



XI-WOB™

Wobler® Technology for Semi-Rigid Drops

AGRICULTURAL IRRIGATION

Low Pressure - High Performance™



THE BENEFITS OF WOBBLER® TECHNOLOGY ON SEMI-RIGID DROPS

Outstanding Uniformity and gentle rain-like application.

The Senninger Xi-Wob™ uses Wobbler technology for low application intensity with an outstanding uniformity over a large area of coverage at low pressures. This means water and energy savings for

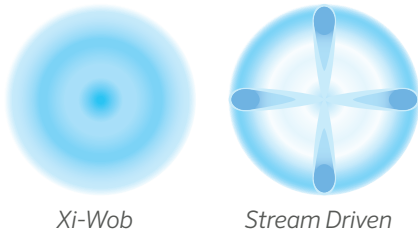
the grower. The patented counter-balance design combines with Wobbler technology, making it ideal for installations on semi-rigid steel or even flexible hose drops when used with a Senninger weight.

Features

- ① Low pressure operation saves energy: 10 to 15 psi (0.69 to 1.03 bar)
- ② Three different color-coded deflector models based on trajectory and droplet size
- ③ UP3® Nozzle is easy to remove for cleaning or changing
- ④ Two-year warranty on materials, workmanship and performance



INSTANTANEOUS AREA OF COVERAGE



In this example, the Xi-Wob is instantaneously spreading the same amount of water over an area five times greater than the area covered by the spray nozzle.




LOW APPLICATION INTENSITY

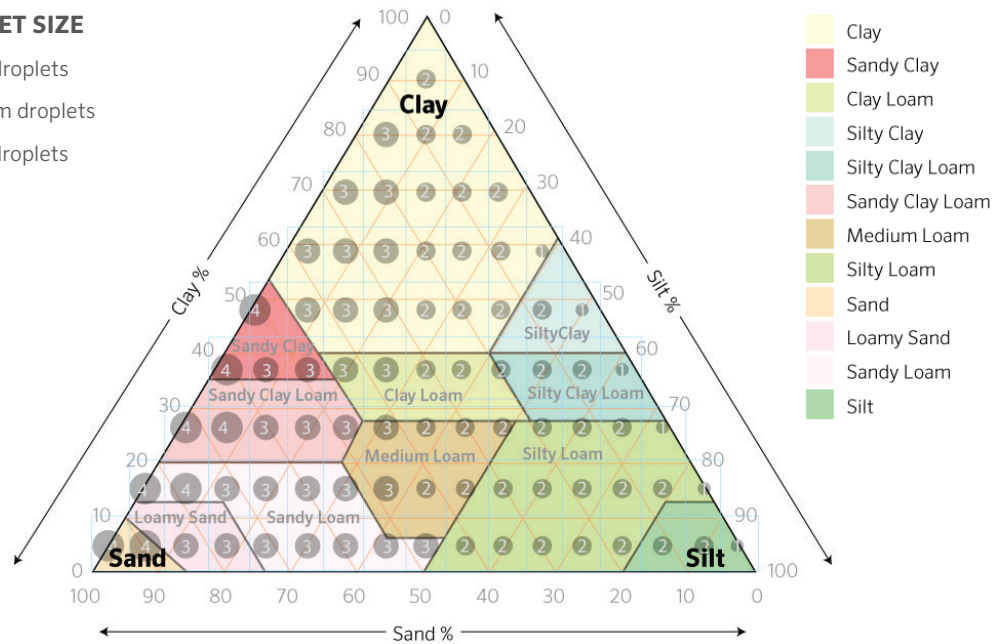
Stream-driven applicators provide good throw distance, but their distinct streams instantaneously place the entire flow in a relatively small area. This more intense application can negatively impact the soil surface. In contrast, the Xi-Wob™ applies water to a larger area of soil surface, reducing the impact of the sprinkler's pattern on the soil structure. Larger instantaneous coverage offers a slower intake rate to help reduce runoff and wheel tracking.

