



SPRAY NOZZLES AND ACCESSORIES



(800) 881-4830 • www.GreenleafGolf.com



MAXIMIZING COVERAGE AND MINIMIZING DRIFT ON THE GOLF COURSE

Greenleaf nozzles have been proven for over 18 years in the widest variety of golf course applications.

Superintendents do not need a different nozzle for every type of application.

DualFan nozzles maximize on target performance.

Even the best chemistry requires accurate placement. DualFan nozzles minimize drift and provide “two-sided” coverage for maximum chemical efficacy.



DualFan nozzles help prevent striping.

The asymmetric pattern allows for greater variability in boom height, while maintaining uniform spray distribution across the total spray swath.

TurboDrop® nozzles eliminate the need for costly drift control additives that can alter the performance of the chemicals being applied. TurboDrop® nozzles widen the spraying window.

Applicators can get the job done more quickly, spraying faster, spraying in a wider variety of conditions and often spraying with less water.

TurboDrop® nozzles produce air energized droplets.

The air expands inside the droplets, accelerating them toward the target. The droplets expand on contact with the leaf surface. Air-filled droplets mean there are more droplets to hit the target.

DualFan nozzles provide a more consistent, effective droplet size.

The droplets are not as coarse as with flood nozzles and are not as fine as with extended range flat fan or conventional twin nozzles. The droplet size is more uniform, providing more useful droplets with fewer ineffective (wasted) droplets.

TurboDrop® nozzles eliminate the need for cumbersome shrouds or boom covers that hide the nozzles and become covered with chemical contamination.



Coverage

Penetration

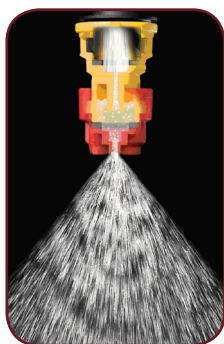
Drift Control

The TurboDrop® nozzle was developed over 20 years ago to improve coverage, reduce runoff and maximize efficiency with plant protection materials. Its combination of excellent drift control and uniform spray coverage make it the perfect choice for the myriad of spray applications on the golf course.

Nozzle Options for Turf

Nozzle selection can be critical when it comes to getting maximum efficacy from expensive application products. Most golf course sprayers come with either extended range flat fan nozzles or wide angle flood nozzles. The extended range nozzle, while providing uniform spray distribution, creates a relatively fine, drift-prone spray droplet spectrum. The flooding style nozzle delivers a coarser droplet, but pattern uniformity is compromised. The TurboDrop® venturi nozzle combines the drift control of a coarse spray (like the flood nozzle) with the uniform spray distribution of a flat fan nozzle. As a result, the TurboDrop® nozzle may be used in more adverse operating conditions and still deliver on-target performance. The droplet spectrum is not overly coarse or too fine, and the air filled droplets have proven to be effective for both contact and systemic chemicals. Most golf courses using the TurboDrop® nozzle use it for every single application on the fairways, greens, tees, and rough.

How TurboDrop® Works



TurboDrop® nozzles use Bernoulli's principle to create a low pressure area which pulls air into the nozzle where it is mixed with the liquid stream to create larger air-filled droplets. The metering orifice determines the flow rate and thus the size of the nozzle. The exit orifice determines the spray pattern of the nozzle.

Most spray nozzles have a single orifice that controls both the flow rate and the pattern. Therefore, when the nozzle begins to wear, both the flow rate and pattern are affected negatively. With the TurboDrop®, the initial metering orifice takes most of the pressure, protecting the life of the pattern orifice, to provide extended pattern uniformity, and prevent striping which can be a major issue on golf course greens.

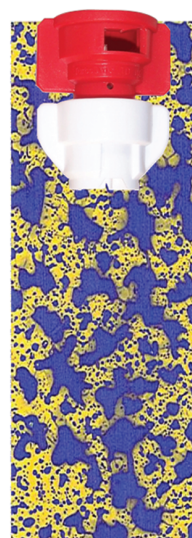
Spray Card Comparison of Common Turf Nozzles

Extended Range



Too Fine
(Drift Risk/Loss of Chemical)

TurboDrop®XL



Coarse
(Good Coverage & Drift Control)

Flood



Extremely Coarse
(Uneven Coverage)

The TurboDrop® utilizes a large mixing chamber and a patented pulsation dampener to produce a more uniform spray droplet spectrum made up of air-energized droplets. The air inclusion is important in that it changes the physics of the spray droplet. Air-filled droplets tend to spread out or collapse on the leaf surface rather than just running off, like big, solid-liquid droplets do. Additionally, having air-filled droplets means that there are more droplets in the spray to hit the intended target.

