

PART CIRCLE



SPRINKLERS



R3000
S3000
D3000

water application solutions for center pivot irrigation

FULL LINE FOR
INTEGRATION INTO ALL
SPRINKLER PACKAGE TYPES
UTILIZING THE
3TN "ONE" NOZZLE SYSTEM



Part Circle Rotator

Black #10843-001
(#40-#50 3TN Nozzle)

Tan #10843-003
(#24-#39 3TN Nozzle)

White # 10843-002
(#14-#23 3TN Nozzle)

Important: Mount only on a straight rigid drop or a Hose Boom utilizing a Torque Clip and Sideforce Control Fitting such as the IACO HB.



Part Circle Spinner
#9926-001



Part Circle Sprayhead
#9894-001

Note: Part numbers do not include 3TN Nozzle and Square Thread Adapter.

PART CIRCLE SPRINKLERS FOR MECHANIZED IRRIGATION



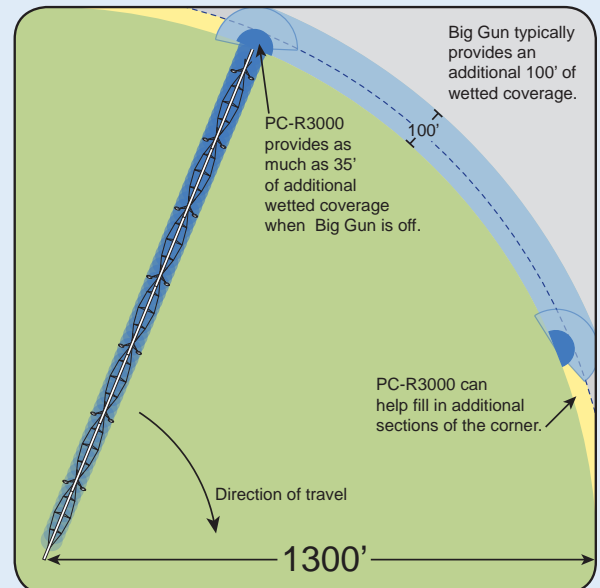
PART CIRCLE FOR DRY WHEEL PACKAGES

The PC-R3000 with rotating streams provides the widest throw available and better overlap! **Part Circle Rotators can now be used on "boombacks" with IACO's Hose Boom!**

PART CIRCLE FOR END OF SYSTEM COVERAGE

Gain added end of system acreage at low pressure.

Complement traditional end gun packages to fill the pattern going in and out of corners.



SAVE WATER, SAVE ENERGY AND DO A BETTER JOB OF IRRIGATING

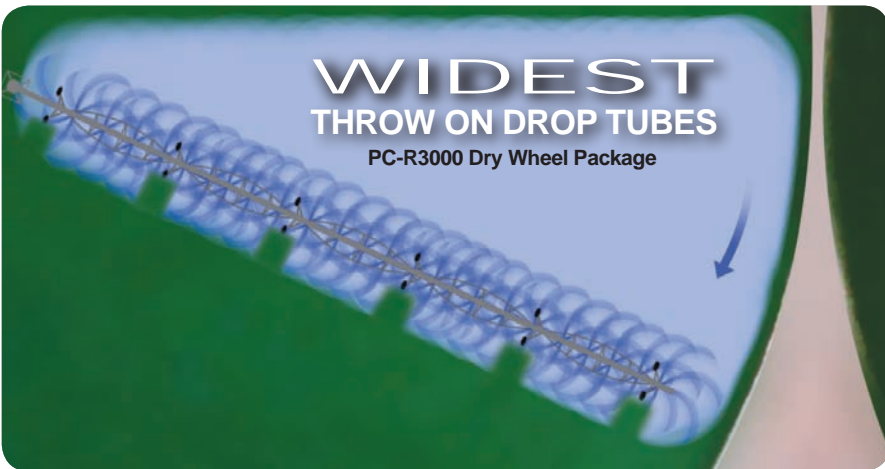


DISTINCT ADVANTAGES OF A ROTATOR PACKAGE

Engineered Speed Control – The Right Balance of Rotating Streams. Designed specifically for providing the very best water application on center pivots, the controlled rotation of engineered streams provides superior throw, superior uniformity and the best available conditions for getting the water into the ground.

Greatest Throw on Drops. The Rotator® applies water further ahead of the machine than any other pivot sprinkler and wets the field with intermittent applications of target droplets for optimal soil infiltration conditions.

