Sprayer Parts Guide

JOHN DEERE



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ExactApply™ Nozzle Control Upgrade Kits



ExactApply nozzle control technology enables more precise spray control and effective coverage over more acres in less time. ExactApply Performance Upgrade kits are now available for 4 Series Sprayer models with steel or carbon fiber booms.

See your local dealer or JohnDeere.com/SprayerParts for more information.

ApplyPlus™ App

The ApplyPlus App for John Deere 4 Series Sprayers helps you with proper setup and maintenance. Right from your phone or tablet, you can select and buy nozzles, calculate tank mix, calculate pump rate capacity for Direct Injection, and more.

ApplyPlus can be downloaded from Apple® iTunes® store and Android™ Google Play™ store.

New Spray Nozzle Technology

John Deere's nozzle portfolio continues to expand with new nozzles to support ExactApply technology and more advanced drift control options.



Ultra-low-drift Max (ULDM)
see page 13

- The ULDM is ideal for post-emergence herbicide applications including Dicamba and 2,4-D.
- ExactApply compatible.



Low-drift Max (LDM)
see page 16

- The LDM nozzle is ideal for pre- and post-emergence applications where drift reduction is paramount.
- ExactApply compatible



Low-drift Twin (LDT)
see page 19

- The LDT provides superior coverage over a wide operating range and dual spray inclines.
- ExactApply compatible

ForceField™ Wet-seal Pump

4 Series Sprayer models with a high-flow pump can be upgraded to the ForceField pump that utilizes wet-seal technology for added protection against today's harshest application environments. Even in run-dry situations, ForceField maintains maximum performance and prevents chemical bonding by cooling and lubricating the pump's mechanical seal with a barrier fluid.



Ask your local dealer for more information.

Additional New Products

Express Flush Valves – see page 53



Flange Adaptors – see page 52



Extension Caps – see page 53



Nozzle Removal Tool - see page 53



SpotOn® Inversion Tester – see page 56



SpotOn ® Mini Patternator – see page 56



Gundown Elite™ – see page 59



Erase™ - see page 58

Available in Quart and Gallon sizes



Sprayer Performance Upgrades

Learn more at www.JohnDeere.com/SprayerParts

ExactApply™



Individual nozzle control kits for steel and carbon fiber booms include turn compensation and pulsing at 15 Hz and 30 Hz

Compatible with 4 Series (for R4030, R4038, R4044, R4045, R4060)

Direct Injection



Inject chemical directly into boom for added precision and more carrying capacity

Compatible with 40 Series (for 4940) and 4 Series (for R4030, R4038, R4045)

Load Command™



Fill in as fast as 3 minutes with the fully integrated Load Command system

Compatible with 30 Series (for 4930), 40 Series (for 4940), and 4 Series (for R4045, R4060)

Express Boom Assembly



Replace worn or sagging poly tubing with new stainless steel tubing. Nozzle spacing options are available

Compatible with 10 Series (for 4710), 20 Series (for 4720), 30 Series (for 4630, 4730, 4830, 4930), 40 Series (for 4940), and 4 Series (for R4023)

AutoTrac™ Vision



Front-mounted camera sees early-season corn, soybeans and cotton at least 6 in. high

Compatible with 30 Series (for 4630, 4730, 4830, 4930), 40 Series (for 4940), and 4 Series (for R4023, R4030, R4038, R4044, R4045, R4060)

AutoTrac RowSense™



Feel mature corn stalks in late-season rows with paddle sensor mounted on front wheels

Compatible with 30 Series (for 4630, 4730, 4830, 4930), 40 Series (for 4940), and 4 Series (for R4023, R4030, R4038, R4044, R4045, R4060)

John Deere Mobile Weather



View instant, field-specific, on-the-go weather information

Compatible with 30 Series (for 4630, 4730, 4830,4930), 40 Series (for 4940), and 4 Series (for R4023, R4030, R4038, R4044, R4045, R4060)

John Deere Section Control



Automatically turns sections on and off to reduce overlap and improve input efficiency

Compatible with 30 Series (for 4630, 4730, 4830,4930), 40 Series (for 4940), and 4 Series (for R4023, R4030, R4038, R4044, R4045, R4060)

See your local dealer or visit JohnDeere.com/SprayerParts to learn more about how Sprayer Performance Upgrades can deliver precise application and improved quality of spray as well as time savings and input efficiency.



SPRAY NOZZLES

Broadcast Nozzles

- Herbicides, insecticides and fungicide applications
- Tapered fan pattern designed for spray overlap and uniform coverage

Broadcast Wide-Angle Nozzles

- Fertilizers and specialty applications
- Wide spray pattern overlaps adjacent patterns for uniform coverage at lower boom heights

Streaming Nozzles

- Fertilizer applications
- Straight streams minimize foliar contact while providing uniform soil distribution of liquid fertilizers

Banding and Directed Nozzles

- Used for targeted spraying or between crop rows for no spray pattern overlap
- Used for in-furrow fertilizers and pesticides

Specialty Nozzles

- Boomless, specialty crop, turf, acid-resistant, misting and more

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Read the product label thoroughly and look for information on droplet size, application rate, spray quality and environmental restrictions.

Selecting the Right Spray Nozzle

Download the John Deere ApplyPlus™ App to select and buy nozzles for all your application needs.

Spray nozzles are often the smallest and most overlooked piece of equipment on a machine. However, they have the greatest effect on the accuracy and efficiency of each application. John Deere offers spray nozzles for a variety of pressure ranges, flow rates and spray patterns to fit any spray application.

To be effective, a product must be applied properly. To select the correct spray nozzle for the job, first fully read the product label and look for information on droplet size, application rate, spray quality, and environmental restrictions. Then…

1) Check which type of spraying technique you will be using – broadcast or banding.
2) Check your sprayer speed.
3) Select the application rate from the product label.
4) Determine the flow rate (GPM) needed for the spray nozzle, or use the application rate (GPA) chart for the desired nozzle.
5) Select the pattern type and nozzle technology.
6) Select nozzle size and pressure that provides the desired flow rate and application rate.
7) Check the spray quality tables to be sure the spray nozzle and pressure create the droplet spectrum you require.

1) Spraying Technique:

Broadcast spraying is when the entire field is to be treated. The width that each nozzle sprays, adjusted for spray overlap, is the distance between nozzles on the spray boom.

Band spraying is when planted rows or unplanted gaps are treated. The width that each nozzle sprays is the width of the treated band.

2) Sprayer Speed:

Forward speed of the spraying machine should be measured accurately. Radar or ultrasound speed sensors should be calibrated after installation or servicing. Wheel-driven speedometers should be calibrated whenever the driving surface changes, such as after cultivation. Speed can be determined if it is known how long it takes to drive a measured distance:

$$\text{speed in MPH} = \frac{\text{distance (feet)} \times 60}{\text{time (seconds)} \times 88}$$

or

$$\text{speed in Kmph} = \frac{\text{distance (m)} \times 3.6}{\text{time (seconds)}}$$

Improved vehicle design means that speeds up to 20 MPH are now possible. Higher speeds (10-20 MPH) improve work rates and timeliness; lower speeds (5-10 MPH) give improved canopy penetration and make spray drift control simpler.

3) Application Rate:

Read the product label closely to determine an appropriate spray application rate. If a range of acceptable application rates is listed, choose a rate that best matches your situation.

4) Flow Rate:

Determine the exact flow required from each tip by calculating:

$$\text{GPM} = \frac{\text{GPA} \times \text{MPH} \times w}{5{,}940}$$

or

$$\text{LPM} = \frac{\text{L/ha} \times \text{Kmph} \times w}{600}$$

'W' changes depending on the type of applications:

- Nozzle spacing (in/m) for broadcast spraying
- Spray width (in/m) for single-nozzle band spraying or boomless spraying
- Row spacing (in/m) divided by the number of nozzles per row for directed spraying

Or you can read the application tables throughout this guide.

Selecting the Right Spray Nozzle

5) Spray Pattern Type:

Flat Fan Pattern:	
Even (Single Nozzle Application)	**Tapered** (Multiple Nozzle Application)



Deflect Pattern: (Low Pressure 10-40 PSI/1-3 BAR)



Cone Patterns:	
Full Cone (Ideal for Spot Spraying)	**Hollow Cone** (Ideal for air-assisted and directed sprays)

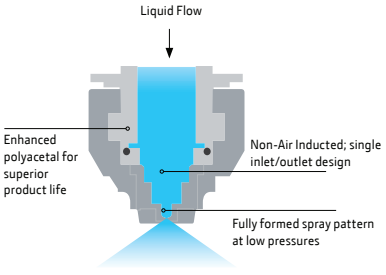


Other Patterns:	
Off-Center (Ideal for Boom End application)	**Streaming** (Fertilizer applications)



Nozzle Technology:

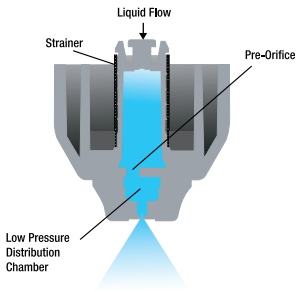
Standard Hydraulic (Extended Range-ER)



Flow Orifice and Pattern Creation

- Pro - Low cost
- Con - Increased drift potential

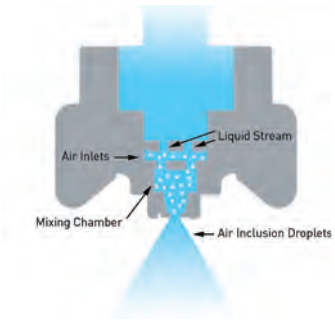
Pre-Orifice (Guardian-LDX)



Pattern Creation

- Pro - Reduced drift potential
- Con - Multiple pieces to clean

Air Induction (Ultra-low-drift-ULD)



Pattern Creation

- Pro - Increased coverage and reduced drift
- Con - Non-PWM compatible

6) Nozzle Size and Pressure:

Use the flow rate tables provided throughout this guide to select the nozzle and pressure that provides the flow needed for the application.

Selecting the Right Spray Nozzle

7) Spray Quality:

Use the flow rate tables provided throughout this guide to select the nozzle and pressure that provides the flow needed for the application.

ASABE S572.2 Droplet Size Classification

The American Society of Agricultural and Biological Engineers (ASABE) developed the ASABE S572.2 standard to measure and interpret spray quality from nozzles. The ASABE S572.2 standard uses eight droplet classification categories, six of which are common for agriculture and horticulture: Very Fine, Fine, Medium, Coarse, Very Coarse and Extremely Coarse. Most agrochemical applications recommend a fine, medium, or coarse spray.

Spray Quality*	Size of Droplets	Symbol	Color Code	Retention on Difficult to Wet Leaves	Drift Potential
Extremely Fine	Small	XF	Purple	Excellent	High
Very Fine		VF	Red	Excellent	
Fine		F	Orange	Very Good	
Medium		M	Yellow	Good	
Coarse		C	Blue	Moderate	
Very Coarse		VC	Green	Poor	
Extremely Coarse		XC	White	Very Poor	
Ultra Coarse	Large	UC	Black	Very Poor	Low

*Always read the manufacturers label to determine which spray quality is required.
** Estimated from sample reference graph in ASABE/ANSI/ASAE Standard S572.2.

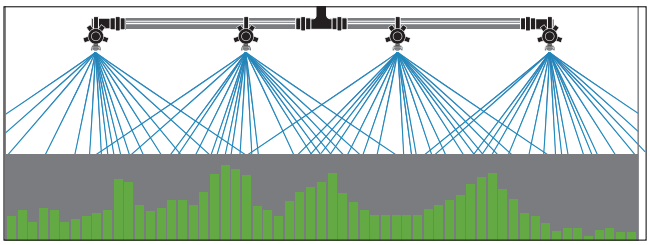
Spray Nozzles Don't Last Forever!



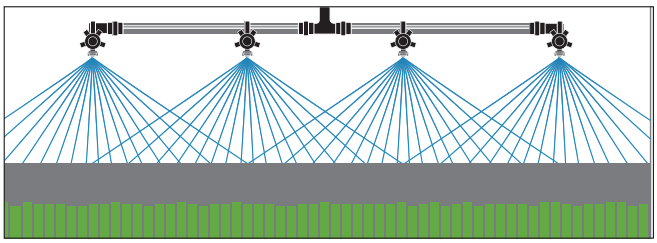
Spraying with a worn nozzle can effect precision applications which can be costly.

Monitoring and maintaining nozzle performance is one of the easiest ways to help keep a sprayers operating accurately and efficiently.

1. Replace nozzles worn (10% or more) or damaged at the beginning of each spray season
2. Only use the nozzle type that is recommended for your spraying application
3. Calibrate your sprayer regularly
4. Monitor spray performance to catch worn, damaged or plugged nozzles



Worn or damaged spray nozzles



New spray nozzles

See page 54 for calibration tools.

Selecting the Right Spray Nozzle

The following chart has been designed to simplify selection of the correct spray nozzle type for the agrochemical to be applied. It is based on having good conditions for spraying and should be used in conjunction with the agrochemical manufacturer's label. Increased carrier rates may allow for coarser sprays to reduce risk of drift. Always follow the agrochemical label exactly.

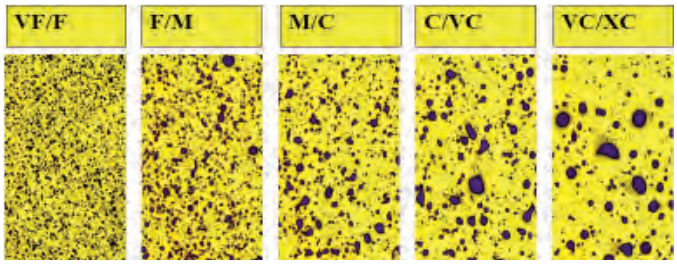
John Deere Spray Nozzle Selection Guide

Section	Code	Spray Nozzle	Commmon Use	Pattern	Technology	Orifice Material	Nominal Spray Angle	Pressure Range		ASABE Droplet Classification							
								PSI	BAR	XF	VF	F	M	C	VC	XC	UC
Broadcast	3D	3D	Plant Health	Alternating Tapered Flat Fans	Advanced Tapered Flat Fan	Polyacetal	100	12-90	.7-6								
	LDM	Low-drift Max	Weeds	Tapered Flat Fan	Pre-Orifice	Polyacetal	120	30-100	2-7								
	LDT	Low-drift Twin	Plant Health	Twin incline, Tapered Flat Fan	Pre-Orifice	Polyacetal	110	15-70	1-5								
	ULDM	Ultra-low-drift Max	Weeds	Tapered Flat Fan	Air Induction	Polyacetal	130	30-100	2-7								
	ULD	Ultra-low-drift	Weeds	Tapered Flat Fan	Air Induction	Polyacetal	120	15-115	1-8								
	GAT	GuardianAIR Twin™	Plant Health	Tapered Flat Fan	Air Induction	Polyacetal	110	30-115	2-8								
	LDA	Low-drift Air	Plant Health	Tapered Flat Fan	Air Induction	Polyacetal	110	20-115	1-8								
	LDX	Guardian™	Plant Health	Tapered Flat Fan	Pre-Orifice	Polyacetal	120	15-115	1-8								
	LD	Low-drift	Plant Health	Tapered Flat Fan	Pre-Orifice	Polyacetal	80, 110	15-70	1-5								
	ER	Extended Range	General	Tapered Flat Fan	Elliptical Orifice	Polyacetal	80, 110	15-70	1-5								
	FF	Flat Fan	General	Tapered Flat Fan	Elliptical Orifice	Polyacetal	80, 110	30-60	2-4								
Wide	HF	High Flow	Fertilizer	Tapered Flat Fan	Pre-Orifice	Polyacetal	140	20-80	1.5 - 6								
	FL	Flood	Weeds and Fertilizer	Flood	Deflection	Polyacetal	80 to 160	10-60	1-4								
Stream	STC	Straight Stream Ceramic	Fertilizer	Stream	Pre-Orifice	Ceramic	110 Equivalent	15-60	1-4							S	
	ST	Straight Stream	Fertilizer	Stream	Round-Orifice	PVDF	110 Equivalent	15-60	1-4							S	
	D-C	Flow-Regulating Disc	Fertilizer	Stream	Round Orifice	Polyacetal	0	10-150	1-10							S	
Banding & Directed	D-C	Disc and Core	Plant Health	Hollow Cone	Swirl	Polyacetal	25 to 110	10-150	1-10								
	ES	Even Spray	Weeds	Even Flat Fan	Elliptical Orifice	Polyacetal	80	30-60	2-4								
	OC	Off-Center	Unspecialized	Off-center Fan	Elliptical Orifice	Brass	80	30-60	2-4								
Special	XT	Fence row/ boomless	Weeds	Boomless Fan	Pre-Orifice	Polyacetal or Stainless	105	30-60	2-4								
	CR	Chemical Resistant	Acid Defoliants	Tapered Flat Fan	Pre-Orifice	PVDF	110	30-60	2-4								

S - These nozzles produce streams to minimize atomization
Classifications are subject to change

- Lower spraying pressures provide larger droplet sizes, while higher spraying pressures yield smaller droplet sizes
- The smallest droplet sizes are achieved by air atomizing nozzles
- Generally speaking, the largest spray droplets are produced by wide-angle, flat hydraulic spray nozzles

ASABE S572.2 Classification



Color Code	Classifications
XF	Extremely Fine
VF	Very Fine
F	Fine
M	Medium
C	Coarse
VC	Very Coarse
XC	Extremely Coarse
UC	Ultra Coarse

John Deere Label Information



Zone 1
Basic Product information
Product name
Reference flow rate and pressure
Spray pattern angle
Quantity, part number, date, traceability, and other codes

Zone 2
Pattern Indicators
Tapered Fan
Even Fan
Hallow Cone
Stream

Zone 3
Use Indicators
Liquid fertilizer
Weed control
Plant growth regulators
Disease control
Insect control
Desiccants

Zone 4a
Product Feature
Twin Spray patterns

Zone 4b
Product Features
Air-induced sprays

Zone 5
Standard Droplet Size classes (per ASABE) at 3 bar reference pressure
Icons representing relevant droplet size ("Spray Quality") categories of Very Fine, Fine, Medium, Coarse, Very Coarse, and Extremely Coarse

Zone 6
More Details
Web site for details and training

Ultra-low-drift Max



Applications

- Systemic Herbicides
- Dicamba, 2-4-D

Low-drift Max



Applications

- Systemic Herbicides
- Pre- and Post-Emerge

Low-drift Twin



Applications

- Contact Herbicides
- Insecticides and Fungicides

3D



Applications

- Contact Herbicides
- Insecticides and Fungicides

High-flow



Applications

- Pre-Plant Fertilizer
- Burndown

Ultra-low-drift



Applications

- Systemic Herbicides
- Dicamba

A nozzle for every application

Ultra-low-drift Max (ULDM) 130°





The Ultra-low-drift Max nozzle is ideal nozzle for post-emergence herbicide applications where drift reduction is paramount. It is perfect for dicamba herbicide applications. Check chemical labels for latest EPA approvals.

- 130° spray angle allows boom height to be lowered and prevents pattern collapse when used with drift reduction adjuvants
- Air-induction technology creates air-filled droplets to significantly reduce drift potential
- SnapLock quick-change nozzle assembly includes tip, cap, gasket, and integrated strainer for easy installation

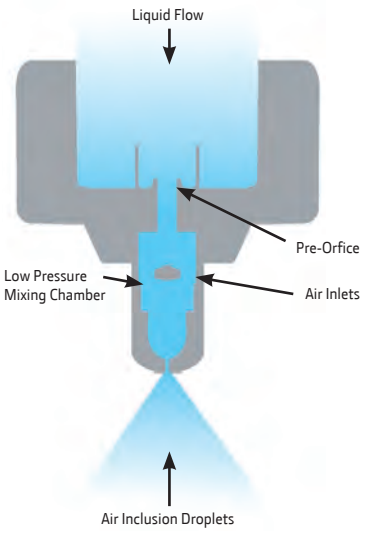
Ultra-low-drift Max (ULDM) 130° spray angle - ASABE droplet size classification chart				
Tip Size	04	05	06	08
Part Number	PSULDMQ3004	PSULDMQ3005	PSULDMQ3006	PSULDMQ3008
Pressure (PSI)				
30	UC	UC	UC	UC
40	UC	UC	UC	UC
50	UC	UC	UC	UC
60	UC	UC	UC	UC
70	UC	UC	UC	UC
80	UC	UC	UC	UC
90	UC	UC	UC	XC
100	XC	XC	XC	XC
Droplet data sourced at Pentair Hypro in a steady state condition per ASABE S572.1 Standard.				

Features	
Common Use	Systemic Herbicide
Pattern	Tapered Flat Fan
Technology	Air Induction
Material	Polyacetal
Spray Angle	130°
Pressure Range	30-100 PSI
Configuration	SnapLock Quick Change

ExactApply™ Compatibility	
15 Hz PWM	No
30 Hz PWM	No
AutoSelect A/B	Yes
Conventional	Yes

Minimum boom height	
Nozzle spacing	Boom height
15 inches	12 inches
20 inches	16 inches

Service Parts	
Cap gasket	PS22700150
Strainer (50 mesh)	PS0250



Ultra-low-drift Max Application Chart - 15-in. nozzle spacing

Speed (MPH) 15-in. Nozzle Spacing														
Spray Tip	Droplet Size	Pressure (PSI)	Rate (GPM)	Gallons Per Acre (GPA) 5	7.5	10	12.5	15	17.5	20	22.5	25	27.5	30
04	UC	30	0.35		18.5	13.9	11.1	9.2	7.9	6.9	6.2	5.5	5.0	4.6
	UC	40	0.40		21.1	15.8	12.7	10.6	9.1	7.9	7.0	6.3	5.8	5.3
	UC	50	0.45		23.8	17.8	14.3	11.9	10.2	8.9	7.9	7.1	6.5	5.9
	UC	60	0.49			19.4	15.5	12.9	11.1	9.7	8.6	7.8	7.1	6.5
	UC	70	0.53			21.0	16.8	14.0	12.0	10.5	9.3	8.4	7.6	7.0
	UC	80	0.57			22.6	18.1	15.0	12.9	11.3	10.0	9.0	8.2	7.5
	UC	90	0.60			23.8	19.0	15.8	13.6	11.9	10.6	9.5	8.6	7.9
	XC	100	0.79				25.1	20.9	17.9	15.7	13.9	12.5	11.4	10.5
05	UC	30	0.43		22.7	17.0	13.6	11.4	9.7	8.5	7.6	6.8	6.2	5.7
	UC	40	0.50			19.8	15.8	13.2	11.3	9.9	8.8	7.9	7.2	6.6
	UC	50	0.56			22.2	17.7	14.8	12.7	11.1	9.9	8.9	8.1	7.4
	UC	60	0.61			24.2	19.3	16.1	13.8	12.1	10.7	9.7	8.8	8.1
	UC	70	0.66				20.9	17.4	14.9	13.1	11.6	10.5	9.5	8.7
	UC	80	0.71				22.5	18.7	16.1	14.1	12.5	11.2	10.2	9.4
	UC	90	0.75				23.8	19.8	17.0	14.9	13.2	11.9	10.8	9.9
	XC	100	0.79				25.0	20.9	17.9	15.6	13.9	12.5	11.4	10.4
06	UC	30	0.52			20.6	16.5	13.7	11.8	10.3	9.2	8.2	7.5	6.9
	UC	40	0.60			23.8	19.0	15.8	13.6	11.9	10.6	9.5	8.6	7.9
	UC	50	0.67				21.2	17.7	15.2	13.3	11.8	10.6	9.6	8.8
	UC	60	0.73				23.1	19.3	16.5	14.5	12.8	11.6	10.5	9.6
	UC	70	0.79				25.0	20.9	17.9	15.6	13.9	12.5	11.4	10.4
	UC	80	0.85					22.4	19.2	16.8	15.0	13.5	12.2	11.2
	UC	90	0.90					23.8	20.4	17.8	15.8	14.3	13.0	11.9
	XC	100	0.95					25.1	21.5	18.8	16.7	15.0	13.7	12.5
08	UC	30	0.69				21.9	18.2	15.6	13.7	12.1	10.9	9.9	9.1
	UC	40	0.80					21.1	18.1	15.8	14.1	12.7	11.5	10.6
	UC	50	0.89					23.5	20.1	17.6	15.7	14.1	12.8	11.7
	UC	60	0.98						22.2	19.4	17.2	15.5	14.1	12.9
	UC	70	1.06						24.0	21.0	18.7	16.8	15.3	14.0
	UC	80	1.13						25.6	22.4	19.9	17.9	16.3	14.9
	XC	90	1.2							23.8	21.1	19.0	17.3	15.8
	XC	100	1.26							24.9	22.2	20.0	18.1	16.6

Droplet data sourced at Pentair Hypro in a steady state condition per ASABE S572.1 Standard.

Ultra-low-drift Max Application chart - 20-in. nozzle spacing

Spray Tip	Droplet Size	Pressure (PSI)	Rate (GPM)	Speed (MPH) 20-in. Nozzle Spacing — Gallons Per Acre (GPA)										
				5	7.5	10	12.5	15	17.5	20	22.5	25	27.5	30
04	UC	30	0.35	20.8	13.9	10.4	8.3	6.9	5.9	5.2	4.6	4.2	3.8	3.5
	UC	40	0.40	23.8	15.8	11.9	9.5	7.9	6.8	5.9	5.3	4.8	4.3	4.0
	UC	50	0.45		17.8	13.4	10.7	8.9	7.6	6.7	5.9	5.3	4.9	4.5
	UC	60	0.49		19.4	14.6	11.6	9.7	8.3	7.3	6.5	5.8	5.3	4.9
	UC	70	0.53		21.0	15.7	12.6	10.5	9.0	7.9	7.0	6.3	5.7	5.2
	UC	80	0.57		22.6	16.9	13.5	11.3	9.7	8.5	7.5	6.8	6.2	5.6
	UC	90	0.60		23.8	17.8	14.3	11.9	10.2	8.9	7.9	7.1	6.5	5.9
	XC	100	0.63		25.1	18.8	15.0	12.5	10.7	9.4	8.4	7.5	6.8	6.3
05	UC	30	0.43		17.0	12.8	10.2	8.5	7.3	6.4	5.7	5.1	4.6	4.3
	UC	40	0.50		19.8	14.9	11.9	9.9	8.5	7.4	6.6	5.9	5.4	5.0
	UC	50	0.56		22.2	16.6	13.3	11.1	9.5	8.3	7.4	6.7	6.0	5.5
	UC	60	0.61		24.2	18.1	14.5	12.1	10.4	9.1	8.1	7.2	6.6	6.0
	UC	70	0.66			19.6	15.7	13.1	11.2	9.8	8.7	7.8	7.1	6.5
	UC	80	0.71			21.1	16.9	14.1	12.0	10.5	9.4	8.4	7.7	7.0
	UC	90	0.75			22.3	17.8	14.9	12.7	11.1	9.9	8.9	8.1	7.4
	XC	100	0.79			23.5	18.8	15.6	13.4	11.7	10.4	9.4	8.5	7.8
06	UC	30	0.52		20.6	15.4	12.4	10.3	8.8	7.7	6.9	6.2	5.6	5.1
	UC	40	0.60		23.8	17.8	14.3	11.9	10.2	8.9	7.9	7.1	6.5	5.9
	UC	50	0.67			19.9	15.9	13.3	11.4	9.9	8.8	8.0	7.2	6.6
	UC	60	0.73			21.7	17.3	14.5	12.4	10.8	9.6	8.7	7.9	7.2
	UC	70	0.79			23.5	18.8	15.6	13.4	11.7	10.4	9.4	8.5	7.8
	UC	80	0.85				20.2	16.8	14.4	12.6	11.2	10.1	9.2	8.4
	UC	90	0.90				21.4	17.8	15.3	13.4	11.9	10.7	9.7	8.9
	XC	100	0.95				22.6	18.8	16.1	14.1	12.5	11.3	10.3	9.4
08	UC	30	0.69			20.5	16.4	13.7	11.7	10.2	9.1	8.2	7.5	6.8
	UC	40	0.80			23.8	19.0	15.8	13.6	11.9	10.6	9.5	8.6	7.9
	UC	50	0.89				21.1	17.6	15.1	13.2	11.7	10.6	9.6	8.8
	UC	60	0.98				23.3	19.4	16.6	14.6	12.9	11.6	10.6	9.7
	UC	70	1.06					21.0	18.0	15.7	14.0	12.6	11.4	10.5
	UC	80	1.13					22.4	19.2	16.8	14.9	13.4	12.2	11.2
	XC	90	1.2					23.8	20.4	17.8	15.8	14.3	13.0	11.9
	XC	100	1.26					24.9	21.4	18.7	16.6	15.0	13.6	12.5

Droplet data sourced at Pentair Hypro in a steady state condition per ASABE S572.1 Standard.

Low-drift Max (LDM)



The Low-drift Max (LDM) is ideal for pre- and post-emergence product applications where drift reduction is paramount.

- Dual pre-orifice nozzle designed to reduce drift
- Coarse, Very Coarse and Extremely Coarse droplets for systemic herbicide coverage
- 60° thick pattern for superior coverage
- 120° spray angle for good pattern overlap and prevent pattern collapse at low-percentage flow
- SnapLock quick-change nozzle assembly includes tip, cap, gasket, and integrated strainer for easy installation

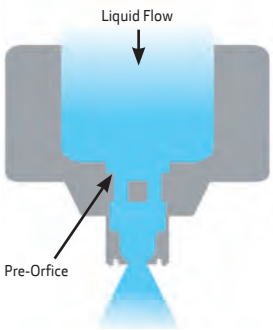
Ultra-low-drift Max (ULDM) 130° spray angle - ASABE droplet size classification chart						
Tip Size	03	04	05	06	08	10
Part Number	PSLDMQ2003	PSLDMQ2004	PSLDMQ2005	PSLDMQ2006	PSLDMQ2008	PSLDMQ2010
Pressure (PSI)						
20	XC	XC	XC	n/a	n/a	n/a
30	VC	VC	XC	XC	XC	XC
40	VC	VC	VC	XC	XC	VC
50	VC	C	VC	VC	VC	VC
60	C	C	VC	VC	VC	VC
70	C	C	C	C	VC	C
80	C	C	C	C	C	M
Droplet data sourced at Pentair Hypro in a steady state condition per ASABE S572.1 Standard.						

Features	
Common Use	Systemic Herbicide
Pattern	Tapered Flat Fan
Technology	Pre-Orifice
Material	Polyacetal
Spray Angle	120˚
Pressure Range	20-80 PSI
Configuration	SnapLock Quick Change

ExactApply™ Compatibility	
15Hz PWM	Yes
30Hz PWM	Yes
AutoSelect A/B	Yes
Conventional	Yes

Minimum boom height	
Nozzle spacing	Boom height
15 inches	15 inches
20 inches	20 inches

Service Parts	
Cap gasket (EPDM)	PM200040-1
Cap gasket (Viton)	PM200040V1



Low-drift Max Application Chart - 15-in. nozzle spacing

Speed (MPH) 15-in. nozzle spacing															
Tip Size	Droplet Size 110°	Pressure (PSI)	Flow (GPM)	Gallons per Acre (GPA)											
				2.5	5.0	7.5	10.0	12.5	15.0	17.5	20.0	22.5	25.0	27.5	30.0
03	XC	20	0.22		17.4	11.6	8.7	7.0	5.8	5.0	4.4	3.9	3.5	3.2	2.9
	VC	30	0.28		22.2	14.8	11.1	8.9	7.4	6.3	5.5	4.9	4.4	4.0	3.7
	VC	40	0.30		23.8	15.8	11.9	9.5	7.9	6.8	5.9	5.3	4.8	4.3	4.0
	VC	50	0.34			18.0	13.5	10.8	9.0	7.7	6.7	6.0	5.4	4.9	4.5
	C	60	0.36			19.0	14.3	11.4	9.5	8.1	7.1	6.3	5.7	5.2	4.8
	C	70	0.39			20.6	15.4	12.4	10.3	8.8	7.7	6.9	6.2	5.6	5.1
	C	80	0.41			21.6	16.2	13.0	10.8	9.3	8.1	7.2	6.5	5.9	5.4
04	XC	20	0.30		23.8	15.8	11.9	9.5	7.9	6.8	5.9	5.3	4.8	4.3	4.0
	VC	30	0.37			19.5	14.7	11.7	9.8	8.4	7.3	6.5	5.9	5.3	4.9
	VC	40	0.40			21.1	15.8	12.7	10.6	9.1	7.9	7.0	6.3	5.8	5.3
	C	50	0.45			23.8	17.8	14.3	11.9	10.2	8.9	7.9	7.1	6.5	5.9
	C	60	0.45				17.8	14.3	11.9	10.2	8.9	7.9	7.1	6.5	5.9
	C	70	0.51				20.2	16.2	13.5	11.5	10.1	9.0	8.1	7.3	6.7
	C	80	0.55				21.8	17.4	14.5	12.4	10.9	9.7	8.7	7.9	7.3
05	XC	20	0.37				14.7	11.7	9.8	8.4	7.3	6.5	5.9	5.3	4.9
	XC	30	0.45				17.8	14.3	11.9	10.2	8.9	7.9	7.1	6.5	5.9
	VC	40	0.51				20.2	16.2	13.5	11.5	10.1	9.0	8.1	7.3	6.7
	VC	50	0.56				22.2	17.7	14.8	12.7	11.1	9.9	8.9	8.1	7.4
	VC	60	0.60				23.8	19.0	15.8	13.6	11.9	10.6	9.5	8.6	7.9
	C	70	0.65					20.6	17.2	14.7	12.9	11.4	10.3	9.4	8.6
	C	80	0.68					21.5	18.0	15.4	13.5	12.0	10.8	9.8	9.0
06	XC	30	0.52				20.6	16.5	13.7	11.8	10.3	9.1	8.2	7.5	6.9
	XC	40	0.60				23.8	19.0	15.8	13.6	11.9	10.6	9.5	8.6	7.9
	VC	50	0.67					21.3	17.7	15.2	13.3	11.8	10.6	9.7	8.9
	VC	60	0.73					23.3	19.4	16.6	14.5	12.9	11.6	10.6	9.7
	C	70	0.79					25.1	21.0	18.0	15.7	14.0	12.6	11.4	10.5
	C	80	0.85						22.4	19.2	16.8	14.9	13.4	12.2	11.2
08	XC	30	0.69					21.9	18.3	15.7	13.7	12.2	11.0	10.0	9.1
	XC	40	0.80					25.3	21.1	18.1	15.8	14.1	12.7	11.5	10.6
	VC	50	0.89						23.6	20.2	17.7	15.7	14.2	12.9	11.8
	VC	60	0.98							22.2	19.4	17.2	15.5	14.1	12.9
	VC	70	1.06							24.0	21.0	18.7	16.8	15.3	14.0
	C	80	1.13								22.4	19.9	17.9	16.3	14.9
10	XC	30	0.87						22.9	19.6	17.1	15.2	13.7	12.5	11.4
	VC	40	1.00							22.6	19.8	17.6	15.8	14.4	13.2
	VC	50	1.12							25.3	22.1	19.7	17.7	16.1	14.8
	VC	60	1.22								24.2	21.5	19.3	17.6	16.1
	C	70	1.32									23.3	21.0	19.0	17.5
	M	80	1.41									24.9	22.4	20.4	18.7

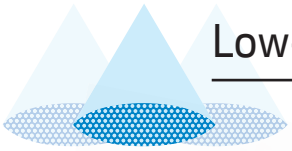
Droplet data sourced at Pentair Hypro in a steady state condition per ASABE S572.1 Standard.

