cima®

Facts & General Information

CIMA ATOMIZER SPRAYERS

BDi Machinery BDiMachinery.com • 610-966-2444 • 51 Race St, Macungie, PA 18062

CIMA Atomizer Air Sprayers

This booklet is designed to provide information on the many advantages of atomizer air spraying and why, in today's environment, it is important to consider this spraying system. In this booklet, we will go into great detail on atomizer air spraying technology and how it relates to the CIMA ATOMIZER AIR SPRAYER.

The most common system of spraying is called "High Volume" or "Dilute"spraying. Using this spraying technique, the liquid is forced, under high pressure, through small diameter nozzles. Traditionally, high pressure boom sprayers and air blast sprayers all use this system to atomize the spray.

Another method of spraying has now been developed using a atomizer tube to atomize the spray liquid. Air is passed through the atomizer and the liquid is sheared into fine and uniform droplets with an air sheer nozzle in the venture. Now, the air becomes the carrier of the spray instead of high volumes of water; we call these sprayers Low Volume Atomizer Air Sprayers.

Laboratory tests show that there is a substantial difference in the size of spray particles between the two methods of atomizing the liquid. With the "High Volume", the droplets have a diameter of 250 to 300 microns. This size cannot be reduced, even by using higher pressure. The Atomizer Air Sprayers reduce the liquid to diameters of approximately 100 microns, i.e. mist size. The difference of the particle size is extremely important. Unlike the "High Volume" spray, the particles from the Atomizer Sprayer do not run together and drip off the plant. Much less water is used because the air is carrying the spray particles to cover the plant with a homogeneous mist like spray. We specifically designed the CIMA Atomizer Air Sprayer as a "Low Volume" sprayer. It also does well as a "High Volume" sprayer without any modification by increasing the volume rate.

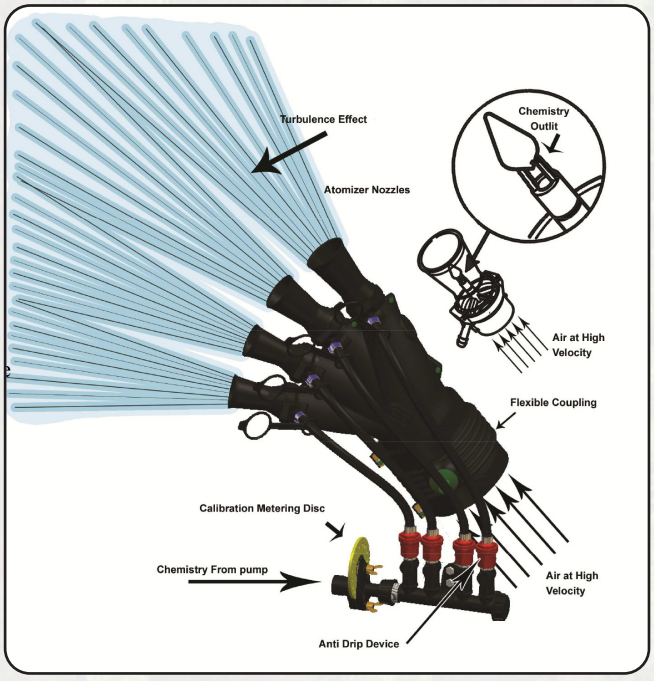
Better Coverage, Less Water

The Low Volume atomizer-style sprayer makes droplets in the 100-150µ range. A High-pressure sprayer commonly makes droplets in the 250-400µ range. And since droplets are three dimensional, when you break down a large droplet it has many smaller droplets inside of that large droplet. Therefore you will have many more droplets available for better coverage. This type of spray method also allows you not to have to spray to a drip.

Unlike typical High Pressure Sprayers with air speeds around 80-100 mps, the atomizer-style delivery system coat all surfaces of the canopy with air speeds around 170-200 mph. Achieving a better quality of coverage, and yielding a cleaner crop.