Years of Field Results & Scientific Research Show the Pivot Rotator Gets Water Into the Ground. The wide throw delivers the lowest Average Application Rates on drop tubes — and testing shows that the Pivot Rotator is the best in class at minimizing runoff and soil erosion.



PC-R3000 — PART CIRCLE ROTATOR®

The PC-R3000 is available with 3 different plate options - choose based on nozzle size (see chart on lower right). The Part Circle Rotator distributes water to one side in an approximate semicircle. It can be used to minimize application on pivot towers or other structures. The Part Circle Rotator utilizes the 3TN nozzle of the conventional R3000 Rotator.

PERFORMANCE:

- 180° Arc (varies slightly with flowrate)
- Wide Throw
- High Uniformity
- Wind Fighting Pattern



OPERATING SPECS:

- 15-30 PSI (1-2 BAR)
- #14-#50 3TN Nozzle
- Mount on a rigid drop assembly or IACO Hose Boom Assembly

Go to www.boombacks.com.

PERFORMANCE INFORMATION:

3TN Nozzle Size	Plate	Pressure Min - Max	Spacing Limit	Stream Height
#14 - #23	white	15 - 25 psi	11'	20-39"
#24 - #39	tan	15 - 25 psi	11'	10-18"
#40 - #50	black	15 - 30 psi	11'	29-41"

PC-S3000 — PART CIRCLE SPINNER

The Part Circle Spinner distributes water to one side in an approximate semicircle. It can be used to minimize application on pivot towers or other structures. The Part Circle Spinner utilizes the 3TN nozzle of the conventional S3000 Spinner. The directional control is provided by a 'stream deflector' which is inserted between the nozzle and the spinner body.

OPERATING SPECS:

- 10-20 PSI (.7-1.4 BAR)
- #14-#40 3TN Nozzle
- Mount on a rigid drop assembly

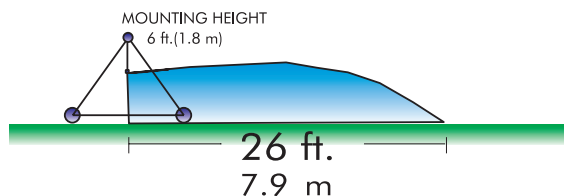
PERFORMANCE:

- 190° Arc (varies slightly with flowrate)
- Gentle, Rain-like Droplets
- High Uniformity
- Low Instantaneous Rates

THROW RADIUS:

(At midpoint of arc, throw to the sides may be less.)

- 15 PSI (1.0 BAR)
- #36 3TN Nozzle
- Stream Height = 13 in. (330 mm)



PC-D3000 — PART CIRCLE SPRAYHEAD

The Part Circle Sprayhead has a 170° arc setting to provide part-circle operation for applications at the span towers or offset drops or boombacks. The PC-D3000 spray plate provides stream definition similar to the spray plate geometry of the #9493 Blue spray plate. The medium grooves and concave trajectory provide wind-penetration and wide throw distance.

OPERATING SPECS:

- 10-20 PSI (.7-1.4 BAR)
- #9-#50 3TN Nozzle
- Mount on a rigid drop assembly

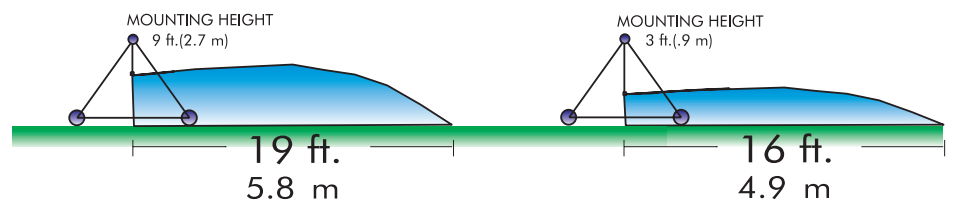
PERFORMANCE:

- 170° Arc (varies slightly with flowrate)
- Low Trajectory
- Concave Medium Groove
Blue Spray Plate

THROW RADIUS:

(At midpoint of arc, throw to the sides may be less.)

- 10 PSI (.7 BAR)
- #36 3TN Nozzle
- Stream Height = 5 in. (127 mm)



> DESIGNING WITH PART CIRCLE SPRINKLERS

STEP 1: Plan the system with conventional full circle sprinklers.

