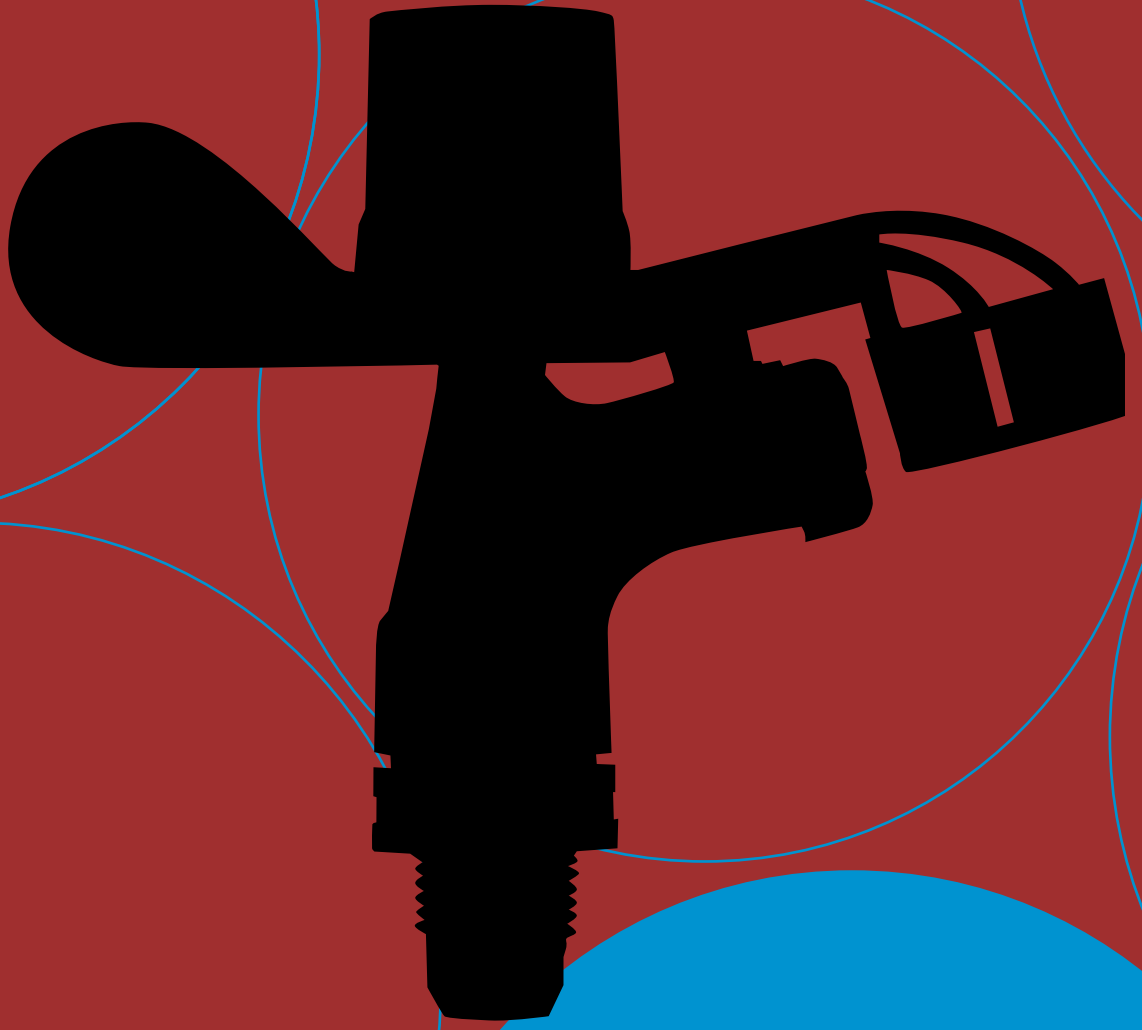


SOLID SET PRODUCTS



**Senninger**[®]
Irrigation Inc.

Products) Contents



3 Mister
(upright)



4 Mister
(inverted)



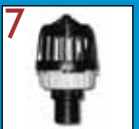
5 Super Spray
upright or
inverted



6 Spray
Stakes



6 Triad



7 Smooth
Drive
low angle or
high angle



8 T-Spray
upright or
inverted



9 mini & i-mini
Wobblers
upright or
inverted



11 Wobblers
standard or
low angle



13 Xcel
Wobbler:
high or mid angle



15 Impact Sprinklers
20 Series, Compact,
Wedge Drive



19 Impacts
Sprinklers
30,40 series



23 Impact
Sprinklers
Part Circle series



25 Impact
Sprinklers
50,70,80 series



31 Regulators
Landscape Grade, Low Flow,
Medium Flow, High Flow,
Extended Flow, Limiting Valve

Since 1963 Senninger products have been constructed entirely of engineering-grade thermoplastics for strength and durability. They are warranted for two years on materials, workmanship and performance. Nozzles are color-coded for easy size identification and warranted to maintain correct orifice size for five years.

Figures reflect data from tests performed in accordance with the American Society of Agricultural and Biological Engineers (ASABE) standard S398.1. Consult factory for availability of other nozzles.



- 37** Accessories:
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- 38** Accessories
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Mister™ [Upright



The new patented Senninger Mister is designed specifically for propagation or other low volume misting applications. It provides consistent system start-up delivering an instantaneous, highly uniform distribution, ideal for short-cycle applications.

FEATURES:

- Outstanding uniformity
- Bridge-less design for uninterrupted 360° pattern
- Easy to clean nozzle and check valve, quick twist tool-free disassembly
- Multiple connection options to retrofit existing systems
- Color-coded nozzles
- Engineering-grade UV-resistant thermoplastic construction
- Minimum operating pressure 30 psi or 2.07 bar



Vermelho
6,8 a 8,6 gph
(25,7 a 32,6 L/h)



Laranja
10,8 a 14,0 gph
(40,9 a 53,0 L/hr)



Amarelo
14,1 a 18,3 gph
(53,4 a 69,3 L/hr)



Verde
17,8 a 23,4 gph
(67,4 a 88,6 L/hr)

Nursery Wire Adapter (Also Available) See page 33

Provides easy installation for Misters to mount on 1/2" or 3/4" PVC risers and lock into the corner of wire mesh bed. Barb fits 0.345" ID tubing. Fits up to 10-gauge wire, minimum 1" mesh.

Upright Recommended Spacing- at 12 in. (31 cm) above crop

Pressure	30 - 50 psi	2 - 3.5 bar
Red - MR 08	6.8 - 8.6 gph	25.7 - 32.6 L/hr
Head Spacing	2 - 4 ft.	0.61 - 1.22 m
Lateral Spacing	2 - 4 ft.	0.61 - 1.22 m
Single Row Spacing	2 - 3.5 ft.	0.61 - 1.07 m
Orange - MR 12	10.8 - 14.0 gph	40.9 - 53.0 L/hr
Head Spacing	2 - 4 ft.	0.61 - 1.22 m
Lateral Spacing	2 - 4 ft.	0.61 - 1.22 m
Single Row Spacing	2 - 3 ft.	0.61 - 0.92 m
Yellow - MR 16	14.1 - 18.3 gph	53.4 - 69.3 L/hr
Head Spacing	2 - 4 ft.	0.61 - 1.22 m
Lateral Spacing	2 - 4 ft.	0.61 - 1.22 m
Single Row Spacing	2 - 3 ft.	0.61 - 0.92 m
Green - MR 20	17.8 - 23.4 gph	67.4 - 88.6 L/hr
Head Spacing	2 - 4 ft.	0.61 - 1.22 m
Lateral Spacing	2 - 4 ft.	0.61 - 1.22 m
Single Row Spacing	2 - 3 ft.	0.61 - 0.92 m

Other spacing options may produce higher uniformities and lower scheduling coefficients. Check valve option available with different spacing recommendations. Consult factory for details.

Connections:	3/8" M BSW 1/4" F press		1/2" M NPT		1/4" M press fit	
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Inverted] Mister™

The new patented Senninger Mister is designed specifically for propagation or other low volume misting applications. Innovative internal check valve prevents draining from inverted models immediately following each irrigation session. It also provides consistent system start-up delivering an instantaneous, highly uniform distribution, ideal for short-cycle applications.



FEATURES:

- Outstanding uniformity
- Bridge-less design for uninterrupted 360° pattern
- Easy to clean nozzle and check valve, quick twist tool-free disassembly
- Multiple connection options to retrofit existing systems
- Color-coded nozzles
- Engineering-grade UV-resistant thermoplastic construction
- Built-in check valve (inverted models)
- Minimum operating pressure 30 psi or (2.07 bar)

Drop Assembly (Also Available)

Overall lengths of 3, 4, or 6 ft (0.92, 1.22, or 1.83 m)

Components include: 1/4" barb x barb connector; 1/4" tubing; slip-over weight; Mister

Inverted Recommended Spacing- at 24 in. (61 cm) above crop

Pressure	30 - 50 psi	2 - 3.5 bar
Light Blue - MRI 08	7.5 - 9.7 gph	28.4 - 36.7 L/hr
Head Spacing	2 - 4 ft.	0.61 - 1.22 m
Lateral Spacing	2.5 - 3.5 ft.	0.76 - 1.07 m
Single Row Spacing	N/A	N/A
Blue - MRI 12	12.5 - 16.2 gph	47.3 - 61.3 L/hr
Head Spacing	2 - 3.5 ft.	0.61 - 1.07 m
Lateral Spacing	2 - 3.5 ft.	0.61 - 1.07 m
Single Row Spacing	N/A	N/A
Purple - MRI 16	15.9 - 20.5 gph	60.2 - 77.6 L/hr
Head Spacing	2 - 3 ft.	0.61 - 0.92 m
Lateral Spacing	2 - 2.5 ft.	0.61 - 0.76 m
Single Row Spacing	2 - 2.5 ft.	0.61 - 0.76 m
Black - MRI 20	17.8 - 23.4 gph	67.4 - 88.6 L/hr
Head Spacing	2 - 2.5 ft.	0.61 - 0.76 m
Lateral Spacing	2 - 3 ft.	0.61 - 0.92 m
Single Row Spacing	2 - 2.5 ft.	0.61 - 0.76 m

Other spacing options may produce higher uniformities and lower scheduling coefficients. Consult factory for details.

Connections:	1/4" barb 	3/8" M BSW 1/4" F press 	1/2" M NPT 	1/4" M press fit 
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Azul-claro
7,5 a 9,7 gph
(28,4 a 36,7 L/hr)



Azul
12,5 a 16,2 gph
(47,3 a 61,3 L/hr)



Púrpura
15,9 a 20,5 gph
(60,2 a 77,6 L/hr)



Preto
17,8 a 23,4 gph
(67,4 a 88,6 L/hr)

SuperSpray® [Sprays



The Super Spray's interchangeable deflector pads allow customization of spray angle and droplet size.

FEATURES:

- New easy clean nozzle design. Pinch and pull to remove the nozzle; place and click to reinstall
- Standard inlet: 3/4" M NPT (1/2" M NPT available with threaded nozzle)
- Flow rates: 0.55 to 6.48 gpm (125 to 1472 L/hr). Consult factory for lower or higher flows
- Deflector pads available in flat, concave, convex and smooth, medium-grooved or deep-grooved
- Two-year warranty on materials, workmanship and performance
- Color-coded nozzles for easy size identification; warranted to maintain correct orifice size for five years



Sprinkler Base Pressure (psi)	10	15	20	25	30	35	40	(bar)	0.69	1.04	1.38	1.73	2.07	2.42	2.76
#5 Nozzle - Beige (5/64")								#5 Nozzle - Beige (1.98mm)							
Flow (gpm)	0.55	0.68	0.78	0.87	0.96	1.04	1.11	Flow (L/hr)	125	154	177	198	218	236	252
Diam. at 3.0' ht. (ft.)	15.0	17.0	18.0	18.5	19.0	19.5	20.0	Diam. at 0.91 m ht. (m)	4.6	5.2	5.5	5.6	5.8	5.9	6.1
Diam. at 6.0' ht. (ft.)	15.5	17.5	19.5	21.5	22.5	23.5	24.5	Diam. at 1.83 m ht. (m)	4.7	5.3	5.9	6.6	6.9	7.2	7.5
#6 Nozzle - Gold (3/32")								#6 Nozzle - Gold (2.38mm)							
Flow (gpm)	0.80	0.98	1.13	1.26	1.38	1.50	1.60	Flow (L/hr)	182	223	257	286	313	341	363
Diam. at 3.0' ht. (ft.)	16.0	17.5	18.5	19.5	20.0	20.5	21.0	Diam. at 0.91 m ht. (m)	4.9	5.3	5.6	5.9	6.1	6.2	6.4
Diam. at 6.0' ht. (ft.)	17.5	19.5	21.5	23.5	24.5	25.5	26.5	Diam. at 1.83 m ht. (m)	5.3	5.9	6.6	7.2	7.5	7.8	8.1
#7 Nozzle - Lime (7/64")								#7 Nozzle - Lime (2.78mm)							
Flow (gpm)	1.09	1.34	1.54	1.73	1.89	2.04	2.18	Flow (L/hr)	248	304	350	393	429	463	495
Diam. at 3.0' ht. (ft.)	16.5	18.0	19.5	20.5	21.5	22.0	22.5	Diam. at 0.91 m ht. (m)	5.0	5.5	5.9	6.2	6.6	6.7	6.9
Diam. at 6.0' ht. (ft.)	19.5	21.5	23.5	25.5	26.5	27.5	28.5	Diam. at 1.83 m ht. (m)	5.9	6.6	7.2	7.8	8.1	8.4	8.7
#8 Nozzle - Lavender (1/8")								#8 Nozzle - Lavender (3.18mm)							
Flow (gpm)	1.43	1.75	2.02	2.26	2.48	2.68	2.86	Flow (L/hr)	325	397	459	513	563	609	650
Diam. at 3.0' ht. (ft.)	17.0	18.5	20.5	22.5	23.5	24.0	24.5	Diam. at 0.91 m ht. (m)	5.2	5.6	6.2	6.9	7.2	7.3	7.5
Diam. at 6.0' ht. (ft.)	21.0	23.0	25.0	27.0	28.0	29.0	30.0	Diam. at 1.83 m ht. (m)	6.4	7.0	7.6	8.2	8.5	8.8	9.1
#9 Nozzle - Grey (9/64")								#9 Nozzle - Grey (3.57)							
Flow (gpm)	1.81	2.22	2.56	2.87	3.14	3.39	3.63	Flow (L/hr)	411	504	581	652	713	770	824
Diam. at 3.0' ht. (ft.)	17.5	19.5	21.5	23.5	25.0	26.0	26.5	Diam. at 0.91 m ht. (m)	5.3	5.9	6.6	7.2	7.6	7.9	8.1
Diam. at 6.0' ht. (ft.)	22.0	25.0	27.0	29.0	30.0	31.0	32.0	Diam. at 1.83 m ht. (m)	6.7	7.6	8.2	8.8	9.1	9.4	9.8
#10 Nozzle - Turquoise (5/32")								#10 Nozzle - Turquoise (3.97mm)							
Flow (gpm)	2.24	2.75	3.17	3.55	3.88	4.20	4.49	Flow (L/hr)	509	625	720	806	881	954	1020
Diam. at 3.0' ht. (ft.)	18.5	21.0	23.0	25.0	26.5	27.5	28.0	Diam. at 0.91 m ht. (m)	5.6	6.4	7.0	7.6	8.1	8.4	8.5
Diam. at 6.0' ht. (ft.)	23.0	26.0	28.0	30.0	31.0	32.0	33.0	Diam. at 1.83 m ht. (m)	7.0	7.9	8.5	9.1	9.4	9.8	10.1
#11 Nozzle - Yellow (11/64")								#11 Nozzle - Yellow (4.37mm)							
Flow (gpm)	2.72	3.33	3.84	4.30	4.71	5.08	5.43	Flow (L/hr)	618	756	872	977	1070	1154	1233
Diam. at 3.0' ht. (ft.)	20.5	23.0	25.0	27.0	28.5	29.5	30.0	Diam. at 0.91 m ht. (m)	6.2	7.0	7.6	8.2	8.7	9.0	9.1
Diam. at 6.0' ht. (ft.)	24.0	27.0	29.0	31.0	32.0	33.0	34.0	Diam. at 1.83 m ht. (m)	7.3	8.2	8.8	9.4	9.8	10.1	10.4
#12 Nozzle - Red (3/16")								#12 Nozzle - Red (4.76mm)							
Flow (gpm)	3.24	3.97	4.58	5.12	5.61	6.06	6.48	Flow (L/hr)	736	902	1040	1163	1274	1376	1472
Diam. at 3.0' ht. (ft.)	22.5	25.0	27.0	29.0	30.5	31.5	32.0	Diam. at 0.91 m ht. (m)	6.9	7.6	8.2	8.8	9.3	9.6	9.8
Diam. at 6.0' ht. (ft.)	25.0	28.0	30.0	32.0	33.0	34.0	35.0	Diam. at 1.83 m ht. (m)	7.6	8.5	9.1	9.8	10.1	10.4	10.7

Sprinkler performance may vary with actual field conditions. Performance data shown is based on the Super Spray being used with the flat smooth deflector pad. Other nozzle sizes and deflector pads are available; consult factory for specific performance data. Stream height is approximately the same as the nozzle height when using the flat smooth deflector pad under no wind conditions. Minimum recommended riser height is 1.5ft. (0.46 m).

Sprays] SprayStakes

Senninger Spray Stakes are an intelligent choice for in-container irrigation.

FEATURES:

- Directional indicator for easy positioning
- Easy to remove for cleaning and maintenance
- Shut-off feature for non-use
- Large flutes for increased stability in soil
- Three color-coded flow rates to match application requirements
- Deflection surface provides a good application pattern
- Two-year warranty on materials, workmanship and performance



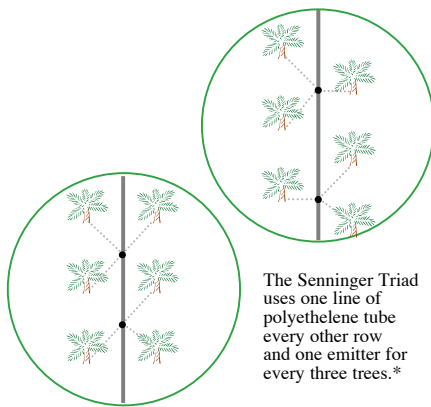
(For use with 0.125" I.D. Tubing)

Emitter Selection—based on container size or area

Container Size	Radius of Coverage	Spray Stake	Flow @ 20 psi (1.38 bar)	Distribution Pattern
10 gallon	12" (0.31m)	black	4 gph (15.1 L/hr)	90 Degrees
15 gallon	18" (0.46m)	brown	8 gph (30.3 L/hr)	120 Degrees
30 gallon	20" (0.51m)	green	12 gph (45.4 L/hr)	160 Degrees

The Triad is an excellent alternative to micro-irrigation. It's a unique 3-stream sprinkler for orchard irrigation that's ideal for irrigating small root zones associated with young trees.

Spray] Triad



FEATURES:

- Recommended for oil palms, pecans, coconuts, mangos, citrus, walnut and other fruit trees.
- 3 adjustable nozzles for precise direction and trajectory control.
- 3/4" slip F and the new 25mm base solvent-welds directly to PVC riser, eliminating the need for a connecting fitting.
- Requires less filtration than traditional micro-irrigation.
- Reduces the number of laterals required by 50% compared to micro sprinklers.
- Fewer lateral requirements allow greater access to trees for harvesting and orchard maintenance.



Sprinkler Base Pressure Nozzle (psi)	10	15	20	25	30	35	(bar)	0.69	1.03	1.38	1.72	2.07	2.41
0 Degree Trajectory							0 Degree Trajectory						
Flow** (gpm)	0.94	1.16	1.36	1.52	1.68	1.82	Flow (L/hr)	213	263	309	345	382	413
Radius Min. throw (ft.)	9.5	12.0	13.0	13.0	13.0	13.0	Radius Min. throw (m)	2.9	3.7	4.0	4.0	4.0	4.0
Radius Max. throw (ft.)	10.0	13.5	15.0	16.5	17.0	17.5	Radius Max. throw (m)	3.1	4.1	4.6	5.0	5.2	5.3
30 Degrees Trajectory							30 Degrees Trajectory						
Flow** (gpm)	0.94	1.16	1.36	1.52	1.68	1.82	Flow (L/hr)	213	263	309	345	382	413
Radius Min. throw (ft.)	17.5	23.5	25.0	25.5	26.0	26.5	Radius Min. throw (m)	5.3	7.2	7.6	7.8	7.9	8.1
Radius Max. throw (ft.)	21.5	29.0	31.5	32.5	33.5	34.5	Radius Max. throw (m)	6.6	8.8	9.6	9.9	10.2	10.5

* Tree diking is recommended for best water retention. ** Flow rate is for all three nozzles combined. Riser height is 1.5ft. (0.46 m)

SmoothDrive™ [Non-Impact

**NEW!
TWO
MODELS**





(HA Model)

Senninger's new Smooth Drive is designed for under-tree, open-field and nursery irrigation. Its unique "walking diffuser" helps deliver an extremely uniform pattern, without distortion from bracket legs.

FEATURES:

- Low Angle (LA) model is ideal for undertree (white base)
- High Angle (HA) model is ideal for open field (black base)
- Precision-contoured deflector provides greater throw and enhanced distribution
- Advanced braking mechanism for smooth, consistent rotation speed and minimal riser stress
- Rugged design stands up in harsh field conditions
- User friendly method of assembly no tools required for accessing nozzle
- Flow rates: 1.22 to 2.79 gpm (277 to 634 L/hr)
- Operating pressures: 25 to 40 psi (1.72 to 2.76 bar)
- Standard Inlet:
1/2" M NPT
1/2" socket x 3/4" socket x 1" spigot
20 mm socket x 25 mm socket
- Solvent-weld base for theft resistance
- Two-year warranty on materials, workmanship and performance
- Color-coded nozzles for easy size identification; warranted to maintain correct orifice size for five years



Ordinary Devices	Smooth Drive
	
Shadows created by fixed bracket legs	Walking diffuser eliminates leg shadows
<p>Ordinary rotating sprinklers have stationary legs that block water and create leg shadows (drier areas). The Smooth Drive's walking diffuser eliminates bracket leg shadows resulting in unobstructed uniform distribution.</p>	

Smooth Drive

Sprinkler Base Pressure (psi)	25	30	35	40	(bar)	1.72	2.07	2.41	2.76
#6 Nozzle - Gold (3/32")					#6 Nozzle - Gold (2.38 mm)				
Flow (gpm)	1.22	1.34	1.45	1.55	Flow (L/hr)	277	304	329	352
LA Diam. at 1.5' ht. (ft.)	60.6	62.4	64.0	65.1	LA Diam. at 0.46 m ht. (m)	18.5	19.0	19.5	19.8
HA Diam. at 1.5' ht. (ft.)	61.8	64.4	66.5	68.2	HA Diam. at 0.46 m ht. (m)	18.8	19.6	20.3	20.8
#7 Nozzle - Lime (7/64")					#7 Nozzle - Lime (2.78 mm)				
Flow (gpm)	1.68	1.84	1.99	2.12	Flow (L/hr)	382	418	452	482
LA Diam. at 1.5' ht. (ft.)	62.4	64.1	65.7	66.8	LA Diam. at 0.46 m ht. (m)	19.0	19.5	20.0	20.4
HA Diam. at 1.5' ht. (ft.)	65.8	68.5	70.6	72.4	HA Diam. at 0.46 m ht. (m)	20.1	20.9	21.5	22.1
#8 Nozzle - Lavender (1/8")					#8 Nozzle - Lavender (3.18 mm)				
Flow (gpm)	2.21	2.42	2.62	2.79	Flow (L/hr)	502	550	595	634
LA Diam. at 1.5' ht. (ft.)	63.9	65.7	67.3	68.6	LA Diam. at 0.46 m ht. (m)	19.5	20.0	20.5	20.9
HA Diam. at 1.5' ht. (ft.)	70.4	72.7	74.8	76.0	HA Diam. at 0.46 m ht. (m)	21.5	22.2	22.8	23.2

Sprinkler performance may vary with actual field conditions. Other sizes are available; consult factory for specific performance data. Minimum recommended height is 1.5 ft. (0.46 m).

