



SureFire PRODUCT CATALOG



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Fertilizer Application Systems



From a 60" spinach seeder to 120' row-crop planters and everything in between, SureFire has the solution to make your application a success.

SUREFIRE AG delivers custom configured application systems for all types of farm equipment. Over the last 10 years SureFire has developed the highest level of expertise in bringing together the right components to successfully achieve your application needs.



Planting, Seeding and Transplanting

- Row Crop: 4 – 48 Row
- Air Seeders and Box Drills
- Potatoes
- Specialty Crops
 - Peanuts
 - Spinach Transplanter
 - Carrot Seeder
 - Cabbage Seeder
 - Cucumbers
 - Sugar Beets
 - Melons
 - Lettuce
 - Orchards

Applicators

- Strip-till
- Liquid Coulter
- Side Dress
- NH₃ Applicators



“ SureFire has brought us the ability to provide a complete solution to our customers. You could try to piece together the puzzle and build an application system – go online and buy metering tube and flow meters and all the pieces. Working with SureFire the entire system arrives in a box—it’s ready to go. The guys in the shop put it on the planter. If we have any questions, we call **one company**. That is worth a lot to us. ”

– Eric Siefka, Integrated Solutions Manager
Bader and Sons Co.
John Deere Dealer, Central Michigan



Custom Configured - Request a Quote

It all starts with what you need to achieve on your farm. SureFire Systems are custom configured to meet your specific needs. Our Application Control Experts will take into account all the variables of your scenario:

- Implement Size
- Row Spacing
- Application Rate
- Desired Placement
- Tank Location
- Liquid Product to be Applied

**To request a quote,
complete the "request
a quote form" at
www.surefireag.com.**



Metering Tube

Never Change Orifices Again

Controller Compatibility

SureFire application systems are compatible with most rate controllers. Your system will include a harness to connect directly to the rate control module from the manufacturer of your display.

Compatible Controllers:

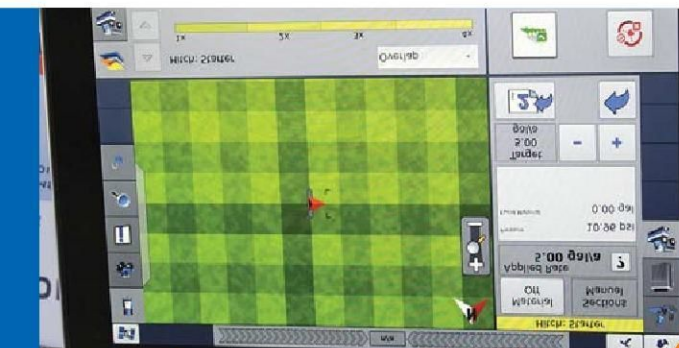
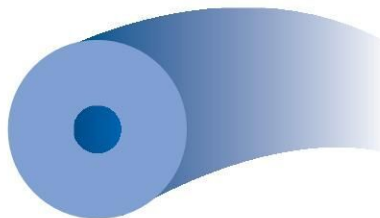
John Deere
Trimble
Case
Ag Leader
Dickey-John ISO
Raven
Micro-Trak



DUAL METERING TUBE

Two sizes of metering tube are installed on each row. A check valve with a built-in on/off valve allows for quickly switching between the small tube, large tube, or both tubes. This configuration provides maximum flexibility when changing rates or liquid products. Never change orifices again.

METERING TUBE is used in place of a traditional orifice to provide even distribution to each row. In a typical in-furrow application scenario a 0.030" orifice is replaced with an 8' length of metering tube having a passageway of 0.096". The combination of length and diameter equalizes flow to each row. Metering tube virtually eliminates the problem of plugged orifices.



Components of Liquid Application Systems

Application systems consist of components in six categories.



PUMPS

Whether your scenario calls for a low-volume **Tower** or a **PumpRight**, the pumping system will arrive completely assembled, including the flow meter, ready to be mounted on your implement. For most planters, model specific brackets are available to make mounting fast and easy.

SUREFIRE E-MAG FLOW METER TECHNOLOGY

SureFire pioneered the use of electromagnetic flow meters in liquid application systems nearly 10 years ago. The SureFire E-Mag meter has no moving parts which eliminates the common failures of most mechanical flow meters.

Key features include:

- Accuracy – Electromagnetic technology provides greater accuracy, especially across liquids of different weights, specific gravities, and viscosities.
- High Resolution – 20-25 times more pulses per gallon than most other meters.



