



***Spray Nozzles and Check
Valves
for Agriculture Applications.***

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GET THE DROP TO THE CROP



That's Coverage!!



&

Don't Let The Spray Stray!!!





Our goal is to help our customers set up their equipment so that performance is effective and efficient. Let's walk through how that process works.



THE CP[®] PRODUCTS

COMPANY, INC.

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CP-65T (S, SH, SL)

CP-65's come in three volume versions with flat fan flow rates.



CP-11TT

The CP-11TT holds THREE TIPS and has a SHUT-OFF.

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PRODUCT	PART	DESCRIPTION
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FLOATER NOZZLES, FLOOD NOZZLES, FLOW RATES

CP-59L-S	Low Volume TURBO Floater Nozzle, 8 Orifices –2.5,5,7.5,10,15,20,24,30, Stainless Turbo Tips, with Filter Screens
CP-59HV	High Volume TURBO Floater Nozzle, 8 Orifices –10,15,20,30,40,50,60, Stainless Turbo Tips
CP-53-8L3	Low Volume Floater Nozzle, 8 Orifices - - 2.5,5,7.5,10,15,20,24,30, Poly Selector, 3-Way SS Deflector, with Filter Screen
CP-55R3	Regular Volume Floater Nozzle, 8 Orifices – Stainless Selector, 3-Way Stainless Deflector

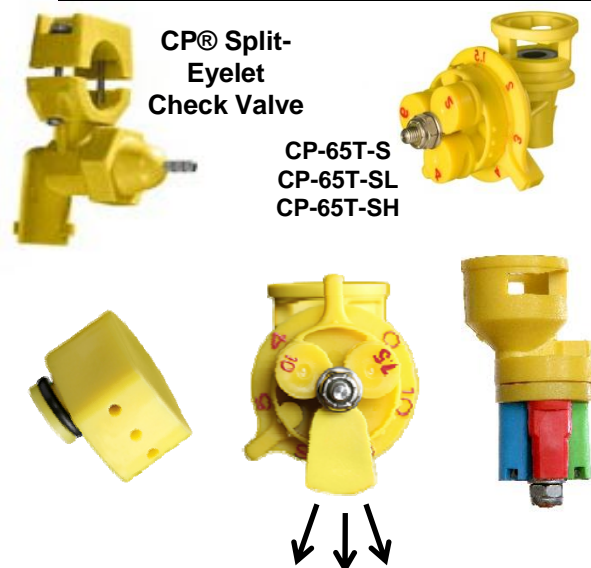
PRODUCT	PART	DESCRIPTION
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COMBOS – FLOATER NOZZLE/CHECK VALVE UNIT

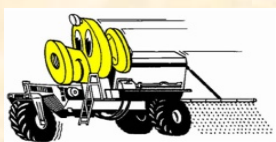
CP-109L-S	Low Volume TURBO Combo, 8 Orifices – 2.5,5,7.5,10,15,20,24,30 Stainless Turbo Tips, with Filter Screens
CP-109HV	High Volume TURBO Combo, 8 Orifices –10,15,20,30,40,50,60, Stainless Turbo Tips
CP-101-8L3	Low Volume Combo, 8 Orifices -- 2.5,5,7.5,10,15,20,24,30, Poly Selector, 3-Way SS Deflector, with Filter Screen
CP-102R3	Regular Volume Combo, SS Selector, 3-Way SS Deflector

PRODUCT	PART	DESCRIPTION
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CP SPRAYER TURBOS, CAROUSELS AND SPLIT EYELET CHECK VALVES

CP-65TS	SPRAYER TURBO! Nylon Body, Poly Selector and tips 6 ORIFICES! 3,4,5,6,8,10 (Flat Fan Flow Rates)
CP-65T-SH	HIGH VOLUME Sprayer Turbo –Nylon body, poly selector and deflector tips, 6 Orifices-#10, #15, 20, #25, #30, #33
CP-65T-SL	LOW VOLUME Sprayer Turbo – Nylon Body, poly selector and tips. 6 Orifices - #1.5/ #2, ##, #4, #5, #6
CP-74-Q	4-Tip Carousel – Price includes any combination of CP® Tips, available as Poly Cam Lock Body (74-QC), 1/4" Male Threaded Body (74-QT)
CP-112SE1	Split Eyelet Check Valve, Nylon Body, 1"
CP-112SE 3/4	Split Eyelet Check Valve, Nylon Body 3/4"
CP-S275T-3SS	Triple Straight Stream Tip, Accessory Option for CP® Sprayer Turbo Nozzles.



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Featured Products



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Choosing the Right CP® Floater Nozzle

CP's Turbo Nozzles are outstanding. They generate an even spectrum of large droplets with few driftable fines through a wide range of pressures. They reduce drift potential, are durable, versatile and produce exceptional patterns. All nozzle parts are replaceable. The nozzles have adjustable selector plates with eight orifices. In addition, there are three adjustable stainless steel tips which change both the pattern and droplet spectrum. Nozzles have 24 possible combinations of rates and droplet sizes. The nozzles produce droplet spectrums from Coarse to Extremely Coarse based on the ASABE AH-726 standard.

CP-59's and CP-109's (combination turbo nozzle and check valve) come in two volume versions with flood tip flow rates. Both versions are designed to be used on 30" to 60" centers. The orifices sizes (flood tip flow rates) are as follows:

Low Volume versions CP-59LS and CP109L-S
Orifices 2.5, 5, 7.5, 10, 15, 20, 24 and 30

High Volume versions CP-59HV and CP109-HV
Orifices 5, 10, 15, 20, 30, 40, 50 and 60

To Calculate flow rates and droplet spectrum for those nozzles, [click here](#). To print a flow rate/droplet spectrum chart, click here for [Low Volume Turbos](#) or [High Volume Turbos](#).

CP® Floater Three-way Nozzle

CP-53-8L3's and CP-55R (and CP-101-8L3's and CP-102R's – combination nozzle and check valve) generate a smaller droplet spectrum than the turbo nozzles. They come in the same volume versions but have stainless 3-angle adjustable deflectors. They offer good coverage and patterns at a wide range of flow rates. This is an older nozzle design and will be discontinued after 2010. CP® will maintain a limited stock of replacements and parts. To calculate flow rates and droplet spectrum for these nozzles, [click here](#). To print a droplet spectrum chart, [click here](#).

Droplet Classification for Floater Turbos

Orifice	PSI	GPM	Spacing inches	MPH	GPA	High Vol.	Low Vol.	Reg. Vol.	3-Way Defl.
						Blue = Coarse (<278vmd), Green = Very Coarse (<435 vmd), White = Extremely Coarse (>435vmd)			
2.5	50	.56				N/A		N/A	
	40	.50							
	35	.47							
	30	.43							
5	50	1.12				XC		XC	
	40	1.00	30	15	13.20		VC		C
	35	.94							
	30	.87							
7.5	50	1.68				N/A		N/A	N/A
	40	1.50							
	35	1.40							
	30	1.30							

Enter your nozzle spacing & MPH in the row which matches the orifice & pressure you want to use. Read the GPA results in the same row in Column #6

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Low Volume versions CP-59LS and CP109L-S
Orifices 2.5, 5, 7.5, 10, 15, 20, 24 and 30

High Volume versions CP-59HV and CP109-HV
Orifices 5, 10, 15, 20, 30, 40, 50 and 60

To Calculate flow rates and droplet spectrum for those nozzles, [click here](#). To print a flow rate/droplet spectrum chart, click here for [Low Volume Turbos](#) or [High Volume Turbos](#).

CP® Floater Three-way Nozzle

CP-53-8L3's and CP-55R (and CP-101-8L3's and CP-102R's – combination nozzle and check valve) generate a smaller droplet spectrum than the turbo nozzles. They come in the same volume versions but have stainless 3-angle adjustable deflectors. They offer good coverage and patterns at a wide range of flow rates. This is an older nozzle design and will be discontinued after 2010. CP® will maintain a limited stock of replacements and parts. To calculate flow rates and droplet spectrum for these nozzles, [click here](#). To print a droplet spectrum chart, [click here](#).

