



# Floppy Sprinkler

*Rain on Demand*

Floppy Sprinkler (Pty) Ltd

Nelspruit, South Africa

Tel: (+27)(0) 13 752 4252

Email: [info@floppysprinkler.com](mailto:info@floppysprinkler.com)

Website: <http://www.floppysprinkler.com>



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## THE FUTURE FOR FARMING

The future for farming lies in the effective management of resources. Seventy percent of the world's water supply is used for agricultural purposes. With growing demand for water and rapidly diminishing world water supply, the development of water efficient irrigation technologies have become crucial.

**Floppy Sprinkler (Pty) Ltd** has developed and patented worldwide, a new-generation irrigation system called the **Floppy Sprinkler** system. This revolutionary design concept has dramatically challenged conventional irrigation system designs used over the past 50 years, with 89% efficiency and up to 40% less water used per ton of produce than conventional systems.



### WATER SAVING

The Floppy Sprinkler cuts uniform droplets with no mist formation. The South African Water Research Commission confirmed efficiencies of 89%.

### ENERGY SAVING

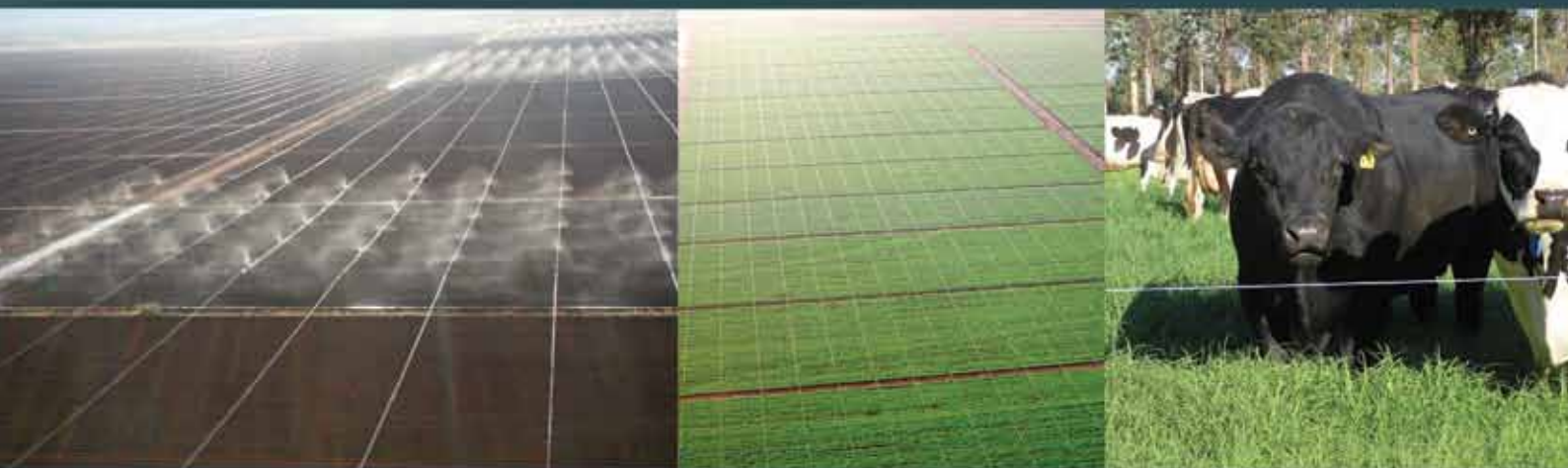
Due to lower operating pressures and water saving, substantial energy savings are possible.

### LABOUR SAVING

The solid set Floppy system can be automated and a few technicians can manage large areas.

### MAINTENANCE SAVING

The Floppy Sprinkler has no moving and wearing parts and therefore requires little or no maintenance. The oldest Floppy system has been successfully running for 22 years with minimum maintenance.





## THE SYSTEM OF THE FUTURE

The Floppy Sprinkler was independently tested by the SA Institute for Agricultural Engineering, confirming dramatic water and energy savings compared to conventional irrigation systems.

**Floppy Sprinkler (Pty) Ltd** drives prosperity into the future by equipping the farming business with a successful solid set system to manage current and future land and water risks, boosting overall productivity. A well managed Floppy Sprinkler system offers lower water consumption, lower labour costs and lower maintenance costs with a significant increase in yield and quality - also on marginal, rocky or sandy soils.

### INCREASE IN YIELD

With the Floppy solid set system irrigation can be scheduled more frequently - reducing the stress of the plants. The total root area is irrigated resulting in optimum root developments for top quality and yields. Yield increases between 15%-20% on sugar cane are common.

