RAIN BIRD®

Agricultural Irrigation Products

2014-2015 Catalog






A Legacy of Agricultural Innovation

Contents

How to Order A5 PC™ Series Pressure Compensating Ag Dripline

A5	-	18	-	05	-	18	-	24
Model		**Tube Diameter**		**Flow Rate**		**Emitter Spacing**		**Trellis Clip Spacing (Optional)**
A5 PC™ AG Dripline		1635 = 16 mm 0.035 wall 1645 = 16 mm 0.045 wall 18 = 18 mm 20 = 20 mm		03 = 0.31 GPH (1.2 lph) 04 = 0.42 GPH (1.6 l/h) 05 = 0.53 GPH (2.0 l/h) 06 = 0.61 GPH (2.3 l/h) 10 = 1.06 GPH (4.0 l/h)		18 = 18" (45.7 cm) 24 = 24" (61.0 cm) 30 = 30" (76.2 cm) 36 = 36" (91.4 cm) 42 = 42" (106.7 cm) 48 = 48" (121.9 cm) 60 = 60" (152.4 cm)		24 = 24" (61.0 cm) 30 = 30" (76.2 cm) 36 = 36" (91.4 cm) 42 = 42" (106.7 cm)

A5 PC™ Series Pressure Compensating Ag Dripline

- To place an order in the United States call **(800) HELLO AG (435-5624)** or, use the Toll-FREE Fax Ordering number at **(800) 843-4162**.
- Customers outside the U.S. can contact the International Customer Service Department at **(520) 878-2400** to place an order.
- Place orders, check palette or carton quantities, or track shipping at www.rainbird.com/distributor

A5 PC™ Series Pressure Compensating Ag Dripline

Engineered, Manufactured and Tested With Your Needs in Mind

You have a choice when it comes to flat-emitter, pressure-compensating hard hose dripline. Rain Bird engineers leveraged over 75 years of irrigation expertise to develop state-of-the-art Ag dripline that meets or exceeds the performance of any Ag dripline on the market. Rain Bird® A5 PC Dripline is designed to address the key issues confronting growers today:

Reliable, steady flow

A5 PC's grit-tolerant, clog-resistant design ensures that water will keep flowing to your crops, whether it is being drawn from a well, pond, reservoir or canal. By minimizing clogging and maintenance, it saves you time and money.

High uniformity and efficiency

The technologically advanced pressure-compensating design of the A5 PC emitter maximizes uniformity and water-use efficiency, even with substantial elevation changes. By reducing the use of water, chemicals, and fertilizer, you get increased crop output with significantly lower input.

Maximum durability

Growers demand reliable performance in the harshest conditions. A5 PC dripline is engineered and tested to stand up to harsh chemicals, UV radiation and damage that can be caused by farm equipment, giving you years of worry-free performance.

Application Versatility

A5 PC dripline is ideally suited for all vineyard and orchard applications, including grapes, hops, stone fruits, almonds, walnuts, pecans and more.

Made in the USA

A5 PC pressure compensating agricultural dripline is designed, engineered, manufactured and tested in the USA.

Pre-installed Trellis Clips

- Dramatically reduces labor and installation time in the field.
- Unique engineering plastics provide unparalled strength on the wire.
- Superior control of water placement by directing water droplet to the plant.
- Low profile for mechanical harvesting
- Easily adjustable - moves from one end of the dripline to the other preventing water migration
- Economical - saves water costs
- Pre-installed at Rain Bird extrusion

Operating Range

- Compensating Pressure: 7 to 60 psi (0.48 to 4.14 bar)
- Temperature: Water: Up to 110° F (43.3° C)
- Ambient: Up to 150° F (65.6° C)
- **Required Filtration: 120 mesh (125 micron)**

Applications

- Flat, sloped or rolling terrain
- Challenging water conditions

Specifications

Nominal Flow Rates:

- 0.31 gph (1.2 l/h)
- 0.42 gph (1.6 l/h)
- 0.53 gph (2.0 l/h)
- 0.61 gph (2.3 l/h)
- 1.06 gph (4.0 l/h)

Standard Emitter Spacing:

- 18", 24", 30", 36", 42", 48", 60"
- 20cm, 40 cm, 45 cm, 50 cm, 55 cm, 60 cm, 70 cm, 75 cm
- Custom spacing available

Tubing Dimensions:

- 16 mm (OD .610, ID 0.540", wall thickness 0.035")
- 16 mm (OD .630, ID 0.540", wall thickness 0.045")
- 18 mm (ID 0.619", wall thickness 0.045")
- 20 mm (ID 0.687", wall thickness 0.050")

Customer Satisfaction Policy:

Rain Bird's Customer Satisfaction Policy provides 5 years of protection on product workmanship and 7 years on environmental stress cracking.

Trellis Clip

A5 PC 16 mm Headloss and Lateral Length

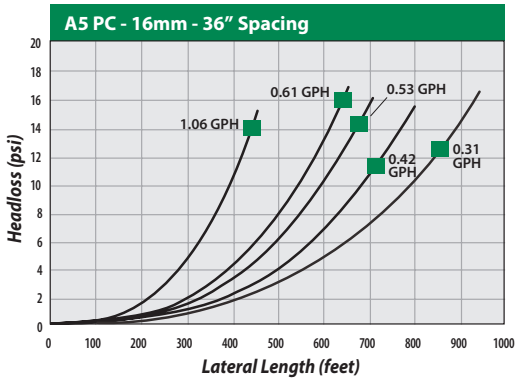
CALCULATING LATERAL LENGTH INLET PRESSURE

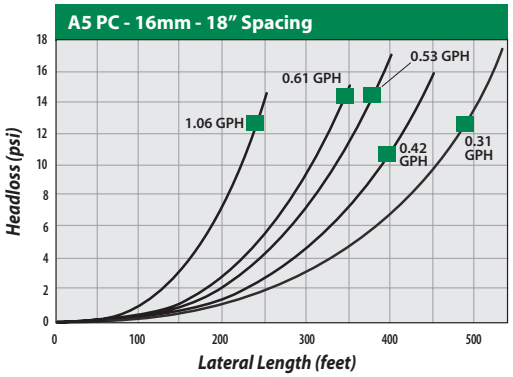
Line End Pressure*
\+ **Pressure Loss** (from graph)
= **Inlet Pressure**

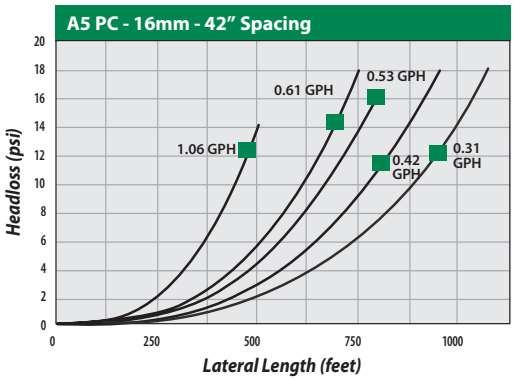
*Minimum pressure at lateral length end = 7 psi.

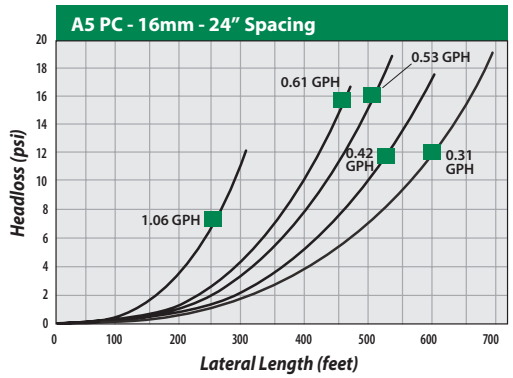
Example:

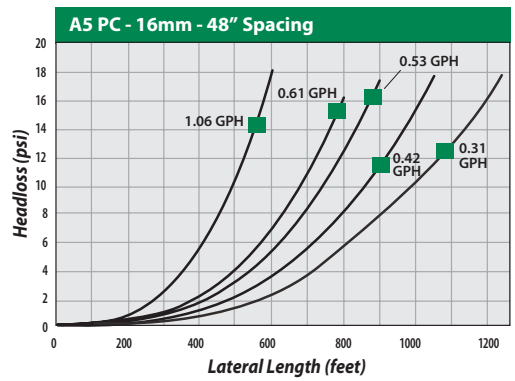
A5 PC 16mm 18" Spacing	**7 psi**	(end pressure)
0.53 GPH, 350' Run	+ **12 psi**	(from graph)
Minimum Inlet Pressure	= **19 psi**	

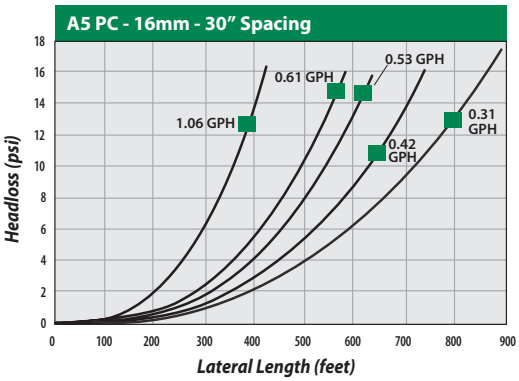


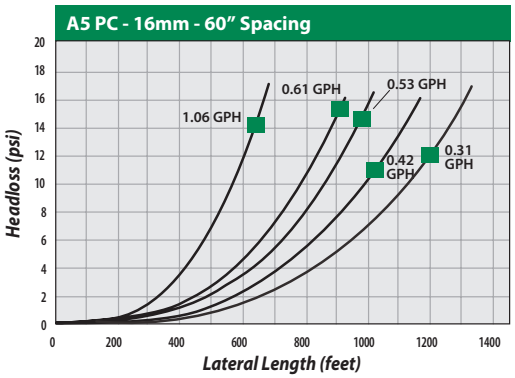












A5 PC 16 mm Headloss and Lateral Length (Metric)

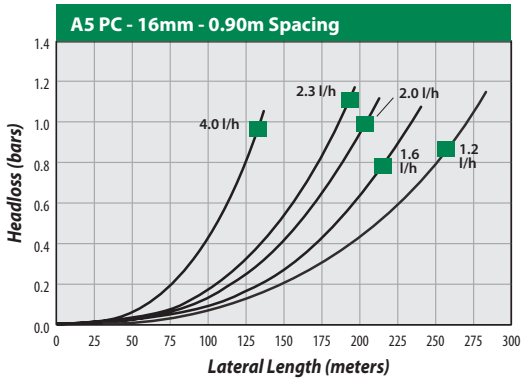
CALCULATING LATERAL LENGTH INLET PRESSURE

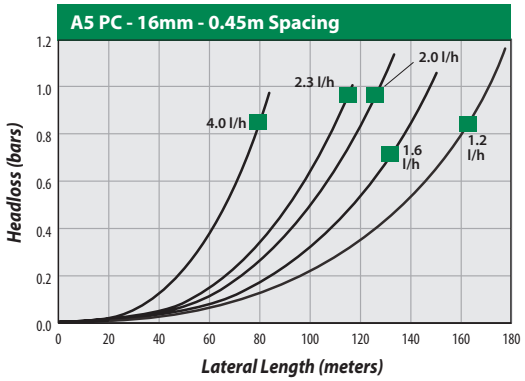
Line End Pressure*
\+ Pressure Loss (from graph)
= Inlet Pressure

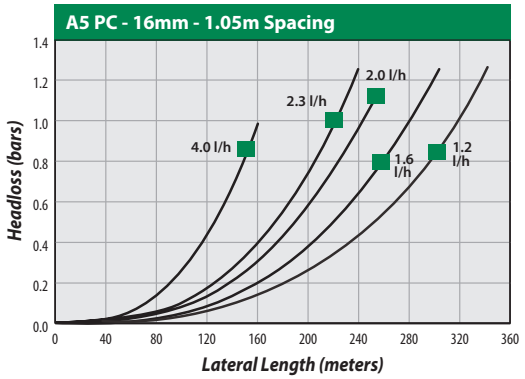
*Minimum pressure at lateral length end = 0.48 bar.

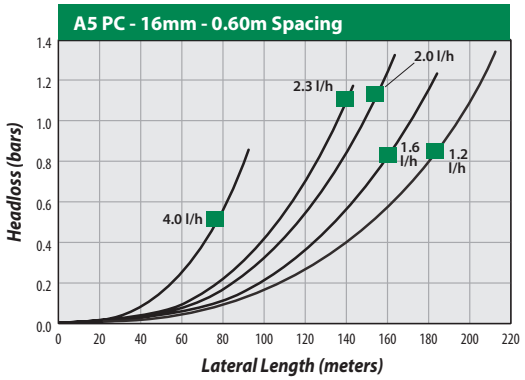
Example:

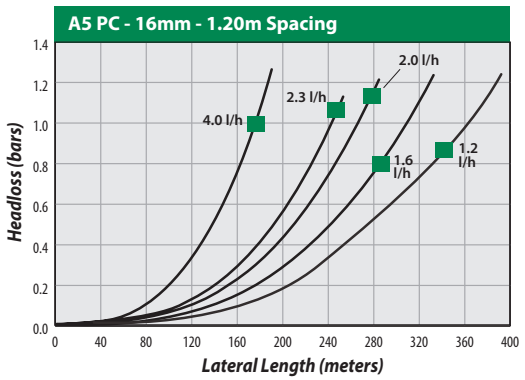
A5 PC 16mm 0.45m Spacing	**0.48 bar**	(end pressure)
2.0 l/h, 106 meter Run	+ **0.82 bar**	(from graph)
Minimum Inlet Pressure	= **1.29 bar**	

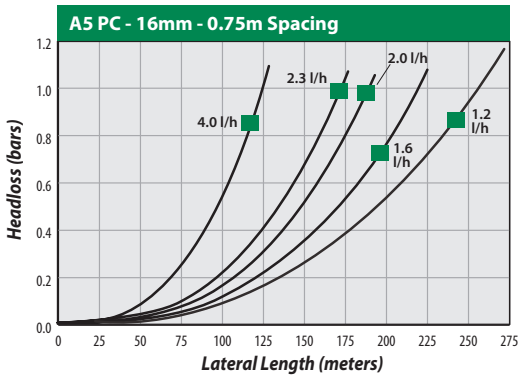


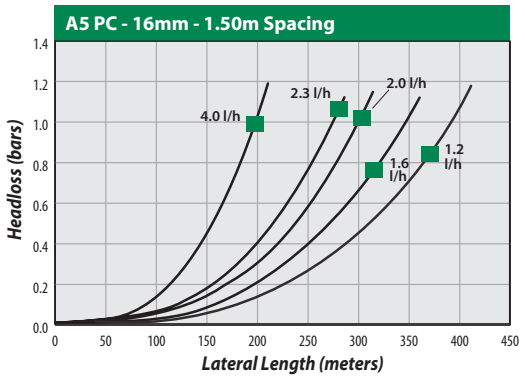












A5 PC 18 mm Headloss and Lateral Length

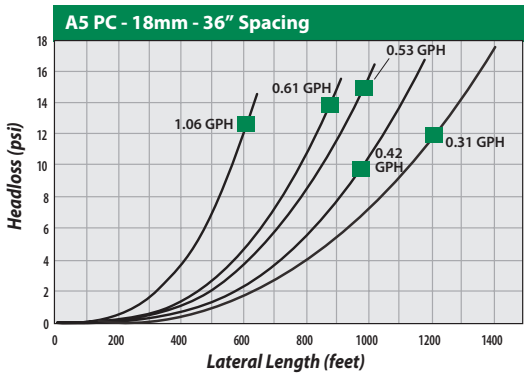
CALCULATING LATERAL LENGTH INLET PRESSURE

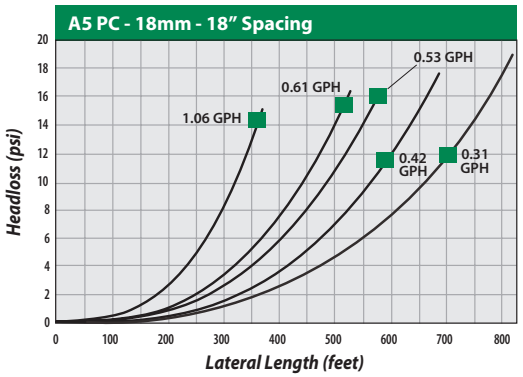
Line End Pressure*
\+ **Pressure Loss** (from graph)
= **Inlet Pressure**

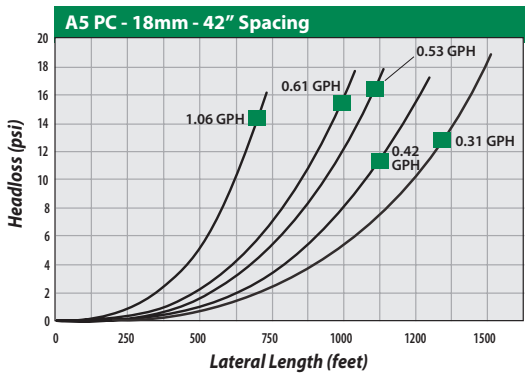
*Minimum pressure at lateral length end = 7 psi.

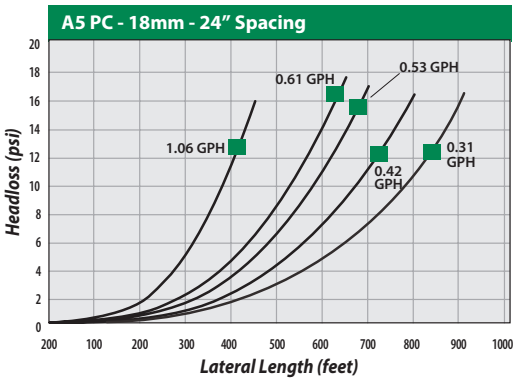
Example:

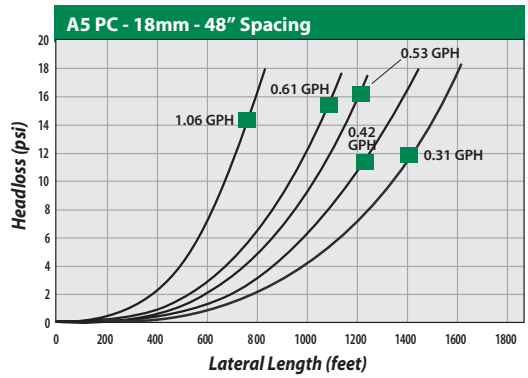
A5 PC 18mm 18" Spacing	**7 psi**	(end pressure)
0.53 GPH, 500' Run	+ **11 psi**	(from graph)
Minimum Inlet Pressure	= **18 psi**	

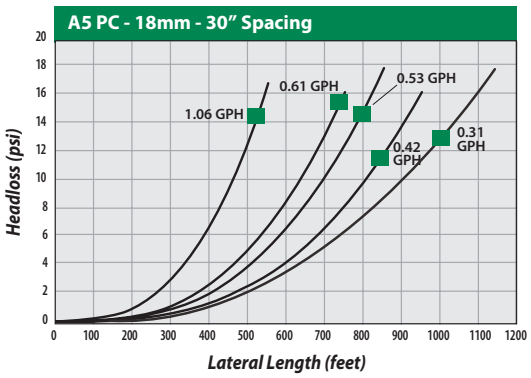


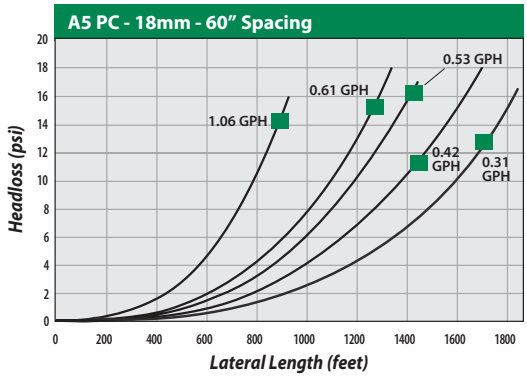












A5 PC 18 mm Headloss and Lateral Length (Metric)

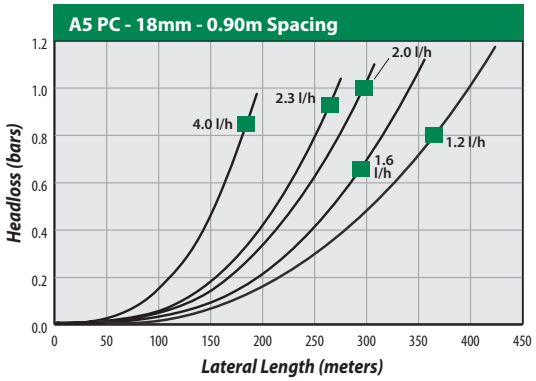
CALCULATING LATERAL LENGTH INLET PRESSURE

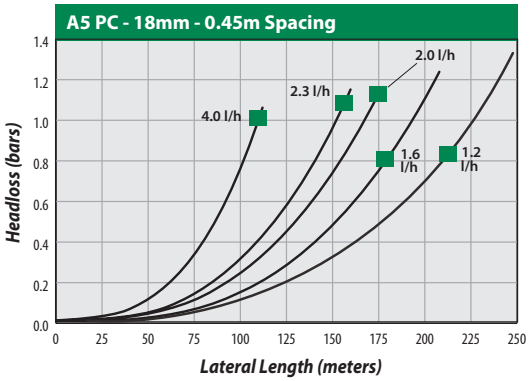
Line End Pressure*
\+ **Pressure Loss** (from graph)
= **Inlet Pressure**

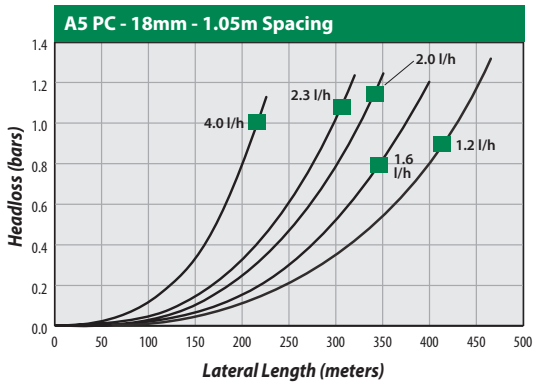
*Minimum pressure at lateral length end = 0.48 bar.

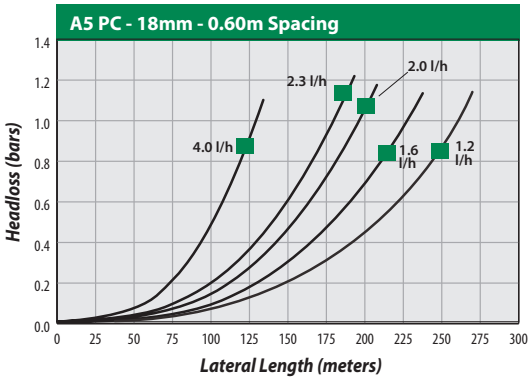
Example:

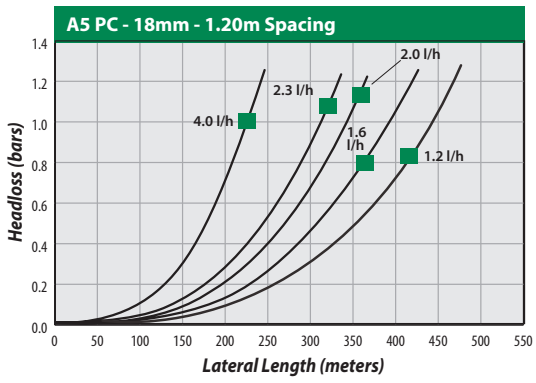
A5 PC 18mm 0.45m Spacing	**0.48 bar**	(end pressure)
2.0 l/h, 152 meter Run	+ **0.75 bar**	(from graph)
Minimum Inlet Pressure	= **1.22 bar**	

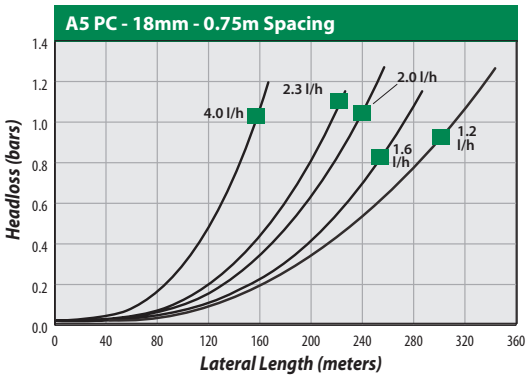


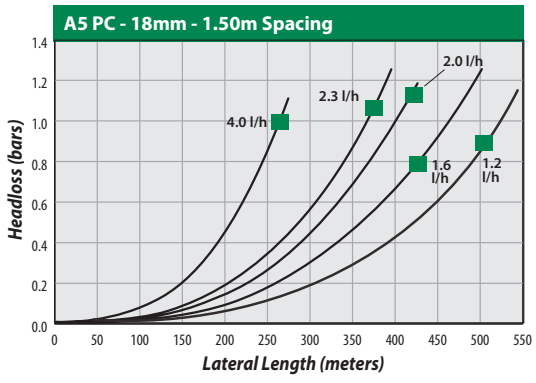












A5 PC 20 mm Headloss and Lateral Length

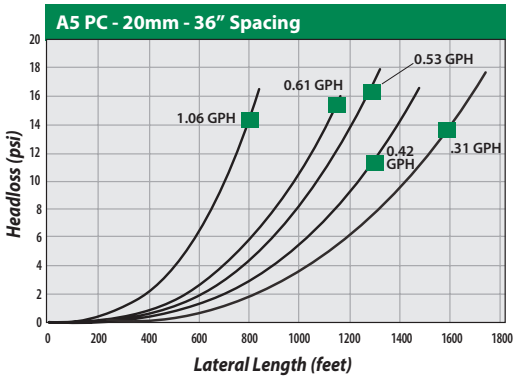
CALCULATING LATERAL LENGTH INLET PRESSURE

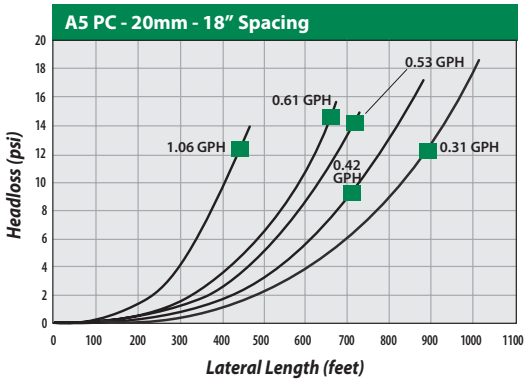
Line End Pressure*
\+ **Pressure Loss** (from graph)
= **Inlet Pressure**

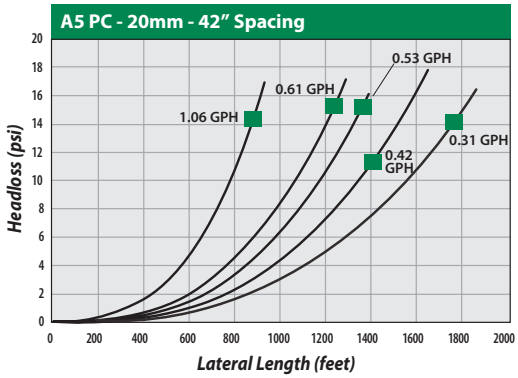
*Minimum pressure at lateral length end = 7 psi.

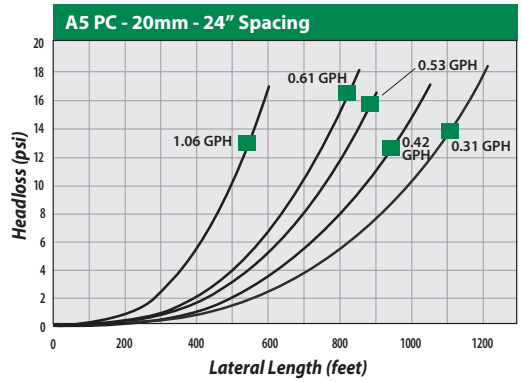
Example:

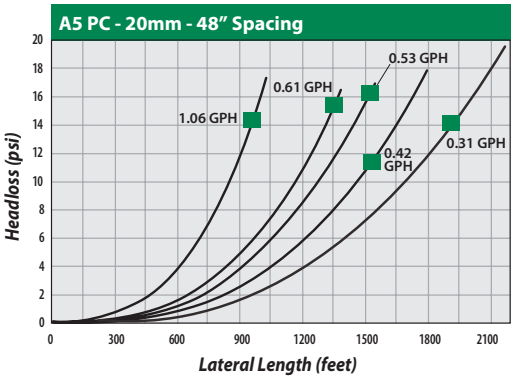
A5 PC 20mm 18" Spacing	**7 psi**	(end pressure)
0.53 GPH, 700' Run	+ **14 psi**	(from graph)
Minimum Inlet Pressure	= **21 psi**	

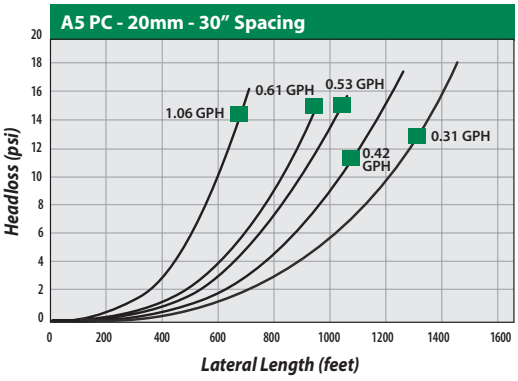


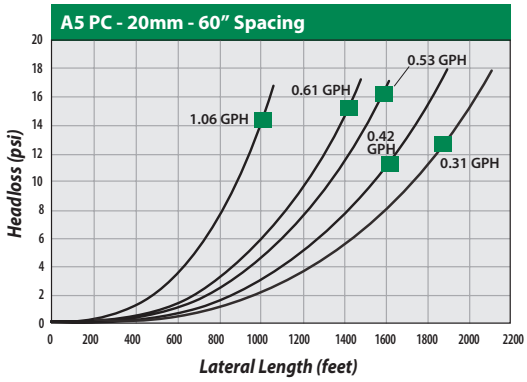












A5 PC 20 mm Headloss and Lateral Length (Metric)

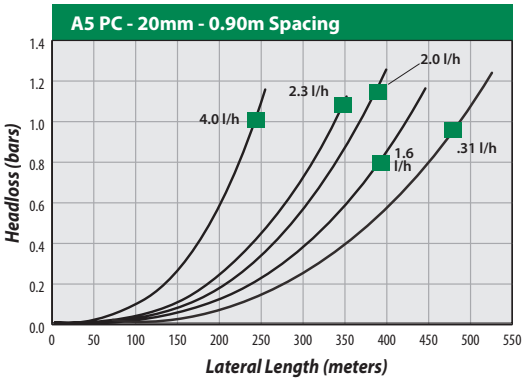
CALCULATING LATERAL LENGTH INLET PRESSURE

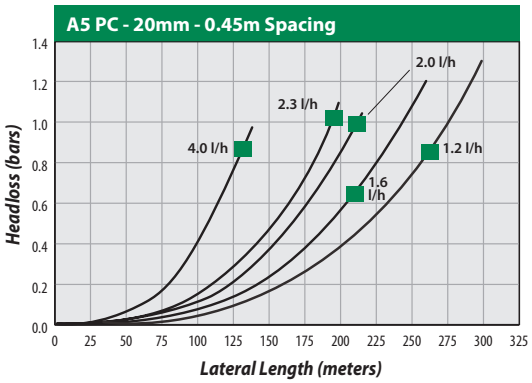
Line End Pressure*
\+ **Pressure Loss** (from graph)
= **Inlet Pressure**

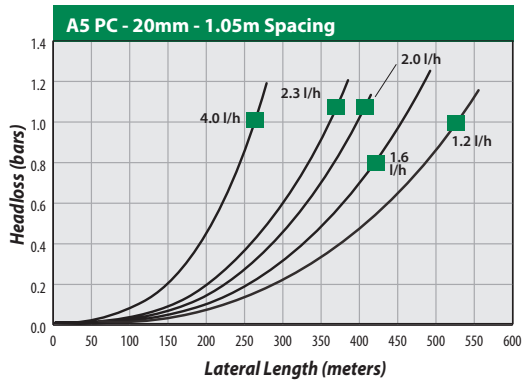
*Minimum pressure at lateral length end = 0.48 bar.

