



Australia's Safest Tanks and Trailers

# OPERATORS HANDBOOK



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# INTRODUCTION

**Please carefully read your operators handbook before mounting or using your LinkOn Plus unit. Keep your handbook in a safe place.**

Congratulations on your purchase of a LinkOn Sprayer which is complete and ready for use. Ideally suited to farmers or spray contractors for weed spraying, fence line spraying, spraying of drainage channels and around buildings etc.

## YOUR SAFETY

1. When mounting to any vehicle ensure that you have read the Vehicle Owner's Manual and that you comply with all the weight restrictions as specified by the vehicle manufacturer, as overloading can cause injury or death.
2. To ensure your own safety and that of your employees if applicable you must comply with all relevant environmental, work place health and safety legislation and codes of practice.
3. Select and wear appropriate Personal Protection Equipment in accordance with the label of the product you intend using and your own safe work practices.
4. Care should be taken when spraying in windy conditions as spray drift may contaminate the air and may affect the operator or damage adjacent non-target vegetation.
5. Once the spraying operation has been completed, decontaminate the tank and spray accessories. Dispose of tank rinsings in compliance with current environmental, work place health and safety regulations.
6. Personal Protection Equipment must still be worn while decontaminating your sprayer as per warning at 3 above.
7. Improper or careless use of this sprayer can cause serious injury. Minors should never be allowed to use this sprayer. This sprayer should not be used when bystanders or animals are in the area. This sprayer should never be used while children are in the area.
8. Never leave the sprayer unattended without turning off the engine and relieving the line pressure, and flushing the sprayer of any harmful chemicals.
9. You must be in good mental health to operate this sprayer and not be under the influence of alcohol or any drugs that could impair your vision, physical strength, dexterity, judgment, or other mental capacity
10. Pump is driven by rotating driveline. Contact can cause serious injury or death. Never operate without driveline guards.

# RISK ASSESSMENT

## Product Information Risk Assessment Sheet TTi - LinkOn Plus Unit

TASK	HAZARDS	RISK	CONTROL MEASURES
<p><b>Partially fill the tank with water,</b> connect the PTO shaft - do not exceed RPM for PTO &amp; test the spray unit</p>	<p>Reaching &amp; handling; slips, trips or falls; fingers jammed; pressure blow; electrocution; Power Take Off (PTO) shaft entanglement; Note: PTO &amp; machine must match, can't be opened when operating or the shield is not safely in place.</p>	<p>Medium</p>	<p><b>Concentrate on task;</b> follow safe manual handling techniques:</p> <ul style="list-style-type: none"> <li>• Don't lift on your own if &gt; 20kg, bend knees &amp; keep back straight;</li> <li>• Keep fingers clear;</li> <li>• No loose clothing;</li> <li>• follow PTO &amp; machine safe operation steps;</li> <li>• Ensure guard on PTO shaft before use;</li> <li>• Keep unit at least 8m away from overhead powerlines;</li> <li>• Fire extinguisher nearby</li> <li>• Follow warning stickers on tanks;</li> <li>• Check hoses;</li> <li>• Keep substances away from electrical sources.</li> </ul>
<p><b>Check weather conditions</b> &amp; select the appropriate PPE to suit the chemicals to be used</p>	<p>Manual handling; slips, trips or falls</p>	<p>Low</p>	<ul style="list-style-type: none"> <li>• Put on PPE as per the chemical requirements in the Material Safety Data Sheet - gloves, mask, glasses, etc;</li> <li>• Follow safe manual handling techniques as above</li> </ul>
<p><b>Mix chemicals</b> and fill spray tank units</p>	<p>As above; spray drift, chemical spillage, emission of vapors or flammability; weather; untrained visitors</p>	<p>Medium</p>	<ul style="list-style-type: none"> <li>• As above;</li> <li>• User trained in the state's chemical mixing &amp; administration course eg Chem Cert;</li> <li>• Follow the relevant Environment Protection Authority requirements;</li> <li>• Fire extinguisher present;</li> <li>• Keep visitors away from the job unless wearing full PPE.</li> </ul>
<p><b>Use spray unit.</b> Make sure you do not exceed the RPM for the PTO.</p>	<p>As above; loss of load; heat &amp; cold; noise; exceed load limit of vehicle; hose and PTO shaft entanglement; terrain &amp; slopes; run over by the unit when in use.</p>	<p>High</p>	<ul style="list-style-type: none"> <li>• As above;</li> <li>• Wear clothes to suit heat &amp; cold;</li> <li>• Wear hearing protection if noise &gt; 85 dBa;</li> <li>• Follow the manufacturer's safe operation instruction for the vehicle and the spray unit;</li> <li>• Don't overload - water weighs 1kg for every 1 litre;</li> <li>• Secure load to vehicle;</li> <li>• Keep hose tidy;</li> <li>• Brakes on when stopped.</li> </ul>
<p>Clean up, <b>maintenance</b> &amp; storage</p>	<p>As above. PTO greasing. Fresh water tank use.</p>	<p>Low</p>	<ul style="list-style-type: none"> <li>• As above;</li> <li>• Continue to wear PPE for clean up; store unit in a dry, well ventilated area.</li> </ul>

# HITCHING SPRAY LINK

## HITCHING YOUR SPRAY LINK

- » Your LinkOn Plus Sprayer comes completely assembled.
- » If your boom has been packaged separately, attach to the sprayer frame once hitched to the tractor.
- » Before hitching the sprayer to the tractor consult the tractor's operating manual for the correct and safe procedure.
- » If possible, always hitch and detach 3 point linkage equipment on flat ground.
- » Ensure that the sprayer is stable before hitching, chock to improve stability if required.
- » Hitch the sprayer in the correct order as follows:
  1. First left link
  2. Secondly right link
  3. Thirdly top link
- » Ensure that the sprayer has been leveled both horizontally and vertically.

## FITTING THE PTO SHAFT

- » Connect the PTO shaft in accordance with the PTO shaft directions for use. Ensure the length of the PTO is correct, shorten if necessary.

# PTO SHAFT INSTRUCTIONS

**NOTE:** End thrust from over length shafts (or seized telescopic tubes) can destroy your tractors internal PTO drive or implement clutch and gearbox, voiding your machine warranty.

1. Measure groove to groove distance from implement shaft to tractor shaft with implement in shortest position.



*NOTE: Length will vary as implement is raised or lowered*

2. Remove safety guard from new shaft and measure length between shaft lock buttons or clamp bolts with shaft in closed position.

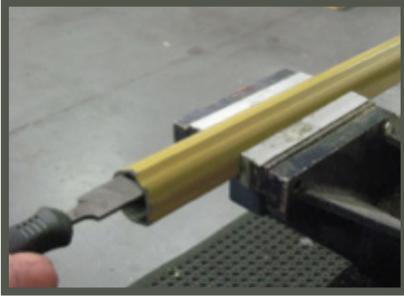


3. Required length of shaft is groove to groove length (step 1) less a minimum of 76mm (3") to allow for disconnection from tractor and prevent end thrust damage. If shaft is shorter than this, ensure that 50% of telescopic tubes overlap.



# PTO SHAFT INSTRUCTIONS

1. Amount to cut off shaft; Length of new shaft (step 2) Less groove to groove measurement (step 1); plus 76mm (3"). Cut this amount off both inner and outer drive tubes. Remove burrs and grease tubes.



## E.g.

New shaft

Less groove to groove requirement plus clearance 76mm

Amount to cut off

This is an example only

1194mm (47")

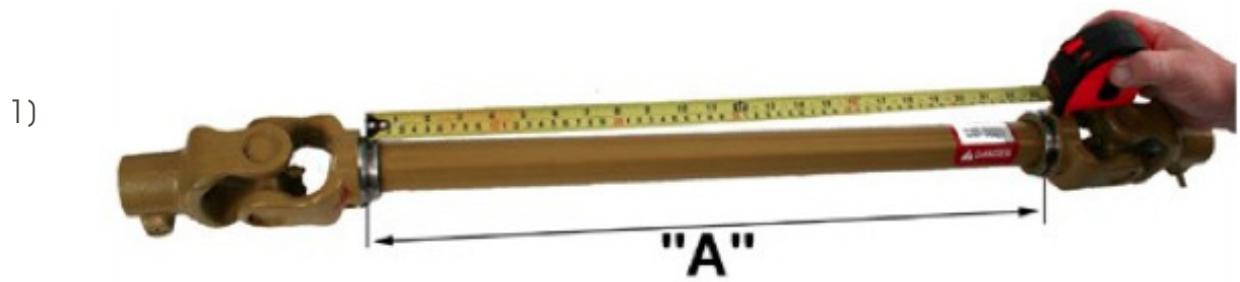
- 890mm (35")

+ 76mm ( 3")

---

**380mm (15")**

# PTO SHAFT INSTRUCTIONS



**"B" = "A" - 76mm (3")**  
**("B" is 76mm (3") less than "A")**



# PTO SHAFT INSTRUCTIONS

## SHAFT OPERATING ANGLE

Adjust tractor hydraulic control to minimise lift height. High lift and large shaft angle will destroy universal joint.