Sprays] T-Spray™

The Senninger T-Spray delivers a fine spray ideal for delicate stock. It can be mounted upright or inverted and is also available in a high angle model for upright installations only.



FEATURES:

- 360° Spray nozzle
- No moving parts for longer life
- High-angle upright T-stem provides larger diameter of coverage
- Removable T-stem for easy cleaning
- Flow rates: 0.98 to 2.85 gpm (223 to 647 L/hr)
- Operating pressures: 15 to 40 psi (1.03 to 2.76 bar)
- Inlet: 1/2" M NPT male
- Two-year warranty on materials, workmanship and performance
- Color-coded stems for easy size identification



Standard Angle for upright or inverted installations

Sprinkler Base Pressure (psi)							(bar)						
	15	20	25	30	35	40	1.03	1.38	1.72	2.07	2.41	2.76	
#6 T-Stem SA - Gold							#6 T-Stem SA - Gold						
Flow (gpm)	0.98	1.14	1.27	1.40	1.52	1.63	Flow (L/hr)	223	259	288	318	345	370
Diam. at 1.5' ht. (ft.)	15.5	17.0	18.0	19.0	20.0	21.0	Diam. at 0.46m ht. (m)	4.7	5.2	5.5	5.8	6.1	6.4
Diam. at 3.0' ht. (ft.)	17.5	18.5	19.5	20.5	21.5	22.0	Diam. at .092m ht. (m)	5.3	5.6	5.9	6.3	6.6	6.7
#7 T-Stem SA - Lime							#7 T-Stem SA - Lime						
Flow (gpm)	1.34	1.56	1.73	1.90	2.05	2.20	Flow (L/hr)	304	354	393	432	466	500
Diam. at 1.5' ht. (ft.)	17.0	18.5	19.5	20.5	21.0	21.5	Diam. at 0.46m ht. (m)	5.2	5.6	5.9	6.3	6.4	6.6
Diam. at 3.0' ht. (ft.)	18.5	19.5	20.5	21.5	22.5	23.0	Diam. at .092m ht. (m)	5.6	5.9	6.3	6.6	6.9	7.0
#8 T-Stem SA - Lavender							#8 T-Stem SA - Lavender						
Flow (gpm)	1.73	2.01	2.23	2.45	2.65	2.85	Flow (L/hr)	393	457	506	556	602	647
Diam. at 1.5' ht. (ft.)	18.0	19.5	20.5	21.0	21.5	22.0	Diam. at 0.46m ht. (m)	5.5	5.9	6.3	6.4	6.6	6.7
Diam. at 3.0' ht. (ft.)	19.0	20.0	21.0	22.0	23.0	23.5	Diam. at .092m ht. (m)	5.8	6.1	6.4	6.7	7.0	7.2

High Angle for upright installations

Sprinkler Base Pressure (psi)							(bar)						
	15	20	25	30	35	40	1.03	1.38	1.72	2.07	2.41	2.76	
#8 T-Stem SA - Dark Purple							#8 T-Stem SA - Dark Purple						
Flow (gpm)	1.73	2.01	2.23	2.45	2.65	2.85	Flow (L/hr)	393	457	506	556	602	647
Diam. at 1.5' ht. (ft.)	25.5	27.5	29.0	30.0	31.0	32.0	Diam. at 0.46m ht. (m)	7.8	8.4	8.8	9.2	9.5	9.8

Sprinkler performance may vary with actual field conditions. Minimum recommended riser height is 1.5ft. (0.46 m).

mini-Wobblers® [Wobblers

Upright



SEE
PG. 37
FOR
RISER
ADAPTER!

The Senninger mini-Wobblers employs the same unique off-center rotary-action as the standard Wobblers. It provides extremely uniform coverage over a large diameter at low pressures.

FEATURES:

- Low evaporative loss
- Multi-level throw, approximate angle: 10°
- Flow rates: 0.42 to 2.18 gpm (95 to 495 L/hr)
- Operating pressures: 15 to 25 psi (1.03 to 1.72 bar)
- Inlet: 1/2" M NPT
- Two-year warranty on materials, workmanship and performance
- Color-coded nozzles for easy size identification; warranted to maintain correct orifice size for five years



UPRIGHT

The mini-Wobblers can be mounted on the Riser Adapter for installation versatility. (see pg. 37)

i-mini-Wobblers® [Wobblers

Inverted

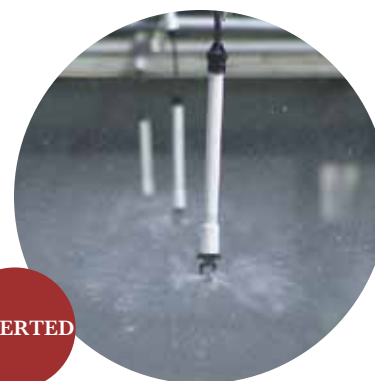


SEE
PG. 38
FOR
DROP
ADAPTER!

The Senninger i-mini-Wobblers employs the same unique off-center rotary-action as the standard Wobblers. It produces a broad, rain-like application.

FEATURES:

- Low evaporative loss
- Multi-level throw, approximate angle: 0°
- Flow rates: 0.75 to 2.18 gpm (170 to 495 L/hr)
- Operating pressures: 20 to 25 psi (1.38 to 1.72 bar)
- Inlet: 1/2" M NPT
- Two-year warranty on materials, workmanship and performance
- Color-coded nozzles for easy size identification; warranted to maintain correct orifice size for five years



INVERTED

The inverted mini-Wobblers produces a broad, rain-like application.

mini-Wobbler (Upright)

Sprinkler Base Pressure (psi)	15	20	25	(bar)	1.03	1.38	1.72
#4 Nozzle - Light Blue				#4 Nozzle - Light Blue (1.59mm)			
Flow (gpm)	0.42	0.50	0.56	Flow (L/hr)	95	114	127
Diam. at 1.5' ht. (ft.)	26.5	28.0	29.0	Diam. at 0.46m ht. (m)	8.1	8.5	8.8
Diam. at 3.0' ht. (ft.)	31.0	32.0	33.0	Diam. at 0.92m ht. (m)	9.5	9.8	10.1
#5 Nozzle - Beige (5/64")				#5 Nozzle - Beige (1.98mm)			
Flow (gpm)	0.64	0.75	0.84	Flow (L/hr)	145	170	191
Diam. at 1.5' ht. (ft.)	31.0	33.5	35.0	Diam. at 0.46m ht. (m)	9.5	10.2	10.7
Diam. at 3.0' ht. (ft.)	36.5	39.0	39.5	Diam. at 0.92m ht. (m)	11.1	11.9	12.0
#6 Nozzle - Gold (3/32")				#6 Nozzle - Gold (2.38mm)			
Flow (gpm)	0.95	1.10	1.25	Flow (L/hr)	216	250	284
Diam. at 1.5' ht. (ft.)	33.0	36.0	37.0	Diam. at 0.46m ht. (m)	10.1	11.0	11.3
Diam. at 3.0' ht. (ft.)	39.5	42.0	42.0	Diam. at 0.92m ht. (m)	12.0	12.8	12.8
#7 Nozzle - Lime (7/64")				#7 Nozzle - Lime (2.78mm)			
Flow (gpm)	1.30	1.51	1.69	Flow (L/hr)	295	343	384
Diam. at 1.5' ht. (ft.)	35.0	37.5	38.5	Diam. at 0.46m ht. (m)	10.7	11.4	11.7
Diam. at 3.0' ht. (ft.)	41.0	43.0	43.0	Diam. at 0.92m ht. (m)	12.5	13.1	13.1
#8 Nozzle - Lavender (1/8")				#8 Nozzle - Lavender (3.18mm)			
Flow (gpm)	1.67	1.95	2.18	Flow (L/hr)	379	443	495
Diam. at 1.5' ht. (ft.)	35.5	38.5	39.0	Diam. at 0.46m ht. (m)	10.8	11.7	11.9
Diam. at 3.0' ht. (ft.)	41.5	43.0	43.5	Diam. at 0.92m ht. (m)	12.7	13.1	13.3

Also available with #9 and #10 Nozzle. Consult factory for specific performance data.

Sprinkler performance may vary with actual field conditions. Upright model stream heights range from 1.5 - 3.0 ft (0.46 - 0.91 m) above nozzle based on pressure and nozzle size. Minimum recommended riser height is 1.5 ft. (0.46 m).

i-mini-Wobbler (Inverted)

Sprinkler Base Pressure (psi)	20	25	(bar)	1.38	1.72
#5 Nozzle-Beige (5/64")			#5 Nozzle - Beige (1.98mm)		
Flow (gpm)	0.75	0.84	Flow (L/hr)	170	191
Diam. at 3.0' ht. (ft.)	30.0	31.0	Diam. at 0.92m ht. (m)	9.2	9.5
Diam. at 6.0' ht. (ft.)	32.0	32.5	Diam. at 1.83m ht. (m)	9.8	9.9
#6 Nozzle-Gold (3/32")			#6 Nozzle - Gold (2.38mm)		
Flow (gpm)	1.10	1.25	Flow (L/hr)	250	284
Diam. at 3.0' ht. (ft.)	31.0	31.4	Diam. at 0.92m ht. (m)	9.5	9.6
Diam. at 6.0' ht. (ft.)	34.0	34.5	Diam. at 1.83m ht. (m)	10.4	10.5
#7 Nozzle-Lime (7/64")			#7 Nozzle - Lime (2.78mm)		
Flow (gpm)	1.51	1.69	Flow (L/hr)	343	384
Diam. at 3.0' ht. (ft.)	31.0	32.0	Diam. at 0.92m ht. (m)	9.5	9.8
Diam. at 6.0' ht. (ft.)	35.0	35.5	Diam. at 1.83m ht. (m)	10.7	10.8
#8 Nozzle-Lavender (1/8")			#8 Nozzle - Lavender (3.18mm)		
Flow (gpm)	1.95	2.18	Flow (L/hr)	443	495
Diam. at 3.0' ht. (ft.)	31.5	32.0	Diam. at 0.92m ht. (m)	9.6	9.8
Diam. at 6.0' ht. (ft.)	35.5	36.0	Diam. at 1.83m ht. (m)	10.8	11.0

Sprinkler performance may vary with actual field conditions. Inverted model stream heights range from 0.5 - 1.5 ft (0.2 - 0.46 m) above nozzle based on pressure and nozzle size.

Wobblers® [Standard&Low Angle



Standard-Angle

NOTE:

Care must be taken to stabilize the riser. For other installation details, contact our factory.



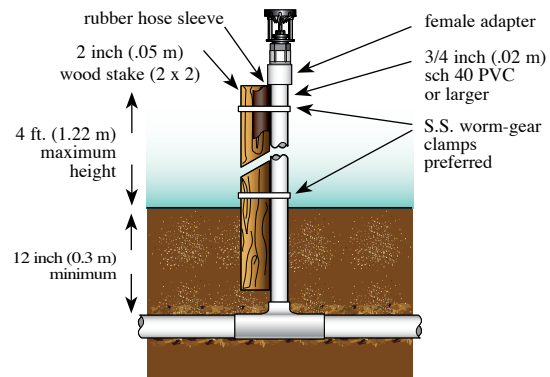
Low-Angle

The Senninger Wobblers has a unique off-center rotary-action. This design provides extremely uniform coverage over a large diameter at low pressures.

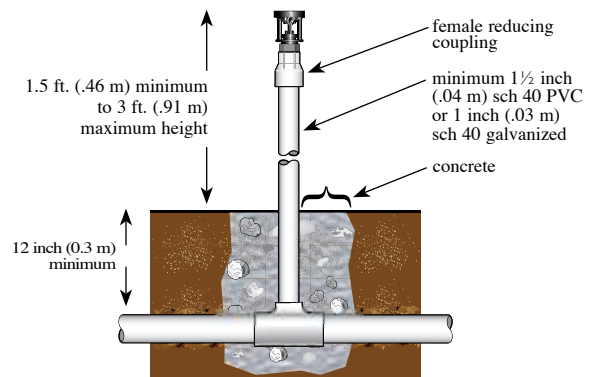
FEATURES:

- Only one moving part for longer life
- Built for strength and durability
- Flow rates: 0.78 to 8.25 gpm (177 to 1874 L/hr)
- Low evaporative loss
- Inlet: 3/4" and 1/2" M NPT
- Two-year warranty on materials, workmanship and performance
- Color-coded nozzles for easy size identification; warranted to maintain correct orifice size for five years.

WOBBLER ON RISER SUPPORTED WITH STAKE



WOBBLER ON RISER WITH CONCRETE



Standard & Low Angle] Wobblers®



The Wobbler produces droplets which resist wind drift.

Sprinkler Base Pressure (psi)							(bar)						
	10	15	20	25	30	35	0.69	1.03	1.38	1.72	2.07	2.41	
#6 Nozzle - Gold (3/32")							#6 Nozzle - Gold (2.38mm)						
Flow (gpm)	0.78	0.95	1.10	1.23	1.35	1.45	Flow (L/hr)	177	216	250	279	307	329
SA Diam. at 1.5' ht. (ft.)	34.0	39.0	41.5	43.5	44.0	45.0	SA Diam. at 0.46m ht (m)	10.4	11.9	12.7	13.3	13.4	13.7
LA Diam. at 1.5' ht. (ft.)	29.0	34.5	38.0	40.5	41.0	-	LA Diam. at 0.46m ht (m)	8.8	10.5	11.6	12.4	12.5	-
#7 Nozzle - Lime (7/64")							#7 Nozzle - Lime (2.78mm)						
Flow (gpm)	1.06	1.30	1.50	1.68	1.84	1.99	Flow (L/hr)	241	295	341	382	418	452
SA Diam. at 1.5' ht. (ft.)	36.5	41.5	43.5	45.0	45.5	46.5	SA Diam. at 0.46m ht (m)	11.1	12.7	13.3	13.7	13.9	14.2
LA Diam. at 1.5' ht. (ft.)	31.5	37.0	40.0	41.5	42.0	-	LA Diam. at 0.46m ht (m)	9.6	11.3	12.2	12.7	12.8	-
#8 Nozzle - Lavender (1/8")							#8 Nozzle - Lavender (3.18mm)						
Flow (gpm)	1.40	1.71	1.98	2.21	2.42	2.62	Flow (L/hr)	318	388	450	502	550	595
SA Diam. at 1.5' ht. (ft.)	38.5	43.5	45.0	46.5	47.0	48.0	SA Diam. at 0.46m ht (m)	11.7	13.3	13.7	14.2	14.3	14.6
LA Diam. at 1.5' ht. (ft.)	34.0	39.0	41.5	42.5	43.0	-	LA Diam. at 0.46m ht (m)	10.4	11.9	12.7	13.0	13.1	-
#9 Nozzle - Grey (9/64")							#9 Nozzle - Grey (3.57mm)						
Flow (gpm)	1.80	2.20	2.54	2.84	3.11	3.36	Flow (L/hr)	409	500	577	645	706	763
SA Diam. at 1.5' ht. (ft.)	40.5	45.5	46.5	47.5	48.0	49.0	SA Diam. at 0.46m ht (m)	12.4	13.9	14.2	14.5	14.6	14.9
LA Diam. at 1.5' ht. (ft.)	35.5	40.5	42.5	43.5	44.0	-	LA Diam. at 0.46m ht (m)	10.8	12.4	13.0	13.3	13.4	-
#10 Nozzle - Turquoise (5/32")							#10 Nozzle - Turquoise (3.97mm)						
Flow (gpm)	2.22	2.72	3.14	3.51	3.85	4.16	Flow (L/hr)	504	618	713	797	874	945
SA Diam. at 1.5' ht. (ft.)	42.0	47.0	48.0	48.5	49.0	50.0	SA Diam. at 0.46m ht (m)	12.8	14.3	14.6	14.8	14.9	15.3
LA Diam. at 1.5' ht. (ft.)	36.0	41.0	43.0	44.0	44.5	-	LA Diam. at 0.46m ht (m)	11.0	12.5	13.1	13.4	13.6	-
#11 Nozzle - Yellow (11/64")							#11 Nozzle - Yellow (4.37mm)						
Flow (gpm)	2.69	3.30	3.81	4.26	4.67	5.05	Flow (L/hr)	611	749	865	968	1061	1147
SA Diam. at 1.5' ht. (ft.)	43.0	48.0	49.0	49.5	50.0	51.0	SA Diam. at 0.46m ht (m)	13.1	14.6	14.9	15.1	15.3	15.6
LA Diam. at 1.5' ht. (ft.)	36.5	42.0	43.5	44.5	45.0	-	LA Diam. at 0.46m ht (m)	11.1	12.8	13.3	13.6	13.7	-
#12 Nozzle - Red (3/16")							#12 Nozzle - Red (4.76mm)						
Flow (gpm)	3.23	3.96	4.57	5.11	5.60	6.05	Flow (L/hr)	734	899	1038	1161	1272	1374
SA Diam. at 1.5' ht. (ft.)	44.0	49.0	50.0	50.5	51.0	51.5	SA Diam. at 0.46m ht (m)	13.4	14.9	15.3	15.4	15.6	15.7
LA Diam. at 1.5' ht. (ft.)	37.0	42.5	44.0	45.0	45.5	-	LA Diam. at 0.46m ht (m)	11.3	13.0	13.4	13.7	13.9	-
#13 Nozzle - White (13/64")							#13 Nozzle - White (5.16mm)						
Flow (gpm)	3.80	4.65	5.38	6.01	6.59	7.12	Flow (L/hr)	863	1056	1222	1365	1497	1617
SA Diam. at 1.5' ht. (ft.)	44.5	49.5	50.5	51.0	51.5	52.0	SA Diam. at 0.46m ht (m)	13.6	15.1	15.4	15.6	15.7	15.9
LA Diam. at 1.5' ht. (ft.)	37.5	43.0	44.5	45.5	46.0	-	LA Diam. at 0.46m ht (m)	11.4	13.1	13.6	13.9	14.0	-
#14 Nozzle - Blue (7/32")							#14 Nozzle - Blue (5.56mm)						
Flow (gpm)	4.40	5.39	6.23	6.97	7.64	8.25	Flow (L/hr)	999	1224	1415	1583	1735	1874
SA Diam. at 1.5' ht. (ft.)	45.0	50.0	51.0	51.5	52.0	52.5	SA Diam. at 0.46m ht (m)	13.7	15.3	15.6	15.7	15.9	16.0
LA Diam. at 1.5' ht. (ft.)	38.0	43.5	45.0	46.0	46.5	-	LA Diam. at 0.46m ht (m)	11.6	13.3	13.7	14.0	14.2	-

Sprinkler performance may vary with actual field conditions. Other nozzle sizes are available; consult factory for specific performance data. Stream heights range from 2.5 - 5.5 ft (0.8 - 1.7 m) above nozzle based on pressure and nozzle size. Minimum recommended riser height is 1.5 ft. (0.46 m).

Xcel-Wobbler® [Wobblers



High-Angle

Senninger's Xcel-Wobbler maximizes the area of coverage. Its unique off-center rotary action provides extremely uniform coverage at low pressures with very low evaporative loss.

FEATURES:

- Counter-balance design produces smooth, stable performance
- Only one moving part for longer life
- Inlet sizes 3/4" or 1/2" M NPT
- Flow rates: 0.78 to 6.97 gpm (177 to 1583 L/hr)
- Low wind drift and evaporative loss at low pressures
- Two-year warranty on materials, workmanship and performance
- Color-coded nozzles for easy size identification; warranted to maintain correct orifice size for five years



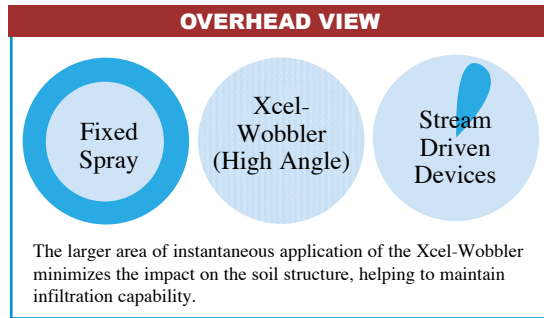
Mid-Angle



The Xcel-Wobbler provides a maximized area of coverage for under-tree applications and nursery canopy applications.