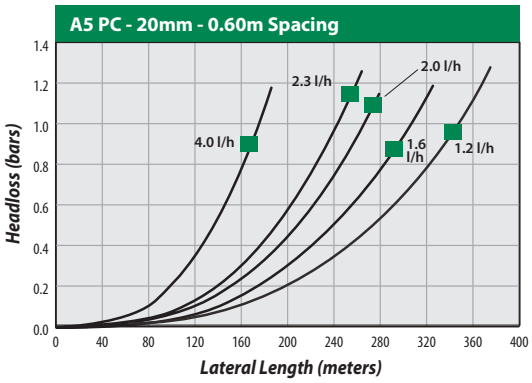
Example:

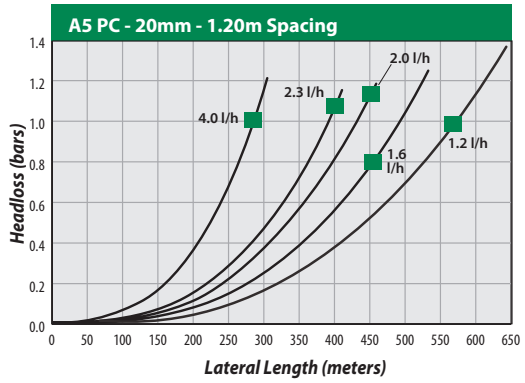
A5 PC 20mm 0.45m Spacing		**0.48 bar** (end pressure)
2.0 l/h, 213 meter Run	+	**0.95 bar** (from graph)
Minimum Inlet Pressure	=	**1.43 bar**

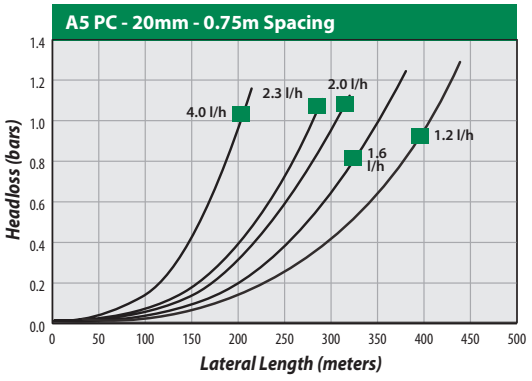


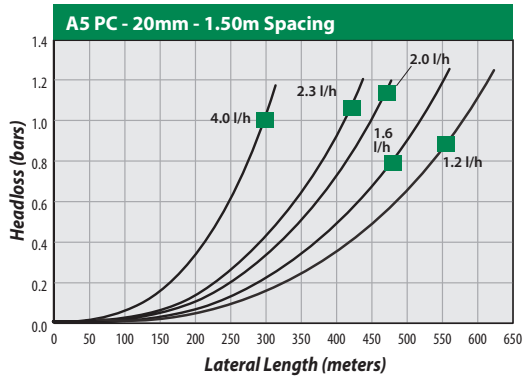












PE Polyethylene Tubing

Maximum durability

Growers demand reliable performance in the harshest conditions. Rain Bird PE Polyethylene Tubing is engineered and tested to stand up to harsh chemicals, UV radiation and damage that can be caused by farm equipment, giving you years of worry-free performance.

Application versatility

Rain Bird PE Polyethylene Tubing is ideally suited for all vineyard, orchard, greenhouse and nursery applications, including grapes, hops, stone fruits, almonds, walnuts, pecans and more. It can be placed on surface, subsurface or suspended and used with both online drippers and micro-sprays.

Unmatched UV protection

Manufactured from a unique, field-proven resin blend that holds up against destructive UV radiation better than the competition. Resists cracking and splitting to deliver years of reliable operation.

Outstanding service and support

Over 75 years of Ag irrigation expertise and a strong dealer network to assist you with design, installation, service and support of your system.

Customer Satisfaction Policy:

Rain Bird's best-in-industry Customer Satisfaction Policy provides 7 years of protection on product workmanship and 7 years on environmental stress cracking. This policy applies only to tubing with a wall thickness of 35 mil or greater.

PE Polyethylene Tubing

How to Order PE Polyethylene Tubing

PE - 400 - 490 - 10

Model
PE Polyethylene Tubing

Tube Inside Diameter
520 = 0.520″
570 = 0.570″
600 = 0.600″
620 = 0.620″
690 = 0.690″
720 = 0.720″
820 = 0.820″
830 = 0.830″
106 = 1.060″

Tube Outside Diameter
620 = 0.620″
660 = 0.660″
700 = 0.700″
710 = 0.710″
790 = 0.790″
820 = 0.820″
930 = 0.930″
940 = 0.940″
118 = 1.184″

Coil Length
50 = 500'
66 = 660'
10 = 1000'

See complete chart of available sizes on next page.

- To place an order in the United States call **(800) HELLO AG (435-5624)** or, use the Toll-FREE Fax Ordering number at **(800) 843-4162**.
- Customers outside the U.S. can contact the International Customer Service Department at **(520) 878-2400** to place an order.
- Place orders, check palette or carton quantities, or track shipping at www.rainbird.com/distributor

MODEL	INSIDE DIAMETER	OUTSIDE DIAMETER	WALL THICKNESS	COIL LENGTHS	MAX. WORKING PRESSURE
PE52062010	0.520″ (13.2 mm)	0.620″ (15.7 mm)	0.050″ (1.27 mm)	1,000′ (304.8 m)	66 psi (4.6 bar)
PE57066010	0.570″ (14.5 mm)	0.660″ (16.8 mm)	0.045″ (1.14 mm)	1,000′ (304.8 m)	55 psi (3.8 bar)
PE60070010	0.600″ (15.2 mm)	0.700″ (17.8 mm)	0.050″ (1.27 mm)	1,000′ (304.8 m)	58 psi (4.0 bar)
PE62071050	0.620″ (15.7 mm)	0.710″ (18.0 mm)	0.045″ (1.14 mm)	500′ (152.4 m)	51 psi (3.5 bar)
PE62071010	0.620″ (15.7 mm)	0.710″ (18.0 mm)	0.045″ (1.14 mm)	1,000′ (304.8 m)	51 psi (3.5 bar)
PE69079010	0.690″ (17.5 mm)	0.790″ (20.1 mm)	0.050″ (1.27 mm)	1,000′ (304.8 m)	51 psi (3.5 bar)
PE72082010	0.720″ (18.3 mm)	0.820″ (20.8 mm)	0.050″ (1.27 mm)	1,000′ (304.8 m)	49 psi (3.4 bar)
PE82093050	0.820″ (20.8 mm)	0.930″ (23.6 mm)	0.055″ (1.40 mm)	500′ (152.4 m)	47 psi (3.2 bar)
PE82093010	0.820″ (20.8 mm)	0.930″ (23.6 mm)	0.055″ (1.40 mm)	1,000′ (304.8 m)	47 psi (3.2 bar)
PE82094050	0.820″ (20.8 mm)	0.940″ (23.9 mm)	0.060″ (1.52 mm)	500′ (152.4 m)	51 psi (3.5 bar)
PE82094010	0.820″ (20.8 mm)	0.940″ (23.9 mm)	0.060″ (1.52 mm)	1,000′ (304.8 m)	51 psi (3.5 bar)
PE83094050	0.830″ (21.1 mm)	0.940″ (23.9 mm)	0.055″ (1.40 mm)	500′ (152.4 m)	46 psi (3.2 bar)
PE83094010	0.830″ (21.4 mm)	0.940″ (23.9 mm)	0.055″ (1.40 mm)	1,000′ (304.8 m)	46 psi (3.2 bar)
PE10611850	1.060″ (26.9 mm)	1.184″ (30.1 mm)	0.062″ (1.57 mm)	500′ (152.4 m)	49 psi (3.4 bar)
PE10611866	1.060″ (26.9 mm)	1.184″ (30.1 mm)	0.062″ (1.57 mm)	660′ (201.2 m)	49 psi (3.4 bar)

On-Line Emitters - PC Emitter and Lady Bug Series

Precise water application, self-flushing action, excellent value

- High quality - low volume irrigation
- Excellent pressure compensating performance
- Ideal for vineyards, nurseries, orchards and many other agricultural applications
- Water saving alternative for greenhouses

PC Emitter Features and Benefits

- **Pressure compensating**
  - Provides superior flow from 15 to 60 psi
  - Ideal for undulating terrain or systems with a large variation in pressure
- **Barbed outlet - standard**
  - Add "spaghetti" tubing to direct water for maximum accuracy
- **Silicone diaphragm**
  - Best material for long-term exposure to ag chemicals
  - Superior flush of debris when system is activated
- **Self-piercing inlet**
  - One-step installation saves labor costs
  - Non self-piercing available
- **Turbulent flow path**
  - Three dimensional geometry to keep grit in suspension as it moves through the emitter
  - Emitter body and inlet made of materials to withstand chemical and U-V degradation
  - No squirting - puts water at the desired spot
  - Color-coded outlet barb identifies flow rate
- **Economical**
  - Compact design for low cost
  - Energy savings

Multi-Outlet PC Emitters Additional Benefits

- Six independently operating pressure compensating outlets in each emission device
- Each outlet is self regulating and self flushing
- Easily opened outlets
- Ideal to ensure high levels of uniformity in uneven terrain, long laterals, and large pressure variations

Lady Bug Emitter Features and Benefits

- Ideal for applications where water pressure variations are not a significant factor from 15 to 60 psi
- Tortuous path allows particles to be kept in suspension during normal operation making the emitter resistant to plugging
- Value and economy for low volume irrigation
- Plug resistant, reducing overall system maintenance and resulting in lower operating costs
- Ideal choice for a variety of agricultural, nursery, and greenhouse applications

PC Emitter

EM6-M PC Emitter

EM-L Lady Bug Emitter

Models

Model Number	Flow Rate (gph)	Flow Rate (lph)	Inlet	Outlet	Part Number
PC Emitters					
PC-EM-05-SP-B	0.5	1.9	Self-piercing	Barbed (blue)	A118410
PC-EM-10-SP-B	1	3.8	Self-piercing	Barbed (black)	A118411
PC-EM-20-SP-B	2	7.6	Self-piercing	Barbed (red)	A118412
EM6-M101	1.0*	3.8*	Barbed	6 Barbed, 1 Open	A78314
Lady Bug Emitters					
EM-L05	0.5	1.9	Self-piercing (blue)	Barbed	A77322
EM-L10	1	3.8	Self-piercing (black)	Barbed	A77324
EM-L20	2	7.6	Self-piercing (red)	Barbed	A77328

**For flow rate on EM6-M101, multiply the number of outlets open by 1.0 gph.*

How to Order from the Micro-Quick Sprays Section

MQ - 36 BS - FE - 17

MQ = Micro-Quick

Tubing Length
36 = 36" Tubing Assembly
11 = 11 ft. Tubing Assembly

Stake
BS = Black Stake

Deflector
AA = A pattern x A pattern
AC = A pattern DOWN x C pattern UP
AE = A pattern DOWN x E pattern UP
BC = B pattern DOWN x C pattern UP
BE = B pattern DOWN x E pattern UP
DC = D pattern DOWN x C pattern UP
DE = D pattern DOWN x E pattern UP
EF = E pattern DOWN x F pattern UP
EG = E pattern DOWN x G pattern UP
CA = C pattern DOWN x A pattern UP
EA = E pattern DOWN x A pattern UP
CB = C pattern DOWN x B pattern UP
EB = E pattern DOWN x B pattern UP
CD = C pattern DOWN x D pattern UP
ED = E pattern DOWN x D pattern UP
FE = F pattern DOWN x E pattern UP
GE = G pattern DOWN xE pattern UP

Nozzle Size
05 = 5 gph nozzle – black
08 = 8 gph nozzle – orange
12 = 12 gph nozzle – blue
14 = 14 gph nozzle – violet
17 = 17 gph nozzle – green
24 = 24 gph nozzle – red
33 = 33 gph nozzle – white

For Micro-Quick Sprays:

1. Build your model number using the scheme above
2. Select your tubing assembly length (either 36" or 11 ft.)
3. Select your spray pattern
4. Use the table provided to find the appropriate nozzle

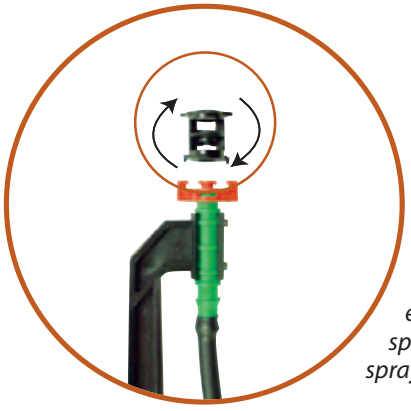
The Micro-Quick Sprays and Micro-Bird Spinner families can be ordered fully assembled or as individual components.

- To place an order in the United States call **(800) HELLO AG (435-5624)** or, use the Toll-FREE Fax Ordering number at **(800) 843-4162**.
- Customers outside the U.S. can contact the International Customer Service Department at **(520) 878-2400** to place an order.
- Place orders, check palette or carton quantities, or track shipping at www.rainbird.com/distributor

Micro-Quick™ Sprays save water, energy and labor

A Micro-Quick™ system provides for the efficient use of water, chemicals and energy. The unique snap fit and dual deflector design greatly reduce the time and expense needed to make system modifications for various growing conditions. Micro-Quick sprays are the only micro sprays available with reversible dual pattern deflectors featuring a selection of deflector pattern combinations available to meet your specific application requirements.

- No tools are required for assembly and disassembly.
- Nozzle/deflectors are easily removed for cleaning or to change flow rate or spray pattern.
- The taper bore nozzle design prevents debris from clogging the orifice and makes it easier to clean.
- All nozzles are color-coded by size.
- With no moving parts, Micro-Quick is virtually maintenance free.
- Can be installed in upright (upward spraying) or inverted (downward spraying) position.
- All components are protected by UV inhibitors and resist agricultural chemicals.
- Wide flow range from 3.7 GPH (13.8 l/h) to 30.6 GPH (115.7 l/h).
- 10 PSI (.69 bar) to 30 PSI (2.07 bar) pressure operation range.
- Nozzle/deflector combinations provide wetted diameter from 3 ft. (.91m) to 28 ft. (8.5m).



Dual deflector design enables change from spray pattern "D" to spray pattern "E"

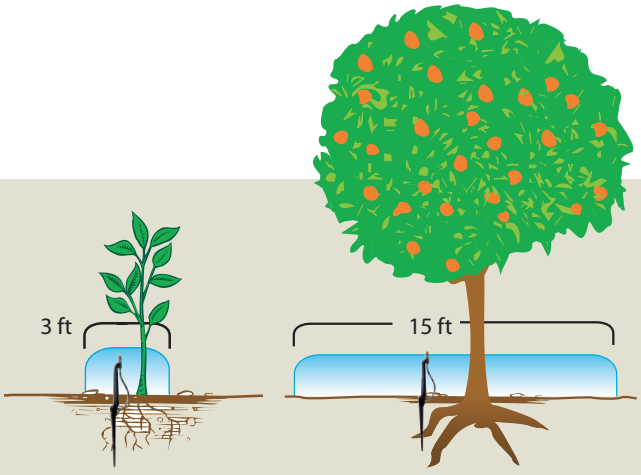
Just flip for flexibility

The unique design of the Micro-Quick deflectors allows the micro-spray system to "grow" along with the maturation of your trees. With no tools, the convenient two-sided deflector can be flipped over to quickly change the pattern.

Spray pattern configuration examples (applies to assembled Micro-Quick only):

Spray pattern configuration DE will provide spray pattern D.

Spray pattern configuration ED will provide spray pattern E.



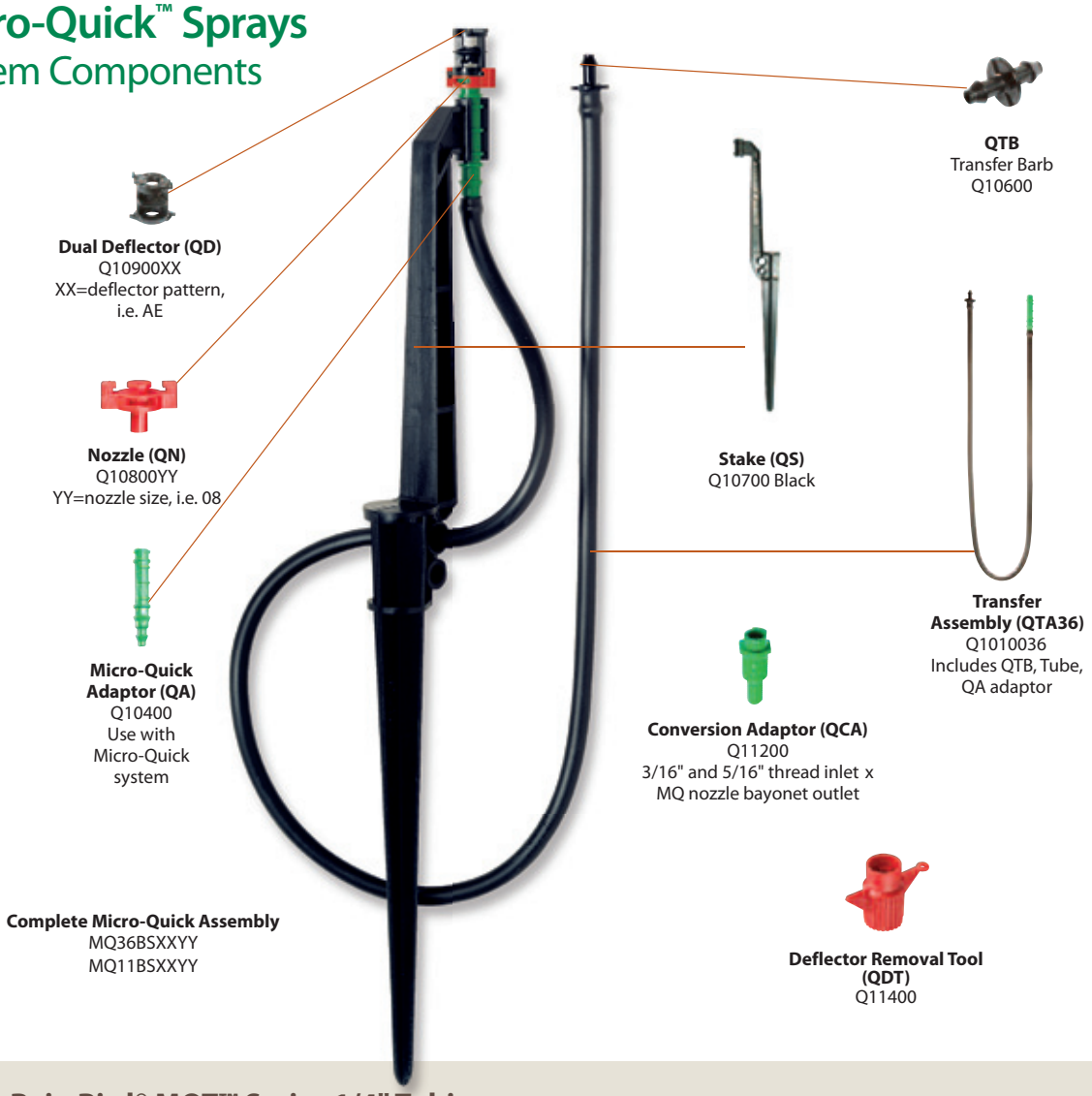
Young tree - *Pattern 'E'*

Mature tree - *Pattern 'D'*

Water application for a young tree vs. a mature tree

You can use a small diameter pattern to irrigate a young tree, then flip the deflector over to get maximum distance to irrigate the tree through maturity.

Micro-Quick™ Sprays
System Components



Dual Deflector (QD)
Q10900XX
XX=deflector pattern, i.e. AE

Nozzle (QN)
Q10800YY
YY=nozzle size, i.e. 08

Micro-Quick Adaptor (QA)
Q10400
Use with Micro-Quick system

Complete Micro-Quick Assembly
MQ36BSXXYY
MQ11BSXXYY

QTB
Transfer Barb
Q10600

Stake (QS)
Q10700 Black

Transfer Assembly (QTA36)
Q1010036
Includes QTB, Tube, QA adaptor

Conversion Adaptor (QCA)
Q11200
3/16" and 5/16" thread inlet x MQ nozzle bayonet outlet

Deflector Removal Tool (QDT)
Q11400

Rain Bird® MQT™ Series 1/4" Tubing

Flexibility for ease of installation and durability for long life

The Rain Bird® MQT™ Series 1/4" distribution tubing is an ideal choice for new Micro-Quick installations or any new installation or repair where 1/4" tubing is used.

Rugged and flexible with a textured, easy-grip surface, the XQ Series can be installed above or below grade.

Features and benefits:

- Constructed of durable, UV-resistant, polyethylene materials
- 60 psi rating
- Compatible with all 1/4" transfer fittings and all barbed outlet ports
- Unique coiling method allows the coil to remain intact as tubing is pulled out
- Available in 1000' length as a standalone coil or in a bucket

Specifications:

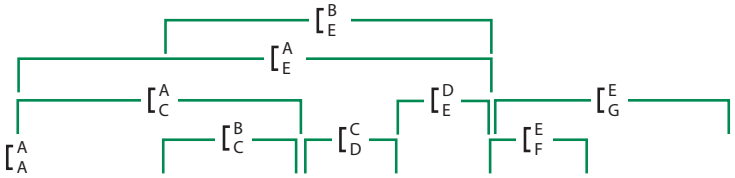
- OD: 0.25" (6mm)
- ID: 0.17" (4mm)
- Wall thickness: 0.04" (1mm)

1000' coil in bucket (MQTBKT-1000)
Q10525

1000' coil (MQT-1000)
Q10520

Micro-Quick™ Sprays
Performance Data

US Units



A 360˚- Star Bird™ Pattern

B Proportional Butterfly Pattern

C 120˚ Fan Spray Pattern

D 360˚- 24 Stream Pattern

E Down Spray Pattern

F Notched Pattern

G Rectangular Pattern

MODEL (Nozzle)	Pressure (PSI)	Flow (GPH)	Diameter (ft.)	Length (ft.)	Width (ft.)	Radius (ft.)	Diameter (ft.)	Diameter (ft.)	Diameter (ft.)	Length (ft.)	Width (ft.)	Recommended Filtration (Mesh, Microns)
QN-05 0.026" Q1080005	10	3.7	8.5	8.0	7.5	4.0	8.0	3.0	10.0	9.0	6.0	200, 74
	15	4.5	9.5	10.0	8.5	4.5	9.5	3.0	11.0	10.0	6.5	
	20	5.2	10.5	11.0	9.0	5.0	11.0	3.0	12.0	11.0	7.0	
	25	5.9	11.0	11.5	9.5	5.3	11.0	3.0	12.5	12.0	7.5	
	30	6.5	11.5	12.0	10.0	5.5	11.0	3.0	13.0	13.0	8.0	
QN-08 0.033" Q1080008	10	5.6	13.0	10.0	7.5	4.5	9.5	3.0	12.5	12.0	7.0	170, 93
	15	6.9	13.5	11.5	8.5	5.0	11.0	3.0	13.5	13.5	8.0	
	20	8.0	14.0	12.5	9.5	5.5	12.5	3.0	14.0	15.0	9.0	
	25	9.2	14.5	12.5	9.5	6.0	13.5	3.0	14.0	16.5	10.0	
	30	10.0	15.0	13.0	10.0	6.5	14.5	3.0	14.5	18.0	10.5	
QN-12 0.038" Q1080012	10	7.3	17.0	11.0	9.5	4.5	11.0	3.0	14.5	15.0	8.0	150, 105
	15	9.1	17.5	13.0	10.0	5.3	12.5	3.0	15.5	16.5	9.0	
	20	10.6	18.0	14.5	10.5	6.0	13.5	3.0	16.0	18.0	9.5	
	25	11.8	18.0	15.0	11.5	6.5	15.8	3.0	17.0	20.5	10.5	
	30	13.2	18.0	15.5	12.0	7.0	18.0	3.0	17.5	23.0	11.0	
QN-14 0.044" Q1080014	10	9.7	19.0	13.0	10.0	5.0	12.0	3.0	16.5	15.5	8.5	130, 118
	15	11.8	20.0	16.0	11.5	5.5	14.0	3.0	17.5	17.5	9.5	
	20	13.7	20.5	17.0	12.0	6.0	15.5	3.0	18.5	19.5	10.0	
	25	15.5	20.5	18.0	12.5	6.0	18.0	3.0	19.5	22.0	11.0	
	30	17.2	21.0	19.0	13.0	7.0	20.5	3.0	20.5	24.0	11.5	
QN-17 0.048" Q1080017	10	10.7	21.0	15.0	10.5	6.0	13.0	3.0	17.0	16.0	9.0	120, 125
	15	13.3	22.0	15.0	12.0	6.0	15.0	3.0	18.5	18.5	10.0	
	20	15.5	22.5	19.0	12.5	6.0	17.0	3.0	20.0	20.5	10.5	
	25	17.4	23.0	20.0	13.0	6.5	20.0	3.0	21.5	23.0	11.0	
	30	19.1	23.5	21.0	13.5	7.0	23.0	3.0	23.0	25.0	12.0	
QN-24 0.057" Q1080024	10	14.2	23.0	16.0	11.5	6.5	15.0	3.0	18.0	18.5	11.0	100, 150
	15	17.3	25.5	18.0	12.5	7.0	17.0	3.0	20.0	20.5	12.0	
	20	20.1	28.0	19.5	13.0	7.5	19.0	3.0	21.5	22.0	13.0	
	25	22.4	28.0	21.0	13.5	7.5	24.0	3.0	23.5	24.0	13.5	
	30	26.0	28.0	22.0	14.0	7.5	25.0	3.0	25.0	25.5	14.0	
QN-33 0.068" Q1080033	10	17.2	25.0	18.0	11.0	7.5	17.5	3.0	19.0	21.0	13.0	80, 180
	15	21.0	26.0	21.0	13.0	8.3	19.2	3.0	21.0	22.5	14.0	
	20	25.2	27.0	23.0	14.5	9.0	21.0	3.0	23.0	23.5	14.5	
	25	27.9	28.0	24.0	15.0	9.4	23.0	3.0	25.0	25.0	15.5	
	30	30.6	28.0	25.0	15.5	9.5	25.0	3.0	27.0	26.0	16.0	

Product Specification Example

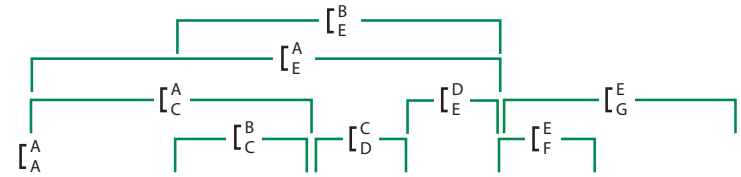
New tree orchard with young trees

A grower has selected deflector EF . The E pattern will provide the tight, full coverage required by the newly planted trees, and the wider radius F pattern will be well suited in the future as trees mature. The grower selects the QN-08 orange nozzle that provides 8 gph at 20 psi. He then chooses the 36" transfer tubing as it will allow placement flexibility when the deflector is flipped and then mounts the nozzles with the black stake.

