

Manual

MANKAR-110 SELECT EL



**Do not use water hose to clean
Atomisers!**



**This Mankar Model has been designed to spray undiluted
Glyfosate products such as ROUNDUP®**

**To be used for weed control in communities (please
verify national law and local restrictions) , tree nurseries,
for wine and fruit growers, horticulture, forest and
agricultural use.**

**Please keep machine and herbicides always out of reach
for children!**



The noiselevel of this machine is below 70 dB(A).

Manufacturer:

Mantis ULV-Sprühgeräte GmbH
D-21502 Geesthacht
Vierlander Str. 11 a
Germany

Dealer:

USER SAFETY RECOMMENDATIONS

- 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 rinse 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

BATTERY USE AND CARE

Use the charger in dry conditions only. Protect against moisture.

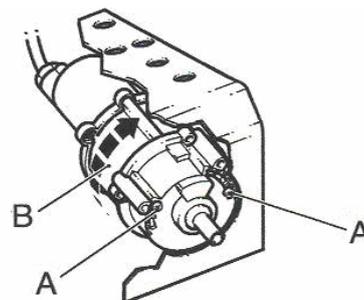
Always start the day with a fully charged battery.

Connect charger plug to powerpack socket correctly before connecting charger to 110 V (US) or 230 V (GB) outlet. **Operate the switch on powerpack.** The charging starts and indicator on charger will light. Battery is fully charged in 16 hours. When the battery is charged, the charger will switch to trickle charge automatically. After charging, remove charger plug from 110 V (US) or 230 V (GB) outlet, then remove plug from battery socket. Never disconnect by pulling on the wires. Store powerpack in fully charged condition. Failure to do so reduces the service life of the battery.

For charging switch on powerpack.

Recharge the battery immediately after use, at least as many hours as the sprayer has been operated.

Off season storage: Charge continuously



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

Total spraying time of fully charged battery:

MANKAR-P	approx. 15 hours
MANKAR-110 P	approx. 8 hours
MANKAR-110 GP	approx. 8 hours

Battery containing mercury, cadmium or lead as electrochemical substances are subject to special waste disposal.

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 of 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 concrete 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.

Pumpcapacity for MANKAR-EL with Mankar 6 Piston Pump

At max. spraywidth of 110 cm

6 Volt

m/min.	33	50	67	83	100
km/h	2	3	4	5	6
Liter/ha					
0,5					
1		*A	A		
1,5		B	D/E		
2	A	D/E	F		
2,5	C	F	G		
3	D	F/G			
3,5	E	G			
4	F				
4,5	F/G				
5	G				

