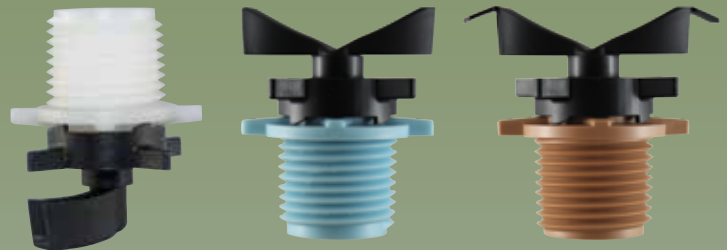


MICRO- SPRINKLERS



NURSERY, GREENHOUSE, ORCHARDS AND VEGETABLES

Senninger's inverted and upright Micro-sprinklers deliver a fine spray of gentle droplets in a consistent and uniform pattern.



Micro-Sprinkler



Senninger's Micro-Sprinklers bring low pressure, low volume irrigation to overhead and under tree installations. Their easy-to-install and versatile application pattern makes them ideal for a variety of plant and installation requirements.



Nozzle-Bases

1/2" NPT male
3/8" BSW male
1/4" Barb (#3 & #4 nozzles only)

See pages #3 and 5 for available nozzle sizes.

FEATURES

- Bridgeless design eliminates dry spots caused by leg shadows
- Exceptional uniformity and water distribution even in single row installations
- Delivers fine droplets ideal for irrigating seedlings and maintaining humidity levels in greenhouses
- Design allows for convenient disassembly during field maintenance – individual parts may be removed and replaced
- Curved deflector for maximized startability and smooth operation
- Multiple connection options to retrofit existing systems
- Upright model is ideal for nurseries, orchards, vineyards, vegetables and citrus crops
- Inverted model is ideal for overhead irrigation in greenhouses, shade houses and hoop houses
- Color-coded nozzle-bases provide easy size identification. Warranted to maintain the correct orifice size for five years
- Two-year warranty on materials, workmanship and performance

Micro-Sprinkler



More than a Micro-Sprinkler

Senninger's Micro-Sprinklers combine the advantages of micro-spray irrigation with Senninger's reliable and easy-to-use technology. They boast excellent coefficient uniformities of over 90%* and up to 40 feet (12.2 m) of coverage when installed 6 feet (1.8 m) in height over plants. The Micro-Sprinklers' bridgeless design increases uniformity by preventing dry spots caused by leg shadows, while their curved deflectors ensure a smooth and stable operation and maximum startability.

Senninger's Micro-Sprinklers are easy to install and easy to clean. The components can be assembled in just three easy steps. Micro-Sprinklers are covered under Senninger's two-year warranty on materials, workmanship and performance. They are constructed entirely of engineering-grade thermoplastics for a long life and durability under harsh conditions.

**CU varies based on pressure, flow and spacing.*



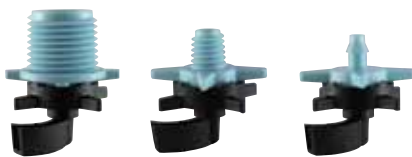
Inverted Micro-Sprinkler Data

#3 Ice



1/2" M NPT 3/8" M BSW 1/4" Barb

#4 Light Blue



1/2" M NPT 3/8" M BSW 1/4" Barb

#5 Beige



1/2" M NPT 3/8" M BSW

#6 Gold



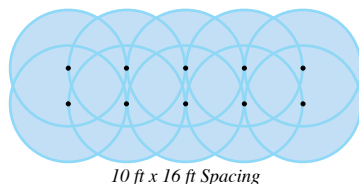
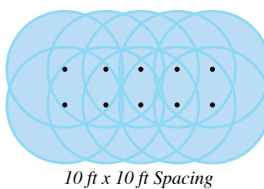
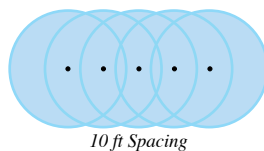
1/2" M NPT 3/8" M BSW