All Bare-Co PTO shafts (single universal joint) Short time running: Maximum angle 25 degrees Continuous operation: Maximum angle 17 degrees

All Bare-Co Wide Angle PTO shafts (double universal joint)

Short time running (or stationary): Maximum angle 80 degrees Continuous operation: Maximum angle 25 degrees



## SLIDING MEMBERS

Use high temperature grease similar to HP multi-purpose chassis grease.

Grease sliding members prior to assembly and after every 20 hours of use. For applications with high tele- scoping movement grease every 8 hours.

Bare-Co shafts from 8 series upwards are equipped with a grease nipple which can be accessed by releasing the patent guard to align access hole.

## UNIVERSAL JOINTS

Grease standard joints every 20 hours or 8 hours for severe conditions. Wide angle joints every 8 hours under wide angle conditions. Operating standard shafts at greater than 10 degrees angle or wide angle shafts at greater than 18 degrees angle dramatically reduces cross bearing life and requires more frequent lubrication.

**IMPORTANT:** Grease follows the easiest path through internal ports to the four cross bearings.

Over heating and poor quality grease baked in one port will prevent grease reaching that bearing, resulting in failure of individual cross bearings.

*Typical cross failure due to blocked internal grease port*



# PTO SHAFT INSTRUCTIONS

## **MOST IMPORTANT**

Fully open guard covers to ensure grease flows to all cross bearings Greasing through small guard access holes is not good enough!

## **HOW TO PREVENT WIDE ANGLE SHAFT FAILURES:**

- » If 80 degree wide angle shafts are angled at greater than 80 degrees (Jack knifing implement with shaft stationary or rotating), the centre support ball and socket will break (not covered by warranty). To avoid over angling , fit turn limiters to your implement draw bar. Correctly fitted turn limiters will contact tractor tyre prior to over angling.
- » The very large centre disc lubrication cavity must be completely full before any grease transfers from the cavity to the centre support ball and socket. More than half a cartridge of grease is required to fill this cavity on initial shaft installation.
- » Wide angle covers should be completely removed to ensure grease flows to the centre support ball and all eight cross bearings

# MIXING AND FILLING

The following steps are given as a guide for mixing and filling the sprayer.

1. Read the product label and follow the instructions carefully, taking special note with regard to the order in which the products are added to the tank.
2. Half-fill the spray tank with water only and commence agitation by following these steps:
  - Pressure control lever must be in the “by-pass position”. Turn regulator valve knob in anti-clock wise direction to reduce pressure to “0” bar.
  - Engage PTO shaft to commence pumping and fluid circulation. Measure the correct quantity of pesticides, using clean measuring jugs used only for this purpose and add to the spray tank while still agitating.
  - Rinse out the measuring jugs and empty containers and pour all rinsings into the spray tank.
  - Top up the spray tank with clean water to the required level
3. Your spray tank has now been correctly filled and the product thoroughly mixed, spraying can now commence.
4. To commence spraying move the pressure control lever clockwise to the “press” position, close the spray gun or boom and turn the adjustment knob in a clockwise direction until your desired pressure has been reached. Open the spray gun or boom and start spraying.

# CALIBRATION

**Accurate calibration is an essential element** of any spraying function as it ensures that the pesticide is applied at the rate of the product label. Application in excess of the recommended rate is prohibited, can damage crops and is uneconomical.

**Calibration must always be carried out:**

- » When spraying for the first time with new spray equipment
- » At the beginning of each season
- » After changes of nozzle tips, spraying pressure or speed
- » After every 100 hectares of spraying

When calibrating a sprayer, a minimum of coverall, gloves and boots must be worn. A face shield and PVC apron may be included depending on the task and the cleanliness of the sprayer.

# CALIBRATION PROCEDURE

## The following steps set out a method of sprayer calibration:

Read the label on the Container for the Application rate & recommended spray nozzle type. To apply a specific rate of chemical to the target surface, you need to know the total sprayer output, the travel speed and the swath width. Then calculate the application rate.

### Measure Total sprayer output (L/min)

Set the pressure at the correct level for spraying determined by the type of nozzles. All nozzles used for spraying should be left on. For initial trials set pressure at ~ 2 bar and adjust as needed.

1. Fill the spray tank with clean water. Run the sprayer at the correct pressure with all nozzles operating.
2. Place a measuring jug under first nozzle for one minute. Measure how much water is in the jug.
3. Repeat for all nozzles. Nozzle output should not vary by more than 10%. If it does, the nozzle could be worn or damaged and should be replaced. All nozzles on the boom should have a similar output.
4. Add all the jug measurements to find the total sprayer output in litres per minute.

### Measure the travel speed (km/h)

The normal speed for spraying with small boom sprayers is 4–10 km/h. The slower you travel the higher the application rate. Adjust travel speed to suit ground conditions.

1. Measure how many seconds it takes to travel 100 metres with the sprayer attached and half full.
2. Calculate your travel speed by inserting the time in seconds into the following formula: Travel speed (km/h) = distance travelled in meters (say 100m) x3.6 / Time taken (in seconds)

### Calculate spray application rate (L/Ha)

First, measure your swath width (in metres). For general broadcast spraying, the swath width is equal to the number of nozzles multiplied by the nozzle spacing. For band spraying the swath width is equal to the total of all the band widths. Calculate the application rate using the following formula :

Application rate (L/ha) = (600 x total sprayer output (L/min)) / (swath width (m) x travel speed (km/h))

*Example:* If total sprayer output is 5 L/min, speed is 8 km/h, and swath width is 6m, Application rate = (600 x 5 = 62.5 L/ha)/(6 x 8 )

If the application rate is less than specified, increase the pressure and repeat calibration to achieve correct rate.

<b>Nozzle Fitted</b>			
<b>Type (Drop Size)</b>			
<b>Application Rate</b>			
<b>Spray Pressure</b>			
<b>Forward Speed</b>			

# SPRAYING

For effective spraying, ensure you have taken the following factors into account:

## 1. Work Rates

- Speed of operation
- Water points or nurse tanks
- Rate of travel
- Swath width
- Spray volume applied

## 2. Wind Direction and drift

- Wind Speed
- Wind Direction
- Airspeed at boom height
- Avoid spraying on still warm days as convection currents may cause drift in unpredictable directions.
- Optimum wind speeds are between 3km/h to 7 km/h
- Wind drift is controlled by;
  - Reducing nozzle height
  - Reducing pressure and using larger nozzles
  - Fit low-drift nozzles producing larger droplets

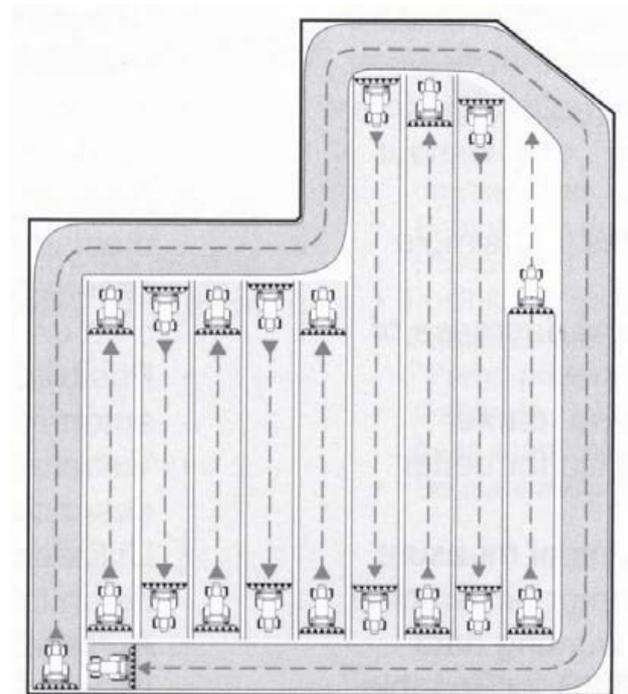
## 3. Field Work (See diagram below)

Swath marking and spraying

- Mark out to ensure proper pass matching – use flags foam markers or tramlines
- Where large obstructions exist in the middle of an area to be sprayed, mark out and spray the area like a separate headland.
- The perimeter of the field should be sprayed first. The width of two swaths will give adequate turning space at the ends of spray runs.
- Never spray while turning.