Low-drift Max Application Chart - 20-in. nozzle spacing

Speed (MPH) 20-in. nozzle spacing																
Tip Size	Droplet Size 110°	Pressure (PSI)	Flow (GPM)	Gallons per Acre (GPA)												
				2.5	5.0	7.5	10.0	12.5	15.0	17.5	20.0	22.5	25.0	27.5	30.0
03	XC	20	0.22		13.1	8.7	6.5	5.2	4.4	3.7	3.3	2.9	2.6	2.4	2.2
	VC	30	0.28		16.6	11.1	8.3	6.7	5.5	4.8	4.2	3.7	3.3	3.0	2.8
	VC	40	0.30		17.8	11.9	8.9	7.1	5.9	5.1	4.5	4.0	3.6	3.2	3.0
	VC	50	0.34		20.2	13.5	10.1	8.1	6.7	5.8	5.0	4.5	4.0	3.7	3.4
	C	60	0.36		21.4	14.3	10.7	8.6	7.1	6.1	5.3	4.8	4.3	3.9	3.6
	C	70	0.39		23.2	15.4	11.6	9.3	7.7	6.6	5.8	5.1	4.6	4.2	3.9
	C	80	0.41		24.4	16.2	12.2	9.7	8.1	7.0	6.1	5.4	4.9	4.4	4.1
04	XC	20	0.29		17.2	11.5	8.6	6.9	5.7	4.9	4.3	3.8	3.4	3.1	2.9
	VC	30	0.35		20.8	13.9	10.4	8.3	6.9	5.9	5.2	4.6	4.2	3.8	3.5
	VC	40	0.40		23.8	15.8	11.9	9.5	7.9	6.8	5.9	5.3	4.8	4.3	4.0
	C	50	0.46			18.2	13.7	10.9	9.1	7.8	6.8	6.1	5.5	5.0	4.6
	C	60	0.49			19.4	14.6	11.6	9.7	8.3	7.3	6.5	5.8	5.3	4.9
	C	70	0.53			21.0	15.7	12.6	10.5	9.0	7.9	7.0	6.3	5.7	5.2
	C	80	0.56			22.2	16.6	13.3	11.1	9.5	8.3	7.4	6.7	6.0	5.5
05	XC	20	0.37		22.0	14.7	11.0	8.8	7.3	6.3	5.5	4.9	4.4	4.0	3.7
	XC	30	0.45			17.8	13.4	10.7	8.9	7.6	6.7	5.9	5.3	4.9	4.5
	VC	40	0.51			20.2	15.1	12.1	10.1	8.7	7.6	6.7	6.1	5.5	5.0
	VC	50	0.56			22.2	16.6	13.3	11.1	9.5	8.3	7.4	6.7	6.0	5.5
	VC	60	0.60			23.8	17.8	14.3	11.9	10.2	8.9	7.9	7.1	6.5	5.9
	C	70	0.65				19.3	15.4	12.9	11.0	9.7	8.6	7.7	7.0	6.4
	C	80	0.68				20.2	16.2	13.5	11.5	10.1	9.0	8.1	7.3	6.7
06	XC	30	0.52			20.6	15.4	12.3	10.3	8.8	7.7	6.9	6.2	5.6	5.1
	XC	40	0.60			23.8	17.8	14.3	11.9	10.2	8.9	7.9	7.1	6.5	5.9
	VC	50	0.67				19.9	15.9	13.3	11.4	10.0	8.9	8.0	7.2	6.6
	VC	60	0.73				21.8	17.5	14.5	12.5	10.9	9.7	8.7	7.9	7.3
	C	70	0.79				23.6	18.9	15.7	13.5	11.8	10.5	9.4	8.6	7.9
	C	80	0.85				25.2	20.2	16.8	14.4	12.6	11.2	10.1	9.2	8.4
08	XC	30	0.69				20.6	16.5	13.7	11.8	10.3	9.1	8.2	7.5	6.9
	XC	40	0.80				23.8	19.0	15.8	13.6	11.9	10.6	9.5	8.6	7.9
	VC	50	0.89					21.3	17.7	15.2	13.3	11.8	10.6	9.7	8.9
	VC	60	0.98					23.3	19.4	16.6	14.5	12.9	11.6	10.6	9.7
	VC	70	1.06					25.2	21.0	18.0	15.7	14.0	12.6	11.4	10.5
	C	80	1.13						22.4	19.2	16.8	14.9	13.4	12.2	11.2
10	XC	30	0.87					20.6	17.1	14.7	12.9	11.4	10.3	9.4	8.6
	VC	40	1.00					23.8	19.8	17.0	14.9	13.2	11.9	10.8	9.9
	VC	50	1.12						22.1	19.0	16.6	14.8	13.3	12.1	11.1
	VC	60	1.22						24.2	20.7	18.1	16.1	14.5	13.2	12.1
	C	70	1.32							22.5	19.6	17.5	15.7	14.3	13.1
	M	80	1.41							24.0	21.0	18.7	16.8	15.3	14.0

Droplet data sourced at Pentair Hypro in a steady state condition per ASABE S572.1 Standard.

Low-drift Twin (LDT)





The Low-drift Twin nozzle offers superior coverage for customers who are pulsing and want dual 30° incline sprays in one nozzle. The LDT provides a wide operating range and wide size selections to work with PWM to meet any speed/rate need required.

- Twin 30° forward- and rear-facing dual angles for superior coverage
- Medium and Coarse droplets for fungicides, insecticides and contact herbicides
- SnapLock quick-change nozzle assembly includes tip, cap, gasket, and integrated strainer for easy installation

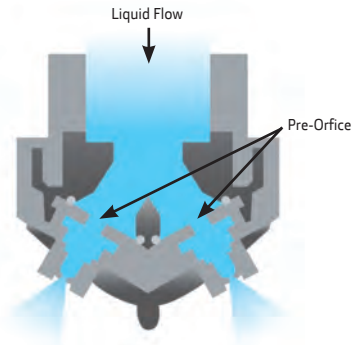
Low-drift Twin (LDT) 110° spray angle - ASABE droplet size classification chart								
Tip Size	03	04	05	06	08	10	12	16
Part Number	PSLDTQ1003	PSLDTQ1004	PSLDTQ1005	PSLDTQ1006	PSLDTQ1008	PSLDTQ1010	PSLDTQ1012	PSLDTQ1016
Pressure (PSI)								
15	M	C	C	C	C	C	VC	VC
20	M	M	M	C	C	C	VC	VC
30	M	M	M	C	C	C	C	C
40	M	M	M	M	M	C	C	C
50	M	M	M	M	M	C	C	C
60	M	M	M	M	M	M	C	C
70	F	M	M	M	M	M	M	C
Droplet data sourced at Pentair Hypro in a steady state condition per ASABE S572.1 Standard.								

Features	
Common Use	Plant Health
Pattern	Twin Incline Tapered Flat Fans
Technology	Pre-Orifice
Material	Polyacetal
Spray Angle	110°
Pressure Range	15-70 PSI
Configuration	SnapLock Quick Change

ExactApply™ Compatibility	
15Hz PWM	Yes
30Hz PWM	Yes
AutoSelect A/B	Yes
Conventional	Yes

Service Parts	
Strainer (50 mesh)	PS0250

Minimum boom height	
Nozzle spacing	Boom height
15 inches	15 inches
20 inches	20 inches



Low-drift Twin Application Charts - 15-in. nozzle spacing

Speed (MPH) 15-in. nozzle spacing														
Tip Size	Droplet Size 110°	Pressure (PSI)	Flow (GPM)	Gallons per Acre (GPA) 5.0	7.5	10.0	12.5	15.0	20.0	22.5	25.0	27.5	30.0	32.5
03	M	15	0.18	14.5	9.7	7.3	5.8	4.8	3.6	3.2	2.9	2.6	2.4	2.2
	M	20	0.21	16.8	11.2	8.4	6.7	5.6	4.2	3.7	3.4	3.1	2.8	2.6
	M	30	0.26	20.6	13.7	10.3	8.2	6.9	5.1	4.6	4.1	3.7	3.4	3.2
	M	40	0.30	23.8	15.8	11.9	9.5	7.9	5.9	5.3	4.8	4.3	4.0	3.7
	M	50	0.34		17.7	13.3	10.6	8.9	6.6	5.9	5.3	4.8	4.4	4.1
	M	60	0.37		19.4	14.5	11.6	9.7	7.3	6.5	5.8	5.3	4.8	4.5
	F	70	0.40		21.0	15.7	12.6	10.5	7.9	7.0	6.3	5.7	5.2	4.8
04	C	15	0.24	19.4	12.9	9.7	7.8	6.5	4.8	4.3	3.9	3.5	3.2	3.0
	M	20	0.28	22.4	14.9	11.2	9.0	7.5	5.6	5.0	4.5	4.1	3.7	3.4
	M	30	0.35		18.3	13.7	11.0	9.1	6.9	6.1	5.5	5.0	4.6	4.2
	M	40	0.40		21.1	15.8	12.7	10.6	7.9	7.0	6.3	5.8	5.3	4.9
	M	50	0.45		23.6	17.7	14.2	11.8	8.9	7.9	7.1	6.4	5.9	5.4
	M	60	0.49			19.4	15.5	12.9	9.7	8.6	7.8	7.1	6.5	6.0
	M	70	0.53			21.0	16.8	14.0	10.5	9.3	8.4	7.6	7.0	6.4
05	C	15	0.31	24.2	16.2	12.1	9.7	8.1	6.1	5.4	4.8	4.4	4.0	3.7
	M	20	0.35		18.7	14.0	11.2	9.3	7.0	6.2	5.6	5.1	4.7	4.3
	M	30	0.43		22.9	17.1	13.7	11.4	8.6	7.6	6.9	6.2	5.7	5.3
	M	40	0.50			19.8	15.8	13.2	9.9	8.8	7.9	7.2	6.6	6.1
	M	50	0.56			22.1	17.7	14.8	11.1	9.8	8.9	8.0	7.4	6.8
	M	60	0.61			24.2	19.4	16.2	12.1	10.8	9.7	8.8	8.1	7.5
	M	70	0.66				21.0	17.5	13.1	11.6	10.5	9.5	8.7	8.1
06	C	15	0.37		19.4	14.5	11.6	9.7	7.3	6.5	5.8	5.3	4.8	4.5
	C	20	0.42		22.4	16.8	13.4	11.2	8.4	7.5	6.7	6.1	5.6	5.2
	C	30	0.52			20.6	16.5	13.7	10.3	9.1	8.2	7.5	6.9	6.3
	M	40	0.60			23.8	19.0	15.8	11.9	10.6	9.5	8.6	7.9	7.3
	M	50	0.67				21.3	17.7	13.3	11.8	10.6	9.7	8.9	8.2
	M	60	0.73				23.3	19.4	14.5	12.9	11.6	10.6	9.7	9.0
	M	70	0.79				25.1	21.0	15.7	14.0	12.6	11.4	10.5	9.7
08	C	15	0.49			19.4	15.5	12.9	9.7	8.6	7.8	7.1	6.5	6.0
	C	20	0.57			22.4	17.9	14.9	11.2	10.0	9.0	8.1	7.5	6.9
	C	30	0.69				21.9	18.3	13.7	12.2	11.0	10.0	9.1	8.4
	M	40	0.80				25.3	21.1	15.8	14.1	12.7	11.5	10.6	9.7
	M	50	0.89					23.6	17.7	15.7	14.2	12.9	11.8	10.9
	M	60	0.98						19.4	17.2	15.5	14.1	12.9	11.9
	M	70	1.06						21.0	18.6	16.8	15.2	14.0	12.9
10	C	15	0.61			24.2	19.4	16.2	12.1	10.8	9.7	8.8	8.1	7.5
	C	20	0.71				22.4	18.7	14.0	12.4	11.2	10.2	9.3	8.6
	C	30	0.87					22.9	17.1	15.2	13.7	12.5	11.4	10.6
	C	40	1.00						19.8	17.6	15.8	14.4	13.2	12.2
	C	50	1.12						22.1	19.7	17.7	16.1	14.8	13.6
	M	60	1.22						24.2	21.6	19.4	17.6	16.2	14.9
	M	70	1.32							23.3	21.0	19.0	17.5	16.1
12	VC	15	0.73				23.3	19.4	14.5	12.9	11.6	10.6	9.7	9.0
	VC	20	0.85					22.4	16.8	14.9	13.4	12.2	11.2	10.3
	C	30	1.04						20.6	18.3	16.5	15.0	13.7	12.7
	C	40	1.20						23.8	21.1	19.0	17.3	15.8	14.6
	C	50	1.34							23.6	21.3	19.3	17.7	16.3
	C	60	1.47								23.3	21.2	19.4	17.9
	M	70	1.59								25.1	22.9	21.0	19.3
16	VC	15	0.98						19.4	17.2	15.5	14.1	12.9	11.9
	VC	20	1.13						22.4	19.9	17.9	16.3	14.9	13.8
	C	30	1.39							24.4	21.9	20.0	18.3	16.9
	C	40	1.60								25.3	23.0	21.1	19.5
	C	50	1.79										23.6	21.8
	C	60	1.96											23.9
	C	70	2.12											25.8

Droplet data sourced at Pentair Hypro in a steady state condition per ASABE S572.1 Standard.

Low-drift Twin Application Charts - 20-in. nozzle spacing

Speed (MPH) 20-in. nozzle spacing														
Tip Size	Droplet Size 110°	Pressure (PSI)	Flow (GPM)	Gallons per Acre (GPA) 5.0	7.5	10.0	12.5	15.0	20.0	22.5	25.0	27.5	30.0	32.5
03	M	15	0.18	10.9	7.3	5.5	4.4	3.6	2.7	2.4	2.2	2.0	1.8	1.7
	M	20	0.21	12.6	8.4	6.3	5.0	4.2	3.2	2.8	2.5	2.3	2.1	1.9
	M	30	0.26	15.4	10.3	7.7	6.2	5.1	3.9	3.4	3.1	2.8	2.6	2.4
	M	40	0.30	17.8	11.9	8.9	7.1	5.9	4.5	4.0	3.6	3.2	3.0	2.7
	M	50	0.34	19.9	13.3	10.0	8.0	6.6	5.0	4.4	4.0	3.6	3.3	3.1
	M	60	0.37	21.8	14.5	10.9	8.7	7.3	5.5	4.8	4.4	4.0	3.6	3.4
	F	70	0.40	23.6	15.7	11.8	9.4	7.9	5.9	5.2	4.7	4.3	3.9	3.6
04	C	15	0.24	14.5	9.7	7.3	5.8	4.8	3.6	3.2	2.9	2.6	2.4	2.2
	M	20	0.28	16.8	11.2	8.4	6.7	5.6	4.2	3.7	3.4	3.1	2.8	2.6
	M	30	0.35	20.6	13.7	10.3	8.2	6.9	5.1	4.6	4.1	3.7	3.4	3.2
	M	40	0.40	23.8	15.8	11.9	9.5	7.9	5.9	5.3	4.8	4.3	4.0	3.7
	M	50	0.45		17.7	13.3	10.6	8.9	6.6	5.9	5.3	4.8	4.4	4.1
	M	60	0.49		19.4	14.5	11.6	9.7	7.3	6.5	5.8	5.3	4.8	4.5
	M	70	0.53		21.0	15.7	12.6	10.5	7.9	7.0	6.3	5.7	5.2	4.8
05	C	15	0.31	18.2	12.1	9.1	7.3	6.1	4.5	4.0	3.6	3.3	3.0	2.8
	M	20	0.35	21.0	14.0	10.5	8.4	7.0	5.3	4.7	4.2	3.8	3.5	3.2
	M	30	0.43		17.1	12.9	10.3	8.6	6.4	5.7	5.1	4.7	4.3	4.0
	M	40	0.50		19.8	14.9	11.9	9.9	7.4	6.6	5.9	5.4	5.0	4.6
	M	50	0.56		22.1	16.6	13.3	11.1	8.3	7.4	6.6	6.0	5.5	5.1
	M	60	0.61		24.2	18.2	14.5	12.1	9.1	8.1	7.3	6.6	6.1	5.6
	M	70	0.66			19.6	15.7	13.1	9.8	8.7	7.9	7.1	6.5	6.0
06	C	15	0.37	21.8	14.5	10.9	8.7	7.3	5.5	4.8	4.4	4.0	3.6	3.4
	C	20	0.42	25.2	16.8	12.6	10.1	8.4	6.3	5.6	5.0	4.6	4.2	3.9
	C	30	0.52		20.6	15.4	12.3	10.3	7.7	6.9	6.2	5.6	5.1	4.7
	M	40	0.60		23.8	17.8	14.3	11.9	8.9	7.9	7.1	6.5	5.9	5.5
	M	50	0.67			19.9	15.9	13.3	10.0	8.9	8.0	7.2	6.6	6.1
	M	60	0.73			21.8	17.5	14.5	10.9	9.7	8.7	7.9	7.3	6.7
	M	70	0.79			23.6	18.9	15.7	11.8	10.5	9.4	8.6	7.9	7.3
08	C	15	0.49		19.4	14.5	11.6	9.7	7.3	6.5	5.8	5.3	4.8	4.5
	C	20	0.57		22.4	16.8	13.4	11.2	8.4	7.5	6.7	6.1	5.6	5.2
	C	30	0.69			20.6	16.5	13.7	10.3	9.1	8.2	7.5	6.9	6.3
	M	40	0.80			23.8	19.0	15.8	11.9	10.6	9.5	8.6	7.9	7.3
	M	50	0.89				21.3	17.7	13.3	11.8	10.6	9.7	8.9	8.2
	M	60	0.98				23.3	19.4	14.5	12.9	11.6	10.6	9.7	9.0
	M	70	1.06				25.1	21.0	15.7	14.0	12.6	11.4	10.5	9.7
10	C	15	0.61		24.2	18.2	14.5	12.1	9.1	8.1	7.3	6.6	6.1	5.6
	C	20	0.71			21.0	16.8	14.0	10.5	9.3	8.4	7.6	7.0	6.5
	C	30	0.87				20.6	17.1	12.9	11.4	10.3	9.4	8.6	7.9
	C	40	1.00				23.8	19.8	14.9	13.2	11.9	10.8	9.9	9.1
	C	50	1.12					22.1	16.6	14.8	13.3	12.1	11.1	10.2
	M	60	1.22					24.2	18.2	16.2	14.5	13.2	12.1	11.2
	M	70	1.32						19.6	17.5	15.7	14.3	13.1	12.1
12	VC	15	0.73			21.8	17.5	14.5	10.9	9.7	8.7	7.9	7.3	6.7
	VC	20	0.85				20.2	16.8	12.6	11.2	10.1	9.2	8.4	7.8
	C	30	1.04				24.7	20.6	15.4	13.7	12.3	11.2	10.3	9.5
	C	40	1.20					23.8	17.8	15.8	14.3	13.0	11.9	11.0
	C	50	1.34						19.9	17.7	15.9	14.5	13.3	12.3
	C	60	1.47						21.8	19.4	17.5	15.9	14.5	13.4
	M	70	1.59						23.6	21.0	18.9	17.1	15.7	14.5
16	VC	15	0.98				23.3	19.4	14.5	12.9	11.6	10.6	9.7	9.0
	VC	20	1.13					22.4	16.8	14.9	13.4	12.2	11.2	10.3
	C	30	1.39						20.6	18.3	16.5	15.0	13.7	12.7
	C	40	1.60						23.8	21.1	19.0	17.3	15.8	14.6
	C	50	1.79							23.6	21.3	19.3	17.7	16.3
	C	60	1.96								23.3	21.2	19.4	17.9
	C	70	2.12								25.1	22.9	21.0	19.3

Droplet data sourced at Pentair Hypro in a steady state condition per ASABE S572.1 Standard.

3D



The 3D nozzle is an inclined all-purpose nozzle delivering three-dimensional coverage to overcome the most challenging agronomic/weather conditions while delivering a variety of droplet sizes for different applications. As an enhanced utility nozzle, the 3D nozzle features an integrated fan incline and fan angle designed to maximize efficacy and coverage for application of contact and residual chemistries. By tightening the spray pattern quality to reduce the number small droplets (driftable fines), the 3D can reduce drift potential by up to 50-75 percent (depending on size) compared to a conventional flat-fan nozzle. The 3D is the first conventional flat-fan nozzle to achieve an international drift reduction rating without compromising efficacy.*

- Designed through 10+ years of Syngenta agronomic guidance, field trials, and wind tunnel research
- Agronomic performance proven via Syngenta field research to deliver up to a 10% increase in weed control compared to a conventional flat fan**
- Droplet size and inclined pattern are designed to be installed alternating forwards and backwards on boom to enhance coverage on hard-to-hit targets like grass weeds and complex canopies
- PWM compatible on ExactApply 30Hz high-frequency pulsing
- SnapLock quick-change nozzle assembly includes tip, cap, gasket, and integrated strainer for easy installation

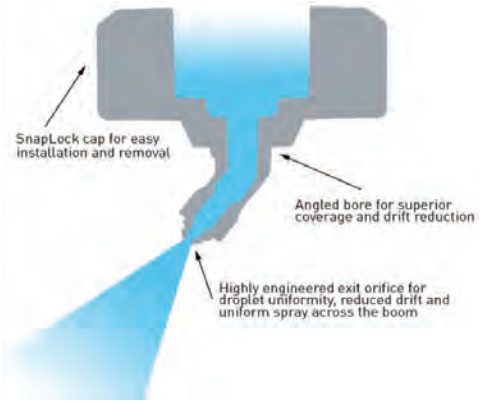
3D 100° spray angle - ASABE droplet size classification chart									
Tip Size	015	02	025	03	035	04	05	06	08
Part Number	PS3DQ00015	PS3DQ0002	PS3DQ00025	PS3DQ0003	PS3DQ00035	PS3DQ0004	PS3DQ0005	PS3DQ0006	PS3DQ0008
Pressure (PSI)									
10	C	M	C	VC	VC	XC	XC	XC	XC
15	M	M	M	C	C	VC	VC	VC	VC
20	M	M	M	M	C	C	C	C	VC
30	F	M	M	M	M	M	C	C	C
40	F	F	M	M	M	M	M	C	C
50	F	F	F	M	M	M	M	M	M
60	F	F	F	F	M	M	M	M	M
70	F	F	F	F	M	M	M	M	M
80	F	F	F	F	F	M	M	M	M
85	F	F	F	F	F	F	M	M	M
Droplet data sourced at Pentair Hypro in a steady state condition per ASABE S572.1 Standard.									

Features	
Common Use	Contact Herbicide, Plant Health
Pattern	Alternating Tapered Flat Fans
Technology	Advanced Tapered Flat Fan
Material	Polyacetal
Spray Angle	100˚
Spray Incline	Alternating
Pressure Range	10-85 PSI
Configuration	SnapLock Quick Change

ExactApply™ Compatibility	
15Hz PWM	No
30Hz PWM	Yes
AutoSelect A/B	Yes
Conventional	Yes

Service Parts	
Strainer, 100 mesh (sizes 015-035)	PS311
Strainer, 50 mesh (sizes 04-08)	PS310

Minimum boom height	
Nozzle spacing	Boom height
15-in. (10-20 PSI spray pressure)	25 inches
20-in. (10-20 PSI spray pressure)	25 inches
15-in. (20-85 PSI spray pressure)	20 inches
20-in. (20-85 PSI spray pressure)	20 inches



*Drift reduction ratings available at https://secure.pesticides.gov.uk/SprayEquipment/Search.aspx

**Syngenta UK trials. 0.6l/ha Liberator (diflufenican + flufenacet) + 4l/ha Defy (Prosulfacarb) applied November 2015. Conventional spraying

***Internal supplier testing. John Deere Ultra Low-drift versus 3D. November 2016.

3D Application Chart - 15-in. nozzle spacing

Tip Size	Droplet Size 100°	Pressure (PSI)	Flow (GPM)	Speed MPH 15-in. nozzle spacing — Gallons per Acre (GPA) 2.5	5.0	7.5	10.0	12.5	15.0	17.5	20.0	22.5	25.0	27.5	30.0
015	C	10	0.08	11.9	5.9	4.0	3.0	2.4	2.0	1.7	1.5	1.3	1.2	1.1	1.0
	M	15	0.09	14.5	7.3	4.8	3.6	2.9	2.4	2.1	1.8	1.6	1.5	1.3	1.2
	M	20	0.11	16.8	8.4	5.6	4.2	3.4	2.8	2.4	2.1	1.9	1.7	1.5	1.4
	F	30	0.13	20.6	10.3	6.9	5.1	4.1	3.4	2.9	2.6	2.3	2.1	1.9	1.7
	F	40	0.15	23.8	11.9	7.9	5.9	4.8	4.0	3.4	3.0	2.6	2.4	2.2	2.0
	F	50	0.17	---	13.3	8.9	6.6	5.3	4.4	3.8	3.3	3.0	2.7	2.4	2.2
	F	60	0.18	---	14.5	9.7	7.3	5.8	4.8	4.2	3.6	3.2	2.9	2.6	2.4
	F	70	0.20	---	15.7	10.5	7.9	6.3	5.2	4.5	3.9	3.5	3.1	2.9	2.6
	F	80	0.21	---	16.8	11.2	8.4	6.7	5.6	4.8	4.2	3.7	3.4	3.1	2.8
	F	85	0.22	---	17.3	11.5	8.7	6.9	5.8	4.9	4.3	3.8	3.5	3.1	2.9
02	M	10	0.10	15.8	7.9	5.3	4.0	3.2	2.6	2.3	2.0	1.8	1.6	1.4	1.3
	M	15	0.12	19.4	9.7	6.5	4.8	3.9	3.2	2.8	2.4	2.2	1.9	1.8	1.6
	M	20	0.14	22.4	11.2	7.5	5.6	4.5	3.7	3.2	2.8	2.5	2.2	2.0	1.9
	M	30	0.17	---	13.7	9.1	6.9	5.5	4.6	3.9	3.4	3.0	2.7	2.5	2.3
	F	40	0.20	---	15.8	10.6	7.9	6.3	5.3	4.5	4.0	3.5	3.2	2.9	2.6
	F	50	0.22	---	17.7	11.8	8.9	7.1	5.9	5.1	4.4	3.9	3.5	3.2	3.0
	F	60	0.24	---	19.4	12.9	9.7	7.8	6.5	5.5	4.8	4.3	3.9	3.5	3.2
	F	70	0.26	---	21.0	14.0	10.5	8.4	7.0	6.0	5.2	4.7	4.2	3.8	3.5
	F	80	0.28	---	22.4	14.9	11.2	9.0	7.5	6.4	5.6	5.0	4.5	4.1	3.7
	F	85	0.29	---	23.1	15.4	11.5	9.2	7.7	6.6	5.8	5.1	4.6	4.2	3.8
025	C	10	0.13	19.8	9.9	6.6	5.0	4.0	3.3	2.8	2.5	2.2	2.0	1.8	1.7
	M	15	0.15	24.2	12.1	8.1	6.1	4.8	4.0	3.5	3.0	2.7	2.4	2.2	2.0
	M	20	0.18	---	14.0	9.3	7.0	5.6	4.7	4.0	3.5	3.1	2.8	2.5	2.3
	M	30	0.22	---	17.1	11.4	8.6	6.9	5.7	4.9	4.3	3.8	3.4	3.1	2.9
	M	40	0.25	---	19.8	13.2	9.9	7.9	6.6	5.7	5.0	4.4	4.0	3.6	3.3
	F	50	0.28	---	22.1	14.8	11.1	8.9	7.4	6.3	5.5	4.9	4.4	4.0	3.7
	F	60	0.31	---	24.2	16.2	12.1	9.7	8.1	6.9	6.1	5.4	4.8	4.4	4.0
	F	70	0.33	---	---	17.5	13.1	10.5	8.7	7.5	6.5	5.8	5.2	4.8	4.4
	F	80	0.35	---	---	18.7	14.0	11.2	9.3	8.0	7.0	6.2	5.6	5.1	4.7
	F	85	0.36	---	---	19.2	14.4	11.5	9.6	8.2	7.2	6.4	5.8	5.2	4.8
03	VC	10	0.15	23.8	11.9	7.9	5.9	4.8	4.0	3.4	3.0	2.6	2.4	2.2	2.0
	C	15	0.18	---	14.5	9.7	7.3	5.8	4.8	4.2	3.6	3.2	2.9	2.6	2.4
	M	20	0.21	---	16.8	11.2	8.4	6.7	5.6	4.8	4.2	3.7	3.4	3.1	2.8
	M	30	0.26	---	20.6	13.7	10.3	8.2	6.9	5.9	5.1	4.6	4.1	3.7	3.4
	M	40	0.30	---	23.8	15.8	11.9	9.5	7.9	6.8	5.9	5.3	4.8	4.3	4.0
	M	50	0.34	---	---	17.7	13.3	10.6	8.9	7.6	6.6	5.9	5.3	4.8	4.4
	F	60	0.37	---	---	19.4	14.5	11.6	9.7	8.3	7.3	6.5	5.8	5.3	4.8
	F	70	0.40	---	---	21.0	15.7	12.6	10.5	9.0	7.9	7.0	6.3	5.7	5.2
	F	80	0.42	---	---	22.4	16.8	13.4	11.2	9.6	8.4	7.5	6.7	6.1	5.6
	F	85	0.44	---	---	23.1	17.3	13.9	11.5	9.9	8.7	7.7	6.9	6.3	5.8
35	VC	10	0.18	---	13.9	9.2	6.9	5.5	4.6	4.0	3.5	3.1	2.8	2.5	2.3
	C	15	0.21	---	17.0	11.3	8.5	6.8	5.7	4.8	4.2	3.8	3.4	3.1	2.8
	C	20	0.25	---	19.6	13.1	9.8	7.8	6.5	5.6	4.9	4.4	3.9	3.6	3.3
	M	30	0.30	---	24.0	16.0	12.0	9.6	8.0	6.9	6.0	5.3	4.8	4.4	4.0
	M	40	0.35	---	---	18.5	13.9	11.1	9.2	7.9	6.9	6.2	5.5	5.0	4.6
	M	50	0.39	---	---	20.7	15.5	12.4	10.3	8.9	7.7	6.9	6.2	5.6	5.2
	M	60	0.43	---	---	22.6	17.0	13.6	11.3	9.7	8.5	7.5	6.8	6.2	5.7
	M	70	0.46	---	---	24.4	18.3	14.7	12.2	10.5	9.2	8.1	7.3	6.7	6.1
	F	80	0.49	---	---	---	19.6	15.7	13.1	11.2	9.8	8.7	7.8	7.1	6.5
	F	85	0.51	---	---	---	20.2	16.2	13.5	11.5	10.1	9.0	8.1	7.3	6.7
04	XC	10	0.20	---	15.8	10.6	7.9	6.3	5.3	4.5	4.0	3.5	3.2	2.9	2.6
	VC	15	0.24	---	19.4	12.9	9.7	7.8	6.5	5.5	4.8	4.3	3.9	3.5	3.2
	C	20	0.28	---	22.4	14.9	11.2	9.0	7.5	6.4	5.6	5.0	4.5	4.1	3.7
	M	30	0.35	---	---	18.3	13.7	11.0	9.1	7.8	6.9	6.1	5.5	5.0	4.6
	M	40	0.40	---	---	21.1	15.8	12.7	10.6	9.1	7.9	7.0	6.3	5.8	5.3
	M	50	0.45	---	---	23.6	17.7	14.2	11.8	10.1	8.9	7.9	7.1	6.4	5.9
	M	60	0.49	---	---	---	19.4	15.5	12.9	11.1	9.7	8.6	7.8	7.1	6.5
	M	70	0.53	---	---	---	21.0	16.8	14.0	12.0	10.5	9.3	8.4	7.6	7.0
	M	80	0.57	---	---	---	22.4	17.9	14.9	12.8	11.2	10.0	9.0	8.1	7.5
	F	85	0.58	---	---	---	23.1	18.5	15.4	13.2	11.5	10.3	9.2	8.4	7.7
05	XC	10	0.25	---	19.8	13.2	9.9	7.9	6.6	5.7	5.0	4.4	4.0	3.6	3.3
	VC	15	0.31	---	24.2	16.2	12.1	9.7	8.1	6.9	6.1	5.4	4.8	4.4	4.0
	C	20	0.35	---	---	18.7	14.0	11.2	9.3	8.0	7.0	6.2	5.6	5.1	4.7
	C	30	0.43	---	---	22.9	17.1	13.7	11.4	9.8	8.6	7.6	6.9	6.2	5.7
	M	40	0.50	---	---	---	19.8	15.8	13.2	11.3	9.9	8.8	7.9	7.2	6.6
	M	50	0.56	---	---	---	22.1	17.7	14.8	12.6	11.1	9.8	8.9	8.0	7.4
	M	60	0.61	---	---	---	24.2	19.4	16.2	13.9	12.1	10.8	9.7	8.8	8.1
	M	70	0.66	---	---	---	---	21.0	17.5	15.0	13.1	11.6	10.5	9.5	8.7
	M	80	0.71	---	---	---	---	22.4	18.7	16.0	14.0	12.4	11.2	10.2	9.3
	M	85	0.73	---	---	---	---	23.1	19.2	16.5	14.4	12.8	11.5	10.5	9.6
06	XC	10	0.30	---	23.8	15.8	11.9	9.5	7.9	6.8	5.9	5.3	4.8	4.3	4.0
	VC	15	0.37	---	---	19.4	14.5	11.6	9.7	8.3	7.3	6.5	5.8	5.3	4.8
	C	20	0.42	---	---	22.4	16.8	13.4	11.2	9.6	8.4	7.5	6.7	6.1	5.6
	C	30	0.52	---	---	---	20.6	16.5	13.7	11.8	10.3	9.1	8.2	7.5	6.9
	C	40	0.60	---	---	---	23.8	19.0	15.8	13.6	11.9	10.6	9.5	8.6	7.9
	M	50	0.67	---	---	---	---	21.3	17.7	15.2	13.3	11.8	10.6	9.7	8.9
	M	60	0.73	---	---	---	---	23.3	19.4	16.6	14.5	12.9	11.6	10.6	9.7
	M	70	0.79	---	---	---	---	25.1	21.0	18.0	15.7	14.0	12.6	11.4	10.5
	M	80	0.85	---	---	---	---	---	22.4	19.2	16.8	14.9	13.4	12.2	11.2
	M	85	0.87	---	---	---	---	---	23.1	19.8	17.3	15.4	13.9	12.6	11.5
08	XC	10	0.30	---	23.8	15.8	11.9	9.5	7.9	6.8	5.9	5.3	4.8	4.3	4.0
	VC	15	0.37	---	---	19.4	14.5	11.6	9.7	8.3	7.3	6.5	5.8	5.3	4.8
	VC	20	0.42	---	---	22.4	16.8	13.4	11.2	9.6	8.4	7.5	6.7	6.1	5.6
	C	30	0.69	---	---	---	---	21.9	18.3	15.7	13.7	12.2	11.0	10.0	9.1
	C	40	0.80	---	---	---	---	25.3	21.1	18.1	15.8	14.1	12.7	11.5	10.6
	M	50	0.89	---	---	---	---	---	23.6	20.2	17.7	15.7	14.2	12.9	11.8
	M	60	0.98	---	---	---	---	---	25.9	22.2	19.4	17.2	15.5	14.1	12.9
	M	70	1.06	---	---	---	---	---	---	23.9	21.0	18.6	16.8	15.2	14.0
	M	80	1.13	---	---	---	---	---	---	25.6	22.4	19.9	17.9	16.3	14.9
	M	85	1.17	---	---	---	---	---	---	---	23.1	20.5	18.5	16.8	15.4

Droplet data sourced at Silsoe Spray Applications Unit Ltd in a steady state condition per ASABE S572.2 Standard. January 2016.