MANIFOLD AND DISTRIBUTION

All the plumbing components you need to get the product from the tank to the ground. Based on your implement, product being applied, and customer preferences, the best options will be selected. We will help you select from a variety of options:

- Section Valves to utilize auto section control
- Visual Flow Indicators
- Sentinel™ Individual Row Monitor

PLACEMENT DEVICE

Differences in soil conditions with geography and farming practices result in many considerations in selecting the best placement method. A SureFire system will accommodate your desired placement method.

SureFire can provide a variety of in-furrow and surface-band placement methods as part of a complete system configuration or SureFire will provide plumbing to connect to the placement device of your choice.

HARNESSING

Systems include harnessing to connect all components to the rate control platform you are using. SureFire Electronics is a division of SureFire that manufactures all harnesses. All harnesses are computer tested to ensure correct operation and then braided with a PVC coated nylon braiding material. This results in a harness that will withstand the conditions in your fields.



TANKS

Planter mounted tank kits are available for many makes and models of planters, seeders, and applicators.

LIQUISHIFT®

Variable Rate Technology

10-50 GPA IS NO PROBLEM FOR LIQUISHIFT®

LiquiShift® Variable Rate Technology provides the ability to achieve the widest range of on-the-go rate changes of any application system available. SureFire's LiquiShift® will allow for a flow increase of 6-8 times the minimum flow rate the system is configured for. In a scenario with a minimum rate of 10 GPA at 4 MPH, the maximum rate at 6 MPH would be 40-50 GPA (6-8 times the minimum rate).

PRESCRIPTION APPLICATIONS

Achieve your agronomic objectives without limitations. You will no longer narrow the range of your liquid prescriptions to get within the achievable range of a single orifice size. With 6-8 times flow capacity your agronomist is in the driver's seat. When the analysis calls for 8 GPA in low-productive areas with high residual nutrients you will apply 8 GPA. When the analysis calls for 45 GPA in the high productive "black-soil" region of the field, you will apply 45 GPA. No longer will you be forced to over-apply in the poor performing areas.

APPLICATION RATE CHANGES FROM FIELD TO FIELD

Never change another orifice. LiquiShift® utilizes metering tube to achieve uniform row-to-row accuracy and automatically switches between tubes to allow dramatic rate changes from field to field. Simply set the rate in your controller and LiquiShift® automatically chooses the proper metering tube.

HIGH SPEED PLANTERS, APPLICATORS, AND SEEDERS

Faster application and/or planting speeds require larger flow ranges from your liquid application system. High-speed planters designed to work at 8-10 MPH impact fertilizer flow rates by a factor of 1.5-2. High-speed liquid applicators and side dress machines create a similar scenario. LiquiShift® is ideal for all of these high speed scenarios.



SENTINEL

LIQUID ROW MONITOR



The Sentinel™ utilizes electromagnetic flow meter technology to measure the flow going to each row. Electromagnetic flow meters have no moving parts which dramatically increases reliability and measures accurately regardless of viscosity and product density.

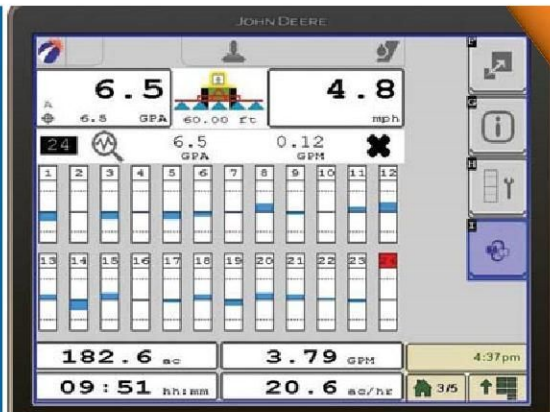
PRODUCT FEATURES

- Flow Range: 10-260 oz/min.
- 3–50 GPA on 30" Row Spacing at 8 MPH.
- User set alarm point as percent above and below desired application rate
- Visual and audio alarm if the flow is above or below set percent



Sentinel™ ISO utilizes your existing display as the user interface (via ISO 11783). Sentinel™ ISO is expandable up to 64 rows.

Sentinel™ Companion monitors up to 16 rows. It utilizes a small companion console in the tractor cab.



Mounting Solutions, Tanks, Plumbing, Pumps and More...

SUREFIRE has mounting solutions that make plumbing and installing application components on your implement simple and fast. Inquire with a SureFire Application and Control Expert about your scenario.

TANK MOUNTING SOLUTIONS

SureFire's team of engineers have developed tank mounting solutions for a wide range of implements.