This model number designation is **MQ36BSEF08.**

Micro-Quick™ Sprays
Performance Data

Metric Units



A 360˚- Star Bird™ Pattern

B Proportional Butterfly Pattern

C 120˚ Fan Spray Pattern

D 360˚- 24 Stream Pattern

E Down Spray Pattern

F Notched Pattern

G Rectangular Pattern

MODEL (Nozzle)	Pressure (bar)	Flow (l/h)	Diameter (m)	Length (m)	Width (m)	Radius (m)	Diameter (m)	Diameter (m)	Diameter (m)	Length (m)	Width (m)	Recommended Filtration (Mesh, Microns)
QN-05 0.026" Q1080005	0.75	13.8	2.6	2.4	2.3	1.2	2.4	0.9	3.0	2.7	1.80	200, 74
	1.00	17.2	2.9	3.0	2.6	1.4	2.9	0.9	3.3	3.0	2.00	
	1.50	19.8	3.3	3.3	2.7	1.6	3.2	0.9	3.6	3.3	2.10	
	1.75	22.3	3.4	3.5	2.9	1.6	3.4	0.9	3.8	3.6	2.25	
	2.00	24.5	3.5	3.7	3.0	1.7	3.4	0.9	4.0	4.0	2.40	
QN-08 0.033" Q1080008	0.75	21.0	3.7	3.0	2.3	1.4	2.9	0.9	3.8	3.6	2.1	170, 93
	1.00	26.3	3.8	3.5	2.6	1.5	3.3	0.9	4.1	4.1	2.4	
	1.50	30.1	4.3	3.8	2.9	1.7	3.8	0.9	4.2	4.6	2.7	
	1.75	34.6	4.4	3.8	2.9	1.8	4.0	0.9	4.2	5.0	3.01	
	2.00	37.8	4.5	4.0	3.0	2.0	4.2	0.9	4.4	5.4	3.2	
QN-12 0.038" Q1080012	0.75	27.6	5.1	3.4	2.9	1.4	3.3	0.9	4.4	4.6	2.4	150, 105
	1.00	34.5	5.3	4.0	3.0	1.6	3.7	0.9	4.7	5.0	2.7	
	1.50	40.0	5.4	4.4	3.2	1.9	4.0	0.9	4.9	5.4	2.9	
	1.75	44.7	5.5	4.6	3.5	2.0	4.8	0.9	5.1	6.2	3.2	
	2.00	49.9	5.5	4.7	3.7	2.1	5.3	0.9	5.3	7.0	3.3	
QN-14 0.044" Q1080014	0.75	36.5	5.8	4.0	3.0	1.5	3.6	0.9	5.0	4.7	2.6	130, 118
	1.00	44.6	6.1	4.9	3.5	1.7	4.2	0.9	5.3	5.3	2.9	
	1.50	52.0	6.3	5.2	3.7	1.8	5.0	0.9	5.6	5.9	3.0	
	1.75	58.7	6.3	5.5	3.8	1.9	5.5	0.9	5.9	6.7	3.3	
	2.00	65.0	6.4	5.8	4.0	2.1	6.1	0.9	6.2	7.3	3.5	
QN-17 0.048" Q1080017	0.75	40.5	6.4	4.6	3.2	1.8	4.0	0.9	5.1	4.9	2.7	120, 125
	1.00	50.5	6.7	5.2	3.7	1.8	4.5	0.9	5.6	5.6	3.0	
	1.50	58.5	6.9	5.8	3.8	1.9	5.5	0.9	6.1	6.2	3.2	
	1.75	65.9	7.0	6.1	4.0	2.0	6.0	0.9	6.5	7.0	3.3	
	2.00	72.3	7.1	6.4	4.1	2.1	6.8	0.9	7.0	7.6	3.7	
QN-24 0.057" Q1080024	0.75	53.9	7.1	4.9	3.5	2.0	4.6	0.9	5.4	5.6	3.3	100, 150
	1.00	65.6	7.8	5.5	3.8	2.2	5.1	0.9	6.1	6.2	3.7	
	1.50	76.0	8.2	5.9	4.0	2.2	6.3	0.9	6.5	6.7	3.9	
	1.75	84.9	8.5	6.4	4.1	2.3	7.0	0.9	7.1	7.3	4.1	
	2.00	98.4	8.5	6.7	4.3	2.3	7.3	0.9	7.6	7.7	4.2	
QN-33 0.068" Q1080033	0.75	65.1	7.6	5.5	3.4	2.3	5.4	0.9	5.8	6.4	3.9	80, 180
	1.00	79.5	7.9	6.4	4.0	2.5	5.8	0.9	6.4	6.9	4.2	
	1.50	95.3	8.3	7.0	4.4	2.8	6.6	0.9	7.0	7.1	4.4	
	1.75	105.7	8.4	7.3	4.6	2.9	7.1	0.9	7.6	7.6	4.7	
	2.00	115.7	8.5	7.6	4.7	2.9	7.5	0.9	8.2	7.9	4.9	

Specify fully assembled unit by model number

MQ 36 BS XX YY

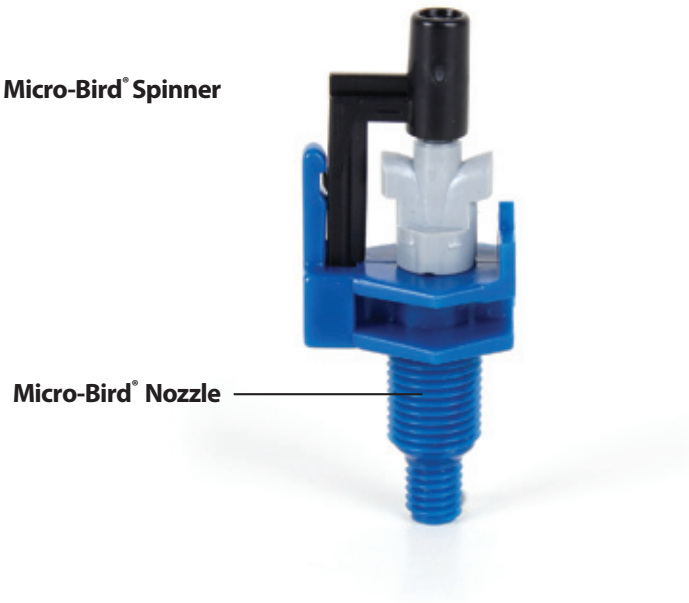
- **36** — **Tubing Length** 36" or 11 ft.
- **BS** — **Stake** BS=Black
- **XX** — **Deflector** (i.e. AE) 1st letter indicates the pattern installed and ready for initial use
- **YY** — **Nozzle Size** i.e. 08

Micro-Bird® Spinners

Micro-Bird II Spinners

The Micro-Bird II Spinner is a low-flow, micro-sprinkler ideal for applications of mature trees, greenhouses, nurseries, gardens, and landscapes.

- "Tall Bridge" and superior plastic design reduces wear and stalling.
- Unique spinner design provides a superior wetted pattern.
- "Two-Step" thread configuration to accommodate both large and small sizes of distribution tubing.
- Four color-coded nozzle bodies for easy identification.
- 340˚ pattern design provides uniform coverage without wetting tree trunks.
- Low 10˚ trajectory angle to fight wind drift.
- Filtration mesh hole size should be approximately 10 times smaller than nozzle size.



Micro-Bird Adaptor (MBQA)
Q11000
Use with
Micro-Bird system

Transfer Assembly (MBQTA36)
Q1110036
Includes QTB, TB,
MBQA adaptor

Performance Data*

MODEL (nominal nozzle diameter)	Filtration Requirements mesh (Microns)	PRES (psi)	Flow (gph)	Dia (ft)	PRES (bar)	Flow (l/h)	340˚ Dia (m)
SP12-340 Blue (0.99mm/0.039")	150 (105)	15	10.1	18	1.0	38.0	5.6
		20	11.6	19	1.5	45.0	6.0
		25	12.9	20	2.0	53.0	6.4
		30	14.1	21	2.5	58.0	6.6
		35	15.3	21	3.0	65.0	6.8
		40	16.3	22			
SP16-340 Green (1.21mm/0.048")	120 (125)	15	15.1	20	1.0	57.0	6.0
		20	17.4	21	1.5	67.0	6.6
		25	19.4	22	2.0	80.2	7.0
		30	21.2	23	2.5	86.3	7.2
		35	22.8	23	3.0	95.0	7.2
		40	24.2	24			
SP24-340 Red (1.45mm/0.057")	100 (150)	15	20.9	21	1.0	79.0	6.4
		20	24.1	23	1.5	95.0	7.0
		25	26.9	24	2.0	110.0	7.4
		30	29.3	24	2.5	118.0	7.6
		30	31.4	25	3.0	130.0	7.8
		40	33.3	25			
SP30-340 Orange (1.73mm/0.068")	80 (180)	15	28.9	23	1.0	110.0	7.0
		20	33.4	24	1.5	129.0	7.6
		25	37.2	26	2.0	153.0	8.0
		30	40.5	26	2.5	164.0	8.2
		35	43.3	27	3.0	180.0	8.4
		40	45.8	27			

Transfer Tube Assembly Pressure Loss Chart

U.S. UNITS			METRIC UNITS		
Flow	Pressure Loss (psi)		Flow	Presssure Loss (bar)	
(gph)	24"	36"	(l/h)	61cm	91cm
05	0.2	0.2	20	0.01	0.02
10	0.6	0.8	40	0.04	0.06
15	1.2	1.7	60	0.10	0.13
20	2.2	3.0	80	0.17	0.23
25	3.3	4.5	100	0.25	0.35
30	4.7	6.4	120	0.36	0.49
35	6.2	8.5	140	0.48	0.65

1 bar = approx. 100 kPa.

GENERAL NOTE: Performance data are obtained under ideal test conditions and may be adversely affected by wind, hydraulic conditions, and other factors.

*Flow and diameter are based on pressure at the base of the Micro-Bird Spinner and a 6 in. (15cm) riser height.

All components are protected by UV inhibitors and resist agricultural chemicals.

Micro-Quick Sprays and Accessories

MODEL	PART NUMBER	DESCRIPTION
TRANSFER ASSEMBLIES (INCLUDES QTB INLET BARB, ADAPTOR, TUBING, AND QA - GREEN DELRIN - ADAPTOR)		
QTA-36	Q1010036	Transfer Assembly - 36" Tubing
DUAL PATTERN - REVERSIBLE DEFLECTORS		
QD-AA	Q10900AA	(A) 360 deg 12 Star Bird x (A) 360 deg 12 Star Bird
QD-AC	Q10900AC	(A) 360 deg12 Star Bird x (C) 120 deg Fan Spray
QD-AE	Q10900AE	(A) 360 deg12 Star Bird x (E) Downspray
QD-BC	Q10900BC	(B) Proportional Butterfly x (C) 120 deg Fan Spray
QD-BE	Q10900BE	(B) Proportional Butterfly x (E) Downspray
QD-DC	Q10900DC	(D) 360 deg 24 Stream x (C) 120 deg Fan Spray
QD-DE	Q10900DE	(D) 360 deg 24 Stream x (E) Downspray
QD-EF	Q10900EF	(E) Downspray x (F) Notch
QD-EG	Q10900EG	(E) Downspray x (G) "R" or rectangular pattern
MICRO-QUICK NOZZLES		
QN-05	Q1080005	05 gph nozzle - black
QN-08	Q1080008	08 gph nozzle - orange
QN-12	Q1080012	12 gph nozzle - blue
QN-14	Q1080014	14 gph nozzle - violet
QN-17	Q1080017	17 gph nozzle - green
QN-24	Q1080024	24 gph nozzle - red
QN-33	Q1080033	33 gph nozzle - white
QNP	Q1080099	Nozzle plug
MICRO-QUICK STAKES		
QS-BLACK	Q10700	Black stake
ADAPTORS, CONNECTORS, BULK TRANSFER TUBING AND ACCESSORIES		
QA	Q10400	Micro-Quick Adaptor, barb inlet x snap outlet, green, Delrin
QCA	Q11200	Conversion Adaptor, barb inlet, 10-32 thread inlet x snap outlet, green, to connect QN/QD assemblies to non-Rain Bird transfer assemblies
MQT-1000	Q10520	1000 ft. 1/4 Tube
MQTBKT-1000	Q10525	1000 ft. 1/4 Tube in Bucket
QTB	Q10600	Transfer Barb
QDT	Q11400	Micro-Quick Deflector Removal Tool
EMA-GP	D24695	Line (Goof) Plugs

Micro-Quick Sprays and Accessories

MODEL	PART NUMBER	DESCRIPTION
MICRO-QUICK ASSEMBLY (XX = DEFLECTOR PATTERN [EXAMPLE: AA OR BE], YY = NOZZLE SIZE [EXAMPLE: 05 OR 33])		
MQ36BSxxyy		Assembled QTA-36", QS-BLACK, QD-xx and QN-yy
MQ11BSxxyy		Assembled 11', QS-BLACK, QD-xx and QN-yy
MQ36BS	Q11813	Assembled QTA-36" and QS-BLACK

Micro-Bird Spinners and Accessories

MODEL	PART NUMBER	DESCRIPTION
MICRO BIRD SPINNERS		
SP12-340	A9241112	12 GPH - (Blue) - 340 deg
SP16-340	A9241116	16 GPH - (Green) - 340 deg
SP24-340	A9241124	24 GPH - (Red) - 340 deg
SP30-340	A9241130	30 GPH - (Orange) - 340 deg
TRANSFER ASSEMBLIES (INCLUDES QTB INLET BARB, TUBING, AND MBQA - BLACK POLYPROPYLENE - ADAPTOR)		
MBQTA36	Q1110036	Transfer Assembly - 36" Tubing
MICRO-BIRD SPINNER ACCESSORIES & TOOLS		
MBQA	Q11000	MBQA Micro-Bird Quick Adaptor
EMA-GP	D24695	Line (Goof) Plugs
STAKES FOR MICRO-BIRD SPINNERS		
QS-BLACK	Q10700	Black stake
ADAPTORS, CONNECTORS, BULK TRANSFER TUBING AND ACCESSORIES		
MQT-1000	Q10520	1000 ft. 1/4 Tube
MQTBKT-1000	Q10525	1000 ft. 1/4 Tube in Bucket
QTB	Q10600	Transfer Barb

LF™ Series Sprinkler

How to Order from the LF Series Sprinkler Section

LF800 118347

Part number for Drive Only

Deflector	Nozzle	Stream Height (inch)	Flow Rates at Standard Pressures (gpm) Throw Radius at Given Nozzle and Standard Pressure (Feet) 25psi	30psi	35psi	40psi	45psi	50psi	55psi	60psi	Fully Assembled Part Number NPT	ACME
6 Degree Yellow 118582	White 50 Drill .070" 11809850	14-21		0.77 / 23	0.83 / 24	0.89 / 25	0.96 / 25	1.01 / 25	1.06 / 26	1.11 / 26	A85101A0650	A85103A0650
	Blue, 5/64" .078" 11809805	12-21	0.88 / 23	0.97 / 24	1.05 / 25	1.12 / 26	1.19 / 26	1.25 / 27	1.31 / 27	1.37 / 27	A85101A0605	A85103A0605
	Orange 44 Drill .086" 11809844	14-22	1.07 / 23	1.17 / 25	1.26 / 26	1.35 / 27	1.43 / 28	1.51 / 28	1.59 / 28	1.67 / 29	A85101A0644	A85103A0644
9 Degree Bright Purple 118601	White 50 Drill .070" 11809850	17-25		0.77 / 25	0.83 / 25	0.89 / 26	0.96 / 27	1.01 / 27	1.06 / 27	1.11 / 27	A85101A0950	A85103A0950

Part number for Nozzle Only
Part number for Deflector Only
Part number for Deflector, Nozzle, and Drive Assembled with NPT Body*
Part number for Deflector, Nozzle, and Drive Assembled with ACME Body

* Part numbers for the NPT, ACME and anti-theft bodies can be found on page 31.

The LF™ Series Sprinkler family can be ordered fully assembled or as individual components. Utilize Rain Bird's FREE Uniformity Pro™ software to make your sprinkler selections, or contact a RainBird dealer for assistance.

- Uniformity Pro™ is available online at www.rainbird.com/ag. LF™ Series accessories can be found on page 31.
- To place an order in the United States call **(800) HELLO AG (435-5624)** or, use the Toll-FREE Fax Ordering number at **(800) 843-4162**.
- Customers outside the U.S. can contact the International Customer Service Department at **(520) 878-2400** to place an order.
- Place orders, check palette or carton quantities, or track shipping at www.rainbird.com/distributor

LF™ Series Sprinkler

The Rain Bird® LF Series Sprinkler is built rugged to withstand the harsh conditions in agricultural applications. It has been designed to combine the advantages of an impact sprinkler with stream height flexibility that delivers precise, uniform and unrivaled water distribution.

This low-flow sprinkler series offers full-circle operation with a variety of color-coded nozzles and deflector inserts that snap into place with the push of a finger, making accommodations to every setup a snap.

Features and Benefits

- **High Distribution Uniformity**
  - Weighted drive disk provides long dwell time between stream interruptions to achieve the maximum distance of throw
  - The deflector is designed to provide a fan pattern to optimize uniformity
  - During impact, the Precision Jet (PJ) spoon directs the water stream into the field preventing erosion at the riser base
- **Most Robust Sprinkler in its Class**
  - Patented Ceramic Radial Bearing (CRB) is longer lasting than conventional counterparts
  - Patented Flow Dependent Brake (FDB) stabilizes rotation time over a range of water pressures
  - Provides consistent performance at high temperatures and below freezing
  - Deflector made of composite engineered thermoplastic - provides dimensional stability, resists wear caused by dirty water conditions
  - Drive disk made of engineered thermoplastic - shields and protects sprinkler from freezing, wind-blown and water-borne debris
  - Springs and pin composed of high-grade stainless steel for corrosion resistance
  - Ultraviolet (UV) stabilizer protects the sprinkler from the sun
- **Easy to Use**
  - Sprinkler is comprised of: the drive unit, body, deflector and nozzle
  - Each piece can be purchased separately
  - EZ-twist tabs allow simple removal of the drive unit; no tools required
  - Nozzles and deflectors snap in place with the push of a finger
  - Color-coded nozzles and deflectors allow easy identification
  - Weed Guard blocks weeds from growing into the sprinkler and stopping the rotations

Accessories

- Edge Guard (Road Guard) precisely directs water back to the field It can also be used as a part circle on edges and row ends
- Splash Guard fits over the top of the sprinkler and directs water downwards. When removing or replacing the sprinkler, allowing users to change or clean nozzles without getting soaked
- Stream Splitter splits the water to avoid direct water streams into tree trunks, equipment, and general areas that do not need watering

Operating Range

- Pressure: 25 to 60 psi (1.7 to 4.1 bar)
- Flow Rate: 0.77 to 4.02 gpm (175 to 913 l/hr)

Specifications

- 1/2" (13 mm) NPT male pipe thread
- 23mm Acme male thread (requires special adapter)
- Anti-theft, NPT and Acme bodies available

Nozzle Sizes:

• White	0.0703"	(1.79mm, 50 drill)
• Blue	0.078"	(1.98mm, 5/64")
• Orange	0.086"	(2.18mm, 44 drill)
• Purple	0.094"	(2.39mm, 3/32")
• Yellow	0.102"	(2.59mm, 38 drill)
• Green	0.109"	(2.76mm, 7/64")
• Tan	0.117"	(2.97mm, 30 drill)
• Red	0.1250"	(3.18mm, 1/8")
• Black	0.1325"	(3.37mm, 29 drill)
• Silver	0.1406"	(3.57mm, 9/64")
• Brown	0.1563"	(3.63mm, 5/32")
• Dark Grey	0.1719"	(4.37mm, 11/64")

Deflector trajectory outlets are:

• 6°	(Yellow)	• 13°	(Maroon)
• 6°	(Dark Purple)	• 15°	(Brown)
• 9°	(Purple)	• 15°	(Tangerine)
• 10°	(White)	• 16°	(Red)
• 10°	(Lime Green)	• 17°	(Powder Blue)
• 12°	(Copper)	• 21°	(Olive Green)
• 12°	(Cyan Blue)	• 22°	(Dark Green)
• 12°	(Pink)	• 27°	(Black)

LF™ Series Sprinkler

LF800 118347

Matrix of Assemblies

Deflector	Nozzle	Stream Height (inch)	Flow Rates at Standard Pressures (gpm) Throw Radius at Given Nozzle and Standard Pressure (Feet)								Fully Assembled Part Number	
			25psi	30psi	35psi	40psi	45psi	50psi	55psi	60psi	NPT	ACME
6 Degree Yellow 118582 	**White** 50 Drill .070" 11809850 	14-21		0.77 / 23	0.83 / 24	0.89 / 25	0.96 / 25	1.01 / 25	1.06 / 26	1.11 / 26	A85101A0650	A85103A0650
	Blue, 5/64".078" 11809805 	12-21	0.88 / 23	0.97 / 24	1.05 / 25	1.12 / 26	1.19 / 26	1.25 / 27	1.31 / 27	1.37 / 27	A85101A0605	A85103A0605
	Orange 44 Drill .086" 11809844 	14-22	1.07 / 23	1.17 / 25	1.26 / 26	1.35 / 27	1.43 / 28	1.51 / 28	1.59 / 28	1.67 / 29	A85101A0644	A85103A0644
9 Degree Bright Purple 118601 	**White** 50 Drill .070" 11809850 	17-25		0.77 / 25	0.83 / 25	0.89 / 26	0.96 / 27	1.01 / 27	1.06 / 27	1.11 / 27	A85101A0950	A85103A0950
	Blue, 5/64".078" 11809805 	15-28	0.88 / 25	0.97 / 26	1.05 / 27	1.12 / 28	1.19 / 28	1.25 / 28	1.31 / 28	1.37 / 29	A85101A0905	A85103A0905
12 Degree Copper 118575 	**White** 50 Drill .070" 11809850 	26-35		0.77 / 27	0.83 / 28	0.89 / 29	0.96 / 29	1.01 / 29	1.06 / 29	1.11 / 29	A85101A1250	A85103A1250
	Blue, 5/64".078" 11809805 	25-38	0.88 / 27	0.97 / 28	1.05 / 30	1.12 / 30	1.19 / 31	1.25 / 31	1.31 / 31	1.37 / 31	A85101A1205	A85103A1205
	Orange 44 Drill .086" 11809844 	26-41	1.07 / 28	1.17 / 30	1.26 / 31	1.35 / 32	1.43 / 32	1.51 / 33	1.59 / 33	1.67 / 34	A85101A1244	A85103A1244
15 Degree Brown 118586 	**White** 50 Drill .070" 11809850 	34-45		0.77 / 28	0.83 / 29	0.89 / 30	0.96 / 30	1.01 / 30	1.06 / 30	1.11 / 31	A85101A1550	A85103A1550
	Blue, 5/64".078" 11809805 	32-50	0.88 / 28	0.97 / 30	1.05 / 31	1.12 / 31	1.19 / 33	1.25 / 33	1.31 / 33	1.37 / 33	A85101A1505	A85103A1505
	Orange 44 Drill .086" 11809844 	28-55	1.07 / 28	1.17 / 31	1.26 / 32	1.35 / 33	1.43 / 33	1.51 / 34	1.59 / 34	1.67 / 34	A85101A1544	A85103A1544

Note: Sprinkler riser must be stable in order to achieve stated sprinkler performance.
Performance data is based on a 12 inch riser. Not all combinations are reflected in the table above

LF800 118347

METRIC

Matrix of Assemblies

Deflector	Nozzle	Stream Height (cm)	Flow Rates at Standard Pressures (lph) / Throw Radius at Given Nozzle and Standard Pressure (m)								Fully Assembled Part Number	
			1.7 bar	2.1 bar	2.4 bar	2.8 bar	3.1 bar	3.5 bar	3.8 bar	4.2 bar	NPT	ACME
6 Degree Yellow 118582 	**White** 50 Drill 1.79mm 11809850	35-53		175 / 6.9	188 / 7.2	202 / 7.5	218 / 7.5	229 / 7.5	241 / 7.8	252 / 7.8	A85101A0650	A85103A0650
	Blue, 5/64" 1.98mm 11809805	30-53	200 / 6.9	220 / 7.2	238 / 7.5	254 / 7.8	270 / 7.8	284 / 8.1	298 / 8.1	311 / 8.1	A85101A0605	A85103A0605
	Orange 44 Drill 2.18mm 11809844	35-55	243 / 6.9	266 / 7.5	286 / 7.8	307 / 8.1	325 / 8.4	343 / 8.4	361 / 8.4	379 / 8.7	A85101A0644	A85103A0644
9 Degree Bright Purple 118601 	**White** 50 Drill 1.79mm 11809850	43-63		175 / 7.5	188 / 7.5	202 / 7.8	218 / 8.1	229 / 8.1	241 / 8.1	252 / 8.1	A85101A0950	A85103A0950
	Blue, 5/64" 1.98mm 11809805	38-71	200 / 7.5	220 / 7.8	238 / 8.1	254 / 8.4	270 / 8.4	284 / 8.4	298 / 8.4	311 / 8.7	A85101A0905	A85103A0905
12 Degree Copper 118575 	**White** 50 Drill 1.79mm 11809850	66-88		175 / 8.1	188 / 8.4	202 / 8.7	218 / 8.7	229 / 8.7	241 / 8.7	252 / 8.7	A85101A1250	A85103A1250
	Blue, 5/64" 1.98mm 11809805	63-96	200 / 8.1	220 / 8.4	238 / 9.0	254 / 9.0	270 / 9.3	284 / 9.3	298 / 9.3	311 / 9.3	A85101A1205	A85103A1205
	Orange 44 Drill 2.18mm 11809844	66-104	243 / 8.4	266 / 9.0	286 / 9.3	307 / 9.6	325 / 9.6	343 / 9.9	361 / 9.9	379 / 10.2	A85101A1244	A85103A1244
15 Degree Brown 118586 	**White** 50 Drill 1.79mm 11809850	86-114		175 / 8.4	188 / 8.7	202 / 9.0	218 / 9.0	229 / 9.0	241 / 9.0	252 / 9.3	A85101A1550	A85103A1550
	Blue, 5/64" 1.98mm 11809805	81-127	200 / 8.4	220 / 9.0	238 / 9.3	254 / 9.3	270 / 9.9	284 / 9.9	298 / 9.9	311 / 9.9	A85101A1505	A85103A1505
	Orange 44 Drill 2.18mm 11809844	71-139	243 / 8.4	266 / 9.3	286 / 9.6	307 / 9.9	325 / 9.9	343 / 10.2	361 / 10.2	379 / 10.2	A85101A1544	A85103A1544

Note: Sprinkler riser must be stable in order to achieve stated sprinkler performance.
Performance data is based on a 30cm riser. Not all combinations are reflected in the table above.

LF1200 118201

Matrix of Assemblies

Deflector	Nozzle	Stream Height (inch)	Flow Rates at Standard Pressures (gpm) Throw Radius at Given Nozzle and Standard Pressure (Feet)								Fully Assembled Part Number	
			25psi	30psi	35psi	40psi	45psi	50psi	55psi	60psi	NPT	ACME
6 Degree Dark Purple 118285 	Orange 44 Drill .086" 11809844	14-20		1.17 / 23	1.26 / 23	1.35 / 25	1.43 / 25	1.51 / 26	1.59 / 26	1.67 / 26	A85001B0644	A85003B0644
	Purple 3/32".094" 11809806	14-21	1.27 / 22	1.39 / 24	1.50 / 24	1.61 / 26	1.71 / 26	1.80 / 28	1.89 / 26	1.98 / 27	A85001B0606	A85003B0606
	Yellow 38 Drill .102" 11809838	16-21	1.49 / 23	1.63 / 25	1.77 / 25	1.89 / 27	2.00 / 27	2.12 / 28			A85001B0638	A85003B0638
10 Degree White 118231 	Blue 5/64".078" 11809805	19-29		0.97 / 25	1.05 / 26	1.12 / 26	1.19 / 27	1.25 / 27	1.31 / 27	1.37 / 27	A85001B1005	A85003B1005
	Orange 44 Drill .086" 11809844	24-33		1.17 / 25	1.26 / 27	1.35 / 27	1.43 / 28	1.51 / 27	1.59 / 30	1.67 / 29	A85001B1044	A85003B1044
	Purple 3/32".094" 11809806	22-34	1.27 / 26	1.39 / 28	1.50 / 28	1.61 / 28	1.71 / 29	1.80 / 29	1.89 / 29	1.98 / 29	A85001B1006	A85003B1006
	Yellow 38 Drill .102" 11809838	24-34	1.49 / 27	1.63 / 29	1.77 / 28	1.89 / 31	2.00 / 30	2.12 / 30			A85001B1038	A85003B1038
12 Degree Cyan Blue 118262 	Orange 44 Drill .086" 11809844	28-39		1.17 / 27	1.26 / 28	1.35 / 29	1.43 / 29	1.51 / 29	1.59 / 30	1.67 / 30	A85001B1244	A85003B1244
	Purple, 3/32".094' 11809806	28-40	1.27 / 27	1.39 / 29	1.50 / 30	1.61 / 31	1.71 / 31	1.80 / 31	1.89 / 32	1.98 / 32	A85001B1206	A85003B1206
	Yellow 38 Drill .102" 11809838	30-43	1.49 / 28	1.63 / 30	1.77 / 32	1.89 / 32	2.00 / 32	2.12 / 33			A85001B1238	A85003B1238
12 Degree Pink 118354 	Green 7/64".109" 11809807	30-41	1.69 / 30	1.85 / 32	2.00 / 33	2.15 / 34					A85001B1207	A85003B1207
	Tan 30 Drill .117" 11809830	34-44	1.97 / 31	2.17 / 33	2.35 / 34	2.53 / 35					A85001B1230	A85003B1230
16 Degree Red 118240 	Blue 5/64".078" 11809805	46-59				1.12 / 30	1.19 / 31	1.25 / 30	1.31 / 31	1.37 / 31	A85001B1605	A85003B1605
	Orange 44 Drill .086" 11809844	42-55		1.17 / 31	1.26 / 32	1.35 / 32	1.43 / 32	1.51 / 32	1.59 / 32	1.67 / 32	A85001B1644	A85003B1644
	Purple 3/32".094" 11809806	40-55	1.27 / 30	1.39 / 31	1.50 / 32	1.61 / 33	1.71 / 33	1.80 / 34	1.89 / 34	1.98 / 34	A85001B1606	A85003B1606
	Yellow 38 Drill .102" 11809838	40-55	1.49 / 30	1.63 / 31	1.77 / 33	1.89 / 33	2.00 / 33	2.12 / 32			A85001B1638	A85003B1638
17 Degree Powder Blue 118226 	Blue 5/64".078" 11809805	41-55		0.97 / 27	1.05 / 31	1.12 / 30	1.19 / 33	1.25 / 33	1.31 / 33	1.37 / 33	A85001B1705	A85003B1705
	Orange 44 Drill .086" 11809844	49-60		1.17 / 31	1.26 / 33	1.35 / 34	1.43 / 34	1.51 / 34	1.59 / 34	1.67 / 33	A85001B1744	A85003B1744
	Purple 3/32".094" 11809806	42-61	1.27 / 31	1.39 / 33	1.50 / 34	1.61 / 35	1.71 / 36	1.80 / 35	1.89 / 36	1.98 / 36	A85001B1706	A85003B1706
	Yellow 38 Drill .102" 11809838	43-61	1.49 / 32	1.63 / 34	1.77 / 35	1.89 / 36	2.00 / 36	2.12 / 37			A85001B1738	A85003B1738
21 Degree Olive Green 118339 	Orange 44 Drill .086" 11809844	60-74		1.17 / 34	1.26 / 34	1.35 / 34	1.43 / 35	1.51 / 35	1.59 / 35	1.67 / 35	A85001B2144	A85003B2144
	Purple 3/32".094" 11809806	50-75	1.27 / 33	1.39 / 34	1.50 / 35	1.61 / 35	1.71 / 35	1.80 / 35	1.89 / 35	1.98 / 36	A85001B2106	A85003B2106
	Yellow 38 Drill .102" 11809838	53-72	1.49 / 34	1.63 / 35	1.77 / 36	1.89 / 36	2.00 / 36	2.12 / 36			A85001B2138	A85003B2138

Note: Sprinkler riser must be stable in order to achieve stated sprinkler performance.
Performance data is based on a 12 inch riser. Not all combinations are reflected in the table above.

