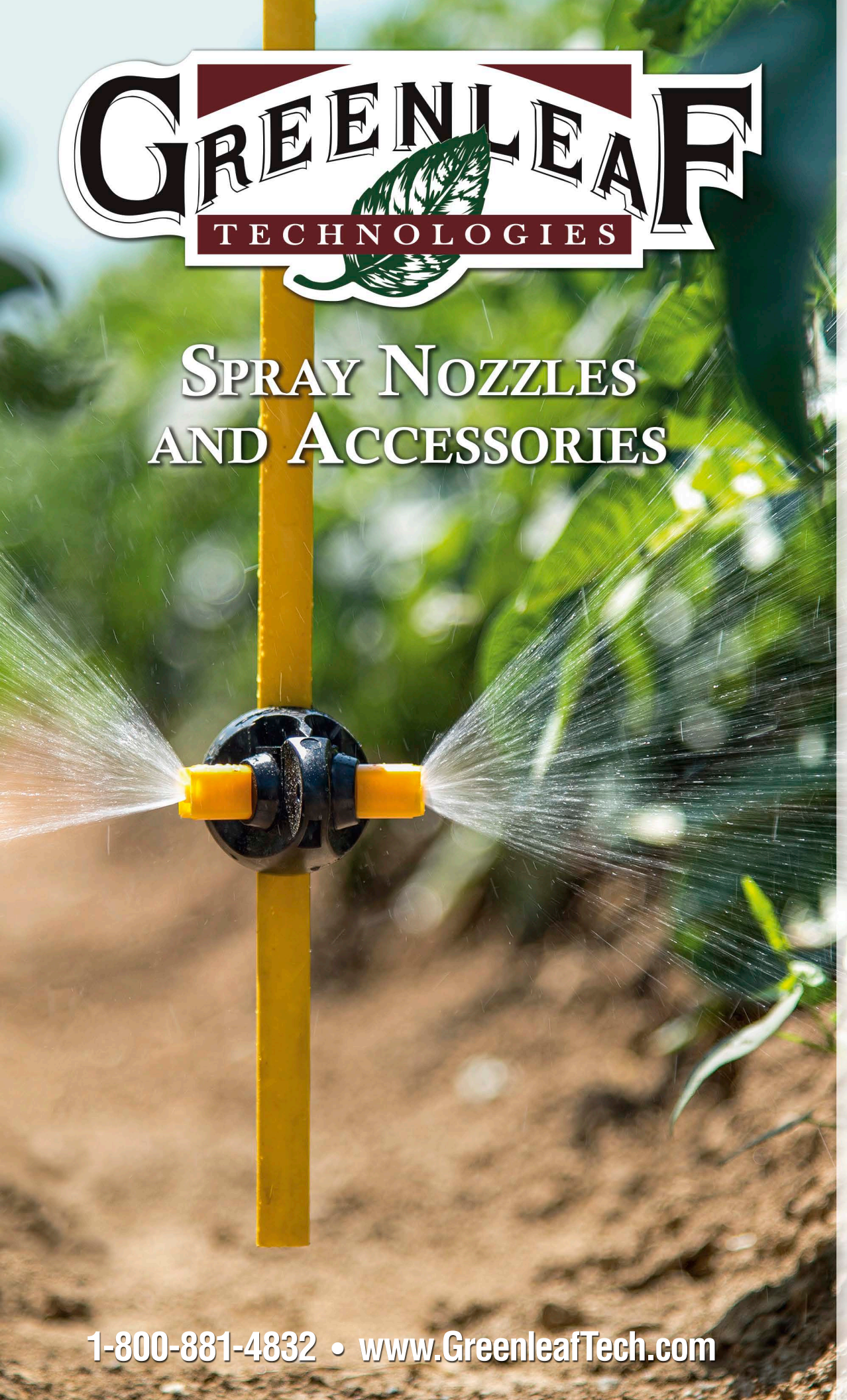
GREENLEAF
TECHNOLOGIES

Spray Nozzles and Accessories



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	Spray Pattern	Sizes	Description	Air Injected	Page
TurboDrop® XL					
20-120 psi 30-150 psi (ceramic)	110° Flat Fan	01, 015, 02, 025, 03, 04, 05, 06, 08, 10, 15	Combination of drift control, coverage, and penetration for broadcast spraying. Larger sizes used in fertilizer applications.	✓	4
TurboDrop® DualFan					
20-120 psi 30-150 psi (ceramic)	Asymmetric DualFan	01, 015, 02, 025, 03, 04, 05, 06, 08, 10, 15	DualFan pattern enhances coverage while maintaining great drift control. Alternate nozzle orientation on the boom to spray four times in one pass.	✓	4
TurboDrop® XL-D					
30-120 psi	110° Flat Fan	01, 015, 02, 025,03, 04, 05, 06, 08	Maximum drift control for glyphosate and dicamba formulations requiring Very Coarse to Ultra Coarse droplets.	✓	6
TurboDrop® DualFan-D					
30-120 psi	Asymmetric DualFan	01, 015, 02, 025, 03, 04, 05, 06, 08	Enhanced coverage while maintaining maximum drift control with Very Coarse to Ultra Coarse droplets for glyphosate and dicamba formulations.	✓	6
AirMix®					
15-90 psi	110° Flat Fan, Hollow Cone, Off Center, Anvil, DualFan (AMDF)	01, 015, 02, 025, 03, 04, 05, 06, More sizes available for AMDF	Economical drift control and wide pressure range used in all types of sprayers from broadcast to backpack. Fits standard caps.	✓	7
Blended Pulse™ for PWM					
20-80 psi	110° Flat Fan	015, 02, 03, 04, 05, 06	Designed for PWM applications to provide the drift control and coverage balance broadcast spraying requires.		9
Blended Pulse™ DualFan for PWM					
20-80 psi	Asymmetric DualFan	03, 04, 05, 06, 07, 08, 09, 10, 12	DualFan spray pattern coupled with Medium to Coarse spray quality and low drift make this the most versatile nozzle for PWM applications.		9
SoftDrop for PWM					
20-120 psi	110° Flat Fan	04, 05, 06, 08, 10	Designed with PWM in mind. Provides maximum drift control with Very Coarse to Ultra Coarse droplets for glyphosate and dicamba formulations.		10
SprayMax DualFan for PWM					
20-80 psi	Asymmetric DualFan	02, 025, 03, 035, 04, 045, 05, 055, 06, 065, 07, 075, 08, 09, 10, 12, 14, 16, 18, 20, 25, 30	DualFan spray pattern and PWM ready. This nozzle works best in applications like fungicides and insecticides where coverage is the highest importance.		11
SprayMax for PWM					
20-60 psi	110° Flat Fan	02, 03, 04, 05, 06, 08, 10 12, 16, 20, 30	Conventional flat fan nozzle. Works with PWM systems producing medium to fine droplets which can work well for coverage critical applications.		11
TurboDrop® Variable Rate					
40-140 psi	110° Flat Fan	015VR, 02VR, 03VR, 05VR (Sizes do not conform to ISO standard)	High tolerance variable rate nozzle that provides predictable flow rates at three times the range of traditional nozzles.	✓	12
TurboDrop® Variable Rate DualFan					
40-140 psi	Asymmetric DualFan	015VR, 02VR, 03VR, 05VR (Sizes do not conform to ISO standard)	A versatile nozzle that combines a flow rate three times the range of traditional nozzles, with the Asymmetric DualFan spray pattern.	✓	12

TurboDrop® XL and TurboDrop® DualFan Medium Pressure Nozzles

The TurboDrop® Venturi (TDXLV/TDVC) is the heart of both the TurboDrop® and TurboDrop® DualFan nozzle. The Venturi (or injector) meters the flow and injects air into the spray fluid. The TurboDrop® Venturi is ISO color coded for flow rate. The pattern tip or combination of tips is double the flow rate of the Venturi. For example, a blue 03 Venturi requires an 06 pattern tip, or a pair of tips that add up to 06. The 03 TurboDrop® DualFan uses a 11002 plus an 8004 combination of pattern tips. The TurboDrop® Venturi nozzle utilizes a patented stabilization chamber and pulsation dampener which results in even mixing of air with the spray liquid, and a tighter, more uniform droplet spectrum for a unique combination of drift control and coverage.

The TurboDrop® XL nozzle is unique among air injection nozzles in that it was designed for contact chemicals, not just glyphosate (a systemic herbicide). In fact, the TurboDrop® XL, the TurboDrop® DualFan and the AirMix® were the first air injection nozzles recommended by Bayer CropScience for use with Liberty™ herbicide. The single fan XL can be used in most ag spray applications by choosing the appropriate combination of carrier rate and droplet size. The TurboDrop® DualFan may improve coverage with certain canopy types, or even help target smaller, just emerging weeds. To maximize coverage, TADF nozzles may be alternated on the boom to provide four angles of spray orientation into the canopy, effectively spraying the target four times in one pass.

One size will often fit a variety of applications. For example, the 04 TurboDrop® DualFan will deliver glyphosate at 10 gpa at 11-15 mph between 35 and 65 psi. For 15 gpa fungicides, or other contact pesticides, this same nozzle could be operated at 11-13 mph at roughly 80-110 psi. Sprayer speed may be reduced a couple of miles per hour (9-10 mph) to deliver 20 gpa at 90-110 psi.

Pressure Range: 20-120 psi (30-150 psi, ceramic) **Recommended Boom Height TDXL:** 18-36" **TADF:** 15-25" (with 20" nozzle spacing)
Materials of Construction: Polyacetal, EPDM. Semi-ceramic version (TDCXL/TACDF) utilizes ceramic pre-orifice for extended wear life.
Mesh TDXL: 50 for 01 - 03, 24 for 04 and larger **Mesh TADF:** 50 for 01 - 05, 24 for 06 and larger

TurboDrop® XL

TDXL11001
TDXL110015
TDXL11002
TDXL110025
TDXL11003
TDXL11004
TDXL11005
TDXL11006
TDXL11008
TDXL11010
TDXL11015

TurboDrop® DualFan

TADF01
TADF015
TADF02
TADF025
TADF03
TADF04
TADF05
TADF06
TADF08
TADF10
TADF15

		TDXL Droplet	TADF Droplet	PSI	GPM	GALLONS PER ACRE BASED ON 20" NOZZLE SPACING													
						5 MPH	6 MPH	7 MPH	8 MPH	9 MPH	10 MPH	11 MPH	12 MPH	13 MPH	14 MPH	15 MPH	16 MPH	17 MPH	18 MPH	20 MPH
TDXL11001	TADF01	C	M	30	0.09	5.1	4.3	3.7	3.2	2.9	2.6	2.3	2.1	2.0	1.8	1.7	1.6	1.5	1.4	1.3
		C	M	40	0.10	5.9	5.0	4.2	3.7	3.3	3.0	2.7	2.5	2.3	2.1	2.0	1.9	1.7	1.7	1.5
		M	M	50	0.11	6.6	5.5	4.7	4.2	3.7	3.3	3.0	2.8	2.6	2.4	2.2	2.1	2.0	1.8	1.7
		M	F	60	0.12	7.3	6.1	5.2	4.5	4.0	3.6	3.3	3.0	2.8	2.6	2.4	2.3	2.1	2.0	1.8
		M	F	70	0.13	7.9	6.5	5.6	4.9	4.4	3.9	3.6	3.3	3.0	2.8	2.6	2.5	2.3	2.2	2.0
		F	F	80	0.14	8.4	7.0	6.0	5.3	4.7	4.2	3.8	3.5	3.2	3.0	2.8	2.6	2.5	2.3	2.1
		F	F	90	0.15	8.9	7.4	6.4	5.6	5.0	4.5	4.1	3.7	3.4	3.2	3.0	2.8	2.6	2.5	2.2
		F	F	100	0.16	9.4	7.8	6.7	5.9	5.2	4.7	4.3	3.9	3.6	3.4	3.1	2.9	2.8	2.6	2.3
		F	F	120	0.17	10.3	8.6	7.3	6.4	5.7	5.1	4.7	4.3	4.0	3.7	3.4	3.2	3.0	2.9	2.6
TDXL110015	TADF015	C	C M	30	0.13	7.7	6.4	5.5	4.8	4.3	3.9	3.5	3.2	3.0	2.8	2.6	2.4	2.3	2.1	1.9
		C	M	40	0.15	8.9	7.4	6.4	5.6	5.0	4.5	4.1	3.7	3.4	3.2	3.0	2.8	2.6	2.5	2.2
		M	M	50	0.17	10.0	8.3	7.1	6.2	5.5	5.0	4.5	4.2	3.8	3.6	3.3	3.1	2.9	2.8	2.5
		M	M	60	0.18	10.9	9.1	7.8	6.8	6.1	5.5	5.0	4.5	4.2	3.9	3.6	3.4	3.2	3.0	2.7
		M	M	70	0.20	11.8	9.8	8.4	7.4	6.5	5.9	5.4	4.9	4.5	4.2	3.9	3.7	3.5	3.3	2.9
		M	M F	80	0.21	12.6	10.5	9.0	7.9	7.0	6.3	5.7	5.3	4.8	4.5	4.2	3.9	3.7	3.5	3.2
		F	M F	90	0.23	13.4	11.1	9.5	8.4	7.4	6.7	6.1	5.6	5.1	4.8	4.5	4.2	3.9	3.7	3.3
		F	F	100	0.24	14.1	11.7	10.1	8.8	7.8	7.0	6.4	5.9	5.4	5.0	4.7	4.4	4.1	3.9	3.5
		F	F	120	0.26	15.4	12.9	11.0	9.6	8.6	7.7	7.0	6.4	5.9	5.5	5.1	4.8	4.5	4.3	3.9
TDXL11002	TADF02	C	C M	30	0.17	10.3	8.6	7.3	6.4	5.7	5.1	4.7	4.3	4.0	3.7	3.4	3.2	3.0	2.9	2.6
		C	C M	40	0.20	11.9	9.9	8.5	7.4	6.6	5.9	5.4	5.0	4.6	4.2	4.0	3.7	3.5	3.3	3.0
		M	C M	50	0.22	13.3	11.1	9.5	8.3	7.4	6.6	6.0	5.5	5.1	4.7	4.4	4.2	3.9	3.7	3.3
		M	M	60	0.24	14.5	12.1	10.4	9.1	8.1	7.3	6.6	6.1	5.6	5.2	4.8	4.5	4.3	4.0	3.6
		M	M	70	0.26	15.7	13.1	11.2	9.8	8.7	7.9	7.1	6.5	6.0	5.6	5.2	4.9	4.6	4.4	3.9
		M	M F	80	0.28	16.8	14.0	12.0	10.5	9.3	8.4	7.6	7.0	6.5	6.0	5.6	5.3	4.9	4.7	4.2
		F	M F	90	0.30	17.8	14.9	12.7	11.1	9.9	8.9	8.1	7.4	6.9	6.4	5.9	5.6	5.2	5.0	4.5
		F	M F	100	0.32	18.8	15.7	13.4	11.7	10.4	9.4	8.5	7.8	7.2	6.7	6.3	5.9	5.5	5.2	4.7
		F	F	120	0.35	20.6	17.1	14.7	12.9	11.4	10.3	9.4	8.6	7.9	7.3	6.9	6.4	6.1	5.7	5.1
TDXL110025	TADF025	VC	VC C	30	0.22	12.9	10.7	9.2	8.0	7.1	6.4	5.8	5.4	4.9	4.6	4.3	4.0	3.8	3.6	3.2
		VC	C	40	0.25	14.9	12.4	10.6	9.3	8.3	7.4	6.8	6.2	5.7	5.3	5.0	4.6	4.4	4.1	3.7
		C	C M	50	0.28	16.6	13.8	11.9	10.4	9.2	8.3	7.5	6.9	6.4	5.9	5.5	5.2	4.9	4.6	4.2
		M	M	60	0.31	18.2	15.2	13.0	11.4	10.1	9.1	8.3	7.6	7.0	6.5	6.1	5.7	5.3	5.1	4.5
		M	M	70	0.33	19.6	16.4	14.0	12.3	10.9	9.8	8.9	8.2	7.6	7.0	6.5	6.1	5.8	5.5	4.9
		M	M F	80	0.35	21.0	17.5	15.0	13.1	11.7	10.5	9.5	8.8	8.1	7.5	7.0	6.6	6.2	5.8	5.3
		M	M F	90	0.38	22.3	18.6	15.9	13.9	12.4	11.1	10.1	9.3	8.6	8.0	7.4	7.0	6.6	6.2	5.6
		M	M F	100	0.40	23.5	19.6	16.8	14.7	13.0	11.7	10.7	9.8	9.0	8.4	7.8	7.3	6.9	6.5	5.9
		F	F	120	0.43	25.7	21.4	18.4	16.1	14.3	12.9	11.7	10.7	9.9	9.2	8.6	8.0	7.6	7.1	6.4
TDXL11003	TADF03	XC	VC C	30	0.26	15.4	12.9	11.0	9.6	8.6	7.7	7.0	6.4	5.9	5.5	5.1	4.8	4.5	4.3	3.9
		VC	C M	40	0.30	17.8	14.9	12.7	11.1	9.9	8.9	8.1	7.4	6.9	6.4	5.9	5.6	5.2	5.0	4.5
		C	C M	50	0.34	19.9	16.6	14.2	12.5	11.1	10.0	9.1	8.3	7.7	7.1	6.6	6.2	5.9	5.5	5.0
		C	M	60	0.37	21.8	18.2	15.6	13.6	12.1	10.9	9.9	9.1	8.4	7.8	7.3	6.8	6.4	6.1	5.5
		M	M	70	0.40	23.6	19.6	16.8	14.7	13.1	11.8	10.7	9.8	9.1	8.4	7.9	7.4	6.9	6.5	5.9
		M	M F	80	0.42	25.2	21.0	18.0	15.8	14.0	12.6	11.5	10.5	9.7	9.0	8.4	7.9	7.4	7.0	6.3
		M	M F	90	0.45	26.7	22.3	19.1	16.7	14.9	13.4	12.2	11.1	10.3	9.5	8.9	8.4	7.9	7.4	6.7
		M	M F	100	0.47	28.2	23.5	20.1	17.6	15.7	14.1	12.8	11.7	10.8	10.1	9.4	8.8	8.3	7.8	7.0
		M	F	120	0.52	30.9	25.7	22.0	19.3	17.1	15.4	14.0	12.9	11.9	11.0	10.3	9.6	9.1	8.6	7.7
TDXL11004	TADF04	XC	VC C	30	0.35	20.6	17.1	14.7	12.9	11.4	10.3	9.4	8.6	7.9	7.3	6.9	6.4	6.1	5.7	5.1
		VC	C	40	0.40	23.8	19.8	17.0	14.9	13.2	11.9	10.8	9.9	9.1	8.5	7.9	7.4	7.0	6.6	5.9
		C	C M	50	0.45	26.6	22.1	19.0	16.6	14.8	13.3	12.1	11.1	10.2	9.5	8.9	8.3	7.8	7.4	6.6
		C	M	60	0.49	29.1	24.2	20.8	18.2	16.2	14.5	13.2	12.1	11.2	10.4	9.7	9.1	8.6	8.1	7.3
		M	M	70	0.53	31.4	26.2	22.5	19.6	17.5	15.7	14.3	13.1	12.1	11.2	10.5	9.8	9.2	8.7	7.9
		M	M F	80	0.57	33.6	28.0	24.0	21.0	18.7	16.8	15.3	14.0	12.9	12.0	11.2	10.5	9.9	9.3	8.4
		M	M F	90	0.60	35.6	29.7	25.5	22.3	19.8	17.8	16.2	14.9	13.7	12.7	11.9	11.1	10.5	9.9	8.9
		M	M F	100	0.63	37.6	31.3	26.8	23.5	20.9	18.8	17.1	15.7	14.4	13.4	12.5	11.7	11.0	10.4	9.4
		M	M F	120	0.69	41.2	34.3	29.4	25.7	22.9	20.6	18.7	17.1	15.8	14.7	13.7	12.9	12.1	11.4	10.3
TDXL11005	TADF05	XC	VC C	30	0.43	25.7	21.4	18.4	16.1	14.3	12.9	11.7	10.7	9.9	9.2	8.6	8.0	7.6	7.1	6.4
		XC	VC C	40	0.50	29.7	24.8	21.2	18.6	16.5	14.9	13.5	12.4	11.4	10.6	9.9	9.3	8.7	8.3	7.4
		VC	C M	50	0.56	33.2	27.7	23.7	20.8	18.4	16.6	15.1	13.8	12.8	11.9	11.1	10.4	9.8	9.2	8.3
		VC	C M	60	0.61	36.4	30.3	26.0	22.7	20.2	18.2	16.5	15.2	14.0	13.0	12.1	11.4	10.7	10.1	9.1
		C	M	70	0.66	39.3	32.7	28.1	24.6	21.8	19.6	17.9	16.4	15.1	14.0	13.1	12.3	11.6	10.9	9.8
		C	M	80	0.71	42.0	35.0	30.0	26.3	23.3	21.0	19.1	17.5	16.2	15.0	14.0	13.1	12.4	11.7	10.5
		M	M F	90	0.75	44.6	37.1	31.8	27.8	24.8	22.3	20.3	18.6	17.1	15.9	14.9	13.9	13.1	12.4	11.1
		M	M F	100	0.79	47.0	39.1	33.5	29.3	26.1	23.5	21.3	19.6	18.1	16.8	15.7	14.7	13.8	13.0	11.7
		M	M F	120	0.87	51.4	42.9	36.7	32.2	28.6	25.7	23.4	21.4	19.8	18.4	17.1	16.1	15.1	14.3	12.9