Mankar 6 piston Pump

bei 6 VOLT

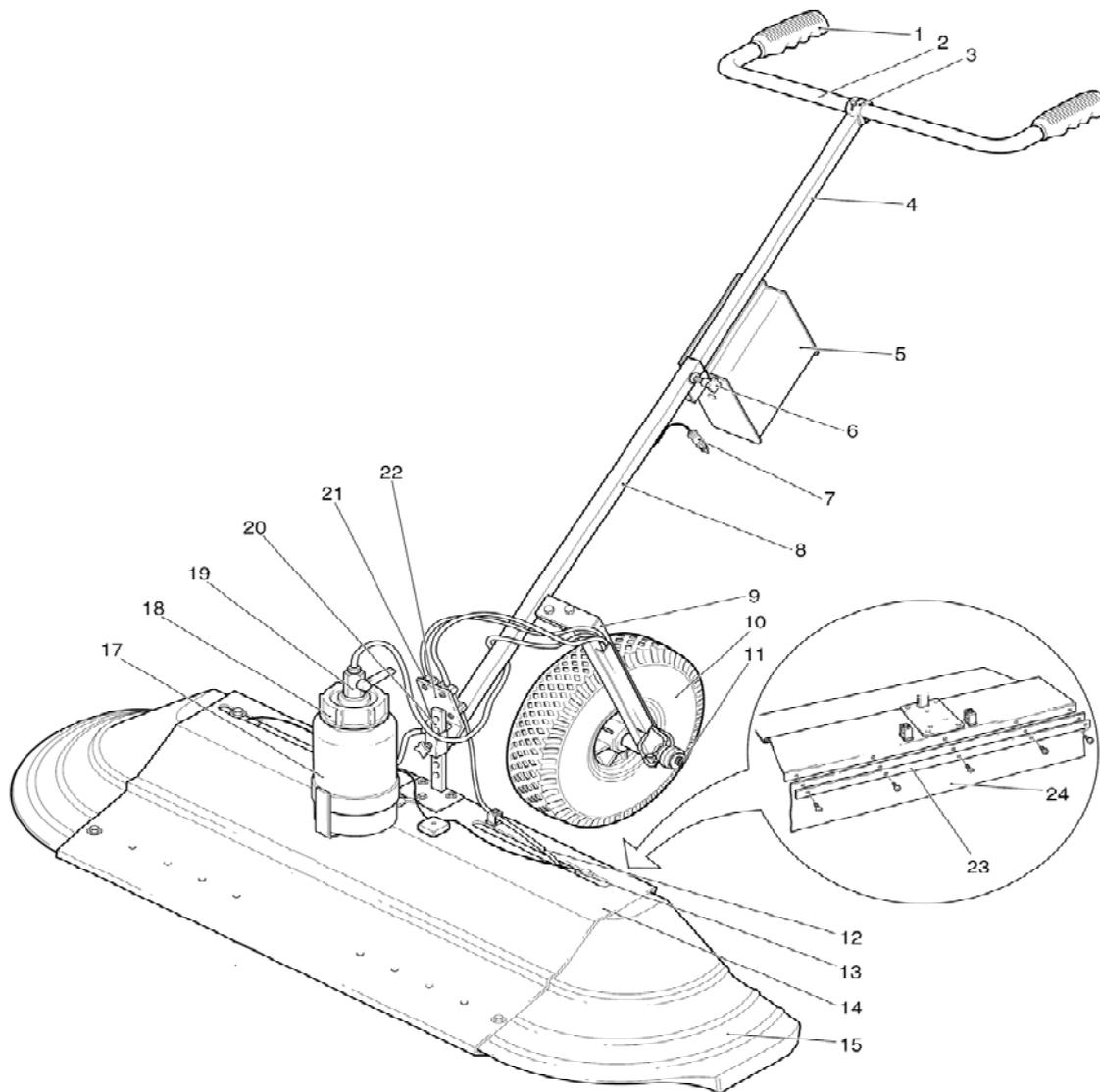
Position

A	3,5 ml./min
B	4,0 ml./min
C	4,5 ml./min
D	5,0 ml./min
E	6,0 ml./min
F	7,5 ml./min
G	9,0 ml./min
H	10,0 ml./min

Formula: ml/min=liter/ha X Spraywidth (110cm) X speed (m/min)/2000

Checking the volume (calibration of the pump)

1. fill container with undiluted ROUNDUP.
2. open the tap at the top of the container.
3. set the desired volume at the pump according to the table.
4. take hose off from the pressure side of the pump.
5. let the pump run for 1 minute and catch the roundup into a measure-glass.
6. In case volume is not according the table please set the pump lower/higher
7. do the calibration again.

