

## Chemical Injection Unit

# PTS-30A/50/120

## OPERATION MANUAL

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

- Thank you for purchasing this TACMINA product. Please read this manual carefully in order to ensure that you use this unit safely and correctly.
- TACMINA accepts no liability whatsoever for any damage caused by malfunction of this unit and other damage caused by use of this unit.
- Additional information on this product and manuals in other languages may be found on our website.

### For the Safe Use of This Product

This manual is intended to help the operator to 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 fluid chemicals may have an influence on the periphery.
- When operating the pump, be sure to attach the protective cover. Also, before removing the protective cover during inspection, be sure to stop pump operation.
- Be sure to 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, or place heavy objects on top of it. Doing so may damage it.
- Be sure to check the chemical before filling the tank to prevent filling it with the 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 liquids that may corrode the tank materials.
- Do not dilute, mix, or dissolve chemical liquids 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.  
TACMINA ships its products with utmost care. If, however, the product appears to have been damaged during shipment, notify your dealer or TACMINA immediately.

• List of accessories

Polyvinyl chloride (PVC) braided hose	3m
Anti siphonal check valve	1 set
Anchor fixing plain washer (PTS-50 and -120 only)	4 pieces
Hose band	2 pieces
Chemical liquid name sticker	1 sheet
Operating manual	2 manuals (PTS: 1. Pump: 1)

\* The model with boiler specifications is supplied with a nylon tube instead of the PVC braided hose and with a boiler straight check valve (made of SUS304 material) instead of the anti siphonal check valve.

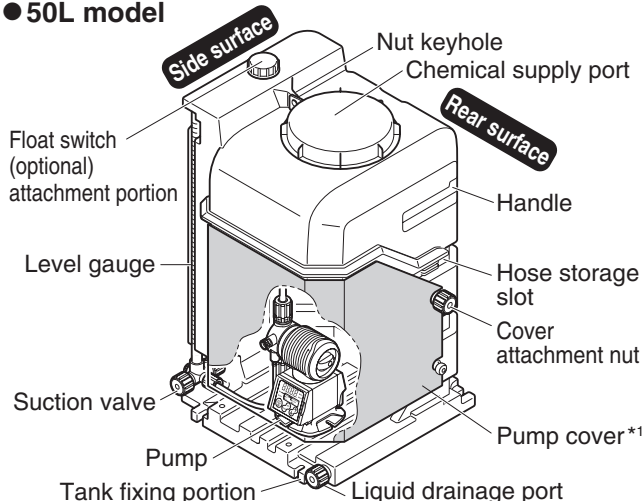
\* A signal cable is sold separately when □PW, □PWT is installed.

### IMPORTANT

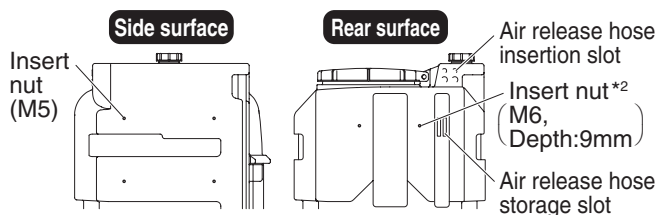
- Select the name sticker corresponding to the chemical liquid to be injected and affix it on the product where it is easily visible to operators.

## Part Names and Functions

### ● 50L model



\*1: When two DCLPW series are installed, and the pump cover is not attached.



\*2: Supplied with PTS-50 and PTS-120 only

\* When a center of gravity position is 100mm away from a tank, the load capacity is as follows:  
30L : 3kg, 50L : 7kg, 120L : 15kg

## Installing the Unit

### ⚠ CAUTION

- Install the unit in a location that is level and not subject to vibrations or impacts. Installing the unit at an angle may cause discharge failures.
- Ensure that the entire bottom surface of the tank is supported when installing the unit. If the bottom surface is not supported sufficiently, the tank could be damaged. Please contact us if supporting the entire surface cannot be done.
- Use a commercially available M8 anchor with a Anchor plate 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.
- When you install PTS-50 or PTS-120, use the supplied plain washer and tighten it using a tightening torque of 10N/m or less.

