



Daley's Water Service Pty Ltd
Specialising in
Water & Energy Efficiency

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Solid Set Spray system checklist

Operation:-

Inspect each spray is clear of any debris that may prevent the spray from operating freely.

Check that the spray risers are perpendicular and the sprays are a consistent ground clearance.

Start the system and check for any leaks.

Check that each spray is rotating.

Check the operating pressure of the sprays at the lowest point and the highest point. (The sprinkler manufacture will show the optimum pressure for each nozzle size in a table form)

Be sure to note the start and finish time.

Seasonal Checks:-

Check that the spray risers are perpendicular and the sprays are at a consistent ground clearance. Reinstall riser as per the original design.

Inspect each riser is securely fastened to the riser support post.

Inspect each spray that the nozzle set is the correct size and consistent with each other spray.

Measure each nozzle to check for wear. (A set of drill bits are a good tool for this)

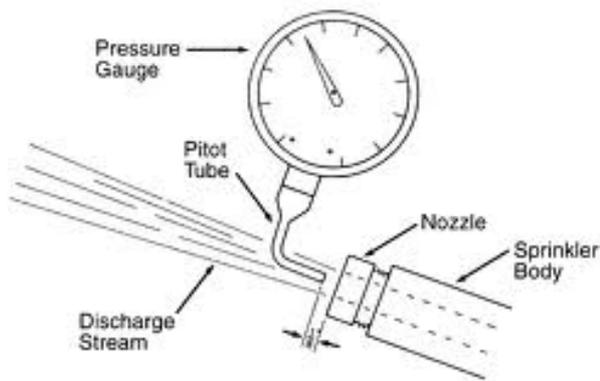
Run the system and check the spray pressure at the lowest elevation and the highest elevation in the field.

Document the measured pressure. (A Pitot tube and gauge are used for this)

With a stopwatch check each spray rotation time. How many rotations per minute. If the rotation time is not consistent the friction sealing ring of the spray may need replacing and would normally show signs of excessive leaking of water. Bent or broken striker arms can also impact on the rotation time.

On this kind of closed system it is best that the operating pressures are documented when the system was commissioned. This will aid in leak detection within the system. A low pressure reading can often indicate a leak in the system

Pitot Gauge



Annual Checks:-

Repeat all the seasonal checks above.

Perform a Distribution of Uniformity, Coefficient of Uniformity and Scheduling of Coefficient test on the system. (Commonly referred to as a Catch Can Test) A grid of cans are set out at equally spaced intervals between the sprays to establish the average precipitation per hour and the how uniform the precipitation is. (This is very important knowledge in your ability to schedule irrigation to the crop requirements) There are service providers that can

STRAIGHT BORE NOZZLE (SBN-1)* (Stream Height: 1.8m)

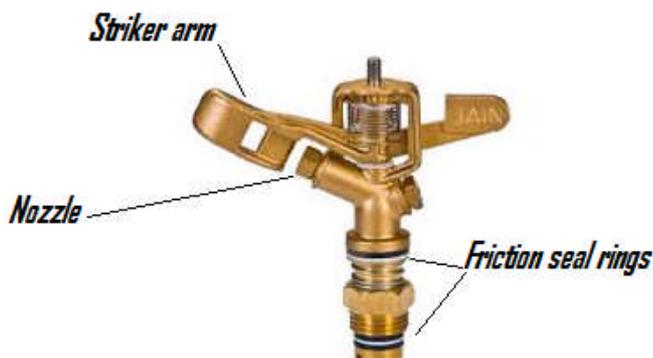
BARS@ Nozzle	NOZZLE SIZE METRIC											
	2.78 mm (7/64")			3.18 mm (1/8")			3.57 mm (9/64")		3.97 mm (5/32")			
	Rad. (m)	Flow (lps)	Flow (m ³ /h)	Rad. (m)	Flow (lps)	Flow (m ³ /h)	Rad. (m)	Flow (lps)	Flow (m ³ /h)	Rad. (m)	Flow (lps)	Flow (m ³ /h)
2.4	11.6	0.13	0.47	11.7	0.17	0.61	12.0	0.21	0.77	12.0	0.26	0.95
2.5	11.6	0.13	0.47	11.8	0.17	0.62	12.1	0.22	0.78	12.0	0.27	0.97
3.0	11.8	0.14	0.52	12.0	0.19	0.68	12.2	0.24	0.86	12.1	0.29	1.06
3.5	11.9	0.16	0.56	12.1	0.20	0.73	12.3	0.26	0.93	12.3	0.32	1.14
4.0	12.0	0.17	0.60	12.2	0.22	0.78	12.4	0.27	0.99	12.4	0.34	1.22
4.1	12.0	0.17	0.61	12.2	0.22	0.79	12.5	0.28	1.01	12.5	0.35	1.24