Inverted Micro-Sprinkler

Sprinkler base pressure (psi)	20	30	(bar)	1.38	2.07
#3 Nozzle - Ice (3/64")			#3 Nozzle - Ice (1.19 mm)		
Flow (gph)	16.8	20.4	Flow (L/hr)	63.6	77.2
Diameter at 6.0 ft ht (ft)	30	32	Diameter at 1.8 m ht (m)	9.0	9.6
#4 Nozzle - Light Blue (1/16")			#4 Nozzle - Light Blue (1.59 mm)		
Flow (gph)	30.0	36.6	Flow (L/hr)	113.6	138.5
Diameter at 6.0 ft ht (ft)	33	36	Diameter at 1.8 m ht (m)	9.9	11.0
#5 Nozzle - Beige (5/64")			#5 Nozzle - Beige (1.98 mm)		
Flow (gph)	46.2	57.0	Flow (L/hr)	174.9	215.8
Diameter at 6.0 ft ht (ft)	38	40	Diameter at 1.8 m ht (m)	11.7	12.0
#6 Nozzle - Gold (3/32")			#6 Nozzle - Gold (2.38 mm)		
Flow (gph)	66.6	81.6	Flow (L/hr)	252.1	308.9
Diameter at 6.0 ft ht (ft)	39	40	Diameter at 1.8 m ht (m)	11.9	12.2

Inverted Micro-Sprinkler 33 ft Diameters



Micro-Sprinkler Component Assembly

1. Insert the deflector into the retainer and gently press down until it snaps into place.
2. Place the retainer assembly onto the nozzle and firmly grasp the nozzle and the retainer assembly by the pointed ears. Push the nozzle and the retainer assembly in different directions until they tighten.
3. To change the deflector, firmly grasp the retainer assembly and the nozzle by the pointed ears and turn the parts in different directions until you hear a click. Use a common ink pen or the 3/8" thread base to push the deflector out of the retainer.

* Caution: To protect the integrity of the nozzle's orifice diameter, be careful during cleaning.

Inverted Micro-Sprinkler - Precipitation & Uniformities at 30 psi (2.07 bar)

Nozzle # & Color	Flow Rate		10 x 10 ft (3 x 3 m)			10 x 16 ft (3 x 5 m)		
	gph	(L/hr)	in/hr	(mm/hr)	CU	in/hr	(mm/hr)	CU
#3 - Ice	20.4	77.2	0.339	8.6	96%	0.205	5.2	93%
#4 - Light Blue	36.6	138.5	0.602	15.3	96%	0.362	9.2	93%
#5 - Beige	57.0	215.8	0.941	23.9	98%	0.563	14.3	93%
#6 - Gold	81.6	308.9	1.354	34.4	95%	0.811	20.6	94%

Uniformities calculated with WinSipp2 Software. Other spacing options available on WinSIPP2 or by consulting factory.

Installation Inverted Micro-Sprinkler



Drain Stop Plus

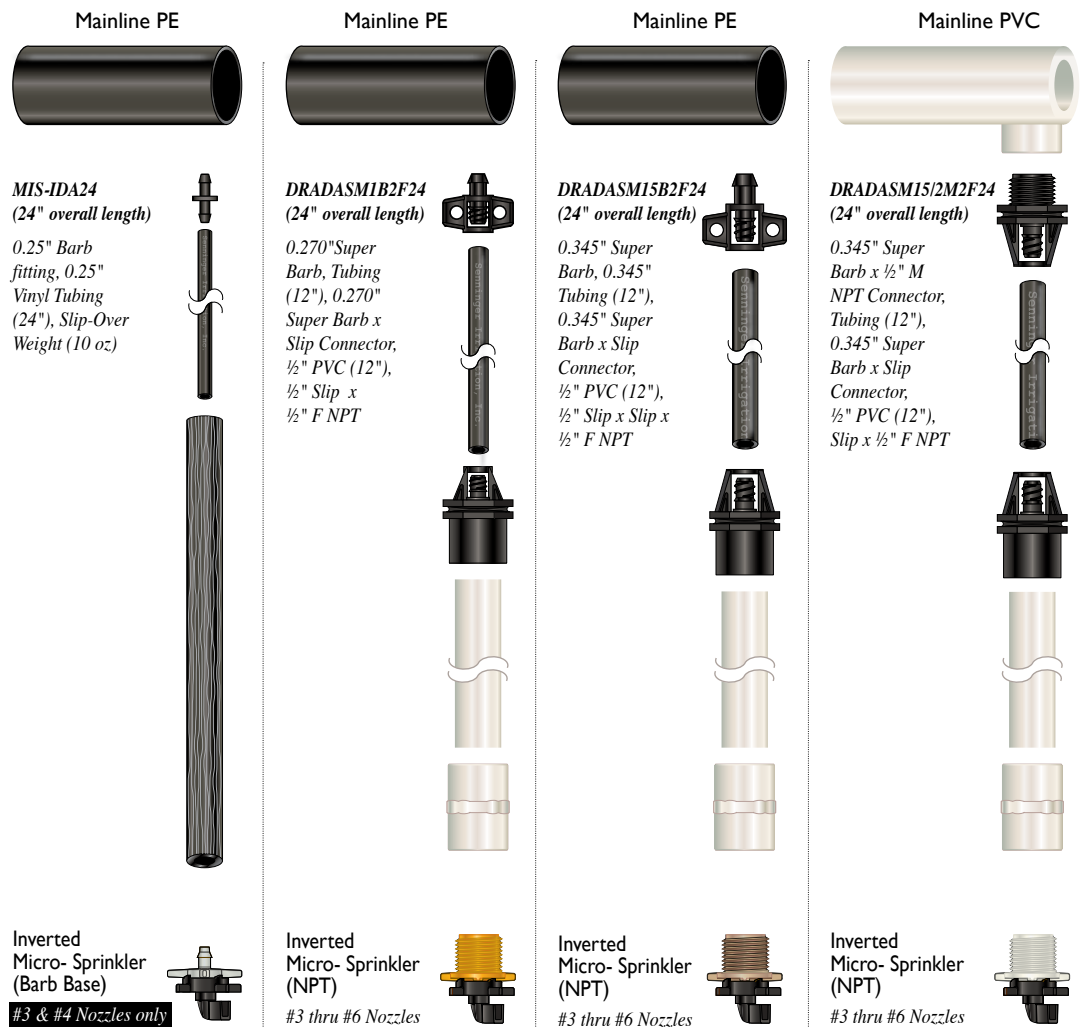
Available for use with the Inverted Micro-Sprinkler to prevent damage and overwatering when the system is shutdown.

