
Chemical Injection Unit

TU-030/050/120

OPERATION MANUAL

**Before beginning operation, read this manual carefully!
Ignoring the instructions in this operation manual and mishandling
the unit may result in death or injury, or cause physical damage.**

- Thank you for purchasing this Wanner Engineering product. Please read this manual carefully in order to ensure that you use this unit safely and correctly.
- Wanner Engineering accepts no liability whatsoever for any damage caused by malfunction of this product and other damage caused by use of this product.

For the Safe Use of This Product

This manual is intended to help the operator handle the product safely and correctly. In support of this aim, important safety-related instructions are listed and explained below.
Be sure to follow them at all times.

**WARNING**

- This indicates that failing to follow these instructions while operating this product may result in serious injury or death.

**CAUTION**

- This indicates that improper operation can result in an injury or physical damage to the product.

IMPORTANT

- This indicates information that should always be followed to maximize the product's performance and service life.

**WARNING**

- Install this unit in a location where it will not come into contact with anyone but the operator.
- When handling the liquid-end section, be sure to wear protective coverings (rubber gloves, mask, protective goggles, chemical-resistant overalls, etc.) appropriate for the chemicals being transferred.
- Do not operate the pump with wet hands. Doing so may result in electric shocks.

**CAUTION**

- The system may discolor or degrade due to direct sunlight or UV rays, so attaching a shade or cover is recommended.
- Use chemicals having a specific gravity of 1.3 or less. Using chemicals having a specific gravity above 1.3 may deform the tank.
- Use of gas-producing chemicals may cause damage to the surrounding area.
- When operating the pump, be sure to attach the protective cover. Before removing the protective cover during inspection, be sure to stop pump operation.
- Use accessories or specified joints, hose nuts and hoses. Failure to do so may cause accidents or malfunction.
- The tank is made of resin. Do not subject it to strong shock, climb on it, or place heavy objects on top of it. Doing so may damage it.
- Confirm the chemical before filling the tank to prevent filling using an incorrect chemical.
- When using chemicals that react with water, conduct a water filling test. Completely drain the water and fully allow the tank to dry.
- Do not use chemical that may corrode the tank materials.
- Do not dilute, mix, or dissolve chemical in the tank.
- When you close the suction valve for maintenance, be sure to stop the pump before starting the maintenance work.
- Before disconnecting the hose or disassembling the pump head, be sure to purge pressure from the discharge side pipe.
- Be sure to insert the hose firmly so that it does not come loose.
- Do not use excessive force to tighten the screws. If you tighten the screws with excessive force, they could be damaged.

IMPORTANT

- Check the inside of the tank, the pump and all connections every three months.
- We recommend keeping spare parts for when parts replacement and simple repairs are needed.

Inspecting the Product and Its Accessories

After you have unpacked the product, confirm the following items:

- (1) Confirm that the product is the one you have ordered.
- (2) Confirm that all the accessories have been supplied with the product.
Check all the accessories in accordance with the list of accessories provided below.
- (3) Check the product to make sure that there is no damage due to vibration and impact during transportation.
- (4) Check all screws and nuts to make sure that they are properly in place and not loose or detached.
Wanner Engineering ships its products with utmost care. If, however, the product appears to have been damaged during shipment, notify your dealer or Wanner Engineering immediately.

• List of accessories

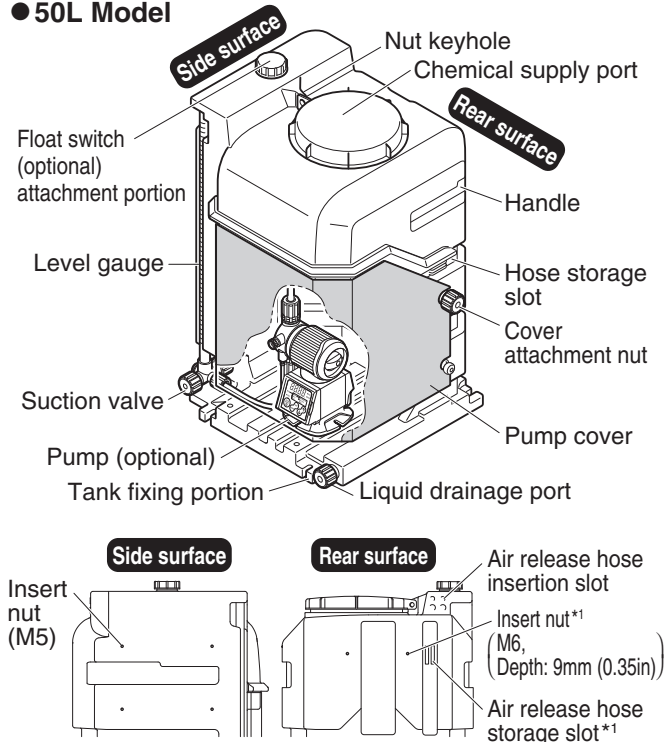
Suction hose	PE tube (6×8: 500mm (19.7in)) * Installed
Hose band	2 pieces
Chemical name sticker	1 sheet
Operation manual	1 copy
Anchor fixing plain washer (TU-050 and TU-120 only)	4 pieces

IMPORTANT

- Select the name sticker corresponding to the chemical to be injected and affix it on the product where it is easily visible to operators.