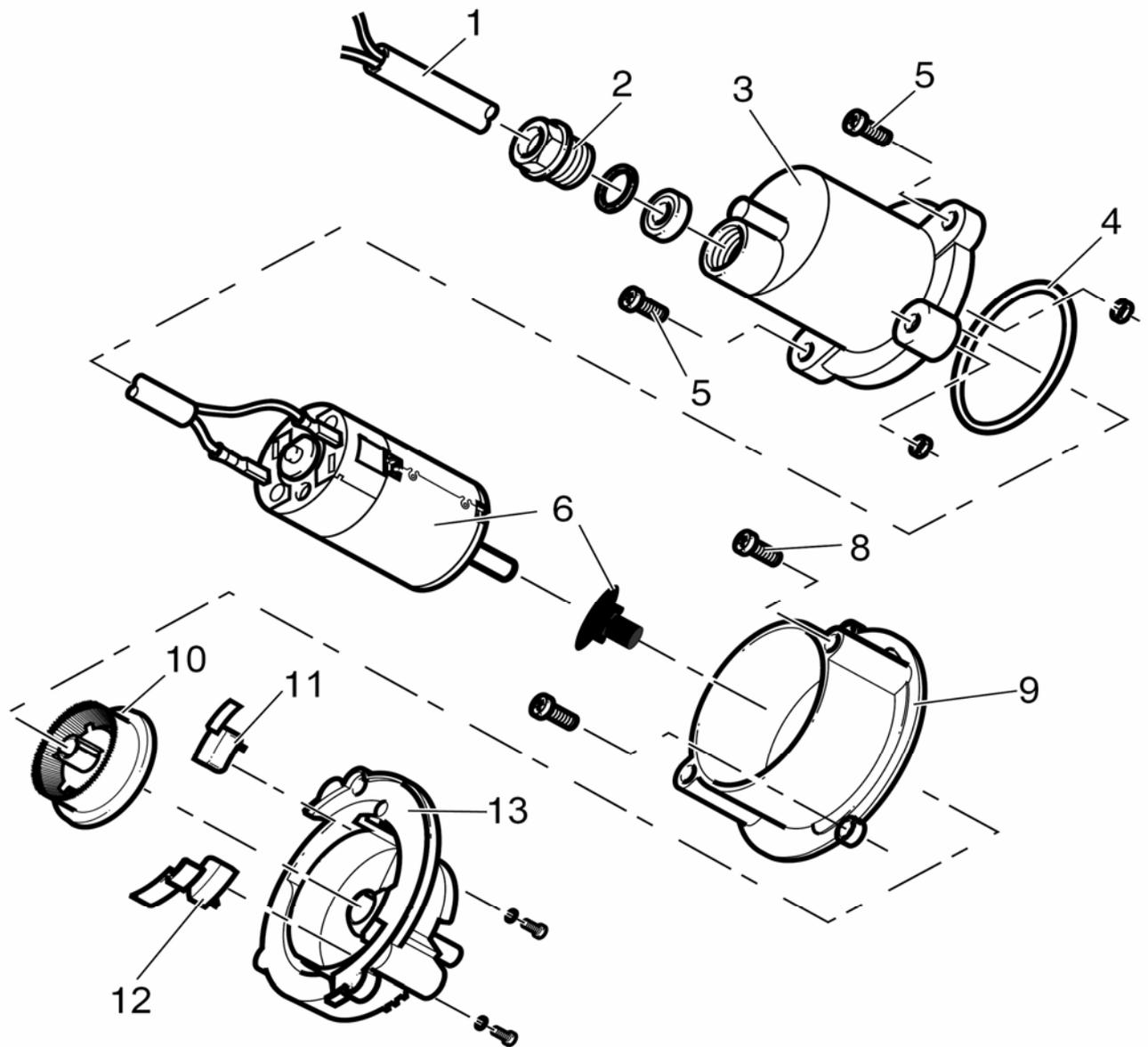


Item Part No. Description

101094 MANKAR-110 P VA

1	100349	Handle bar clip
2 + 3	101272	Handle bar, VA
4	101273	Handle bar extension, VA
5	100459	Powerpack compl. 1 battery 6V-7 Ah
6	100368	Star grip screw, 8 mm x 25
7	100387	Connecting cable complete
8	101274	Toolbar MANKAR-P VA, 110 P VA
9	101275	Pump support with axle
10	100402	Pneumatic tyre, 400 x 100 mm
11	100522	Metering pump MANKAR-95, 3 pistons
12	- - - - -	Pressure line 4 x 2 mm
13	100388	Cable
14	100363	Metal hood, 600 mm width
15	100400	Spray hood, splitted 25 cm, left
	100426	Spray hood, splitted 25 cm, right
17	100434	Kautex tank, 1 litre
18	100441	Cover, for 1 litre tank
19	100390	Ball valve
20	101276	Sprayhood height adjustment with tank holder for MANKAR-P VA, -110 P VA
21	100397	Flow control complete for Mankar, without holder
22	100415	Dual mounting bracket for 2 flow controls
23	100381	Fastener for rubber curtain
24	100380	Rubber curtain for MANKAR-110 P + GP
	100987	Line set for MANKAR-P VA, -110 P VA