Wobblers] Xcel-Wobbler®



Sprinkler Base Pressure (psi)					Sprinkler Base Pressure (bar)				
	10	15	20	25		0.69	1.03	1.38	1.72
#6 Nozzle - Gold (3/32")					#6 Nozzle - Gold (2.38mm)				
Flow (gpm)	0.78	0.95	1.10	1.23	Flow (L/hr)	177	216	250	279
HA Diam. at 1.5' ht. (ft.)	36.5	41.0	45.0	46.0	HA Diam. at 0.46m ht. (m)	11.1	12.5	13.7	14.0
MA Diam. at 1.5' ht. (ft.)	32.0	35.0	38.5	41.0	MA Diam. at 0.46m ht. (m)	9.8	10.7	11.7	12.5
#7 Nozzle - Lime (7/64")					#7 Nozzle - Lime (2.78mm)				
Flow (gpm)	1.06	1.30	1.50	1.68	Flow (L/hr)	241	295	341	382
HA Diam. at 1.5' ht. (ft.)	40.0	46.5	47.0	50.5	HA Diam. at 0.46m ht. (m)	12.2	14.2	14.3	15.4
MA Diam. at 1.5' ht. (ft.)	33.0	36.5	40.5	41.0	MA Diam. at 0.46m ht. (m)	10.1	11.1	12.4	12.5
#8 Nozzle - Lavender (1/8")					#8 Nozzle - Lavender (3.18mm)				
Flow (gpm)	1.40	1.71	1.98	2.21	Flow (L/hr)	318	388	450	502
HA Diam. at 1.5' ht. (ft.)	42.0	46.5	47.0	51.5	HA Diam. at 0.46m ht. (m)	12.8	14.2	14.3	15.7
MA Diam. at 1.5' ht. (ft.)	34.0	38.5	41.0	42.5	MA Diam. at 0.46m ht. (m)	10.4	11.7	12.5	13.0
#9 Nozzle - Grey (9/64")					#9 Nozzle - Grey (3.57mm)				
Flow (gpm)	1.80	2.20	2.54	2.84	Flow (L/hr)	409	500	577	645
HA Diam. at 1.5' ht. (ft.)	44.0	47.0	50.5	52.5	HA Diam. at 0.46m ht. (m)	13.4	14.3	15.4	16.0
MA Diam. at 1.5' ht. (ft.)	34.5	40.5	42.0	43.0	MA Diam. at 0.46m ht. (m)	10.5	12.4	12.8	13.1
#10 Nozzle - Turquoise (5/32")					#10 Nozzle - Turquoise (3.97mm)				
Flow (gpm)	2.22	2.72	3.14	3.51	Flow (L/hr)	504	618	713	797
HA Diam. at 1.5' ht. (ft.)	44.5	49.0	50.5	53.5	HA Diam. at 0.46m ht. (m)	13.6	14.9	15.4	16.3
MA Diam. at 1.5' ht. (ft.)	36.0	41.0	42.5	44.0	MA Diam. at 0.46m ht. (m)	11.0	12.5	13.0	13.4
#11 Nozzle - Yellow (11/64")					#11 Nozzle - Yellow (4.37mm)				
Flow (gpm)	2.69	3.30	3.81	4.26	Flow (L/hr)	611	749	865	968
HA Diam. at 1.5' ht. (ft.)	44.5	50.5	51.5	54.0	HA Diam. at 0.46m ht. (m)	13.6	15.4	15.7	16.5
MA Diam. at 1.5' ht. (ft.)	36.0	41.5	43.0	44.0	MA Diam. at 0.46m ht. (m)	11.0	12.7	13.1	13.4
#12 Nozzle - Red (3/16")					#12 Nozzle - Red (4.76mm)				
Flow (gpm)	3.23	3.96	4.57	5.11	Flow (L/hr)	734	899	1038	1161
HA Diam. at 1.5' ht. (ft.)	46.0	50.5	52.0	54.5	HA Diam. at 0.46m ht. (m)	14.0	15.4	15.9	16.6
MA Diam. at 1.5' ht. (ft.)	36.5	41.5	44.5	44.5	MA Diam. at 0.46m ht. (m)	11.1	12.7	13.6	13.6
#13 Nozzle - White (13/64")					#13 Nozzle - White (5.16mm)				
Flow (gpm)	3.80	4.65	5.38	6.01	Flow (L/hr)	863	1056	1222	1365
HA Diam. at 1.5' ht. (ft.)	46.5	51.0	52.5	55.5	HA Diam. at 0.46m ht. (m)	14.2	15.6	16.0	16.9
MA Diam. at 1.5' ht. (ft.)	36.5	41.5	44.5	45.0	MA Diam. at 0.46m ht. (m)	11.1	12.7	13.6	13.7
#14 Nozzle - Blue (7/32")					#14 Nozzle - Blue (5.56mm)				
Flow (gpm)	4.40	5.39	6.23	6.97	Flow (L/hr)	999	1224	1415	1583
HA Diam. at 1.5' ht. (ft.)	47.0	51.0	53.0	55.5	HA Diam. at 0.46m ht. (m)	14.3	15.6	16.2	16.9
MA Diam. at 1.5' ht. (ft.)	37.0	42.5	45.0	46.5	MA Diam. at 0.46m ht. (m)	11.3	13.0	13.7	14.2

Sprinkler performance may vary with actual field conditions. Other nozzle sizes are available; consult factory for specific performance data. Stream heights range from 2.5 - 5.5 ft (0.8 - 1.7 m) above nozzle based on pressure and nozzle size. Minimum recommended riser height is 1.5 ft. (0.46 m).

20series [Impacts



The 20 series full-circle impacts are Senninger's most economical sprinklers. Effective for various overhead and undertree applications.

FEATURES:

- Single nozzle design for maximum throw
- Three trajectories available:
2009 - 9° fights wind drift and evaporation
2014 - 14° ideal for undertree irrigation
2023 - 23° for maximum throw on overhead systems
- Wide range of nozzle and vane combinations for excellent distribution at all pressures
- Built-in hex wrench for easy in-the-field maintenance
- Standard lower bearing pipe thread:
1/2" M NPT (female also available)
- Flow rates: 1.34 to 3.98 gpm (304 to 904 L/hr)
- Two-year warranty on materials, workmanship and performance
- Color-coded nozzles for easy size identification; warranted to maintain correct orifice size for five years

2009HD

Sprinkler Base Pressure (psi)						(bar)				
	30	35	40	45	50	2.07	2.41	2.76	3.10	3.45
#6 Nozzle - Gold (3/32")						#6 Nozzle - Gold (2.38mm)				
Flow (gpm)	1.34	1.45	1.55	1.64	-	Flow (L/hr)	304	329	352	372
Diam. at 1.5' ht. (ft.)	58	60	62	64	-	Diam. at 0.46m ht. (m)	17.7	18.3	18.9	19.5
#7 Nozzle - Lime (7/64")						#7 Nozzle - Lime (2.78mm)				
Flow (gpm)	1.84	1.99	2.12	2.25	2.37	Flow (L/hr)	418	452	481	511
Diam. at 1.5' ht. (ft.)	60	62	64	66	67	Diam. at 0.46m ht. (m)	18.3	18.9	19.5	20.1
#8 Nozzle - Lavender (1/8")						#8 Nozzle - Lavender (3.18mm)				
Flow (gpm)	2.42	2.62	2.79	2.97	3.12	Flow (L/hr)	550	595	634	675
Diam. at 1.5' ht. ft. (ft.)	62	64	66	68	69	Diam. at 0.46m ht. (m)	18.9	19.5	20.1	20.7
#9 Nozzle - Grey (9/64")						#9 Nozzle - Grey (3.57mm)				
Flow (gpm)	3.08	3.33	3.56	3.78	3.98	Flow (L/hr)	700	756	809	859
Diam. at 1.5' ht. (ft.)	64	66	68	70	71	Diam. at 0.46m ht. (m)	19.5	20.1	20.7	21.4

Sprinkler performance may vary with actual field conditions. Diameters shown are for standard straight bore nozzles and stream straightening vanes. Other nozzles and/or vane combinations are available; Consult factory for specific performance data. Stream heights range from 1.5-3.0 ft. (0.46-0.91 m) above nozzle based on pressure and nozzle size. Minimum recommended riser height is 1.5 ft. (0.46 m).

Mounting Options:

- Vandal-resistant coupling and special wrench
- 3/4" slip with base swivel
- Quick-connect base and connector



2014HS

Sprinkler Base Pressure (psi)	30	35	40	45	50	(bar)	2.07	2.41	2.76	3.10	3.45
#6 Nozzle - Gold (3/32")						#6 Nozzle - Gold (2.38mm)					
Flow (gpm)	1.34	1.45	1.55	1.64	-	Flow (L/hr)	304	329	352	372	-
Diam. at 1.5' ht. (ft.)	66	68	70	72	-	Diam. at 0.46m ht. (m)	20.1	20.7	21.4	22.0	-
#7 Nozzle - Lime (7/64")						#7 Nozzle - Lime (2.78mm)					
Flow (gpm)	1.84	1.99	2.12	2.25	2.37	Flow (L/hr)	418	452	481	511	538
Diam. at 1.5' ht. (ft.)	68	70	72	74	75	Diam. at 0.46m ht. (m)	20.7	21.4	22.0	22.6	22.9
#8 Nozzle - Lavender (1/8")						#8 Nozzle - Lavender (3.18mm)					
Flow (gpm)	2.42	2.62	2.79	2.97	3.12	Flow (L/hr)	550	595	634	675	709
Diam. at 1.5' ht. (ft.)	70	72	74	76	77	Diam. at 0.46m ht. (m)	21.4	22.0	22.6	23.2	23.5
#9 Nozzle - Grey (9/64")						#9 Nozzle - Grey (3.57mm)					
Flow (gpm)	3.08	3.33	3.56	3.78	3.98	Flow (L/hr)	700	756	809	859	904
Diam. at 1.5' ht. (ft.)	71	73	75	77	78	Diam. at 0.46m ht. (m)	21.7	22.3	22.9	23.5	23.8

Sprinkler performance may vary with actual field conditions. Stream heights range from 3.0-5.0 ft. (0.91-1.5 m) above nozzle based on pressure and nozzle size. Minimum recommended riser height is 1.5 ft. (0.46 m).

2023HS

Sprinkler Base Pressure (psi)	30	35	40	45	50	(bar)	2.07	2.41	2.76	3.10	3.45
#6 Nozzle - Gold (3/32")						#6 Nozzle - Gold (2.38mm)					
Flow (gpm)	1.34	1.45	1.55	1.64	-	Flow (L/hr)	304	329	352	372	-
Diam. at 1.5' ht. (ft.)	74	75	76	77	-	Diam. at 0.46m ht. (m)	22.6	22.9	23.2	23.5	-
#7 Nozzle - Lime (7/64")						#7 Nozzle - Lime (2.78mm)					
Flow (gpm)	1.84	1.99	2.12	2.25	2.37	Flow (L/hr)	418	452	481	511	538
Diam. at 1.5' ht. (ft.)	76	77	78	79	80	Diam. at 0.46m ht. (m)	23.2	23.5	23.8	24.1	24.4
#8 Nozzle - Lavender (1/8")						#8 Nozzle - Lavender (3.18mm)					
Flow (gpm)	2.42	2.62	2.79	2.97	3.12	Flow (L/hr)	550	595	634	675	709
Diam. at 1.5' ht. (ft.)	78	79	80	81	82	Diam. at 0.46m ht. (m)	23.8	24.1	24.4	24.7	25.0
#9 Nozzle - Grey (9/64")						#9 Nozzle - Grey (3.57mm)					
Flow (gpm)	3.08	3.33	3.56	3.78	3.98	Flow (L/hr)	700	756	809	859	904
Diam. at 1.5' ht. (ft.)	79	80	81	82	83	Diam. at 0.46m ht. (m)	24.1	24.4	24.7	25.0	25.3

Sprinkler performance may vary with actual field conditions. Stream heights range from 6.5-9.5 ft. (2.0-3.0 m) above nozzle based on pressure and nozzle size. Minimum recommended riser height is 1.5 ft. (0.46 m).

Compact20series [Impacts



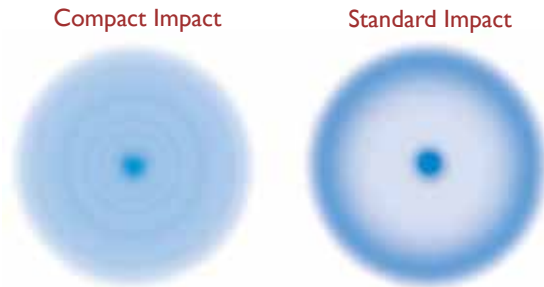
The Compact Impact's splasharm diffuser emulates dual nozzle performance without clogging potential often found with smaller secondary nozzles.

FEATURES:

- 23 degree trajectory- for maximum throw
- Ideal replacement for old brass sprinklers
- Connection: 3/4" M NPT or 3/4" F NPT
- Flow rates: 3.08 to 7.13 gpm (700 to 1619 L/hr)
- Two-year warranty on materials, workmanship and performance
- Color-coded nozzles for easy size identification; warranted to maintain correct orifice size for five years

Views of Distribution

Stream driven applicators typically provide good throw distance but their distinct streams place most of the flow in a relatively small area when compared to the Compact Impact. This model offers uniform coverage. This means it wets a much larger area with a much lower instantaneous application intensity, preserving soil structure and infiltration capability.



In this example, the Compact Impact distributes the same amount of water more uniformly than a single stream-driven applicator.

Compact Impact™ - 2023 with diffuser

Sprinkler Base Pressure (psi)	30					35					40					45					50					(bar)				
	2.07	2.42	2.76	3.11	3.45																									
#9 Nozzle - Grey (9/64")						#9 Nozzle - Grey (3.57mm)																								
Flow (gpm)	3.08	3.33	3.56	3.78	3.98	Flow (L/hr)	700	756	809	859	904																			
Diameter at 1.5' ht. (ft.)	78	78	82	86	86	Diameter at 0.5m ht. (m)	24	24	25	26	26																			
Diameter at 3.0' ht. (ft.)	84	86	87	88	90	Diameter at 0.9m ht. (m)	26	26	27	27	27																			
#10 Nozzle - Turquoise (5/32")						#10 Nozzle - Turquoise (3.97mm)																								
Flow (gpm)	3.82	4.13	4.41	4.68	4.93	Flow (L/hr)	868	938	1002	1063	1120																			
Diameter at 1.5' ht. (ft.)	80	82	82	86	88	Diameter at 0.5m ht. (m)	24	25	25	26	27																			
Diameter at 3.0' ht. (ft.)	86	87	89	91	92	Diameter at 0.9m ht. (m)	26	27	27	28	28																			
#11 Nozzle - Yellow (11/64")						#11 Nozzle - Yellow (4.37mm)																								
Flow (gpm)	4.63	5.00	5.34	5.67	5.98	Flow (L/hr)	1052	1136	1213	1288	1358																			
Diameter at 1.5' ht. (ft.)	82	82	86	88	90	Diameter at 0.5m ht. (m)	25	25	26	27	27																			
Diameter at 3.0' ht. (ft.)	88	89	92	94	95	Diameter at 0.9m ht. (m)	27	27	28	29	29																			
#12 Nozzle - Red (3/16")						#12 Nozzle - Red (4.76mm)																								
Flow (gpm)	5.52	5.97	6.37	6.76	7.13	Flow (L/hr)	1254	1356	1447	1535	1619																			
Diameter at 1.5' ht. (ft.)	83	87	90	92	96	Diameter at 0.5m ht. (m)	25	27	27	28	29																			
Diameter at 3.0' ht. (ft.)	89	91	94	97	98	Diameter at 0.9m ht. (m)	27	28	29	30	30																			

Sprinkler performance may vary with field conditions. Diameters shown for standard stream straightening vane (white). Other nozzles and/or vane combinations are available, consult factory for specific performance data. Stream heights range from 7.7 - 10.1 ft (2.3 - 3.1 m) above nozzle based on pressure and nozzle size. Minimum recommended riser height is 1.5 ft (0.5 m). Also available in 1/2" NPT model.

Impacts] WedgeDrive20series

The 20 series WedgeDrive sprinkler alternately deflects the flow ahead and behind the splasharm delivering a uniform distribution near and far from the sprinkler.

FEATURES:

- Excellent uniformity
- Rapid rotation speed at low pressures
- 14-degree trajectory (9 and 23-degree models also available)
- Flow rates: 1.22 – 3.98 gpm (277 – 904 L/hr)
- Pressures: 25 to 50 psi (1.72 to 3.44 bar)
- Connection: 1/2" M NPT
- Two-year warranty on materials, workmanship and performance



The Senninger® WedgeDrive impact sprinkler delivers a superior distribution pattern and uniformity for solid-set applications requiring 1 to 4 gpm. As the sprinkler's splasharm engages the water stream, the wedge diffuser reacts, alternately deflecting water ahead and behind the splasharm. This results in an even distribution near and far from the sprinkler and rapid 360-degree rotation at operating pressures from 25 to 50 psi. Square and round shaped nozzles can be incorporated to deliver enhanced pattern and radius of throw alternatives.

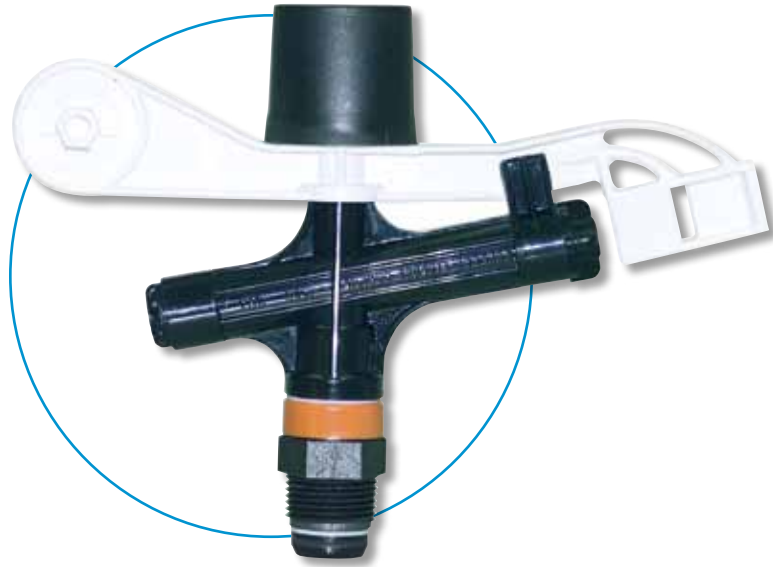


WedgeDrive™ - 2014WD

Sprinkler base pressure													
(psi)	25	30	35	40	45	50	(bar)	1.72	2.07	2.41	2.76	3.10	3.44
#6 Nozzle - Gold (3/32")							#6 Nozzle - Gold (2.38mm)						
Flow (gpm)	1.22	1.34	1.45	1.55	1.64	1.73	Flow (L/hr)	277	304	329	352	372	393
Diam. at 1.5' ht. (ft.)	61	64	68	70	72	73	Diam. at 0.46m ht. (m)	19	20	21	21	22	22
#7 Nozzle - Lime (7/64")							#7 Nozzle - Lime (2.78mm)						
Flow (gpm)	1.68	1.84	1.99	2.12	2.25	2.37	Flow (L/hr)	382	418	452	482	511	538
Diam. at 1.5' ht. (ft.)	64	66	70	74	76	77	Diam. at 0.46m ht. (m)	20	20	21	23	23	23
#8 Nozzle - Lavender (1/8")							#8 Nozzle - Lavender (3.18mm)						
Flow (gpm)	2.21	2.42	2.62	2.79	2.97	3.12	Flow (L/hr)	502	550	595	634	675	709
Diam. at 1.5' ht. (ft.)	67	70	73	77	79	80	Diam. at 0.46m ht. (m)	20	21	22	23	24	24
#9 Nozzle - Grey (9/64")							#9 Nozzle - Grey (3.57mm)						
Flow (gpm)	2.81	3.08	3.33	3.56	3.78	3.98	Flow (L/hr)	638	700	756	809	859	904
Diam. at 1.5' ht. (ft.)	68	72	76	78	81	81	Diam. at 0.46m ht. (m)	21	22	23	24	25	25

Sprinkler performance may vary with field conditions. Diameters shown are for square orifice one-piece nozzle/vane combination. Other nozzles and/or vane combinations are available, consult factory for specific performance data. Stream heights range from 6.5 - 9.5 ft (2.0 - 3.0 m) above nozzle based on pressure and nozzle size. Minimum recommended riser height is 1.5 ft (0.5 m).

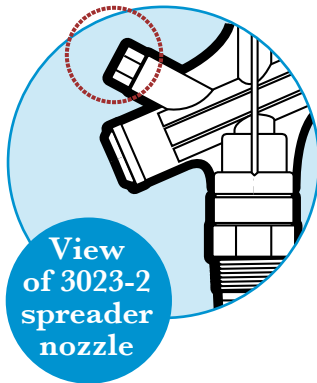
30series [Impacts]



The 30 Series begins Senninger's line of full-circle 3/4" impact sprinklers. Designed specifically for lower flows and maximum efficiency.

FEATURES:

- Single and double nozzle designs available. Double nozzle only available in 23° model.
- Two trajectories available:
3012- 12° ideal for undertree irrigation
3023- 23° for maximum throw on overhead systems
- Wide range of nozzle and vane combinations for excellent distribution at all pressures
- Built-in hex wrench for easy in-the-field maintenance
- Standard lower bearing pipe thread:
3/4" M NPT (female also available)
- Flow rates: 1.84 to 6.42 gpm (418 to 1458 L/hr)
- Two-year warranty on materials, workmanship AND performance
- Color-coded nozzles for easy size identification; warranted to maintain correct orifice size for five years



Senninger impacts provide uniform water distribution and excellent reliability.



3012-1

Sprinkler Base Pressure (psi)	30	35	40	45	50	(bar)	2.07	2.41	2.76	3.10	3.45
	#7 Nozzle - Lime (7/64")							#7 Nozzle - Lime (2.78mm)			
Flow (gpm)	1.84	1.99	2.12	2.25	2.37	Flow (L/hr)	418	452	482	511	538
Diam. at 1.5' ht. (ft.)	71	74	77	80	82	Diam. at 0.46m ht. (m)	21.7	22.6	23.5	24.4	25.0
#8 Nozzle - Lavender (1/8")						#8 Nozzle - Lavender (3.18mm)					
Flow (gpm)	2.42	2.62	2.79	2.97	3.12	Flow (L/hr)	550	595	634	675	709
Diam. at 1.5' ht. (ft.)	73	76	79	82	84	Diam. at 0.46m ht. (m)	22.3	23.2	24.1	25.0	25.6
#9 Nozzle - Grey (9/64")						#9 Nozzle - Grey (3.57mm)					
Flow (gpm)	3.08	3.33	3.56	3.78	3.98	Flow (L/hr)	700	756	809	859	904
Diam. at 1.5' ht. (ft.)	75	78	81	84	86	Diam. at 0.46m ht. (m)	22.9	23.8	24.7	25.6	26.2
#10 Nozzle - Turquoise (5/32")						#10 Nozzle - Turquoise (3.97mm)					
Flow (gpm)	3.82	4.13	4.41	4.68	4.93	Flow (L/hr)	868	938	1002	1063	1120
Diam. at 1.5' ht. (ft.)	76	79	82	85	87	Diam. at 0.46m ht. (m)	23.2	24.1	25.0	25.9	26.5

Sprinkler performance may vary with actual field conditions. Diameters shown are for standard straight bore nozzles and stream straightening vanes. Other nozzles and/or vane combinations are available; Consult factory for specific performance data. Stream heights range from rom 2.5-4.5 ft. (0.8-1.4 m) above nozzle based on pressure and nozzle size. Minimum recommended riser height is 1.5 ft. (0.46 m).