CP-59L-S and CP-109L-S Low Volume Floater Turbo Nozzles and Combos

Orifice/Tip Combinations			Gallons Per Acre														
			30" Spacing					40" Spacing					60" Spacing				
Orifice and Tip #	PSI	Nozzle Capacity GPM	10 MPH	12 MPH	14 MPH	16 MPH	18 MPH	10 MPH	12 MPH	14 MPH	16 MPH	18 MPH	10 MPH	12 MPH	14 MPH	16 MPH	18 MPH
2.5 #7.5 & #5	30	0.43	8.5	7.1	6.1	5.3	4.7	6.4	5.3	4.6	4.0	3.6	4.3	3.6	3.1	2.7	2.4
	40	0.5	9.9	8.3	7.1	6.2	5.5	7.4	6.2	5.3	4.6	4.1	5.0	4.2	3.6	3.1	2.8
	50	0.56	11.1	9.2	7.9	6.9	6.2	8.3	6.9	5.9	5.2	4.6	5.6	4.6	4.0	3.5	3.1
5 #7.5	30	0.87	17.2	14.3	12.3	10.7	9.5	12.9	10.7	9.2	8.0	7.1	8.6	7.2	6.2	5.4	4.8
	40	1.00	19.8	16.5	14.1	12.4	11.0	14.9	12.4	10.6	9.3	8.3	10.0	8.3	7.1	6.2	5.5
	50	1.12	22.1	18.5	15.8	13.8	12.3	16.6	13.8	11.9	10.4	9.2	11.1	9.3	7.9	6.9	6.2
5 #5	30	0.80	15.2	12.7	10.9	9.5	8.5	11.4	9.5	8.2	7.1	6.4	7.6	6.4	6.5	4.8	4.3
	40	0.90	17.7	14.8	12.7	11.1	9.8	13.3	11.1	9.5	8.3	7.4	8.9	7.4	6.4	5.6	4.9
	50	1.00	19.8	16.5	14.1	12.4	11.0	14.9	12.4	10.6	9.3	8.3	9.9	8.3	7.1	6.2	5.5
7.5 #18	30	1.30	25.7	21.4	18.4	16.1	14.3	19.3	16.1	13.8	12.1	10.7	12.9	10.7	9.2	8.1	7.2
	40	1.50	29.7	24.8	21.2	18.6	16.5	22.3	18.6	15.9	13.9	12.4	14.9	12.4	10.6	9.3	8.3
	50	1.68	33.2	27.7	23.7	20.8	18.5	24.9	20.8	17.8	15.6	13.8	16.6	13.9	11.9	10.4	9.3
7.5 #7.5	30	0.94	18.6	15.5	13.3	11.7	10.4	14.0	11.7	10.0	8.7	7.8	9.3	7.8	6.7	5.9	5.2
	40	1.09	21.7	18.1	15.5	13.5	12.0	16.3	13.5	11.6	10.2	9.0	10.9	9.1	7.8	6.8	6
	50	1.22	24.2	20.2	17.3	15.1	13.5	18.2	15.1	13.0	11.4	10.1	12.1	10.1	8.7	7.6	6.8
10 #18	30	1.73	34.3	28.6	24.5	21.4	19.1	25.7	21.4	18.4	16.1	14.3	17.2	14.3	12.3	10.7	9.6
	40	2.00	39.6	33.0	28.3	24.8	22.0	29.7	24.8	21.2	18.6	16.5	19.8	16.5	14.2	12.4	11
	50	2.24	44.3	36.9	31.6	27.7	24.6	33.2	27.7	23.7	20.8	18.5	22.2	18.5	15.8	13.9	12.3
10 #7.5	30	1.25	24.7	20.6	17.7	15.5	13.7	18.6	15.5	13.3	11.6	10.3	12.4	10.3	8.9	7.8	6.9
	40	1.45	28.8	24.0	20.5	18.0	16.0	21.6	18.0	15.4	13.5	12.0	14.4	12	10.3	9	8
	50	1.62	32.2	26.8	23.0	20.1	17.9	24.1	20.1	17.2	15.1	13.4	16.1	13.4	11.5	10.1	9
15 #18	30	2.60	51.4	42.9	36.7	32.2	28.6	38.6	32.2	27.6	24.1	21.4	25.7	21.5	18.4	16.1	14.3
	40	3.00	59.4	49.5	42.4	37.1	33.0	44.6	37.1	31.8	27.8	24.8	29.7	24.8	21.2	18.6	16.5
	50	3.35	66.4	55.3	47.4	41.5	36.9	49.8	41.5	35.6	31.1	27.7	33.2	27.7	23.7	20.8	18.5
15 #7.5	30	1.27	25.1	20.9	17.9	15.7	13.9	18.8	15.7	13.4	11.8	10.5	12.6	10.5	9	7.9	7
	40	1.47	29.2	24.3	20.8	18.2	16.2	21.9	18.2	15.6	13.7	12.2	14.6	12.2	10.4	9.1	8.1
	50	1.65	32.6	27.2	23.3	20.4	18.1	24.5	20.4	17.5	15.3	13.6	16.3	13.6	11.7	10.2	9.1
20 #35	30	3.46	68.6	57.2	49.0	42.9	38.1	51.4	42.9	36.7	32.2	28.6	34.3	28.6	24.5	21.5	19.1
	40	4.00	79.2	66.0	56.6	49.5	44.0	59.4	49.5	42.4	37.1	33.0	39.6	33	28.3	24.8	22
	50	4.47	88.6	73.8	63.3	55.3	49.2	66.4	55.3	47.4	41.5	36.9	44.3	36.9	31.7	27.7	24.6

Nozzle Classification Category Threshold Values

VMD

Coarse	Between 244-361 microns
Very Coarse (VC)	Between 361-434 microns
Extremely Coarse (XC)	Over 426 microns

Data for CP's Low Volume Sprayer Turbo Nozzles developed by Dr. Womac, Ph.D., P.E., Assoc. Prof., University of Tennessee Institute of Agriculture, Knoxville, TN Nozzle Classification Using ASAE Reference Nozzle Set #5 & 6 (Malvern laser diffraction instrument, still air)



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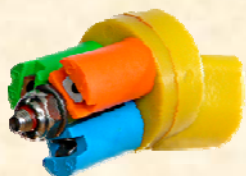
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Post-Emerge Products



WHEN DRIFT IS A FACTOR...

CP's Sprayer Turbo Nozzles are designed specifically for drift control and generate an even spectrum of large droplets with few driftable fines through a wide range of pressures. They are durable, versatile and produce exceptional wide patterns. The nozzles have adjustable selector plates with six orifices. In addition, there are three adjustable tips which change both the pattern and droplet spectrum. Nozzles have 18 possible combinations. All nozzle parts are replaceable.

How do they work?



Dial the Orifice to Change Flow.
(6 choices + shut off)

Change the tips to alter the
Pattern or Droplet Spectrum



CP-65's come in three volume versions with flat fan flow rates. Depending on the nozzle volume version, they are designed to be used on 15" to 40" centers. The orifice sizes (flat fan flow rates) are as follows (click on links for more detailed information):



**It's a winner!!!
The CP-65T-S
Sprayer Turbo
Nozzle won
an ASAE 2005 AE50
Award for
design innovation!**

[Standard Volume Chart](#) or [Standard Volume Interactive Flow Rate Calculator](#)

CP-65T-S

Orifices 3, 4, 5, 6, 8 and 10

[High Volume Chart](#) or [High Volume Interactive Flow Rate Calculator](#)

CP-65T-SHP (polypropylene tips) or CP-65T-SH (stainless steel tips)

Orifices 10, 15, 20, 25, 30 and 33

[Low Volume Chart](#) or [Low Volume Interactive Flow Rate Calculator](#)