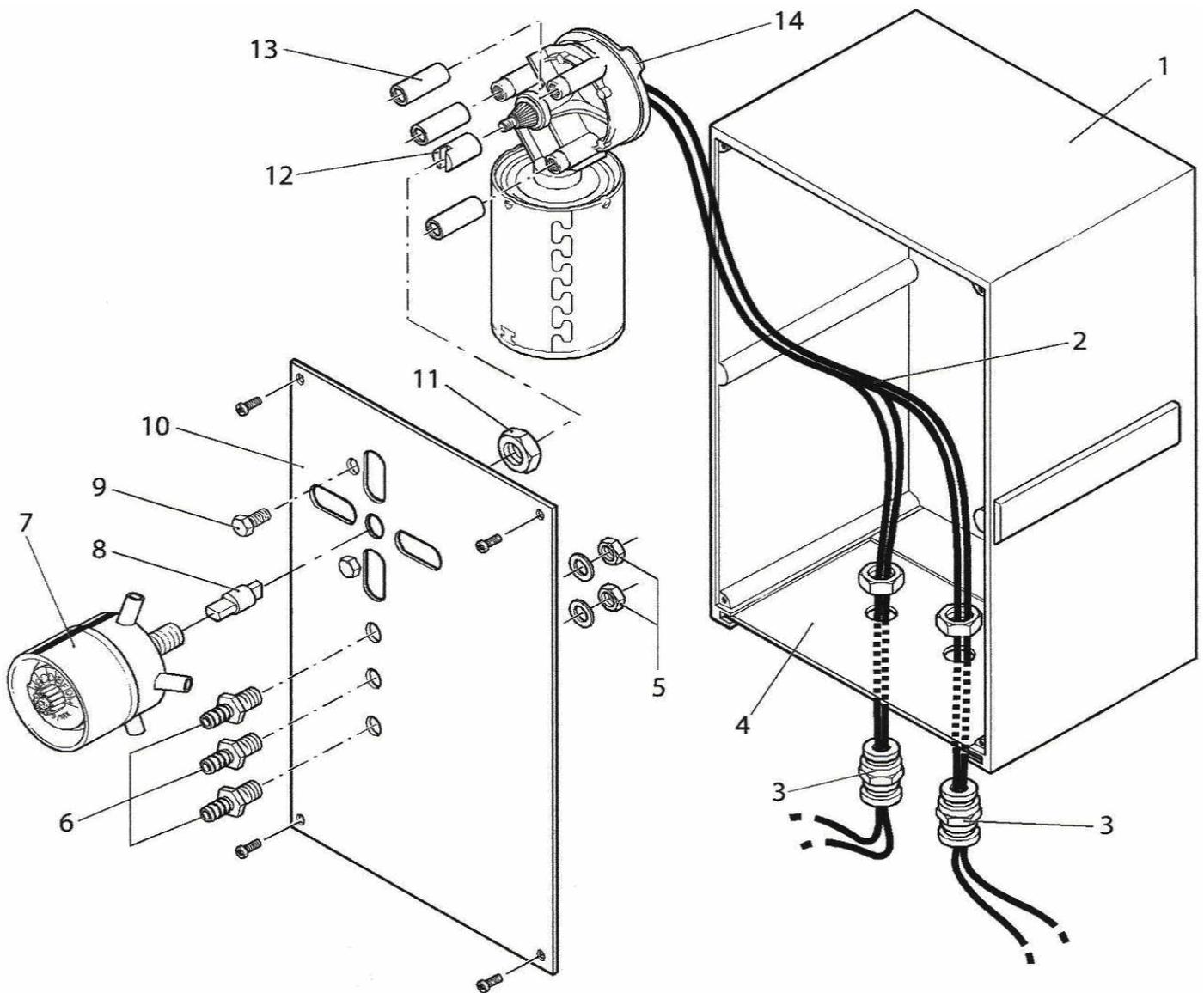
Teil Art.Nr. Bezeichnung

Description

100320 Düse 2006, für MANKAR

SEGMENTAL-ATOMISER 2006 for MANKAR

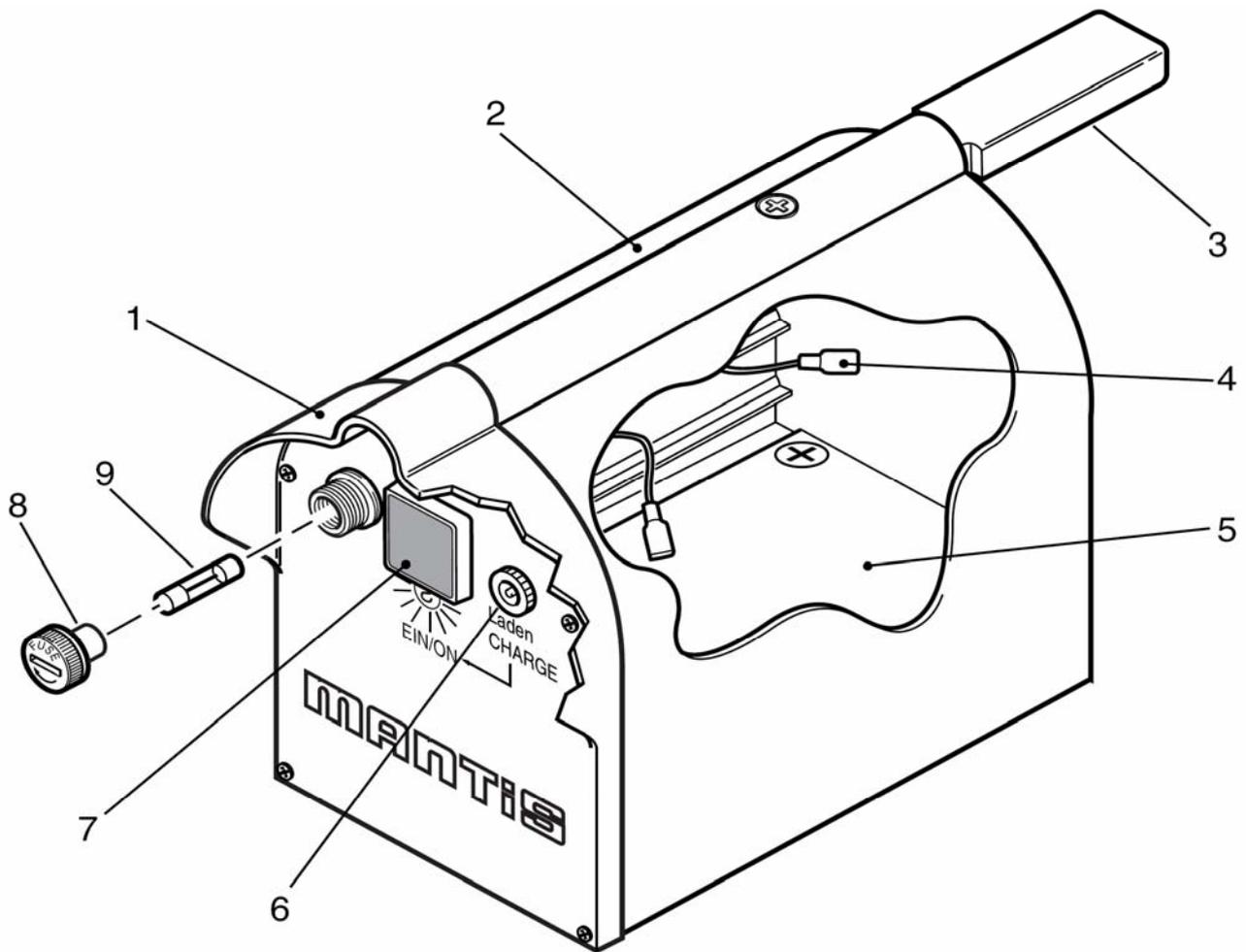
Teil	Art.Nr.	Bezeichnung	Description
1	100388	Düsenkabel, außer Mini / Plus	Cable
2	100121	Kabelverschraubung PG 7, Kunststoff	Screw fitting PG 7
3	100486	Gehäuse für Motor Herbizid-Düse	Motor housing
4	100482	Paradichtung 30 x 40 x 3 mm für Herbizid-Düse und PIONEER	Para-Sealing
5	- - - - -	Schraube M 4 x 10	Screw M 4 x 10
6	100345	Motor für Herbizid-Düse inkl. PARA-Ring	Motor subassembly for atomiser since 1996
8	- - - - -	Schraube M 3 x 10	Screw M 3 x 10
9	100487	Vordergehäuse für Herbizid-Düse	Atomiser housing, front 2004
10	100478	Düsenscheibe für Herbizid-Düse	Atomiser disc
11	100479	Breitenverstellung, rechts für Düse	Spray limiter, right
12	100481	Breitenverstellung, links für Düse	Spray limiter, left
13	100490	Rückgehäuse für Düse Herbizidgeräte	Atomiser housing, rear 2004



