



MINI-WOBBLER™

Nursery and Solid Set Irrigation

AGRICULTURAL IRRIGATION

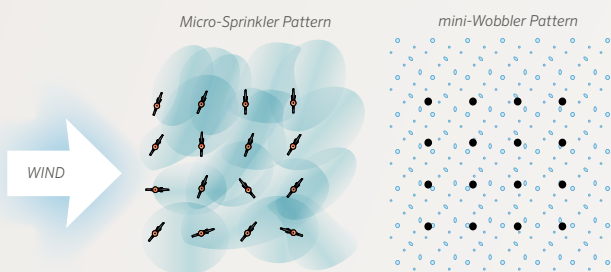
Low Pressure - High Performance™



MINI-WOBBLER™

The mini-Wobbler distributes water in an instantaneous, uniform application pattern over a large area.

Senninger Wobbler® technology —rotation of grooved deflector coupled with wobbling action— is renowned worldwide for its unique application pattern. Wobbler sprinklers distribute rain-like droplets with lower application intensity over a large area of coverage at low pressures. This helps reduce soil compaction and runoff.



A Larger Droplet Size

Strong winds and high temperatures can easily affect small droplets and distort a sprinkler's wetted pattern. This graphic compares the micro sprinkler and the mini-Wobbler. The mini-Wobbler, with its low operating pressure, produces larger droplets less prone to wind-drift and evaporation which helps save water.

mini-Wobbler Benefits

- ① Instantaneous and uniform application makes them ideal for germination, fertigation, salt leaching, and crops that prefer a gentle water application
- ② Water droplets resist evaporative loss
- ③ Fewer laterals, less clogging and lower maintenance requirements than drip
- ④ Low operating pressures of 10 to 25 psi (0.69 to 1.72 bar) save energy and money
- ⑤ Only one moving part translates to a longer product life
- ⑥ Proprietary blend of engineering-grade UV resistant thermoplastics for durability and reliable performance

Full Coverage at a Low Application Intensity

Wobbler® sprinklers distribute water instantaneously over a large area, which means they irrigate with a low application intensity. When water is spread out over the sprinkler's entire wetted diameter, the soil can slowly absorb it at a comfortable rate. This means the chance of ponding or developing pockets of severe salt buildup is greatly reduced while soil infiltration rates are preserved.

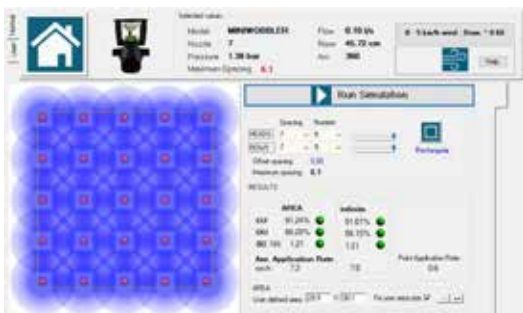
mini-
Wobbler

Micro-
Sprinkler



Outstanding Uniformity

The uniform water distribution of the mini-Wobbler helps assure consistent crop development. This applies to a variety of row crops including trees, bananas, and vegetables.



Based on the system parameters, the mini-Wobbler can achieve high CU (Coefficient of Uniformity) and DU (Distribution Uniformity) percentages. The SC (Scheduling Coefficiency) is close to 1, which means the system can run for a shorter period of time and still ensure adequate coverage in the driest areas.

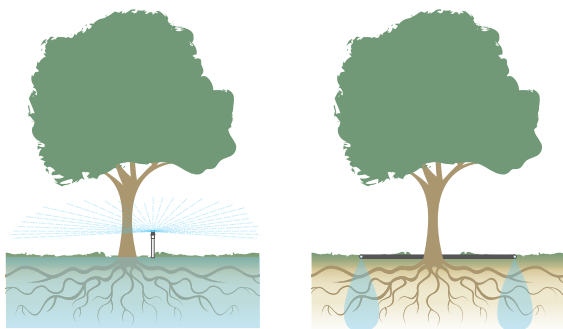
This uniformity also makes the standard or inverted mini-Wobbler an ideal choice for container irrigation, where each plant must receive the same amount of water. This applies to greenhouses or other covering as well as open-air nurseries.

- **Cost** – mini-Wobbler sprinklers require fewer laterals for operation and can even be installed into existing drip systems after some design adaptations.
- **System Monitoring** – The water distribution of mini-Wobbler sprinklers is more visible, making it easier to assess performance.
- **Clogging** – mini-Wobbler sprinklers have a larger nozzle orifice size than drip emitters and are less prone to clogging. As such, they do not require strict filtration demands.
- **Multiple Applications** – Drip systems cannot be used for frost protection, salt leaching or adequate germination.