3D Application Chart - 20-in. nozzle spacing

Tip Size	Droplet Size 100°	Pressure (PSI)	Flow (GPM)	Speed MPH 20-in. nozzle spacing Gallons per Acre (GPA) 2.5	5.0	7.5	10.0	12.5	15.0	17.5	20.0	22.5	25.0	27.5	30.0
015	C	10	0.08	8.9	4.5	3.0	2.2	1.8	1.5	1.3	1.1	1.0	0.9	0.8	0.7
	M	15	0.09	10.9	5.5	3.6	2.7	2.2	1.8	1.6	1.4	1.2	1.1	1.0	0.9
	M	20	0.11	12.6	6.3	4.2	3.2	2.5	2.1	1.8	1.6	1.4	1.3	1.1	1.1
	F	30	0.13	15.4	7.7	5.1	3.9	3.1	2.6	2.2	1.9	1.7	1.5	1.4	1.3
	F	40	0.15	17.8	8.9	5.9	4.5	3.6	3.0	2.5	2.2	2.0	1.8	1.6	1.5
	F	50	0.17	19.9	10.0	6.6	5.0	4.0	3.3	2.8	2.5	2.2	2.0	1.8	1.7
	F	60	0.18	21.8	10.9	7.3	5.5	4.4	3.6	3.1	2.7	2.4	2.2	2.0	1.8
	F	70	0.20	23.6	11.8	7.9	5.9	4.7	3.9	3.4	2.9	2.6	2.4	2.1	2.0
	F	80	0.21	---	12.6	8.4	6.3	5.0	4.2	3.6	3.2	2.8	2.5	2.3	2.1
	F	85	0.22	---	13.0	8.7	6.5	5.2	4.3	3.7	3.2	2.9	2.6	2.4	2.2
02	M	10	0.10	11.9	5.9	4.0	3.0	2.4	2.0	1.7	1.5	1.3	1.2	1.1	1.0
	M	15	0.12	14.5	7.3	4.8	3.6	2.9	2.4	2.1	1.8	1.6	1.5	1.3	1.2
	M	20	0.14	16.8	8.4	5.6	4.2	3.4	2.8	2.4	2.1	1.9	1.7	1.5	1.4
	M	30	0.17	20.6	10.3	6.9	5.1	4.1	3.4	2.9	2.6	2.3	2.1	1.9	1.7
	F	40	0.20	23.8	11.9	7.9	5.9	4.8	4.0	3.4	3.0	2.6	2.4	2.2	2.0
	F	50	0.22	---	13.3	8.9	6.6	5.3	4.4	3.8	3.3	3.0	2.7	2.4	2.2
	F	60	0.24	---	14.5	9.7	7.3	5.8	4.8	4.2	3.6	3.2	2.9	2.6	2.4
	F	70	0.26	---	15.7	10.5	7.9	6.3	5.2	4.5	3.9	3.5	3.1	2.9	2.6
	F	80	0.28	---	16.8	11.2	8.4	6.7	5.6	4.8	4.2	3.7	3.4	3.1	2.8
	F	85	0.29	---	17.3	11.5	8.7	6.9	5.8	4.9	4.3	3.8	3.5	3.1	2.9
025	C	10	0.13	14.9	7.4	5.0	3.7	3.0	2.5	2.1	1.9	1.7	1.5	1.4	1.2
	M	15	0.15	18.2	9.1	6.1	4.5	3.6	3.0	2.6	2.3	2.0	1.8	1.7	1.5
	M	20	0.18	21.0	10.5	7.0	5.3	4.2	3.5	3.0	2.6	2.3	2.1	1.9	1.8
	M	30	0.22	---	12.9	8.6	6.4	5.1	4.3	3.7	3.2	2.9	2.6	2.3	2.1
	M	40	0.25	---	14.9	9.9	7.4	5.9	5.0	4.2	3.7	3.3	3.0	2.7	2.5
	F	50	0.28	---	16.6	11.1	8.3	6.6	5.5	4.7	4.2	3.7	3.3	3.0	2.8
	F	60	0.31	---	18.2	12.1	9.1	7.3	6.1	5.2	4.5	4.0	3.6	3.3	3.0
	F	70	0.33	---	19.6	13.1	9.8	7.9	6.5	5.6	4.9	4.4	3.9	3.6	3.3
	F	80	0.35	---	21.0	14.0	10.5	8.4	7.0	6.0	5.3	4.7	4.2	3.8	3.5
	F	85	0.36	---	21.6	14.4	10.8	8.7	7.2	6.2	5.4	4.8	4.3	3.9	3.6
03	VC	10	0.15	17.8	8.9	5.9	4.5	3.6	3.0	2.5	2.2	2.0	1.8	1.6	1.5
	C	15	0.18	21.8	10.9	7.3	5.5	4.4	3.6	3.1	2.7	2.4	2.2	2.0	1.8
	M	20	0.21	---	12.6	8.4	6.3	5.0	4.2	3.6	3.2	2.8	2.5	2.3	2.1
	M	30	0.26	---	15.4	10.3	7.7	6.2	5.1	4.4	3.9	3.4	3.1	2.8	2.6
	M	40	0.30	---	17.8	11.9	8.9	7.1	5.9	5.1	4.5	4.0	3.6	3.2	3.0
	M	50	0.34	---	19.9	13.3	10.0	8.0	6.6	5.7	5.0	4.4	4.0	3.6	3.3
	F	60	0.37	---	21.8	14.5	10.9	8.7	7.3	6.2	5.5	4.8	4.4	4.0	3.6
	F	70	0.40	---	23.6	15.7	11.8	9.4	7.9	6.7	5.9	5.2	4.7	4.3	3.9
	F	80	0.42	---	25.2	16.8	12.6	10.1	8.4	7.2	6.3	5.6	5.0	4.6	4.2
	F	85	0.44	---	---	17.3	13.0	10.4	8.7	7.4	6.5	5.8	5.2	4.7	4.3
35	VC	10	0.18	20.8	10.4	6.9	5.2	4.2	3.5	3.0	2.6	2.3	2.1	1.9	1.7
	C	15	0.21	---	12.7	8.5	6.4	5.1	4.2	3.6	3.2	2.8	2.5	2.3	2.1
	C	20	0.25	---	14.7	9.8	7.4	5.9	4.9	4.2	3.7	3.3	2.9	2.7	2.5
	M	30	0.30	---	18.0	12.0	9.0	7.2	6.0	5.1	4.5	4.0	3.6	3.3	3.0
	M	40	0.35	---	20.8	13.9	10.4	8.3	6.9	5.9	5.2	4.6	4.2	3.8	3.5
	M	50	0.39	---	23.2	15.5	11.6	9.3	7.7	6.6	5.8	5.2	4.6	4.2	3.9
	M	60	0.43	---	25.5	17.0	12.7	10.2	8.5	7.3	6.4	5.7	5.1	4.6	4.2
	M	70	0.46	---	---	18.3	13.8	11.0	9.2	7.9	6.9	6.1	5.5	5.0	4.6
	F	80	0.49	---	---	19.6	14.7	11.8	9.8	8.4	7.4	6.5	5.9	5.3	4.9
	F	85	0.51	---	---	20.2	15.2	12.1	10.1	8.7	7.6	6.7	6.1	5.5	5.1
04	XC	10	0.20	23.8	11.9	7.9	5.9	4.8	4.0	3.4	3.0	2.6	2.4	2.2	2.0
	VC	15	0.24	---	14.5	9.7	7.3	5.8	4.8	4.2	3.6	3.2	2.9	2.6	2.4
	C	20	0.28	---	16.8	11.2	8.4	6.7	5.6	4.8	4.2	3.7	3.4	3.1	2.8
	M	30	0.35	---	20.6	13.7	10.3	8.2	6.9	5.9	5.1	4.6	4.1	3.7	3.4
	M	40	0.40	---	23.8	15.8	11.9	9.5	7.9	6.8	5.9	5.3	4.8	4.3	4.0
	M	50	0.45	---	---	17.7	13.3	10.6	8.9	7.6	6.6	5.9	5.3	4.8	4.4
	M	60	0.49	---	---	19.4	14.5	11.6	9.7	8.3	7.3	6.5	5.8	5.3	4.8
	M	70	0.53	---	---	21.0	15.7	12.6	10.5	9.0	7.9	7.0	6.3	5.7	5.2
	M	80	0.57	---	---	22.4	16.8	13.4	11.2	9.6	8.4	7.5	6.7	6.1	5.6
	F	85	0.58	---	---	23.1	17.3	13.9	11.5	9.9	8.7	7.7	6.9	6.3	5.8
05	XC	10	0.25	---	14.9	9.9	7.4	5.9	5.0	4.2	3.7	3.3	3.0	2.7	2.5
	VC	15	0.31	---	18.2	12.1	9.1	7.3	6.1	5.2	4.5	4.0	3.6	3.3	3.0
	C	20	0.35	---	21.0	14.0	10.5	8.4	7.0	6.0	5.3	4.7	4.2	3.8	3.5
	C	30	0.43	---	---	17.1	12.9	10.3	8.6	7.3	6.4	5.7	5.1	4.7	4.3
	M	40	0.50	---	---	19.8	14.9	11.9	9.9	8.5	7.4	6.6	5.9	5.4	5.0
	M	50	0.56	---	---	22.1	16.6	13.3	11.1	9.5	8.3	7.4	6.6	6.0	5.5
	M	60	0.61	---	---	24.2	18.2	14.5	12.1	10.4	9.1	8.1	7.3	6.6	6.1
	M	70	0.66	---	---	---	19.6	15.7	13.1	11.2	9.8	8.7	7.9	7.1	6.5
	M	80	0.71	---	---	---	21.0	16.8	14.0	12.0	10.5	9.3	8.4	7.6	7.0
	M	85	0.73	---	---	---	21.6	17.3	14.4	12.4	10.8	9.6	8.7	7.9	7.2
06	XC	10	0.30	---	17.8	11.9	8.9	7.1	5.9	5.1	4.5	4.0	3.6	3.2	3.0
	VC	15	0.37	---	21.8	14.5	10.9	8.7	7.3	6.2	5.5	4.8	4.4	4.0	3.6
	C	20	0.42	---	---	16.8	12.6	10.1	8.4	7.2	6.3	5.6	5.0	4.6	4.2
	C	30	0.52	---	---	20.6	15.4	12.3	10.3	8.8	7.7	6.9	6.2	5.6	5.1
	C	40	0.60	---	---	23.8	17.8	14.3	11.9	10.2	8.9	7.9	7.1	6.5	5.9
	M	50	0.67	---	---	---	19.9	15.9	13.3	11.4	10.0	8.9	8.0	7.2	6.6
	M	60	0.73	---	---	---	21.8	17.5	14.5	12.5	10.9	9.7	8.7	7.9	7.3
	M	70	0.79	---	---	---	23.6	18.9	15.7	13.5	11.8	10.5	9.4	8.6	7.9
	M	80	0.85	---	---	---	---	20.2	16.8	14.4	12.6	11.2	10.1	9.2	8.4
	M	85	0.87	---	---	---	---	20.8	17.3	14.8	13.0	11.5	10.4	9.4	8.7
08	XC	10	0.30	---	17.8	11.9	8.9	7.1	5.9	5.1	4.5	4.0	3.6	3.2	3.0
	VC	15	0.37	---	21.8	14.5	10.9	8.7	7.3	6.2	5.5	4.8	4.4	4.0	3.6
	VC	20	0.42	---	---	16.8	12.6	10.1	8.4	7.2	6.3	5.6	5.0	4.6	4.2
	C	30	0.69	---	---	---	20.6	16.5	13.7	11.8	10.3	9.1	8.2	7.5	6.9
	C	40	0.80	---	---	---	23.8	19.0	15.8	13.6	11.9	10.6	9.5	8.6	7.9
	M	50	0.89	---	---	---	---	21.3	17.7	15.2	13.3	11.8	10.6	9.7	8.9
	M	60	0.98	---	---	---	---	23.3	19.4	16.6	14.5	12.9	11.6	10.6	9.7
	M	70	1.06	---	---	---	---	25.1	21.0	18.0	15.7	14.0	12.6	11.4	10.5
	M	80	1.13	---	---	---	---	---	22.4	19.2	16.8	14.9	13.4	12.2	11.2
	M	85	1.17	---	---	---	---	---	23.1	19.8	17.3	15.4	13.9	12.6	11.5

Droplet data sourced at Silsoe Spray Applications Unit Ltd in a steady state condition per ASABE S572.2 Standard. January 2016.

Ultra-low-drift (ULD) 120°



The Ultra-low-drift (ULD) is the ideal spray nozzle for pre- and post-emergence product applications, where drift reduction is paramount. A unique thick spray pattern, measuring nearly 60° front to back, coupled with the 120° wide spray angle, enables the boom height to be lowered to further decrease drift potential.

- Creates air-filled droplets to significantly reduce spray drift potential
- Small, compact size compared to traditional air-induction nozzles, reduces the chances of accidental breakage
- Quick-change nozzle nozzle assembly includes tip, cap, gasket, and integrated strainer for easy installation

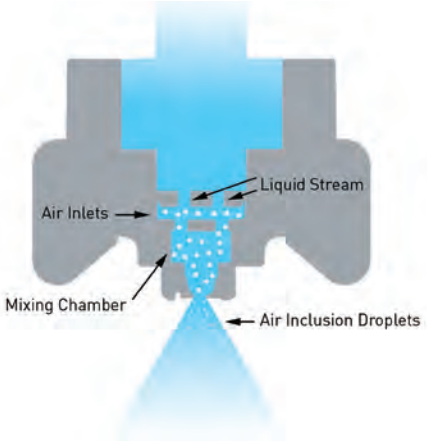
3D 100° spray angle - ASABE droplet size classification chart								
Tip size	015	02	025	03	04	05	06	08
Part Number	PSULDQ20015	PSULDQ2002	PSULDQ20025	PSULDQ2003	PSULDQ2004	PSULDQ2005	PSULDQ2006	PSULDQ2008
Tip Number	PSULD20015	PSULD2002	PSULD20025	PSULD2003	PSULD2004	PSULD2005	PSULD2006	PSULD2008
Cap Number	PS900015	PS90002	PS900025	PS90003	PS90004	PS90005	PS90006	PS90008
Pressure (PSI)								
20	UC	UC	UC	UC	UC	UC	UC	UC
30	XC	XC	VC	VC	UC	UC	UC	XC
40	VC	VC	C	C	UC	XC	XC	VC
50	VC	VC	C	C	XC	XC	XC	VC
60	C	C	M	C	XC	XC	VC	C
70	C	M	M	M	XC	VC	C	C
80	C	M	M	M	VC	VC	C	C
90	M	M	M	M	VC	VC	C	M
100	M	M	M	M	VC	C	C	M
115	M	M	M	M	C	C	M	M
Droplet data sourced at Silsoe Spray Applications Unit Ltd in a steady state condition per ASABE S572.1 Standard. January 2016.								

Features	
Common Use	Systemic Herbicide
Pattern	Tapered Flat Fan
Technology	Air Induction
Material	Polyacetal
Spray Angle	120˚
Pressure Range	20-115 PSI
Configuration	Quick Change

ExactApply™ Compatibility	
15Hz PWM	No
30Hz PWM	No
AutoSelect A/B	Yes
Conventional	Yes

Service Parts	
Cap gasket	PS17000255
Strainer (50 mesh)	PS310

Optimum boom height	
Nozzle spacing	Boom height
15 inches	13 inches
20 inches	18 inches



Ultra-low-drift Application Chart - 15-in. nozzle spacing

Tip Size	Droplet Size 120°	Pressure (PSI)	Flow (GPM)	Speed (MPH) 15-in. nozzle spacing — Gallons per Acre (GPA). 2.5	5.0	7.5	10.0	12.5	15.0	17.5	20.0	22.5	25.0	27.5	30.0
015	UC	20	0.11	16.8	8.4	5.6	4.2	3.4	2.8	2.4	2.1	1.9	1.7	1.5	1.4
	XC	30	0.13	20.6	10.3	6.9	5.1	4.1	3.4	2.9	2.6	2.3	2.1	1.9	1.7
	VC	40	0.15	23.8	11.9	7.9	5.9	4.8	4.0	3.4	3.0	2.6	2.4	2.2	2.0
	VC	50	0.17	---	13.3	8.9	6.6	5.3	4.4	3.8	3.3	3.0	2.7	2.4	2.2
	C	60	0.18	---	14.5	9.7	7.3	5.8	4.8	4.2	3.6	3.2	2.9	2.6	2.4
	C	70	0.20	---	15.7	10.5	7.9	6.3	5.2	4.5	3.9	3.5	3.1	2.9	2.6
	C	80	0.21	---	16.8	11.2	8.4	6.7	5.6	4.8	4.2	3.7	3.4	3.1	2.8
	M	90	0.23	---	17.8	11.9	8.9	7.1	5.9	5.1	4.5	4.0	3.6	3.2	3.0
	M	100	0.24	---	18.8	12.5	9.4	7.5	6.3	5.4	4.7	4.2	3.8	3.4	3.1
	M	115	0.25	---	20.1	13.4	10.1	8.1	6.7	5.8	5.0	4.5	4.0	3.7	3.4
02	UC	20	0.14	22.4	11.2	7.5	5.6	4.5	3.7	3.2	2.8	2.5	2.2	2.0	1.9
	XC	30	0.17	---	13.7	9.1	6.9	5.5	4.6	3.9	3.4	3.0	2.7	2.5	2.3
	VC	40	0.20	---	15.8	10.6	7.9	6.3	5.3	4.5	4.0	3.5	3.2	2.9	2.6
	VC	50	0.22	---	17.7	11.8	8.9	7.1	5.9	5.1	4.4	3.9	3.5	3.2	3.0
	C	60	0.24	---	19.4	12.9	9.7	7.8	6.5	5.5	4.8	4.3	3.9	3.5	3.2
	M	70	0.26	---	21.0	14.0	10.5	8.4	7.0	6.0	5.2	4.7	4.2	3.8	3.5
	M	80	0.28	---	22.4	14.9	11.2	9.0	7.5	6.4	5.6	5.0	4.5	4.1	3.7
	M	90	0.30	---	23.8	15.8	11.9	9.5	7.9	6.8	5.9	5.3	4.8	4.3	4.0
	M	100	0.32	---	25.0	16.7	12.5	10.0	8.3	7.2	6.3	5.6	5.0	4.6	4.2
	M	115	0.34	---	---	17.9	13.4	10.7	9.0	7.7	6.7	6.0	5.4	4.9	4.5
025	UC	20	0.18	---	14.0	9.3	7.0	5.6	4.7	4.0	3.5	3.1	2.8	2.5	2.3
	VC	30	0.22	---	17.1	11.4	8.6	6.9	5.7	4.9	4.3	3.8	3.4	3.1	2.9
	C	40	0.25	---	19.8	13.2	9.9	7.9	6.6	5.7	5.0	4.4	4.0	3.6	3.3
	C	50	0.28	---	22.1	14.8	11.1	8.9	7.4	6.3	5.5	4.9	4.4	4.0	3.7
	M	60	0.31	---	24.2	16.2	12.1	9.7	8.1	6.9	6.1	5.4	4.8	4.4	4.0
	M	70	0.33	---	---	17.5	13.1	10.5	8.7	7.5	6.5	5.8	5.2	4.8	4.4
	M	80	0.35	---	---	18.7	14.0	11.2	9.3	8.0	7.0	6.2	5.6	5.1	4.7
	M	90	0.38	---	---	19.8	14.9	11.9	9.9	8.5	7.4	6.6	5.9	5.4	5.0
	M	100	0.40	---	---	20.9	15.7	12.5	10.4	8.9	7.8	7.0	6.3	5.7	5.2
	M	115	0.42	---	---	22.4	16.8	13.4	11.2	9.6	8.4	7.5	6.7	6.1	5.6
03	UC	20	0.21	---	16.8	11.2	8.4	6.7	5.6	4.8	4.2	3.7	3.4	3.1	2.8
	VC	30	0.26	---	20.6	13.7	10.3	8.2	6.9	5.9	5.1	4.6	4.1	3.7	3.4
	C	40	0.30	---	23.8	15.8	11.9	9.5	7.9	6.8	5.9	5.3	4.8	4.3	4.0
	C	50	0.34	---	---	17.7	13.3	10.6	8.9	7.6	6.6	5.9	5.3	4.8	4.4
	C	60	0.37	---	---	19.4	14.5	11.6	9.7	8.3	7.3	6.5	5.8	5.3	4.8
	M	70	0.40	---	---	21.0	15.7	12.6	10.5	9.0	7.9	7.0	6.3	5.7	5.2
	M	80	0.42	---	---	22.4	16.8	13.4	11.2	9.6	8.4	7.5	6.7	6.1	5.6
	M	90	0.45	---	---	23.8	17.8	14.3	11.9	10.2	8.9	7.9	7.1	6.5	5.9
	M	100	0.47	---	---	25.0	18.8	15.0	12.5	10.7	9.4	8.3	7.5	6.8	6.3
	M	115	0.51	---	---	26.9	20.1	16.1	13.4	11.5	10.1	9.0	8.1	7.3	6.7
04	UC	20	0.28	---	22.4	14.9	11.2	9.0	7.5	6.4	5.6	5.0	4.5	4.1	3.7
	UC	30	0.35	---	---	18.3	13.7	11.0	9.1	7.8	6.9	6.1	5.5	5.0	4.6
	UC	40	0.40	---	---	21.1	15.8	12.7	10.6	9.1	7.9	7.0	6.3	5.8	5.3
	XC	50	0.45	---	---	23.6	17.7	14.2	11.8	10.1	8.9	7.9	7.1	6.4	5.9
	XC	60	0.49	---	---	---	19.4	15.5	12.9	11.1	9.7	8.6	7.8	7.1	6.5
	XC	70	0.53	---	---	---	21.0	16.8	14.0	12.0	10.5	9.3	8.4	7.6	7.0
	VC	80	0.57	---	---	---	22.4	17.9	14.9	12.8	11.2	10.0	9.0	8.1	7.5
	VC	90	0.60	---	---	---	23.8	19.0	15.8	13.6	11.9	10.6	9.5	8.6	7.9
	VC	100	0.63	---	---	---	25.0	20.0	16.7	14.3	12.5	11.1	10.0	9.1	8.3
	C	115	0.68	---	---	---	26.9	21.5	17.9	15.3	13.4	11.9	10.7	9.8	9.0
05	UC	20	0.35	---	---	18.7	14.0	11.2	9.3	8.0	7.0	6.2	5.6	5.1	4.7
	UC	30	0.43	---	---	22.9	17.1	13.7	11.4	9.8	8.6	7.6	6.9	6.2	5.7
	XC	40	0.50	---	---	---	19.8	15.8	13.2	11.3	9.9	8.8	7.9	7.2	6.6
	XC	50	0.56	---	---	---	22.1	17.7	14.8	12.6	11.1	9.8	8.9	8.0	7.4
	XC	60	0.61	---	---	---	24.2	19.4	16.2	13.9	12.1	10.8	9.7	8.8	8.1
	VC	70	0.66	---	---	---	---	21.0	17.5	15.0	13.1	11.6	10.5	9.5	8.7
	VC	80	0.71	---	---	---	---	22.4	18.7	16.0	14.0	12.4	11.2	10.2	9.3
	VC	90	0.75	---	---	---	---	23.8	19.8	17.0	14.9	13.2	11.9	10.8	9.9
	C	100	0.79	---	---	---	---	25.0	20.9	17.9	15.7	13.9	12.5	11.4	10.4
	C	115	0.85	---	---	---	---	---	22.4	19.2	16.8	14.9	13.4	12.2	11.2
06	UC	20	0.42	---	---	22.4	16.8	13.4	11.2	9.6	8.4	7.5	6.7	6.1	5.6
	UC	30	0.52	---	---	---	20.6	16.5	13.7	11.8	10.3	9.1	8.2	7.5	6.9
	XC	40	0.60	---	---	---	23.8	19.0	15.8	13.6	11.9	10.6	9.5	8.6	7.9
	XC	50	0.67	---	---	---	---	21.3	17.7	15.2	13.3	11.8	10.6	9.7	8.9
	VC	60	0.73	---	---	---	---	23.3	19.4	16.6	14.5	12.9	11.6	10.6	9.7
	C	70	0.79	---	---	---	---	---	21.0	18.0	15.7	14.0	12.6	11.4	10.5
	C	80	0.85	---	---	---	---	---	22.4	19.2	16.8	14.9	13.4	12.2	11.2
	C	90	0.90	---	---	---	---	---	23.8	20.4	17.8	15.8	14.3	13.0	11.9
	C	100	0.95	---	---	---	---	---	25.0	21.5	18.8	16.7	15.0	13.7	12.5
	M	115	1.02	---	---	---	---	---	---	23.0	20.1	17.9	16.1	14.6	13.4
08	UC	20	0.57	---	---	29.9	22.4	17.9	14.9	12.8	11.2	10.0	9.0	8.1	7.5
	XC	30	0.69	---	---	---	---	21.9	18.3	15.7	13.7	12.2	11.0	10.0	9.1
	VC	40	0.80	---	---	---	---	---	21.1	18.1	15.8	14.1	12.7	11.5	10.6
	VC	50	0.89	---	---	---	---	---	23.6	20.2	17.7	15.7	14.2	12.9	11.8
	C	60	0.98	---	---	---	---	---	---	22.2	19.4	17.2	15.5	14.1	12.9
	C	70	1.06	---	---	---	---	---	---	23.9	21.0	18.6	16.8	15.2	14.0
	C	80	1.13	---	---	---	---	---	---	---	22.4	19.9	17.9	16.3	14.9
	M	90	1.20	---	---	---	---	---	---	---	23.8	21.1	19.0	17.3	15.8
	M	100	1.26	---	---	---	---	---	---	---	25.0	22.3	20.0	18.2	16.7
	M	115	1.36	---	---	---	---	---	---	---	---	23.9	21.5	19.5	17.9

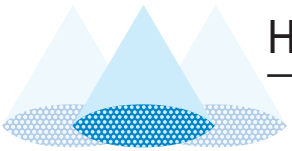
Droplet data sourced at Silsoe Spray Applications Unit Ltd in a steady state condition per ASABE S572.2 Standard. January 2016.

