



WATER APPLICATION SOLUTIONS FOR CENTER PIVOT IRRIGATION

PC



**PART-CIRCLE  
R3030 ROTATOR\***  
Black \*12651-001  
(\*40-\*50 3NV Nozzle)  
Tan \*12651-003  
(\*24-\*39 3NV Nozzle)  
White \*12651-002  
(\*14-\*23 3NV Nozzle)  
U3030 included



## PART-CIRCLE

NELSON IRRIGATION OFFERS SEVERAL PART-CIRCLE OPTIONS. CHOOSE FROM THE PC-ROTATOR®, PC-SPINNER AND PC-SPRAYHEAD. ALL SPRINKLERS ARE AVAILABLE IN BOTH 3000 SERIES (WITH 3TN NOZZLE) AND 3030 SERIES (WITH 3NV NOZZLE). THE 3030 SERIES UTILIZES THE UNIVERSAL ADAPTER (U3030).

THESE PART-CIRCLE SPRINKLERS CAN BE USED FOR DRY WHEEL TRACK SOLUTIONS, HOSE BOOM APPLICATIONS OR A SIMPLE END OF SYSTEM ADDITION.

FOR PC-ROTATOR: 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  
R3000 ROTATOR\***  
Black \*10843-001  
(\*40-\*50 3TN Nozzle)  
Tan \*10843-003  
(\*24-\*39 3TN Nozzle)  
White \*10843-002  
(\*14-\*23 3TN Nozzle)



**PART-CIRCLE  
S3030 SPINNER\***  
\*12650 (U3030 INCLUDED)



**PART-CIRCLE  
S3000  
SPINNER\***  
\*9926-001



**PART-CIRCLE  
D3030 SPRAY\***  
\*9894-001  
(ORDER U3030 BODY  
\*12381 SEPARATELY)



**PART-CIRCLE  
D3000  
SPRAY\***  
\*9894-001

\*Part numbers do not include nozzles or square thread adapters. PC-R3030 and S3030 part numbers include U3030 body. \*12381 must be ordered separately for the PC-D3030.

# SMART OPTIONS FOR COMMON CHALLENGES

## SOLVE WHEEL TRACK PROBLEMS

Excessive water in the wheel tracks can cause slippage of the tires, causing the system to slow down in wet areas and steep slopes — increasing the application depth in relation to other parts of the fields. Deep wheel track ruts are also detrimental to the equipment and harvesting efficiency.



Nelson part circle sprinklers direct the water off of the pivot structure at the towers and away from the wheel track to prevent deep wheel track ruts. Overall field uniformity can be maintained by preventing excessive slippage of the tires, and maintaining a uniform speed of travel.

## PC-R3030 ROTATOR®

### PERFORMANCE:

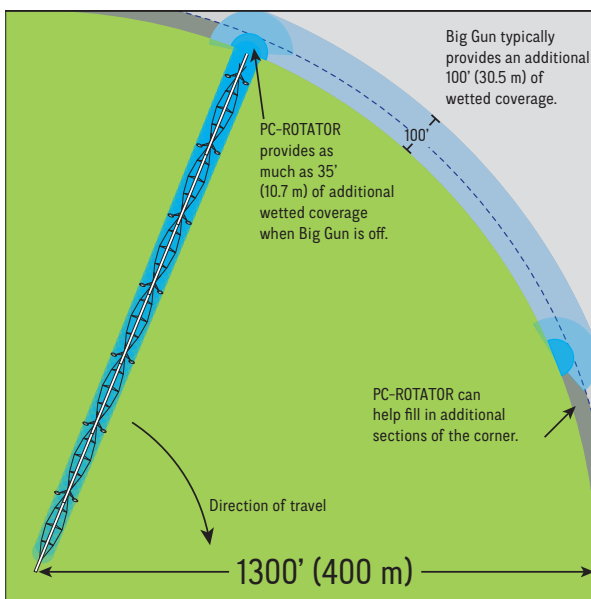
- 180° Arc (varies slightly with flow rate)
- Wide Throw
- High Uniformity
- Wind Fighting Pattern

Mount on a rigid drop assembly or IACO Hose Boom Assembly. Go to [www.boombacks.com](http://www.boombacks.com).