## 4. Speed

- Maintain a constant speed when spraying.
- Should you need to increase your spraying speed, larger delivery nozzles must be fitted.
- Re-calibrate as required



# SPRAY RATES



## AI XR TeeJet® Air Induction XR Flat Spray Tips

### Typical Applications:

See selection guide on pages 2 and 6 for recommended typical applications for AI XR TeeJet tips.

### Features:

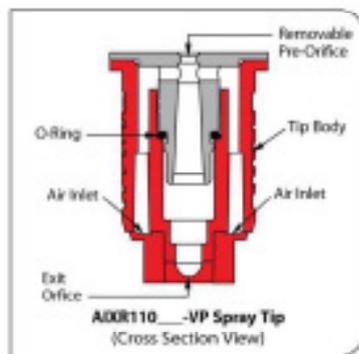
- 110° wide, tapered flat spray angle with air induction technology offers better drift management.
- Made of a two-piece UHMWPE polymer construction with VisiFlo® color-coding. UHMWPE provides excellent chemical resistance, including acids, as well as exceptional wear life.

- Compact size to prevent tip damage.
- Depending on the chemical, produces large air-filled drops through a Venturi air aspirator.
- Removable pre-orifice.
- Available in seven tip capacities with a wide operating pressure range: 15–90 PSI (1–6 bar).
- Automatic alignment when used with 25612-3-NYR Quick TeeJet® cap and gasket. Reference page 63 for more information.

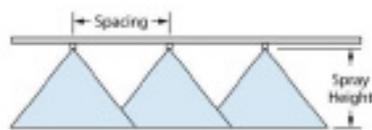


TIPO	PSI	DROPSIZE	CAPACITY ONE NOZZLE IN GPM	CAPACITY ONE NOZZLE IN L/MIN.	GPA										GALLONS PER 1000 SQ. FT.				
					4 MPH	5 MPH	6 MPH	8 MPH	10 MPH	12 MPH	15 MPH	20 MPH	2 MPH	3 MPH	4 MPH	5 MPH			
AI XR110015 (100)	15	XC	0.092	12	4.8	5.5	4.6	3.4	2.7	2.3	1.8	1.4	0.31	0.21	0.16	0.13			
	20	XC	0.11	14	5.2	4.5	4.1	3.5	2.7	2.2	1.6	1.3	0.37	0.25	0.19	0.15			
	30	C	0.13	17	5.7	4.4	4.6	3.9	3.2	2.6	1.9	1.4	0.44	0.29	0.22	0.18			
	40	C	0.15	19	6.1	4.9	4.4	4.5	3.7	3.0	2.2	1.5	0.51	0.34	0.26	0.20			
	50	C	0.17	22	6.6	5.1	4.4	4.3	3.5	2.8	2.1	1.5	0.58	0.39	0.29	0.23			
AI XR11002 (50)	60	M	0.18	23	6.8	4.9	4.3	3.6	2.9	2.3	1.7	1.2	0.61	0.41	0.31	0.24			
	75	M	0.21	27	7.5	4.5	4.0	3.6	2.7	2.2	1.6	1.1	0.71	0.48	0.36	0.29			
	90	M	0.23	29	8.1	4.2	3.8	3.2	2.6	2.1	1.5	1.0	0.78	0.52	0.39	0.31			
	15	XC	0.12	15	4.9	4.1	3.8	3.2	2.6	2.1	1.5	1.1	0.41	0.27	0.20	0.16			
	20	XC	0.14	18	5.4	3.8	3.5	2.8	2.3	1.8	1.3	0.9	0.48	0.32	0.24	0.19			
AI XR11002 (50)	30	VC	0.17	22	6.0	3.5	3.2	2.6	2.1	1.6	1.1	0.8	0.58	0.39	0.29	0.23			
	40	C	0.20	26	6.6	3.2	2.9	2.3	1.8	1.3	0.9	0.68	0.45	0.34	0.27				
	50	C	0.22	28	7.1	3.0	2.7	2.1	1.6	1.1	0.8	0.75	0.50	0.37	0.30				
	60	C	0.24	31	7.7	2.8	2.5	1.9	1.4	1.0	0.7	0.82	0.54	0.41	0.33				
	75	C	0.27	35	8.4	2.6	2.3	1.7	1.2	0.9	0.6	0.92	0.61	0.46	0.37				
AI XR110025 (50)	90	M	0.30	38	9.0	2.4	2.1	1.5	1.1	0.8	0.5	1.0	0.68	0.51	0.41				
	15	XC	0.15	19	6.1	4.9	4.4	3.7	3.0	2.2	1.5	1.1	0.51	0.34	0.26	0.20			
	20	XC	0.18	23	6.8	4.5	4.1	3.5	2.8	2.2	1.6	1.1	0.61	0.41	0.31	0.24			
	30	XC	0.22	28	7.7	4.1	3.8	3.1	2.5	1.9	1.3	0.9	0.75	0.50	0.37	0.30			
	40	VC	0.25	32	8.6	3.8	3.5	2.8	2.2	1.6	1.1	0.85	0.57	0.43	0.34				
AI XR11003 (50)	50	C	0.28	36	9.4	3.5	3.2	2.5	1.9	1.4	1.0	0.95	0.63	0.48	0.38				
	60	C	0.31	40	10.3	3.2	2.9	2.2	1.6	1.1	0.8	1.0	0.70	0.53	0.42				
	75	C	0.34	44	11.2	3.0	2.7	2.0	1.5	1.0	0.7	1.2	0.77	0.58	0.46				
	90	C	0.38	49	12.3	2.8	2.5	1.8	1.3	0.9	0.6	1.3	0.86	0.65	0.52				
	15	XC	0.18	23	7.4	6.0	5.7	4.7	3.8	3.1	2.2	1.6	0.61	0.41	0.31	0.24			
AI XR11003 (50)	20	XC	0.21	27	8.1	5.4	5.1	4.2	3.4	2.7	1.9	1.3	0.71	0.48	0.36	0.29			
	30	XC	0.26	33	9.0	4.8	4.5	3.6	2.9	2.3	1.6	1.1	0.88	0.59	0.44	0.35			
	40	VC	0.30	38	10.0	4.4	4.1	3.2	2.6	2.0	1.4	0.98	0.68	0.51	0.41				
	50	C	0.34	44	11.0	4.0	3.7	2.8	2.2	1.6	1.1	1.2	0.77	0.58	0.46				
	60	C	0.37	47	12.0	3.7	3.4	2.5	1.9	1.4	1.0	1.3	0.84	0.63	0.50				
AI XR11004 (50)	75	C	0.41	52	13.1	3.4	3.1	2.2	1.6	1.1	0.8	1.4	0.93	0.70	0.56				
	90	C	0.45	58	14.4	3.1	2.8	2.0	1.5	1.0	0.7	1.5	1.0	0.77	0.61				
	15	XC	0.24	31	9.8	7.8	7.4	5.9	4.7	3.8	2.8	1.8	0.82	0.54	0.41	0.33			
	20	XC	0.28	36	10.8	7.1	6.7	5.2	4.2	3.3	2.3	1.6	0.95	0.63	0.48	0.38			
	30	XC	0.35	45	14.1	6.4	6.0	4.5	3.5	2.7	1.9	1.2	1.0	0.79	0.60	0.48			
AI XR11004 (50)	40	XC	0.40	51	16.0	5.7	5.3	3.9	2.9	2.1	1.4	1.4	0.99	0.66	0.54				
	50	VC	0.45	58	18.0	5.0	4.6	3.3	2.4	1.7	1.1	1.5	1.0	0.77	0.61				
	60	VC	0.49	65	19.8	4.4	4.0	2.9	2.1	1.5	1.0	1.7	1.1	0.83	0.67				
	75	C	0.55	73	22.5	3.9	3.5	2.5	1.8	1.3	0.9	1.9	1.2	0.94	0.75				
	90	C	0.60	77	24.5	3.6	3.2	2.2	1.6	1.1	0.8	2.0	1.4	1.0	0.82				
AI XR11005 (50)	15	XC	0.31	40	12.3	10.0	9.5	7.2	5.5	4.2	3.0	1.8	1.0	0.70	0.53	0.42			
	20	XC	0.35	45	13.8	9.1	8.6	6.4	4.8	3.6	2.6	1.7	1.1	0.79	0.60	0.48			
	30	XC	0.43	55	17.2	8.0	7.5	5.5	4.0	3.0	2.1	1.4	1.2	0.87	0.68				
	40	XC	0.50	64	20.0	7.1	6.6	4.8	3.5	2.6	1.8	1.5	1.3	0.95	0.76				
	50	VC	0.56	72	23.0	6.2	5.7	4.0	2.9	2.1	1.4	1.6	1.4	1.0	0.83				
AI XR11005 (50)	60	VC	0.61	78	25.5	5.4	5.0	3.5	2.5	1.8	1.2	1.7	1.5	1.2	0.89				
	75	C	0.68	87	29.0	4.7	4.3	3.0	2.2	1.6	1.1	1.9	1.6	1.2	0.94				
	90	C	0.75	96	33.0	4.0	3.7	2.6	1.9	1.3	0.9	2.0	1.7	1.3	1.0				
	15	XC	0.37	47	15.0	13.0	12.5	9.2	7.0	5.3	3.8	2.2	1.3	0.84	0.63	0.50			
	20	XC	0.42	54	16.5	11.8	11.2	8.4	6.2	4.6	3.3	2.0	1.4	0.96	0.71	0.57			
AI XR11006 (50)	30	XC	0.52	67	21.0	10.3	9.7	7.0	5.2	3.8	2.7	1.8	1.2	0.88	0.71				
	40	XC	0.60	77	24.5	9.0	8.4	6.0	4.4	3.2	2.2	1.9	1.4	1.0	0.82				
	50	VC	0.67	86	28.0	8.0	7.4	5.2	3.8	2.7	1.9	2.0	1.5	1.1	0.91				
	60	VC	0.73	93	31.0	7.1	6.5	4.5	3.2	2.3	1.6	2.1	1.7	1.2	0.99				
	75	C	0.82	105	36.0	6.2	5.6	3.8	2.7	1.9	1.3	2.2	1.8	1.4	1.1				
90	C	0.90	115	41.0	5.3	4.8	3.2	2.2	1.6	1.1	2.3	2.0	1.5	1.2					

