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## DynaJet® Valve Maintenance Guide

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Ver. 8 – Update: 9/24/2024

The DynaJet® Valve is a solenoid-actuated shutoff valve compatible with a wide range of TeeJet® nozzle bodies equipped with a diaphragm check valve port. It can be used for end-of-boom nozzles, as well as individual tip shutoff, and Pulse Width Modulation applications.

Two valve models available:

- DynaJet® Valve – 115880
- DynaJet® High Flow Valve – 116280

These are available in 12 volt and 24 volt versions.

The valves are normally closed and open when the solenoid is energized. The valves have a 2-pin AMP SuperSeal 1.5 connector molded into the body for a clean, weather-tight electrical connection.

**DynaJet® Valve – 115880**



**DynaJet® High Flow valve - 116280**



**Required accessories on the spray boom:**

Any sprayer that is fitted with a DynaJet valve should also incorporate system line strainers. It is recommended to use a 100 mesh filter element with the DynaJet valves, although an 80 mesh is acceptable. The strainer must be installed as close as possible to the DynaJet® valve. The utilization of a boom section strainer is perfect to keep the DynaJet® valve protected from small particles and debris. Small particles or debris can detrimentally affect the operation of the valves by clogging the inlets and outlets of the valve.

**Safety information:**

The DynaJet® valve, strainers, and spray boom are components in direct contact with chemicals. These chemicals can be corrosive and dangerous for the health of the operator. Before any intervention of the system, we recommend that you wear appropriate safety equipment. You should wear this safety equipment during any intervention of the DynaJet® valve, nozzle body, cables, strainers, spray boom, or any chemical exposed area. This minimum safety equipment should be composed of:

- Long-sleeved chemical resistant glove



- Full protective suit.



- Full protection screen for your eyes.



During the washing, rinsing, and inspection of the sprayer, the sprayer should be parked on a level surface. The sprayer should also be in an area where the water and chemical residue can be collected and treated appropriately. We do not recommend doing this procedure in the farm field.

Please note that before disassembly of any sprayer components, you must remove the pressure from the spray boom to avoid any projection of chemical onto yourself.

## **Daily Maintenance of the DynaJet® Valves:** **Frequency: After each use of the sprayer**

### **DynaJet® Valve washing and rinsing.**

We recommend that you rinse the system with clean water after each application. You can use the normal rinsing and washing program on your sprayer to achieve this task. If your sprayer doesn't have any rinsing or washing program, you can follow our rinsing procedure. See section "TeeJet rinsing procedure".

It is important to have clean water going through the DynaJet® valve to evacuate any remaining chemical or debris from the valves. We recommend spraying clean water through the DynaJet® valves for a minimum of 30 seconds to ensure that the valve is clean. This will ensure the longest lifetime of the valves.



DynaJet® Valve rinsing.

### **DynaJet® Valve washing and rinsing when using Liquid fertilizer.**

In the case of Liquid fertilizer application, we recommend you follow the same process described in section "DynaJet® Valve washing and rinsing".

In addition to this, we recommend you spraying the valves with water to remove any potential residue of liquid fertilizer remaining on the valves. The spraying of the valves doesn't require high pressure, the normal pressure from the local water network is enough. Rinsing the outside of the valves will ensure that any remaining chemical on the outside surface of the valves will be removed to avoid any chemical attack from the outside.



### **DynaJet® valve inspection after washing and rinsing.**

After rinsing, we recommend you pressurize the spray boom to see if any of the valves are leaking or dripping. If a valve is leaking or dripping there may be some debris lodged in the sealing area not allowing proper closing of the valve.

If you detect a DynaJet® valve leaking after the washing and rinsing, we recommend to rerun the washing and rinsing procedure mentioned above.

In the case that you can't remove the particles or debris from the valve with the washing and rinsing procedure, we recommend that you disassemble the clogged valve. Please follow the disassembly procedure described in the sections "General Disassembly and Reassembly".

### **TeeJet Rinsing procedure:**

The following section will give you a step-by-step procedure of how to clean your spray line and DynaJet® Valves.

1. Before starting the rinsing procedure, ensure that you have removed all remaining mixture in the main tank, the spray pump should also be cleaned with fresh water.
2. Fill the main tank with a minimum of 500 liters of clean water.
3. Park the sprayer in a safe location where you can unfold the spray boom. Then, unfold the spray boom.
4. Set the rate controller to automatic regulation. In the controller menu, set the working speed at 8 km/h.
5. Enter a target rate between 100L/Ha and 180 L/Ha.  
Set the pressure to around 3 Bars.
6. Turn on the sprayer pump.
7. Turn on all section switches and the master switch.  
Note: In case you have automatic section control, you may have to deactivate that function to be able to open and close sections.
8. Spray water until all chemical is flushed from the spray boom. We recommend spraying a minimum of 30 seconds.
9. Turn off the master switch.