Advantages of Low Volume

- Spray atomization is smaller and more uniform
- Low volume means less fill-ups
- Even disribution of concentrated spray
- Complete foliage coverage
- Better product utilization
- Nozzles adjust to target spray on the crop
- Less waste and soil water contamination
- Simple, accurate metering system with disc



Atomizer Sprayer Features

- High performance, precision balanced all steel centrifugal fan.
- Special molded polyethylene fan housing.
- Translucent polyethylene tanks with lid, strainer basket and sump.
- Compact, rounded tank design permits traveling through vegetation without damaging it.
- Agitation is by liquid by pass and air tube from the fan.
- Simple, efficient "Dial-A-Rate", 15 position metering discs adjusts flow in less than 2 minutes.
- Main drive and pump belt are automatically adjusted by spring loaded idler.
- Centrifugal pump produces 37 gallons per minute.
- Low pressure spraying system, 15 to 40 PSI spraying pressure means less maintenance for whole liquid system.
- Built in overrunning clutch to protect the tractor and sprayer drive train.
- Reachable controls from tractor seat, allows operator to switch liquid from off to right, left or to both sides spraying. Available in liquid or electro-valve control on most models.
- Adjustable rear bumper helps to prevent damage to fan and distributor heads.
- Capable of applications of 10 to 200 gallons per acre.
- Tank capacities from 80 to 500 gallon.

3-Point Hitch Sprayer

P45 w/ 5x5

MODEL	P42	P42	P45	P50	P50	P55
Tank (Gallons)	80	100	100	100	165	165
Manual Valves	Standard	Standard	Standard	Standard	Standard	N/A
Electric Valves	Optional	Optional	Optional	Optional	Optional	Standard
Min PTO HP	20	20	35	50	50	85
Fan Size	18"	18"	18"	20"	20"	Dual 22"
Air Volume (CFM)	2400	2400	3178	4444	4444	9123
Air Speed (MPH)	180-185	180-185	180-185	180-185	180-185	180-185
Pump (GPM)	37	37	37	37	37	37
RPMs	4500	4500	4500	4000	4000	3900
Frame	CAT 1	CAT 1	CAT 1	CAT 1+2	CAT 1+2	CAT 2
Length	57"	57"	57"	57"	57"	59"
Width	38"	44"	44"	44"	54"	54"
Height	47"	48"	47"	48"	50"	50"
Weight (lbs)	459	465	470	529	562	595

Trailer Sprayer

T55 w/ 2M4C

MODEL	T45	T45*	T50*	T50	T55	T55
Tank (Gallons)	200	300	300	400	400	525
Min PTO HP	35	35	50	50	85	85
Fan Size	18"	18"	20"	20"	Dual 22"	Dual 22"
Air Volume (CFM)	3178	3178	4444	4444	9123	9123
Air Speed (MPH)	180-185	180-185	180-185	180-185	180-185	180-185
Pump (GPM)	37	37	37	74	74	74
RPMs	4500	4500	4000	4000	3900	3900
Length	118"135"	129"-146"	133"-150"	156"-176"	165"-182"	165"-182"
Height	52"	54"	61"-65"	59"-64"	57"-62"	68"-73"
Weight (lbs)	851	902	1060	1349	1490	1554
Standard Width	43"-53"	54"-71"	55"-71"	66"-82"	66"-83"	67"-85"
Narrow Width*	N/A	44"-55"	44"-55"	N/A	N/A	N/A

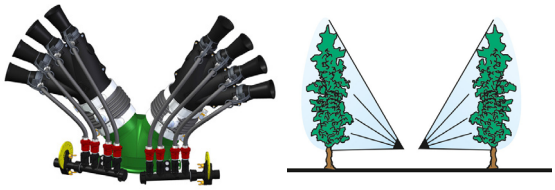
Swivel Sprayer

S50 w/ 2M2C

MODEL	S50	S50	S50 (Narrow)	S50	S55
Tank (Gallons)	200	300	300	300	400
Electric Valves	Standard	Standard	Standard	Standard	Standard
Min PTO HP	50	50	50	50	85
Fan Size	20"	20"	20"	20"	Dual 22"
Air Volume (CFM)	4444	4444	4444	4444	9123
Air Speed (MPH)	180-185	180-185	180-185	180-185	180-185
Pump (GPM)	37	37	37	74	74
RPMs	4000	4000	4000	4000	3900
Length	120"	124"	120"	143"	146"
Width	42"- 53"	55"-65"	44"-55"	64"-85"	64"-83"
Height	67"	68"	67"	67"	70"
Weight (lbs)	1124	1191	1179	1473	1506

