INSTALLATION, OPERATION & MAINTENANCE MANUAL

Plastic Fertilizer Tank

Models AQ-117 (35 Ltr) • AQ-118 (60 Ltr)

1. Introduction

Thank you for purchasing the Automat Plastic Fertilizer Tank. Before installing or operating the unit, please read this manual carefully and follow all instructions for installation, operation, and maintenance.

"Automat Plastic Fertilizer Tanks are designed to inject fertilizers into the main irrigation line by utilizing a minimum pressure differential, making them ideal for low-pressure irrigation systems."2.

2. Features

- **Vacuum breaker:** Provided with Vacuum Braker which releases air rapidly so the tank fills completely, prevents tank damage caused by negative pressure, and allows fast draining.
- **Efficient mixing:** the inlet directs incoming flow to the bottom of the tank, creating turbulence that thoroughly stirs and mixes the fertilizer or chemical with the water.
- **Controlled injection:** the inlet and outlet ports are each fitted with a valve, allowing the injection rate to be controlled precisely.
- **Convenient handling:** a stainless-steel handle on the top cover makes the tank easy to carry between locations and assists in opening and closing the cover.
- **Resistant materials:** manufactured from UV- and chemical-resistant materials for long service life in outdoor conditions.

3. How It Works

The fertilizer tank is simple to use and fully portable. A pressure differential between the inlet and outlet connections drives water into the tank through the inlet port. This displaces the fertilizer/chemical solution, which leaves through the outlet port and flows into the main irrigation line.

4. Technical Specifications

Parameter	AQ-117	AQ-118
Available tank capacity	35 Ltr	60 Ltr
Inlet / Outlet & Drain port connection	3/4"	3/4" & 1"
Max. working pressure	4 kg/cm²	4 kg/cm²

5. Performance Chart

Pressure differential between Inlet & Outlet (kg/cm²)	AQ-117 – Min. operation time (min)	AQ-118 – Min. operation time (min)
0.2	12	15
0.3	9	10
0.4	7	8

The fertilizing times above are for general guidance only and apply to fertilizers that are readily soluble in water. Actual times may vary according to the pressure loss between the ports and the field conditions.

6. Typical Installation

Install the tank as shown in the schematic below. The reference numbers in the diagram correspond to the components listed in the key and are used throughout the operating instructions.

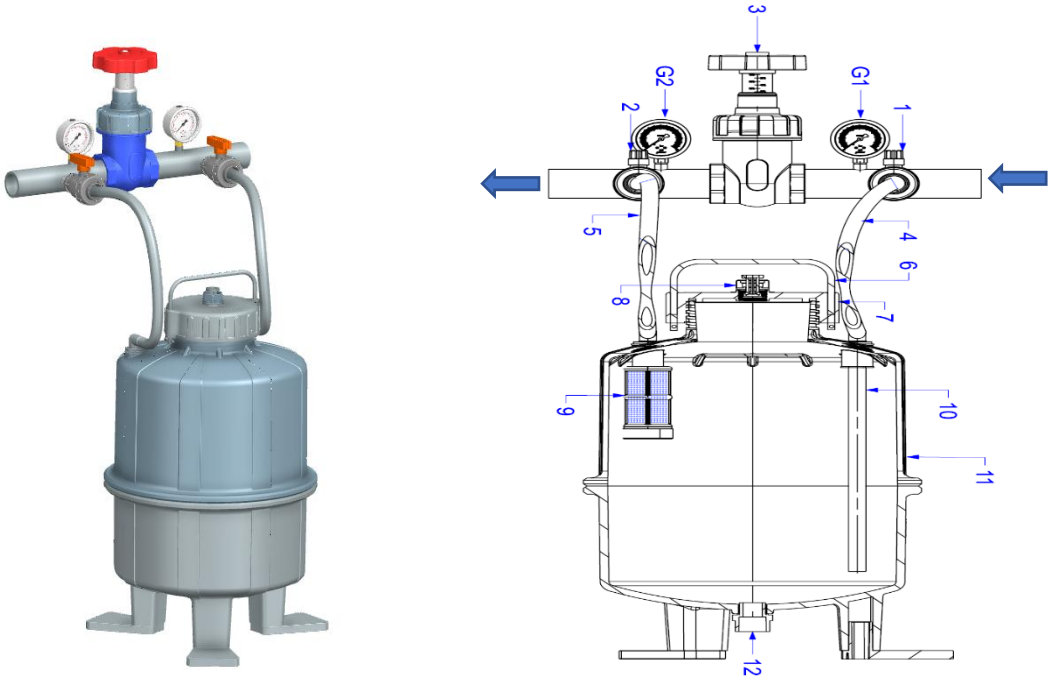
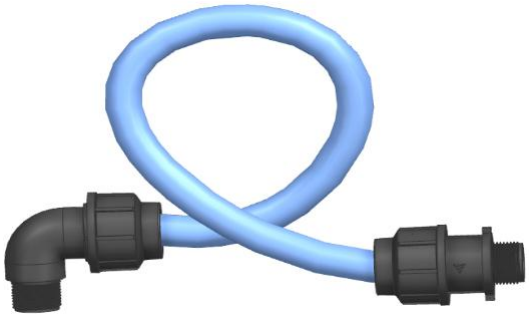
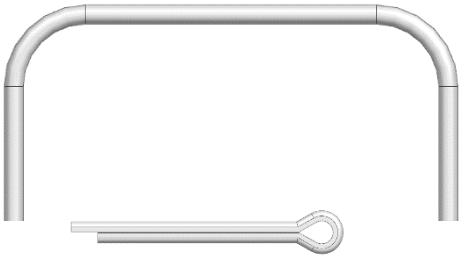