### ● About the discharge side pipe

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

### ● About the suction side pipe

This unit is shipped with the suction side pipe preinstalled. Check to make sure that none of the parts is loose.

### ● About the leak test by filling water

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.

\* The tank and pump of PW-200 · PZD-300/500 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.

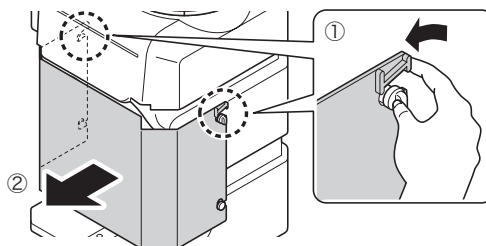
\*When removing them, be careful not to lose the O-ring sticking to the hose union.

- ② Firmly attach the opposite end of the suction hose to the pump's suction side.
- ③ Secure the pump using the bolts attached to the tank.
- ④ Attach the hose union back to the suction valve.

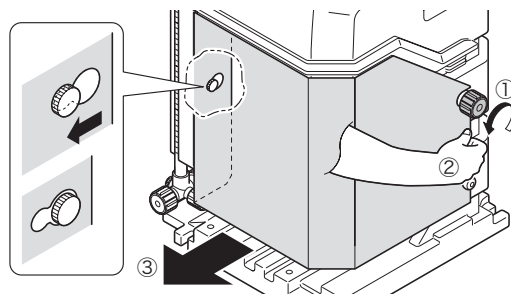
\*Do not forget to attach the O-ring which has been removed in procedure ①.

## Removing the Pump Cover

### ● 30L model



### ● 50L and 120L models



## Connecting the Cables

When you place an order for both PW series metering pump and PTS series chemical injection system as a set, the metering pump and chemical injection system are delivered to you with the power supply cable already connected. To make other cable connections, follow the operating instructions of the metering pump.

If you need to take out the pump from the tank while you make cable connections, refer to the section “**Removing the pump**” under “**Maintenance Checks**” below.

## Operating the Unit



### CAUTION

**Before starting the pump operation, check the following items.**

- Check all pipes to make sure they are not loose or detached.
- Check whether the suction valve is open.
- Check the pump cover to make sure it is attached.
- Check the tank to make sure it is filled with the appropriate volume of liquid.

- (1) Turn the suction valve knob counterclockwise so that the chemical liquid 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 liquid from inside the pipes and the level gauge. If you perform the work without purging the pressure or chemical liquid, the chemical liquid may spray out and cause a hazard.

### ● Check items

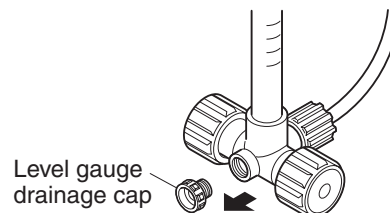
- (1) Check the fixing conditions of the tank (such as anchor bolt) and also check for abnormalities in the installation condition (such as the base).
- (2) Check for cracks, discoloration, and deformation of the tank.
- (3) Check the chemical liquid tank to make sure that it is filled with a sufficient 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 and also there is no liquid abnormality (for example, when the liquid turns cloudy). If the liquid quality has deteriorated, clean the inside of the tank and then refill it with entirely new chemical liquid.
- (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

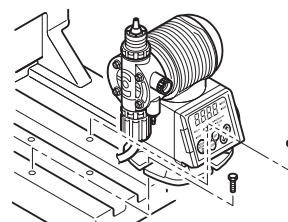
You can perform daily checks of the pump while it is installed in the tank unit without detaching it from the tank.

