ENDEAVOR

"Endeavor Fertilizer Controller"

Electric Pump Fertilizer System with PWM Control For:

- » Ag Leader - Insight/Integra
- » Case - Pro 600/700
- » John Deere GS2/GS3
- » Raven - 440/450
- » Trimble - EZ Boom & Field IQ

*T*he ENDEAVOR fertilizer controller automatically controls 12 volt pumps applying liquid fertilizer and other at plant in furrow treatments. It's capable of controlling up to 10 sections and can be used with any swath control system to automatically shut on/off sections. The ENDEAVOR can be controlled by many existing third party controllers such as John Deere GS2/GS3, Ag Leader Integra/Insight, Trimble EZ Boom/Field IQ, Case Pro600/700, and Raven 440/450. Microtrak 3, 5, and 7 section consoles will control the ENDEAVOR when third party controllers are not being used.

The ENDEAVOR comes pre-assembled, plumbed, and wired on a slim profile mounting stand for simple installation. Wilger flow indicators with mounting stand included allows you to monitor flow to each row while low pressure diaphragm check valves keep all fertilizer lines fully charged. The ENDEAVOR can be configured with multiple size pumps to fit grower's demands. Application rates from 1 to 8 gallons per acre are achievable. The ENDEAVOR comes with a 1 year warranty on all components, and KZ section valves will be warrantied for 2 years.

Liquid Planter Products

ENDEAVOR

Owensboro, KY
270.684.4202

Russellville, KY
270.725.8948

Greensburg, IN
812.222.1220

Mt. Vernon, IL
618.847.0283

Starter Fertilizer Made Easy

TOTALLY TUBULAR

Application In Front of and Below the Seed

Put an end to plugging, poor seed spacing and damaged parts

JOHN DEERE
Solutions

Part#	Planter Model#
TT-006	JD "XP" Series
TT-002	JD 1700, 7200, 7300
TT-001	JD 7000, 7100

KINZE
Solutions

Part#	Planter Model#
TT-301	Kinze 3000 Series
TT-001	Kinze 2000 Series

CASE
Solutions

Part#	Planter Model#
TT-100	All CASE Planters

Does Not Apply Below Seed

KEETON® SEED FIRMER

Universal Seed Firmer
126008

Kinze Seed Firmer
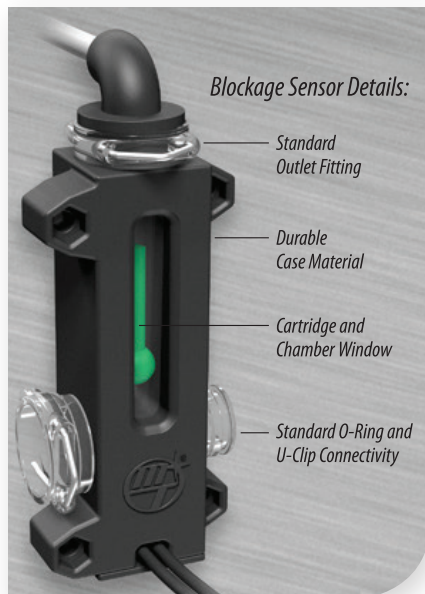*126009*

Liquid Planter Products

Call for Pricing ☎ **195**

SafeGuard™ – Simple, Powerful, Trusted Protection

BLOCKAGE MONITOR

SafeGuard
HAS YOUR BACK

Blockage Sensor Details:

- Standard Outlet Fitting
- Durable Case Material
- Cartridge and Chamber Window
- Standard O-Ring and U-Clip Connectivity

SafeGuard™ – Your Trusted Partner

With SafeGuard's in-cab audible alarm and visual display, you'll instantly hear and see what you've been missing. SafeGuard's around-the-clock protection continuously monitors your application. SafeGuard™ instantly informs you of liquid blockages and pinpoints their location, arming you with the knowledge and power to fix them immediately to stop yield reduction and profit loss dead in their tracks. Take back control of your application and put more dollars in your pocket.