Part Names and Functions

● 50L Model



*1: Supplied with TU-050 and TU-120 only

- * When a center of gravity position is 100mm (4in) away from a tank, the load capacity is as follows:
 30L (7.92gal) : 3kg (6.6lb)
 50L (13.2gal) : 7kg (15.4lb)
 120L (31.7gal) : 15kg (33lb)

Installing the Unit

⚠ CAUTION

- Exposing the unit to direct sunlight and ultraviolet rays may cause discoloring or affect its operation. Install a shade to cover the unit for protection.
- Install the unit on a flat surface to prevent vibrations. If the unit is installed in a skewed position, this can lead to concern with the discharge.
- Use a commercially available M8 anchor with an anchor plate to attach the tank main body to the concrete base. When the liquid level in the tank is low, the tank may topple over if it is not securely installed.
- Installing TU-050 or TU-120, use the supplied plain washer and tighten with a torque of 10N/m or less.

● Discharge Side Pipe

Route and pass the discharge side pipe through the hose storage slot.

● Suction Side Pipe

* The tank and pump are packed separately.

To install the pump in the tank use the following procedure:

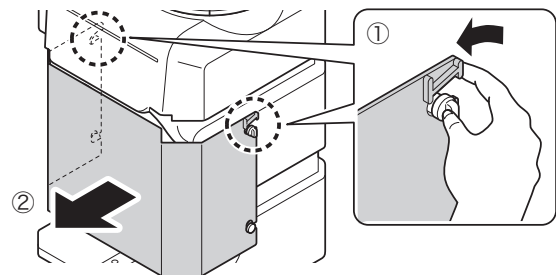
- ① Remove the suction hose with hose union and cap nut from the suction valve.
*Do not to lose the O-ring sticking to the hose union.
- ② Firmly attach the opposite end of the suction hose to the pump's suction side.
- ③ Secure the pump using the M5X15 bolts attached to the tank.
- ④ Attach the hose union back to the suction valve.
*Do not forget to attach the O-ring which was removed in procedure ①.

● Leak Test

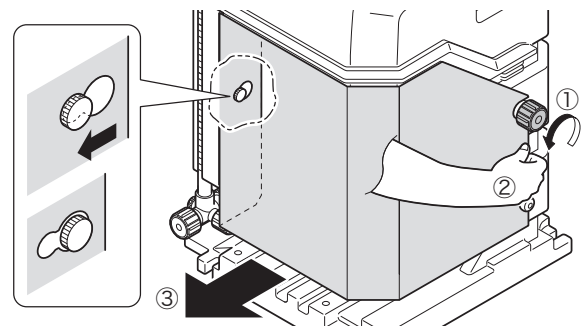
After all pipes are connected, perform a leak test by filling with water to make sure that there is no leakage of liquid. If you detect any liquid leak, retighten the screws and nuts and check the sealing portions for dust deposits.

Removing the Pump Cover

● 30L Model



● 50L and 120L Models



Operating the Unit

CAUTION

Before starting the pump operation, check the following items:

- All pipes to make sure they are not loose or detached.
- Whether the suction valve is open.
- Pump cover to make sure it is attached.
- Tank to make sure it is filled with the appropriate volume of liquid.

- (1) Turn the suction valve knob counterclockwise so that the chemical flows to the pump unit.
- (2) Operate the pump in accordance with the operating instructions provided in the separate document supplied with the pump.

Maintenance Checks

CAUTION

• Before you remove the pump or perform checks, close the suction valve and purge the pressure and chemical from inside the pipes and the level gauge. If you perform the work without purging the pressure or chemical, it may spray out and cause a hazard.

● Check Items

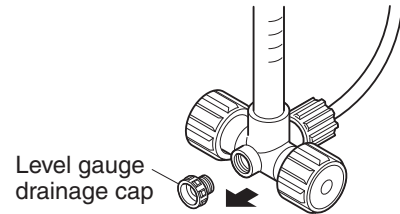
- (1) Check that the tank is mounted on a sturdy and level surface and that the anchor bolts are firmly secured.
- (2) Check for cracks, discoloration, and deformation of the tank.
- (3) Check the chemical tank to make sure that it is filled with a sufficient volume of liquid. If the volume level is low, refill the tank with liquid.
- (4) Check the tank to make sure that there are no sediment deposits or liquid discoloring. If the liquid quality has deteriorated, clean the inside of the tank and then refill it with new chemicals.
- (5) Check all pipe lines to make sure they are not detached or damaged.
- (6) Check the joints to make sure there is no liquid leakage from them. If there is any leak, retighten the joints.

