Sidekick Pro™ Rinse Assist Installation and Operation Guide

Rinse Assist Operation

Refer to the chemical label or MSDS for compatible rinse or clean-up fluids.

Priming the Rinse Circuit

1. Prime the rinse fluid supply lines before priming the chemical supply plumbing.
2. The rinse fluid supply lines should be primed up to the automated 3-way Rinse Assist valve.
3. To prime the rinse fluid supply lines, perform the procedure in the Sidekick Pro™ Operation Manual to prime the chemical supply line as normal.

Rinse the Sidekick Pro™ Pump

1. Enable the Rinse Assist feature on a compatible Raven field computer or console.
2. Ensure the rinse supply tank contains at least one gallon [3.8 L] or rinse fluid.
3. The Rinse Assist system will operate with the master and section switches set in the off positions. However, the pump pressure switch will stop the pump if the pressure reaches approximately 100 PSI [689 kPa]. To flush additional portions of the injection systems, or the main carrier line, toggle the master switch and at least one boom section on. Alternatively, a manual 3-way valve may be installed between the injection pump outlet port and the point of injection which may allow chemical to be reclaimed.

Note: *Reclaimed chemical may be contaminated or mixed with the rinse fluid or agent used in the Rinse Assist system. contact the chemical supplier for additional assistance with handling, disposing, or before reusing reclaimed chemical.*

4. To begin the Rinse Assist Operation, press the Rinse Pump button. The valve will switch to the rinse fluid supply position and the pump will begin the rinse cycle. Allow the rinse cycle to complete.
5. To stop the rinse cycle during operation, press the Rinse Pump button again. The pump will stop and the valve will return to the chemical supply position for the next field operation.
6. The rinse cycle may be run multiple times to run more rinse fluid through the pump or to the rinse other components of the injection pro products system as desired or necessary.

Note: *A green LED on the valve indicates valve is in rinse mode. No LED on indicates the rinse valve is in chemical application mode.*

Overview

The Sidekick Pro™ Rinse Assist system allows an operator to quickly rinse the Sidekick Pro™ direct injection pump without leaving the machine cabin. The Rinse Assist system utilizes an automated 3-way rinse valve to switch the Inlet source to a rinse tank valve and components which may help to ensure problem free operation of the Sidekick Pro™ injection system. when the rinse process is complete, the automated 3-way valve returns to the chemical supply tank inlet setting and is ready for the next application.

Requirements for Rinse Assist Systems

The following is required to utilize a Raven Rinse Assist system:

- Rinse Assist Ready Sidekick Pro injection pump:
    - RINSE ASSIST READY must be displayed on the injection pump label.
    - Sidekick Pro integrated motor control node firmware 1.23.15 or newer.
- Compatible Raven field computer or console:
    - Envizio Pro Series with software version 3.7 or newer.
    - Viper Pro with software version 3.10 or newer.
- Rinse Assist Ready Sidekick Pro Injection Pump cabling:
    - Generation 1 cable (P/N 115-0172-192)
    - Generation 2 cable (P/N 115-0172-191)

The following components are not supplied with the Rinse Assist kit and may be required to complete the system installation:

- Rinse fluid tank or reservoir.
- Chemical supply tubing, strainer, and fittings.
- Rinse fluid supply tubing.

Note: *Review the installation instructions and contact a local Raven dealer for additional assistance with components not provided with the Rinse Assist system.*

Always follow safe and responsible chemical handling practice. Refer to the chemical label or contact the chemical supplier for assistance with:

- Safe handling practices.
- Disposal of unused chemical.
- Compatible rinse or clean-up fluids.

Best Practices

The Rinse Assist kit is designed to mount the valve directly to the inlet port on a Rinse Assist Ready Injection pump and contains the required hardware for the installation. When selecting a mounting location for the Rinse Assist valve, keep the following in mind:

- Ensure plumbing connections are not causing excessive stress (compression or pulling) on the valve or mounting bracket.
- Use thread sealant on all thread fittings to prevent leaks. Leaks may allow air to enter the system which can cause pump errors and system inaccuracy.
- The Rinse Assist valve must be mounted within 3 ft. [0.9m] of the injection pump inlet to ensure sufficient cable length for connecting Rinse Assist valve, valve harness, and Sidekick Pro™ motor control node.

- Use EVA tubing 1/2” [12 mm] or larger between the chemical or rinse fluid reservoirs and the pump inlet.

Kit Contents

Before installing the Rinse Assist system, review the following components provide with the Rinse Assist kit. Contact a local Raven dealer for questions or additional assistance with these components:

TABLE 1. Rinse Assist Kit (P/N 117-0171-733) Contents

Item	Quantity	Part Number	Description
1	1	334-0001-079	Valve, Actuated, EH7, 1/2” BL MNFD L-Port 180 Deg. KZ
2	2	334-0001-075	Fitting, Adapter, Valve, 3/4” FNPT
3	2	334-0001-076	Fitting, Retainer, Hairpin, KZ Valve
4	1	333-9000-008	Fitting, Low Profile Strainer, 1/2” NPT
5	1	333-0003-037	Fitting, Pipe Bushing, Polypropylene, Black, 3/4” x 1/2”
6	1	219-0000-129	Gasket, Flange M-100, Viton
7	1	345-3003-044	Clamp V-Band F-100
8	1	333-0011-107	Check Valve, 1/2” NPT, .3 PSI, Polypropylene
9	1	333-0002-132	Fitting, Elbow, 90 Deg Pipe, Polypropylene