3023-1

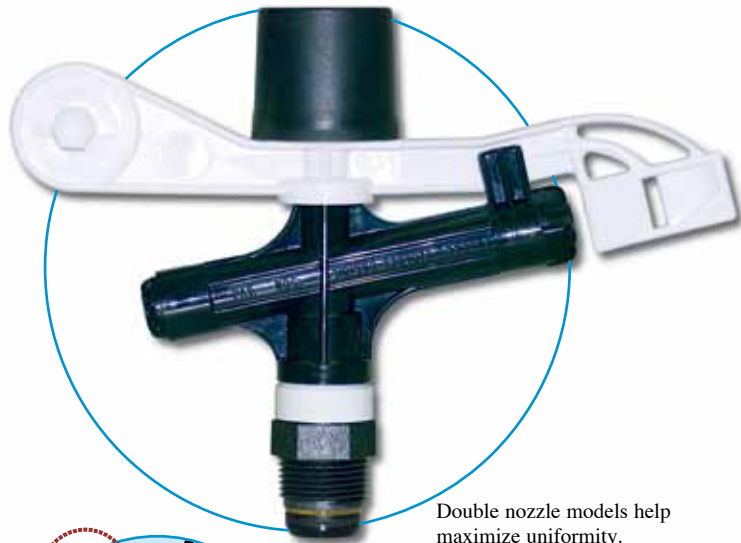
Sprinkler Base Pressure (psi)						(bar)					
	30	35	40	45	50	2.07	2.41	2.76	3.10	3.45	
#7 Nozzle - Lime (7/64")						#7 Nozzle - Lime (2.78mm)					
Flow (gpm)	1.84	1.99	2.12	2.25	2.37	Flow (L/hr)	418	452	482	511	538
Diam. at 1.5' ht. (ft.)	80	82	84	86	87	Diam. at 0.46m ht. (m)	24.4	25.0	25.6	26.2	26.5
Diam. at 6.0' ht. (ft.)	83	84	85	86	88	Diam. at 1.83m ht. (m)	25.3	25.6	25.9	26.2	26.8
#8 Nozzle - Lavender (1/8")						#8 Nozzle - Lavender (3.18mm)					
Flow (gpm)	2.42	2.62	2.79	2.97	3.12	Flow (L/hr)	550	595	634	675	709
Diam. at 1.5' ht. (ft.)	83	85	86	87	88	Diam. at 0.46m ht. (m)	25.3	25.9	26.2	26.5	26.8
Diam. at 6.0' ht. (ft.)	86	87	88	89	90	Diam. at 1.83m ht. (m)	26.2	26.5	26.8	27.1	27.4
#9 Nozzle - Grey (9/64")						#9 Nozzle - Grey (3.57mm)					
Flow (gpm)	3.08	3.33	3.56	3.78	3.98	Flow (L/hr)	700	756	809	859	904
Diam. at 1.5' ht. (ft.)	85	87	88	90	91	Diam. at 0.46m ht. (m)	25.9	26.5	26.8	27.4	27.7
Diam. at 6.0' ht. (ft.)	87	89	90	91	92	Diam. at 1.83m ht. (m)	26.5	27.1	27.4	27.7	28.0
#10 Nozzle - Turquoise (5/32")						#10 Nozzle - Turquoise (3.97mm)					
Flow (gpm)	3.82	4.13	4.41	4.68	4.93	Flow (L/hr)	868	938	1002	1063	1120
Diam. at 1.5' ht. (ft.)	87	89	90	91	92	Diam. at 0.46m ht. (m)	26.5	27.1	27.4	27.7	28.0
Diam. at 6.0' ht. (ft.)	88	90	92	93	94	Diam. at 1.83m ht. (m)	26.8	27.4	28.0	28.3	28.7

3023-2

Sprinkler Base Pressure (psi)						(bar)					
	30	35	40	45	50	2.07	2.41	2.76	3.10	3.45	
7x4 #7 Range Noz.-Lime (7/64") x #4 Spreader Noz. (1/16")						7x4 #7 Range Noz.-Lime (2.78mm) x #4 Spreader Noz. (1.59mm)					
Flow (gpm)	3.01	3.25	3.48	3.69	3.89	Flow (L/hr)	684	738	790	838	884
Diam. at 1.5' ht. (ft.)	80	82	84	86	87	Diam. at 0.46m ht. (m)	24.4	25.0	25.6	26.2	26.5
Diam. at 6.0' ht. (ft.)	83	84	85	86	88	Diam. at 1.83m ht. (m)	25.3	25.6	25.9	26.2	26.8
8x5 #8 Range Noz.-Lavender (1/8") x #6 Spreader Noz. (5/64")						8x5 #8 Range Noz.-Lavender (3.18mm) x #5 Spreader Noz. (1.98mm)					
Flow (gpm)	3.58	3.86	4.13	4.38	4.62	Flow (L/hr)	813	877	938	995	1049
Diam. at 1.5' ht. (ft.)	83	85	86	87	88	Diam. at 0.46m ht. (m)	25.3	25.9	26.2	26.5	26.8
Diam. at 6.0' ht. (ft.)	86	87	88	89	90	Diam. at 1.83m ht. (m)	26.2	26.5	26.8	27.1	27.4
8x6 #8 Range Noz.-Lavender (1/8") x #6 Spreader Noz. (3/32")						8x6 #8 Range Noz.-Lavender (3.18mm) x #6 Spreader Noz. (2.38mm)					
Flow (gpm)	3.84	4.14	4.43	4.70	4.95	Flow (L/hr)	872	940	1006	1067	1124
Diam. at 1.5' ht. (ft.)	83	85	86	87	88	Diam. at 0.46m ht. (m)	25.3	25.9	26.2	26.5	26.8
Diam. at 6.0' ht. (ft.)	86	87	88	89	90	Diam. at 1.83m ht. (m)	26.2	26.5	26.8	27.1	27.4
9x5 #9 Range Noz.-Grey (9/64") x #5 Spreader Noz. (5/64")						9x5 #9 Range Noz.-Grey (3.57mm) x #5 Spreader Noz. (1.98mm)					
Flow (gpm)	4.16	4.50	4.81	5.10	5.38	Flow (L/hr)	945	1022	1092	1158	1222
Diam. at 1.5' ht. (ft.)	85	87	88	90	91	Diam. at 0.46m ht. (m)	25.9	26.5	26.8	27.4	27.7
Diam. at 6.0' ht. (ft.)	87	89	90	91	92	Diam. at 1.83m ht. (m)	26.5	27.1	27.4	27.7	28.0
9x6 #9 Range Noz.-Grey (9/64") x #6 Spreader Noz. (3/32")						9x6 #9 Range Noz.-Grey (3.57mm) x #6 Spreader Noz. (2.38mm)					
Flow (gpm)	4.41	4.77	5.10	5.41	5.70	Flow (L/hr)	1002	1083	1158	1229	1295
Diam. at 1.5' ht. (ft.)	85	87	88	90	91	Diam. at 0.46m ht. (m)	25.9	26.5	26.8	27.4	27.7
Diam. at 6.0' ht. (ft.)	87	89	90	91	92	Diam. at 1.83m ht. (m)	26.5	27.1	27.4	27.7	28.0
10x5 #10 Range Noz.-Turquoise (5/32") x #5 Spreader Noz. (5/64")						10x5 #10 Range Noz.-Turquoise (3.97mm) x #5 Spreader Noz. (1.98mm)					
Flow (gpm)	4.97	5.37	5.74	6.09	6.42	Flow (L/hr)	1129	1220	1304	1383	1458
Diam. at 1.5' ht. (ft.)	87	89	90	91	92	Diam. at 0.46m ht. (m)	26.5	27.1	27.4	27.7	28.0
Diam. at 6.0' ht. (ft.)	88	90	92	93	94	Diam. at 1.83m ht. (m)	26.8	27.4	28.0	28.3	28.7

Sprinkler performance may vary with actual field conditions. Stream heights range from 6.0ft.-7.5ft. (1.8-2.3m) above nozzle based on pressure and nozzle size. Minimum recommended riser height is 1.5 ft. (0.46 m)

40series [Impacts]

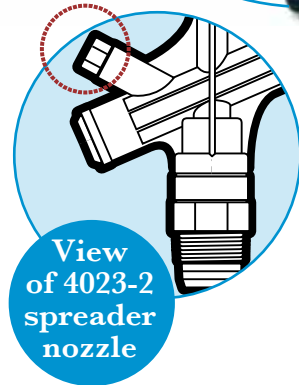


The 40 Series full-circle impacts are designed for maximum efficiency at intermediate flows.

FEATURES:

- Single and double nozzle designs available. Double nozzle only available in 23° model.
- Two trajectories available:
12° ideal for undertree irrigation
23° for maximum throw on overhead systems
- Wide range of nozzle and vane combinations for excellent distribution at all pressures
- Built-in hex wrench for easy in-the-field maintenance
- Standard lower bearing pipe thread:
3/4" M NPT (female also available)
- Flow rates: 3.82 to 12.6 gpm (868 to 2862 L/hr)
- Two-year warranty on materials, workmanship AND performance
- Color-coded nozzles for easy size identification; warranted to maintain correct orifice size for five years

Double nozzle models help maximize uniformity.



View of 4023-2 spreader nozzle



4012-1

Sprinkler Base Pressure (psi)	Sprinkler Base Pressure (psi)								(bar)	Sprinkler Base Pressure (bar)							
	30	35	40	45	50	55	60	2.07		2.41	2.76	3.10	3.45	3.79	4.14		
#10 Nozzle - Turquoise (5/32")									#10 Nozzle - Turquoise (3.97mm)								
Flow (gpm)	3.82	4.13	4.41	4.68	4.93	5.17	5.40		Flow (L/hr)	868	938	1002	1063	1120	1174	1226	
Diam. at 1.5' ht. (ft.)	73	77	80	83	86	89	91		Diam. at 0.46m ht. (m)	22.3	23.5	24.4	25.3	26.2	27.1	27.7	
#11 Nozzle - Yellow (11/64")									#11 Nozzle - Yellow (4.37mm)								
Flow (gpm)	4.63	5.00	5.34	5.67	5.98	6.27	6.55		Flow (L/hr)	1052	1136	1213	1288	1358	1424	1488	
Diam. at 1.5' ht. (ft.)	76	80	83	86	89	92	94		Diam. at 0.46m ht. (m)	23.2	24.4	25.3	26.2	27.1	28.0	28.7	
#12 Nozzle - Red (3/16")									#12 Nozzle - Red (4.76mm)								
Flow (gpm)	5.52	5.97	6.37	6.76	7.13	7.48	7.81		Flow (L/hr)	1254	1356	1447	1535	1619	1699	1774	
Diam. at 1.5' ht. (ft.)	78	82	85	88	91	94	96		Diam. at 0.46m ht. (m)	23.8	25.0	25.9	26.8	27.7	28.7	29.3	
#13 Nozzle - White (13/64")									#13 Nozzle - White (5.16mm)								
Flow (gpm)	6.50	7.02	7.49	7.95	8.38	8.80	9.19		Flow (L/hr)	1476	1594	1701	1806	1903	1999	2087	
Diam. at 1.5' ht. (ft.)	80	84	87	90	93	96	98		Diam. at 0.46m ht. (m)	24.4	25.6	26.5	27.4	28.3	29.3	29.9	
#14 Nozzle - Blue (7/32")									#14 Nozzle - Blue (5.56mm)								
Flow (gpm)	7.49	8.09	8.63	9.17	9.66	10.1	10.6		Flow (L/hr)	1701	1837	1960	2083	2194	2294	2408	
Diam. at 1.5' ht. (ft.)	82	86	89	93	96	99	101		Diam. at 0.46m ht. (m)	25.0	26.2	27.1	28.3	29.3	30.2	30.8	

Sprinkler performance may vary with actual field conditions. Diameters shown are for standard straight bore nozzles and stream straightening vanes. Other nozzles and/or vane combinations are available; Consult factory for specific performance data. Stream heights range from 6.5-10.0 ft. (2.0-3.1m) above nozzle based on pressure and nozzle size. Minimum recommended riser height is 1.5 ft. (0.46m).

4023-1

Sprinkler Base Pressure (psi)								(bar)							
	30	35	40	45	50	55	60		2.07	2.41	2.76	3.10	3.45	3.79	4.14
#10 Nozzle - Turquoise (5/32")								#10 Nozzle - Turquoise (3.97mm)							
Flow (gpm)	3.82	4.13	4.41	4.68	4.93	5.17	5.40	Flow (L/hr)	868	938	1002	1063	1120	1174	1226
Diam. at 1.5' ht. (ft.)	86	89	91	93	95	96	97	Diam. at 0.46m ht. (m)	26.2	27.1	27.7	28.3	29.0	29.3	29.6
Diam. at 6.0' ht. (ft.)	92	94	96	97	98	99	100	Diam. at 1.83m ht. (m)	28.0	28.7	29.3	29.6	29.9	30.2	30.5
#11 Nozzle - Yellow (11/64")								#11 Nozzle - Yellow (4.37mm)							
Flow (gpm)	4.63	5.00	5.34	5.67	5.98	6.27	6.55	Flow (L/hr)	1052	1136	1213	1288	1358	1424	1488
Diam. at 1.5' ht. (ft.)	89	92	94	96	98	99	100	Diam. at 0.46m ht. (m)	27.1	28.0	28.7	29.3	29.9	30.2	30.5
Diam. at 6.0' ht. (ft.)	94	96	98	100	102	103	104	Diam. at 1.83m ht. (m)	28.7	29.3	29.9	30.5	31.1	31.4	31.7
#12 Nozzle - Red (3/16")								#12 Nozzle - Red (4.76mm)							
Flow (gpm)	5.52	5.97	6.37	6.76	7.13	7.48	7.81	Flow (L/hr)	1254	1356	1447	1535	1619	1699	1774
Diam. at 1.5' ht. (ft.)	92	95	97	99	101	102	103	Diam. at 0.46m ht. (m)	28.0	29.0	29.6	30.2	30.8	31.1	31.4
Diam. at 6.0' ht. (ft.)	97	99	101	103	105	107	108	Diam. at 1.83m ht. (m)	29.6	30.2	30.8	31.4	32.0	32.6	32.9
#13 Nozzle - White (13/64")								#13 Nozzle - White (5.16mm)							
Flow (gpm)	6.50	7.02	7.49	7.95	8.38	8.80	9.19	Flow (L/hr)	1476	1594	1701	1806	1903	1999	2087
Diam. at 1.5' ht. (ft.)	94	97	99	101	103	104	105	Diam. at 0.46m ht. (m)	28.7	29.6	30.2	30.8	31.4	31.7	32.0
Diam. at 6.0' ht. (ft.)	100	103	106	109	112	115	117	Diam. at 1.83m ht. (m)	30.5	31.4	32.3	33.2	34.1	35.1	35.7
#14 Nozzle - Blue (7/32")								#14 Nozzle - Blue (5.56mm)							
Flow (gpm)	7.49	8.09	8.63	9.17	9.66	10.1	10.6	Flow (L/hr)	1701	1837	1960	2083	2194	2294	2408
Diam. at 1.5' ht. (ft.)	96	99	101	103	105	106	107	Diam. at 0.46m ht. (m)	29.3	30.2	30.8	31.4	32.0	32.3	32.6
Diam. at 6.0' ht. (ft.)	102	106	110	114	118	122	125	Diam. at 1.83m ht. (m)	31.1	32.3	33.5	34.7	36.0	37.2	38.1

4023-2

Sprinkler Base Pressure (psi)								(bar)							
	30	35	40	45	50	55	60		2.07	2.41	2.76	3.10	3.45	3.79	4.14
10x6 #10 Range Noz.-Turquoise (5/32") x #6 Spreader Noz. (3/32")								10x6 #10 Range Noz.-Turquoise (3.97mm) x #6 Spreader Noz. (2.38mm)							
Flow (gpm)	5.25	5.67	6.07	6.43	6.78	7.11	7.43	Flow (L/hr)	1192	1288	1379	1460	1540	1615	1688
Diam. at 1.5' ht. (ft.)	86	89	91	93	95	96	97	Diam. at 0.46m ht. (m)	26.2	27.1	27.7	28.3	29.0	29.3	29.6
Diam. at 6.0' ht. (ft.)	92	94	96	97	98	99	100	Diam. at 1.83m ht. (m)	28.0	28.7	29.3	29.6	29.9	30.2	30.5
11x6 #11 Range Noz.-Yellow (11/64") x #6 Spreader Noz. (3/32")								11x6 #11 Range Noz. - Yellow (4.37mm) x #6 Spreader Noz. (2.38mm)							
Flow (gpm)	6.10	6.59	7.05	7.47	7.88	8.26	8.63	Flow (L/hr)	1385	1497	1601	1697	1790	1876	1960
Diam. at 1.5' ht. (ft.)	89	92	94	96	98	99	100	Diam. at 0.46m ht. (m)	27.1	28.0	28.7	29.3	29.9	30.2	30.5
Diam. at 6.0' ht. (ft.)	94	96	98	100	102	103	104	Diam. at 1.83m ht. (m)	28.7	29.3	29.9	30.5	31.1	31.4	31.7
12x6 #12 Range Noz.-Red (3/16") x #6 Spreader Noz. (3/32")								12x6 #12 Range Noz.-Red (4.76mm) x #6 Spreader Noz. (2.38mm)							
Flow (gpm)	6.89	7.54	8.07	8.55	9.02	9.46	9.88	Flow (L/hr)	1565	1713	1833	1942	2049	2149	2244
Diam. at 1.5' ht. (ft.)	92	95	97	99	101	102	103	Diam. at 0.46m ht. (m)	28.0	29.0	29.6	30.2	30.8	31.1	31.4
Diam. at 6.0' ht. (ft.)	97	99	101	103	105	107	108	Diam. at 1.83m ht. (m)	29.6	30.2	30.8	31.4	32.0	32.6	32.9
13x6 #13 Range Noz.-White (13/64") x #6 Spreader Noz. (3/32")								13x6 #13 Range Noz.-White (5.16mm) x #6 Spreader Noz. (2.38mm)							
Flow (gpm)	7.93	8.57	9.16	9.72	10.2	10.7	11.2	Flow (L/hr)	1801	1946	2080	2208	2317	2430	2544
Diam. at 1.5' ht. (ft.)	94	97	99	101	103	104	105	Diam. at 0.46m ht. (m)	28.7	29.6	30.2	30.8	31.4	31.7	32.0
Diam. at 6.0' ht. (ft.)	100	103	106	109	112	115	117	Diam. at 1.83m ht. (m)	30.5	31.4	32.3	33.2	34.1	35.1	35.7
14x6 #14 Range Noz.-Blue (7/32") x #6 Spreader Noz. (3/32")								14x6 #14 Range Noz.-Blue (5.56mm) x #6 Spreader Noz. (2.38mm)							
Flow (gpm)	8.90	9.62	10.3	10.9	11.5	12.1	12.6	Flow (L/hr)	2021	2185	2339	2476	2612	2748	2862
Diam. at 1.5' ht. (ft.)	96	99	101	103	105	106	107	Diam. at 0.46m ht. (m)	29.3	30.2	30.8	31.4	32.0	32.3	32.6
Diam. at 6.0' ht. (ft.)	102	106	110	114	118	122	125	Diam. at 1.83m ht. (m)	31.1	32.3	33.5	34.7	36.0	37.2	38.1

Sprinkler performance may vary with actual field conditions. Diameters shown are for standard straight bore nozzles and stream straightening vanes. Other nozzles and/or vane combinations are available; Consult factory for specific performance data. Stream heights range from 6.5-10.0 ft. (2.0-3.1m) above nozzle based on pressure and nozzle size. Minimum recommended riser height is 1.5 ft. (0.46m).

Part-Circle [Impacts]



Senninger's Part-Circle sprinklers are designed specifically for use where a directional impact sprinkler is required. Engineered to deliver maximum efficiency at low to moderate flow rates for agriculture, nursery, effluent disposal, dust suppression, and industrial applications.

FEATURES:

- Distributes water in a 60° - 360° adjustable pattern in 5° increments, no tools needed
- Easily convertible to full-circle operation
- Covered reversing mechanism
- 23° nozzle trajectory for maximum radius of throw
- Wide range of nozzle and vane combinations for excellent distribution at all pressures
- Inlet size: 3/4" M NPT
- Flow range: 2.42 to 16.10 gpm (550 to 3657 L/hr)
- Two-year warranty on materials and workmanship
- Color-coded nozzles for easy size identification are warranted to maintain correct orifice size for five years



Part-circle impact sprinklers can be adjusted to match the desired area of coverage.

3123 PC

Sprinkler base pressure (psi)							(bar)						
	30	35	40	45	50	55		2.07	2.41	2.76	3.10	3.45	3.79
#8 Nozzle - Lavender (1/8")							#8 Nozzle - Lavender (3.18mm)						
Flow (gpm)	2.42	2.62	2.79	2.97	3.12	3.28	Flow (L/hr)	550	595	634	675	709	745
Radius at 1.5' ht. (ft.)	38	39	40	41	42	42	Radius at 0.5m ht. (m)	12	12	12	12	13	13
Radius at 3.0' ht. (ft.)	40	41	42	42	43	43	Radius at 0.9m ht. (m)	12	12	13	13	13	13
#9 Nozzle - Grey (9/64")							#9 Nozzle - Grey (3.57mm)						
Flow (gpm)	3.08	3.33	3.56	3.78	3.98	4.18	Flow (L/hr)	700	756	809	859	904	949
Radius at 1.5' ht. (ft.)	40	41	42	43	43	44	Radius at 0.5m ht. (m)	12	12	13	13	13	13
Radius at 3.0' ht. (ft.)	41	43	44	44	45	45	Radius at 0.9m ht. (m)	12	13	13	13	14	14
#10 Nozzle - Turquoise (5/32")							#10 Nozzle - Turquoise (3.97mm)						
Flow (gpm)	3.82	4.13	4.41	4.68	4.93	5.17	Flow (L/hr)	868	938	1002	1063	1120	1174
Radius at 1.5' ht. (ft.)	41	43	44	45	45	46	Radius at 0.5m ht. (m)	12	13	13	14	14	14
Radius at 3.0' ht. (ft.)	41	44	45	46	46	47	Radius at 0.9m ht. (m)	12	13	14	14	14	14

Sprinkler performance may vary with actual field conditions. Radius shown is for standard straight bore nozzles and stream straightening vanes. Other nozzles and/or vane combinations are available; Consult factory for specific performance data. Stream heights range from 6.0 - 10.0 ft. (1.8-3.1m) above nozzle based on pressure and nozzle size. Minimum recommended riser height is 1.5 ft. (0.46 m).

