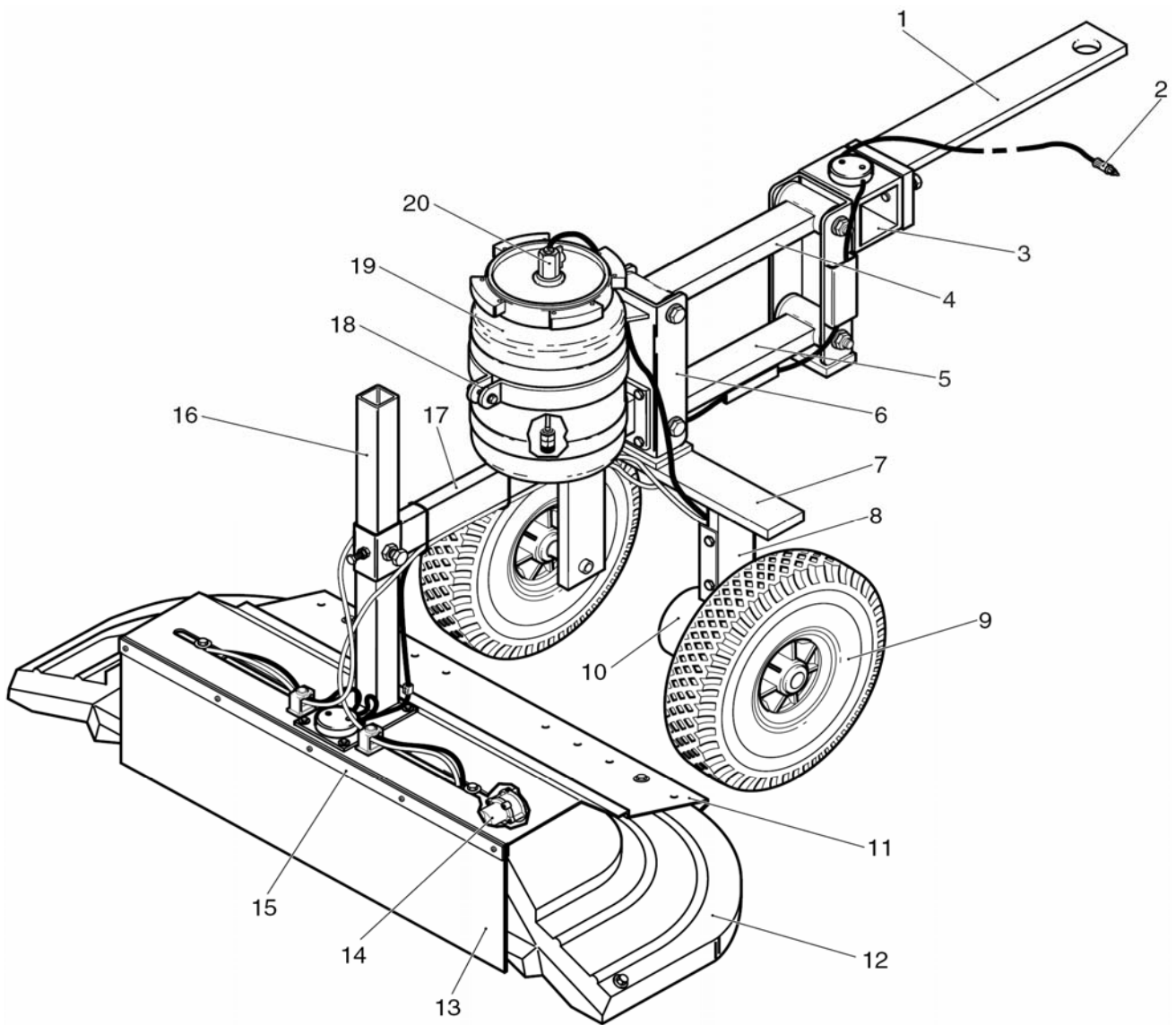
## TRAMUS 04 Calibration Instruction

### Roundup - undiluted -

Checking the flow rate

The metering Pump Type MANKAR-95 pumps the liquid into the 2 atomisers underneath the sprayhoods.