LF1200 118201 METRIC

Matrix of Assemblies

Deflector	Nozzle	Stream Height (cm)	Flow Rates at Standard Pressures (lph) / Throw Radius at Given Nozzle and Standard Pressure (m)								Fully Assembled Part Number	
			1.7 bar	2.1 bar	2.4 bar	2.8 bar	3.1 bar	3.5 bar	3.8 bar	4.2 bar	NPT	ACME
6 Degree Dark Purple 118285	**Orange** 44 Drill 2.18mm 11809844	35-50		266 / 6.9	286 / 6.9	307 / 7.5	325 / 7.5	343 / 7.8	361 / 7.8	379 / 7.8	A85001B0644	A85003B0644
	Purple 3/32" 2.39mm 11809806	35-53	288 / 6.6	316 / 7.2	341 / 7.2	366 / 7.8	388 / 7.8	409 / 8.4	429 / 7.8	450 / 8.1	A85001B0606	A85003B0606
	Yellow 38 Drill 2.59mm 11809838	40-53	338 / 6.9	370 / 7.5	402 / 7.5	429 / 8.1	454 / 8.1	481 / 8.4			A85001B0638	A85003B0638
10 Degree White 118231	**Blue** 5/64" 1.98mm 11809805	48-73		220 / 7.5	238 / 7.8	254 / 7.8	270 / 8.1	284 / 8.1	298 / 8.1	311 / 8.1	A85001B1005	A85003B1005
	Orange 44 Drill 2.18mm 11809844	60-83		266 / 7.5	286 / 8.1	307 / 8.1	325 / 8.4	343 / 8.1	361 / 9.0	379 / 8.7	A85001B1044	A85003B1044
	Purple 3/32" 2.39mm 11809806	55-86	288 / 7.8	316 / 8.4	341 / 8.4	366 / 8.4	388 / 8.7	409 / 8.7	429 / 8.7	450 / 8.7	A85001B1006	A85003B1006
	Yellow 38 Drill 2.59mm 11809838	60-86	338 / 8.1	370 / 8.7	402 / 8.4	429 / 9.3	454 / 9.0	481 / 9.0			A85001B1038	A85003B1038
12 Degree Cyan Blue 118262	**Orange** 44 Drill 2.18mm 11809844	71-99		266 / 8.1	286 / 8.4	307 / 8.7	325 / 8.7	343 / 8.7	361 / 9.0	379 / 9.0	A85001B1244	A85003B1244
	Purple, 3/32" 2.39mm 11809806	71-101	288 / 8.1	316 / 8.7	341 / 9.0	366 / 9.3	388 / 9.3	409 / 9.3	429 / 9.6	450 / 9.6	A85001B1206	A85003B1206
	Yellow 38 Drill 2.59mm 11809838	76-109	338 / 8.4	370 / 9.0	402 / 9.6	429 / 9.6	454 / 9.6	481 / 9.6			A85001B1238	A85003B1238
12 Degree Pink 118354	**Green** 7/64" 2.76mm 11809807	76-104	384 / 9.0	420 / 9.6	454 / 9.9	488 / 10.2					A85001B1207	A85003B1207
	Tan 30 Drill 2.97mm 11809830	86-111	447 / 9.3	493 / 9.9	534 / 10.2	575 / 10.5					A85001B1230	A85003B1230
16 Degree Red 118240	**Blue** 5/64" 1.98mm 11809805	116-149				254 / 9.0	270 / 9.3	284 / 9.0	298 / 9.3	311 / 9.3	A85001B1605	A85003B1605
	Orange 44 Drill 2.18mm 11809844	106-139		266 / 9.3	286 / 9.6	307 / 9.6	325 / 9.6	343 / 9.6	361 / 9.6	379 / 9.6	A85001B1644	A85003B1644
	Purple 3/32" 2.39mm 11809806	101-139	288 / 9.0	316 / 9.3	341 / 9.6	366 / 9.9	388 / 9.9	409 / 10.2	429 / 10.2	450 / 10.2	A85001B1606	A85003B1606
	Yellow 38 Drill 2.59mm 11809838	101-139	338 / 9.0	370 / 9.3	402 / 9.9	429 / 9.9	454 / 9.9	481 / 9.6			A85001B1638	A85003B1638
17 Degree Powder Blue 118226	**Blue** 5/64" 1.98mm 11809805	104-139		220 / 8.1	238 / 9.3	254 / 9.0	270 / 9.9	284 / 9.9	298 / 9.9	311 / 9.9	A85001B1705	A85003B1705
	Orange 44 Drill 2.18mm 11809844	124-152		266 / 9.3	286 / 9.9	307 / 10.2	325 / 10.2	343 / 10.2	361 / 10.2	379 / 9.9	A85001B1744	A85003B1744
	Purple 3/32" 2.39mm 11809806	106-154	288 / 9.3	316 / 9.9	341 / 10.2	366 / 10.5	388 / 10.8	409 / 10.5	429 / 10.8	450 / 10.8	A85001B1706	A85003B1706
	Yellow 38 Drill 2.59mm 11809838	109-154	338 / 9.6	370 / 10.2	402 / 10.5	429 / 10.8	454 / 10.8	481 / 11.1			A85001B1738	A85003B1738
21 Degree Olive Green 118339	**Orange** 44 Drill 2.18mm 11809844	152-187		266 / 10.2	286 / 10.2	307 / 10.2	325 / 10.5	343 / 10.5	361 / 10.5	379 / 10.5	A85001B2144	A85003B2144
	Purple 3/32" 2.39mm 11809806	127-190	288 / 9.9	316 / 10.2	341 / 10.5	366 / 10.5	388 / 10.5	409 / 10.5	429 / 10.5	450 / 10.8	A85001B2106	A85003B2106
	Yellow 38 Drill 2.59mm 11809838	134-182	338 / 10.2	370 / 10.5	402 / 10.8	429 / 10.8	454 / 10.8	481 / 10.8			A85001B2138	A85003B2138

Note: Sprinkler riser must be stable in order to achieve stated sprinkler performance.
Performance data is based on a 30cm riser. Not all combinations are reflected in the table above.

LF2400 118572

Matrix of Assemblies

Deflector	Nozzle	Stream Height (inch)	Flow Rates at Standard Pressures (gpm) Throw Radius at Given Nozzle and Standard Pressure (Feet)								Fully Assembled Part Number	
			25psi	30psi	35psi	40psi	45psi	50psi	55psi	60psi	NPT	ACME
10 Degree Lime 118599 	**Green** 7/64".109" 11809807	20-38	1.69 / 27	1.85 / 29	2.00 / 30	2.15 / 32	2.28 / 33	2.45 / 34	2.57 / 34	2.70 / 35	A85201C1007	A85203C1007
	Tan 30 Drill .117" 11809830	24-38	1.97 / 29	2.17 / 30	2.35 / 32	2.53 / 33	2.67 / 34	2.81 / 35	2.95 / 35	3.09 / 36	A85201C1030	A85203C1030
	Red 1/8".125" 11809808	24-41	2.24 / 30	2.50 / 32	2.70 / 33	2.89 / 34	3.07 / 35	3.20 / 36	3.36 / 36	3.52 / 36	A85201C1008	A85203C1008
	Black 29 Drill .133" 11809829	30-48	2.52 / 30	2.81 / 32	3.03 / 33	3.25 / 35	3.45 / 35	3.60 / 36	3.75 / 36	3.88 / 37	A85201C1029	A85203C1029
	Silver 9/64".143" 11809809	32-44	2.93 / 32	3.27 / 34	3.53 / 35	3.78 / 36	4.02 / 37				A85201C1009	A85203C1009
13 Degree Maroon 118600 	**Green** 7/64".109" 11809807	28-50	1.69 / 30	1.85 / 31	2.00 / 32	2.15 / 33	2.28 / 34	2.45 / 34	2.57 / 35	2.70 / 35	A85201C1307	A85203C1307
	Tan 30 Drill .117" 11809830	30-48	1.97 / 31	2.17 / 32	2.35 / 33	2.53 / 36	2.67 / 35	2.81 / 36	2.95 / 36	3.09 / 36	A85201C1330	A85203C1330
	Red 1/8".125" 11809808	32-49	2.24 / 31	2.50 / 33	2.70 / 34	2.89 / 35	3.07 / 36	3.20 / 37	3.36 / 38	3.52 / 37	A85201C1308	A85203C1308
	Black 29 Drill .133" 11809829	33-50	2.52 / 32	2.81 / 33	3.03 / 34	3.25 / 35	3.45 / 36	3.60 / 36	3.75 / 37	3.88 / 37	A85201C1329	A85203C1329
	Silver 9/64".143" 11809809	38-54	2.93 / 33	3.27 / 36	3.53 / 37	3.78 / 38	4.02 / 39				A85201C1309	A85203C1309
15 Degree Tangerine 118583 	**Green** 7/64".109" 11809807	32-50	1.69 / 36	1.85 / 32	2.00 / 33	2.15 / 34	2.28 / 35	2.45 / 35	2.57 / 36	2.70 / 37	A85201C1507	A85203C1507
	Tan 30 Drill .117" 11809830	28-50	1.97 / 30	2.17 / 33	2.35 / 34	2.53 / 36	2.67 / 36	2.81 / 36	2.95 / 37	3.09 / 37	A85201C1530	A85203C1530
	Red 1/8".125" 11809808	35-54	2.24 / 32	2.50 / 34	2.70 / 35	2.89 / 37	3.07 / 37	3.20 / 37	3.36 / 37	3.52 / 37	A85201C1508	A85203C1508
	Black 29 Drill .133" 11809829	40-67	2.52 / 32	2.81 / 36	3.03 / 37	3.25 / 38	3.45 / 38	3.60 / 39	3.75 / 39	3.88 / 40	A85201C1529	A85203C1529
	Silver 9/64".143" 11809809	42-57	2.93 / 34	3.27 / 36	3.53 / 37	3.78 / 39	4.02 / 39				A85201C1509	A85203C1509
22 Degree Dark Green 118585 	**Green** 7/64".109" 11809807	63-95	1.69 / 36	1.85 / 38	2.00 / 38	2.15 / 38	2.28 / 39	2.45 / 39	2.57 / 39	2.70 / 39	A85201C2207	A85203C2207
	Tan 30 Drill .117" 11809830	64-97	1.97 / 36	2.17 / 38	2.35 / 39	2.53 / 40	2.67 / 41	2.81 / 41	2.95 / 41	3.09 / 42	A85201C2230	A85203C2230
	Red 1/8".125" 11809808	67-100	2.24 / 36	2.50 / 39	2.70 / 40	2.89 / 41	3.07 / 41	3.20 / 43	3.36 / 43	3.52 / 44	A85201C2208	A85203C2208
	Black 29 Drill .133" 11809829	74-120	2.52 / 38	2.81 / 41	3.03 / 42	3.25 / 42	3.45 / 43	3.60 / 44	3.75 / 44	3.88 / 44	A85201C2229	A85203C2229
	Silver 9/64".143" 11809809	72-102	2.93 / 39	3.27 / 40	3.53 / 43	3.78 / 44	4.02 / 45				A85201C2209	A85203C2209

Note: Sprinkler riser must be stable in order to achieve stated sprinkler performance.
Performance data is based on a 12 inch riser. Not all combinations are reflected in the table above.

LF2400 118572 — METRIC

Matrix of Assemblies

Deflector	Nozzle	Stream Height (cm)	Flow Rates at Standard Pressures (lph) / Throw Radius at Given Nozzle and Standard Pressure (m)								Fully Assembled Part Number	
			1.7 bar	2.1 bar	2.4 bar	2.8 bar	3.1 bar	3.5 bar	3.8 bar	4.2 bar	NPT	ACME
10 Degree Lime 118599	Green 7/64" 2.76mm 11809807	50-96	384 / 8.1	420 / 8.7	454 / 9.0	488 / 9.6	518 / 9.9	556 / 10.2	584 / 10.2	613 / 10.5	A85201C1007	A85203C1007
	Tan 30 Drill 2.97mm 11809830	60-96	447 / 8.7	493 / 9.0	534 / 9.6	575 / 9.9	606 / 10.2	638 / 10.5	670 / 10.5	702 / 10.8	A85201C1030	A85203C1030
	Red 1/8" 3.18mm 11809808	60-104	509 / 9.0	568 / 9.6	613 / 9.9	656 / 10.2	697 / 10.5	727 / 10.8	763 / 10.8	799 / 10.8*	A85201C1008	A85203C1008
	Black 29 Drill 3.38mm 11809829	76-121	572 / 9.0	638 / 9.6	688 / 9.9	738 / 10.5	784 / 10.5	818 / 10.8	852 / 10.8	881 / 11.1	A85201C1029	A85203C1029
	Silver 9/64" 3.63mm 11809809	81-111	665 / 9.6	743 / 10.2	802 / 10.5	858 / 10.8	913 / 11.1				A85201C1009	A85203C1009
13 Degree Maroon 118600	Green 7/64" 2.76mm 11809807	71-127	384 / 9.0	420 / 9.3	454 / 9.6	488 / 9.9	518 / 10.2	556 / 10.2	584 / 10.5	613 / 10.5	A85201C1307	A85203C1307
	Tan 30 Drill 2.97mm 11809830	76-121	447 / 9.3	493 / 9.6	534 / 9.9	575 / 10.8	606 / 10.5	638 / 10.8	670 / 10.8	702 / 10.8	A85201C1330	A85203C1330
	Red 1/8" 3.18mm 11809808	81-124	509 / 9.3	568 / 9.9	613 / 10.2	656 / 10.5	697 / 10.8	727 / 11.1	763 / 11.4	799 / 11.1	A85201C1308	A85203C1308
	Black 29 Drill 3.38mm 11809829	86-127	572 / 9.6	638 / 9.9	688 / 10.2	738 / 10.5	784 / 10.8	818 / 10.8	852 / 11.1	881 / 11.1	A85201C1329	A85203C1329
	Silver 9/64" 3.63mm 11809809	96-137	665 / 9.9	743 / 10.8	802 / 11.1	858 / 11.4	913 / 11.7				A85201C1309	A85203C1309
15 Degree Tangerine 118583	Green 7/64" 2.76mm 11809807	81-127	384 / 9.3	420 / 9.6	454 / 9.9	488 / 10.2	518 / 10.5	556 / 10.5	584 / 10.8	613 / 11.1	A85201C1507	A85203C1507
	Tan 30 Drill 2.97mm 11809830	71-127	447 / 9.0	493 / 9.9	534 / 10.2	575 / 10.8	606 / 10.8	638 / 10.8	670 / 11.1	702 / 11.1	A85201C1530	A85203C1530
	Red 1/8" 3.18mm 11809808	88-137	509 / 9.6	568 / 10.2	613 / 10.5	656 / 11.1	697 / 11.1	727 / 11.1	763 / 11.1	799 / 11.1	A85201C1508	A85203C1508
	Black 29 Drill 3.38mm 11809829	101-170	572 / 9.6	638 / 10.8	688 / 11.1	738 / 11.4	784 / 11.4	818 / 11.7	852 / 11.7	881 / 12.0	A85201C1529	A85203C1529
	Silver 9/64" 3.63mm 11809809	106-144	665 / 10.2	743 / 10.8	802 / 11.1	858 / 11.7	913 / 11.7				A85201C1509	A85203C1509
22 Degree Dark Green 118585	Green 7/64" 2.76mm 11809807	160-241	384 / 10.8	420 / 11.4	454 / 11.4	488 / 11.4	518 / 11.7	556 / 11.7	584 / 11.7	613 / 11.7	A85201C2207	A85203C2207
	Tan 30 Drill 2.97mm 11809830	162-246	447 / 10.8	493 / 11.4	534 / 11.7	575 / 12.0	606 / 12.3	638 / 12.3	670 / 12.3*	702 / 12.6	A85201C2230	A85203C2230
	Red 1/8" 3.18mm 11809808	170-254	509 / 10.8	568 / 11.7	613 / 12.0	656 / 12.3	697 / 12.3	727 / 12.9	763 / 12.9	799 / 13.2	A85201C2208	A85203C2208
	Black 29 Drill 3.38mm 11809829	187-304	572 / 11.4	638 / 12.3	688 / 12.6	738 / 12.6	784 / 12.9	818 / 13.2	852 / 13.2	881 / 13.2	A85201C2229	A85203C2229
	Silver 9/64" 3.63mm 11809809	182-259	665 / 11.7	743 / 12.0	802 / 12.9	858 / 13.2	913 / 13.5				A85201C2209	A85203C2209

Note: Sprinkler riser must be stable in order to achieve stated sprinkler performance.
Performance data is based on a 30cm riser. Not all combinations are reflected in the table above. * Estimated - based on results of similar pressures.

LF™ 2400 - Long Range

Unrivaled Performance at a Dramatically Lower Cost

The company that set the standard with the ¾" brass impact sprinkler now introduces technology that surpasses it. The Rain Bird LF2400-Long Range Options provide unrivaled performance at a dramatically lower cost compared to similar brass and plastic sprinklers, making it the new standard for ¾" sprinkler applications.

LF™ 2400 Series Sprinkler

Features and Benefits

- **Unrivaled Performance**
  - Superior Distribution Uniformity
  - Unmatched Durability
    - Based on the field-proven Rain Bird® LF™ Series Sprinkler
    - Backed by an Industry Leading 5 Year Warranty
- **Dramatically Lower Cost**
  - Keep more money in your pocket with dramatically lower cost compared to brass and other plastic ¾" sprinkler options
  - Reduced chance of theft with plastic material and Anti-Theft features

Operating Range

- Pressure: 25 to 60 psi (1.7 to 4.1 bar)
- Flow Rate: 2.99 to 6.82 gpm (679 to 1549 l/hr)

Specifications

- 1/2" (13 mm) NPT male pipe thread
- 3/4" (19 mm) NPT male pipe thread
- 23mm Acme male thread (requires special adapter)
- Anti-theft, NPT and Acme bodies available

Nozzle Sizes:

- Silver 0.143" (3.57mm, 9/64")
- Brown 0.156" (3.63mm, 5/32")
- Dark Grey 0.172" (4.37mm, 11/64")

LF2400

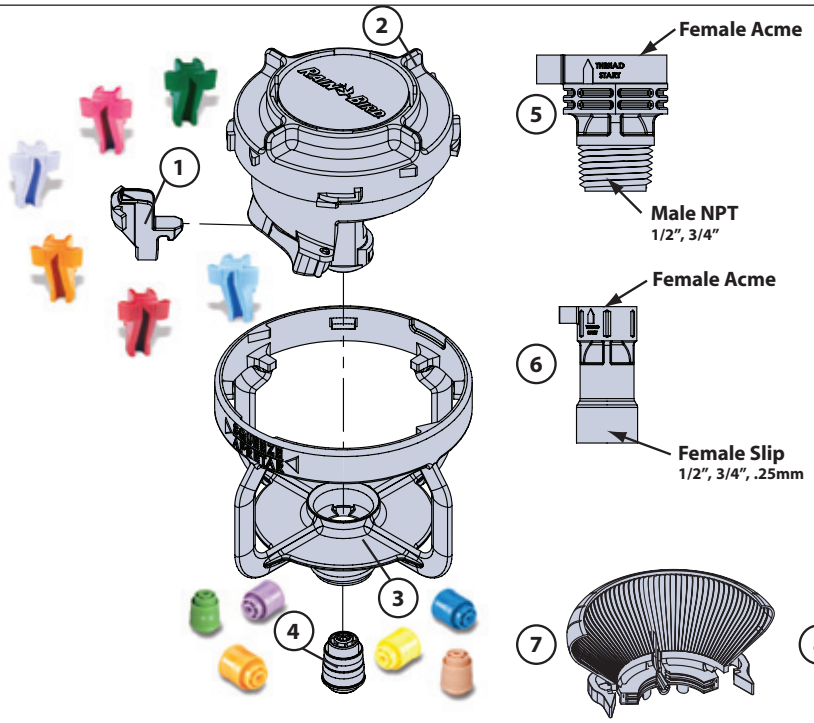
Deflector	Nozzle	Stream Height (inch)	Flow Rates at Standard Pressures (gpm) Throw Radius at Given Nozzle and Standard Pressure (feet)								Fully Assembled Part Number		
			25 psi	30 psi	35 psi	40 psi	45 psi	50 psi	55 psi	60 psi	1/2" NPT	ACME	ACME w/ 3/4" NPT Adapter
27 Degree Black 118602	Silver 9/64" .143" 11809809	76-116	2.99 / 38	3.27 / 40	3.54 / 40	3.78 / 42	4.01 / 44	4.23 / 45	4.43 / 46	4.63 / 46	A85201C2709	A85203C2709	A85223C2709
	Brown 5/32" .156" 11809810	78-118	3.64 / 38	3.99 / 40	4.31 / 42	4.60 / 44	4.88 / 44	5.15 / 45	5.40 / 46	5.64 / 46	A85201C2710	A85203C2710	A85223C2710
	Dark Grey 11/64" .172" 11809811	80-120	4.40 / 40	4.82 / 42	5.21 / 44	5.57 / 47	5.91 / 48	6.23 / 48	6.53 / 48	6.82 / 50	A85201C2711	A85203C2711	A85223C2711

LF2400 METRIC

Deflector	Nozzle	Stream Height (cm)	Flow Rates at Standard Pressures (l/h) Throw Radius at Given Nozzle and Standard Pressure (m)								Fully Assembled Part Number		
			1.7 bar	2.1 bar	2.4 bar	2.8 bar	3.1 bar	3.5 bar	3.8 bar	4.2 bar	1/2" NPT	ACME	ACME w/ 3/4" NPT Adapter
27 Degree Black 118602	Silver 9/64" .3.63mm 11809809	193-295	679 / 11.6	743 / 12.2	804 / 12.2	859 / 12.8	911 / 13.4	961 / 13.7	1,006 / 14.0	1,052 / 14.0	A85201C2709	A85203C2709	A85223C2709
	Brown 5/32" 3.97mm 11809810	198-300	827 / 11.6	906 / 12.2	979 / 12.8	1,045 / 13.4	1,108 / 13.4	1,170 / 13.7	1,226 / 14.0	1,281 / 14.0	A85201C2710	A85203C2710	A85223C2710
	Dark Grey 11/64" 4.37mm 11809811	203-305	999 / 12.2	1,095 / 12.8	1,183 / 13.4	1,265 / 14.3	1,342 / 14.6	1,415 / 14.6	1,483 / 14.6	1,549 / 15.2	A85201C2711	A85203C2711	A85223C2711

ACME x 3/4" Male NPT Adapter - Part Number: 118297

ACME x 20mm x 25mm Female Slip Adapter - Part Number: 118294



Simple 4-Piece Assembly

1 **Deflector**
2 **LF Drive Unit** 800, 1200, 2400 models available
3 **LF Body**
1/2" NPT, Acme, or Acme Anti-Theft models available
4 **Nozzle**

Optional Accessories and Part Numbers

5 **Acme x Male NPT Adapter**
Acme x Male 1/2" NPT PN: 118292
Acme x Male 3/4" NPT PN: 118297
6 **Acme x Female Slip Adapter**
1/2"x 3/4" Socket-Gray PN: 118328
20mm x 25mm Socket-White PN: 118294
7 **Edge Guard** PN: 118366
8 **Splash Guard** PN: 118337
9 **Stream Splitter/Tree Trunk Guard** PN: 118259

Find the best combination for your spacings by using Rain Bird's Uniformity Pro™ software at **www.rainbird.com/ag**

Part Numbers & Description	
LF Body & Drive Unassembled	
A85100	LF800, NPT Body and Drive Unassembled
A85000	LF1200, NPT Body and Drive Unassembled
A85200	LF2400, NPT Body and Drive Unassembled
A85100AT	LF800, ACME Thread, Anti-Theft Body & Drive Unassembled
A85000AT	LF1200, ACME Thread, Anti-Theft Body & Drive Unassembled
A85200AT	LF2400, ACME Thread, Anti-Theft Body & Drive Unassembled
LF Bodies	
118134	LF NPT Body
118311	LF ACME Body (no screws)
118310	LF Anti-theft ACME Body (with screws)
118317	LF Anti-theft screwdriver

Brass Impact Sprinklers

How to Order from the Brass Impact Sprinkler Sections

Sprinkler Only	
Sprinkler without Nozzle	**A01619**

Assembled Sprinkler/Nozzle **Factory Combination**	
Sprinkler with Nozzle **SBN-1** 5/64″	**A0162005**

Nozzle Only			XX = Nozzle Size				
		U.S. Standard	**1/16″**	**51 DRILL**	**5/64″**	**3/32″**	**7/64″**
		Metric	**1.59 mm**	**1.70mm**	**1.98 mm**	**2.38 mm**	**2.78 mm**
Brass Straight Bore Nozzle	**SBN-1**	**105780-XX**	04	51	**05**	06	07

Part number for Sprinkler Only

Part number for Assembled Sprinkler and Nozzle, when available

Part number for Nozzle Only

Available Nozzle Size. Use this number to complete the Nozzle part number

Option Guide (where available)			
FP	Full or Part Circle	W	Single Nozzle Spreader Plugged
BPJ	Brass Precision Jet	E	Straightening Vane
ADJ	Adjustable Nozzle	LPN	Low Pressure Nozzle
DA	Distance Control Flap	LAN	Low Angle Nozzle Spreader Nozzle
H	Superior H bearing	P	Anodized Aluminum Arm
TNT	PTFE, Nylon, PTFE Washer Stack	PM	Plastic Bearing
PJ	Precision Jet Spoon	V	Wedge

The majority of the brass impact sprinklers and nozzles are ordered separately.

Where applicable, part numbers for assembled combinations are provided.

- To place an order in the United States call **(800) HELLO AG (435-5624)** or, use the Toll-FREE Fax Ordering number at **(800) 843-4162**.
- Customers outside the U.S. can contact the International Customer Service Department at **(520) 878-2400** to place an order.
- Place orders, check pallet or carton quantities, or track shipping at www.rainbird.com/distributor

14VH

1/2" 13mm Full Circle, Brass, Wedge Drive Impact Sprinkler

- Patented, self-flushing wedge drive
- Durable brass die-cast arm
- Stainless steel springs and fulcrum pin

Features

- Chemically resistant washers

Benefits

- Wedge drive runs on smaller nozzles and lower pressures
- Self-flushing design reduces wear from grit
- Corrosion and grit resistant
- Built to last
- Five-year Customer Satisfaction Policy

Specifications

- Bearing: 1/2" Male NPT, Brass
- Trajectory Angle: 23°
- Operating Range: 20-60 psi 1.4-4.1 bar
- Flow Rate: .56-2.68 gpm 0.14-0.61 m^3/h
- Radius: 29-38 ft. 9.0-11.70 meters
- One 1/8" Female NPT Nozzle Port

Straight Bore Nozzle (SBN-1) Performance*

	NOZZLE SIZE (Stream Height: 6 ft.)									
	1/16"		51 DRILL		5/64"		3/32"		7/64"	
psi @ Nozzle	Rad.	gpm	Rad.	gpm	Rad.	gpm	Rad.	gpm	Rad.	gpm
20	-	-	29	0.59	30	0.79	33	1.14	34	1.55
25	29	0.56	29	0.65	31	0.88	33	1.27	35	1.73
30	29	0.62	30	0.71	31	0.97	34	1.39	35	1.90
35	30	0.66	30	0.77	32	1.05	34	1.50	36	2.05
40	30	0.72	31	0.83	32	1.12	35	1.61	37	2.19
45	31	0.75	31	0.87	33	1.19	35	1.71	37	2.32
50	31	0.80	32	0.92	34	1.25	36	1.80	38	2.45
55	32	0.84	32	0.96	34	1.31	36	1.89	38	2.57
60	32	0.88	33	1.01	34	1.37	37	1.97	38	2.68

Straight Bore Nozzle (SBN-1) Performance* **METRIC**

	NOZZLE SIZE (Stream Height: 1.8m)														
	1.59 mm (1/16")			1.70 mm (51 Drill)			1.98 mm (5/64")			2.38 mm (3/32")			2.78 mm (7/64")		
bar@ Nozzle	Rad. (m)	Flow (lps)	Flow (m^3/h)	Rad. (m)	Flow (lps)	Flow (m^3/h)	Rad. (m)	Flow (lps)	Flow (m^3/h)	Rad. ((m)	Flow (lps)	Flow (m^3/h)	Rad. (m)	Flow (lps)	Flow (m^3/h)
1.4	-	-	-	8.8	0.04	0.13	9.3	0.05	0.18	10.1	0.07	0.26	10.4	0.10	0.35
1.5	-	-	-	8.9	0.04	0.14	9.3	0.05	0.19	10.1	0.07	0.27	10.5	0.10	0.37
2.0	9.0	0.04	0.14	9.1	0.04	0.16	9.6	0.06	0.22	10.3	0.09	0.31	10.8	0.12	0.42
2.5	9.2	0.04	0.15	9.3	0.05	0.18	9.8	0.07	0.24	10.6	0.10	0.35	11.0	0.13	0.47
3.0	9.4	0.05	0.17	9.6	0.05	0.19	10.1	0.07	0.27	10.8	0.11	0.38	11.4	0.14	0.52
3.5	9.6	0.05	0.18	9.8	0.06	0.21	10.4	0.08	0.29	11.0	0.11	0.41	11.6	0.16	0.56
4.0	9.8	0.05	0.20	10.0	0.06	0.22	10.5	0.08	0.31	11.2	0.12	0.44	11.7	0.17	0.60
4.1	9.9	0.06	0.20	10.1	0.06	0.23	10.5	0.09	0.31	11.3	0.12	0.45	11.7	0.17	0.61

* Available without Nozzle or Assembled with 5/64" (05) Straight Bore Nozzle.
All other Nozzles must be purchased separately.
See Chart below.

Part Numbers and Ordering Information

Sprinkler Only	
Sprinkler without Nozzle	**A01619**

Nozzle Only			XX = Nozzle Size					
		U.S. Standard	1/16"	51 DRILL	5/64"	3/32"	7/64"	1/8"
		Metric	1.59 mm	1.70mm	1.98 mm	2.38 mm	2.78 mm	3.18 mm
Brass Straight Bore Nozzle	SBN-1	105780-XX	04	51	**05**	06	07	–

Bold nozzle size numbers denote the most common nozzle choices.