Planters (Row Crop)

John Deere
Case
Kinze
White



Applicators and Strip Till Machines

Great Plains NutriPro
John Deere 2510 Series
Case/DMI



Drills and Air Seeders

Great Plains
John Deere
Crust Buster
Landoll
Sunflower



MOUNTING SOLUTIONS FOR FILL VALVES, CHECK VALVES, FLOW INDICATORS, PUMPS AND PLUMBING



Wireless Valve Control



WIRELESS VALVE CONTROL makes filling and utilizing multiple tanks easy and convenient.

Mount the Wireless Valve Control Box in a central location on the implement or tractor. Connect up to four electric valves (standard three-pin weather pack connection).



Use the remote to open/close the valves from anywhere in range (approx. 100') of the implement.

Link one remote to two Wireless Valve Controllers for control of up to 8 valves.





Precision Anhydrous Ammonia Systems



The Torpedo™ cooler is the central piece of the SureFire Anhydrous Ammonia Application System. It is a high capacity, extremely accurate, efficient heat exchanger. However, a cooler is only one component of an NH3 application system.

Torpedo™ NH3 systems are truly complete application systems including all components needed to get product from the tank to the soil. SureFire will work with you to ensure all necessary components – tank lead hoses, break-away coupler(s), section splitters and valves, manifolds, mounting solutions, and all the necessary plumbing components – are supplied and properly sized as part of the complete kit.

Torpedo™ Anhydrous Ammonia models:

Model 100

- 23-31 GPM Maximum Capacity*
- Small to Medium Implements, Lower to Moderate Application Rates

Model 200

- 35-47 GPM Maximum Capacity*
- Medium to Large Implements, Moderate Application Rates

Model 300

- 50-70 GPM Maximum Capacity*
- Large Implements, Large Application Rates, High Speed
- Utilize two tanks to achieve maximum capacity



Torpedo™ NH3 systems are compatible with the following controllers:

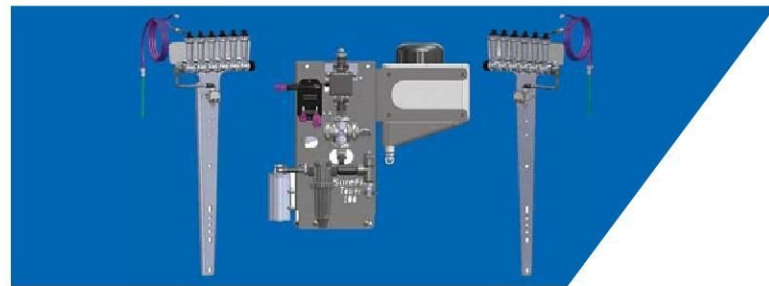
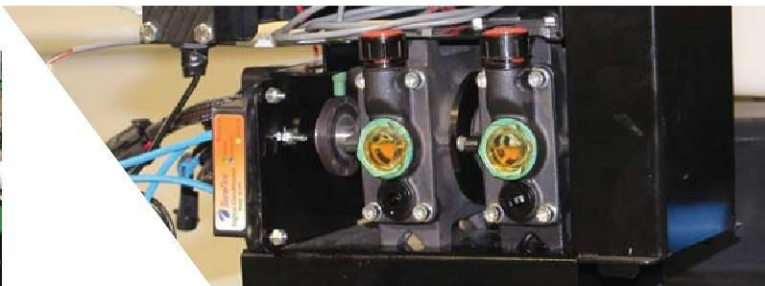
- John Deere Rate Control and RC 2000
- Trimble Field IQ
- Ag Leader Direct Command
- Case Pro700 with AccuControl
- Raven
- Micro-Trak

* Maximum Capacity ratings are temperature dependent. Maximum rates listed are at 34°F and 64°F, respectively. Additionally, to achieve maximum capacity the tank withdrawal valve and lead hose from tank to Torpedo™ must be sized correctly.



Micro-Volume Application Systems

Spartan™ and **Catalyst™** are engineered solutions for nutrient stabilizers and managers, insecticides, fungicides and other products applied at less than one gallon/acre.



SPARTAN DIRECT INJECTION

- Nutrient stabilizers in NH₃ and liquid fertilizer.
- Insecticides and fungicides for in-furrow application at planting.
- Variable rate application of micro nutrients.
- Four models with flow rates from 2 – 80 oz/min.
- 20, 55 and 100 gallon tank assemblies or use your existing tank

CATALYST™

Direct injecting into a carrier stream to achieve an application rate of 10-40 oz/acre has been achieved for years in the industry. Catalyst™ is unique. Utilizing a specially designed version of SureFire's Metering Tube distribution system it accurately meters and divides flow rates down to 1 oz/min/row.