Ultra-low-drift Application Chart - 20-in. nozzle spacing

Tip Size	Droplet Size 120°	Pressure (PSI)	Flow (GPM)	Speed (MPH) 20-in. nozzle spacing											
				2.5	5.0	7.5	10.0	12.5	15.0	17.5	20.0	22.5	25.0	27.5	30.0
015	UC	20	0.11	12.6	6.3	4.2	3.2	2.5	2.1	1.8	1.6	1.4	1.3	1.1	1.1
	XC	30	0.13	15.4	7.7	5.1	3.9	3.1	2.6	2.2	1.9	1.7	1.5	1.4	1.3
	VC	40	0.15	17.8	8.9	5.9	4.5	3.6	3.0	2.5	2.2	2.0	1.8	1.6	1.5
	VC	50	0.17	19.9	10.0	6.6	5.0	4.0	3.3	2.8	2.5	2.2	2.0	1.8	1.7
	C	60	0.18	21.8	10.9	7.3	5.5	4.4	3.6	3.1	2.7	2.4	2.2	2.0	1.8
	C	70	0.20	23.6	11.8	7.9	5.9	4.7	3.9	3.4	2.9	2.6	2.4	2.1	2.0
	C	80	0.21	---	12.6	8.4	6.3	5.0	4.2	3.6	3.2	2.8	2.5	2.3	2.1
	M	90	0.23	---	13.4	8.9	6.7	5.3	4.5	3.8	3.3	3.0	2.7	2.4	2.2
	M	100	0.24	---	14.1	9.4	7.0	5.6	4.7	4.0	3.5	3.1	2.8	2.6	2.3
	M	115	0.25	---	15.1	10.1	7.6	6.0	5.0	4.3	3.8	3.4	3.0	2.7	2.5
02	UC	20	0.14	16.8	8.4	5.6	4.2	3.4	2.8	2.4	2.1	1.9	1.7	1.5	1.4
	XC	30	0.17	20.6	10.3	6.9	5.1	4.1	3.4	2.9	2.6	2.3	2.1	1.9	1.7
	VC	40	0.20	23.8	11.9	7.9	5.9	4.8	4.0	3.4	3.0	2.6	2.4	2.2	2.0
	VC	50	0.22	---	13.3	8.9	6.6	5.3	4.4	3.8	3.3	3.0	2.7	2.4	2.2
	C	60	0.24	---	14.5	9.7	7.3	5.8	4.8	4.2	3.6	3.2	2.9	2.6	2.4
	M	70	0.26	---	15.7	10.5	7.9	6.3	5.2	4.5	3.9	3.5	3.1	2.9	2.6
	M	80	0.28	---	16.8	11.2	8.4	6.7	5.6	4.8	4.2	3.7	3.4	3.1	2.8
	M	90	0.30	---	17.8	11.9	8.9	7.1	5.9	5.1	4.5	4.0	3.6	3.2	3.0
	M	100	0.32	---	18.8	12.5	9.4	7.5	6.3	5.4	4.7	4.2	3.8	3.4	3.1
	M	115	0.34	---	20.1	13.4	10.1	8.1	6.7	5.8	5.0	4.5	4.0	3.7	3.4
025	UC	20	0.18	21.0	10.5	7.0	5.3	4.2	3.5	3.0	2.6	2.3	2.1	1.9	1.8
	VC	30	0.22	---	12.9	8.6	6.4	5.1	4.3	3.7	3.2	2.9	2.6	2.3	2.1
	C	40	0.25	---	14.9	9.9	7.4	5.9	5.0	4.2	3.7	3.3	3.0	2.7	2.5
	C	50	0.28	---	16.6	11.1	8.3	6.6	5.5	4.7	4.2	3.7	3.3	3.0	2.8
	M	60	0.31	---	18.2	12.1	9.1	7.3	6.1	5.2	4.5	4.0	3.6	3.3	3.0
	M	70	0.33	---	19.6	13.1	9.8	7.9	6.5	5.6	4.9	4.4	3.9	3.6	3.3
	M	80	0.35	---	21.0	14.0	10.5	8.4	7.0	6.0	5.3	4.7	4.2	3.8	3.5
	M	90	0.38	---	22.3	14.9	11.1	8.9	7.4	6.4	5.6	5.0	4.5	4.1	3.7
	M	100	0.40	---	23.5	15.7	11.7	9.4	7.8	6.7	5.9	5.2	4.7	4.3	3.9
	M	115	0.42	---	---	16.8	12.6	10.1	8.4	7.2	6.3	5.6	5.0	4.6	4.2
03	UC	20	0.21	---	12.6	8.4	6.3	5.0	4.2	3.6	3.2	2.8	2.5	2.3	2.1
	VC	30	0.26	---	15.4	10.3	7.7	6.2	5.1	4.4	3.9	3.4	3.1	2.8	2.6
	C	40	0.30	---	17.8	11.9	8.9	7.1	5.9	5.1	4.5	4.0	3.6	3.2	3.0
	C	50	0.34	---	19.9	13.3	10.0	8.0	6.6	5.7	5.0	4.4	4.0	3.6	3.3
	C	60	0.37	---	21.8	14.5	10.9	8.7	7.3	6.2	5.5	4.8	4.4	4.0	3.6
	M	70	0.40	---	23.6	15.7	11.8	9.4	7.9	6.7	5.9	5.2	4.7	4.3	3.9
	M	80	0.42	---	---	16.8	12.6	10.1	8.4	7.2	6.3	5.6	5.0	4.6	4.2
	M	90	0.45	---	---	17.8	13.4	10.7	8.9	7.6	6.7	5.9	5.3	4.9	4.5
	M	100	0.47	---	---	18.8	14.1	11.3	9.4	8.1	7.0	6.3	5.6	5.1	4.7
	M	115	0.51	---	---	20.1	15.1	12.1	10.1	8.6	7.6	6.7	6.0	5.5	5.0
04	UC	20	0.28	---	16.8	11.2	8.4	6.7	5.6	4.8	4.2	3.7	3.4	3.1	2.8
	UC	30	0.35	---	20.6	13.7	10.3	8.2	6.9	5.9	5.1	4.6	4.1	3.7	3.4
	UC	40	0.40	---	23.8	15.8	11.9	9.5	7.9	6.8	5.9	5.3	4.8	4.3	4.0
	XC	50	0.45	---	---	17.7	13.3	10.6	8.9	7.6	6.6	5.9	5.3	4.8	4.4
	XC	60	0.49	---	---	19.4	14.5	11.6	9.7	8.3	7.3	6.5	5.8	5.3	4.8
	XC	70	0.53	---	---	21.0	15.7	12.6	10.5	9.0	7.9	7.0	6.3	5.7	5.2
	VC	80	0.57	---	---	22.4	16.8	13.4	11.2	9.6	8.4	7.5	6.7	6.1	5.6
	VC	90	0.60	---	---	23.8	17.8	14.3	11.9	10.2	8.9	7.9	7.1	6.5	5.9
	VC	100	0.63	---	---	25.0	18.8	15.0	12.5	10.7	9.4	8.3	7.5	6.8	6.3
	C	115	0.68	---	---	---	20.1	16.1	13.4	11.5	10.1	9.0	8.1	7.3	6.7
05	UC	20	0.35	---	21.0	14.0	10.5	8.4	7.0	6.0	5.3	4.7	4.2	3.8	3.5
	UC	30	0.43	---	---	17.1	12.9	10.3	8.6	7.3	6.4	5.7	5.1	4.7	4.3
	XC	40	0.50	---	---	19.8	14.9	11.9	9.9	8.5	7.4	6.6	5.9	5.4	5.0
	XC	50	0.56	---	---	22.1	16.6	13.3	11.1	9.5	8.3	7.4	6.6	6.0	5.5
	XC	60	0.61	---	---	24.2	18.2	14.5	12.1	10.4	9.1	8.1	7.3	6.6	6.1
	VC	70	0.66	---	---	---	19.6	15.7	13.1	11.2	9.8	8.7	7.9	7.1	6.5
	VC	80	0.71	---	---	---	21.0	16.8	14.0	12.0	10.5	9.3	8.4	7.6	7.0
	VC	90	0.75	---	---	---	22.3	17.8	14.9	12.7	11.1	9.9	8.9	8.1	7.4
	C	100	0.79	---	---	---	23.5	18.8	15.7	13.4	11.7	10.4	9.4	8.5	7.8
	C	115	0.85	---	---	---	---	20.1	16.8	14.4	12.6	11.2	10.1	9.2	8.4
06	UC	20	0.42	---	---	16.8	12.6	10.1	8.4	7.2	6.3	5.6	5.0	4.6	4.2
	UC	30	0.52	---	---	20.6	15.4	12.3	10.3	8.8	7.7	6.9	6.2	5.6	5.1
	XC	40	0.60	---	---	23.8	17.8	14.3	11.9	10.2	8.9	7.9	7.1	6.5	5.9
	XC	50	0.67	---	---	---	19.9	15.9	13.3	11.4	10.0	8.9	8.0	7.2	6.6
	VC	60	0.73	---	---	---	21.8	17.5	14.5	12.5	10.9	9.7	8.7	7.9	7.3
	C	70	0.79	---	---	---	23.6	18.9	15.7	13.5	11.8	10.5	9.4	8.6	7.9
	C	80	0.85	---	---	---	---	20.2	16.8	14.4	12.6	11.2	10.1	9.2	8.4
	C	90	0.90	---	---	---	---	21.4	17.8	15.3	13.4	11.9	10.7	9.7	8.9
	C	100	0.95	---	---	---	---	22.5	18.8	16.1	14.1	12.5	11.3	10.2	9.4
	M	115	1.02	---	---	---	---	24.2	20.1	17.3	15.1	13.4	12.1	11.0	10.1
08	UC	20	0.57	---	---	22.4	16.8	13.4	11.2	9.6	8.4	7.5	6.7	6.1	5.6
	XC	30	0.69	---	---	---	---	16.5	13.7	11.8	10.3	9.1	8.2	7.5	6.9
	VC	40	0.80	---	---	---	---	19.0	15.8	13.6	11.9	10.6	9.5	8.6	7.9
	VC	50	0.89	---	---	---	---	21.3	17.7	15.2	13.3	11.8	10.6	9.7	8.9
	C	60	0.98	---	---	---	---	23.3	19.4	16.6	14.5	12.9	11.6	10.6	9.7
	C	70	1.06	---	---	---	---	---	21.0	18.0	15.7	14.0	12.6	11.4	10.5
	C	80	1.13	---	---	---	---	---	22.4	19.2	16.8	14.9	13.4	12.2	11.2
	M	90	1.20	---	---	---	---	---	23.8	20.4	17.8	15.8	14.3	13.0	11.9
	M	100	1.26	---	---	---	---	---	25.0	21.5	18.8	16.7	15.0	13.7	12.5
	M	115	1.36	---	---	---	---	---	---	23.0	20.1	17.9	16.1	14.6	13.4

Droplet data sourced at Silsoe Spray Applications Unit Ltd in a steady state condition per ASABE S572.2 Standard. January 2016.

High-flow (HF) 140°





The High-flow (HF) nozzle is a premium choice for pre-plant liquid fertilizers, including the use of fertilizer blends with pre-emergent herbicides for "burndown." The wide 140° pattern allows a low boom height, minimizing corrosive effects on application equipment. A tapered, wide-angle, fan style promotes uniform nutrient application.

- Features a removable pre-orifice for in-field cleaning
- Straight-through design helps reduce clogging and drift
- Quick-change nozzle assembly includes tip and cap (one piece) and gasket.

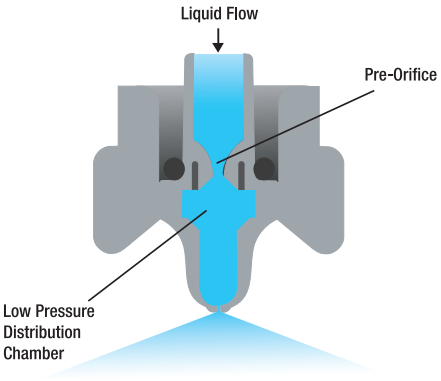
High-flow (HF) 140° spray angle - ASABE droplet size classification chart								
Tip size	08	10	15	20	30	40	50	60
Part Number	PSHFQ4008	PSHFQ4010	PSHFQ4015	PSHFQ4020	PSHFQ4030	PSHFQ4040	PSHFQ4050	PSHFQ4060
Pressure (PSI)								
20	UC	UC	UC	UC	UC	UC	UC	UC
30	UC	UC	UC	UC	UC	UC	UC	UC
40	UC	UC	UC	UC	UC	UC	UC	UC
50	UC	UC	UC	UC	UC	UC	UC	UC
60	XC	XC	XC	XC	XC	XC	XC	XC
70	XC	XC	XC	XC	XC	XC	XC	XC
80	XC	XC	XC	XC	XC	XC	XC	XC
85	XC	XC	XC	XC	XC	XC	XC	XC
Droplet data sourced at Silsoe Spray Applications Unit Ltd in a steady state condition per ASABE S572.1. January 2016.								

Features	
Common Use	Liquid Fertilizer
Pattern	Tapered Flat Fan
Technology	Pre-orifice
Material	Polyacetal
Spray Angle	140°
Pressure Range	20-85 PSI
Configuration	Quick Change

ExactApply™ Compatibility	
15Hz PWM	Yes
30Hz PWM	Yes
AutoSelect A/B	Yes
Conventional	Yes

Service Parts	
Cap gasket	PM65BS205

Optimum boom height	
Nozzle spacing	Boom height
15 inches	10 inches
20 inches	12 inches



High-flow Application Chart - 15-in. nozzle spacing

Tip Size	Droplet Size 140°	Pressure (PSI)	Flow (GPM)	Speed (MPH) 15-in. nozzle spacing — Gallons per Acre (GPA). Water.													
				2.5	5.0	7.5	10.0	12.5	15.0	17.5	20.0	22.5	25.0	27.5	30.0	45.0	60.0
08	UC	20	0.57	---	---	---	22.4	17.9	14.9	12.8	11.2	10.0	9.0	8.1	7.5	5.3	4.0
	UC	30	0.69	---	---	---	---	21.9	18.3	15.7	13.7	12.2	11.0	10.0	9.1	6.2	4.6
	UC	**40**	**0.80**	---	---	---	---	25.3	21.1	18.1	15.8	14.1	12.7	11.5	10.6	7.0	5.3
	UC	50	0.89	---	---	---	---	28.3	23.6	20.2	17.7	15.7	14.2	12.9	11.8	7.9	5.9
	XC	60	0.98	---	---	---	---	---	---	22.2	19.4	17.2	15.5	14.1	12.9	8.8	6.6
	XC	70	1.06	---	---	---	---	---	---	23.9	21.0	18.6	16.8	15.2	14.0	9.7	7.3
	XC	80	1.13	---	---	---	---	---	---	---	22.4	19.9	17.9	16.3	14.9	9.7	7.3
	XC	85	1.17	---	---	---	---	---	---	---	23.1	20.5	18.5	16.8	15.4	10.6	7.9
10	UC	20	0.7	---	---	---	---	22.4	18.7	16.0	14.0	12.4	11.2	10.2	9.3	6.2	4.6
	UC	30	0.9	---	---	---	---	---	22.9	19.6	17.1	15.2	13.7	12.5	11.4	7.9	5.9
	UC	**40**	**1.0**	---	---	---	---	---	---	22.6	19.8	17.6	15.8	14.4	13.2	8.8	6.6
	UC	50	1.1	---	---	---	---	---	---	---	22.1	19.7	17.7	16.1	14.8	9.7	7.3
	XC	60	1.2	---	---	---	---	---	---	---	24.2	21.6	19.4	17.6	16.2	10.6	7.9
	XC	70	1.3	---	---	---	---	---	---	---	---	23.3	21.0	19.0	17.5	11.4	8.6
	XC	80	1.4	---	---	---	---	---	---	---	---	24.9	22.4	20.4	18.7	12.3	9.2
	XC	85	1.5	---	---	---	---	---	---	---	---	---	23.1	21.0	19.2	13.2	9.9
15	UC	20	1.1	---	---	---	---	---	---	24.0	21.0	18.7	16.8	15.3	14.0	9.7	7.3
	UC	30	1.3	---	---	---	---	---	---	---	---	22.9	20.6	18.7	17.1	11.4	8.6
	UC	**40**	**1.5**	---	---	---	---	---	---	---	---	---	23.8	21.6	19.8	13.2	9.9
	UC	50	1.7	---	---	---	---	---	---	---	---	---	---	24.1	22.1	15.0	11.2
	XC	60	1.8	---	---	---	---	---	---	---	---	---	---	---	24.2	15.8	11.9
	XC	70	2.0	---	---	---	---	---	---	---	---	---	---	---	---	17.6	13.2
	XC	80	2.1	---	---	---	---	---	---	---	---	---	---	---	---	18.5	13.9
	XC	85	2.2	---	---	---	---	---	---	---	---	---	---	---	---	19.4	14.5
20	UC	20	1.41	---	---	---	---	---	---	---	---	24.9	22.4	20.4	18.7	12.3	9.2
	UC	30	1.73	---	---	---	---	---	---	---	---	---	---	24.9	22.9	15.0	11.2
	UC	**40**	**2.00**	---	---	---	---	---	---	---	---	---	---	---	---	17.6	13.2
	UC	50	2.24	---	---	---	---	---	---	---	---	---	---	---	---	19.4	14.5
	XC	60	2.45	---	---	---	---	---	---	---	---	---	---	---	---	21.1	15.8
	XC	70	2.65	---	---	---	---	---	---	---	---	---	---	---	---	22.9	17.2
	XC	80	2.83	---	---	---	---	---	---	---	---	---	---	---	---	24.6	18.5
	XC	85	2.92	---	---	---	---	---	---	---	---	---	---	---	---	---	19.1
30	UC	20	2.12	---	---	---	---	---	---	---	---	---	---	---	---	18.5	13.9
	UC	30	2.60	---	---	---	---	---	---	---	---	---	---	---	---	22.9	17.2
	UC	**40**	**3.00**	---	---	---	---	---	---	---	---	---	---	---	---	---	19.8
	UC	50	3.35	---	---	---	---	---	---	---	---	---	---	---	---	---	22.4
	XC	60	3.67	---	---	---	---	---	---	---	---	---	---	---	---	---	24.4
	XC	70	3.97	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	XC	80	4.24	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	XC	85	4.37	---	---	---	---	---	---	---	---	---	---	---	---	---	---
40	UC	20	2.83	---	---	---	---	---	---	---	---	---	---	---	---	24.6	18.5
	UC	30	3.46	---	---	---	---	---	---	---	---	---	---	---	---	---	23.1
	UC	**40**	**4.00**	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	UC	50	4.47	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	XC	60	4.90	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	XC	70	5.29	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	XC	80	5.66	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	XC	85	5.83	---	---	---	---	---	---	---	---	---	---	---	---	---	---
50	UC	20	3.54	---	---	---	---	---	---	---	---	---	---	---	---	---	23.1
	UC	30	4.33	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	UC	**40**	**5.00**	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	UC	50	5.59	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	XC	60	6.12	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	XC	70	6.61	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	XC	80	7.07	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	XC	85	7.29	---	---	---	---	---	---	---	---	---	---	---	---	---	---
60	UC	20	4.24	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	UC	30	5.20	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	UC	**40**	**6.00**	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	UC	50	6.71	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	XC	60	7.35	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	XC	70	7.94	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	XC	80	8.49	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	XC	85	8.75	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Droplet data sourced at Silsoe Spray Applications Unit Ltd in a steady state condition per ASABE S572.1 Standard. January 2016.

High-flow Application Chart - 20-in. nozzle spacing

Tip Size	Droplet Size 140°	Pressure (PSI)	Flow (GPM)	Speed (MPH) 20-in. nozzle spacing. Gallons per Acre (GPA). Water. 2.5	5.0	7.5	10.0	12.5	15.0	17.5	20.0	22.5	25.0	27.5	30.0	45.0	60.0
08	UC	20	0.57	---	---	22.4	16.8	13.4	11.2	9.6	8.4	7.5	6.7	6.1	5.6	4.0	3.0
	UC	30	0.69	---	---	---	20.6	16.5	13.7	11.8	10.3	9.1	8.2	7.5	6.9	4.6	3.5
	UC	**40**	**0.80**	---	---	---	23.8	19.0	15.8	13.6	11.9	10.6	9.5	8.6	7.9	5.3	4.0
	UC	50	0.89	---	---	---	---	21.3	17.7	15.2	13.3	11.8	10.6	9.7	8.9	5.9	4.5
	XC	60	0.98	---	---	---	---	23.3	19.4	16.6	14.5	12.9	11.6	10.6	9.7	6.6	5.0
	XC	70	1.06	---	---	---	---	---	21.0	18.0	15.7	14.0	12.6	11.4	10.5	7.3	5.4
	XC	80	1.13	---	---	---	---	---	22.4	19.2	16.8	14.9	13.4	12.2	11.2	7.3	5.4
	XC	85	1.17	---	---	---	---	---	23.1	19.8	17.3	15.4	13.9	12.6	11.5	7.9	5.9
10	UC	20	0.7	---	---	---	21.0	16.8	14.0	12.0	10.5	9.3	8.4	7.6	7.0	4.6	3.5
	UC	30	0.9	---	---	---	---	20.6	17.1	14.7	12.9	11.4	10.3	9.4	8.6	5.9	4.5
	UC	**40**	**1.0**	---	---	---	---	23.8	19.8	17.0	14.9	13.2	11.9	10.8	9.9	6.6	5.0
	UC	50	1.1	---	---	---	---	---	22.1	19.0	16.6	14.8	13.3	12.1	11.1	7.3	5.4
	XC	60	1.2	---	---	---	---	---	24.2	20.8	18.2	16.2	14.5	13.2	12.1	7.9	5.9
	XC	70	1.3	---	---	---	---	---	---	22.5	19.6	17.5	15.7	14.3	13.1	8.6	6.4
	XC	80	1.4	---	---	---	---	---	---	24.0	21.0	18.7	16.8	15.3	14.0	9.2	6.9
	XC	85	1.5	---	---	---	---	---	---	24.7	21.6	19.2	17.3	15.7	14.4	9.9	7.4
15	UC	20	1.1	---	---	---	---	---	21.0	18.0	15.8	14.0	12.6	11.5	10.5	7.3	5.4
	UC	30	1.3	---	---	---	---	---	---	22.0	19.3	17.1	15.4	14.0	12.9	8.6	6.4
	UC	**40**	**1.5**	---	---	---	---	---	---	---	22.3	19.8	17.8	16.2	14.9	9.9	7.4
	UC	50	1.7	---	---	---	---	---	---	---	24.9	22.1	19.9	18.1	16.6	11.2	8.4
	XC	60	1.8	---	---	---	---	---	---	---	---	24.2	21.8	19.8	18.2	11.9	8.9
	XC	70	2.0	---	---	---	---	---	---	---	---	---	23.6	21.4	19.6	13.2	9.9
	XC	80	2.1	---	---	---	---	---	---	---	---	---	---	22.9	21.0	13.9	10.4
	XC	85	2.2	---	---	---	---	---	---	---	---	---	---	23.6	21.6	14.5	10.9
20	UC	20	1.41	---	---	---	---	---	---	24.0	21.0	18.7	16.8	15.3	14.0	9.2	6.9
	UC	30	1.73	---	---	---	---	---	---	---	---	22.9	20.6	18.7	17.1	11.2	8.4
	UC	**40**	**2.00**	---	---	---	---	---	---	---	---	---	23.8	21.6	19.8	13.2	9.9
	UC	50	2.24	---	---	---	---	---	---	---	---	---	---	24.1	22.1	14.5	10.9
	XC	60	2.45	---	---	---	---	---	---	---	---	---	---	---	24.2	15.8	11.9
	XC	70	2.65	---	---	---	---	---	---	---	---	---	---	---	---	17.2	12.9
	XC	80	2.83	---	---	---	---	---	---	---	---	---	---	---	---	18.5	13.9
	XC	85	2.92	---	---	---	---	---	---	---	---	---	---	---	---	19.1	14.4
30	UC	20	2.12	---	---	---	---	---	---	---	---	---	---	22.9	21.0	13.9	10.4
	UC	30	2.60	---	---	---	---	---	---	---	---	---	---	---	---	17.2	12.9
	UC	**40**	**3.00**	---	---	---	---	---	---	---	---	---	---	---	---	19.8	14.9
	UC	50	3.35	---	---	---	---	---	---	---	---	---	---	---	---	22.4	16.8
	XC	60	3.67	---	---	---	---	---	---	---	---	---	---	---	---	24.4	18.3
	XC	70	3.97	---	---	---	---	---	---	---	---	---	---	---	---	---	19.8
	XC	80	4.24	---	---	---	---	---	---	---	---	---	---	---	---	---	20.8
	XC	85	4.37	---	---	---	---	---	---	---	---	---	---	---	---	---	21.8
40	UC	20	2.83	---	---	---	---	---	---	---	---	---	---	---	---	18.5	13.9
	UC	30	3.46	---	---	---	---	---	---	---	---	---	---	---	---	23.1	17.3
	UC	**40**	**4.00**	---	---	---	---	---	---	---	---	---	---	---	---	---	19.8
	UC	50	4.47	---	---	---	---	---	---	---	---	---	---	---	---	---	22.3
	XC	60	4.90	---	---	---	---	---	---	---	---	---	---	---	---	---	24.3
	XC	70	5.29	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	XC	80	5.66	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	XC	85	5.83	---	---	---	---	---	---	---	---	---	---	---	---	---	---
50	UC	20	3.54	---	---	---	---	---	---	---	---	---	---	---	---	23.1	17.3
	UC	30	4.33	---	---	---	---	---	---	---	---	---	---	---	---	---	21.3
	UC	**40**	**5.00**	---	---	---	---	---	---	---	---	---	---	---	---	---	24.8
	UC	50	5.59	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	XC	60	6.12	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	XC	70	6.61	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	XC	80	7.07	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	XC	85	7.29	---	---	---	---	---	---	---	---	---	---	---	---	---	---
60	UC	20	4.24	---	---	---	---	---	---	---	---	---	---	---	---	---	20.8
	UC	30	5.20	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	UC	**40**	**6.00**	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	UC	50	6.71	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	XC	60	7.35	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	XC	70	7.94	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	XC	80	8.49	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	XC	85	8.75	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Droplet data sourced at Silsoe Spray Applications Unit Ltd in a steady state condition per ASABE S572.1 Standard. January 2016.

Primary Nozzles Index

Ultra-low-drift Max (ULDM)

Quick Change Nozzle	50 Mesh Strainer
10 pack	10 pack
PSULDMQ3004	PS0250
PSULDMQ3005	
PSULDMQ3006	
PSULDMQ3008	



Low-drift Max (LDM)

Quick Change Nozzle	Replacement Cap Gasket
10 pack	40 pack
PSLDMQ2003	EPDM - PM200040-1
PSLDMQ2004	Viton - PM200040V1
PSLDMQ2005	
PSLDMQ2006	
PSLDMQ2008	
PSLDMQ2010	



Low-drift Twin (LDT)

Quick Change Nozzle	50 Mesh Strainer
10 pack	10 pack
PSLDTQ1003	PS0250
PSLDTQ1004	
PSLDTQ1005	
PSLDTQ1006	
PSLDTQ1008	
PSLDTQ1010	
PSLDTQ1012	
PSLDTQ1016	



3D

Quick Change Nozzle	50 Mesh Strainer	100 Mesh Strainer
10 pack	10 pack	10 pack
PS3DQ00015	PS310	PS311
PS3DQ0002	Sizes: 04-08	Sizes: 015-035
PS3DQ00025		
PS3DQ0003		
PS3DQ00035		
PS3DQ0004		
PS3DQ0005		
PS3DQ0006		
PS3DQ0008		



Ultra-low-drift (ULD)

Quick Change Nozzle	Spray Tips	Caps	50 Mesh Strainers	Replacement Cap Gasket
10 pack	10 pack	10 pack	10 pack	40 pack
PSULDQ20015	PSULD20015	PS900015	PS310	PS17000255
PSULDQ2002	PSULD2002	PS90002		
PSULDQ20025	PSULD20025	PS900025		
PSULDQ2003	PSULD2003	PS90003		
PSULDQ2004	PSULD2004	PS90004		
PSULDQ2005	PSULD2005	PS90005		
PSULDQ2006	PSULD2006	PS90006		
PSULDQ2008	PSULD2008	PS90008		



High-flow (HF)

Quick Change Nozzle	Replacement Cap Gasket
10 pack	10 pack
PSHFQ4008	PM65BS205
PSHFQ4010	
PSHFQ4015	
PSHFQ4020	
PSHFQ4030	
PSHFQ4040	
PSHFQ4050	
PSHFQ4060	





SECONDARY NOZZLES

John Deere offers spray nozzles for a wide range of pressure ranges, flow rates and spray patterns to cover any spray applications. Correct nozzle selection is important to ensure your product is applied correctly.

Application Charts _____ 33-36
Secondary Nozzles _____ 37-44
Caps, Adapters and Nozzle Bodies _____ 45-49

