

**CP<sup>®</sup> NOZZLES**

**ACCU-FLO<sup>®</sup>**  
NOZZLE

HI-TEK ROTARY  
NOZZLES



**OFTEN  
IMITATED,  
NEVER  
DUPLICATED**



[www.cpnozzles.com](http://www.cpnozzles.com)

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# Transland Nozzle Lines

Transland offers nozzles for:



Insecticide Applications



Herbicide Applications



Fungicide Applications



Forestry Applications

Transland nozzle lines consist of CP Nozzles, Accu-Flo Nozzles and Hi-Tek Rotary Nozzles. Our nozzles are often imitated, yet never duplicated. Make sure you're working with the original CP nozzles.



## CP Nozzles

- Most versatile in the application industry
- Tested and proven
- Nozzles range from fast to slow air speeds and large to small droplets
- The original CP nozzles are the leading nozzle used by aerial applicators worldwide



## Accu-Flo Nozzles

- Applies as precisely as a paintbrush
- Consists of nine versatile cap styles, operating at pressures as low as 20 psi with speeds of 30-40 mph, making this one-of-a-kind nozzle ideal for helicopters
- Each nozzle contains an 80-mesh filter and only weighs 2 ounces



## Hi-Tek Rotary Nozzles

- Offers two flow rates and produces 150-200 microns.
- Works well for insecticide and fungicide applications
- Comparable to other leading rotary nozzles



# Quick Comparison Chart



Every pilot is ultimately responsible for selecting and pattern testing nozzles. This Quick Comparison Chart helps users narrow down what nozzles work best for their applications. If there is no check mark or "X" in the boxes corresponding to the nozzles, testing through USDA models showed that there might be better choices than this nozzle. If there is an "X" in a box, Transland highly discourages use for that particular aircraft, application or speed.

	Fixed Wing	Helicopter	Best at Speeds of 70 and Below	Best at Speeds of 120 MPH or Below	Best at Speeds of 120 MPH or Above	Works Well with Insecticide & Fungicide	Works Well with Herbicide	Works Well in Forestry
<b>CP</b>								
CP-11TT	✓	✓	✓	✓	✓	✓	✓	✓
CP-01-03	✓	✓		✓		✓	✓	
CP-03	✓	✓		✓		✓	✓	
CP-03SD	✓	✓		✓		✓	✓	
CP-03-SDS	✓	✓		✓		✓	✓	
CP-03-SS	✓	✓		✓		✓	✓	
CP-07-3E	✓	✓			✓	✓	✓	✓
CP-07-3P	✓	✓			✓	✓	✓	✓
CP-09-3E	✓	✓			✓	✓	✓	✓
CP-09-3P	✓	✓			✓	✓	✓	✓
CP-09-3PA	✓	✓			✓	✓	✓	✓
26102 (Tri-Set)	✓	✓			✓	✓	✓	✓
<b>ACCU-FLO</b>								
M-30-1		✓	✓				✓	✓
M-30-1A		✓	✓				✓	✓
M-30-1B		✓	✓				✓	✓
M-30-1B24		✓	✓				✓	✓
M-30-1C		✓	✓				✓	✓
M-30-1D		✓	✓				✓	✓
M-30-1E		✓	✓				✓	✓
M-30-1E40		✓	✓				✓	✓
M-30-1F40		✓	✓				✓	✓
M-30-1F48		✓	✓				✓	✓
M-30-1F64		✓	✓				✓	✓
M-30-1G48		✓	✓				✓	✓
<b>ROTARY</b>								
26100	✓					✓	✗	

The data in this chart is based on a controlled testing environment by the USDA. Real-world applications will vary in performance. This guide is to assist in narrowing down the appropriate nozzle selection. **After making changes or starting a new setup, attending a pattern clinic is vital to verify the nozzle setup for each application is correct.** Check with your local association for pattern clinic dates in your area.





# Basic Aircraft Setup Guidelines

These are general guidelines used at Transland when calculating aircraft setups. These guidelines are only starting points and are not absolutes. All aircraft differ, as do the mix of applications done with them. **Ultimately, pilots must determine which tips or nozzles to use.**



After making changes or starting a new setup, attending a pattern clinic is vital to verify the nozzle setup for each application is correct. Check with your local association for pattern clinic dates in your area.

An online calculator exists for Transland Nozzle Lines to help you choose from the various nozzles and orifices. Before utilizing the calculator, an applicator will need to know:



Air Speed



Swath Width



Gallons per Acre (Use the highest rate when working with multiple rates.)



Number of Nozzles (Spacing recommendations typically advise that the nozzle be no more than 18 inches apart.)

Once this information is gathered, go to [www.cpnozzles.com](http://www.cpnozzles.com), and under the calculation tools, click the "Arial Calculation Tool." This section also gives quick access to the USDA Droplet Models, where users can view the expected droplet spectrum and classification for the selected application settings.



Always read the product label for the desired droplet spectrum or VMD required. Also, be sure to check with any local/state requirements before any application.

## Different Application Types Require Larger or Smaller Droplets



**Herbicides** - Typical Herbicide applications will require a larger droplet spectrum. A VMD droplet range of 325 +/- 25 microns with a Medium Classification is a good guideline. Also, no more than 8% under 100 microns.



**Insecticides and Fungicides** - Typical insecticide and fungicide applications will require a finer droplet spectrum. A VMD droplet range of 275 +/- 25 microns with a Fine or Medium Classification is a good guideline.

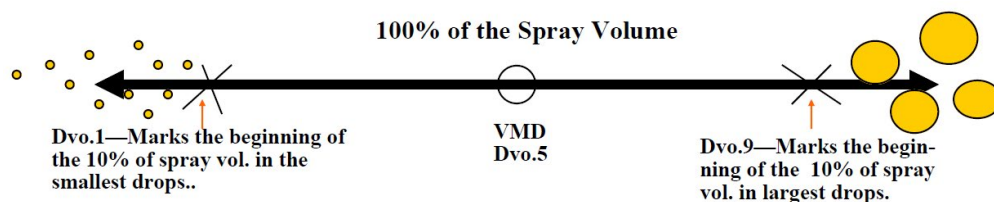
## Droplet Classification Information

- **Droplet sizes are measured in microns.** One-hundred (100) microns is about the diameter of a human hair.
- **VMD** is the size, in microns, of the drop marking the middle of the drop-let sizes in the spray volume. Half the spray volume is in droplets larger than the VMD and half the volume is in smaller droplets. VMD is not an average of the droplets in the spray volume.
- **Spray Classification** refers to ASABE S572.1 Standard categories of droplet spectra.

Spray Classifications	Approximate VMD
Very Fine (VF)	Less than 105µ
Fine (F)	106-235
Medium (M)	236-340
Coarse (C)	341-403
Very Coarse (VC)	404-502
Extremely Coarse (XC)	503-665
Ultra Coarse (UC)	Over 665µ

## Droplet Classification Information - Continued

- **Relative Span** is a ratio indicating the evenness of droplet sizes in the middle 80% of the spray volume. The smaller the number, the more even the spray volume.



- **Relative span is the most important indicator of spray quality.** It is calculated as follows:

If Dvo.9 (as measured in laboratory tests) is 400 microns, Dvo.5 is 300 and Dvo.1 is 100, the relative span would be 1, a good number (Dvo.9 minus Dvo.1 divided by Dvo.5, the VMD). If the large number is 900 and the small one 150 with a VMD of 300, the RS would be 2.5—a much more uneven spray.

- These terms will appear, in one form or another, on pesticide labels.

## Other Items to Keep in Mind When Selecting Nozzles

**Swath Width and Calculation References** – Effective swath width is determined at the intercept of  $h/2$  of the deposition data. See references located at the end of this catalog.

**Relative Span** – Relative span represents the evenness of the spray and should be as close to one (1) as possible or less than one (1). The closer to one (1), the more even the spray.

**%V<100 $\mu$  ad %<200 $\mu$**  – This represents the percentage of spray volume in droplets smaller than 100  $\mu$  diameter and smaller than 200  $\mu$  diameter. When working with Herbicides, it is recommended that both percentages be as low as possible.

**Boom Length** – The boom length should be 75% of the wing span to avoid the wing tip vortices. Additionally, the boom should be  $> 10''$  below and behind the wing.

**Application Height** – The application height needs to be 25% of the wing span (10-14' typically) to avoid “pushing” spray out from under the plane. Drift potential is higher if the application is above or below the correct height.

**Nozzle Spacing** – Nozzle spacing should not exceed 18 inches. A more typical spacing is 12 inches. Belly nozzles are generally spaced twice the boom nozzle spacing—bias opposite the prop wash side.



# **CP Check Valves and Nozzles**



## **GET THE DROP TO THE CROP**

- ✓ The Leading Nozzles used by Aerial Applicators
- ✓ Change Flow Rates Quickly without Removing Nozzles
- ✓ All CP Nozzles are designed to produce multiple flow rates and droplet spectrums

## **EASY TO USE AND EASY TO MAINTAIN**

Use the CP Quick Calc to find settings ►





## Check Valves

CP-02 Stainless Steel Aerial Check Valve

CP-04 Poly Aerial Check Valve

## 3-Way Aerial Nozzles

CP-01-03 Stainless Steel Aerial Nozzle with 3-Way Deflector

CP-03- Poly Aerial Nozzle with 3-Way Deflector

## Straight Stream Nozzles

CP-07-3E Stainless Steel Straight Stream Nozzle

CP-09-3E Poly Body, Stainless Steel Straight Stream Nozzle

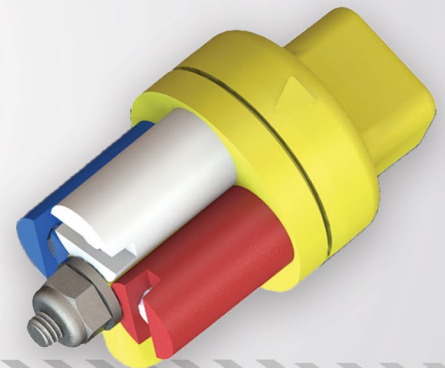
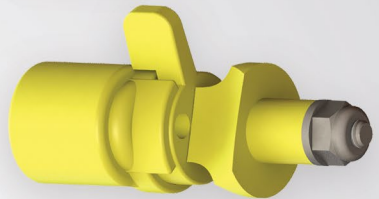
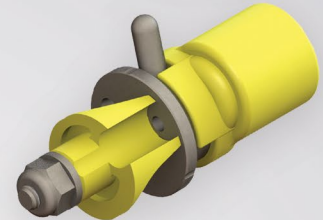
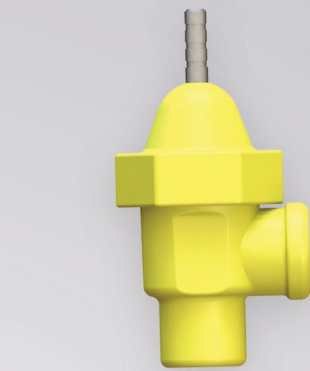
CP-09-3P Poly Body & Deflector Straight Stream Nozzle

## Custom Triple Tip

CP-11TT Poly Aerial Triple Tip Nozzle with 3 Tips Custom

CP-06 Poly Swivel 0-90° angles used with CP-11TT

**THE LEADING NOZZLES  
USED BY AERIAL APPLICATORS**



**CP QUICK CALCS**

Visit: [m.cpproductsinc.com/aerial/](https://m.cpproductsinc.com/aerial/)

**1**

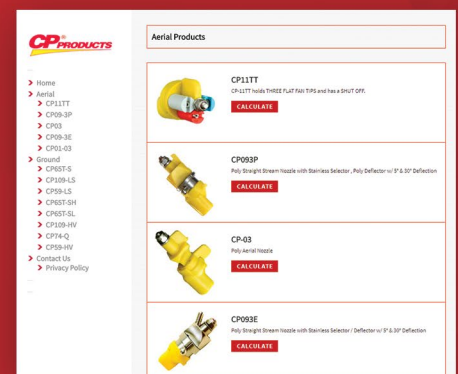
**SELECT NOZZLE**

**2**

**INPUT** SPEED, SWATH, GPA, NUMBER OF NOZZLES

**3**

**VIEW SETTINGS**



## Product Description

The 03 nozzle line consists of the original standard aerial nozzles created by CP. These nozzles work best with slower air speeds of 120 mph or less. All the nozzle parts are replaceable. The nozzles in this line possess the following features:

- Four orifice selector plate
- Orifice sizes .062, .078, .125, and .172 to meter flow
- 3-way deflector with deflection planes of 30°, 55° and 90° for droplet spectrum
- 30° deflection plane typically produces larger droplets
- Each deflection plane produces an even flat fan pattern



CP-01-03  
Stainless Steel

### Nozzle Variation

- Stainless Steel



CP-03  
Poly

### Nozzle Variation

- Standard Poly



CP-03-SD

### Nozzle Variation

- Poly Selector Plate
- Stainless Steel Deflector



CP-03-SDS

### Nozzle Variation

- Stainless Steel Selector Plate
- Stainless Steel Deflector

# Standard Aerial Nozzles



CP-03-SS

## Nozzle Variation

- Stainless Steel Selector Plate
- Poly Deflector



CP-03-05  
Poly

## Nozzle Variation

- 5-Hole Selector with NO Shut-Off
- All Poly



When working with the CP-03s on Helicopters, using deflection angles of 55° and 90° best produces the smaller droplets needed. Use the USDA droplet spectrum models to view possible settings.