Drop Assembly

Senninger offers a variety of simple, fast and economical drop adapter assemblies that can be used with the Inverted Micro-Sprinkler. These come in overall lengths of 2, 3, 4 or 6 feet (0.61, 0.92, 1.22 or 1.83 m) and are also available as individual components. Sprinklers with a 1/2" NPT male base or barb base can be connected to the drop adapter, which is then mounted onto a PE or PVC mainline.

Inverted Micro-Sprinkler Installation

- Attach to a PE or PVC mainline.
- Mount at least 18" below obstructions to prevent drippage from overhead structures.
- Ensure a filter with at least 150 mesh is in place before use.
- Consider friction loss through tubing when designing for optimum performance. Consult factory for details.



Upright Micro-Sprinkler Data

#3 Ice



1/2" M NPT 3/8" M BSW

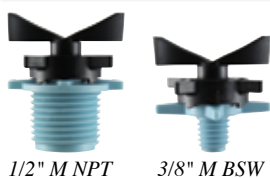
#5 Beige



1/2" M NPT 3/8" M BSW

Barb connection also available for #3 & #4 nozzles

#4 Light Blue



1/2" M NPT 3/8" M BSW

#6 Gold



1/2" M NPT 3/8" M BSW

Two-Stage Tabbed Deflector

The upright Micro-Sprinkler is designed to grow with your plants. It is available with an optional two-stage tabbed deflector ideal for irrigating young plants with small root zones. The tabbed deflector allows the sprinkler to be placed closer to the plant by greatly reducing the stream height and diameter of coverage, which concentrates water distribution over developing roots. As plants mature, the tabs can be easily removed to increase the upright Micro-Sprinkler's diameter of coverage from 6 ft to 32 ft (1.8 to 9.8 m), which better suits mature plants with expanded root systems.

#3 Ice- Tabs



1/2" M NPT

3/8" M BSW

#4 Light Blue- Tabs



1/2" M NPT

3/8" M BSW

#5 Beige- Tabs



1/2" M NPT

3/8" M BSW

#6 Gold- Tabs



1/2" M NPT

3/8" M BSW

Upright Micro-Sprinkler

Sprinkler base pressure (psi)	20	30	(bar)	1.38	2.07
#3 Nozzle - Ice (3/64")			#3 Nozzle - Ice (1.19 mm)		
Flow (gph)	16.8	20.4	Flow (L/hr)	63.6	77.2
(No-tabs) Diam. at 1.5 ft ht (ft)	20	23	(No tabs) Diam. at 0.46 m ht (m)	6.2	7.0
(Tabs) Diam. at 1.5 ft ht (ft)	6	8	(Tabs) Diam. at 0.46 m ht (m)	1.8	2.4
#4 Nozzle - Light Blue (1/16")			#4 Nozzle - Light Blue (1.59 mm)		
Flow (gph)	30.0	36.6	Flow (L/hr)	113.6	138.5
(No-tabs) Diam. at 1.5 ft ht (ft)	25	26	(No tabs) Diam. at 0.46 m ht (m)	7.5	7.9
(Tabs) Diam. at 1.5 ft ht (ft)	6	8	(Tabs) Diam. at 0.46 m ht (m)	1.8	2.4
#5 Nozzle - Beige (5/64")			#5 Nozzle - Beige (1.98 mm)		
Flow (gph)	46.2	57.0	Flow (L/hr)	174.9	215.8
(No-tabs) Diam. at 1.5 ft ht (ft)	27	28	(No tabs) Diam. at 0.46 m ht (m)	8.3	8.5
(Tabs) Diam. at 1.5 ft ht (ft)	7	9	(Tabs) Diam. at 0.46 m ht (m)	2.1	2.7
#6 Nozzle - Gold (3/32")			#6 Nozzle - Gold (2.38 mm)		
Flow (gph)	66.6	81.6	Flow (L/hr)	252.1	308.9
(No-tabs) Diam. at 1.5 ft ht (ft)	30	32	(No tabs) Diam. at 0.46 m ht (m)	9.1	9.8
(Tabs) Diam. at 1.5 ft ht (ft)	7	9	(Tabs) Diam. at 0.46 m ht (m)	2.1	2.7