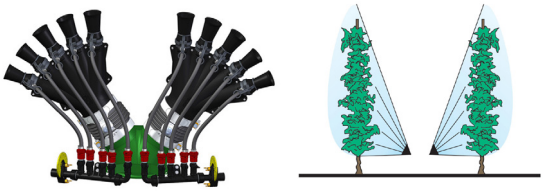
CIMA Spray Heads

4+4



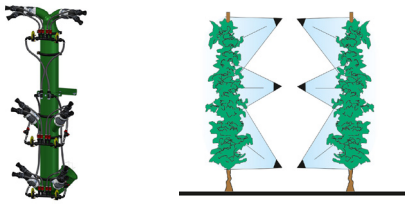
2 Low Mounted Hands, 4 Diffusers per Hand

5+5



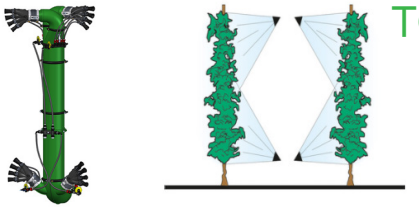
2 Low Mounted Hands, 5 Diffusers per Hand

T.6M2D



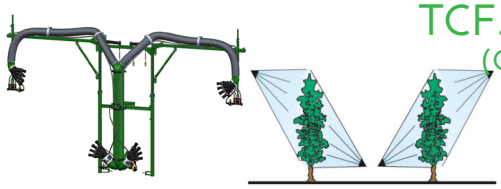
6 Hands with 2 Diffusers Each, Ideal for Narrow Rows

TC.2M2M



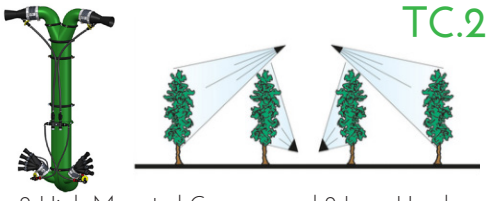
2 Upper and Lower Hands, 4 Diffusers per Hand

TCF.2M2M (Green Hug)



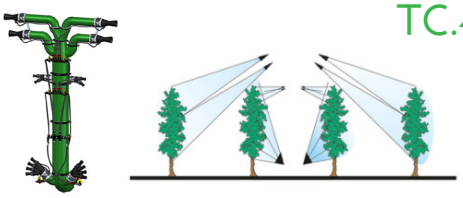
2 Upper and Lower Hands, Covers both sides of 2 Rows

TC.2M2C



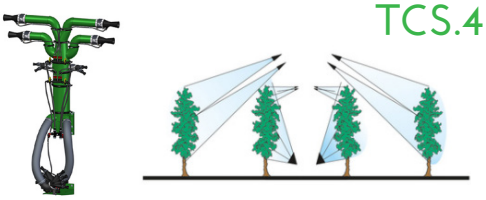
2 High Mounted Cannons and 2 Low Hands

TC.4M4C



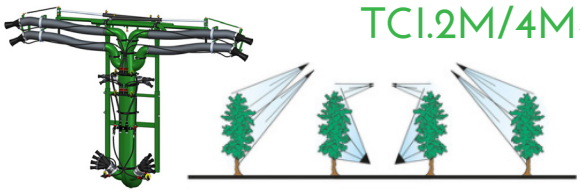
4 High Mounted Cannons, 4 Hands (2 Mid 2 Low)