## VMD and Droplet Classification for CP-03

This chart is based on Spray Nozzle Models, USDA ARS Aerial Application Technology Research Unit, College Station, TX

CP-03 (All at 40 psi)	.078 Orifice with 30° Deflection	.078 Orifice with 55° Deflection	.078 Orifice with 90° Deflection
90 mph	435 Coarse	321 Medium	286 Medium
100 mph	395 Coarse	289 Medium	266 Medium
120 mph	301 Medium	211 Fine	210 Fine



## Product Description

The 07 and 09 straight stream nozzle lines can produce a range of droplet spectrums from very coarse to fine. These nozzles are used in various applications from AG to Forestry. Air speeds of 130 mph or greater work best with these nozzles. All the nozzle parts are replaceable.

### The 07s possess the following features:

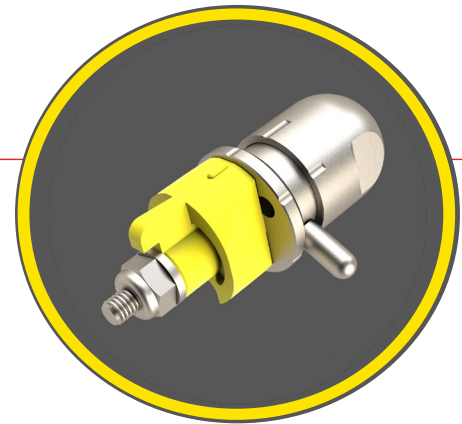
- Stainless Steel Aerial Body with Stainless Steel Selector
- Four Orifices with shut-off and a built-in 9° angle
- Orifice sizes .062, .078, .125, .172



CP-07-3E  
Stainless Steel Straight Stream

### Nozzle Variation

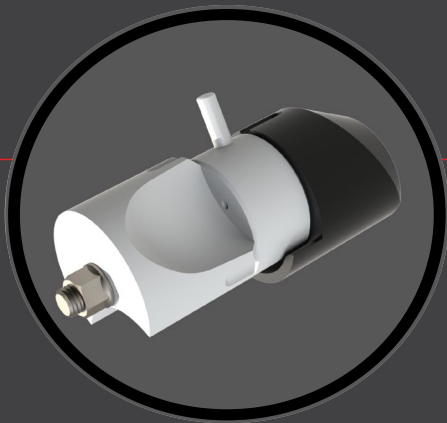
- Stainless Steel 3-Way Deflector: 0° Straight Stream, 5° and 30° Deflections



CP-07-3P  
SST Straight Stream w/Poly Deflector

### Nozzle Variation

- Poly 3-Way Deflector: 0° Straight Stream, 5° and 30° Deflections



Tri-Set PN 26102  
Straight Stream

### Nozzle Description

The Tri-Set nozzle is an excellent straight stream hydraulic nozzle with three custom orifices and deflection angles. Settings depend upon the operator's preference. It is manufactured with hard-coated anodized aluminum to add strength and durability to the nozzle. Orifice sizes are 0.061", 0.078" and 0.125". The deflector degree angles are 0°, 22.5° and 45°.

# Straight Stream Aerial Nozzles



## Product Description

CP-09-3E and CP-09-3P were designed when aircraft speed increased to 140 mph and above, yet it is still an excellent nozzle at speeds of 130 mph. These nozzles work best with a medium range of air speeds. All the nozzle parts are replaceable.

### The 09s possess the following features:

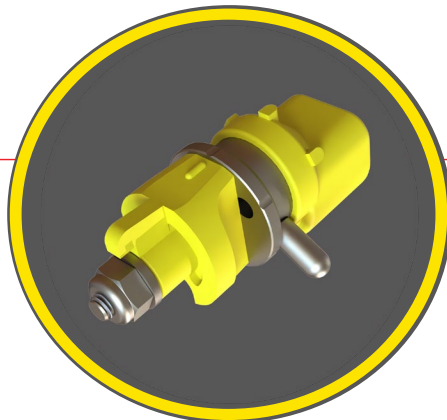
- Four Orifices with shut-off and a built-in 9° angle
- Orifice sizes .062, .078, .125, .172



CP-09-3E

### Nozzle Variation

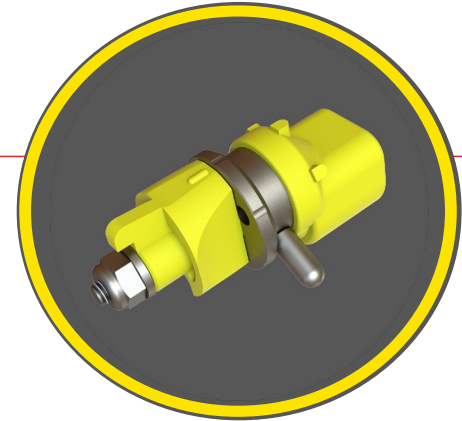
- Stainless Steel Selector and 3-Way Deflector: 0° Straight Stream, 5° and 30° Deflections



CP-09-3PA

### Nozzle Variation

- Stainless Steel 3-Way Deflector plane of 0° straight stream, 30°, 90°



CP-09-3P

### Nozzle Variation

- Poly 3-Way Deflector: 0° Straight Stream, 5° and 30° Deflections



On fast aircraft doing really low rates (2 gpa or less), the CP-09 may work better than the flat fans.

## CP Nozzle Flow Rate for Poly Bodies

(Flow rates for all CP Nozzles made with CPA203-B body. These nozzles are CP-03, CP-09-3P, CP-09-3E.)

\*Special Variation

PSI	Orifice .062	Orifice .078	Orifice .093*	Orifice .125	Orifice .172
30	0.48	0.84	1.15	2.24	3.82
40	0.58	0.97	1.33	2.60	4.50
50	0.66	1.07	1.49	2.97	4.91
60	0.72	1.19	1.63	3.19	5.30

## CP Nozzle Flow Rate for Stainless Steel Bodies

(Flow rates for all CP Nozzles made with CPA201 body. These nozzles are CP-01-3, CP-07-3P, CP-07-3E.)

\*Special Variation

PSI	Orifice .062	Orifice .078	Orifice .093*	Orifice .125	Orifice .172
30	0.48	0.68	0.97	1.78	2.85
40	0.58	0.79	1.15	2.00	3.30
50	0.66	0.89	1.29	2.30	3.63
60	0.72	0.98	1.41	2.50	3.95

## VMD and Droplet Classification for CP-09-3P

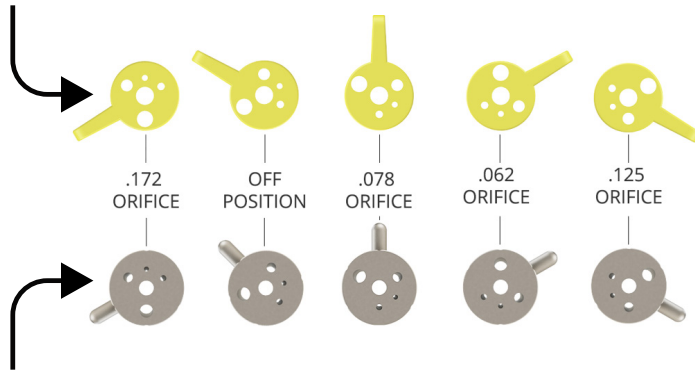
This chart is based on Spray Nozzle Models, USDA ARS Aerial Application  
Technology Research Unit, College Station, TX

CP-09-3P (All at 40 psi)	.078 Orifice with 0° Deflection	.078 Orifice with 5° Deflection	.078 Orifice with 30° Deflection
120 mph	551 Very Coarse	393 Coarse	242 Fine
130 mph	482 Coarse	329 Medium	201 Fine
140 mph	422 Coarse	274 Medium	169 Fine
150 mph	372 Medium	229 Fine	147 Fine



## Aerial Selector Handle Placement

CP-03 & CP-01-03

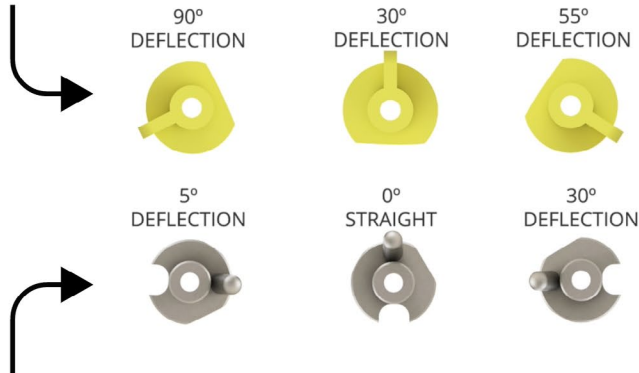


CP-07-3E, CP-07-3P,  
CP-09-3E, CP-09-3P,  
& CP-09-3PA



## Aerial Deflector Handle Placement

CP-03 & CP-01-03



CP-07-3E, CP-07-3P,  
CP-09-3E, CP-09-3P,  
& CP-09-3PA

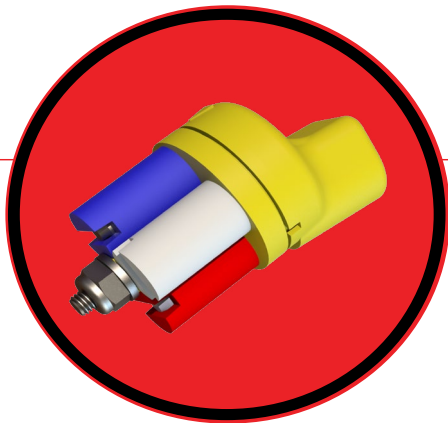


## Product Description

CP-11TT Poly Aerial Triple Tip Nozzle is another original design from CP. Depending on tip selection, this custom nozzle can produce a range of droplet spectrums from very coarse to fine. Combine the CP-06 swivel for even more versatility to the CP-11TT, and get smaller droplet spectrums with just a simple change of the angle of the nozzle.

This versatile nozzle can work with various air speeds. A customer can choose three tips when ordering. View the CP-11TT Tip Chart for flow rates. All the nozzle parts are replaceable. The 11TTs possess the following features:

- Poly body with built-in angle
- 3 Tips of Customer Choice. View the CP-11TT Tip chart for flow rates.
- CP-11TT can be used with fixed-wing aircraft or rotary-wing aircraft
- Designed for aircraft flying at any speed



CP-11TT  
Poly Aerial Triple Tip Nozzle



### Helicopters

When working with CP-11TT on Helicopters, the 80° flat fans will produce the droplet spectrums needed for herbicide and insecticide/fungicide applications.



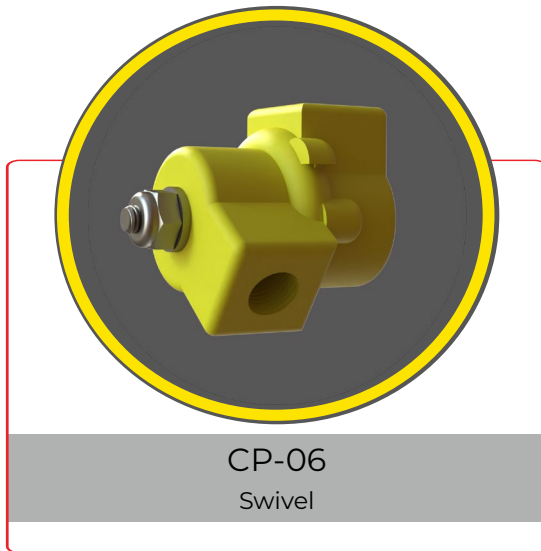
### Fixed Wing Aircraft

CP-11TTs are the most versatile nozzle for the full range of air speed. In most instances, flat fan tips offer the best drift mitigation and narrowest relative spans.

Nozzles are set up with tips meeting the specific needs of each aircraft. Tips are color coded for flow rate and click into place with a detent spring and ball.

## Product Description

CP-06 Swivel is used with CP-11TT flat fan nozzles. The swivel makes it possible to adjust the nozzle downward into the airstream. Each click is in 15-degree increments (range of 0°-90°). This allows an operator to change from large to small droplets quickly. These adjustments create the smaller droplet spectrum needed for insecticide and fungicide. See the chart below for representative settings of the swivel at different speeds and angles, all at 40 psi with a 4020 tip.



