

i-Wob™



MECHANIZED IRRIGATION

Senninger introduced Wobblers technology in 1980.
Low application intensity, unmatched uniformity,
large area of coverage at low pressures.



i-Wob™ UP3™ Easy Clean Nozzle



Senninger's UP3 (Universal Pivot Products Platform) has been applied to the proven technology of the i-Wob. The easy snap-in nozzle means there is no need to disassemble or remove the sprinkler to clean or change the nozzle.

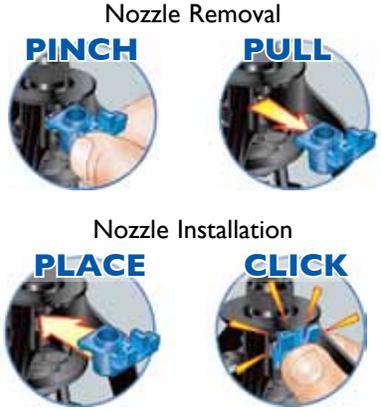
Senninger introduced "Wobblers technology" in 1980. Its unique rotary action combined with its groove geometry delivers a consistent droplet size and outstanding uniformity over a large area of coverage. This design offers distinct benefits in preventing wind drift and providing a gentle, rain-like application of water to the soil. The i-Wob doesn't dissolve soil clods or seal over the soil like other products.

Dual Nozzle Carrier (patent pending)

Utilizing two different flow rates in a center pivot (a lower rate for germination or chemigation and a higher rate for mature crop irrigation) provides an excellent way to save water and energy. The Dual Nozzle Carrier greatly simplifies renozzling for this purpose. Simply - pinch and pull the nozzle from the applicator; flip the carrier; then place and click to install the second nozzle. The carrier is marked to show the high and low flow nozzles. The flexible material provides the ability for in-canopy operation and improves durability from possible impact.

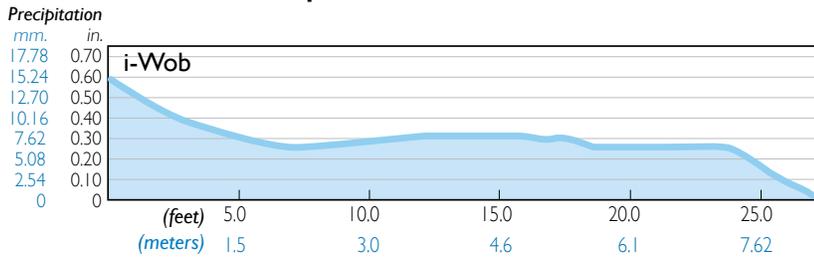


Easy Clean - Easy Change Nozzle



Spray Nozzle Comparison i-Wob™ UP3™

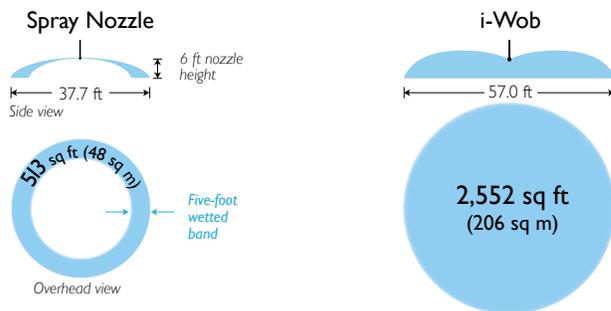
Sprinkler Profile



Unmatched Uniformity

Uniformity of application rate is an important consideration in lowering application intensity. Some stream-driven applicators deliver water in a more concentrated ring along the outer diameter of the coverage area. This more intense application can negatively impact the soil surface. The i-Wob offers a gentle more uniform delivery.

Excellent Distance of Throw



In this example, the i-Wob is spreading the same amount of water over an area five times greater than the area covered by the spray nozzle. Nozzles are at 20 psi (1.38 bar), at 6 ft (1.83 m) height, using an 11/32 inch (8.73 mm) nozzle, with a flow of 14.27 gpm (3241 L/hr) in no wind conditions.