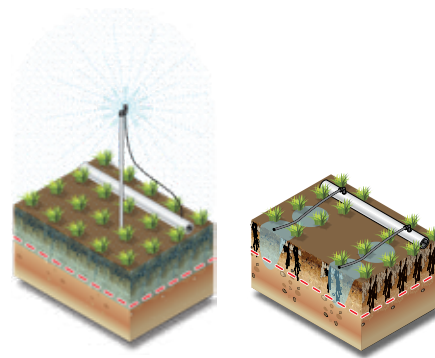
Complement or Replace Drip

Low energy sprinklers have long complemented or replaced inefficient or high cost drip systems.

The uniform gentle distribution of the mini-Wobbler helps promote successful plant germination. Drip systems are designed to deliver water to a smaller area. They would require numerous lines and emitters to try to achieve the coverage required for germination. Some growers prefer to germinate with the mini-Wobbler and then use drip later in the crop development.



Even with lateral lines on each side of a tree, drip systems may not provide coverage that encompasses the root zone of trees.



The uniform distribution of the mini-Wobbler evenly waters the root zone. Drip emitters may not align with plants to deliver water to the roots.

Additional Components



Senninger® Pressure Regulators maintain a constant preset outlet pressure with varying inlet pressures, which alleviates pressure differences that can cause an applicator's area of coverage to change. This helps ensure optimum system performance.



The SENNODE-BT controller assists with easy system scheduling. It's enabled with powerful wireless Bluetooth® technology that can be easily managed from a smartphone. It is battery-operated and a reliable choice for greenhouses, nurseries, open fields, and other areas where AC power is unavailable.

Which mini-Wobbler™ model is best for you?



The Standard mini-Wobbler is suitable for a variety of installations, including greenhouses, nurseries, undertree, and open fields.



The High-Angle mini-Wobbler is used primarily for undertree applications due to its wider distribution.



The Inverted mini-Wobbler is mounted from above in greenhouses and shade houses.



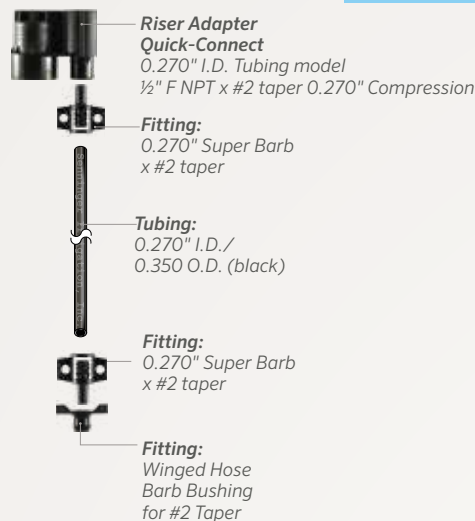
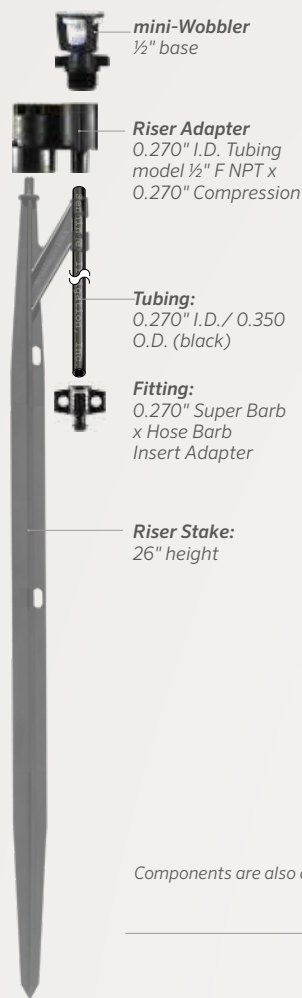
SYSTEM DESIGN CRITERIA	Standard mini-Wobbler	High-Angle mini-Wobbler	Inverted mini-Wobbler
Nozzle Sizes			
Minimum*	#4 1/16" (1.59 mm)	#4 1/16" (1.59 mm)	#5 5/64" (1.98 mm)
Maximum	#8 1/8" (3.18 mm)	#8 1/8" (3.18 mm)	#8 1/8" (3.18 mm)
Flow Range			
Minimum	0.42 gpm (95 L/hr)	0.42 gpm (95 L/hr)	0.75 gpm (170 L/hr)
Maximum	2.18 gpm (495 L/hr)	2.18 gpm (495 L/hr)	2.18 gpm (495 L/hr)
Pressure Range			
Minimum	15 psi (1.03 bar)	15 psi (1.03 bar)	20 psi (1.38 bar)
Maximum	25 psi (1.72 bar)	25 psi (1.72 bar)	25 psi (1.72 bar)
Spacing Recommendation			
Maximum	20 ft (6 m)	30 ft (9.1 m)	12 ft (3.5 m)
Diameter of Throw			
Minimum at 1.5 ft (0.46 m) ht	28 ft (8.5 m)	41.5 ft (12.6 m)	-
Maximum at 1.5 ft (0.46 m) ht	39 ft (11.9 m)	52 ft (15.8 m)	-
Minimum at 3 ft (0.91 m) ht	32 ft (9.8 m)	41.5 ft (12.6 m)	30 ft (9.2 m)
Maximum at 3 ft (0.91 m) ht	43.5 ft (13.3 m)	53 ft (16.2 m)	32 ft (9.8 m)
Minimum at 6 ft (1.83 m) ht	-	-	32 ft (9.8 m)
Maximum at 6 ft (1.83 m) ht	-	-	36 ft (11 m)
Stream height above nozzle			
Minimum	1.5 ft (0.46 m)	3.67 ft (1.12 m)	0.5 ft (0.2 m)
Maximum	3 ft (0.91 m)	6.17 ft (1.88 m)	1.5 ft (0.46 m)
Connections			
	1/2" M NPT 1/2" F or 3/4" M Slip	1/2" M NPT 1/2" F or 3/4" M Slip	1/2" M NPT