Installation Flexibility & Saving Opportunities

No limitations in mounting configurations. Mount the sensors to suit your needs since the rows are being monitored without the need to see them. Gang sensors together, mount them individually over the row, or any combination of both. Sensors are compatible with most other visual flow monitor components. Over-the-row installations clean up plumbing and eliminate excessive hose lengths.

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MICRO-TRAK®
SYSTEMS, INC.

TRADITIONAL GANGED SENSOR
INSTALLATION EXAMPLE

SafeGuard™
Console

Plumbing
Lines

SafeGuard™
Sensors

INNOVATIVE OVER-THE-ROW SENSOR
INSTALLATION EXAMPLE

SafeGuard™
Console

Plumbing
Lines
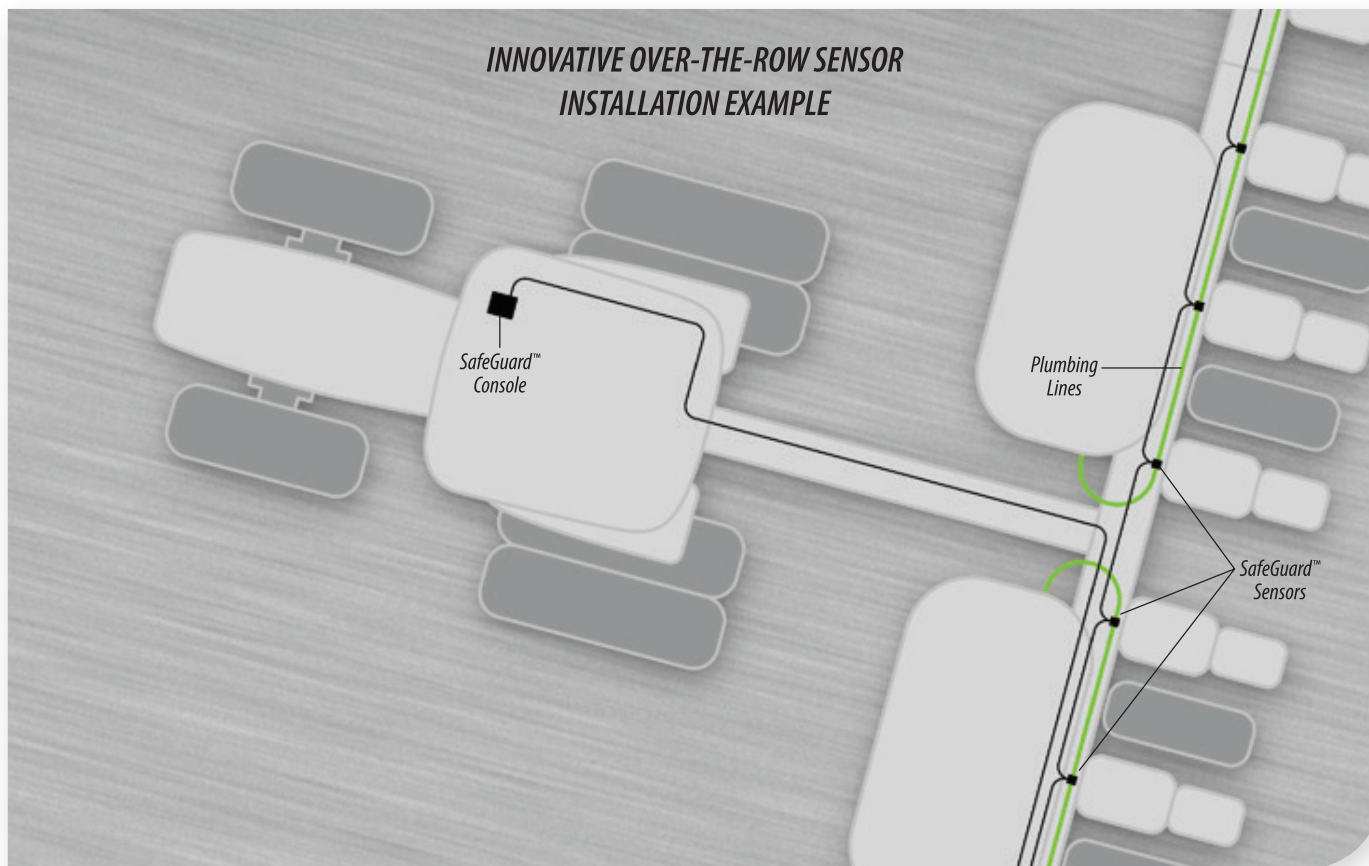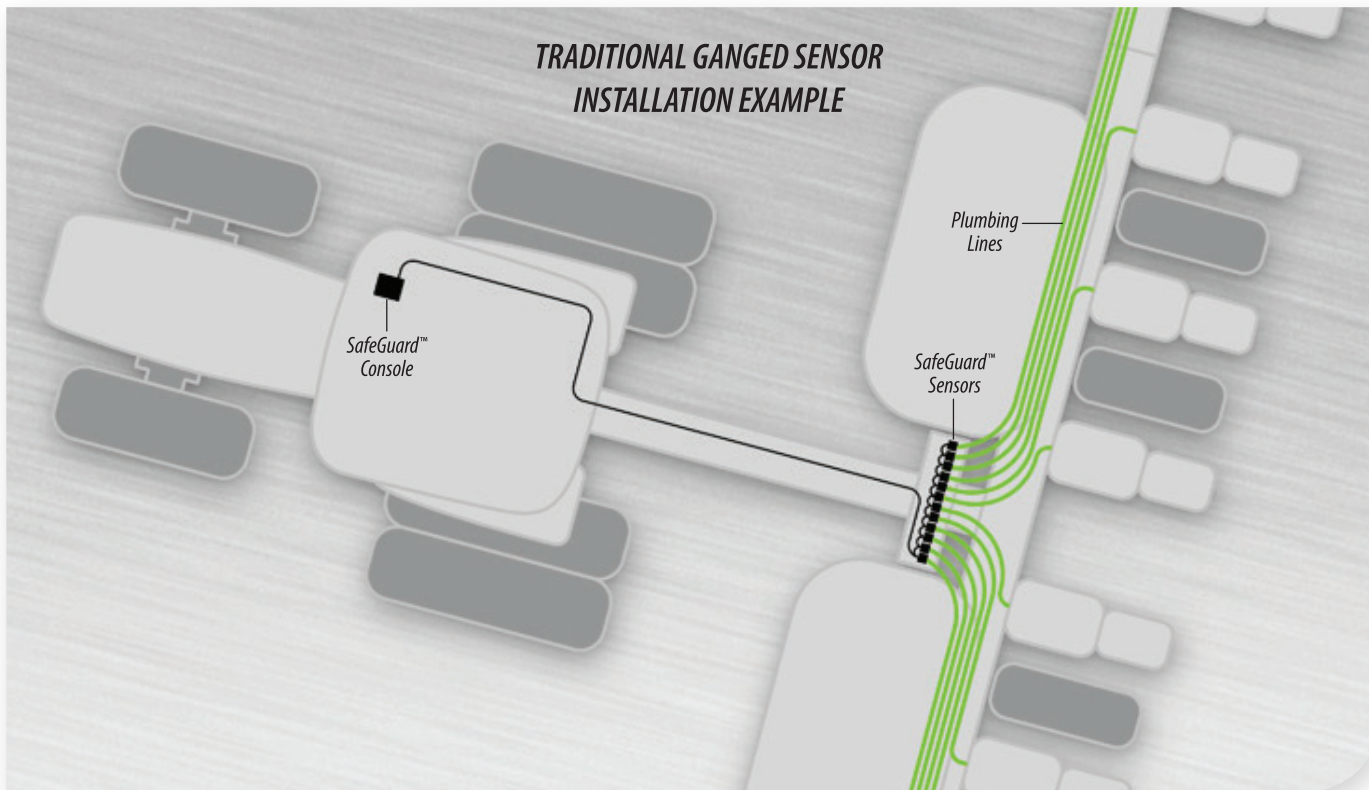
SafeGuard™
Sensors

