

TRAVELER

Irrigation

the original
BIG GUN®
SPRINKLER

Why choose a Nelson Big Gun®

- The **Big Gun®** name is synonymous with the best quality available.
- **Heavy-duty construction** ensures long wear life & reliability.
- **Greatest range of options.** Full & part-circle sprinklers available in a variety of trajectory, nozzle & coating options. *Adjustable trajectory (15-45°) SRA100 & SRA150 also available.*
- **Valve combinations available** for maximum system efficiency.
- **Easy to operate, maintain and repair** with readily available parts and documentation.

Advantages for Traveler Irrigation

- Low labor requirement
- One of the lowest cost per acre (hectare) mechanical move systems
- Adaptable to irregular fields, obstructions and undulating terrain
- Continuous movement contributes to a high degree of uniformity
- Extremely portable and storable
- Irrigates a wide range of crops

IT'S THE ONE FOR THE JOB



Nelson Big Gun® Sprinklers are ideal for a wide range of applications. With a full range of models available (see *The Original Big Gun®* brochure), flow rates of 30-1200 GPM (6.8-275 m³/hr) can be achieved with maximum uniformity to match a variety of needs.

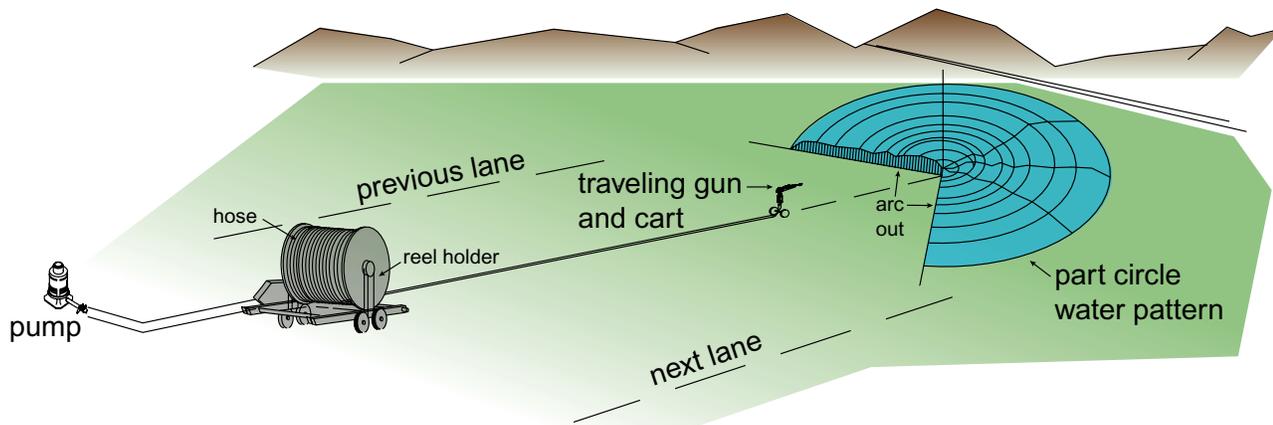
Traveling sprinklers were developed to significantly reduce labor with a minimum of initial investment. The traveler system consists of a hose reel machine that continuously reels in the Big Gun and gun cart down selected travel lanes. The traveler is capable of irrigating regular and irregular shaped fields with distances as long as 1/2 mile (750 meters). Traveling Big Gun sprinklers are capable of high uniformity water application when the proper sprinkler flow rate, operating pressure and travel lane spacings are selected.

FOR BEST RESULTS, CONTACT YOUR TRAVELER DEALER

The key to the successful use of Big Guns on travelers is the proper planning of the system for your area, lay of the land, shape of the fields, crop, soil, water supply and pumping conditions. Your traveler dealer can best recommend the proper combination of Big Gun sprinkler, traveler, hose, reel, main line and pumping unit based upon his experience with the operating conditions in your area and the performance characteristics of the system components.



BIG GUN® SPRINKLERS for Traveler Irrigation



TRAVEL LANE SPACING

The distance between travel lanes for any given sprinkler size is largely determined by local wind conditions. High winds tend to distort or modify the sprinkler pattern into an egg-shaped coverage pattern. Therefore, if possible, direction of travel should be at right angles to the prevailing wind. While the continuous movement of this irregular pattern improves the water application uniformity, it is essential to use closer spacings between travel lanes to assure proper overlap.

FULL OR PART CIRCLE OPERATION

A part circle sprinkler should be used when it is desirable to leave a dry path in front of the traveler, to water ends of the field without overthrow of the boundary and to adjust the arc of the sprinkler to compensate for wind. A full circle sprinkler should be used if the above are not important and when the lowest possible application rate is desired. When using a part circle sprinkler to maintain a dry travel path, adjust the area of the circle not watered to the smallest possible arc. This will provide nearly as low an application rate as with a full circle sprinkler at the same performance. The application rate of a part circle sprinkler is greater than for a full circle sprinkler of the same capacity, increasing according to the proportion of circle covered. For example, the application rate of a sprinkler covering a one-half circle is double that of a full circle sprinkler.

PRESSURE REQUIREMENTS

As the pressure at the Big Gun nozzle increases, the stream velocity increases, causing the stream to be broken into finer droplets and enabling the stream to be carried further. Because of the continuous traveling movement, a relatively constant distribution uniformity is maintained over a broad range of pressures. Therefore selecting the proper operating pressures, like trajectory angles is mostly a consideration of providing droplet conditions that are suitable for the crop and soil to be irrigated. General recommendations for pressure at the Big Gun nozzle to achieve the most desirable droplet conditions are:

Flow Range

100 to 200 gpm (23 to 45 m³/hr)
200 to 300 gpm (45 to 68 m³/hr)
300 to 500 gpm (68 to 114 m³/hr)
over 500 gpm (114 m³/hr)

Minimum Pressure Recommendation at Nozzle

60 to 80 psi (4.1 to 5.5 bar)
70 to 90 psi (4.8 to 6.2 bar)
80 to 100 psi (5.5 to 6.9 bar)
85 to 110 psi (5.8 to 7.6 bar)

TRAJECTORY ANGLE

Nelson Big Guns are available in various trajectory angles (21°, 24°, 27°, and the new 15-45° adjustable). The benefit of the adjustable trajectory angle Big Guns is to enable the operator to lower the trajectory angle with higher winds and raise the trajectory angle with low wind conditions. The higher trajectories maximize the distance of throw and allow the stream droplets to reach a nearly zero horizontal velocity before descending to the ground. The lower trajectories tend to fight the wind better, but the radius of throw is reduced so travel lane spacing must be considered and the stream has less opportunity for breakup so the effects on soil should be considered. Higher operating pressures should always be used for lower trajectory Big Gun sprinklers.

NOZZLE TYPE SELECTION

Nelson Big Gun Sprinklers come with either ring, taper ring or taper bore nozzles. Ring nozzles provide better stream breakup and more close-in water and are easier to change than taper bore nozzles. Taper Bore or Taper Ring Nozzles (the most common types) give greater distance of throw and the stream better withstands windy conditions. A small secondary nozzle tap is provided with Nelson Big Gun Sprinklers that can be used if more close-in water is desired.

WARRANTY AND DISCLAIMER: Nelson Big Gun® 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. 3,744,720, 3,559,887 and other U.S. Patents pending or corresponding issued or pending foreign patents.



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