Large Area of Coverage

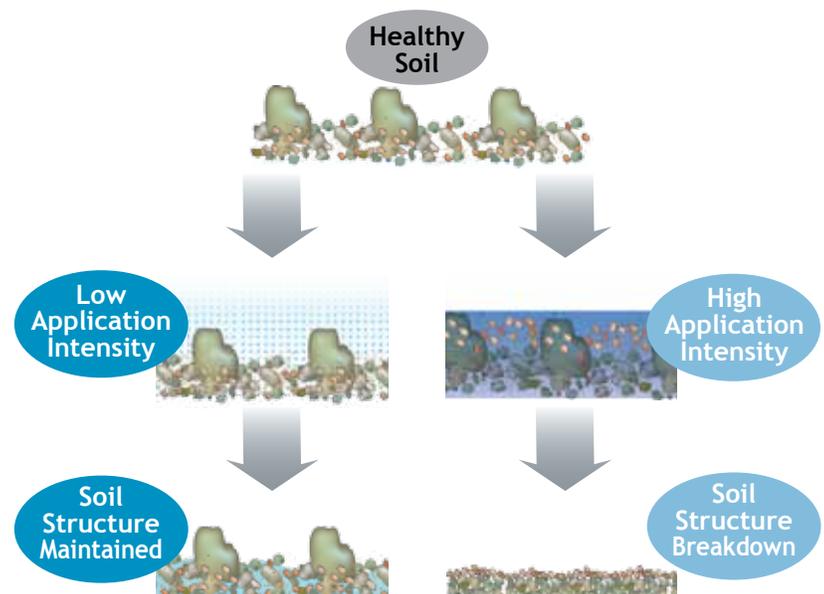
The i-Wob provides the largest area of instantaneous coverage at a lower pressure than any other market device minimizing the impact on the soil surface and crop. The larger the area of soil surface that water is applied to any given instant of a sprinkler's operation, the lower the impact of the sprinklers pattern on the soil structure, preserving the soil's ability to absorb water. Larger instantaneous coverage area also reduces the rate at which the soil is required to take in water. Preservation of intake rate and increased soak times greatly reduce the potential for irrigation water run-off and wheel rutting.

Lowest Instantaneous Application Rate

Ordinary single-pad spray nozzles place all their water in a ring at the outer edge of their wetted circle. This causes higher application rates, soil compaction and an increased chance of runoff.

The i-Wob uniformly covers the entire area of its wetted circle. This means it is wetting a much larger area at a much lower instantaneous application rate. The result is less soil compaction and less runoff.

Benefits of Lower Application Intensity



i-Wob™ UP3™ Energy Savings



Ultra Low Pressure

Senninger Irrigation's line of center pivot products is designed for peak performance at ultra-low pressures of 10 to 15 psi (0.69 to 1.04 bar), and a recommended maximum pressure of 20 psi (1.38 bar). Lower pressure translates to reduced horsepower requirements and reduced energy consumption. These low operating pressures offer many irrigators a tremendous opportunity to lower total pumping costs. Products specifically designed to provide peak performance in this low pressure range offer a center pivot irrigator increased energy savings.

Senninger Irrigation - Low Pressure Energy Saver

System Information

Pump Flow: 1000 GPM
 Pressure: 60 Psi
 Pumping Plant Efficiency: 80 [%]
 Hours of Operation per Year/Season: 1000

Energy Type and cost

| Energy Type | Wh/hrs / Kw-hour | Cost / Kw-hour |
|-------------|------------------|----------------|
| Electricity | 0.885 | .09 |
| Diesel | 12.5 | 2.5 |
| Propane | 6.09 | |
| Natural Gas | 66.7 | |