CP-65T-SL

Orifices 1.5, 2, 3, 4, 5 and 6

CP-65T-S Standard
Sprayer Turbo

			20" Spacing -- Gallons Per Acre							30" Spacing						
Orifice and Tip #	PSI	Nozzle Capacity GPM	6 MPH	8 MPH	10 MPH	12 MPH	14 MPH	16 MPH	18 MPH	6 MPH	8 MPH	10 MPH	12 MPH	14 MPH	16 MPH	18 MPH
3 #3 Tip	30	0.26	12.9	9.7	7.7	6.4	5.5	4.8	4.3	8.6	6.4	5.1	4.3	3.7	3.2	2.9
	40	0.3	14.9	11.1	8.9	7.4	6.4	5.6	5.0	9.9	7.4	5.9	5.0	4.2	3.7	3.3
	50	0.34	16.6	12.5	10.0	8.3	7.1	6.3	5.5	11.1	8.3	6.6	5.5	4.7	4.2	3.7
3 #7.5 Tip	30	0.27	13.6	10.2	8.1	6.8	5.8	5.1	4.5	9.0	6.8	5.4	4.5	3.9	3.4	3.0
	40	0.32	15.7	11.7	9.4	7.8	6.7	5.9	5.2	10.4	4.8	6.3	5.2	4.5	3.9	3.5
	50	0.35	17.5	13.1	10.5	8.8	7.5	6.6	5.8	11.7	8.8	7.0	5.8	5.0	4.4	3.9
4 #7.5 Tip	30	0.35	17.3	13.0	10.4	8.7	7.4	6.5	5.8	11.6	8.7	6.9	5.8	5.0	4.3	3.9
	40	0.4	19.8	14.9	11.9	9.9	8.5	7.4	6.6	13.2	9.9	7.9	6.6	5.7	5.0	4.4
	50	0.45	22.3	16.7	13.4	11.1	9.6	8.4	7.4	14.9	11.1	8.9	7.4	6.4	5.6	5.0
4 #3 Tip	30	0.33	16.5	12.4	9.9	8.3	7.1	6.2	5.5	11.0	8.3	6.6	5.5	4.7	4.1	3.7
	40	0.39	19.1	14.3	11.4	9.5	8.2	7.2	6.4	12.7	9.5	7.6	6.4	5.5	4.8	4.2
	50	0.43	21.3	16.0	12.8	10.7	9.1	8.0	7.1	14.2	10.7	8.5	7.1	6.1	5.3	4.7
4 #10 Tip	30	0.37	18.2	163.7	10.9	9.1	7.8	6.8	6.1	12.1	9.1	7.3	6.1	5.2	4.6	4.1
	40	0.42	21.0	15.8	12.6	10.5	9.0	7.9	7.0	14.0	10.5	8.4	7.0	6.0	5.3	4.7
	50	0.47	23.5	17.6	14.1	11.8	10.1	8.8	7.8	15.7	11.8	9.4	7.8	6.7	5.9	5.2
5 #7.5 Tip	30	0.43	21.4	16.1	12.9	10.7	9.2	8.0	7.1	14.3	10.7	8.6	7.1	6.1	5.4	4.8
	40	0.5	24.8	18.6	14.9	12.4	10.6	9.3	8.3	16.5	12.4	9.9	8.3	7.1	6.2	5.5
	50	0.56	27.7	20.8	16.6	13.8	11.9	10.4	9.2	18.5	13.8	11.1	9.2	7.9	6.9	6.2
5 #3 Tip	30	0.41	20.4	15.3	12.2	10.2	8.7	7.7	6.8	13.6	10.2	8.2	6.8	5.8	5.1	4.5
	40	0.48	23.5	17.7	14.1	11.8	10.1	8.8	7.9	15.7	11.8	9.4	7.9	6.7	5.9	5.2
	50	0.53	26.3	19.7	15.8	13.2	11.3	9.9	8.8	17.6	13.2	10.5	8.8	7.5	5.7	5.9
5 #10 Tip	30	0.48	23.7	17.7	14.2	11.8	10.1	8.9	7.9	15.8	11.8	9.5	7.9	6.8	5.9	5.3
	40	0.55	27.3	20.5	16.4	13.7	11.7	10.2	9.1	18.2	13.7	10.9	9.1	7.8	6.8	6.1
	50	0.62	30.5	22.9	18.3	15.3	13.1	11.5	10.2	20.4	15.3	12.2	10.2	8.7	7.6	6.8
6 #7.5 Tip	30	0.52	25.7	19.3	15.4	12.9	11.0	9.7	8.6	17.2	12.9	10.3	8.6	7.4	6.4	5.7
	40	0.6	29.7	22.3	17.8	14.9	12.7	11.1	9.9	19.8	14.9	11.9	9.9	8.5	7.4	6.6
	50	0.67	33.2	24.9	19.9	16.6	14.2	12.5	11.1	22.1	16.6	13.3	11.1	9.5	8.3	7.4
6 #3 Tip	30	0.46	22.9	17.2	13.8	11.5	9.8	8.6	7.6	15.3	11.5	9.2	7.6	6.6	5.7	5.1
	40	0.53	26.5	19.9	15.9	13.2	11.4	9.9	8.8	17.7	13.2	10.6	8.8	7.6	6.6	5.9
	50	0.6	29.6	22.2	17.8	14.8	12.7	11.1	9.9	19.7	14.8	11.8	9.9	8.5	7.4	6.6
6 #10 Tip	30	0.56	27.6	20.7	16.5	13.8	11.8	10.3	9.2	18.4	13.8	11.0	9.2	7.9	6.9	6.1
	40	0.64	31.8	23.9	19.1	15.9	13.6	11.9	10.6	21.2	15.9	12.7	10.6	9.1	8.0	7.1
	50	0.75	37.3	28.0	22.4	18.7	16.0	14.0	12.4	24.9	18.7	14.9	12.4	10.7	9.3	8.3
8 #10 Tip	30	0.69	34.3	25.7	20.6	17.2	14.7	12.9	11.4	22.9	17.2	13.7	11.4	9.8	8.6	7.6
	40	0.8	39.6	29.7	23.8	19.8	17.0	14.9	13.2	26.4	19.8	15.8	13.2	11.3	9.9	8.8
	50	0.89	44.3	33.2	26.6	22.1	19.0	16.6	14.8	29.5	22.1	17.7	14.8	12.7	11.1	9.8
8 #3 Tip	30	0.55	27.1	20.4	16.3	13.6	11.6	10.2	9.0	18.1	13.6	120.9	9.0	7.8	6.8	6.0
	40	0.63	31.3	23.5	18.8	15.7	13.4	11.8	10.4	20.9	15.7	12.5	10.4	9.0	7.8	7.0
	50	0.71	35.0	26.3	21.0	17.5	15.0	13.1	11.7	23.4	17.5	14.0	11.7	10.0	8.8	7.8



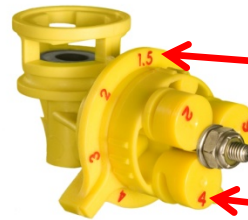
Post-Emerge Products



WHEN DRIFT IS A FACTOR...

CP's Sprayer Turbo Nozzles are designed specifically for drift control and generate an even spectrum of large droplets with few driftable fines through a wide range of pressures. They are durable, versatile and produce exceptional wide patterns. The nozzles have adjustable selector plates with six orifices. In addition, there are three adjustable tips which change both the pattern and droplet spectrum. Nozzles have 18 possible combinations. All nozzle parts are replaceable.

How do they work?



Dial the Orifice to Change Flow.
(6 choices + shut off)

Change the tips to alter the
Pattern or Droplet Spectrum



CP-65's come in three volume versions with flat fan flow rates. Depending on the nozzle volume version, they are designed to be used on 15" to 40" centers. The orifice sizes (flat fan flow rates) are as follows (click on links for more detailed information):



**It's a winner!!!
The CP-65T-S
Sprayer Turbo
Nozzle won
an ASAE 2005 AE50
Award for
design innovation!**

[Standard Volume Chart](#) or [Standard Volume Interactive Flow Rate Calculator](#)

CP-65T-S
Orifices 3, 4, 5, 6, 8 and 10

[High Volume Chart](#) or [High Volume Interactive Flow Rate Calculator](#)

CP-65T-SHP (polypropylene tips) or CP-65T-SH (stainless steel tips)
Orifices 10, 15, 20, 25, 30 and 33

[Low Volume Chart](#) or [Low Volume Interactive Flow Rate Calculator](#)

CP-65T-SL
Orifices 1.5, 2, 3, 4, 5 and 6

Orifice	PSI	GPM	Spacing inches	MPH	GPA	GPM #3 Tip	GPA	GPM #7.5 Tip	GPA	GPM #10 Tip	GPA
#3 With #3 tip	60	0.37				See First GPA Column (#6)		0.39		0.4	
	50	0.34						0.35		0.36	
	40	0.3						0.32		0.32	
	35	0.28						0.3		0.3	
	30	0.26						0.27		0.28	
	25	0.24								0.26	
	20	0.21								0.23	
4	60	0.49				See First GPA Column (#6)				0.52	
	50	0.45								0.47	
	40	0.4								0.42	
	35	0.37								0.4	
	30	0.35								0.37	
	25	0.32						0.3		0.34	
	20	0.28						0.27		0.3	
5	60	0.61				See First GPA Column (#6)		0.58		0.68	
	50	0.56						0.53		0.62	
	40	0.5						0.48		0.55	
	35	0.47						0.44		0.52	
	30	0.43						0.41		0.48	
	25	0.4						0.38		0.44	
	20	0.35						0.34		0.39	

Enter your nozzle spacing & MPH in the row which matches the orifice & pressure you want to use. Read the GPA results in the same row in Column #6

Nozzle Classification
Category Threshold Values

VMD

Data for CP's Low Volume Sprayer Turbo Nozzles developed by
Dr. Womac, Ph.D., P.E., Assoc. Prof., University of Tennessee Institute of Agriculture, Knoxville, TN
Nozzle Classification Using ASAE Reference Nozzle Set #6
(Malvern laser diffraction instrument, still air)

CP-65T-SL LOW VOLUME SPRAYER TURBO

Medium (M)			Between 244-163 microns		<div>Dr. Womac, Ph.D., P.E., Assoc. Prof., University of Tennessee Institute of Agriculture, Knoxville, TN</div> <div>Nozzle Classification Using ASAE Reference Nozzle Set #6</div> <div>(Malvern laser diffraction instrument, still air)</div> <div>CP-65T-SL LOW VOLUME SPRAYER TURBO</div>							
Coarse (C)			Between 361-244 microns									
Very Coarse (VC)			Between 434-361 microns									
Extremely Coarse (XC)			Over 434 microns									
Orifice and Tip #	PSI	Nozzle Capacity GPM	5 MPH	6 MPH	7 MPH	8 MPH	9 MPH	10 MPH	12 MPH	14 MPH	16 MPH	18 MPH
3 #6 Tip	30	0.28	16.7	13.9	11.9	10.5	9.3	8.4	7.0	6.0	5.2	4.6
	40	0.33	19.3	16.1	13.8	12.1	10.7	9.7	8.0	6.9	6.0	6.4
	50	0.36	21.6	18.0	15.4	13.5	12.0	10.8	9.0	7.7	6.7	6.0
4 #4 Tip	30	0.35	20.6	17.2	14.7	12.9	11.4	10.3	8.6	7.4	6.4	5.7
	40	0.4	23.8	19.8	17.0	14.9	13.2	11.9	9.9	8.5	7.4	6.6
	50	0.45	26.6	22.1	19.0	16.6	14.8	13.3	11.1	9.5	8.3	7.4
4 #2 Tip	30	0.21	12.6	10.5	9.0	7.9	7.0	6.3	5.3	4.5	3.9	3.5
	40	0.25	14.6	12.1	10.4	9.1	8.1	7.3	6.1	5.2	4.6	4.0
	50	0.27	16.3	13.6	11.6	10.2	9.0	8.1	6.8	5.8	5.1	4.5
4 #6 Tip	30	0.4	23.9	19.9	17.1	15.0	13.3	12.0	10.0	8.5	7.5	6.6
	40	0.47	27.6	23.0	19.7	17.3	15.4	13.8	11.5	9.9	8.6	7.7
	50	0.52	30.9	25.7	22.1	19.3	17.2	15.4	12.9	11.0	9.7	8.6
5 #6 Tip	30	0.43	25.7	21.4	18.4	16.1	14.3	12.9	10.7	9.1	8.0	7.1
	40	0.5	29.7	24.8	21.2	18.6	16.5	14.9	12.4	10.6	9.3	8.3
	50	0.56	33.2	27.7	23.7	20.8	18.5	16.6	13.8	11.9	10.4	9.2
5 #2 Tip	30	0.22	13.1	10.9	9.3	8.2	7.3	6.5	5.4	4.7	4.1	3.6
	40	0.25	15.1	12.6	10.8	9.4	8.3	7.5	6.3	5.4	4.7	4.2
	50	0.28	16.9	14.1	12.1	10.5	9.4	8.4	7.0	6.0	5.3	4.7

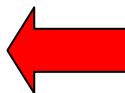
How versatile are our nozzles?