### FLOW CONTROL

The Floppy Sprinkler is the only sprinkler in the world with a built-in flow controller. This ensures super accurate irrigation even on slopes.

### FERTIGATION, CHEMIGATION AND FOLIAR FEEDING

Being a solid set system with a built-in flow controller the Floppy system allows for fertigation and chemigation to take place through the system with ease. Plants are washed clean with each irrigation cycle for better photosynthesis.

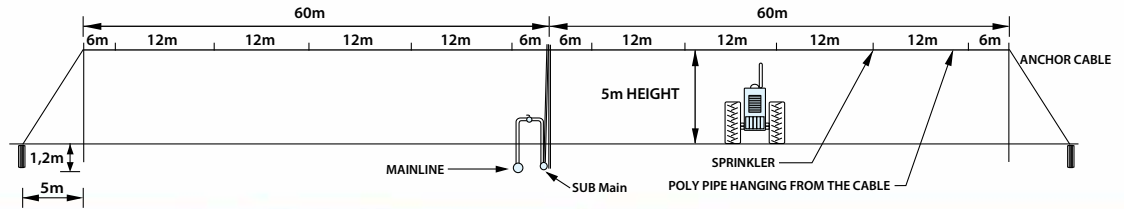


## RAIN ON DEMAND - THE FUTURE OF FARMING

The Floppy Sprinkler consists of a plastic nipple on which a flexible silicon tube is mounted. When water is passed through the tube it snakes to and fro while slowly rotating through 360°, forming uniform droplets similar to raindrops. Each sprinkler is fitted with a flow controller that regulates flow to 730 litres per hour with pressures varying from 2 to 6 bar. The flow controller controls the flow regardless of pressure. Only 2 bar of pressure is required.

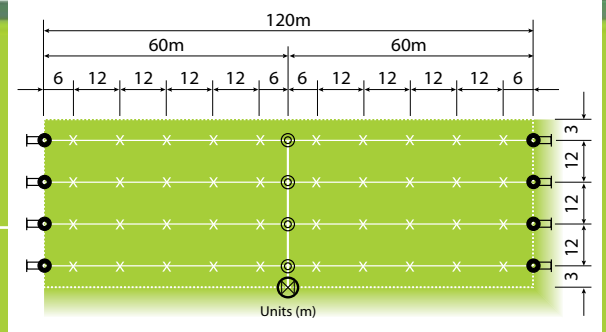
## THE FLOPPY OVERHEAD CABLE SYSTEM

The unique Floppy Sprinkler design allows for different installation options as required by the crop: An overhead cable system with no equipment on the ground is ideal for vegetables, Lucerne and other crops where tillage practice favour an overhead system.



### TYPICAL LAYOUT INFORMATION:

- Lateral lines are always 12m apart
- Sprinklers are spaced 12m apart on the lateral
- The first sprinkler is spaced 3m from the field border

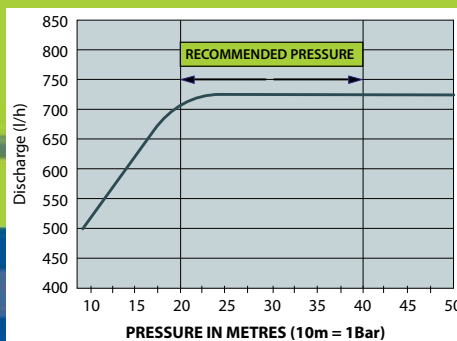


### OVERHEAD CABLE TECHNICAL SPECIFICATIONS

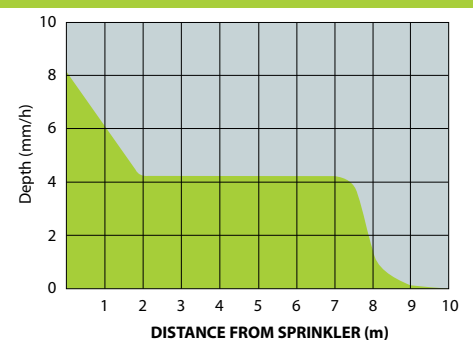
- One sprinkler uses 730 litres per hour. The flow controller maintains the discharge within 5% from 1.8 to 6 Bar
- The recommended minimum pressure at the sprinkler is 2 Bar
- The gross precipitation rate 5mm per hour (depending on spacing)
- Filtration: An 800 micron screen filter is strongly recommended
- The poles are 12m apart with a span of 60 meters
- The sprinklers hang on a 6mm cable pulled to a tension of 1 200kg
- The anchor poles are 75-100mm thick, and planted one meter into the ground. The cable is 5 meters high above the ground.

