

RAVEN

Simply improving your position.™

## Direct Injection

### For extra safety, convenience and performance.

A direct injection system by Raven can make your chemical applications easier and safer than you ever imagined—with less waste and more responsive controls. With direct injection, you're sure to save more and get more when applying costly herbicides, insecticides, liquid fertilizer and nitrogen stabilizer.

### The advantages are huge.

- 1) No more worrying about having to mix or rinse your tank out between applications, which significantly reduces the risk of cross contamination.
- 2) With direct injection, you're also free to stop spraying in the middle of the job—and can come back and start again later without any problems.
- 3) You'll also enjoy faster response times for boom on/off and speed changes because Raven's positive displacement pump injects downstream, closer to your boom.



#### ▲ Key Sidekick Console Features

- Direct interface with any sprayer console or Raven field computer
- Serial port for datalogging compatibility
- Up to 7 boom-section controls for direct chemical injection
- Compact space-saving in-cab design

#### ◀ Key Sidekick Module Features

- High volume capacity range: 5-200 oz per minute
- Low volume capacity range: 1-40 oz per minute
- Positive displacement piston pump
- Pressure-side injection closer to your booms

### Maximum flexibility to match your application needs.

Depending on your system needs and capabilities, your Raven direct injection system can be designed for a single product sprayer or for handling 4 direct injection systems at the same time.

Our popular Sidekick direct injection system, for example, is the ideal partner for making herbicide and nitrogen stabilizer injections simple, safe and economical. You simply load the tank, program the rate per acre—and apply.

It's a simple add-on for any single-product spray console. Or for expanded product capability, you can easily pair Sidekick's capabilities without adding an extra console with our Viper Pro and Envizio Pro field computers or the SCS 5000 spray console—thanks to Raven's powerful CANbus technology.

It takes a system:  
Superior. Seamless. Scalable.

FIELD COMPUTERS	GUIDANCE AND STEERING	APPLICATION CONTROLS	BOOM CONTROLS	PLANTER CONTROLS
Viper Pro™	Cruizer™	SCS Consoles	AutoBoom™	AccuRow™
Envizio Pro™	SmartTrax™	RFM Flow Meters	AccuBoom™	SmartRow™
	SmartSteer™	Valve Products	SmartBoom™	CropStart II
	FarmPRO™	AccuFlow™		
	GPS Receivers	Sidekick: Direct Injection		
	RGL Series Lightbars	Switch Pro™		
		FlowMax™		
		DCS Consoles		

## Envizio Pro™ with Switch Pro™: The next step up.

When you're ready to step up, simply replace your SCS 440, 450 or 4400 spray console with Switch Pro and pair it with Raven's Envizio Pro multi-function field computer for automatic on-off section control up to 10 boom sections—and access to a whole new world of savings and productivity. Capabilities include an integrated DGPS receiver, touch-screen display, enhanced mapping/record-keeping, adjustable look-ahead function with automatic speed compensation, wireless communications, two-product capability, and single-product VRA. With your new system, you can also add auto-steering, automatic boom height control, planter controls and more.

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Simply improving your position.™

## Raven: Simply improving your position.™

Adding Raven to your operation brings an unequalled brand of precision agriculture innovation and performance to your farm.

Imaginative products that are relevant and reliable. A thoughtful approach to solving problems unique to agriculture. Seamlessly integrated systems that simply work — simply.

An incredible depth of human resources: On-the-ground service from Raven Precision Ag Specialists; our customer-oriented product development and support staff; and your local Raven dealer or distributor.

Raven offers a powerful and profitable product portfolio — targeted precisely on what matters most: Reducing input costs. Increasing yields. Saving time and labor. Making better decisions. Enhancing environmental stewardship. Achieving your financial objectives.

It's all about improving your position. Pinpointing exactly where you are in your field. Applying best management practices to grow more with less. Helping you meet challenge, cope with change and capitalize on opportunity. Strengthening your balance sheet.

If you want to farm better, smarter and more profitably, discover Raven. Because improving your position is our highest priority.

# Flow Controls

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A legacy of performance and reliability

- ▶ Spray Control Consoles
- ▶ Fluid Transfer Systems
- ▶ Flow Meters & Valves
- ▶ Direct Injection

# Flow Controls

Everything you expect from the industry leader – and more!

No matter how advanced or basic your flow control system needs to be, you don't want second best.

You want Raven.

From control valves, flow meters and fluid transfer systems to spray control consoles and direct injection systems, Raven

delivers the most respected application control equipment and accessories around. All

are competitively priced and compatible with virtually every system on the market for easy installation and unrivaled value.

Your Raven flow control system gives you everything you expect from the industry leader.

Quality. Precision. Reliability.

## Spray Control Console

Bringing you the industry's most trusted spray control consoles.

For more than three decades, Raven spray controllers have set the standard for outstanding performance and everyday reliability and operation. That same measure of excellence continues today in Raven's full line of system consoles, specially designed to meet your different application needs—economically, reliably and simply.

Whether you're starting small or looking for a spray console with more performance capability, you're sure to find it in our product table below. And when you're ready for the next step up, Raven has a multi-function field computer waiting for you—and a simple way to help you make the transition.