Upright Micro-Sprinkler (No tabs) - Precipitation & Uniformities at 30 psi (2.07 bar)

Nozzle # & Color	Flow Rate		7 x 7 ft (2 x 2 m)			10 x 10 ft (3 x 3 m)		
	gph	(L/hr)	in/hr	(mm/hr)	CU	in/hr	(mm/hr)	CU
#3 - Ice	20.4	77.2	0.67	17.0	93%	0.33	8.4	90%
#4 - Light Blue	36.6	138.5	1.20	30.5	96%	0.59	15.0	94%
#5 - Beige	57.0	215.8	1.87	47.5	94%	0.91	23.1	92%
#6 - Gold	81.6	308.9	2.67	67.8	96%	1.31	33.3	96%

Uniformities calculated with WinSipp2 Software. Other spacing options available on WinSIPP2 or by consulting factory.

Installation Upright Micro-Sprinkler



Upright Micro-Sprinkler (Tabbed)

7 ft Diameter



Pressure Regulators

Recognizing the importance of maintaining a desired operating pressure and uniformity of distribution, Senninger offers various models of pressure regulators that meet specific flow and installation requirements and preserve the overall effectiveness of an irrigation system.

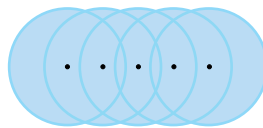
FEATURES

- 100% water tested for accuracy at Senninger's in-house facilities
- Very low hysteresis and friction losses
- Maintains a constant preset outlet pressure with varying inlet pressures, which alleviates pressure differences that can cause an applicator's area of coverage to change

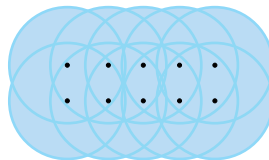
Note: With no flow through the regulator, the inlet and outlet pressures will be the same.

Upright Micro-Sprinkler

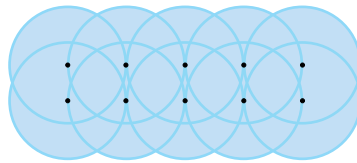
32 ft Diameters



10 ft Spacing



10 ft x 10 ft Spacing



10 ft x 16 ft Spacing

Nursery Wire Adapter

Available for mounting the Upright Micro-Sprinkler on 1/2" or 3/4" PVC risers to install on wire mesh plant beds.



Punch Tools and Tubing

Punching tools available for 0.270" and 0.345" tubing, Riser Adapters and Drop Adapter Assemblies.



Upright Micro-Sprinkler Installation

- Mount at least 1.5 ft (0.46 m) from the ground
- Ensure a filter with at least 150 mesh is in place before use.
- Consider friction loss through tubing when designing for optimum performance. Consult factory for details.

Removing the Tabs from the Deflector

- Hold a clipper flush against the channel of the tabbed deflector and clip off the tabs.

Riser Adapter

Senninger offers Riser Adapters and fittings that provide installation versatility for low flow applications using 0.270" tubing. The Riser Adapter is ideal for portable systems. Sprinklers connect to the adapter with no need for gluing or fusing, and then connect to low-pressure laterals. Sprinklers with a 1/2" NPT male base connect to the Riser Adapter, which is then mounted onto low pressure laterals.

Riser Adapter Quick Connect

1/2" F x #2 Taper



Riser Adapter

1/2" F x 0.270" Tubing



Super Barb Fitting
0.270"
Super Barb
x #2 Taper

PE Tubing
3 ft (0.9 m)
0.270" I.D.

PE Tubing
3 ft (0.9 m)
0.270" I.D.

Riser:
1/2" PVC
(36" piece)

Riser:
1/2" PVC
(36" piece)



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