Impacts] Part-Circle

4123 PC

Sprinkler base pressure (psi)							(bar)						
	30	35	40	45	50	55	2.07	2.41	2.76	3.10	3.45	3.79	
#10 Nozzle - Turquoise (5/32")							#10 Nozzle - Turquoise (3.97mm)						
Flow (gpm)	3.82	4.13	4.41	4.68	4.93	5.17	Flow (L/hr)	868	938	1002	1063	1120	1174
Radius at 1.5' ht. (ft.)	41	43	44	45	45	46	Radius at 0.5m ht. (m)	12	13	13	14	14	14
Radius at 3.0' ht. (ft.)	41	44	45	46	46	47	Radius at 0.9m ht. (m)	12	13	14	14	14	14
#11 Nozzle - Yellow (11/64")							#11 Nozzle - Yellow (4.37mm)						
Flow (gpm)	4.63	5.00	5.34	5.67	5.98	6.27	Flow (L/hr)	1052	1136	1213	1288	1358	1424
Radius at 1.5' ht. (ft.)	44	45	46	47	48	48	Radius at 0.5m ht. (m)	13	14	14	14	14	15
Radius at 3.0' ht. (ft.)	45	45	47	48	49	49	Radius at 0.9m ht. (m)	14	14	14	15	15	15
#12 Nozzle - Red (3/16")							#12 Nozzle - Red (4.76mm)						
Flow (gpm)	5.52	5.97	6.37	6.76	7.13	7.48	Flow (L/hr)	1254	1356	1447	1535	1619	1699
Radius at 1.5' ht. (ft.)	45	46	48	49	50	51	Radius at 0.5m ht. (m)	14	14	14	15	15	15
Radius at 3.0' ht. (ft.)	46	47	49	50	51	51	Radius at 0.9m ht. (m)	14	14	15	15	15	16
#13 Nozzle - White (13/64")							#13 Nozzle - White (5.16mm)						
Flow (gpm)	6.50	7.02	7.49	7.95	8.38	8.80	Flow (L/hr)	1476	1594	1701	1806	1903	1999
Radius at 1.5' ht. (ft.)	45	47	48	50	51	51	Radius at 0.5m ht. (m)	14	14	15	15	15	16
Radius at 3.0' ht. (ft.)	46	48	49	50	51	52	Radius at 0.9m ht. (m)	14	14	15	15	16	16

5123 PC

Sprinkler base pressure (psi)							(bar)						
	30	35	40	45	50	55	2.07	2.41	2.76	3.10	3.45	3.79	
#13 Nozzle - White (13/64")							#13 Nozzle - White (5.16mm)						
Flow (gpm)	6.50	7.02	7.49	7.95	8.38	8.80	Flow (L/hr)	1476	1594	1701	1806	1903	1999
Radius at 1.5' ht. (ft.)	45	47	48	50	51	51	Radius at 0.5m ht. (m)	14	14	15	15	15	16
Radius at 3.0' ht. (ft.)	46	48	49	50	51	52	Radius at 0.9m ht. (m)	14	14	15	15	16	16
#14 Nozzle - Blue (7/32")							#14 Nozzle - Blue (5.56mm)						
Flow (gpm)	7.49	8.09	8.63	9.17	9.66	10.10	Flow (L/hr)	1701	1837	1960	2083	2194	2294
Radius at 1.5' ht. (ft.)	46	47	49	50	51	52	Radius at 0.5m ht. (m)	14	14	15	15	16	16
Radius at 3.0' ht. (ft.)	47	49	51	52	53	54	Radius at 0.9m ht. (m)	14	15	16	16	16	16
#15 Nozzle - Dark Brown (15/64")							#15 Nozzle - Dark Brown (5.95mm)						
Flow (gpm)	8.51	9.19	9.81	10.40	11.00	11.50	Flow (L/hr)	1933	2087	2228	2362	2498	2612
Radius at 1.5' ht. (ft.)	46	48	50	51	52	53	Radius at 0.5m ht. (m)	14	15	15	16	16	16
Radius at 3.0' ht. (ft.)	48	50	52	53	54	56	Radius at 0.9m ht. (m)	15	15	16	16	16	17
#16 Nozzle - Orange (1/4")							#16 Nozzle - Orange (6.35mm)						
Flow (gpm)	9.63	10.40	11.10	11.80	12.40	13.00	Flow (L/hr)	2187	2362	2521	2680	2816	2953
Radius at 1.5' ht. (ft.)	47	50	51	53	54	55	Radius at 0.5m ht. (m)	14	15	16	16	16	17
Radius at 3.0' ht. (ft.)	48	51	53	55	56	57	Radius at 0.9m ht. (m)	15	16	16	17	17	17
#17 Nozzle - Dark Green (17/64")							#17 Nozzle - Dark Green (6.75mm)						
Flow (gpm)	10.70	11.60	12.30	13.10	13.80	14.50	Flow (L/hr)	2430	2635	2794	2975	3134	3293
Radius at 1.5' ht. (ft.)	47	50	52	54	55	56	Radius at 0.5m ht. (m)	14	15	16	16	17	17
Radius at 3.0' ht. (ft.)	49	51	54	56	57	58	Radius at 0.9m ht. (m)	15	16	16	17	17	18
#18 Nozzle - Purple (9/32")							#18 Nozzle - Purple (7.14mm)						
Flow (gpm)	11.90	12.90	13.70	14.60	15.40	16.10	Flow (L/hr)	2703	2930	3112	3316	3498	3657
Radius at 1.5' ht. (ft.)	47	50	53	55	56	57	Radius at 0.5m ht. (m)	14	15	16	17	17	17
Radius at 3.0' ht. (ft.)	49	52	54	56	58	59	Radius at 0.9m ht. (m)	15	16	16	17	18	18

50series [Impacts

The 50 Series full-circle impacts handle the highest flow rates for Senninger's 3/4" sprinklers. High application rates and large diameter of coverage make these sprinklers suitable for a variety of applications.

FEATURES:

- Single and double nozzle designs available. Double nozzle only available in 23° model.
- Two trajectories available:
12° - ideal for undertree irrigation
23° - for maximum throw on overhead systems
- Wide range of nozzle and vane combinations for excellent distribution at all pressures
- Built-in hex wrench for easy in-the-field maintenance
- Standard lower bearing pipe thread:
3/4" M NPT (female also available)
- Flow rates: 6.5 to 20.1 gpm (1476 to 4565 L/hr)
- Two-year warranty on materials, workmanship AND performance
- Color-coded nozzles for easy size identification; warranted to maintain correct orifice size for five years



Double nozzle models help maximize uniformity.

5012-|

Sprinkler Base Pressure (psi)	psi								bar								
	30	35	40	45	50	55	60	65	2.07	2.41	2.76	3.10	3.45	3.79	4.14	4.48	
#13 Nozzle - White (13/64")									#13 Nozzle - White (5.16mm)								
Flow (gpm)	6.50	7.02	7.49	7.95	8.36	8.80	9.19	9.55	Flow (L/hr)	1476	1594	1701	1806	1899	1999	2087	2169
Diam. at 1.5' ht. (ft.)	77	83	89	93	97	100	103	105	Diam. at .046m ht. (m)	23.5	25.3	27.1	28.3	29.6	30.5	31.4	32.0
#14 Nozzle - Blue (7/32")									#14 Nozzle - Blue (5.56mm)								
Flow (gpm)	7.49	8.09	8.63	9.17	9.66	10.1	10.6	11.0	Flow (L/hr)	1701	1837	1960	2083	2194	2294	2408	2498
Diam. at 1.5' ht. (ft.)	79	85	91	95	99	102	105	107	Diam. at .046m ht. (m)	24.1	25.9	27.7	29.0	30.2	31.1	32.0	32.6
#15 Nozzle - Dark Brown (15/64")									#15 Nozzle - Dark Brown (5.95mm)								
Flow (gpm)	8.51	9.19	9.81	10.4	11.0	11.5	12.0	12.5	Flow (L/hr)	1933	2087	2228	2362	2498	2612	2725	2839
Diam. at 1.5' ht. (ft.)	81	87	93	97	101	104	107	109	Diam. at .046m ht. (m)	24.7	26.5	28.3	29.6	30.8	31.7	32.6	33.2
#16 Nozzle - Orange (1/4")									#16 Nozzle - Orange (6.35mm)								
Flow (gpm)	9.63	10.4	11.1	11.8	12.4	13.0	13.6	14.2	Flow (L/hr)	2187	2362	2521	2680	2816	2953	3089	3225
Diam. at 1.5' ht. (ft.)	83	89	95	99	103	106	109	111	Diam. at .046m ht. (m)	25.3	27.1	29.0	30.2	31.4	32.3	33.2	33.8
#17 Nozzle - Dark Green (17/64")									#17 Nozzle - Dark Green (6.75mm)								
Flow (gpm)	10.7	11.6	12.3	13.1	13.8	14.5	15.1	15.7	Flow (L/hr)	2430	2635	2794	2975	3134	3293	3430	3566
Diam. at 1.5' ht. (ft.)	85	91	96	100	105	108	111	113	Diam. at .046m ht. (m)	25.9	27.7	29.3	30.5	32.0	32.9	33.8	34.4
#18 Nozzle - Purple (9/32")									#18 Nozzle - Purple (7.14mm)								
Flow (gpm)	11.9	12.9	13.7	14.6	15.4	16.1	16.8	17.5	Flow (L/hr)	2703	2930	3112	3316	3498	3657	3816	3975
Diam. at 1.5' ht. (ft.)	87	92	97	101	107	110	113	114	Diam. at .046m ht. (m)	26.5	28.0	29.6	30.8	32.6	33.5	34.4	34.7

Sprinkler performance may vary with actual field conditions. Diameters shown are for standard straight bore nozzles and stream straightening vanes. Other nozzles and/or vane combinations are available; Consult factory for specific performance data. Stream heights range from 3.5-6.0 ft. (1.1-1.8 m) above nozzle based on pressure and nozzle size. Minimum recommended riser height is 1.5 ft. (0.46 m).

5023-1

Sprinkler Base Pressure (psi)									(bar)								
	30	35	40	45	50	55	60	65		2.07	2.41	2.76	3.10	3.45	3.79	4.14	4.48
#13 Nozzle - White (13/64")									#13 Nozzle - White (5.16mm)								
Flow (gpm)	6.50	7.02	7.49	7.95	8.38	8.80	9.19	9.55	Flow (L/hr)	1476	1594	1701	1806	1903	1999	2087	2169
Diam. at 1.5' ht. (ft.)	92	95	98	100	102	103	104	105	Diam. at 0.46m ht. (m)	28.0	29.0	29.9	30.5	31.1	31.4	31.7	32.0
Diam. at 6.0' ht. (ft.)	99	102	104	106	108	110	112	114	Diam. at 1.83m ht. (m)	30.2	31.1	31.7	32.3	32.9	33.5	34.1	34.7
#14 Nozzle - Blue (7/32")									#14 Nozzle - Blue (5.56mm)								
Flow (gpm)	7.49	8.09	8.63	9.17	9.66	10.1	10.6	11.0	Flow (L/hr)	1701	1837	1960	2083	2194	2294	2408	2498
Diam. at 1.5' ht. (ft.)	94	98	101	103	105	106	107	108	Diam. at 0.46m ht. (m)	28.7	29.9	30.8	31.4	32.0	32.3	32.6	32.9
Diam. at 6.0' ht. (ft.)	101	104	107	110	112	114	116	118	Diam. at 1.83m ht. (m)	30.8	31.7	32.6	33.5	34.1	34.7	35.4	36.0
#15 Nozzle - Dark Brown (15/64")									#15 Nozzle - Dark Brown (5.95mm)								
Flow (gpm)	8.51	9.19	9.81	10.4	11.0	11.5	12.0	12.5	Flow (L/hr)	1933	2087	2228	2362	2498	2612	2725	2839
Diam. at 1.5' ht. (ft.)	96	100	103	106	107	108	109	110	Diam. at 0.46m ht. (m)	29.3	30.5	31.4	32.3	32.6	32.9	33.2	33.5
Diam. at 6.0' ht. (ft.)	102	106	109	112	114	116	118	120	Diam. at 1.83m ht. (m)	31.1	32.3	33.2	34.1	34.7	35.4	36.0	36.6
#16 Nozzle - Orange (1/4")									#16 Nozzle - Orange (6.35mm)								
Flow (gpm)	9.63	10.4	11.1	11.8	12.4	13.0	13.6	14.2	Flow (L/hr)	2187	2362	2521	2680	2816	2953	3089	3225
Diam. at 1.5' ht. (ft.)	98	102	105	108	109	110	111	112	Diam. at 0.46m ht. (m)	29.9	31.1	32.0	32.9	33.2	33.5	33.8	34.1
Diam. at 6.0' ht. (ft.)	103	107	111	114	116	118	120	122	Diam. at 1.83m ht. (m)	31.4	32.6	33.8	34.7	35.4	36.0	36.6	37.2
#17 Nozzle - Dark Green (17/64")									#17 Nozzle - Dark Green (6.75mm)								
Flow (gpm)	10.7	11.6	12.3	13.1	13.8	14.5	15.1	15.7	Flow (L/hr)	2430	2635	2794	2975	3134	3293	3430	3566
Diam. at 1.5' ht. (ft.)	99	104	107	110	111	112	113	114	Diam. at 0.46m ht. (m)	30.2	31.7	32.6	33.5	33.8	34.1	34.4	34.7
Diam. at 6.0' ht. (ft.)	104	108	112	115	118	120	122	124	Diam. at 1.83m ht. (m)	31.7	32.9	34.1	35.1	36.0	36.6	37.2	37.8
#18 Nozzle - Purple (9/32")									#18 Nozzle - Purple (7.14mm)								
Flow (gpm)	11.9	12.9	13.7	14.6	15.4	16.1	16.8	17.5	Flow (L/hr)	2703	2930	3112	3316	3498	3657	3816	3975
Diam. at 1.5' ht. (ft.)	100	105	109	112	113	114	115	116	Diam. at 0.46m ht. (m)	30.5	32.0	33.2	34.1	34.4	34.7	35.1	35.4
Diam. at 6.0' ht. (ft.)	105	109	113	116	119	122	124	126	Diam. at 1.83m ht. (m)	32.0	33.2	34.4	35.4	36.3	37.2	37.8	38.4

5023-2

Sprinkler Base Pressure (psi)									(bar)								
	30	35	40	45	50	55	60	65		2.07	2.41	2.76	3.10	3.45	3.79	4.14	4.48
13x8 #13 Range Noz.-White (13/64") x #8 Spreader Noz. (1/8")									13x8 #13 Range Noz. - White (5.16mm) x #8 Spreader Noz. (3.18mm)								
Flow (gpm)	8.23	8.88	9.50	10.1	10.6	11.1	11.6	12.1	Flow (L/hr)	1869	2017	2158	2294	2408	2521	2635	2748
Diam. at 1.5' ht. (ft.)	92	95	98	100	102	103	104	105	Diam. at 0.46m ht. (m)	28.0	29.0	29.9	30.5	31.1	31.4	31.7	32.0
Diam. at 6.0' ht. (ft.)	99	102	104	106	108	110	112	114	Diam. at 1.83m ht. (m)	30.2	31.1	31.7	32.3	32.9	33.5	34.1	34.7
14x8 #14 Range Noz.-Blue (7/32") x #8 Spreader Noz. (1/8")									14x8 #14 Range Noz.-Blue (5.56mm) x #8 Spreader Noz. (3.18mm)								
Flow (gpm)	9.35	10.1	10.8	11.5	12.1	12.7	13.2	13.8	Flow (L/hr)	2124	2294	2453	2612	2748	2884	2998	3134
Diam. at 1.5' ht. (ft.)	94	98	101	103	105	106	107	108	Diam. at 0.46m ht. (m)	28.7	29.9	30.8	31.4	32.0	32.3	32.6	32.9
Diam. at 6.0' ht. (ft.)	101	104	107	110	112	114	116	118	Diam. at 1.83m ht. (m)	30.8	31.7	32.6	33.5	34.1	34.7	35.4	36.0
15x8 #15 Range Noz.-Dark Brown (15/64") x #8 Spreader Noz. (1/8")									15x8 #15 Range Noz.-Dark Brown (5.95mm) x #8 Spreader Noz. (3.18mm)								
Flow (gpm)	10.3	11.2	11.9	12.7	13.4	14.0	14.6	15.2	Flow (L/hr)	2339	2544	2703	2884	3043	3180	3316	3452
Diam. at 1.5' ht. (ft.)	96	100	103	106	107	108	109	110	Diam. at 0.46m ht. (m)	29.3	30.5	31.4	32.3	32.6	32.9	33.2	33.5
Diam. at 6.0' ht. (ft.)	102	106	109	112	114	116	118	120	Diam. at 1.83m ht. (m)	31.1	32.3	33.2	34.1	34.7	35.4	36.0	36.6
16x8 #16 Range Noz.-Orange (1/4") x #8 Spreader Noz. (1/8")									16x8 #16 Range Noz.-Orange (6.35mm) x #8 Spreader Noz. (3.18mm)								
Flow (gpm)	11.5	12.4	13.3	14.1	14.8	15.5	16.2	16.9	Flow (L/hr)	2612	2816	3021	3202	3361	3520	3679	3838
Diam. at 1.5' ht. (ft.)	98	102	105	108	109	110	111	112	Diam. at 0.46m ht. (m)	29.9	31.1	32.0	32.9	33.2	33.5	33.8	34.1
Diam. at 6.0' ht. (ft.)	103	107	111	114	116	118	120	122	Diam. at 1.83m ht. (m)	31.4	32.6	33.8	34.7	35.4	36.0	36.6	37.2
17x8 #17 Range Noz.-Dark Green (17/64") x #8 Spreader Noz. (1/8")									17x8 #17 Range Noz.-Dark Green (6.75mm) x #8 Spreader Noz. (3.18mm)								
Flow (gpm)	12.5	13.5	14.4	15.3	16.1	16.9	17.7	18.4	Flow (L/hr)	2839	3066	3271	3475	3657	3838	4020	4179
Diam. at 1.5' ht. (ft.)	99	104	107	110	111	112	113	114	Diam. at 0.46m ht. (m)	30.2	31.7	32.6	33.5	33.8	34.1	34.4	34.7
Diam. at 6.0' ht. (ft.)	104	108	112	115	118	120	122	124	Diam. at 1.83m ht. (m)	31.7	32.9	34.1	35.1	36.0	36.6	37.2	37.8
18x8 #18 Range Noz.-Purple (9/32") x #8 Spreader Noz. (1/8")									18x8 #18 Range Noz.-Purple (7.14mm) x #8 Spreader Noz. (3.18mm)								
Flow (gpm)	13.7	14.8	15.8	16.7	17.6	18.5	19.3	20.1	Flow (L/hr)	3112	3361	3589	3793	3997	4202	4384	4565
Diam. at 1.5' ht. (ft.)	100	105	109	112	113	114	115	116	Diam. at 0.46m ht. (m)	30.5	32.0	33.2	34.1	34.4	34.7	35.1	35.4
Diam. at 6.0' ht. (ft.)	105	109	113	116	119	122	124	126	Diam. at 1.83m ht. (m)	32.0	33.2	34.4	35.4	36.3	37.2	37.8	38.4

Stream heights range from 7.0-11.5 ft. (2.1-3.5 m) above nozzle based on pressure and nozzle size. Minimum recommended riser height is 1.5 ft. (0.46 m)

70series [Impacts



The 70 Series full-circle impacts distribute water over a large diameter for higher volume systems.

FEATURES:

- Single and double nozzle designs available. Spreader drive also available.
- Outlasts and costs less than brass sprinklers
- Built-in hex wrench for easy in-the-field maintenance
- Lower bearing pipe thread: 1" M NPT, 1" F NPT; 1" M BSPT also available
- Flow rates: 8.66 to 39.1 gpm (1967to 8881 L/hr)
- Two-year warranty on materials, workmanship AND performance
- Color-coded nozzles for easy size identification; warranted to maintain correct orifice size for five years

7025RD- |

Sprinkler Base Pressure (psi)	40	50	60	70	(bar)	2.76	3.45	4.14	4.83
#14 Nozzle (7/32")					#14 Nozzle (5.56mm)				
Flow (gpm)	8.66	9.69	10.6	11.5	Flow (L/hr)	1967	2201	2408	2612
Diam. at 1.5' ht. (ft.)	111	115	119	123	Diam. at 0.46m ht. (m)	33.8	35.1	36.3	37.5
Diam. at 6.0' ht. (ft.)	118	124	128	130	Diam. at 1.83m ht. (m)	36.0	37.8	39.0	39.6
#16 Nozzle (1/4")					#16 Nozzle (6.35mm)				
Flow (gpm)	11.4	12.8	14.0	15.1	Flow (L/hr)	2589	2907	3180	3430
Diam. at 1.5' ht. (ft.)	117	123	129	133	Diam. at 0.46m ht. (m)	35.7	37.5	39.3	40.5
Diam. at 6.0' ht. (ft.)	126	131	136	138	Diam. at 1.83m ht. (m)	38.4	39.9	41.5	42.1
#18 Nozzle (9/32")					#18 Nozzle (7.14mm)				
Flow (gpm)	14.2	15.9	17.4	18.8	Flow (L/hr)	3225	3611	3952	4270
Diam. at 1.5' ht. (ft.)	124	129	139	144	Diam. at 0.46m ht. (m)	37.8	39.3	42.4	43.9
Diam. at 6.0' ht. (ft.)	132	137	144	147	Diam. at 1.83m ht. (m)	40.2	41.8	43.9	44.8
#20 Nozzle (5/16")					#20 Nozzle (7.94mm)				
Flow (gpm)	17.1	19.2	21.0	22.7	Flow (L/hr)	3884	4361	4770	5156
Diam. at 1.5' ht. (ft.)	130	137	146	153	Diam. at 0.46m ht. (m)	39.6	41.8	44.5	46.6
Diam. at 6.0' ht. (ft.)	137	143	151	155	Diam. at 1.83m ht. (m)	41.8	43.6	46.0	47.2
#22 Nozzle (11/32")					#22 Nozzle (8.73mm)				
Flow (gpm)	20.5	22.9	25.1	27.1	Flow (L/hr)	4656	5201	5701	6155
Diam. at 1.5' ht. (ft.)	133	148	157	162	Diam. at 0.46m ht. (m)	40.5	45.1	47.9	49.4
Diam. at 6.0' ht. (ft.)	141	150	159	164	Diam. at 1.83m ht. (m)	43.0	45.7	48.5	50.0
#24 Nozzle (3/8")					#24 Nozzle (9.53mm)				
Flow (gpm)	23.9	26.7	29.3	31.6	Flow (L/hr)	5428	6064	6655	7177
Diam. at 1.5' ht. (ft.)	138	151	160	169	Diam. at 0.46m ht. (m)	42.1	46.0	48.8	51.5
Diam. at 6.0' ht. (ft.)	145	155	164	170	Diam. at 1.83m ht. (m)	44.2	47.2	50.0	51.8

Sprinkler performance may vary with actual field conditions. Diameters shown are for standard straight bore nozzles and stream straightening vanes. Other nozzles and/or vane combinations are available; Consult factory for specific performance data. Stream heights range from 8.5-15.5 ft. (2.6-4.7 m) above nozzle based on pressure and nozzle size. Minimum recommended riser height is 1.5 ft. (0.46 m).