QUICKDRAW MAX

QuickDraw Max is a fully automated sprayer tender system. Start by creating a recipe – that is the applied application rates/acre for each chemical in the batch. Recipes are saved and used every time you load that mix of chemicals. Enter the application rate/acre you will be spraying and the size of load you need, either in total gallons or total acres to spray. QuickDraw calculates the correct amount of each chemical in the batch. Press start and the QuickDraw automatically measures and loads each chemical, as well as the correct amount of carrier, and stops the pump when the batch is complete.

Models

- 4 Product
- 6 Product
- 6 Product with 2 - 2" Valves



MASS FLOW METER

Micro-Motion mass flow meter requires no calibration. The mass flow meter measures product density, liquid mass and volume. As a result, it is able to measure any liquid with extreme accuracy regardless of the liquid's physical properties, specifically density, viscosity, or conductivity.

DO YOU NEED THE PRODUCTIVITY OF A

175' SPRAY BOOM?



QUICKDRAW LITE

QuickDraw Lite provides mass flow measurement of chemicals with refined features and operation. QuickDraw Lite is a manual or semi-automated spray tender system. In manual operation, open a product valve, watch the display until desired chemical amount has been measured into the sprayer and close the product valve. In semi-automated operation, enter the desired chemical amount, press start. When the set point is reached, the product valve automatically closes.

Models

- 6 Manual Valves
- 3 Automatic/3 Manual Valves
- 6 Automatic Valves

VENTURI AND PUMP SUCTION CONFIGURATIONS

QuickDraw spray tender systems are available in two configurations – Venturi Suction and Pump Suction.

Venturi Suction – Transfer pump is located on the QuickDraw inlet. It pushes water across a venturi to create suction which draws chemical products through the mass meter and into the batch.

Pump Suction – Transfer pump is located on the QuickDraw outlet. Suction from the pump is utilized to draw chemical products through the mass meter and into the batch.

Reducing fill time from 20 minutes to 10 minutes is the same as increasing boom size from 120' to 175'

SureBatch



The SureBatch precision liquid meter pumps and accurately meters liquids to be injected, sprayed, or added to any liquid or dry material. Uses include applying treatments to dry fertilizer, liquid manure, seed treatment, and injecting micro-nutrients in fertilizer batches.

MODELS

- Three models with flow rates from 10 oz/min to 3 gal/min.
- 12v DC or 120v AC power

FEATURES

- Load 4 preset batch sizes and/or flow rates
- Initiate operation via one of three options
 - Touch Screen User Interface (standard)
 - Wireless remote (optional)
 - Wired multi-button control box with large button for easy operation with gloves on (optional)
- Totalize volume pumped, hours of operation, and number of batches

Three operating modes provide flexibility in meeting your needs:

BATCH BY TIME

Set the total amount of liquid to be pumped (Batch Set Point) and the time for this amount to be pumped (Pump Time). SureBatch will control the flow rate to achieve the entered scenario.

BATCH BY RATE

Set the total amount of liquid to be pumped (Batch Set Point) and the flow rate (Rate Set Point). SureBatch will pump at this rate until the Batch Set Point is achieved, then stop.

FLOW RATE

Set the flow rate (Rate Set Point) for liquid to be pumped at. SureBatch will pump at this flow rate indefinitely.

SUREBATCH – HIGH PRESSURE

SureBatch High Pressure takes the original SureBatch and equips it to inject into high pressure scenarios – up to 200 PSI

- Inject nutrient stabilizers into NH₃ tanks
- Single operating mode injects batch amount (batch set point) at approximately 2 GPM
- Rotary vane pump for smooth pulsation free operation
- 120 Volt AC Power





The **Marksman** injection system brings SureFire Ag technology proven in mobile applications to irrigation injection.

- Simple Controller Operation.
- SureFire ElectroMagnetic Flow Meter measures flow of fertilizer or chemical/water mixture.
- Controls pump speed to apply the set rate regardless of product viscosity or tank level.
- Durable electric pumps are speed controlled to apply the correct rate all day (and night) long.
- Adjustable off-rate error setting determines when injection shuts down.
- All application is logged. Marksman creates a record of what was applied and when any error occurs.



REMOTE MONITORING AND OPERATION

- Log in via any device with a web browser.
- Text messages are sent when the unit is started and when it shuts down for any reason.
- Change rate, start and stop pump, and troubleshoot.
- Application log sent to database every 10 minutes.
- GPS position shows location of unit.
- Compatible with AgSense Crop Link.





