

# Sidekick Pro™ Rinse Assist Installation and Operation Guide

## Rinse Assist Operation

**Note:** 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 to rinse the pump as described below. Stop the pump once the rinse fluid reaches the Rinse Assist valve.
4. Once the rinse fluid is primed, refer to the procedure in the Sidekick Pro Operation Manual to prime the chemical supply lines 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 1 gallon [3.8 L] of 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 system, 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, touch the "Rinse Pump" button. The valve will switch to the rinse fluid supply position and the pump will begin the rinse cycle.
5. Allow the rinse cycle to complete.
6. To stop the rinse cycle during operation, touch the "Rinse Pump" button again. The pump will stop and the valve will return to the chemical supply position for the next field operation.
7. The rinse cycle may be run multiple times to run more rinse fluid through the pump or to rinse other components of the injection or product system as desired or necessary.

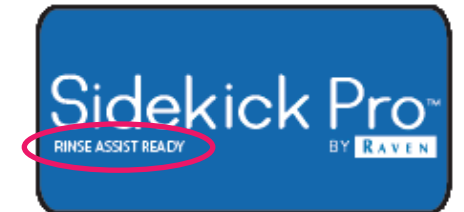
## Overview

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 and the injection pump will draw rinse fluid through the pump, flushing chemicals out of the internal valves 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 tank inlet setting and is ready for the next application.

### Requirements for Rinse Assist Systems

The following will be required to utilize a Raven Rinse Assist system:

1. Rinse Assist Ready Sidekick Pro injection pump:
  - "RINSE ASSIST READY" must be displayed on injection pump label.
  - Sidekick Pro integrated motor control node firmware 1.23.15 or newer.
2. 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.
3. Rinse Assist Ready Sidekick Pro Injection Pump cabling:
  - Generation 1 cable (P/N 115-0172-192)
  - Generation 2 cable (P/N 115-0172-191)
4. 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.

5. Always follow safe and responsible chemical handling practices. 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

### Kit Contents

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

Rinse Assist Kit (P/N 117-0171-554)		
Part Number	Qty.	Description
063-0173-620	1	Valve, 3-Way Rinse Assist
107-0172-289	1	Bracket, Rinse Assist Valve
333-9000-008	1	Strainer, 20 Mesh Poly 1/2" NPT
333-0011-087	2	Check Valve, 3/4" FNPT Blue Delrin
333-0002-201	1	Adapter, M100 Flange to FNPT
333-0008-154	1	Pipe Nipple, 1/2" NPT Close Poly
435-3003-044	1	Clamp, M100 V-Band
219-0000-129	1	Gasket, M100

### 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 this installation. When selecting a mounting location for the Rinse Assist valve, keep the following best practices in mind:

- Ensure plumbing connections are not causing excessive stress (compression or pulling) on the valve or mounting bracket.
- Use thread sealant on all threaded 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. [0.9 m] of the injection pump inlet to ensure sufficient cable length for connecting the 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.

# Rinse Assist 3-Way Valve Installation

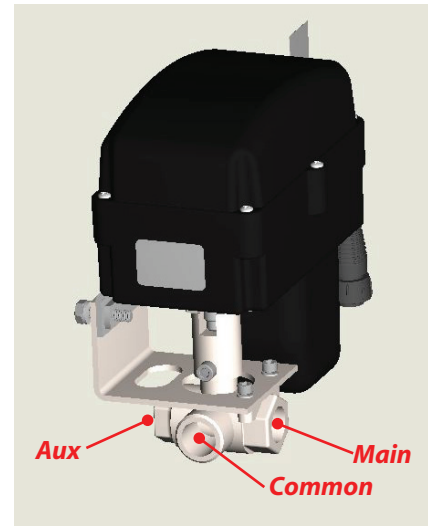
## Direct Mounting to Rinse Assist Ready Pump Inlet Port

To install the Rinse Assist valve directly to a Rinse Assist Ready Sidekick Pro injection pump inlet port:

**Note:** Use thread sealant on all threaded fittings to prevent leaks. Leaks may allow air to enter the system which can cause pump errors and system inaccuracy.

1. Install the provided fittings to the Common port on the Rinse Assist valve. Refer to Figures 1 and 2.
2. Loosen the two bolts on the side of the Rinse Assist valve and slide the valve mounting bracket under the bolts. Do not tighten the bolts at this time.
3. Locate the mounting bracket and bolts just below the inlet port on the Sidekick Pro injection pump.
4. Loosen the bolts on the bottom of the pump mounting bracket.
5. Align the slots of the Rinse Assist valve mounting bracket with the bolts securing the injection pump and slide the valve bracket under the pump mounting bracket as shown in Figure 3.
6. Align the flange fitting and gasket installed on the Rinse Assist valve with the pump inlet flange.
7. Position the clamp over the flanges and tighten clamp securely.
8. Tighten fasteners on the pump mounting bracket and valve mounting bracket to secure the valve and pump.
9. Refer to the "Plumbing the Rinse Assist System" section for assistance with completing the plumbing connections for the Rinse Assist valve.