L20VH

1/2" 13mm Full Circle, Brass,
Wedge Drive Impact Sprinkler

- Patented, self-flushing wedge drive
- Durable brass die-cast arm
- Stainless steel springs and fulcrum pin

Features

- Chemically resistant washers

Benefits

- Wedge drive runs on smaller nozzles and lower pressures
- Self-flushing design reduces wear from grit
- Corrosion and grit resistant
- Built to last
- Five-year Customer Satisfaction Policy

Specifications

- Bearing: 1/2" Male NPT, Brass
- Trajectory Angle: 10°
- Operating Range: 25-50 psi 1.7-3.5 bar
- Flow Rate: 0.56-2.45 gpm 0.13-0.56 m^3/h
- Radius: 23-32 ft. 7.2-9.6 meters
- One 1/8" Female NPT Nozzle Port

Straight Bore Nozzle (SBN-1) Performance*

psi @ Nozzle	NOZZLE SIZE (Stream Height: 2.5 ft.) 1/16" Rad.	1/16" gpm	51 drill Rad.	51 drill gpm	5/64" Rad.	5/64" gpm	3/32" Rad.	3/32" gpm	7/64" Rad.	7/64" gpm
25	23	0.56	24	0.65	25	0.88	26	1.27	27	1.73
30	24	0.62	25	0.71	26	0.97	27	1.39	28	1.90
35	25	0.66	26	0.77	27	1.05	28	1.50	29	2.05
40	25	0.72	26	0.83	27	1.12	29	1.61	30	2.19
45	26	0.75	27	0.87	28	1.19	30	1.71	31	2.32
50	27	0.80	28	0.92	29	1.25	31	1.80	32	2.45

Straight Bore Nozzle (SBN-1) Performance* **METRIC**

bar @ Nozzle	NOZZLE SIZE (Stream Height: 0.8m) 1.59 mm (1/16") Rad. (m)	Flow (lps)	Flow (m^3/h)	1.7 mm (51 drill) Rad. (m)	Flow (lps)	Flow (m^3/h)	1.98 mm (5/64") Rad. (m)	Flow (lps)	Flow (m^3/h)	2.38 mm (3/23") Rad. (m)	Flow (lps)	Flow (m^3/h)	2.78 mm (7/64") Rad. (m)	Flow (lps)	Flow (m^3/h)
1.7	7.2	0.04	0.13	7.3	0.04	0.15	7.6	0.06	0.20	8.1	0.08	0.29	8.2	0.11	0.39
2.0	7.3	0.04	0.14	7.6	0.04	0.16	7.9	0.06	0.22	8.3	0.09	0.31	8.5	0.12	0.42
2.5	7.7	0.04	0.15	7.9	0.05	0.17	8.3	0.07	0.24	8.8	0.10	0.35	8.9	0.13	0.47
3.0	8.0	0.05	0.17	8.2	0.05	0.20	8.6	0.07	0.27	9.1	0.11	0.38	9.4	0.14	0.52
3.5	8.2	0.05	0.18	8.5	0.06	0.21	8.8	0.08	0.28	9.4	0.11	0.41	9.6	0.15	0.56

* **Nozzles must be purchased separately.**
See Chart below.

Part Numbers and Ordering Information

Sprinkler Only	
Sprinkler without Nozzle	**A06240**

Nozzle Only			XX = Nozzle Size					
		U.S. Standard	1/16"	51 DRILL	5/64"	3/32"	7/64"	1/8"
		Metric	1.59 mm	1.70mm	1.98 mm	2.38 mm	2.78 mm	3.18 mm
Brass Straight Bore Nozzle	**SBN-1**	**105780-XX**	04	51	**05**	06	07	–

Bold nozzle size numbers denote the most common nozzle choices.

L20H

1/2" 13mm Full Circle, Brass Impact Sprinkler

- Durable brass die-cast arm
- Stainless steel springs and fulcrum pin
- Corrosion and grit resistant

Features

- Chemically resistant washers

Benefits

- Spoon drive arm runs on larger nozzles and higher pressures
- Built to last
- Five-year Customer Satisfaction Policy

Specifications

- Bearing: 1/2" Male NPT, Brass
- Trajectory Angle: 10°
- Operating Range: 25-50 psi 1.7-3.5 bar
- Flow Rate: 1.73-4.05 gpm 0.39-0.92 m^3/h
- Radius: 28-35 ft. 8.5-10.83 meters
- One 1/8" Female NPT Nozzle Port

Straight Bore Nozzle (SBN-1) Performance*

	NOZZLE SIZE (Stream Height: 2.5 ft.)					
	7/64"		1/8"		9/64"	
psi @ Nozzle	Rad.	gpm	Rad.	gpm	Rad.	gpm
25	28	1.73	29	2.26	30	2.86
30	29	1.90	30	2.48	31	3.14
35	30	2.05	31	2.68	33	3.39
40	31	2.19	32	2.86	33	3.62
45	32	2.32	33	3.03	34	3.84
50	32	2.45	34	3.20	35	4.05

Straight Bore Nozzle (SBN-1) Performance* METRIC

	NOZZLE SIZE (Stream Height: 0.8m)								
	2.78 mm (7/64")			3.18 mm (1/8")			3.57 mm (9/64")		
bar @ Nozzle	Rad. (m)	Flow (lps)	Flow (m^3/h)	Rad. (m)	Flow (lps)	Flow (m^3/h)	Rad. (m)	Flow (lps)	Flow (m^3/h)
1.7	8.5	0.11	0.39	9.0	0.14	0.51	9.3	0.18	0.65
2.0	8.8	0.12	0.42	9.2	0.15	0.55	9.5	0.19	0.70
2.5	9.2	0.13	0.47	9.7	0.17	0.62	10.1	0.22	0.78
3.0	9.7	0.14	0.52	10.0	0.19	0.68	10.4	0.24	0.86
3.5	9.9	0.15	0.56	10.4	0.20	0.73	10.8	0.26	0.92

* **Nozzles must be purchased separately.**
See Chart below.

Part Numbers and Ordering Information

Sprinkler Only	
Sprinkler without Nozzle	**A06015**

Nozzle Only			XX = Nozzle Size		
		U.S. Standard	7/64"	1/8"	9/64"
		Metric	2.78 mm	3.18 mm	3.57 mm
Brass Straight Bore Nozzle	SBN-1	105780-XX	07	08	09

Bold nozzle size numbers denote the most common nozzle choices.

M20VH-PM

1/2" 13mm Full Circle, Brass, Wedge Drive Impact Sprinkler

- Patented, self-flushing wedge drive
- Durable brass die-cast arm
- Stainless steel springs and fulcrum pin

Features

- Chemically resistant washers

Benefits

- Wedge drive runs on smaller nozzles and lower pressures
- Self-flushing design reduces wear from grit
- Corrosion and grit resistant
- Built to last
- Five-year Customer Satisfaction Policy

Specifications

- Bearing: 1/2" Male NPT, Plastic
- Trajectory Angle: 15°
- Operating Range: 25-50 psi 1.7-3.5 bar
- Flow Rate: .56-2.45 gpm 0.13-0.56 m^3/h
- Radius: 25-35 ft. 7.8-10.8 meters
- One 1/8" Female NPT Nozzle Port

Straight Bore Nozzle (SBN-1) Performance*

	NOZZLE SIZE (Stream Height: 3.5 ft.)									
	1/16"		51 DRILL		5/64"		3/32"		7/64"	
psi @ Nozzle	Rad.	gpm	Rad.	gpm	Rad.	gpm	Rad.	gpm	Rad..	gpm
25	25	0.56	26	0.65	27	0.88	29	1.27	31	1.73
30	26	0.62	27	0.71	28	0.97	30	1.39	32	1.90
35	27	0.66	28	0.77	29	1.05	31	1.50	33	2.05
40	28	0.72	28	0.83	30	1.12	32	1.61	34	2.19
45	29	0.75	29	0.87	31	1.19	33	1.71	35	2.32
50	29	0.80	30	0.92	32	1.25	33	1.80	35	2.45

Straight Bore Nozzle (SBN-1) Performance* **METRIC**

	NOZZLE SIZE (Stream Height: 1.1m)														
	1.59 mm (1/16")			1.70 mm (51 Drill)			1.98 mm (5/64")			2.38 mm (3/32")			2.78 mm (7/64")		
bar @ Nozzle	Rad. (m)	Flow (lps)	Flow (m^3/h)	Rad. (m)	Flow (lps)	Flow (m^3/h)	Rad. (m)	Flow (lps)	Flow (m^3/h)	Rad. (m)	Flow (lps)	Flow (m^3/h)	Rad. (m)	Flow (lps)	Flow (m^3/h)
1.7	7.8	0.04	0.13	7.9	0.04	0.15	8.4	0.06	0.20	9.0	0.08	0.29	9.4	0.11	0.39
2.0	8.0	0.04	0.14	8.2	0.04	0.16	8.6	0.06	0.22	9.2	0.09	0.31	9.7	0.12	0.42
2.5	8.4	0.04	0.15	8.6	0.05	0.18	9.1	0.07	0.24	9.7	0.10	0.35	10.1	0.13	0.47
3.0	8.7	0.05	0.17	8.9	0.05	0.19	9.4	0.07	0.27	10.0	0.11	0.38	10.6	0.14	0.52
3.5	9.0	0.05	0.18	9.1	0.06	0.21	9.8	0.08	0.28	10.2	0.11	0.41	10.8	0.15	0.56

* **Nozzles must be purchased separately.**
See Chart below.

Part Numbers and Ordering Information

Sprinkler Only	
Sprinkler without Nozzle	**A05980**

Nozzle Only			XX = Nozzle Size					
		U.S. Standard	1/16"	51 DRILL	5/64"	3/32"	7/64"	1/8"
		Metric	1.59 mm	1.70mm	1.98 mm	2.38 mm	2.78 mm	3.18 mm
Brass Straight Bore Nozzle	**SBN-1**	**105780-XX**	04	51	**05**	06	07	–

Bold nozzle size numbers denote the most common nozzle choices.

20JH

1/2" 13mm Full Circle, Brass Impact Sprinkler

- Durable brass die-cast arm
- Stainless steel springs and fulcrum pin
- Corrosion and grit resistant

Features

- Chemically resistant PTFE washers

Benefits

- Spoon drive arm runs on larger nozzles and higher pressures
- Built to last
- Five-year Customer Satisfaction Policy

Specifications

- Bearing: 1/2" Male NPT, Brass
- Trajectory Angle: 23°
- Operating Range: 35-60 psi 2.4-4.1 bar
- Flow Rate: 2.05.47 gpm 0.47-1.24 m³/h
- Radius: 38-44 ft. 11.6-13.4 meters
- One 1/8" Female NPT Nozzle Port

Straight Bore Nozzle (SBN-1) Performance*

psi @ Nozzle	NOZZLE SIZE (Stream Height: 6 ft.) 7/64" Rad.	gpm	1/8" Rad.	gpm	9/64" Rad.	gpm	5/32" Rad.	gpm
35	38	2.05	38	2.68	39	3.39	39	4.19
40	38	2.19	39	2.86	40	3.62	39	4.47
45	39	2.32	39	3.03	40	3.84	40	4.73
50	39	2.45	39	3.20	40	4.05	40	5.00
55	39	2.57	40	3.35	40	4.24	40	5.23
60	39	2.68	40	3.50	41	4.43	41	5.47

Straight Bore Nozzle with Vane (SBN-1V)*

psi @ Nozzle	NOZZLE SIZE (Stream Height: 7 ft.) 1/8" Rad.	gpm	9/64" Rad.	gpm	5/32" Rad.	gpm
35	39	2.68	41	3.39	42	4.19
40	40	2.86	41	3.62	42	4.47
45	40	3.03	42	3.84	42	4.73
50	41	3.20	42	4.05	43	5.00
55	41	3.35	43	4.24	43	5.23
60	41	3.50	43	4.43	44	5.47

Straight Bore Nozzle (SBN-1) Performance* METRIC

bar@ Nozzle	NOZZLE SIZE (Stream Height: 1.8m) 2.78 mm (7/64") Rad. (m)	Flow (lps)	Flow (m³/h)	3.18 mm (1/8") Rad. (m)	Flow (lps)	Flow (m³/h)	3.57 mm (9/64") Rad. (m)	Flow (lps)	Flow (m³/h)	3.97 mm (5/32") Rad. (m)	Flow (lps)	Flow (m³/h)
2.4	11.6	0.13	0.47	11.7	0.17	0.61	12.0	0.21	0.77	12.0	0.26	0.95
2.5	11.6	0.13	0.47	11.8	0.17	0.62	12.1	0.22	0.78	12.0	0.27	0.97
3.0	11.8	0.14	0.52	12.0	0.19	0.68	12.2	0.24	0.86	12.1	0.29	1.06
3.5	11.9	0.16	0.56	12.1	0.20	0.73	12.3	0.26	0.93	12.3	0.32	1.14
4.0	12.0	0.17	0.60	12.2	0.22	0.78	12.4	0.27	0.99	12.4	0.34	1.22
4.1	12.0	0.17	0.61	12.2	0.22	0.79	12.5	0.28	1.01	12.5	0.35	1.24

Straight Bore Nozzle with Vane (SBN-1V)* METRIC

bar@ Nozzle	NOZZLE SIZE (Stream Height: 2.1m) 3.18 mm (1/8") Rad. (m)	Flow (lps)	Flow (m³/h)	3.57 mm (9/64") Rad. (m)	Flow (lps)	Flow (m³/h)	3.97 mm (5/32") Rad. (m)	Flow (lps)	Flow (m³/h)
2.4	12.0	0.17	0.61	12.5	0.21	0.77	12.8	0.26	0.95
2.5	12.1	0.17	0.62	12.5	0.22	0.78	12.8	0.27	0.97
3.0	12.3	0.19	0.68	12.8	0.24	0.86	13.0	0.29	1.06
3.5	12.5	0.20	0.73	13.0	0.26	0.93	13.1	0.32	1.14
4.0	12.5	0.22	0.78	13.2	0.27	0.99	13.3	0.34	1.22
4.1	12.5	0.22	0.79	13.3	0.28	1.01	13.4	0.35	1.24

* Available without Nozzle or Assembled with either a 7/64" (07) or 1/8" (08) Straight Bore Nozzle.
All other Nozzles must be purchased separately.
See Chart below.

Part Numbers and Ordering Information

Sprinkler Only	
Sprinkler without Nozzle	**A05840**

Assembled Sprinkler/Nozzle Factory Combination	
Sprinkler with Nozzle **SBN-1** 7/64"	**A0584107**
Sprinkler with Nozzle **SBN-1** 1/8"	**A0584108**

Nozzle Only			XX = Nozzle Size			
		U.S. Standard	7/64"	1/8"	9/64"	5/32"
		Metric	2.78 mm	3.18 mm	3.57 mm	3.97 mm
Brass Straight Bore Nozzle	SBN-1	105780-XX	**07**	08	09	10
Brass Straight Bore Nozzle with Vane	SBN-1-V	106160-XX	–	08	09	10

Bold nozzle size numbers denote the most common nozzle choices.

20ADJB08 / 20ADJB10

1/2" 13mm Full Circle, Brass Impact Sprinkler

- Heavy duty brass construction
- Stainless steel springs and fulcrum pin
- Corrosion and grit resistant

Features

- Chemically resistant washers

Benefits

- Wide range of flow rates
- Built to last
- Five-year Customer Satisfaction Policy

Specifications

- Bearing: 1/2" Male NPT, Brass
  Trajectory Angle: 23˚
- Operating Range: 30-70 psi 2.1-4.8 bar
- Flow Rate: 2.4-5.9 gpm. 0.54-1.34 m^3/h
- Radius: 39-41 ft. 11.6-12.5m

Straight Bore Nozzle (SBN-1) Performance*

psi @ Nozzle	NOZZLE SIZE (Stream Height: 2.5 ft.) 1/8" Rad.	1/8" gpm	9/64" Rad.	9/64" gpm	5/32" Rad.	5/32" gpm
30	39.0	2.4	39.0	3.1	39.0	3.8
40	39.0	2.9	40.0	3.62	40.0	4.4
50	40.0	3.2	40.0	4.00	41.0	5.0
60	40.0	3.6	41.0	4.4	41.0	5.5
70	40.0	3.9	41.0	4.8	41.0	5.9

Straight Bore Nozzle (SBN-1) Performance* **METRIC**

bar @ Nozzle	NOZZLE SIZE (Stream Height: 0.8m) 3.18 mm (1/8") Rad. (m)	Flow (lps)	Flow (m^3/h)	3.57 mm (9/64") Rad. (m)	Flow (lps)	Flow (m^3/h)	3.97 mm (5/32") Rad. (m)	Flow (lps)	Flow (m^3/h)
2.1	11.6	0.15	0.54	11.9	0.20	0.70	11.9	0.24	0.86
2.5	11.8	0.17	0.61	12.1	0.22	0.77	12.1	0.26	0.95
3.0	11.9	0.19	0.67	12.2	0.24	0.84	12.2	0.29	1.04
3.5	12.0	0.20	0.73	12.3	0.26	0.91	12.3	0.31	1.13
4.0	12.1	0.22	0.79	12.4	0.27	0.98	12.4	0.34	1.21
4.5	12.2	0.24	0.85	12.5	0.29	1.05	12.5	0.36	1.30
4.8	12.2	0.25	0.89	12.5	0.30	1.09	12.5	0.37	1.34

* Available assembled w/ 1/8" (08) or 5/32" (10) Straight Bore Nozzle. See Chart below.

Part Numbers and Ordering Information

Assembled Sprinkler/Nozzle Factory Combination	
Sprinkler with Nozzle **SBN-1** 1/8" 20ADJB08	**A0231108**
Sprinkler with Nozzle **SBN-1** 5/32" 20ADJB10	**A0231110**

Nozzle Only			XX = Nozzle Size		
		U.S. Standard	1/8"	9/64"	5/32"
		Metric	3.18 mm	3.57 mm	3.97 mm
Brass Straight Bore Nozzle	SBN-1	105780-XX	08	09	10

Bold nozzle size numbers denote the most common nozzle choices.

29JH

1/2" 13mm Full Circle, Brass Impact Sprinkler

- Extra large body
- Stainless steel springs and fulcrum pin
- Large body accommodates a wide range of flow rates

Features

- Chemically resistant washers

Benefits

- Corrosion and grit resistant
- Built to last
- Spoon drive arm runs on larger nozzles and higher pressures.
- Five-year Customer Satisfaction Policy

Specifications

- Bearing: 1/2" Male NPT, Brass
- Trajectory Angle: 23°
- Operating Range: 20-80 psi 1.4-5.5 bar
- Flow Rate: 1.56-6.35 gpm 0.35-1.44 m^3/h
- Radius: 35-46 ft. 10.8-14.2 meters
- One 1/4" Female NPT Nozzle Port

Straight Bore Nozzle (SBN-3)*

psi @ Nozzle	NOZZLE SIZE (Stream Height: 7 ft.) 7/64" Rad.	7/64" gpm	1/8" Rad.	1/8" gpm	9/64" Rad.	9/64" gpm	5/32" Rad.	5/32" gpm
20	35	1.56	36	2.03	38	2.57	39	3.17
25	37	1.74	37	2.27	38	2.87	40	3.55
30	37	1.91	38	2.49	39	3.15	41	3.89
35	38	2.06	38	2.69	40	3.40	42	4.20
40	38	2.20	39	2.87	41	3.64	42	4.49
45	39	2.33	39	3.05	41	3.86	43	4.76
50	39	2.46	40	3.21	42	4.07	44	5.02
55	39	2.58	40	3.37	84	4.28	44	5.26
60	39	2.69	40	3.52	42	4.45	44	5.50
65	39	2.80	41	3.66	43	4.64	45	5.72
70	39	2.91	41	3.80	43	4.81	45	5.94
75	40	3.01	41	3.93	44	4.98	46	6.15
80	40	3.11	42	4.06	44	5.14	46	6.35

Straight Bore Nozzle (SBN-3)* METRIC

bar@ Nozzle	NOZZLE SIZE (Stream Height: 2.1m) 2.78 mm (7/64") Rad. (m)	Flow (lps)	Flow (m^3/h)	3.18 mm (1/8") Rad. (m)	Flow (lps)	Flow (m^3/h)	3.57 mm (9/64") Rad. (m)	Flow (lps)	Flow (m^3/h)	3.97 mm (5/32") Rad. (m)	Flow (lps)	Flow (m^3/h)
1.4	10.8	0.10	0.35	11.1	0.13	0.46	11.6	0.16	0.58	11.9	0.20	0.72
1.5	11.0	0.10	0.37	11.2	0.13	0.48	11.6	0.17	0.61	12.0	0.21	0.75
2.0	11.4	0.12	0.43	11.5	0.15	0.56	12.0	0.20	0.70	12.4	0.24	0.87
2.5	11.6	0.13	0.48	11.8	0.17	0.62	12.3	0.22	0.79	12.8	0.27	0.97
3.0	11.8	0.14	0.52	12.1	0.19	0.68	12.6	0.24	0.86	13.1	0.30	1.06
3.5	11.9	0.16	0.56	12.2	0.20	0.73	12.8	0.26	0.93	13.4	0.32	1.15
4.0	12.0	0.17	0.60	12.4	0.22	0.79	13.0	0.28	1.00	13.6	0.34	1.23
4.5	12.0	0.18	0.64	12.6	0.23	0.83	13.1	0.29	1.06	13.7	0.36	1.30
5.0	12.1	0.19	0.67	12.7	0.24	0.88	13.3	0.31	1.11	13.9	0.38	1.37
5.5	12.2	0.20	0.71	10.1	0.26	0.92	13.4	0.32	1.17	14.2	0.40	1.44

* **Nozzles must be purchased separately.**
See Chart below.

Part Numbers and Ordering Information

Sprinkler Only	
Sprinkler without Nozzle	**A06501**

Nozzle Only			XX = Nozzle Size			
		U.S. Standard	7/64"	1/8"	9/64"	5/32"
		Metric	2.78 mm	3.18 mm	3.57 mm	3.97 mm
Brass Straight Bore Nozzle	**SBN-3**	**105842-XX**	07	08	09	**10**

Bold nozzle size numbers denote the most common nozzle choices.

L36H / L36AH

3/4" 19 mm Full Circle, Plastic, Low Angle Impact Sprinkler

- Durable Delrin™ plastic body and arm
- AH unit has standard spoon for smaller nozzles
- H unit has slotted spoon for larger nozzles

Features

- Exceptionally wide range of quick-fit nozzles
- Stainless steel springs and fulcrum pin
- Brass bearing sleeve
- Chemically resistant washers
- Dual nozzle ports

Benefits

- Superior chemical and grit resistance
- Low angle fights strong wind conditions
- Great choice for pivot or under tree applications
- Easy maintenance
- Added design flexibility
- Built to last
- Two-year Customer Satisfaction Policy

Specifications

- Bearing: 3/4" Male NPT, Brass
- Trajectory Angle: 10°
- Operating Range: 20-60 psi 1.4-4.1 bar
- Flow Rate: 1.6-17.8 gpm 0.36-4.04 m^3/h
- Radius: 40-61 ft. 12.2-18.76 meters

L36AH Quick-Fit Straight Bore Nozzle Performance (QF-SBN-3)*

psi @ Nozzle	NOZZLE SIZE 7/64" Rad.	7/64" gpm	1/8" Rad.	1/8" gpm	9/64" Rad.	9/64" gpm
35	45	2.10	46	2.70	46	3.40
40	46	2.20	47	2.90	47	3.60
45	47	2.30	48	3.00	48	3.80
50	47	2.40	49	3.20	50	4.00
55	48	2.60	49	3.40	51	4.20
60	48	2.70	50	3.50	52	4.40

L36AH Quick-Fit Low Pressure Nozzle (Square Hole) (QF-LPN-3)*

psi @ Nozzle	NOZZLE SIZE 7/64" Rad.	7/64" gpm	1/8" Rad.	1/8" gpm	9/64" Rad.	9/64" gpm
20	40	1.60	40	2.10	41	2.60
25	41	1.80	41	2.30	42	2.90
30	42	2.00	43	2.50	43	3.20
35	43	2.10	44	2.70	45	3.40
40	44	2.20	45	2.90	46	3.60
45	45	2.30	45	3.00	46	3.80
50	45	2.40	46	3.20	46	4.00

L36H Quick-Fit Straight Bore Nozzle (QF-SBN-3) (Star Hole) Performance*

psi @ Nozzle	NOZZLE SIZE 5/32" Rad.	5/32" gpm	11/64" Rad.	11/64" gpm	3/16" Rad.	3/16" gpm	13/64" Rad.	13/64" gpm	7/32" Rad.	7/32" gpm	15/64" Rad.	15/64" gpm	1/4" Rad.	1/4" gpm	17/64" Rad.	17/64" gpm	9/32" Rad.	9/32" gpm
35	48	4.20	49	5.00	50	6.00	51	7.10	52	8.30	53	9.50	53	10.80	53	12.10	54	13.60
40	49	4.50	51	5.40	52	6.40	52	7.60	53	8.90	54	10.10	55	11.50	55	13.00	56	14.60
45	51	4.70	52	5.70	53	6.80	53	8.10	54	9.40	55	10.70	56	12.20	57	13.80	58	15.40
50	53	5.00	54	6.00	54	7.20	54	8.50	56	9.90	57	11.30	58	12.90	59	14.50	59	16.30
55	53	5.20	54	6.30	55	7.50	55	8.90	57	10.30	58	11.80	59	13.50	60	15.20	60	17.10
60	54	5.40	55	6.60	55	7.80	56	9.20	58	10.60	59	12.40	60	14.10	61	15.90	61	17.80

L36H Quick-Fit Low Pressure Nozzle (QF-LPN-3) Performance*

psi @ Nozzle	NOZZLE SIZE 5/32" Rad.	5/32" gpm	11/64" Rad.	11/64" gpm	3/16" Rad.	3/16" gpm	13/64" Rad.	13/64" gpm	7/32" Rad.	7/32" gpm	15/64" Rad.	15/64" gpm	1/4" Rad.	1/4" gpm	17/64" Rad.	17/64" gpm	9/32" Rad.	9/32" gpm
20	43	3.20	45	3.80	35	4.50	36	5.30	38	6.00	38	7.20	38	8.20	39	9.30	39	10.40
25	45	3.50	46	4.20	38	5.00	39	5.90	39	6.80	40	8.00	40	9.10	40	10.30	41	11.50
30	46	3.90	48	4.60	40	5.50	41	6.50	41	7.60	41	8.80	41	10.00	42	11.20	42	12.60
35	47	4.20	49	5.00	42	6.00	42	7.10	42	8.30	43	9.50	43	10.80	43	12.10	43	13.60
40	48	4.50	50	5.40	43	6.40	43	7.60	43	8.90	44	10.10	44	11.50	45	13.00	45	14.60
45	49	4.70	50	5.70	43	6.80	44	8.10	44	9.40	45	10.70	45	12.20	45	13.80	45	15.40
50	49	5.00	51	6.00	44	7.20	45	8.50	45	9.90	45	11.30	45	12.90	46	14.50	46	16.30

Note: Performance data taken using 13' (4m) riser

* **Nozzles must be purchased separately.** See Chart below.

Part Numbers and Ordering Information

Sprinkler Only	
Sprinkler without Nozzle **L36H**	**A07360**
Sprinkler without Nozzle **L36AH**	**A07350**

Nozzle Only			XX = Nozzle Size								
U.S. Standard | L36H Sprinkler			5/32"	11/64"	3/16"	13/64"	7/32"	15/64"	1/4"	17/64"	9/32"
Plastic Quick-Fit Straight Bore Nozzle	QF-SBN-3	107881-XX	10	**11**	12	13	14	15	16	17	18
Plastic Quick-Fit Low Pressure Nozzle	QF-LPN-3	109247-XX	10	**11**	12	13	14	15	16	17	18
U.S. Standard | L36AH Sprinkler			7/64"	1/8"	9/64"						
Plastic Quick-Fit Straight Bore Nozzle	QF-SBN-3	107881-XX	07	**08**	09						
Plastic Quick-Fit Low Pressure Nozzle	QF-LPN-3	109247-XX	07	**08**	09						
Plastic Quick-Fit Plug		10788199	Bold nozzle size numbers denote the most common nozzle choices.								

L36AH Quick-Fit Straight Bore Nozzle Performance (QF-SBN-3)* — METRIC

bar @ Nozzle	NOZZLE SIZE 2.78 mm (7/64") Rad. (m)	Flow (lps)	Flow (m^3/h)	3.18 mm (1/8") Rad. (m)	Flow (lps)	Flow (m^3/h))	3.57 mm (9/64") Rad. (m)	Flow (lps)	Flow (m^3/h)
2.4	13.9	0.13	0.48	14.0	0.17	0.61	14.2	0.21	0.77
2.5	13.9	0.13	0.48	14.1	0.17	0.62	14.2	0.22	0.78
3.0	14.3	0.14	0.52	14.5	0.19	0.67	14.8	0.24	0.85
3.5	14.5	0.15	0.55	15.0	0.20	0.73	15.4	0.25	0.92
4.0	14.7	0.17	0.60	15.2	0.22	0.79	15.8	0.27	0.98
4.1	14.8	0.17	0.61	15.2	0.22	0.79	15.8	0.28	1.00

L36AH Quick-Fit Low Pressure Nozzle (Square Hole) (QF-LPN-3)* — METRIC

bar @ Nozzle	NOZZLE SIZE 2.78 mm (7/64") Rad. (m)	Flow (lps)	Flow (m^3/h)	3.18 mm (1/8") Rad. (m)	Flow (lps)	Flow (m^3/h)	3.57 mm (9/64") Rad. (m)	Flow (lps)	Flow (m^3/h)
1.4	12.2	0.10	0.36	12.3	0.13	0.48	12.5	0.16	0.59
1.5	12.3	0.11	0.38	12.5	0.14	0.49	12.6	0.17	0.61
2.0	12.7	0.12	0.45	13.0	0.16	0.56	13.2	0.20	0.71
2.5	13.2	0.13	0.48	13.6	0.17	0.62	13.9	0.22	0.78
3.0	13.8	0.15	0.53	13.9	0.19	0.67	14.1	0.24	0.88
3.5	13.9	0.15	0.55	14.0	0.20	0.73	14.2	0.25	0.91

L36H Quick-Fit Straight Bore Nozzle (QF-SBN-3) (Star Hole) Performance* — METRIC

bar @ Nozzle	NOZZLE SIZE 3.97 mm (5/32") Rad. (m)	Flow (lps)	Flow (m^3/h)	4.37 mm (11/64") Rad. (m)	Flow (lps)	Flow (m^3/h)	4.76 mm (3/16") Rad. (m)	Flow (lps)	Flow (m^3/h)	5.16 mm (13/64") Rad. (m)	Flow (lps)	Flow (m^3/h)	5.56 mm (7/32") Rad. (m)	Flow (lps)	Flow (m^3/h)	5.95 mm (15/64") Rad. (m)	Flow (lps)	Flow (m^3/h)	6.35 mm (1/4") Rad. (m)	Flow (lps)	Flow (m^3/h)	6.75 mm (17/64") Rad. (m)	Flow (lps)	Flow (m^2/h)	7.14 mm (9/32") Rad. (m)	Flow (lps)	Flow (m^3/h)
2.4	14.8	0.26	0.95	15.1	0.32	1.14	15.2	0.38	1.36	15.5	0.45	1.61	15.8	0.52	1.89	16.2	0.60	2.16	16.3	0.68	2.45	16.3	0.76	2.75	16.5	0.86	3.09
2.5	14.9	0.27	0.97	15.2	0.32	1.16	15.4	0.38	1.39	15.7	0.46	1.64	15.9	0.53	1.92	16.2	0.61	2.19	16.4	0.69	2.49	16.5	0.78	2.80	16.6	0.87	3.14
3.0	15.5	0.29	1.05	15.9	0.35	1.27	16.1	0.42	1.52	16.2	0.50	1.81	16.5	0.58	2.10	16.8	0.66	2.39	17.1	0.76	2.72	17.2	0.86	3.08	17.5	0.96	3.44
3.5	16.2	0.32	1.14	16.5	0.38	1.37	16.6	0.46	1.65	16.7	0.54	1.94	17.1	0.63	2.26	17.4	0.72	2.58	17.9	0.82	2.95	18.0	0.92	3.32	18.2	1.04	3.73
4.0	16.4	0.34	1.21	16.7	0.41	1.47	16.9	0.48	1.74	17.0	0.57	2.06	17.6	0.66	2.38	18.0	0.77	2.76	18.3	0.87	3.15	18.5	0.99	3.55	18.6	1.11	3.98
4.1	16.5	0.34	1.23	16.8	0.42	1.50	16.9	0.49	1.77	17.1	0.58	2.09	17.7	0.67	2.41	18.1	0.78	2.82	18.4	0.89	3.20	18.6	1.00	3.61	18.7	1.12	4.04

L36H Quick-Fit Low Pressure Nozzle (QF-LPN-3) Performance* — METRIC

bar @ Nozzle	NOZZLE SIZE 3.97 mm (5/32") Rad. (m)	Flow (lps)	Flow (m^3/h)	4.37 mm (11/64") Rad. (m)	Flow (lps)	Flow (m^3/h)	4.76 mm (3/16") Rad. (m)	Flow (lps)	Flow (m^3/h)	5.16 mm (13/64") Rad. (m)	Flow (lps)	Flow (m^3/h)	5.56 mm (7/32") Rad. (m)	Flow (lps)	Flow (m^3/h)	5.95 mm (15/64") Rad. (m)	Flow (lps)	Flow (m^3/h)	6.35 mm (1/4") Rad. (m)	Flow (lps)	Flow (m^3/h)	6.75 mm (17/64") Rad. (m)	Flow (lps)	Flow (m^2/h)	7.14 mm (9/32") Rad. (m)	Flow (lps)	Flow (m^3/h)
1.4	13.1	0.20	0.73	13.7	0.24	0.86	10.8	0.28	1.02	11.1	0.33	1.20	11.6	0.38	1.36	11.7	0.45	1.64	11.7	0.52	1.86	11.9	0.59	2.11	12.0	0.66	2.36
1.5	13.3	0.21	0.75	13.9	0.25	0.89	11.1	0.29	1.06	11.4	0.35	1.25	11.7	0.40	1.43	11.9	0.47	1.70	11.9	0.54	1.93	12.0	0.61	2.19	12.2	0.68	2.45
2.0	14.1	0.24	0.87	14.5	0.29	1.03	12.1	0.34	1.23	12.4	0.40	1.45	12.4	0.47	1.69	12.6	0.54	1.96	12.6	0.62	2.23	12.7	0.70	2.50	12.9	0.78	2.81
2.5	14.6	0.27	0.97	15.0	0.32	1.16	12.9	0.38	1.39	13.0	0.46	1.64	13.0	0.53	1.92	13.2	0.61	2.19	13.2	0.69	2.49	13.4	0.78	2.80	13.4	0.87	3.14
3.0	14.9	0.29	1.05	15.3	0.35	1.27	13.2	0.42	1.52	13.5	0.50	1.81	13.5	0.58	2.10	13.7	0.66	2.39	13.7	0.76	2.72	13.8	0.86	3.08	13.8	0.96	3.44
3.5	15.1	0.32	1.14	15.7	0.38	1.36	13.6	0.45	1.64	13.7	0.54	1.93	13.7	0.62	2.25	13.9	0.71	2.57	13.9	0.81	2.93	14.0	0.91	3.29	14.0	1.03	3.70

* **Nozzles must be purchased separately.**
See Chart below.