Broadcast Application Chart - 15-in. spacing

Spray Tip	Pressure (PSI)	Flow Rate (GPM)	MPH 15 inch nozzle spacing Gallons Per Acre 2.5	5	7.5	10	12.5	15	17.5	20	22.5	25	27.5	30	32.5	35	37.5	40
01	15	0.06	9.7	4.8	3.2	2.4	1.9	1.6	1.4	1.2	1.1	1.0	0.9	0.8	0.7	0.7	0.6	0.6
	20	0.07	11.2	5.6	3.7	2.8	2.2	1.9	1.6	1.4	1.2	1.1	1.0	0.9	0.9	0.8	0.7	0.7
	30	0.09	13.7	6.9	4.6	3.4	2.7	2.3	2.0	1.7	1.5	1.4	1.2	1.1	1.1	1.0	0.9	0.9
	40	**0.10**	15.8	7.9	5.3	4.0	3.2	2.6	2.3	2.0	1.8	1.6	1.4	1.3	1.2	1.1	1.1	1.0
	50	0.11	17.7	8.9	5.9	4.4	3.5	3.0	2.5	2.2	2.0	1.8	1.6	1.5	1.4	1.3	1.2	1.1
	60	0.12	19.4	9.7	6.5	4.8	3.9	3.2	2.8	2.4	2.2	1.9	1.8	1.6	1.5	1.4	1.3	1.2
	70	0.13	21.0	10.5	7.0	5.2	4.2	3.5	3.0	2.6	2.3	2.1	1.9	1.7	1.6	1.5	1.4	1.3
	80	0.14	22.4	11.2	7.5	5.6	4.5	3.7	3.2	2.8	2.5	2.2	2.0	1.9	1.7	1.6	1.5	1.4
	90	0.15	23.8	11.9	7.9	5.9	4.8	4.0	3.4	3.0	2.6	2.4	2.2	2.0	1.8	1.7	1.6	1.5
	100	0.16	25.0	12.5	8.3	6.3	5.0	4.2	3.6	3.1	2.8	2.5	2.3	2.1	1.9	1.8	1.7	1.6
	115	0.17	---	13.4	9.0	6.7	5.4	4.5	3.8	3.4	3.0	2.7	2.4	2.2	2.1	1.9	1.8	1.7
015	15	0.09	14.5	7.3	4.8	3.6	2.9	2.4	2.1	1.8	1.6	1.5	1.3	1.2	1.1	1.0	1.0	0.9
	20	0.11	16.8	8.4	5.6	4.2	3.4	2.8	2.4	2.1	1.9	1.7	1.5	1.4	1.3	1.2	1.1	1.1
	30	0.13	20.6	10.3	6.9	5.1	4.1	3.4	2.9	2.6	2.3	2.1	1.9	1.7	1.6	1.5	1.4	1.3
	40	**0.15**	23.8	11.9	7.9	5.9	4.8	4.0	3.4	3.0	2.6	2.4	2.2	2.0	1.8	1.7	1.6	1.5
	50	0.17	---	13.3	8.9	6.6	5.3	4.4	3.8	3.3	3.0	2.7	2.4	2.2	2.0	1.9	1.8	1.7
	60	0.18	---	14.5	9.7	7.3	5.8	4.8	4.2	3.6	3.2	2.9	2.6	2.4	2.2	2.1	1.9	1.8
	70	0.20	---	15.7	10.5	7.9	6.3	5.2	4.5	3.9	3.5	3.1	2.9	2.6	2.4	2.2	2.1	2.0
	80	0.21	---	16.8	11.2	8.4	6.7	5.6	4.8	4.2	3.7	3.4	3.1	2.8	2.6	2.4	2.2	2.1
	90	0.23	---	17.8	11.9	8.9	7.1	5.9	5.1	4.5	4.0	3.6	3.2	3.0	2.7	2.5	2.4	2.2
	100	0.24	---	18.8	12.5	9.4	7.5	6.3	5.4	4.7	4.2	3.8	3.4	3.1	2.9	2.7	2.5	2.3
	115	0.25	---	20.1	13.4	10.1	8.1	6.7	5.8	5.0	4.5	4.0	3.7	3.4	3.1	2.9	2.7	2.5
02	15	0.12	19.4	9.7	6.5	4.8	3.9	3.2	2.8	2.4	2.2	1.9	1.8	1.6	1.5	1.4	1.3	1.2
	20	0.14	22.4	11.2	7.5	5.6	4.5	3.7	3.2	2.8	2.5	2.2	2.0	1.9	1.7	1.6	1.5	1.4
	30	0.17	---	13.7	9.1	6.9	5.5	4.6	3.9	3.4	3.0	2.7	2.5	2.3	2.1	2.0	1.8	1.7
	40	**0.20**	---	15.8	10.6	7.9	6.3	5.3	4.5	4.0	3.5	3.2	2.9	2.6	2.4	2.3	2.1	2.0
	50	0.22	---	17.7	11.8	8.9	7.1	5.9	5.1	4.4	3.9	3.5	3.2	3.0	2.7	2.5	2.4	2.2
	60	0.24	---	19.4	12.9	9.7	7.8	6.5	5.5	4.8	4.3	3.9	3.5	3.2	3.0	2.8	2.6	2.4
	70	0.26	---	21.0	14.0	10.5	8.4	7.0	6.0	5.2	4.7	4.2	3.8	3.5	3.2	3.0	2.8	2.6
	80	0.28	---	22.4	14.9	11.2	9.0	7.5	6.4	5.6	5.0	4.5	4.1	3.7	3.4	3.2	3.0	2.8
	90	0.30	---	23.8	15.8	11.9	9.5	7.9	6.8	5.9	5.3	4.8	4.3	4.0	3.7	3.4	3.2	3.0
	100	0.32	---	25.0	16.7	12.5	10.0	8.3	7.2	6.3	5.6	5.0	4.6	4.2	3.9	3.6	3.3	3.1
	115	0.34	---	---	17.9	13.4	10.7	9.0	7.7	6.7	6.0	5.4	4.9	4.5	4.1	3.8	3.6	3.4
025	15	0.15	24.2	12.1	8.1	6.1	4.8	4.0	3.5	3.0	2.7	2.4	2.2	2.0	1.9	1.7	1.6	1.5
	20	0.18	---	14.0	9.3	7.0	5.6	4.7	4.0	3.5	3.1	2.8	2.5	2.3	2.2	2.0	1.9	1.8
	30	0.22	---	17.1	11.4	8.6	6.9	5.7	4.9	4.3	3.8	3.4	3.1	2.9	2.6	2.4	2.3	2.1
	40	**0.25**	---	19.8	13.2	9.9	7.9	6.6	5.7	5.0	4.4	4.0	3.6	3.3	3.0	2.8	2.6	2.5
	50	0.28	---	22.1	14.8	11.1	8.9	7.4	6.3	5.5	4.9	4.4	4.0	3.7	3.4	3.2	3.0	2.8
	60	0.31	---	24.2	16.2	12.1	9.7	8.1	6.9	6.1	5.4	4.8	4.4	4.0	3.7	3.5	3.2	3.0
	70	0.33	---	---	17.5	13.1	10.5	8.7	7.5	6.5	5.8	5.2	4.8	4.4	4.0	3.7	3.5	3.3
	80	0.35	---	---	18.7	14.0	11.2	9.3	8.0	7.0	6.2	5.6	5.1	4.7	4.3	4.0	3.7	3.5
	90	0.38	---	---	19.8	14.9	11.9	9.9	8.5	7.4	6.6	5.9	5.4	5.0	4.6	4.2	4.0	3.7
	100	0.40	---	---	20.9	15.7	12.5	10.4	8.9	7.8	7.0	6.3	5.7	5.2	4.8	4.5	4.2	3.9
	115	0.42	---	---	22.4	16.8	13.4	11.2	9.6	8.4	7.5	6.7	6.1	5.6	5.2	4.8	4.5	4.2
03	15	0.18	---	14.5	9.7	7.3	5.8	4.8	4.2	3.6	3.2	2.9	2.6	2.4	2.2	2.1	1.9	1.8
	20	0.21	---	16.8	11.2	8.4	6.7	5.6	4.8	4.2	3.7	3.4	3.1	2.8	2.6	2.4	2.2	2.1
	30	0.26	---	20.6	13.7	10.3	8.2	6.9	5.9	5.1	4.6	4.1	3.7	3.4	3.2	2.9	2.7	2.6
	40	**0.30**	---	23.8	15.8	11.9	9.5	7.9	6.8	5.9	5.3	4.8	4.3	4.0	3.7	3.4	3.2	3.0
	50	0.34	---	---	17.7	13.3	10.6	8.9	7.6	6.6	5.9	5.3	4.8	4.4	4.1	3.8	3.5	3.3
	60	0.37	---	---	19.4	14.5	11.6	9.7	8.3	7.3	6.5	5.8	5.3	4.8	4.5	4.2	3.9	3.6
	70	0.40	---	---	21.0	15.7	12.6	10.5	9.0	7.9	7.0	6.3	5.7	5.2	4.8	4.5	4.2	3.9
	80	0.42	---	---	22.4	16.8	13.4	11.2	9.6	8.4	7.5	6.7	6.1	5.6	5.2	4.8	4.5	4.2
	90	0.45	---	---	23.8	17.8	14.3	11.9	10.2	8.9	7.9	7.1	6.5	5.9	5.5	5.1	4.8	4.5
	100	0.47	---	---	25.0	18.8	15.0	12.5	10.7	9.4	8.3	7.5	6.8	6.3	5.8	5.4	5.0	4.7
	115	0.51	---	---	---	20.1	16.1	13.4	11.5	10.1	9.0	8.1	7.3	6.7	6.2	5.8	5.4	5.0
04	15	0.24	---	19.4	12.9	9.7	7.8	6.5	5.5	4.8	4.3	3.9	3.5	3.2	3.0	2.8	2.6	2.4
	20	0.28	---	22.4	14.9	11.2	9.0	7.5	6.4	5.6	5.0	4.5	4.1	3.7	3.4	3.2	3.0	2.8
	30	0.35	---	---	18.3	13.7	11.0	9.1	7.8	6.9	6.1	5.5	5.0	4.6	4.2	3.9	3.7	3.4
	40	**0.40**	---	---	21.1	15.8	12.7	10.6	9.1	7.9	7.0	6.3	5.8	5.3	4.9	4.5	4.2	4.0
	50	0.45	---	---	23.6	17.7	14.2	11.8	10.1	8.9	7.9	7.1	6.4	5.9	5.4	5.1	4.7	4.4
	60	0.49	---	---	---	19.4	15.5	12.9	11.1	9.7	8.6	7.8	7.1	6.5	6.0	5.5	5.2	4.8
	70	0.53	---	---	---	21.0	16.8	14.0	12.0	10.5	9.3	8.4	7.6	7.0	6.4	6.0	5.6	5.2
	80	0.57	---	---	---	22.4	17.9	14.9	12.8	11.2	10.0	9.0	8.1	7.5	6.9	6.4	6.0	5.6
	90	0.60	---	---	---	23.8	19.0	15.8	13.6	11.9	10.6	9.5	8.6	7.9	7.3	6.8	6.3	5.9
	100	0.63	---	---	---	25.0	20.0	16.7	14.3	12.5	11.1	10.0	9.1	8.3	7.7	7.2	6.7	6.3
	115	0.68	---	---	---	---	21.5	17.9	15.3	13.4	11.9	10.7	9.8	9.0	8.3	7.7	7.2	6.7
05	15	0.31	---	24.2	16.2	12.1	9.7	8.1	6.9	6.1	5.4	4.8	4.4	4.0	3.7	3.5	3.2	3.0
	20	0.35	---	---	18.7	14.0	11.2	9.3	8.0	7.0	6.2	5.6	5.1	4.7	4.3	4.0	3.7	3.5
	30	0.43	---	---	22.9	17.1	13.7	11.4	9.8	8.6	7.6	6.9	6.2	5.7	5.3	4.9	4.6	4.3
	40	**0.50**	---	---	---	19.8	15.8	13.2	11.3	9.9	8.8	7.9	7.2	6.6	6.1	5.7	5.3	5.0
	50	0.56	---	---	---	22.1	17.7	14.8	12.6	11.1	9.8	8.9	8.0	7.4	6.8	6.3	5.9	5.5
	60	0.61	---	---	---	24.2	19.4	16.2	13.9	12.1	10.8	9.7	8.8	8.1	7.5	6.9	6.5	6.1
	70	0.66	---	---	---	---	21.0	17.5	15.0	13.1	11.6	10.5	9.5	8.7	8.1	7.5	7.0	6.5
	80	0.71	---	---	---	---	22.4	18.7	16.0	14.0	12.4	11.2	10.2	9.3	8.6	8.0	7.5	7.0
	90	0.75	---	---	---	---	23.8	19.8	17.0	14.9	13.2	11.9	10.8	9.9	9.1	8.5	7.9	7.4
	100	0.79	---	---	---	---	25.0	20.9	17.9	15.7	13.9	12.5	11.4	10.4	9.6	8.9	8.3	7.8
	115	0.85	---	---	---	---	---	22.4	19.2	16.8	14.9	13.4	12.2	11.2	10.3	9.6	9.0	8.4
06	15	0.37	---	---	19.4	14.5	11.6	9.7	8.3	7.3	6.5	5.8	5.3	4.8	4.5	4.2	3.9	3.6
	20	0.42	---	---	22.4	16.8	13.4	11.2	9.6	8.4	7.5	6.7	6.1	5.6	5.2	4.8	4.5	4.2
	30	0.52	---	---	---	20.6	16.5	13.7	11.8	10.3	9.1	8.2	7.5	6.9	6.3	5.9	5.5	5.1
	40	**0.60**	---	---	---	23.8	19.0	15.8	13.6	11.9	10.6	9.5	8.6	7.9	7.3	6.8	6.3	5.9
	50	0.67	---	---	---	---	21.3	17.7	15.2	13.3	11.8	10.6	9.7	8.9	8.2	7.6	7.1	6.6
	60	0.73	---	---	---	---	23.3	19.4	16.6	14.5	12.9	11.6	10.6	9.7	9.0	8.3	7.8	7.3
	70	0.79	---	---	---	---	---	21.0	18.0	15.7	14.0	12.6	11.4	10.5	9.7	9.0	8.4	7.9
	80	0.85	---	---	---	---	---	22.4	19.2	16.8	14.9	13.4	12.2	11.2	10.3	9.6	9.0	8.4
	90	0.90	---	---	---	---	---	23.8	20.4	17.8	15.8	14.3	13.0	11.9	11.0	10.2	9.5	8.9
	100	0.95	---	---	---	---	---	25.0	21.5	18.8	16.7	15.0	13.7	12.5	11.6	10.7	10.0	9.4
	115	1.02	---	---	---	---	---	---	23.0	20.1	17.9	16.1	14.6	13.4	12.4	11.5	10.7	10.1
08	15	0.49	---	---	---	19.4	15.5	12.9	11.1	9.7	8.6	7.8	7.1	6.5	6.0	5.5	5.2	4.8
	20	0.57	---	---	---	22.4	17.9	14.9	12.8	11.2	10.0	9.0	8.1	7.5	6.9	6.4	6.0	5.6
	30	0.69	---	---	---	---	21.9	18.3	15.7	13.7	12.2	11.0	10.0	9.1	8.4	7.8	7.3	6.9
	40	**0.80**	---	---	---	---	---	21.1	18.1	15.8	14.1	12.7	11.5	10.6	9.7	9.1	8.4	7.9
	50	0.89	---	---	---	---	---	23.6	20.2	17.7	15.7	14.2	12.9	11.8	10.9	10.1	9.4	8.9
	60	0.98	---	---	---	---	---	---	22.2	19.4	17.2	15.5	14.1	12.9	11.9	11.1	10.3	9.7
	70	1.06	---	---	---	---	---	---	23.9	21.0	18.6	16.8	15.2	14.0	12.9	12.0	11.2	10.5
	80	1.13	---	---	---	---	---	---	---	22.4	19.9	17.9	16.3	14.9	13.8	12.8	11.9	11.2
	90	1.20	---	---	---	---	---	---	---	23.8	21.1	19.0	17.3	15.8	14.6	13.6	12.7	11.9
	100	1.26	---	---	---	---	---	---	---	25.0	22.3	20.0	18.2	16.7	15.4	14.3	13.4	12.5
	115	1.36	---	---	---	---	---	---	---	---	23.9	21.5	19.5	17.9	16.5	15.3	14.3	13.4
10	15	0.61	---	---	---	24.2	19.4	16.2	13.9	12.1	10.8	9.7	8.8	8.1	7.5	6.9	6.5	6.1
	20	0.71	---	---	---	---	22.4	18.7	16.0	14.0	12.4	11.2	10.2	9.3	8.6	8.0	7.5	7.0
	30	0.87	---	---	---	---	---	22.9	19.6	17.1	15.2	13.7	12.5	11.4	10.6	9.8	9.1	8.6
	40	**1.00**	---	---	---	---	---	---	22.6	19.8	17.6	15.8	14.4	13.2	12.2	11.3	10.6	9.9
	50	1.12	---	---	---	---	---	---	---	22.1	19.7	17.7	16.1	14.8	13.6	12.6	11.8	11.1
	60	1.22	---	---	---	---	---	---	---	24.2	21.6	19.4	17.6	16.2	14.9	13.9	12.9	12.1
	70	1.32	---	---	---	---	---	---	---	---	23.3	21.0	19.0	17.5	16.1	15.0	14.0	13.1
	80	1.41	---	---	---	---	---	---	---	---	24.9	22.4	20.4	18.7	17.2	16.0	14.9	14.0
	90	1.50	---	---	---	---	---	---	---	---	---	23.8	21.6	19.8	18.3	17.0	15.8	14.9
	100	1.58	---	---	---	---	---	---	---	---	---	25.0	22.8	20.9	19.3	17.9	16.7	15.7
	115	1.70	---	---	---	---	---	---	---	---	---	---	24.4	22.4	20.7	19.2	17.9	16.8
15	15	0.92	---	---	---	---	---	24.2	20.8	18.2	16.2	14.5	13.2	12.1	11.2	10.4	9.7	9.1
	20	1.06	---	---	---	---	---	---	24.0	21.0	18.7	16.8	15.3	14.0	12.9	12.0	11.2	10.5
	30	1.30	---	---	---	---	---	---	---	---	22.9	20.6	18.7	17.1	15.8	14.7	13.7	12.9
	40	**1.50**	---	---	---	---	---	---	---	---	---	23.8	21.6	19.8	18.3	17.0	15.8	14.9
	50	1.68	---	---	---	---	---	---	---	---	---	---	24.1	22.1	20.4	19.0	17.7	16.6
	60	1.84	---	---	---	---	---	---	---	---	---	---	---	24.2	22.4	20.8	19.4	18.2
	70	1.98	---	---	---	---	---	---	---	---	---	---	---	---	24.2	22.5	21.0	19.6
	80	2.12	---	---	---	---	---	---	---	---	---	---	---	---	---	24.0	22.4	21.0
	90	2.25	---	---	---	---	---	---	---	---	---	---	---	---	---	---	23.8	22.3
	100	2.37	---	---	---	---	---	---	---	---	---	---	---	---	---	---	25.0	23.5
	115	2.54	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Broadcast Application Chart - 20-in. spacing

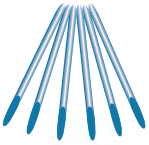
Spray Tip	Pressure (PSI)	Flow Rate (GPM)	MPH 20 inch nozzle spacing Gallons per Acre 2.5	5	7.5	10	12.5	15	17.5	20	22.5	25	27.5	30	32.5	35	37.5	40
01	15	0.06	7.3	3.6	2.4	1.8	1.5	1.2	1.0	0.9	0.8	0.7	0.7	0.6	0.6	0.5	0.5	0.5
	20	0.07	8.4	4.2	2.8	2.1	1.7	1.4	1.2	1.1	0.9	0.8	0.8	0.7	0.6	0.6	0.6	0.5
	30	0.09	10.3	5.1	3.4	2.6	2.1	1.7	1.5	1.3	1.1	1.0	0.9	0.9	0.8	0.7	0.7	0.6
	40	**0.10**	11.9	5.9	4.0	3.0	2.4	2.0	1.7	1.5	1.3	1.2	1.1	1.0	0.9	0.8	0.8	0.7
	50	0.11	13.3	6.6	4.4	3.3	2.7	2.2	1.9	1.7	1.5	1.3	1.2	1.1	1.0	0.9	0.9	0.8
	60	0.12	14.5	7.3	4.8	3.6	2.9	2.4	2.1	1.8	1.6	1.5	1.3	1.2	1.1	1.0	1.0	0.9
	70	0.13	15.7	7.9	5.2	3.9	3.1	2.6	2.2	2.0	1.7	1.6	1.4	1.3	1.2	1.1	1.0	1.0
	80	0.14	16.8	8.4	5.6	4.2	3.4	2.8	2.4	2.1	1.9	1.7	1.5	1.4	1.3	1.2	1.1	1.1
	90	0.15	17.8	8.9	5.9	4.5	3.6	3.0	2.5	2.2	2.0	1.8	1.6	1.5	1.4	1.3	1.2	1.1
	100	0.16	18.8	9.4	6.3	4.7	3.8	3.1	2.7	2.3	2.1	1.9	1.7	1.6	1.4	1.3	1.3	1.2
	115	0.17	20.1	10.1	6.7	5.0	4.0	3.4	2.9	2.5	2.2	2.0	1.8	1.7	1.5	1.4	1.3	1.3
015	15	0.09	10.9	5.5	3.6	2.7	2.2	1.8	1.6	1.4	1.2	1.1	1.0	0.9	0.8	0.8	0.7	0.7
	20	0.11	12.6	6.3	4.2	3.2	2.5	2.1	1.8	1.6	1.4	1.3	1.1	1.1	1.0	0.9	0.8	0.8
	30	0.13	15.4	7.7	5.1	3.9	3.1	2.6	2.2	1.9	1.7	1.5	1.4	1.3	1.2	1.1	1.0	1.0
	40	**0.15**	17.8	8.9	5.9	4.5	3.6	3.0	2.5	2.2	2.0	1.8	1.6	1.5	1.4	1.3	1.2	1.1
	50	0.17	19.9	10.0	6.6	5.0	4.0	3.3	2.8	2.5	2.2	2.0	1.8	1.7	1.5	1.4	1.3	1.2
	60	0.18	21.8	10.9	7.3	5.5	4.4	3.6	3.1	2.7	2.4	2.2	2.0	1.8	1.7	1.6	1.5	1.4
	70	0.20	23.6	11.8	7.9	5.9	4.7	3.9	3.4	2.9	2.6	2.4	2.1	2.0	1.8	1.7	1.6	1.5
	80	0.21	---	12.6	8.4	6.3	5.0	4.2	3.6	3.2	2.8	2.5	2.3	2.1	1.9	1.8	1.7	1.6
	90	0.23	---	13.4	8.9	6.7	5.3	4.5	3.8	3.3	3.0	2.7	2.4	2.2	2.1	1.9	1.8	1.7
	100	0.24	---	14.1	9.4	7.0	5.6	4.7	4.0	3.5	3.1	2.8	2.6	2.3	2.2	2.0	1.9	1.8
	115	0.25	---	15.1	10.1	7.6	6.0	5.0	4.3	3.8	3.4	3.0	2.7	2.5	2.3	2.2	2.0	1.9
02	15	0.12	14.5	7.3	4.8	3.6	2.9	2.4	2.1	1.8	1.6	1.5	1.3	1.2	1.1	1.0	1.0	0.9
	20	0.14	16.8	8.4	5.6	4.2	3.4	2.8	2.4	2.1	1.9	1.7	1.5	1.4	1.3	1.2	1.1	1.1
	30	0.17	20.6	10.3	6.9	5.1	4.1	3.4	2.9	2.6	2.3	2.1	1.9	1.7	1.6	1.5	1.4	1.3
	40	**0.20**	23.8	11.9	7.9	5.9	4.8	4.0	3.4	3.0	2.6	2.4	2.2	2.0	1.8	1.7	1.6	1.5
	50	0.22	---	13.3	8.9	6.6	5.3	4.4	3.8	3.3	3.0	2.7	2.4	2.2	2.0	1.9	1.8	1.7
	60	0.24	---	14.5	9.7	7.3	5.8	4.8	4.2	3.6	3.2	2.9	2.6	2.4	2.2	2.1	1.9	1.8
	70	0.26	---	15.7	10.5	7.9	6.3	5.2	4.5	3.9	3.5	3.1	2.9	2.6	2.4	2.2	2.1	2.0
	80	0.28	---	16.8	11.2	8.4	6.7	5.6	4.8	4.2	3.7	3.4	3.1	2.8	2.6	2.4	2.2	2.1
	90	0.30	---	17.8	11.9	8.9	7.1	5.9	5.1	4.5	4.0	3.6	3.2	3.0	2.7	2.5	2.4	2.2
	100	0.32	---	18.8	12.5	9.4	7.5	6.3	5.4	4.7	4.2	3.8	3.4	3.1	2.9	2.7	2.5	2.3
	115	0.34	---	20.1	13.4	10.1	8.1	6.7	5.8	5.0	4.5	4.0	3.7	3.4	3.1	2.9	2.7	2.5
025	15	0.15	18.2	9.1	6.1	4.5	3.6	3.0	2.6	2.3	2.0	1.8	1.7	1.5	1.4	1.3	1.2	1.1
	20	0.18	21.0	10.5	7.0	5.3	4.2	3.5	3.0	2.6	2.3	2.1	1.9	1.8	1.6	1.5	1.4	1.3
	30	0.22	---	12.9	8.6	6.4	5.1	4.3	3.7	3.2	2.9	2.6	2.3	2.1	2.0	1.8	1.7	1.6
	40	**0.25**	---	14.9	9.9	7.4	5.9	5.0	4.2	3.7	3.3	3.0	2.7	2.5	2.3	2.1	2.0	1.9
	50	0.28	---	16.6	11.1	8.3	6.6	5.5	4.7	4.2	3.7	3.3	3.0	2.8	2.6	2.4	2.2	2.1
	60	0.31	---	18.2	12.1	9.1	7.3	6.1	5.2	4.5	4.0	3.6	3.3	3.0	2.8	2.6	2.4	2.3
	70	0.33	---	19.6	13.1	9.8	7.9	6.5	5.6	4.9	4.4	3.9	3.6	3.3	3.0	2.8	2.6	2.5
	80	0.35	---	21.0	14.0	10.5	8.4	7.0	6.0	5.3	4.7	4.2	3.8	3.5	3.2	3.0	2.8	2.6
	90	0.38	---	22.3	14.9	11.1	8.9	7.4	6.4	5.6	5.0	4.5	4.1	3.7	3.4	3.2	3.0	2.8
	100	0.40	---	23.5	15.7	11.7	9.4	7.8	6.7	5.9	5.2	4.7	4.3	3.9	3.6	3.4	3.1	2.9
	115	0.42	---	---	16.8	12.6	10.1	8.4	7.2	6.3	5.6	5.0	4.6	4.2	3.9	3.6	3.4	3.1
03	15	0.18	21.8	10.9	7.3	5.5	4.4	3.6	3.1	2.7	2.4	2.2	2.0	1.8	1.7	1.6	1.5	1.4
	20	0.21	---	12.6	8.4	6.3	5.0	4.2	3.6	3.2	2.8	2.5	2.3	2.1	1.9	1.8	1.7	1.6
	30	0.26	---	15.4	10.3	7.7	6.2	5.1	4.4	3.9	3.4	3.1	2.8	2.6	2.4	2.2	2.1	1.9
	40	**0.30**	---	17.8	11.9	8.9	7.1	5.9	5.1	4.5	4.0	3.6	3.2	3.0	2.7	2.5	2.4	2.2
	50	0.34	---	19.9	13.3	10.0	8.0	6.6	5.7	5.0	4.4	4.0	3.6	3.3	3.1	2.8	2.7	2.5
	60	0.37	---	21.8	14.5	10.9	8.7	7.3	6.2	5.5	4.8	4.4	4.0	3.6	3.4	3.1	2.9	2.7
	70	0.40	---	23.6	15.7	11.8	9.4	7.9	6.7	5.9	5.2	4.7	4.3	3.9	3.6	3.4	3.1	2.9
	80	0.42	---	---	16.8	12.6	10.1	8.4	7.2	6.3	5.6	5.0	4.6	4.2	3.9	3.6	3.4	3.2
	90	0.45	---	---	17.8	13.4	10.7	8.9	7.6	6.7	5.9	5.3	4.9	4.5	4.1	3.8	3.6	3.3
	100	0.47	---	---	18.8	14.1	11.3	9.4	8.1	7.0	6.3	5.6	5.1	4.7	4.3	4.0	3.8	3.5
	115	0.51	---	---	20.1	15.1	12.1	10.1	8.6	7.6	6.7	6.0	5.5	5.0	4.6	4.3	4.0	3.8
04	15	0.24	---	14.5	9.7	7.3	5.8	4.8	4.2	3.6	3.2	2.9	2.6	2.4	2.2	2.1	1.9	1.8
	20	0.28	---	16.8	11.2	8.4	6.7	5.6	4.8	4.2	3.7	3.4	3.1	2.8	2.6	2.4	2.2	2.1
	30	0.35	---	20.6	13.7	10.3	8.2	6.9	5.9	5.1	4.6	4.1	3.7	3.4	3.2	2.9	2.7	2.6
	40	**0.40**	---	23.8	15.8	11.9	9.5	7.9	6.8	5.9	5.3	4.8	4.3	4.0	3.7	3.4	3.2	3.0
	50	0.45	---	---	17.7	13.3	10.6	8.9	7.6	6.6	5.9	5.3	4.8	4.4	4.1	3.8	3.5	3.3
	60	0.49	---	---	19.4	14.5	11.6	9.7	8.3	7.3	6.5	5.8	5.3	4.8	4.5	4.2	3.9	3.6
	70	0.53	---	---	21.0	15.7	12.6	10.5	9.0	7.9	7.0	6.3	5.7	5.2	4.8	4.5	4.2	3.9
	80	0.57	---	---	22.4	16.8	13.4	11.2	9.6	8.4	7.5	6.7	6.1	5.6	5.2	4.8	4.5	4.2
	90	0.60	---	---	23.8	17.8	14.3	11.9	10.2	8.9	7.9	7.1	6.5	5.9	5.5	5.1	4.8	4.5
	100	0.63	---	---	25.0	18.8	15.0	12.5	10.7	9.4	8.3	7.5	6.8	6.3	5.8	5.4	5.0	4.7
	115	0.68	---	---	---	20.1	16.1	13.4	11.5	10.1	9.0	8.1	7.3	6.7	6.2	5.8	5.4	5.0
05	15	0.31	---	18.2	12.1	9.1	7.3	6.1	5.2	4.5	4.0	3.6	3.3	3.0	2.8	2.6	2.4	2.3
	20	0.35	---	21.0	14.0	10.5	8.4	7.0	6.0	5.3	4.7	4.2	3.8	3.5	3.2	3.0	2.8	2.6
	30	0.43	---	---	17.1	12.9	10.3	8.6	7.3	6.4	5.7	5.1	4.7	4.3	4.0	3.7	3.4	3.2
	40	**0.50**	---	---	19.8	14.9	11.9	9.9	8.5	7.4	6.6	5.9	5.4	5.0	4.6	4.2	4.0	3.7
	50	0.56	---	---	22.1	16.6	13.3	11.1	9.5	8.3	7.4	6.6	6.0	5.5	5.1	4.7	4.4	4.2
	60	0.61	---	---	24.2	18.2	14.5	12.1	10.4	9.1	8.1	7.3	6.6	6.1	5.6	5.2	4.8	4.5
	70	0.66	---	---	---	19.6	15.7	13.1	11.2	9.8	8.7	7.9	7.1	6.5	6.0	5.6	5.2	4.9
	80	0.71	---	---	---	21.0	16.8	14.0	12.0	10.5	9.3	8.4	7.6	7.0	6.5	6.0	5.6	5.3
	90	0.75	---	---	---	22.3	17.8	14.9	12.7	11.1	9.9	8.9	8.1	7.4	6.9	6.4	5.9	5.6
	100	0.79	---	---	---	23.5	18.8	15.7	13.4	11.7	10.4	9.4	8.5	7.8	7.2	6.7	6.3	5.9
	115	0.85	---	---	---	---	20.1	16.8	14.4	12.6	11.2	10.1	9.2	8.4	7.7	7.2	6.7	6.3
06	15	0.37	---	21.8	14.5	10.9	8.7	7.3	6.2	5.5	4.8	4.4	4.0	3.6	3.4	3.1	2.9	2.7
	20	0.42	---	---	16.8	12.6	10.1	8.4	7.2	6.3	5.6	5.0	4.6	4.2	3.9	3.6	3.4	3.2
	30	0.52	---	---	20.6	15.4	12.3	10.3	8.8	7.7	6.9	6.2	5.6	5.1	4.7	4.4	4.1	3.9
	40	**0.60**	---	---	23.8	17.8	14.3	11.9	10.2	8.9	7.9	7.1	6.5	5.9	5.5	5.1	4.8	4.5
	50	0.67	---	---	---	19.9	15.9	13.3	11.4	10.0	8.9	8.0	7.2	6.6	6.1	5.7	5.3	5.0
	60	0.73	---	---	---	21.8	17.5	14.5	12.5	10.9	9.7	8.7	7.9	7.3	6.7	6.2	5.8	5.5
	70	0.79	---	---	---	23.6	18.9	15.7	13.5	11.8	10.5	9.4	8.6	7.9	7.3	6.7	6.3	5.9
	80	0.85	---	---	---	---	20.2	16.8	14.4	12.6	11.2	10.1	9.2	8.4	7.8	7.2	6.7	6.3
	90	0.90	---	---	---	---	21.4	17.8	15.3	13.4	11.9	10.7	9.7	8.9	8.2	7.6	7.1	6.7
	100	0.95	---	---	---	---	22.5	18.8	16.1	14.1	12.5	11.3	10.2	9.4	8.7	8.1	7.5	7.0
	115	1.02	---	---	---	---	24.2	20.1	17.3	15.1	13.4	12.1	11.0	10.1	9.3	8.6	8.1	7.6
08	15	0.49	---	---	19.4	14.5	11.6	9.7	8.3	7.3	6.5	5.8	5.3	4.8	4.5	4.2	3.9	3.6
	20	0.57	---	---	22.4	16.8	13.4	11.2	9.6	8.4	7.5	6.7	6.1	5.6	5.2	4.8	4.5	4.2
	30	0.69	---	---	---	20.6	16.5	13.7	11.8	10.3	9.1	8.2	7.5	6.9	6.3	5.9	5.5	5.1
	40	**0.80**	---	---	---	23.8	19.0	15.8	13.6	11.9	10.6	9.5	8.6	7.9	7.3	6.8	6.3	5.9
	50	0.89	---	---	---	---	21.3	17.7	15.2	13.3	11.8	10.6	9.7	8.9	8.2	7.6	7.1	6.6
	60	0.98	---	---	---	---	23.3	19.4	16.6	14.5	12.9	11.6	10.6	9.7	9.0	8.3	7.8	7.3
	70	1.06	---	---	---	---	---	21.0	18.0	15.7	14.0	12.6	11.4	10.5	9.7	9.0	8.4	7.9
	80	1.13	---	---	---	---	---	22.4	19.2	16.8	14.9	13.4	12.2	11.2	10.3	9.6	9.0	8.4
	90	1.20	---	---	---	---	---	23.8	20.4	17.8	15.8	14.3	13.0	11.9	11.0	10.2	9.5	8.9
	100	1.26	---	---	---	---	---	25.0	21.5	18.8	16.7	15.0	13.7	12.5	11.6	10.7	10.0	9.4
	115	1.36	---	---	---	---	---	---	23.0	20.1	17.9	16.1	14.6	13.4	12.4	11.5	10.7	10.1
10	15	0.61	---	---	24.2	18.2	14.5	12.1	10.4	9.1	8.1	7.3	6.6	6.1	5.6	5.2	4.8	4.5
	20	0.71	---	---	---	21.0	16.8	14.0	12.0	10.5	9.3	8.4	7.6	7.0	6.5	6.0	5.6	5.3
	30	0.87	---	---	---	---	20.6	17.1	14.7	12.9	11.4	10.3	9.4	8.6	7.9	7.3	6.9	6.4
	40	**1.00**	---	---	---	---	23.8	19.8	17.0	14.9	13.2	11.9	10.8	9.9	9.1	8.5	7.9	7.4
	50	1.12	---	---	---	---	---	22.1	19.0	16.6	14.8	13.3	12.1	11.1	10.2	9.5	8.9	8.3
	60	1.22	---	---	---	---	---	24.2	20.8	18.2	16.2	14.5	13.2	12.1	11.2	10.4	9.7	9.1
	70	1.32	---	---	---	---	---	---	22.5	19.6	17.5	15.7	14.3	13.1	12.1	11.2	10.5	9.8
	80	1.41	---	---	---	---	---	---	24.0	21.0	18.7	16.8	15.3	14.0	12.9	12.0	11.2	10.5
	90	1.50	---	---	---	---	---	---	---	22.3	19.8	17.8	16.2	14.9	13.7	12.7	11.9	11.1
	100	1.58	---	---	---	---	---	---	---	23.5	20.9	18.8	17.1	15.7	14.4	13.4	12.5	11.7
	115	1.70	---	---	---	---	---	---	---	---	22.4	20.1	18.3	16.8	15.5	14.4	13.4	12.6
15	15	0.92	---	---	---	---	21.8	18.2	15.6	13.6	12.1	10.9	9.9	9.1	8.4	7.8	7.3	6.8
	20	1.06	---	---	---	---	---	21.0	18.0	15.8	14.0	12.6	11.5	10.5	9.7	9.0	8.4	7.9
	30	1.30	---	---	---	---	---	---	22.0	19.3	17.1	15.4	14.0	12.9	11.9	11.0	10.3	9.6
	40	**1.50**	---	---	---	---	---	---	---	22.3	19.8	17.8	16.2	14.9	13.7	12.7	11.9	11.1
	50	1.68	---	---	---	---	---	---	---	24.9	22.1	19.9	18.1	16.6	15.3	14.2	13.3	12.5
	60	1.84	---	---	---	---	---	---	---	---	24.2	21.8	19.8	18.2	16.8	15.6	14.5	13.6
	70	1.98	---	---	---	---	---	---	---	---	---	23.6	21.4	19.6	18.1	16.8	15.7	14.7
	80	2.12	---	---	---	---	---	---	---	---	---	---	22.9	21.0	19.4	18.0	16.8	15.8
	90	2.25	---	---	---	---	---	---	---	---	---	---	24.3	22.3	20.6	19.1	17.8	16.7
	100	2.37	---	---	---	---	---	---	---	---	---	---	---	23.5	21.7	20.1	18.8	17.6
	115	2.54	---	---	---	---	---	---	---	---	---	---	---	25.2	23.2	21.6	20.1	18.9