TurboDrop® XL and TurboDrop® DualFan Medium Pressure Nozzles

		TDXL Droplet	TADF Droplet	PSI	GPM	GALLONS PER ACRE BASED ON 20" NOZZLE SPACING 5 MPH	6 MPH	7 MPH	8 MPH	9 MPH	10 MPH	11 MPH	12 MPH	13 MPH	14 MPH	15 MPH	16 MPH	17 MPH	18 MPH	20 MPH
TDXL11006	TADF06	XC	VC	30	0.52	30.9	25.7	22.0	19.3	17.1	15.4	14.0	12.9	11.9	11.0	10.3	9.6	9.1	8.6	7.7
		XC	VC	40	0.60	35.6	29.7	25.5	22.3	19.8	17.8	16.2	14.9	13.7	12.7	11.9	11.1	10.5	9.9	8.9
		XC	C	50	0.67	39.8	33.2	28.5	24.9	22.1	19.9	18.1	16.6	15.3	14.2	13.3	12.5	11.7	11.1	10.0
		VC	C	60	0.73	43.6	36.4	31.2	27.3	24.2	21.8	19.8	18.2	16.8	15.6	14.5	13.6	12.8	12.1	10.9
		VC	M	70	0.79	47.1	39.3	33.7	29.5	26.2	23.6	21.4	19.6	18.1	16.8	15.7	14.7	13.9	13.1	11.8
		C	M	80	0.85	50.4	42.0	36.0	31.5	28.0	25.2	22.9	21.0	19.4	18.0	16.8	15.8	14.8	14.0	12.6
		C	M	90	0.90	53.5	44.6	38.2	33.4	29.7	26.7	24.3	22.3	20.6	19.1	17.8	16.7	15.7	14.9	13.4
		M	M	100	0.95	56.4	47.0	40.3	35.2	31.3	28.2	25.6	23.5	21.7	20.1	18.8	17.6	16.6	15.7	14.1
		M	M	120	1.04	61.7	51.4	44.1	38.6	34.3	30.9	28.1	25.7	23.7	22.0	20.6	19.3	18.2	17.1	15.4
TDXL11008	TADF08	XC	VC	30	0.69	41.2	34.3	29.4	25.7	22.9	20.6	18.7	17.1	15.8	14.7	13.7	12.9	12.1	11.4	10.3
		XC	VC	40	0.80	47.5	39.6	33.9	29.7	26.4	23.8	21.6	19.8	18.3	17.0	15.8	14.9	14.0	13.2	11.9
		XC	C	50	0.89	53.1	44.3	37.9	33.2	29.5	26.6	24.1	22.1	20.4	19.0	17.7	16.6	15.6	14.8	13.3
		XC	C	60	0.98	58.2	48.5	41.6	36.4	32.3	29.1	26.5	24.2	22.4	20.8	19.4	18.2	17.1	16.2	14.5
		VC	M	70	1.06	62.9	52.4	44.9	39.3	34.9	31.4	28.6	26.2	24.2	22.5	21.0	19.6	18.5	17.5	15.7
		VC	M	80	1.13	67.2	56.0	48.0	42.0	37.3	33.6	30.5	28.0	25.8	24.0	22.4	21.0	19.8	18.7	16.8
		VC	M	90	1.20	71.3	59.4	50.9	44.6	39.6	35.6	32.4	29.7	27.4	25.5	23.8	22.3	21.0	19.8	17.8
		C	M	100	1.26	75.1	62.6	53.7	47.0	41.7	37.6	34.2	31.3	28.9	26.8	25.0	23.5	22.1	20.9	18.8
		C	M	120	1.39	82.3	68.6	58.8	51.4	45.7	41.2	37.4	34.3	31.7	29.4	27.4	25.7	24.2	22.9	20.6
TDXL11010	TADF10	XC	XC	30	0.87	51.4	42.9	36.7	32.2	28.6	25.7	23.4	21.4	19.8	18.4	17.1	16.1	15.1	14.3	12.9
		XC	XC	40	1.00	59.4	49.5	42.4	37.1	33.0	29.7	27.0	24.8	22.8	21.2	19.8	18.6	17.5	16.5	14.9
		XC	VC	50	1.12	66.4	55.3	47.4	41.5	36.9	33.2	30.2	27.7	25.5	23.7	22.1	20.8	19.5	18.4	16.6
		XC	VC	60	1.22	72.7	60.6	52.0	45.5	40.4	36.4	33.1	30.3	28.0	26.0	24.2	22.7	21.4	20.2	18.2
		XC	VC	70	1.32	78.6	65.5	56.1	49.1	43.7	39.3	35.7	32.7	30.2	28.1	26.2	24.6	23.1	21.8	19.6
		VC	C	80	1.41	84.0	70.0	60.0	52.5	46.7	42.0	38.2	35.0	32.3	30.0	28.0	26.3	24.7	23.3	21.0
		VC	C	90	1.50	89.1	74.3	63.6	55.7	49.5	44.6	40.5	37.1	34.3	31.8	29.7	27.8	26.2	24.8	22.3
		VC	M	100	1.58	93.9	78.3	67.1	58.7	52.2	47.0	42.7	39.1	36.1	33.5	31.3	29.3	27.6	26.1	23.5
		VC	M	120	1.73	102.9	85.7	73.5	64.3	57.2	51.4	46.8	42.9	39.6	36.7	34.3	32.2	30.3	28.6	25.7
TDXL11015	TADF15			30	1.30	77.2	64.3	55.1	48.2	42.9	38.6	35.1	32.2	29.7	27.6	25.7	24.1	22.7	21.4	19.3
				40	1.50	89.1	74.3	63.6	55.7	49.5	44.6	40.5	37.1	34.3	31.8	29.7	27.8	26.2	24.8	22.3
				50	1.68	99.6	83.0	71.2	62.3	55.3	49.8	45.3	41.5	38.3	35.6	33.2	31.1	29.3	27.7	24.9
				60	1.84	109.1	90.9	77.9	68.2	60.6	54.6	49.6	45.5	42.0	39.0	36.4	34.1	32.1	30.3	27.3
				70	1.98	117.9	98.2	84.2	73.7	65.5	58.9	53.6	49.1	45.3	42.1	39.3	36.8	34.7	32.7	29.5
				80	2.12	126.0	105.0	90.0	78.8	70.0	63.0	57.3	52.5	48.5	45.0	42.0	39.4	37.1	35.0	31.5
				90	2.25	133.7	111.4	95.5	83.5	74.3	66.8	60.8	55.7	51.4	47.7	44.6	41.8	39.3	37.1	33.4
				100	2.37	140.9	117.4	100.6	88.0	78.3	70.4	64.0	58.7	54.2	50.3	47.0	44.0	41.4	39.1	35.2
				120	2.60	154.3	128.6	110.2	96.5	85.7	77.2	70.1	64.3	59.4	55.1	51.4	48.2	45.4	42.9	38.6

Note: 15 inch nozzle spacing tabulation chart is on Page 22.

Ceramic models available

The pre-orifice is a high wear point on nozzles. The ceramic models of TDXL and TADF nozzles have a pre-orifice insert that is made of the highest quality pink ceramic sourced from our partners at Albuz. This increases estimated wear life from 20-30,000 acres to 60-80,000 acres, with more consistent performance across the majority of the wear life. To order the ceramic versions, change the part numbers from TDXL to TDCXL and TADF to TACDF.

Venturi with Ceramic Pre-orifice

Standard Venturi Pre-orifice

Spray 4 Times in Only 1 Pass with TurboDrop® Asymmetric DualFan Nozzles

Vertical Target Performance:

When set up with alternating forward and backward mounting on the boom, TurboDrop® Asymmetric DualFan nozzles create four angles of spray directed at the target. The inside pattern tips angled 10° forward and back use smaller sizes to provide Medium droplets ensuring the best coverage and efficacy for contact chemicals. The outside pattern tips angled 50° forward and back are a larger size. They will produce coarser droplets, which blanket the smaller droplets, controlling drift. This combination provides the best balance of both coverage and drift control.

TurboDrop® XL-D and TurboDrop® DualFan-D Ultra Coarse Nozzles

The D versions of the TurboDrop® nozzles were designed with dicamba, 2,4-D and glyphosate in mind, where a coarser spray droplet is desirable. Between 30 and 90 psi, these nozzles deliver Ultra Coarse (UC), Extremely Coarse (XC), and Very Coarse (VC) droplets for maximum drift control. It is important to remember that as sprays become coarser, coverage may be compromised. The D version of the TurboDrop® DualFan has the ability to cover the target from two to four angles of attack, helping to counter the potential loss of coverage and further enhance chemical performance.

Approved nozzles, pressures, and application rates change often for auxin herbicides. For updates on Greenleaf Technologies approved nozzles visit our website. All approved nozzles are listed on the herbicide manufacturer's label. Be sure to read the application guidelines and know the laws in your state before spraying. Other sizes are also available, and can be viewed on our website.

Pressure Range: 30-120 psi (30-150 psi, ceramic) **Recommended Boom Height XL:** 18-36" **DF:** 15-25" (with 20" nozzle spacing)
Materials of Construction: Polyacetal, EPDM, ceramic (TDCXL-D/TACDF-D) **Mesh:** 50 for 01 - 03, 24 for 04 and larger

TurboDrop® XL-D

TDXL11001-D
TDXL110015-D
TDXL11002-D
TDXL110025-D
TDXL11003-D
TDXL11004-D
TDXL11005-D
TDXL11006-D
TDXL11008-D

TurboDrop® DualFan-D

TADF01-D
TADF015-D
TADF02-D
TADF025-D
TADF03-D
TADF04-D
TADF05-D
TADF06-D
TADF08-D

		Droplet	Droplet			GALLONS PER ACRE BASED ON 20" NOZZLE SPACING													
						5	6	7	8	9	10	11	12	13	14	15	16	17	18	20
				PSI	GPM	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH
TDXL11002-D	TADF02-D	UC	UC	30	0.17	10.3	8.6	7.3	6.4	5.7	5.1	4.7	4.3	4.0	3.7	3.4	3.2	3.0	2.9	2.6
		XC	XC	40	0.20	11.9	9.9	8.5	7.4	6.6	5.9	5.4	5.0	4.6	4.2	4.0	3.7	3.5	3.3	3.0
		XC	XC	50	0.22	13.3	11.1	9.5	8.3	7.4	6.6	6.0	5.5	5.1	4.7	4.4	4.2	3.9	3.7	3.3
		XC	XC	60	0.24	14.5	12.1	10.4	9.1	8.1	7.3	6.6	6.1	5.6	5.2	4.8	4.5	4.3	4.0	3.6
		VC	VC	70	0.26	15.7	13.1	11.2	9.8	8.7	7.9	7.1	6.5	6.0	5.6	5.2	4.9	4.6	4.4	3.9
		VC	VC	80	0.28	16.8	14.0	12.0	10.5	9.3	8.4	7.6	7.0	6.5	6.0	5.6	5.3	4.9	4.7	4.2
		VC	VC	90	0.30	17.8	14.9	12.7	11.1	9.9	8.9	8.1	7.4	6.9	6.4	5.9	5.6	5.2	5.0	4.5
				100	0.32	18.8	15.7	13.4	11.7	10.4	9.4	8.5	7.8	7.2	6.7	6.3	5.9	5.5	5.2	4.7
				120	0.35	20.6	17.1	14.7	12.9	11.4	10.3	9.4	8.6	7.9	7.3	6.9	6.4	6.1	5.7	5.1
TDXL110025-D	TADF025-D	UC	UC	30	0.22	12.9	10.7	9.2	8.0	7.1	6.4	5.8	5.4	4.9	4.6	4.3	4.0	3.8	3.6	3.2
		XC	XC	40	0.25	14.9	12.4	10.6	9.3	8.3	7.4	6.8	6.2	5.7	5.3	5.0	4.6	4.4	4.1	3.7
		XC	XC	50	0.28	16.6	13.8	11.9	10.4	9.2	8.3	7.5	6.9	6.4	5.9	5.5	5.2	4.9	4.6	4.2
		XC	XC	60	0.31	18.2	15.2	13.0	11.4	10.1	9.1	8.3	7.6	7.0	6.5	6.1	5.7	5.3	5.1	4.5
		VC	VC	70	0.33	19.6	16.4	14.0	12.3	10.9	9.8	8.9	8.2	7.6	7.0	6.5	6.1	5.8	5.5	4.9
		VC	VC	80	0.35	21.0	17.5	15.0	13.1	11.7	10.5	9.5	8.8	8.1	7.5	7.0	6.6	6.2	5.8	5.3
		VC	VC	90	0.38	22.3	18.6	15.9	13.9	12.4	11.1	10.1	9.3	8.6	8.0	7.4	7.0	6.6	6.2	5.6
				100	0.40	23.5	19.6	16.8	14.7	13.0	11.7	10.7	9.8	9.0	8.4	7.8	7.3	6.9	6.5	5.9
				120	0.43	25.7	21.4	18.4	16.1	14.3	12.9	11.7	10.7	9.9	9.2	8.6	8.0	7.6	7.1	6.4
TDXL11003-D	TADF03-D	UC	UC	30	0.26	15.4	12.9	11.0	9.6	8.6	7.7	7.0	6.4	5.9	5.5	5.1	4.8	4.5	4.3	3.9
		UC	UC	40	0.30	17.8	14.9	12.7	11.1	9.9	8.9	8.1	7.4	6.9	6.4	5.9	5.6	5.2	5.0	4.5
		XC	XC	50	0.34	19.9	16.6	14.2	12.5	11.1	10.0	9.1	8.3	7.7	7.1	6.6	6.2	5.9	5.5	5.0
		XC	XC	60	0.37	21.8	18.2	15.6	13.6	12.1	10.9	9.9	9.1	8.4	7.8	7.3	6.8	6.4	6.1	5.5
		XC	XC	70	0.40	23.6	19.6	16.8	14.7	13.1	11.8	10.7	9.8	9.1	8.4	7.9	7.4	6.9	6.5	5.9
		VC	VC	80	0.42	25.2	21.0	18.0	15.8	14.0	12.6	11.5	10.5	9.7	9.0	8.4	7.9	7.4	7.0	6.3
		VC	VC	90	0.45	26.7	22.3	19.1	16.7	14.9	13.4	12.2	11.1	10.3	9.5	8.9	8.4	7.9	7.4	6.7
				100	0.47	28.2	23.5	20.1	17.6	15.7	14.1	12.8	11.7	10.8	10.1	9.4	8.8	8.3	7.8	7.0
				120	0.52	30.9	25.7	22.0	19.3	17.1	15.4	14.0	12.9	11.9	11.0	10.3	9.6	9.1	8.6	7.7
TDXL11004-D	TADF04-D	UC	UC	30	0.35	20.6	17.1	14.7	12.9	11.4	10.3	9.4	8.6	7.9	7.3	6.9	6.4	6.1	5.7	5.1
		UC	UC	40	0.40	23.8	19.8	17.0	14.9	13.2	11.9	10.8	9.9	9.1	8.5	7.9	7.4	7.0	6.6	5.9
		UC	XC	50	0.45	26.6	22.1	19.0	16.6	14.8	13.3	12.1	11.1	10.2	9.5	8.9	8.3	7.8	7.4	6.6
		XC	XC	60	0.49	29.1	24.2	20.8	18.2	16.2	14.5	13.2	12.1	11.2	10.4	9.7	9.1	8.6	8.1	7.3
		XC	XC	70	0.53	31.4	26.2	22.5	19.6	17.5	15.7	14.3	13.1	12.1	11.2	10.5	9.8	9.2	8.7	7.9
		XC	VC	80	0.57	33.6	28.0	24.0	21.0	18.7	16.8	15.3	14.0	12.9	12.0	11.2	10.5	9.9	9.3	8.4
		XC	VC	90	0.60	35.6	29.7	25.5	22.3	19.8	17.8	16.2	14.9	13.7	12.7	11.9	11.1	10.5	9.9	8.9
				100	0.63	37.6	31.3	26.8	23.5	20.9	18.8	17.1	15.7	14.4	13.4	12.5	11.7	11.0	10.4	9.4
				120	0.69	41.2	34.3	29.4	25.7	22.9	20.6	18.7	17.1	15.8	14.7	13.7	12.9	12.1	11.4	10.3
TDXL11005-D	TADF05-D	UC	UC	30	0.43	25.7	21.4	18.4	16.1	14.3	12.9	11.7	10.7	9.9	9.2	8.6	8.0	7.6	7.1	6.4
		UC	UC	40	0.50	29.7	24.8	21.2	18.6	16.5	14.9	13.5	12.4	11.4	10.6	9.9	9.3	8.7	8.3	7.4
		UC	XC	50	0.56	33.2	27.7	23.7	20.8	18.4	16.6	15.1	13.8	12.8	11.9	11.1	10.4	9.8	9.2	8.3
		UC	XC	60	0.61	36.4	30.3	26.0	22.7	20.2	18.2	16.5	15.2	14.0	13.0	12.1	11.4	10.7	10.1	9.1
		UC	XC	70	0.66	39.3	32.7	28.1	24.6	21.8	19.6	17.9	16.4	15.1	14.0	13.1	12.3	11.6	10.9	9.8
		XC	VC	80	0.71	42.0	35.0	30.0	26.3	23.3	21.0	19.1	17.5	16.2	15.0	14.0	13.1	12.4	11.7	10.5
		XC^	VC^	90	0.75	44.6	37.1	31.8	27.8	24.8	22.3	20.3	18.6	17.1	15.9	14.9	13.9	13.1	12.4	11.1
				100	0.79	47.0	39.1	33.5	29.3	26.1	23.5	21.3	19.6	18.1	16.8	15.7	14.7	13.8	13.0	11.7
				120	0.87	51.4	42.9	36.7	32.2	28.6	25.7	23.4	21.4	19.8	18.4	17.1	16.1	15.1	14.3	12.9
TDXL11006-D	TADF06-D	UC	UC	30	0.52	30.9	25.7	22.0	19.3	17.1	15.4	14.0	12.9	11.9	11.0	10.3	9.6	9.1	8.6	7.7
		UC	UC	40	0.60	35.6	29.7	25.5	22.3	19.8	17.8	16.2	14.9	13.7	12.7	11.9	11.1	10.5	9.9	8.9
		UC	UC	50	0.67	39.8	33.2	28.5	24.9	22.1	19.9	18.1	16.6	15.3	14.2	13.3	12.5	11.7	11.1	10.0
		UC	XC	60	0.73	43.6	36.4	31.2	27.3	24.2	21.8	19.8	18.2	16.8	15.6	14.5	13.6	12.8	12.1	10.9
		UC	XC	70	0.79	47.1	39.3	33.7	29.5	26.2	23.6	21.4	19.6	18.1	16.8	15.7	14.7	13.9	13.1	11.8
		UC	XC	80	0.85	50.4	42.0	36.0	31.5	28.0	25.2	22.9	21.0	19.4	18.0	16.8	15.8	14.8	14.0	12.6
		UC^	XC^	90	0.90	53.5	44.6	38.2	33.4	29.7	26.7	24.3	22.3	20.6	19.1	17.8	16.7	15.7	14.9	13.4
				100	0.95	56.4	47.0	40.3	35.2	31.3	28.2	25.6	23.5	21.7	20.1	18.8	17.6	16.6	15.7	14.1
				120	1.04	61.7	51.4	44.1	38.6	34.3	30.9	28.1	25.7	23.7	22.0	20.6	19.3	18.2	17.1	15.4

ASABE droplet size based on University of Nebraska-Lincoln wind tunnel testing. ^Estimated

Modular Versatility

The D versions utilize larger pattern tips (without affecting the flow rate of the nozzle) to create bigger droplets. Due to the modular design, it is easy and inexpensive to convert from the standard TurboDrop® to the D version and vice versa, or even to convert from a standard TADF to TDXL-D. The graphic to the right illustrates how one single TurboDrop® Venturi has the option of four different pattern tip set-ups, both single fan and DualFan. The modular design allows the user to switch back and forth from any of the possible configurations.

AirMix® Low Pressure Nozzles

The AirMix® Nozzle is a compact, two piece air injection nozzle that fits in a standard cap, and can be cleaned without tools. The AirMix® utilizes a unique air cleaning system to prevent nozzle plugging. Please target 40 psi when selecting nozzle size, to allow for changes in speed. Higher pressures are recommended for penetrating dense canopies and for coverage critical contact chemicals. Acid resistant polypropylene AirMix® AMCQ nozzles are the only Greenleaf Technologies nozzles recommended for strong acid applications.

TipGuard Spray Tip Protection System protects spray nozzles from damage caused by hard ground, fence posts, irrigation systems and other obstacles. The TipGuard is also compatible with other similar nozzle types, easy to handle even with gloves, and stackable for easy storage. Sold in stacks of ten.

Pressure Range: 15-90 psi **Recommended Boom Height:** 16-36" (with 20" nozzle spacing)
Materials of Construction: Polyacetal, or polypropylene with EPDM (AMCQ) **Mesh:** 50 for 01 - 03, 24 for 04 and larger

AirMix® Nozzle

AM11001
AM110015
AM11002
AM110025
AM11003
AM11004
AM11005
AM11006

AirMix® TipGuard

AMTG

AirMix® TipGuard Ten Stack

AMTGST01
AMTGST015
AMTGST02
AMTGST025
AMTGST03
AMTGST04
AMTGST05
AMTGST06

AirMix® Off Center

AMOC02
AMOC025
AMOC03
AMOC04
AMOC05

AirMix® Hollow Cone

AMHC8001
AMHC80025

AirMix® Anvil

AMAN02
AMAN025
AMAN04

AirMix® Acid Resistant

AMCQ110015
AMCQ11002
AMCQ11003
AMCQ11004
AMCQ11005
AMCQ11006

AirMix® DualFan Nozzle

AMDF02
AMDF025
AMDF03
AMDF035
AMDF04
AMDF045
AMDF05
AMDF055
AMDF06
AMDF07
AMDF08
AMDF09
AMDF10
AMDF11
AMDF12

				GALLONS PER ACRE BASED ON 20" NOZZLE SPACING									
				4	5	6	8	10	12	14	16	18	20
	Droplet	PSI	GPM	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH
AM11001	C	15	0.06	4.5	3.6	3.0	2.3	1.8	1.5	1.3	1.1	1.0	0.9
	C	20	0.07	5.3	4.2	3.5	2.6	2.1	1.8	1.5	1.3	1.2	1.1
	M	30	0.09	6.4	5.1	4.3	3.2	2.6	2.1	1.8	1.6	1.4	1.3
	M	40	0.10	7.4	5.9	5.0	3.7	3.0	2.5	2.1	1.9	1.7	1.5
	F	50	0.11	8.3	6.6	5.5	4.2	3.3	2.8	2.4	2.1	1.8	1.7
	F	60	0.12	9.1	7.3	6.1	4.5	3.6	3.0	2.6	2.3	2.0	1.8
	F	70	0.13	9.8	7.9	6.5	4.9	3.9	3.3	2.8	2.5	2.2	2.0
	F	80	0.14	10.5	8.4	7.0	5.3	4.2	3.5	3.0	2.6	2.3	2.1
	F	90	0.15	11.1	8.9	7.4	5.6	4.5	3.7	3.2	2.8	2.5	2.2
AM110015	C	15	0.09	6.8	5.5	4.5	3.4	2.7	2.3	1.9	1.7	1.5	1.4
	C	20	0.11	7.9	6.3	5.3	3.9	3.2	2.6	2.3	2.0	1.8	1.6
	M	30	0.13	9.6	7.7	6.4	4.8	3.9	3.2	2.8	2.4	2.1	1.9
	M	40	0.15	11.1	8.9	7.4	5.6	4.5	3.7	3.2	2.8	2.5	2.2
	F	50	0.17	12.5	10.0	8.3	6.2	5.0	4.2	3.6	3.1	2.8	2.5
	F	60	0.18	13.6	10.9	9.1	6.8	5.5	4.5	3.9	3.4	3.0	2.7
	F	70	0.20	14.7	11.8	9.8	7.4	5.9	4.9	4.2	3.7	3.3	2.9
	F	80	0.21	15.8	12.6	10.5	7.9	6.3	5.3	4.5	3.9	3.5	3.2
	F	90	0.23	16.7	13.4	11.1	8.4	6.7	5.6	4.8	4.2	3.7	3.3
AM11002	C	15	0.12	9.1	7.3	6.1	4.5	3.6	3.0	2.6	2.3	2.0	1.8
	C	20	0.14	10.5	8.4	7.0	5.3	4.2	3.5	3.0	2.6	2.3	2.1
	C	30	0.17	12.9	10.3	8.6	6.4	5.1	4.3	3.7	3.2	2.9	2.6
	M	40	0.20	14.9	11.9	9.9	7.4	5.9	5.0	4.2	3.7	3.3	3.0
	M	50	0.22	16.6	13.3	11.1	8.3	6.6	5.5	4.7	4.2	3.7	3.3
	F	60	0.24	18.2	14.5	12.1	9.1	7.3	6.1	5.2	4.5	4.0	3.6
	F	70	0.26	19.6	15.7	13.1	9.8	7.9	6.5	5.6	4.9	4.4	3.9
	F	80	0.28	21.0	16.8	14.0	10.5	8.4	7.0	6.0	5.3	4.7	4.2
	F	90	0.30	22.3	17.8	14.9	11.1	8.9	7.4	6.4	5.6	5.0	4.5
AM110025	VC	15	0.15	11.4	9.1	7.6	5.7	4.5	3.8	3.2	2.8	2.5	2.3
	C	20	0.18	13.1	10.5	8.8	6.6	5.3	4.4	3.8	3.3	2.9	2.6
	C	30	0.22	16.1	12.9	10.7	8.0	6.4	5.4	4.6	4.0	3.6	3.2
	C	40	0.25	18.6	14.9	12.4	9.3	7.4	6.2	5.3	4.6	4.1	3.7
	M	50	0.28	20.8	16.6	13.8	10.4	8.3	6.9	5.9	5.2	4.6	4.2
	M	60	0.31	22.7	18.2	15.2	11.4	9.1	7.6	6.5	5.7	5.1	4.5
	M	70	0.33	24.6	19.6	16.4	12.3	9.8	8.2	7.0	6.1	5.5	4.9
	M	80	0.35	26.3	21.0	17.5	13.1	10.5	8.8	7.5	6.6	5.8	5.3
	F	90	0.38	27.8	22.3	18.6	13.9	11.1	9.3	8.0	7.0	6.2	5.6
AM11003	XC	15	0.18	13.6	10.9	9.1	6.8	5.5	4.5	3.9	3.4	3.0	2.7
	VC	20	0.21	15.8	12.6	10.5	7.9	6.3	5.3	4.5	3.9	3.5	3.2
	VC	30	0.26	19.3	15.4	12.9	9.6	7.7	6.4	5.5	4.8	4.3	3.9
	C	40	0.30	22.3	17.8	14.9	11.1	8.9	7.4	6.4	5.6	5.0	4.5
	C	50	0.34	24.9	19.9	16.6	12.5	10.0	8.3	7.1	6.2	5.5	5.0
	M	60	0.37	27.3	21.8	18.2	13.6	10.9	9.1	7.8	6.8	6.1	5.5
	M	70	0.40	29.5	23.6	19.6	14.7	11.8	9.8	8.4	7.4	6.5	5.9
	M	80	0.42	31.5	25.2	21.0	15.8	12.6	10.5	9.0	7.9	7.0	6.3
	M	90	0.45	33.4	26.7	22.3	16.7	13.4	11.1	9.5	8.4	7.4	6.7
AM11004	XC	15	0.24	18.2	14.5	12.1	9.1	7.3	6.1	5.2	4.5	4.0	3.6
	VC	20	0.28	21.0	16.8	14.0	10.5	8.4	7.0	6.0	5.3	4.7	4.2
	VC	30	0.35	25.7	20.6	17.1	12.9	10.3	8.6	7.3	6.4	5.7	5.1
	C	40	0.40	29.7	23.8	19.8	14.9	11.9	9.9	8.5	7.4	6.6	5.9
	C	50	0.45	33.2	26.6	22.1	16.6	13.3	11.1	9.5	8.3	7.4	6.6
	M	60	0.49	36.4	29.1	24.2	18.2	14.5	12.1	10.4	9.1	8.1	7.3
	M	70	0.53	39.3	31.4	26.2	19.6	15.7	13.1	11.2	9.8	8.7	7.9
	M	80	0.57	42.0	33.6	28.0	21.0	16.8	14.0	12.0	10.5	9.3	8.4
	M	90	0.60	44.6	35.6	29.7	22.3	17.8	14.9	12.7	11.1	9.9	8.9
AM11005	XC	15	0.31	22.7	18.2	15.2	11.4	9.1	7.6	6.5	5.7	5.1	4.5
	VC	20	0.35	26.3	21.0	17.5	13.1	10.5	8.8	7.5	6.6	5.8	5.3
	VC	30	0.43	32.2	25.7	21.4	16.1	12.9	10.7	9.2	8.0	7.1	6.4
	C	40	0.50	37.1	29.7	24.8	18.6	14.9	12.4	10.6	9.3	8.3	7.4
	C	50	0.56	41.5	33.2	27.7	20.8	16.6	13.8	11.9	10.4	9.2	8.3
	M	60	0.61	45.5	36.4	30.3	22.7	18.2	15.2	13.0	11.4	10.1	9.1
	M	70	0.66	49.1	39.3	32.7	24.6	19.6	16.4	14.0	12.3	10.9	9.8
	M	80	0.71	52.5	42.0	35.0	26.3	21.0	17.5	15.0	13.1	11.7	10.5
	M	90	0.75	55.7	44.6	37.1	27.8	22.3	18.6	15.9	13.9	12.4	11.1
AM11006	XC	15	0.37	27.3	21.8	18.2	13.6	10.9	9.1	7.8	6.8	6.1	5.5
	XC	20	0.42	31.5	25.2	21.0	15.8	12.6	10.5	9.0	7.9	7.0	6.3
	VC	30	0.52	38.6	30.9	25.7	19.3	15.4	12.9	11.0	9.6	8.6	7.7
	C	40	0.60	44.6	35.6	29.7	22.3	17.8	14.9	12.7	11.1	9.9	8.9
	C	50	0.67	49.8	39.8	33.2	24.9	19.9	16.6	14.2	12.5	11.1	10.0
	M	60	0.73	54.6	43.6	36.4	27.3	21.8	18.2	15.6	13.6	12.1	10.9
	M	70	0.79	58.9	47.1	39.3	29.5	23.6	19.6	16.8	14.7	13.1	11.8
	M	80	0.85	63.0	50.4	42.0	31.5	25.2	21.0	18.0	15.8	14.0	12.6
	M	90	0.90	66.8	53.5	44.6	33.4	26.7	22.3	19.1	16.7	14.9	13.4

Note: 15 inch nozzle spacing tabulation chart is on Page 22.