Part Numbers and Ordering Information

Sprinkler Only	
Sprinkler without Nozzle **L36H**	**A07360**
Sprinkler without Nozzle **L36AH**	**A07350**

Nozzle Only			XX = Nozzle Size								
Metric | L36H Sprinkler			**3.97 mm**	**4.37 mm**	**4.76 mm**	**5.16 mm**	**3.97 mm**	**5.56 mm**	**6.35 mm**	**6.75 mm**	**7.14 mm**
Plastic Quick-Fit Straight Bore Nozzle	**QF-SBN-3**	**107881-XX**	10	**11**	12	13	14	15	16	17	18
Plastic Quick-Fit Low Pressure Nozzle	**QF-LPN-3**	**109247-XX**	10	**11**	12	13	14	15	16	17	18
Metric | L36H Sprinkler			**2.78 mm**	**3.18 mm**	**3.57 mm**						
Plastic Quick-Fit Straight Bore Nozzle	**QF-SBN-3**	**107881-XX**	07	**08**	09						
Plastic Quick-Fit Low Pressure Nozzle	**QF-LPN-3**	**109247-XX**	07	**08**	09						
Plastic Quick-Fit Plug		**10788199**	Bold nozzle size numbers denote the most common nozzle choices.								

46H

3/4" 19mm Full Circle, Plastic Impact Sprinkler

- Durable Delrin™ plastic body, arm and bearing sleeve
- Stainless steel springs and fulcrum pin
- Chemically resistant, PTFE washers

Features

- Brass bearing nipple
- Brass nozzles, with or without vanes, or Plastic nozzles with vanes
- Dual nozzle ports

Benefits

- PTFE washers allow for smaller nozzles and lower pressures
- Superior chemical and grit resistance
- Exceptionally wide range of flow rates
- Built to last
- Two-year Customer Satisfaction Policy

Specifications

- Bearing: 3/4" Male NPT, Plastic
- Trajectory Angle: 23°
- Operating Range: 45-80 psi 3.0-5.5 bar
- Flow Rate: 5.0-16.2 gpm 1.12-3.68 m^3/h
- Radius: 47-62 ft. 14.2-18.1 meters
- Range: One 1/4" Female NPT Nozzle Port
- Spreader: One 1/8" Female NPT Spreader Nozzle Port

Plastic Straight Bore Nozzle with Vane (SBN-3P) with Spreader (LAN-1) Performance*

psi @ Nozzle	NOZZLE SIZE (Stream Height: 7 ft.)									
	5/32" x 3/32"-7°		11/64" x 3/32"-7°		3/16" x 1/8"-7°		13/64" x 1/8"-7°		7/32" x 1/8"-7°	
	Rad.	gpm	Rad.	gpm	Rad.	gpm	Rad.	gpm	Rad.	gpm
45	47	6.60	48	7.60	52	10.20	54	11.30	53	12.70
50	48	6.90	49	8.00	52	10.70	56	12.00	54	1.30
55	49	7.20	50	8.30	53	11.20	57	12.50	55	13.90
60	49	7.50	51	8.60	54	11.60	58	13.00	56	14.50
65	50	7.80	51	8.90	55	12.00	59	13.50	57	14.90
70	50	8.10	52	9.20	56	12.40	60	13.90	58	15.40
75	51	8.40	53	9.50	57	12.70	61	14.30	59	15.80
80	51	8.60	53	9.70	57	13.00	62	14.70	59	16.20

Plastic Straight Bore Nozzle with Vane (SBN-3P with Plug Performance*

psi @ Nozzle	NOZZLE SIZE (Stream Height: 7 ft.)									
	5/32"		11/64"		3/16"		13/64"		7/32"	
	Rad.	gpm	Rad.	gpm	Rad.	gpm	Rad.	gpm	Rad.	gpm
45	47	5.00	48	6.10	52	6.90	54	8.10	53	9.10
50	48	5.20	49	6.40	52	7.30	56	8.40	54	9.50
55	49	5.40	50	6.50	53	7.70	57	8.80	55	10.00
60	49	5.60	51	6.80	54	8.00	58	9.20	56	10.40
65	50	5.80	51	7.20	55	8.30	59	9.60	57	10.80
70	50	6.10	52	7.50	56	8.70	60	10.10	58	11.10
75	51	6.30	53	7.80	57	9.00	61	10.50	59	11.40
80	51	6.50	53	8.10	57	9.20	62	10.60	59	11.70

* **Nozzles must be purchased separately.**
See Chart below.

Part Numbers and Ordering Information

Sprinkler Only	
Sprinkler without Nozzle or Plug	**L46000**

Nozzle Only			XX = Nozzle Size						
		U.S. Standard	3/32"	1/8"	5/32"	11/64"	3/16"	13/64"	7/32"
Brass Straight Bore Nozzle	SBN-3	105842-XX	–	–	10	**11**	12	13	14
Brass Straight Bore Nozzle with Vane	SBN-3V	106131-XX	–	–	10	**11**	12	13	14
Plastic Vaned Straight Bore Nozzle	SBN-3P	71P00002-XX	–	–	–	**11**	–	–	14
Brass 7° Low AngleSpreader Nozzle	LAN-1-7	100225-XX	**06**	08	–	–	–	–	–
Brass 20° Low Angle Spreader Nozzle	LAN-1-20	100226-XX	**06**	08	–	–	–	–	–
Brass Plug		100255	Bold nozzle size numbers denote the most common nozzle choices.						

Plastic Straight Bore Nozzle with Vane (SBN-3P) with Spreader (LAN-1)* — METRIC

	NOZZLE SIZE (Stream Height: 2.1m)														
	3.97 mm x 2.18 mm (5/32" x 3/32") 7°			4.37 mm x 2.18 mm (11/64" x 3/32") 7°			4.76 mm x 3.18 mm (3/16" x 1/8") 7°			5.16 mm x 3.18 mm (13/64" x 1/8") 20°			5.56 mm x 3.18 mm (7/32" x 1/8") 20°		
bar @ Nozzle	Rad. (m)	Flow (lps)	Flow (m^3/h)	Rad. (m)	Flow (lps)	Flow (m^3/h)	Rad. (m)	Flow (lps)	Flow (m^3/h)	Rad. (m)	Flow (lps)	Flow (m^3/h)	Rad. (m)	Flow (lps)	Flow (m^3/h)
3.0	14.2	0.41	1.47	14.6	0.47	1.69	15.7	0.63	2.27	16.5	0.71	2.56	15.9	0.79	2.84
3.5	14.5	0.44	1.59	15.0	0.51	1.82	16.0	0.68	2.45	17.0	0.76	2.75	16.5	0.85	3.05
4.0	15.0	0.47	1.68	15.5	0.54	1.93	16.3	0.72	2.60	17.5	0.81	2.92	17.0	0.90	3.24
4.5	15.2	0.49	1.77	15.7	0.56	2.03	16.7	0.76	2.73	18.0	0.86	3.08	17.5	0.94	3.40
5.0	15.4	0.52	1.87	16.0	0.59	2.12	17.1	0.79	2.85	18.5	0.89	3.21	17.9	0.99	3.55
5.5	15.7	0.54	1.96	16.2	0.61	2.20	17.5	0.82	2.95	18.8	0.93	3.33	18.1	1.02	3.68

Plastic Straight Bore Nozzle with Vane (SBN-3P)* with Plug* — METRIC

	NOZZLE SIZE (Stream Height: 2.1m)														
	3.97 mm (5/32")			4.37 mm (11/64")			4.76 mm (3/16")			5.16 mm (13/64")			5.56 mm (7/32")		
bar @ Nozzle	Rad. (m)	Flow (lps)	Flow (m^3/h)	Rad. (m)	Flow (lps)	Flow (m^3/h)	Rad. (m)	Flow (lps)	Flow (m^3/h)	Rad. (m)	Flow (lps)	Flow (m^3/h)	Rad. (m)	Flow (lps)	Flow (m^3/h)
3.0	14.2	0.31	1.12	14.6	0.38	1.38	15.7	0.43	1.55	16.5	0.50	1.81	15.9	0.57	2.05
3.5	14.5	0.33	1.18	15.0	0.40	1.45	16.0	0.47	1.68	17.0	0.54	1.93	16.5	0.60	2.17
4.0	15.0	0.35	1.25	15.5	0.42	1.51	16.3	0.50	1.80	17.5	0.57	2.06	17.0	0.65	2.33
4.5	15.2	0.37	1.33	15.7	0.45	1.63	16.7	0.53	1.90	18.0	0.61	2.18	17.5	0.68	2.45
5.0	15.4	0.39	1.40	16.0	0.48	1.73	17.1	0.56	2.00	18.5	0.64	2.30	17.9	0.71	2.55
5.5	15.7	0.41	1.48	16.2	0.51	1.84	17.5	0.58	2.10	18.8	0.67	2.41	18.1	0.74	2.66

* **Nozzles must be purchased separately.**
See Chart below.

Part Numbers and Ordering Information

Sprinkler Only	
Sprinkler without Nozzle or Plug	**L46000**

Nozzle Only			XX = Nozzle Size						
		Metric	2.38 mm	3.18 mm	3.97 mm	4.37 mm	4.76 mm	5.16 mm	5.66 mm
Brass Straight Bore Nozzle	SBN-3	105842-XX	–	–	10	**11**	12	13	14
Brass Straight Bore Nozzle with Vane	SBN-3V	106131-XX	–	–	10	**11**	12	13	14
Plastic Vaned Straight Bore Nozzle	SBN-3P	71-P00002-XX	–	–	10	**11**	12	13	14
Brass 7° Low Angle Spreader Nozzle	LAN-1-7	100225-XX	**06**	08	–	–	–	–	–
Brass 20° Low Angle Spreader Nozzle	LAN-1-20	100226-XX	**06**	08	–	–	–	–	–
Brass Plug		100255	Bold nozzle size numbers denote the most common nozzle choices.						

48H

3/4" (19mm) Full Circle, Plastic Impact Sprinkler

- Durable Delrin™ plastic body, and arm
- Stainless steel spring and fulcrum pin
- Chemically resistant, PTFE washers

Features

- Color coded quick-fit nozzles provide easy maintenance
- 5 nozzles, 2 spreader nozzles, and a plug allow for design flexibility
- Plastic body and bearing provide increased affordability

Benefits

- PTFE washers allow for smaller nozzles and lower pressures
- Superior chemical and grit resistance
- Exceptionally wide range of flow rates
- Built to last
- Two-year Customer Satisfaction Policy

Specifications

- Bearing: 3/4" Male NPT, Plastic
- Trajectory Angle: 23°
- Operating Range: 30-80 psi (2.1-5.5 bar)
- Flow Rate: 3.9 – 14.2 gpm (880-3230 lph)
- Radius: 42-60 ft. (12.8-18.3 m)
- Range: One 1/4" Female NPT Nozzle Port
- Spreader: 3/32" or 1/8" Female NPT Spreader Nozzle Port

Plastic Nozzle with Plug Performance

	NOZZLE SIZE									
	5/32"		11/64"		3/16"		13/64"		7/32"	
	Rad.	gpm	Rad.	gpm	Rad.	gpm	Rad.	gpm	Rad.	gpm
30	-	-	-	-	46	5.43	49	6.18	48	7.1
35	44	4.22	46	5.02	47	5.88	50	6.68	50	7.69
40	46	4.5	48	5.48	50	6.26	52	7.22	50	8.27
45	46	4.82	50	5.78	51	6.68	52	7.67	54	8.81
50	48	5.03	51	6.17	52	7.1	53	8.12	54	9.29
55	50	5.37	51	6.44	52	7.47	54	8.54	57	9.78
60	50	5.54	51	6.67	52	7.7	55	8.93	58	10.25
65	50	5.81	52	7.09	53	8.15	56	9.27	58	10.73
70	51	6.04	54	7.33	54	8.45	56	9.66	58	11
75	51	6.22	54	7.58	55	8.72	57	10	58	11.46
80	51	6.46	55	7.84	55	8.97	57	10.31	59	11.8

Plastic Nozzle with 3/32" Spreader Nozzle Performance

	NOZZLE SIZE									
	5/32"		11/64"		3/16"		13/64"		7/32"	
	Rad.	gpm	Rad.	gpm	Rad.	gpm	Rad.	gpm	Rad.	gpm
30	-	-	-	-	44	6.4	46	7.26	47	8.22
35	44	5.4	44	6.25	45	7	48	7.9	49	8.91
40	46	5.77	46	6.69	47	7.53	50	8.4	51	9.49
45	46	6.16	48	7.16	49	7.98	51	8.98	52	10.19
50	47	6.54	49	7.58	50	8.45	52	9.46	54	10.7
55	47	6.84	50	7.91	52	8.94	53	9.94	54	11.19
60	48	7.18	50	8.26	53	9.26	54	10.27	56	11.8
65	49	7.46	51	8.61	54	9.7	54	10.85	58	12.1
70	50	7.72	52	8.97	54	10.09	56	11.23	59	12.72
75	51	7.97	53	9.17	56	10.35	56	11.69	60	12.95
80	51	8.28	54	9.51	56	10.7	57	12.01	60	13.56

Plastic Nozzle with 1/8" Spreader Nozzle Performance

	NOZZLE SIZE									
	5/32"		11/64"		3/16"		13/64"		7/32"	
	Rad.	gpm	Rad.	gpm	Rad.	gpm	Rad.	gpm	Rad.	gpm
30	-	-	-	-	44	6.89	45	7.7	46	8.63
35	42	5.91	44	6.73	44	7.43	47	8.34	48	9.27
40	45	6.32	45	7.24	46	8.02	49	8.91	50	10.03
45	46	6.72	46	7.66	48	8.54	50	9.46	52	10.63
50	46	7.1	48	8.1	50	9.01	52	10.04	54	11.19
55	46	7.46	49	8.4	52	9.37	54	10.54	56	11.84
60	47	7.76	50	8.88	52	9.89	54	11.04	56	12.3
65	48	8.11	50	9.32	52	10.31	56	11.5	57	12.87
70	48	8.39	51	9.59	54	10.66	56	11.95	58	13.29
75	48	8.75	51	9.92	55	11.08	57	12.33	58	13.85
80	49	8.99	52	10.25	55	11.46	58	12.75	60	14.24

* **Nozzles must be purchased separately.**
See Chart below.

Part Numbers and Ordering Information

Sprinkler Only	
Sprinkler Without Nozzle, Without Plug **48H-FC**	**A07370**
Sprinkler Without Nozzle, Without Plug **48WH-FC**	**A07380**

Plastic Quick-Fit Nozzle Only	
5/32" (3.97 mm) Plastic Straight Bore Quick-Fit Nozzle (Black)	**A07390**
11/64" (4.37 mm) Plastic Straight Bore Quick-Fit Nozzle (Brown)	**A07391**
3/16" (4.76 mm) Plastic Straight Bore Quick-Fit Nozzle (Yellow)	**A07392**
13/64" (5.16 mm) Plastic Straight Bore Quick-Fit Nozzle (Purple)	**A07393**
7/32" (5.56 mm) Plastic Straight Bore Quick-Fit Nozzle (Orange)	**A07394**

Spreader Nozzle and Plug Only	
3/32" (2.38 mm) Plastic Spreader Nozzle (Green)	**A07395**
1/8" (3.18 mm) Plastic Spreader Nozzle (Blue)	**A07396**
Plastic Plug (Orange)	**A07397**

Plastic Nozzle with Plug Performance	METRIC									
	NOZZLE SIZE									
	5/32"		11/64"		3/16"		13/64"		7/32"	
	Rad.	lph	Rad.	lph	Rad.	lph	Rad.	lph	Rad.	lph
2.1	-	-	-	-	14.0	1230	14.9	1400	14.6	1610
2.4	13.4	960	14.0	1140	14.3	1340	15.2	1520	15.2	1750
2.8	14.0	1020	14.6	1240	15.2	1420	15.8	1640	15.2	1880
3.1	14.0	1090	15.2	1310	15.5	1520	15.8	1740	16.5	2000
3.4	14.6	1140	15.5	1400	15.8	1610	16.2	1840	16.5	2110
3.8	15.2	1220	15.5	1460	15.8	1700	16.5	1940	17.4	2220
4.1	15.2	1260	15.5	1510	15.8	1750	16.8	2030	17.7	2330
4.5	15.2	1320	15.8	1610	16.2	1850	17.1	2110	17.7	2440
4.8	15.5	1370	16.5	1660	16.5	1920	17.1	2190	17.7	2500
5.2	15.5	1410	16.5	1720	16.8	1980	17.4	2270	17.7	2600
5.5	15.5	1470	16.8	1780	16.8	2040	17.4	2340	18.0	2680

Plastic Nozzle with 3/32" Spreader Nozzle Performance	METRIC									
	NOZZLE SIZE									
	5/32"		11/64"		3/16"		13/64"		7/32"	
	Rad.	lph	Rad.	lph	Rad.	lph	Rad.	lph	Rad.	lph
2.1	-	-	-	-	13.4	1450	14.0	1650	14.3	1870
2.4	13.4	1230	13.4	1420	13.7	1590	14.6	1790	14.9	2020
2.8	14.0	1310	14.0	1520	14.3	1710	15.2	1910	15.5	2160
3.1	14.0	1400	14.6	1630	14.9	1810	15.5	2040	15.8	2310
3.4	14.3	1490	14.9	1720	15.2	1920	15.8	2150	16.5	2430
3.8	14.3	1550	15.2	1800	15.8	2030	16.2	2260	16.5	2540
4.1	14.6	1630	15.2	1880	16.2	2100	16.5	2330	17.1	2680
4.5	14.9	1690	15.5	1960	16.5	2200	16.5	2460	17.7	2750
4.8	15.2	1750	15.8	2040	16.5	2290	17.1	2550	18.0	2890
5.2	15.5	1810	16.2	2080	17.1	2350	17.1	2650	18.3	2940
5.5	15.5	1880	16.5	2160	17.1	2430	17.4	2730	18.3	3080

Plastic Nozzle with 1/8" Spreader Nozzle Performance	METRIC									
	NOZZLE SIZE									
	5/32"		11/64"		3/16"		13/64"		7/32"	
	Rad.	lph	Rad.	lph	Rad.	lph	Rad.	lph	Rad.	lph
2.1	-	-	-	-	13.4	1560	13.7	1750	14.0	1960
2.4	12.8	1340	13.4	1530	13.4	1690	14.3	1890	14.6	2110
2.8	13.7	1440	13.7	1640	14.0	1820	14.9	2020	15.2	2280
3.1	14.0	1530	14.0	1740	14.6	1940	15.2	2150	15.8	2410
3.4	14.0	1610	14.6	1840	15.2	2050	15.8	2280	16.5	2540
3.8	14.0	1690	14.9	1910	15.8	2130	16.5	2390	17.1	2690
4.1	14.3	1760	15.2	2020	15.8	2250	16.5	2510	17.1	2790
4.5	14.6	1840	15.2	2120	15.8	2340	17.1	2610	17.4	2920
4.8	14.6	1910	15.5	2180	16.5	2420	17.1	2710	17.7	3020
5.2	14.6	1990	15.5	2250	16.8	2520	17.4	2800	17.7	3150
5.5	14.9	2040	15.8	2330	16.8	2600	17.7	2900	18.3	3230

* **Nozzles must be purchased separately.**
See Chart below.

Part Numbers and Ordering Information

Sprinkler Only	
Sprinkler Without Nozzle, Without Plug **48H-FC**	**A07370**
Sprinkler Without Nozzle, Without Plug **48WH-FC**	**A07380**

Plastic Quick-Fit Nozzle Only	
5/32" (3.97 mm) Plastic Straight Bore Quick-Fit Nozzle (Black)	**A07390**
11/64" (4.37 mm) Plastic Straight Bore Quick-Fit Nozzle (Brown)	**A07391**
3/16" (4.76 mm) Plastic Straight Bore Quick-Fit Nozzle (Yellow)	**A07392**
13/64" (5.16 mm) Plastic Straight Bore Quick-Fit Nozzle (Purple)	**A07393**
7/32" (5.56 mm) Plastic Straight Bore Quick-Fit Nozzle (Orange)	**A07394**

Spreader Nozzle and Plug Only	
3/32" (2.38 mm) Plastic Spreader Nozzle (Green)	**A07395**
1/8" (3.18 mm) Plastic Spreader Nozzle (Blue)	**A07396**
Plastic Plug (Orange)	**A07397**

30H / 30WH

3/4" 19 mm Full Circle, Brass Impact Sprinkler

- Heavy duty brass construction
- Stainless steel springs and fulcrum pin
- Chemically resistant washers

Features

- Dual nozzle ports
- 30H unit does not have a spreader plug
- 30WH unit has spreader plug

Benefits

- Wide range of flow rates
- Corrosion and grit resistant
- Built to last
- Five-year Customer Satisfaction Policy

Specifications

- Bearing: 3/4" Male NPT, Brass
  Trajectory Angle: 27°
- Operating Range: 25-80 psi 1.7-5.5 bar
  Flow Rate: 2.9-13.1 gpm 0.66-2.98 m^3/h
  Radius: 40-56 ft.12.20-17.23 meters
- Range: One 1/4" Female NPT Nozzle Port
- Spreader: One 1/8" Female NPT Spreader Nozzle Port

Brass Straight Bore Nozzle (SBN-3) with Plug Performance*

psi @ Nozzle	NOZZLE SIZE (Stream Height: 9 ft.) 9/64"		5/32"		11/64"		3/16"	
	Rad.	gpm	Rad.	gpm	Rad.	gpm	Rad.	gpm
25	40	2.90	41	3.50	41	4.30	42	5.10
30	40	3.10	42	3.90	44	4.70	45	5.60
35	41	3.40	43	4.20	45	5.10	47	6.00
40	41	3.60	44	4.50	46	5.40	48	6.40
45	42	3.80	44	4.70	46	5.70	49	6.80
50	42	4.10	45	5.00	47	6.10	50	7.20
55	43	4.20	45	5.20	48	6.30	50	7.60
60	43	4.40	46	5.50	48	6.60	51	7.90
65	44	4.60	46	5.80	49	6.90	51	8.20
70	44	4.80	47	5.90	49	7.20	52	8.50
75	45	5.00	47	6.10	50	7.40	52	8.80
80	45	5.10	48	6.30	50	7.70	53	9.10

Brass Straight Bore Nozzle (SBN-3) with Spreader (LAN-1) Performance*

psi @ Nozzle	NOZZLE SIZE (Stream Height: 9 ft.) 9/64" x 3/32-7°		5/32" x 3/32-7°		11/64" x 3/32-7°		3/16" x 3/32-7°		3/16" x 1/8-20°	
	Rad.	gpm	Rad.	gpm	Rad.	gpm	Rad.	gpm	Rad.	gpm
25	40	4.20	41	4.80	41	5.60	42	6.40	42	7.40
30	40	4.60	42	5.30	44	6.10	45	7.00	45	8.10
35	41	4.90	43	5.70	45	6.60	47	7.50	47	8.70
40	41	5.20	44	6.10	46	7.00	48	8.10	48	9.30
45	42	5.60	44	6.50	46	7.40	49	8.50	49	9.90
50	42	5.90	45	6.80	47	7.90	50	9.00	50	10.40
55	43	6.10	45	7.10	48	8.20	50	9.40	50	10.90
60	43	6.40	46	7.40	48	8.60	51	9.90	51	11.40
65	44	6.70	46	7.80	49	8.90	51	10.20	51	11.80
70	44	6.90	47	8.10	49	9.30	52	10.70	52	12.30
75	45	7.20	47	8.30	50	9.60	52	11.00	52	12.70
80	45	7.50	48	8.70	50	10.00	53	11.50	53	13.10

Brass Straight Bore Nozzle with Vane (SBN-3V) with Plug Performance*

psi @ Nozzle	NOZZLE SIZE (Stream Height: 10 ft.) 9/64"		5/32"		11/64"		3/16"	
	Rad.	gpm	Rad.	gpm	Rad.	gpm	Rad.	gpm
25	42	2.90	44	3.50	45	4.30	48	5.10
30	43	3.10	45	3.90	46	4.70	47	5.60
35	44	3.40	46	4.20	47	5.10	49	6.00
40	45	3.60	47	4.50	48	5.40	50	6.40
45	46	3.80	48	4.70	49	5.70	52	6.80
50	46	4.10	49	5.00	50	6.10	53	7.20
55	47	4.20	50	5.20	51	6.30	53	7.60
60	47	4.40	50	5.50	51	6.60	54	7.90
65	48	4.60	51	5.80	52	6.90	55	8.20
70	48	4.80	51	5.90	53	7.20	55	8.50
75	49	5.00	52	6.10	54	7.40	56	8.80
80	50	5.10	52	6.30	55	7.70	56	9.10

Brass Straight Bore Nozzle with vane (SBN-3v) with Spreader (LAN-1) Performance*

psi @ Nozzle	NOZZLE SIZE (Stream Height: 10 ft.) 9/64" x 3/32-7°		5/32" x 3/32-7°		11/64" x 3/32-7°		3/16" x 3/32-7°		3/16" x 1/8-20°	
	Rad.	gpm	Rad.	gpm	Rad.	gpm	Rad.	gpm	Rad.	gpm
25	42	4.20	44	4.80	45	5.60	45	6.40	46	7.40
30	43	4.60	45	5.30	46	6.10	47	7.00	47	8.10
35	44	4.90	46	5.70	47	6.60	49	7.50	49	8.70
40	45	5.20	47	6.10	48	7.00	50	8.10	50	9.30
45	46	5.60	48	6.50	49	7.40	52	8.50	52	9.90
50	46	5.90	49	6.80	50	7.90	53	9.00	53	10.40
55	47	6.10	50	7.10	51	8.20	54	9.40	54	10.90
60	47	6.40	50	7.40	51	8.60	54	9.90	54	11.40
65	48	6.70	51	7.80	52	8.90	55	10.20	55	11.80
70	48	6.90	51	8.10	53	9.30	55	10.70	55	12.30
75	49	7.20	52	8.30	54	9.60	56	11.00	56	12.70
80	50	7.50	52	8.70	55	10.00	56	11.50	56	13.10

* **Nozzles must be purchased separately.**
See Chart below.

Part Numbers and Ordering Information

Sprinkler Only		
Sprinkler Without Nozzle, Without Plug	**30H**	**A08401**
Sprinkler without Nozzle, With Plug	**30WH**	**A08411**

Nozzle Only			XX = Nozzle Size						
		U.S. Standard	3/32"	7/64"	1/8"	9/64"	5/32"	11/64"	3/16"
Brass Straight Bore Nozzle	SBN-3	105842-XX	–	–	–	09	10	**11**	12
Brass Straight Bore Nozzle with Vane	SBN-3V	106131-XX	–	–	–	09	10	**11**	12
Brass 7° Low Angle Spreader	LAN-1-7	100225-XX	**06**	07	08	09	10	–	–
Brass 20° Low Angle Spreader	LAN-1-20	100226-XX	06	07	**08**	09	10	–	–
Brass Plug		100255	Bold nozzle size numbers denote the most common nozzle choices.						