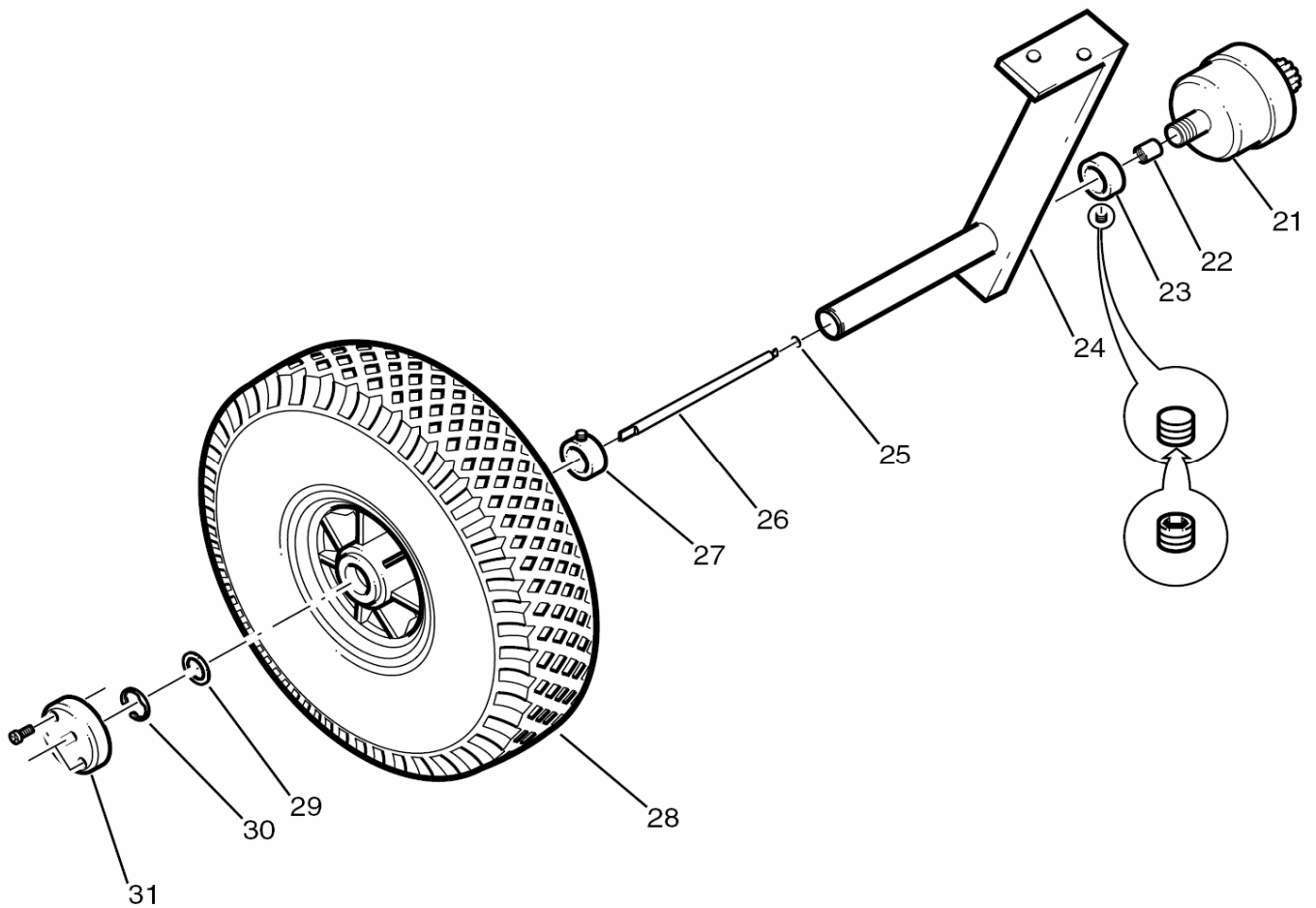
Application Rate of undiluted ROUNDUP per hectar treated area	Sprayhood Required yield for 50 wheel rotations per atomizer	Metering knob setting
1,0 l	1,90 ml	A
2,0 l	3,80 ml	B
3,0 l	5,60 ml	F