High / Low - Pressure Cost Comparisons

| | High pressure | Low pressure |
|-------------------------------|-----------------|-----------------|
| Pressure | 60 Psi | 15 Psi |
| Water Horsepower | 34.99 | 20.41 |
| Brake Horsepower | 43.74 | 25.51 |
| Water Pumped per Year/Season | 18413 acre-feet | 18413 acre-feet |
| Seasonal Energy Cost of Water | 8748.0 | 5103.0 |

Annual / Seasonal Savings: 3644.99

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Energy Savings Calculator

The Energy Saver program by Senninger Irrigation is another tool that reinforces the benefit of converting your system to LOW PRESSURE-HIGH PERFORMANCE. It gives you a first-hand look at the cost savings in lowering your pressure without sacrificing uniformity.

Available online at www.senninger.com as a link in the Literature & Software tab.

“The One” Weight



It's all that is needed to provide stability on drops for a number of pivot applicators. The design includes unique **fit technology** that allows the weight to fit securely onto the i-Wob, LDN and the Super Spray and even some other manufacturer's applicators. The weight's easy-to-install design allows it to remain on the applicator during nozzle changes. The aerodynamic design resists uplift forces of high wind. **The One** weight is constructed entirely of zinc alloy for strength and resistance to corrosion 0.85 lbs. (.30 kg).

4 Models i-Wob™ UP3™

The Senninger i-Wob is available with four different deflectors. This allows you to customize the droplet size and trajectory that best suits your installation, soil, and crop needs.



Standard-Angle 6-Groove
 • Gray deflector
 • Small droplets

Standard-Angle 9-Groove
 • Black deflector
 • Medium droplets

Low-Angle 9-Groove
 • Blue deflector
 • Medium droplets

Low-Angle 6-Groove
 • White deflector
 • Largest droplets

i-Wob System Design Criteria

| | SA6G | SA9G | LA9G | LA6G |
|----------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Nozzle Sizes | | | | |
| Minimum | #10 5/23" (3.97 mm) | #6 3/32" (2.38 mm) | #6 3/32" (2.38 mm) | #12 3/16" (4.76 mm) |
| Maximum* | #26 13/32" (10.32 mm) |
| Flows | | | | |
| Minimum | 2.24 gpm (509 L/hr) | 0.80 gpm (182 L/hr) | 0.80 gpm (182 L/hr) | 3.24 gpm (736 L/hr) |
| Maximum | 21.18 gpm (4811 L/hr) |
| Diameters | | | | |
| Minimum at 3 ft (0.91 m) | 36 ft (11.0 m) | 31 ft (9.5 m) | 31 ft (9.5 m) | 40 ft (12.2 m) |
| Maximum at 3 ft (0.91 m) | 46 ft (14.0 m) | 56 ft (17.1 m) | 48 ft (14.6 m) | 49 ft (14.9 m) |
| Minimum at 6 ft (1.83 m) | 35 ft (10.7 m) | 34 ft (10.4 m) | 35 ft (10.7 m) | 44 ft (13.4 m) |
| Maximum at 6 ft (1.83 m) | 51 ft (15.5 m) | 60 ft (18.3 m) | 52 ft (15.8 m) | 53 ft (16.2 m) |
| Maximum Spacing** | | | | |
| at 6 ft (1.8 m) ground clearance | 18 ft (5.5 m) | 20 ft (6.1 m) | 18 ft (5.5 m) | 15 ft (4.6 m) |
| Pressure at the Nozzle | | | | |
| Minimum | 10 psi (0.69 bar) |
| Maximum | 20 psi (1.38 bar) |

*It is recommended that larger nozzle sizes be used only on soils and slopes that can handle higher application rates.