High-flow Application Chart - 15-in., 30-in. and 45-in. spacing

Spray Tip	Pressure (PSI)	Flow Rate (GPM)	Speed (MPH) 15 inch spacing							Speed (MPH) 30 inch spacing							Speed (MPH) 45 inch spacing						
			Gallons per acre (water)							Gallons per acre (water)							Gallons per acre (water)						
			15	30	45	60	75	90	105	15	30	45	60	75	90	105	15	30	45	60	75	90	105
08	20	0.6	15.8	7.9	5.3	4.0	3.2	2.6	2.3	7.9	4.0	2.6	2.0	1.6	1.3	1.1	5.3	2.6	1.8	1.3	1.1	0.9	0.8
	30	0.7	18.5	9.2	6.2	4.6	3.7	3.1	2.6	9.2	4.6	3.1	2.3	1.8	1.5	1.3	6.2	3.1	2.1	1.5	1.2	1.0	0.9
	40	0.8	21.1	10.6	7.0	5.3	4.2	3.5	3.0	10.6	5.3	3.5	2.6	2.1	1.8	1.5	7.0	3.5	2.3	1.8	1.4	1.2	1.0
	50	0.9	23.8	11.9	7.9	5.9	4.8	4.0	3.4	11.9	5.9	4.0	3.0	2.4	2.0	1.7	7.9	4.0	2.6	2.0	1.6	1.3	1.1
	60	1.0	---	13.2	8.8	6.6	5.3	4.4	3.8	13.2	6.6	4.4	3.3	2.6	2.2	1.9	8.8	4.4	2.9	2.2	1.8	1.5	1.3
	70	1.1	---	14.5	9.7	7.3	5.8	4.8	4.1	14.5	7.3	4.8	3.6	2.9	2.4	2.1	9.7	4.8	3.2	2.4	1.9	1.6	1.4
	80	1.1	---	14.5	9.7	7.3	5.8	4.8	4.1	14.5	7.3	4.8	3.6	2.9	2.4	2.1	9.7	4.8	3.2	2.4	1.9	1.6	1.4
10	20	0.7	18.5	9.2	6.2	4.6	3.7	3.1	2.6	9.2	4.6	3.1	2.3	1.8	1.5	1.3	6.2	3.1	2.1	1.5	1.2	1.0	0.9
	30	0.9	23.8	11.9	7.9	5.9	4.8	4.0	3.4	11.9	5.9	4.0	3.0	2.4	2.0	1.7	7.9	4.0	2.6	2.0	1.6	1.3	1.1
	40	1.0	---	13.2	8.8	6.6	5.3	4.4	3.8	13.2	6.6	4.4	3.3	2.6	2.2	1.9	8.8	4.4	2.9	2.2	1.8	1.5	1.3
	50	1.1	---	14.5	9.7	7.3	5.8	4.8	4.1	14.5	7.3	4.8	3.6	2.9	2.4	2.1	9.7	4.8	3.2	2.4	1.9	1.6	1.4
	60	1.2	---	15.8	10.6	7.9	6.3	5.3	4.5	15.8	7.9	5.3	4.0	3.2	2.6	2.3	10.6	5.3	3.5	2.6	2.1	1.8	1.5
	70	1.3	---	17.2	11.4	8.6	6.9	5.7	4.9	17.2	8.6	5.7	4.3	3.4	2.9	2.5	11.4	5.7	3.8	2.9	2.3	1.9	1.6
	80	1.4	---	18.5	12.3	9.2	7.4	6.2	5.3	18.5	9.2	6.2	4.6	3.7	3.1	2.6	12.3	6.2	4.1	3.1	2.5	2.1	1.8
15	20	1.1	---	14.5	9.7	7.3	5.8	4.8	4.1	14.5	7.3	4.8	3.6	2.9	2.4	2.1	9.7	4.8	3.2	2.4	1.9	1.6	1.4
	30	1.3	---	17.2	11.4	8.6	6.9	5.7	4.9	17.2	8.6	5.7	4.3	3.4	2.9	2.5	11.4	5.7	3.8	2.9	2.3	1.9	1.6
	40	1.5	---	19.8	13.2	9.9	7.9	6.6	5.7	19.8	9.9	6.6	5.0	4.0	3.3	2.8	13.2	6.6	4.4	3.3	2.6	2.2	1.9
	50	1.7	---	22.4	15.0	11.2	9.0	7.5	6.4	22.4	11.2	7.5	5.6	4.5	3.7	3.2	15.0	7.5	5.0	3.7	3.0	2.5	2.1
	60	1.8	---	23.8	15.8	11.9	9.5	7.9	6.8	23.8	11.9	7.9	5.9	4.8	4.0	3.4	15.8	7.9	5.3	4.0	3.2	2.6	2.3
	70	2.0	---	---	17.6	13.2	10.6	8.8	7.5	---	13.2	8.8	6.6	5.3	4.4	3.8	17.6	8.8	5.9	4.4	3.5	2.9	2.5
	80	2.1	---	---	18.5	13.9	11.1	9.2	7.9	---	13.9	9.2	6.9	5.5	4.6	4.0	18.5	9.2	6.2	4.6	3.7	3.1	2.6
20	20	1.4	---	18.5	12.3	9.2	7.4	6.2	5.3	18.5	9.2	6.2	4.6	3.7	3.1	2.6	12.3	6.2	4.1	3.1	2.5	2.1	1.8
	30	1.7	---	22.4	15.0	11.2	9.0	7.5	6.4	22.4	11.2	7.5	5.6	4.5	3.7	3.2	15.0	7.5	5.0	3.7	3.0	2.5	2.1
	40	2.0	---	---	17.6	13.2	10.6	8.8	7.5	---	13.2	8.8	6.6	5.3	4.4	3.8	17.6	8.8	5.9	4.4	3.5	2.9	2.5
	50	2.2	---	---	19.4	14.5	11.6	9.7	8.3	---	14.5	9.7	7.3	5.8	4.8	4.1	19.4	9.7	6.5	4.8	3.9	3.2	2.8
	60	2.4	---	---	21.1	15.8	12.7	10.6	9.1	---	15.8	10.6	7.9	6.3	5.3	4.5	21.1	10.6	7.0	5.3	4.2	3.5	3.0
	70	2.6	---	---	22.9	17.2	13.7	11.4	9.8	---	17.2	11.4	8.6	6.9	5.7	4.9	22.9	11.4	7.6	5.7	4.6	3.8	3.3
	80	2.8	---	---	24.6	18.5	14.8	12.3	10.6	---	18.5	12.3	9.2	7.4	6.2	5.3	24.6	12.3	8.2	6.2	4.9	4.1	3.5
30	20	2.1	---	---	18.5	13.9	11.1	9.2	7.9	---	13.9	9.2	6.9	5.5	4.6	4.0	18.5	9.2	6.2	4.6	3.7	3.1	2.6
	30	2.6	---	---	22.9	17.2	13.7	11.4	9.8	---	17.2	11.4	8.6	6.9	5.7	4.9	22.9	11.4	7.6	5.7	4.6	3.8	3.3
	40	3.0	---	---	---	19.8	15.8	13.2	11.3	---	19.8	13.2	9.9	7.9	6.6	5.7	---	13.2	8.8	6.6	5.3	4.4	3.8
	50	3.4	---	---	---	22.4	18.0	15.0	12.8	---	22.4	15.0	11.2	9.0	7.5	6.4	---	15.0	10.0	7.5	6.0	5.0	4.3
	60	3.7	---	---	---	24.4	19.5	16.3	14.0	---	24.4	16.3	12.2	9.8	8.1	7.0	---	16.3	10.9	8.1	6.5	5.4	4.7
	70	4.0	---	---	---	---	21.1	17.6	15.1	---	---	17.6	13.2	10.6	8.8	7.5	---	17.6	11.7	8.8	7.0	5.9	5.0
	80	4.2	---	---	---	---	22.2	18.5	15.8	---	---	18.5	13.9	11.1	9.2	7.9	---	18.5	12.3	9.2	7.4	6.2	5.3
40	20	2.8	---	---	24.6	18.5	14.8	12.3	10.6	---	18.5	12.3	9.2	7.4	6.2	5.3	24.6	12.3	8.2	6.2	4.9	4.1	3.5
	30	3.5	---	---	---	23.1	18.5	15.4	13.2	---	23.1	15.4	11.6	9.2	7.7	6.6	---	15.4	10.3	7.7	6.2	5.1	4.4
	40	4.0	---	---	---	---	21.1	17.6	15.1	---	---	17.6	13.2	10.6	8.8	7.5	---	17.6	11.7	8.8	7.0	5.9	5.0
	50	4.5	---	---	---	---	23.8	19.8	17.0	---	---	19.8	14.9	11.9	9.9	8.5	---	19.8	13.2	9.9	7.9	6.6	5.7
	60	4.9	---	---	---	---	25.9	21.6	18.5	---	---	21.6	16.2	12.9	10.8	9.2	---	21.6	14.4	10.8	8.6	7.2	6.2
	70	5.3	---	---	---	---	---	23.3	20.0	---	---	23.3	17.5	14.0	11.7	10.0	---	23.3	15.5	11.7	9.3	7.8	6.7
	80	5.7	---	---	---	---	---	---	21.5	---	---	---	18.8	15.0	12.5	10.7	---	---	16.7	12.5	10.0	8.4	7.2
50	20	3.5	---	---	---	23.1	18.5	15.4	13.2	---	23.1	15.4	11.6	9.2	7.7	6.6	---	15.4	10.3	7.7	6.2	5.1	4.4
	30	4.3	---	---	---	---	22.7	18.9	16.2	---	---	18.9	14.2	11.4	9.5	8.1	---	18.9	12.6	9.5	7.6	6.3	5.4
	40	5.0	---	---	---	---	---	22.0	18.9	---	---	22.0	16.5	13.2	11.0	9.4	---	22.0	14.7	11.0	8.8	7.3	6.3
	50	5.6	---	---	---	---	---	24.6	21.1	---	---	24.6	18.5	14.8	12.3	10.6	---	24.6	16.4	12.3	9.9	8.2	7.0
	60	6.1	---	---	---	---	---	---	23.0	---	---	---	20.1	16.1	13.4	11.5	---	---	17.9	13.4	10.7	8.9	7.7
	70	6.6	---	---	---	---	---	---	24.9	---	---	---	21.8	17.4	14.5	12.4	---	---	19.4	14.5	11.6	9.7	8.3
	80	7.1	---	---	---	---	---	---	---	---	---	---	23.4	18.7	15.6	13.4	---	---	20.8	15.6	12.5	10.4	8.9
60	20	4.2	---	---	---	---	22.2	18.5	15.8	---	---	18.5	13.9	11.1	9.2	7.9	---	18.5	12.3	9.2	7.4	6.2	5.3
	30	5.2	---	---	---	---	---	22.9	19.6	---	---	22.9	17.2	13.7	11.4	9.8	---	22.9	15.3	11.4	9.2	7.6	6.5
	40	6.0	---	---	---	---	---	---	22.6	---	---	---	19.8	15.8	13.2	11.3	---	---	17.6	13.2	10.6	8.8	7.5
	50	6.7	---	---	---	---	---	---	---	---	---	---	22.1	17.7	14.7	12.6	---	---	19.7	14.7	11.8	9.8	8.4
	60	7.3	---	---	---	---	---	---	---	---	---	---	24.1	19.3	16.1	13.8	---	---	21.4	16.1	12.8	10.7	9.2
	70	7.9	---	---	---	---	---	---	---	---	---	---	---	20.9	17.4	14.9	---	---	23.2	17.4	13.9	11.6	9.9
	80	8.5	---	---	---	---	---	---	---	---	---	---	---	22.4	18.7	16.0	---	---	24.9	18.7	15.0	12.5	10.7

High-flow Application Chart - 20-in., 40-in. and 60-in. spacing

Spray Tip	Pressure (PSI)	Flow Rate (GPM)	Speed (MPH) 20 inch nozzle spacing							Speed (MPH) 40 inch nozzle spacing							Speed (MPH) 60 inch nozzle spacing						
			Gallons Per Acre (Water)							Gallons Per Acre (Water)							Gallons Per Acre (Water)						
			15	30	45	60	75	90	105	15	30	45	60	75	90	105	15	30	45	60	75	90	105
08	20	0.6	11.9	5.9	4.0	3.0	2.4	2.0	1.7	5.9	3.0	2.0	1.5	1.2	1.0	0.8	4.0	2.0	1.3	1.0	0.8	0.7	0.6
	30	0.7	13.9	6.9	4.6	3.5	2.8	2.3	2.0	6.9	3.5	2.3	1.7	1.4	1.2	1.0	4.6	2.3	1.5	1.2	0.9	0.8	0.7
	40	0.8	15.8	7.9	5.3	4.0	3.2	2.6	2.3	7.9	4.0	2.6	2.0	1.6	1.3	1.1	5.3	2.6	1.8	1.3	1.1	0.9	0.8
	50	0.9	17.8	8.9	5.9	4.5	3.6	3.0	2.5	8.9	4.5	3.0	2.2	1.8	1.5	1.3	5.9	3.0	2.0	1.5	1.2	1.0	0.8
	60	1.0	19.8	9.9	6.6	5.0	4.0	3.3	2.8	9.9	5.0	3.3	2.5	2.0	1.7	1.4	6.6	3.3	2.2	1.7	1.3	1.1	0.9
	70	1.1	21.8	10.9	7.3	5.4	4.4	3.6	3.1	10.9	5.4	3.6	2.7	2.2	1.8	1.6	7.3	3.6	2.4	1.8	1.5	1.2	1.0
	80	1.1	21.8	10.9	7.3	5.4	4.4	3.6	3.1	10.9	5.4	3.6	2.7	2.2	1.8	1.6	7.3	3.6	2.4	1.8	1.5	1.2	1.0
10	20	0.7	13.9	6.9	4.6	3.5	2.8	2.3	2.0	6.9	3.5	2.3	1.7	1.4	1.2	1.0	4.6	2.3	1.5	1.2	0.9	0.8	0.7
	30	0.9	17.8	8.9	5.9	4.5	3.6	3.0	2.5	8.9	4.5	3.0	2.2	1.8	1.5	1.3	5.9	3.0	2.0	1.5	1.2	1.0	0.8
	40	1.0	19.8	9.9	6.6	5.0	4.0	3.3	2.8	9.9	5.0	3.3	2.5	2.0	1.7	1.4	6.6	3.3	2.2	1.7	1.3	1.1	0.9
	50	1.1	21.8	10.9	7.3	5.4	4.4	3.6	3.1	10.9	5.4	3.6	2.7	2.2	1.8	1.6	7.3	3.6	2.4	1.8	1.5	1.2	1.0
	60	1.2	23.8	11.9	7.9	5.9	4.8	4.0	3.4	11.9	5.9	4.0	3.0	2.4	2.0	1.7	7.9	4.0	2.6	2.0	1.6	1.3	1.1
	70	1.3	---	12.9	8.6	6.4	5.1	4.3	3.7	12.9	6.4	4.3	3.2	2.6	2.1	1.8	8.6	4.3	2.9	2.1	1.7	1.4	1.2
	80	1.4	---	13.9	9.2	6.9	5.5	4.6	4.0	13.9	6.9	4.6	3.5	2.8	2.3	2.0	9.2	4.6	3.1	2.3	1.8	1.5	1.3
15	20	1.1	21.8	10.9	7.3	5.4	4.4	3.6	3.1	10.9	5.4	3.6	2.7	2.2	1.8	1.6	7.3	3.6	2.4	1.8	1.5	1.2	1.0
	30	1.3	---	12.9	8.6	6.4	5.1	4.3	3.7	12.9	6.4	4.3	3.2	2.6	2.1	1.8	8.6	4.3	2.9	2.1	1.7	1.4	1.2
	40	1.5	---	14.9	9.9	7.4	5.9	5.0	4.2	14.9	7.4	5.0	3.7	3.0	2.5	2.1	9.9	5.0	3.3	2.5	2.0	1.7	1.4
	50	1.7	---	16.8	11.2	8.4	6.7	5.6	4.8	16.8	8.4	5.6	4.2	3.4	2.8	2.4	11.2	5.6	3.7	2.8	2.2	1.9	1.6
	60	1.8	---	17.8	11.9	8.9	7.1	5.9	5.1	17.8	8.9	5.9	4.5	3.6	3.0	2.5	11.9	5.9	4.0	3.0	2.4	2.0	1.7
	70	2.0	---	19.8	13.2	9.9	7.9	6.6	5.7	19.8	9.9	6.6	5.0	4.0	3.3	2.8	13.2	6.6	4.4	3.3	2.6	2.2	1.9
	80	2.1	---	20.8	13.9	10.4	8.3	6.9	5.9	20.8	10.4	6.9	5.2	4.2	3.5	3.0	13.9	6.9	4.6	3.5	2.8	2.3	2.0
20	20	1.4	---	13.9	9.2	6.9	5.5	4.6	4.0	13.9	6.9	4.6	3.5	2.8	2.3	2.0	9.2	4.6	3.1	2.3	1.8	1.5	1.3
	30	1.7	---	16.8	11.2	8.4	6.7	5.6	4.8	16.8	8.4	5.6	4.2	3.4	2.8	2.4	11.2	5.6	3.7	2.8	2.2	1.9	1.6
	40	2.0	---	19.8	13.2	9.9	7.9	6.6	5.7	19.8	9.9	6.6	5.0	4.0	3.3	2.8	13.2	6.6	4.4	3.3	2.6	2.2	1.9
	50	2.2	---	21.8	14.5	10.9	8.7	7.3	6.2	21.8	10.9	7.3	5.4	4.4	3.6	3.1	14.5	7.3	4.8	3.6	2.9	2.4	2.1
	60	2.4	---	23.8	15.8	11.9	9.5	7.9	6.8	23.8	11.9	7.9	5.9	4.8	4.0	3.4	15.8	7.9	5.3	4.0	3.2	2.6	2.3
	70	2.6	---	---	17.2	12.9	10.3	8.6	7.4	---	12.9	8.6	6.4	5.1	4.3	3.7	17.2	8.6	5.7	4.3	3.4	2.9	2.5
	80	2.8	---	---	18.5	13.9	11.1	9.2	7.9	---	13.9	9.2	6.9	5.5	4.6	4.0	18.5	9.2	6.2	4.6	3.7	3.1	2.6
30	20	2.1	---	20.8	13.9	10.4	8.3	6.9	5.9	20.8	10.4	6.9	5.2	4.2	3.5	3.0	13.9	6.9	4.6	3.5	2.8	2.3	2.0
	30	2.6	---	---	17.2	12.9	10.3	8.6	7.4	---	12.9	8.6	6.4	5.1	4.3	3.7	17.2	8.6	5.7	4.3	3.4	2.9	2.5
	40	3.0	---	---	19.8	14.9	11.9	9.9	8.5	---	14.9	9.9	7.4	5.9	5.0	4.2	19.8	9.9	6.6	5.0	4.0	3.3	2.8
	50	3.4	---	---	22.4	16.8	13.5	11.2	9.6	---	16.8	11.2	8.4	6.7	5.6	4.8	22.4	11.2	7.5	5.6	4.5	3.7	3.2
	60	3.7	---	---	24.4	18.3	14.7	12.2	10.5	---	18.3	12.2	9.2	7.3	6.1	5.2	24.4	12.2	8.1	6.1	4.9	4.1	3.5
	70	4.0	---	---	---	19.8	15.8	13.2	11.3	---	19.8	13.2	9.9	7.9	6.6	5.7	---	13.2	8.8	6.6	5.3	4.4	3.8
	80	4.2	---	---	---	20.8	16.6	13.9	11.9	---	20.8	13.9	10.4	8.3	6.9	5.9	---	13.9	9.2	6.9	5.5	4.6	4.0
40	20	2.8	---	---	18.5	13.9	11.1	9.2	7.9	---	13.9	9.2	6.9	5.5	4.6	4.0	18.5	9.2	6.2	4.6	3.7	3.1	2.6
	30	3.5	---	---	23.1	17.3	13.9	11.6	9.9	---	17.3	11.6	8.7	6.9	5.8	5.0	23.1	11.6	7.7	5.8	4.6	3.9	3.3
	40	4.0	---	---	---	19.8	15.8	13.2	11.3	---	19.8	13.2	9.9	7.9	6.6	5.7	---	13.2	8.8	6.6	5.3	4.4	3.8
	50	4.5	---	---	---	22.3	17.8	14.9	12.7	---	22.3	14.9	11.1	8.9	7.4	6.4	---	14.9	9.9	7.4	5.9	5.0	4.2
	60	4.9	---	---	---	24.3	19.4	16.2	13.9	---	24.3	16.2	12.1	9.7	8.1	6.9	---	16.2	10.8	8.1	6.5	5.4	4.6
	70	5.3	---	---	---	---	21.0	17.5	15.0	---	---	17.5	13.1	10.5	8.7	7.5	---	17.5	11.7	8.7	7.0	5.8	5.0
	80	5.7	---	---	---	---	22.6	18.8	16.1	---	---	18.8	14.1	11.3	9.4	8.1	---	18.8	12.5	9.4	7.5	6.3	5.4
50	20	3.5	---	---	---	17.3	13.9	11.6	9.9	---	17.3	11.6	8.7	6.9	5.8	5.0	23.1	11.6	7.7	5.8	4.6	3.9	3.3
	30	4.3	---	---	---	21.3	17.0	14.2	12.2	---	21.3	14.2	10.6	8.5	7.1	6.1	---	14.2	9.5	7.1	5.7	4.7	4.1
	40	5.0	---	---	---	24.8	19.8	16.5	14.1	---	24.8	16.5	12.4	9.9	8.3	7.1	---	16.5	11.0	8.3	6.6	5.5	4.7
	50	5.6	---	---	---	---	22.2	18.5	15.8	---	---	18.5	13.9	11.1	9.2	7.9	---	18.5	12.3	9.2	7.4	6.2	5.3
	60	6.1	---	---	---	---	24.2	20.1	17.3	---	---	20.1	15.1	12.1	10.1	8.6	---	20.1	13.4	10.1	8.1	6.7	5.8
	70	6.6	---	---	---	---	---	21.8	18.7	---	---	21.8	16.3	13.1	10.9	9.3	---	21.8	14.5	10.9	8.7	7.3	6.2
	80	7.1	---	---	---	---	---	23.4	20.1	---	---	23.4	17.6	14.1	11.7	10.0	---	23.4	15.6	11.7	9.4	7.8	6.7
60	20	4.2	---	---	---	20.8	16.6	13.9	11.9	---	20.8	13.9	10.4	8.3	6.9	5.9	---	13.9	9.2	6.9	5.5	4.6	4.0
	30	5.2	---	---	---	---	20.6	17.2	14.7	---	---	17.2	12.9	10.3	8.6	7.4	---	17.2	11.4	8.6	6.9	5.7	4.9
	40	6.0	---	---	---	---	23.8	19.8	17.0	---	---	19.8	14.9	11.9	9.9	8.5	---	19.8	13.2	9.9	7.9	6.6	5.7
	50	6.7	---	---	---	---	---	22.1	19.0	---	---	22.1	16.6	13.3	11.1	9.5	---	22.1	14.7	11.1	8.8	7.4	6.3
	60	7.3	---	---	---	---	---	24.1	20.6	---	---	24.1	18.1	14.5	12.0	10.3	---	24.1	16.1	12.0	9.6	8.0	6.9
	70	7.9	---	---	---	---	---	---	22.3	---	---	---	19.6	15.6	13.0	11.2	---	---	17.4	13.0	10.4	8.7	7.4
	80	8.5	---	---	---	---	---	---	24.0	---	---	---	21.0	16.8	14.0	12.0	---	---	18.7	14.0	11.2	9.4	8.0



Straight Stream Ceramic (STC)



The Straight Stream Ceramic (STC) provides an optimized solution for applying liquid fertilizer into solid seeded crops, such as timed nutrient applications. By providing a six-stream pattern, foliar contact is minimized and uniform coverage is ensured. The STC's ceramic metering orifice and low pressure distribution chamber keeps the streams stable, reducing atomization and preventing leaf burn, making it ideal for top-dress use.

- A six-stream design distributes fertilizer more evenly than a three stream design
- Quick change nozzle includes a tip,cap and gasket (sizes 015-06) or a one piece tip/cap and gasket (sizes 08-15)

Straight Stream Ceramic (STC) 110° spray angle - ASABE droplet size classification chart										
Tip size	015	02	025	03	04	05	06	08	10	15
Part Number	PSSTCQ10015	PSSTCQ1002	PSSTCQ10025	PSSTCQ1003	PSSTCQ1004	PSSTCQ1005	PSSTCQ1006	PSSTCQ1008	PSSTCQ1010	PSSTCQ1015
Pressure (PSI)										
15	S	S	S	S	S	S	S	S	S	S
20	S	S	S	S	S	S	S	S	S	S
30	S	S	S	S	S	S	S	S	S	S
40	S	S	S	S	S	S	S	S	S	S
50	S	S	S	S	S	S	S	S	S	S
60	S	S	S	S	S	S	S	S	S	S
Droplet data sourced at Pentair Hypro in a steady state condition per ASABE S572.1 Standard.										

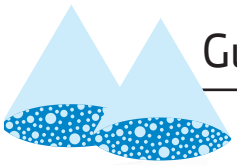
Features	
Common Use	Liquid Fertilizer
Pattern	Streaming
Technology	Pre-Orifice
Material	Ceramic
Spray Angle	110˚ Equivalent
Pressure Range	15-60 PSI
Configuration	Quick Change

ExactApply™ compatibility	
15Hz PWM	Yes
30Hz PWM	Yes
AutoSelect A/B	Yes
Conventional	Yes

Service Parts	
Cap gasket (sizes 015-06)	PM200040-1
Cap o-ring (sizes 08-15)	PM65BS205

Minimum boom height	
Nozzle spacing	Boom height
15 inches	15 inches
20 inches	20 inches

See pages 33-34 for application charts.



GuardianAIR Twin™ (GAT) 110º



The GuardianAIR Twin spray nozzles are the best choice for high coverage applications where on-target spray delivery is important. The GAT is ideal for penetrating complex canopies, such as soybeans or cereal grains, where both coverage of the target and reduction of drift potential are important

- High coverage forward (30°) and rear facing (30°) fans penetrate dense canopies
- A large single metering orifice is used reducing the risk of nozzle plugging
- Quick Change nozzle assembly includes tips, cap, gasket, and integrated strainer

GuardianAir Twin (GAT) 110° spray angle - ASABE droplet size classification chart								
Tip size	02	025	03	035	04	05	06	08
Part Number	PSGAT1002	PSGAT10025	PSGAT1003	PSGAT10035	PSGAT1004	PSGAT1005	PSGAT1006	PSGAT1008
Pressure (PSI)								
20	- - -	- - -	- - -	- - -	XC	XC	XC	XC
30	C	UC	VC	XC	VC	VC	XC	VC
40	M	VC	C	VC	C	C	VC	C
50	M	C	M	C	C	C	C	C
60	M	M	M	M	M	M	C	C
70	M	M	M	M	M	M	M	M
80	M	M	M	M	M	M	M	M
85	M	M	M	M	M	M	M	M
Droplet data sourced at Silsoe Spray Applications Unit Ltd in a steady state condition per ASABE S572.1 Standard. January 2016.								

Features	
Common Use	Plant Health
Pattern	Tapered Flan Fan-Twin Outlet
Technology	Air Induction
Material	Polyacetal
Spray Angle	110˚
Spray Incline	30˚ forward +
	30˚ rearward
Pressure Range	30-85 PSI (sizes 02-035)
	20-85 PSI (sizes 04-08)
Configuration	Quick Change

ExactApply™ compatibility	
15Hz PWM	No
30Hz PWM	No
AutoSelect A/B	Yes
Conventional	Yes

Service Parts	
Cap gasket (EPDM)	PM65BS205
Strainer (50 mesh)	PS0250

Minimum boom height	
Nozzle spacing	Boom height
15 inches	15 inches
20 inches	20 inches

See pages 33-34 for application charts.

Low-drift Air (LDA) 110°



The Low-drift Air (LDA) spray nozzle maintains a steady exchange between droplet and spray pressure creating more uniform coverage of post-emerge plant health protectants and contact herbicides.

- Air-filled droplets reduce drift while increasing droplet deposition and retention on foliage
- Speed-optimized spray incline allows more uniform coverage
- Quick Change nozzle assembly includes tip, cap, and gasket

Low-drift Air (LDA) 110° spray angle - ASABE droplet size classification chart							
Tip size	015	02	025	03	035	04	05
Part Number	PSLDAQ10015	PSLDAQ1002	PSLDAQ10025	PSLDAQ1003	PSLDAQ10035	PSLDAQ1004	PSLDAQ1005
Tip Only Number	PSLDA10015	PSLDA1002	PSLDA10025	PSLDA1003	PSLDA10035	PSLDA1004	PSLDA1005
Cap Number	PS900015	PS90002	PS900025	PS90003	PS900035	PS90004	PS90005
Pressure (PSI)							
15	UC	UC	UC	UC	UC	UC	UC
20	UC	XC	UC	UC	XC	UC	UC
30	XC	C	VC	XC	VC	VC	VC
40	C	C	C	VC	C	C	VC
50	C	M	M	C	M	C	C
60	M	M	M	C	M	M	C
70	M	M	M	M	M	M	M
80	M	M	M	M	M	M	M
85	M	M	M	M	M	M	M
Droplet data sourced at Silsoe Spray Applications Unit Ltd in a steady state condition per ASABE S572.1 Standard. January 2016.							

Features	
Common Use	Contact Herbicide
Pattern	Tapered Flat Fan
Technology	Air Induction
Material	Polyacetal
Spray Angle	110˚
Spray Incline	Rearward, 10° to 13° (depending on size)
Pressure Range	15-85 PSI
Configuration	Quick Change

ExactApply™ compatibility	
15Hz PWM	No
30Hz PWM	No
AutoSelect A/B	Yes
Conventional	Yes

Service Parts	
Cap Gasket (EPDM)	PM200040-1
Cap Gasket (Viton)	PM200040V1

Minimum boom height	
Nozzle spacing	Boom height
15 inches	15 inches
20 inches	20 inches

See pages 33-34 for application charts.

Guardian™ (LDX) 120º



Guardian spray nozzles are ideal for insecticide and fungicide applications especially when used with suspension-based adjuvants. The Guardian's unique 20° inclined spray pattern allows users to aim the spray rearward for general spraying, forward for vertical targets or alternate nozzles to create a twin spray.

- Pre-orifice design for larger droplets than conventional flat fan
- Quick Change nozzle assembly includes tip and cap (one piece), gasket, and strainer for sizes 01-08, including 015 and 025

Guardian™ (LDX) 120° spray angle - ASABE droplet size classification chart								
Tip Size	015	02	025	03	04	05	06	08
Part Number	PSLDXQ20015	PSLDXQ2002	PSLDXQ20025	PSLDXQ2003	PSLDXQ2004	PSLDXQ2005	PSLDXQ2006	PSLDXQ2008
Pressure (PSI)								
15	M	M	M	M	C	C	VC	VC
20	M	M	M	M	C	C	VC	VC
30	F	M	M	M	C	C	C	C
40	F	M	M	M	C	C	C	C
50	F	M	M	M	M	M	C	C
60	F	M	M	M	M	M	C	C
70	F	F	F	M	M	M	M	M
80	F	F	F	M	M	M	M	M
90	F	F	F	M	M	M	M	M
100	F	F	F	F	M	M	M	M
115	F	F	F	F	M	M	M	M
Droplet data sourced at Pentair Hypro in a steady state condition per ASABE S572.1 Standard.								

Features	
Common Use	Plant Health
Pattern	Tapered Flat Fan
Technology	Pre-Orifice
Material	Polyacetal
Spray Angle	120˚
Pressure Range	30-45 PSI (sizes .015-2)
	20-115 PSI (sizes 025-08)
Configuration	Quick Change

ExactApply™ compatibility	
15Hz PWM	Yes (aligned incline)
30Hz PWM	Yes (aligned or alternating incline)
AutoSelect A/B	Yes
Conventional	Yes

Service Parts	
Cap Gasket (EPDM)	PM200040-1
Cap Gasket (Viton)	PM200040V1

See pages 33-34 for application charts.

Extended Range 80° & 110° (ER)



Extended Range (ER) nozzles maintain a consistent spray angle over a wide pressure range down to 15 PSI and are available in 80° and 110° versions to work with different boom heights.

- Maintains good spray distribution and makes larger droplets at low pressures
- Quick Change nozzle assembly includes tip, cap and gasket

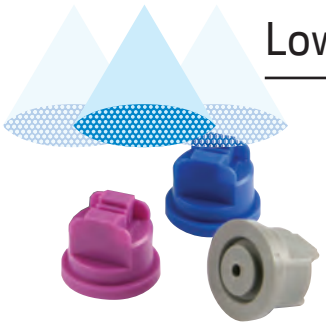
Extended Range (ER) 80° spray angle - ASABE droplet size classification chart						
Tip size	015	02	03	04	05	06
Part Number	PSERQ80015	PSERQ8002	PSERQ8003	PSERQ8004	PSERQ8005	PSERQ8006
Tip Only Number	PSER80015	PSER8002	PSER8003	PSER8004	PSER8005	PSER8006
Cap Number	PS900015	PS90002	PS90003	PS90004	PS90005	PS90006
Pressure (PSI)						
15	M	M	M	C	C	C
20	M	M	M	M	C	C
30	F	F	M	M	M	C
40	F	F	F	M	M	C
50	F	F	F	M	M	M
60	F	F	F	F	M	M
70	F	F	F	F	F	M
Droplet data sourced at Pentair Hypro in a steady state condition per ASABE S572.1 Standard.						

Extended Range (ER) 110° spray angle - ASABE droplet size classification chart										
Tip size	015	02	.25	.3	.4	.5	.6	0.8	1.0	1.5
Part Number	PSERQ10015	PSERQ1002	PSERQ10025	PSERQ1003	PSERQ1004	PSERQ1005	PSERQ1006	PSERQ1008	PSERQ1010	PSERQ1015
Tip Only Number	PSER10015	PSER1002	PSER10025	PSER1003	PSER1004	PSER1005	PSER1006	PSER1008	PSER1010	PSER1015
Cap Number	PS900015	PS90002	PS900025	PS90003	PS90004	PS90005	PS90006	PS90008	PS90020	PS90020
Pressure (PSI)										
15	M	M	M	M	M	M	C	C	VC	VC
20	F	F	M	M	M	M	M	C	C	VC
30	F	F	F	F	M	M	M	M	C	VC
40	F	F	F	F	F	F	M	M	M	C
50	F	F	F	F	F	F	F	M	M	C
60	F	F	F	F	F	F	F	M	M	M
70	F	F	F	F	F	F	F	M	M	M
Droplet data sourced at Pentair Hypro in a steady state condition per ASABE S572.1 Standard.										

Features	
Common Use	General
Pattern	Tapered Flat Fan
Technology	Elliptical Orifice
Material	Polyacetal
Spray Angle	80° & 110°
Pressure Range	.015-.2 30-70 PSI
	.025-1.5 15-70 PSI
Configuration	Quick Change

ExactApply™ compatibility	
15Hz PWM	Yes
30Hz PWM	Yes
AutoSelect A/B	Yes
Conventional	Yes

See pages 33-34 for application charts.



Low-drift 110° (LD)

The Low-drift (LD) is the original drift-reducing tip. The special two-part construction includes a pre-orifice that reduces the number of drift-prone droplets.

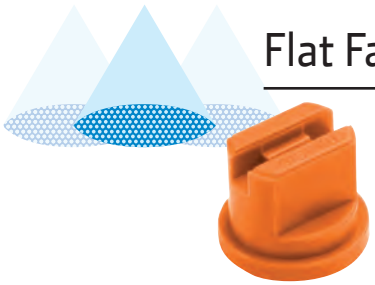
- Significantly reduces spray drift, widening the operational window
- Balanced droplet size for effective, on-target spray

Low-drift (LD) 110° spray angle - ASABE droplet size classification chart								
Tip size	015	02	025	03	04	05	06	08
Tip Number	PSLD10015	PSLD1002	PSLD10025	PSLD1003	PSLD1004	PSLD1005	PSLD1006	PSLD1008
Cap Number	PS900015	PS90002	PS900025	PS90003	PS9004	PS90005	PS90006	PS90008
Pressure (PSI)								
15	M	C	C	C	C	C	VC	VC
20	M	M	M	C	C	C	VC	VC
30	M	M	M	C	C	C	C	C
40	M	M	M	M	M	C	C	C
50	M	M	M	M	M	C	C	C
60	M	M	M	M	M	M	C	C
70	F	M	M	M	M	M	M	C
Droplet data sourced at Pentair Hypro in a steady state condition per ASABE S572.1 Standard.								