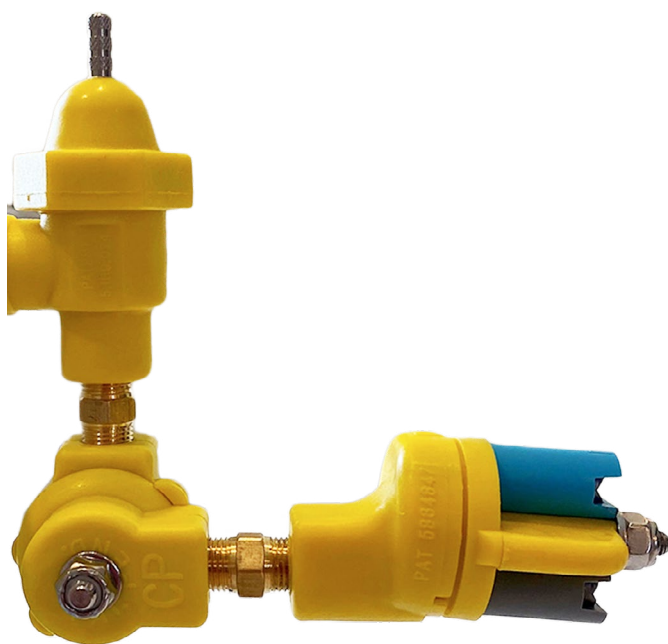
## VMD and Droplet Classification for CP-11TT with Swivel

This chart is based on Spray Nozzle Models, USDA ARS Aerial Application Technology Research Unit, College Station, TX

CP-11TT with CP-06 Swivel	4020 Tip set at 0° (same as just attached at boom)	4020 Tip set at 15° (one click down on the CP-06)	4020 Tip set at 30° (two clicks down on the CP-06)
90 mph	609 Extra Coarse	581 Extra Coarse	520 Very Coarse
100 mph	566 Extra Coarse	543 Very Coarse	486 Very Coarse
120 mph	414 Coarse	368 Medium	327 Medium
130 mph	385 Coarse	341 Medium	302 Medium
140 mph	356 Medium	315 Medium	278 Medium
150 mph	328 Medium	289 Medium	255 Fine
160 mph	301 Medium	264 Fine	233 Fine



## Swivel Degree Angles



0 Degree Angle



15 Degree Angle



30 Degree Angle



45 Degree Angle

# Swivel Degree Angles



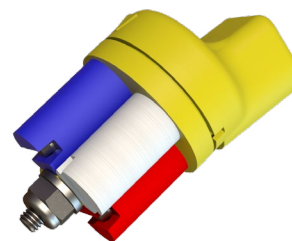
60 Degree Angle



75 Degree Angle



90 Degree Angle



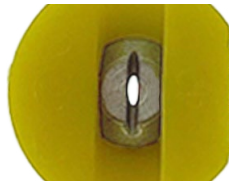


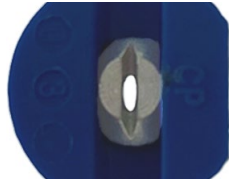

















*Images enlarged to show detail.*

Tip PN & Description	Pressure (PSI)	Capacity 1-Nozzle (GPM)	Top View of Tip	Full View of Tip
CP256-0006 Straight Stream (lite gray)	30	.52		
	40	.60		
	50	.67		
	60	.73		
CP256-0008 Straight Stream (white)	30	.69		
	40	.80		
	50	.89		
	60	.98		
CP256-0010 Straight Stream (battleship gray)	30	.87		
	40	1.0		
	50	1.18		
	60	1.23		
CP256-0012 Straight Stream (orange)	30	1.00		
	40	1.20		
	50	1.42		
	60	1.47		
CP256-0015 Straight Stream (lime green)	30	1.30		
	40	1.50		
	50	1.68		
	60	1.84		
CP256-0020 Straight Stream (lite yellow)	30	1.73		
	40	2.00		
	50	2.24		
	60	2.45		
CP256-0025 Straight Stream (bright blue)	30	2.17		
	40	2.50		
	50	2.95		
	60	3.06		



























# CP-11TT Tip Chart



Tip PN & Description	Pressure (PSI)	Capacity 1-Nozzle (GPM)	Top View of Tip	Side View of Tip	Full View of Tip
CP256-8002 80° Tip (Only available in 80°) (yellow)	30	.17			
	40	.20			
	50	.22			
	60	.24			
CP256-8003 80° Tip (Only available in 80°) (royal blue)	30	.26			
	40	.30			
	50	.34			
	60	.37			
CP256-2004 20° Tip (red)	30	.35			
	40	.40			
	50	.45			
	60	.49			
CP256-4004 40° Tip (red)	30	.35			
	40	.40			
	50	.45			
	60	.49			
CP256-8004 80° Tip (red)	30	.35			
	40	.40			
	50	.45			
	60	.49			
CP256-110-4 110° Tip (red)	30	.35			
	40	.40			
	50	.45			
	60	.49			
CP256-8005 80° Tip (Only available in 80°) (brown)	30	.43			
	40	.50			
	50	.56			
	60	.061			

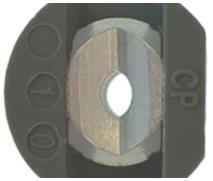








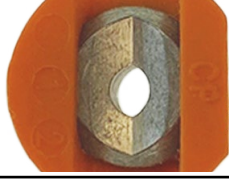


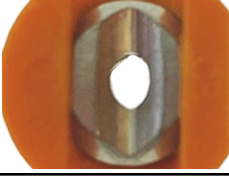

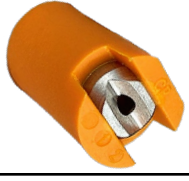
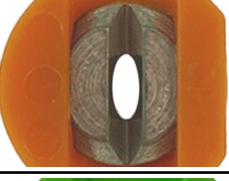







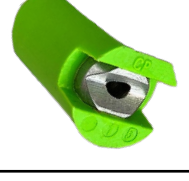



# CP-11TT Tip Chart

Tip PN & Description	Pressure (PSI)	Capacity 1-Nozzle (GPM)	Top View of Tip	Side View of Tip	Full View of Tip
CP256-2006 20° Tip (lite gray)	30	.52			
	40	.60			
	50	.67			
	60	.73			
CP256-4006 40° Tip (lite gray)	30	.52			
	40	.60			
	50	.67			
	60	.73			
CP256-8006 80° Tip (lite gray)	30	.52			
	40	.60			
	50	.67			
	60	.73			
CP256-110-6 110° Tip (lite gray)	30	.52			
	40	.60			
	50	.67			
	60	.73			
CP256-2008 20° Tip (white)	30	.69			
	40	.80			
	50	.89			
	60	.98			
CP256-4008 40° Tip (white)	30	.69			
	40	.80			
	50	.89			
	60	.98			
CP256-8008 80° Tip (white)	30	.69			
	40	.80			
	50	.89			
	60	.98			
CP256-110-8 110° Tip (white)	30	.69			
	40	.80			
	50	.89			
	60	.98			

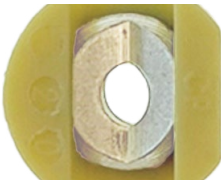


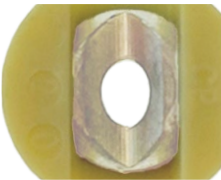

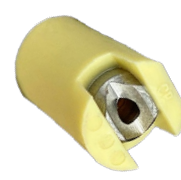


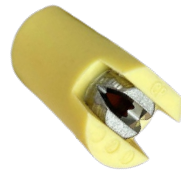


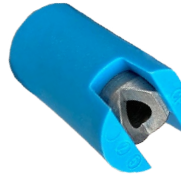
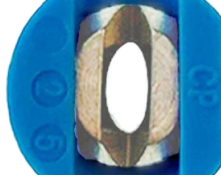




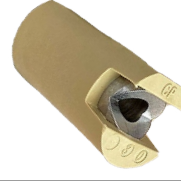



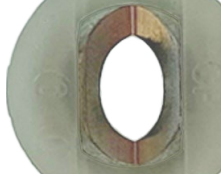

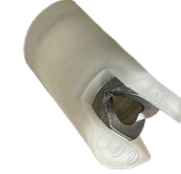


# CP-11TT Tip Chart



Tip PN & Description	Pressure (PSI)	Capacity 1-Nozzle (GPM)	Top View of Tip	Side View of Tip	Full View of Tip
CP256-2010 20° Tip (battleship gray)	30	.87			
	40	1.00			
	50	1.18			
	60	1.23			
CP256-4010 40° Tip (battleship gray)	30	.87			
	40	1.0			
	50	1.18			
	60	1.23			
CP256-8010 80° Tip (battleship gray)	30	.87			
	40	1.0			
	50	1.18			
	60	1.23			
CP256-2012 20° Tip (orange)	30	1.00			
	40	1.20			
	50	1.42			
	60	1.47			
CP256-4012 40° Tip (orange)	30	1.00			
	40	1.20			
	50	1.42			
	60	1.47			
CP256-8012 80° Tip (orange)	30	1.00			
	40	1.20			
	50	1.42			
	60	1.47			
CP256-2015 20° Tip (lime green)	30	1.30			
	40	1.50			
	50	1.68			
	60	1.84			
CP256-4015 40° Tip (lime green)	30	1.30			
	40	1.50			
	50	1.68			
	60	1.84			
CP256-8015 80° Tip (lime green)	30	1.30			
	40	1.50			
	50	1.68			
	60	1.84			



Tip PN & Description	Pressure (PSI)	Capacity 1-Nozzle (GPM)	Top View of Tip	Side View of Tip	Full View of Tip
CP256-2020 20° Tip (lite yellow)	30	1.73			
	40	2.00			
	50	2.24			
	60	2.45			
CP256-4020 40° Tip (lite yellow)	30	1.73			
	40	2.00			
	50	2.24			
	60	2.45			
CP256-8020 80° Tip (lite yellow)	30	1.73			
	40	2.00			
	50	2.24			
	60	2.45			
CP256-4025 40° Tip (bright blue)	30	2.17			
	40	2.50			
	50	2.95			
	60	3.06			
CP256-8025 80° Tip (bright blue)	30	2.17			
	40	2.50			
	50	2.95			
	60	3.06			
CP256-4030 40° Tip (tan)	30	2.60			
	40	3.00			
	50	3.54			
	60	3.67			
CP256-8030 80° Tip (tan)	30	2.60			
	40	3.00			
	50	3.54			
	60	3.67			
CP256-6040 60° Tip (clear)	40	4.00			

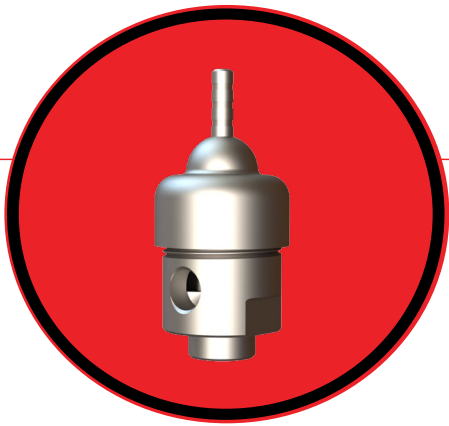
# CP-11TT Tip Chart



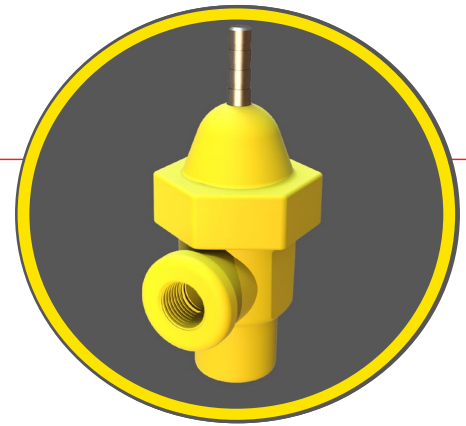
## Product Description

CP Check Valves are available in stainless steel (CP-02) and glass-filled polypropylene (CP-04) with  $\frac{1}{8}$ " threaded female inlets and outlets. Using a patented needle/seat design, they provide instant shut-off; the stainless needle seats into an O-Ring in a stainless core. A Teflon diaphragm on the needle protects a Viton diaphragm.

Flow capacity is 5.2 gpm at 40 psi. Springs will begin to open at approximately 12 psi. For the entire check valve to open, it is recommended that a minimum of 30 psi be applied.