**Item Part No. Description**

**100683 TRAMUS (MDB 70) - Trailer with 2 wheels 300mm diameter**

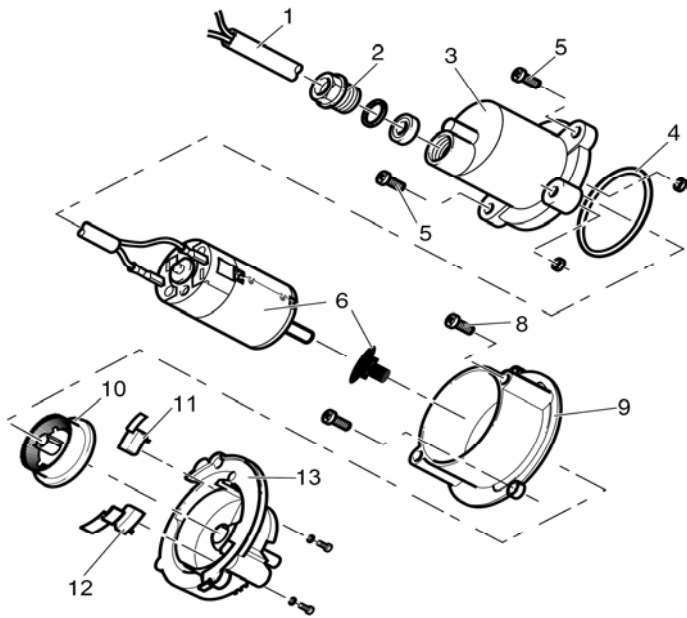
1	100684	Drawbar, Tramus
2	100386	Electric cable complete for MANTRA
3	100612	Suspension
4	100617	Parallelogram
5	100641	Parallelogram with cable protection
6	100636	Height adjustment, Flexomant
7	100685	Toolbar, Tramus 04
8	100645	Pump support complete
9	100661	Wheel 300 x 100 mm
10	100522	Metering pump MANKAR-95, 3 pistons
11	100363	Metal hood, 600 mm width
12	100426	Spray hood, splitted 25 cm, right
13	100380	Rubber curtain for MANKAR-110 P + GP
14	100320	SEGMENTAL-ATOMISER 2006 for MANKAR
15	100381	Fastener for rubber curtain
16	100626	Sprayhood adjustment, Flexomant
17	100766	Mounting bar for sprayhood
18	100623	Tank holder for 6 litre tank
19	100624	Tank, capacity 6 litre
20	100390	Ball valve



**Item Part No. Description**

**Pump Drive Subassembly TRAMUS**

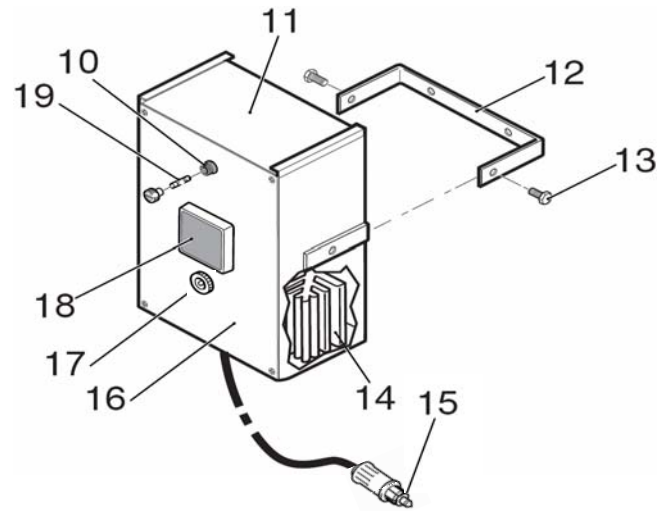
21	100522	Metering pump MANKAR-95, 3 pistons
22	100392	Screw socket
23	100389	Socket for pump
24	100645	Pump support complete
25	100141	O-ring 4,47 x 1,78 mm
26	100597	Cardan shaft-V
27	100377	Set collar 20 mm
28	100661	Wheel 300 x 100 mm
29	100457	Washer 28 x 1 mm
30	100394	Seeger circlip ring
31	100600	Cardan shaft driver