TCS.4M4C



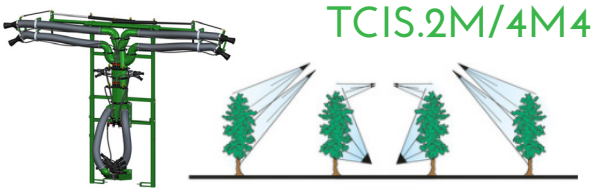
4 High Mounted Cannons and 4 Hands, Configured for Narrow

TCI.2M/4M4C



4 Cannons and 4 Hands w/ Hydraulic Mvmt. For Windy Conditions

TCIS.2M/4M4C

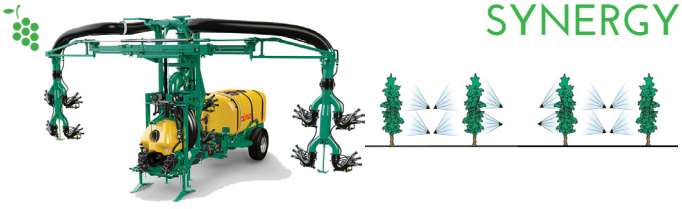


4 Cannons and 4 Hands, Configured for Narrow Rows

Wrap-a-Round Booms

Variety of Configurations for Multiple Row Coverage

SYNERGY

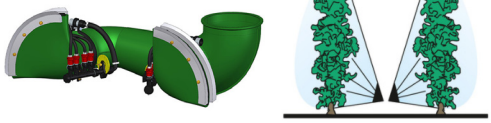


Turret with 4 Diffusers, 2 Arms with 4 Diffusers for 3 Row Coverage

Vineyard Orchard Nursery Row Crop

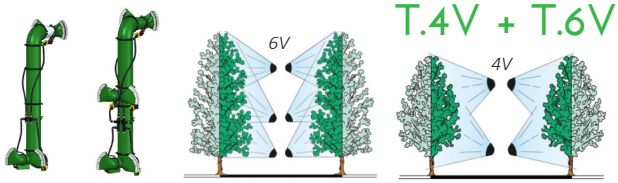
CIMA Spray Heads

T.2V



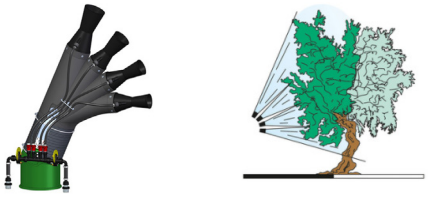
2 Swinging Fishtails Spray Head

T.4V + T.6V



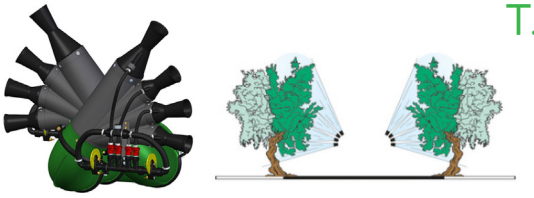
4 and 6 Swinging Fishtail Spray Heads

T.OL



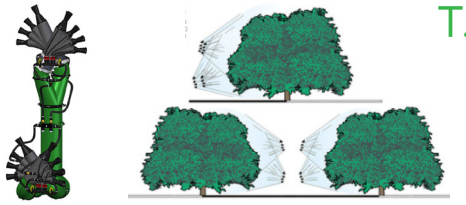
Tree Cannon for Standard Wide Canopy Trees

T.2OL



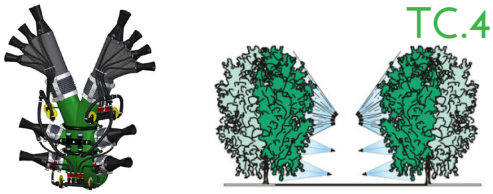
Dual Row Love Joy Head for Wide Canopy Trees

T.4OL



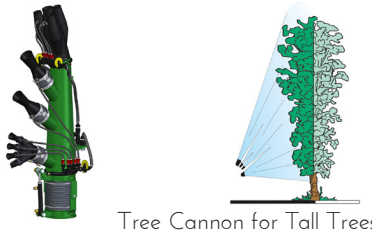
Dual Row Upper and Lower Orchard Heads, Adapable for Trellis