CP-02  
Stainless Steel



CP-04  
Polypropylene

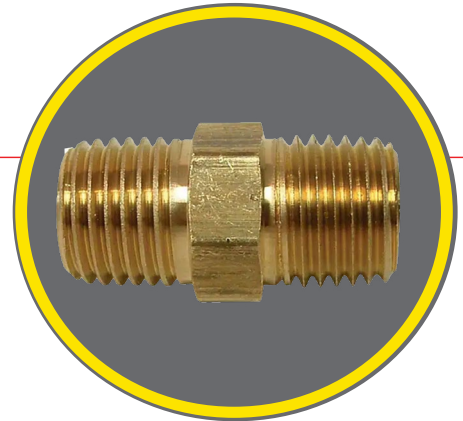


## Product Description

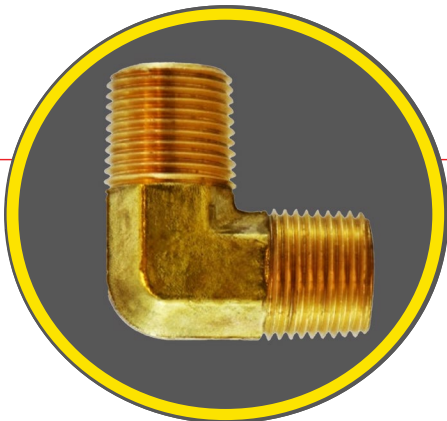
CP offers a variety of brass or stainless elbows and nipples in  $\frac{1}{8}$ " male NPT. Reducer nipple  $\frac{1}{4}$ " x  $\frac{1}{8}$ " male NPT and Reducer Elbow  $\frac{1}{4}$ " x  $\frac{1}{8}$ " male NPT.



**CP308-B** Brass 90° Elbow  $\frac{1}{8}$ " Male/Male  
**CP308-SS** Stainless 90° Elbow  $\frac{1}{8}$ " Male/Male



**CP307-B** Brass Hex Nipple  $\frac{1}{8}$ " Male/Male  
**CP307-SS** Stainless Hex Nipple  $\frac{1}{8}$ " Male/Male



**CP308-BR** Brass 90° Elbow  
Reducer  $\frac{1}{4}$ " x  $\frac{1}{8}$ " Male/Male

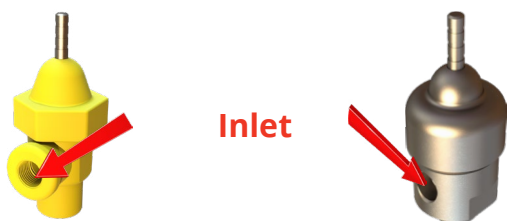


**CP307-BR** Brass Hex Reducer  
Nipple  $\frac{1}{4}$ " x  $\frac{1}{8}$ " Male/Male

# **CP<sup>NOZZLES</sup> CP Nozzle Installation & Maintenance**

Quality equipment on an aircraft gives an applicator and grower the edge over their competition. CP Products get the drop to the crop while reducing the cost of replacement nozzles when properly maintained. Properly installing and maintaining the equipment is key to keeping a higher profit margin.

## **Check Valves Attach to the Boom at the Inlet**



## **Attach the Nozzle to the Check Valve at the Outlet**



## **Identifying if a Nozzle is Parallel with Airstream**

Each nozzle consists of a top section that should face up when on the boom.



**\*Top of Body is Flat    1 cm Line Marks Top    \*Top of Body is Flat**

## **Additional Information**

\*The CP-11TT Nozzle will click into place when set on tip for use. The tip in use will be on the bottom.



Nozzles need to be replaced when flow rate varies 20% from when the nozzle was new.

## **Tips for Installing CP Nozzles**

- ✓ Do NOT use wrenches or any other tools on CP nozzles. Use hand pressure only when installing nozzles or check valves. CP nozzles are manufactured with a tapered female thread that will crack the body when over-tightened.
- ✓ Use Teflon paste instead of Teflon tape. Teflon tape can contain tiny strands, which can cause drip problems.
- ✓ Check tension on each nozzle and check valve cap while installing. Tension should be loose enough on the nozzle to allow changing of orifice or deflector by hand. Also, make those tight enough to prevent movement once those are set. Check valve cap should be tight.
- ✓ Inspect nozzles for tightness each day for several days after initial installation. Components tend to “seat” and only need to be periodically checked after that.
- ✓ Mount nozzle so that liquid is released parallel to airstream in non-turbulent areas on spray boom.

# CP Nozzle Installation & Maintenance **CP**<sup>®</sup>NOZZLES

Maintenance keeps all equipment functioning properly. All data presented on nozzles assume nozzles are new or well maintained. Suppose nozzles are worn out with altered orifices or chipped and cracked deflector surfaces. In that case, metering could be off, and patterns could be distorted.

Timely maintenance and replacement of nozzles, when necessary, is critical to nozzle performance.

## Deflector and Body Maintenance

Chipping or cracks in deflectors will cause bad patterns and droplet spectrum alteration. Thus, when changing settings on nozzle deflectors, give a visual check to identify any damage or cracks on deflectors.



Cracking can also occur on the body of a nozzle when tightened down to far. This will cause additional leaks.



## Orifice Maintenance

When orifices become worn out and altered, flow rates will change. Therefore, a good practice to keep nozzles at their best is to flush the system clean when done for the day. This offers an excellent opportunity to give a visual check to orifices for any build-up or wear.



Top Tip is a New CP256-4030 Tip

Bottom Tips are Worn Out  
CP256-4030 Tips

The tips pictured to the left are examples of what can happen when a system is not flushed clean at the end of the day. Neglecting to flush the system can lead to material build-up on the orifice and alter the orifice size. The altered orifice can cause unintended flow rate and droplet spectrum.

In addition to a visual check, another method of checking tips/orifices is performing a flow test to measure a possible flow increase. It is recommended to replace tips if the flow has increased 10-20 percent.

## Teflon Seal and Viton Diaphragm Maintenance

Teflon seals are found inside all nozzles. Teflon seals and Viton diaphragms are found inside check valves. When seals become damaged or worn out, leaks and check valves not shutting off can occur. Issues to look for are crinkles in diaphragms, and scoring and/or stretching on seals. To ensure proper function of the nozzle or check valve, it is recommended to replace seals and diaphragms on an annual basis.



Worn Out Seal

## Replacement Parts

Replacement parts are available for all CP nozzles and check valves. Find a dealer at [www.Translandllc.com](http://www.Translandllc.com).

## Pattern Testing

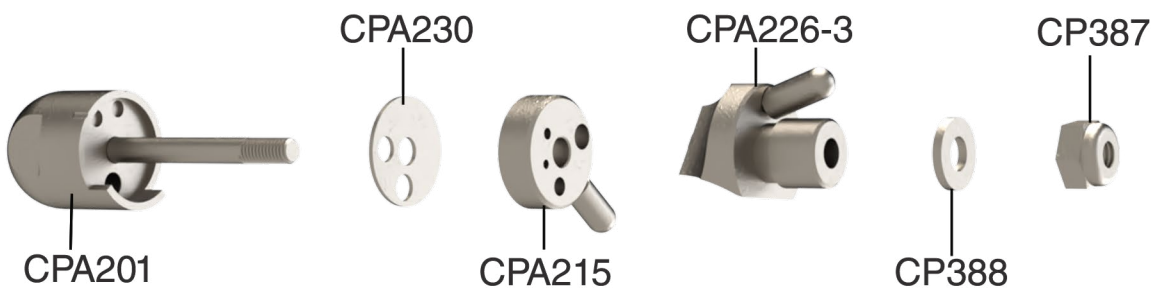
Another important part of maintenance is pattern testing. Operation S.A.F.E. clinics offer Pattern Deposition Analysis to help guide and calibrate equipment to optimum performance. These clinics help you find optimal swath and droplet size. Also, the clinics help solve equipment problems before starting a new season.

**BEFORE SPRAYING WITH NOZZLES, TRANSLAND RECOMMENDS PATTERN TESTING WHENEVER CHANGES ARE MADE TO EQUIPMENT.**



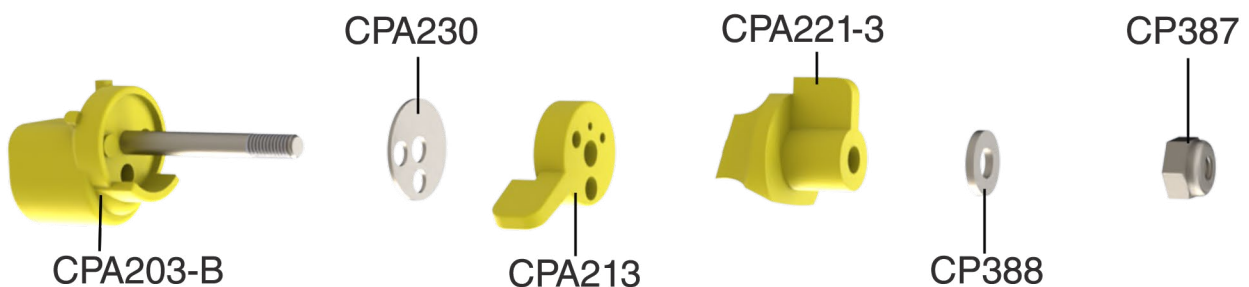
## CP-01-03 Exploded View

Stainless Steel Aerial Nozzle with 3-way Deflector  
Selector Plate 4 Orifices .062, .078, .125, .172  
3-Way Deflector 30°, 55°, and 90°



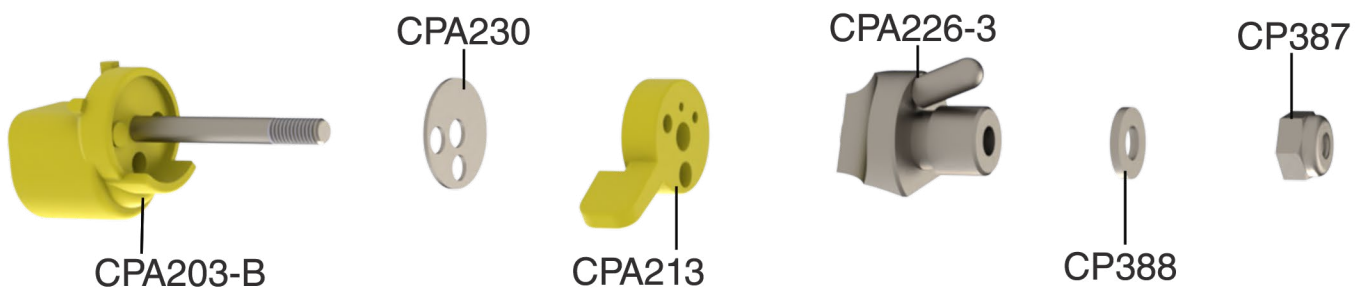
## CP-03 Exploded View

Standard Poly Aerial Nozzle  
Selector Plate 4 Orifices .062, .078, .125, .172  
3-Way Deflector 30°, 55°, and 90°



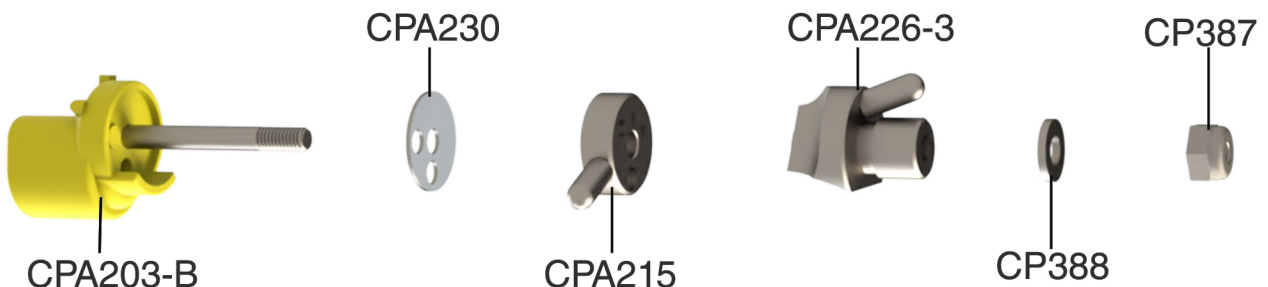
## CP-03-SD Exploded View

Poly/Stainless Aerial Nozzle  
Selector Plate Poly 4 Orifices .062, .078, .125, .172  
3-Way Stainless Deflector 30°, 55°, and 90°



## CP-03-SDS Exploded View

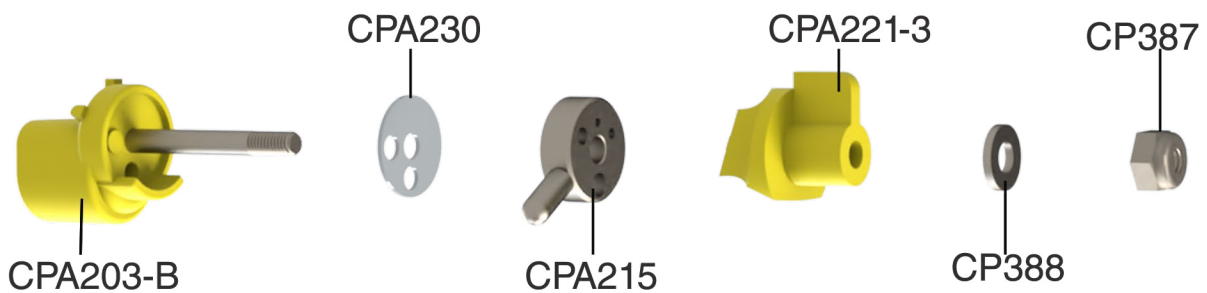
Poly/Stainless Aerial Nozzle  
Selector Plate Stainless 4 Orifices .062, .078, .125, .172  
3-Way Stainless Deflector 30°, 55°, and 90°