**Item Part No. Description**

**100320 SEGMENTAL-ATOMISER 2006 for MANKAR**

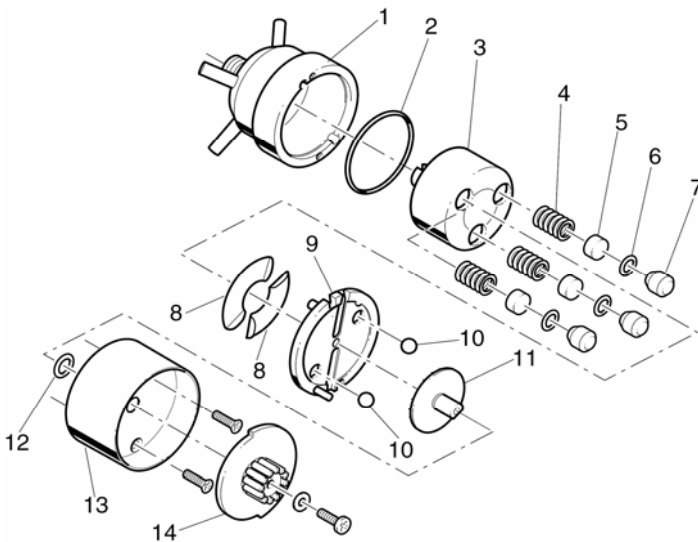
1	100388	Cable	8	100003	Screw M 3 x 10
2	100121	Screw fitting PG 7	9	100487	Atomiser housing, front
3	100486	Motor housing	10	100478	Atomiser disc
4	100482	Para-Sealing	11	100479	Spray limiter, right
5	100996	Screw M 4 x 12	12	100481	Spray limiter, left
6	100345	Motor subassembly for atomiser since 1996	13	100490	Atomiser housing, rear



**Item Part No. Description**

**100543 Control box with 1 switch, with converter 12 to 6 Volt for Flexomant, Trama, Tramus**

10	100365	Fuse housing complete	16	100586	Front panel for control box
11	100578	Pump housing	17	100693	Socket, d=2,1 mm
12	100585	Handle for control box	18	100464	Switch with control light
13	100861	Star-shaped clamp screw	19	100730	Fuse T3.15 Amp
14	100667	Converter 12V to 6V			
15	100069	E-cable with 2-core plug			



**Item Part No. Description**

**100522 Metering pump MANKAR-95, 3 pistons**

1	100528	Pump housing, 2 pressure lines, for MANKAR-110P, -GP
2	100498	O-ring 41 x 1,78 mm
3	100138	Rotor, 3 cylinder
4	100529	Spring, bronze
5	100140	Piston
6	100141	O-ring 4,47 x 1,78 mm
7	100142	Distance piece
8	100530	Wobble plate, Mankar-95
9	100531	Pressure plate, Mankar-95
10	100532	Ball, 6 mm, stainless
11	100533	Selector, Mankar-95
12	100499	O-ring 7,65 x 1,78 mm
13	100534	Pump cover
14	100523	Metering adjustment knob, Mankar-95

**GUARANTEE**

The manufacturer guarantees that in accordance with the present state of technology the article of purchase is free from defects as regards raw materials and construction. Guarantee is valid for all machines and apparatus for 24 months. The period of guarantee begins from the date of purchase by the user.

The manufacturer will decide to repair or replace faulty parts or issue a credit note. Parts damaged due to normal wear and tear will not be replaced under guarantee. Carriage costs are borne by the manufacturer for faulty goods.

Unresolved claims do not entitle purchaser to withhold payments or set them against non-approved claims. Parts not manufactured by manufacturer are guaranteed by the original manufacturer under their terms. Warranty claims must be submitted in writing within 4 weeks of the damage being seen.

Repairs will be carried out with original manufacturer spare parts by an approved dealer.

Acknowledgement of a claim by manufacturer is binding only when a written notice is issued. Unless the manufacturer cannot make a repair, there is no right to cancellation of orders or to mitigation. Compensation for direct or indirect damage will not be given.

Guarantee terminates if the article of purchase is altered by manipulation of third parties or by installing spare parts of extraneous origin and if the ascertained damage is directly caused thereby. Guarantee also terminates if orderer does not observe the operating instructions.

Guarantee does neither apply to natural wear, to damage caused during storage or by corrosion, nor to damage caused by negligent or improper handling. Guarantee does not apply to used machines or apparatus.

The operation instruction published by the manufacturer has been carefully prepared and is based on extensive tests.