Features	
Common Use	Plant Health
Pattern	Tapered Flat Fan
Technology	Pre-orifice
Material	Polyacetal
Spray Angle	110˚
Pressure Range	15-70 PSI
Configuration	Tips

ExactApply™ compatibility	
15Hz PWM	Yes
30Hz PWM	Yes
AutoSelect A/B	Yes
Conventional	Yes

See pages 33-34 for application charts.



Flat Fan 80° & 110° (FF)

The Flat Fan (FF) is a general spray tip that produces a mixed droplet spectrum over the 30-60 PSI operational pressure range. It is good for broadcast applications.

- Economical option for general spraying
- Polyacetal construction for superior product life compared to stainless steel or brass

Flat Fan (FF) 80° spray angle - ASABE droplet size classification chart												
Tip size	.067	010	015	02	03	04	05	06	08	1.0	1.5	2.0
Tip Number	PSFF800067	PSFF8001	PSFF80015	PSFF8002	PSFF8003	PSFF8004	PSFF8005	PSFF8006	PSFF8008	PSFF8010	PSFF8015	PSFF8020
Cap Number	PS90020	PS90001	PS900015	PS90002	PS90003	PS90004	PS90005	PS90006	PS90008	PS90020	PS90020	PS90020
Pressure (PSI)												
30	F	VF	F	M	C	C	C	C	VC	VC	VC	VC
40	VF	VF	F	F	M	M	M	C	C	C	VC	VC
50	VF	VF	F	F	M	M	M	C	C	C	C	VC
60	VF	VF	VF	F	F	M	M	C	C	C	C	VC
Droplet data sourced at Pentair Hypro in a steady state condition per ASABE S572.1 Standard.												

Flat Fan (FF) 110° spray angle - ASABE droplet size classification chart											
Tip size	010	015	02	03	04	05	06	08	1.0	1.5	2.0
Tip Number	PSFF1001	PSFF10015	PSFF1002	PSFF1003	PSFF1004	PSFF1005	PSFF1006	PSFF1008	PSFF1010	PSFF1015	PSFF1020
Cap Number	PS90001	PS900015	PS90002	PS90003	PS90004	PS90005	PS90006	PS90008	PS90020	PS90020	PS90020
Pressure (PSI)											
30	F	F	F	M	M	M	M	C	C	C	C
40	F	F	F	F	M	M	M	C	C	C	C
50	F	F	F	F	F	M	M	C	C	C	C
60	F	F	F	F	F	M	M	C	C	C	C
Droplet data sourced at Pentair Hypro in a steady state condition per ASABE S572.1 Standard.											

Features	
Common Use	General
Pattern	Tapered Flat Fan
Technology	Elliptical Orifice
Material	Polyacetal
Spray Angle	80° & 110°
Pressure Range	30-60 PSI
Configuration	Tip

ExactApply™ compatibility	
15Hz PWM	Yes
30Hz PWM	Yes
AutoSelect A/B	Yes
Conventional	Yes

Service Parts	
Cap Gasket (EPDM)	PM200040-1
Cap Gasket (Viton)	PM200040V1

See pages 33-34 for application charts.



Flood 80°- 160° (FL)

The Flood (FL) wide-angle fan tip creates a wide pattern at very low pressures while creating mainly medium and coarse droplets. It is well suited for mounting on machinery where a wide angle or a low spray height is desired and on sprayers using very low pressures, including manual sprayers.

- Sprays at very low pressures
- Medium to coarse spray is suited for a variety of applications
- Larger sizes are suitable for liquid fertilizer applications

Flood (FL) 80°-160° spray angle - ASABE droplet size classification chart									
Tip size	.20	.25	.30	.40	.50	.75	1.0	1.5	2.0
Tip Number	PSFL2	PSFL025	PSFL3	PSFL4	PSFL5	PSFL75	PSFL10	PSFL15	PSFL20
Cap Number	PS90404	PS90405	PS90406	PS90408	PS90420	PS90420	PS90420	PS90420	PS90420
Pressure (PSI)									
10	C	C	C	VC	C	C	XC	XC	UC
20	M	M	M	M	M	C	C	XC	UC
30	M	M	M	M	M	C	C	VC	XC
40	M	M	M	M	M	C	C	VC	XC
50	M	F	M	M	M	C	C	VC	XC
60	F	F	M	M	M	M	C	VC	XC
Droplet data sourced at Pentair Hypro in a steady state condition per ASABE S572.1 Standard.									

Features	
Common Use	Weeds & Fertilizer
Pattern	Flood
Technology	Deflection
Material	Polyacetal
Spray Angle	80° - 160°
Pressure Range	10-60 PSI
Configuration	Tip

ExactApply™ compatibility	
15Hz PWM	No
30Hz PWM	No
AutoSelect A/B	Yes
Conventional	Yes





Straight Stream (ST)

The 0-degree Straight Stream (ST) regulates flow, then produces a straight stream pattern. Precision-molded in polyvinylidene fluoride (PVDF) for excellent resistance to acids and many agricultural chemicals.

- 0-degree nozzles provide a single jet of spray for streaming or injecting liquid fertilizer
- Superior resistance to orifice wear compared to brass or stainless steel

Straight Stream (ST) - ASABE droplet size classification chart			
Tip size	1.0	1.5	2.0
Tip Number	PSST10	PSST15	PSST20
Cap Number	PS91020	PS91020	PS91020
Pressure (PSI)			
15	S	S	S
20	S	S	S
30	S	S	S
40	S	S	S
50	S	S	S
60	S	S	S
Droplet data sourced at Pentair Hypro in a steady state condition per ASABE S572.1 Standard.			

Features	
Common Use	Fertilizer
Pattern	Stream
Technology	Round Orifice
Material	PVDF
Spray Angle	110°
Pressure Range	15-60 PSI
Configuration	Tip

ExactApply™ compatibility	
15Hz PWM	No
30Hz PWM	No
AutoSelect A/B	Yes
Conventional	Yes

Service Parts	
Cap Gasket (EPDM)	PM200040-1
Cap Gasket (Viton)	PM200040V1

Disc (D)

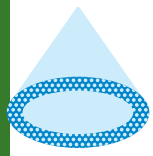


Disc

The Disc (D) regulates flow and produces a straight stream pattern. Precision-molded in polyacetal.

Features	
Common Use	Fertilizer
Pattern	Stream
Technology	Round Orifice
Material	Polyacetal
Spray Angle	0º
Pressure Range	10-150 PSI
Configuration	Disc

Disc	US Gallon/Min										
	PSI										
	10	15	20	25	30	35	40	60	80	100	150
PSD01	0.057	0.070	0.081	0.090	0.099	0.107	0.114	0.140	0.161	0.180	0.221
PSD015	0.078	0.096	0.110	0.123	0.135	0.146	0.156	0.191	0.221	0.247	0.302
PSD02	0.105	0.129	0.148	0.166	0.182	0.196	0.210	0.257	0.297	0.332	0.407
PSD03	0.133	0.163	0.188	0.210	0.230	0.249	0.266	0.326	0.376	0.421	0.515
PSD04	0.242	0.296	0.342	0.383	0.419	0.453	0.484	0.593	0.684	0.765	0.937
PSD05	0.392	0.480	0.554	0.620	0.679	0.733	0.784	0.960	1.11	1.24	1.52
PSD06	0.570	0.698	0.806	0.901	0.987	1.07	1.14	1.40	1.61	1.80	2.21
PSD07	0.760	0.931	1.07	1.20	1.32	1.42	1.52	1.86	2.15	2.40	2.94
PSD08	0.960	1.18	1.36	1.52	1.66	1.80	1.92	2.35	2.72	3.04	3.72
PSD10	1.55	1.90	2.19	2.45	2.68	2.90	3.10	3.80	4.38	4.90	6.00
PSD12	2.20	2.69	3.11	3.48	3.81	4.12	4.40	5.39	6.22	6.96	8.52



Hollow Cone Spray – Disc & Cores 25º-110º



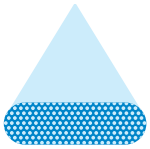
Disc



Core

The disc and core hollow-cone spray tips produce finely atomized droplets in a hollow-cone pattern in a variety of spray pattern widths.

Disc	Core	Spray Angle at 40 PSI	Color Disc/Core	US Gallon/Min							
				PSI							
				10	20	30	40	60	80	100	150
PSD01	PSC13	50	Gray/Red	-	-	0.06	0.07	0.08	0.09	0.10	0.13
PSD015	PSC13	55	Black/Red	-	-	0.06	0.07	0.09	0.10	0.11	0.14
PSD02	PSC13	65	Brown/Red	-	0.06	0.07	0.08	0.10	0.12	0.13	0.16
PSD03	PSC13	70	Orange/Red	-	0.06	0.08	0.09	0.11	0.12	0.14	0.17
PSD04	PSC13	80	Red/Red	0.06	0.08	0.10	0.12	0.14	0.17	0.19	0.23
PSD01	PSC23	45	Gray/LightBlue	-	-	0.06	0.07	0.09	0.10	0.11	0.14
PSD015	PSC23	50	Black/LightBlue	-	-	0.07	0.09	0.10	0.12	0.13	0.16
PSD02	PSC23	70	Brown/LightBlue	-	0.08	0.09	0.11	0.13	0.15	0.17	0.21
PSD03	PSC23	70	Orange/LightBlue	0.06	0.08	0.10	0.12	0.14	0.16	0.18	0.22
PSD04	PSC23	80	Red/LightBlue	0.08	0.11	0.13	0.15	0.19	0.22	0.24	0.30
PSD05	PSC23	90	Blue/LightBlue	0.09	0.13	0.16	0.18	0.22	0.25	0.28	0.35
PSD06	PSC23	90	Yellow/LightBlue	0.10	0.15	0.18	0.21	0.25	0.29	0.33	0.40
PSD01	PSC25	25	Gray/Yellow	-	-	0.09	0.10	0.12	0.14	0.16	0.19
PSD015	PSC25	40	Black/Yellow	-	-	0.11	0.13	0.16	0.19	0.21	0.26
PSD02	PSC25	50	Brown/Yellow	-	0.11	0.13	0.16	0.19	0.22	0.25	0.30
PSD03	PSC25	60	Orange/Yellow	0.09	0.13	0.16	0.19	0.23	0.27	0.30	0.36
PSD04	PSC25	75	Red/Yellow	0.14	0.19	0.24	0.28	0.34	0.39	0.43	0.53
PSD05	PSC25	80	Blue/Yellow	0.18	0.25	0.30	0.35	0.43	0.49	0.55	0.68
PSD06	PSC25	85	Yellow/Yellow	0.23	0.32	0.39	0.45	0.55	0.64	0.71	0.87
PSD07	PSC25	90	Green/Yellow	0.25	0.35	0.43	0.50	0.61	0.71	0.79	0.97
PSD08	PSC25	95	White/Yellow	0.30	0.42	0.52	0.60	0.73	0.85	0.95	1.16
PSD10	PSC25	100	LimeGreen/Yellow	0.38	0.53	0.65	0.75	0.92	1.06	1.19	1.45
PSD12	PSC25	110	RoyalBlue/Yellow	0.46	0.65	0.80	0.93	1.13	1.31	1.46	1.79
PSD01	PSC45	25	Gray/Green	-	-	-	0.12	0.15	0.17	0.19	0.23
PSD015	PSC45	35	Black/Green	-	-	0.14	0.16	0.20	0.23	0.25	0.31
PSD02	PSC45	45	Brown/Green	-	0.14	0.17	0.20	0.24	0.28	0.32	0.39
PSD03	PSC45	55	Orange/Green	-	0.16	0.20	0.23	0.28	0.32	0.36	0.44
PSD04	PSC45	70	Red/Green	0.18	0.25	0.30	0.35	0.43	0.49	0.55	0.68
PSD05	PSC45	75	Blue/Green	0.23	0.32	0.39	0.45	0.55	0.64	0.71	0.87
PSD06	PSC45	80	Yellow/Green	0.29	0.41	0.50	0.58	0.70	0.81	0.91	1.11
PSD07	PSC45	85	Green/Green	0.34	0.48	0.58	0.68	0.83	0.95	1.07	1.31
PSD08	PSC45	90	White/Green	0.41	0.58	0.71	0.83	1.01	1.17	1.30	1.60
PSD10	PSC45	95	LimeGreen/Green	0.55	0.78	0.95	1.10	1.35	1.56	1.74	2.13
PSD12	PSC45	100	RoyalBlue/Green	0.67	0.95	1.16	1.34	1.64	1.90	2.12	2.60



Even Spray (ES) 80º



The Even Spray (ES) tip is an excellent choice for banding and directed post applications. Its even spray pattern should be used when treating bands.

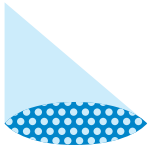
- Even spray pattern provides a precise application rate where no spray overlap is desired
- Large range of flow rates available to meet your application requirements

Even Spray (ES) 80° spray angle - ASABE droplet size classification chart								
Tip size	01	15	02	03	04	05	06	08
Tip Number	PSES8001	PSES80015	PSES8002	PSES8003	PSES8004	PSES8005	PSES8006	PSES8008
Cap Number	PS9001	PS90015	PS90002	PS90003	PS90004	PS90005	PS90006	PS90008
Pressure (PSI)								
30	F	M	M	C	C	C	C	VC
40	F	F	M	M	C	C	C	C
50	F	F	F	M	M	C	C	C
60	F	F	F	M	M	C	C	C
Droplet data sourced at Pentair Hypro in a steady state condition per ASABE S572.1 Standard.								

Features	
Common Use	Weeds
Pattern	Even Flat Fan
Technology	Elliptical Orifice
Material	polyacetal
Spray Angle	80°
Pressure Range	30-60 PSI
Configuration	Tip

ExactApply™ compatibility	
15Hz PWM	Yes
30Hz PWM	Yes
AutoSelect A/B	Yes
Conventional	Yes

Service Parts	
Cap Gasket (EPDM)	PM200040-1
Cap Gasket (Viton)	PM200040V1



Off-Center (OC)



The Off-Center (OC) flat fan off-center brass spray tip is an economical tip for spraying around obstacles or defining the edge of a spray swath.

- Creates half of a broadcast pattern
- Generally positioned at the end of a boom
- Designed for use with overlapping broadcast patterns to provide precise width control

Off Center (OC) - ASABE droplet size classification chart				
Tip size	02	03	04	06
Tip Number	PSOCB8002	PSOCB8003	PSOCB8004	PSOCB8006
Cap Number	PS90002	PS90003	PS90004	PS90006
Pressure (PSI)				
30	M	M	M	C
40	F	F	M	M
50	F	F	M	M
60	F	F	F	M
Droplet data sourced at Pentair Hypro in a steady state condition per ASABE S572.1 Standard.				

Features	
Common Use	Unspecialized
Pattern	Off-Center Fan
Technology	Eliptical Orifice
Material	Brass
Spray Angle	80°
Pressure Range	30-60 PSI
Configuration	Tip

ExactApply™ compatibility	
15Hz PWM	Yes
30Hz PWM	Yes
AutoSelect A/B	Yes
Conventional	Yes

Service Parts	
Cap Gasket (EPDM)	PM200040-1
Cap Gasket (Viton)	PM200040V1

Boomless Flat Fan Nozzles – Fence Row/Boomless (XT)



The XT introduces boomless spray technology, enabling spray to be targeted into places that conventional booms and other tips cannot reach. XT delivers a uniform spray pattern over a distance of up to 16 feet. Ideal for weed control in forests and pastureland.

- Ideal for applications where a conventional boom cannot be used due to obstacles
- Common uses include orchard, vineyard, forestry, pasture, turf and golf course spraying, as well as maintaining rights-of-way and fence rows
- Excellent low-drift option while extending spray reach
- Large droplet size reduces spray drift and promotes spray penetration
- Maintains a consistent spray swath over a pressure range of 30-60 PSI
- Standard models with precision-molded polyacetal tip and threaded stainless steel body provide excellent durability and low maintenance

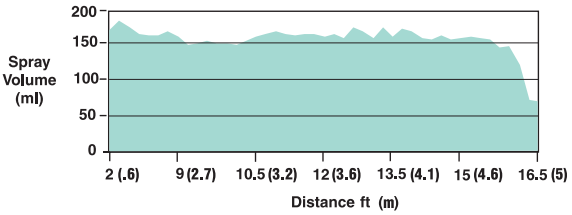
US Units

Tip Size	Pressure (PSI)	Flow Rate (GPM)	Gallons per Acre at swath shown MPH								GAL/1000ft²				Swath (Ft) at 40 PSI 48 in high	Quick Change Polyacetol	Stainless Steel
			4	5	6	8	10	12	15	20	2	3	4	5			
10 (1/4")	30	0.9	8.9	7.1	5.9	4.5	3.6	3.0	2.4	1.8	0.41	0.27	0.20	0.16	13		PSXTIQ10
	40	1.0	9.9	7.9	6.6	5.0	4.0	3.3	2.6	2.0	0.45	0.30	0.23	0.18			
	50	1.1	10.9	8.7	7.3	5.4	4.4	3.6	2.9	2.2	0.50	0.33	0.25	0.20			
	60	1.2	11.9	9.5	7.9	5.9	4.8	4.0	3.2	2.4	0.55	0.36	0.27	0.22			
20 (1/4")	30	0.9	13.6	10.9	9.0	6.8	5.4	4.5	3.6	2.7	0.62	0.42	0.31	0.25	15	PSXTQ20	PSXTIQ20
	40	1.0	16.0	12.8	10.6	8.0	6.4	5.3	4.3	3.2	0.73	0.49	0.37	0.29			
	50	1.1	17.6	14.1	11.7	8.8	7.0	5.9	4.7	3.5	0.81	0.54	0.40	0.32			
	60	1.2	19.2	15.3	12.8	9.6	7.7	6.4	5.1	3.8	0.88	0.59	0.44	0.35			
24 (1/4")	30	0.9	16.2	13.0	10.8	8.1	6.5	5.4	4.3	3.2	0.75	0.50	0.37	0.30	16	PSXTQ24	PSXTIQ24
	40	1.0	18.6	14.9	12.4	9.3	7.4	6.2	5.0	3.7	0.85	0.57	0.43	0.34			
	50	1.1	20.9	16.7	13.9	10.4	8.4	7.0	5.6	4.2	0.96	0.64	0.48	0.38			
	60	1.2	22.4	17.9	15.0	11.2	9.0	7.5	6.0	4.5	1.03	0.69	0.51	0.41			
43 (3/8")	30	0.9	31.6	25.3	21.1	15.8	12.6	10.5	8.4	6.3	1.45	0.97	0.72	0.58	14	PSXTQ43	
	40	1.0	36.7	29.4	24.5	18.3	14.7	12.2	9.8	7.3	1.68	1.12	0.84	0.67			
	50	1.1	41.0	32.8	27.3	20.5	16.4	13.7	10.9	8.2	1.88	1.25	0.94	0.75			
	60	1.2	45.2	36.2	30.2	22.6	18.1	15.1	12.1	9.0	2.08	1.38	1.04	0.83			

Features	
Common Use	Weeds
Pattern	Boomless Fan
Technology	Pre-Orifice
Material	Stainless or Polyacetal
Spray Angle	105º
Pressure Range	30-60 PSI
Configuration	Stainless, Quick Change

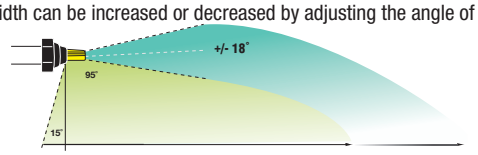
Stainless Replacement Tip Kits - includes gasket, stainless steel insert & polyacetal pattern generator
PSXTIQ10KIT
PSXTIQ20KIT
PSXTIQ24KIT

Typical Spray Pattern Produced by XT Series

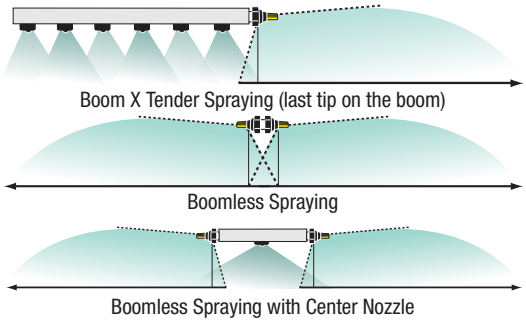


Adjustable Swath Width

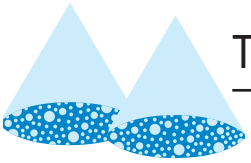
Swath width can be increased or decreased by adjusting the angle of the tip +/- 18˚.



Common Uses of the Boom X Tender Spray Nozzles



TwinCap™ (TC)

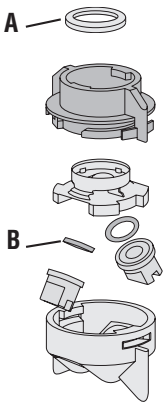




The TwinCap™ is a simple, compact way of accommodating two spray tips back to back. This design allows you to apply the volume per acre you want, at the speed you want, without compromising spray quality.

- Improve control of plant diseases, insects, and difficult weeds
- Twin 30° angles improve canopy penetration
- Combined forward and backward angles enhance coverage on stems and leaves
- Holds any two standard dimension tips, including ULA, LD, LDC, ER, ERI, Flat, and Even tips*

Tips and TwinCap Parts Breakdown



Part Numbers	
TwinCaps, less tips	
PSTC	Standard cap for agrochemicals

Part Numbers	
Replacement Parts	
PM200040-1	Standard cap seal (A)
PM200040V1	Viton cap seal for Acid (A)
PM65MN01113	Standard tip o-ring seal (B)

Spray Nozzle Caps



John Deere caps provide trouble-free spray tip installation and sealing on nozzle bodies and several other common makes.

- Color-coded to ISO standards for nozzle flow to simplify tip selection and identification in the field
- Available in configurations optimized to fit a variety of spray tip geometries
- Caps for fan pattern tips automatically align tips for enhanced spray uniformity



	ISO Standard Fan	European Fan (Thick body)	Standard Round (Non-aligning)	Shut-off	Threaded	Push to Connect	Push to Connect	
Fits:	ULD*, LDC, LDA, LD, ER, ERI, OC, FF, ES, ERC	ULAC	FL	Blank	ST 1/4"MNPT	1/4"w/ gasket	3/8" w/ gasket	Std. Pack
Black	PS90020	PS90120	PS90420	PS90920	PS91020	PM42000060	PM42000061	10
Orange	PS90001	PS90101	PS90401	-	-	-	-	10
Green	PS900015	PS901015	PS904015	-	-	-	-	10
Yellow	PS90002	PS90102	PS90402	-	-	-	-	10
Lilac	PS900025	PS901025	PS904025	-	-	-	-	10
Blue	PS90003	PS90103	PS90403	-	-	-	-	10
Dark Red	PS900035	-	-	-	-	-	-	10
Red	PS90004	PS90104	PS90404	-	-	-	-	10
Brown	PS90005	PS90105	PS90405	-	-	-	-	10
Gray	PS90006	PS90106	PS90406	-	-	-	-	10
White	PS90008	PS90108	PS90408	-	-	-	-	10
Included EPDM seal	PM200040-1	PM200040-1	PM200040-1	-	PM200040-1	PM200040-1	PM200040-1	40
Included Nitrile seal	-	-	-	PM65BS205	-	-	-	10
Separate Viton seal	PM200040V1	PM200040V1	PM200040V1	-	PM200040V1	-	-	40

*PS17000255 (split gasket EPDM) is recommended for ULD nozzle

Elbow and Double Adapters for Spray Tip Cap





Part #	Description
PM40291601	45 Double w/ Gasket 6 pack
PM40291401	90 Elbow w/ Gasket 6 pack

Hardi and Jacto Adapters





Part #	Adapters For	Description
PM99500024	Hardi*	6 pack of adapters for converting nozzle body to accept John Deere cap
PM99500027	Jacto**	

* Hardi is a registered trademark of Hardi International A/S.
** Jacto is a registered trademark of Jacto Inc.

Nozzle Strainers



- High quality components and manufacturing ensure reliable spraying in any situation
- Ball check models feature stainless steel screens and springs, nitrile balls, polyacetal structure
- Premium polypropylene tip strainers feature precise straining with more flow
- Strainers snap on the back of Ultra Low-drift tips for reliable, on-target spraying
- International standard colors denote mesh size

General Strainer Recommendations		
Tip Flow Rate at 40 PSI	Strainer Mesh	Example Fan Tip Size
Less than 0.10	200	005-0067
0.10-0.39	100	01-035
0.40-0.79	50	04-06
0.80-2.00	25	08-20









	Premium Polypropelene Flow Tip Strainer		Premium Flow Polypropylene Guardian™ & GuardianAIR Twin Tip Strainer		Slotted Nylon Tip Strainer	Stainless Steel Tip Strainer with Check
Part Number	PS310	PS311	PS0250	PS02100	PS735089	PS0450
ISO Color	Blue	Green	Blue	Green	Black	Blue
Mesh	50	100	50	100	25	50

Nozzle Bodies

Nozzle Bodies with the Highest Flow Rates in the Industry

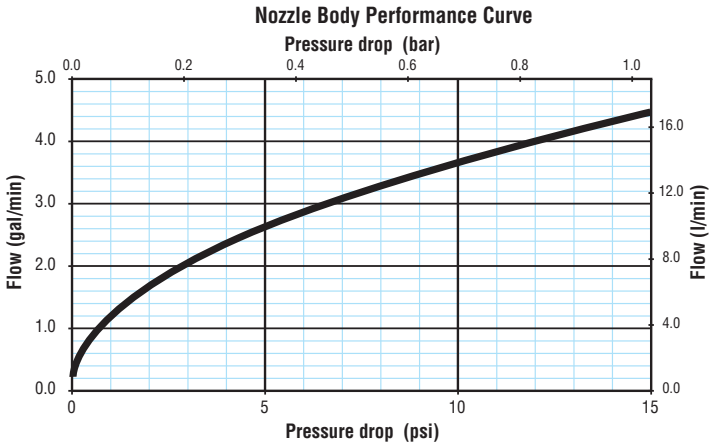


BENEFITS

- Designed to deliver the highest flow rates across the spraying pressure range
- Unique DCV (diaphragm check valve) design reduces restrictions in the flow path, enabling 2.6 gpm with a 5 psi pressure drop through the nozzle
- Supports faster field speeds with the same coverage and supports direct fertilizer application through the nozzle body DCV flow path
- Turret-indexing design provides improved consistency and reliability throughout the life of the nozzle body – eliminating free spinning and seizing problems seen on competitive nozzle bodies
- Compact design makes mounting easier with less potential interference with the spray boom structure
- Nozzle bodies come standard with an 8 psi (.55 bar) diaphragm check valve. 4 psi, 12 psi, 20 psi, and 25 psi checks are available as options.

FEATURES

- Three turret styles for an easy change of spray tips: single, 3-way, and 5-way
- Provides lowest pressure drop at any given flow in the industry
- 2.6 gpm (9.84 LPM) with a 5 psi (.345 BAR) pressure drop for standard body
- 5.0 gpm (18.92 LPM) with a 5 psi (.345 BAR) pressure drop for high-flow body (AN206621)
- Available in wet or dry boom versions
- Positive shutoff between each spray position



High-flow Nozzle bodies



Part number	Description
AN206621	Nozzle body, high-flow, 5-position, 11/16-in port, Viton seals
PMHF12DCVV	12-psi check valve with Viton diaphragm (16 open / 12 close)
PMHF15DCVV	15-psi check valve with Viton diaphragm (22 open / 15 close)

Viton is a registered trademark of DuPont Dow Elastomers.

Standard Nozzle Bodies, 3- and 5-way for Wet Boom (no tab for boom clamp)



Seal Option/ Housing Reference	Turret Options	(to clamp on) Pipe Size	
		¾"	1"
Viton/Green	3	AN206179	AN305431
	5		AN305432

Single Drop Nozzle Body for Wet Boom



Seal Option/ Housing Reference	(to clamp on) Pipe Size		
	½"	¾"	1"
EPDM/Red	PM745	PM755	PM765

Nozzle Bodies

3- and 5-way Nozzle Bodies with Tab for Boom Clamp



Seal Option/ Housing Reference	Turret Options	(to clamp on) Pipe Size		
		½"	¾"	1"
EPDM/Red	3	PM42W7	PM42Y7	PM42K7
	5		PM49Y7	PM49K7

Dry Boom Adapters for Wet Boom Nozzle Bodies



Part Number	Type	Clamp Size	Hose Barb
PM6413	Single	½" Pipe	½"
PM6519	Single	¾" Pipe	¾"
PM6619	Single	1" Pipe	¾"
PM6625	Single	1" Pipe	1"
PM7413	Double	½" Pipe	½"
PM7519	Double	¾" Pipe	¾"
PM7525	Double	¾" Pipe	1"
PM7619	Double	1" Pipe	¾"
PM7625	Double	1" Pipe	1"

Hose Barb Dry Boom Nozzle Bodies-with DCV



Single hose barb P/N	Double hose barb P/N	Triple hose barb P/N	Hose ID
PM413211	PM413221	PM413231	⅜"
PM413212	PM413222	PM413232	½"
PM413213	PM413223	PM413233	¾"

Hose Barb Dry Boom Nozzle Bodies-with Top-Mounted DCV



Seal Option/ Housing Reference	Single hose barb P/N	Double hose barb P/N	Hose ID
EPDM/Red	PM413411	PM413421	⅜"
	PM412	PM422	½"
	PM413	PM423	¾"

Threaded Single Nozzle Bodies-with DCV



Seal Options/ Housing Reference	1/4" MNPT x 1/4" FNPT
	8 PSI
EPDM/Red	PM402CPV01

Push-to-Connect Nozzle Bodies & Caps



Push-to-Connect (PTC) Cap Part Numbers		
Type	Size	1 pack
Caps	1/4"	PM42000060
	3/8"	PM42000061

Includes gasket

Push-to-Connect (PTC) Nozzle Body Part Numbers			
Type	DCV	4 PSI	8PSI
	Size	1 Per Bag	1 Per Bag
PTC to Bayonet	1/4"	PM4247NB119	PM4247NB129
	3/8"	PM4247NB111	PM4247NB121
PTC to PTC	1/4"	PM4247NC119	PM4247NC129
	3/8"	PM4247NC111	PM4247NC121

Hose Barb Dry Boom Nozzle Bodies-No DCV



Single hose barb P/N	Double hose barb P/N	Triple hose barb P/N	Hose ID
PM111	PM121	PM413131	⅜"
PM112	PM122	PM413132	½"
PM113	PM123	PM413133	¾"

Nozzle Body Accessories

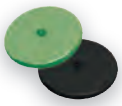
Replacement Check Valve (DCV) includes Flynut, Housing and Spring



Housing Reference	Spring Pressure (PSI)/Plunger Reference Color				
	4 PSI/Orange	8 PSI/Black	12 PSI/Yellow	20 PSI/Gray	25 PSI/Blue
Red	PM4DCVAE	PM8DCVAE	PM12DCVAE	PM20DCVAE	PM25DCVAE
Green	PM4DCVAV	PM8DCVAV	PM12DCVAV	PM20DCVAV	PM25DCVAV

Red housing indicates for use with EPDM Seals. Green housing indicates for use with Viton Seals.
Note: Diaphragm seals are sold separately.

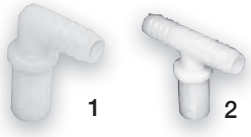
Replacement Diaphragm Seal Options for check valves



Option	Part Number	Color Reference
EPDM	PM03610	Black
Viton	PM036V10	Green

* 8 PSI Diaphragm check valve unless otherwise noted.

11⁄16" UN Nozzle Bodies



Reference Number	Standard Pack	Description	Poly Part Number
1	6	11⁄16" - 16UN(M) X 3⁄8" HB Elbows	PM3NTL38
1	6	11⁄16" - 16UN(M) X 1⁄2" HB Elbows	PM3NTL12
2	6	11⁄16" - 16UN(M) X 3⁄8" HB Tees	PM3NTT38
2	6	11⁄16" - 16UN(M) X 1⁄2" HB Tees	PM3NTT12

Includes B12/3B12 nut.

Nozzle Body Cap



Reference Number	Standard Pack	Description	Nylon Part Number	Poly Part Number
1	6	11⁄16" - 16UN(F) Nozzle blank cap		PM33942
2	6	11⁄16" - 16UN(F) Nozzle cap for tip/barb	PM8027H	PM38027

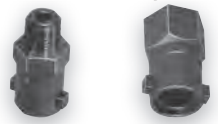
*Fits all nozzle fittings with 11⁄16" male straight thread.

Hose Drops



Part Number	Length	Description Outlet, Inlet
PM430201	15"	1⁄4" NPT, Quick Attach Fitting
PM430202	24"	1⁄4" NPT, Quick Attach Fitting
PM430201V	15"	1⁄4" NPT, Quick Attach Fitting with Viton
PM430202V	24"	1⁄4" NPT, Quick Attach Fitting with Viton

Quick Fitting Adapters



Part #	Description
PM400270N	1⁄4" MNPT x Quick Attach
PM400275N	1⁄4" FNPT x Quick Attach

Series 404 Swivel and Threaded-Swivel Nozzle Bodies



Part Number	Description
PM404072N	Single Swivel 1⁄4" FNPT X Quick Attach
PM404172N	Double Swivel 1⁄4" FNPT X 2 Quick Attach
PM4074N	Single 1⁄4" FNPT X 11⁄16" - 16UN(M)
PM4174N	Double 1⁄4" FNPT X 11⁄16" - 16UN(M)

Vari-Spacing Clamps



Part Number	Ball Thread	Piping/Tubing O.D.
PM003	Steel	3⁄4" Round Pipe (1.050")
PM004	Steel	1" Round Pipe (1.315")
PM005	Steel	1-1⁄4" Round Pipe (1.660")
PM1075SS	Steel	3/4" Square Tubing
PM1100SS	Steel	1" Square Tubing
PM1125SS	Steel	1-1/4" Square Tubing
PM1150SS	Steel	1-1/2" Square Tubing

* By pipe, dimensions refer to I.D. (inner diameter).