“Double” Coverage

Greenleaf Technologies introduced the first air injected twin fan nozzles in 2005. These nozzles split the flow in half, directing it in two 110° fan patterns, targeting the leaf blade from two different angles. Rather than simply spraying straight down, the TurboDrop® TwinFan sprayed at a 30° forward angle and a 30° rearward angle, effectively spraying the turf twice in one pass. For coverage critical applications like contact fungicides, growth regulators, and foliar amendments, improved coverage can enhance chemical performance. Spraying with the TurboDrop® TwinFan was like spraying the turf twice in one pass.

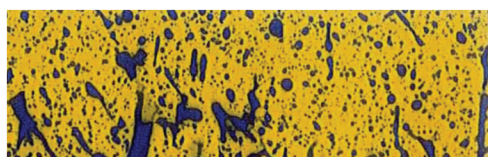
The Asymmetric DualFan nozzle, introduced in 2011, is the next step in the evolution of the air injected twin fan. With this nozzle, the spray patterns are oriented 10° forward and 50° rearward, to allow for greater variations in boom height. Between 12" and 22" from the turf, the Asymmetric DualFan nozzle has less than 5% variability in spray distribution across the boom length, preventing the striping effect often seen when booms get too close or too far away from the spray target.

Droplet Size

Managing droplet size is essential in balancing drift control and chemical efficacy. Droplets on the fine end of the spray spectrum will readily move off

target and evaporate, wasting chemical and potentially causing unintended damage. Overly coarse droplets will not adequately cover the leaf surface, resulting in reduced chemical efficacy. The ASABE droplet size categories (see Nozzle Tabulation Chart, next page) can be especially useful when selecting the proper nozzle and pressure for contact sprays. The ASABE system classifies sprays into eight categories from Very Fine (VF) to Ultra Coarse (UC). With Greenleaf air injected nozzles, Medium (M) and Coarse (C) droplets have proven effective at 1.0 GPT rates; Coarse (C) and Very Coarse (VC) droplets work well at 2.0 GPT. Very Fine (VF), Fine (F), Extremely Coarse (XC) and Ultra Coarse (UC) should be avoided in most applications. The VF and F droplets drift, and the XC and UC droplets don't cover very well.

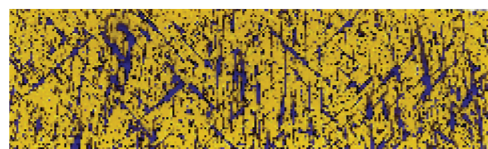
Back Side Coverage of Turf Grass (Spray cards mounted vertically.)



Flood Nozzle (front)



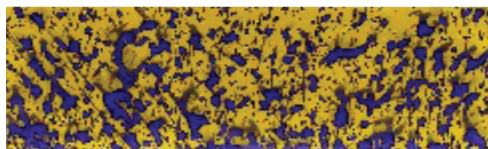
Flood Nozzle (back)



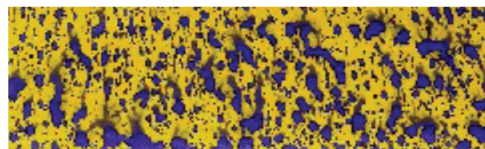
TurboDrop® TDXL (front)



TurboDrop® TDXL (back)



TurboDrop® TDAD (front)







TurboDrop® TDAD (back)

When spraying a (mostly) vertical spray target such as turf grass, it can be difficult to get coverage on the "back side" of the leaf blade. With single fan nozzles, most of the spray ends up on the front side of the leaf (the side that the sprayer is moving toward). With a TurboDrop® Asymmetric DualFan nozzle, spraying both forward and rearward, much better coverage is achieved on the back side.



Greenleaf Nozzles for Golf Course and Turf Grass Applications

Greenleaf nozzles are designed to provide a unique balance of coverage, penetration and drift control. The single fan TurboDrop® TDXL is preferred for soil applied products and for maximum drift control. The DualFan TDAD provides “two-sided” coverage for growth regulators, contact fungicides and other coverage critical applications. Both deliver air-energized spray droplets for maximizing on-target performance, and both nozzles come apart by hand for easy maintenance. They are available in a variety of sizes, with either a poly (TDXL, TDAD) or ceramic metering orifice (TDCXL, TDCAD).