30H Brass Straight Bore Nozzle (SBN-3) with Plug * — METRIC

bar @ Nozzle	NOZZLE SIZE (Stream Height: 1.1m)											
	3.57 MM (9/64")			3.97 MM (5/32")			4.37 MM (11/64")			4.76 MM (3/16")		
	Rad. (m)	Flow (lps)	Flow (m^3/h)	Rad. (m)	Flow (lps)	Flow (m^3/h)	Rad. (m)	Flow (lps)	Flow (m^3/h)	Rad. (m)	Flow (lps)	Flow (m^3/h)
1.7	12.2	0.18	0.66	12.5	0.22	0.79	12.6	0.27	0.98	13.0	0.32	1.16
2.0	12.3	0.19	0.69	12.9	0.24	0.87	13.3	0.29	1.05	13.7	0.35	1.25
2.5	12.5	0.22	0.78	13.3	0.27	0.97	13.8	0.33	1.18	14.4	0.38	1.39
3.0	12.8	0.24	0.85	13.5	0.29	1.05	14.1	0.35	1.27	14.8	0.42	1.52
3.5	13.0	0.26	0.93	13.7	0.32	1.14	14.5	0.39	1.39	15.3	0.46	1.65
4.0	13.2	0.27	0.98	14.0	0.34	1.22	14.7	0.41	1.47	15.5	0.49	1.77
4.5	13.4	0.29	1.05	14.2	0.37	1.32	14.9	0.44	1.57	15.7	0.52	1.87
5.0	13.6	0.31	1.11	14.4	0.38	1.36	15.2	0.46	1.66	15.9	0.55	1.96
5.5	13.9	0.32	1.16	14.6	0.40	1.43	15.4	0.49	1.75	16.2	0.57	2.07

30H Brass Straight Bore Nozzle (SBN-3) with Spreader (LAN-1*) — METRIC

bar @ Nozzle	NOZZLE SIZE (Stream Height: 1.1m)											
	3.57 mm x 2.38 mm (9/64" x 3/32") 7°			3.97 mm x 2.38 mm (5/32" x 3/32") 7°			4.37 mm x 2.38 mm (11/64" x 3/32") 7°			4.76 mm x 2.38 mm (3/16" x 3/32") 7°		
	Rad. (m)	Flow (lps)	Flow (m^3/h)	Rad. (m)	Flow (lps)	Flow (m^3/h)	Rad. (m)	Flow (lps)	Flow (m^3/h)	Rad. (m)	Flow (lps)	Flow (m^3/h)
1.7	12.2	0.26	0.95	12.5	0.30	1.09	12.6	0.35	1.27	13.0	0.40	1.45
2.0	12.3	0.29	1.03	12.9	0.33	1.18	13.3	0.38	1.36	13.7	0.43	1.56
2.5	12.5	0.31	1.13	13.3	0.37	1.32	13.8	0.42	1.52	14.4	0.48	1.74
3.0	12.8	0.35	1.24	13.5	0.40	1.45	14.1	0.46	1.65	14.8	0.53	1.90
3.5	13.0	0.37	1.35	13.7	0.43	1.55	14.5	0.50	1.80	15.3	0.57	2.06
4.0	13.2	0.40	1.43	14.0	0.46	1.65	14.7	0.53	1.92	15.5	0.61	2.20
4.5	13.4	0.42	1.52	14.2	0.49	1.77	14.9	0.56	2.03	15.7	0.64	2.32
5.0	13.6	0.44	1.60	14.4	0.52	1.86	15.2	0.60	2.15	15.9	0.68	2.46
5.5	13.9	0.47	1.70	14.6	0.55	1.98	15.4	0.63	2.27	16.2	0.73	2.61

bar @ Nozzle	4.76 mm x 3.18 mm (3/16" x 1/8") 20°		
	Rad. (m)	Flow (lps)	Flow (m^3/h)
1.7	13.0	0.47	1.68
2.0	13.7	0.50	1.81
2.5	14.4	0.56	2.01
3.0	14.8	0.61	2.21
3.5	15.3	0.66	2.38
4.0	15.5	0.71	2.54
4.5	15.7	0.75	2.69
5.0	15.9	0.79	2.84
5.5	16.2	0.83	2.98

30H Brass Straight Bore Nozzle (SBN-3) with Plug * — METRIC

bar @ Nozzle	NOZZLE SIZE (Stream Height: 3m)											
	3.57 MM (9/64")			3.97 MM (5/32")			4.37 MM (11/64")			4.76 MM (3/16")		
	Rad. (m)	Flow (lps)	Flow (m^3/h)	Rad. (m)	Flow (lps)	Flow (m^3/h)	Rad. (m)	Flow (lps)	Flow (m^3/h)	Rad. (m)	Flow (lps)	Flow (m^3/h)
1.7	13.0	0.18	0.66	13.4	0.22	0.79	13.7	0.27	0.98	14.0	0.32	1.16
2.0	13.2	0.19	0.69	13.7	0.24	0.87	14.0	0.29	1.05	14.4	0.35	1.25
2.5	13.6	0.22	0.78	14.1	0.27	0.97	14.4	0.33	1.18	15.0	0.38	1.39
3.0	14.0	0.24	0.85	14.5	0.29	1.05	14.8	0.35	1.27	15.7	0.42	1.52
3.5	14.2	0.26	0.93	15.0	0.32	1.14	15.3	0.39	1.39	16.2	0.46	1.65
4.0	14.4	0.27	0.98	15.3	0.34	1.22	15.6	0.41	1.47	16.5	0.49	1.77
4.5	14.6	0.29	1.05	15.6	0.37	1.32	15.9	0.44	1.57	16.8	0.52	1.87
5.0	14.9	0.31	1.11	15.8	0.38	1.36	16.3	0.46	1.66	17.0	0.55	1.96
5.5	15.2	0.32	1.16	16.0	0.40	1.43	16.8	0.49	1.75	17.2	0.57	2.07

30H Brass Straight Bore Nozzle (SBN-3) with Spreader (LAN-1*) — METRIC

bar @ Nozzle	NOZZLE SIZE (Stream Height: 3m)											
	3.57 mm x 2.38 mm (9/64" x 3/32") 7°			3.97 mm x 2.38 mm (5/32" x 3/32") 7°			4.37 mm x 2.38 mm (11/64" x 3/32") 7°			4.76 mm x 2.38 mm (3/16" x 3/32") 7°		
	Rad. (m)	Flow (lps)	Flow (m^3/h)	Rad. (m)	Flow (lps)	Flow (m^3/h)	Rad. (m)	Flow (lps)	Flow (m^3/h)	Rad. (m)	Flow (lps)	Flow (m^3/h)
1.7	13.0	0.26	0.95	13.4	0.30	1.09	13.9	0.35	1.27	13.9	0.40	1.45
2.0	13.2	0.29	1.03	13.7	0.33	1.18	14.0	0.38	1.36	14.4	0.43	1.56
2.5	13.6	0.31	1.13	14.1	0.37	1.32	14.4	0.42	1.52	15.0	0.48	1.74
3.0	14.0	0.35	1.24	14.5	0.40	1.45	14.8	0.46	1.65	15.7	0.53	1.90
3.5	14.2	0.37	1.35	15.0	0.43	1.55	15.3	0.50	1.80	16.2	0.57	2.06
4.0	14.4	0.40	1.43	15.3	0.46	1.65	15.6	0.53	1.92	16.5	0.61	2.20
4.5	14.6	0.42	1.52	15.6	0.49	1.77	15.9	0.56	2.03	16.8	0.64	2.32
5.0	14.9	0.44	1.60	15.8	0.52	1.86	16.3	0.60	2.15	17.0	0.68	2.46
5.5	15.2	0.47	1.70	16.0	0.55	1.98	16.8	0.63	2.27	17.2	0.73	2.61

bar @ Nozzle	4.76 mm x 3.18 mm (3/16" x 1/8") 20°		
	Rad. (m)	Flow (lps)	Flow (m^3/h)
1.7	13.9	0.47	1.68
2.0	14.4	0.50	1.81
2.5	15.0	0.56	2.01
3.0	15.7	0.61	2.21
3.5	16.2	0.66	2.38
4.0	16.5	0.71	2.54
4.5	16.8	0.75	2.69
5.0	17.0	0.79	2.84
5.5	17.2	0.83	2.98

* **Nozzles must be purchased separately.**
See Chart below.

Part Numbers and Ordering Information

Sprinkler Only		
Sprinkler Without Nozzle, Without Plug	**30H**	**A08401**
Sprinkler without Nozzle, With Plug	**30WH**	**A08411**

Nozzle Only			XX = Nozzle Size						
		Metric	**2.38 mm**	**2.78 mm**	**3.18 mm**	**3.57 mm**	**3.97 mm**	**4.37 mm**	**4.76 mm**
Brass Straight Bore Nozzle	**SBN-3**	**105842-XX**	–	–	–	09	10	**11**	12
Brass Straight Bore Nozzle with Vane	**SBN-3V**	**106131-XX**	–	–	–	09	10	**11**	12
Brass 7° Low Angle Spreader	**LAN-1-7**	**100225-XX**	**06**	07	08	09	10	–	–
Brass 20° Low Angle Spreader	**LAN-1-20**	**100226-XX**	06	07	**08**	09	10	–	–
Brass Plug		**100255**	Bold nozzle size numbers denote the most common nozzle choices.						

30PWH

3/4" 19mm Full Circle, Aluminum Arm Impact Sprinkler

- Durable die-cast, anodized, aluminum arm
- Stainless steel springs and fulcrum pin
- Aluminum arm allows for smaller nozzles and lower pressures

Features

- Chemically resistant washers

Benefits

- Wide range of flow rates
- Corrosion and grit resistant
- Built to last
- Five-year Customer Satisfaction Policy

Specifications

- Bearing: 3/4" Male NPT, Brass
- Trajectory Angle: 27°
- Operating Range: 25-80 psi 1.7-5.5 bar
- Flow Rate: 1.7-5.5 gpm 0.39-1.22 m^3/h
- Radius: 38-46 ft. 11.74-14.03 meters
- Range: One 1/4" Female NPT Nozzle Port
- Spreader: One 1/8" Female NPT Spreader Nozzle Port

Straight Bore Nozzle (SBN-3*)

psi @ Nozzle	NOZZLE SIZE (Stream Height: 9 ft.) 7/64" Rad.	7/64" gpm	1/8" Rad.	1/8" gpm	9/64" Rad.	9/64" gpm	5/32" Rad.	5/32" gpm
25	38	1.70	39	2.30	40	2.90	41	3.50
30	39	1.90	39	2.50	40	3.20	42	3.90
35	39	2.10	40	2.70	41	3.40	43	4.20
40	39	2.20	40	2.90	41	3.60	44	4.50
45	40	2.30	41	3.10	42	3.80	44	4.70
50	40	2.40	41	3.20	42	4.00	45	5.00
55	40	2.60	42	3.40	43	4.20	45	5.20
60	41	2.70	42	3.60	43	4.40	46	5.50
65	41	2.80	43	3.70	44	4.70	-	-
70	41	2.90	43	3.80	44	4.80	-	-
75	41	3.00	43	4.00	-	-	-	-
80	42	3.10	43	4.10	-	-	-	-

Straight Bore Nozzle (SBN-3*) METRIC

bar @ Nozzle	NOZZLE SIZE (Stream Height: 2.7m) 2.78 mm (7/64") Rad. (m)	Flow (lps)	Flow (m^3/h)	3.18 mm (1/8") Rad. (m)	Flow (lps)	Flow (m^3/h)	3.57 mm (9/64") Rad. (m)	Flow (lps)	Flow (m^3/h)	3.97 mm (5/32") Rad. (m)	Flow (lps)	Flow (m^3/h)
1.7	11.7	0.11	0.39	11.9	0.15	0.52	12.2	0.18	0.66	12.5	0.22	0.79
2.0	11.9	0.12	0.42	12.0	0.16	0.56	12.3	0.20	0.71	12.9	0.24	0.87
2.5	11.9	0.13	0.48	12.2	0.17	0.62	12.5	0.22	0.78	13.3	0.27	0.97
3.0	12.1	0.14	0.52	12.5	0.19	0.69	12.8	0.24	0.85	13.5	0.29	1.05
3.5	12.2	0.15	0.55	12.7	0.20	0.73	13.0	0.25	0.92	13.7	0.32	1.14
4.0	12.4	0.17	0.60	12.9	0.22	0.80	13.2	0.27	0.98	14.0	0.34	1.22
4.5	12.5	0.18	0.64	13.1	0.23	0.84	13.4	0.30	1.07	-	-	-
5.0	12.6	0.19	0.67	13.2	0.25	0.89	-	-	-	-	-	-
5.5	12.8	0.20	0.70	13.3	0.26	0.93	-	-	-	-	-	-

* **Nozzles must be purchased separately.**
See Chart below.

Part Numbers and Ordering Information

Sprinkler Only	
Sprinkler without Nozzle with Plug	**A11355**

Nozzle Only			XX = NOZZLE SIZE			
		U.S. Standard	7/64"	1/8"	9/64"	5/32"
		Metric	2.78 mm	3.18 mm	3.57 mm	3.97 mm
Brass Straight Bore Nozzle	**SBN-3**	**105842-XX**	07	**08**	09	10
Brass Straight Bore Nozzle with Vane	**SBN-3V**	**106131-XX**	07	**08**	09	10

Bold nozzle size numbers denote the most common nozzle choices.

14070H

3/4" 19mm Full Circle, Brass Impact Sprinkler

- Heavy duty brass construction
- Extra large body and barrel
- Stainless steel springs and fulcrum pin

Features

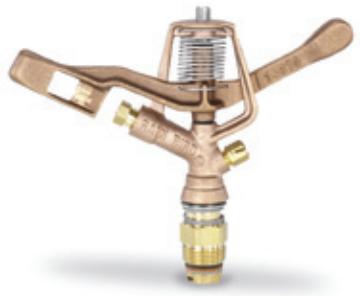
- Chemically resistant washers
- Dual nozzle ports

Benefits

- Extra large body accommodates wide range of flow rates and nozzles
- Long nozzle barrel increases distance of throw
- Corrosion and grit resistant
- Built to last
- Five-year Customer Satisfaction Policy

Specifications

- Bearing: 3/4" Male NPT, Brass
- Trajectory Angle: 27°
- Operating Range: 25-80 psi 1.7-5.5 bar
- Flow Rate: 4.2-23 gpm 0.97-5.34 m^3/h
- Radius: 44-71 ft. 13.57-22.10 meters
- Range: One 1/4" Female NPT Nozzle Port
- Spreader: One 1/8" Female NPT Spreader
- Nozzle Port



Straight Bore Nozzle (SBN-3) with Spreader (LAN-1-20)*

	NOZZLE SIZE (Stream Height: 10 ft.)													
	3/16" x 1/8-20˚		13/64" x 1/8-20˚		7/32" x 1/8-20˚		15/64" x 1/8-20˚		1/4" x 1/8-20˚		17/64" x 1/8-20˚		9/32" x 1/8-20˚	
psi @ Nozzle	Rad.	gpm	Rad.	gpm	Rad.	gpm	Rad.	gpm	Rad.	gpm	Rad.	gpm	Rad.	gpm
25	44	7.40	45	8.30	46	9.20	46	10.30	47	11.40	47	12.50	48	13.80
30	47	8.10	48	9.10	49	10.10	50	11.20	51	12.40	51	13.70	52	15.10
35	49	8.70	50	9.80	51	10.90	52	12.10	52	13.40	53	14.80	54	16.30
40	50	9.30	51	10.50	52	11.70	53	13.00	54	14.40	55	15.80	56	17.40
45	51	9.90	52	11.10	54	12.40	55	13.80	56	15.20	57	16.80	58	18.50
50	52	10.40	53	11.70	55	13.10	56	14.50	57	16.10	58	17.70	59	19.50
55	53	10.90	54	12.30	56	13.70	57	15.20	59	16.90	59	18.60	61	20.40
60	53	11.40	55	12.80	57	14.30	58	15.90	60	17.60	61	19.40	62	21.30
65	54	11.90	56	13.30	58	14.90	59	16.50	61	18.30	62	20.20	63	22.20
70	55	12.40	57	13.80	59	15.40	60	17.20	62	19.00	63	21.00	65	23.00
75	55	12.80	58	14.30	60	16.00	61	17.80	63	19.70	-	-	-	-
80	56	13.20	58	14.80	61	16.50	62	18.40	64	20.30	-	-	-	-

Straight Bore Nozzle (SBN-3V) with Plug*

	NOZZLE SIZE (Stream Height: 10 ft.)															
	5/32"		11/64"		3/16"		13/64"		7/32"		15/64"		1/4"		17/64"		9/32"	
psi @ Nozzle	Rad.	gpm	Rad.	gpm	Rad.	gpm	Rad.	gpm	Rad.	gpm	Rad.	gpm	Rad.	gpm	Rad.	gpm	Rad.	gpm
25	-	-	-	-	44	5.10	45	6.00	46	7.00	46	8.00	47	9.10	48	10.30	48	11.50
30	-	-	-	-	47	5.60	48	6.60	49	7.60	50	8.80	51	10.00	51	11.20	52	12.60
35	46	4.20	47	5.10	49	6.10	50	7.10	51	8.20	52	9.50	52	10.80	53	12.10	54	13.60
40	46	4.50	48	5.40	50	6.50	51	7.60	52	8.80	53	10.10	54	11.50	55	13.00	56	14.60
45	47	4.80	49	5.80	51	6.90	52	8.10	54	9.30	55	10.70	56	12.20	57	13.80	58	15.40
50	48	5.00	50	6.10	52	7.20	53	8.50	55	9.80	56	11.30	57	12.90	58	14.50	59	16.30
55	48	5.30	50	6.40	53	7.60	54	8.90	56	10.30	54	11.80	59	13.50	59	15.20	61	17.10
60	49	5.50	51	6.70	53	7.90	55	9.30	57	10.80	58	12.40	60	14.10	61	15.90	62	17.80
65	49	5.70	52	6.90	54	8.30	56	9.70	58	11.20	59	12.90	61	14.70	62	16.50	63	18.50
70	50	5.90	52	7.20	55	8.60	57	10.00	59	11.60	60	13.40	62	15.20	63	17.20	65	19.20
75	50	6.20	53	7.40	55	8.90	58	10.40	60	12.10	61	13.80	63	15.70	-	-	-	-
80	50	6.40	53	7.70	56	9.10	58	10.70	61	12.40	62	14.30	64	16.30	-	-	-	-

Straight Bore Nozzle with Vane (SBN-3V) with Spreader (LAN-1-20)*

	NOZZLE SIZE (Stream Height: 10 ft.)													
	3/16" x 1/8-20˚		13/64" x 1/8-20˚		7/32" x 1/8-20˚		15/64" x 1/8-20˚		1/4" x 1/8-20˚		17/64" x 1/8-20˚		9/32" x 1/8-20˚	
psi @ Nozzle	Rad.	gpm	Rad.	gpm	Rad.	gpm	Rad.	gpm	Rad.	gpm	Rad.	gpm	Rad.	gpm
25	47	7.40	49	8.30	51	9.20	51	9.80	51	10.80	51	11.90	51	13.10
30	50	8.10	51	9.10	54	10.10	54	10.60	55	11.80	55	13.00	55	14.30
35	51	8.70	53	9.80	55	10.90	56	11.50	57	12.70	57	14.10	57	15.50
40	52	9.30	54	10.50	56	11.70	57	12.40	59	13.70	59	15.00	60	16.50
45	53	9.90	55	11.10	57	12.40	59	13.10	60	14.40	61	16.00	62	17.60
50	53	10.40	56	11.70	58	13.10	60	13.80	62	15.30	63	16.80	64	18.50
55	54	10.90	56	12.30	59	13.70	61	14.40	63	16.10	65	17.70	66	19.40
60	55	11.40	57	12.80	60	14.30	62	15.10	64	16.70	67	18.40	68	20.20
65	55	11.90	58	13.30	61	14.90	63	15.70	65	17.40	68	19.20	69	21.10
70	56	12.40	58	13.80	62	15.40	64	16.30	66	18.10	69	20.00	71	21.90
75	56	12.80	59	14.30	62	16.00	65	16.90	67	18.70	-	-	-	-
80	57	13.20	60	14.80	63	16.50	66	17.50	69	19.30	-	-	-	-

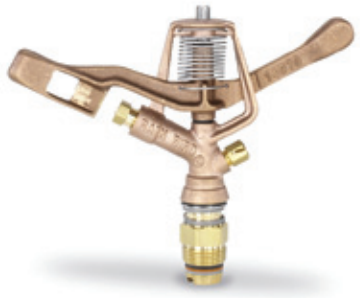
* **Nozzles must be purchased separately.**
See Chart below.

Part Numbers and Ordering Information

Sprinkler Only	
Sprinkler without Nozzle without Plug	A12800

Nozzle Only			XX = Nozzle Size									
		U.S. Standard	1/8"	5/32"	11/64"	3/16"	13/64"	7/32"	15/64"	1/4"	17/64"	9/32"
Brass Straight Bore Nozzle	SBN-3	105842-XX	–	10	11	**12**	13	14	15	16	17	18
Brass Straight Bore Nozzle with Vane	SBN-3V	106131-XX	–	10	11	**12**	13	14	15	16	17	18
Brass 20° Low Angle Spreader Nozzle	LAN-1-20	100226-XX	**08**	–	–	–	–	–	–	–	–	–
Brass Plug		100255	Bold nozzle size numbers denote the most common nozzle choices.									

Straight Bore Nozzle (SBN-3) with Spreader (LAN-1-20)* — METRIC



bar @ Nozzle	NOZZLE SIZE (Stream Height: 3m)																				
	4.76 mm x 3.18 mm (3/16" x 1/8") 20°			5.16 mm x 3.18 mm (13/64" x 1/8") 20°			5.56 mm x 3.18 mm (7/32" x 1/8") 20°			5.95 mm x 3.18 mm (15/64" x 1/8") 20°			6.35 mm x 3.18 mm (1/4" x 1/8") 20°			6.75 mm x 3.18 mm (17/64" x 1/8") 20°			7.14 mm x 3.18 mm (9/32" x 1/8") 20°		
	Rad. (m)	Flow (lps)	Flow (m³/h)	Rad. (m)	Flow (lps)	Flow (m³/h)	Rad. (m)	Flow (lps)	Flow (m³/h)	Rad. (m)	Flow (lps)	Flow (m³/h)	Rad. (m)	Flow (lps)	Flow (m³/h)	Rad. (m)	Flow (lps)	Flow (m³/h)	Rad. (m)	Flow (lps)	Flow (m³/h)
1.7	13.6	0.47	1.68	13.9	0.52	1.89	14.0	0.58	2.09	14.2	0.65	2.34	14.3	0.72	2.59	14.5	0.79	2.84	14.6	0.87	3.13
2.0	14.3	0.50	1.81	14.6	0.56	2.03	14.9	0.63	2.25	15.0	0.70	2.50	15.3	0.77	2.77	15.4	0.85	3.06	15.6	0.94	3.37
2.5	15.0	0.56	2.01	15.4	0.63	2.26	15.7	0.70	2.52	16.0	0.78	2.80	16.2	0.86	3.10	16.4	0.95	3.42	16.6	1.05	3.76
3.0	15.5	0.61	2.21	15.9	0.69	2.48	16.3	0.77	2.77	16.6	0.86	3.08	16.9	0.94	3.40	17.2	1.04	3.75	17.5	1.15	4.13
3.5	15.9	0.66	2.38	16.4	0.74	2.68	16.8	0.83	3.00	17.1	0.92	3.32	17.6	1.02	3.68	17.9	1.12	4.05	18.2	1.24	4.46
4.0	16.2	0.71	2.54	16.8	0.79	2.86	17.4	0.89	3.19	17.7	0.99	3.55	18.2	1.09	3.93	18.4	1.20	4.33	18.9	1.32	4.75
4.5	16.6	0.75	2.71	17.2	0.84	3.03	17.8	0.94	3.39	18.1	1.04	3.75	18.6	1.16	4.16	19.1	1.28	4.60	19.4	1.40	5.05
5.0	16.8	0.79	2.86	17.5	0.89	3.19	18.1	0.99	3.56	18.6	1.10	3.97	19.1	1.22	4.39	19.6	1.35	4.86	19.9	1.48	5.34
5.5	17.2	0.83	3.00	17.8	0.93	3.36	18.6	1.04	3.75	19.1	1.16	4.18	19.7	1.28	4.61	-	-	-	-	-	-

Straight Bore Nozzle (SBN-3V) with Plug* — METRIC

bar @ Nozzle	NOZZLE SIZE (Stream Height: 3m)																				
	3.97 mm (5/32")			4.37 mm (11/64")			4.76 mm (3/16")			5.16 mm (13/64")			5.56 mm (7/32")			5.95 mm (15/64")			6.35 mm (1/4")			6.75 mm (17/64")			7.14 mm (9/32")		
	Rad. (m)	Flow (lps)	Flow (m³/h)	Rad. (m)	Flow (lps)	Flow (m³/h)	Rad. (m)	Flow (lps)	Flow (m³/h)	Rad. (m)	Flow (lps)	Flow (m³/h)	Rad. (m)	Flow (lps)	Flow (m³/h)	Rad. (m)	Flow (lps)	Flow (m³/h)	Rad. (m)	Flow (lps)	Flow (m³/h)	Rad. (m)	Flow (lps)	Flow (m³/h)	Rad. (m)	Flow (lps)	Flow (m³/h)
1.7	-	-	-	-	-	-	13.6	0.32	1.16	13.9	0.38	1.36	14.0	0.44	1.59	14.2	0.50	1.82	14.3	0.57	2.07	14.5	0.65	2.34	14.6	0.73	2.61
2.0	-	-	-	-	-	-	14.3	0.35	1.25	14.6	0.41	1.47	14.9	0.47	1.70	15.0	0.54	1.96	15.3	0.62	2.23	15.4	0.70	2.50	15.6	0.78	2.81
2.5	14.1	0.27	0.97	14.4	0.33	1.18	15.0	0.39	1.41	15.4	0.46	1.64	15.7	0.53	1.90	16.0	0.61	2.19	16.2	0.69	2.49	16.4	0.78	2.80	16.6	0.87	3.14
3.0	14.3	0.30	1.07	14.8	0.36	1.29	15.5	0.43	1.54	15.9	0.50	1.81	16.3	0.58	2.08	16.6	0.66	2.39	16.9	0.76	2.72	17.2	0.86	3.08	17.5	0.96	3.44
3.5	14.7	0.32	1.15	15.3	0.39	1.40	15.9	0.46	1.65	16.4	0.54	1.94	16.8	0.62	2.24	17.1	0.72	2.58	17.6	0.82	2.95	17.9	0.92	3.32	18.2	1.04	3.73
4.0	14.9	0.34	1.23	15.5	0.42	1.49	16.2	0.49	1.77	16.8	0.58	2.08	17.4	0.67	2.41	17.7	0.77	2.76	18.2	0.87	3.15	18.4	0.99	3.55	18.9	1.11	3.98
4.5	15.1	0.36	1.30	15.9	0.44	1.57	16.6	0.52	1.89	17.2	0.61	2.21	17.8	0.71	2.55	18.1	0.82	2.93	18.6	0.93	3.34	19.1	1.04	3.75	19.4	1.17	4.21
5.0	15.2	0.38	1.37	16.1	0.46	1.66	16.8	0.55	1.99	17.5	0.64	2.32	18.1	0.75	2.69	18.6	0.86	3.09	19.1	0.97	3.51	19.6	1.10	3.97	19.8	1.23	4.42
5.5	15.4	0.40	1.45	16.3	0.49	1.75	17.2	0.57	2.07	17.8	0.68	2.43	18.6	0.78	2.82	19.1	0.90	3.25	19.7	1.03	3.70	-	-	-	-	-	-

Straight Bore Nozzle with Vane (SBN-3V) with Spreader (LAN-1-20)* — METRIC

bar @ Nozzle	NOZZLE SIZE (Stream Height: 3m)																				
	4.76 mm x 3.18 mm (3/16" x 1/8") 20°			5.16 mm x 3.18 mm (13/64" x 1/8") 20°			5.56 mm x 3.18 mm (7/32" x 1/8") 20°			5.95 mm x 3.18 mm (15/64" x 1/8") 20°			6.35 mm x 3.18 mm (1/4" x 1/8") 20°			6.75 mm x 3.18 mm (17/64" x 1/8") 20°			7.14 mm x 3.18 mm (9/32" x 1/8") 20°		
	Rad. (m)	Flow (lps)	Flow (m³/h)	Rad. (m)	Flow (lps)	Flow (m³/h)	Rad. (m)	Flow (lps)	Flow (m³/h)	Rad. (m)	Flow (lps)	Flow (m³/h)	Rad. (m)	Flow (lps)	Flow (m³/h)	Rad. (m)	Flow (lps)	Flow (m³/h)	Rad. (m)	Flow (lps)	Flow (m³/h)
1.7	14.5	0.47	1.68	14.9	0.52	1.89	15.5	0.58	2.09	15.5	0.62	2.23	15.7	0.68	2.45	15.5	0.75	2.70	15.5	0.83	2.98
2.0	15.1	0.50	1.81	15.5	0.56	2.03	16.3	0.63	2.25	16.4	0.66	2.37	16.5	0.73	2.63	16.5	0.81	2.90	16.5	0.89	3.19
2.5	15.6	0.56	2.01	16.2	0.63	2.26	17.0	0.70	2.52	17.2	0.74	2.66	17.5	0.82	2.94	17.7	0.90	3.25	17.7	0.99	3.58
3.0	16.1	0.61	2.21	16.7	0.69	2.48	17.4	0.77	2.77	17.8	0.81	2.93	18.3	0.90	3.22	18.6	0.99	3.56	18.7	1.09	3.92
3.5	16.4	0.66	2.38	17.1	0.74	2.68	17.9	0.83	3.00	18.4	0.88	3.15	18.9	0.97	3.50	19.3	1.07	3.85	19.6	1.18	4.23
4.0	16.7	0.71	2.54	17.4	0.79	2.86	18.3	0.89	3.19	18.9	0.93	3.37	19.5	1.04	3.74	20.1	1.14	4.11	20.5	1.25	4.51
4.5	16.9	0.75	2.71	17.7	0.84	3.03	18.8	0.94	3.39	19.4	0.99	3.57	20.0	1.10	3.96	20.7	1.21	4.37	21.2	1.33	4.80
5.0	17.1	0.79	2.86	17.9	0.89	3.19	19.0	0.99	3.56	19.7	1.05	3.77	20.4	1.16	4.18	21.3	1.28	4.62	22.1	1.40	5.05
5.5	17.4	0.83	3.00	18.3	0.93	3.36	19.4	1.04	3.75	20.1	1.10	3.97	21.0	1.22	4.38	-	-	-	-	-	-

* **Nozzles must be purchased separately.**
See Chart below.

Part Numbers and Ordering Information

Sprinkler Only	
Sprinkler without Nozzle without Plug	**A12800**

Nozzle Only			XX = Nozzle Size									
		Metric	3.18 mm	3.97 mm	4.37 mm	4.76 mm	5.16 mm	5.56 mm	5.95 mm	6.35 mm	6.75 mm	7.14 mm
Brass Straight Bore Nozzle	SBN-3	105842-XX	–	10	11	**12**	13	14	15	16	17	18
Brass Straight Bore Nozzle with Vane	SBN-3V	106131-XX	–	10	11	**12**	13	14	15	16	17	18
Brass 20° Low Angle Spreader Nozzle	LAN-1-20	100226-XX	**08**	–	–	–	–	–	–	–	–	–
Brass Plug		100255	Bold nozzle size numbers denote the most common nozzle choices.									