Figure 1 – Typical installation schematic



Inlet / Outlet Hose

Ball Vale



Handle & split Dowel

7. Installation & Operating Instructions

Fertigation is generally recommended during the first two-thirds of the irrigation cycle. This allows the irrigation system to be flushed with clean water afterwards and minimizes clogging of the emitters by chemical residue.

1. Insert the stainless-steel handle (5) into the two holes provided in the cover. Secure it by inserting the split pins into the holes provided at the bottom of the handle to prevent the handle from coming out when lifted, as shown in Figure 1.
2. Connect both ball valves to the injection ports on the main pipeline across the fertilizing head valve (3), as shown in Figure 1.
3. Install the inlet and outlet hoses on the respective inlet and outlet port ball valves, as shown in Figure 1.
4. For normal irrigation without fertigation, close valves (1) and (2), and open valve (3).
5. To begin fertigation, open the tank cover (6) and fill the tank with the required fertilizer through the top filling port.
6. Do not fill the tank beyond two-thirds of its capacity.
7. Close the cover (6) and tighten it securely using the handle (5).
8. Thoroughly rinse the exterior of the tank with clean water to remove any spilled fertilizer.
9. Ensure that the drain plug (9) is securely closed.
10. Open the upstream main valve , and then partially open the fertilizing head valve (3).
11. Fully open the inlet valve (1) and outlet valve (2).
12. Adjust the fertilizing head valve (3) to create the required pressure differential for fertilizer injection, and check the readings on pressure gauges G1 and G2. A higher-pressure differential will result in faster injection. Refer to the performance chart for estimated fertilization times.
13. The recommended operating pressure range is 1–4 kg/cm² (100–400 kPa).

8. Periodic Maintenance

- After each fertigation cycle, open the drain plug and remove any remaining water or fertilizer from the bottom of the tank.
- Clean the inside of the tank with a plastic brush after fertigation and before storing the tank.
- Thoroughly rinse the exterior of the tank with clean water and ensure that no fertilizer residue remains on the surface.
- Clean the strainer fitted at the outlet with clean water to ensure proper operation.
- Clean the tank cover gasket and vacuum breaker regularly to maintain a proper pressure seal.
- Clean the delivery filter located inside the tank, ahead of the outlet port, whenever it becomes clogged.
- Inspect the inlet and outlet braided hoses annually and replace them if any damage is observed.

9. Safety Instructions

- Do not lift the tank when it is full, as this may cause damage to the tank or result in personal injury.
- Do not open the tank cover while the tank is under pressure.
- Do not exceed the maximum operating pressure specified on the unit or in this manual.

10. Dimensions

Description	AQ-117	AQ-118
Height – H (mm)	685	890
Width – W (mm)	382	415
Weight (kg)	6.15	11