Now more versatile than ever with the NEW Triple Straight Stream Accessory Tip for CP's Sprayer Turbo Nozzle.

Ideal for fertilizer applications, this new accessory tip fits all three volume versions of CP's sprayer turbo nozzle. Applicator just pops it in replacing any of one tips. Designed for 20" spacing, the tip at 14mph/40psi yields rates as low as 3.2 gpa to as high as 23.3 gpa, depending on which volume nozzle and orifice is being used.

Click on links for more detailed information :

[Standard Volume Chart](#)

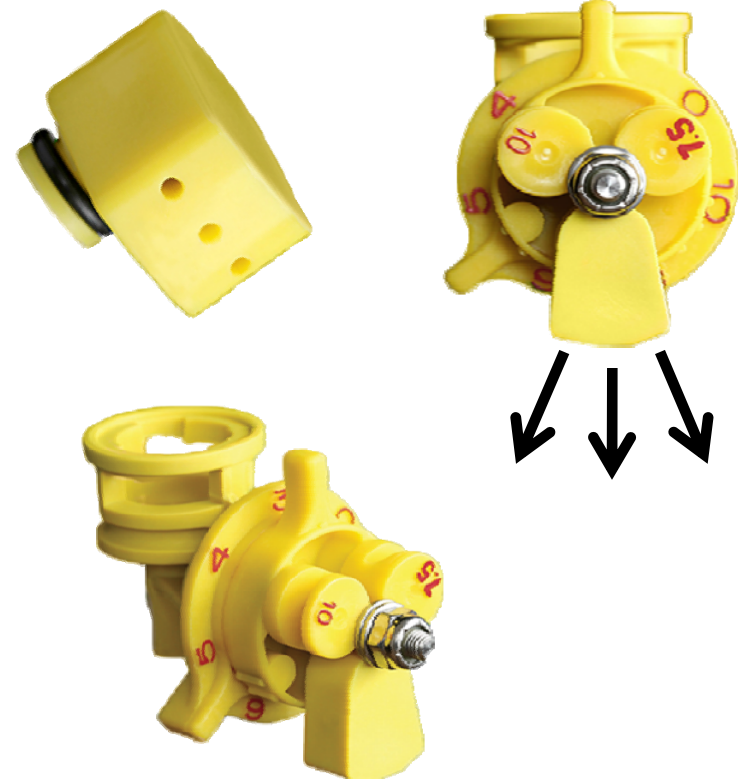


[High Volume Chart](#)

[Low Volume Chart](#)



2010 Winner!
The CP-S275T-3SS
Triple Straight Stream
Tip! For Outstanding
innovation in Product
or System Technology



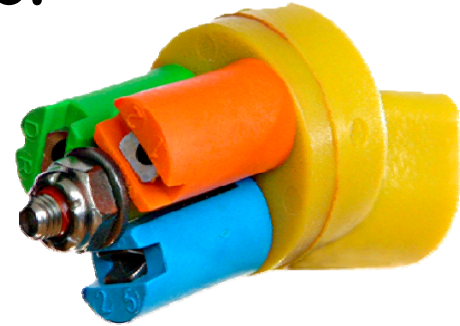
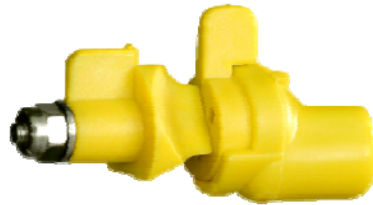
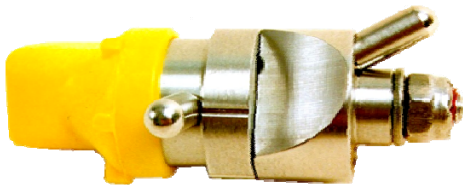
**CP-65T-S
SPRAYER
TURBO
NOZZLE**
with
**Tri-Steam
Tip 20”
Spacing**



Orifice	PSI	Nozzle Capacity GPM	6 MPH	8 MPH	10 MPH	12 MPH	14 MPH	16 MPH	18 MPH
#3	25	0.17	8.6	6.5	5.2	4.3	3.7	3.2	2.9
	30	0.19	9.4	7.0	5.7	4.7	4.0	3.5	3.1
	35	0.21	10.2	7.6	6.1	5.1	4.4	3.8	3.4
	40	0.22	10.9	8.2	6.5	5.5	4.7	4.1	3.6
	50	0.25	12.2	9.1	7.3	6.1	5.2	4.6	4.1
	60	0.27	13.3	10.0	8.0	6.7	5.7	5.0	4.5
#4	25	0.29	14.9	10.9	8.7	7.2	6.2	5.4	4.8
	30	0.32	15.9	11.9	9.5	7.9	6.8	6.0	5.3
	35	0.35	17.1	12.8	10.3	8.6	7.3	6.4	5.7
	40	0.37	18.3	13.7	11.0	9.2	7.9	6.9	6.1
	50	0.41	20.5	15.4	12.3	10.2	8.8	7.7	6.8
	60	0.45	22.4	16.8	13.5	11.2	9.6	8.4	7.5
#5	25	0.41	20.4	15.3	12.2	10.2	8.7	7.6	6.8
	30	0.45	22.3	16.7	13.4	11.2	9.6	8.4	7.4
	35	0.49	24.1	18.1	14.5	12.0	10.3	9.0	8.0
	40	0.52	25.7	19.3	15.4	12.9	11.0	9.7	8.6
	50	0.58	28.8	21.6	17.3	14.4	12.3	10.8	9.6
	60	0.64	31.5	23.6	18.9	15.8	13.5	11.8	10.5
#6	25	0.55	27.4	20.5	16.4	13.7	11.7	10.3	9.1
	30	0.61	30.0	22.5	18.0	15.0	12.9	11.3	10
	35	0.65	32.4	24.3	19.5	16.2	13.9	12.2	10.8
	40	0.70	34.7	26.0	20.8	17.3	14.9	13.0	11.6
	50	0.78	38.7	29.1	23.2	19.4	16.6	14.5	12.9
	60	0.86	42.4	31.8	25.5	21.2	18.2	15.9	14.2
#8	25	0.64	31.7	23.8	19.0	15.9	13.6	11.9	10.6
	30	0.70	34.7	26.0	20.8	17.4	14.9	13.0	11.6
	35	0.76	37.5	28.1	22.5	18.8	16.1	14.1	12.5
	40	0.81	40.1	30.1	24.1	20.1	17.2	15.0	13.4
	50	0.91	44.8	33.6	26.9	22.4	19.2	16.8	14.9
	60	0.99	49.1	36.8	29.5	24.6	21.1	18.4	16.4
#10	25	0.87	43.0	32.3	25.8	21.5	18.5	16.1	14.4
	30	0.95	47.2	35.4	28.3	23.6	20.2	17.7	15.7
	35	1.03	50.9	38.2	30.6	25.5	21.8	19.1	17.0
	40	1.10	54.5	40.8	32.7	27.2	23.3	20.4	18.2
	50	1.23	60.9	45.7	36.5	30.4	26.1	22.8	20.3
	60	1.35	66.7	50.0	40.0	33.3	28.6	25.0	22.2



CP makes check valves and selectable rate nozzles
for Aerial spraying too!



Our Triple Tip Flat Fan



**And Our innovative
Swivel**

**Allow Changes In Rates And Droplet Sizes
To Meet the Pilot's Field Conditions.**



Portuguese
Español

Featured Products

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Aerial Products

Product List

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Product Maintenance

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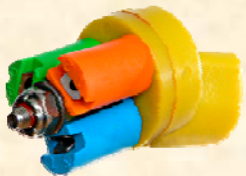
Distributors

Related Sites



CP-65T (S, SH, SL)

CP-65's come in three volume versions with flat fan flow rates.

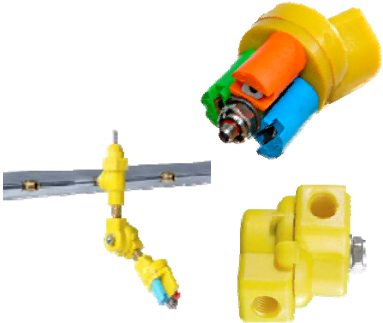
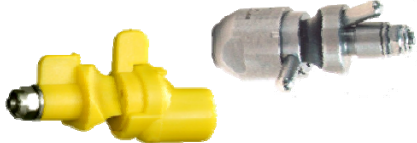
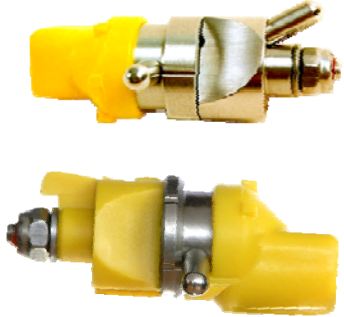



CP-11TT

The CP-11TT holds THREE TIPS and has a SHUT-OFF.