TC.4C2OL



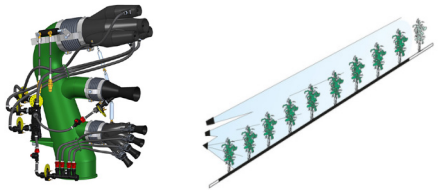
4 Lower Cannons and Upper Double Orchard Heads For Taller Trees

T.GCV



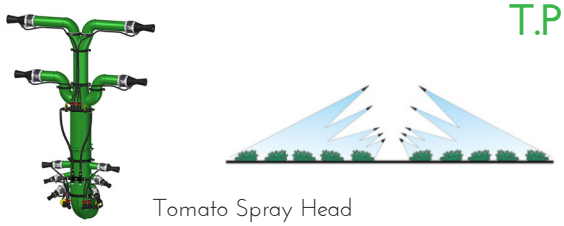
Tree Cannon for Tall Trees

T.GC



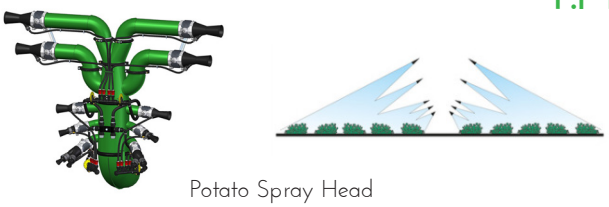
Row Cannon with Multiple Diffuser Cannon Jet

T.PM



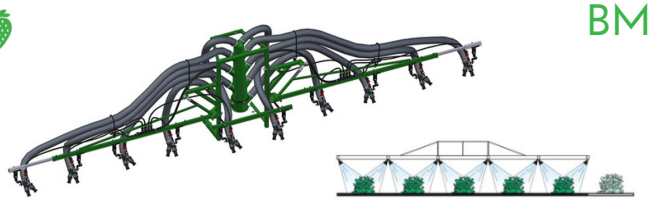
Tomato Spray Head

T.PT



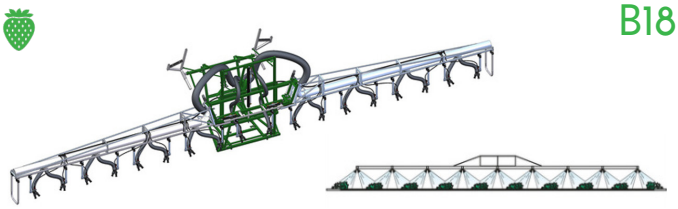
Potato Spray Head

BM



Manual Folding Pneumatic Air Boom

B18



Electro - Hydraulic Controlled Folding Air Boom

Vineyard Orchard Nursery Row Crop

Sprayer Quote Information

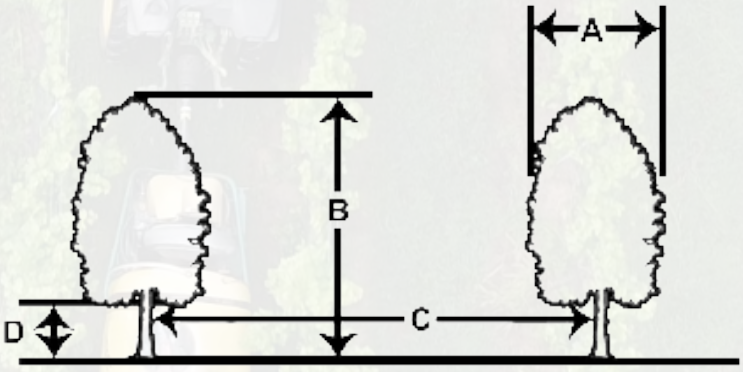
Full Name: _____ Phone: _____

Company Name: _____

Street Address: _____

_____

Email: _____



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sales@bdimachinery.com

A: _____ B: _____ C: _____ D: _____

Acres: _____ Crop Type: _____

Canopy: _____

Tractor HP: _____ Does tractor have cab?: Y N

Tractor Make: _____ Tractor Model: _____

Desired Tank Size (Gal.): _____ Desired Spray Head: _____