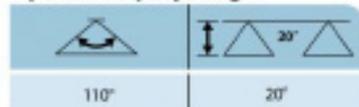
Note: Always double check your application rates. Tabulations are based on spraying water at 70°F (21°C).



CONTACT PRODUCT	SYSTEMIC PRODUCT	DRIFT MANAGEMENT
GOOD	EXCELLENT	EXCELLENT



### Optimum Spray Height



See pages 173–187 for drop size classification, useful formulas and information.

### How to order:

Specify tip number.

Example:

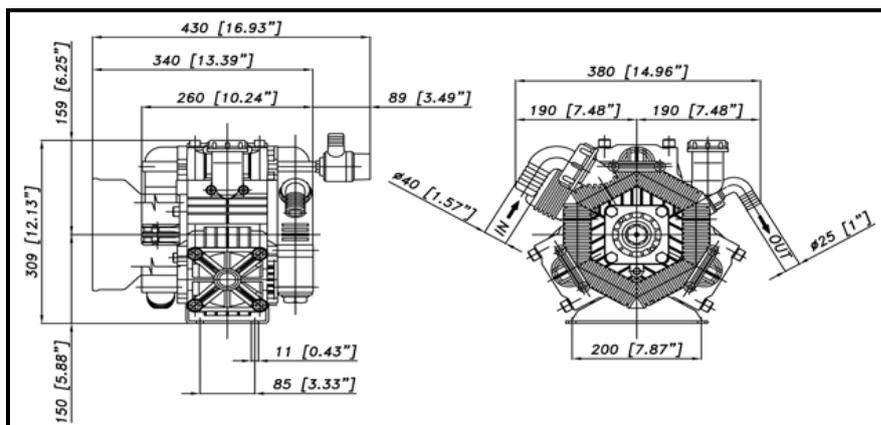
AI XR11004VP = Polymer with VisiFlo color-coding

# DECONTAMINATION AND MAINTENANCE

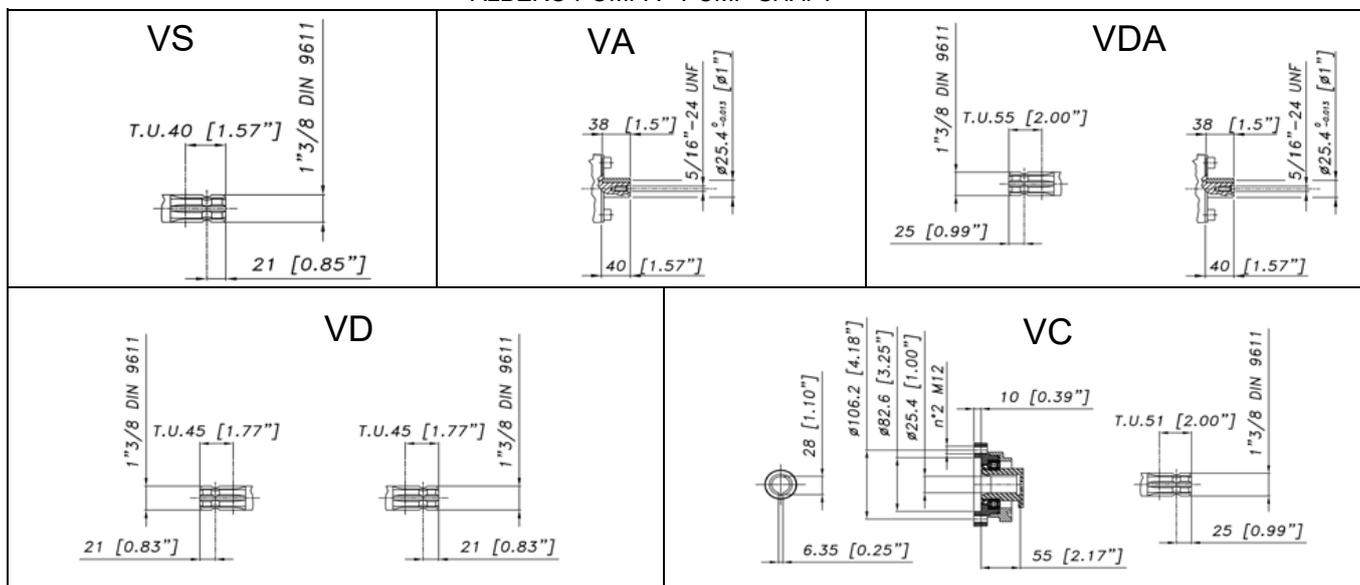
1. **After use**, the sprayer must be thoroughly decontaminated, inside and outside – including pump, hoses, boom and hand lance, to avoid damage to crops from harmful spray residues. Decontamination prevents sprayer corrosion and abrasion. As a guide follow the decontamination procedure below.
  - After spraying, rinse out the tank with several changes of water plus a recommended cleaning fluid, brushing the inside of the tank.
  - The suction filter mounted on the sprayer frame must be cleaned regularly.
  - Unscrew the filter cover and remove the filter screen and gasket. Soak in clean water, brushing with a nozzle brush.
  - Ensure gasket is in position when re-assembling.
  - The filter basket strainer is removed by lifting it out of the filter ring. Clean the basket strainer the same way as the suction filter. Replace the basket strainer by exerting a quick downward push ensuring the strainer has seated correctly.
  - Nozzles, nozzle filters, nozzle caps and gaskets should be cleaned by soaking in water, brushing with a nozzle brush and allowed to dry. Never blow through the nozzles with your mouth nor use wire or pins to clear any blockages.
  - When re-assembling ensure that the nozzle cap gasket is correctly positioned
  
2. **When storing** the sprayer ensure that it is clean and dry and kept in a ventilated place.
  
3. **Mounted sprayers** tend to be unstable when removed from the tractor. Make sure that they are safely chocked before leaving them.