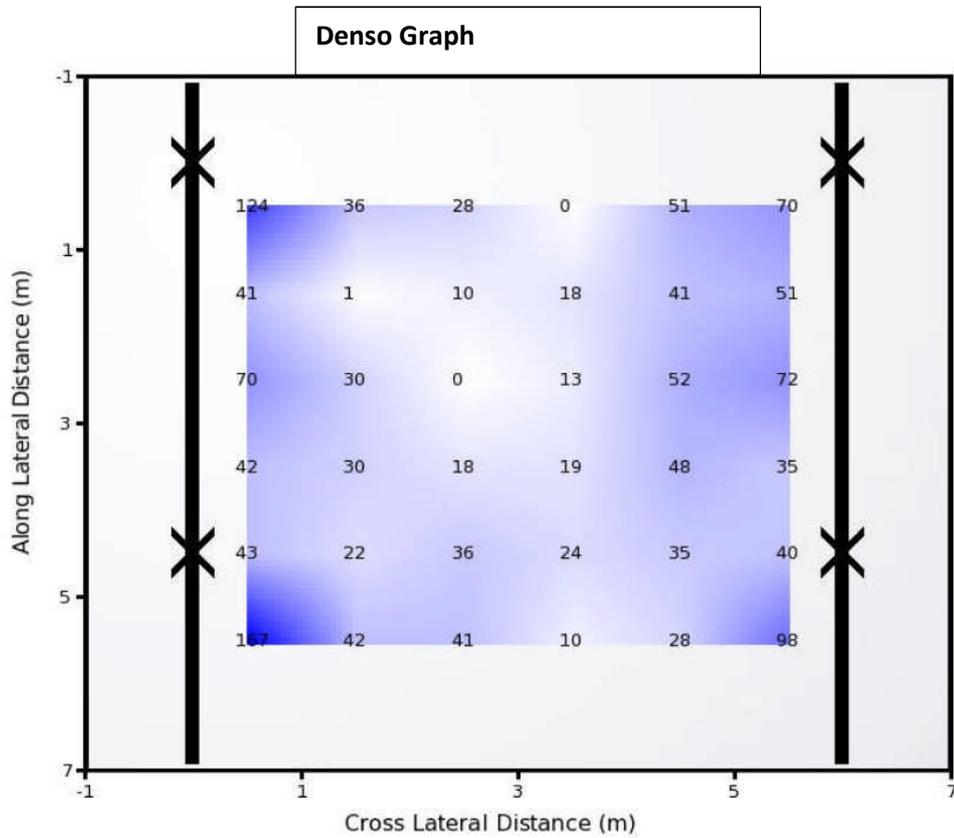
STRAIGHT BORE NOZZLE WITH VANE (SBN-1V)* (Stream Height: 2.1m)

BARS@ Nozzle	NOZZLE SIZE METRIC								
	3.18 mm (1/8")			3.57 mm (9/64")			3.97 mm (5/32")		
	Rad. (m)	Flow (lps)	Flow (m ³ /h)	Rad. (m)	Flow (lps)	Flow (m ³ /h)	Rad. (m)	Flow (lps)	Flow (m ³ /h)
2.4	12.0	0.17	0.61	12.5	0.21	0.77	12.8	0.26	0.95
2.5	12.1	0.17	0.62	12.5	0.22	0.78	12.8	0.27	0.97
3.0	12.3	0.19	0.68	12.8	0.24	0.86	13.0	0.29	1.06
3.5	12.5	0.20	0.73	13.0	0.26	0.93	13.1	0.32	1.14
4.0	12.5	0.22	0.78	13.2	0.27	0.99	13.3	0.34	1.22
4.1	12.5	0.22	0.79	13.3	0.28	1.01	13.4	0.35	1.24

* Available without Nozzle or Assembled with either a 7/64" (07) or 1/8" (08) Straight Bore Nozzle. All other Nozzles must be purchased separately. See Chart below.

conduct this service.





Tips:

- Repair all leaks
- Irrigate during low wind periods
- Never use a nozzle smaller or larger than the design nozzle.
- Use the same nozzle size throughout the system.
- Invest in soil moisture probe, rain gauge, pitot tube, pressure gauge and a drill bit set.
- Pressure drop should not exceed 10% between the pump and the sprinkler.
- Every ML per PSI is reflected in energy cost