*Also available in ceramic metering orifice. Add °C after TD for Ceramic			Liquid Pressure PSI	TDXL DROPLET SIZE ASABE	TDAD DROPLET SIZE ASABE	Nozzle Capacity GPM	GALLONS PER THOUSAND SQ. FT. BASED ON 20" NOZZLE SPACING								
							2 MPH	2.5 MPH	3 MPH	3.5 MPH	4 MPH	4.5 MPH	5 MPH	5.5 MPH	6 MPH
	TDXL110015* Standard TurboDrop (Use 100 mesh)		30	C	M	0.13	0.44	0.35	0.30	0.25	0.22	0.20	0.18	0.16	0.15
			40	C	M	0.15	0.51	0.41	0.34	0.29	0.26	0.23	0.20	0.19	0.17
			50	M	M	0.17	0.57	0.46	0.38	0.33	0.29	0.25	0.23	0.21	0.19
			60	M	M	0.18	0.63	0.50	0.42	0.36	0.31	0.28	0.25	0.23	0.21
			70	M	M	0.20	0.68	0.54	0.45	0.39	0.34	0.30	0.27	0.25	0.23
			80	M	F	0.21	0.72	0.58	0.48	0.41	0.36	0.32	0.29	0.26	0.24
			100	F	F	0.24	0.81	0.65	0.54	0.46	0.40	0.36	0.32	0.29	0.27
	TDXL11002* Standard TurboDrop (Use 50 mesh)		30	C	C	0.17	0.59	0.47	0.39	0.34	0.30	0.26	0.24	0.21	0.20
			40	C	M	0.20	0.68	0.55	0.45	0.39	0.34	0.30	0.27	0.25	0.23
			50	M	M	0.22	0.76	0.61	0.51	0.44	0.38	0.34	0.30	0.28	0.25
			60	M	M	0.24	0.83	0.67	0.56	0.48	0.42	0.37	0.33	0.30	0.28
			70	M	M	0.26	0.90	0.72	0.60	0.52	0.45	0.40	0.36	0.33	0.30
			80	M	F	0.28	0.96	0.77	0.64	0.55	0.48	0.43	0.39	0.35	0.32
			100	F	F	0.32	1.08	0.86	0.72	0.62	0.54	0.48	0.43	0.39	0.36
	TDXL110025* Standard TurboDrop (Use 50 mesh)		30	VC	C	0.22	0.74	0.59	0.49	0.42	0.37	0.33	0.30	0.27	0.25
			40	VC	C	0.25	0.85	0.68	0.57	0.49	0.43	0.38	0.34	0.31	0.28
			50	C	M	0.28	0.95	0.76	0.63	0.54	0.48	0.42	0.38	0.35	0.32
			60	M	M	0.31	1.04	0.83	0.70	0.60	0.52	0.46	0.42	0.38	0.35
			70	M	M	0.33	1.13	0.90	0.75	0.64	0.56	0.50	0.45	0.41	0.38
			80	M	M	0.35	1.20	0.96	0.80	0.69	0.60	0.54	0.48	0.44	0.40
			100	M	F	0.40	1.35	1.08	0.90	0.77	0.67	0.60	0.54	0.49	0.45
	TDXL11003* Standard TurboDrop (Use 50 mesh)		30	XC	C	0.26	0.89	0.71	0.59	0.51	0.44	0.39	0.35	0.32	0.30
			40	VC	C	0.30	1.02	0.82	0.68	0.58	0.51	0.45	0.41	0.37	0.34
			50	C	M	0.34	1.14	0.91	0.76	0.65	0.57	0.51	0.46	0.42	0.38
			60	C	M	0.37	1.25	1.00	0.83	0.72	0.63	0.56	0.50	0.46	0.42
			70	M	M	0.40	1.35	1.08	0.90	0.77	0.68	0.60	0.54	0.49	0.45
			80	M	M	0.42	1.45	1.16	0.96	0.83	0.72	0.64	0.58	0.53	0.48
			100	M	F	0.47	1.62	1.29	1.08	0.92	0.81	0.72	0.65	0.59	0.54
	TDXL11004* Standard TurboDrop (Use 50 mesh)		30	XC	C	0.35	1.18	0.94	0.79	0.67	0.59	0.52	0.47	0.43	0.39
			40	VC	C	0.40	1.36	1.09	0.91	0.78	0.68	0.61	0.55	0.50	0.45
			50	C	M	0.45	1.52	1.22	1.02	0.87	0.76	0.68	0.61	0.55	0.51
			60	C	M	0.49	1.67	1.34	1.11	0.95	0.83	0.74	0.67	0.61	0.56
			70	M	M	0.53	1.80	1.44	1.20	1.03	0.90	0.80	0.72	0.66	0.60