# PUMP DIAGRAM

## DIMENSIONI D'INGOMBRO - OVERALL DIMENSIONS



## ALBERO POMPA - PUMP SHAFT



## COPPIA DI SERRAGGIO - TORQUE CHART

CODICE - CODE	Q.TY	POS	N.m	Lbr.ft
62.9811.97.3	1	70	25	18,4
62.9818.97.3				
83.5089.00.2	1	49	20	14,7
85.2720.00.2	1	54	20	14,7
85.2576.00.2	1	47	5 (LOXEAL 24-18)	3,7 (LOXEAL 24-18)
86.2960.00.2	12	40	8	5,9
86.3187.00.2	4	8	25	18,4
86.3264.00.2	3	64	44	32,4
86.4068.00.2	12	30	40	29,5
86.3694.50.2	1	17	40	29,5
86.2730.50.2	2	35	5	3,7
86.2752.10.2	4	60	10	7,4

Tolleranza di serraggio: 0/-10%  
Tolerance on torque value:

## INFORMAZIONI UTILI USEFUL INFORMATION

<b>LUBRIFICANTE - LUBRICANT:</b>				
OLIO MOTORE O SEMIDRAULICO SAE 30 MOTOR OIL OR SEMI-HYDRAULIC OIL SAE 30				
<b>PRESSIONE ACCUMULATORE ACCUMULATOR PRESSURE</b>				
<b>PRESSIONE DI LAVORO - OPERATING PRESSURE</b>	2 ÷ 5	5 ÷ 10	10 ÷ 20	20 ÷ 50
<b>ACCUMULATORE ACCUMULATOR</b>	2	2 ÷ 5	5 ÷ 7	6 ÷ 8

## KIT MEMBRANE - DIAPHRAGMS KIT

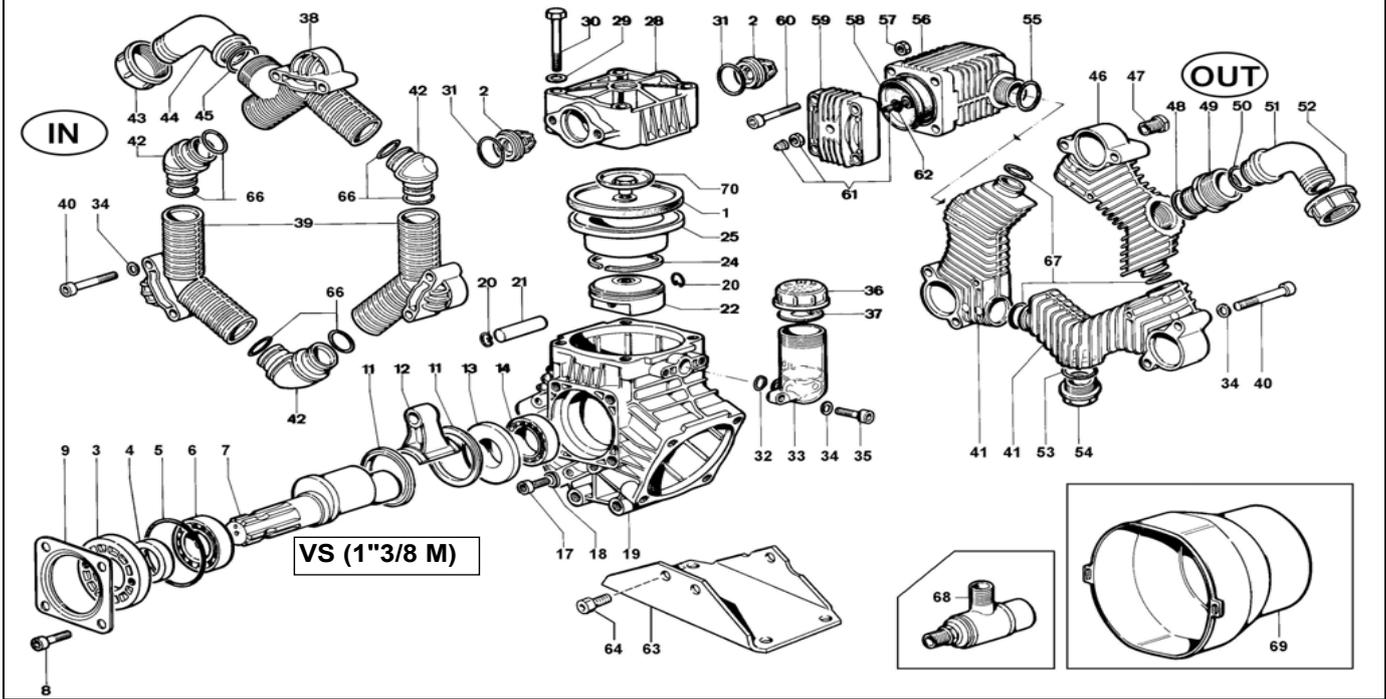
KIT	BUNA - N			DESMOPAN			VITON						PENTAX									
	62.9806.97.3	1	31	58	62.9807.97.3	1	31	58	62.9809.97.3	1	31	58	48	53	55	66	67	62.9812.97.3	1	31	58	
POSIZIONE ESPLOSO POSITION NUMBER	1	31	58	1	31	58	1	31	58	48	53	55	66	67	1	31	58	1	31	58		
QUANTITA' NEL KIT QUANTITIES INCLUDED	3	6	1	3	6	1	3	6	1	1	1	1	6	3	3	6	1	3	6	1		

## KIT POMPA/KIT VALVOLE - PUMP KIT/VALVES KIT

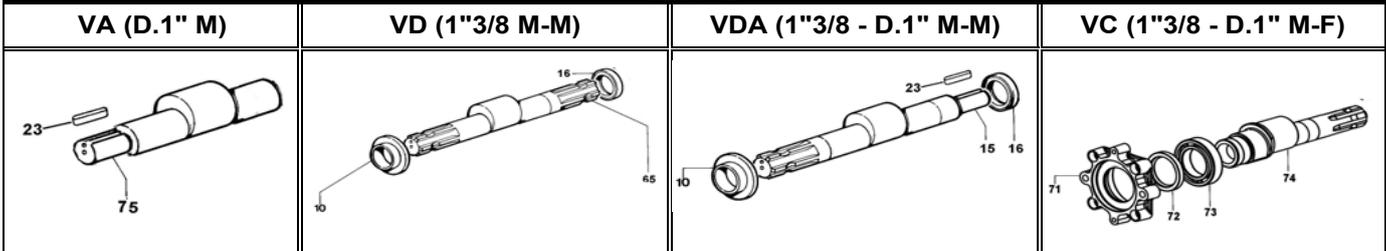
KIT	KIT POMPA VS-VA VS-VA PUMP KIT					KIT POMPA VD-VDA VD-VDA PUMP KIT						KIT POMPA VC VC PUMP KIT					VALVOLE VALVES KIT		VAM INOX VALVES KIT								
	62.9803.97.3	4	5	31	66	67	62.9820.97.3	4	5	31	66	67	16	62.9821.97.3	72	5	31	66	67	16	62.9804.97.3	2	31	62.9805.97.3	2	31	
POSIZIONE ESPLOSO POSITION NUMBER	4	5	31	66	67	4	5	31	66	67	16	72	5	31	66	67	16	72	5	31	66	67	16	2	31	2	31
QUANTITA' NEL KIT QUANTITIES INCLUDED	1	1	6	6	3	1	1	6	6	3	1	1	1	6	6	3	1	1	1	6	6	3	1	6	6	6	6