7025RD-2

Sprinkler Base Pressure (psi)					(bar)				
	40	50	60	70		2.76	3.45	4.14	4.83
14x8 #14 Range Noz. (7/32") x #8 Spreader Noz.- Lavender (1/8")					14x8 #14 Range Noz. (5.56 mm) x #8 Spreader Noz.-Lavender (3.18mm)				
Flow (gpm)	11.4	12.7	13.9	15.1	Flow (L/hr)	2589	2884	3157	3430
Diam. at 1.5' ht. (ft.)	111	115	119	123	Diam. at 0.46m ht. (m)	33.8	35.1	36.3	37.5
Diam. at 6.0' ht. (ft.)	118	124	128	130	Diam. at 1.83m ht. (m)	36.0	37.8	39.0	39.6
16x8 #16 Range Noz. (1/4") x #8 Spreader Noz.- Lavender (1/8")					16x8 #16 Range Noz. (6.35 mm) x #8 Spreader Noz.-Lavender (3.18mm)				
Flow (gpm)	14.3	16.0	17.5	18.9	Flow (L/hr)	3248	3634	3975	4293
Diam. at 1.5' ht. (ft.)	117	123	129	133	Diam. at 0.46m ht. (m)	35.7	37.5	39.3	40.5
Diam. at 6.0' ht. (ft.)	126	131	136	138	Diam. at 1.83m ht. (m)	38.4	39.9	41.5	42.1
18x8 #18 Range Noz. (9/32") x #8 Spreader Noz.- Lavender (1/8")					18x8 #18 Range Noz. (7.14 mm) x #8 Spreader Noz.-Lavender (3.18mm)				
Flow (gpm)	17.0	19.0	20.8	22.5	Flow (L/hr)	3861	4315	4724	5110
Diam. at 1.5' ht. (ft.)	124	129	139	144	Diam. at 0.46m ht. (m)	37.8	39.3	42.4	43.9
Diam. at 6.0' ht. (ft.)	132	137	144	147	Diam. at 1.83m ht. (m)	40.2	41.8	43.9	44.8
18x10 #18 Range Noz. (9/32") x #10 Spreader Noz.- Turquoise (5/32")					18x10 #18 Range Noz. (7.14 mm) x #10 Spreader Noz.-Turquoise (3.97mm)				
Flow (gpm)	18.2	20.3	22.3	24.0	Flow (L/hr)	4134	4611	5065	5451
Diam. at 1.5' ht. (ft.)	124	129	139	144	Diam. at 0.46m ht. (m)	37.8	39.3	42.4	43.9
Diam. at 6.0' ht. (ft.)	132	137	144	147	Diam. at 1.83m ht. (m)	40.2	41.8	43.9	44.8
20x10 #20 Range Noz. (5/16") x #10 Spreader Noz.- Turquoise (5/32")					20x10 #20 Range Noz. (7.94 mm) x #10 Spreader Noz.- Turquoise (3.97mm)				
Flow (gpm)	20.9	23.4	25.7	27.7	Flow (L/hr)	4747	5315	5837	6291
Diam. at 1.5' ht. (ft.)	130	137	146	153	Diam. at 0.46m ht. (m)	39.6	41.8	44.5	46.6
Diam. at 6.0' ht. (ft.)	137	143	151	155	Diam. at 1.83m ht. (m)	41.8	43.6	46.0	47.2
20x12 #20 Range Noz. (5/16") x #12 Spreader Noz.- Red (3/16")					20x12 #20 Range Noz. (7.94 mm) x #12 Spreader Noz.-Red (4.76mm)				
Flow (gpm)	22.8	25.5	27.9	30.2	Flow (L/hr)	5178	5792	6337	6859
Diam. at 1.5' ht. (ft.)	130	137	146	153	Diam. at 0.46m ht. (m)	39.6	41.8	44.5	46.6
Diam. at 6.0' ht. (ft.)	137	143	151	155	Diam. at 1.83m ht. (m)	41.8	43.6	46.0	47.2
22x10 #22 Range Noz. (11/32") x #10 Spreader Noz.- Turquoise (5/32")					22x10 #22 Range Noz. (8.73 mm) x #10 Spreader-Noz.-Turquoise (3.97mm)				
Flow (gpm)	24.5	27.4	30.0	32.4	Flow (L/hr)	5565	6223	6814	7359
Diam. at 1.5' ht. (ft.)	133	148	157	162	Diam. at 0.46m ht. (m)	40.5	45.1	47.9	49.4
Diam. at 6.0' ht. (ft.)	141	150	159	164	Diam. at 1.83m ht. (m)	43.0	45.7	48.5	50.0
22x12 #22 Range Noz. (11/32") x #12 Spreader Noz.- Red (3/16")					22x12 #22 Range Noz. (8.73 mm) x #12 Spreader Noz.-Red (4.76mm)				
Flow (gpm)	26.3	29.4	33.6	34.8	Flow (L/hr)	5973	6677	7631	7904
Diam. at 1.5' ht. (ft.)	133	148	157	162	Diam. at 0.46m ht. (m)	40.5	45.1	47.9	49.4
Diam. at 6.0' ht. (ft.)	141	150	159	164	Diam. at 1.83m ht. (m)	43.0	45.7	48.5	50.0
24x12 #24 Range Noz. (3/8") x #12 Spreader Noz.- Red (3/16")					24x12 #24 Range Noz. (9.53 mm) x #12 Spreader Noz.-Red (4.76 mm)				
Flow (gpm)	29.5	33.0	36.2	39.1	Flow (L/hr)	6700	7495	8222	8881
Diam. at 1.5' ht. (ft.)	138	151	160	169	Diam. at 0.46m ht. (m)	42.1	46.0	48.8	51.5
Diam. at 6.0' ht. (ft.)	145	155	164	170	Diam. at 1.83m ht. (m)	44.2	47.2	50.0	51.8

Sprinkler performance may vary with actual field conditions. Diameters shown are for standard straight bore nozzles and stream straightening vanes. Other nozzles and/or vane combinations are available; Consult factory for specific performance data. Stream heights range from 8.5-15.5 ft. (2.6-4.7 m) above nozzle based on pressure and nozzle size. Minimum recommended riser height is 1.5 ft. (0.46 m).

80series [Impacts]



The 80 Series are Senninger's largest impact sprinklers. Designed for maximum efficiency at high flow rates.

FEATURES:

- Single and double nozzle designs available.
Double nozzle available in range drive (HR) or spreader drive (SD).
- Outlasts and costs less than brass sprinklers
- Lower bearing pipe thread: 1/4" M NPT, 1/4" F NPT; 1/2" M NPT, 1/4" M BSPT
- Flow rates: 25.2 to 103.2 gpm (5724 to 23,439 L/hr)
- Built-in hex wrench for easy in-the-field maintenance

8025HR- |

Sprinkler Base Pressure (psi)	40	50	60	70	(bar)	2.76	3.45	4.14	4.83
#24 Nozzle (3/8")					#24 Nozzle (9.53mm)				
Flow (gpm)	25.2	28.2	30.9	34.5	Flow (L/hr)	5724	6405	7018	7563
Diam. at 1.5' ht. (ft.)	134	144	154	160	Diam. at 0.46m ht. (m)	40.8	43.9	46.9	48.5
Diam. at 6.0' ht. (ft.)	152	159	164	170	Diam. at 1.83m ht. (m)	46.3	48.5	50.0	51.2
#26 Nozzle (13/32")					#26 Nozzle (10.32mm)				
Flow (gpm)	29.3	32.7	35.9	38.7	Flow (L/hr)	6655	7427	8154	8790
Diam. at 1.5' ht. (ft.)	142	152	161	166	Diam. at 0.46m ht. (m)	43.3	46.3	49.1	50.6
Diam. at 6.0' ht. (ft.)	157	164	169	173	Diam. at 1.83m ht. (m)	47.9	50.0	51.5	52.7
#28 Nozzle (7/16")					#28 Nozzle (11.11mm)				
Flow (gpm)	33.9	38.0	41.6	44.9	Flow (L/hr)	7700	8631	9448	10198
Diam. at 1.5' ht. (ft.)	148	157	166	171	Diam. at 0.46m ht. (m)	45.1	47.9	50.6	52.1
Diam. at 6.0' ht. (ft.)	161	168	173	177	Diam. at 1.83m ht. (m)	49.1	51.2	52.7	53.9
#30 Nozzle (15/32")					#30 Nozzle (11.91mm)				
Flow (gpm)	38.6	43.1	47.2	51.0	Flow (L/hr)	8767	9789	10720	11583
Diam. at 1.5' ht. (ft.)	153	162	170	175	Diam. at 0.46m ht. (m)	46.6	49.4	51.8	53.3
Diam. at 6.0' ht. (ft.)	165	172	177	181	Diam. at 1.83m ht. (m)	50.3	52.4	53.9	55.2
#32 Nozzle (1/2")					#32 Nozzle (12.7mm)				
Flow (gpm)	43.9	49.0	53.7	58.0	Flow (L/hr)	9971	11129	12197	13173
Diam. at 1.5' ht. (ft.)	156	165	173	179	Diam. at 0.46m ht. (m)	47.5	50.3	52.7	54.6
Diam. at 6.0' ht. (ft.)	169	176	181	185	Diam. at 1.83m ht. (m)	51.5	53.6	55.2	56.4
#34 Nozzle (17/32")					#34 Nozzle (13.49mm)				
Flow (gpm)	49.5	55.4	60.7	65.5	Flow (L/hr)	11243	12583	13786	14877
Diam. at 1.5' ht. (ft.)	159	168	176	183	Diam. at 0.46m ht. (m)	48.5	51.2	53.6	55.8
Diam. at 6.0' ht. (ft.)	172	179	184	188	Diam. at 1.83m ht. (m)	52.4	54.6	56.1	57.3
#36 Nozzle (9/16")					#36 Nozzle (14.29mm)				
Flow (gpm)	55.5	62.1	68.0	73.5	Flow (L/hr)	12605	14104	15444	16694
Diam. at 1.5' ht. (ft.)	161	170	178	187	Diam. at 0.46m ht. (m)	49.1	51.8	54.3	57.0
Diam. at 6.0' ht. (ft.)	175	182	187	191	Diam. at 1.83m ht. (m)	53.3	55.5	57.0	58.2
#38 Nozzle (19/32")					#38 Nozzle (15.08mm)				
Flow (gpm)	59.9	66.9	73.3	79.2	Flow (L/hr)	13605	15195	16648	17988
Diam. at 1.5' ht. (ft.)	163	172	180	190	Diam. at 0.46m ht. (m)	49.7	52.4	54.9	57.9
Diam. at 6.0' ht. (ft.)	178	185	190	194	Diam. at 1.83m ht. (m)	54.3	56.4	57.9	59.1
#40 Nozzle (5/8")					#40 Nozzle (15.88mm)				
Flow (gpm)	67.1	75.0	82.1	88.7	Flow (L/hr)	15240	17034	18647	20146
Diam. at 1.5' ht. (ft.)	165	174	182	192	Diam. at 0.46m ht. (m)	50.3	53.0	55.5	58.5
Diam. at 6.0' ht. (ft.)	180	187	192	196	Diam. at 1.83m ht. (m)	54.9	57.0	58.5	59.7

Sprinkler performance may vary with actual field conditions. Diameters shown are for standard straight bore nozzles and stream straightening vanes. Other nozzles and/or vane combinations are available; Consult factory for specific performance data. Stream heights range from 12.5-28.0 ft. (3.8-8.5 m) above nozzle based on pressure and nozzle size. Minimum recommended riser height is 1.5 ft. (0.46 m).

Impacts] 80series

FEATURES: continued...

- Two-year warranty on materials, workmanship AND performance
- Nozzles warranted to maintain correct orifice size for five years



8025-SD The Booster Tube provides an increased radius of throw over standard range and spreader drive models by approximately 5 - 10%. Consult factory for specific performance data. Available only on **8025 Spreader Drive** double nozzle models.

8025HR-2

Sprinkler Base Pressure (psi)	40	50	60	70	(bar)	2.76	3.45	4.14	4.83
26x14 #26 Range Noz. (13/32") x #14 Spreader Noz.- Blue (7/32")					26x14 #26 Range Noz. (10.32mm) x #14 Spreader Noz.-Blue (5.56mm)				
Flow (gpm)	39.4	44.0	48.2	52.1	Flow (L/hr)	8949	9993	10947	11833
Diam. at 1.5' ht. (ft.)	142	152	161	166	Diam. at 0.46m ht. (m)	43.3	46.3	49.1	50.6
Diam. at 6.0' ht. (ft.)	157	164	169	173	Diam. at 1.83m ht. (m)	47.9	50.0	51.5	52.7
28x14 #28 Range Noz. (7/16") x #14 Spreader Noz.- Blue (7/32")					28x14 #128 Range Noz. (11.11mm) x #14 #14 Spreader Noz.-Blue (5.56mm)				
Flow (gpm)	42.0	46.9	51.4	55.6	Flow (L/hr)	9539	10652	11674	12628
Diam. at 1.5' ht. (ft.)	148	157	166	171	Diam. at 0.46m ht. (m)	45.1	47.9	50.6	52.1
Diam. at 6.0' ht. (ft.)	161	168	173	177	Diam. at 1.83m ht. (m)	49.1	51.2	52.7	53.9
30x14 #30 Range Noz. (15/32") x #14 Spreader Noz.- Blue (7/32")					30x14 #30 Range Noz. (11.91mm) x #14 Spreader Noz.-Blue (5.56mm)				
Flow (gpm)	45.9	51.4	56.3	60.8	Flow (L/hr)	10425	11674	12787	13809
Diam. at 1.5' ht. (ft.)	153	162	170	175	Diam. at 0.46m ht. (m)	46.6	49.4	51.8	53.3
Diam. at 6.0' ht. (ft.)	165	172	177	181	Diam. at 1.83m ht. (m)	50.3	52.4	53.9	55.2
32x16 #32 Range Noz. (1/2") x #16 Spreader Noz.- Orange (1/4")					32x16 #32 Range Noz. (12.7mm) x #16 Spreader Noz.-Orange (6.35mm)				
Flow (gpm)	53.7	60.0	65.8	71.0	Flow (L/hr)	12197	13627	14945	16126
Diam. at 1.5' ht. (ft.)	156	165	173	179	Diam. at 0.46m ht. (m)	47.5	50.3	52.7	54.6
Diam. at 6.0' ht. (ft.)	169	176	181	185	Diam. at 1.83m ht. (m)	51.5	53.6	55.2	56.4
34x16 #34 Range Noz. (17/32") x #16 Spreader Noz.- Orange (1/4")					34x16 #34 Range Noz. (13.49mm) x #16 Spreader Noz.-Orange (6.35mm)				
Flow (gpm)	59.2	66.2	72.5	78.3	Flow (L/hr)	13446	15036	16467	17784
Diam. at 1.5' ht. (ft.)	159	168	176	183	Diam. at 0.46m ht. (m)	48.5	51.2	53.6	55.8
Diam. at 6.0' ht. (ft.)	172	179	184	188	Diam. at 1.83m ht. (m)	52.4	54.6	56.1	57.3
36x16 #36 Range Noz. (9/16") x #16 Spreader Noz.- Orange (1/4")					36x16 #36 Range Noz. (14.29mm) x #16 Spreader Noz.-Orange (6.35mm)				
Flow (gpm)	65.1	72.7	79.7	86.1	Flow (L/hr)	14786	16512	18102	19555
Diam. at 1.5' ht. (ft.)	161	170	178	187	Diam. at 0.46m ht. (m)	49.1	51.8	54.3	57.0
Diam. at 6.0' ht. (ft.)	175	182	187	191	Diam. at 1.83m ht. (m)	53.3	55.5	57.0	58.2
38x18 #38 Range Noz. (19/32") x #18 Spreader Noz.- Purple (9/32")					38x18 #38 Range Noz. (15.08mm) x #18 Spreader Noz.-Purple (7.14mm)				
Flow (gpm)	71.7	80.1	87.8	94.9	Flow (L/hr)	16285	18193	19942	21554
Diam. at 1.5' ht. (ft.)	163	172	180	190	Diam. at 0.46m ht. (m)	49.7	52.4	54.9	57.9
Diam. at 6.0' ht. (ft.)	178	185	190	194	Diam. at 1.83m ht. (m)	54.3	56.4	57.9	59.1
40x18 #40 Range Noz. (5/8") x #18 Spreader Noz.- Purple (9/32")					40x18 #40 Range Noz. (15.88mm) x #18 Spreader Noz.-Purple (7.14mm)				
Flow (gpm)	78.0	87.2	95.6	103.2	Flow (L/hr)	17716	19805	21713	23439
Diam. at 1.5' ht. (ft.)	165	174	182	192	Diam. at 0.46m ht. (m)	50.3	53.0	55.5	58.5
Diam. at 6.0' ht. (ft.)	180	187	192	196	Diam. at 1.83m ht. (m)	54.9	57.0	58.5	59.7

Sprinkler performance may vary with actual field conditions. Diameters shown are for standard straight bore nozzles and stream straightening vanes. Other nozzles and/or vane combinations are available; Consult factory for specific performance data. Stream heights range from 12.5 - 28.0 ft (3.8 - 8.5 m) above nozzle based on pressure and nozzle size. Minimum recommended riser height is 1.5 ft. (0.46 m).

PRLG [Regulators



AVAILABLE
IN NPT OR
HOSE THREAD
OPTIONS!



The Senninger Landscape Grade Pressure Regulator is ideal for installations requiring lower flows (0.1 - 7.0 gpm) including low-volume and sprinkler irrigation systems connected to outdoor hose bibb faucets or other lawn and landscape applications.

FEATURES:

- Two-year warranty on materials, workmanship and performance
- Maintains a constant preset outlet pressure based on the flows/inlet pressures below (Note: With no flow through the regulator, the inlet and outlet pressures will be the same)
- 100% water-tested for accuracy (no adjustments ever needed)
- Very low hysteresis and friction losses
- Can be installed above or below ground
- Large flow path resists plugging
- Patented tamper-resistant design
- No external metal parts for excellent corrosion resistance



PRLG - Pressure Regulator Landscape Grade

Model Number	Preset Operating Pressure		Maximum Inlet Pressure		Flow Range		Inlet Sizes	Outlet Sizes
	psi	(bar)	psi	(bar)	gpm	(L/hr)		
PRLG-10	10	0.69	80	5.52	0.1 - 7	23 - 1590	3/4" F hose, 3/4" F NPT	3/4" M hose, 3/4" M NPT
PRLG-15	15	1.03	90	6.21	0.1 - 7	23 - 1590	3/4" F hose, 3/4" F NPT	3/4" M hose, 3/4" M NPT
PRLG-20	20	1.38	100	6.90	0.1 - 7	23 - 1590	3/4" F hose, 3/4" F NPT	3/4" M hose, 3/4" M NPT
PRLG-25	25	1.72	120	8.28	0.1 - 7	23 - 1590	3/4" F hose, 3/4" F NPT	3/4" M hose, 3/4" M NPT
PRLG-30	30	2.07	120	8.28	0.1 - 7	23 - 1590	3/4" F hose, 3/4" F NPT	3/4" M hose, 3/4" M NPT
PRLG-35	35	2.41	120	8.28	0.1 - 7	23 - 1590	3/4" F hose, 3/4" F NPT	3/4" M hose, 3/4" M NPT
PRLG-40	40	2.76	120	8.28	0.1 - 7	23 - 1590	3/4" F hose, 3/4" F NPT	3/4" M hose, 3/4" M NPT

Regulated pressure is 1/2 psi (0.03 bar) higher with increasing inlet pressure than with decreasing inlet pressure

Regulators] PRL

The Pressure Regulator Low Flow® is ideal for installations requiring lower flows (0.1 - 8.0 gpm) including solid-set, drip or other low-volume irrigation systems as well as center pivot and other mechanical-move irrigation systems.

FEATURES:

- Two-year warranty on materials, workmanship and performance
- Maintains a constant preset outlet pressure based on the flows/inlet pressures below (Note: With no flow through the regulator, the inlet and outlet pressures will be the same)
- 100% water-tested for accuracy (no adjustments ever needed)
- Very low hysteresis and friction losses
- Can be installed above or below ground
- Large flow path resists plugging
- Patented tamper-resistant design
- No external metal parts for excellent corrosion resistance



Also available in hose x hose.

PRL - Pressure Regulator Low Flow

Model Number	Preset Operating Pressure		Maximum Inlet Pressure		Flow Range		Inlet Sizes	Outlet Sizes
	psi	(bar)	psi	(bar)	gpm	(L/hr)		
PRL-6 LF	6	0.41	100	6.90	0.5 - 5	114 - 1136	3/4" F NPT, 3/4" F hose	3/4" F NPT
PRL-10 LF	10	0.69	120	8.27	0.5 - 5	114 - 1136	3/4" F NPT, 3/4" F hose	3/4" F NPT
PRL-12 LF	12	0.83	135	9.31	0.1 - 8	23 - 1817	3/4" F NPT, 3/4" F hose	3/4" F NPT
PRL-15 LF	15	1.03	150	10.34	0.1 - 8	23 - 1817	3/4" F NPT, 3/4" F hose	3/4" F NPT
PRL-20 LF	20	1.38	150	10.34	0.1 - 8	23 - 1817	3/4" F NPT, 3/4" F hose	3/4" F NPT
PRL-25 LF	25	1.72	150	10.34	0.1 - 8	23 - 1817	3/4" F NPT, 3/4" F hose	3/4" F NPT
PRL-30 LF	30	2.07	150	10.34	0.1 - 8	23 - 1817	3/4" F NPT, 3/4" F hose	3/4" F NPT
PRL-35 LF	35	2.41	150	10.34	0.1 - 8	23 - 1817	3/4" F NPT, 3/4" F hose	3/4" F NPT
PRL-40 LF	40	2.76	150	10.34	0.1 - 8	23 - 1817	3/4" F NPT, 3/4" F hose	3/4" F NPT

Regulated pressure is 1/2 psi (0.03 bar) higher with increasing inlet pressure than with decreasing inlet pressure

PMR-MF [Regulators]

NEW!
1" BSPT
Model
Available



The medium flow Pressure-Master Regulator® is ideal for installations requiring mid-range flows (2 - 20 gpm) including solid-set, drip or other low-volume irrigation systems as well as center pivot and other mechanical-move irrigation systems.

FEATURES:

- Two-year warranty on materials, workmanship and performance
- Maintains a constant preset outlet pressure based on the flows/inlet pressures below (Note: With no flow through the regulator, the inlet and outlet pressures will be the same)
- 100% water-tested for accuracy (no adjustments ever needed)
- Very low hysteresis and friction losses
- Can be installed above or below ground
- Large flow path resists plugging

PMR-MF CMS models are designed specifically for mining applications where pH solutions are less than or equal to 4.0

PMR-MF EFF models (lavender top) are designed specifically for wastewater applications.

CAUTION:
Always install
downstream
from all shut
off valves.



PMR-MF – Pressure-Master Regulator® Medium-Flow

Model Number	Preset Oper. Pressure		Maximum Inlet Pressure		Flow Range		Inlet Sizes	Outlet Sizes
	psi	(bar)	psi	(bar)	gpm	(L/hr)		
PMR-6 MF	6	0.41	100	6.90	4 - 16	909 - 3634	3/4" F NPT, 1" F NPT, 1" M NPT, 1" F BSPT	3/4" F NPT, 1" F NPT, 1" F BSPT
PMR-10 MF	10	0.69	120	8.28	4 - 16	909 - 3634	3/4" F NPT, 1" F NPT, 1" M NPT, 1" F BSPT	3/4" F NPT, 1" F NPT, 1" F BSPT
PMR-12 MF	12	0.83	135	9.32	2 - 20	454 - 4542	3/4" F NPT, 1" F NPT, 1" M NPT, 1" F BSPT	3/4" F NPT, 1" F NPT, 1" F BSPT
PMR-15 MF	15	1.03	150	10.35	2 - 20	454 - 4542	3/4" F NPT, 1" F NPT, 1" M NPT, 1" F BSPT	3/4" F NPT, 1" F NPT, 1" F BSPT
PMR-20 MF	20	1.38	150	10.35	2 - 20	454 - 4542	3/4" F NPT, 1" F NPT, 1" M NPT, 1" F BSPT	3/4" F NPT, 1" F NPT, 1" F BSP
PMR-25 MF	25	1.72	150	10.35	2 - 20	454 - 4542	3/4" F NPT, 1" F NPT, 1" M NPT, 1" F BSPT	3/4" F NPT, 1" F NPT, 1" F BSPT
PMR-30 MF	30	2.07	150	10.35	2 - 20	454 - 4542	3/4" F NPT, 1" F NPT, 1" M NPT, 1" F BSPT	3/4" F NPT, 1" F NPT, 1" F BSPT
PMR-35 MF	35	2.41	150	10.35	2 - 20	454 - 4542	3/4" F NPT, 1" F NPT, 1" M NPT, 1" F BSPT	3/4" F NPT, 1" F NPT, 1" F BSPT
PMR-40 MF	40	2.76	150	10.35	2 - 20	454 - 4542	3/4" F NPT, 1" F NPT, 1" M NPT, 1" F BSPT	3/4" F NPT, 1" F NPT, 1" F BSPT
PMR-50 MF	50	3.45	150	10.35	2 - 20	454 - 4542	3/4" F NPT, 1" F NPT, 1" M NPT, 1" F BSPT	3/4" F NPT, 1" F NPT, 1" F BSPT
PMR-60 MF	60	4.14	150	10.35	2 - 20	454 - 4542	3/4" F NPT, 1" F NPT, 1" M NPT, 1" F BSPT	3/4" F NPT, 1" F NPT, 1" F BSPT

Regulated pressure is 1/2 psi (0.03 bar) higher with increasing inlet pressure than with decreasing inlet pressure

Regulators] PR-HF

The high flow Pressure Regulator is ideal for installations requiring higher flows (10 - 32 gpm) including solid-set sprinkler, low-volume manifolds and mechanical-move irrigation systems.

