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NAANDANJAIN

Green Spin

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Green Spin

Green Spin is the next generation drip-less micro-sprinkler from the popular DAN Modular which has been the product of choice as the standard micro-sprinkler for greenhouse applications. Its unique bridgeless design eliminates two major problems; **dripping on the plants below and dry spots.** The swivel design produces a flat trajectory keeping objects dry above the nozzle level.

Product Features

- Same flows as the Dan Modular allow easy replacement/upgrade
- Broad range of flow rates, 6 nozzles and 4 anti-mist devices produce 10 flow rates to choose from: 10.6 to 52.8 GPH @ 29 psi
- Multiple swivels produce a wide variety of diameters
- Flat trajectory, no water above the nozzle level
- Bridgeless design – no dripping on plant below
- Field friendly, may be assembled and disassembled in the field
- Fits all Dan parts and accessories
- Overhead irrigation for greenhouse and hoop house applications
- Compatible with Leak Prevention Device (LPD)
- Multiple attachment options: Tapered (press fit) and bayonet
- Recommended filtration 120 mesh
- Made of durable plastic for long term field operations – high UV resistance
- Clog resistant due to large water passages
- Even and uniform distribution of water and fertilizers

Applications

- Irrigation and Propagation
- Greenhouse, hoop and shade houses
- Cooling of poultry and livestock
- Organic or conventional fields

Technical Data

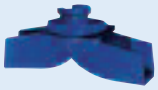
Green Spin

- Flow rates: 10.6 to 52.8 GPH @ 29 psi
- Recommended working pressure: 30 to 45 psi
- Required filtration: 120 mesh
- Wetted diameter: 8 to 18 feet on single line

Green Spin Jr.

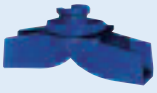
- Flow rates: 10.4 & 13.2 GPH @ 29 psi
- Recommended working pressure: 30 psi
- Required filtration: 120 mesh
- Wetted diameter: up to 6 feet single bench width

Performance Table: Green Spin with Antimist

Nozzle Color	Antimist Nozzle Color	Flow Rate (GPH)	Nozzle Ø (inches)	Height (feet)	Wetted Diameter (feet)	
					Brown Swivel	Blue Swivel
						
Green	Green	10.6	0.038	2	9.8	–
				4	11.5	
				6	14.8	
				10	16.4	
Orange	Orange	18.5	0.047	2	–	13.1
				4		18.0
				6		21.3
				10		24.6
Black	Yellow	23.8	0.057	2	–	13.1
				4		16.4
				6		21.3
				10		24.6
Blue	Blue	31.7	0.063	2	–	14.8
				4		19.7
				6		23.0
				10		27.9

** Flow rate and wetted diameter (feet) at 29 psi. Tested at 6' above ground*

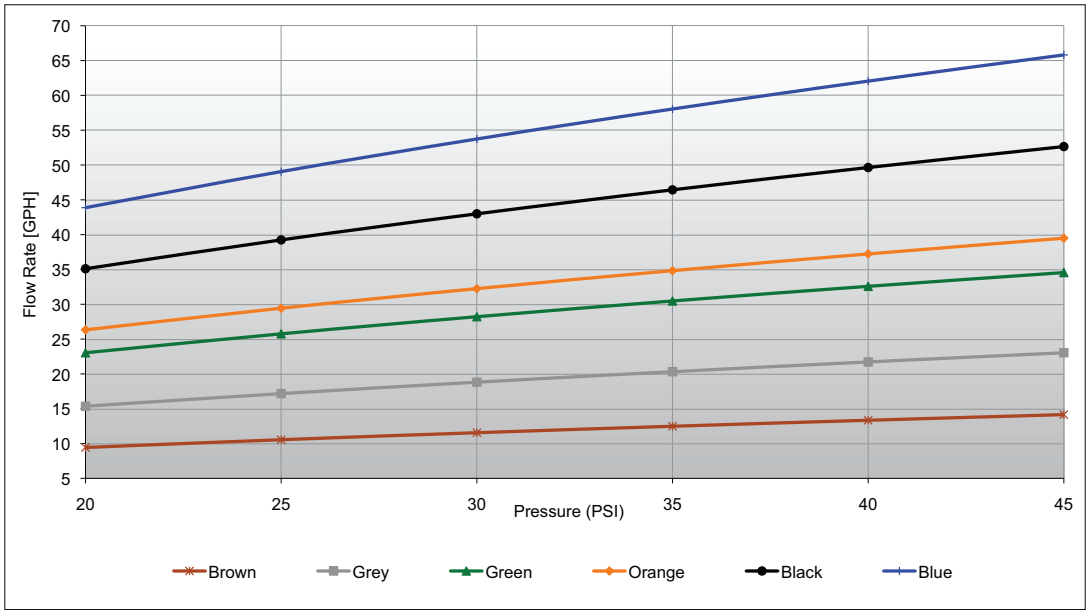
Performance Table: Green Spin without Antimist