PWM Nozzle Technology Overview

Although Pulse Width Modulation technology has been around for over 20 years, it has recently gained relevance with the increase in weed species that are resistant to plant protection products. Part of the resistance problem stems from not hitting the target with a full dose of active ingredient.

PWM Systems control application rates with individual solenoid valves which open and close several times per second. Increasing the amount of time spent in an open position increases the flow rate.

Another advantage of PWM is that pressure is no longer tied to travel speed, as with conventional spray systems, so that pressure can be maintained across the field, and the spray quality (droplet spectrum) is the same at the start, middle and end of the spray job. The system delivers the same rate at the same pressure with the same spray quality at any speed.

Not only do PWM systems have a greater speed range than conventional systems, they also allow for more refined section control, or even individual nozzle control. This function prevents overlaps in spraying, and can lead to significant chemical savings by preventing over-dosing.

Finally, most PWM systems also include turn compensation as another feature. When the sprayer is turning, the end of the "outer" boom is moving much faster than the sprayer, which would normally result in under-dosing (again, promoting resistance), while the end of the "inner" boom is travelling more slowly and putting out a much higher rate. PWM systems compensate for these speed differences by controlling the solenoids to maintain the correct rate, keeping the width of the pulse wide enough to deliver the proper flow. For small or irregular fields, turn compensation can provide chemical savings as well as a higher level of accuracy.

As with conventional spraying, choosing the right nozzle is critical with PWM spraying. Air induction nozzles are generally not recommended, because the on/off pulsing flow interrupts the air-inducing Venturi effect. For this reason, Greenleaf Technologies offers different nozzles for PWM spraying, so that the operator can choose the optimal spray quality as well as the best spray pattern for the job.

The Softdrop nozzle is designed to deliver Extremely Coarse to Ultra Coarse droplets for systemic products like glyphosate, dicamba and 2,4-D, where drift control is of the utmost concern. The Blended Pulse™ and Blended Pulse™ DualFan are designed for coverage critical contact chemicals, providing a Medium to Coarse to Very Coarse spray quality. The SprayMax and SprayMax DualFan deliver the smallest droplets, Fine to Medium, and should only be used for insecticides, fungicides and other contact products when conditions allow for this type of spray quality.

Blended Pulse™ DualFan BPDF06 nozzles field testing on a John Deere ExactApply™ PWM equipped sprayer in Mississippi

SoftDrop SD110-04 nozzles field testing in Germany

SprayMax DualFan DF20 nozzles running on an Aim Command™ PWM equipped sprayer at a Greenleaf Technologies dealer in Texas

The writings of Tom Wolf, Jason Deveau, and Sprayers 101 were used as reference material when developing the information provided above.

Blended Pulse™ DualFan Nozzles for PWM Systems

Blended Pulse™ DualFan nozzles use the same asymmetric DualFan spray pattern as the proven TurboDrop Asymmetric DualFan (TADF) nozzle, bringing the best combination of drift control and coverage to PWM applications without the use of air-injection. The BPDF is truly a multi-purpose nozzle, producing a Very Coarse to Coarse droplet spectrum at lower pressure for drift control in burndown applications, and Coarse to Medium Droplets at higher pressure, perfect for coverage critical applications like contact herbicides, fungicides, insecticides and more. The DualFan spray pattern relieves coverage concerns associated with PWM nozzles pulsing on and off. As with the popular TADF nozzle, farmers can maximize coverage by alternating BPDF nozzles on the boom to provide four angles of spray into the canopy, effectively spraying the target four times in one pass.

110° flat fan Blended Pulse™ Nozzle can be used stand alone for lower rates, where a Very Coarse to Medium spray quality is desired. It can also be used in combination with a BPDF in PWM systems with two solenoids per nozzle body to expand the optimal operating range. For example, when pairing a BPDF06 with a BP03, the 03 can operate at lower speeds and application rates, the 06 can be used when speeds/rates pick up, and finally both can be combined to reach an 09 size for the highest speeds and application rates.

Pressure Range: 20-80 psi **Recommended Boom Height:** 15-25”
Mesh BPDF: 50M for 03 - 07, 24M for 08 and larger **Mesh BP:** 50M for 03, 24M for 04 and larger

Notes: Instructions for interpreting the PWM Speed Charts are located at the bottom of Page 10. The 15 inch spacing PWM Speed Chart is on page 21. BP also available in the following sizes : 015, 02

	Gauge (PSI)	Nozzle (PSI)	BPDF	BP	7.5 GPA				10 GPA				12.5 GPA				15 GPA				20 GPA				25 GPA			
					Min - Max				Min - Max				Min - Max				Min - Max				Min - Max				Min - Max			
					25%	50%	75%	100%	25%	50%	75%	100%	25%	50%	75%	100%	25%	50%	75%	100%	25%	50%	75%	100%	25%	50%	75%	100%
BPDF03 BP03	20	20	C	VC	2	4	6	8	2	3	5	6	1	2	4	5	1	2	3	4	1	2	2	3	1	1	2	2
	30	30	M	VC	3	5	8	10	2	4	6	8	2	3	5	6	1	3	4	5	1	2	3	4	1	2	2	3
	40	39	M	C	3	6	9	12	2	4	7	9	2	4	5	7	1	3	4	6	1	2	3	4	1	2	3	4
	50	49	F	C	3	7	10	13	2	5	7	10	2	4	6	8	2	3	5	7	1	2	4	5	1	2	3	4
	60	59	F	M	4	7	11	14	3	5	8	11	2	4	6	9	2	4	5	7	1	3	4	5	1	2	3	4
	70	69	F	M	4	8	12	15	3	6	9	12	2	5	7	9	2	4	6	8	1	3	4	6	1	2	3	5
BPDF04 BP04	20	19	C	VC	3	5	8	11	2	4	6	8	2	3	5	7	1	3	4	5	1	2	3	4	1	2	2	3
	30	29	C	VC	3	7	10	13	3	5	8	10	2	4	6	8	2	3	5	7	1	3	4	5	1	2	3	4
	40	39	M	C	4	8	12	15	3	6	9	12	2	5	7	9	2	4	6	8	1	3	4	6	1	2	3	5
	50	49	M	C	4	9	13	17	3	6	10	13	3	5	8	10	2	4	6	9	2	3	5	6	1	3	4	5
	60	58	F	M	5	9	14	19	4	7	11	14	3	6	8	11	2	5	7	9	2	4	5	7	1	3	4	6
	70	68	F	M	5	10	15	20	4	8	11	15	3	6	9	12	3	5	8	10	2	4	6	8	2	3	5	6
BPDF05 BP05	20	19	VC	XC	3	7	10	13	3	5	8	10	2	4	6	8	2	3	5	7	1	3	4	5	1	2	3	4
	30	29	C	VC	4	8	12	16	3	6	9	12	2	5	7	10	2	4	6	8	2	3	5	6	1	2	4	5
	40	38	C	C	5	9	14	19	4	7	11	14	3	6	9	11	2	5	7	9	2	4	5	7	1	3	4	6
	50	48	M	C	5	11	16	21	4	8	12	16	3	6	10	13	3	5	8	11	2	4	6	8	2	3	5	6
	60	58	M	C	6	12	17	23	4	9	13	17	3	7	10	14	3	6	9	12	2	4	7	9	2	3	5	7
	70	67	F	M	6	13	19	25	5	9	14	19	4	8	11	15	3	6	9	13	2	5	7	9	2	4	6	8
BPDF06 BP06	20	19	XC	XC	4	8	12	16	3	6	9	12	2	5	7	9	2	4	6	8	1	3	4	6	1	2	4	5
	30	28	VC	VC	5	10	15	19	4	7	11	15	3	6	9	12	2	5	7	10	2	4	5	7	1	3	4	6
	40	38	C	VC	6	11	17	22	4	8	13	17	3	7	10	13	3	6	8	11	2	4	6	8	2	3	5	7
	50	47	C	C	6	13	19	25	5	9	14	19	4	8	11	15	3	6	9	13	2	5	7	9	2	4	6	8
	60	56	M	C	7	14	21	27	5	10	15	21	4	8	12	16	3	7	10	14	3	5	8	10	2	4	6	8
	70	66	M	M	7	15	22	30	6	11	17	22	4	9	13	18	4	7	11	15	3	6	8	11	2	4	7	9
BPDF07	20	18	XC		5	9	14	18	3	7	10	14	3	5	8	11	2	5	7	9	2	3	5	7	1	3	4	5
	30	28	VC		6	11	17	22	4	8	12	17	3	7	10	13	3	6	8	11	2	4	6	8	2	3	5	7
	40	37	C		6	13	19	26	5	10	14	19	4	8	11	15	3	6	10	13	2	5	7	10	2	4	6	8
	50	46	C		7	14	21	29	5	11	16	21	4	9	13	17	4	7	11	14	3	5	8	11	2	4	6	9
	60	55	C		8	16	23	31	6	12	18	23	5	9	14	19	4	8	12	16	3	6	9	12	2	5	7	9
	70	65	M		8	17	25	34	6	13	19	25	5	10	15	20	4	8	13	17	3	6	10	13	3	5	8	10
BPDF08	20	18	XC		5	10	15	20	4	8	11	15	3	6	9	12	3	5	8	10	2	4	6	8	2	3	5	6
	30	27	VC		6	12	19	25	5	9	14	19	4	7	11	15	3	6	9	12	2	5	7	9	2	4	6	7
	40	36	C		7	14	21	29	5	11	16	21	4	9	13	17	4	7	11	14	3	5	8	11	2	4	6	9
	50	45	C		8	16	24	32	6	12	18	24	5	10	14	19	4	8	12	16	3	6	9	12	2	5	7	10
	60	54	C		9	17	26	35	7	13	20	26	5	10	16	21	4	9	13	17	3	7	10	13	3	5	8	10
	70	63	M		9	19	28	38	7	14	21	28	6	11	17	23	5	9	14	19	4	7	11	14	3	6	8	11
BPDF09	20	18	XC		6	11	17	22	4	8	12	17	3	7	10	13	3	6	8	11	2	4	6	8	2	3	5	7
	30	26	VC		7	14	20	27	5	10	15	20	4	8	12	16	3	7	10	14	3	5	8	10	2	4	6	8
	40	35	VC		8	16	23	31	6	12	18	23	5	9	14	19	4	8	12	16	3	6	9	12	2	5	7	10
	50	44	C		9	17	26	35	7	13	20	26	5	10	16	21	4	9	13	17	3	7	10	13	3	5	8	11
	60	53	C		10	19	29	38	7	14	22	29	6	11	17	23	5	10	14	19	4	7	11	14	3	6	9	12
	70	61	M		10	21	31	41	8	16	23	31	6	12	19	25	5	10	16	21	4	8	12	16	3	6	10	13
BPDF10	20	17	XC		6	12	18	24	4	9	13	18	4	7	11	14	3	6	9	12	2	4	7	9	2	4	6	7
	30	26	VC		7	15	22	29	5	11	16	22	4	9	13	18	4	7	11	15	3	5	8	11	2	5	7	9
	40	34	VC		8	17	25	34	6	13	19	25	5	10	15	20	4	8	13	17	3	6	9	13	3	5	8	11
	50	43	C		9	19	28	38	7	14	21	28	6	11	17	23	5	9	14	19	4	7	11	14	3	6	9	12
	60	51	C		10	21	31	41	8	16	23	31	6	12	19	25	5	10	16	21	4	8	12	16	3	6	10	13
	70	60	C		11	22	33	45	8	17	25	33	7	13	20	27	6	11	17	22	4	8	13	17	3	7	10	14
BPDF12	20	16	XC		7	13	20	27	5	10	15	20	4	8	12	16	3	7	10	13	3	5	8	10	2	4	6	8
	30	24	XC		8	16	25	33	6	12	19	25	5	10	15	20	4	8	12	16	3	6	9	12	3	5	8	10
	40	32	VC		10	19	29	38	7	14	21	29	6	11	17	23	5	10	14	19	4	7	11	14	3	6	9	12
	50	40	C		11	21	32	43	8	16	24	32	6	13	19	26	5	11	16	21	4	8	12	16	3	7	10	13
	60	48	C		12	23	35	47	9	17	26	35	7	14	21	28	6	12	17	23	4	9	13	17	4	7	11	15
	70	56	C		13	25	38	50	9	19	28	38	8	15	23	30	6	13	19	25	5	9	14	19	4	8	12	16

Valve Speed Range flow chart uses Capstan 24 Series data and is reproduced with permission of Capstan Ag Systems, Inc. Blended Pulse™ is a trademark of and used with permission of Capstan Ag Systems, Inc.

SoftDrop Nozzles for PWM Systems

The SoftDrop nozzle is a non-air inducted spray nozzle designed to produce Extremely Coarse and Ultra Coarse droplets for maximum drift control with dicamba, 2,4-D, glyphosate, and other systemic products applied by PWM equipped spray rigs. The SoftDrop is also excellent for liquid fertilizers and mixtures of liquid fertilizers and systemic herbicides. This nozzle can also be used without a PWM system, and will function well as a conventional nozzle that can produce an Extremely Coarse to Ultra Coarse droplet spectrum.

Approved nozzles, pressures, and application rates change often for auxin herbicides. For updates on Greenleaf Technologies approved nozzles, please visit our website. All approved nozzles are listed on the herbicide manufacturer's label. Be sure to read the application guidelines and know the laws in your state before spraying.

Pressure Range: 20-120 psi **Recommended Boom Height:** 18-36" (with 20" nozzle spacing)
Mesh: 50M for 04 - 05, 24M for 06 and larger

Notes: Instructions for interpreting the PWM Speed Charts are located at the below this chart. The 15 inch spacing PWM Speed Chart is on page 21.

	Gauge (PSI)	Nozzle (PSI)	SD	7.5 GPA				10 GPA				12.5 GPA				15 GPA				20 GPA				25 GPA			
				Min - Max				Min - Max				Min - Max				Min - Max				Min - Max				Min - Max			
				25%	50%	75%	100%	25%	50%	75%	100%	25%	50%	75%	100%	25%	50%	75%	100%	25%	50%	75%	100%	25%	50%	75%	100%
SD110-04 	20	19	UC	3	5	8	11	2	4	6	8	2	3	5	7	1	3	4	5	1	2	3	4	1	2	2	3
	30	29	UC	3	7	10	13	3	5	8	10	2	4	6	8	2	3	5	7	1	3	4	5	1	2	3	4
	40	39	XC	4	8	12	15	3	6	9	12	2	5	7	9	2	4	6	8	1	3	4	6	1	2	3	5
	50	49	XC	4	9	13	17	3	6	10	13	3	5	8	10	2	4	6	9	2	3	5	6	1	3	4	5
	60	58	XC	5	9	14	19	4	7	11	14	3	6	8	11	2	5	7	9	2	4	5	7	1	3	4	6
	70	68	XC	5	10	15	20	4	8	11	15	3	6	9	12	3	5	8	10	2	4	6	8	2	3	5	6
SD110-05 	20	19	UC	3	7	10	13	3	5	8	10	2	4	6	8	2	3	5	7	1	3	4	5	1	2	3	4
	30	29	UC	4	8	12	16	3	6	9	12	2	5	7	10	2	4	6	8	2	3	5	6	1	2	4	5
	40	38	XC	5	9	14	19	4	7	11	14	3	6	9	11	2	5	7	9	2	4	5	7	1	3	4	6
	50	48	XC	5	11	16	21	4	8	12	16	3	6	10	13	3	5	8	11	2	4	6	8	2	3	5	6
	60	58	XC	6	12	17	23	4	9	13	17	3	7	10	14	3	6	9	12	2	4	7	9	2	3	5	7
	70	67	XC	6	13	19	25	5	9	14	19	4	8	11	15	3	6	9	13	2	5	7	9	2	4	6	8
SD110-06 	20	19	UC	4	8	12	16	3	6	9	12	2	5	7	9	2	4	6	8	1	3	4	6	1	2	4	5
	30	28	UC	5	10	15	19	4	7	11	15	3	6	9	12	2	5	7	10	2	4	5	7	1	3	4	6
	40	38	XC	6	11	17	22	4	8	13	17	3	7	10	13	3	6	8	11	2	4	6	8	2	3	5	7
	50	47	XC	6	13	19	25	5	9	14	19	4	8	11	15	3	6	9	13	2	5	7	9	2	4	6	8
	60	56	XC	7	14	21	27	5	10	15	21	4	8	12	16	3	7	10	14	3	5	8	10	2	4	6	8
	70	66	XC	7	15	22	30	6	11	17	22	4	9	13	18	4	7	11	15	3	6	8	11	2	4	7	9
SD110-08 	20	18	UC	5	10	15	20	4	8	11	15	3	6	9	12	3	5	8	10	2	4	6	8	2	3	5	6
	30	27	UC	6	12	19	25	5	9	14	19	4	7	11	15	3	6	9	12	2	5	7	9	2	4	6	7
	40	36	XC	7	14	21	29	5	11	16	21	4	9	13	17	4	7	11	14	3	5	8	11	2	4	6	9
	50	45	XC	8	16	24	32	6	12	18	24	5	10	14	19	4	8	12	16	3	6	9	12	2	5	7	10
	60	54	XC	9	17	26	35	7	13	20	26	5	10	16	21	4	9	13	17	3	7	10	13	3	5	8	10
	70	63	XC	9	19	28	38	7	14	21	28	6	11	17	23	5	9	14	19	4	7	11	14	3	6	8	11
SD110-10 	20	17	UC	6	12	18	24	4	9	13	18	4	7	11	14	3	6	9	12	2	4	7	9	2	4	6	7
	30	26	UC	7	15	22	29	5	11	16	22	4	9	13	18	4	7	11	15	3	5	8	11	2	5	7	9
	40	34	UC	8	17	25	34	6	13	19	25	5	10	15	20	4	8	13	17	3	6	9	13	3	5	8	11
	50	43	UC	9	19	28	38	7	14	21	28	6	11	17	23	5	9	14	19	4	7	11	14	3	6	9	12
	60	51	UC	10	21	31	41	8	16	23	31	6	12	19	25	5	10	16	21	4	8	12	16	3	6	10	13
	70	60	UC	11	22	33	45	8	17	25	33	7	13	20	27	6	11	17	22	4	8	13	17	3	7	10	14

Valve Speed Range flow chart uses Capstan 24 Series data and is reproduced with permission of Capstan Ag Systems, Inc.

How to Select a PWM Nozzle - Understanding PWM Charts

PWM charts are very different from traditional flow rate tabulation charts. These charts show a speed range for operating a specific size nozzle at a given pressure. The target speed is highlighted at 75%, which indicates the duty cycle, or what percent of time the nozzle will be spraying. Spraying at 75% duty cycle will allow for speed changes and turn compensation.

Another important point is that nozzle pressure is different than the boom pressure in PWM systems. There is a pressure drop across the solenoid, and this needs to be considered when selecting a nozzle based on the droplet spectrum it produces at a given pressure. The droplet data on the charts provided here reflect the adjusted droplet spectrum, based on actual nozzle pressure, and not boom pressure.

A situation to watch for is larger nozzle sizes that push the limit of the solenoids, which control the pulsing of the nozzles. This can lead to very low pressures, where the nozzle is operating below its rated pressure range and therefore produces poor spray patternation. The 2.0 GPM (Size 20 nozzle) row on the SprayMax chart shows the boom pressure at 30 PSI, but nozzle pressure is only at 12 PSI, too low to form a uniform spray pattern.

The process to select a nozzle is to start with the application rate needed, move down the 75% duty cycle column, and find a few options for your ideal speed. Look left to see the droplet spectrum ranges offered by the nozzles. Select optimal droplet spectrums for your applications. Very Coarse to Coarse is useful for avoiding drift in systemic applications. Coarse to Medium provides a good mix of coverage and drift control. Fine to Medium droplets are prone to drift, and should only be used for insecticides, fungicides, and contact products when conditions allow for this spray quality.

The optimal pressure for the nozzle depends on the nozzle type and the desired spray quality. SprayMax nozzles should be operated at the lowest pressure possible, as small increases in pressure reduce the droplet size and increase the drift potential. For BP, BPDF and SD nozzles, 40 to 70 psi will generally work best. Remember that larger nozzle sizes cause a greater pressure drop, and will require higher boom pressure to compensate.

SprayMax Nozzles for PWM Systems

SprayMax DualFan Nozzle combines a Medium to Fine droplet spectrum with the asymmetric DualFan spray pattern, making it an exceptional nozzle for fungicide, insecticide, and other contact critical broadcast applications. The SprayMax Extended Range is an integrated tip cap 110° flat fan nozzle that produces a Medium to Fine droplet spectrum. These nozzles can also be used without a PWM system, those charts are on page 14 and 15.