			80	M	M	0.57	1.93	1.54	1.28	1.10	0.96	0.86	0.77	0.70	0.64
			100	M	M	0.63	2.15	1.72	1.44	1.23	1.08	0.96	0.86	0.78	0.72
	TDXL11005* Standard TurboDrop (Use 24 mesh)		30	XC	VC	0.43	1.48	1.18	0.98	0.84	0.74	0.66	0.59	0.54	0.49
			40	XC	C	0.50	1.71	1.36	1.14	0.97	0.85	0.76	0.68	0.62	0.57
			50	VC	C	0.56	1.91	1.53	1.27	1.09	0.95	0.85	0.76	0.69	0.64
			60	VC	M	0.61	2.09	1.67	1.39	1.19	1.04	0.93	0.84	0.76	0.70
			70	C	M	0.66	2.26	1.80	1.50	1.29	1.13	1.00	0.90	0.82	0.75
			80	C	M	0.71	2.41	1.93	1.61	1.38	1.21	1.07	0.96	0.88	0.80
			100	M	M	0.79	2.70	2.16	1.80	1.54	1.35	1.20	1.08	0.98	0.90
	TDXL11006* Standard TurboDrop (Use 24 mesh)		30	XC	VC	0.52	1.77	1.42	1.18	1.01	0.89	0.79	0.71	0.64	0.59
			40	XC	VC	0.60	2.05	1.64	1.36	1.17	1.02	0.91	0.82	0.74	0.68
			50	XC	C	0.67	2.29	1.83	1.53	1.31	1.14	1.02	0.92	0.83	0.76
			60	VC	C	0.74	2.51	2.00	1.67	1.43	1.25	1.11	1.00	0.91	0.84
			70	VC	C	0.79	2.71	2.17	1.80	1.55	1.35	1.20	1.08	0.98	0.90
			80	C	M	0.85	2.89	2.31	1.93	1.65	1.45	1.29	1.16	1.05	0.96
			100	M	M	0.95	3.24	2.59	2.16	1.85	1.62	1.44	1.29	1.18	1.08
	TDXL11008* Standard TurboDrop (Use 24 mesh)		30	XC	VC	0.69	2.35	1.88	1.57	1.34	1.18	1.05	0.94	0.86	0.78
			40	XC	VC	0.80	2.72	2.17	1.81	1.55	1.36	1.21	1.09	0.99	0.91
			50	XC	C	0.89	3.04	2.43	2.02	1.74	1.52	1.35	1.21	1.10	1.01
			60	XC	C	0.98	3.33	2.66	2.22	1.90	1.66	1.48	1.33	1.21	1.11
			70	VC	C	1.05	3.59	2.88	2.40	2.05	1.80	1.60	1.44	1.31	1.20
			80	VC	M	1.13	3.84	3.07	2.56	2.20	1.92	1.71	1.54	1.40	1.28
			100	C	M	1.26	4.30	3.44	2.86	2.45	2.15	1.91	1.72	1.56	1.43
	TDXL11010* Standard TurboDrop (Use 24 mesh)		30	XC	XC	0.87	2.95	2.36	1.97	1.69	1.48	1.31	1.18	1.07	0.98
			40	XC	XC	1.00	3.41	2.73	2.27	1.95	1.70	1.51	1.36	1.24	1.14
			50	XC	VC	1.12	3.81	3.05	2.54	2.18	1.90	1.69	1.52	1.38	1.27
			60	XC	VC	1.22	4.17	3.34	2.78	2.38	2.09	1.85	1.67	1.52	1.39
			70	XC	C	1.32	4.51	3.61	3.00	2.58	2.25	2.00	1.80	1.64	1.50
			80	VC	C	1.41	4.82	3.85	3.21	2.75	2.41	2.14	1.93	1.75	1.61
			100	VC	M	1.58	5.39	4.31	3.59	3.08	2.69	2.39	2.15	1.96	1.80
	TDXL11015* Standard TurboDrop (Use 24 mesh)		30			1.31	4.43	3.54	2.96	2.54	2.22	1.97	1.77	1.61	1.47
			40			1.50	5.12	4.10	3.41	2.93	2.55	2.27	2.04	1.86	1.71
			50			1.68	5.72	4.58	3.81	3.27	2.85	2.54	2.28	2.07	1.91
			60			1.83	6.26	5.01	4.17	3.57	3.14	2.78	2.51	2.28	2.09
			70			1.98	6.77	5.42	4.50	3.87	3.38	3.00	2.70	2.46	2.25
			80			2.12	7.23	5.78	4.82	4.13	3.62	3.21	2.90	2.63	2.42
			100			2.37	8.09	6.47	5.39	4.62	4.04	3.59	3.23	2.94	2.70