**Figure 1:** Rinse Assist Valve Port Descriptions



## 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 also may 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 Assist operation.
- check valves and strainers (not provided) must be installed to prevent cross-contamination of the chemical and rinse fluid, and protect critical system components.

**Note:** Contact a local Raven dealer for assistance with additional plumbing or hardware required for remote mounting of the Rinse Assist valve.

To install the Rinse Assist valve in a remote location away from the Sidekick Pro injection pump:

1. Use the supplied valve mounting bracket, or a custom fabricated bracket, to mount the 3-way Rinse Assist valve in the desired location. Refer to the direct mounting procedure for assistance with attaching the Rinse Assist valve to the supplied bracket.
2. Use 1/2" or larger EVA tubing to plumb the Common port on the Rinse Assist valve to the inlet port on the Rinse Assist Ready Sidekick Pro injection pump.
3. Refer to the "Plumbing the Rinse Assist System" section for assistance with completing the plumbing connections for the Rinse Assist valve.

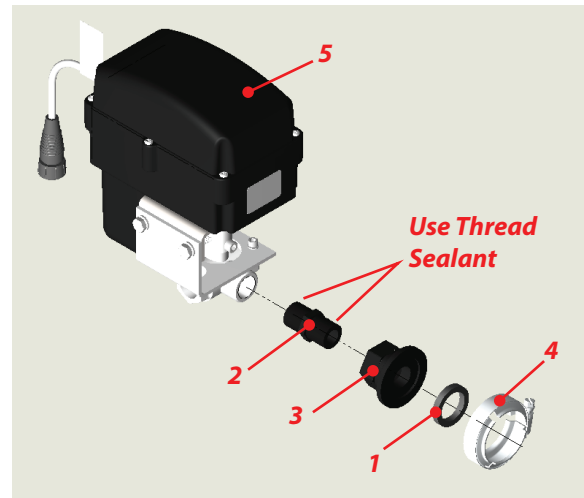
## Plumbing the Rinse Assist System

The following steps are intended to describe the final plumbing connections for the Rinse Assist system.

**Note:** Check valves and strainers recommended to prevent contamination of chemical or rinse fluids. Use of 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 plumbing connections with reservoirs, check valves, or strainers recommended for the Rinse Assist system.

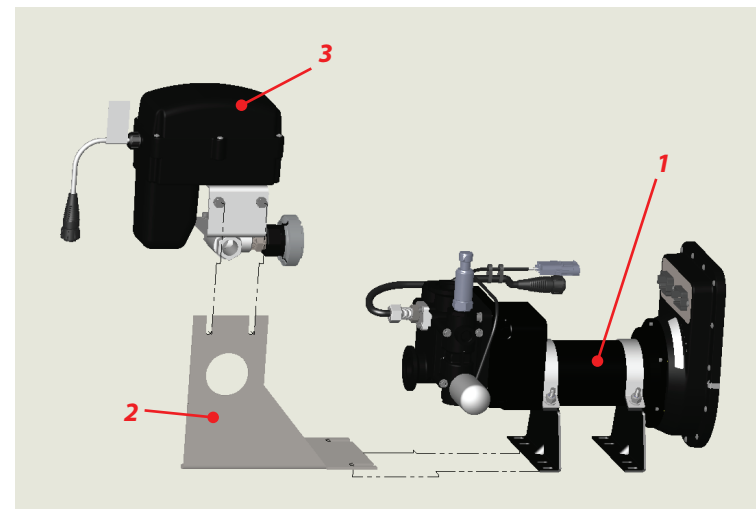
1. Route plumbing from the chemical reservoir to an in-line strainer, check valve, and then to the Main port (Figure 1) on the Rinse Assist valve. Refer to Figure 4.
2. Route plumbing from the rinse fluid reservoir to an in-line strainer, check valve, and then to the the Aux port.
3. Ensure that check valves and strainers are installed as shown in Figure 4.

**Figure 2:** Rinse Assist Direct Inlet Port Plumbing



Item Number	Description
1	Gasket, M100
2	Pipe Nipple, 1/2" NPT Close Poly
3	Adapter, M100 Flange to FNPT
4	Clamp, M100 V-Band
5	Valve, 3-Way Rinse Assist

**Figure 3:** Rinse Assist Direct Inlet Port Mounting



Item Number	Description
1	Pump, Sidekick Pro Injection
2	Bracket, Rinse Assist Valve Mounting
3	Valve, 3-Way Rinse Assist

**Figure 4:** Rinse Assist System Plumbing