Pressure Range: 20-80 psi **Recommended Boom Height:** 15-25" (with 20" nozzle spacing)

Mesh DF: 100M for 03 - 04, 50M for 05 - 10, 24M for 12 and larger **Mesh TCP:** 50M for 03 - 05, 24M for 06 and larger

Notes: Instructions for interpreting the PWM Speed Charts are located at the bottom of Page 10. The 15 inch spacing PWM Speed Chart is on page 21. DF also available in the following sizes: 02, 025, 045, 055, 065, 075, 30 TCP also available in the following sizes : 02, 30

	Gauge (PSI)	Nozzle (PSI)	DF	TCP	7.5 GPA				10 GPA				12.5 GPA				15 GPA				20 GPA				25 GPA			
					Min		-	Max	Min		-	Max	Min		-	Max	Min		-	Max	Min		-	Max	Min		-	Max
					25%	50%	75%	100%	25%	50%	75%	100%	25%	50%	75%	100%	25%	50%	75%	100%	25%	50%	75%	100%	25%	50%	75%	100%
DF03 TCP11003	20	20	F	F	2	4	6	8	2	3	5	6	1	2	4	5	1	2	3	4	1	2	2	3	1	1	2	2
	30	30	F	F	3	5	8	10	2	4	6	8	2	3	5	6	1	3	4	5	1	2	3	4	1	2	2	3
	40	39	F	F	3	6	9	12	2	4	7	9	2	4	5	7	1	3	4	6	1	2	3	4	1	2	3	4
	50	49	F	F	3	7	10	13	2	5	7	10	2	4	6	8	2	3	5	7	1	2	4	5	1	2	3	4
	60	59	F	F	4	7	11	14	3	5	8	11	2	4	6	9	2	4	5	7	1	3	4	5	1	2	3	4
	70	69	F	F	4	8	12	15	3	6	9	12	2	5	7	9	2	4	6	8	1	3	4	6	1	2	3	5
DF04 TCP11004	20	19	F	F	3	5	8	11	2	4	6	8	2	3	5	7	1	3	4	5	1	2	3	4	1	2	2	3
	30	29	F	F	3	7	10	13	3	5	8	10	2	4	6	8	2	3	5	7	1	3	4	5	1	2	3	4
	40	39	F	F	4	8	12	15	3	6	9	12	2	5	7	9	2	4	6	8	1	3	4	6	1	2	3	5
	50	49	F	F	4	9	13	17	3	6	10	13	3	5	8	10	2	4	6	9	2	3	5	6	1	3	4	5
	60	58	F	F	5	9	14	19	4	7	11	14	3	6	8	11	2	5	7	9	2	4	5	7	1	3	4	6
	70	68	F	F	5	10	15	20	4	8	11	15	3	6	9	12	3	5	8	10	2	4	6	8	2	3	5	6
DF05 TCP11005	20	19	F	M	3	7	10	13	3	5	8	10	2	4	6	8	2	3	5	7	1	3	4	5	1	2	3	4
	30	29	F	F	4	8	12	16	3	6	9	12	2	5	7	10	2	4	6	8	2	3	5	6	1	2	4	5
	40	38	F	F	5	9	14	19	4	7	11	14	3	6	9	11	2	5	7	9	2	4	5	7	1	3	4	6
	50	48	F	F	5	11	16	21	4	8	12	16	3	6	10	13	3	5	8	11	2	4	6	8	2	3	5	6
	60	58	F	F	6	12	17	23	4	9	13	17	3	7	10	14	3	6	9	12	2	4	7	9	2	3	5	7
	70	67	F	F	6	13	19	25	5	9	14	19	4	8	11	15	3	6	9	13	2	5	7	9	2	4	6	8
DF06 TCP11006	20	19	F	M	4	8	12	16	3	6	9	12	2	5	7	9	2	4	6	8	1	3	4	6	1	2	4	5
	30	28	F	M	5	10	15	19	4	7	11	15	3	6	9	12	2	5	7	10	2	4	5	7	1	3	4	6
	40	38	F	F	6	11	17	22	4	8	13	17	3	7	10	13	3	6	8	11	2	4	6	8	2	3	5	7
	50	47	F	F	6	13	19	25	5	9	14	19	4	8	11	15	3	6	9	13	2	5	7	9	2	4	6	8
	60	56	F	F	7	14	21	27	5	10	15	21	4	8	12	16	3	7	10	14	3	5	8	10	2	4	6	8
	70	66	F	F	7	15	22	30	6	11	17	22	4	9	13	18	4	7	11	15	3	6	8	11	2	4	7	9
DF07	20	18	F		5	9	14	18	3	7	10	14	3	5	8	11	2	5	7	9	2	3	5	7	1	3	4	5
	30	28	F		6	11	17	22	4	8	12	17	3	7	10	13	3	6	8	11	2	4	6	8	2	3	5	7
	40	37	F		6	13	19	26	5	10	14	19	4	8	11	15	3	6	10	13	2	5	7	10	2	4	6	8
	50	46	F		7	14	21	29	5	11	16	21	4	9	13	17	4	7	11	14	3	5	8	11	2	4	6	9
	60	55	F		8	16	23	31	6	12	18	23	5	9	14	19	4	8	12	16	3	6	9	12	2	5	7	9
	70	65	F		8	17	25	34	6	13	19	25	5	10	15	20	4	8	13	17	3	6	10	13	3	5	8	10
DF08 TCP11008	20	18	M	M	5	10	15	20	4	8	11	15	3	6	9	12	3	5	8	10	2	4	6	8	2	3	5	6
	30	27	F	M	6	12	19	25	5	9	14	19	4	7	11	15	3	6	9	12	2	5	7	9	2	4	6	7
	40	36	F	M	7	14	21	29	5	11	16	21	4	9	13	17	4	7	11	14	3	5	8	11	2	4	6	9
	50	45	F	F	8	16	24	32	6	12	18	24	5	10	14	19	4	8	12	16	3	6	9	12	2	5	7	10
	60	54	F	F	9	17	26	35	7	13	20	26	5	10	16	21	4	9	13	17	3	7	10	13	3	5	8	10
	70	63	F	F	9	19	28	38	7	14	21	28	6	11	17	23	5	9	14	19	4	7	11	14	3	6	8	11
DF09	20	18	M		6	11	17	22	4	8	12	17	3	7	10	13	3	6	8	11	2	4	6	8	2	3	5	7
	30	26	F		7	14	20	27	5	10	15	20	4	8	12	16	3	7	10	14	3	5	8	10	2	4	6	8
	40	35	F		8	16	23	31	6	12	18	23	5	9	14	19	4	8	12	16	3	6	9	12	2	5	7	10
	50	44	F		9	17	26	35	7	13	20	26	5	10	16	21	4	9	13	17	3	7	10	13	3	5	8	11
	60	53	F		10	19	29	38	7	14	22	29	6	11	17	23	5	10	14	19	4	7	11	14	3	6	9	12
	70	61	F		10	21	31	41	8	16	23	31	6	12	19	25	5	10	16	21	4	8	12	16	3	6	10	13
DF10 TCP11010	20	17	M	VC	6	12	18	24	4	9	13	18	4	7	11	14	3	6	9	12	2	4	7	9	2	4	6	7
	30	26	F	C	7	15	22	29	5	11	16	22	4	9	13	18	4	7	11	15	3	5	8	11	2	5	7	9
	40	34	F	M	8	17	25	34	6	13	19	25	5	10	15	20	4	8	13	17	3	6	9	13	3	5	8	11
	50	43	F	M	9	19	28	38	7	14	21	28	6	11	17	23	5	9	14	19	4	7	11	14	3	6	9	12
	60	51	F	M	10	21	31	41	8	16	23	31	6	12	19	25	5	10	16	21	4	8	12	16	3	6	10	13
	70	60	F	M	11	22	33	45	8	17	25	33	7	13	20	27	6	11	17	22	4	8	13	17	3	7	10	14
DF12 TCP11012	20	16	M	VC	7	13	20	27	5	10	15	20	4	8	12	16	3	7	10	13	3	5	8	10	2	4	6	8
	30	24	M	C	8	16	25	33	6	12	19	25	5	10	15	20	4	8	12	16	3	6	9	12	3	5	8	10
	40	32	F	C	10	19	29	38	7	14	21	29	6	11	17	23	5	10	14	19	4	7	11	14	3	6	9	12
	50	40	F	M	11	21	32	43	8	16	24	32	6	13	19	26	5	11	16	21	4	8	12	16	3	7	10	13
	60	48	F	M	12	23	35	47	9	17	26	35	7	14	21	28	6	12	17	23	4	9	13	17	4	7	11	15
	70	56	F	M	13	25	38	50	9	19	28	38	8	15	23	30	6	13	19	25	5	9	14	19	4	8	12	16
DF14	20	15	C		7	15	22	29	5	11	16	22	4	9	13	18	4	7	11	15	3	5	8	11	2	5	7	9
	30	22	M		9	18	27	36	7	13	20	27	5	11	16	22	4	9	13	18	3	7	10	13	3	6	8	11
	40	30	M		10	21	31	41	8	16	23	31	6	12	19	25	5	10	16	21	4	8	12	16	3	6	10	13
	50	37	F		12	23	35	46	9	17	26	35	7	14	21	28	6	12	17	23	4	9	13	17	4	7	11	14
	60	45	F		13	25	38	51	10	19	29	38	8	15	23	30	6	13	19	25	5	10	14	19	4	8	12	16
	70	52	F		14	27	41	55	10	21	31	41	8	16	25	33	7	14	21	27	5	10	15	21	4	9	13	17
DF16 TCP11016	20	14	--	--	8	16	23	31	6	12	17	23	5	9	14	19	4	8	12	16	3	6	9	12	2	5	7	10
	30	21	M	XC	10	19	29	38	7	14	21	29	6	11	17	23	5	10	14	19	4	7	11	14	3	6	9	12
	40	28	M	XC	11	22	33	44	8	16	25	33	7	13	20	26	5	11	16	22	4	8	12	16	3	7	10	14
	50	35	M	VC	12	25	37	49	9	18	28	37	7	15	22	29	6	12	18	25	5	9	14	18	4	8	12	15
	60	42	F	C	13	27	40	54	10	20	30	40	8	16	24	32	7	13	20	27	5	10	15	20	4	8	13	17
	70	49	F	C	15	29	44	58	11	22	33	44	9	17	26	35	7	15	22	29	5	11	16	22	5	9	14	18
DF18	20	13	--		8	16	24	32	6	12	18	24	5	10	15	19	4	8	12	16	3	6	9	12	3	5	8	10
	30	19	C		10	20	30	40	7	15	22	30	6	12	18	24	5	10	15	20	4	7	11	15	3	6	9	12
	40	26	C		11	23	34	46	9	17	26	34	7	14	21	27	6	11	17	23	4	9	13	17	4	7	11	14
	50	32	M		13	26	38	51	10	19	29	38	8	15	23	31	6	13	19	26	5	10	14	19	4	8	12	16
	60	38	M		14	28	42	56	10	21	31	42	8	17	25	34	7	14	21	28	5	10	16	21	4	9	13	17
	70	45	M		15	30	45	60	11	23	34	45	9	18	27	36	8	15	23	30	6	11	17	23	5	9	14	19
DF20 TCP11020	20	12	--	--	8	17	25	33	6	12	19	25	5	10	15	20	4	8	12	17	3	6	9	12	3	5	8	10
	30	18	C	XC	10	20	30	41	8	15	23	30	6	12	18	24	5	10	15	20	4	8	11	15	3	6	9	13
	40	24	C	XC	12	23	35	47	9	18	26	35	7	14	21	28	6	12	18	23	4	9	13	18	4	7	11	15
	50	30	M	XC	13	26	39	52	10	20	29	39	8	16	24	31	7	13	20	26	5	10	15	20	4	8	12	16
	60	35	M	XC	14	29	43	57	11	21	32	43	9	17	26	34	7	14	21	29	5	11	16	21	4	9	13	18
	70	41	M	XC	15	31	46	62	12	23	35	46	9	19	28	37	8	15	23	31	6	12	17	23	5	10	15	19

Valve Speed Range flow chart uses Capstan 24 Series data and is reproduced with permission of Capstan Ag Systems, Inc.

TurboDrop® Variable Rate and TurboDrop® Variable Rate DualFan Nozzles

TurboDrop® Variable Rate nozzles will cover the range of two to three standard TurboDrop® nozzle sizes. The flow rate increases more rapidly with an increase in pressure, making Variable Rate nozzles useful in covering wider speed ranges or providing on-the-go variable rate application. The wider flow rate range provided by the TurboDrop® Variable rate technology can be an option for those wanting more flexibility than conventionally sized nozzles without the complexities of a broadcast PWM system. Flow tolerance of ± 5% is the best available for a variable nozzle. TurboDrop Variable Rate Nozzles will be most accurate when used with flow control system instead of pressure control systems. VR05 Size nozzles are not air-injected.

The DualFan Variable Rate will provide a smaller droplet size spectrum compared to the single fan version, as well as deliver dual spray coverage. To maximize coverage with the TWVR nozzles, alternate them on the boom to deliver four angles of spray orientation to the target.

Pressure Range: 40-140 psi **Recommended Boom Height TDVR:** 18-36" **TWVR:** 15-25"(on 20" centers)
Materials of Construction: Polyacetal, EPDM, stainless steel **Mesh:** 50M for all sizes

TurboDrop® Variable Rate

TDVR015
TDVR02
TDVR03
TDVR05

TurboDrop® Variable Rate DualFan

TWVR015
TWVR02
TWVR03
TWVR05

GALLONS PER ACRE BASED ON 20" NOZZLE SPACING

		Droplet	Droplet	PSI	GPM	4 MPH	5 MPH	6 MPH	8 MPH	10 MPH	11 MPH	12 MPH	13 MPH	14 MPH	15 MPH	16 MPH	17 MPH	18 MPH	19 MPH	20 MPH
TDVR015	TWVR015	XC	VC	40	0.17	12.6	10.1	8.4	6.3	5.0	4.6	4.2	3.9	3.6	3.4	3.2	3.0	2.8	2.7	2.5
		VC	VC	50	0.22	16.3	13.1	10.9	8.2	6.5	5.9	5.4	5.0	4.7	4.4	4.1	3.8	3.6	3.4	3.3
		VC	C	60	0.27	20.0	16.0	13.4	10.0	8.0	7.3	6.7	6.2	5.7	5.3	5.0	4.7	4.5	4.2	4.0
		C	C	70	0.33	24.5	19.6	16.3	12.3	9.8	8.9	8.2	7.5	7.0	6.5	6.1	5.8	5.4	5.2	4.9
		M	M	80	0.38	28.2	22.6	18.8	14.1	11.3	10.3	9.4	8.7	8.1	7.5	7.1	6.6	6.3	5.9	5.6
		M	M	90	0.42	31.2	24.9	20.8	15.6	12.5	11.3	10.4	9.6	8.9	8.3	7.8	7.3	6.9	6.6	6.2
		M	F	100	0.45	33.4	26.7	22.3	16.7	13.4	12.2	11.1	10.3	9.5	8.9	8.4	7.9	7.4	7.0	6.7
		F	F	120	0.50	37.1	29.7	24.8	18.6	14.9	13.5	12.4	11.4	10.6	9.9	9.3	8.7	8.3	7.8	7.4
		F	F	140	0.54	40.1	32.1	26.7	20.0	16.0	14.6	13.4	12.3	11.5	10.7	10.0	9.4	8.9	8.4	8.0
TDVR02	TWVR02	XC	VC	40	0.22	16.3	13.1	10.9	8.2	6.5	5.9	5.4	5.0	4.7	4.4	4.1	3.8	3.6	3.4	3.3
		XC	VC	50	0.29	21.5	17.2	14.4	10.8	8.6	7.8	7.2	6.6	6.2	5.7	5.4	5.1	4.8	4.5	4.3
		VC	C	60	0.42	31.2	24.9	20.8	15.6	12.5	11.3	10.4	9.6	8.9	8.3	7.8	7.3	6.9	6.6	6.2
		C	C	70	0.51	37.9	30.3	25.2	18.9	15.1	13.8	12.6	11.7	10.8	10.1	9.5	8.9	8.4	8.0	7.6
		C	M	80	0.58	43.1	34.5	28.7	21.5	17.2	15.7	14.4	13.3	12.3	11.5	10.8	10.1	9.6	9.1	8.6
		M	M	90	0.64	47.5	38.0	31.7	23.8	19.0	17.3	15.8	14.6	13.6	12.7	11.9	11.2	10.6	10.0	9.5
		M	F	100	0.69	51.2	41.0	34.2	25.6	20.5	18.6	17.1	15.8	14.6	13.7	12.8	12.1	11.4	10.8	10.2
		M	F	120	0.75	55.7	44.6	37.1	27.8	22.3	20.3	18.6	17.1	15.9	14.9	13.9	13.1	12.4	11.7	11.1
		F	F	140	0.82	60.9	48.7	40.6	30.4	24.4	22.1	20.3	18.7	17.4	16.2	15.2	14.3	13.5	12.8	12.2
TDVR03	TWVR03	XC	VC	40	0.33	24.5	19.6	16.3	12.3	9.8	8.9	8.2	7.5	7.0	6.5	6.1	5.8	5.4	5.2	4.9
		XC	VC	50	0.41	30.4	24.4	20.3	15.2	12.2	11.1	10.1	9.4	8.7	8.1	7.6	7.2	6.8	6.4	6.1
		VC	C	60	0.51	37.9	30.3	25.2	18.9	15.1	13.8	12.6	11.7	10.8	10.1	9.5	8.9	8.4	8.0	7.6
		VC	C	70	0.67	49.7	39.8	33.2	24.9	19.9	18.1	16.6	15.3	14.2	13.3	12.4	11.7	11.1	10.5	9.9
		C	M	80	0.80	59.4	47.5	39.6	29.7	23.8	21.6	19.8	18.3	17.0	15.8	14.9	14.0	13.2	12.5	11.9
		C	M	90	0.87	64.6	51.7	43.1	32.3	25.8	23.5	21.5	19.9	18.5	17.2	16.1	15.2	14.4	13.6	12.9
		M	F	100	0.93	69.1	55.2	46.0	34.5	27.6	25.1	23.0	21.2	19.7	18.4	17.3	16.2	15.3	14.5	13.8
		M	F	120	1.02	75.7	60.6	50.5	37.9	30.3	27.5	25.2	23.3	21.6	20.2	18.9	17.8	16.8	15.9	15.1
		M	F	140	1.10	81.7	65.3	54.5	40.8	32.7	29.7	27.2	25.1	23.3	21.8	20.4	19.2	18.2	17.2	16.3
TDVR05	TWVR05			40	0.78	57.9	46.3	38.6	29.0	23.2	21.1	19.3	17.8	16.5	15.4	14.5	13.6	12.9	12.2	11.6
				50	0.98	72.8	58.2	48.5	36.4	29.1	26.5	24.3	22.4	20.8	19.4	18.2	17.1	16.2	15.3	14.6
				60	1.15	85.4	68.3	56.9	42.7	34.2	31.1	28.5	26.3	24.4	22.8	21.3	20.1	19.0	18.0	17.1
				70	1.33	98.8	79.0	65.8	49.4	39.5	35.9	32.9	30.4	28.2	26.3	24.7	23.2	21.9	20.8	19.8
				80	1.45	107.7	86.1	71.8	53.8	43.1	39.2	35.9	33.1	30.8	28.7	26.9	25.3	23.9	22.7	21.5
				90	1.57	116.6	93.3	77.7	58.3	46.6	42.4	38.9	35.9	33.3	31.1	29.1	27.4	25.9	24.5	23.3
				100	1.69	125.5	100.4	83.7	62.7	50.2	45.6	41.8	38.6	35.9	33.5	31.4	29.5	27.9	26.4	25.1
				120	1.80	133.7	106.9	89.1	66.8	53.5	48.6	44.6	41.1	38.2	35.6	33.4	31.4	29.7	28.1	26.7
				140	1.89	140.3	112.3	93.6	70.2	56.1	51.0	46.8	43.2	40.1	37.4	35.1	33.0	31.2	29.5	28.1

GALLONS PER ACRE BASED ON 15" NOZZLE SPACING

		Droplet	Droplet	PSI	GPM	4 MPH	5 MPH	6 MPH	8 MPH	10 MPH	11 MPH	12 MPH	13 MPH	14 MPH	15 MPH	16 MPH	17 MPH	18 MPH	19 MPH	20 MPH
TDVR015	TWVR015	XC	VC	40	0.17	16.8	13.5	11.2	8.4	6.7	6.1	5.6	5.2	4.8	4.5	4.2	4.0	3.7	3.5	3.4
		VC	VC	50	0.22	21.8	17.4	14.5	10.9	8.7	7.9	7.3	6.7	6.2	5.8	5.4	5.1	4.8	4.6	4.4
		VC	C	60	0.27	26.7	21.4	17.8	13.4	10.7	9.7	8.9	8.2	7.6	7.1	6.7	6.3	5.9	5.6	5.3
		C	C	70	0.33	32.7	26.1	21.8	16.3	13.1	11.9	10.9	10.1	9.3	8.7	8.2	7.7	7.3	6.9	6.5
		M	M	80	0.38	37.6	30.1	25.1	18.8	15.0	13.7	12.5	11.6	10.7	10.0	9.4	8.9	8.4	7.9	7.5
		M	M	90	0.42	41.6	33.3	27.7	20.8	16.6	15.1	13.9	12.8	11.9	11.1	10.4	9.8	9.2	8.8	8.3
		M	F	100	0.45	44.6	35.6	29.7	22.3	17.8	16.2	14.9	13.7	12.7	11.9	11.1	10.5	9.9	9.4	8.9
		F	F	120	0.50	49.5	39.6	33.0	24.8	19.8	18.0	16.5	15.2	14.1	13.2	12.4	11.6	11.0	10.4	9.9
		F	F	140	0.54	53.5	42.8	35.6	26.7	21.4	19.4	17.8	16.4	15.3	14.3	13.4	12.6	11.9	11.3	10.7
TDVR02	TWVR02	XC	VC	40	0.22	21.8	17.4	14.5	10.9	8.7	7.9	7.3	6.7	6.2	5.8	5.4	5.1	4.8	4.6	4.4
		XC	VC	50	0.29	28.7	23.0	19.1	14.4	11.5	10.4	9.6	8.8	8.2	7.7	7.2	6.8	6.4	6.0	5.7
		VC	C	60	0.42	41.6	33.3	27.7	20.8	16.6	15.1	13.9	12.8	11.9	11.1	10.4	9.8	9.2	8.8	8.3
		C	C	70	0.51	50.5	40.4	33.7	25.2	20.2	18.4	16.8	15.5	14.4	13.5	12.6	11.9	11.2	10.6	10.1
		C	M	80	0.58	57.4	45.9	38.3	28.7	23.0	20.9	19.1	17.7	16.4	15.3	14.4	13.5	12.8	12.1	11.5
		M	M	90	0.64	63.4	50.7	42.2	31.7	25.3	23.0	21.1	19.5	18.1	16.9	15.8	14.9	14.1	13.3	12.7
		M	F	100	0.69	68.3	54.6	45.5	34.2	27.3	24.8	22.8	21.0	19.5	18.2	17.1	16.1	15.2	14.4	13.7
		M	F	120	0.75	74.3	59.4	49.5	37.1	29.7	27.0	24.8	22.8	21.2	19.8	18.6	17.5	16.5	15.6	14.9
		F	F	140	0.82	81.2	64.9	54.1	40.6	32.5	29.5	27.1	25.0	23.2	21.6	20.3	19.1	18.0	17.1	16.2
TDVR03	TWVR03	XC	VC	40	0.33	32.7	26.1	21.8	16.3	13.1	11.9	10.9	10.1	9.3	8.7	8.2	7.7	7.3	6.9	6.5
		XC	VC	50	0.41	40.6	32.5	27.1	20.3	16.2	14.8	13.5	12.5	11.6	10.8	10.1	9.6	9.0	8.5	8.1
		VC	C	60	0.51	50.5	40.4	33.7	25.2	20.2	18.4	16.8	15.5	14.4	13.5	12.6	11.9	11.2	10.6	10.1
		VC	C	70	0.67	66.3	53.1	44.2	33.2	26.5	24.1	22.1	20.4	19.0	17.7	16.6	15.6	14.7	14.0	13.3
		C	M	80	0.80	79.2	63.4	52.8	39.6	31.7	28.8	26.4	24.4	22.6	21.1	19.8	18.6	17.6	16.7	15.8
		C	M	90	0.87	86.1	68.9	57.4	43.1	34.5	31.3	28.7	26.5	24.6	23.0	21.5	20.3	19.1	18.1	17.2
		M	F	100	0.93	92.1	73.7	61.4	46.0	36.8	33.5	30.7	28.3	26.3	24.6	23.0	21.7	20.5	19.4	18.4
		M	F	120	1.02	101.0	80.8	67.3	50.5	40.4	36.7	33.7	31.1	28.9	26.9	25.2	23.8	22.4	21.3	20.2
		M	F	140	1.10	108.9	87.1	72.6	54.5	43.6	39.6	36.3	33.5	31.1	29.0	27.2	25.6	24.2	22.9	21.8
TDVR05	TWVR05			40	0.78	77.2	61.8	51.5	38.6	30.9	28.1	25.7	23.8	22.1	20.6	19.3	18.2	17.2	16.3	15.4
				50	0.98	97.0	77.6	64.7	48.5	38.8	35.3	32.3	29.9	27.7	25.9	24.3	22.8	21.6	20.4	19.4
				60	1.15	113.9	91.1	75.9	56.9	45.5	41.4	38.0	35.0	32.5	30.4	28.5	26.8	25.3	24.0	22.8
				70	1.33	131.7	105.3	87.8	65.8	52.7	47.9	43.9	40.5	37.6	35.1	32.9	31.0	29.3	27.7	26.3
				80	1.45	143.6	114.8	95.7	71.8	57.4	52.2	47.9	44.2	41.0	38.3	35.9	33.8	31.9	30.2	28.7
				90	1.57	155.4	124.3	103.6	77.7	62.2	56.5	51.8	47.8	44.4	41.4	38.9	36.6	34.5	32.7	31.1
				100	1.69	167.3	133.8	111.5	83.7	66.9	60.8	55.8	51.5	47.8	44.6	41.8	39.4	37.2	35.2	33.5
				120	1.80	178.2	142.6	118.8	89.1	71.3	64.8	59.4	54.8	50.9	47.5	44.6	41.9	39.6	37.5	35.6
				140	1.89	187.1	149.7	124.7	93.6	74.8	68.0	62.4	57.6	53.5	49.9	46.8	44.0	41.6	39.4	37.4

TurboDrop® Variable Rate Fertilizer Nozzles

The TurboDrop® Variable Rate fertilizer nozzle is designed to apply liquid fertilizer at a three to four times flow rate range compared to conventional nozzles, to allow for varying fertilizer requirements of the target crop. It is available in a six hole streaming version (TDVRF) for use on standard sprayers, and a hose barb version (TDVRHB) for tool bars, nitrogen applicators and other dedicated fertilizer rigs.