Optimal Pressure Range: Green-shaded area Optimal Boom Height: 18-20" for TDXL; 16-18" for TDAD (with 20" nozzle spacing)
Recommended Droplet Size: Medium (M) and Coarse (C) for 1GPT; Coarse (C) and Very Coarse (VC) for 2GPT

ASYMMETRIC DUALFAN NOZZLES FOR COLORANTS, DYES AND PIGMENTS

65% of golf courses use colorants or dyes to enhance the appearance of the turf and to provide earlier growth response. Spraying pigments is a less expensive alternative to over-seeding with ryegrass and the water, growth regulators, and other treatments that ryegrass requires.

Fully dormant grass requires a higher rate of colorant (and carrier) to provide the desired effect. If colorants are applied before the turf goes completely dormant, lower rates may be used.

TurboDrop DualFans (TDAD), AirMix DualFans (AMDF), and SprayMax DualFans (DW) have all been used successfully to apply colorant to turf grass. These nozzles can be alternated on the boom to maximize coverage of the leaf surface, effectively spraying the target four times in one pass. Medium to Coarse droplets will deliver an effective combination of coverage and drift control.

Applying Colorant to Dormant Turf



In the photos above, Greenleaf Technologies' DualFan DW16 were used in a totally dormant situation. The nozzles were alternated on the boom to maximize coverage. A higher paint and carrier rate were utilized--10 gpa of paint with 90 gpa of water. In a pre-freezing *pigment* spraying situation, where multiple applications are spread out over a series of weeks, 35 to 40 gpa (carrier rate) might be used with a TurboDrop TDAD06 or TDAD08 nozzle.

QUICK CHECK CALIBRATION CALCULATOR



Quickly and easily measures the amount of liquid being dispersed through spray nozzles, and calculates application rates.

Can also be used to adjust nozzle flow rates, determine nozzle accuracy, and evaluate line pressure losses.

Our turf specific Quick Check Calibration Calculator uses per 1000ft² units measurements for your convenience.

HAND HELD WEATHER METERS






Greenleaf Technologies offers six different hand held instruments to measure wind speed, temperature, wind chill, humidity, dew point, wind direction, altitude, barometric pressure, etc.

Please see www.greenleafgolf.com for more information, or call 800-881-4832



Asymmetric DualFan Nozzles for Colorants, Dyes and Pigments

Greenleaf Asymmetric DualFan Nozzles can be used on self-propelled sprayers and walking booms to apply colorants, dyes and pigments to turf. The unique pattern provides front and back coverage of the leaf blade, which can be further enhanced by alternating every other nozzle on the boom. Medium to Course droplets are recommended.