Liquid Planter Products

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Liquid Blockage Monitor for ISOBUS

System

The SafeGuard ISOmod uses an existing virtual terminal (VT) in the cab to display liquid blockage information and control settings. On-screen messages and simple icon buttons on the virtual terminal access all monitoring functions. View real-time status of individual and total sensors arranged into dual networks and independent left and right sensor banks. Data communication is based on ISOBUS- ISO 11783 standards.

ISOMOD Interface

This is the information processing unit of the SafeGuard ISOmod system - continuously scanning rows for blockages and displaying information on the Virtual Terminal screen. It provides the physical interface between the liquid blockage sensors and the Virtual Terminal. The wiring harness of the ISOmod connects to the sensors and an available ISOBUS connection.

Sensor & Cartridges

The sensor assembly is a liquid flow chamber surrounded by a blockage detection shroud. Its physical characteristics are similar to visual flow monitor devices. The flow openings accommodate plug (male) and cap (female) fittings. The sensors may be mated with other sensor assemblies or used individually. The chamber contains a detection cartridge which rises with flow. A fumigant-ready version of the sensor is also available. Cartridges are available in a variety of weights to accommodate a wide variety of liquid densities, and also to provide partial blockage monitoring.
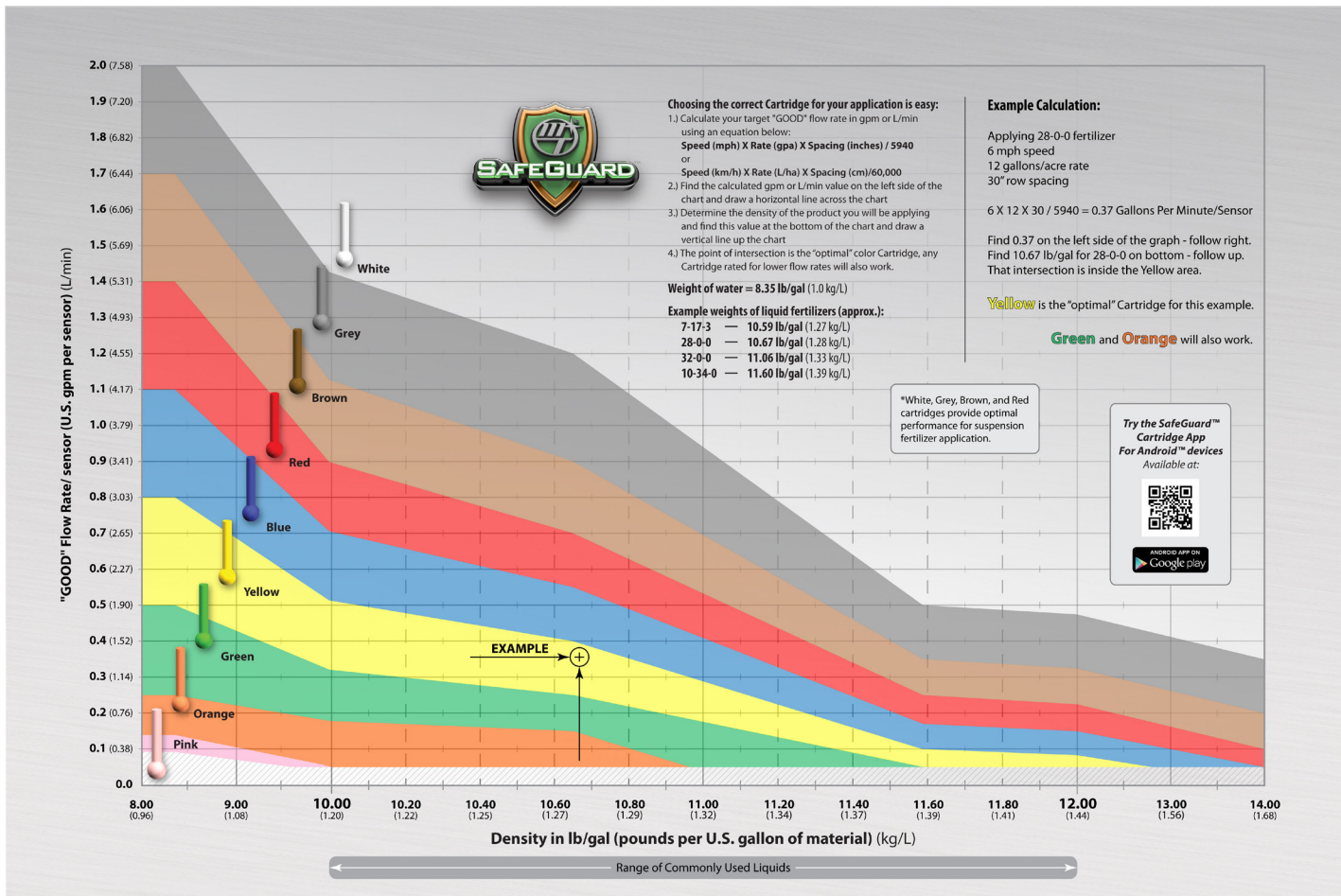