## CP-03-SS Exploded View

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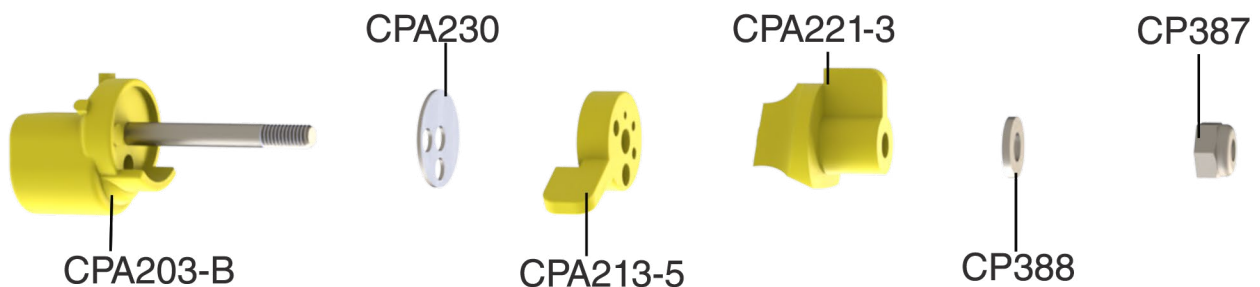
Poly/Stainless Aerial Nozzle  
Selector Plate Stainless 4 Orifices .062, .078, .125, .172  
3-Way Poly Deflector 30°, 55°, and 90°



## CP-03-05 Exploded View

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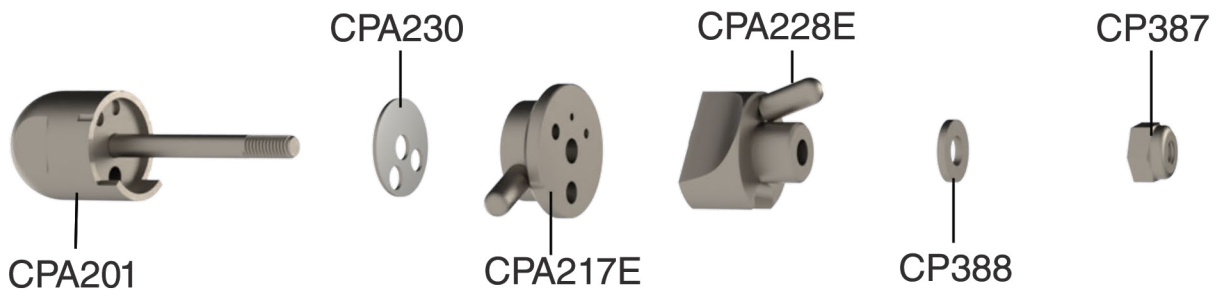
Poly Aerial Nozzle 5-Hole Selector with NO Shut-off  
Selector Plate 5 Orifices .062, .078, .093, .125, .172  
3-Way Deflector 30°, 55°, and 90°





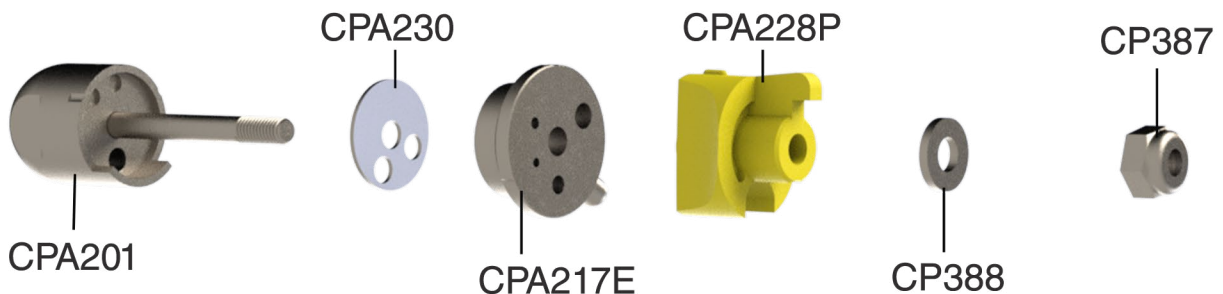
## CP-07-3E Exploded View

Stainless Steel Straight Stream Nozzle  
Selector Plate Stainless 4 Orifices .062, .078, .125, .172  
Stainless Straight Stream Deflector 0°, 5°, and 30°



## CP-07-3P Exploded View

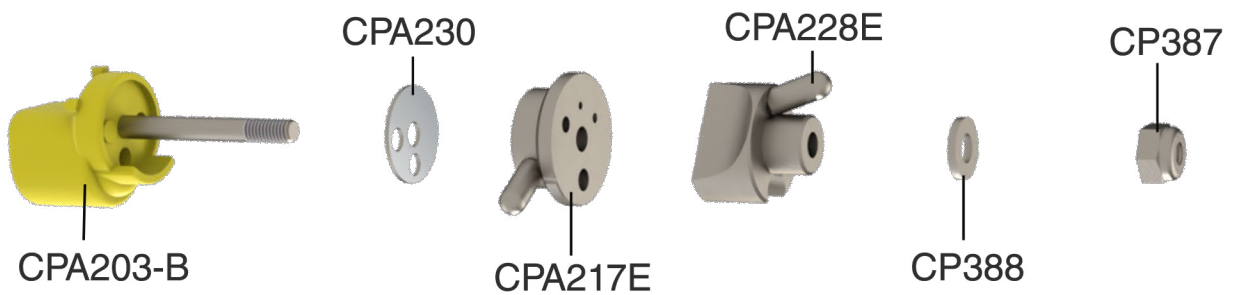
Stainless Steel Straight Stream Nozzle  
Selector Plate Stainless 4 Orifices .062, .078, .125, .172  
Poly Straight Stream Deflector 0°, 5°, and 30°



## CP-09-3E Exploded View

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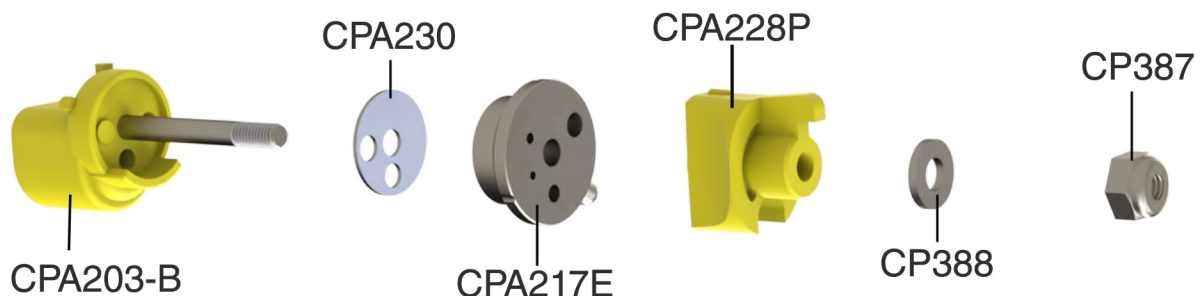
Poly/Stainless Straight Stream Nozzle  
Selector Plate Stainless 4 Orifices .062, .078, .125, .172  
Stainless Straight Stream Deflector 0°, 5°, and 30°



## CP-09-3P Exploded View

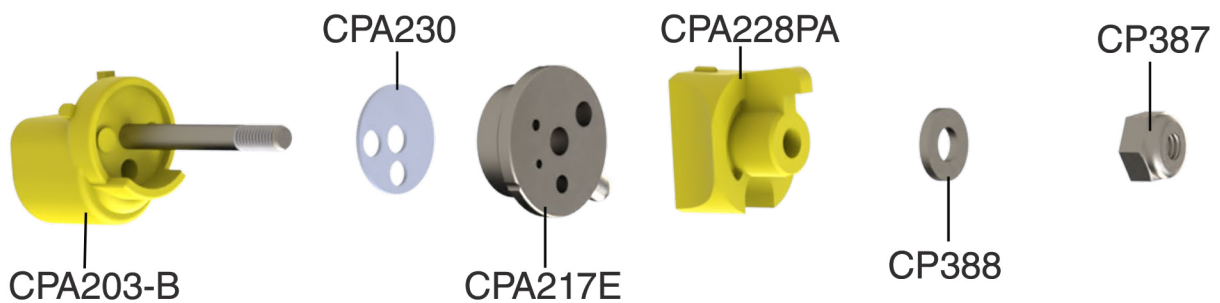
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Poly Straight Stream Nozzle  
Selector Plate Stainless 4 Orifices .062, .078, .125, .172  
Poly Straight Stream Deflector 0°, 5°, and 30°



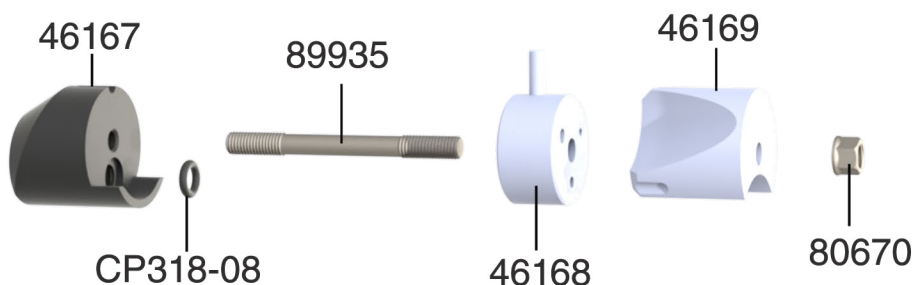
## CP-09-3PA Exploded View

Poly Australian Straight Stream Nozzle  
Selector Plate Stainless 4 Orifices .062, .078, .125, .172  
Poly Straight Stream Deflector 0°, 30°, and 90°



## PN 26102 Exploded View

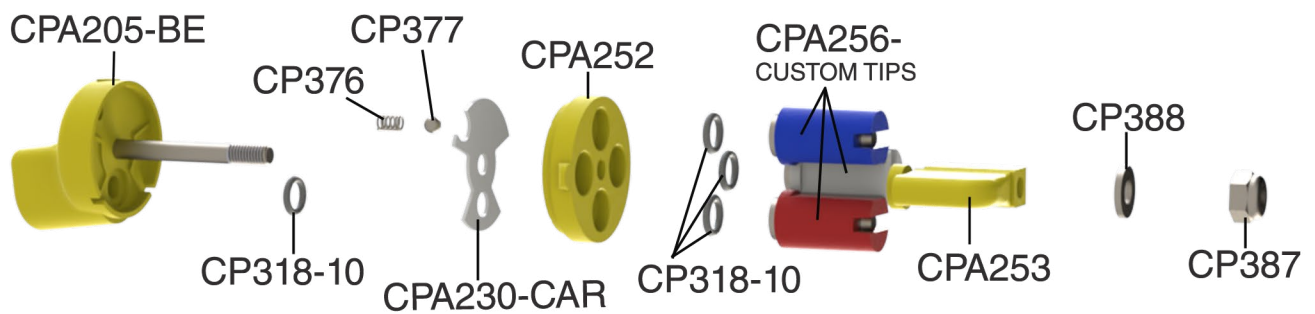
Tri-Set Straight Stream Nozzle  
Selector Plate Delrin 3 Orifices .061, .078, .125  
Delrin Straight Stream Deflector 0°, 22.5°, and 45°





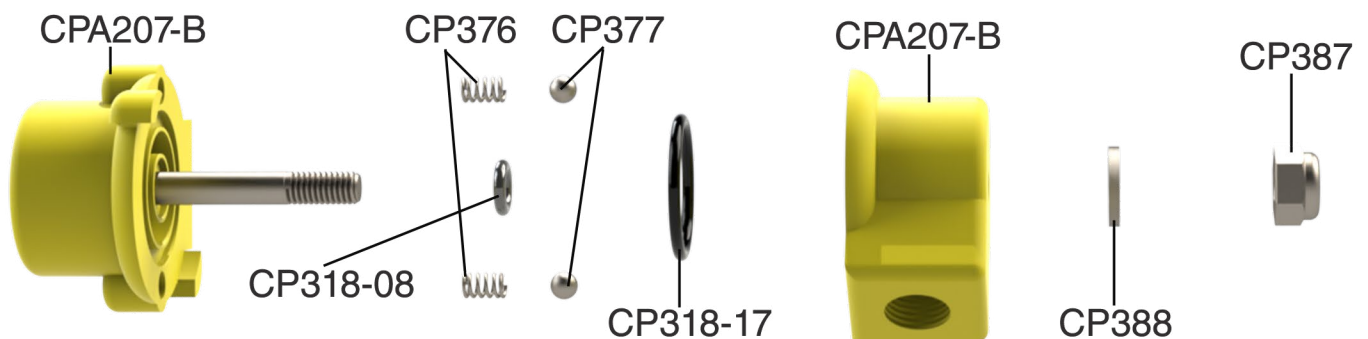
## CP-11TT Exploded View

Poly Aerial 8° Triple Tip Nozzle  
Tips installed in the CP-11TT are sold as complete tips.  
CP-11TT is only sold with tips installed.  
(See the CP-11TT Tip Chart to help identify tip style.)