FEATURES:

- Two-year warranty on materials, workmanship and performance
- Maintains a constant preset outlet pressure based on the flows/inlet pressures below (Note: With no flow through the regulator, the inlet and outlet pressures will be the same)
- 100% water-tested for accuracy (no adjustments ever needed)
- Very low hysteresis and friction losses
- Can be installed above or below ground
- Large flow path resists plugging

Pressure regulators are recommended if there is a 10% pressure and/or 5% flow variation. The lower a system's design pressure, the more critical it is to accurately control its pressure.

DESIGN PRESSURE	PRESSURE VARIATIONS				
	0.5 psi 0.034 bar	1 psi 0.069 bar	2 psi 0.138 bar	3 psi 0.207 bar	4 psi 0.276 bar
6 psi (0.41 bar)	4.2	8.3	16.7	25.0	33.3
10 psi (0.69 bar)	2.5	5.0	10.0	15.0	20.0
15 psi (1.03 bar)	1.7	3.3	6.7	10.0	13.3

% FLOW VARIATION



All Senninger pressure regulators are constructed of durable high-impact engineering-grade thermoplastics with a high quality stainless steel compression spring and securing screws. This durable construction coupled with their outstanding design and precision parts make them suitable for a variety of different applications.

CAUTION:
Always install downstream from all shut off valves.

PR-HF - Pressure Regulator High-Flow

Model Number	Preset Operating Pressure		Maximum Inlet Pressure		Flow Range		Inlet Sizes	Outlet Sizes
	psi	(bar)	psi	(bar)	gpm	(L/hr)		
PR-10 HF	10	0.69	60	4.14	10 - 32	2271 - 7268	1/4" F NPT, 1/4" F BSPT	1" F, 1/4" F NPT, 1/4" F BSPT
PR-15 HF	15	1.03	80	5.52	10 - 32	2271 - 7268	1/4" F NPT, 1/4" F BSPT	1" F, 1/4" F NPT, 1/4" F BSPT
PR-20 HF	20	1.38	100	6.90	10 - 32	2271 - 7268	1/4" F NPT, 1/4" F BSPT	1" F, 1/4" F NPT, 1/4" F BSPT
PR-25 HF	25	1.72	100	6.90	10 - 32	2271 - 7268	1/4" F NPT, 1/4" F BSPT	1" F, 1/4" F NPT, 1/4" F BSPT
PR-30 HF	30	2.07	100	6.90	10 - 32	2271 - 7268	1/4" F NPT, 1/4" F BSPT	1" F, 1/4" F NPT, 1/4" F BSPT
PR-40 HF	40	2.76	100	6.90	10 - 32	2271 - 7268	1/4" F NPT, 1/4" F BSPT	1" F, 1/4" F NPT, 1/4" F BSPT
PR-50 HF	50	3.45	100	6.90	10 - 32	2271 - 7268	1/4" F NPT, 1/4" F BSPT	1" F, 1/4" F NPT, 1/4" F BSPT

Regulated pressure is 1/2 psi (0.03 bar) higher with increasing inlet pressure than with decreasing inlet pressure

PRXF [Regulators]

NEW!
"Limit Valve"
Model
Available



The Extended Flow Pressure Regulator is designed to handle flows up to 100 gpm. Ideal for installation requiring accurate zone pressure regulation.

FEATURES:

- Two-year warranty on materials, workmanship and performance
- Maintains a constant preset outlet pressure based on the flows/inlet pressures below (Note: With no flow through the regulator, the inlet and outlet pressures will be the same)
- 100% water-tested for accuracy (no adjustments ever needed)
- Very low hysteresis and friction losses
- Large flow path resists plugging

Also available-the new "Limit Valve" Model for static flow installations!

INSTALLATION GUIDELINES:

- Never allow solvent or cement to drip into regulator.
- Make sure the flow arrows on the regulator match the direction of the system flow.
- Installation of a union is recommended for easy removal of PRXF.

CAUTION:
Always install
downstream
from all shut
off valves.



PRXF - Pressure Regulator Extended-Flow™

Model Number	Preset Operating Pressure		Maximum Inlet Pressure		Flow Range		Inlet Sizes	Outlet Sizes
	psi	(bar)	psi	(bar)	gpm	(L/hr)		
PRXF-10	10	0.69	80	5.52	20 - 80	4543 - 18170	3" F slip	3" F slip
PRXF-15	15	1.03	85	5.87	20 - 85	4543 - 19306	3" F slip	3" F slip
PRXF-20	20	1.38	90	6.21	20 - 90	4543 - 20441	3" F slip	3" F slip
PRXF-25	25	1.72	95	6.56	20 - 95	4543 - 21577	3" F slip	3" F slip
PRXF-30	30	2.07	100	6.90	20 - 100	4543 - 22712	3" F slip	3" F slip
PRXF-35	35	2.41	110	7.59	20 - 100	4543 - 22712	3" F slip	3" F slip
PRXF-40	40	2.76	125	8.63	20 - 100	4543 - 22712	3" F slip	3" F slip
PRXF-50	50	3.45	125	8.63	20 - 100	4543 - 22712	3" F slip	3" F slip
PRXF-60	60	4.14	125	8.63	20 - 100	4543 - 22712	3" F slip	3" F slip

Regulated pressure is 1/2 psi (0.03 bar) higher with increasing inlet pressure than with decreasing inlet pressure

Regulators] PRLV

The Pressure Regulating Limit Valve™ is used in place of standard pressure regulators to limit static (no flow) water pressure when a shut-off valve is used downstream of regulation point. Limits downstream pressure and protects downstream components.

FEATURES:

- One-year warranty on materials and workmanship
- Maintains a constant preset outlet pressure based on the flows/inlet pressures below (Note: With no flow through the regulator, the inlet and outlet pressures will be the same)
- 100% water-tested for accuracy (no adjustments ever needed)
- Very low hysteresis and friction losses
- Large flow path resists plugging

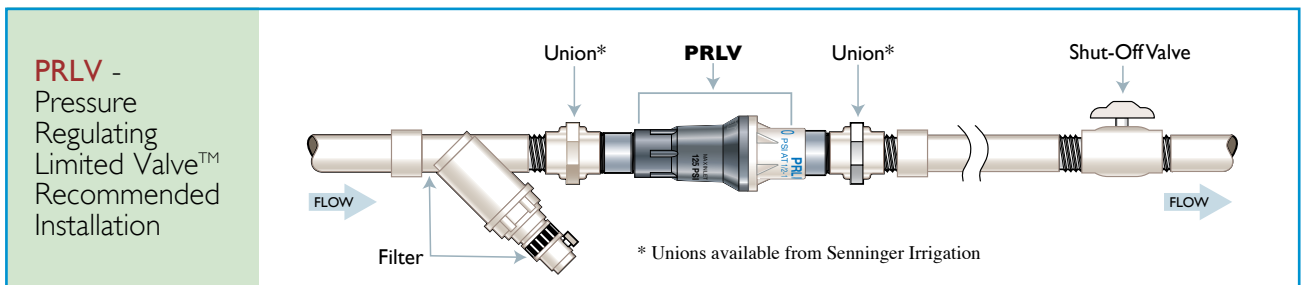


CAUTION:
Recommended for outdoor use only.

PRLV - Pressure Regulating Limited Valve™

Model Number	Preset Operating Pressure		Maximum Inlet Pressure		Flow Range		Inlet Sizes	Outlet Sizes
	psi	(bar)	psi	(bar)	gpm	(L/hr)		
PRLV-30	30	2.07	125	8.63	0.5 - 18	114 - 3407	3/4" F, 1" F NPT	3/4" F, 1" F NPT
PRLV-40	40	2.76	125	8.63	0.5 - 18	114 - 3407	3/4" F, 1" F NPT	3/4" F, 1" F NPT
PRLV-50	50	3.45	125	8.63	0.5 - 18	114 - 3407	3/4" F, 1" F NPT	3/4" F, 1" F NPT

Regulated pressure is 1/2 psi (0.03 bar) higher with increasing inlet pressure than with decreasing inlet pressure



RiserAdapter [Accessories



NEW!
Quick
Connect

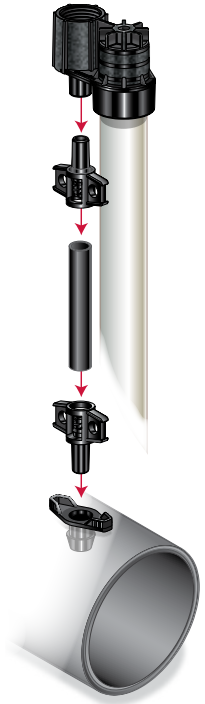
Interior View



The Riser Adapter offers a new quick-connect and disconnect design with a press-fit inlet and outlet for 0.345" and 0.270" ID tubing. This makes irrigating easier in hard-to-reach places and is ideal for temporary and portable systems.

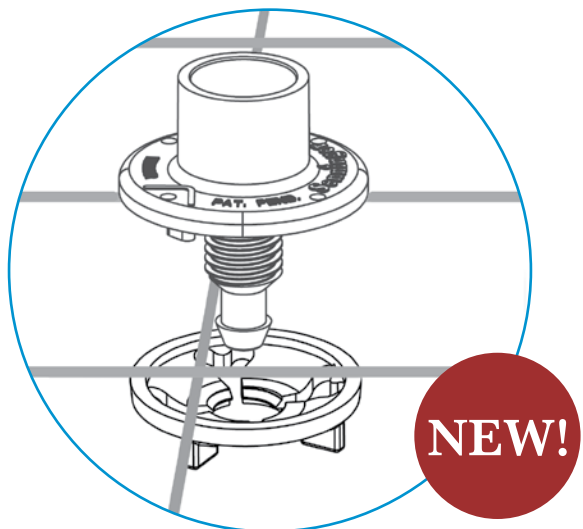
FEATURES:

- Quick-connect with press-fit connection for 0.345" and 0.270" PE tubing (Other connection fittings available)
- Allows sprinklers and spray nozzles with 1/2" M NPT base connection to be mounted securely onto 1/2" PVC, 3/4" PVC, or 5/16" steel rod stakes and connected to low pressure polyethylene laterals
- No gluing or fusing required
- Outlet 1/2" F NPT
- Available as individual components or as an assembly
- Plug for bushing also available



NurseryWire Adapter (Accessories

Patent 7,263,801



NEW!

The Nursery Wire Adapter provides easy installation for Misterters or other non-impact applicators.

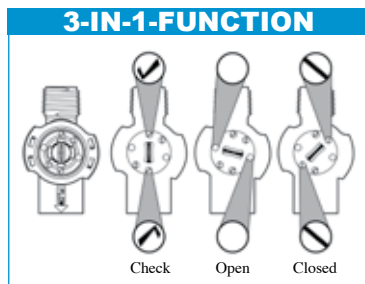
FEATURES:

- Easy installation on wire mesh plant beds
- Fits up to 10 gauge wire
- Locks into corner of wire
- Multiple installation options
- Minimum 1" mesh
- Specifications:
1/2" F slip ID 3/4" M slip OD;
Barb fits 0.345" ID tubing



Accessories] DrainStopPlus™

Senninger's new Drain Stop Plus is specifically designed for overhead irrigation to prevent draining from applicators when system is shut down. This protects plants beneath applicators from damage and over-watering. The Drain Stop Plus allows lines to remain full to help expedite system start-up time and maximize initial zone coverage.



The multiple functions of Senninger's new Drain Stop Plus make it an excellent choice for overhead irrigation.



NEW!



FEATURES:

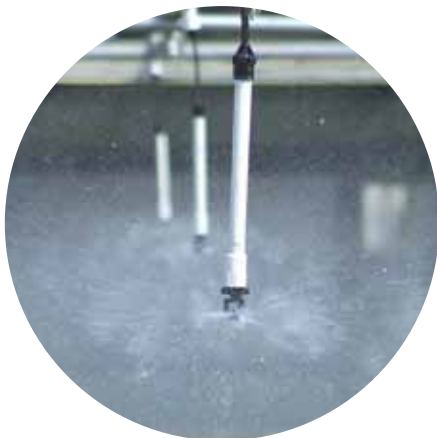
- Unique 3-mode design – open, check, and closed
- Easy clean feature – device and applicator remain in place, a simple twist releases bonnet for debris removal
- Two models available: 1/2" M NPT inlet x 1/2" F NPT outlet; 3/4" M barb inlet x 1/2" F NPT outlet
- Can be used directly on any 1/2" M NPT base applicator
- Low friction loss – less than 4.25 psi total loss through device at 5 gpm (0.29 bar at 1136 L/hr)
- Minimum opening pressure: 13.5 psi (0.93 bar)
Minimum closing pressure: 3.5 psi (0.24 bar)
- Maximum operating pressure: 50 psi (3.45 bar)
- Flow: 0.25 to 5 gpm (57 to 1136 L/hr)
- Two-year warranty on materials, workmanship AND performance

Accessories] DropAdapter

The Senninger Drop Adapter offers simple, fast and economical installation of drops.

FEATURES:

- Available as an assembly or as individual components (assembly includes: Two super barb connectors, One 1/2" slip x NPT connector, 12 inches of 0.345" tubing, 12 inches of 1/2" PVC)
- Available with either a 1/2" F slip, 3/4" M slip, or 1/2" M NPT outlet connection
- Friction loss through the assembly (24" length) is 0.67 psi at 1.5 gpm (less than 0.05 bar at 341 L/hr)



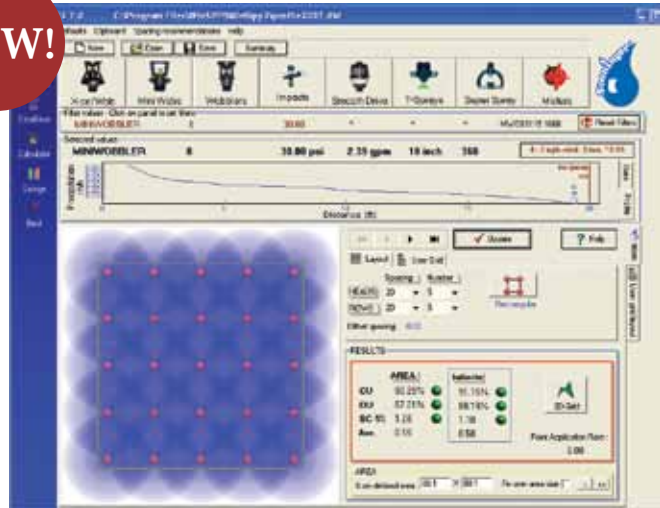
WinSIPP2™ [Software

Use WinSIPP2 software by Senninger to calculate the precipitation rate of your irrigation system.

NEW!

FEATURES:

- Aids in the selection and application of best irrigation products
- Tests the application uniformity of sprinkler layouts before the system is installed
- Compares different spacings, sprinkler models, nozzle sizes, and operating pressures to determine which would be best for your specific application

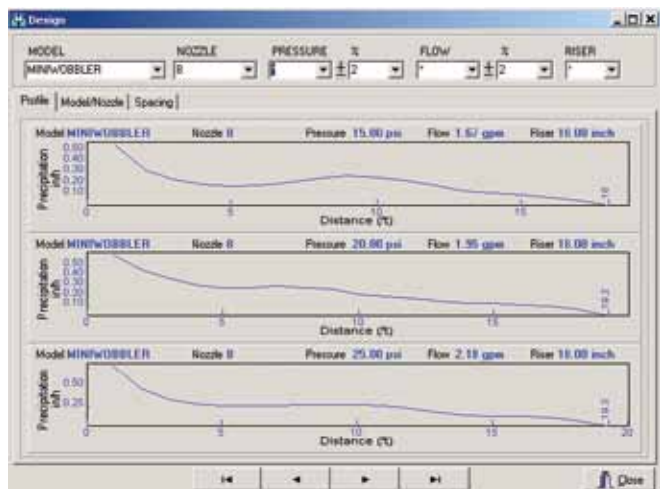


Densograms illustrate the uniformity of a given profile to show water distribution of multiple overlapping devices in graphic form.

Ask for this program by contacting the Senninger Technical Support Department.

DISTRIBUTION PROFILE

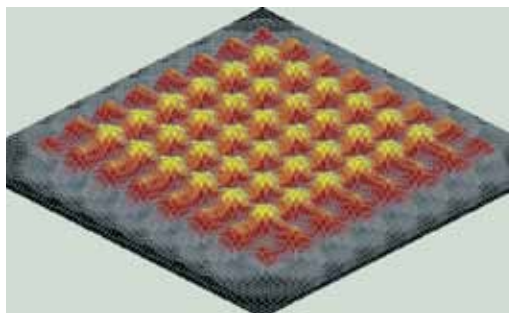
A distribution profile is the illustration of results from "catch can" tests performed in accordance with the American Society of Agricultural and Biological Engineers (ASABE) standard S398.1. This data shows how uniformly a device distributes water within its diameter of throw. WinSIPP utilizes the numerous distribution profiles available for Senninger products.



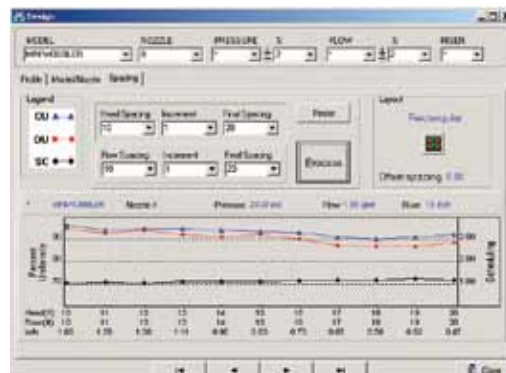
Sprinkler profile takes specific data and illustrates the amount of water that would be delivered at various intervals as well as the exact radius.

DENSOGRAMS

Data from distribution profiles is used to create densograms based on spacing dimensions, layout, and riser height. Densograms are useful in illustrating the uniformity in which water is distributed by multiple overlapping devices.



Graphics illustrate the water application pattern in 3-D format.

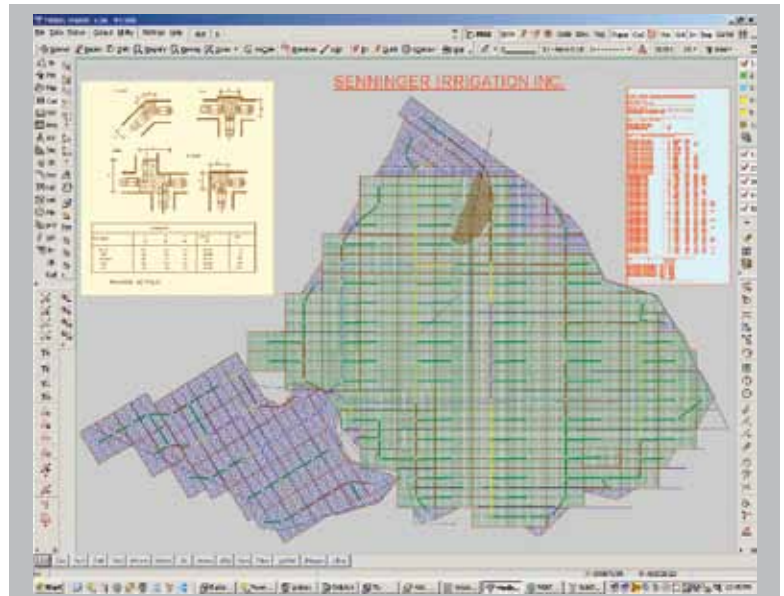


The WinSIPP2 program provides profiles illustrating the coefficient of uniformity, distribution uniformity, and the scheduling coefficient to determine which spacing would be optimum.

Senninger's Irri-Maker™ software evaluates installation alternatives in advance, surveys any terrain, produces a contour plan, draws the details, and applies the irrigation design.

FEATURES:

- Optimizes irrigation system design by combining survey, Digital Terrain Modeling (DTM) and Computer Aided Design (CAD), with many hydraulic analysis functions
- Allows importation of information from many other programs
- Saves time at repeatable routines



Survey Data Manipulation (DTM)

Irri-Maker's flexible structure and user-friendly layout makes converting survey data into a computerized DTM format quick and easy. It is no longer necessary to manually calculate coordinates, reduce survey field books, or do manual plotting of the proposed terrain. Irri-Maker can produce a contour plan from virtually any type of survey data.

CAD Advantages

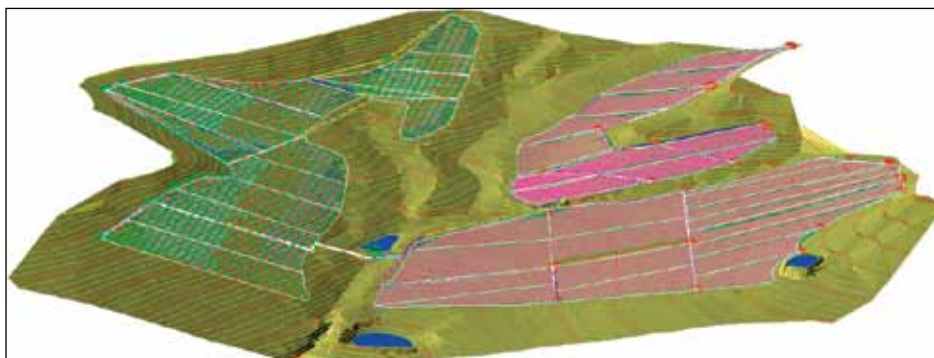
The built-in CAD module allows you to add specific details to the contour plan, including text and bitmap images. Details like roads, fences, boundaries, rivers, and trees can also be incorporated. Irri-Maker employs various modules working together with the same set of commands. There is no need to learn different programs or menu layouts to add CAD elements and irrigation designs to your contour plan. Everything can be plotted independently or in combination.

Flexible Irrigation Designs

Irri-Maker can be used for everything from simple irrigation designs to complex systems. Each element of the design can be controlled, whether it's defining block areas, adding emitters and pipes, sizing the pipes, or calculating the hydraulics. A comprehensive list of materials along with detailed hydraulic reports can be produced as well.

Other Applications

Irri-Maker operates within the larger Model Maker™ environment. This means any of the other Model Maker modules can be added to your software package. With this, civil earthwork calculation tasks can be performed for various applications including dams, canals, drainage, and roads.



The program provides a three-dimensional model for your specific application.