Nozzle Color	Flow Rate (GPH)	Nozzle Ø (inches)	Wetted Diameter* (feet)	
			Brown	Blue
				
Brown	11.4	0.04	18.0	–
Gray	18.5	0.05	–	19.7
Green	27.7	0.06	–	24.6
Orange	31.7	0.06	–	26.2
Black	42.3	0.07	–	27.9
Blue	52.8	0.08	–	27.9

** Flow rate and wetted diameter (feet) at 29 psi. Tested at 6' above ground*

Flow vs. Pressure

Nozzle Color	Nominal Flow (GPH)	Pressure (psi)					
		20	25	30	35	40	45
Brown	11.4	9.4	10.5	11.6	12.5	13.3	14.2
Grey	18.5	15.4	17.2	18.8	20.3	21.7	23.0
Green	27.7	23.0	25.8	28.2	30.5	32.6	34.6
Orange	31.7	26.3	29.4	32.2	34.8	37.2	39.5
Black	42.3	35.1	39.2	43.0	46.4	49.6	52.7
Blue	52.8	43.9	49.1	53.7	58.0	62.1	65.8



Sprinkler Selection

Nozzle + Anti-mist Color Green - 10.9 GPH Orange 19.0 GPH Yellow 24.4 GPH Blue 32.6 GPH	Bench Width (ft)								Height Above Crop (feet)	Application Rate
	8′	10′	12′	14′	15′	16′	17′	18′		
Coefficent of Uniformity (CU Percentage)	94	93							2′	Low
	88	88	94	91	88				4′	
	90	90	90	95	92	89			6′	
									2′	High
			94	94	93	92	90		4′	
			97	95	95	94	92	90	6′	
Percentage of Water in Bench	84	99							2′	Low
	61	75	73	82	86				4′	
	57	73	87	85	89	93			6′	
									2′	High
			73	81	86	91	94		4′	
			65	74	79	83	87	91	6′	
Precipitation Rate (in/hour)	1.05	1.02							2′	Low
	0.44	0.43	0.61	0.58	0.57				4′	
	0.41	0.42	0.42	0.60	0.59	0.58			6′	
									2′	High
			0.78	1.0	0.98	0.96	0.94		4′	
			0.70	0.68	0.90	0.89	0.87	0.86	6′	

The above results are based on 30 psi on a 3′ sprinkler spacing

Selection Guideline:

1. Determine the width of the area that you want to irrigate. In most cases the width will determine the sprinkler type
2. Decide if you want to apply water at a high or low application rate.
3. Determine the height at which you want to hang the sprinkler, while ascertaining the desired precipitation of water to fall on the bench and the width of the band to be irrigated.
4. The above three choices will determine the appropriate nozzle and anti-mist color. In some cases, a particular factor, such as the percentage of water in the bench, may determine the other variables such as application rate and sprinkler height.

Application Rates and Uniformity (CU%)