Plumbing the Rinse Assist 3-Way Valve to the Injection Pump

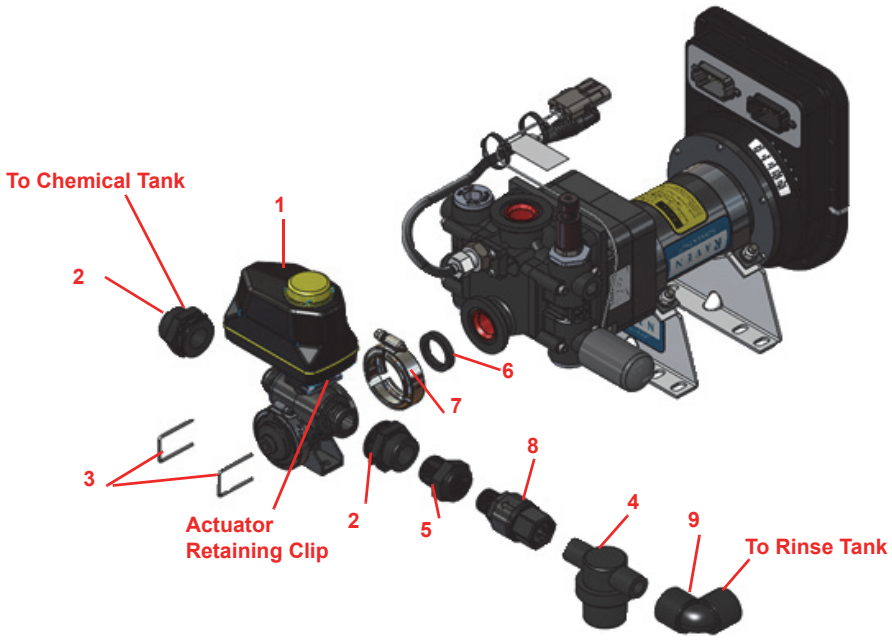
The illustration below is a basic illustration of how to plumb the rinse assist valve to the pump. If needed, additional plumbing can be added to allow for a better fit.

Important: *The chemical tank plumbing must connect to the valve through the normally open port.*

With power removed from the valve, the normally open port can be determined by looking into the left or right portion of the valve. The side of the valve that shows the open side of the ball is considered the normally open port.

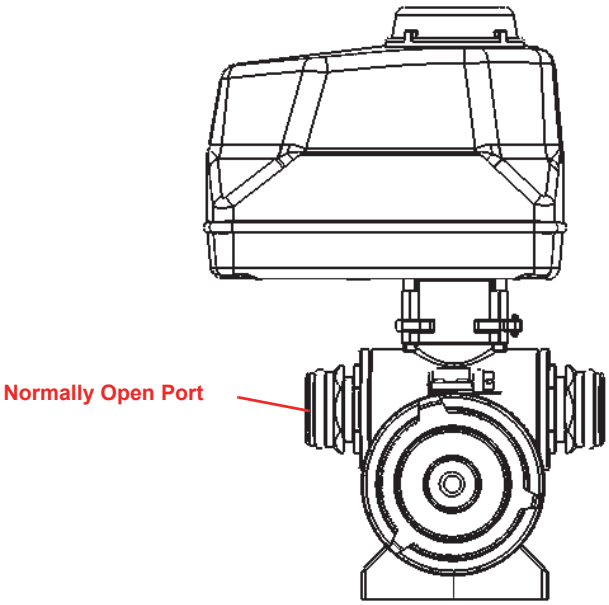
Important: *The check valve and the strainer must connect to the clean water rinse tank. The arrow on the check valve must point towards the rinse valve.*

FIGURE 1. **Rinse Assist 3-Way Valve Plumbing**



Note: *The chemical tank must always be plumbed to the normally open port of the rinse valve. The rinse valve comes set up with the ports as shown.*

FIGURE 2. **Rinse Valve Set Up**



Reversing the Normally Open and Normally Closed Ports

It may be desirable to reverse the port arrangement to accommodate plumbing depending on the chemical tank location. To reverse the ports:

1. Disconnect power to the valve.
2. Remove the electric actuator by pulling the actuator retaining clip.

3. Use a flat screwdriver to rotate the ball valve 180 degrees.
4. Re-assemble the electric actuator to the valve.
5. Re-install the actuator retaining clip. The normally open port should now be on the opposite side of the valve.

Remote Mounting of the 3-Way Rinse Assist Valve

If the pump inlet port does not allow for convenient mounting or installation of the rinse assist valve, the valve may also be mounted remotely. If mounting the rinse assist valve remotely:

- Refer to the best practices section and keep all plumbing runs as short as possible to avoid chemical waste during application and rinse valve operation.
- Check valve and strainers must be installed to prevent cross country contamination or rinse fluid and protect critical system components.
- Hoses must be chemical resistant and compatible with chemical being pumped.
- Hoses to chemical tank must be sized properly. Minimum size required for high volume pump on the chemical side is 3/4”.
- Minimum size required for low volume pump of the chemical side is 1/2”.
- Refer to the Plumbing the Rinse Assist System section for assistance with completing the plumbing connections for the rinse assist valve.

Plumbing the Rinse Assist System

Refer to Figure 3 while performing the following steps.

Note: *Check valves and strainers are recommended to prevent contamination of chemical rinse fluid. Use of a 1/2” or larger EVA tubing is recommended for all plumbing between reservoirs and the inlet port on the Sidekick Pro™ injection pump. Contact a local Raven dealer for additional assistance with reservoirs, check valves, or strainers recommended for the Rinse Assist system.*

1. Route plumbing from the chemical reservoir to an in-line strainer, check valve, and then to the Main port on the Rinse Assist valve.
2. Route the plumbing from the rinse fluid reservoir to an in-line strainer, check valve, and then to the Aux port.
3. Verify that ll check valves and strainers are installed.

FIGURE 3. Plumbing