### SCS 4400

5-product capability (liquid, granular, NH3) with 7 boom switches



### SCS 450

1-product capability (liquid, NH3) with 6 boom switches



### SCS 660M

1-product capability (liquid, granular, NH3, manure) with 1 master boom switch

### Standard SCS Console Features

- Simple programming
- Low-limit function
- Digital boom pressure read-out
- PWM valve control
- Audible Alarms
- Self-test function
- Rate bump features

### SCS Spray Console Product Guide

Spray Console	Product Capability	Product Forms	Direct Injection	Boom Controls	Boom Switches	Data Logging
SCS 4400	5 products: 1 hardwired, 4 via CANbus addition	Liquid, Granular, NH3	Yes with CANbus	10 boom sections	Equipped with 7 switches	5 products with storage card
SCS 4600	5 prod: 1 hardwired, 4 via CANbus addition	Liquid, Granular, NH3	Yes with CANbus	10 boom sections	Remote switches required	5 products with storage card
SCS 5000	5 products: CANbus equipped	Liquid, Granular, NH3	Yes with CANbus	10 boom sections	Remote switches required & CAN nodes	Volume & area totals via serial port
SCS 440	1 product	Liquid, NH3	Yes with Sidekick	3 boom sections	Equipped with 3 switches	Volume & area totals via serial port
SCS 450	1 product	Liquid, NH3	Yes with Sidekick	6 boom sections	Equipped with 6 switches	Volume & area totals via serial port
SCS 460	1 product	Liquid, NH3	Yes with Sidekick	7 boom sections	Remote switches required	Volume & area totals via serial port
SCS 660	1 product	Liquid, Granular, NH3	Yes with Sidekick	7 boom sections	Remote switches required	Volume & area totals via serial port
SCS 660M	1 product	Liquid, Granular, NH3, Manure	Yes with Sidekick	7 boom sections	Equipped with Master switch	Volume & area totals via serial port

## Fluid Transfer Systems, Valves and Flow Meters

Going with the flow has never been this good—or this simple.

Raven offers a variety of competitively priced valves, flow meters, flow attachments and manual control systems—specially engineered for compatibility with your existing equipment. That means faster and easier installation—and optimum performance in the field.

**Flow Max Fluid Transfer Systems** Raven's Flow Max fluid transfer systems make it simple for you to monitor product flow from the nurse truck to your sprayer. The digital display is easy to view and the controls are right on the meter, which is right where you need them.

### Flow Max 220 Transfer System

- Flanged 2" plumbing
- Weather-resistant enclosure
- Simple programming and operation
- Replaceable 3.6 volt long-life battery
- Records three separate total volumes
- Displays rate of flow in US or metric
- Mounts "in-line" to monitor flow rate with maximum precision
- Self-contained digital display shows flow rate and totals
- 100 GPM maximum
- Self-contained—no other consoles, cables or flow meters needed



### Flow Max 110 Transfer System

- Economical single-product flow monitor
- Quick installation and programming
- Backlit display window
- Batch volume
- Rate of flow
- Total and sub-volume measured
- Requires a Raven flow meter of your choice

### Flow Max 810 Batches Controller

- Pre-cutoff setting to ensure accurate batch volume
- Quick and easy installation and programming
- Optional cable lengths to fit your requirements
- Start, stop and clear batch controls
- Programmable batch size
- Non-volatile memory
- Requires a Raven flow meter of your choice

### RFM Flow Meter and Magmeter Product Guide

Flow Meter	Flow Rate	Material	Fittings	Flow Meter	Flow Rate	Material	Fittings
RFM 5	0.1-5 GPM	Stainless Steel	1/4" NPT	RFM 200P	15-200 GPM	Poly	M300 Flanged/3" NPT
RFM 15	0.3-15 GPM	Poly	M200 Flanged/1-1/2" NPT	RFM 400	25-400 GPM	Poly	4" NPT
RFM 60S	1-60 GPM	Stainless Steel	1-1/2" NPT	Magmeter 200	3-200 GPM	Poly	M220 Flanged
RFM 60P	1-60 GPM	Poly	M200 Flanged/1-1/2" NPT	Magmeter-3"	22-955 GPM	Stainless Steel/Teflon	ANSI B16.5
RFM 100	5-100 GPM	Poly	M220 Flanged/2" NPT	Magmeter-4"	5-1500 GPM	Stainless Steel/Teflon	ANSI B16.5
RFM 200	15-200 GPM	Cast Iron	3" NPT	Magmeter-6"	70-3000 GPM	Stainless Steel/Teflon	ANSI B16.5

**Valves** Raven valves are designed and manufactured for simple maintenance and serviceability—and with Raven's renowned quality and reliability.

### Poly Butterfly and Ball Valves

- Compatible with popular flange fittings
- Features internal female NPT pipe threads for non-flange fittings
- Manufactured with Kynar butterfly for excellent wear and chemical resistance
- Butterfly available in 3/4", 1" and 1 1/2" sizes
- Ball available in 1/4", 3/4", and 1" sizes



### Boom Valves

- 40 GPM @ 5 PSI pressure drop per valve
- 175 PSI pressure rating
- M200 Banjo flange inlet
- 3/4" female NPT outlets or M100 flanged
- 0.7 seconds on-time/off-time
- Plunger-style valve for complete shut-off
- Optional user configuration: 1-section to 10-section banks



### On/Off & Control Valves

- Advanced power head design
- On/off valves include indicator
- Full line of carbon steel, stainless steel and poly on/off and control valves
- Simple maintenance and servicing



### PWM Valves

- 3000 PSI pressure rating
- 60-115 Hz recommended pulse frequency
- Available in 5, 10, 15 and 30 GPM models



**Flow Meters** Raven RFM flow meters measure a wide range of liquids at flow rates from .1 GPM to 3000 GPM—simple, economical and accurate. For monitoring manure applications, our Magmeter Series is the way to go.



### RFM 200 Flow Meter

The RFM 200 flow meter, with 15-200 GPM capacity, is one of our many high quality, durable flow meters from Raven.



### Magmeter 200 (3-200 GPM)

Specially designed without turbines to accurately monitor application flow rates.