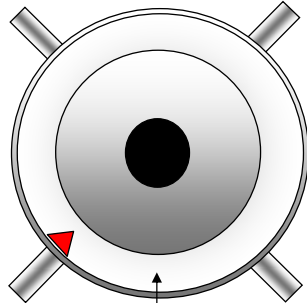
Since manufacturer have no influence on installation and handling of apparatus, the company will not assume any responsibility for lack of success or for damages caused by the apparatus itself or by its use.

**Dosierpumpe MANKAR**  
**Metering pump MANKAR**  
**Pompe doseuse MANKAR**

**Dosierpumpe MAFEX 95 MS**  
**Metering pump MAFEX 95 MS**  
**Pompe doseuse MAFEX 95 MS**

**Druckseite**  
**Pressure sleeve**  
**Pression**

**Saugseite**  
**Sucking sleeve**  
**Aspiration**

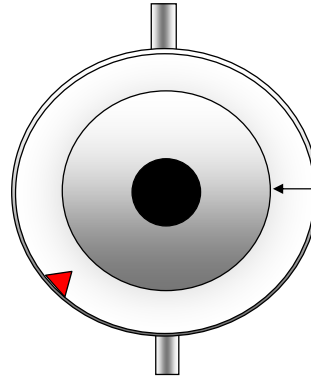


**Saugseite**  
**Sucking sleeve**  
**Aspiration**

**Druckseite**  
**Pressure sleeve**  
**Pression**

**DOSIERKNOPF**  
**Metering adjustment knob**  
**Réglage de débit**

**Druckseite / Pressure sleeve / Pression**

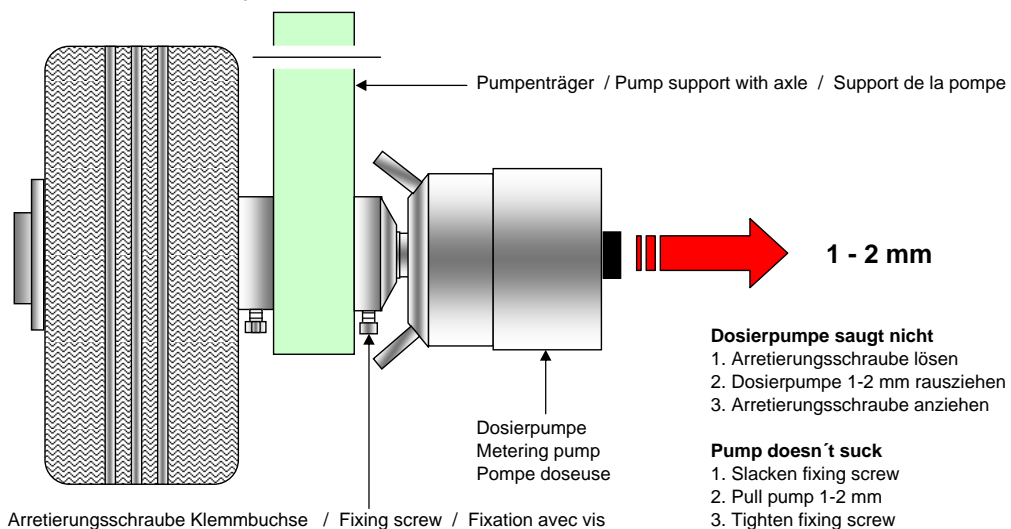


**DOSIERKNOPF**  
**METERING**  
**ADJUSTMENT KNOB**  
**RÉGLAGE DE DÉBIT**

**Saugseite**  
**Sucking sleeve**  
**Aspiration**

**Dosierpumpe saugt nicht**  
**Metering pump doesn't suck**  
**La pompe doseuse n'aspire pas**

**Pumpeneinheit Mankar/Flexomant**  
**Pump subassembly Mankar/Flexomant**  
**Pompe sur roue Mankar/Flexomant**



- Dosierpumpe saugt nicht**
1. Arretierungsschraube lösen
  2. Dosierpumpe 1-2 mm rausziehen
  3. Arretierungsschraube anziehen

- Pump doesn't suck**
1. Slacken fixing screw
  2. Pull pump 1-2 mm
  3. Tighten fixing screw

- La pompe doseuse n'aspire pas**
1. desserrer la vis de fixation
  2. tirer la pompe 1 à 2 mm (libre jeu du cardan)
  3. serrer la vis de fixation