UNMATCHED UNIFORMITY

Wobbler sprinklers instantly and uniformly cover their entire wetted diameter. They do this using a unique off-center rotary motion. When the flow hits the sprinkler's deflector, it creates a thrust which spins it into motion. Then, the grooves in the deflector divide the flow into streams. Because the deflector in a Wobbler sprinkler is off-center, it breaks those streams into droplets as it moves. The droplet size varies based on deflector grooves and the pressure, with higher pressures producing smaller droplets.

XI-WOB DROPLET SIZE

-  910: Small droplets
-  610: Medium droplets
-  615: Large droplets



DROPLET SIZE NEEDED FOR TYPE OF SOIL

Sprinklers are designed to produce a desired droplet size, although there isn't a definitive procedure for determining the appropriate droplet size. Soils are susceptible to surface sealing that will result in reduction of the infiltration rate. The reduction depends on the percentages of silt and sand and the droplet size. Soils low in silt and high in sand are more resistant to infiltration reduction. The graphic above shows the relative resistance of soils to surface sealing on a scale of 1 to 4, where 4 is most resistant. The larger the number, the larger the droplet size can be on that soil type.

Excerpt: Von Bernuth, R.D. and J.R. Gilley. 1985. Evaluation of center pivot reduction. Trans. ASAE 28(6): 1940-1946.



THREE DEFLECTORS

The Xi-Wob™ is available with three different deflectors. This allows you to select the droplet size and trajectory to best suit your installation, soil and crop needs.



XI-WOB DESIGN CRITERIA

	Model 610 (Blue) 6-Groove 10° Trajectory Medium Droplets	Model 615 (Black) 6-Groove 15° Trajectory Large Droplets	Model 910 (Grey) 9-Groove 10° Trajectory Smaller Droplets
Nozzle sizes			
Minimum	#7 7/64" (2.78 mm)	#10 5/32" (3.97 mm)	#10 5/32" (3.97 mm)
Maximum*	#24 3/8" (9.53 mm)	#24 3/8" (9.53 mm)	#24 3/8" (9.53 mm)
Flows			
Minimum	1.09 gpm (248 L/hr)	2.24 gpm (509 L/hr)	2.24 gpm (509 L/hr)
Maximum	15.78 gpm (3584 L/hr)	15.78 gpm (3584 L/hr)	15.78 gpm (3584 L/hr)
Diameters			
Minimum at 3 ft (0.91 m)	30 ft (9.1 m)	38 ft (11.6 m)	33 ft (10.1 m)
Maximum at 3 ft (0.91 m)	41 ft (12.5 m)	43 ft (13.1 m)	36 ft (11.0 m)
Minimum at 6 ft (1.83 m)	35 ft (10.7 m)	43 ft (13.1 m)	38 ft (11.6 m)
Maximum at 6 ft (1.83 m)	45 ft (13.7 m)	50 ft (15.2 m)	43 ft (13.1 m)
Minimum at 9 ft (2.74 m)	37 ft (11.3 m)	46 ft (14.0 m)	43 ft (13.1 m)
Maximum at 9 ft (2.74 m)	47 ft (14.3 m)	55 ft (16.8 m)	50 ft (15.2 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)
at 9 ft (2.74 m) ground clearance	18 ft (5.5 m)	20 ft (6.1 m)	18 ft (5.5 m)
Pressure at the Nozzle			
Minimum	10 psi (0.69 bar)	10 psi (0.69 bar)	10 psi (0.69 bar)
Maximum	15 psi (1.03 bar)	15 psi (1.03 bar)	15 psi (1.03 bar)

*It is recommended that larger nozzle sizes be used only on soils that are suited for higher application rates.

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

Note: When outlet spacing exceeds 10 ft (3.0 m), keep Xi-Wobs above crop canopy. This is especially important on high profile crops. Not warranted for rigid installation on offsets or booms larger than 10.5 ft (3.2 m). Longer offsets and booms require a minimum of 2 ft (0.61 m) reinforced flex hose.