For Linears/Laterals select sprinkler spacing and determine the nozzle size to deliver your desired application rate. For pivot systems, planning should include a Sprinkler Package Chart. Nelson part circle devices will fit best in packages with sprinkler spacing of 11 feet (3.3 m) or less. If the part circle devices are to be mounted on boombacks, maintain uniform spacing between all sprinklers. The IACO 15' Hose Boom is the only "boomback" style configuration recommended for the Part Circle Rotator (PC-R3000). If the devices will be mounted on conventional drops, a distance of 1 to 3 feet (.3 to 1m) between the wheel and the closest sprinkler on each side is optimal.

STEP 2: Determine which outlets need modified sprinklers.

Use the preliminary design to compare the distance to the tower with the radius for each sprinkler. If you are working from a Sprinkler Package Chart, adjust the listed Tower location for the wheel offset. An offset of 2 feet (.6m) is common. Coverage diameter information on other 3000 Series Sprinklers is available at www.nelsonproducts.info or by contacting Nelson Irrigation.

STEP 3: Plan the orientation angles for the Part Circle Sprinklers.

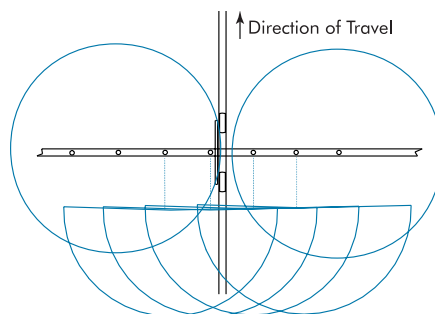
The semicircular pattern of the Part Circle Sprinklers adjacent to the towers should be oriented as close to perpendicular to the main pipe as possible. On boombacks, they should face directly away from the main pipe as shown in the diagram. On straight drops, they should be adjusted so the edge of the semicircle falls immediately behind the rear tower wheel. If possible, orient adjacent part circles at opposite directions from the pipe. This reduces the application rate.

ADDITIONAL CAUTIONS:

It is important to mount Part Circle Sprinklers on rigid drops or Hose Booms. Side thrust will cause extreme movement of flexible drops. Part Circle Sprinklers cannot provide the whole solution to traction, rutting, or runoff problems. If you are trying to utilize mechanized irrigation systems on steep slopes or heavy soils you should carefully consider all aspects of system design and management that can contribute to reduced soil loading and application rate minimization. The distribution profile of the Part Circle Sprinklers provides good overlaps with conventional sprinklers in most configurations. However, it is likely that a system intended to minimize application at the tower will not achieve the high uniformity possible with a well designed conventional system. For best results keep the spacing within the limits described above. Part Circle Sprinklers can be used to minimize, but they will not totally eliminate, application on the towers or wheel tracks.

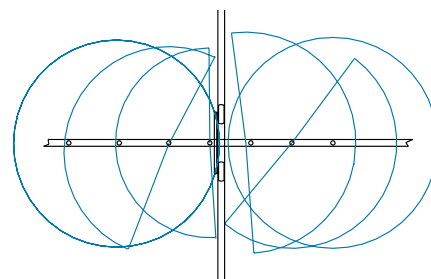
Part Circle Sprinklers can be installed in a variety of configurations

BOOMBACKS



Installations on boombacks minimize the compromise in uniformity that occurs when part circle devices are utilized.

STRAIGHT DROPS



Installations on straight drops require careful adjustment of the orientation.

WARRANTY AND DISCLAIMER: Nelson Part Circle Sprinklers are warranted for one year from date of original sale to be free of defective materials and workmanship when used within the working specifications for which the products were designed and under normal use and service. The manufacturer assumes no responsibility for installation, removal or unauthorized repair of defective parts. The manufacturer's liability under this warranty is limited solely to replacement or repair of defective parts and the manufacturer will not be liable for any crop or other consequential damages resulting from defects or breach of warranty. THIS WARRANTY IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR PARTICULAR PURPOSES AND OF ALL OTHER OBLIGATIONS OR LIABILITIES OF MANUFACTURER. No agent, employee or representative of the manufacturer has authority to waive, alter or add to the provisions of this warranty, nor to make any representations or warranty not contained herein.

This product may be covered by one or more of the following U.S. Patent Nos. 4796811, RE33823, DES312865, 5415348, 5409168 and other U.S. Patents pending or corresponding issued or pending foreign patents.



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