[:: Contact Us ::](#)

AERIAL PRODUCTS

Product	Part #	Description
	CP-11TT	The NEW CP-11TT holds THREE TIPS and has a SHUT-OFF. Price includes three tips of the Pilot's choice.
	CP-06	The NEW CP-06 CP® SWIVEL
	CP-01-03	Stainless Steel Aerial Nozzle 3-Way Deflector
	CP-03	Poly Aerial Nozzle
	CP-07-3E	Stainless Steel Straight Stream Nozzle w/5° & 30° Deflection
	CP-09-3E	Poly Straight Stream Nozzle with Stainless Selector / Deflector w/5° & 30° Deflection
	CP-09-3P	Poly Straight Stream Nozzle Stainless Selector, Poly Deflector w/5° and 30° Deflection
	CP-02	Stainless Steel Aerial Check Valve
	CP-04	Poly Aerial Check Valve

Tip Number	Pressure (PSI)	Capacity 1-Nozzle (GPM)
CP-A256-8002 80°	30	0.17
	40	0.20
	50	0.22
	60	0.24
CP-A256-8003 80°	30	0.26
	40	0.30
	50	0.34
	60	0.37
CP-A256-4004 40° CP-A256-8004 80° CP-A256-11004° 110°	25	.32
	30	.35
	40	.40
	50	.45
CP-A256-8005 80°	60	.49
	30	0.43
	40	0.50
	50	0.56
CP-A256-4006 40° CP-A256-8006 80° CP-A256-11006 110° CP-A256-0006 St. Stream	60	0.61
	25	.47
	30	.52
	40	.60
CP-A256-4008 40° CP-A256-8008 80° CP-A256-11008 110° CP-A256-0008 St. Stream	50	.67
	60	.73
	25	.63
	30	.69
CP-A256-4010 40° CP-A256-8010 80° CP-A256-0010 St. Str.	40	.80
	50	.89
	60	.98
	30	.87
CP-A256-4012 40° CP-A256-8012 80° CP-A256-0012 St. Str.	40	1.0
	50	1.18
	60	1.23
	30	1.04
CP-A256-4015 40° CP-A256-8015 80° CP-A256-0015 St. Str.	40	1.2
	50	1.42
	60	1.47
	30	1.3
CP-A256-4020 40° CP-A256-8020 80° CP-A256-0020 St. Str.	40	1.5
	50	1.68
	60	1.84
	30	1.73
CP-A256-4025 40° CP-A256-8025 80° CP-A256-0025 St. Str.	40	2.00
	50	2.24
	60	2.45
	30	2.17
CP-A256-4030 40° #30 Tip	40	2.5
	50	2.95
	60	3.06
	30	2.60
	40	3.00
	50	3.54
	60	3.67

Choosing Nozzles & Tips

THE TOOLS

TOOL #1

NOZZLE CALCULATOR

OR

YOU CAN DO THE MATH



*Spray Nozzles and Check Valves
for Agriculture Applications*

Espanola

Portuguese

***From our website click on “Choosing Nozzles”
to use our Nozzle Calculator***

Choosing Nozzles



418 S Price Road Tempe, Arizona 85281 Toll Free 866.303.0600

[:: Contact Us ::](#)

Choosing Nozzles for Your Aircraft

When making decisions about which nozzles to use, several things should be considered:

- Airspeed, Swath
- Droplet Spectrum
- Gallons per Acre



For a comparison of CP® nozzle styles at various airspeeds and droplet ranges, [click here](#), [for metric click here](#).

CP-11TT's are the most versatile nozzles for the full range of airspeeds. In most instances, flat fan tips offer the best drift control and narrowest relative spans. The wide range of tips styles available make both large and small droplet spectra possible. 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.



CP-06 Swivels, used with CP-11TT flat fan nozzles, make it possible to adjust the nozzle downward into the airstream at 15° increments. These adjustments create the smaller droplet spectrum needed for insecticides and fungicides.



CP-07's and CP-09's are nozzles with four orifices (0.62, 0.78, 0.125 and 0.172) and three-way deflectors with a straight stream setting and 5° and 30° deflection. These nozzles were designed for aircraft flying at speeds of 130 mph and higher.



CP-03's, the original aerial nozzles, work well for airspeeds of 120 mph or less. At higher airspeeds, these nozzles will produce more driftable fines than CP-11TT's or CP-07/09's. They have the same four orifices as the CP07/09's but the deflector angles are 30°, 55° and 90°.

Generally, the challenge with rotorcraft is producing a droplet spectrum small enough to be effective for insecticides and fungicides. While drift control is critical for many applications, producing the droplet spectrum needed is less problematic.



CP-11TT's, with the wide selection of flat fan tips, offer the most versatility. There are 80° and 110° flat fan tips available. Spray nozzle models which calculate droplet spectrum are available for the 80° flat fans. Preliminary work has been done on modeling the 110° flat fans. However, a full model for these tips has not been completed.



CP-03's, the original CP® nozzles, work well for rotorcraft. The four orifices and three deflector planes offer many choices depending on the aircraft and product being applied .

To calculate the number of nozzles you need, [click here](#), for [metric click here](#).

To Calculate tip or orifice sizes, [click here](#), for [metric click here](#).

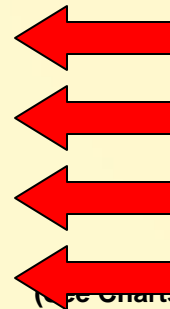
To calculate droplet spectrum, [click here](#), for [metric click here](#).

NOZZLE CALCULATOR

To determine the number of CP® nozzles you need, enter your airspeed (mph), swath width and the highest rate (gallons per acre) you apply. Check the charts below to choose an orifice size and pressure you wish to use and enter the flow rate shown in that category. A minimum of 30 psi should be used with CP's. Please note that using the 0.172 orifice may cause an increase in driftable fines. When drift is an issue, the 0.125 orifice is a better choice. Number 25 tips (i.e. 4025) flow at about the same rate as the 0.125 orifice, so this calculator can be used to determine the number of flat fan nozzles, also. When using CP-03's or CP-07/09's, the **nozzle body material** determines flow rates. Stainless nozzle bodies flow at a lesser rate than polypropylene.

Enter **Airspeed** (in mph), **Swath Width**, **Gallons per Acre** and **Flow Rate** (see chart):

Airspeed:	140
Swath Width:	60
Gallons per Acre:	5
Flow Rate:	2.454



**You Need 35 nozzles
for the data you
have entered.**

CALCULATE

CP® FLAT FAN
POLYPROPYLENE

CLEAR FIELDS

Pressure PSI	Orifice .062	Orifice .078	Orifice .125	Orifice .172	Orifice .093*
30	0.572	0.892	2.054	2.925	1.08
40	0.682	1.062	2.454	3.369	1.28

CP NOZZLE® FLOW RATE
Flat Fan Tips

Tip #	Reference Pressure	GPM	Flow Rate	Estimate of Pressure Needed	Results
25	40	2.5	9.464	41	Pressure OK
30	40	3.000	11.356	29	Pressure OK

*This orifice is available by special order only



The Rule of Thumb

SLOW AIRCRAFT
SHOULD USE LOTS OF
TIPS

ANOTHER



The Rule of Thumb

FASTER AIRCRAFT
SHOULD USE AS FEW
TIPS AS POSSIBLE

Choosing Nozzles & Tips

THE TOOLS

TOOL #2

AIRCRAFT CALIBRATION
SPREADSHEET

OR

YOU CAN DO THE MATH



*Spray Nozzles and Check Valves
for Agriculture Applications*

Espanola

Portuguese

***From our website click on “Set-up Calculations”
to use our Aircraft Calibrations
Spreadsheets***

Set-up Calculations



418 S Price Road Tempe, Arizona 85281 Toll Free 866.303.0600

[:: Contact Us ::](#)

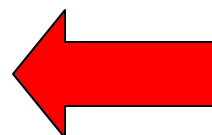
Aircraft Nozzle and Tip Selection and Calibration

Enter English values in the fields below and click the 'Calculate!' button.

Enter Metric values in the fields below and click the 'Calculate!' button.

Speed Swath Width Rate	MPH ►	140	↔	135	◄ MPH
	FEET ►	60.000	↔	18.000	◄ METERS
	GPA ►	5.0000	↔	35.000	◄ L/Ha
	# Nozzles ►	40	↔	40	◄ # Nozzles

CALCULATE



To convert from knots per hour to miles per hour, use the Knots to MPH conversion calculator.

Knots	100
Miles Per Hour	115.1

CP Nozzle Calibration Chart

CALCULATED RESULTS

Flow rates needed with # nozzles entered.

Single Nozzle Flow Rate GPM or L/min	2.1212	5.7046
Acres or Hectares/Minute with entered Data	16.97	6.52
GPM or L/min Total Boom Flow Rates (Ac/min) (GPA) or (ha/min)(L/ha)	84.85	228.18

Boom Flow rate is based on given values. This information should be used for purposes for selecting the correct nozzle size only.

Recommend 22 to 60 PSI & 30 to 35 psi is needed for good boom dynamics

CP's Flat Fan Tips

Nozzles	Reference Pressure	Ref. Flow Rate GPM/Nozzles	L/min/nozzle	<u>Estimate</u> of Pressure Needed	
#12 Flat Fan	40	1.2	Acceptable Pressure	137	69
#12.5 Flat Fan	40	1.25		127	64
#15 Flat Fan	40	1.5		88	44
#20 Flat Fan	40	2	7.571	49	25
#25 Flat Fan	40	2.5	9.464	32	16
#30 Flat Fan	40	3.000	11.356	22	11

CP Nozzle Calibration Chart

CALCULATED RESULTS

Flow rates needed with # nozzles entered.