	Liquid Pressure PSI	DROPLET SIZE ASABE	Nozzle Capacity GPM	GALLONS PER THOUSAND SQ. FT. BASED ON 20" NOZZLE SPACING						
				2 MPH	3 MPH	4 MPH	5 MPH	6 MPH	7 MPH	8 MPH
TDAD04 DualFan TurboDrop (Use 50 mesh) 	30	C	0.35	1.18	0.79	0.59	0.47	0.39	0.34	0.30
	40	C	0.40	1.36	0.91	0.68	0.55	0.45	0.39	0.34
	50	M	0.45	1.52	1.02	0.76	0.61	0.51	0.44	0.38
	60	M	0.49	1.67	1.11	0.83	0.67	0.56	0.48	0.42
	70	M	0.53	1.80	1.20	0.90	0.72	0.60	0.52	0.45
	80	M	0.57	1.93	1.28	0.96	0.77	0.64	0.55	0.48
TDCAD04 (ceramic orifice) 	100	M	0.63	2.15	1.44	1.08	0.86	0.72	0.62	0.54
TDAD05 DualFan TurboDrop (Use 50 mesh) 	30	VC	0.43	1.48	0.98	0.74	0.59	0.49	0.42	0.37
	40	C	0.50	1.71	1.14	0.85	0.68	0.57	0.49	0.43
	50	C	0.56	1.91	1.27	0.95	0.76	0.64	0.54	0.48
	60	M	0.61	2.09	1.39	1.04	0.84	0.70	0.60	0.52
	70	M	0.66	2.26	1.50	1.13	0.90	0.75	0.64	0.56
	80	M	0.71	2.41	1.61	1.21	0.96	0.80	0.69	0.60
TDCAD05 (ceramic orifice) 	100	M	0.79	2.70	1.80	1.35	1.08	0.90	0.77	0.67
TDAD06 DualFan TurboDrop (Use 50 mesh) 	30	VC	0.52	1.77	1.18	0.89	0.71	0.59	0.51	0.44
	40	VC	0.60	2.05	1.36	1.02	0.82	0.68	0.58	0.51
	50	C	0.67	2.29	1.53	1.14	0.92	0.76	0.65	0.57
	60	C	0.74	2.51	1.67	1.25	1.00	0.84	0.72	0.63
	70	C	0.79	2.71	1.80	1.35	1.08	0.90	0.77	0.68
	80	M	0.85	2.89	1.93	1.45	1.16	0.96	0.83	0.72
TDCAD06 (ceramic orifice) 	100	M	0.95	3.24	2.16	1.62	1.29	1.08	0.92	0.81
TDAD08 DualFan TurboDrop (Use 24 mesh) 	30	VC	0.69	2.35	1.57	1.18	0.94	0.78	0.67	0.59
	40	VC	0.80	2.72	1.81	1.36	1.09	0.91	0.78	0.68
	50	C	0.89	3.04	2.02	1.52	1.21	1.01	0.87	0.76
	60	C	0.98	3.33	2.22	1.66	1.33	1.11	0.95	0.83
	70	C	1.05	3.59	2.40	1.80	1.44	1.20	1.03	0.90
	80	M	1.13	3.84	2.56	1.92	1.54	1.28	1.10	0.96
TDCAD08 (ceramic orifice) 	100	M	1.26	4.30	2.86	2.15	1.72	1.43	1.23	1.07
TDAD10 DualFan TurboDrop (Use 24 mesh) 	30	XC	0.87	2.95	1.97	1.48	1.18	0.98	0.84	0.74
	40	XC	1.00	3.41	2.27	1.70	1.36	1.14	0.97	0.89
	50	VC	1.12	3.81	2.54	1.90	1.52	1.27	1.09	0.95
	60	VC	1.22	4.17	2.78	2.09	1.67	1.39	1.19	1.04
	70	C	1.32	4.51	3.00	2.25	1.80	1.50	1.29	1.13
	80	C	1.41	4.82	3.21	2.41	1.93	1.61	1.38	1.20
TDCAD10 (ceramic orifice) 	100	M	1.58	5.39	3.59	2.69	2.15	1.80	1.54	1.35
AMDF12 (all polyacetal) AM11006 & AM11006 (Use 50 mesh) 	20	XC	0.85	2.90	1.93	1.45	1.16	0.97	0.83	0.72
	30	VC	1.04	3.55	2.37	1.77	1.42	1.18	1.01	0.89
	40	C	1.20	4.10	2.73	2.05	1.64	1.37	1.17	1.02
	50	C	1.34	4.58	3.05	2.29	1.83	1.53	1.31	1.15
	60	C	1.47	5.02	3.34	2.51	2.01	1.67	1.43	1.25
	70	M	1.59	5.42	3.61	2.71	2.17	1.81	1.55	1.35
DW14 (all polyacetal) SMP11008 & SMP11006 (Use 50 mesh) 	80	M	1.70	5.79	3.86	2.90	2.32	1.93	1.66	1.45
	20	M	0.99	3.38	2.57	1.69	1.35	1.13	0.96	0.84
	30	M F	1.21	4.13	2.76	2.07	1.65	1.38	1.18	1.03
	40	F	1.40	4.77	3.18	2.39	1.91	1.59	1.36	1.19
	50	F	1.57	5.34	3.56	2.67	2.13	1.78	1.52	1.33
	60	F	1.71	5.85	3.90	2.92	2.34	1.95	1.67	1.46
DW16 (all polyacetal) SMP11008 & SMP11008 (Use 50 mesh) 	20	C	1.13	3.86	2.57	1.93	1.54	1.29	1.10	0.96
	30	M	1.39	4.72	3.15	2.36	1.89	1.57	1.35	1.18
	40	F	1.60	5.45	3.64	2.73	2.18	1.82	1.56	1.36
	50	F	1.79	6.10	4.07	3.05	2.44	2.03	1.74	1.52
	60	F	1.96	6.68	4.45	3.34	2.67	2.23	1.91	1.67
DW18 (all polyacetal) SMP11010 & SMP11008 (Use 50 mesh) 	20	C M	1.27	4.34	2.89	2.17	1.74	1.45	1.24	1.08
	30	M	1.56	5.31	3.54	2.66	2.13	1.77	1.52	1.33
	40	M F	1.80	6.14	4.09	3.07	2.45	2.05	1.75	1.53
	50	M F	2.01	6.86	4.57	3.43	2.74	2.29	1.96	1.72
	60	M F	2.20	7.52	5.01	3.76	3.01	2.51	2.15	1.88
DW20 (all polyacetal) SMP11010 & SMP11010 (Use 50 mesh) 	20	C	1.41	4.82	3.21	2.41	1.93	1.61	1.38	1.20
	30	M	1.73	5.90	3.93	2.95	2.36	1.97	1.69	1.48
	40	M	2.00	6.81	4.54	3.41	2.73	2.27	1.95	1.70
	50	M	2.23	7.62	5.08	3.81	3.05	2.54	2.18	1.90
	60	M	2.45	8.34	5.56	4.17	3.34	2.78	2.38	2.09