### SPRINKLER COMPONENTS

- A** Silicone floppy tube
- B** Sprinkler body with 3/4" male thread
- C** Sprinkler head for rotation
- D** Weight to retract tube
- E** Flow controller plastic part
- F** Silicone flow controller sleeve



DISCHARGE



WATER DISTRIBUTION

## RAIN ON DEMAND - GUARANTEED

The Floppy Sprinkler system offers a 5 year guarantee, which is unsurpassed in the irrigation industry. A number of important prizes have also been awarded to the Floppy Sprinkler system;

1989 - South African Plastic Federation Award

1991 - South African Cullinan Award

2001 - South African Eskom ETA Award

2003 - South African Irrigation Institute Silver Medal

2004 - South African Top Technology 100 Award National

1990 - South African Civil Engineers Award

2000 - Australian Irrigation Show honourable acknowledgement

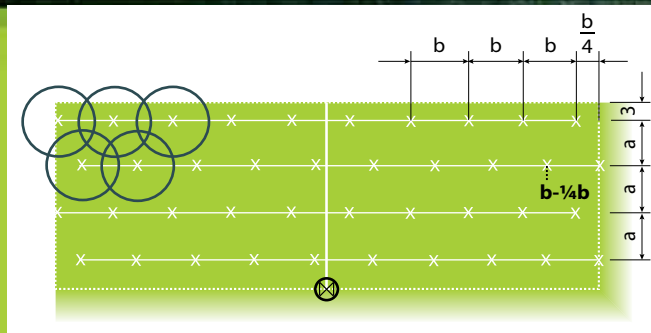
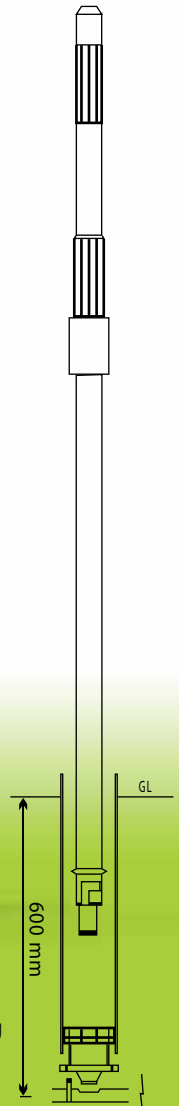
2002 - USA World Bank Prize

2003 - South African Top Technology 100 Award Mpumalanga

2004 - South African Eskom ETA Award

## THE FLOPPY RISER SYSTEM

The unique Floppy Sprinkler's versatile design allows for a further installation option: A short riser or tall riser system ideal for vegetables, sugarcane, bananas and other crops.



### TYPICAL LAYOUT INFORMATION:

2.25m Riser: a=11m; b=13m or a=12m; b=12m triangular spacing

4.5m Riser: a=12m; b=12m square spacing for high crops

6m Riser: a=12m; b=12m square spacing ideal for bananas

The first lateral is 3m from the field border

The first sprinklers is on the field border

Riser height dependant on crop and design

### RISER TECHNICAL SPECIFICATION

- 1 One sprinkler uses 730 litres per hour. The flow controller maintains the discharge within 5% from 1.8 to 6 Bar
- 2 The recommended minimum pressure at the sprinkler is 2 Bar
- 3 The gross precipitation for 12 x 12m is 5mm per hour; 12 x 14 m is 4.2mm per hour.
- 4 Filtration: An 800 micron screen filter is strongly recommended
- 5 There are 2 methods of installing the system:
  - a) Permanent - Buried laterals with removable risers. eg. Alfalfa pastures, sugar cane and bananas.
  - b) Permanent - Surface laid laterals with removable laterals and risers. eg. Vegetables, bananas and other cash crops.



**Quick and easy removal of risers when required.**

### FLOPPY SPRINKLER TROUBLESHOOTING

- 1 If the sprinkler does not rotate:
  - a) The sprinkler is blocked. Especially during new installations foreign material may find its way into the pipeline.
  - b) The following causes for non-rotation are common:
    - i) The pressure is too low;
    - ii) There is a leak in feeder lines;
    - iii) There is a blocked sieve on the suction line;
    - iv) There are air locks in the feeder line.
- 2 Be aware of excessive air in the pipeline. Open valves slowly to prevent water hammer. This will give the air time to escape through the sprinklers. In severe cases air relief valves should be installed.
- 3 Take the extruding part of the flow controller firmly by hand, and move it to and from, while pulling at the same time. The flow controller should slip out. The sleeve may be removed to ease the cleaning process. Replace the controller. Press the controller firmly home.