Item Part No. Description

100513 Pump unit MANKAR BE-6

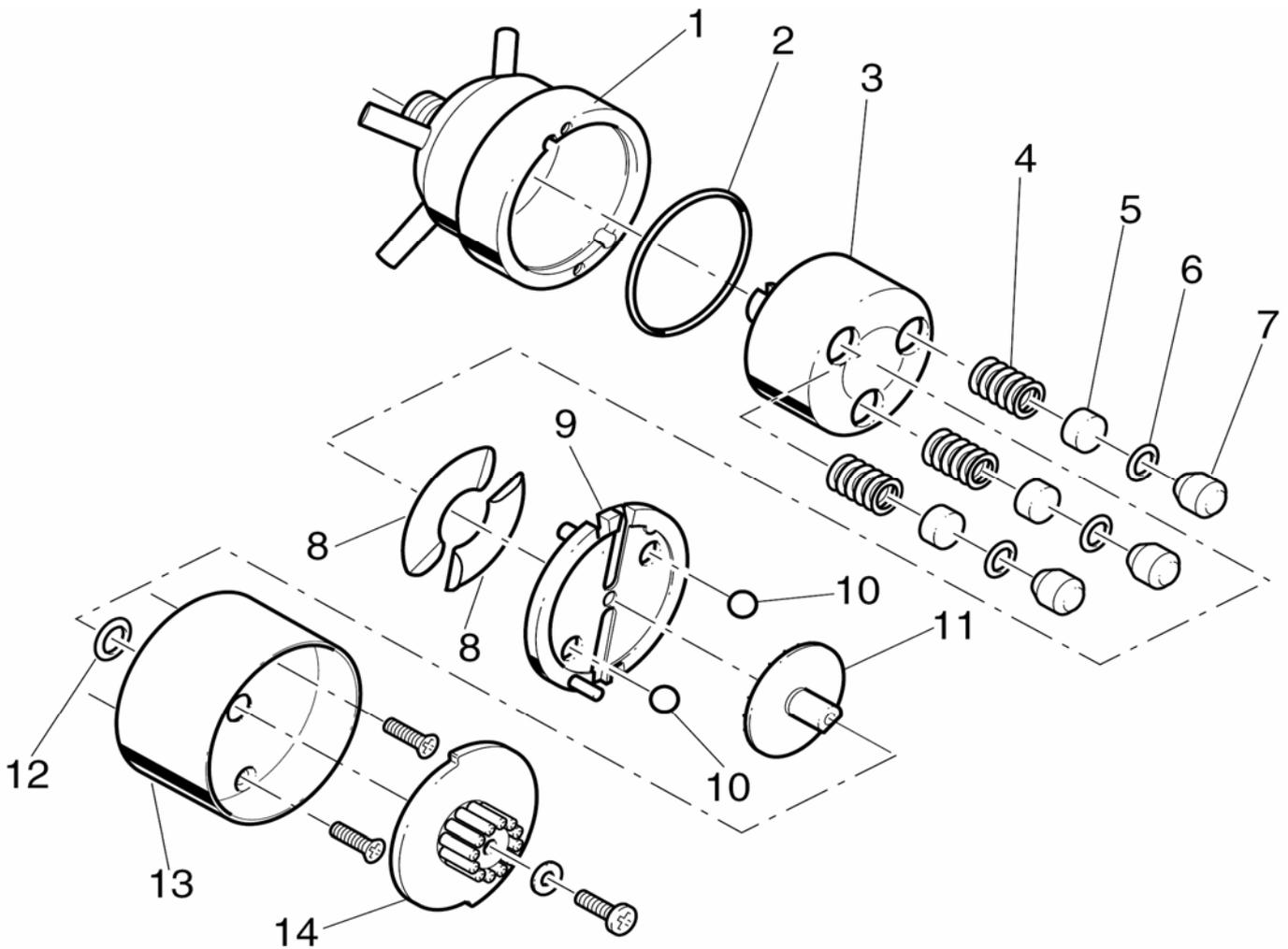
1	100578	Pump housing
2	100898	Cable for pump unit RSG
3	100084	Screwed cable gland PG 9, plastic
4	100899	Aluminium plate
5	101216	Hex thin nut, M8, zinc-plated
6	100085	Hose stem
7	100520	MANKAR-95/6 metering pump for 110 P + 110 GP
8	100136	Cardan shaft
9	101105	Hex-head screw, M 6 x 40, zinc-plated
10	100581	Front panel for pump MANKAR-95
11	101576	Hex thin nut, M12, zinc-plated
12	100078	Cardan drive
13	100077	Distance piece
14	100177	Pump motor 12 V with Hall-Sensor



Item Part No. Description

100467 Powerpack compl. 2 batteries 6V-7 Ah

1	100466	Powerpack-cover, ABS
2	100462	Powerpack case, ABS
3	100461	Powerpack mounting bar
4	100463	Battery connection cables (internal)
5	100450	Storage battery 6V - 7Ah
6	100693	Socket, d=2,1 mm
7	100464	Switch with control light
8	100365	Fuse housing complete
9	100730	Fuse T3.15 Amp



Item Part No. Description

100520 MANKAR-95/6 metering pump for 110 P + 110 GP

1	100528	Pumpbody, 2 pressure exits, for MANKAR-110P, -GP
2	100498	O-ring 41 x 1,78 mm
3	100147	Rotor-6, MS for MAFEX piston pumps
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.