The TurboDrop® Variable Rate may be operated from 10-140 psi, allowing up to a five times rate change at a given speed. Additionally, the TDVRF and TDVRHB can maintain a constant gpa rate over a five times speed change.

The TDVRF utilizes a six hole streaming tip in order to minimize potential leaf burn while maximizing fertilizer distribution, maintaining uniformity with varying spray heights. The TDVRHB utilizes a 3/8" hose barb for ease of installation on fertilizer rigs, and acts as a variable-flow metering orifice. Check valve design keeps flow accuracy to ± 5% in all versions.

All Variable Rate Fertilizer nozzles are "airless," providing a wider operating range, and eliminating the possibility of fertilizer spitting from the side. The TDVRC Variable Rate Compact Injector is available as a stand alone product that can be integrated into custom fertilizer systems.

Pressure Range: 10-140 psi **Materials of Construction:** Polyacetal, EPDM, stainless steel **Mesh:** 50M for all sizes

TurboDrop® Variable Rate Fertilizer

TDVRF015
TDVRF02
TDVRF03
TDVRF05

TurboDrop® Variable Rate Fertilizer Hose Barb

TDVRHB015
TDVRHB02
TDVRHB03
TDVRHB05

TurboDrop® Variable Rate Fertilizer Nozzle Body

TDVRC015
TDVRC02
TDVRC03
TDVRC05

		GALLONS PER ACRE BASED ON 30" NOZZLE SPACING														
PSI	GPM	3 MPH	4 MPH	5 MPH	6 MPH	7 MPH	8 MPH	9 MPH	10 MPH	11 MPH	12 MPH	13 MPH	14 MPH	16 MPH	18 MPH	20 MPH
TDVRF015 TDVRHB015 TDVRC015																
10	0.12	8.1	6.1	4.9	4.1	3.5	3.0	2.7	2.4	2.2	2.0	1.9	1.7	1.5	1.4	1.2
20	0.17	11.5	8.6	6.9	5.7	4.9	4.3	3.8	3.4	3.1	2.9	2.7	2.5	2.2	1.9	1.7
30	0.27	17.6	13.2	10.5	8.8	7.5	6.6	5.9	5.3	4.8	4.4	4.1	3.8	3.3	2.9	2.6
40	0.35	23.1	17.3	13.9	11.6	9.9	8.7	7.7	6.9	6.3	5.8	5.3	5.0	4.3	3.9	3.5
50	0.39	25.8	19.4	15.5	12.9	11.1	9.7	8.6	7.7	7.0	6.5	6.0	5.5	4.8	4.3	3.9
60	0.44	29.2	21.9	17.5	14.6	12.5	11.0	9.7	8.8	8.0	7.3	6.7	6.3	5.5	4.9	4.4
70	0.48	31.9	23.9	19.1	15.9	13.7	12.0	10.6	9.6	8.7	8.0	7.4	6.8	6.0	5.3	4.8
80	0.52	34.1	25.5	20.4	17.0	14.6	12.8	11.4	10.2	9.3	8.5	7.9	7.3	6.4	5.7	5.1
100	0.57	37.4	28.0	22.4	18.7	16.0	14.0	12.5	11.2	10.2	9.3	8.6	8.0	7.0	6.2	5.6
120	0.62	40.9	30.7	24.6	20.5	17.5	15.3	13.6	12.3	11.2	10.2	9.4	8.8	7.7	6.8	6.1
140	0.67	44.2	33.2	26.5	22.1	19.0	16.6	14.7	13.3	12.1	11.1	10.2	9.5	8.3	7.4	6.6
TDVRF02 TDVRHB02 TDVRC02																
10	0.18	11.9	8.9	7.1	5.9	5.1	4.5	4.0	3.6	3.2	3.0	2.7	2.5	2.2	2.0	1.8
20	0.25	16.6	12.4	9.9	8.3	7.1	6.2	5.5	5.0	4.5	4.1	3.8	3.5	3.1	2.8	2.5
30	0.38	25.3	19.0	15.2	12.7	10.9	9.5	8.4	7.6	6.9	6.3	5.8	5.4	4.8	4.2	3.8
40	0.51	33.8	25.3	20.3	16.9	14.5	12.7	11.3	10.1	9.2	8.4	7.8	7.2	6.3	5.6	5.1
50	0.58	38.0	28.5	22.8	19.0	16.3	14.2	12.7	11.4	10.4	9.5	8.8	8.1	7.1	6.3	5.7
60	0.65	43.1	32.3	25.9	21.5	18.5	16.2	14.4	12.9	11.8	10.8	9.9	9.2	8.1	7.2	6.5
70	0.70	45.9	34.5	27.6	23.0	19.7	17.2	15.3	13.8	12.5	11.5	10.6	9.8	8.6	7.7	6.9
80	0.74	49.1	36.8	29.5	24.6	21.0	18.4	16.4	14.7	13.4	12.3	11.3	10.5	9.2	8.2	7.4
100	0.82	54.2	40.6	32.5	27.1	23.2	20.3	18.1	16.3	14.8	13.5	12.5	11.6	10.2	9.0	8.1
120	0.90	59.4	44.6	35.6	29.7	25.5	22.3	19.8	17.8	16.2	14.9	13.7	12.7	11.1	9.9	8.9
140	0.97	64.2	48.1	38.5	32.1	27.5	24.1	21.4	19.2	17.5	16.0	14.8	13.7	12.0	10.7	9.6
TDVRF03 TDVRHB03 TDVRC03																
10	0.23	15.2	11.4	9.1	7.6	6.5	5.7	5.1	4.6	4.1	3.8	3.5	3.3	2.8	2.5	2.3
20	0.33	21.5	16.1	12.9	10.8	9.2	8.1	7.2	6.5	5.9	5.4	5.0	4.6	4.0	3.6	3.2
30	0.49	32.5	24.4	19.5	16.2	13.9	12.2	10.8	9.7	8.9	8.1	7.5	7.0	6.1	5.4	4.9
40	0.66	43.6	32.7	26.2	21.8	18.7	16.4	14.5	13.1	11.9	10.9	10.1	9.3	8.2	7.3	6.5
50	0.74	48.8	36.6	29.3	24.4	20.9	18.3	16.3	14.6	13.3	12.2	11.3	10.5	9.1	8.1	7.3
60	0.83	54.5	40.8	32.7	27.2	23.3	20.4	18.2	16.3	14.9	13.6	12.6	11.7	10.2	9.1	8.2
70	0.89	58.4	43.8	35.0	29.2	25.0	21.9	19.5	17.5	15.9	14.6	13.5	12.5	11.0	9.7	8.8
80	0.94	62.2	46.7	37.3	31.1	26.7	23.3	20.7	18.7	17.0	15.6	14.4	13.3	11.7	10.4	9.3
100	1.05	69.6	52.2	41.7	34.8	29.8	26.1	23.2	20.9	19.0	17.4	16.1	14.9	13.0	11.6	10.4
120	1.15	76.2	57.1	45.7	38.1	32.6	28.6	25.4	22.8	20.8	19.0	17.6	16.3	14.3	12.7	11.4
140	1.25	82.3	61.7	49.4	41.2	35.3	30.9	27.4	24.7	22.4	20.6	19.0	17.6	15.4	13.7	12.3
TDVRF05 TDVRHB05 TDVRC05																
10	0.45	30.0	22.5	18.0	15.0	12.8	11.2	10.0	9.0	8.2	7.5	6.9	6.4	5.6	5.0	4.5
20	0.64	42.4	31.8	25.4	21.2	18.2	15.9	14.1	12.7	11.6	10.6	9.8	9.1	7.9	7.1	6.4
30	0.76	50.0	37.5	30.0	25.0	21.4	18.8	16.7	15.0	13.6	12.5	11.5	10.7	9.4	8.3	7.5
40	0.93	61.4	46.0	36.8	30.7	26.3	23.0	20.5	18.4	16.7	15.3	14.2	13.2	11.5	10.2	9.2
50	1.04	68.6	51.4	41.1	34.3	29.4	25.7	22.9	20.6	18.7	17.1	15.8	14.7	12.9	11.4	10.3
60	1.09	72.0	54.0	43.2	36.0	30.9	27.0	24.0	21.6	19.6	18.0	16.6	15.4	13.5	12.0	10.8
70	1.27	83.8	62.8	50.3	41.9	35.9	31.4	27.9	25.1	22.8	20.9	19.3	17.9	15.7	14.0	12.6
80	1.37	90.3	67.7	54.2	45.1	38.7	33.9	30.1	27.1	24.6	22.6	20.8	19.3	16.9	15.0	13.5
100	1.53	101.0	75.7	60.6	50.5	43.3	37.9	33.7	30.3	27.5	25.2	23.3	21.6	18.9	16.8	15.1
120	1.68	110.6	83.0	66.4	55.3	47.4	41.5	36.9	33.2	30.2	27.7	25.5	23.7	20.7	18.4	16.6
140	1.81	119.5	89.6	71.7	59.7	51.2	44.8	39.8	35.8	32.6	29.9	27.6	25.6	22.4	19.9	17.9

TDVRF02 at 30 psi

TDVRF02 at 60 psi

TDVRF02 at 90 psi

TDVRF02 at 120 psi

SprayMax Asymmetric DualFan Nozzles

The SprayMax DualFan Nozzle is a non-air injected nozzle that employs conventional flat fan tips in an asymmetric dual cap. The dual tips are oriented 10° forward and 50° rearward to provide a combination of penetration and backside coverage in complex canopies. To maximize coverage, the nozzles may be alternated on the boom to provide four angles of spray orientation into the canopy, effectively spraying the target four times in one pass.

The Medium to Fine droplet spectrum coupled with the asymmetric DualFan spray pattern of the SprayMax DualFan makes it an exceptional nozzle for fungicide, insecticide, and other contact critical broadcast applications.

Pressure Range: 20-80 psi **Recommended Boom Height:** 15-25" (with 20" nozzle spacing)
Materials of Construction: Polyacetal, EPDM **Mesh:** 100M for 025 - 04, 50M for 05 - 10, 24M for 12 and larger

SprayMax DualFan

DF02
DF025
DF03
DF035
DF04
DF045
DF05
DF055
DF06
DF065
DF07
DF075
DF08
DF09
DF10
DF12
DF14
DF16
DF18
DF20
DF25
DF30

				GALLONS PER ACRE BASED ON 20" NOZZLE SPACING																
	Droplet	PSI	GPM	4 MPH	5 MPH	6 MPH	7 MPH	8 MPH	9 MPH	10 MPH	11 MPH	12 MPH	13 MPH	14 MPH	15 MPH	16 MPH	17 MPH	18 MPH	19 MPH	20 MPH
DF025	F	20	0.18	13.1	10.5	8.8	7.5	6.6	5.8	5.3	4.8	4.4	4.0	3.8	3.5	3.3	3.1	2.9	2.8	2.6
	F	30	0.22	16.1	12.9	10.7	9.2	8.0	7.1	6.4	5.8	5.4	4.9	4.6	4.3	4.0	3.8	3.6	3.4	3.2
	F	40	0.25	18.6	14.9	12.4	10.6	9.3	8.3	7.4	6.8	6.2	5.7	5.3	5.0	4.6	4.4	4.1	3.9	3.7
	F	50	0.28	20.8	16.6	13.8	11.9	10.4	9.2	8.3	7.5	6.9	6.4	5.9	5.5	5.2	4.9	4.6	4.4	4.2
	VF	60	0.31	22.7	18.2	15.2	13.0	11.4	10.1	9.1	8.3	7.6	7.0	6.5	6.1	5.7	5.3	5.1	4.8	4.5
DF03	F	20	0.21	15.8	12.6	10.5	9.0	7.9	7.0	6.3	5.7	5.3	4.8	4.5	4.2	3.9	3.7	3.5	3.3	3.2
	F	30	0.26	19.3	15.4	12.9	11.0	9.6	8.6	7.7	7.0	6.4	5.9	5.5	5.1	4.8	4.5	4.3	4.1	3.9
	F	40	0.30	22.3	17.8	14.9	12.7	11.1	9.9	8.9	8.1	7.4	6.9	6.4	5.9	5.6	5.2	5.0	4.7	4.5
	F	50	0.34	24.9	19.9	16.6	14.2	12.5	11.1	10.0	9.1	8.3	7.7	7.1	6.6	6.2	5.9	5.5	5.2	5.0
	F	60	0.37	27.3	21.8	18.2	15.6	13.6	12.1	10.9	9.9	9.1	8.4	7.8	7.3	6.8	6.4	6.1	5.7	5.5
DF04	M	20	0.28	21.0	16.8	14.0	12.0	10.5	9.3	8.4	7.6	7.0	6.5	6.0	5.6	5.3	4.9	4.7	4.4	4.2
	F	30	0.35	25.7	20.6	17.1	14.7	12.9	11.4	10.3	9.4	8.6	7.9	7.3	6.9	6.4	6.1	5.7	5.4	5.1
	F	40	0.40	29.7	23.8	19.8	17.0	14.9	13.2	11.9	10.8	9.9	9.1	8.5	7.9	7.4	7.0	6.6	6.3	5.9
	F	50	0.45	33.2	26.6	22.1	19.0	16.6	14.8	13.3	12.1	11.1	10.2	9.5	8.9	8.3	7.8	7.4	7.0	6.6
	F	60	0.49	36.4	29.1	24.2	20.8	18.2	16.2	14.5	13.2	12.1	11.2	10.4	9.7	9.1	8.6	8.1	7.7	7.3
DF05	M	20	0.35	26.3	21.0	17.5	15.0	13.1	11.7	10.5	9.5	8.8	8.1	7.5	7.0	6.6	6.2	5.8	5.5	5.3
	F	30	0.43	32.2	25.7	21.4	18.4	16.1	14.3	12.9	11.7	10.7	9.9	9.2	8.6	8.0	7.6	7.1	6.8	6.4
	F	40	0.50	37.1	29.7	24.8	21.2	18.6	16.5	14.9	13.5	12.4	11.4	10.6	9.9	9.3	8.7	8.3	7.8	7.4
	F	50	0.56	41.5	33.2	27.7	23.7	20.8	18.4	16.6	15.1	13.8	12.8	11.9	11.1	10.4	9.8	9.2	8.7	8.3
	F	60	0.61	45.5	36.4	30.3	26.0	22.7	20.2	18.2	16.5	15.2	14.0	13.0	12.1	11.4	10.7	10.1	9.6	9.1
DF06	M	20	0.42	31.5	25.2	21.0	18.0	15.8	14.0	12.6	11.5	10.5	9.7	9.0	8.4	7.9	7.4	7.0	6.6	6.3
	M	30	0.52	38.6	30.9	25.7	22.0	19.3	17.1	15.4	14.0	12.9	11.9	11.0	10.3	9.6	9.1	8.6	8.1	7.7
	F	40	0.60	44.6	35.6	29.7	25.5	22.3	19.8	17.8	16.2	14.9	13.7	12.7	11.9	11.1	10.5	9.9	9.4	8.9
	F	50	0.67	49.8	39.8	33.2	28.5	24.9	22.1	19.9	18.1	16.6	15.3	14.2	13.3	12.5	11.7	11.1	10.5	10.0
	F	60	0.73	54.6	43.6	36.4	31.2	27.3	24.2	21.8	19.8	18.2	16.8	15.6	14.5	13.6	12.8	12.1	11.5	10.9
DF07	M	20	0.49	36.8	29.4	24.5	21.0	18.4	16.3	14.7	13.4	12.3	11.3	10.5	9.8	9.2	8.6	8.2	7.7	7.4
	M	30	0.61	45.0	36.0	30.0	25.7	22.5	20.0	18.0	16.4	15.0	13.8	12.9	12.0	11.3	10.6	10.0	9.5	9.0
	F	40	0.70	52.0	41.6	34.7	29.7	26.0	23.1	20.8	18.9	17.3	16.0	14.9	13.9	13.0	12.2	11.6	10.9	10.4
	F	50	0.78	58.1	46.5	38.7	33.2	29.1	25.8	23.2	21.1	19.4	17.9	16.6	15.5	14.5	13.7	12.9	12.2	11.6
	F	60	0.86	63.7	50.9	42.4	36.4	31.8	28.3	25.5	23.1	21.2	19.6	18.2	17.0	15.9	15.0	14.1	13.4	12.7
DF08	M	20	0.57	42.0	33.6	28.0	24.0	21.0	18.7	16.8	15.3	14.0	12.9	12.0	11.2	10.5	9.9	9.3	8.8	8.4
	M	30	0.69	51.4	41.2	34.3	29.4	25.7	22.9	20.6	18.7	17.1	15.8	14.7	13.7	12.9	12.1	11.4	10.8	10.3
	F	40	0.80	59.4	47.5	39.6	33.9	29.7	26.4	23.8	21.6	19.8	18.3	17.0	15.8	14.9	14.0	13.2	12.5	11.9
	F	50	0.89	66.4	53.1	44.3	37.9	33.2	29.5	26.6	24.1	22.1	20.4	19.0	17.7	16.6	15.6	14.8	14.0	13.3
	F	60	0.98	72.7	58.2	48.5	41.6	36.4	32.3	29.1	26.5	24.2	22.4	20.8	19.4	18.2	17.1	16.2	15.3	14.5
DF09	M	20	0.64	47.3	37.8	31.5	27.0	23.6	21.0	18.9	17.2	15.8	14.5	13.5	12.6	11.8	11.1	10.5	9.9	9.5
	M	30	0.78	57.9	46.3	38.6	33.1	28.9	25.7	23.1	21.0	19.3	17.8	16.5	15.4	14.5	13.6	12.9	12.2	11.6
	F	40	0.90	66.8	53.5	44.6	38.2	33.4	29.7	26.7	24.3	22.3	20.6	19.1	17.8	16.7	15.7	14.9	14.1	13.4
	F	50	1.01	74.7	59.8	49.8	42.7	37.4	33.2	29.9	27.2	24.9	23.0	21.3	19.9	18.7	17.6	16.6	15.7	14.9
	F	60	1.10	81.8	65.5	54.6	46.8	40.9	36.4	32.7	29.8	27.3	25.2	23.4	21.8	20.5	19.3	18.2	17.2	16.4
DF10	M	20	0.71	52.5	42.0	35.0	30.0	26.3	23.3	21.0	19.1	17.5	16.2	15.0	14.0	13.1	12.4	11.7	11.1	10.5
	M	30	0.87	64.3	51.4	42.9	36.7	32.2	28.6	25.7	23.4	21.4	19.8	18.4	17.1	16.1	15.1	14.3	13.5	12.9
	F	40	1.00	74.3	59.4	49.5	42.4	37.1	33.0	29.7	27.0	24.8	22.8	21.2	19.8	18.6	17.5	16.5	15.6	14.9
	F	50	1.12	83.0	66.4	55.3	47.4	41.5	36.9	33.2	30.2	27.7	25.5	23.7	22.1	20.8	19.5	18.4	17.5	16.6
	F	60	1.22	90.9	72.7	60.6	52.0	45.5	40.4	36.4	33.1	30.3	28.0	26.0	24.2	22.7	21.4	20.2	19.1	18.2
DF12	M	20	0.85	63.0	50.4	42.0	36.0	31.5	28.0	25.2	22.9	21.0	19.4	18.0	16.8	15.8	14.8	14.0	13.3	12.6
	M	30	1.04	77.2	61.7	51.4	44.1	38.6	34.3	30.9	28.1	25.7	23.7	22.0	20.6	19.3	18.2	17.1	16.2	15.4
	F	40	1.20	89.1	71.3	59.4	50.9	44.6	39.6	35.6	32.4	29.7	27.4	25.5	23.8	22.3	21.0	19.8	18.8	17.8
	F	50	1.34	99.6	79.7	66.4	56.9	49.8	44.3	39.8	36.2	33.2	30.7	28.5	26.6	24.9	23.4	22.1	21.0	19.9
	F	60	1.47	109.1	87.3	72.7	62.4	54.6	48.5	43.6	39.7	36.4	33.6	31.2	29.1	27.3	25.7	24.2	23.0	21.8
DF14	M	20	0.99	73.5	58.8	49.0	42.0	36.8	32.7	29.4	26.7	24.5	22.6	21.0	19.6	18.4	17.3	16.3	15.5	14.7
	M	30	1.21	90.0	72.0	60.0	51.4	45.0	40.0	36.0	32.7	30.0	27.7	25.7	24.0	22.5	21.2	20.0	19.0	18.0
	F	40	1.40	104.0	83.2	69.3	59.4	52.0	46.2	41.6	37.8	34.7	32.0	29.7	27.7	26.0	24.5	23.1	21.9	20.8
	F	50	1.57	116.2	93.0	77.5	66.4	58.1	51.7	46.5	42.3	38.7	35.8	33.2	31.0	29.1	27.3	25.8	24.5	23.2
	F	60	1.71	127.3	101.8	84.9	72.7	63.7	56.6	50.9	46.3	42.4	39.2	36.4	33.9	31.8	30.0	28.3	26.8	25.5
DF16	M	20	1.13	84.0	67.2	56.0	48.0	42.0	37.3	33.6	30.5	28.0	25.8	24.0	22.4	21.0	19.8	18.7	17.7	16.8
	M	30	1.39	102.9	82.3	68.6	58.8	51.4	45.7	41.2	37.4	34.3	31.7	29.4	27.4	25.7	24.2	22.9	21.7	20.6
	M	40	1.60	118.8	95.0	79.2	67.9	59.4	52.8	47.5	43.2	39.6	36.6	33.9	31.7	29.7	28.0	26.4	25.0	23.8
	F	50	1.79	132.8	106.3	88.5	75.9	66.4	59.0	53.1	48.3	44.3	40.9	37.9	35.4	33.2	31.3	29.5	28.0	26.6
	F	60	1.96	145.5	116.4	97.0	83.1	72.7	64.7	58.2	52.9	48.5	44.8	41.6	38.8	36.4	34.2	32.3	30.6	29.1
DF18	C	20	1.27	94.5	75.6	63.0	54.0	47.3	42.0	37.8	34.4	31.5	29.1	27.0	25.2	23.6	22.2	21.0	19.9	18.9
	M	30	1.56	115.7	92.6	77.2	66.1	57.9	51.4	46.3	42.1	38.6	35.6	33.1	30.9	28.9	27.2	25.7	24.4	23.1
	M	40	1.80	133.7	106.9	89.1	76.4	66.8	59.4	53.5	48.6	44.6	41.1	38.2	35.6	33.4	31.4	29.7	28.1	26.7
	M	50	2.01	149.4	119.5	99.6	85.4	74.7	66.4	59.8	54.3	49.8	46.0	42.7	39.8	37.4	35.2	33.2	31.5	29.9
	F	60	2.20	163.7	130.9	109.1	93.5	81.8	72.7	65.5	59.5	54.6	50.4	46.8	43.6	40.9	38.5	36.4	34.5	32.7
DF20	VC	20	1.41	105.0	84.0	70.0	60.0	52.5	46.7	42.0	38.2	35.0	32.3	30.0	28.0	26.3	24.7	23.3	22.1	21.0
	C	30	1.73	128.6	102.9	85.7	73.5	64.3	57.2	51.4	46.8	42.9	39.6	36.7	34.3	32.2	30.3	28.6	27.1	25.7
	M	40	2.00	148.5	118.8	99.0	84.9	74.3	66.0	59.4	54.0	49.5	45.7	42.4	39.6	37.1	34.9	33.0	31.3	29.7
	M	50	2.24	166.0	132.8	110.7	94.9	83.0	73.8	66.4	60.4	55.3	51.1	47.4	44.3	41.5	39.1	36.9	35.0	33.2
	M	60	2.45	181.9	145.5	121.2	103.9	90.9	80.8	72.7	66.1	60.6	56.0	52.0	48.5	45.5	42.8	40.4	38.3	36.4
DF30	XC	20	2.12	157.5	126.0	105.0	90.0	78.8	70.0	63.0	57.3	52.5	48.5	45.0	42.0	39.4	37.1	35.0	33.2	31.5
	VC	30	2.60	192.9	154.3	128.6	110.2	96.5	85.7	77.2	70.1	64.3	59.4	55.1	51.4	48.2	45.4	42.9	40.6	38.6
	VC	40	3.00	222.8	178.2	148.5	127.3	111.4	99.0	89.1	81.0	74.3	68.5	63.6	59.4	55.7	52.4	49.5	46.9	44.6
	C	50	3.35	249.0	199.2	166.0	142.3	124.5	110.7	99.6	90.6	83.0	76.6	71.2	66.4	62.3	58.6	55.3	52.4	49.8
	C	60	3.67	272.8	218.2	181.9	155.9	136.4	121.2	109.1	99.2	90.9	83.9	77.9	72.7	68.2	64.2	60.6	57.4	54.6

SprayMax Extended Range Nozzles

SprayMax Extended Range nozzles provide excellent spray distribution across wide pressure range. 80° and 65° nozzles require higher boom heights.

