

# HAWKEYE® 2

## NOZZLE CONTROL SYSTEM



**RAVEN**

# THE MOST ACCURATE NOZZLE CONTROL SYSTEM IN THE INDUSTRY

## UNPARALLELED SPRAY PERFORMANCE IMPROVES EFFICIENCY AND REDUCES INPUT COSTS

- Individual nozzle control reduces skips and overlaps
- PWM provides consistent spray pressure and nozzle output ensures a more accurate application across the boom
- Turn compensation minimizes over and under application, achieving the ideal application rate

## THE MOST PRECISE NOZZLE CONTROL SYSTEM, HAWKEYE 2 ENSURES ACCURATE DROPLET COVERAGE

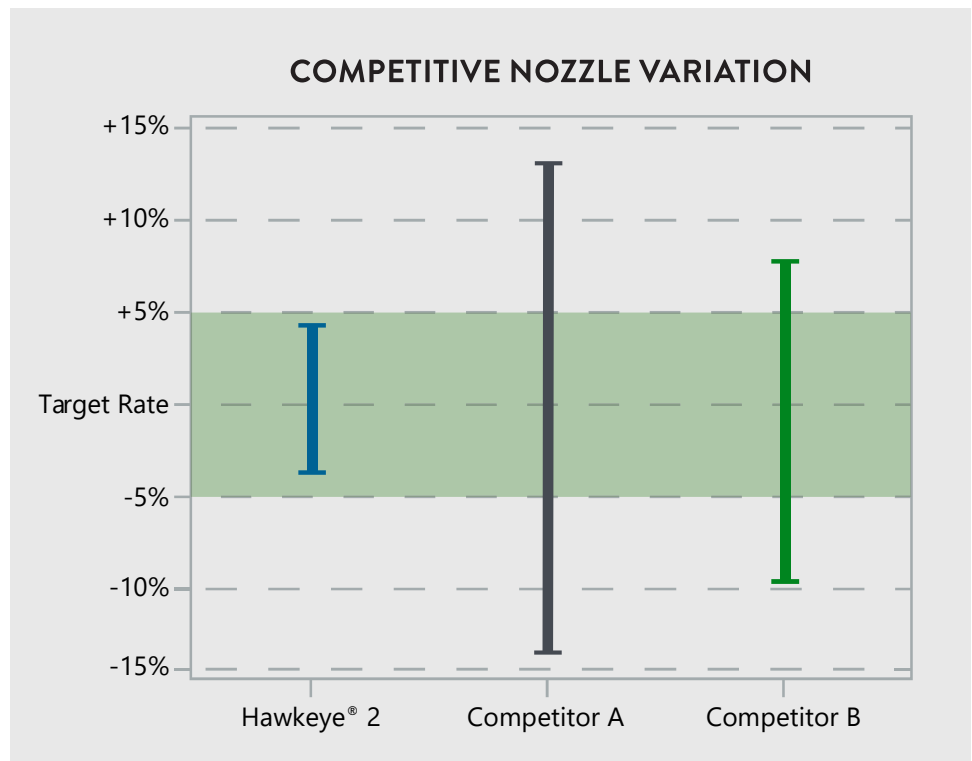
- Up to 2.5 times more accurate out of the tip than comparable systems
- Raven's legacy of performance and support means less downtime and more acres covered in a day
- Scalable platform sets up your operation for years of success

## 250% MORE ACCURATE THAN COMPETITORS

This graph shows the nozzle consistency across the boom with Hawkeye® 2 and two competitor solutions. The larger the spread of the data points, the more inconsistent the application is.

**The application completed by Hawkeye® 2 was up to 250% more accurate than its competitors.**

*Expected results and performance based on competitive system as performed on intended OEM machines. Results may vary based on pump size, machine plumbing, nozzle spacing, product specifications, etc.*



# HAWKEYE® 2 FEATURES & BENEFITS

## NEXT GENERATION NOZZLE CONTROL

- Over 17% increased flow per nozzle
- Support up to 192 nozzles
- Over 60% reduction of power consumption per nozzle
- IP69k rating per NCV
- Ratio rate with Sidekick Pro ICD

## OPTIMIZABLE OPERATING RANGE

- Increased operating pressure of 10 to 120 psi

## ENHANCED DIAGNOSTICS

- Independent feedback loop to RCM
- Simplified LED light on NCV lets you know when there's an issue
- Blockage Detection per nozzle (available March 2021)

## OPTIONAL SEVERE DUTY POPPETS

- Durable poppet for harsh chemical use

# HAWKEYE® 2 MODES OF OPERATION

## STANDARD

- Standard mode of operation
- User enters both target pressure and target flow rates
- Main product pump controls to the target pressure and the nozzles control to the target flow rate

## VP (VARIABLE PRESSURE)

- Similar to Standard Mode but user does not enter a target pressure
- Target pressure calculated based off of target duty cycle
- System control priority is target flow, then target nozzle duty cycle
- Allows for a wider range of operating flows where the operational pressure is not a priority, i.e. fertilizer application

## HIGH FLOW

- Simultaneously run both a conventional nozzle and a standard nozzle
- User enters target pressure and target flow rate
- Similar to Standard Mode except flow rates are higher since there are two nozzles running in parallel
- Individual nozzle control not available in this mode

## EXCLUSIVE CABLING IMPROVES PERFORMANCE

- Increased durability, power reduction, diagnostic abilities
- Over-molded connection provides UV protection and strain relief

## SCALABLE OFFERING GROWS WITH YOUR OPERATION

### HAWKEYE 2 BASE

- PWM enabled with 16 virtual sections
- Turn Compensation
- Blockage Detection (go/no-go)

### HAWKEYE 2 PREMIUM

- Individual nozzle control up to 192 sections when paired with compatible field computer

## BYPASS

- Traditional conventional based flow-control where NCVs must be bypassed
- Pump speed adjusted to meet target flow

## ON/OFF

- Similar to Bypass Mode except nozzles are open to 100%
- Nozzles can be used without having to open a manual bypass valve
- Provides added benefit of individual nozzle control while using air induction tips
- Turn compensation not available in this mode

	STANDARD	VP	HIGH FLOW	BYPASS	ON/OFF
FLOW CONTROL	✓	✓	✓	✓	✓
PRESSURE CONTROL	✓		✓		
TURN COMPENSATION	✓	✓	✓		
INDIVIDUAL NOZZLE CONTROL	✓	✓			✓
VIRTUAL SECTIONS	✓	✓			✓
WHEEL TRACKS	✓	✓	✓		
DIRECT INJECTION	✓	✓	✓	✓	✓

**R A V E N**

# HAWKEYE® 2 ORDER GUIDE

1. Identify the make, model year, boom width and nozzle spacing of the machine
2. Identify the brand and type of nozzle body and whether or not the machine has fence row nozzles
3. Identify how many nozzles are on the machine
4. Identify the type of field computer to be used (Viper® 4+ or other compatible ISO VT)
5. Identify the type of GPS being used:
  - RS1
  - 700S
6. Select proper machine kit based on selections above
  - Kit will begin with 117-2005-XXX

Note: Raven Smart Quote ([smartquote.ravenind.com](http://smartquote.ravenind.com)) will do a full system configure for you.

## OPTIONAL FEATURES

- ISO Sectional Control unlock (Viper 4+ only): 077-0180-149
- Hawkeye 2 Premium unlock: 077-0180-284
- Severe duty poppets for harsh chemical use: TeeJet (117-1005-216), Hypro/Arag (117-1005-217), and Wilger (117-1005-218)

**R A V E N**