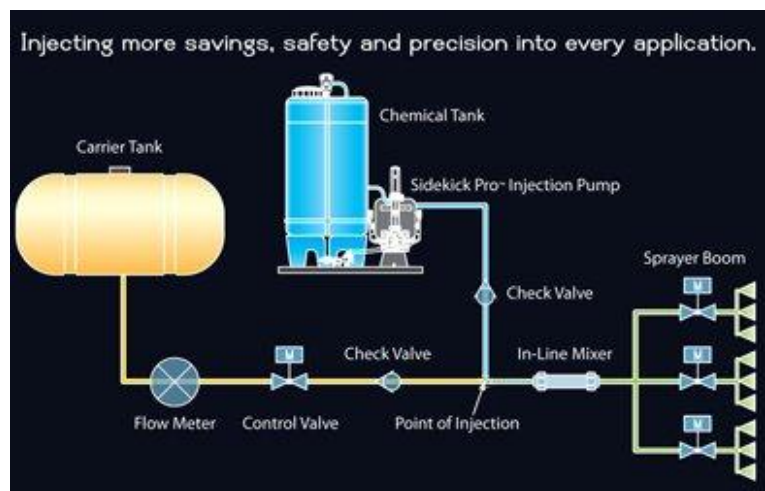


SideKick Pro™ : Direct Injection Mixing

SideKick Pro is a revolutionary direct injection mixing system that eliminates the hassles associated with tank mixing and its inherent waste of applicants, time, and dangerous exposure to chemicals. It's frustrating to have the wrong mix of things; when you are short on sugar and heavy on Kool-Aid, it's annoying; spraying a field with too light a mix of agricultural applicants may result in weeds or stunted growth, if the mix is too heavy, it can mean big dollars in wasted product. Raven's Sidekick Pro Direct Injection System means zero premixing of herbicides, anhydrous, or insecticides. Instead, precise amounts of chemical are added inline to reduce preparation time and ensure proper application rates. Data on what is dispersed is then collected through in cab computers.

How It Works

Sidekick Pro's positive displacement pump pushes applicant directly into an in-line mixer close to the boom. Two check valves, one in the carrier line and one in the applicant line, ensure that chemicals and water tank lines stay pure and unmixed until meeting at the inline mixer. RPM sensors and shutter monitors integrated into the unit ensure even application of chemical products. After dialing in the rate and concentration of chemical applicant, producers are free to check system



feedback. The available 24 gallon tank, or the capability to connect to other size tanks, makes it simple to spray large acreage without stopping. The possible range of application rate offered by Sidekick varies greatly from 1oz/minute to 200oz/minute so you can be sure that whether the job is large or small, or when concentrations should be high or low, SideKick Pro allows operators to precisely control applicant.

The high resolution encoder instructs and monitors motor RMP and voltage, allowing for tight adjustments in mix ratios, which ensures even application regardless of tractor speed, changing topography, or section shutoff. Real time sensors and diagnostics help ensure that operators can control applicant output down to minute levels. More control of what makes it into the ground means more money saved on inputs. Beyond cost savings, SideKick Pro's control of chemical inputs is better for the environment. As stronger chemicals are used to adjust for glyphosate resistant weeds and pests, preventing over application becomes doubly important for the environment.

Benefits

In the past, changing concentration of chemicals midfield was not an option. With Sidekick Pro operators can adjust the amount of product applied within a space to conserve applicant in low yield areas, like low lying areas with standing water. The system's positive displacement pump is designed to pump and prime simultaneously and monitor output in real time to give an accurate data record of what went into the field.

Because glyphosate resistant crops are an increasing problem, the need to switch chemicals between crop varieties is becoming more common. Compliance with chemical flushing regulations costs producers time and money. Now switching between crops is simple and does not require stopping to flush tanks. An automatic flush system shuts off the chemical applicant and allows water from the carrier tank to quickly purify boom lines.

Instead of mixing a tank and then getting rained out, which wastes applicant, SideKick Pro lets you mix on the go without worrying about re-agitating an old batch of applicant. Because mixing is done inline, rather than in tanks, delays and hassle in application due to weather become a nonissue.



Another advantage of inline mixing is that up to four SideKick Pro units can be loaded onto one piece of equipment. The SideKick Pro units are then pumped directly into the inline mixer. More access to multiple chemicals in one pass means operators can dial in the precise mix of different applicants tailored to the application needs of a particular field.

If time is money then Sidekick means money in the bank with the time saved on mixing, cleaning, and changing between products. Calibrations are simple and contained within the unit so catch calibration is obsolete. Additionally, a totally closed calibration system means less exposure to chemical inputs making application safer for operators than traditional mixing methods.

As with all things Raven, compatibility is a huge advantage. So regardless of what color iron you use, or what type of machine you run, SideKick Pro's ISO compatible pump will work with your existing ISO set up.