# PARTS LIST

## POLY 2116 - 2136 VS (1"3/8 M)

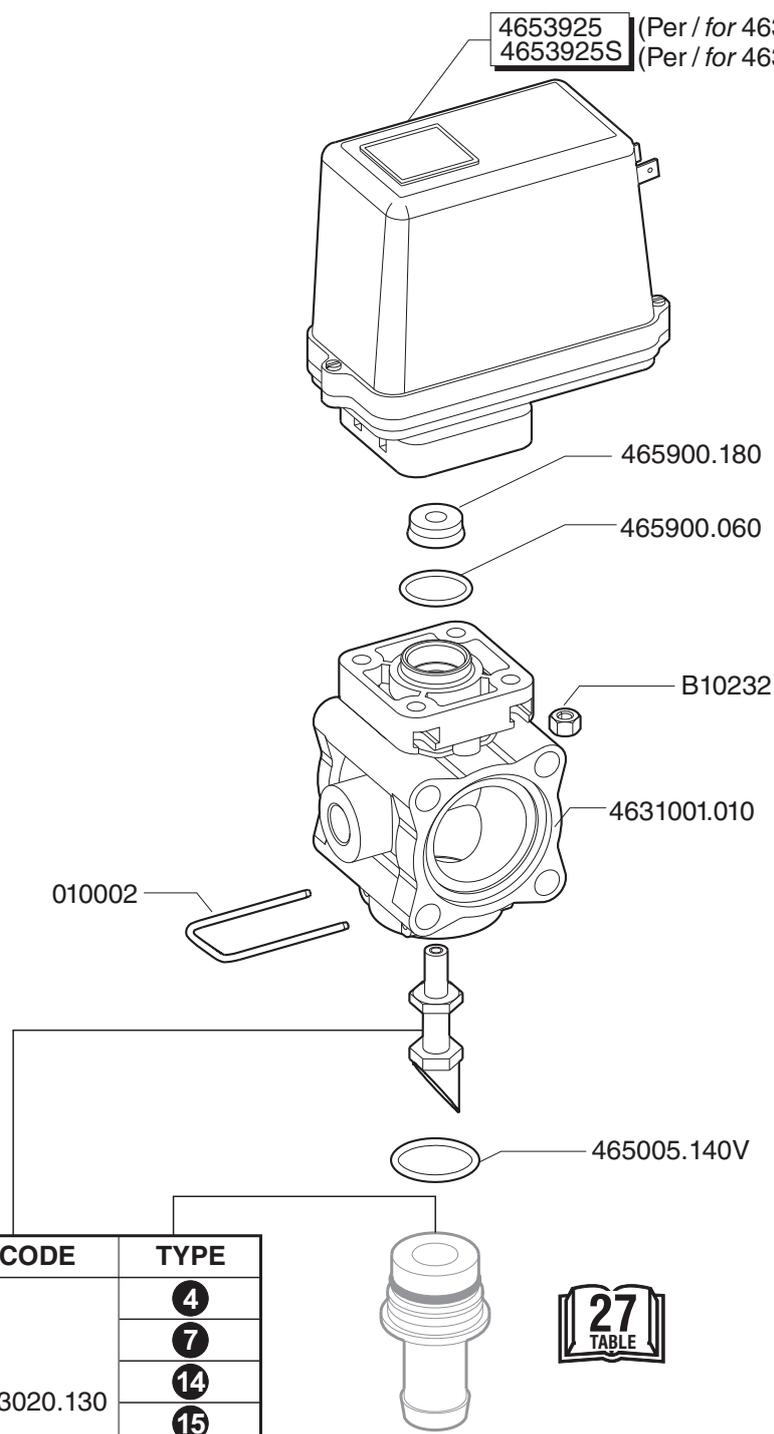


VERSIONI



POS.	CODICE PART NO. REF.	DENOMINAZIONE - DESCRIPTION - DESCRIPTION	Q.TY	POS.	CODICE PART NO. REF.	DENOMINAZIONE - DESCRIPTION - DESCRIPTION	Q.TY
1	62.0040.00.2	DESMOPAN PISTON DIAPHRAGM	3	40	86.2960.00.2	SCREW M8x65 UNI5931	12
1	62.0040.31.2	BUNA-N PISTON DIAPHRAGM (OPTIONAL)	3	41	62.0002.32.2	MANIFOLD PIPE (OUTLET)	2
1	62.0040.33.2	VITON PISTON DIAPHRAGM (OPT.)	3	42	62.0007.32.2	ELBOW MANIFOLD	3
1	62.0040.36.2	HPS PISTON DIAPHRAGM (OPT.)	3	43	82.0070.00.2	WING NUT G.1"1/2	1
2	28.9809.97.3	S.S. VALVE ASSY	6	44	84.0591.00.2	90° ELBOW CONNECTOR DIA.40-1,57"	1
3	53.0007.32.2	HOUSING	1	44	84.0571.00.2	90° ELBOW CONNECTOR DIA.38-1,49" (OPT.)	1
4	80.2143.10.2	OIL SEAL DIA.35x52x7	1	45	80.3219.10.2	O-RING 3,0x30	1
5	80.3310.00.2	O-RING 4.0X82	1	46	62.0031.32.2	MANIFOLD PIPE G.3/8	1
6	81.2846.00.2	BEARING DIA.35x72x17	1	47	85.2576.00.2	CAP G.3/8	1
7	62.0010.26.2	CRANKSHAFT 1"3/8 "VS"	1	48	80.3219.10.2	O-RING 3,0x30	1
8	86.3187.50.2	SCREW M10x18 UNI5931	4	48	80.3219.15.2	O-RING 3,0x30 (KIT VITON)	1
8	86.3264.00.2	SCREW M10x25 UNI5931	4	49	83.5089.00.2	NIPPLES G.1"-G.1"1/4	1
9	17.0016.61.2	FLANGE	1	50	80.3219.00.2	O-RING 3,0x25	1
10	62.0029.09.2	SPACER CRANKSHAFT "VD"	1	51	84.0542.40.2	90° ELBOW CONNECTOR DIA.25-1"	1
11	98.0047.76.2	CONNECTING ROD RING	2	51	84.1608.40.2	STRAIGHT CONNECTOR DIA.25-1" (OPT.)	1
12	62.0008.11.2	CONROD	3	52	82.0067.50.2	WING NUT G.1"1/4	1
13	28.0027.09.2	SHAFT SPACER	1	53	80.3206.00.2	O-RING 2,62x28,25	1
14	81.2837.00.2	BEARING DIA.35x62x14	1	53	80.3206.50.2	O-RING 2,62x28,25 (KIT VITON)	1
15	62.0027.26.2	CRANKSHAFT "VDA"	1	54	85.2720.00.2	CAP G 1"	1
16	80.2143.10.2	OIL SEAL DIA.35x52x7	1	55	80.3219.10.2	O-RING 3,0x30	1
17	86.3694.50.2	SCREW M12x20 UNI5931	1	55	80.3219.15.2	O-RING 3,0x30 (KIT VITON)	1
18	82.4079.00.2	GASKET DIA.13,2x17x1 COPPER	1	56	27.0035.32.2	DAMPER BODY	1
19	62.0001.09.2	CRANKCASE "VS"	1	57	81.4574.50.2	NUT M8 UNI5588	4
19	62.0030.09.2	CRANKCASE "VD"- "VDA"- "VC"	1	58	23.0041.31.2	BALLASTER DIAPHRAGM	1
20	80.0021.00.2	RING DIA.15	6	58	23.0041.36.2	HPS BALLASTER DIAPHRAGM	1
21	85.2006.70.2	PISTON PIN DIA.15	3	58	23.0041.33.2	VITON BALLASTER DIAPHRAGM	1
22	62.0018.09.2	PISTON DIA.78 (POLY 2136)	3	59	11.0004.09.2	BALLASTER COVER	1
22	63.0013.09.2	PISTON DIA.72 (POLY 2116)	3	60	86.2752.10.2	SCREW M8x35 UNI5931	4
23	80.6475.00.2	TAB 6,36x6,36x38	1	61	86.1608.50.2	AIR VALVE	1
24	81.8540.00.2	PISTON RING DIA.78 (POLY 2136)	3	62	80.3213.00.2	O-RING 3,0x6	1
24	81.8530.00.2	PISTON RING D.72 (POLY 2116)	3	63	63.0006.61.2	MOUNTING RAIL	1
25	62.0019.01.2	PISTON SLEEVE (POLY 2136)	3	64	86.3255.00.2	SCREW M10x25 UNI5739	3
25	62.0005.01.2	PISTON SLEEVE DIA.72 (POLY 2116)	3	65	62.0024.26.2	CRANKSHAFT "VD"	1
28	62.0025.32.2	HEAD	3	66	80.3206.00.2	O-RING 2,62x28,25	6
29	84.3844.50.2	WASHER DIA.12,2x21x2,5	12	66	80.3206.50.2	O-RING 2,62x28,25 (KIT VITON)	6
30	86.4068.00.2	SCREW M12x75 UNI5931	12	67	80.3217.00.2	O-RING 3,0x19	3
31	80.3314.00.2	O-RING 4,5x40	6	67	80.3217.50.2	O-RING 3,0x19 (KIT VITON)	3
31	80.3314.50.2	O-RING 4,5x40 (KIT VITON)	6	68	24.3016.97.3	SAFETY VALVE 15bar (OPTIONAL)	1
32	80.3180.00.2	O-RING 2,62x15,08	3	69	31.1468.32.2	PLAIN SAFETY CONE (OPTIONAL)	1
33	23.0008.32.2	OIL FILLER	1	69	31.1482.32.2	PLAIN SAFETY CONE (OPTIONAL)	1
34	84.3685.50.2	WASHER DIA.8,2x15x1,5	14	70	62.9811.97.3	KIT SCREW/DISK INOX (POLY 2136)	3
35	86.2730.50.2	SCREW M8x30 UNI5931	2	70	62.9818.97.3	KIT SCREW/DISK INOX (POLY 2116)	3
36	85.2750.00.2	OIL FILLER CAP	1	71	62.0107.07.2	BALL BEARING HOLDER (VC)	1
37	82.4120.00.2	GASKET DIA.45x19x1,5	1	72	80.2191.10.2	OIL SEAL DIA. 45x62x7 (VC)	1
38	62.0004.32.2	MANIFOLD PIPE G.1"1/2	1	73	81.2933.00.2	BALL BEARING 6009 (VC)	1
39	62.0003.32.2	MANIFOLD PIPE	2	74	62.0108.26.2	CRANKSHAFT "VC"	1
				75	62.0022.26.2	CRANKSHAFT "VA"	1