Pressure Range: 15-60 psi **Recommended Boom Height:** 15-25" (with 20" nozzle spacing) **Materials of Construction:** Polyacetal
Mesh SMP: 100M for 01, 50M for 015 - 05, 24M for 06 and larger **Mesh TCP:** 50M for 02 - 05, 24M for 06 and larger

SprayMax 110°

TCP11002
TCP11003
TCP11004
TCP11005
TCP11006
TCP11008
TCP11010
TCP11012
TCP11016
TCP11020
TCP11030

SprayMax 110°

SMP11001
SMP110015
SMP11002
SMP110025
SMP11003
SMP11004
SMP11005
SMP11006
SMP11008
SMP11010
SMP11015

SprayMax 80°

SMP80015
SMP8002
SMP8003
SMP8004
SMP8005
SMP8006
SMP8008

SprayMax 65°

SMP6502

		Droplet	PSI	GPM	GALLONS PER ACRE BASED ON 20" NOZZLE SPACING															
					4 MPH	5 MPH	6 MPH	7 MPH	8 MPH	9 MPH	10 MPH	11 MPH	12 MPH	13 MPH	14 MPH	15 MPH	16 MPH	17 MPH	18 MPH	19 MPH	20 MPH
SMP11001		F	15	0.06	4.5	3.6	3.0	2.6	2.3	2.0	1.8	1.7	1.5	1.4	1.3	1.2	1.1	1.1	1.0	1.0	0.9
		VF	20	0.07	5.3	4.2	3.5	3.0	2.6	2.3	2.1	1.9	1.8	1.6	1.5	1.4	1.3	1.2	1.2	1.1	1.1
		VF	30	0.09	6.4	5.1	4.3	3.7	3.2	2.9	2.6	2.3	2.1	2.0	1.8	1.7	1.6	1.5	1.4	1.4	1.3
		VF	40	0.10	7.4	5.9	5.0	4.2	3.7	3.3	3.0	2.7	2.5	2.3	2.1	2.0	1.9	1.7	1.7	1.6	1.5
		VF	50	0.11	8.3	6.6	5.5	4.7	4.2	3.7	3.3	3.0	2.8	2.6	2.4	2.2	2.1	2.0	1.8	1.7	1.7
		VF	60	0.12	9.1	7.3	6.1	5.2	4.5	4.0	3.6	3.3	3.0	2.8	2.6	2.4	2.3	2.1	2.0	1.9	1.8
SMP110015		F	15	0.09	6.8	5.5	4.5	3.9	3.4	3.0	2.7	2.5	2.3	2.1	1.9	1.8	1.7	1.6	1.5	1.4	1.4
		F	20	0.11	7.9	6.3	5.3	4.5	3.9	3.5	3.2	2.9	2.6	2.4	2.3	2.1	2.0	1.9	1.8	1.7	1.6
		VF	30	0.13	9.6	7.7	6.4	5.5	4.8	4.3	3.9	3.5	3.2	3.0	2.8	2.6	2.4	2.3	2.1	2.0	1.9
		VF	40	0.15	11.1	8.9	7.4	6.4	5.6	5.0	4.5	4.1	3.7	3.4	3.2	3.0	2.8	2.6	2.5	2.3	2.2
		VF	50	0.17	12.5	10.0	8.3	7.1	6.2	5.5	5.0	4.5	4.2	3.8	3.6	3.3	3.1	2.9	2.8	2.6	2.5
		VF	60	0.18	13.6	10.9	9.1	7.8	6.8	6.1	5.5	5.0	4.5	4.2	3.9	3.6	3.4	3.2	3.0	2.9	2.7
SMP11002	TCP11002	F	15	0.12	9.1	7.3	6.1	5.2	4.5	4.0	3.6	3.3	3.0	2.8	2.6	2.4	2.3	2.1	2.0	1.9	1.8
		F	20	0.14	10.5	8.4	7.0	6.0	5.3	4.7	4.2	3.8	3.5	3.2	3.0	2.8	2.6	2.5	2.3	2.2	2.1
		F	30	0.17	12.9	10.3	8.6	7.3	6.4	5.7	5.1	4.7	4.3	4.0	3.7	3.4	3.2	3.0	2.9	2.7	2.6
		F	40	0.20	14.9	11.9	9.9	8.5	7.4	6.6	5.9	5.4	5.0	4.6	4.2	4.0	3.7	3.5	3.3	3.1	3.0
		F	50	0.22	16.6	13.3	11.1	9.5	8.3	7.4	6.6	6.0	5.5	5.1	4.7	4.4	4.2	3.9	3.7	3.5	3.3
		F	60	0.24	18.2	14.5	12.1	10.4	9.1	8.1	7.3	6.6	6.1	5.6	5.2	4.8	4.5	4.3	4.0	3.8	3.6
SMP110025		F	15	0.15	11.4	9.1	7.6	6.5	5.7	5.1	4.5	4.1	3.8	3.5	3.2	3.0	2.8	2.7	2.5	2.4	2.3
		F	20	0.18	13.1	10.5	8.8	7.5	6.6	5.8	5.3	4.8	4.4	4.0	3.8	3.5	3.3	3.1	2.9	2.8	2.6
		F	30	0.22	16.1	12.9	10.7	9.2	8.0	7.1	6.4	5.8	5.4	4.9	4.6	4.3	4.0	3.8	3.6	3.4	3.2
		F	40	0.25	18.6	14.9	12.4	10.6	9.3	8.3	7.4	6.8	6.2	5.7	5.3	5.0	4.6	4.4	4.1	3.9	3.7
		F	50	0.28	20.8	16.6	13.8	11.9	10.4	9.2	8.3	7.5	6.9	6.4	5.9	5.5	5.2	4.9	4.6	4.4	4.2
		F	60	0.31	22.7	18.2	15.2	13.0	11.4	10.1	9.1	8.3	7.6	7.0	6.5	6.1	5.7	5.3	5.1	4.8	4.5
SMP11003	TCP11003	F	15	0.18	13.6	10.9	9.1	7.8	6.8	6.1	5.5	5.0	4.5	4.2	3.9	3.6	3.4	3.2	3.0	2.9	2.7
		F	20	0.21	15.8	12.6	10.5	9.0	7.9	7.0	6.3	5.7	5.3	4.8	4.5	4.2	3.9	3.7	3.5	3.3	3.2
		F	30	0.26	19.3	15.4	12.9	11.0	9.6	8.6	7.7	7.0	6.4	5.9	5.5	5.1	4.8	4.5	4.3	4.1	3.9
		F	40	0.30	22.3	17.8	14.9	12.7	11.1	9.9	8.9	8.1	7.4	6.9	6.4	5.9	5.6	5.2	5.0	4.7	4.5
		F	50	0.34	24.9	19.9	16.6	14.2	12.5	11.1	10.0	9.1	8.3	7.7	7.1	6.6	6.2	5.9	5.5	5.2	5.0
		F	60	0.37	27.3	21.8	18.2	15.6	13.6	12.1	10.9	9.9	9.1	8.4	7.8	7.3	6.8	6.4	6.1	5.7	5.5
SMP11004	TCP11004	M	15	0.24	18.2	14.5	12.1	10.4	9.1	8.1	7.3	6.6	6.1	5.6	5.2	4.8	4.5	4.3	4.0	3.8	3.6
		F	20	0.28	21.0	16.8	14.0	12.0	10.5	9.3	8.4	7.6	7.0	6.5	6.0	5.6	5.3	4.9	4.7	4.4	4.2
		F	30	0.35	25.7	20.6	17.1	14.7	12.9	11.4	10.3	9.4	8.6	7.9	7.3	6.9	6.4	6.1	5.7	5.4	5.1
		F	40	0.40	29.7	23.8	19.8	17.0	14.9	13.2	11.9	10.8	9.9	9.1	8.5	7.9	7.4	7.0	6.6	6.3	5.9
		F	50	0.45	33.2	26.6	22.1	19.0	16.6	14.8	13.3	12.1	11.1	10.2	9.5	8.9	8.3	7.8	7.4	7.0	6.6
		F	60	0.49	36.4	29.1	24.2	20.8	18.2	16.2	14.5	13.2	12.1	11.2	10.4	9.7	9.1	8.6	8.1	7.7	7.3
SMP11005	TCP11005	M	15	0.31	22.7	18.2	15.2	13.0	11.4	10.1	9.1	8.3	7.6	7.0	6.5	6.1	5.7	5.3	5.1	4.8	4.5
		M	20	0.35	26.3	21.0	17.5	15.0	13.1	11.7	10.5	9.5	8.8	8.1	7.5	7.0	6.6	6.2	5.8	5.5	5.3
		F	30	0.43	32.2	25.7	21.4	18.4	16.1	14.3	12.9	11.7	10.7	9.9	9.2	8.6	8.0	7.6	7.1	6.8	6.4
		F	40	0.50	37.1	29.7	24.8	21.2	18.6	16.5	14.9	13.5	12.4	11.4	10.6	9.9	9.3	8.7	8.3	7.8	7.4
		F	50	0.56	41.5	33.2	27.7	23.7	20.8	18.4	16.6	15.1	13.8	12.8	11.9	11.1	10.4	9.8	9.2	8.7	8.3
		F	60	0.61	45.5	36.4	30.3	26.0	22.7	20.2	18.2	16.5	15.2	14.0	13.0	12.1	11.4	10.7	10.1	9.6	9.1
SMP11006	TCP11006	M	15	0.37	27.3	21.8	18.2	15.6	13.6	12.1	10.9	9.9	9.1	8.4	7.8	7.3	6.8	6.4	6.1	5.7	5.5
		M	20	0.42	31.5	25.2	21.0	18.0	15.8	14.0	12.6	11.5	10.5	9.7	9.0	8.4	7.9	7.4	7.0	6.6	6.3
		F	30	0.52	38.6	30.9	25.7	22.0	19.3	17.1	15.4	14.0	12.9	11.9	11.0	10.3	9.6	9.1	8.6	8.1	7.7
		F	40	0.60	44.6	35.6	29.7	25.5	22.3	19.8	17.8	16.2	14.9	13.7	12.7	11.9	11.1	10.5	9.9	9.4	8.9
		F	50	0.67	49.8	39.8	33.2	28.5	24.9	22.1	19.9	18.1	16.6	15.3	14.2	13.3	12.5	11.7	11.1	10.5	10.0
		F	60	0.73	54.6	43.6	36.4	31.2	27.3	24.2	21.8	19.8	18.2	16.8	15.6	14.5	13.6	12.8	12.1	11.5	10.9
SMP11008	TCP11008	C	15	0.49	36.4	29.1	24.2	20.8	18.2	16.2	14.5	13.2	12.1	11.2	10.4	9.7	9.1	8.6	8.1	7.7	7.3
		M	20	0.57	42.0	33.6	28.0	24.0	21.0	18.7	16.8	15.3	14.0	12.9	12.0	11.2	10.5	9.9	9.3	8.8	8.4
		M	30	0.69	51.4	41.2	34.3	29.4	25.7	22.9	20.6	18.7	17.1	15.8	14.7	13.7	12.9	12.1	11.4	10.8	10.3
		F	40	0.80	59.4	47.5	39.6	33.9	29.7	26.4	23.8	21.6	19.8	18.3	17.0	15.8	14.9	14.0	13.2	12.5	11.9
		F	50	0.89	66.4	53.1	44.3	37.9	33.2	29.5	26.6	24.1	22.1	20.4	19.0	17.7	16.6	15.6	14.8	14.0	13.3
		F	60	0.98	72.7	58.2	48.5	41.6	36.4	32.3	29.1	26.5	24.2	22.4	20.8	19.4	18.2	17.1	16.2	15.3	14.5
SMP11010	TCP11010	VC	15	0.61	45.5	36.4	30.3	26.0	22.7	20.2	18.2	16.5	15.2	14.0	13.0	12.1	11.4	10.7	10.1	9.6	9.1
		C	20	0.71	52.5	42.0	35.0	30.0	26.3	23.3	21.0	19.1	17.5	16.2	15.0	14.0	13.1	12.4	11.7	11.1	10.5
		M	30	0.87	64.3	51.4	42.9	36.7	32.2	28.6	25.7	23.4	21.4	19.8	18.4	17.1	16.1	15.1	14.3	13.5	12.9
		M	40	1.00	74.3	59.4	49.5	42.4	37.1	33.0	29.7	27.0	24.8	22.8	21.2	19.8	18.6	17.5	16.5	15.6	14.9
		M	50	1.12	83.0	66.4	55.3	47.4	41.5	36.9	33.2	30.2	27.7	25.5	23.7	22.1	20.8	19.5	18.4	17.5	16.6
		M	60	1.22	90.9	72.7	60.6	52.0	45.5	40.4	36.4	33.1	30.3	28.0	26.0	24.2	22.7	21.4	20.2	19.1	18.2
	TCP11012	VC	15	0.73	54.6	43.6	36.4	31.2	27.3	24.2	21.8	19.8	18.2	16.8	15.6	14.5	13.6	12.8	12.1	11.5	10.9
		VC	20	0.85	63.0	50.4	42.0	36.0	31.5	28.0	25.2	22.9	21.0	19.4	18.0	16.8	15.8	14.8	14.0	13.3	12.6
		C	30	1.04	77.2	61.7	51.4	44.1	38.6	34.3	30.9	28.1	25.7	23.7	22.0	20.6	19.3	18.2	17.1	16.2	15.4
		M	40	1.20	89.1	71.3	59.4	50.9	44.6	39.6	35.6	32.4	29.7	27.4	25.5	23.8	22.3	21.0	19.8	18.8	17.8
		M	50	1.34	99.6	79.7	66.4	56.9	49.8	44.3	39.8	36.2	33.2	30.7	28.5	26.6	24.9	23.4	22.1	21.0	19.9
		M	60	1.47	109.1	87.3	72.7	62.4	54.6	48.5	43.6	39.7	36.4	33.6	31.2	29.1	27.3	25.7	24.2	23.0	21.8
SMP11015			15	0.92	68.2	54.6	45.5	39.0	34.1	30.3	27.3	24.8	22.7	21.0	19.5	18.2	17.1	16.0	15.2	14.4	13.6
			20	1.06	78.8	63.0	52.5	45.0	39.4	35.0	31.5	28.6	26.3	24.2	22.5	21.0	19.7	18.5	17.5	16.6	15.8
			30	1.30	96.5	77.2	64.3	55.1	48.2	42.9	38.6	35.1	32.2	29.7	27.6	25.7	24.1	22.7	21.4	20.3	19.3
			40	1.50	111.4	89.1	74.3	63.6	55.7	49.5	44.6	40.5	37.1	34.3	31.8	29.7	27.8	26.2	24.8	23.4	22.3
			50	1.68	124.5	99.6	83.0	71.2	62.3	55.3	49.8	45.3	41.5	38.3	35.6	33.2	31.1	29.3	27.7	26.2	24.9
			60	1.84	136.4	109.1	90.9	77.9	68.2	60.6	54.6	49.6	45.5	42.0	39.0	36.4	34.1	32.1	30.3	28.7	27.3
	TCP11016	XC	15	0.98	72.7	58.2	48.5	41.6	36.4	32.3	29.1	26.5	24.2	22.4	20.8	19.4	18.2	17.1	16.2	15.3	14.5
		XC	20	1.13	84.0	67.2	56.0	48.0	42.0	37.3	33.6	30.5	28.0	25.8	24.0	22.4	21.0	19.8	18.7	17.7	16.8
		VC	30	1.39	102.9	82.3	68.6	58.8	51.4	45.7	41.2	37.4	34.3	31.7	29.4	27.4	25.7	24.2	22.9	21.7	20.6
		VC	40	1.60	118.8	95.0	79.2	67.9	59.4	52.8	47.5	43.2	39.6	36.6	33.9	31.7	29.7	28.0	26.4	25.0	23.8
		C	50	1.79	132.8	106.3	88.5	75.9	66.4	59.0	53.1	48.3	44.3	40.9	37.9	35.4	33.2	31.3	29.5	28.0	26.6
		C	60	1.96	145.5	116.4	97.0	83.1	72.7	64.7	58.2	52.9	48.5	44.8	41.6	38.8	36.4	34.2	32.3	30.6	29.1
	TCP11020	XC	15	1.22	90.9	72.7	60.6	52.0	45.5	40.4	36.4	33.1	30.3	28.0	26.0	24.2	22.7	21.4	20.2	19.1	18.2
		XC	20	1.41	105.0	84.0	70.0	60.0	52.5	46.7	42.0	38.2	35.0	32.3	30.0	28.0	26.3	24.7	23.3	22.1	21.0
		XC	30	1.73	128.6	102.9	85.7	73.5	64.3	57.2	51.4	46.8	42.9	39.6	36.7	34.3	32.2	30.3	28.6	27.1	25.7
		XC	40	2.00	148.5	118.8	99.0	84.9	74.3	66.0	59.4	54.0	49.5	45.7	42.4	39.6	37.1	34.9	33.0	31.3	29.7
		VC	50	2.24	166.0	132.8	110.7	94.9	83.0	73.8	66.4	60.4	55.3	51.1	47.4	44.3	41.5	39.1	36.9	35.0	33.2
		VC	60	2.45	181.9	145.5	121.2	103.9	90.9	80.8	72.7	66.1	60.6	56.0	52.0	48.5	45.5	42.8	40.4	38.3	36.4
	TCP11030		15	1.84	136.4	109.1	90.9	77.9	68.2	60.6	54.6	49.6	45.5	42.0	39.0	36.4	34.1	32.1	30.3	28.7	27.3
			20	2.12	157.5	126.0	105.0	90.0	78.8	70.0	63.0	57.3	52.5	48.5	45.0	42.0	39.4	37.1	35.0	33.2	31.5
			30	2.60	192.9	154.3	128.6	110.2	96.5	85.7	77.2	70.1	64.3	59.4	55.1	51.4	48.2	45.4	42.9	40.6	38.6
			40	3.00	222.8	178.2	148.5	127.3	111.4	99.0	89.1	81.0	74.3	68.5	63.6	59.4	55.7	52.4	49.5	46.9	44.6
			50	3.35	249.0	199.2	166.0	142.3	124.5	110.7	99.6	90.6	83.0	76.6	71.2	66.4	62.3	58.6	55.3	52.4	49.8
			60	3.67	272.8	218.2	181.9	155.9	136.4	121.2	109.1	99.2	90.9	83.9	77.9	72.7	68.2	64.2	60.6	57.4	54.6

Universal Turbodrop® High Pressure Nozzle and Venturi

The Universal TurboDrop® is similar to the high pressure TurboDrop®, with a different connection type. Rather than quarter turn, quick connect, the UICC and UICCFFC have an adapter screw which allows other caps to be used. The maximum pressure is also much higher, at 400 psi.

The UICC and UICCFFC have been used on air blast orchard and vineyard sprayers (with and without air assist), as well as on high pressure fruit and vegetable sprayers to improve canopy penetration and coverage. They have also been used in car wash applications to improve contact time with soaps and other cleaning chemicals. A variety of pattern tips may be used with the UICC.

Pressure Range: 40-400 psi
Materials of Construction: Polyacetal, ceramic, brass, EPDM

Universal TurboDrop®
Ceramic Flat Fan

UICCFFC11001
UICCFFC110015
UICCFFC11002
UICCFFC110025
UICCFFC11003
UICCFFC11004
UICCFFC11005
UICCFFC11006
UICCFFC11008
UICCFFC11010

Universal Venturi Ceramic	Pattern Tip: Hollow Cone Poly	Hollow Cone Ceramic	Flat Fan APE	GPM: 40 psi	100 psi	150 psi	180 psi	190 psi	200 psi	220 psi	240 psi	260 psi	280 psi	300 psi	350 psi	400 psi
UICC01 (orange)	QHC023 (blue)	ATR Red	Red .310	0.10	0.16	0.19	0.21	0.22	0.22	0.23	0.24	0.25	0.26	0.27	0.30	0.32
UICC015 (green)	QHC023 (blue)	ATR Green	Red .310	0.15	0.24	0.29	0.32	0.33	0.34	0.35	0.37	0.38	0.40	0.41	0.44	0.47
UICC02 (yellow)	QHC045 (yellow)	ATR Blue	Green .436	0.20	0.32	0.39	0.42	0.44	0.45	0.47	0.49	0.51	0.53	0.55	0.59	0.63
UICC025 (purple)	QHC045 (yellow)	Disc-core	Blue .613	0.25	0.40	0.48	0.53	0.54	0.56	0.59	0.61	0.64	0.66	0.68	0.74	0.79
UICC03 (blue)	QHC068 (green)	Disc-core	Blue .613	0.30	0.47	0.58	0.64	0.65	0.67	0.70	0.73	0.76	0.79	0.82	0.89	0.95
UICC04 (red)	QHC068 (green)	Disc-core	Gray .866	0.40	0.63	0.77	0.85	0.87	0.89	0.94	0.98	1.02	1.06	1.10	1.18	1.26
UICC05 (brown)		Disc-core	White 1.23	050	0.79	0.97	1.06	1.09	1.12	1.17	1.22	1.27	1.32	1.37	1.48	1.58
UICC06 (gray)		Disc-core	Ivory 1.75	0.60	0.95	1.16	1.27	1.31	1.34	1.41	1.47	1.53	1.59	1.64	1.77	1.90
UICC08 (white)		Disc-core	Black 2.46	0.80	1.26	1.55	1.70	1.74	1.79	1.88	1.96	2.04	2.12	2.19	2.37	2.53
UICC10 (black)		Disc-core	Black 2.46	1.00	1.58	1.94	2.12	2.18	2.24	2.35	2.45	2.55	2.65	2.74	2.96	3.16

Universal TurboDrop®
Venturi

UICC01
UICC015
UICC02
UICC025
UICC03
UICC04
UICC05
UICC06
UICC08
UICC10

The Universal TurboDrop® Venturi may be combined with hollow cone (or disc and core) or flat fan tips for use on high pressure orchard, vineyard and vegetable sprayers. The ceramic orifice in the Universal Venturi controls the flow rate; the tip controls the pattern. When using disc and core combinations, always test configuration to ensure desired performance.

Beluga HoseDrop and Anvil Nozzle HoseDrop Spraying Systems

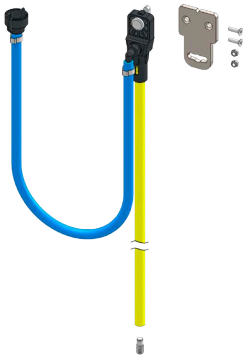
The Beluga HoseDrop is a customizable spraying system designed to spray between rows and inside the crop canopy. It combines lightweight flexible hosedrops with a unique low-profile nozzle body to be used in applications such as Fertilizer Sidedress, Herbicide Banding, or Subcanopy Crop Spraying.