Single Nozzle Flow Rate GPM or L/min	2.1212	5.7046
Acres or Hectares/Minute with entered Data	16.97	6.52
GPM or L/min Total Boom Flow Rates (Ac/min) (GPA) or (ha/min)(L/ha)	84.85	228.18

Boom Flow rate is based on given values. This information should be used for purposes for selecting the correct nozzle size only.

Recommend 22 to 60 PSI & 30 to 35 psi is needed for good boom dynamics

CP's With Poly Bodies

Nozzles	Reference Pressure	Ref. Flow Rate	L/min/nozzle	<u>Estimate</u> of Pressure Needed	
2/3 - .078 / 1/3 - .125	40	Acceptable Pressure		85	43
1/2- (.078 / .125)	40			64	32
1/3 - .078 / 2/3 -.125	40	1.990	7.533	50	25
1/4 - .078 / 3/4 - .125	40	2.106	7.972	45	23
CP-NY .125	40	2.454	9.289	33	17
3/4 - .125 / 1/4 - .172	40	2.683	10.155	28	14
2/3 - .125 / 1/3 - .172	40	2.759	10.444	26	13

Choosing Nozzles & tips

THE TOOLS

TOOL #3

SPRAY QUALITY MODELS



The Rule of Thumb

FOR HIGH VOLUMES
FOR LOW VOLUME

300+ VMD
285 VMD

1 OR LESS RELATIVE SPAN
1 OR LESS RELATIVE SPAN

% UNDER 200 MICRONS AS LOW AS POSSIBLE
% UNDER 100 MICRONS CLOSE TO ZERO AS POSSIBLE
% UNDER 100 MICRONS CLOSE TO ZERO AS POSSIBLE



**Spray Nozzles and Check Valves
for Agriculture Applications**

Espanola

Portuguese

***From our website click on “Droplet Calculations”
to use the Spray Quality Models***

Droplet Calculations



418 S Price Road Tempe, Arizona 85281 Toll Free 866.303.0600

[:: Contact Us ::](#)

Droplet Calculations

Droplet spectrum, or spray quality, is a crucial component of successful applications. Droplets that are too small may not reach the target and may drift. Droplets that are too large may not give adequate coverage.

After determining an appropriate tip or orifice for an application, use the spray quality models (spreadsheets) to calculate an approximate droplet spectrum. There are models for CP-03's, CP-07/09/s and CP-11TT's flat fan tips. Enter the flat fan tip or orifice size, tip or deflector angle, pressure and airspeed. When using the models for the 40° and 80° flat fan tips, the default nozzle angle is 8° due to the built-in down angle of the nozzle body. With the CP® Swivel, CP-11TT's can be angled down in 15° increments. This means 8° plus 15° (23° angle), 8° plus 30° (38° angle), etc. The default angle for CP® straight stream tips for the CP-11TT is 0°.

The droplet spectrum will be automatically calculated and appear in the lines below the boxes. Experiment with the values entered in order to develop an understanding of the relationships among these factors and droplet size.

Boom configuration, orifice/deflector condition and many other factors may impact how close actual spray quality comes to that indicated in the model. It is extremely important that aircraft be pattern tested to verify deposition, droplet spectrum and to identify any problems affecting the swath.

For Fixed-Wing Aircraft:

[CP-03 Nozzle Model Fixed-Wing](#)

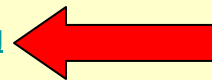
[CP-07 & 09 Nozzle Model Fixed-Wing](#)

[CP 40 Degree Flat Fan \(Large Orifice\) Nozzle Model Fixed-Wing](#)

[CP 40 Degree Flat Fan \(Small Orifice\) Nozzle Model Fixed-Wing](#)

[CP-80 Degree Flat Fan Nozzle Model Fixed-Wing](#)

[CP-11TT with Straight Stream Tips Model Fixed-Wing](#)



For Rotorcraft:

[CP-03 Nozzle Model Rotary-Wing](#)

[CP 40 Degree Flat Fan \(Large Orifice\) Nozzle Model Rotary-Wing](#)

[CP 40 Degree Flat Fan \(Small Orifice\) Nozzle Model Rotary-Wing](#)

[CP 80 Degree Flat Fan Nozzle Model Rotary-Wing](#)

[CP-80 Degree High Volume Tips for Rotor Craft](#)

APPLICATION PARAMATERS FOR 40-DEGREE FLAT FAN NOZZLE (LARGE ORIFICE)

USDA ARS AH-726

I. W. Kirk, ARS, USDA, College Station, Texas

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please address inquiries to ASAE.

ASAE, 2950 Niles Rd., St. Joseph, MI 49085-9659 USA

Voice: 616.429.0300 FAX: 616.429.3852

Directions: Enter CP nozzle parameters, pressure, and airspeed in the fields
below.

	Tip Size Inches	Nozzle Angles, Degrees	Pressure PSI	Airspeed, MPH
Acceptable Range:	10 to 30	0 to 90	20 to 60	100 to 160
	20	8	45	140

Results will appear in a new window.

CALCULATE

CLEAR FIELDS



DV0.1 =	224	μm	= Droplet size such that 10% of the spray volume is in droplets smaller than DV0.1.
DV0.5 =	329	μm	= Volume median diameter
DV0.9 =	525	μm	= Droplet size such that 90% of the spray volume is in droplets smaller than DV0.9.
RS =	0.92	-	= Relative Span
%V<100μm =	0.01	%	= Percentage of spray volume in droplets smaller than 100 μm diameter.
%V<200μm =	5.65	%	= Percentage of spray volume in droplets smaller than 200 μm diameter.
DSCV0.1 =	COARSE	-	= Droplet Spectra Classification based on DV0.1.
DSCV0.5 =	MEDIUM	-	= Droplet Spectra Classification based on DV0.5.
DSCV0.9 =	MEDIUM	-	= Droplet Spectra Classification based on DV0.9.
DSC =	MEDIUM	-	= ASAE S572 AUG99 Droplet Spectra Classification

**Another calculation? Just close this window,
change the numbers in the fields and click 'Calculate!'**

**APPLICATION PARAMATERS
FOR 40-DEGREE FLAT FAN NOZZLE (LARGE ORIFICE)**

USDA ARS AH-726

I. W. Kirk, ARS, USDA, College Station, Texas

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Directions: Enter CP nozzle parameters, pressure, and airspeed in the fields
below.

	Tip Size Inches	Nozzle Angles, Degrees	Pressure PSI	Airspeed, MPH
Acceptable Range:	10 to 30	0 to 90	20 to 60	100 to 160
	20	38	45	140

Results will appear in a new window.

CALCULATE

CLEAR FIELDS



DV0.1 =	194	µm	= Droplet size such that 10% of the spray volume is in droplets smaller than DV0.1.
DV0.5 =	290	µm	= Volume median diameter
DV0.9 =	424	µm	= Droplet size such that 90% of the spray volume is in droplets smaller than DV0.9.
RS =	0.79	-	= Relative Span
%V<100µm =	1.19	%	= Percentage of spray volume in droplets smaller than 100 µm diameter.
%V<200µm =	11.35	%	= Percentage of spray volume in droplets smaller than 200 µm diameter.
DSCV0.1 =	COARSE	-	= Droplet Spectra Classification based on DV0.1.
DSCV0.5 =	MEDIUM	-	= Droplet Spectra Classification based on DV0.5.
DSCV0.9 =	FINE	-	= Droplet Spectra Classification based on DV0.9.
DSC =	FINE	-	= ASAE S572 AUG99 Droplet Spectra Classification

**Another calculation? Just close this window,
change the numbers in the fields and click 'Calculate!'**



The Rule of Thumb

**VMD IS A MEANINGLESS
MEASURE**

40-DEGREE FLAT FAN NOZZLE (LARGE ORIFICE)

FOR USE ON FIXED-WING AIRCRAFT

AERIAL APPLICATORS SPRAY NOZZLE HANDBOOK USDA ARS AH-726

I.W. Kirk, Agricultural Engineer, Area wide Pest Management Research Unit, Southern Plains Agricultural Research Center, Agricultural Research Service, U.S. Department of Agricultural, 2771 F&B Road, College Station, TX 77845-4966, USA

Directions: Enter below. 40 DEGREE FLAT FAN nozzle settings, pressure, and airspeed in the cells highlighted

Directions: Enter 40 DEGREE FLAT FAN nozzle settings, pressure, and airspeed in the cells highlighted below.

	Nozzle Tip Size, (Enter 15 for 4015, ect.) 10 to 30	Nozzle Angle, Degrees 0 to 90	Pressure, PSI 20 to 60	Airspeed, MPH 100 to 160
Acceptable Range:	20	8	34	140

Atomization parameters are displayed in the box below.

	Nozzle Tip Size, (Enter 15 for 4015, ect.) 10 to 30	Nozzle Angle, Degrees 0 to 90	Pressure, PSI 20 to 60	Airspeed, MPH 100 to 160
Acceptable Range:	10	8	34	140

Atomization parameters are displayed in the box below.

