

PROPER CLEANING & CHEMICAL IDENTIFICATION TECHNIQUES

At Raven Industries, our team member safety is paramount. Please read this information carefully on how to safely clean and identify chemicals used in injection pump systems, valves and flow meters used in conjunction with these systems prior to return to Raven Industries or a Raven Authorized Repair Center for service and/or repair.

Warning: Review the Material Safety Data Sheet (MSDS) prior to cleaning any contaminated items for proper personal protective equipment requirements. Failure to do so could result in serious injury or even death. Ensure you are in full compliance with all current federal, state, and local laws, ordinances, regulations, regarding the proper and safe handling, rinsing, and disposal of pesticides, hazardous waste, or any other chemical that was used with your Raven product.

FOR ALL RETURNS

Clean exterior surfaces of item returned to remove chemical contaminants and excessive dirt or other foreign materials.

INJECTION PUMP FLUSH

For an operational pump system:

- 1) Fill injection tank with clean water or connect to a clean water "flush" tank.
- 2) Place three-way valve into "re-circulate" position or if using a flush tank, ensure outlet of pump is plumbed back to the flush tank and not the injection chemical tank.
- 3) Start injection system and pump approximately two gallons into injection / flush tank.
- 4) Reposition the three-way valve to allow rinse mixture to be injected and run at normal rate.
- 5) Repeat procedure three times (triple rinse) or until pump is free of all contaminants.

For a non-operational or impossible to run system:

- 1) Connect a fresh water supply hose to the inlet manifold and flush pump assembly.
- 2) Remove the pump head / valves and flush with clean water three times (triple rinse).
- 3) Flush remaining chemical from cavity of the pump until water is clean and free of chemical.

FLOWMETER FLUSH

- 1) Attach a clean water source to the inlet side of the flow meter.
- 2) Run clean water through for a minimum of two minutes or until water is free of contaminants.

CLEANING VALVES USED IN CHEMICAL APPLICATION SYSTEMS

- 1) Verify the ball or butterfly is in the open position.
- 2) Run clean water through for a minimum of two minutes or until water is free of contaminants.

PROPER CLEANING & DECONTAMINATION REQUIREMENTS AND FEES

Effective February 1, 2017 any item which has come into contact with chemical (typically valves, flowmeters, injection pumps) will be charged a minimum \$25 USD cleaning and handling fee if returned without proper documentation or not properly cleaned and decontaminated. Minimum documents required for RMA returns which have had chemical contact are the RETURN MATERIAL AUTHORIZATION – CERTIFICATE OF DECONTAMINATION form and the MSDS for the last chemical used.

Additional fees will be assessed as warranted for items as shown in the fee structure below:

Fee Name	Description	Fee
CLEANINGFEE1	Item not properly cleaned* <i>or</i> items cleaned but missing documentation	\$25 USD / \$30 CND
CLEANINGFEE2	Item not properly cleaned* <i>and</i> missing documentation	\$50 USD / \$60 CND
CLEANINGFEE3	Item not properly cleaned** <i>with</i> proper documentation	\$100 USD / \$120 CND
CLEANINGFEE4	Item not properly cleaned** <i>without</i> proper documentation	\$150 USD / \$180 CND

**Items returned with lesser amounts of contamination and require less cleaning and decontamination.*

***Items returned with a substantial amount of contamination, requiring considerable cleaning and decontamination.*

All items returned to Raven or a Raven Authorized Repair Center, regardless of whether the item has had chemical contact, must be returned with a completed RETURN MATERIAL AUTHORIZATION – CERTIFICATE OF DECONTAMINATION form.

For full information regarding product returns, please visit the PRODUCT SERVICE & REPAIR page on ravenhelp.com.