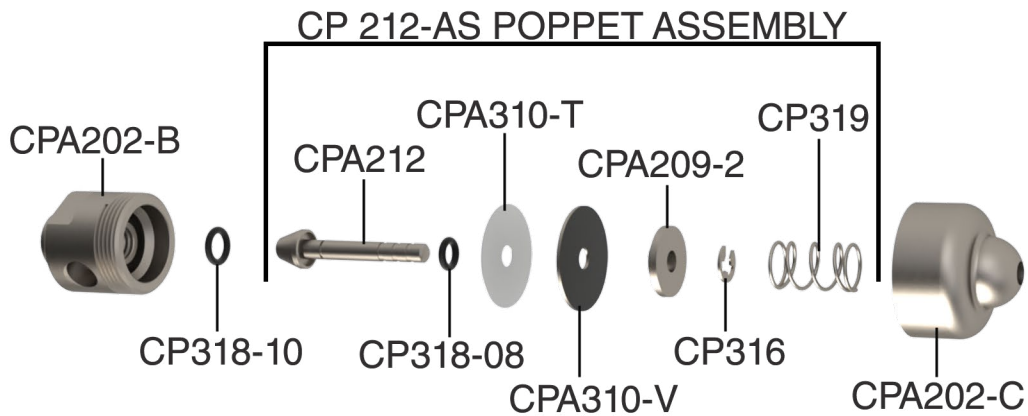
## CP-06 Exploded View

Poly Aerial Swivel



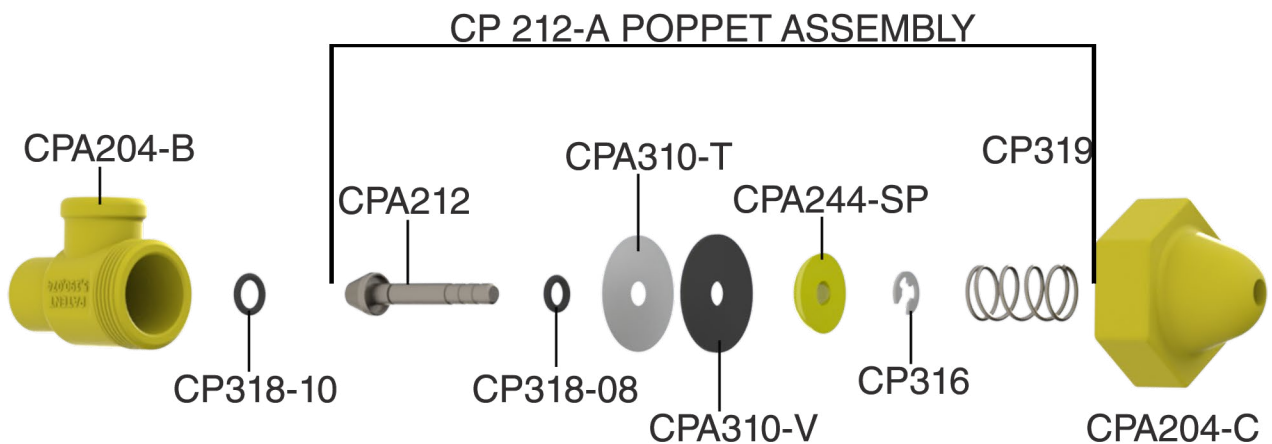
## CP-02 Exploded View

Stainless Steel Aerial Check Valve



## CP-04 Exploded View

Poly Aerial Check Valve



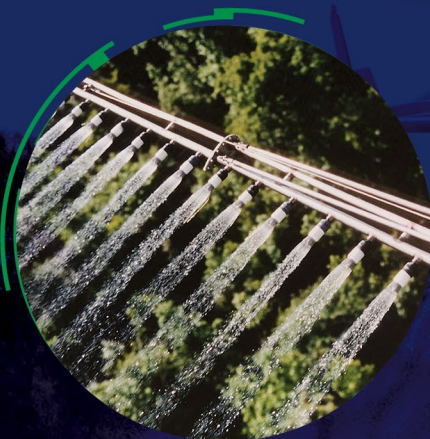




## **ACCU-FLO** NOZZLE

### **Superior Drift Control for Helicopters**

The only nozzle of its kind, the **Accu-Flo™ Radial Nozzle** is a uniquely designed spray nozzle for precision applications. Because it applies as precise as a paint brush, **Accu-Flo nozzles** are used all over the world in forestry and right-of-way. Additionally, it's a great nozzle for Ag work. Operating at pressures as low as 20psi with speeds of 30-40 mph makes this one-of-a-kind nozzle an ideal fit for Helicopters.



- ✓ **Least drift-able fines of all nozzles**
- ✓ **Most uniform droplet distribution**
- ✓ **9 Versatile cap styles are available**
- ✓ **80 mesh filter comes standard in each nozzle**
- ✓ **Lightweight (2 oz ea)**



# Accu-Flo™ Nozzle

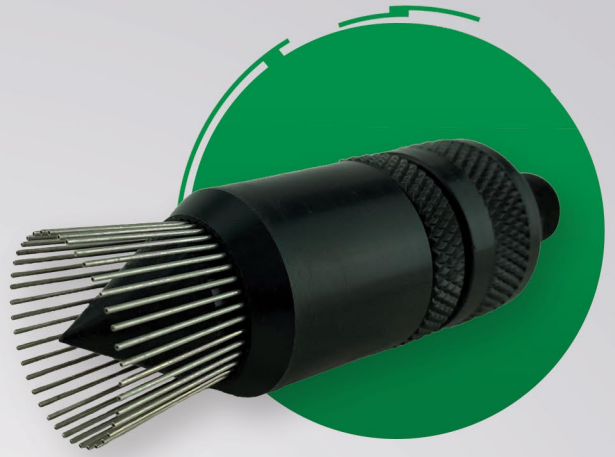
Sizes are listed below with the most common applications for each.

- .016, 48 Tube - Specialty
- .016, 76 Tube - Highest Coverage
- .020, 40 Tube - Specialty/Forestry
- .020, 48 Tube - Specialty/Forestry
- .020, 64 Tube - Forestry/High Coverage
- .028, 32 Tube - Low Volume
- .028, 64 Tube - Forestry/Site Prep
- .03, 48 Tube - Specialty/Forestry
- .047, 16 Tube - Right-of-Way
- .047, 24 Tube - Right-of-Way
- .063, 16 Tube - Right-of-Way
- .085, 16 Tube - High Volume

The range of micron sizes produced by each nozzle are listed below as tested by Helicopter at speeds of 30 to 40 MPH.

## Nozzle Orifice Size = Range in Micron Size

- .016 = 500-700
- .020 = 600-800
- .028 = 800-1000
- .047 = 1400-1500
- .063 = 2500-3000
- .085 = 4000-4500



**DEPENDABLE EQUIPMENT**

[www.translandllc.com](http://www.translandllc.com)

This lightweight, versatile nozzle produces the highest percentage of uniform-size droplets. As a result, the Accu-Flo™ nozzle can be used for most applications. In addition, it provides consistent, dependable, accurate drift control when operated within suggested pressure ranges and airspeed, as well as in conjunction with the basic rules of drift loss management. The Accu-Flo™ Radial Nozzle is durable, lasting four or more years under normal use conditions. It is impervious to all commonly used chemical formulations.

- Droplet size is determined by the specific nozzle used.
- In general, the larger the orifice tube, the larger the micron size of the droplet produced.
- The range of micron sizes produced by each nozzle is listed in the Orifice Size and Range in Micron Size Chart. This information is based upon testing by a helicopter at speeds of 30 to 40 MPH.

Orifice Size Accu-Flo Nozzle	Most Common Application	Range in Micron Size
.016, (76 Tube)	Highest Coverage	500-700
.020, (40 or 48 Tube)	Specialty/Forestry	600-800
.020, (64 Tube)	High Coverage	600-800
.028, (32 Tube)	Low Volume	800-1,000
.028, (64 Tube)	Forestry/Site Prep	800-1,000
.033, (48 Tube)	Specialty/Forestry	1,100-1,200
.047, (16 Tube)	Right-of-Way	1,400-1,500
.047, (24 Tube)	Right-of-Way	1,400-1,500
.063, (16 Tube)	Right-of-Way	2,500-3,000
.085, (16 Tube)	High Volume	4,000-4,500

## Description of General Categories:

- **Highest Coverage** - Leaf or plant coverage (tiniest droplets)
- **High Coverage** - same output range of the .028-64, but because droplets are slightly smaller, it produces slightly more in coverage
- **High Volume** - The highest volume nozzle where needed for specific applications. (Example: Government Drug Eradication)
- **Low Volume** - Lowest output nozzles, used for low volume needs (2 and 3 G.P.A.)
- **Specialty/Forestry** - For forestry, but a slightly smaller droplet than the traditional .028 used in forestry
- **Forestry/Site Prep** - Most commonly used nozzle for general forestry applications (herbicide before a forest replant)
- **Right-of-Way** - Commonly used nozzles for high drops above power right of way. Larger droplets fall faster and less.

## How-To Choose a Complete Assembly

1. Decide what type of cap and needle is needed for your application. If you're unsure of what type of cap and needle is needed for a particular application, the online CP Quick Calculator can help (CPNozzles.com).
2. Determine if an Accu-Flo nozzle will be attached to a TeeJet or a Boom. If using a TeeJet, then you will need the 8360-ADP Assembly or the 2CV Assembly. If using on a boom, then you will need an M-30 Assembly.
3. What size of a restrictor do you prefer? Reference the Accu-Flo GPM Chart for restrictor options.
4. The adapter sizes will be determined by how the nozzle is attached to a TeeJet or a boom. View the Assembly Adaptors and Restrictors.

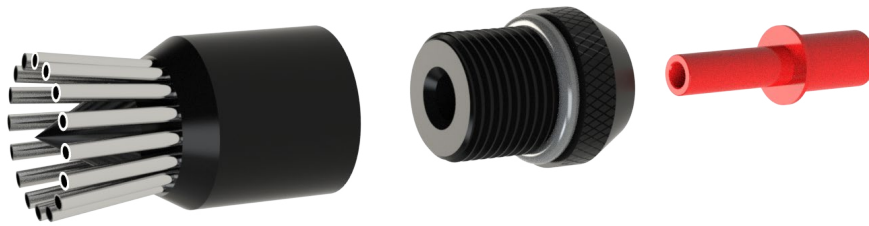
# Overview of Accu-Flo Nozzles



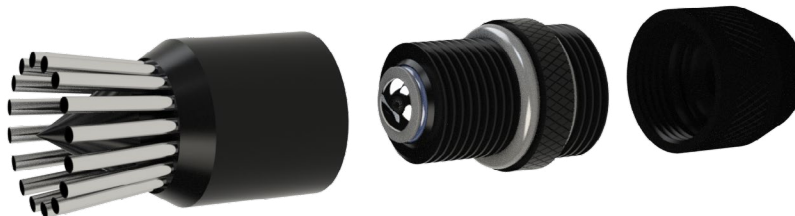
## M-30 Assembly



## 8360-ADP Assembly



## 2CV Assembly





# Accu-Flo™ GPM Chart\*

Using ACCU-FLO Internal Check Valve For Liters Per Minute x 3.785

\*Based on one nozzle on test stand. (Spraying Systems #8360 and #8355 Check Valve will yield slightly higher volume.)