“ It’s a good company with great employees that get you taken care of every time you have issues. No matter how good the system, you are going to have some issues from time to time. I’m happy to deal with SureFire. The way that their employees treat me to get me back going is just phenomenal. ”

Russell Isaacs
Turpin, OK



About SureFire



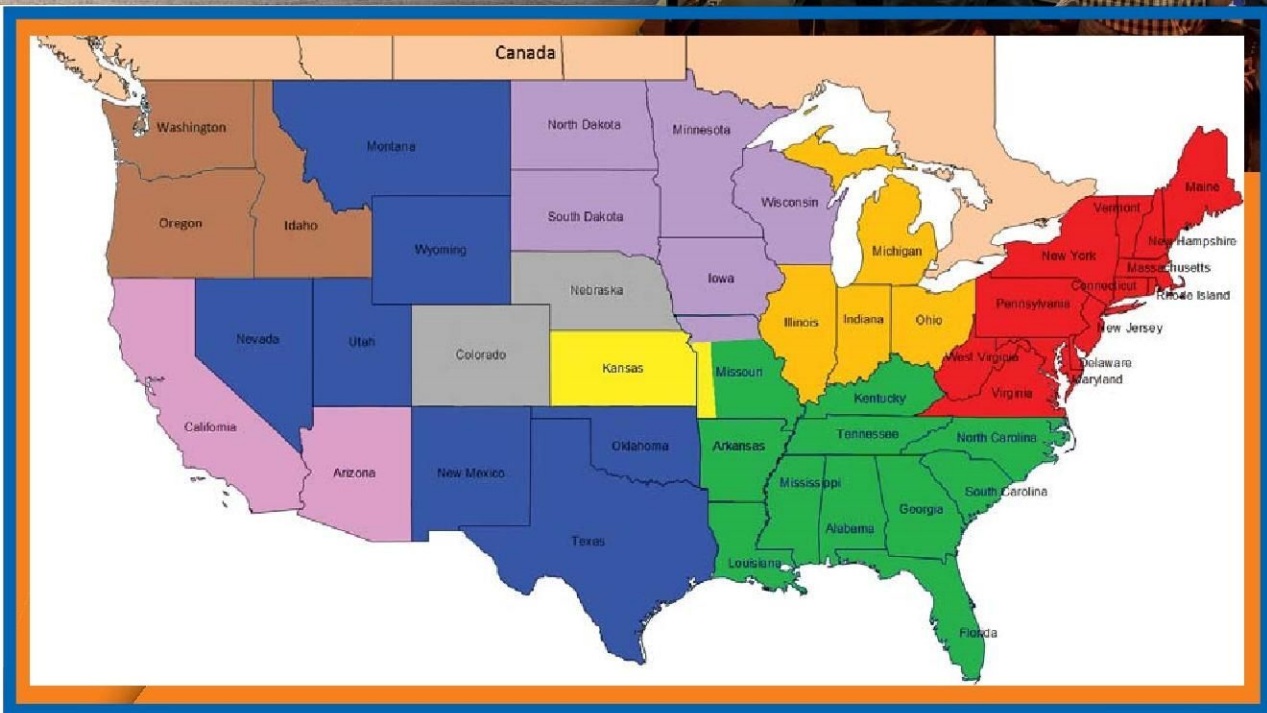
SureFire is committed to solving new problems and challenges in the product development process. SureFire’s engineering team, of both mechanical and electrical engineers, are not afraid to head to the field and tackle new opportunities.

Sales and support are one in the same at SureFire. Whether it be via phone or in the field, our sales people also have the knowledge and expertise to make sure SureFire products perform in the field. While many companies separate sales and service in separate departments, at SureFire they are one in the same.



**EMPLOYEE-OWNED
COMPANY**

SureFire Ag was founded in 2007 by business partners Blaine Ginther, Josh Wolters and Matt Wolters. In 2010, SureFire established an Employee Stock Ownership Plan allowing all employees the opportunity to become owners of SureFire Ag. SureFire strives to foster a culture of employee owners that goes beyond the financial stake in the outcome. SureFire’s employees are the greatest asset of the business. Empowering every member of the team to make decisions, innovate, and deliver solutions to our customers is the life-blood of creating long-term success. We believe in looking beyond convention to be an innovating leader in a dynamic industry. Our team brings experience in equipment engineering, crop input application and customer service to your field. Our products and services are used by customers across the United States and internationally. We believe in providing you not only solutions, but reliable communication and excellent service as well. Whether it is a follow up phone call or an on-site install, the SureFire team has you covered. We pride ourselves on developing relationships with our customers and strive to not only meet your expectations — but to exceed them.



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Southwest US (Pink)

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