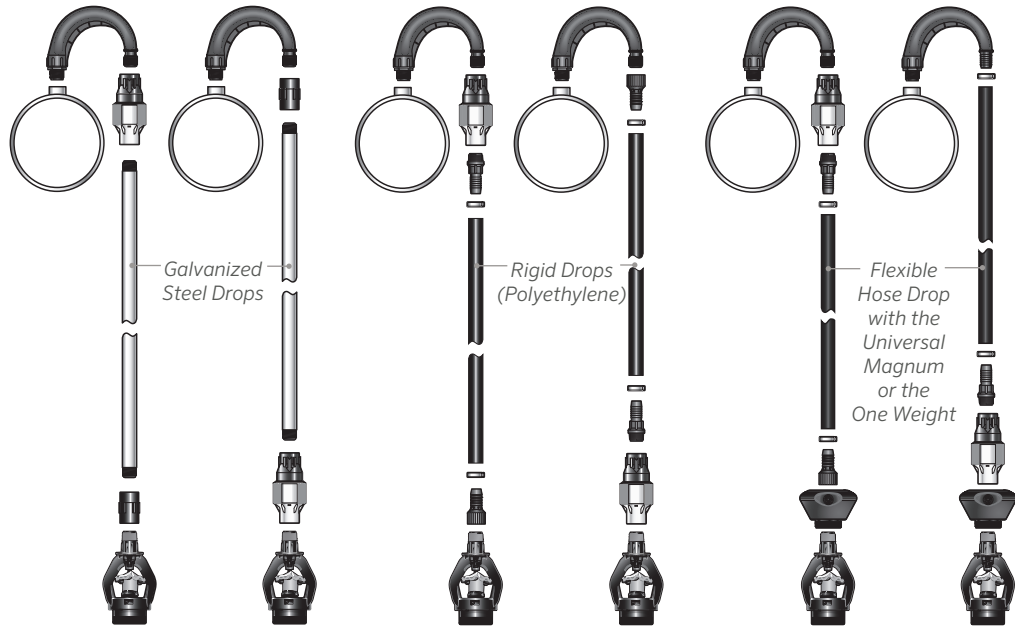
XI-WOB™ SYSTEM ASSEMBLY

SEMI-RIGID DROPS

- The Xi-Wob is designed for mounting on semi-rigid Polyethylene or steel drops. Do not use PVC.
- When using semi-rigid or steel drops, mount the Xi-Wob no more than 1 ft (0.3 m) below the truss rod.
- The Xi-Wob is also suitable for flexible hose installations when used either the Universal Magnum Weight or the One Weight.

PRESSURE REGULATOR LOCATION

- Pressure regulators can be installed at the top of the drop or near the applicator.
- Follow your customized print out for proper pressure regulator placement.



Shown with Senninger the 180° Gooseneck and fittings.

INTEGRATED BASE

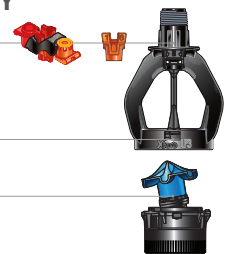
With the UP3 design, the Xi-Wob base is now an integral part of the bracket. It can be installed directly into a pressure regulator or onto a standard 3/4" female NPT connection requiring fewer parts.

COMPONENT ASSEMBLY

UP3 Nozzle or Dual Nozzle Carrier

Bracket

Engine Module (Assembly includes deflector)



SENNINGER WEIGHTS

Senninger weights provide stability on drops for all of the Senninger pivot applicators -- i-Wob2, Xi-Wob, LDN, and Super Spray. The easy-to-install design lets it remain on the applicator during nozzle changes. The One Weight is constructed entirely of zinc alloy and the Universal Magnum Weight is constructed of UV-resistant thermoplastic to prevent corrosion and deter metal theft.



The UP3® nozzle design offers a quick solution for easy nozzle changes.