<i>DV0.1</i> =	217	µm	= Droplet size such that 10% of the spray volume is in droplets smaller than DV0.1.
<i>DV0.5</i> =	312	µm	= Volume median diameter
<i>DV0.9</i> =	488	µm	= Droplet size such that 90% of the spray volume is in droplets smaller than DV0.9.
<i>RS</i> =	0.87	-	= Relative Span
<i>%V<100µm</i> =	0.01	%	= Percentage of spray volume in droplets smaller than 100 µm diameter.
<i>%V<200µm</i> =	7.31	%	= Percentage of spray volume in droplets smaller than 200 µm diameter.
<i>DSCV0.1</i> =	COARSE	-	= Droplet Spectra Classification based on DV0.1.
<i>DSCV0.5</i> =	MEDIUM	-	= Droplet Spectra Classification based on DV0.5.
<i>DSCV0.9</i> =	FINE	-	= Droplet Spectra Classification based on DV0.9.
<i>DSC</i> =	FINE	-	= ASAE S572 AUG99 Droplet Spectra Classification

<i>DV0.1</i> =	137	µm	= Droplet size such that 10% of the spray volume is in droplets smaller than DV0.1.
<i>DV0.5</i> =	313	µm	= Volume median diameter
<i>DV0.9</i> =	509	µm	= Droplet size such that 90% of the spray volume is in droplets smaller than DV0.9.
<i>RS</i> =	1.19	-	= Relative Span
<i>%V<100µm</i> =	8.65	%	= Percentage of spray volume in droplets smaller than 100 µm diameter.
<i>%V<200µm</i> =	16.55	%	= Percentage of spray volume in droplets smaller than 200 µm diameter.
<i>DSCV0.1</i> =	FINE	-	= Droplet Spectra Classification based on DV0.1.
<i>DSCV0.5</i> =	MEDIUM	-	= Droplet Spectra Classification based on DV0.5.
<i>DSCV0.9</i> =	FINE	-	= Droplet Spectra Classification based on DV0.9.
<i>DSC</i> =	FINE	-	= ASAE S572 AUG99 Droplet Spectra Classification



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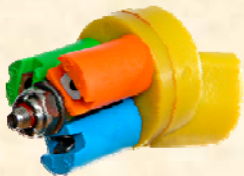
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CP-65T (S, SH, SL)

CP-65's come in three volume versions with flat fan flow rates.



CP-11TT

The CP-11TT holds THREE TIPS and has a SHUT-OFF.

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Droplet Calculations

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CP's Check Valves

Ag pilots and custom applicators have been using CP® Check Valves for years. It's a proven design of outstanding durability and performance. CP® Check Valves replace traditional air, solenoid or diaphragm-type checks. Using a simple needle/seal design, they provide instant shut-off and, in most cases, one pull of the stem stops drips.



CP-112SE— $\frac{1}{2}$ " split eyelet
CP-112SE1—1" split eyelet
Quick coupler outlet
5.2 GPM at 40 PSI
30% Glass filled yellow nylon

FEATURES:

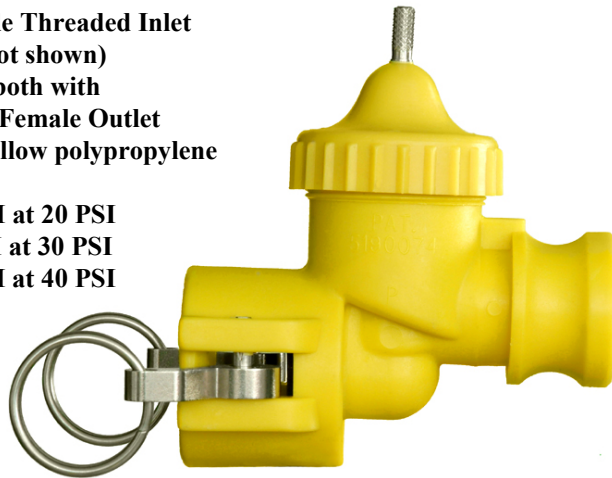
- High flow capacity
- Quick, positive open and shut-off
- Easy to install
- Durable—Glass filled nylon body, stainless steel core and needle, teflon protected Viton© seal
- Low Maintenance



CP-04— $\frac{1}{8}$ " Female Inlet
 $\frac{1}{8}$ " Female Outlet
5.2 GPM at 40 PSI
30% Glass filled yellow polypropylene

CP-110C— $\frac{1}{2}$ " Male Cam Lock Inlet
CP-110P— $\frac{1}{2}$ " Male Threaded Inlet
(not shown)
both with
 $\frac{1}{2}$ " Cam Lock Female Outlet
30% Glass filled yellow polypropylene

8.6 GPM at 20 PSI
10.5 GPM at 30 PSI
12.1 GPM at 40 PSI



CP-02— $\frac{1}{8}$ " Female Inlet
 $\frac{1}{8}$ " Female Outlet
5.2 GPM at 40 PSI
Stainless Steel



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[Number of Nozzles Calculator Metric](#)

[Aircraft Calibration \(US and Metric\)](#)

Droplet Calculations—Fixed Wing

[CP-03 Nozzle Model Fixed-Wing](#)

[CP-07/09 Nozzle Model Fixed-Wing](#)

[CP 40° Flat Fan Tip \(Large Orifice\) Model Fixed-Wing](#)

[CP 40° Flat Fan Tip \(Small Orifice\) Model Fixed-Wing](#)

[CP 80° Flat Fan Tip \(Small Orifice\) Model Fixed-Wing](#)

[CP-11TT Straight Stream Tips Nozzle Model Fixed-Wing](#)

Droplet Calculations—Rotary-Wing

[CP-03 Nozzle Model Rotary-Wing](#)

[CP 80° Flat Fan Tip \(Small Orifice\) Model Rotary-Wing](#)

[CP 80° Flat Fan Tip \(Large Orifice\) Model Rotary-Wing](#)

[CP 40° Flat Fan Tip \(Small Orifice\) Model Rotary-Wing](#)

[CP 40° Flat Fan Tip \(Large Orifice\) Model Rotary-Wing](#)

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DOWNLOADS

High Volume Application (Paper to come)

CP-11TT Flat Fan Nozzles Representative Settings for 285-365
Micron Applications



CP-07 and CP-09 Straight Stream Nozzles Representative
Settings for 285-365 Micron Applications

CP-03 Standard Nozzles Representative Settings for 285-365
Micron Applications

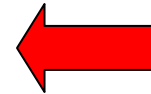
Representative Settings for 285-365 Micron Applications*
Relative Span under 1.20, VMD is ASABE Classification "Medium" or Larger
CP® Flat Fan Nozzles CP-11TT's

CP-11TT Flat Fan Tips	110 mph *** 95.6 knots				120 mph *** 104 knots			
Pressure	30 psi	40 psi	50 psi	60 psi	30 psi	40 psi	50 psi	60 psi
Tip #	VMD, Relative Span, ASABE Classification (Dvo.1, Dvo.5, Dvo.9), Angle in Degrees				VMD, Relative Span, ASABE Classification (Dvo.1, Dvo.5, Dvo.9), Angle in Degrees			
4004	355 1.01 CMM 8°	360 1.04 CMM 8°	361 1.07 CMM 8°	360 1.08 CMM 8°	329 1.03 CMF 8°	335 1.06 CMF 8°	306 1.03 MMF 8°	340 1.08 CMM 8°
4006				365 1.16 MMM 30°	351 1.08 CMM 8°	359 1.10 CMM 8°	339 1.08 CMF 8°	358 1.14 MMM 15°
4008	364 1.10 MMM 45°				362 1.12 CMM 15°		364 1.12 CMM 8°	
4010					363 1.18 MMM 15°			
4012	337 1.07 MMF 45°	344 1.08 MMF 45°	348 1.11 MMM 45°		363 1.11 CMM 15°	344 1.09 CMM 30°	351 1.12 MMM 30°	355 1.18 MMM 30°
4015	338 0.98 CMF 45°	345 0.99 CMF 45°	349 1.02 CMM 45°	349 1.07 CMM 45°	362 1.03 CMM 15°	344 0.99 CMM 30°	351 1.03 CMM 30°	354 1.09 CMM 30°
4020	340 0.89 CMF 45°	347 0.90 CMM 45°	350 0.93 CMM 45°	350 0.98 CMM 45°	362 0.94 CMM 15°	345 0.90 CMM 30°	352 0.94 CMM 30°	355 0.99 CMM 30°
4025	342 0.88 CMF 45°	349 0.89 CMM 45°	352 0.92 CMM 45°	351 0.97 CMM 45°	362 0.93 CMM 15°	347 0.88 CMM 30°	353 0.92 CMM 30°	356 0.97 CMM 30°
4030	345 0.94 CMM 45°	319 0.88 CMF 60°	354 0.98 CMM 45°	353 1.03 CMM 45°	362 0.99 CMM 15°	349 0.94 CMM 30°	355 0.97 CMM 30°	357 1.02 CMM 30°
8002								
8004	316 1.03 MMF 8°	319 1.07 MMF 8°	323 1.10 MMF 8°	329 1.10 MMF 8°				
8005	332 1.02 MMF 8°	336 1.06 MMF 8°	341 1.09 CMM 8°	348 1.09 CMM 8°				331 1.11 MMF 8°
8006	344 1.02 CMF 8°	350 1.06 CMM 8°	356 1.08 CMM 8°	364 1.08 CMM 8°	318 1.06 MMF 8°	326 1.10 MMF 8°	335 1.11 MMF 8°	346 1.11 CMM 8°
8008	360 1.01 CMM 8°	364 1.04 CMM 15°	359 1.06 CMM 45°	365 1.06 CMM 30°	331 1.06 CMF 8°	341 1.09 CMM 8°	352 1.10 CMM 8°	365 1.10 CMM 8°
8010	362 1.02 CMM 8°	358 1.05 CMM 30°	365 1.06 CMM 30°	351 1.07 CMM 45°	330 1.06 CMF 8°	342 1.10 CMM 8°	356 1.11 CMM 8°	363 1.09 CMM 15°

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TABLES & INFORMATION

[Drift Comparison US](#)



[Drift Comparison Metric](#)

[Flat Fan Tip Flow Rate Chart US](#)

[Flat Fan Tip Flow Rate Chart Metric](#)

[CP-03 CP-07 and CP-07 Flow Rates US](#)

[CP-03 CP-07 and CP-07 Flow Rates Metric](#)

[Air Tractor Typical Swath Widths US](#)

[Air Tractor Typical Swath Widths Metric](#)

What a difference!