Optimal Pressure Range: Green Shaded Area

Recommended Boom Height: 12-22" (with 20" nozzle spacing)

Optimal Boom Height: 16-18"

To convert from GPT to GPA, multiply GPT by 43.7.

BOOMLESS NOZZLES

TURBODROP® BOOM85TD



Boom85TD

TURBODROP® BOOM40TD



Boom40TD

Stainless Steel Construction

Heavy streaks indicated by the arrows show uneven pattern distribution for the conventional nozzle.

The BoomTD is designed for boomless fertilizer applications on golf courses. It reduces the time needed to get the job done, compared to a boom sprayer. The air injection provide by the Venturi reduces off target movement and improves the uniformity of distribution, compared to conventional nozzles.

Mount nozzles at 36-48" height, with enough overlap between the nozzles to prevent streaking. Spray swath may change with changes in pressure.

Boom85TD Application Rate: GPA @ 42" height (16' swath)

Pressure	Flow	Swath Width	Speed (mph)												
			3	4	5	6	7	8	9	10	11	12	13	14	15
30 psi	7.5 gpm	16 ft.	77.3	58.0	46.4	38.7	33.1	29.0	25.8	23.2	21.1	19.3	17.8	16.6	15.5
40 psi	8.5 gpm	16 ft.	87.7	65.7	52.6	43.8	37.6	32.9	29.2	26.3	23.9	21.9	20.2	18.8	17.5
50 psi*	9.5 gpm	16 ft.	98.0	73.5	58.8	49.0	42.0	36.7	32.7	29.4	26.7	24.5	22.6	21.0	19.6
60 psi*	10.4 gpm	16 ft.	107.3	80.4	64.4	53.6	46.0	40.2	35.8	32.2	29.3	26.8	24.8	23.0	21.5

Boom40TD Application Rate: GPA @ 42" height (13' swath)

Pressure	Flow	Swath Width	Speed (mph)												
			3	4	5	6	7	8	9	10	11	12	13	14	15
30 psi	3.5 gpm	13 ft.	66.6	44.4	33.3	26.7	22.2	19.0	16.7	14.8	12.1	11.1	10.3	9.5	8.9
40 psi	4.0 gpm	13 ft.	76.2	50.8	38.1	30.5	25.4	21.8	19.0	16.9	13.8	12.7	11.7	10.9	10.2
50 psi*	4.5 gpm	13 ft.	85.7	57.1	42.8	34.3	28.6	24.5	21.4	19.0	15.6	14.3	13.2	12.2	11.4
60 psi*	5.0 gpm	13 ft.	95.2	63.5	47.6	38.1	31.7	27.2	23.8	21.2	17.3	15.9	14.6	13.6	12.7



**Download TurfCalc
Nozzle Calculator
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