Lateral Spacing (ft)	10					13					16					20				
Spacing (ft)	**3**	**5**	**6.5**	**8**	**10**	**3**	**5**	**6.5**	**8**	**10**	**3**	**5**	**6.5**	**8**	**10**	**3**	**5**	**6.5**	**8**	**10**
Brown Nozzle	0.56	0.37	0.28	0.23	0.19	0.42	0.28	0.21	0.17	0.14	0.34	0.23	0.17	0.14	0.11	0.28	0.19	0.14	0.11	0.09
Grey Nozzle	0.91	0.61	0.46	0.37	0.30	0.69	0.46	0.34	0.27	0.23	0.55	0.37	0.27	0.22	0.18	0.46	0.30	0.23	0.18	0.15
Green Nozzle	1.37	0.91	0.68	0.55	0.46	1.03	0.68	0.51	0.41	0.34	0.82	0.55	0.41	0.33	0.27	0.68	0.46	0.34	0.27	0.23
Orange Nozzle	1.56	1.04	0.78	0.62	0.52	1.18	0.78	0.59	0.47	0.39	0.94	0.62	0.47	0.37	0.31	0.78	0.52	0.39	0.31	0.26
Black Nozzle	2.08	1.39	1.04	0.83	0.60	1.56	1.04	0.76	0.62	0.52	1.25	0.83	0.62	0.50	0.42	1.04	0.69	0.52	0.42	0.35
Blue Nozzle	2.60	1.73	1.30	1.04	0.87	1.95	1.30	0.98	0.78	0.65	1.56	1.04	0.78	0.62	0.52	1.30	0.87	0.65	0.52	0.43

CU > 93% Excellent
CU =90- 92% Good
CU =85-89% Fair
CU < 85% Not Recommended

Ordering Guide

Series #	Super LPD (black)		Nozzle @ 29 psi		Base		Tubing	
1280	0	None	0	Brown (11.4 gph)	0	None	0	None
	6	Antimist	2	Green (27.7 gph)	1	Butterfly - Barb	1	12" w/weight
	8	LPD - Female (standard)	3	Blue (52.8 gph)	7	1/2" Male - Base	2	18" w/weight
	9	LPD - Female & Antimist (standard)	5	Orange (31.7 gph)	9	Fast-n-Fast - Barb	3	24" w/weight
	7	LPD - Barb	8	Black (42.3 gph)			4	30" w/weight
	5	LPD - Barb & Antimist	9	Gray (18.5 gph)			5	36" w/weight
	2	LPD - 3/8"	1	Jr. Blue (10.4 gph)			6	48" w/weight
	4	LPD - 3/8" & Anitmist	4	Jr. Green (13.2 gph)			7	60" w/weight
	1	LPD - Barb/Bayonet						
	3	LPD - Barb/Bayonet & Antimist (coming soon)						

Installation Details

Green Spin Suggested Combinations

Single bench, one line and two lines irrigation solutions for greenhouse and hoop houses*

Width (ft)	Sprinklers Spacing (ft)	Number of Laterals	Lateral Spacing (ft)	Height above Crop (ft) **		
				2	4	6
4	3	1	-	GSJ-BL or GSJ-G	GSJ-BL or GSJ-G	
5	3	1	-	GSJ-BL or GSJ-G	GSJ-BL or GSJ-G	
6	3	1	-	GSJ-BL or GSJ-G	GSJ-BL or GSJ-G	
8	3	1	-	O-O-BL	G-G-BL	G-G-BL
10	3	1	-	O-O-BL	G-G-BL	G-G-BL
12	3	1	-		O-O-BL	G-G-BL
14	3	1	-		O-O-BL	O-O-BL
15	3	1	-		O-O-BL	O-O-BL
16	3	1	-		BL-BL-BL	O-O-BL
17	3	1	-		BL-BL-BL	BL-BL-BL
18	3	1	-			BL-BL-BL
24	3	2	13			G-G-BL
26	3	2	15			O-O-BR
28	3	2	17			O-O-BL
30	3	2	17			O-O-BL
32	3	2	18			B-B-BL
34	3	2	18			B-B-BL
36	3	2	21			BL-BL-BL
38	3	2	21			BL-BL-BL

** For more Sprinkler selection options please check with your distributor, or irrigation designer*
*** System pressure @ 30 psi*

Quick Reference Guide

Model	Description	Jain Part#
G-G-BR	Green Nozzle-Green Anti-mist-Brown Swivel (10.9 GPH)	12806200
O-O-BL	Orange Nozzle-Orange Antimist-Blue Swivel (19.0 GPH)	12806500
B-B-BL	Black Nozzle-Yellow (Black) Antimist- Blue Swivel (24.4 GPH)	12806800
BL-BL-BL	Blue Nozzle-Blue Antimist-Blue Swivel (32.6 GPH)	12806300
GSJ-BL	Green Spin Junior - Blue 10.4 GPH	17493001
GSJ-G	Green Spin Junior - Green 13.2 GPH	17499900

Maintenance

1. Regular maintenance

a) Routine Maintenance—Every Irrigation

i) Filtration

(1) Automatic Filters

(a) Verify flushing is occurring properly

(b) Manual flush when system reaches operating pressure

(2) Manual Filters

(a) Make sure filter element is clean before start-up

(b) Make sure pressure differential on filter is within specification for system

ii) Flow Meter

(1) Verifies system flow rate every time you irrigate. Detects possible problems

(a) High flows

(i) Verify the correct valve(s) are open/closed

(ii) Possible broken lines

(b) Low flows

(i) Verify the correct valves(s) are open/closed

(ii) Possible plugged emitters/sprinklers

iii) Pressure gauges

(1) Verify system pressures every time you irrigate.