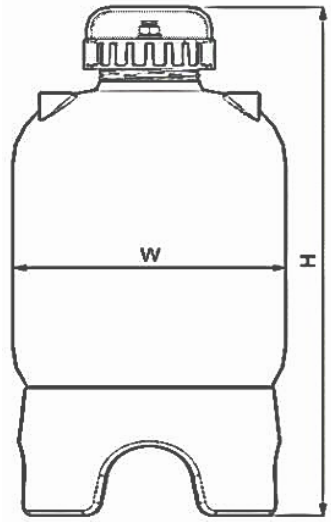
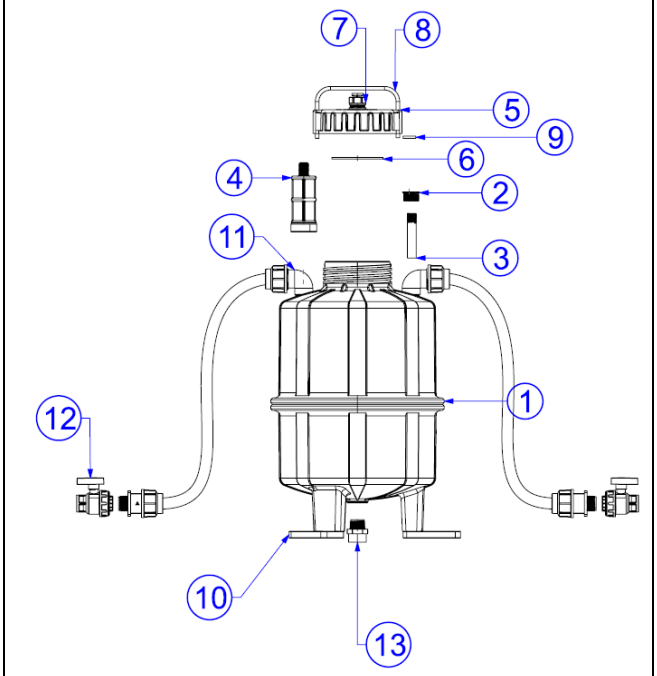
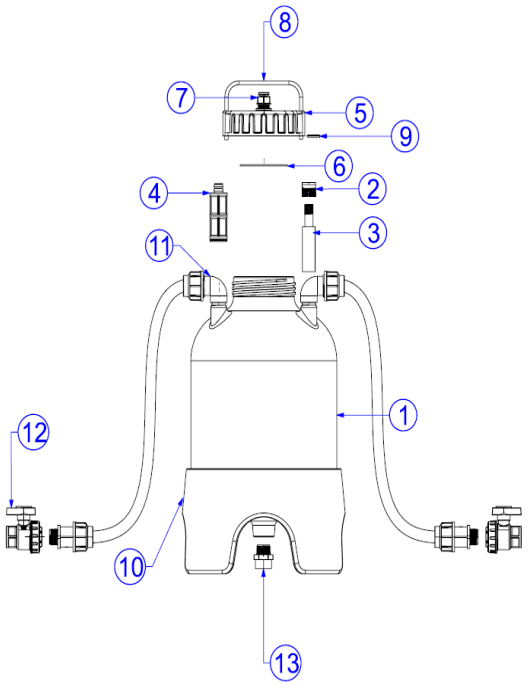


Figure 2 – Overall dimensions (H = height, W = width)

35 ltr.	60 ltr.
	

11. Spare Parts (Bill of Materials – Model AQ-117- 35 Ltr)

S. No.	Part Name	Part Number	Material
1	Fertilizer Tank	8100001462	HDPE
2	25 mm PVC Hex Socket (P x T)	3200000322	PVC
3	Inlet feeder PVC Pipe 25 x 350	3200000949	PVC
4	1.5" Strainer	8100002654	PPGF
5	Fertilizer Tank Cap (without brand)	8100001465	Nylon
6	Fertilizer Tank Cap Rubber Washer	3200000922	NBR
7	1" Vacuum Breaker	9100005191	PPGF 10%
8	Fertilizer Tank Cap Handle	3200000933	SS-304
9	Fertilizer Lock Pin	3200001592	MS Plated
10	Fertilizer Tank Leg/ Skirt	8100001467	PPGF
11	Inlet/Outlet Pipe Assembly (20 x 25)	9100006055	— (1 mtr)
12	3/4" F x F PP Ball Valve	9100005299	PP
13	3/4" End Plug	8100001455	Nylon

12. Spare Parts (Bill of Materials – Model AQ-118- 60 Litre)

S. No.	Part Name	Part Number	Material	Qty
1	Fertilizer Tank Top	8100004085	HDPE	1
2	Fertilizer Tank Stand	8100004084	HDPE	1
3	1.5-inch Rotameter Adopter	3200001091	PPGF	5
4	PP Riser Pipe – ¾-inch	8100003324	PP	1
5	3/4”, Strainer Cap – V. Injector	8100002654	PPGF	1
6	Fertilizer Tank Cap (without brand)	8200000109	Nylon-50%	1
7	Fertilizer Tank Cap Rubber Washer	3200001069	NBR	1
8	1" Vacuum Breaker	9100004291	Nylon-30%	1
9	Fertilizer Tank Cap Handle	3200000933	SS-304	1
10	Fertilizer Lock Pin	3200001592	MS Plated	2
11	Fertilizer Tank Pipe Assembly (20 x 25)	9100006055	— (1 mtr.)	2
12	3/4" F x F PVC Ball Valve	9100000586	PVC	2
13	3/4" Nut	8100001455	Nylon	1