ISOmod™ Interface

Sensor

Liquid Planter Products

SafeGuard

Choosing the correct Cartridge for your application is easy:

1.) Calculate your target "GOOD" flow rate in gpm or L/min using an equation below:

   Speed (mph) X Rate (gpa) X Spacing (inches) / 5940
   or
   Speed (km/h) X Rate (L/ha) X Spacing (cm)/60,000

2.) Find the calculated gpm or L/min value on the left side of the chart and draw a horizontal line across the chart

3.) Determine the density of the product you will be applying and find this value at the bottom of the chart and draw a vertical line up the chart

4.) The point of intersection is the "optimal" color Cartridge, any Cartridge rated for lower flow rates will also work.

Weight of water = 8.35 lb/gal (1.0 kg/L)

Example weights of liquid fertilizers (approx.):
7-17-3	—	**10.59 lb/gal** (1.27 kg/L)
28-0-0	—	**10.67 lb/gal** (1.28 kg/L)
32-0-0	—	**11.06 lb/gal** (1.33 kg/L)
10-34-0	—	**11.60 lb/gal** (1.39 kg/L)

*White, Grey, Brown, and Red cartridges provide optimal performance for suspension fertilizer application.

Example Calculation:

Applying 28-0-0 fertilizer
6 mph speed
12 gallons/acre rate
30" row spacing

6 X 12 X 30 / 5940 = 0.37 Gallons Per Minute/Sensor

Find 0.37 on the left side of the graph - follow right.
Find 10.67 lb/gal for 28-0-0 on bottom - follow up.
That intersection is inside the Yellow area.

Yellow is the "optimal" Cartridge for this example.

Green and Orange will also work.

Try the SafeGuard™ Cartridge App For Android™ devices
Available at:

ANDROID APP ON Google play

SafeGuard ISOBUS Cabling

Micro-Trak Tap Cables
M/P (Generic) - P/N 18894
Ampseal 16 (John Deere) - P/N 18895
Delphi MP630 (Great Plains/Dickey-John) - P/N 18896
Delphi GT280 (Case) - P/N 18897
Deutsch DTM (in-cab) Kit - P/N 18944 (includes power cable)
Deutsch DT (in-cab) Kit - P/N 18945 (includes power cable)
Deutsch DT (in-cab) Kit - P/N 18950 (includes power adapter)
Micro-Trak IBIC Cable (for direct connection) - P/N 18921

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