U.S. [Precipitation Rates inches per/hour

SPACING (feet)	FLOW (gpm)																				
	0.30	0.50	0.75	1.00	1.50	2.00	3.00	4.00	5.00	6.00	8.00	10.0	15.0	20.0	25.0	30.0	35.0	40.0	45.0	50.0	
5 x 5	1.16	1.93	2.89	3.85	5.78	7.70	11.55													← T-Spray	
6 x 6	0.80	1.34	2.01	2.67	4.01	5.35	8.02														
7 x 7	0.59	0.98	1.47	1.96	2.95	3.93	5.89														← Super-Spray
8 x 8	0.45	0.75	1.13	1.50	2.26	3.01	4.51	6.02													
9 x 9	0.36	0.59	0.89	1.19	1.78	2.38	3.56	4.75	5.94												
10 x 10	0.29	0.48	0.72	0.96	1.44	1.93	2.89	3.85	4.81	5.78											← i-mini-Wobbler
12 x 12	0.20	0.33	0.50	0.67	1.00	1.34	2.01	2.67	3.34	4.01	5.35	6.68									
15 x 15	0.13	0.21	0.32	0.43	0.64	0.86	1.28	1.71	2.14	2.57	3.42	4.28	6.42								← Xcel-Wobbler, Wobbler
20 x 20		0.12	0.18	0.24	0.36	0.48	0.72	0.96	1.20	1.44	1.93	2.41	3.61	4.81	6.02						mini-Wobbler
25 x 25			0.12	0.15	0.23	0.31	0.46	0.62	0.77	0.92	1.23	1.54	2.31	3.08	3.85						
30 x 30				0.11	0.16	0.21	0.32	0.43	0.53	0.64	0.86	1.07	1.60	2.14	2.67						← Impact Sprinklers
35 x 35					0.12	0.16	0.24	0.31	0.39	0.47	0.63	0.79	1.18	1.57	1.96						
40 x 40						0.12	0.18	0.24	0.30	0.36	0.48	0.60	0.90	1.20	1.50	1.80	2.11	2.41			
40 x 50						0.10	0.14	0.19	0.24	0.29	0.39	0.48	0.72	0.96	1.20	1.44	1.68	1.93	2.17		
40 x 60							0.12	0.16	0.20	0.24	0.32	0.40	0.60	0.80	1.00	1.20	1.40	1.60	1.80	2.01	
40 x 80							0.09	0.12	0.15	0.18	0.24	0.30	0.45	0.60	0.75	0.90	1.05	1.20	1.35	1.50	
45 x 45							0.14	0.19	0.24	0.29	0.38	0.48	0.71	0.95	1.19	1.43	1.66	1.90	2.14	2.38	
50 x 50							0.11	0.15	0.19	0.23	0.31	0.39	0.58	0.77	0.96	1.16	1.35	1.54	1.73	1.93	
50 x 60								0.13	0.16	0.19	0.26	0.32	0.48	0.64	0.80	0.96	1.12	1.28	1.44	1.60	
50 x 70								0.11	0.14	0.17	0.22	0.28	0.41	0.55	0.69	0.83	0.96	1.10	1.24	1.38	
50 x 80								0.10	0.12	0.14	0.19	0.24	0.36	0.48	0.60	0.72	0.84	0.96	1.08	1.20	
55 x 55								0.13	0.16	0.19	0.25	0.32	0.48	0.64	0.80	0.95	1.11	1.27	1.43	1.59	
60 x 60								0.11	0.13	0.16	0.21	0.27	0.40	0.53	0.67	0.80	0.94	1.07	1.20	1.34	
60 x 70									0.11	0.14	0.18	0.23	0.34	0.46	0.57	0.69	0.80	0.92	1.03	1.15	
60 x 80									0.10	0.12	0.16	0.20	0.30	0.40	0.50	0.60	0.70	0.80	0.90	1.0	
70 x 70									0.10	0.12	0.16	0.20	0.29	0.39	0.49	0.59	0.69	0.79	0.88	0.98	
70 x 80										0.10	0.14	0.17	0.26	0.34	0.43	0.52	0.60	0.69	0.77	0.86	
70 x 90											0.12	0.15	0.23	0.31	0.38	0.46	0.53	0.61	0.69	0.76	
80 x 80												0.12	0.15	0.23	0.30	0.38	0.45	0.53	0.60	0.68	0.75
80 x 90													0.11	0.13	0.20	0.27	0.33	0.40	0.47	0.53	0.60
80 x 100														0.10	0.12	0.18	0.24	0.30	0.36	0.42	0.48
100 x 100															0.10	0.14	0.19	0.24	0.29	0.34	0.39

PRODUCT	PATTERN SPACINGS*
T-Spray	up to 6 feet
Super-Spray	up to 12 feet
Xcel-Wobbler HA	up to 30 feet
Xcel-Wobbler MA	up to 25 feet
Wobbler SA	up to 30 feet
Wobbler LA	up to 25 feet
mini-Wobbler	up to 20 feet
i-mini-Wobbler	up to 12 feet
Smooth Drive HA	up to 40 feet
Smooth Drive LA	up to 37 feet
20 Series Impact	up to 40 feet
30 Series Impact	up to 60 feet
40 Series Impact	up to 65 feet
50 Series Impact	up to 70 feet
70 Series Impact	up to 90 feet
80 Series Impact	up to 100 feet

* Distance between sprinklers and rows in square or triangular patterns.

Precipitation Rate Formula

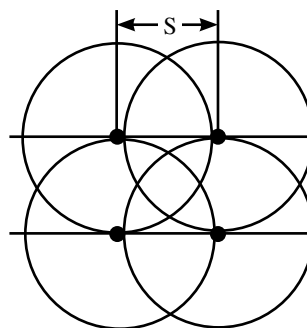
$$\text{Application Rate} = \frac{\text{GPM} \times 96.3}{S \times L}$$

(inches per hour)

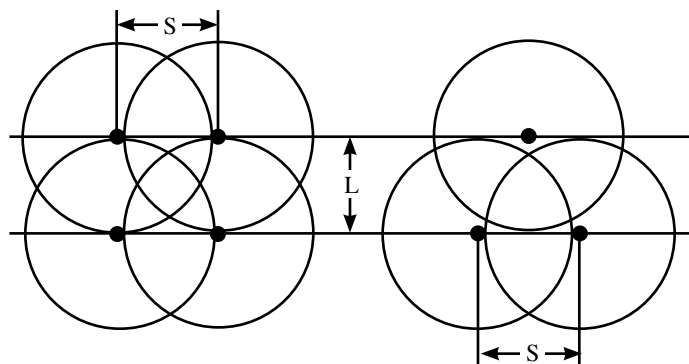
- GPM = flow per sprinkler
- S = spacing of sprinklers along the lateral (in feet)
- L = spacing between laterals (in feet)

(This applies to square, rectangular, or triangular spacing)

Square Spacing



Triangular Spacing



Maximum Precipitation Rates for Level Ground

Soil	in./hr.
Coarse Sands	0.75 in. - 1.00 in./hr
Fine Sands	0.50 in. - 0.75 in./hr
Fine Sandy Loams	0.35 in. - 0.50 in./hr
Silt Loams	0.25 in. - 0.40 in./hr
Clay Loams	0.10 in. - 0.30 in./hr

Maximum Sprinkler Spacings

Wind Speed	Spacing
5 mph or less	60% of wetted diameter
5-10 mph	50% of wetted diameter
over 10 mph	25-30% of wetted diameter

(Consult factory for specific information on uniformity based on your particular application)

millimeters per/hour Precipitation Rates] Metric

SPACING (meters)	FLOW																					
	(m ³ /hr) 0.07	0.11	0.18	0.36	0.56	0.72	0.90	1.08	1.44	1.80	2.16	2.52	2.88	3.24	3.60	3.96	4.32	5.40	6.40	7.20		
1.5 x 1.5	32.0	48.0	80.0	160.0	240.0	320.0															← T-Spray	
2 x 2	18.0	27.0	45.0	90.0	135.0	180.0																← Super Spray
2.5 x 2.5	11.5	17.3	28.8	57.6	86.4	115.2	144.0															
3 x 3	8.0	12.0	20.0	40.0	60.0	80.0	100.0	120.0	160.0													
3.5 x 3.5	5.9	8.8	14.7	29.4	44.1	58.8	73.5	88.2	117.6	146.9	176.3											
4 x 4	4.5	6.8	11.3	22.5	33.8	45.0	56.3	67.5	90.0	112.5	135.0											← i-mini-Wobbler
5 x 5	2.9	4.3	7.2	14.4	21.6	28.8	36.0	43.2	57.6	72.0	86.4											
6 x 6	2.0	3.0	5.0	10.0	15.0	20.0	25.0	30.0	40.0	50.0	60.0											← Xcel-Wobbler, Wobbler mini-Wobbler
6 x 9			3.3	6.6	10.0	13.3	16.6	20.0	26.6	33.3	40.0	46.6	53.0									
6 x 12			2.5	5.0	7.5	10.0	12.5	15.0	20.0	25.0	30.0	35.0	40.0	45.0	50.0							
8 x 8			2.8	5.6	8.4	11.2	14.0	16.9	22.5	28.1	33.7	39.4	45.0	50.0								← Impact Sprinklers
9 x 9			2.2	4.4	6.6	8.9	11.1	13.3	17.8	22.2	26.6	31.1	35.5	40.0	44.4	48.8	53.3					
9 x 12			1.6	3.3	5.0	6.6	8.3	10.0	13.3	16.6	20.0	23.3	26.6	30.0	33.3	36.6	40.0	50.0	59.2			
9 x 14			1.4	2.8	4.3	5.7	7.1	8.6	11.4	14.3	17.1	20.0	22.8	25.7	28.5	31.4	34.3	42.8	50.8			
9 x 15			1.3	2.7	4.0	5.3	6.6	8.0	10.6	13.3	16.0	18.6	21.3	24.0	26.6	29.4	32.0	40.0	47.4			
9 x 18				2.2	3.3	4.4	5.5	6.6	8.9	11.1	13.3	15.5	17.8	20.0	22.2	24.4	26.6	33.3	39.5	44.4		
12 x 12				2.5	3.7	5.0	6.2	7.5	10.0	12.5	15.0	17.5	20.0	22.5	25.0	27.5	30.0	37.5	44.4	50.0		
12 x 15				2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0	22.0	24.0	30.0	35.5	40.0		
12 x 18				1.6	2.5	3.3	4.2	5.0	6.6	8.3	10.0	11.6	13.3	15.0	16.6	18.3	20.0	25.0	29.6	33.3		
15 x 18						3.2	4.0	4.8	6.4	8.0	9.6	11.2	12.8	14.4	16.0	17.6	19.2	24.0	28.4	32.0		
15 x 20						2.6	3.3	4.0	5.3	6.6	8.0	9.3	10.6	12.0	13.3	14.6	16.0	20.0	23.7	26.6		
15 x 21						2.3	2.8	3.4	4.6	5.7	6.8	8.0	9.1	10.3	11.4	12.6	13.7	17.1	20.3	22.8		
18 x 18	T-Spray	up to 2.0 meters						3.3	4.4	5.5	6.6	7.8	8.9	10.0	11.1	12.2	13.3	16.6	20.0	22.2		
18 x 21	Super-Spray	up to 3.5 meters						2.8	3.8	4.7	5.7	6.6	7.6	8.6	9.5	10.5	11.4	14.3	16.9	19.0		
18 x 24	Xcel-Wobbler HA	up to 9.2 meters						2.5	3.3	4.2	5.0	5.8	6.6	7.5	8.3	9.1	10.0	12.5	14.8	16.6		
18 x 24	Xcel-Wobbler MA	up to 7.5 meters						2.4	3.2	4.1	4.9	5.7	6.5	7.3	8.1	8.9	9.8	12.2	14.5	16.3		
21 x 21	Wobbler SA	up to 9.2 meters						2.8	3.6	4.3	5.0	5.7	6.4	7.1	7.8	8.6	10.7	12.7	14.3			
21 x 24	Wobbler LA	up to 7.5 meters						2.5	3.2	3.8	4.4	5.1	5.7	6.3	7.0	7.6	9.5	11.3	12.7			
21 x 27	mini-Wobbler	up to 6.0 meters							3.1	3.7	4.3	5.0	5.6	6.2	6.9	7.5	9.4	11.1	12.5			
24 x 24	i-mini-Wobbler	up to 3.5 meters							2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	7.5	8.9	10.0			
24 x 30	Smooth Drive HA	up to 12.2 meters								2.3	2.7	3.1	3.5	3.9	4.3	4.7	5.8	6.9	7.8			
28 x 33	Smooth Drive LA	up to 11.3 meters									2.4	2.8	3.2	3.9	4.0	4.4	4.8	6.0	7.1	8.0		
30 x 30	20 Series Impact	up to 12.0 meters																				
	30 Series Impact	up to 18.5 meters																				
	40 Series Impact	up to 20.0 meters																				
	50 Series Impact	up to 21.5 meters																				
	70 Series Impact	up to 27.5 meters																				
	80 Series Impact	up to 30.5 meters																				

PRODUCT	PATTERN SPACINGS*
T-Spray	up to 2.0 meters
Super-Spray	up to 3.5 meters
Xcel-Wobbler HA	up to 9.2 meters
Xcel-Wobbler MA	up to 7.5 meters
Wobbler SA	up to 9.2 meters
Wobbler LA	up to 7.5 meters
mini-Wobbler	up to 6.0 meters
i-mini-Wobbler	up to 3.5 meters
Smooth Drive HA	up to 12.2 meters
Smooth Drive LA	up to 11.3 meters
20 Series Impact	up to 12.0 meters
30 Series Impact	up to 18.5 meters
40 Series Impact	up to 20.0 meters
50 Series Impact	up to 21.5 meters
70 Series Impact	up to 27.5 meters
80 Series Impact	up to 30.5 meters

* Distance between sprinklers and rows in square or triangular patterns.

Precipitation Rate Formula

$$\text{Application Rate} = \frac{M^3/\text{hr} \times 1000}{S \times L}$$

(mm per hour)

M³/hr = flow per sprinkler

S = spacing of sprinklers along the lateral (in meters)

L = spacing between laterals (in meters)

(This applies to square, rectangular, or triangular spacing)

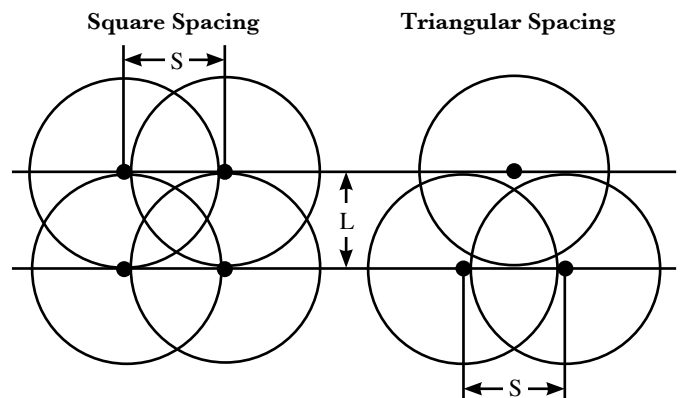
Maximum Precipitation Rates for Level Ground

Soil	mm/hr
Coarse Sands	19.0 mm - 25.4 mm/hr
Fine Sands	12.7 mm - 19.0 mm/hr
Fine Sandy Loams	8.9 mm - 12.7 mm/hr
Silt Loams	6.3 mm - 10.2 mm/hr
Clay Loams	2.5 mm - 7.6 mm/hr

Maximum Sprinkler Spacings

Wind Speed	Spacing
8 kph or less	60% of wetted diameter
8-16 kph	50% of wetted diameter
over 16 kph	25-30% of wetted diameter

(Consult factory for specific information on uniformity based on your particular application)



Factors [Conversion

FLOW

TO CONVERT	INTO	MULTIPLY BY
Acre-Inch/hr	Gallons/Min (gpm)	452.6
Acre-Inch/hr	Gallons/hr	27,154
Cubic Feet/hr	Gallons/hr (US)	7.481
Cubic Feet/Sec	Gallons/Min (gpm)	448.831
Cubic Meters/hr	Gallons/hr (US)	264.2
Cubic Meters/hr	Gallons/Min (gpm)	4.403
Cubic Meters/hr	Liters/Sec (L/s)	0.278
Gallons/hr	Liters/hr	3.785
Gallons/Min. (gpm)	Cubic Meter/hr (m ³ /hr)	0.227
Gallons/Min. (gpm)	Liters/Sec (L/s)	0.063
Liters/hr	Gallons/hr (US)	0.264
Liters/Second	Gallons/Min (gpm)	15.85
Liters/Second	Cubic Meters/hr (m ³ /hr)	3.600

PRESSURE

TO CONVERT	INTO	MULTIPLY BY
Atmospheres	Kilograms/Sq. Cm	1.033
Atmospheres	Pounds/Sq. In. (psi)	14.70
Bar	Pounds/Sq. In. (psi)	14.50
Feet Head (of Water)	Pounds/Sq. In. (psi)	0.433
Gallons of Water	Pounds	8.33
Kilograms/Sq. Cm	Pounds/Sq. In. (psi)	14.22
Kilopascals (kPa)	Pounds/Sq. In. (psi)	0.145
Pounds/Sq. In. (psi)	Atmospheres	0.068
Pounds/Sq. In. (psi)	Bar	0.069
Pounds/Sq. In. (psi)	Feet Head (of Water)	2.307
Pounds/Sq. In. (psi)	Kilopascals (kPa)	6.895

AREA & LINEAR

TO CONVERT	INTO	MULTIPLY BY
Acres	Hectares	0.405
Acres	Square Feet	43,560
Centimeters	Inches	0.394
Feet	Meters	0.305
Hectares	Acres	2.471
Inches	Millimeters	25.40
Meters	Feet	3.281
Miles	Kilometers	1.609
Miles	Feet	5,280
Millimeters	Inches	0.0394

POWER

TO CONVERT	INTO	MULTIPLY BY
Horsepower	Kilowatts	0.746
Kilowatts	Horsepower	1.341

Nozzles

Nozzle and vane combinations are a critical factor in how a sprinkler performs. Senninger offers a wide range of nozzle and vane options to customize sprinklers for peak performance. For more information see our website.

FEATURES:

- Color-coded for easy size identification
- Excellent durability
- Warranted to maintain correct orifice size for five years



NOTE: Half sizes (1/128 inch increments) are also available in some models.
Range nozzles for 70 and 80 series sprinklers are not color-coded. Consult factory for more information.

Formulas [Estimation

Inside Diameters for PVC (IPSmm)

Size	125 (SDR-32.5)		160 (SDR-26)		200 (SDR-21)	
3/4"	-	-	-	-	0.950 in.	24.13 mm
1"	-	-	1.195 in.	30.35 mm	1.190 in.	30.22 mm
1-1/4"	-	-	1.532 in.	38.91 mm	1.502 in.	38.15 mm
1-1/2"	1.783 in.	45.29 mm	1.754 in.	44.55 mm	1.719 in.	43.66 mm
2"	2.229 in.	56.61 mm	2.193 in.	55.70 mm	2.149 in.	54.58 mm
2-1/2"	2.698 in.	68.53 mm	2.655 in.	67.44 mm	2.601 in.	66.07 mm
3"	3.284 in.	83.41 mm	3.230 in.	82.04 mm	3.166 in.	80.42 mm
4"	4.224 in.	107.29 mm	4.154 in.	105.51 mm	4.072 in.	103.43 mm
6"	6.217 in.	157.91 mm	6.115 in.	155.32 mm	5.993 in.	152.22 mm
8"	8.095 in.	205.61 mm	7.961 in.	202.21 mm	7.805 in.	198.25 mm
10"	10.088 in.	256.23 mm	9.924 in.	252.07 mm	9.726 in.	247.05 mm
12"	11.966 in.	303.93 mm	11.770 in.	298.95 mm	11.536 in.	293.01 mm

Calculating Friction Loss of Pipe (Hazen - Williams)

$H_f = 1045 \frac{(GPM \div C)^{1.852}}{ID^{4.857}}$	$H_f = 1.22 \times 10^{12} \frac{(LPS \div C)^{1.852}}{ID^{4.857}}$
Hf = Friction Loss in Feet of Water (head) per 100 Feet of Pipe	Hf = Friction Loss in Meters of Water (head) per 100 Meters of Pipe
GPM = Flow (gallons/minute)	LPS = Flow (liters/second)
C = Pipe Coefficient (PVC = 150; Aluminum w/couplers = 120; Galv.Steel/Asb. - Cement = 140; Cast Iron = 100)	C = Pipe Coefficient (PVC = 150; Aluminum w/couplers = 120; Galv.Steel/Asb. - Cement = 140; Cast Iron = 100)
ID = Pipe Inside Diameter (inches)	ID = Pipe Inside Diameter (millimeters)

Estimating System Pumping Requirements

$GPM = \frac{IN \times ACRES \times 452.6}{DAYS \times HRS \times EFF}$	$LPS = \frac{CM \times HA \times 27.8}{DAYS \times HRS \times EFF}$
GPM = Total flow required to operate system (gallons/minute)	LPS = Total flow required to operate system (liters/second)
IN = Net application depth per irrigation event (inches) *	CM = Net application depth per irrigation event (centimeters)
ACRES = Area to be irrigated per irrigation event (acres)	HA = Area to be irrigated per irrigation event (hectares)
DAYS = Number of irrigation days per irrigation event	DAYS = Number of irrigation days per irrigation event
HRS = Number of irrigation hours per day of irrigation event	HRS = Number of irrigation hours per day of irrigation event
EFF = System efficiency (see table below)	EFF = System efficiency (see table below)

Estimating Irrigation System Efficiencies:

Arid Regions	65%
Semi-Arid Regions	70%
Semi-Humid Regions	75%
Humid Regions	80%

Estimating Brake Power Required

$BP = \frac{GPM \times TDH}{3960 \times EFF}$	$BP = \frac{LPS \times TDH}{102 \times EFF}$
BP = Brake power required (horse power)	BP = Brake power required (kilowatts)
GPM = Flow required (gallons/minute)	LPS = Flow required (liters/second)
TDH = Total dynamic head (in feet)	TDH = Total dynamic head (in meters)
EFF = Pump efficiency stated as a decimal	EFF = Pump efficiency stated as a decimal

Expressly Limited Product Warranty and Disclaimer] **Warranty**

Warning - Disclaimer

This warranty is the full and complete product warranty and is expressly in lieu of any and all representations or warranties, expressed or implied, including any implied warranties of merchantability or fitness for particular purpose, whether arising from statute, common law, custom, course of dealing, usage of trade, or otherwise. No person has the authority to incur or assume for Senninger any other liability as to products manufactured by Senninger.

This warranty shall not apply to any product which shall have been repaired or altered in any way outside the Senninger factory so as to affect its use or operation as determined by Senninger; nor shall it apply to any such product which has been subject to misuse, negligence or accident, or has been operated contrary to Senninger's printed instructions.

Senninger shall not be liable for any consequential and incidental damages resulting from the use of said products or caused by any defects, failure or malfunction, whether a claim for such damages is based on warranty, product design, system engineering, contract negligence or otherwise. Senninger makes no warranty whatsoever with respect to products manufactured by others to which Senninger's products may be attached, whether or not warranted by such other manufacturers.

Materials and Workmanship

Products manufactured by Senninger Irrigation Inc. are warranted for a period of two years from date of original shipment to be free of any defects in material or workmanship. The End Spray, PRLV regulators and mining models are warranted for one year.

Reference individual product literature for specific product warranty.

Performance

Products manufactured by Senninger and used for ag, turf and nursery irrigation are warranted to maintain their original nozzle orifice size for a period of five years. Senninger also warrants these products to maintain their original performance for a period of two years from date of original shipment when installed and operated in accordance with Senninger's written specifications and used for their ordinary purpose. The End Spray, PRLV regulators and mining models are warranted for materials and workmanship only.

Repair or Replacement

If a product is suspected of failure under terms of the above provisions, it must first be reported in writing to the attention of the Material Review Engineer at the company's Clermont, Florida office. An authorization may then be issued to return the product(s), shipping charges prepaid, to Clermont for inspection. If in the opinion of the Material Review Engineer the product has failed, a repair or replacement will be authorized as required.

Senninger's obligation with respect to the above provisions concerning material, workmanship and performance is limited to the repair or replacement of the particular product involved. Senninger is not obligated to pay for repairs or replacements made by anyone other than itself. No labor allowances will be made for removal or replacement of said parts nor for any travel to and from the product to make said repairs or replacement without prior written authorization from an officer of Senninger Irrigation.

Suitability

There is positively no warranty relating to the fitness of the product(s) for any particular purpose or use. It is the sole responsibility of the purchaser to consider and analyze the product and its design to be suitable for specific applications.



Senninger[®]
Irrigation Inc.

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