# ELECTRIC SECTION VALVE

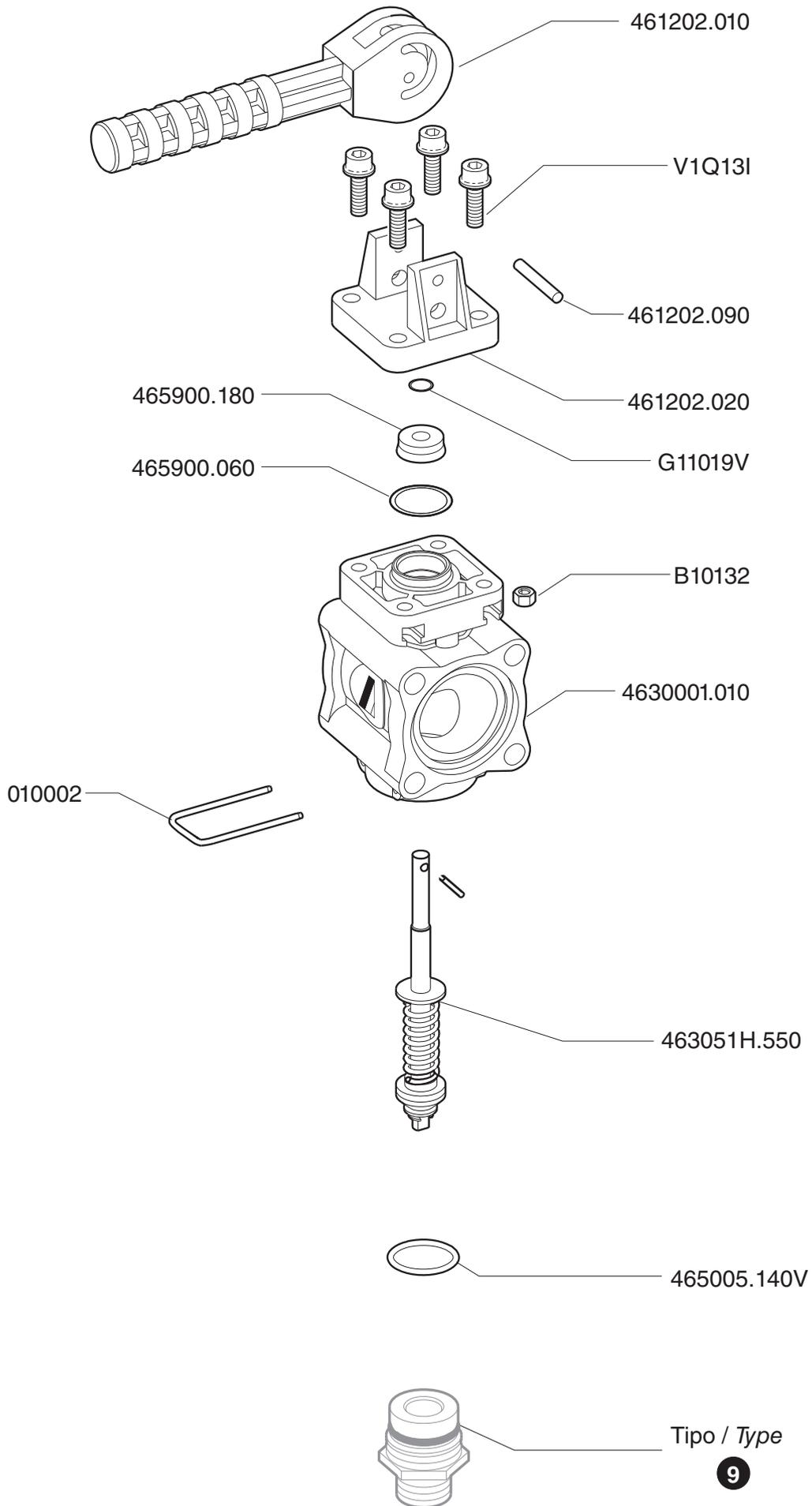


TIPO / TYPE	CODE	TYPE
463020 - 463020S	463020.130	4
		7
		14
		15
463022 - 463022S	463022.130	8
		13
		6
463024 - 463024S	463024.130	11