## Weekly Maintenance of the DynaJet® Valves:

Note: We recommend you remove the strainers only after having washed and rinsed the sprayer. We don't recommend removing a strainer just after spraying chemicals. The washing and rinsing procedure must be done beforehand.

Please read the safety instructions before starting any maintenance procedures.

### **Spray boom strainer cleaning.**



Your spray line strainers will protect the DynaJet® valves from any debris. We recommend you disassemble the strainers every week (when using the sprayer) to check the cleanliness of the strainers. If your strainers are dirty, you should clean them and remove all debris.



Cleaning of the strainers with a TeeJet Brush





When it is clean, reinstall it on the spray boom.  
In the case of very dirty strainers, remove the spray line strainers from the sprayer, place them into a solution of water and cleaning solution. Let the strainers remain in the cleaning solution for one or two hours.  
Brush the strainers with a soft brush to eliminate the remaining particles.  
When the strainers are clean, re-install the strainers on the spray boom.

## Annual Maintenance of the DynaJet® Valves:

### Winterizing the Sprayer

It is recommended that you winterize your sprayer for the off-season. We recommend winterizing the DynaJet® valves too, the winterize solution will protect the seal inside the DynaJet® valve and maintain the performance of the valve.

Before you winterize the sprayer, we recommend washing and rinsing the spray boom as explained in the “Daily maintenance of the DynaJet® valves”.



DynaJet® valve rinsing

If you see a valve leaking during the inspection process, you should remove it from the spray boom and isolate it to follow the full procedure of disassembly and cleaning.

When the spray boom is fully clean, we recommend removing all DynaJet® valves from the spray boom. You should disassemble the valves from the coil. Put the coils into a box to be reassembly after cleaning the valves.





The valves should be placed in a bucket filled with water and cleaning solution. You can let the valves remain in the bucket for 2-3 days and mix the valves to help the dirt to be removed and let them sit again for 2 days.

After those two days, rinse the valve in clean water until the cleaning solution is removed. You can reassemble the valves and the coil together. Reinstall the DynaJet® valve on the sprayer and start your winterize procedure. It is not recommended to keep the DynaJet Valves in freezing temperatures. If your sprayer is located in such conditions, you **MUST** remove all of the DynaJet® Valves from your sprayer and keep them out of the freezing temperatures.

## General Disassembly and Reassembly

### Tools required:

- CP116231-NYB: DynaJet® Valve installation and removal tool is recommended.
- Wrench size XX

**Note:** O-rings (6, 8, 9) should be handled with care as they can be damaged/deformed

- 1) Loosen and remove the nylon Nut (1)
- 2) Separate the Coil Assembly (2) from the rest of the Tube/Plunger Assembly (3-10)
- 3) Remove the Locking Ring (10)
- 4) Using pliers to grip the Interface Cap (7), loosen the Tube Sub-Assembly (3) using a 9/16" (14 mm) or adjustable wrench

All repairable parts should be accessible at this point. The Plunger Sub-Assembly (4), stainless steel Spring (5), and O-rings (6, 8, 9) can be cleaned or replaced without further disassembly

- 5) During reassembly, place the Plunger Sub-Assembly (4) and Spring (5) in the Tube Sub-Assembly (3)

**Note:** The Plunger Sub-Assembly (4) should be oriented with the black insert facing outward (visible) when placed in the Tube Sub-Assembly (3)

- 6) While compressing the Spring (5), thread the Tube/Plunger Assembly (3-10) to the Interface Cap (7) and tighten using a wrench and pliers