** For optimum performance Senninger recommends the use of maximum spacing for 1 to 2 spans only.

Note: Keep i-Wobs above crop canopy when outlet spacing exceeds 10 ft (3.0 m). This is especially important on high profile crops.

i-Wob™ UP3™ Nozzle Flows

| Sprinkler Base Pressure (psi) | | | 10 | 15 | 20 | (bar) | 0.69 | 1.03 | 1.38 |
|-------------------------------|-------------------------|---------------|------------|-------|-------|--------------|-------------|------|------|
| Nozzle | Color | Orifice (in.) | Flow (gpm) | | | Orifice (mm) | Flow (L/hr) | | |
| 6 | Gold | 3/32 | 0.80 | 0.98 | 1.13 | 2.38 | 182 | 223 | 257 |
| 6½ | Gold (notched) | 13/128 | 0.94 | 1.15 | 1.33 | 2.58 | 213 | 261 | 302 |
| 7 | Lime | 7/64 | 1.09 | 1.34 | 1.54 | 2.78 | 248 | 304 | 350 |
| 7½ | Lime (notched) | 15/128 | 1.26 | 1.54 | 1.77 | 2.98 | 286 | 350 | 402 |
| 8 | Lavender | 1/8 | 1.43 | 1.75 | 2.02 | 3.18 | 325 | 397 | 459 |
| 8½ | Lavender (notched) | 17/128 | 1.62 | 1.98 | 2.29 | 3.37 | 368 | 450 | 520 |
| 9 | Grey | 9/64 | 1.81 | 2.22 | 2.56 | 3.57 | 411 | 504 | 581 |
| 9½ | Grey (notched) | 19/128 | 2.02 | 2.48 | 2.86 | 3.77 | 459 | 563 | 650 |
| 10 | Turquoise | 5/32 | 2.24 | 2.75 | 3.17 | 3.97 | 509 | 625 | 720 |
| 10½ | Turquoise (notched) | 21/128 | 2.47 | 3.03 | 3.50 | 4.17 | 561 | 688 | 795 |
| 11 | Yellow | 11/64 | 2.72 | 3.33 | 3.84 | 4.37 | 618 | 756 | 872 |
| 11½ | Yellow (notched) | 23/128 | 2.97 | 3.64 | 4.20 | 4.56 | 675 | 827 | 954 |
| 12 | Red | 3/16 | 3.24 | 3.97 | 4.58 | 4.76 | 736 | 902 | 1040 |
| 12½ | Red (notched) | 25/128 | 3.52 | 4.31 | 4.97 | 4.96 | 799 | 979 | 1129 |
| 13 | White | 13/64 | 3.81 | 4.66 | 5.38 | 5.16 | 865 | 1058 | 1222 |
| 13½ | White (notched) | 27/128 | 4.11 | 5.03 | 5.81 | 5.36 | 933 | 1142 | 1320 |
| 14 | Blue | 7/32 | 4.42 | 5.41 | 6.25 | 5.56 | 1004 | 1229 | 1420 |
| 14½ | Blue (notched) | 29/128 | 4.74 | 5.81 | 6.71 | 5.75 | 1077 | 1320 | 1524 |