The mounting brackets can be attached anywhere on the spray boom, allowing any drop spacing to be set up by the user, regardless of the nozzle body spacing on the boom. The HoseDrop then hooks onto the mounting bracket, and the hose connects to the nearest nozzle body. Multiple Beluga spray heads may be positioned on the HoseDrop (up to four spray heads total per drop) and can be attached at any height on the drop. Each Beluga spray head holds two standard size spray nozzles, and can be set up with AirMix, SMP, or other tips from Greenleaf Technologies. Beluga spray heads are engineered with a check valve to keep nozzles from dripping when not pressurized. Optional blank slides can be used in the spray head to block off flow to one or both sides of the hosedrop as needed.

The Beluga HoseDrop is available in 36" and 72" lengths. (The 72" drop tube can be cut to any desired length.) The mounting bracket, hardware and stainless pipe plug are included. Up to four Beluga spray heads may be installed per drop. Beluga spray heads, slides and nozzles should be ordered separately.

The Anvil Nozzle HoseDrop with 45° spray head for under crop spraying comes in 36" lengths and includes a bottom mounted 45° spray head fully assembled with an anvil nozzle in either 01, 02, or 04 size. An optional blank cap can be used to shut off flow to the 45° spray head as needed. The mounting bracket and hardware are included. The Anvil Nozzle HoseDrop can be customized by adding up to three Beluga spray heads per drop. Blank slides for the spray heads and anvil nozzle allows the HoseDrop to be for a variety of applications by blocking the appropriate tips.

Beluga HoseDrop



BHD17036 36" HoseDrop
BHD17072 72" HoseDrop

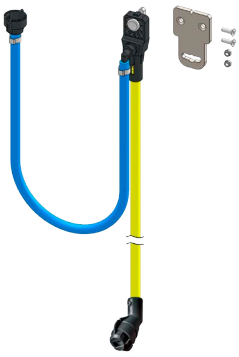
Beluga Spray Head

BHD16717

Slides with gaskets

8mm BHD16815
11 mm BHD16816
Round BHD16817
Blank BHD16818

Anvil Nozzle HoseDrop



BHD17118 with 01 Anvil
BHD17119 with 02 Anvil
BHD171120 with 04 Anvil

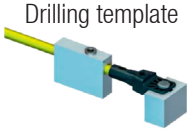
45° Spray Head

BHD17209

45° Spray Head Blank Cap

BHD16817

Drilling template



BHD17139

Mounting Bracket

BHD16716

Stainless Pipe Plug

BHD17081

Low Drift RowFan Nozzles for Band Spraying

The RowFan is a narrow 40° air-injected nozzle designed for use in continuous band spraying, with the benefit of not spraying the whole area. depending on the setup, this type of spraying can reduce chemical use by 50% or more. For many applications, it makes sense to only spray in a narrow band instead of a broadcast spray, such as row crops in early growth stages. The potential of huge savings on chemicals can make swapping these nozzles onto your rig for certain applications a choice that pays for itself right away.

RowFan 40°

RF4002

Bayonet Cap

Bayonet Cap

The 40° spray pattern of the RowFan is an even coverage design, as opposed to a tapered pattern typical with 110° flat fan nozzles for broadcast applications where patterns overlap. This means that the RowFan's pattern of coverage provides uniform distribution up to each edge of the spray swath.

Boom height and nozzle spacing are critical to achieving accurate coverage and adjusting the boom height upward will increase the coverage area. To add further flexibility, our adjustable Bayonet Cap can be used in conjunction with the RowFan. The Bayonet Cap allows the orientation of the spray nozzle to be continuously adjusted from 7° all the way to 45°. The coverage area becomes narrower as the flat fan spray nozzle is rotated. This way you can achieve very narrow coverage areas even with higher boom heights or closer spacing.

Low Drift SpotFan Nozzles for Machine Vision

SpotFan 40°

SF4002
SF4003
SF4004

The narrow 40° spray pattern of the low drift SpotFan has proven to be a good match to the requirements of automated weed control. It has been used on prototype systems as well as on commercial boom mounted machine vision-based weed control systems since 2016.

For these types of spot spraying applications, a single nozzle might be activated, or a group of 2 to 5 nozzles might all spray together, so the nozzle is designed with a modified tapered spray pattern to prevent over application where the patterns meet.

Anatomy of a TurboDrop® Asymmetric DualFan Nozzle

The TurboDrop® Asymmetric DualFan nozzle (TADF/TACDF) is made up of the TurboDrop® Venturi (TDXLV/TDVC) and a DF Cap, housing two SMP nozzles which function as spray pattern tips. The nozzle is asymmetric, meaning that the two spray patterns are oriented at 10° forward and 50° rearward. This flatter angle facing backwards helps with back side coverage of the target as speed increases. Additionally, the two SMP tips are usually different sizes with different spray angles (except in the largest TADF sizes). This setup directs more spray to the trailing pattern, again to enhance backside coverage. By having two different tips, the droplet size (spray quality) differs between the two spray patterns. The leading spray pattern produces a smaller droplet size, covering the front of the target as the spray boom passes. The rear facing, larger pattern tip coats the backside of the target, and can also help direct the smaller droplets down into the canopy.

Field testing has also shown that alternating the TADF on the spray boom to provide four angles into the canopy can further maximize coverage on the target. (This is possible due to the asymmetric angles of the DualFan cap- the first nozzle on the spray boom would be oriented with the 10° angled pattern facing forward, the next nozzle with the 50° angled pattern facing forward, and so on down the boom.) Alternating the nozzles effectively delivers four sprays in one pass of the sprayer, with the 50° oriented nozzles to the front and back providing larger droplets on the outside of the spray "cloud." The smaller droplets produced by the 10° angled tips are directed almost straight down, between the coarser spray patterns in this setup, resulting in a canopy of coarser, high velocity spray that helps prevent small to medium droplets from drifting off target. The difference in tip output, spray quality, and velocity between the two tips additionally produces a low pressure area within the droplet canopy, pulling the droplets down and keeping them within the two 50° angled spray patterns.

The DF Cap is mated to the (TDXLV/TDVC) using a G-120 gasket. The DF Caps component parts are the two DF-SP8 pieces which slide into the DF-B base, locking in the SMP nozzles and DF-ORAS gaskets. Finally, the assembled nozzle is connected to the boom or nozzle body with a G-125 gasket. Any of these parts can be ordered separately if replacements are needed.

Parts and Accessories

Venturi

TDXLV005
TDXLV/TDVC01
TDXLV/TDVC015
TDXLV/TDVC02
TDXLV/TDVC025
TDXLV/TDVC03
TDXLV/TDVC04
TDXLV/TDVC05
TDXLV/TDVC06
TDXLV/TDVC08
TDXLV/TDVC10
TDXLV15

The heart of the TurboDrop® air injection nozzle; meters flow rate and injects air. Available in all poly or poly with ceramic metering orifice (for extended wear life).

DualFan Cap

CADF

Allows DualFan spraying (10˚ and 50˚ angles) with standard tips, AirMix® nozzles, or as part of TurboDrop® DualFan nozzles. Includes DF cap, and two DF-SP8 tip clips.

DualFan Tip Slide

DF-SP8

Part of the DualFan cap. Uses a friction fit and slides onto the cap securing the pattern tip or nozzle and either DF-ORAS or DF-ORAA gaskets.

Dual Fan Tip Clip Gasket (for SMP)

DF-ORAS

Gasket to be used in conjunction with the DF-SP8 to mount an SMP nozzle tip to a DF Cap. EPDM construction.

DualFan Tip Clip Gasket (for AirMix or BP)

DF-ORAA

Gasket to be used in conjunction with the DF-SP8 to mount an AirMix or BP nozzle tip to a DF Cap.

Gaskets

G120
G125

One-hole gasket. G125 is 3.0mm thick, G120 is 2.8mm thick and used between the DF or TCP caps and the TurboDrop Venturi.

Diffuser

DIF4

Quickly builds and ensures proper patternation. Use with 80° or narrower angle flat fan tips on TurboDrop® Venturi and with 110° tips that are more than double the size of the Venturi (as in the TDXL-D). EPDM and polyacetal construction.

Parts and Accessories

Cap

Standard ISO color coded cap for use with AM, BP, or SMP nozzles.

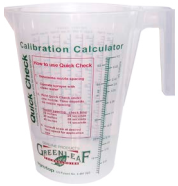
C01
C015
C02
C025
C03
C04
C05
C06
C08
C10

Extension Adapter

When used with DualFan nozzles, lowers the nozzle approximately 1 inch to clear obstructions on certain sprayers.

EXAD

Quick Check Calibration Calculator



One minute at 40 PSI is all it takes to measure the amount of liquid being dispersed through spray nozzles, and calculate application rates. Can also be used to adjust nozzle flow rates, determine nozzle accuracy, and evaluate line pressure losses.

QC02

Quick Hollow Cone Spray Nozzle

Quarter turn, quick connect hollow cone tip. For use with TurboDrop Venturi or as a standalone hollow cone tip.

Polyacetal with EPDM seat gasket.

QHC013
QHC023
QHC045
QHC068

Standard Tip Strainer

Tip strainer. Available in 24, 50, or 100 mesh variants.

Polyacetal with stainless steel screen.

TS24M
TS50M
TS100M

Gripper Tip Strainer

Tip strainer with an integral seat gasket. Available in 24, 50, or 100 mesh variants.

Polyacetal with stainless steel screen and EPDM gasket.

GTS24M
GTS50M
GTS100M

Handheld Weather Meters

Hand-Held Thermo-Windmeter WeatherMate WM20

Hand-Held Thermo-Windmeter
Windspeed (Current, Avg, Max)
Temperature/Windchill
Avg readings based on 5/10/13 second intervals
Automatic Shut off
Folding Cover
Water Resistant
Floats
Shockproof
Tripod Mountable

WM20

Hand-Held Weather Meter WM10

Simple and accurate (+/-5%) measurement of wind speed in mph, kmh, m/s, or knots.
Range: 0.5-67 mph
Lanyard included
Auto Power off
Water Resistant
Backlit LCD display

WM10

Multi-function Weather Meter WeatherMate WM300

Windspeed (Current, Avg, Max)
Wind Direction in degrees and compass points
Crosswind and head/tail wind readings
Temperature and Windchill
Humidity (Swiss-made sensor)
Wet Bulb and Dew Point
Delta T
Auto Shutoff
Folding Cover
Water Resistant
Floats
Shockproof
Tripod Mountable

WM300

Self-Cleaning Closed Transfer System for Plant Protection Products

The easyFlow is the first closed, contamination-avoiding and self-cleaning transfer system for liquid plant protection products from sealed or non-sealed small PPP containers enabling the user to do partial or complete dosing. The easyFlow system is designed to fulfill all standards of environmental protection and operational safety today and in the future.

easyFlow M Closed Transfer System

EFM165

- Mounts next to sprayer
- Connects to suction line or induction hopper
- Measuring vessel for accurate dosing
- Built in rinsing system

easyFlow Tank Adaptor

EFTA55

- Mounts directly to sprayer tank, nurse tank or chemical inductor.
- Easy to install and operate.
- Built in backflow prevention.
- Gravity flow, no pump needed.
- Large diameters for quick transfer.

Includes mounting screws, sealing gasket and counter plate. Also includes Banjo cam lever adaptor (075ABP) for water inlet.

easyFlow Container Adaptor

EFJA64

- Fits most chemical containers (63mm).
- Cuts and pushes back the aluminum seal of the PPP container, preventing contamination.
- Has built in rinsing nozzle for fast and easy cleaning of containers and both adaptors.
- Remains attached to PPP container until all chemical is dispensed.
- Multiple Container Adaptors may be used in combination with one Tank Adaptor.

easyFlow Bulk Container Adaptor

EFJA64T

Container adaptor with hose barb for connecting to bulk chemical containers.

easyFlow Wedge Plate Kit

EFWP71

Compensates for inclined tank surfaces, up to 5°.

easyFlow Perforator

EFP965

Tool to pierce containers and speed draining of chemical jugs. Especially useful with thick or sticky liquids.

Visit us online for a detailed video demonstration!
www.greenleaftech.com/easyflow

15 Inch Speed Range(MPH) Chart for PWM Spraying

PWM charts are very different from traditional flow rate tabulation charts. These charts show a speed range for operating a specific size nozzle at a given pressure. Instructions for interpreting the PWM Speed Charts are located at the bottom of Page 10.

Tip Size	Gauge PSI	Nozzle PSI	BPDF	BP	SD	DF	TCP	5 GPA				7.5 GPA				10 GPA				12.5 GPA				15 GPA				20 GPA				25 GPA			
								Min			Max	Min			Max	Min			Max	Min			Max	Min			Max	Min			Max	Min			Max
								25%	50%	75%	100	25%	50%	75%	100	25%	50%	75%	100	25%	50%	75%	100	25%	50%	75%	100	25%	50%	75%	100	25%	50%	75%	100
0.3 GPM #3	20	20	C	VC		F	F	4	8	12	17	3	6	8	11	2	4	6	8	2	3	5	7	1	3	4	6	1	2	3	4	1	2	2	3
	30	30	M	VC		F	F	5	10	15	20	3	7	10	14	3	5	8	10	2	4	6	8	2	3	5	7	1	3	4	5	1	2	3	4
	40	39	M	C		F	F	6	12	18	23	4	8	12	16	3	6	9	12	2	5	7	9	2	4	6	8	1	3	4	6	1	2	4	5
	50	49	F	C		F	F	7	13	20	26	4	9	13	17	3	7	10	13	3	5	8	10	2	4	7	9	2	3	5	7	1	3	4	5
	60	59	F	M		F	F	7	14	21	29	5	10	14	19	4	7	11	14	3	6	9	11	2	5	7	10	2	4	5	7	1	3	4	6
	70	69	F	M		F	F	8	15	23	31	5	10	15	21	4	8	12	15	3	6	9	12	3	5	8	10	2	4	6	8	2	3	5	6
0.4 GPM #4	20	19	C	VC	UC	F	F	5	11	16	22	4	7	11	15	3	5	8	11	2	4	7	9	2	4	5	7	1	3	4	5	1	2	3	4
	30	29	C	VC	UC	F	F	7	13	20	27	4	9	13	18	3	7	10	13	3	5	8	11	2	4	7	9	2	3	5	7	1	3	4	5
	40	39	M	C	XC	F	F	8	15	23	31	5	10	15	21	4	8	12	15	3	6	9	12	3	5	8	10	2	4	6	8	2	3	5	6
	50	49	M	C	XC	F	F	9	17	26	34	6	11	17	23	4	9	13	17	3	7	10	14	3	6	9	11	2	4	6	9	2	3	5	7
	60	58	F	M	XC	F	F	9	19	28	38	6	13	19	25	5	9	14	19	4	8	11	15	3	6	9	13	2	5	7	9	2	4	6	8
	70	68	F	M	XC	F	F	10	20	31	41	7	14	20	27	5	10	15	20	4	8	12	16	3	7	10	14	3	5	8	10	2	4	6	8
0.5 GPM #5	20	19	VC	XC	UC	F	M	7	13	20	27	4	9	13	18	3	7	10	13	3	5	8	11	2	4	7	9	2	3	5	7	1	3	4	5
	30	29	C	VC	UC	F	F	8	16	25	33	5	11	16	22	4	8	12	16	3	7	10	13	3	5	8	11	2	4	6	8	2	3	5	7
	40	38	C	C	XC	F	F	9	19	28	38	6	13	19	25	5	9	14	19	4	8	11	15	3	6	9	13	2	5	7	9	2	4	6	8
	50	48	M	C	XC	F	F	11	21	32	42	7	14	21	28	5	11	16	21	4	8	13	17	4	7	11	14	3	5	8	11	2	4	6	8
	60	58	M	C	XC	F	F	12	23	35	46	8	15	23	31	6	12	17	23	5	9	14	19	4	8	12	15	3	6	9	12	2	5	7	9
	70	67	F	M	XC	F	F	13	25	38	50	8	17	25	33	6	13	19	25	5	10	15	20	4	8	13	17	3	6	9	13	3	5	8	10
0.6 GPM #6	20	19	XC	XC	UC	F	M	8	16	24	32	5	11	16	21	4	8	12	16	3	6	9	13	3	5	8	11	2	4	6	8	2	3	5	6
	30	28	VC	VC	UC	F	M	10	19	29	39	6	13	19	26	5	10	15	19	4	8	12	15	3	6	10	13	2	5	7	10	2	4	6	8
	40	38	C	VC	XC	F	F	11	22	34	45	7	15	22	30	6	11	17	22	4	9	13	18	4	7	11	15	3	6	8	11	2	4	7	9
	50	47	C	C	XC	F	F	13	25	38	50	8	17	25	33	6	13	19	25	5	10	15	20	4	8	13	17	3	6	9	13	3	5	8	10
	60	56	M	C	XC	F	F	14	27	41	55	9	18	27	37	7	14	21	27	5	11	16	22	5	9	14	18	3	7	10	14	3	5	8	11
	70	66	M	M	XC	F	F	15	30	44	59	10	20	30	39	7	15	22	30	6	12	18	24	5	10	15	20	4	7	11	15	3	6	9	12
0.7 GPM #7	20	18	XC			F		9	18	27	36	6	12	18	24	5	9	14	18	4	7	11	14	3	6	9	12	2	5	7	9	2	4	5	7
	30	28	VC			F		11	22	33	44	7	15	22	30	6	11	17	22	4	9	13	18	4	7	11	15	3	6	8	11	2	4	7	9
	40	37	C			F		13	26	38	51	9	17	26	34	6	13	19	26	5	10	15	20	4	9	13	17	3	6	10	13	3	5	8	10
	50	46	C			F		14	29	43	57	10	19	29	38	7	14	21	29	6	11	17	23	5	10	14	19	4	7	11	14	3	6	9	11
	60	55	C			F		16	31	47	63	10	21	31	42	8	16	23	31	6	13	19	25	5	10	16	21	4	8	12	16	3	6	9	13
	70	65	M			F		17	34	51	68	11	23	34	45	8	17	25	34	7	14	20	27	6	11	17	23	4	8	13	17	3	7	10	14
0.8 GPM #8	20	18	XC		UC	M	M	10	20	30	40	7	13	20	27	5	10	15	20	4	8	12	16	3	7	10	13	3	5	8	10	2	4	6	8
	30	27	VC		UC	F	M	12	25	37	49	8	16	25	33	6	12	19	25	5	10	15	20	4	8	12	16	3	6	9	12	2	5	7	10
	40	36	C		XC	F	M	14	29	43	57	10	19	29	38	7	14	21	29	6	11	17	23	5	10	14	19	4	7	11	14	3	6	9	11
	50	45	C		XC	F	F	16	32	48	64	11	21	32	43	8	16	24	32	6	13	19	26	5	11	16	21	4	8	12	16	3	6	10	13
	60	54	C		XC	F	F	17	35	52	70	12	23	35	47	9	17	26	35	7	14	21	28	6	12	17	23	4	9	13	17	3	7	10	14
	70	63	M		XC	F	F	19	38	57	75	13	25	38	50	9	19	28	38	8	15	23	30	6	13	19	25	5	9	14	19	4	8	11	15
0.9 GPM #9	20	18	XC			M		11	22	33	44	7	15	22	29	6	11	17	22	4	9	13	18	4	7	11	15	3	6	8	11	2	4	7	9
	30	26	VC			F		14	27	41	54	9	18	27	36	7	14	20	27	5	11	16	22	5	9	14	18	3	7	10	14	3	5	8	11
	40	35	VC			F		16	31	47	63	10	21	31	42	8	16	23	31	6	13	19	25	5	10	16	21	4	8	12	16	3	6	9	13
	50	44	C			F		17	35	52	70	12	23	35	47	9	17	26	35	7	14	21	28	6	12	17	23	4	9	13	17	3	7	10	14
	60	53	C			F		19	38	57	77	13	26	38	51	10	19	29	38	8	15	23	31	6	13	19	26	5	10	14	19	4	8	11	15
	70	61	M			F		21	41	62	83	14	28	41	55	10	21	31	41	8	17	25	33	7	14	21	28	5	10	16	21	4	8	12	17
1.0 GPM #10	20	17	XC		UC	M	VC	12	24	36	48	8	16	24	32	6	12	18	24	5	10	14	19	4	8	12	16	3	6	9	12	2	5	7	10
	30	26	VC		UC	F	C	15	29	44	58	10	19	29	39	7	15	22	29	6	12	18	23	5	10	15	19	4	7	11	15	3	6	9	12
	40	34	VC		UC	F	M	17	34	51	68	11	23	34	45	8	17	25	34	7	14	20	27	6	11	17	23	4	8	13	17	3	7	10	14
	50	43	C		UC	F	M	19	38	57	75	13	25	38	50	9	19	28	38	8	15	23	30	6	13	19	25	5	9	14	19	4	8	11	15
	60	51	C		UC	F	M	21	41	62	83	14	28	41	55	10	21	31	41	8	17	25	33	7	14	21	28	5	10	16	21	4	8	12	17
	70	60	C		UC	F	M	22	45	67	89	15	30	45	60	11	22	33	45	9	18	27	36	7	15	22	30	6	11	17	22	4	9	13	18
1.2 GPM #12	20	16	XC			M	VC	13	27	40	54	9	18	27	36	7	13	20	27	5	11	16	22	4	9	13	18	3	7	10	13	3	5	8	11
	30	24	XC			M	C	16	33	49	66	11	22	33	44	8	16	25	33	7	13	20	26	5	11	16	22	4	8	12	16	3	7	10	13
	40	32	VC			F	C	19	38	57	76	13	25	38	51	10	19	29	38	8	15	23	30	6	13	19	25	5	10	14	19	4	8	11	15
	50	40	C			F	M	21	43	64	85	14	28	43	57	11	21	32	43	9	17	26	34	7	14	21	28	5	11	16	21	4	9	13	17
	60	48	C			F	M	23	47	70	93	16	31	47	62	12	23	35	47	9	19	28	37	8	16	23	31	6	12	17	23	5	9	14	19
	70	56	C			F	M	25	50	75	101	17	34	50	67	13	25	38	50	10	20	30	40	8	17	25	34	6	13	19	25	5	10	15	20
1.4 GPM #14	20	15				C		15	29	44	59	10	20	29	39	7	15	22	29	6	12	18	23	5	10	15	20	4	7	11	15	3	6	9	12
	30	22				M		18	36	54	72	12	24	36	48	9	18	27	36	7	14	22	29	6	12	18	24	4	9	13	18	4	7	11	14
	40	30				M		21	41	62	83	14	28	41	55	10	21	31	41	8	17	25	33	7	14	21	28	5	10	16	21	4	8	12	17
	50	37				F		23	46	69	93	15	31	46	62	12	23	35	46	9	19	28	37	8	15	23	31	6	12	17	23	5	9	14	19
	60	45				F		25	51	76	101	17	34	51	68	13	25	38	51	10	20	30	41	8	17	25	34	6	13	19	25	5	10	15	20
	70	52				F		27	55	82	110	18	37	55	73	14	27	41	55	11	22	33	44	9	18	27	37	7	14	21	27	5	11	16	22
1.6 GPM #16	20	14				--	--	16	31	47	62	10	21	31	41	8	16	23	31	6	12	19	25	5	10	16	21	4	8	12	16	3	6	9	12
	30	21				M	XC	19	38	57	76	13	25	38	51	10	19	29	38	8	15	23	30	6	13	19	25	5	10	14	19	4	8	11	15
	40	28				M	XC	22	44	66	88	15	29	44	59	11	22	33	44	9	18	26	35	7	15	22	29	5	11	16	22	4	9	13	18
	50	35				M	VC	25	49	74	98	16	33	49	65	12	25	37	49	10	20	29	39	8	16	25	33	6	12	18	25	5	10	15	20
	60	42				F	C	27	54	81	108	18	36	54	72	13	27	40	54	11	22	32	43	9	18	27	36	7	13	20	27	5	11	16	22
	70	49				F	C	29	58	87	116	19	39	58	77	15	29	44	58	12	23	35	46	10	19	29	39	7	15	22	29	6	12	17	23
1.8 GPM #18	20	13				--		16	32	48	65	11	22	32	43	8	16	24	32	6	13	19	26	5	11	16	22	4	8	12	16	3	6	10	13
	30	19				C		20	40	59	79	13	26	40	53	10	20	30	40	8	16	24	32	7	13	20	26	5	10	15	20	4	8	12	16
	40	26				C		23	46	68	91	15	30	46	61	11	23	34	46	9	18	27	37	8	15	23	30	6	11	17	23	5	9	14	18
	50	32				M		26	51	77	102	17	34	51	68	13	26	38	51	10	20	31	41	9	17	26	34	6	13	19	26	5	10	15	20
	60	38				M		28	56	84	112	19	37	56	75	14	28	42	56	11	22	34	45	9	19	28	37	7	14	21	28	6	11	17	22
	70	45				M		30	60	91	121	20	40	60	81	15	30	45	60	12	24	36	48	10	20	30	40	8	15	23	30	6	12	18	24
2.0 GPM #20	20	12				--	--	17	33	50	66	11	22	33	44	8	17	25	33	7	13	20	26	6	11	17	22	4	8	12	17	3	7	10	13
	30	18				C	XC	20	41	61	81	14	27	41	54	10	20	30	41	8	16	24	32	7	14	20	27	5	10	15	20	4	8	12	16
	40	24				C	XC	23	47	70	94	16	31	47	62	12	23	35	47	9	19	28	37	8	16	23	31	6	12	18	23	5	9	14	19
	50	30				M	XC	26	52	78	105	17	35	52	70	13	26	39	52	10	21	31	42	9	17	26	35	7	13	20	26	5	10	16	21
	60	35				M	XC	29	57	86	115	19	38	57	76	14	29	43	57	11	23	34	46	10	19	29	38	7	14	21	29	6	11	17	23
	70	41				M	XC	31	62	93	124	21	41	62	83	15	31	46	62	12	25	37	50	10	21	31	41	8	15	23	31	6	12	19	25

Valve Speed Range flow chart uses Capstan 24 Series data and is reproduced with permission of Capstan Ag Systems, Inc. Blended Pulse™ is a trademark of and used with permission of Capstan Ag Systems, Inc.