(a) High pressures

(i) Verify the correct valve(s) are open/closed

(ii) Possible plugged Filter

(iii) Possible plugged emitters/sprinklers

(b) Low pressures

(i) Verify the correct valve(s) are open/closed

(ii) Possible broken lines

iv) Visual Inspections

(1) Filter Station

(a) Verify correct pressures and flow rates are maintained

(2) Valve Stations

(a) Verify correct valves are open/closed

(b) Verify correct pressures

(3) Field

(a) Sprinklers are upright

(b) Sprinklers are turning

(c) No Geysers

b) Scheduled Maintenance- Weekly, Monthly

i) Filtration

(1) Visually inspect filter element (screen, disks, sand, etc.)

(a) Verify filter element is clean, manually clean if needed

(b) Check for wear on filter element

ii) Flushing

(1) PVC manifolds, sub mains, and mainlines

(a) Consult designer for flush time

(2) Laterals (PVC or Polyethylene)

(a) Rule of thumb is a velocity at 1fps.

(i) 600' lateral takes a minimum of 10 minutes to complete flushing

(b) Consult designer for maximum lines to open at once to ensure adequate flush velocity

iii) Weed Control

(1) Routine mowing or spray

(a) Weeds block rotating sprinklers and disturbs wetting pattern

(b) Excessive vegetation provides a home for insects, insects can cause external sprinkler plugging due to nesting in the nozzles.

2) Preventative Maintenance

a) Best Management Practice is performing scheduled and routine maintenance as described above

b) Chemigation

i) Water Treatment

(1) High mineral content- acids or phosphates can be used to prevent scaling, please consult with your PCA or CCA for recommendation

(2) Organic matter- Biocides (Chlorine) can be used to prevent growth, please consult with your PCA or CCA for recommendation

c) Fertigation

i) Chemical compatibility- Jar test to ensure no precipitates.

(1) Harsh chemicals that increases plugging and premature wear — Lime, gypsum, acids, surfactants, etc.

Troubleshooting

Problem	Description	Possible Cause	Solutions
Swivel not spinning	Swivel stuck in one position during operation	1. Inlet pressure below specification	1. Check lateral/ system pressure
		2. Interference by foreign matter	2. Remove swivel and free the debris
		3. Plugging	3. Clean nozzle
		4. Excessive wear	4. Refer to excessive wear
Wide wetting pattern	Non-uniformity due to sprinkler throwing too far	1. Excessive pressure	1. Check lateral/ system pressure
Narrow Pattern	Non uniformity due to sprinkler not throwing far enough	1. Inlet pressure below specification	1. Check lateral/ system pressure
		2. Plugging	2. Clean nozzle
		3. Excessive wear	3. Refer to excessive wear
Misting	Excessive misting causing poor uniformity and high humidity	1. Excessive pressure	4. Check lateral/ system pressure
		3. Foreign matter in the nozzle	Take sprinkler apart and clear debris
Excessive Wear	Component parts wearing out prematurely	1. Unfiltered water	1. Install proper filtration
		2. Injecting abrasive chemical	2. Perform Jar test for chemical precipitation
		3. Harsh chemicals	3. Check with PCA or CCA for compatibility with irrigation system
		4. Excessive use	4. System under designed
Excessive Dripping	Excessive water leaking from the head of the sprinkler	1. Improper assembly	1. Make sure sprinkler is properly assembled
		2. Damaged component-freezing, mechanical, pest, etc.	2. Inspect and replace broken components or replace sprinkler.
Plugging	No water coming out of the nozzle	1. Improper filtration	1. Refer to sprinkler filtration requirements
		2. Improper maintenance	2. Refer to maintenance guide
		3. Insect nesting	3. Clean nozzle

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