* To ensure consistent startability, the minimum recommended nozzle size at 15 psi (1.03 bar) is #5.

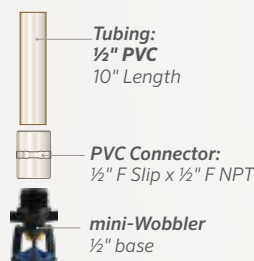
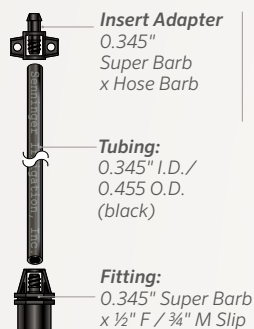
Anti-Theft Connection



Both upright models of the mini-Wobbler are available with an anti-theft slip connection. Simply glue a 1/2" PVC riser to the inside of the slip base or glue a 3/4" PVC riser to the outside of the slip base. There are no PVC fittings required for installation.



Components are also available for 0.345" tubing.



DROP ASSEMBLIES

Consider friction loss through the tubing and components when designing for optimum performance. Punch tools also available.

Components are also available for 0.270" tubing.

SUCCESS IN THE FIELD...

Ornamentals in Lake Worth, FL

Eric Aanonsen

Eric Aanonsen produces around 5-million flowers a year, mostly for Southeast Florida. During his 27 years in business, he has tried and tested multiple sprinklers and has come to rely on the mini-Wobbler for the plants in his shade houses. With the mini-Wobbler, Eric Aanonsen has achieved what he calls the “perfect uniformity”

and “best coverage” that he needs to succeed. Other sprinkler heads would bypass certain areas, so he had to water twice as much just to get plants wet, while others were getting too wet. The mini-Wobbler provides uniform coverage for all of his 4½" pots.

SITE DETAILS

Crop | Ornamentals
Location | A&W Annuals in Lake Worth, FL USA
Size | 21 acres

SYSTEM DETAILS

Spacing: 10 x 10 ft (3 x 3 m)
Nozzle Size: #5 Nozzle - Beige (5/64")

ornamentals *Lake Worth, FL USA*

Walnuts in Choele Choel, Argentina

Cañares Altos Farm

The Cañares Altos farm spent 5 years testing various sprinkler heads for their overhead frost protection system before choosing the Senninger mini-Wobbler. The farm managers believe the mini-Wobbler is the best option in the marketplace thanks to its durable design and

low-pressure operation. The system was initially conceived strictly for frost protection, but later they realized the sprinkler could both irrigate and protect from frost damage. Today the mini-Wobbler works in this mixed irrigation system for both purposes.

SITE DETAILS

Crop | Walnuts
Location | Cañares Altos in
 Choele Choel, Argentina

SYSTEM DETAILS

Spacing: 26.3 x 16.4 ft (8 x 5 m)
Flow Rate: 0.75 gpm (170 L/hr)
Operating Pressure: 20 psi (1.38 bar)

walnuts *Choele Choel, Argentina*



Senninger's commitment to world-class products, local support and technical expertise ensure we provide the most efficient and reliable agricultural irrigation solutions available in the world today.

A handwritten signature in white ink, reading "Stephen D. Abernethy".

Stephen D. Abernethy, President of Senninger Irrigation