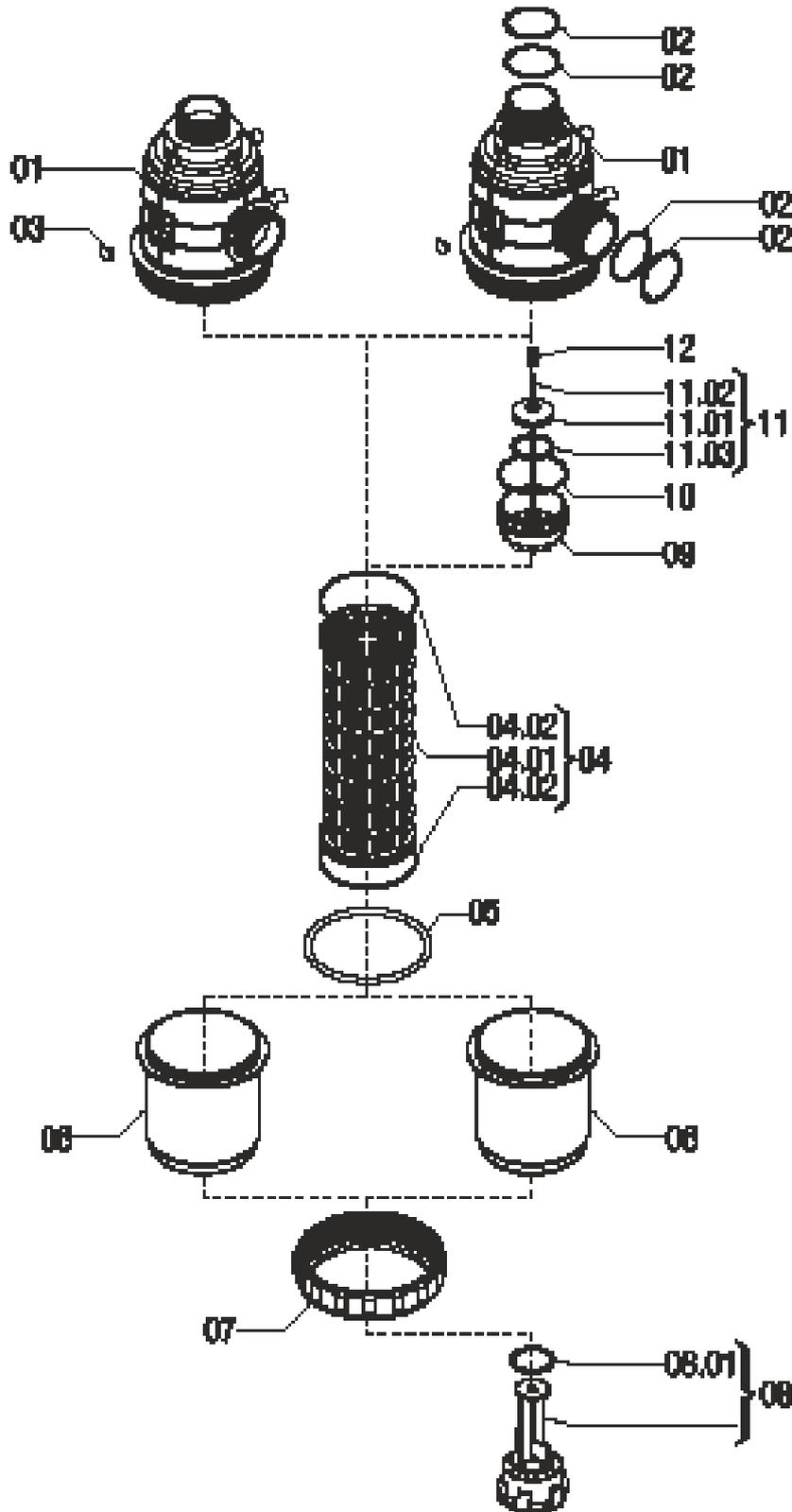




# MANUAL SECTION VALVE



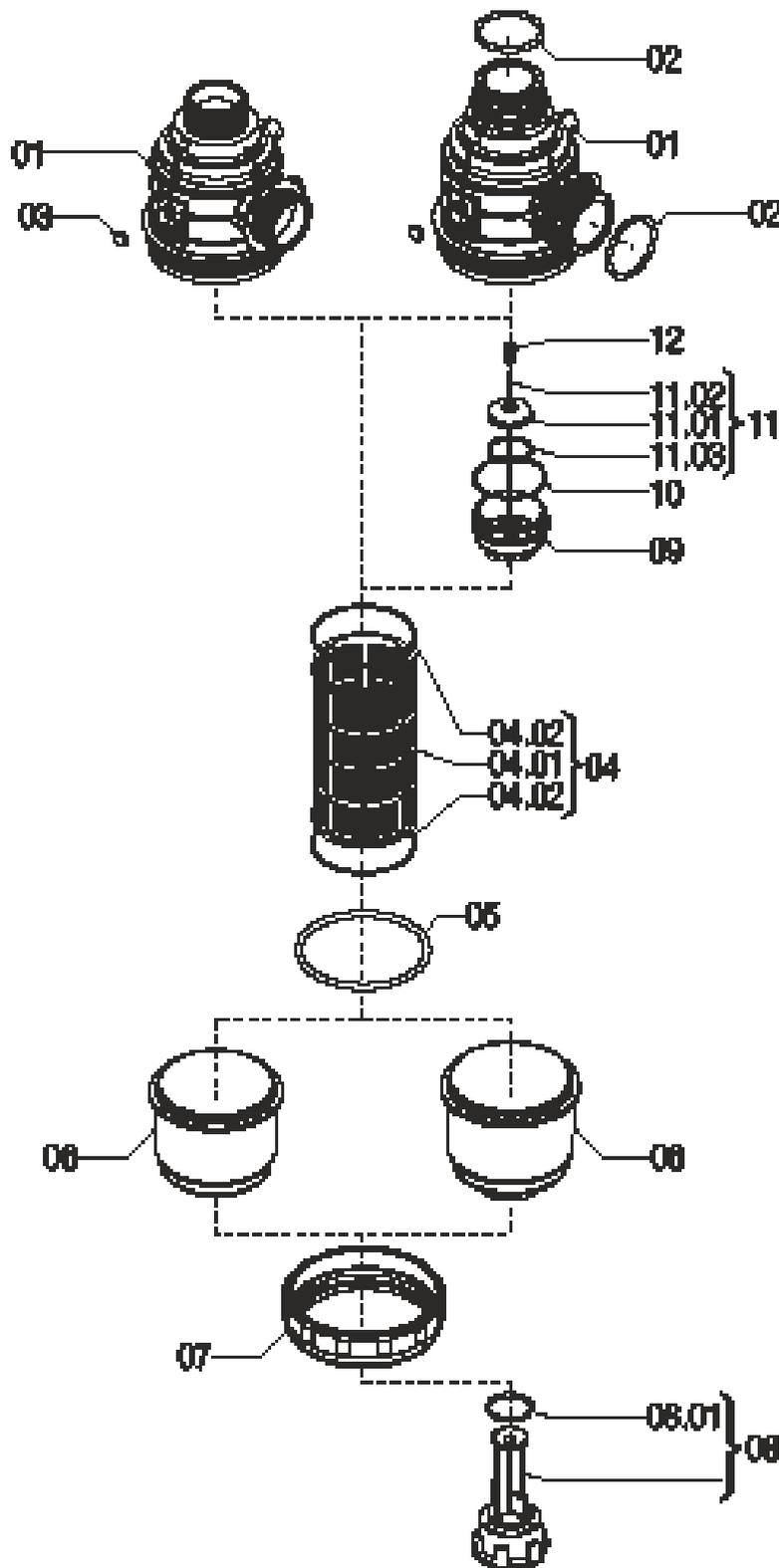
# SUCTION FILTER



REFERENCE	CODE	DESCRIPTION
01	3163400.000	SUCTION FILTER BODY 2" B.T.
03	4542233.055	LEVER PLUG 1/2-3/4-1-1/4-1/2 RED
04	3173400.000	FILTER ELEMENT 190x200 RED 32M
04.01	G11046	O-RING 2,62X94,92 EPDM
04.02	3173400.002	O-RING FILTER 190x200 RED 32M
05	316000.050	OR 6,98X126,40 50SHORE EPDM
06	3173400.000	SUCTION FILTER BOWL G1/2
07	3162000.040	SUCTION FILTER NUT
08	3163400.000	COMPLETE PLUG FOR FILTER VALVE

REFERENCE	CODE	DESCRIPTION
08.01	040002V	OR 3,58x20,00 HTCR
09	3162400.070	VALVE BODY FOR FILTER
10	314000.000	OR 2,58x71,12 EPDM
11	3172400.080	VALVE LOWER FOR FILTER
11.01	3163400.002	O-RING 6,98x126,40 50SHORE EPDM
11.02	317400.081	PLUNGER ROD
11.03	040002V	OR 3,58x20,00 HTCR
12	316400.090	FILTER '200' VALVE SPRING

# SUCTION FILTER



REFERENCE	CODE	DESCRIPTION
01	3143400.010	FILTER BODY 1" L.S. SHORT RINNO
03	3102002.012	RED CAP 32M
04	3143400.000	FILTER ELEMENT 78X167 PES 32M
04.01	3142002.032	CART.NUDA 78X167 ROSSO (32MESH)
04.02	3143400.000	OR 2,82X71,32 EPDM
05	314000.050	O-RING 91,44X5,34 EPDM
06	3143400.000	SUCTION FILTER BOWL
07	314000.040	BACK NUT FOR FILTER "170"
08	3143400.000	COMPL. FILTER PLUG + VALVE

REFERENCE	CODE	DESCRIPTION
08.01	400000.200	OR 2,82X71,32 VITON
09	3142400.070	VALVE BODY FOR FILTER
10	400000.100	OR 2,82X20,82 EPDM
11	3142400.080	VALVE LOWER FOR FILTER
11.01	3143400.000	CORPO OTTURITORE WILYOLA FILTRO
11.02	314400.081	PLUNGER ROD
11.03	400000.000V	OR 2,82X20,75 VITON
12	314400.090	VALVE SPRING FOR FILTER "170"

# FLUSH TANK OPERATIONAN MANUAL

To flush out lines and accessories:

1. **Ensure that the flush tank contains water**, and your main tank is empty.
2. **Engage the PTO drive**
3. The **red handle on the 3 way regulator should be pointing towards the tractor**. In order to suck from the flush tank, move handle into upright position.
4. **Switch each solenoid on individually for 30s**, or until lines are flushed out.
5. **Direct remaining flush tank water into main tank via bypass.**
6. **Drain main tank** by removing suction line in the sump.



# WARRANTY

## WARRANTY POLICY

Your Sprayer is guaranteed free from defect in materials, workmanship or manufacture for 12 months from the date of purchase. Any parts which appear to us to be defective either in material or workmanship will be replaced or repaired at no cost to the purchaser, subject to the following conditions:

1. The registration card enclosed in this handbook must be returned to us within 7 days of purchase.
2. The guidelines in this handbook have been adhered to in every respect.
3. In the unlikely event of sprayer failure this should be reported to your dealer who will act on your behalf to resolve the issue to your satisfaction.
4. Any defective parts will be returned by your dealer within 7 days of failure, together with a report describing the failure and conditions in which the failure occurred.
5. The following are specifically excluded from the terms of warranty:
  - Fair wear and tear to pump moving parts and diaphragms
  - Fair wear and tear to nozzles and nozzle bodies
  - Damage caused by neglect or lack of lubrication
  - Damage caused by misuse or abuse
  - Damage caused while the sprayer is in transit

# WARRANTY LIMITATIONS

- a)** There is no other express warranty. Any warranty that may be implied from this purchase including merchantability and fitness for a particular purpose is hereby limited to the duration of this warranty and to the extent permitted by law. Any and all implied warranties are excluded.
- b)** TTI will not be liable for any incidental, consequential or special damages and/or expenses in connection with the purchase or use of this equipment, to the extent permitted by law.
- c)** Only the warranty expressed in this limited warranty shall apply and no dealer, distributor, or individual is authorized to amend, modify, or extend this warranty in any way. Accordingly, additional statements, whether oral or written, do not constitute warranties by TTI, and should not be relied upon.

# WARRANTY REGISTRATION CARD

To validate your warranty, please complete registration on-line at:

**[www.tti.com.au/warranty-registration](http://www.tti.com.au/warranty-registration)**

Alternatively if you are unable to register on-line fill in all the details below, copy and email to **[warranty@tti.com.au](mailto:warranty@tti.com.au)** or post to the address on the back cover.



**I have read and understood the instructions in this booklet.**

Date Purchased: \_\_\_\_\_

Model: \_\_\_\_\_

Serial Number: \_\_\_\_\_

*(located on side of tank)*

Purchaser's Name: \_\_\_\_\_

Purchaser's Address: \_\_\_\_\_

Post code: \_\_\_\_\_

Phone #: \_\_\_\_\_ Mobile #: \_\_\_\_\_

Email Address: \_\_\_\_\_

Purchaser's Signature: \_\_\_\_\_





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