.016-40 TUBE ACCU-FLO RADIAL NOZZLE				
	20 PSI	25 PSI	30 PSI	35 PSI
NO RESTRICTOR	0.39	0.52	0.63	0.73
3/16" RESTRICTOR	0.37	0.50	0.59	0.70
1/8" RESTRICTOR	0.32	0.45	0.56	0.65
3/32" RESTRICTOR	0.32	0.40	0.50	0.58

.016-76 TUBE ACCU-FLO RADIAL NOZZLE				
	20 PSI	30 PSI	40 PSI	
NO RESTRICTOR	0.63	1.16	1.37	
3/16"	0.49	0.95	1.31	
1/8" RESTRICTOR	0.40	0.80	1.00	

.020-40 TUBE ACCU-FLO RADIAL NOZZLE				
	20 PSI	25 PSI	30 PSI	
NO RESTRICTOR	0.46	0.67	0.80	
3/16"	0.45	0.63	0.78	
1/8" RESTRICTOR	0.42	0.57	0.75	

.020-48 TUBE ACCU-FLO RADIAL NOZZLE				
	20 PSI	25 PSI	30 PSI	
NO RESTRICTOR	0.62	0.90	1.12	
3/16"	0.57	0.85	1.05	
1/8" RESTRICTOR	0.53	0.74	0.88	

.020-64 TUBE ACCU-FLO RADIAL NOZZLE				
	20 PSI	25 PSI	30 PSI	40 PSI
NO RESTRICTOR	0.71	1.06	1.37	1.80
3/16" RESTRICTOR	0.63	0.95	1.19	1.61
1/8" RESTRICTOR	0.54	0.77	0.96	1.28
3/32" RESTRICTOR	0.42	0.59	0.71	0.97

.028-32 TUBE ACCU-FLO RADIAL NOZZLE				
	20 PSI	25 PSI	30 PSI	35 PSI
NO RESTRICTOR	0.32	0.79	1.16	1.37
1/8" RESTRICTOR	0.21	0.69	0.90	1.10
3/32" RESTRICTOR	---	0.48	0.63	0.79



.028-64 TUBE ACCU-FLO RADIAL NOZZLE				
	20 PSI	25 PSI	30 PSI	35 PSI
NO RESTRICTOR	1.20	2.00	2.60	
3/16" RESTRICTOR	0.90	1.70	2.00	
1/8" RESTRICTOR	0.76	1.15	1.30	

.033-48 TUBE ACCU-FLO RADIAL NOZZLE				
	20	25 PSI	30 PSI	35 PSI
NO RESTRICTOR	1.23	1.69	2.11	2.38
3/16" RESTRICTOR	1.05	1.42	1.72	2.01
1/8" RESTRICTOR	---	1.00	1.19	1.42

.047-16 TUBE ACCU-FLO RADIAL NOZZLE				
	20 PSI	25 PSI	30 PSI	
NO RESTRICTOR	1.00	1.60	2.00	
3/16" RESTRICTOR	0.85	1.37	1.70	
1/8" RESTRICTOR	0.74	1.00	1.18	

.047-24 TUBE ACCU-FLO RADIAL NOZZLE				
	20	25 PSI	30 PSI	35 PSI
NO RESTRICTOR	1.30	2.00	2.30	2.60
3/16"RESTRICTOR	1.10	1.50	1.90	2.30
1/8" RESTRICTOR	0.73	1.10	1.40	1.70

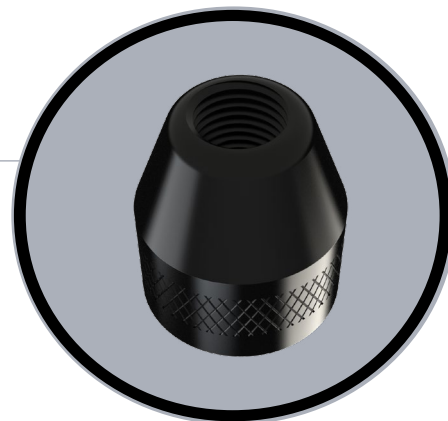
.063-16 TUBE ACCU-FLO RADIAL NOZZLE				
	20 PSI	25 PSI	30 PSI	
NO RESTRICTOR	1.50	2.60	3.40	
3/16" RESTRICTOR	1.20	1.90	2.40	
1/8" RESTRICTOR	.75	1.00	1.40	

.085-16 TUBE ACCU-FLO RADIAL NOZZLE				
	20 PSI	25 PSI	30 PSI	
NO RESTRICTOR	2.19	3.40	4.19	
3/16" RESTRICTOR	1.40	2.00	2.50	
1/8" RESTRICTOR	.95	1.20	1.43	

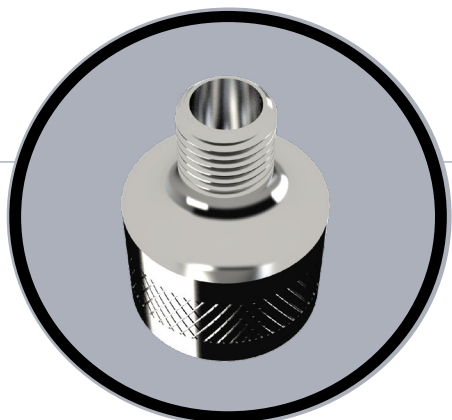
## M-30 Assembly Adaptor and Restrictor Options



M-30-5AC18  
1/8" NPT Female Acetal Adaptor



M-30-5AC14  
1/4" NPT Female Acetal Adaptor



M-30-5AL  
1/4" NPT Male Aluminum Adaptor

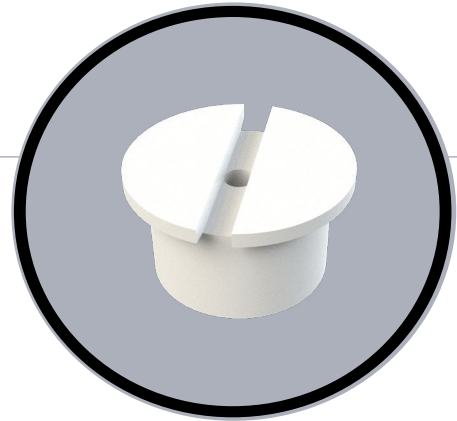


M-30-5SS  
1/4" NPT Male Stainless Steel Adaptor

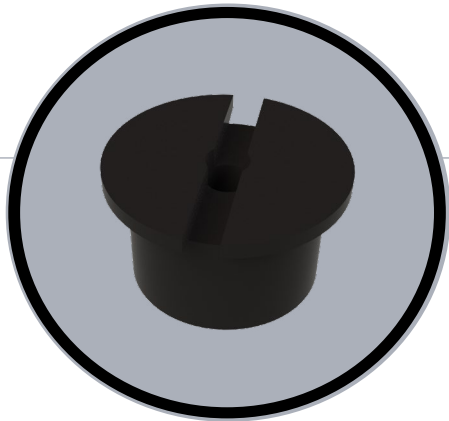
## M-30 Assembly Adaptor and Restrictor (Cont.)



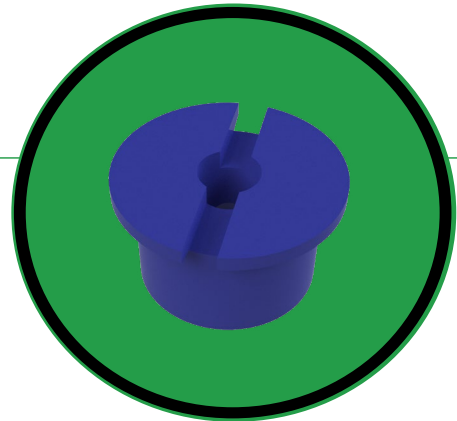
**M-30-5AC**  
1/4" NPT Male Acetal Adaptor



**M-30-4B**  
.093 Flow Restrictor



**M-30-4A**  
.125 Flow Restrictor



**M-30-4** (restrictor used to be red)  
.187 Flow Restrictor

## Screen Options

1. Standard 80 mesh screen in most assemblies unless otherwise specified
2. M-30-51C-2C, M-30-5AC-3 – Screen disc, 100 mesh; retaining ring
3. M-30-5AC-2B, M-30-5AC-3 – Screen disc, 50 mesh; retaining ring
4. M-30-5AC-2, M-30-5AC-3 – Screen disc, 80 mesh; retaining ring



## 8360-ADP Assembly Adaptor and Restrictor Options



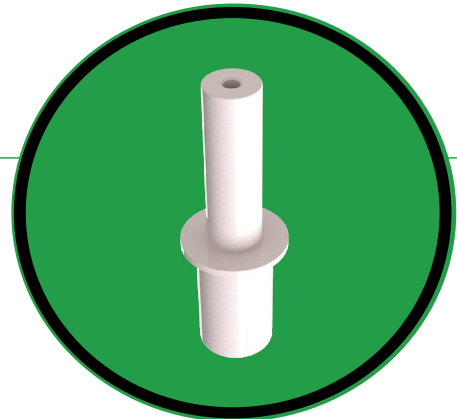
8360-ADP-1  
Cap Adapter - 1/8" NPT w/ O-Ring



8360-ADP14-1  
Cap Adapter - 1/4" NPT w/ O-Ring

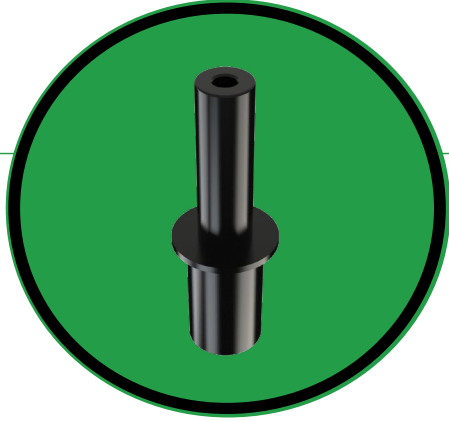


8360-ADP18-1  
Cap Adapter w/ O-Ring

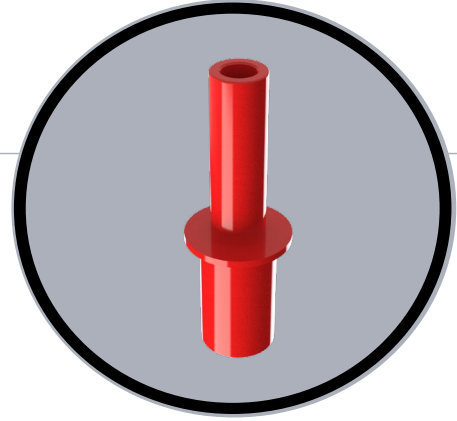


8360-RST-D6  
.093 Restrictor Insert

## 8360-ADP Assembly Adaptor and Restrictor Options (Cont.)



8360-RST-D8  
.125 Restrictor Insert



8360-RST-D11  
.187 Restrictor Insert

### Seal Options

1. 89969, 8362-PS – DE4 Orifice, Seal
2. 89971, 8362-PS – DE5 Orifice, Seal
3. 89968, 8362-PS – DE6 Orifice, Seal
4. 89967, 8362-PS – DE7 Orifice, Seal
5. 89966, 8362-PS – DE8 Orifice, Seal
6. 89965, 8362-PS – DE10 Orifice, Seal
7. 89964, 8362-PS – DE12 Orifice, Seal

## 2CV Assembly Adaptor Options

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M-30-5AC-8360

M-30 Valve / 8360 TeeJet Adaptor



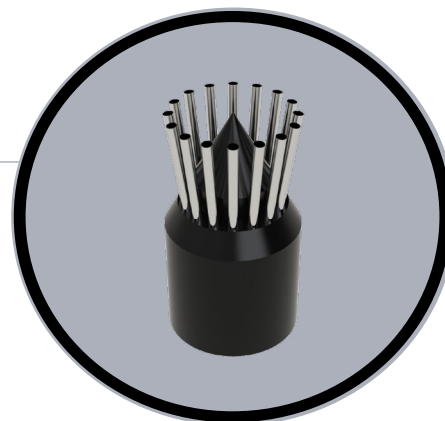
## Product Description

Designed for improved drift mitigation, Accu-Flo nozzles utilize the laws of physics to create uniform droplets through surface tension inside smooth-bore stainless steel needles. Because the needles or tubes are manufactured with a very tight ID tolerance, the droplet size produced is consistently uniform from each needle. In addition, the nozzle has a totally streamlined design with an internal check valve that aids in avoiding wind disturbance around the droplet emission point, which could shatter droplets to smaller sizes.