**Optional:** Apply 1 drop of Loctite Blue 243 to the threads of the Interface Cap (7) and Tube Sub-Assembly (3)

**Torque Specifications:** Tighten Interface Cap (7) & Tube Sub-Assembly (3) to 12 in-lbs (1.36 N-m)

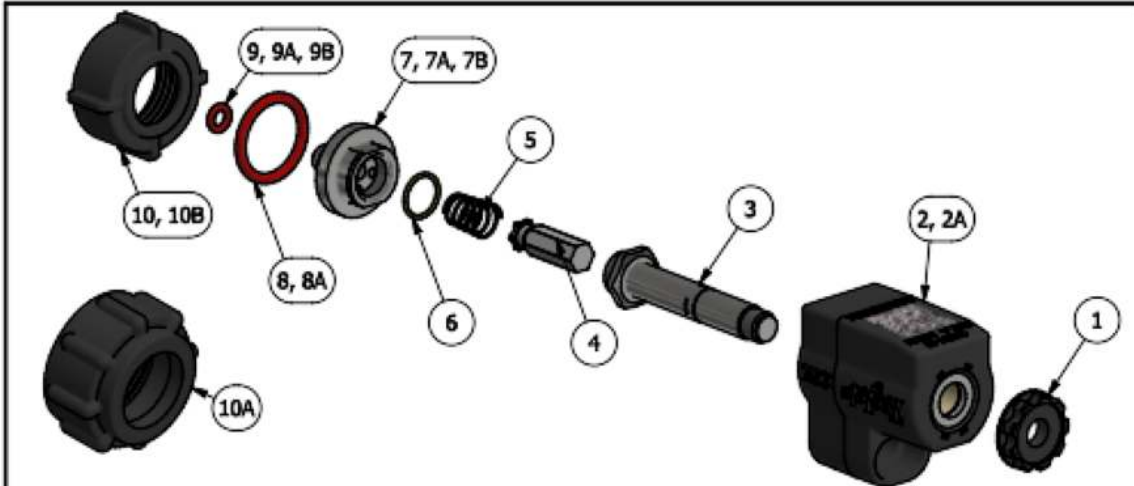
- 7) Return the Locking Ring (10) to its original position and slide the Tube/Plunger Assembly (3-10) through the Coil Assembly (2)



**Note:** The Coil Assembly (2) should be oriented with the SuperSeal 1.5 connector facing away from the Interface Cap (7)

- 8) Tighten the nylon Nut (1) to the Tube/Plunger Assembly (3-10)
- 9) **Recommended:** At the time of installation, spray CorrosionX<sup>®</sup>, CorrosionX<sup>®</sup> Heavy Duty, or CorrosionX<sup>®</sup> Aviation corrosion prevention compound into the connector to wet the terminals prior to plugging in the connector.





ITEM	PART NUMBER	DESCRIPTION (* INDICATE 12V OR 24V)
1	CP55289-NYB	NUT, NYLON-BLACK
2	CP115881-12	12V COIL ASSEMBLY
2A	CP115881-24	24V COIL ASSEMBLY
3	N/A	TUBE SUB-ASSEMBLY
4	N/A	PLUNGER SUB-ASSEMBLY
5	N/A	SPRING, 302 STAINLESS STEEL
6	N/A	O-RING, VITON®
7	N/A	INTERFACE CAP, 303 STAINLESS (115880-1-*, 115880-4-*, 115880-7-*)
7A	N/A	INTERFACE CAP, 303 STAINLESS (115880-2-*)
7B	N/A	INTERFACE CAP, 303 STAINLESS (115880-6-*)
8	CP7717-2/116-VI	O-RING, VITON® (115880-1-*, 115880-2-*, 115880-6-*, 115880-7-*)
8A	CPS8589-VI	GASKET, VITON® (115880-4-*)
9	CP7717-2-007-VI	O-RING, VITON® (115880-1-* & 115880-4-*)
9A	CP7717-M4.2X1.9-VI	O-RING, VITON® (115880-2-* & 115880-6-*)
9B	CP7717-M4X2-VI	O-RING, VITON® (115880-7-*)
10	CP55288-NYB	LOCKING RING, NYLON-BLACK (115880-1-*, 115880-2-*, 115880-4-*)
10A	CP55288-6-NYB	WILGER NOZZLE BODY LOCKING RING, NYLON-BLACK (115880-6-*)
10B	CP55288-7-NYB	ARAG NOZZLE BODY LOCKING RING, NYLON-BLACK (115880-7-*)
SPARE KITS		
AB115880-1-KIT, SPARE PARTS KIT (INCLUDES ITEMS 4, 5, 6, 8, 9)		
AB115880-2-KIT, SPARE PARTS KIT (INCLUDES ITEMS 4, 5, 6, 8, 9A)		
AB115880-4-KIT, SPARE PARTS KIT (INCLUDES ITEMS 4, 5, 6, 8A, 9)		
AB115880-6-KIT, SPARE PARTS KIT (INCLUDES ITEMS 4, 5, 6, 8, 9A)		
AB115880-7-KIT, SPARE PARTS KIT (INCLUDES ITEMS 4, 5, 6, 8, 9B)		
AB115880-1-FR-KIT, FIELD REPAIR KIT (INCLUDES ITEMS 1, 3, 4, 5, 6, 7, 8, 9)		
AB115880-2-FR-KIT, FIELD REPAIR KIT (INCLUDES ITEMS 1, 3, 4, 5, 6, 7A, 8, 9A)		

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<b>DESCRIPTION:</b> 115880-1-12, 115880-2-12, 115880-4-12, 115880-6-12, 115880-7-12 115880-1-24, 115880-2-24, 115880-4-24 115880-6-24, 115880-7-24 <b>DYNAJET® VALVE</b>		
	REVISION NO. 3	Parts List No. <b>PL115880</b>
	REFERENCE: 06/04/2021	SHEET: 1 OF 1      DWG SIZE: A

\*\*Item Numbers (1-10) correspond to Parts List: PL115880