Nozzle #	Plate	Min-Max Pressure	Spacing Limit	Stream Height
14-23	White	15-25 psi	11' (3.4 m)	20-39" (51-99 cm)
24-39	Tan	(1-1.8 bar)		10-18" (25-46 cm)
40-50	Black	15-30 psi (1-2 bar)		29-41" (74-104 cm)

## PART-CIRCLE FOR END OF SYSTEM

Gain added end of system acreage at low pressure. Complement traditional end gun packages to fill the pattern going in and out of corners.



## INTEGRATE THE PC-ROTATOR WITH THE PREMIERE PIVOT SPRINKLER — THE R3030 ROTATOR®.

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.

NEW 3NV NOZZLE IN THE 3030 SERIES. This side-inlet, quick-change nozzle combines multiple functions so you can more effectively manage your system. Gain lots - give up nothing!



## 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 (PC-S3000) or 3NV Nozzle (PC-S3030). The directional control is provided by a 'stream deflector' which is inserted between the nozzle and the spinner body.

### OPERATING SPECS:

- 10-20 PSI (0.7-1.4 bar)
- #14-#40 3TN or 3NV Nozzle
- Mount on a rigid drop assembly

### PERFORMANCE:

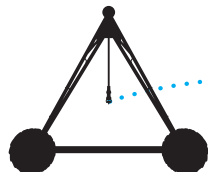
- 190° Arc (varies slightly with flowrate)
- Gentle, Rain-like Droplets
- High Uniformity
- Low Instantaneous Rates

### THROW RADIUS:

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

- 15 PSI (1.0 BAR)
- #36 3TN or 3NV Nozzle
- Stream Height = 20 in. (51 cm)

Mounting Height  
6' (1.8 m)



25' (7.6 m) radius



## 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 boombucks. The Part Circle 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:

- 6-20 PSI (0.4-1.4 bar)
- #9-#50 3TN or 3NV Nozzle
- Mount on a rigid drop assembly

### PERFORMANCE:

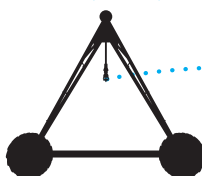
- 170° Arc (varies slightly with flowrate)
- Low Trajectory
- Concave Medium Groove Blue Spray Plate

### THROW RADIUS:

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

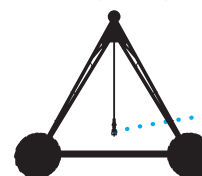
- 10 PSI (.7 BAR)
- #36 3TN or 3NV Nozzle
- Stream Height = 6 in. (15 cm)

Mounting Height  
9' (2.7 m)



19' (5.8 m) radius

Mounting Height  
3' (0.9 m)



16' (4.9 m) radius

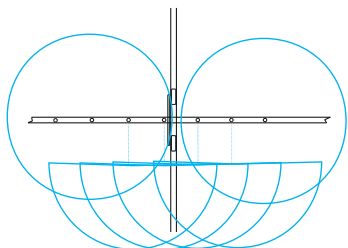


# DESIGNING WITH PART CIRCLE SPRINKLERS

## PART-CIRCLE SPRINKLERS CAN BE INSTALLED IN A VARIETY OF CONFIGURATIONS

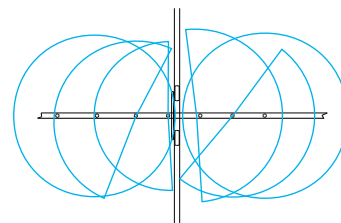
### BOOMBACKS

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.



### 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. If the devices will be mounted on conventional drops, a distance of 1 to 3 feet (0.3 to 1 m) 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 (0.6 m) is common. Coverage diameter information on other Nelson Pivot Sprinklers is available at [www.nelsonirrigation.com](http://www.nelsonirrigation.com) 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.



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