| 15 | Dark Brown | 15/64 | 5.08 | 6.22 | 7.18 | 5.95 | 1154 | 1413 | 1631 |
| 15½ | Dark Brown (notched) | 31/128 | 5.42 | 6.64 | 7.67 | 6.15 | 1231 | 1508 | 1742 |
| 16 | Orange | 1/4 | 5.78 | 7.08 | 8.17 | 6.35 | 1313 | 1608 | 1856 |
| 16½ | Orange (notched) | 33/128 | 6.15 | 7.53 | 8.69 | 6.55 | 1397 | 1710 | 1974 |
| 17 | Dark Green | 17/64 | 6.53 | 7.99 | 9.23 | 6.75 | 1483 | 1815 | 2096 |
| 17½ | Dark Green (notched) | 35/128 | 6.92 | 8.47 | 9.78 | 6.95 | 1572 | 1924 | 2221 |
| 18 | Purple | 9/32 | 7.32 | 8.96 | 10.35 | 7.14 | 1663 | 2035 | 2351 |
| 18½ | Purple (notched) | 37/128 | 7.73 | 9.47 | 10.93 | 7.34 | 1756 | 2151 | 2482 |
| 19 | Black | 19/64 | 8.15 | 9.98 | 11.53 | 7.54 | 1851 | 2267 | 2619 |
| 19½ | Black (notched) | 39/128 | 8.58 | 10.51 | 12.14 | 7.74 | 1949 | 2387 | 2757 |
| 20 | Drk Turquoise | 5/16 | 9.02 | 11.05 | 12.76 | 7.94 | 2049 | 2510 | 2898 |
| 20½ | Drk Turquoise (notched) | 41/128 | 9.47 | 11.60 | 13.40 | 8.14 | 2151 | 2635 | 3043 |
| 21 | Mustard | 21/64 | 9.93 | 12.17 | 14.05 | 8.33 | 2255 | 2764 | 3191 |
| 21½ | Mustard (notched) | 43/128 | 10.40 | 12.74 | 14.71 | 8.53 | 2362 | 2894 | 3341 |
| 22 | Maroon | 11/32 | 10.88 | 13.33 | 15.39 | 8.73 | 2471 | 3028 | 3495 |
| 22½ | Maroon (notched) | 45/128 | 11.37 | 13.92 | 16.08 | 8.93 | 2582 | 3162 | 3652 |
| 23 | Cream | 23/64 | 11.87 | 14.54 | 16.78 | 9.13 | 2696 | 3302 | 3811 |
| 23½ | Cream (notched) | 47/128 | 12.37 | 15.15 | 17.49 | 9.33 | 2810 | 3441 | 3972 |
| 24 | Dark Blue | 3/8 | 12.88 | 15.78 | 18.22 | 9.53 | 2925 | 3584 | 4138 |
| 24½ | Dark Blue (notched) | 49/128 | 13.40 | 16.41 | 18.95 | 9.72 | 3043 | 3727 | 4304 |
| 25 | Copper | 25/64 | 13.92 | 17.05 | 19.69 | 9.92 | 3162 | 3872 | 4472 |
| 25½ | Copper (notched) | 51/128 | 14.45 | 17.69 | 20.43 | 10.12 | 3282 | 4018 | 4640 |
| 26 | Bronze | 13/32 | 14.98 | 18.35 | 21.18 | 10.32 | 3402 | 4168 | 4811 |