Is DRIFT a problem?

Are you using CP-09's or CP-03's?

CP® Flat Fans are better!!!



CP-11TT
#25 40° Flat Fan 5
gpm 40 psi



CP-07 and CP-09
0.125 Orifice, 0 Deflection
5 gpm 40 psi



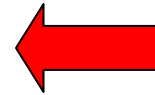
CP-03
0.125 Orifice, 30° Deflection
5 gpm 40 psi

Percent of spray volume under 200 microns*			
150 mph	7.99%	21.01%	40.5%
145 mph	6.62	17.61	34.29
140 mph	5.41	14.58	28.76
135 mph	4.37	11.92	23.93
130 mph	3.51	9.61	19.78
125 mph	2.80	7.67	16.32
120 mph	2.27	6.10	13.56
*Based on Spray Nozzle Models, USDA ARS AH-726, I. W. Kirk, Southern Plains Agricultural Research Center, College Station, TX			

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HELP!

Fax Form for Aircraft Calibration US



Electronic Transmission Form for Aircraft Calibration US

Fax Form for Aircraft Calibration Metric

Electronic Transmission Form for Aircraft Calibration Metric

Aircraft Set-up Information

Name _____ Company _____
Mailing Address _____
Phone _____ Fax _____ Email _____

Type of Aircraft _____ (Fill out one form for each aircraft)

#1 Rate _____
Airspeed _____
Swath _____
#Nozzles _____
Desired Droplet Range for Herbicide? Fungicide? Insecticide? (Circle One)
Pressure Range Preferred _____
Tip/Nozzle you now use for this Rate _____

#2 Rate _____
Airspeed _____
Swath _____
#Nozzles _____
Desired Droplet Range for Herbicide? Fungicide? Insecticide? (Circle One)
Pressure Range Preferred _____
Tip/Nozzle you now use for this Rate _____

#3 Rate _____
Airspeed _____
Swath _____
#Nozzles _____
Desired Droplet Range for Herbicide? Fungicide? Insecticide? (Circle One)
Pressure Range Preferred _____
Tip/Nozzle you now use for this Rate _____

Fax to 480 303-0909



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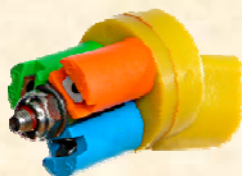
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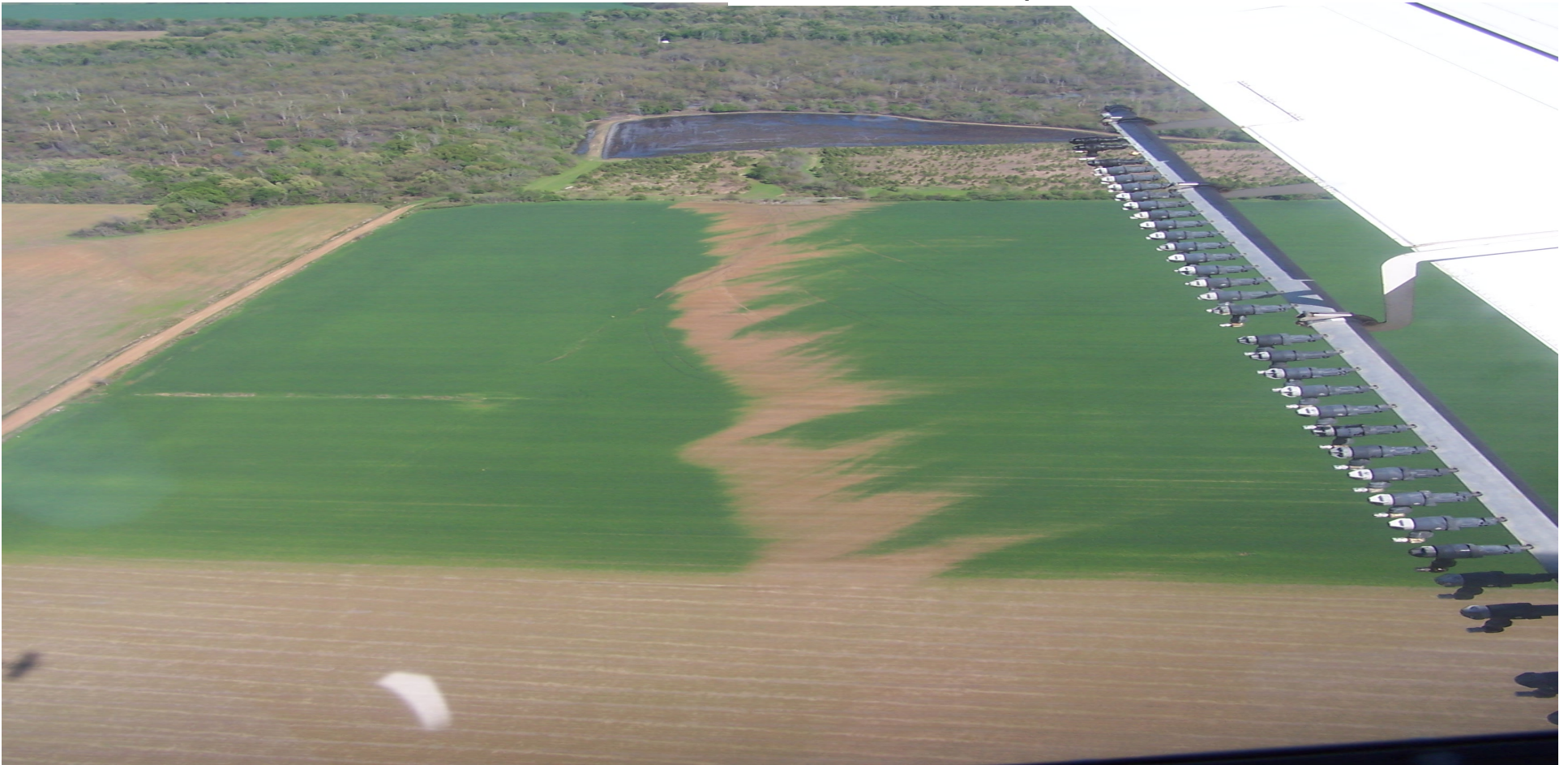
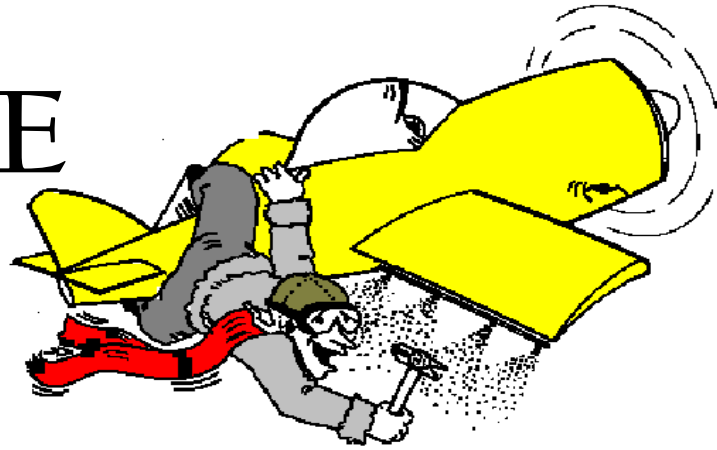
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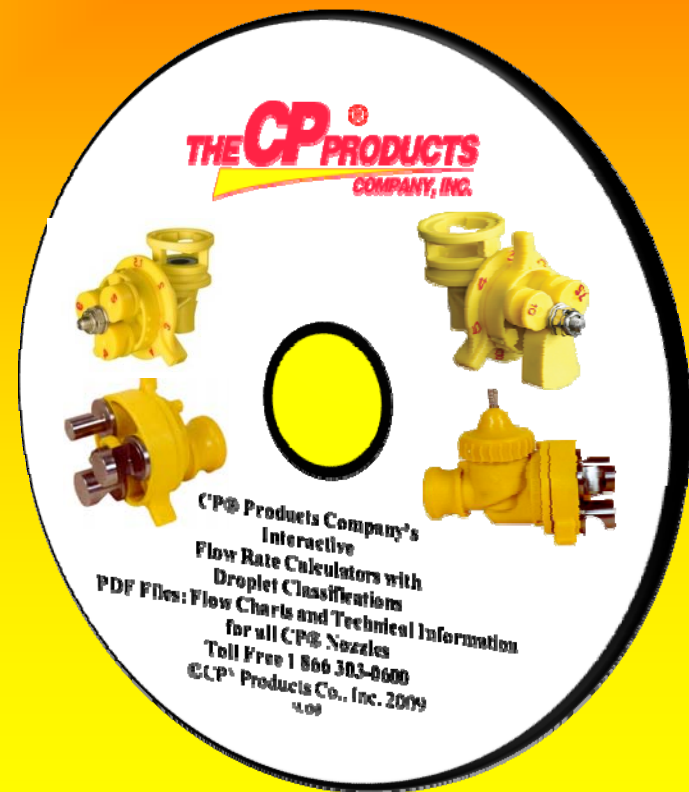


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