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

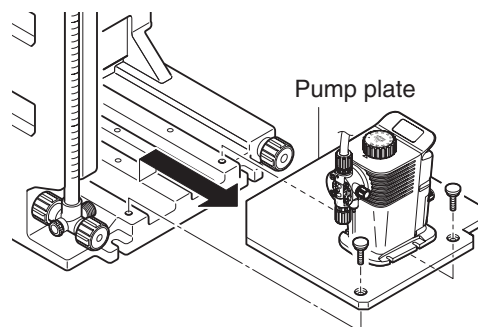
- ① Close the suction valve.
- ② Remove the level gauge drainage cap to purge the remaining liquid from the level meter.



- ③ Purge the pressure and chemical liquid 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 two or four bolts (varies depending on models) that are used for fixing the pump.



\* If the pump is mounted on a pump plate, remove the pump together with the pump plate (makes the work easier).

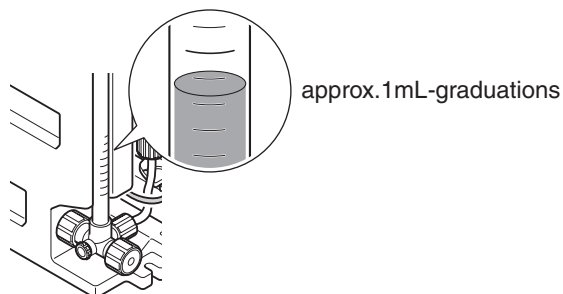


To reattach the pump to the tank, perform the above procedure in reverse order.

## Checking the Discharge Volume

You can use the level gauge to measure the discharge volume easily.

- 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 find out the volume decrease.

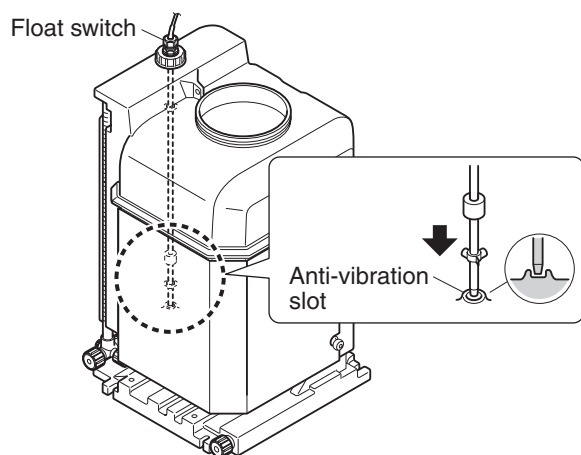


\* When two pumps are installed in the tank, stop the other pump and check the discharge volume for each pump.

## Optional Equipment

### ● Float switch

When you purchase an optional float switch, make sure the tip of the float switch is positioned at the anti-vibration slot in the tank before filling the tank with the chemical liquid.

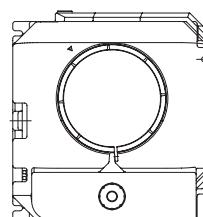


## Specifications

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

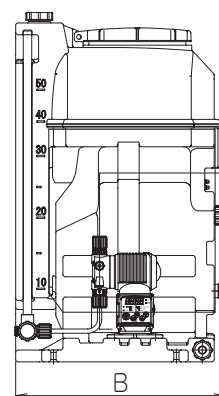
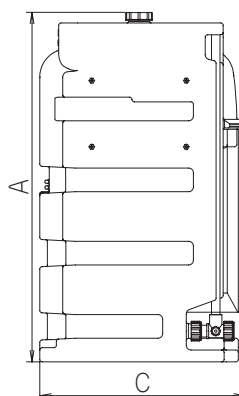
## External Dimensions

Unit: mm



	A	B	C
PTS-30A	(602.5)	390	(335)
PTS-50	(739.5)	(444)	435
PTS-120	(869.5)	(524)	515

To injection point



## Warranty

- TACMINA warrants its product for a period of one year from the date of purchase.

## Spare Parts

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

## TACMINA CORPORATION

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