Nozzle # Nozzle color	Nozzle Size			10 psi 0.69 bar		15 psi 1.03 bar	
				gpm	(L/hr)	gpm	(L/hr)
#7 Lime	7/64"	(0.109)	2.78 mm	1.09	248	1.34	304
#7.5	15/128"	(0.117)	2.97 mm	1.26	286	1.54	350
#8 Lavender	1/8"	(0.125)	3.18 mm	1.43	325	1.75	397
#8.5	17/128"	(0.133)	3.38 mm	1.62	368	1.98	450
#9 Grey	9/64"	(0.141)	3.57 mm	1.81	411	2.22	504
#9.5	19/128"	(0.148)	3.76 mm	2.02	459	2.48	563
#10 Turquoise	5/32"	(0.156)	3.97 mm	2.24	509	2.75	625
#10.5	21/128"	(0.164)	4.17 mm	2.47	561	3.03	688
#11 Yellow	11/64"	(0.172)	4.37 mm	2.72	618	3.33	756
#11.5	23/128"	(0.180)	4.57 mm	2.97	675	3.64	827
#12 Red	3/16"	(0.188)	4.76 mm	3.24	736	3.97	902
#12.5	25/128"	(0.195)	4.95 mm	3.52	799	4.31	979
#13 White	13/64"	(0.203)	5.16 mm	3.81	865	4.66	1058
#13.5	27/128"	(0.211)	5.36 mm	4.11	933	5.03	1142
#14 Blue	7/32"	(0.219)	5.56 mm	4.42	1004	5.41	1229
#14.5	29/128"	(0.227)	5.77 mm	4.74	1077	5.81	1320
#15 Dk. Brown	15/64"	(0.234)	5.95 mm	5.08	1154	6.22	1413
#15.5	31/128"	(0.242)	6.15 mm	5.42	1231	6.64	1508
#16 Orange	1/4"	(0.250)	6.35 mm	5.78	1313	7.08	1608
#16.5	33/128"	(0.258)	6.55 mm	6.15	1397	7.53	1710
#17 Dk. Green	17/64"	(0.266)	6.75 mm	6.53	1483	7.99	1815
#17.5	35/128"	(0.273)	6.93 mm	6.92	1572	8.47	1924
#18 Purple	9/32"	(0.281)	7.14 mm	7.32	1663	8.96	2035
#18.5	37/128"	(0.289)	7.34 mm	7.73	1756	9.47	2151
#19 Black	19/64"	(0.297)	7.54 mm	8.15	1851	9.98	2267
#19.5	39/128"	(0.305)	7.75 mm	8.58	1949	10.51	2387
#20 Dk. Turquoise	5/16"	(0.313)	7.94 mm	9.02	2049	11.05	2510
#20.5	41/128"	(0.320)	8.13 mm	9.47	2151	11.60	2635
#21 Mustard	21/64"	(0.328)	8.33 mm	9.93	2255	12.17	2764
#21.5	43/128"	(0.336)	8.53 mm	10.40	2362	12.74	2894
#22 Maroon	11/32"	(0.344)	8.73 mm	10.88	2471	13.33	3028
#22.5	45/128"	(0.352)	8.94 mm	11.37	2582	13.92	3162
#23 Cream	23/64"	(0.359)	9.13 mm	11.87	2696	14.54	3302
#23.5	47/128"	(0.367)	9.32 mm	12.37	2810	15.15	3441
#24 Dk. Blue	3/8"	(0.375)	9.53 mm	12.88	2925	15.78	3584

**EASY-CLEAN / EASY-CHANGE
NOZZLE DESIGN** (Patented)



The Senninger easy change nozzle was introduced in 2008. Just pinch and pull to remove the nozzle then place and click to re-install. Cleaning and changing nozzles is easy and convenient. There is no need to disassemble or remove the sprinkler.

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



The Senninger 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 "Steve Abernethy".

Steve Abernethy, President of Senninger Irrigation