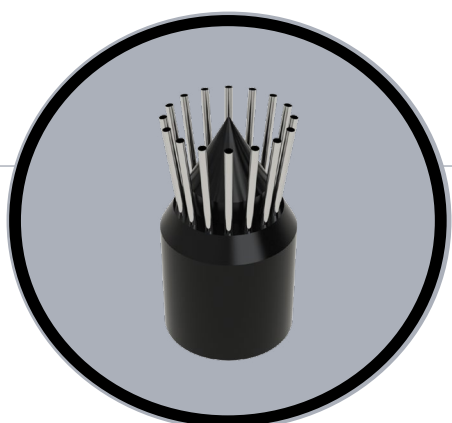
M-30-1

- .085 Orifice
- 16 Tube
- Most Common Application: High Volume



M-30-1A

- .063 Orifice
- 16 Tube
- Most Common Application: Right-of-Way



M-30-1B

- .047 Orifice
- 16 Tube
- Most Common Application: Right-of-Way



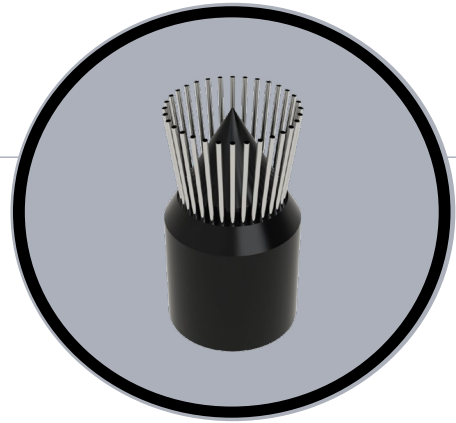
M-30-1B24

- .047 Orifice
- 24 Tube
- Most Common Application: Right-of-Way



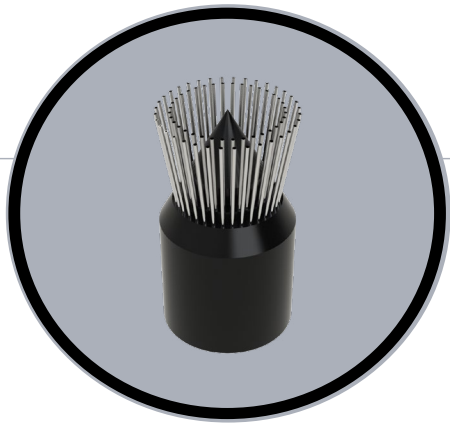
M-30-1C

- .028 Orifice
- 64 Tube
- Most Common Application: Forestry / Site Preparation



M-30-1D

- .028 Orifice
- 32 Tube
- Most Common Application: Low Volume



M-30-1E

- .016 Orifice
- 76 Tube
- Most Common Application: High Coverage



M-30-1E40

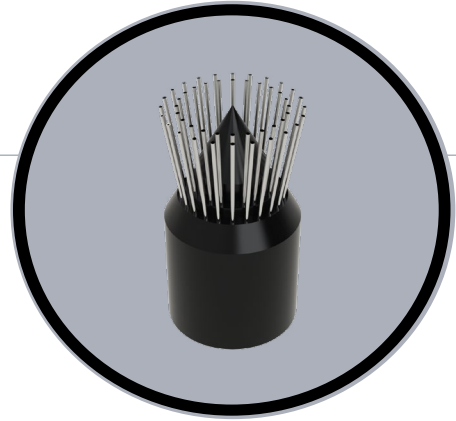
- .016 Orifice
- 40 Tube
- Most Common Application: Specialty

# Accu-Flo Nozzle Caps



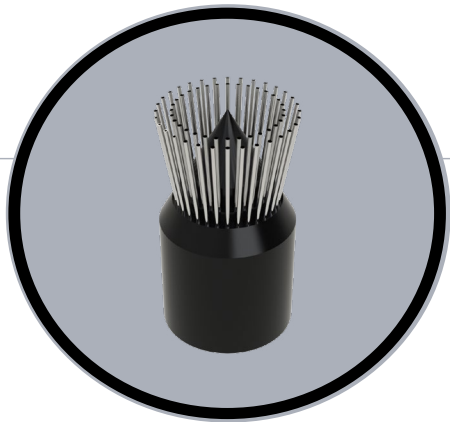
M-30-1F40

- .020 Orifice
- 40 Tube
- Most Common Application: Specialty, Forestry / Site Preparation



M-30-1F48

- .020 Orifice
- 48 Tube
- Most Common Application: Specialty, Forestry / Site Preparation



M-30-1F64

- .020 Orifice
- 64 Tube
- Most Common Application: Specialty, High Coverage



M-30-1G48

- .033 Orifice
- 48 Tube
- Most Common Application: Specialty, Forestry



# Expert Tips for Accu-Flo Nozzles



Maintenance keeps all equipment functioning properly. For example, suppose nozzles are worn out with altered orifices. In that case, metering could be off, and patterns could be distorted. Proper storage, timely maintenance, and replacement of nozzles when necessary are critical to nozzle performance.

## Dripping Nozzles

Every effort should be made to minimize and control dripping from nozzles. The primary cause of nozzle drip is contamination that got past the strainers or pre-existed in the boom and subsequently lodged under the check valve seal. This contamination may be sand, rust, crystallized chemical, or particles from a deteriorated hose.

- Start clean and stay clean. Pre-season examination and cleaning of all tanks, flow channels, and reconditioning of nozzles is a must. Customers reported a decreased need for nozzle cleaning as the spray season progressed. This demonstrates efficient straining and prompt attention when unexpected problems arise.
- Check Valve Springs. The tension is preset and should not be tampered with. Dripping is caused by debris under the seal, not by a weak spring.
- Commercial “Suck Back” systems are available through Transland spray valves and are popular with some applicators. They are not the solution to a contaminated system but will temporarily relieve head pressure at each shut-off cycle and minimize drip.



## Regular Maintenance of Accu-Flo Nozzles



It's always good to keep a few extra nozzles or large strainers on hand. It is easier to have a few on hand than to be grounded because of damaged nozzles or clogged filters.



1. After every job, flush the boom and nozzles generously with fresh water at maximum pump pressure (not to exceed 70 PSI).
2. If your helicopter is grounded for extended maintenance or other lengthy reasons, flush out your system and nozzles. This will avoid chemicals drying inside and clogging needles. (Flushing is extremely important if using powders.) Powders that dry in low spots or corners in your system will dislodge later and could cause problems in clogging the nozzles.
3. Keeping your whole system clean helps prevent contamination of needles or check valve seals. This includes periodically flushing of mix tanks and helicopter tanks, etc. New fiberglass tanks should be flushed well, as they will give off bits of fiberglass when first used that can clog the needles. Pre-season flushing of the entire system is recommended.
4. Proper straining on board the helicopter, with 100 mesh minimum, 200 for smaller needles of .020 and .016, and a strainer that does not allow bypass around the screen is imperative. It is also vital to properly strain from your water source, out of the tanker, and out of the mix tank. Remember, municipality water can have as much grit as a local pond. (You will see a rise in boom pressure when the nozzle tubes or the small 7/8" disc screens in the adaptors begin to clog, and when the large in-line filters begin to clog.)

## Pattern Testing

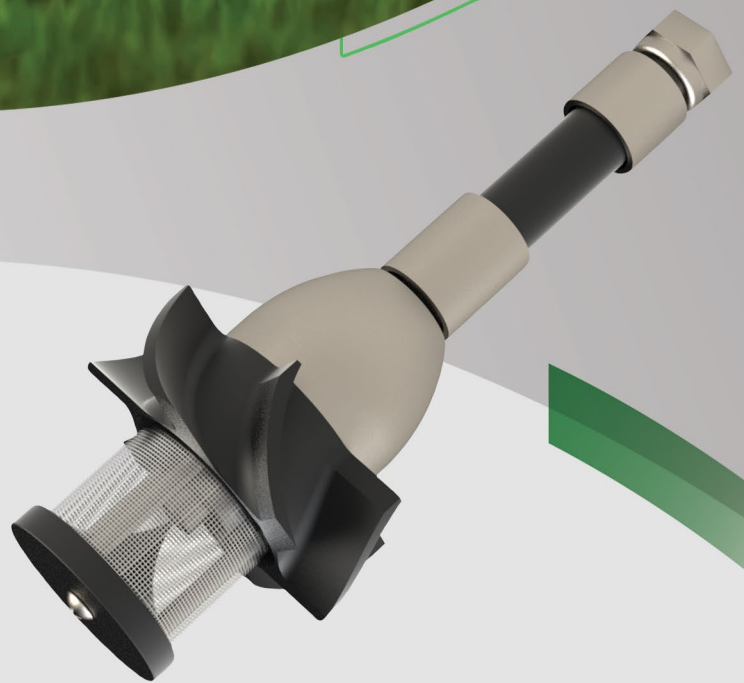
Another important part of maintenance is pattern testing. Operation S.A.F.E. clinics offer Pattern Deposition Analysis to help guide and calibrate equipment to optimum performance. These clinics help you find optimal swath and droplet size. Also, the clinics help solve equipment problems before starting a new season.

**BEFORE SPRAYING WITH NOZZLES, TRANSLAND RECOMMENDS PATTERN TESTING WHENEVER CHANGES ARE MADE TO EQUIPMENT.**



## ***Ultra-Low Volume Solution***

Produce the right droplets for insecticide/fungicide work.  
Nozzle comes with 2 custom rates.





## HI-TEK NOZZLE EQUIPMENT

- ✓ 26100 Hi-Tek Rotary Nozzle Gen 3

## MOUNTING KITS

- ✓ 26117 U-Tube Mounting Kit 2 ½"
- ✓ 26119 U-Tube Mounting Kit 3"

## ALUMINUM BOOMS FOR ROTARY NOZZLES

- ✓ 26152 Custom 2 ½" Aluminum Boom (to be used when purchasing with Rotary Nozzles)
- ✓ 26153 Custom 3" Aluminum Boom (to be used when purchasing with Rotary Nozzles)





## Product Description

Hi-Tek Rotary Nozzles are comparable to other leading rotary nozzles. These nozzles offer two flow rates and produces 150-200 microns. Due to the design, Hi-Tek nozzles work well for insecticide and fungicide applications.



# Pattern Testing

Another important part of maintenance is pattern testing. Operation S.A.F.E. clinics offer Pattern Deposition Analysis to help guide and calibrate equipment to optimum performance. These clinics help you find optimal swath and droplet size. Also, the clinics help solve equipment problems before starting a new season.

**BEFORE SPRAYING WITH NOZZLES, TRANSLAND RECOMMENDS PATTERN TESTING WHENEVER CHANGES ARE MADE TO EQUIPMENT.**

Mounting Kits	Description	Notes
26117	2-1/2" U-Tube Mounting Kit	Works for 2" Transland Booms
	<b>Kit Includes:</b> U-Tube 1/4" Pipe 2 1/2" Split Saddle (for boom) 3/8" Mounting Kit Hose Mounting Kit Check Valve (Brass) 1/4" NPT x3/8" Hose Barb (Brass) 1/4" NPT x3/8" 90° Hose Barb (Brass) 2" T-Bolt Clamp #4 Hose Clamp Customer choice orifice plate (see list) Customer Choice Valve (see list)	Orifice plate must be larger than ball valve size to accomplish a dual rate system Must be smaller than orifice plate when ordering

# Overview of Hi-Tek Rotary Nozzles



Mounting Kits	Description	Notes
26119	3" U-Tube Mounting Kit	Works for 2.5" Transland Booms
	<b>Kit Includes:</b>	
	U-Tube 1/4" Pipe	
	2 1/2" Split Saddle (for boom)	
	3/8" Mounting Kit Hose	
	Mounting Kit Check Valve (Brass)	
	1/4" NPT x3/8" Hose Barb (Brass)	
	1/4" NPT x3/8" 90° Hose Barb (Brass)	
	2" T-Bolt Clamp	
	#4 Hose Clamp	
	Customer choice orifice plate (see list)	Orifice plate must be larger than ball valve size to accomplish a dual rate system
	Customer Choice Valve (see list)	Must be smaller than orifice plate when ordering

Orifice Plates	Description	Notes
89964	D12 Orifice Plate	Hardened Stainless Steel Orifice. Dia. 0.188 Flows 4.5 GPM @ 40PSI
89965	D10 Orifice Plate	Hardened Stainless Steel Orifice. Dia. 0.156 Flows 3.1 GPM @ 40PSI
89966	D8 Orifice Plate	Hardened Stainless Steel Orifice. Dia. 0.125 Flows 2.0 GPM @ 40PSI
89967	D7 Orifice Plate	Hardened Stainless Steel Orifice. Dia. 0.109 Flows 1.5 GPM @ 40PSI
89968	D6 Orifice Plate	Hardened Stainless Steel Orifice. Dia. 0.094 Flows 1.1 GPM @ 40PSI
89969	D4 Orifice Plate	Hardened Stainless Steel Orifice. Dia. 0.063 Flows 0.5 GPM @ 40PSI
89970	D14 Orifice Plate	Hardened Stainless Steel Orifice. Dia. 0.219 Flows 6.2 GPM @ 40PSI
89971	D5 Orifice Plate	Hardened Stainless Steel Orifice. Dia. 0.078 Flows .78 GPM @ 40PSI

Ball Valves	Description	Notes
86131	Flow Regulator Valve w/Shut-Off	There is no drilling of this valve
46181	.041 Flow Regulator Valve (No Shut-Off)	Flows .21 GPM @ 40PSI
46182	.063 Flow Regulator Valve (No Shut-Off)	Flows .5 GPM @ 40PSI
46183	.078 Flow Regulator Valve (No Shut-Off)	Flows .78 GPM @ 40PSI
46184	.094 Flow Regulator Valve (No Shut-Off)	Flows 1.1 GPM @ 40PSI
46185	.109 Flow Regulator Valve (No Shut-Off)	Flows 1.5 GPM @ 40PSI
46186	.125 Flow Regulator Valve (No Shut-Off)	Flows 2.0 GPM @ 40PSI
46187	.156 Flow Regulator Valve (No Shut-Off)	Flows 3.1 GPM @ 40PSI
46188	.188 Flow Regulator Valve (No Shut-Off)	Flows 4.5 GPM @ 40PSI
46189	.219 Flow Regulator Valve (No Shut-Off)	Flows 6.2 GPM @ 40PSI



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