Steel Boom Clamps for use with 11/16" MPS Nozzle Bodies



Part Number	Description
PMBC34R	3⁄4" Round Pipe
PMBC100R	1" Round Pipe
PMBC100	1" Square
PMBC114	1-1⁄4" Square

* Dimensions refer to I.D. (inner diameter).



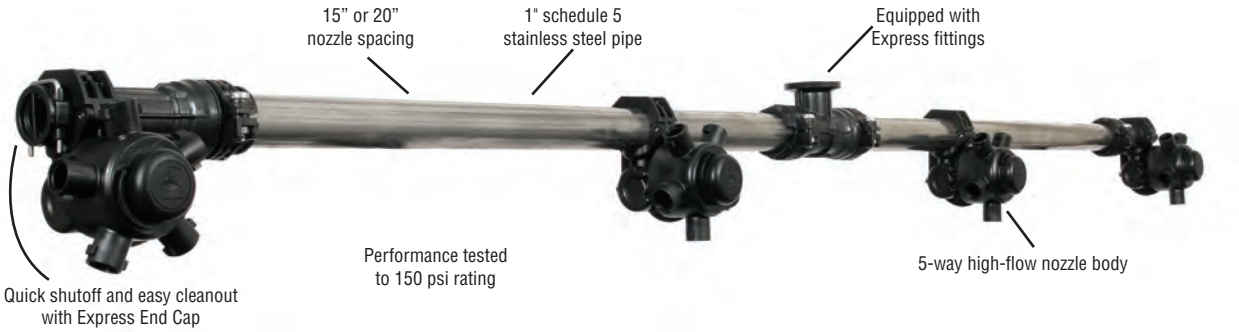
UPGRADES AND ACCESSORIES

John Deere offers a wide variety of upgrades to improve your sprayers performance. From the Express Boom Assembly Kit, End Caps and Flush Valves to Sprayer Calibrators and tip cleanout tools, we offer everything to fit your application needs.

Express Boom Assembly

Modular Boom Sections

John Deere's Express Boom Assembly provides an economical solution to upgrade your sprayer with 1-in. poly boom plumbing to stainless steel or change nozzle body spacing as desired. Available for John Deere sprayer models 4630, 4710, 4720, 4730, 4830, 4920, 4930, 4940 and R4023.



EXPRESS BOOM ASSEMBLY BENEFITS:

- Convert nozzle spacings to 15 in. or 20 in.
- Replace polypropylene plumbing with stainless steel
- Eliminate warping to promote even spray patterns
- Minimize cross contamination
- Simplify cleanout

EXPRESS NOZZLE BODY END CAPS:

- Eliminates trapped air from the boom allowing air to escape through the nozzle body
- Reduces nozzle turnoff time by up to 85%
- Removable plug for easy boom cleanout
- Improves spray boom hygiene reducing the risk of residue buildup
- Fewer field streaks and less overspray

5-WAY HIGH-FLOW NOZZLE BODIES:

- Delivers the highest flow rates
- Supports faster field speeds

The Express Boom Assembly allows you to customize each boom section by choosing the quantity of nozzle bodies either left or right of the tee for each section. Express Boom Assembly has the flexibility to meet any boom design. These single section custom configurations can range from one nozzle body on the left and/or right branch, to six (15" spacings) nozzle bodies on each branch. Review the chart below for all configuration options.

	Choose Left Branch	Tee	Choose Right Branch	
1				1
2				2
3				3
4				4
5				5
6*				6*

* Only available in 15" spacings.

See your local John Deere dealer for all configuration options and ordering assistance.

**not compatible with ExactApply™.*

Express Nozzle Body End Caps, Fittings and Valves



Creates a cleaner looking plumbing system by eliminating the need for an extra fitting at the end of the boom

Cleanout port for easy boom flushing

Eliminates trapped air from the boom by allowing air to escape through the nozzle body, reducing nozzle turn-off time by 85%

Not compatible with ExactApply

Express Nozzle Body End Cap



Part Number (1 per Bag)	Description	End Cap Plug Kit
PM74333314 = High Flow	1" Express fitting with nozzle body end cap that allows trapped air to escape through the nozzle body	PM74332514
PM74333316 = Standard Flow		PM74332600
PM34300790	Clamp and Hardware Kit with Pipe O-rings for high flow and standard	



Express Nozzle Body End Cap Retrofit Kit



Part Number	Description	Cutting Jig Material
PM34100043 - High Flow	Kit includes machinist-quality drill bit, drilling and cutting jig for 1" pipe, Emery cloth, and instructions to retrofit conventional wet boom spray pipe for Express nozzle body end caps.	Aluminum
PM34100044 - Standard Flow		

Flange Adapters for Express End Caps

Enable the use of Express End Caps on 4 Series Sprayer models R4023, R4030, R4038, R4044, R4045 and R4060.



Parts Number	Description	Pkg. qty.
PS24000152	End Cap Flange Adapter - Standard Flow	1
PS24000153	End Cap Flange Adapter - High Flow	1

Express Flush Valve

This valve allows quick flushes of the entire boom section with a turn of a handle. Purchase the Express Flush Valve alone or installed on the Express End Cap.



Features

- Easy-to-use valve does not require any tools to open flushing mode
- Reduces flush time by 55 seconds per valve compared to standard Express End Caps alone.
- Compact valve design limits the length it extends beyond last nozzle body to fit most booms.
- Chemically-resistant, stainless-steel ball and Viton o-rings help extend life

Parts Number	Description
PS74333318	Express Flush Valve-High Flow
PS74333320	Express End Cap with Express Flush Valve installed-High Flow
PS74333319	Express Flush Valve-Standard Flow
PS74333321	Express End Cap with Express Flush Valve installed-Standard Flow

Extension Caps



Improve spray efficiency for nozzles that have angled forward/backward inclines. These are also an option for certain boom positions or if lower nozzle positioning is desired.

Parts Number	Description	Pkg. qty.
PS91120	Extension Cap with gasket	10

Express Wet Boom Fittings



Part Number (1 per Bag)	Description	Ref #
PM74332502	Express Fitting X 1" Universal Flange Straight	1
PM74332503	2 Express Fitting X 1" Universal Flange Tee	2
PM74332608	Express Fitting X 1" Hose Barb Straight	3
PM74332610	Express Fitting X 1" Hose Barb Elbow	4
PM74332613	Express Fitting X 1" Male Cam Lock Straight	5
PM74332515	2 Express fitting x 1"Universal Flange Tee (Horizontal)	6
PM74332601	Express Fitting X 1" Hose Barb Elbow Horizontal	7

Nozzle Installation Tool



This light-weight tool makes nozzle installation faster with less operator fatigue.

Part Number	Description	Pkg. qty.
PS30000310	Nozzle Installation Tool	1

Sprayer Calibrators

John Deere offers several tools to help avoid costly over and under application of products from SpotOn™

Spray Nozzle Calibrators quickly identify worn spray nozzle tips and accurately measure true tip flow rate. All of this in a simple and fast operation with readings in 10 seconds or less per tip. Industry guidelines recommend spray tip replacement once flow rate exceeds that of a new tip by 10%. Today's high-tech sprayers can only be properly calibrated and confirmed with accurate knowledge of true tip flow rate.



Best for flow rates below 1 GPM, including spray tips for herbicide and insecticide applications.

Features:

- Simple waterproof design has no moving parts
- Show reading in either GPM, oz/min, or Liter/min
- Small size to store in cab or tool box

Specifications:

- Measurement Range: .02-1.00 GPM, 3.0-128.0 oz/min, .08-3.79 L/min (higher flow rates possible with reduced accuracy)
- Accuracy: Greater of +/-2.5% or one least significant digit
- Resolution: 0.01 GPM, 1 oz/min, 0.01 L/min

Part Number	Description
PM23890	SpotOn Spray Nozzle Calibrator 1GPM

Best for flow rates between 1–4 GPM (PM23890 is quicker and more accurate for flow rates below 1 GPM).

Features:

- Measures up to 4 GPM (15 L/min)
- Simple waterproof design has no moving parts
- Show reading in either GPM, oz/min, or L/min



Specifications:

- Measurement Range: 0.07-4.00 GPM , 9.0-512.00 oz/min, 0.27-15.0 L/min (higher flow rates possible with reduced accuracy)
- Accuracy: Greater of +/-4% or one least significant digit
- Resolution: 0.01 GPM, 1 oz/min, 0.01 L/min

Part Number	Description
PM24200	SpotOn Spray Nozzle Calibrator 4GPM

SpotOn is a trademark of Innoquest Inc.

Spray Nozzle Calibration Tools



The Calibration Jug is designed to measure the output of chemicals to ensure that the desired amount is being applied.

Part Number	Description
PM99500022	32 oz. Calibration Jug
PM99500023	128 oz. Calibration Jug



The Spray Tip Calibration Pressure Gauge is attached to a cap and a bayonet to test pressure at the nozzle.

Part Number	Description
PMTESTKIT	Spray Tip Calibration Pressure Gauge

Sprayer Pressure Tester



Verify accuracy of sprayer's pressure sensor and gauge as well as find blockage in hoses and booms.

Features:

- Digital display reads in PSI, Bars or kPa
- Uses industry-standard quick connects
- One button operation
- Shock-proof rubber covering protects against drops and mishandling.

Specifications:

- Measurement Range: 3.0-160. PSI, 0.20-11.0 Bars, 20-1100 kPa
- Accuracy: +/- 2% or +/- 1 PSI, +/- 0.07 Bars,+/- 7 kPa
- Resolution: 0.5 PSI, 0.05 Bars, 5 kPa
- Battery Life: includes battery with 5-year life
- Note: for test gauge use only, not for continuous use

Part Number	Description
PM28040	Spray Pressure Tester

Sprayer Tip Cleaner and Multi-Tool Combo Pack



Get both the innovative air blast Nozzle Cleaner and 4-in-1 multi-tool. These tools are designed specifically for sprayer tip and nozzle body cleaning and maintenance.

Features:

- Nozzle Cleaner provides a 50 PSI air blast for cleaning debris from spray tips.
- 4-in-1 multi tool features a brush, foldout plastic pick, spanner wrench and utility hook to make tip maintenance quick and easy.

Specifications

- 50 PSI Air blast

Part Number	Description
PM27860	Spray Tip Cleaner and Multi-Tool Combo Pack

Sprayer Tip Tool Kit



All the SpotOn tools a sprayer operator needs for finding worn or plugged nozzles, verifying application rate, clean plugged tips and strainers and calibrate your sprayer, all in one compact carry case.

Kit Includes:

- Spray nozzle calibrator
- Air-blast tip cleaner
- Tip multi-tool
- Sprayer output calculator
- Gloves and goggles
- Durable carrying case
- 1-year warranty

Specifications

- Kit Size: 10.5" H x 14" W x 3.5 D (27cm x 36cm x 9cm)
- Kit Weight: 2.6 lbs (1.2kg)
- Range & Units: 0.02 – 1.0 GPM (0.08 –3.80 L/Min)
- Accuracy: +/- 2.5%
- Size: 2.25" Dia x 9" tall
- Batteries: included

Part Number	Description
PM28170	Spray Tip Tool Kit

Thermal Inversion Tester



This tool detects low-level thermal inversions and air temperature at boom height as required for pesticide/herbicide applications.

Features

- Display “Inversion Present” or “No Inversion” with intensity shown in degrees based on temperature measurements at heights of 3.3 ft and 9.8 ft
- Measure accurate air temperature at boom height to meet label requirements
- Auto detects when temperature readings are stable
- Backlight on LCD for dawn/dusk or night operation

Parts Number	Description
PM35010	Thermal Inversion Tester

Water-Sensitive Paper



This paper allows users to quickly and easily see spray coverage, droplet size and uniformity, as well as any off target-applications

Features

- Does not warp in humid conditions
- Fully sealed package provides re-closable seal once opened
- Includes tweezers and desiccant packet to improve shelf life

Parts Number	Description
PM32920	Water-Sensitive Paper 2" x 3", 25 sheets

Mini-Patternator



Innovative handheld tool allows visualization of nozzle and sprayer coverage. Most readings are made in less than 10 seconds due to the special channel design

Features:

- Quickly visualize spray pattern and coverage
- Easy handheld operation
- Small size for easy transport and storage

Specifications:

- Capacity: 16 channels spaced 1 in. apart
- Size: 12 in. tall x 18 in. wide x 1 in. thick
- Weight: 2.7 lbs.
- Construction: PVC Body, Polycarbonate Window, Polyethylene Balls

Parts Number	Description
PM26980	Mini Patternator

IMPORTANCE OF SPRAYER CLEANOUT

The spread of resistant weeds and complex herbicide formulations have made sprayer cleanout more important than ever.

John Deere offers a family of products from Precision Labortories® to help prevent cross contamination, crop damage and improve performance.



Erase™

Spray System Cleaner



Erase is a powerful spray system cleaner that exceeds the capabilities of ordinary tank cleaners. Erase emulsifies oily residues in sprayer lines and hoses while elevating rinsate pH to degrade vulnerable crop protection products. When used in conjunction with proper sprayer cleaning technique, Erase ensures more thorough clean-outs and reduced risk of cross contamination that leads to crop injury complaints and yield loss.

Erase use rates: 2 quarts per 100 gallons of rinsate

FEATURES

- Advanced surfactant system that penetrates and removes dried-on residues left behind from incompatible tank mixes
- Emulsifier technology designed to solubilize oily residue build-up for easier purging of the system
- Anti-corrosion inhibitors protect pumps, seals and plumbing
- Preferred spray system cleaner for ExactApply

Part Number	Description
PM433QT	Erase Spray System Cleaner - Quart
PM43301	Erase Spray System Cleaner - Gallon

Incide-Out™

Spray Tank Cleaner



Incide-Out is a liquid spray tank cleaner that emulsifies and bonds pesticide residues to rinse water for complete purging.

Incide-Out use rates: 1 quart per 100 gallons of clean water rinsate

FEATURES

- Won't plug screens and nozzles like dry tank cleaners
- Penetrates residue buildup
- Anti-deposition aids improve cleanout
- High pH neutralizes organic acids
- Can be deposed of with normal rinsate solution
- Contains corrosion inhibitors to protect equipment
- Low-use rates

Part Number	Description
PM434QT	Incide-Out Spray Tank Cleaner - Quart

Precision Laboratories is a leading provider of specialized chemistries applied to plants, seeds, soil and water to maximize resource and biological performance potential while stewarding the environment.

Enduron PSI™

Foam For Pressurized Systems



Endurion PSI is formulated to maximize marking foam performance in pressurized marker systems. It generates greater volumes of heat stable marking foam under a wider range of operating pressures.

Enduron PSI use rates: 13 oz per 10 gallons of water

FEATURES

- Unique formulation developed specifically for pressurized systems
- High-expansion formulation generates greater volumes of foam
- Resists splattering caused by higher operating pressures
- Outlasts ordinary synthetic marking foams by over twice as long
- Dye tolerant
- Freeze/thaw stable

Part Number	Description
PM65201	Enduron PSI™ Marking Foam - Gallon

Tracer Hot Pink™

Marking Foam Colorant



Tracer Hot Pink increases marking foam visibility in drilled crops and heavy residue situations where optical clarity of white foam is limited.

Tracer™ use rates: 1-2 ounces of Tracer per 10 gallons of foam mixture.

FEATURES

- High-impact color leaves a mark on foliage even if foam won't
- Well-suited for post-emerge, drilled soybeans
- Improves visibility in bright sunlight

Part Number	Description
PM741QT	Tracer Hot Pink Foam Colorant - Quart

Gundown Elite™

Foam Destroyer



Gundown Elite delivers superior foam suppression during sprayer filling as well as quick defoaming performance.

Gundown Elite use rates:
Antifoam: 1-2 ounces of Gundown Max Elite per 100 gallons of solution.
General Defoamer: 2-4 ounces of Gundown Elite per 100 gallons of solution

FEATURES

- Aggressively suppresses initial foam build-up and quickly neutralizes foam in the widest range of tank mixes
- Significantly reduces foam spillovers and sprayer refilling time compared to other defoaming agents
- Concentrated formula works at low use rates.
- Stable freeze/thaw formulation requires no special storage

Part Number	Description
PM739QT	Gundown Elite Antifoamer & Defoamer - Quart
PM73901	Gundown Elite Antifoamer & Defoamer - Gallon

Precision Laboratories is a leading provider of specialized chemistries applied to plants, seeds, soil and water to maximize resource and biological performance potential while stewarding the environment.

Use all products according to product label

Winterizer Fluids for Sprayers



Sprayer Winterizer Fluid, a John Deere exclusive, is the only cold-weather protection fluid specifically formulated and approved by John Deere, to protect the entire wet system of a sprayer. Eliminates risk of frozen and broken pipes, pumps, and valves and the frequent replacement of pumps due to improper winterization.

FEATURES

- Concentrated formulation dilutes easily with water to provide the right amount of protection for every environment. Purchasing a concentrated formula verses a diluted formula also reduces freight and handling costs as well as reduce storage needs.
- Special lubricant additive protects critical, high value sprayer components (pumps, valves, seals, and other replacement parts) from dry storage corrosion and deterioration - for enhanced product life.
- GUARANTEED to be in compliance with Title 40 of the Federal Code of Regulations 180.1001 (c and d) and can be disposed of during normal spraying operations or added to the rinse tank for disposal later in the season - reduces user liability.
- Won't plug nozzles and screens by antagonizing future pesticide tank mixes
- Protects your sprayer down to -48°C (-54° F)
- Reusable - reduces maintenance expenses

Part Number	Description	Pkg. qty.
N305634	2 1/2 gallon (9.45L)	2
TY26555	55 gallon drum (208L)	1

Nozzle Body Turret O-Ring Lubricant



Over time the o-rings between the turret and nozzle body get dusty, which makes rotating the nozzle body difficult when changing nozzles. Parker Super O-Lube is an all-purpose lubricant that protects o-rings on sprayers with our ExactApply™ nozzle bodies as well as those on older machines.

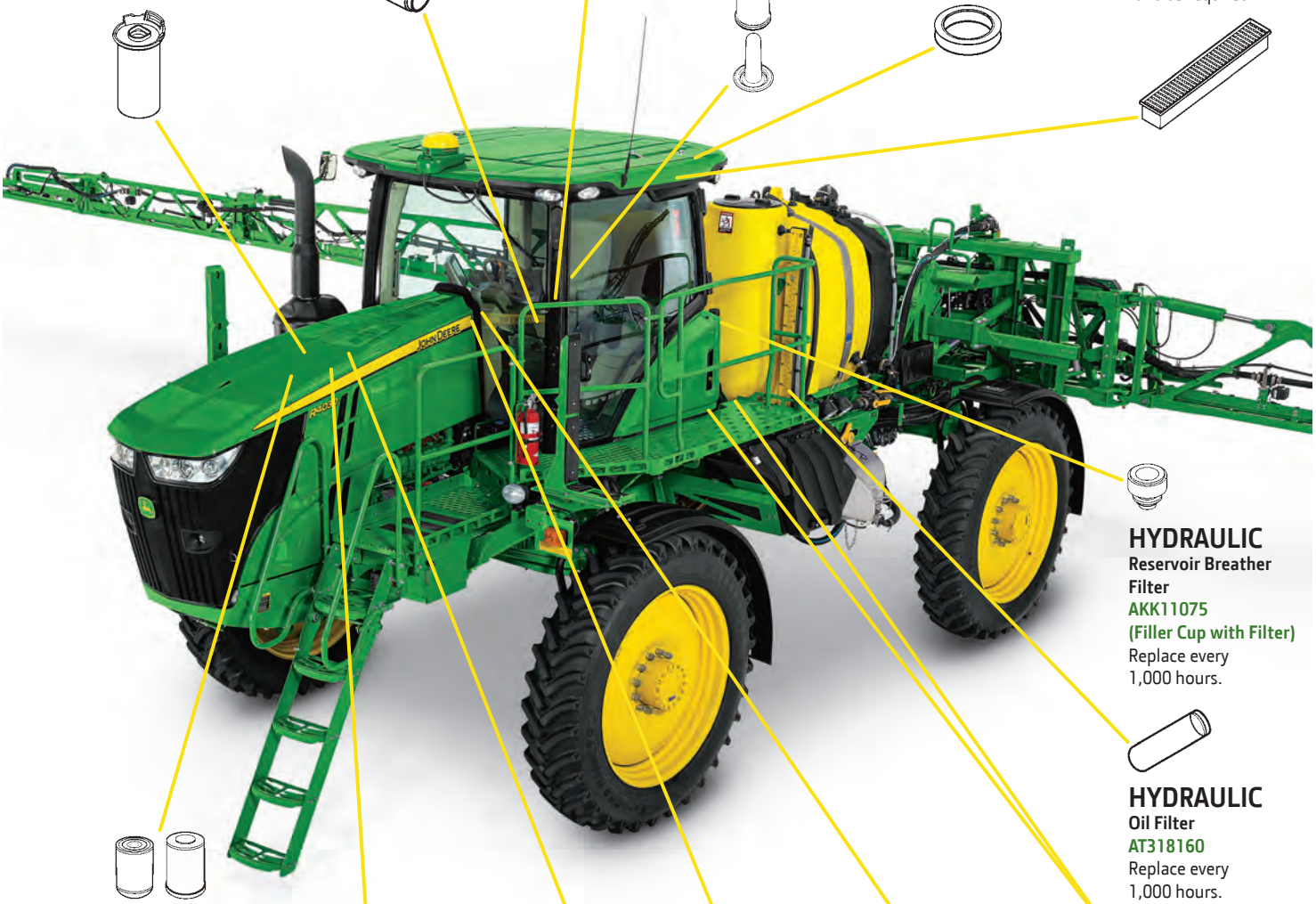
FEATURES

- High-viscosity silicone oil that can be used with virtually any rubber polymer over temperatures ranging from -65°F to 400°F(-54°C to 204°C)
- Will not clog 30-micron filters
- Extends the life of sprayer components
- Preferred lubricant for ExactApply™ nozzle bodies

Part Number	Description
PMH3503	Super O-Lube, 2-0z. tube

Filter Maintenance

R4030/4038/R4044 Self-Propelled Sprayer



ENGINE
Open Crankcase Ventilation (OCV) Filter
DZ105796 (R4030)
Replace every 1,500 hours.

ENGINE
Secondary Air Filter
AN403919 (FT4)
AT411946 (Stage II)
Replace every other Primary Air Filter change.

ENGINE
Primary Air Filter
AN403918 (FT4)
AT411949 (Stage II)
Replace as required.

ENGINE
Diesel Exhaust Fluid (DEF) Dosing Unit Filter
RE554498
Replace every 4,500 hours or 3 years, whichever occurs first.

CAB
Recirculation Air Filter
RE333569
Replace every 500 hours or annually, whichever occurs first, and as required.

CAB
Fresh Air Filter
RE333567
Replace every 500 hours or annually, whichever occurs first, and as required.

HYDRAULIC
Reservoir Breather Filter
AKK11075
(Filler Cup with Filter)
Replace every 1,000 hours.

HYDRAULIC
Oil Filter
AT318160
Replace every 1,000 hours.

ENGINE
Fuel Filter Kit (Includes Primary and Secondary)
RE556406 (FT4)
RE541746 (Stage II)
(R4030 Engine option code 35D5)
Primary Fuel Filter
RE539465 (R4038/R4044)
Secondary Fuel Filter
RE533910 (R4038/R4044)
Replace every 500 hours.

ENGINE
Oil Filter
RE509672
(R4038/R4044)
Initial oil and filter change is after 100 hours of operation, then replace every 250 hours or annually, whichever occurs first.

ENGINE
Diesel Particulate Filter (DPF)
RE561836 (FT4)
DZ100484 (1.5 Next Generation Header)
Replace within 250 hours after warning light indicators are alerted on display.

ENGINE
Diesel Exhaust Fluid (DEF) Vent Filter
H216169
Clean as required.

ENGINE
Fuel Tank Vent Filter
H216169
Clean as required.

HYDRAULIC
Hydrostatic Filters
AN203010
Replace every 1,000 hours.

Visit www.JohnDeere.com/AgFilters to find the filter guide for your model sprayer.



SPRAYER CALIBRATION

Timely and effective chemical applications have become the leading method to control weeds and insects. Improperly calibrated sprayers can reduce effectiveness and threaten the environment including groundwater contamination or drift. Proper calibration can expose under-pressured systems and worn spray nozzles.

STEP 1. The first step in any calibration effort is to check sprayer/tractor speed. Mark off lengths of 100 and 200 ft. for measuring sprayer/tractor speeds of 5 mph and 10 mph, respectively. Fill the sprayer tank half full of water, select the engine throttle setting and gear that you expect to use when spraying, and then record the seconds required to drive the length of each course twice at their respective settings. Average the results of each set, and use the following equation to determine ground speed. Repeat the test as needed until the correct speed is identified. Mark that setting on the tachometer or speedometer for infield reference.

$$\text{Speed} = \frac{\text{Distance (ft.)} \times 60}{\text{Time (sec.)} \times 88}$$

STEP 2. Record the nozzle spacing, nozzle type, ground speed and product label application rate. Check to ensure all nozzles are of a uniform type.

STEP 3. Multiply the application rate (gpa) by the speed (mph) and the width of the spray pattern (w)*. Divide this amount by 5940 (a constant) to determine the gallons per minute (gpm) produced by each nozzle.

$$\text{Flow required per nozzle (gpm)} = \frac{\text{gpa} \times \text{mph} \times \text{w}}{5940}$$

STEP 4. To set correct pressure, operate the water filled sprayer in place to check for leaks and stoppages. Stop the sprayer, and replace one tip on the boom with an identical new tip and strainer. Check the tip product information sheet for recommended delivery rate and pressure that matches the gpm level calculated in Step 3.

Engage the sprayer and adjust for recommended pressure. Collect the volume of spray produced from the new nozzle tip over a one minute period. Measure the water, and fine tune the pressure setting until the calculated delivery rate is reached.

STEP 5. Repeat the collection procedure with several tips on each boom section. If variations in flow in excess of 10% are produced from more than one tip, replace all old tips and screens.

*If calibrating a sprayer for broadcast application, use nozzle spacing for spray pattern width. If calibrating for banding, use only actual spray pattern in inches (12 bands of 10" each on 30" rows equals spray pattern width of 120" on a 30' boom).

Directed applications with multiple nozzles require that the row or band in inches be divided by the number of nozzles directed at the row to calculate width.

$$\text{Width of Spray Pattern in Directed Applications} = \frac{\text{band width}}{\text{\# of nozzles per band}}$$

Spraying Solutions other than Water

Liquids that are more dense than water will flow through a spray tip more slowly than water. Solutions that are less dense than water will flow through a spray tip more quickly than water. Unless otherwise indicated, the performance tables in the spray tip section of this catalog show flow and application rates for water-based sprays. To use those tables when selecting tips to apply non-water sprays you must calculate an intermediate "look-up" application rate. To do this you will multiply your actual desired application rate by a conversion factor and then use the resulting "look-up" figure to select a tip from the water-based performance tables. The conversion factors listed on this page are based on typical values for common fertilizer solutions. For other spray solutions, you can calculate the conversion factor by taking the square root of the solution's specific gravity.

U.S. Units

Density (lb/us gal)	Material	Specific Gravity	Conversion Factor
7.00		0.84	0.92
8.00		0.96	0.98
8.34	water	1.00	1.00
9.00		1.08	1.04
10.00		1.20	1.10
10.30	4-10-10	1.24	1.11
10.65	28-0-0	1.28	1.13
11.00		1.32	1.15
11.05	32-0-0	1.32	1.15
11.20	7-21-7	1.34	1.16
11.65	10-34-0	1.40	1.18
12.00		1.44	1.20

Example:

Your desired application rate of 28% Nitrogen fertilizer (28-0-0) is 30 US GPA.

Multiply 30 GPA by Conversion Factor 1.13 to find the converted look-up application rate of 33.9 GPA.

Select a spray tip that will apply 33.9 GPA of water-based spray. A spray tip that will apply 33.9 GPA of water will apply 30 GPA of 28-0-0 fertilizer solution.

Metric

Density (kg/L)	Material	Conversion Factor
0.80		0.89
0.90		0.95
1.00	water	1.00
1.10		1.05
1.20		1.10
1.24	4-10-10	1.11
1.28	28-0-0	1.13
1.30		1.14
1.32	32-0-0	1.15
1.34	7-21-7	1.16
1.40	10-34-0	1.18
1.50		1.22

Example:

Your desired application rate of 28% Nitrogen fertilizer (28-0-0) is 300 L/ha.

Multiply 300 L/ha X Conversion Factor 1.13 to find the converted look-up application rate of 339 L/ha.

Select a spray tip that will apply 339 L/ha of water-based spray. A spray tip that will apply 339 L/ha of water will apply 300 L/ha of 28-0-0 fertilizer solution.

Broadcast Application Formulas

US Standard

Application Formulas – US Standard
GPM – Gallons per minute (per spray tip)
GPA – Gallons per acre
GAL/1000FT^2 – Gallons per 1000 square feet
MPH – Miles per hour
W - Tip spacing (inches) for broadcast spraying
- Spray width (inches) for single-tip band spraying or boomless spraying
- Row spacing (inches) divided by the number of tips per row for directed spraying

$$GPM = \frac{GPA \times MPH \times W}{5{,}940}$$

$$GPM = \frac{GAL/1000FT^2 \times MPH \times W}{136}$$

$$GPA = \frac{5{,}940 \times GPM}{MPH \times W}$$

$$GAL/1000FT^2 = \frac{136 \times GPM}{MPH \times W}$$

Metric

Application Formulas – Metric
LPM – Litres per minute (per spray tip)
L/ha – Litres per hectare
Kmph – Kilometres per hour
W - Tip spacing (m) for broadcast spraying
- Spray width (m) for single-tip band spraying or boomless spraying
- Row spacing (m) divided by the number of tips per row for directed spraying

$$LPM = \frac{L/ha \times Kmph \times W}{600}$$

$$L/ha = \frac{600 \times LPM}{Kmph \times W}$$

Wear and Chemical Compatibility

Ceramic – Highly resistant to abrasive and corrosive chemistry and provides superior wear resistance in abrasive applications and high pressures. Albuz nozzle orifices are made of pink inserted ceramic, reinforced by special oxides, and specially designed by Saint-Gobain for spraying applications.

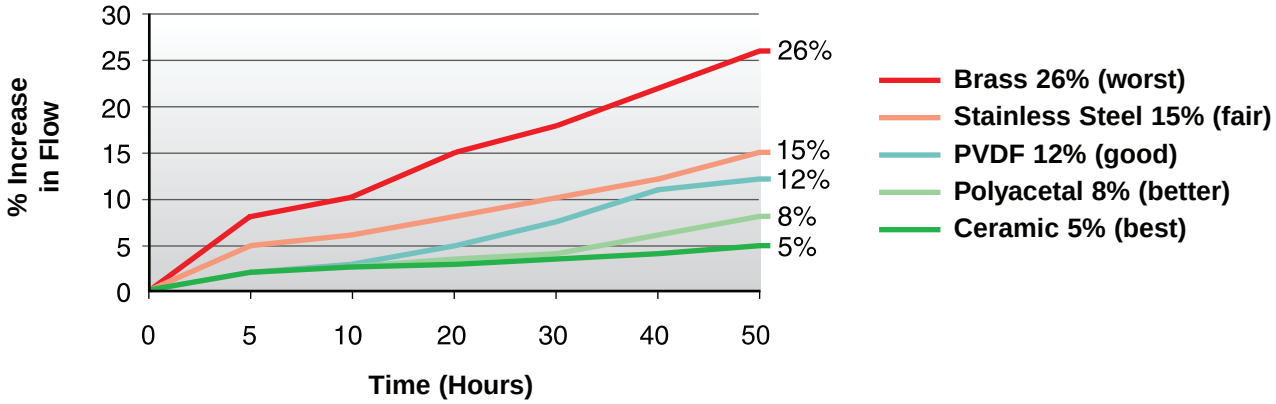
Polyacetal – Provides good resistance to most chemicals and superior wear resistance to most agricultural chemistry. Susceptible to strong mineral acids and a few organic solvents. Resistance to most alkalis is excellent. Organic solvents usually cause slight swelling without any other harmful effect.*

Polyvinylidene Fluoride (PVDF) – Should be used with acid-based agricultural defoliation chemistry. Good resistance to wear.* Resists many reagents and high temperatures (up to 300°F). Susceptible to high temperatures above water boiling (210°F) in combination with concentrated sulfuric and nitric acids. Preferred in industrial spraying applications.

Stainless Steel – Good resistance to chemicals and provides average wear resistance.

Brass – Average resistance to most chemistry and poor wear resistance. Susceptible to corrosion, especially with fertilizers.

Comparative Accelerated Wear Test



Source: SGS UK LTD. Saint-Gobain AC France
Test Medium: 2.5% Kaolin in water
Test Pressure: 40 psi

JOHN DEERE



DSPGX76794 Litho in U.S.A. (19-07)