15 Inch Broadcast Nozzle Tabulation Chart

	AM	TDXL	TDXL-D	TADF	TADF-D	PSI	GPM	GALLONS PER ACRE BASED ON 15" NOZZLE SPACING										
								4 MPH	5 MPH	6 MPH	7 MPH	8 MPH	9 MPH	10 MPH	12 MPH	14 MPH	16 MPH	18 MPH	20 MPH
	C					15	0.12	12.1	9.7	8.1	6.9	6.1	5.4	4.8	4.0	3.5	3.0	2.7	2.4
	C	VC		C M		20	0.14	14.0	11.2	9.3	8.0	7.0	6.2	5.6	4.7	4.0	3.5	3.1	2.8
AM11002	C	C	UC	C M	UC	30	0.17	17.1	13.7	11.4	9.8	8.6	7.6	6.9	5.7	4.9	4.3	3.8	3.4
TDXL11002	M	C	XC	C M	XC	40	0.20	19.8	15.8	13.2	11.3	9.9	8.8	7.9	6.6	5.7	5.0	4.4	4.0
TDXL11002-D	M	M	XC	C M	XC	50	0.22	22.1	17.7	14.8	12.6	11.1	9.8	8.9	7.4	6.3	5.5	4.9	4.4
TADF02	F	M	XC	M	XC	60	0.24	24.2	19.4	16.2	13.9	12.1	10.8	9.7	8.1	6.9	6.1	5.4	4.8
TADF02-D	F	M	VC	M	VC	70	0.26	26.2	21.0	17.5	15.0	13.1	11.6	10.5	8.7	7.5	6.5	5.8	5.2
	F	M	VC	M F	VC	80	0.28	28.0	22.4	18.7	16.0	14.0	12.4	11.2	9.3	8.0	7.0	6.2	5.6
	F	F	VC	M F	VC	90	0.30	29.7	23.8	19.8	17.0	14.9	13.2	11.9	9.9	8.5	7.4	6.6	5.9
		F		M F		100	0.32	31.3	25.0	20.9	17.9	15.7	13.9	12.5	10.4	8.9	7.8	7.0	6.3
		F		F		120	0.35	34.3	27.4	22.9	19.6	17.1	15.2	13.7	11.4	9.8	8.6	7.6	6.9
	VC					15	0.15	15.2	12.1	10.1	8.7	7.6	6.7	6.1	5.1	4.3	3.8	3.4	3.0
	C	XC		VC C		20	0.18	17.5	14.0	11.7	10.0	8.8	7.8	7.0	5.8	5.0	4.4	3.9	3.5
AM110025	C	VC	UC	VC C	UC	30	0.22	21.4	17.1	14.3	12.2	10.7	9.5	8.6	7.1	6.1	5.4	4.8	4.3
TDXL110025	C	VC	XC	C	XC	40	0.25	24.8	19.8	16.5	14.1	12.4	11.0	9.9	8.3	7.1	6.2	5.5	5.0
TDXL110025-D	M	C	XC	C M	XC	50	0.28	27.7	22.1	18.4	15.8	13.8	12.3	11.1	9.2	7.9	6.9	6.1	5.5
TADF025	M	M	XC	M	XC	60	0.31	30.3	24.2	20.2	17.3	15.2	13.5	12.1	10.1	8.7	7.6	6.7	6.1
TADF025-D	M	M	VC	M	VC	70	0.33	32.7	26.2	21.8	18.7	16.4	14.6	13.1	10.9	9.4	8.2	7.3	6.5
	M	M	VC	M F	VC	80	0.35	35.0	28.0	23.3	20.0	17.5	15.6	14.0	11.7	10.0	8.8	7.8	7.0
	F	M	VC	M F	VC	90	0.38	37.1	29.7	24.8	21.2	18.6	16.5	14.9	12.4	10.6	9.3	8.3	7.4
		M		M F		100	0.40	39.1	31.3	26.1	22.4	19.6	17.4	15.7	13.0	11.2	9.8	8.7	7.8
		F		F		120	0.43	42.9	34.3	28.6	24.5	21.4	19.1	17.1	14.3	12.2	10.7	9.5	8.6
	XC					15	0.18	18.2	14.5	12.1	10.4	9.1	8.1	7.3	6.1	5.2	4.5	4.0	3.6
	VC	XC		VC C		20	0.21	21.0	16.8	14.0	12.0	10.5	9.3	8.4	7.0	6.0	5.3	4.7	4.2
AM11003	VC	XC	UC	VC C	UC	30	0.26	25.7	20.6	17.1	14.7	12.9	11.4	10.3	8.6	7.3	6.4	5.7	5.1
TDXL11003	C	VC	UC	C	UC	40	0.30	29.7	23.8	19.8	17.0	14.9	13.2	11.9	9.9	8.5	7.4	6.6	5.9
TDXL11003-D	C	C	XC	C M	XC	50	0.34	33.2	26.6	22.1	19.0	16.6	14.8	13.3	11.1	9.5	8.3	7.4	6.6
TADF03	M	C	XC	M	XC	60	0.37	36.4	29.1	24.2	20.8	18.2	16.2	14.5	12.1	10.4	9.1	8.1	7.3
TADF03-D	M	M	XC	M	XC	70	0.40	39.3	31.4	26.2	22.5	19.6	17.5	15.7	13.1	11.2	9.8	8.7	7.9
	M	M	VC	M F	VC	80	0.42	42.0	33.6	28.0	24.0	21.0	18.7	16.8	14.0	12.0	10.5	9.3	8.4
	M	M	VC	M F	VC	90	0.45	44.6	35.6	29.7	25.5	22.3	19.8	17.8	14.9	12.7	11.1	9.9	8.9
		M		M F		100	0.47	47.0	37.6	31.3	26.8	23.5	20.9	18.8	15.7	13.4	11.7	10.4	9.4
		M		F		120	0.52	51.4	41.2	34.3	29.4	25.7	22.9	20.6	17.1	14.7	12.9	11.4	10.3
	XC					15	0.24	24.2	19.4	16.2	13.9	12.1	10.8	9.7	8.1	6.9	6.1	5.4	4.8
	VC	XC		VC C		20	0.28	28.0	22.4	18.7	16.0	14.0	12.4	11.2	9.3	8.0	7.0	6.2	5.6
AM11004	VC	XC	UC	VC C	UC	30	0.35	34.3	27.4	22.9	19.6	17.1	15.2	13.7	11.4	9.8	8.6	7.6	6.9
TDXL11004	C	VC	UC	C	UC	40	0.40	39.6	31.7	26.4	22.6	19.8	17.6	15.8	13.2	11.3	9.9	8.8	7.9
TDXL11004-D	C	C	UC	C M	XC	50	0.45	44.3	35.4	29.5	25.3	22.1	19.7	17.7	14.8	12.6	11.1	9.8	8.9
TADF04	M	C	XC	M	XC	60	0.49	48.5	38.8	32.3	27.7	24.2	21.6	19.4	16.2	13.9	12.1	10.8	9.7
TADF04-D	M	M	XC	M	XC	70	0.53	52.4	41.9	34.9	29.9	26.2	23.3	21.0	17.5	15.0	13.1	11.6	10.5
	M	M	XC	M F	XC	80	0.57	56.0	44.8	37.3	32.0	28.0	24.9	22.4	18.7	16.0	14.0	12.4	11.2
	M	M	XC	M F	VC	90	0.60	59.4	47.5	39.6	33.9	29.7	26.4	23.8	19.8	17.0	14.9	13.2	11.9
		M		M F		100	0.63	62.6	50.1	41.7	35.8	31.3	27.8	25.0	20.9	17.9	15.7	13.9	12.5
		M		M F		120	0.69	68.6	54.9	45.7	39.2	34.3	30.5	27.4	22.9	19.6	17.1	15.2	13.7
	XC					15	0.31	30.3	24.2	20.2	17.3	15.2	13.5	12.1	10.1	8.7	7.6	6.7	6.1
	XC	XC		VC C		20	0.35	35.0	28.0	23.3	20.0	17.5	15.6	14.0	11.7	10.0	8.8	7.8	7.0
AM11005	VC	XC	UC	VC C	UC	30	0.43	42.9	34.3	28.6	24.5	21.4	19.1	17.1	14.3	12.2	10.7	9.5	8.6
TDXL11005	C	XC	UC	VC C	UC	40	0.50	49.5	39.6	33.0	28.3	24.8	22.0	19.8	16.5	14.1	12.4	11.0	9.9
TDXL11005-D	C	VC	UC	C M	XC	50	0.56	55.3	44.3	36.9	31.6	27.7	24.6	22.1	18.4	15.8	13.8	12.3	11.1
TADF05	C	VC	UC	C M	XC	60	0.61	60.6	48.5	40.4	34.6	30.3	26.9	24.2	20.2	17.3	15.2	13.5	12.1
TADF05-D	M	C	UC	M	XC	70	0.66	65.5	52.4	43.7	37.4	32.7	29.1	26.2	21.8	18.7	16.4	14.6	13.1
	M	C	XC	M	VC	80	0.71	70.0	56.0	46.7	40.0	35.0	31.1	28.0	23.3	20.0	17.5	15.6	14.0
	M	M	XC	M F	VC	90	0.75	74.3	59.4	49.5	42.4	37.1	33.0	29.7	24.8	21.2	18.6	16.5	14.9
		M		M F		100	0.79	78.3	62.6	52.2	44.7	39.1	34.8	31.3	26.1	22.4	19.6	17.4	15.7
		M		M F		120	0.87	85.7	68.6	57.2	49.0	42.9	38.1	34.3	28.6	24.5	21.4	19.1	17.1
	XC					15	0.37	36.4	29.1	24.2	20.8	18.2	16.2	14.5	12.1	10.4	9.1	8.1	7.3
	XC	XC		VC		20	0.42	42.0	33.6	28.0	24.0	21.0	18.7	16.8	14.0	12.0	10.5	9.3	8.4
AM11006	VC	XC	UC	VC	UC	30	0.52	51.4	41.2	34.3	29.4	25.7	22.9	20.6	17.1	14.7	12.9	11.4	10.3
TDXL11006	C	XC	UC	VC	UC	40	0.60	59.4	47.5	39.6	33.9	29.7	26.4	23.8	19.8	17.0	14.9	13.2	11.9
TDXL11006-D	C	XC	UC	C	UC	50	0.67	66.4	53.1	44.3	37.9	33.2	29.5	26.6	22.1	19.0	16.6	14.8	13.3
TADF06	C	VC	UC	C	XC	60	0.73	72.7	58.2	48.5	41.6	36.4	32.3	29.1	24.2	20.8	18.2	16.2	14.5
TADF06-D	M	VC	UC	M	XC	70	0.79	78.6	62.9	52.4	44.9	39.3	34.9	31.4	26.2	22.5	19.6	17.5	15.7
	M	C	UC	M	XC	80	0.85	84.0	67.2	56.0	48.0	42.0	37.3	33.6	28.0	24.0	21.0	18.7	16.8
	M	C	UC	M	XC	90	0.90	89.1	71.3	59.4	50.9	44.6	39.6	35.6	29.7	25.5	22.3	19.8	17.8
		M		M		100	0.95	93.9	75.1	62.6	53.7	47.0	41.7	37.6	31.3	26.8	23.5	20.9	18.8
		M		M		120	1.04	102.9	82.3	68.6	58.8	51.4	45.7	41.2	34.3	29.4	25.7	22.9	20.6
		XC		VC		20	0.57	56.0	44.8	37.3	32.0	28.0	24.9	22.4	18.7	16.0	14.0	12.4	11.2
		XC		VC		30	0.69	68.6	54.9	45.7	39.2	34.3	30.5	27.4	22.9	19.6	17.1	15.2	13.7
TDXL11008		XC		VC		40	0.80	79.2	63.4	52.8	45.3	39.6	35.2	31.7	26.4	22.6	19.8	17.6	15.8
TDXL11008-D		XC		C		50	0.89	88.5	70.8	59.0	50.6	44.3	39.4	35.4	29.5	25.3	22.1	19.7	17.7
TADF08		XC		C		60	0.98	97.0	77.6	64.7	55.4	48.5	43.1	38.8	32.3	27.7	24.2	21.6	19.4
TADF08-D		VC		M		70	1.06	104.8	83.8	69.8	59.9	52.4	46.6	41.9	34.9	29.9	26.2	23.3	21.0
		VC		M		80	1.13	112.0	89.6	74.7	64.0	56.0	49.8	44.8	37.3	32.0	28.0	24.9	22.4
		VC		M		90	1.20	118.8	95.0	79.2	67.9	59.4	52.8	47.5	39.6	33.9	29.7	26.4	23.8
		C		M		100	1.26	125.2	100.2	83.5	71.6	62.6	55.7	50.1	41.7	35.8	31.3	27.8	25.0
		C		M		120	1.39	137.2	109.7	91.5	78.4	68.6	61.0	54.9	45.7	39.2	34.3	30.5	27.4
		XC		XC		20	0.71	70.0	56.0	46.7	40.0	35.0	31.1	28.0	23.3	20.0	17.5	15.6	14.0
		XC		XC		30	0.87	85.7	68.6	57.2	49.0	42.9	38.1	34.3	28.6	24.5	21.4	19.1	17.1
		XC		XC		40	1.00	99.0	79.2	66.0	56.6	49.5	44.0	39.6	33.0	28.3	24.8	22.0	19.8
TDXL11010		XC		VC		50	1.12	110.7	88.5	73.8	63.2	55.3	49.2	44.3	36.9	31.6	27.7	24.6	22.1
TADF10		XC		VC		60	1.22	121.2	97.0	80.8	69.3	60.6	53.9	48.5	40.4	34.6	30.3	26.9	24.2
		VC		VC		70	1.32	131.0	104.8	87.3	74.8	65.5	58.2	52.4	43.7	37.4	32.7	29.1	26.2
		VC		C		80	1.41	140.0	112.0	93.3	80.0	70.0	62.2	56.0	46.7	40.0	35.0	31.1	28.0
		VC		C		90	1.50	148.5	118.8	99.0	84.9	74.3	66.0	59.4	49.5	42.4	37.1	33.0	29.7
		VC		M		100	1.58	156.5	125.2	104.4	89.4	78.3	69.6	62.6	52.2	44.7	39.1	34.8	31.3
		VC		M		120	1.73	171.5	137.2	114.3	98.0	85.7	76.2	68.6	57.2	49.0	42.9	38.1	34.3

About Greenleaf Technologies

Greenleaf Technologies was founded in 1985 by Bill Smart with the idea of bringing high tech spray equipment to the market.

Bill Smart spent his whole life developing, tinkering with and promoting advanced fluid handling technology. If not destroyed by Hurricane Katrina, his 2000 square foot workshop might have served as a museum of his ideas for unique and innovative spray systems.

In 1995, a partnership was formed between agrotop GmbH and Greenleaf Technologies whereby Greenleaf would promote and distribute the agrotop spray technology product line in North America.

Steffen Graef of agrotop developed the TurboDrop® nozzle in 1993 in response to the market need for an agricultural spray nozzle that would provide a combination of canopy penetration and coverage with contact chemicals that was previously not available. The high pressure TurboDrop® venturi nozzle was born!

An additional advantage of the TurboDrop® design was its superior drift control even at high pressures. With the rapid growth of GMO crops and particularly glyphosate tolerant ones, spray drift management was becoming extremely important.

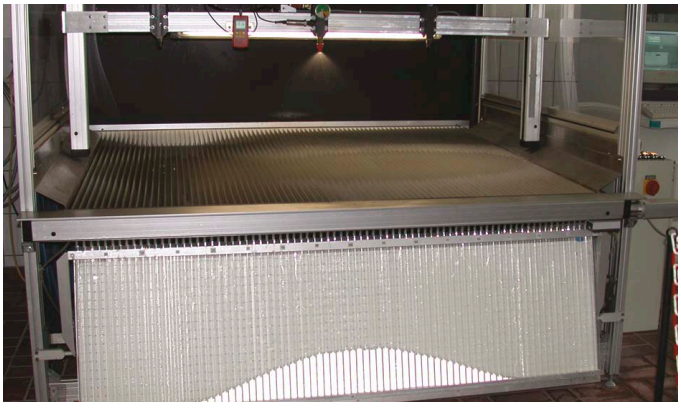
In 1998, the TDXL medium pressure TurboDrop® venturi nozzle was introduced to provide a more compact, economical, multi-purpose, user-friendly air injection nozzle to the North American market. Millions of XL nozzles have been sold since.

Introduced in 2001, the AirMix nozzle was developed to provide an economical entry level venturi nozzle with a lower operating pressure. An acid resistant version has found a niche in low pH applications, and an Off-Center version has also been introduced.

In 2007, a Variable Rate version of the TurboDrop nozzle was introduced, for applications where either the carrier rate or speed needs to change at a 3-4X rate. It is offered in a single fan and a DualFan version. A streaming fertilizer version was introduced in 2009, and a Hose Barb version in 2013.

The TurboDrop® Asymmetric DualFan nozzle became available in April 2011. Initially designed to improve backside coverage on vertical targets, the TADF/TACDF has been transformed into a full season nozzle through the use of an alternating configuration on the spray boom, effectivly spraying the target four times in one pass. The TurboDrop® DualFan has proven to be effective in the widest variety of applications due to its unique combination of spray coverage, canopy penetration and drift control.

D versions of both the XL and TurboDrop DualFan nozzles were introduced in 2014, to provide maximum drift control with Very Coarse, Extremely Coarse and Ultra Coarse droplets for new dicamba, 2,4-D and glyphosate formulations.



Since 2019 we have offered a full line of PWM nozzles. This includes the SprayMax DualFan for contact critical applications, the SoftDrop nozzle for Ultra Coarse drift control, and our Blended Pulse™ DualFan nozzles, the first general purpose PWM nozzle to combine our asymmetric DualFan spray pattern with the ability to select Medium to Very Coarse droplets depending on the nozzle size and pressure.

ALBUZ Ceramic Nozzles Available from GREENLEAF TECHNOLOGIES

Millions of farmers across 52 countries trust Albuz. The nozzles are precision made using a specific pink ceramic grade which is as hard as diamond, offering exceptional resistance to wear, abrasion and chemicals.

Albuz Broadcast Nozzles

AXI 80°/110° ISO Extended range flat fan nozzle.
Fine droplets for contact critical applications.
Sizes Available: 015, 02, 025, 03, 04, 05, 06, 08
Pressure range: 15 - 60 psi.

AXI Twin 120° ISO Twin fan spray nozzle.
Twin spray pattern of 120° spaced 70 degrees apart.
Fine droplets for contact critical applications.
Sizes Available: 02, 03, 04, 05
Pressure range: 15 - 60 psi.

ADI 110° ISO Drift reduction conventional flat fan nozzle.
Pre-orifice drift reduction by 50%.
Medium to Fine droplets.
Sizes Available: 01, 015, 02, 025, 03, 04
Pressure range: 30 - 60 psi.

CVI 110° ISO Low pressure air induction flat fan nozzle.
Extremely Coarse to Coarse droplets for drift control.
Sizes Available: 015, 02, 025, 03, 04, 05
Pressure range: 20 - 90 psi.

CVI TWIN 110° ISO Low pressure air induction twin fan nozzle.
Twin spray pattern of 110° spaced 65 degrees apart.
Extremely Coarse to Coarse droplets for drift control.
Sizes Available: 015, 02, 025, 03, 04, 05
Pressure range: 20 - 90 psi.

AVI 110° ISO Air induction flat fan nozzle.
Extremely Coarse to Very Coarse droplets for drift control.
Sizes Available: 01, 015, 02, 025, 03, 04, 05, 06, 08, 10
Pressure range: 40 - 100 psi.

AVI TWIN 110° ISO Air induction twin fan nozzle.
Twin spray pattern of 110° spaced 65° apart.
Extremely Coarse to Very Coarse droplets for drift control.
Sizes Available: 01, 015, 02, 025, 03, 04, 05, 06
Pressure range: 40 - 100 psi.

AVI UC 110° ISO Air induction flat fan nozzle.
Ultra Coarse droplets.
Sizes Available: 015, 02, 025, 03, 04, 05
Pressure range: 40 - 100 psi.

CVI-OC ISO Air injected off center nozzle 80° flat fan.
Extremely Coarse to Coarse droplets for drift control.
Sizes Available: 02, 025, 03
Pressure range: 20 - 60 psi.

AVI-OC ISO Air injected off center nozzle 80° flat fan.
Extremely Coarse to Very Coarse droplets for drift control.
Sizes Available: 01, 015, 02, 025, 03, 04, 05
Pressure range: 40 - 100 psi.

ESI / FESI ISO 6 stream fertilizer nozzle.
8mm cap fitted with 7° to 10° offset angle from boom position.
Orifices: 6 streams of Very Coarse droplets.
ESI Sizes Available: 015, 02, 025, 03, 04, 05, 06
FESI Sizes Available: 05, 06, 08, 10, 15
Pressure range: 15 - 60 psi.

Albuz Orchard and Vineyard Nozzles

ATR 60°/ 80° Euro Hollow cone nozzle producing fine droplets.
Can be used on a sprayer boom from 40 psi.
European flow rate and sizes.
Recommended pressure for airblast sprayers: 150 - 250 psi.

ATI 60°/80° ISO Hollow cone nozzle producing very fine droplets.
For fungicides and insecticide applications.
Sizes Available: 005, 0075, 01, 015, 02, 025, 03, 035, 04, 05
Recommended pressure for airblast sprayers: 150 - 250 psi.

ATF 60°/80° ISO Full cone nozzle producing fine droplets.
Can be used on a boom sprayer for banding or directed applications.
Sizes Available: 015, 02, 025, 03, 04, 05
Recommended pressure on boom sprayers: 40 - 80 psi.
Recommended pressure for airblast sprayers: 150 - 250 psi.

TVI 80° ISO Air Induction 80° Hollow Cone nozzle.
3 ceramic components for greater wear resistance.
Can be used on a boom from a pressure of 70 psi.
Sizes Available: 005, 0075, 01, 015, 02, 025, 03, 04
Recommended pressure for airblast sprayers: 150 - 300 psi.

AVI 80° ISO Air induction 80° flat fan nozzle.
Can be used for tree canopies up to 25 feet.
Anti-clogging design and double air-intake orifices.
Sizes Available: 01, 015, 02, 025, 03, 04
Recommended operating pressures: between 150 and 200 psi.

CVI 80° ISO Compact air induction 80° flat fan nozzle.
Can be used for tree canopies up to 25 feet.
Anti-clogging design and double air intake orifices.
Sizes Available: 01, 015, 02, 025, 03, 04, 05, 06
Recommended operating pressures: between 150 and 200 psi.

Disc & Core Ceramic hollow-cone nozzle.
Hollow cone nozzle spraying fine droplets.
Recommended pressure: 150 -250 psi.

AMT Metering Disc.
Available size diameters 0.27, 0.59 and 0.71 inches.

Greenleaf Technologies is the exclusive American distributor for Albuz, the worldwide leader in ceramic spray nozzles.

View the full Albuz catalog by scaning the QR code with your phone.

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