● Removing the Pump

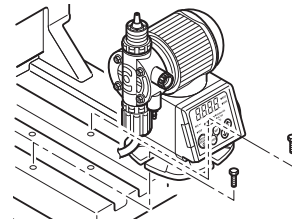
You can perform daily checks of the pump while it is installed in the tank unit without detaching it from the tank.

If you need to remove the pump from the tank, use the following procedure:

- ① Close the suction valve.
- ② Remove the level gauge drainage cap to purge the remaining liquid from the level gauge.



- ③ Purge the pressure and chemical from the discharge side pipes. Then, loosen the hose nut of the discharge side joint and remove the hose.
- ④ Purge the liquid from the air drain hose and remove the hose.
- ⑤ Loosen the hose nut of the suction side joint and remove the hose.
- ⑥ Remove the pump mounting bolts.



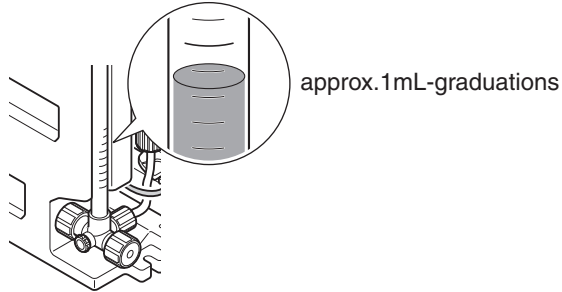
● Installing the Pump

- (1) Use bolts to install the pump in its original position.
- (2) Reattach hoses to the suction-side joint, discharge-side joint, and air-release outlet in the original positions of these hoses.
- (3) Reattach the liquid level meter drain in its original position.
- (4) Open the suction valve.

Checking the Discharge Volume

Use the level gauge to measure the discharge volume.

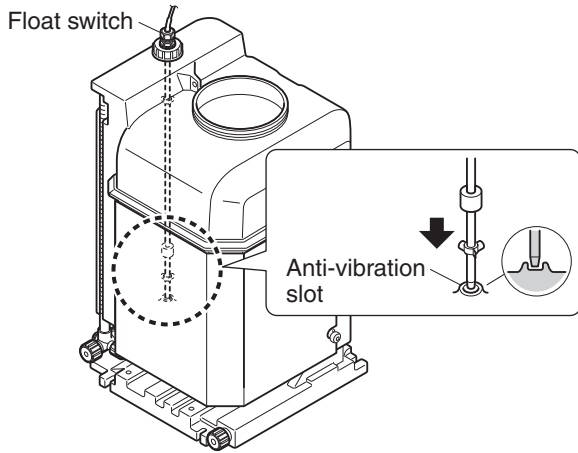
- ① Stop the pump.
- ② Close the suction valve.
- ③ Check the graduations of the level gauge.
- ④ Operate the pump for a specific period and stop it again.
- ⑤ Check the level gauge to calculate the volume decrease.



Optional Equipment

● Float Switch

Implementing purchased optional float switch, ensure the tip of the float switch is positioned at the anti-vibration slot in the tank before filling the tank with the chemical.

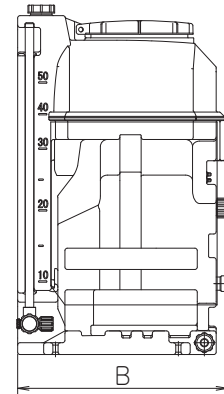
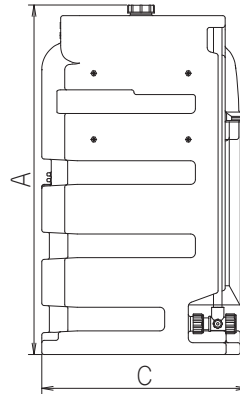
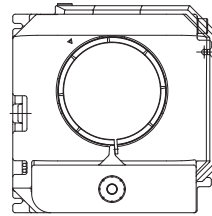


Specifications

Item	Specifications
Tank material	PE
Suction valve material	PVC
Drainage cap material	PVC
Tank capacity	30L / 50L / 120L (7.92gal / 13.2gal / 31.7gal)
Operating temperature	0 to 40°C, no freezing
Applicable liquid gravity	1.3 or less

External Dimensions

	A	B	C
TU-030	592.5mm (23.33in)	390mm (15.35in)	335mm (13.12in)
TU-050	739.5mm (29.11in)	444mm (17.49in)	435mm (17.13in)
TU-120	869.5mm (34.23in)	524mm (20.63in)	515mm (20.28in)



Spare Parts

- Packing and O-ring for suction valve
- Packing for drainage cap

Hydra-Cell[®]
METERING SOLUTIONS™

Wanner Engineering, Inc.
1204 Chestnut Avenue
Minneapolis, MN 55403 USA
Tel: (612) 332-5681
Fax: (612) 332-6937
Toll Free Fax (USA only): (800) 332-6812
URL: <http://www.Hydra-Cell.com/Metering>
Email: sales@wannereng.com

Product designs and specifications are subject to change without notice for product improvement.

EMM-005(1)-

2016/5/D--