UP3 Nozzle Visibility

The color-coded nozzles are highly visible and easy to identify. The nozzle numbers (corresponding to orifice size in 64ths of an inch) are visible on the ears, with half-sizes denoted beneath the second digit and notches on the lower edge of the nozzle.

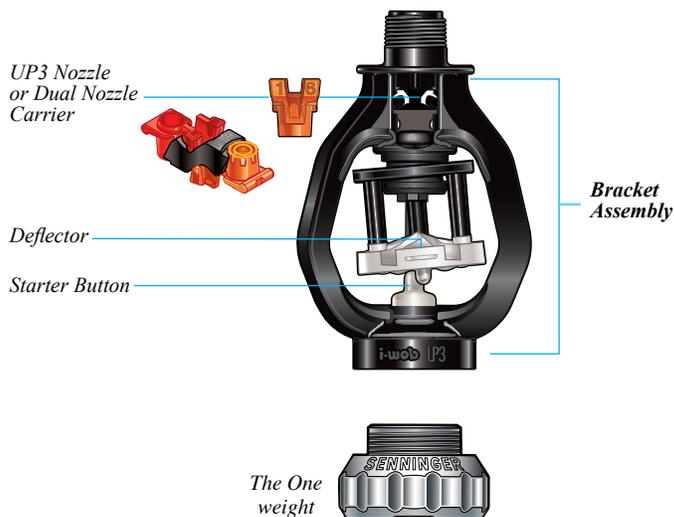


Components i-Wob™ UP3™

Integrated base

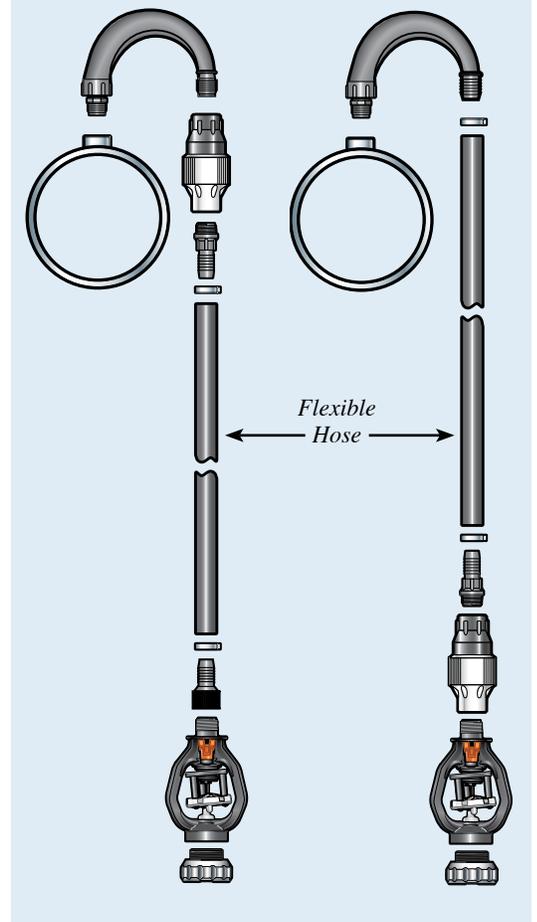
With the new UP3 design, the i-Wob base is now an integral part of the bracket. It can be installed directly into a pressure regulator or female NPT fitting. This increases reliability and means fewer parts are required.

Component Assembly



Installation Components

To maintain product warranty, and maximize drop component life, refer to the diagrams below...



i-Wob System Assembly

Mounting

1. Always mount the i-Wob on a minimum of 2 ft. (0.6 m) reinforced flexible hose. Hose must be on outlet end of any semi-rigid or rigid drop.
2. Mount the i-Wob no less than 3 ft. (0.91 m) above the ground.
3. When using The One Weight, always be sure it is tightly threaded into the bottom of the i-Wob.
4. When using The One Weight, never use another weight above the i-Wob.
5. If using a conventional drop weight, never use a threaded lower weight also.
6. If using a conventional drop weight above the i-Wob, only use a threaded weight weighing at least 1.5 lbs (0.7 kg) but not exceeding 1 ft. (0.38 m) in length.

Please note that using a slip-over drop weight may cause premature failure of the drop tube assembly.

Energy Savings

“The i-Wob saves energy with an application efficiency unmatched by other devices.”

Marcus Schmidt, Engineer, Brazil

“When my customers use the i-Wob, they get the best for less. The best water application for the least pumping cost.

Mike Woodhead, Woody's Pivot Service, Colorado

Gentle Rain-Like Pattern!

“I won't use anything else.”

Steve Bean, Idaho

“The i-Wob is simply the best sprinkler on the market.”

Derek Wagner, Wagner's Irrigation, Nebraska

Uniformity

“With the i-Wob, it seems like I have a more uniform crop. I also like the fact that they don't seal over the ground.”

Gary Miller, Texas

Low Pressure High Performance

“Because the water gets to the ground quicker, it is recommended by the water management district and the USDA as good efficient irrigation.”

Dave Dymond, H&H Sod Company, Florida

Longevity

“Mechanical longevity is absolutely critical for us. That's one of the reasons we've again decided to go with Senninger i-Wobs for the new systems we've put in.”

Klaren Kooppin, Idaho

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