30FH / 30FWH

3/4" 19mm Full Circle, Brass Impact Sprinkler

- Heavy duty brass construction
- Stainless steel springs and fulcrum pin
- Chemically resistant, PTFE washers

Features

- Dual nozzle ports

Benefits

- PTFE washers allow for faster rotation times with a smaller nozzle at lower pressures
- Wide range of flow rates
- Corrosion and grit resistant
- Built to last
- Five-year Customer Satisfaction Policy

Specifications

- Bearing: 3/4" Male NPT, Brass
- Trajectory Angle: 27°
- Operating Range: 25-80 psi 1.7-5.5 bar
- Flow Rate: 2.26-6.47 gpm 0.51-1.47 m^3/h
- Radius: 39-43 ft. 11.90-13.27 meters
- One 1/4" Female NPT Nozzle Port
- One 1/8" Female NPT Spreader Nozzle Port

Straight Bore Nozzle (SBN-3) Performance*

psi @ Nozzle	NOZZLE SIZE (Stream Height: 9 ft.) 1/8" Rad.	gpm
25	39	2.26
30	39	2.48
35	40	2.68
40	40	2.86
45	41	3.03
50	41	3.20
55	42	3.35
60	44	3.50
65	43	3.65
70	43	3.78
75	43	3.91
80	43	4.04

Straight Bore Nozzle (SBN-3) with Spreader (LAN-1-20) Performance*

psi @ Nozzle	NOZZLE SIZE (Stream Height: 9 ft.) 1/8" x 3/32-20° Rad.	gpm
25	39	3.52
30	39	3.87
35	40	4.19
40	40	4.49
45	41	4.77
50	41	5.02
55	42	5.27
60	42	5.51
65	43	5.75
70	43	5.99
75	43	6.23
80	43	6.47

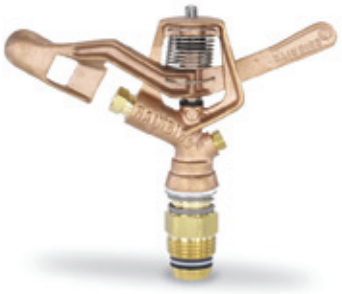
Straight Bore Nozzle (SBN-3) Performance*

bar @ Nozzle	NOZZLE SIZE (Stream Height: 2.7m) 3.18 mm (1/8") Rad. (m)	Flow (lps)	Flow (m^3/h)
1.7	11.9	0.14	0.51
2.0	12.0	0.15	0.55
2.5	12.2	0.17	0.62
3.0	12.5	0.19	0.68
3.5	12.7	0.20	0.73
4.0	12.9	0.22	0.78
4.5	13.1	0.23	0.83
5.0	13.2	0.24	0.87
5.5	13.3	0.25	0.92

Straight Bore Nozzle (SBN-3) with Spreader (LAN-1-20) * METRIC

bar @ Nozzle	NOZZLE SIZE (Stream Height: 2.7m) 3.18 mm x 2.38 mm (1/8" x 3/32") 20° Rad. (m)	Flow (lps)	Flow (m^3/h)
1.7	11.9	0.22	0.80
2.0	12.0	0.24	0.86
2.5	12.2	0.27	0.97
3.0	12.5	0.30	1.06
3.5	12.7	0.32	1.15
4.0	12.9	0.34	1.23
4.5	13.1	0.36	1.31
5.0	13.2	0.39	1.39
5.5	13.3	0.41	1.47

* **Nozzles must be purchased separately.** See Chart below.



Part Numbers and Ordering Information

Sprinkler Only		
Sprinkler without Nozzle	30FH	A08401F
Sprinkler without Nozzle with Plug	30FWH	A08901F

Nozzle Only			XX = Nozzle Size	
		U.S. Standard	3/32"	1/8"
		Metric	2.38 mm	3.18 mm
Brass Straight Bore Nozzle 1/8"	SBN-3	105842-XX	–	**08**
Brass 20" Low Angle Nozzle 3/32°	LAN-1-20	100226-XX	**06**	–
Brass Plug		100255	Bold nozzle size numbers denote the most common nozzle choices	

70CH / 70CHM

1" 25 mm Full Circle, Brass Impact Sprinkler

- Heavy duty brass construction
- 70CH 1" Female NPT Bearing
- 70CHM has 1" Male bearing Integral Straightening Vanes

Features

- Stainless steel springs and fulcrum pin
- Chemically resistant washers
- Dual nozzle ports

Benefits

- Low angle ideal for windy conditions
- Integral straightening vanes increase distance of throw
- Wide range of flow rates
- Corrosion and grit resistant
- Built to last
- Five-year Customer Satisfaction Policy

Specifications

- Bearing: 1" Female NPT, Brass (70CH)
- Bearing: 1" Male NPT, Brass (70CHM)
- Trajectory Angle: 21°
- Operating Range: 40-80 psi 2.8-5.5 bar
- Flow Rate: 8.8-45.8 gpm 2.00-10.40 m^3/h
- Radius: 57-82 ft. 17.39-25.01 meters
- Two 3/8" Female NPT Nozzle Ports **(Spreader Nozzle Port requires Spreader Bushing to accept LAN-20 Nozzles)**

Straight Bore Nozzle (SBN-4) with Plug Performance*

	NOZZLE SIZE (Stream Height: 8 ft.)													
	7/32"		1/4"		9/32"		5/16"		11/32"		3/8"		13/32"	
psi @ Nozzle	Rad.	gpm	Rad.	gpm	Rad.	gpm	Rad.	gpm	Rad.	gpm	Rad.	gpm	Rad.	gpm
40	57	8.80	60	11.50	62	14.60	65	17.70	66	21.10	68	24.40	70	28.50
45	58	9.40	61	12.20	64	15.50	66	18.90	68	22.50	70	26.00	72	30.40
50	59	9.90	62	12.90	65	16.30	68	20.00	70	23.80	71	27.50	73	32.30
55	60	10.40	63	13.60	66	17.20	70	21.00	71	25.00	73	29.10	75	34.00
60	61	10.90	64	14.20	67	18.00	71	22.00	73	26.20	74	30.60	77	35.70
65	62	11.40	65	14.80	68	18.80	72	23.00	74	27.40	76	32.00	78	37.30
70	63	11.80	66	15.40	70	19.50	73	23.90	76	28.50	77	33.20	79	38.90
75	64	12.20	67	16.00	71	20.30	74	24.80	77	29.60	78	34.50	81	40.40
80	65	12.60	68	16.50	72	20.90	75	25.70	78	30.60	80	35.70	82	41.80

Straight Bore Nozzle (SBN-4) with Spreader (LAN-1-20) Performance*

	NOZZLE SIZE (Stream Height: 8 ft.)													
	7/32" x 1/8-20°		1/4" x 1/8-20°		9/32" x 1/8-20°		5/16" x 1/8-20°		11/32" x 1/8-20°		3/8" x 1/8-20°		13/32" x 1/8-20°	
psi @ Nozzle	Rad.	gpm	Rad.	gpm	Rad.	gpm	Rad.	gpm	Rad.	gpm	Rad.	gpm	Rad.	gpm
40	57	11.60	60	14.30	62	17.40	65	20.50	61	23.90	68	27.20	70	31.40
45	58	12.40	61	15.20	64	18.50	66	21.90	68	25.50	70	29.00	72	33.40
50	59	13.00	62	16.00	65	19.40	68	23.10	70	26.90	71	30.60	73	35.50
55	60	13.70	63	16.90	66	20.40	70	24.30	71	28.30	73	32.40	75	37.40
60	61	14.30	64	17.60	67	21.40	71	25.40	73	29.60	74	34.00	77	39.20
65	62	15.00	65	18.40	69	22.40	72	26.60	74	31.00	76	35.60	78	40.90
70	63	15.50	66	19.10	70	23.20	73	27.60	75	32.20	77	36.90	79	42.70
75	64	16.00	67	19.80	71	24.10	74	28.60	77	33.40	78	38.30	81	44.30
80	65	16.50	68	20.40	72	24.80	75	29.60	78	34.50	80	39.60	82	45.80

* **Nozzles must be purchased separately.**
See Chart below.

Part Numbers and Ordering Information

Sprinkler Only	
Sprinkler without Nozzle, Without Plug,Without Bushing; Female body (70CH)	**A20000**
Sprinkler without Nozzle, Without Plug,Without Bushing; Male body (70CHM)	**A20030**

Nozzle Only			XX = Nozzle Size							
		U.S. Standard	1/8"	7/32"	1/4"	9/32"	5/16"	11/32"	3/8"	13/32"
Brass Straight Bore Nozzle	SBN-4	100382-XX	–	14	16	18	20	22	24	26
Brass Spreader Bushing	SPB-1	100418	Needed for use with LAN -1-20							
Brass 20° Low Angle Spreader Nozzle	LAN-1-20	100226	08	–	–	–	–	–	–	–
Brass Plug		100417	Bold nozzle size numbers denote the most common nozzle choices.							

Straight Bore Nozzle (SBN-4) with Plug Performance* — METRIC

NOZZLE SIZE (Stream Height: 2.4m)

bar @ Nozzle	5.56 mm (7/32") Rad. (m)	Flow (lps)	Flow (m^3/h)	6.35 mm (1/4") Rad. (m)	Flow (lps)	Flow (m^3/h)	7.14 mm (9/32") Rad. (m)	Flow (lps)	Flow (m^3/h)	7.94 mm (5/16") Rad. (m)	Flow (lps)	Flow (m^3/h)	8.73 mm (11/32") Rad. (m)	Flow (lps)	Flow (m^3/h)	9.53 mm (3/8") Rad. (m)	Flow (lps)	Flow (m^3/h)	10.32 mm (13/32") Rad. (m)	Flow (lps)	Flow (m^3/h)
2.8	17.4	0.56	2.00	18.3	0.73	2.61	19.1	0.92	3.32	19.8	1.12	4.02	20.3	1.33	4.79	20.7	1.54	5.54	21.3	1.80	6.47
3.0	17.7	0.58	2.09	18.5	0.76	2.72	19.4	0.96	3.46	20.1	1.17	4.21	20.6	1.39	5.01	21.2	1.61	5.79	21.8	1.88	6.77
3.5	18.2	0.63	2.26	18.9	0.82	2.95	20.0	1.04	3.73	20.8	1.27	4.58	21.4	1.51	5.45	21.9	1.75	6.30	22.5	2.05	7.39
4.0	18.6	0.67	2.43	19.4	0.88	3.17	20.5	1.12	4.01	21.6	1.36	4.90	22.1	1.62	5.84	22.5	1.89	6.81	23.3	2.21	7.95
4.5	19.1	0.72	2.59	19.8	0.94	3.37	21.0	1.19	4.28	22.1	1.45	5.23	22.7	1.73	6.23	23.2	2.02	7.28	23.9	2.35	8.47
5.0	19.5	0.76	2.72	20.3	0.99	3.56	21.5	1.26	4.52	22.6	1.54	5.53	23.3	1.83	6.60	23.8	2.14	7.69	24.3	2.45	8.82
5.5	19.8	0.79	2.86	20.7	1.04	3.75	21.9	1.32	4.75	23.0	1.62	5.84	23.8	1.93	6.95	24.5	2.25	8.11	25.0	2.64	9.49

Straight Bore Nozzle (SBN-4) with Spreader (LAN-1-20) Performance* — METRIC

NOZZLE SIZE (Stream Height: 2.4m)

bar @ Nozzle	5.56 mm x 3.18 mm (7/32" x 1/8") 20° Rad. (m)	Flow (lps)	Flow (m^3/h)	6.35 mm x 3.18 mm (1/4" x 1/8") 20° Rad. (m)	Flow (lps)	Flow (m^3/h)	7.14 mm x 3.18 mm (9/32" x 1/8") 20° Rad. (m)	Flow (lps)	Flow (m^3/h)	7.94 mm x 3.18 mm (5/16" x 1/8") 20° Rad. (m)	Flow (lps)	Flow (m^3/h)	8.73 mm x 3.18 mm (11/32" x 1/8") 20° Rad. (m)	Flow (lps)	Flow (m^3/h)	9.53 mm x 3.18 mm (3/8" x 1/8") 20° Rad. (m)	Flow (lps)	Flow (m^3/h)	10.32 mm x 3.18 mm (13/32" x 1/8") 20° Rad. (m)	Flow (lps)	Flow (m^3/h)
2.8	17.4	0.73	2.63	18.3	0.90	3.25	19.1	1.10	3.95	19.8	1.29	4.66	20.3	1.51	5.43	20.7	1.72	6.18	21.3	1.98	7.13
3.0	17.7	0.77	2.76	18.5	0.94	3.39	19.4	1.15	4.13	20.1	1.35	4.88	20.6	1.58	5.68	21.2	1.80	6.46	21.8	2.07	7.45
3.5	18.2	0.83	2.98	18.9	1.02	3.66	20.0	1.23	4.44	20.8	1.47	5.29	21.4	1.71	6.16	21.9	1.95	7.01	22.5	2.26	8.13
4.0	18.6	0.89	3.19	19.4	1.09	3.93	20.5	1.32	4.77	21.6	1.57	5.67	22.1	1.83	6.60	22.5	2.10	7.57	23.3	2.43	8.74
4.5	19.1	0.95	3.41	19.8	1.16	4.19	21.0	1.42	5.10	22.1	1.68	6.05	22.7	1.96	7.05	23.2	2.25	8.10	23.9	2.58	9.29
5.0	19.5	0.99	3.58	20.3	1.23	4.42	21.5	1.49	5.37	22.6	1.77	6.38	23.3	2.07	7.45	23.8	2.37	8.54	24.3	2.69	9.67
5.5	19.8	1.04	3.75	20.7	1.29	4.63	21.9	1.56	5.63	23.0	1.87	6.72	23.8	2.18	7.84	24.5	2.50	8.99	25.0	2.89	10.40

* **Nozzles must be purchased separately.**
See Chart below.

Part Numbers and Ordering Information

Sprinkler Only	
Sprinkler without Nozzle, Without Plug,Without Bushing; Female body (70CH)	**A20000**
Sprinkler without Nozzle, Without Plug,Without Bushing; Male body (70CHM)	**A20030**

Nozzle Only		Metric	XX = Nozzle Size							
			1.59 mm	1.70mm	1.78 mm	1.98 mm	2.18 mm	2.38 mm	2.78 mm	3.18 mm
Brass Straight Bore Nozzle	SBN-4	100382-XX	–	**14**	**16**	**18**	**20**	**22**	**24**	**26**
Brass Spreader Bushing	SPB-1	100418	Needed for use with LAN -1-20							
Brass 20° Low Angle Spreader Nozzle	LAN-1-20	100226	**08**	–	–	–	–	–	–	–
Brass Plug		100417	Bold nozzle size numbers denote the most common nozzle choices.							

80EHD

1 1/4" 32 mm Full Circle, Brass Impact Sprinkler

- Heavy duty brass construction
- Internal plastic straightening vane
- Stainless steel springs and fulcrum pin

Features

- Plastic bearing hood
- Chemically resistant washers
- Dual nozzle ports

Benefits

- Internal straightening vane increases distance of throw
- Plastic bearing hood protects spring and bearing sleeve from damage
- Corrosion and grit resistant
- Built to last
- Five-year Customer Satisfaction Policy

Specifications

- Bearing: 1 1/4" Male NPT, Brass
- Trajectory Angle: 27°
- Operating Range: 25-100 psi 1.7-6.9 bar
- Flow Rate: 17.1-127.7 gpm 2.88-2.9 m^3/h
- Radius: 61-116 ft. 18.6-35.4 meters

Straight Bore Nozzle (SBN-5) Performance*

	NOZZLE SIZE (Stream Height: 14 ft.)																					
	11/32"		3/8"		13/32"		7/16"		15/32"		1/2"		17/32"		9/16"		5/8"		11/16"	
psi @ Nozzle	Rad.	gpm	Rad.	gpm	Rad.	gpm	Rad.	gpm	Rad.	gpm	Rad.	gpm	Rad.	gpm	Rad.	gpm	Rad.	gpm	Rad.	gpm
25	61	17.10	62	20.30	64	23.40	66	26.70	66	30.30	66	33.80	66	37.10	66	42.30	66	51.50	66	61.90
30	64	18.80	65	22.30	68	25.70	69	29.30	72	33.20	73	37.10	73	40.80	73	46.40	73	56.50	73	68.10
35	67	20.30	68	24.10	72	27.80	74	31.70	77	35.90	79	40.10	79	44.10	79	50.20	79	61.10	79	73.80
40	69	21.80	71	25.80	75	29.70	77	33.90	80	38.50	83	42.90	83	47.20	86	53.70	86	65.40	86	79.20
45	71	23.10	73	27.40	77	31.60	79	36.00	82	40.80	85	45.60	88	50.10	90	57.10	92	69.50	92	84.20
50	73	24.40	75	28.90	79	33.30	81	38.00	84	43.10	87	48.10	90	52.90	94	60.20	95	73.30	97	88.90
55	75	25.50	77	30.30	81	34.90	83	39.70	86	45.30	89	50.30	92	55.60	96	63.20	99	77.30	100	93.50
60	77	25.80	79	30.80	83	35.90	86	41.60	88	47.40	91	53.00	94	58.80	97	65.50	101	80.10	104	97.80
65	79	26.90	81	32.00	84	37.40	87	43.30	90	49.90	93	55.30	96	61.20	99	69.40	102	84.40	106	102.00
70	81	28.10	83	33.30	86	38.90	89	45.10	91	51.40	94	57.50	98	63.50	101	72.20	104	87.80	108	106.00
75	82	29.20	84	34.50	87	40.30	90	46.80	93	53.30	96	59.60	99	65.80	102	74.90	105	91.00	109	109.90
80	83	30.40	86	35.70	89	41.80	92	48.40	94	55.10	97	61.60	101	68.10	104	77.50	107	94.10	110	113.70
85	85	31.50	87	37.00	90	43.20	93	50.00	96	56.90	99	63.50	102	70.30	105	80.00	108	97.10	112	117.30
90	86	32.70	89	38.30	92	44.60	95	51.50	97	58.50	100	65.30	104	72.40	106	82.20	110	99.90	113	120.90
95	87	33.90	90	39.50	93	46.00	96	53.00	98	60.00	101	67.10	105	74.40	108	84.30	111	102.60	115	124.30
100	88	34.00	91	40.70	94	47.40	97	54.50	99	61.50	102	68.90	106	76.40	109	87.20	112	105.20	116	127.70

Straight Bore Nozzle (SBN-5) and Spreader (LAN-1-20) Performance*

	NOZZLE SIZE (Stream Height: 14 ft.)									
	11/32" x 7/32-20°		3/8" x 7/32-20°		13/32" x 7/32-20°		7/16" x 7/32-20°		15/32" x 7/32-20°	
psi @ Nozzle	Rad.	gpm	Rad.	gpm	Rad.	gpm	Rad.	gpm	Rad.	gpm
25	61	23.30	62	26.50	64	29.60	66	32.90	66	36.40
30	64	25.60	65	29.10	68	32.40	69	36.10	72	40.00
35	67	27.70	68	31.40	72	35.10	74	39.00	77	43.30
40	69	29.60	71	33.60	75	37.60	77	41.80	80	46.30
45	71	31.50	73	35.70	77	39.90	79	44.40	82	49.20
50	73	33.20	75	37.70	79	42.10	81	46.80	84	51.90
55	75	34.90	77	39.70	81	44.30	83	49.10	86	54.70
60	77	36.50	79	41.40	83	46.60	86	51.50	88	57.20
65	79	38.00	81	43.20	84	48.60	87	53.80	90	59.80
70	81	40.10	83	44.90	86	50.40	89	55.90	91	62.10
75	82	41.00	84	46.70	87	52.40	90	57.90	93	64.30
80	83	42.60	86	48.30	89	54.30	92	60.00	94	66.70
85	85	43.80	87	49.80	90	56.00	93	62.00	96	68.80
90	86	45.70	89	51.40	92	57.90	95	63.90	97	70.70
95	87	46.60	90	53.00	93	59.60	96	65.80	98	72.80
100	88	47.90	91	54.50	94	61.20	97	67.50	99	74.80

* Nozzle and plugs must be purchased separately.

Part Numbers and Ordering Information

Sprinkler Only	
Sprinkler without Nozzle	A23802

Nozzle Only			XX = Nozzle Size									
		U.S. Standard	7/32"	11/32"	3/8"	13/32"	7/16"	15/32"	1/2"	17/32"	9/16"	5/8"	11/16"
Brass Straight Bore Nozzle	SBN-5	103043-XX	–	22	24	26	28	30	32	34	36	40	44
Brass Low Pressure Nozzle	LPN-5	108149-XX	–	22	24	26	28	30	32	–	–	40	–
Brass 20° Low Angle Spreader Nozzle	LAN-1-20	100226-XX	14	–	–	–	–	–	–	–	–	–	–
Plug for 1/8" Spreader Port		100255	Bold nozzle size numbers denote the most common nozzle choices.										

Straight Bore Nozzle (SBN-5V) with Plug Performance* — METRIC

bar @ Nozzle	NOZZLE SIZE (Stream Height: 4.3m)														
	8.7 mm (11/32")			9.5 mm (3/8")			10.3 mm (13/32")			11.1 mm (7/16")			11.9 mm (15/32")		
	Rad. (m)	Flow (lps)	Flow (m^3/h)	Rad. (m)	Flow (lps)	Flow (m^3/h)	Rad. (m)	Flow (lps)	Flow (m^3/h)	Rad. (m)	Flow (lps)	Flow (m^3/h)	Rad. (m)	Flow (lps)	Flow (m^3/h)
1.7	18.6	1.08	3.88	18.9	1.28	4.61	19.5	1.48	5.31	20.1	1.68	6.06	20.1	1.91	6.88
2.0	19.3	1.16	4.19	19.6	1.38	4.97	20.5	1.59	5.73	20.8	1.82	6.53	21.6	2.06	7.41
2.5	20.6	1.30	4.69	21.0	1.55	5.57	22.2	1.78	6.42	22.8	2.03	7.32	23.7	2.31	8.30
3.0	21.5	1.43	5.16	22.1	1.70	6.11	23.3	1.96	7.05	23.9	2.23	8.03	24.8	2.53	9.11
3.5	22.3	1.55	5.58	22.9	1.84	6.61	24.2	2.12	7.62	24.8	2.41	8.69	25.7	2.74	9.86
4.0	23.2	1.62	5.83	23.8	1.93	6.95	25.1	2.24	8.06	25.8	2.58	9.27	26.6	2.94	10.57
4.5	24.1	1.70	6.12	24.7	2.02	7.28	25.6	2.36	8.51	26.5	2.74	9.85	27.4	3.15	11.35
5.0	24.8	1.81	6.51	25.4	2.14	7.70	26.4	2.50	8.99	27.3	2.90	10.43	28.0	3.30	11.89
5.5	25.3	1.91	6.89	26.2	2.25	8.09	27.1	2.63	9.47	28.0	3.05	10.97	28.6	3.47	12.49
6.0	26.0	2.02	7.26	26.8	2.37	8.52	27.7	2.76	9.94	28.6	3.19	11.49	29.4	3.63	13.07
6.5	26.5	2.13	7.66	27.4	2.48	8.93	28.3	2.89	10.40	29.2	3.33	11.98	29.8	3.77	13.57
6.9	26.8	2.15	7.72	27.7	2.57	9.24	28.7	2.99	10.77	29.6	3.44	12.38	30.2	3.88	13.97

bar @ Nozzle	NOZZLE SIZE (Stream Height: 4.3m)														
	12.7 mm (1/2")			13.5 mm (17/32")			14.3 mm (9/16")			15.9 mm (5/8")			17.5 mm (11/16")		
	Rad. (m)	Flow (lps)	Flow (m^3/h)	Rad. (m)	Flow (lps)	Flow (m^3/h)	Rad. (m)	Flow (lps)	Flow (m^3/h)	Rad. (m)	Flow (lps)	Flow (m^3/h)	Rad. (m)	Flow (lps)	Flow (m^3/h)
1.7	20.1	2.13	7.68	20.1	2.34	8.43	20.1	2.67	9.61	20.1	3.25	11.70	20.1	3.91	14.06
2.0	21.8	2.30	8.27	21.8	2.53	9.10	21.8	2.87	10.35	21.8	3.50	12.60	21.8	4.22	15.18
2.5	24.4	2.57	9.26	24.4	2.83	10.19	24.6	3.22	11.60	24.6	3.92	14.12	24.6	4.74	17.06
3.0	25.7	2.83	10.17	26.4	3.11	11.18	27.1	3.54	12.73	27.5	4.31	15.50	27.5	5.22	18.78
3.5	26.6	3.05	11.00	27.5	3.36	12.10	28.7	3.83	13.77	29.1	4.66	16.78	29.7	5.65	20.34
4.0	27.5	3.27	11.79	28.4	3.63	13.06	29.4	4.07	14.66	30.5	4.98	17.93	31.2	6.06	21.82
4.5	28.4	3.49	12.58	29.3	3.87	13.92	30.2	4.39	15.79	31.1	5.33	19.20	32.3	6.45	23.21
5.0	29.0	3.69	13.29	30.0	4.08	14.68	30.9	4.64	16.70	31.8	5.64	20.30	33.1	6.81	24.51
5.5	29.5	3.88	13.96	30.7	4.29	15.44	31.7	4.88	17.57	32.6	5.93	21.33	33.5	7.16	25.77
6.0	30.3	4.05	14.58	31.3	4.49	16.15	32.1	5.10	18.37	33.2	6.20	22.30	34.3	7.49	26.96
6.5	30.7	4.22	15.17	32.0	4.67	16.83	32.8	5.30	19.07	33.8	6.45	23.21	35.0	7.81	28.11
6.9	31.1	4.35	15.65	32.3	4.82	17.35	33.2	5.50	19.81	34.1	6.64	23.89	35.4	8.06	29.00

Straight Bore Nozzle (SBN-5) and Spreader (LAN-1-20) Performance* — METRIC

bar @ Nozzle	NOZZLE SIZE (Stream Height: 4.3m)														
	8.7 mm x 5.56 mm (11/32" x 7/32") 20°			9.5 mm x 5.56 mm (3/8" x 7/32") 20°			10.3 mm x 5.56 mm (13/32" x 7/32") 20°			11.1 mm x 5.56 mm (7/16" x 7/32") 20°			11.9 mm x 5.56 mm (15/32" x 7/32") 20°		
	Rad. (m)	Flow (lps)	Flow (m^3/h)	Rad. (m)	Flow (lps)	Flow (m^3/h)	Rad. (m)	Flow (lps)	Flow (m^3/h)	Rad. (m)	Flow (lps)	Flow (m^3/h)	Rad. (m)	Flow (lps)	Flow (m^3/h)
1.7	18.6	1.47	5.29	18.9	1.67	6.02	19.5	1.87	6.72	20.1	2.08	7.47	20.1	2.30	8.27
2.0	19.3	1.59	5.71	19.6	1.80	6.49	20.5	2.01	7.23	20.8	2.24	8.05	21.6	2.48	8.92
2.5	20.6	1.78	6.40	21.0	2.02	7.25	22.2	2.25	8.11	22.8	2.50	9.01	23.7	2.78	10.00
3.0	21.5	1.95	7.02	22.1	2.21	7.96	23.3	2.47	8.90	23.9	2.75	9.90	24.8	3.05	10.97
3.5	22.3	2.11	7.60	22.9	2.40	8.63	24.2	2.68	9.63	24.8	2.97	10.71	25.7	3.30	11.88
4.0	23.2	2.26	8.14	23.8	2.57	9.25	25.1	2.88	10.37	25.8	3.19	11.48	26.6	3.54	12.76
4.5	24.1	2.40	8.65	24.7	2.73	9.83	25.6	3.07	11.06	26.5	3.40	12.24	27.4	3.78	13.60
5.0	24.8	2.56	9.21	25.4	2.89	10.40	25.5	3.24	11.67	27.3	3.59	12.92	28.0	3.99	14.35
5.5	25.3	2.68	9.65	26.2	3.04	10.95	27.0	3.42	12.31	28.0	3.78	13.60	28.6	4.20	15.12
6.0	26.0	2.81	10.12	26.8	3.18	11.45	27.7	3.58	12.89	28.6	3.96	14.25	29.4	4.39	15.79
6.5	26.5	2.93	10.55	27.4	3.33	11.98	28.3	3.74	13.48	29.2	4.13	14.88	29.8	4.57	16.46
6.9	26.8	3.02	10.88	27.7	3.44	12.38	28.7	3.86	13.90	29.6	4.26	15.33	30.2	4.72	16.99

* **Nozzles must be purchased separately.** See Chart below.

Part Numbers and Ordering Information

Sprinkler Only	
Sprinkler without Nozzle	**A23802**

Nozzle Only			XX = Nozzle Size									
		Metric	5.56mm	8.7 mm	9.5mm	10.3mm	11.1mm	11.9mm	12.7mm	13.5mm	14.3mm	15.9mm	17.5mm
Brass Straight Bore Nozzle	SBN-5	103043-XX	–	**22**	**24**	**26**	**28**	**30**	**32**	**34**	**36**	**40**	**44**
Brass Low Pressure Nozzle	LPN-5	108149-XX	–	**22**	**24**	**26**	**28**	**30**	**32**	–	–	**40**	–
Brass 20° Low Angle Spreader Nozzle	LAN-1-20	100226-XX	**14**	–	–	–	–	–	–	–	–	–	–
Plug for 1/8" Spreader Port		100255	Bold nozzle size numbers denote the most common nozzle choices.										

25BPJ-FP-ADJ
25BPJ-FP-ADJ-DA-TNT

1/2" 13mm Full or Part Circle, Brass Impact Sprinklers

- Durable brass die-cast, 'precision jet' (PJ) arm
- Stainless steel springs and fulcrum pin
- PJ arm reduces side splash

Features

- Chemically resistant washers
- All models include integral (to sprinkler body) break-up pin for adjustable distribution (ADJ)
- DA option also includes integral (to sprinkler body) distance control flap
- Full or Part Circle operation

Benefits

- Many options provide design and application flexibility
- Corrosion and grit resistant
- Built to last
- Five-year Customer Satisfaction Policy

Specifications

- Bearing: 1/2" Male NPT, Brass
- Trajectory Angle: 25°
- Operating Range: 30-50 psi 2.1-3.5 bar
- Flow Rate: 3.1-5.0 gpm 0.7-1.14 m³/h
- Radius: 38-41 ft. 11.6-12.5 meters
- One 1/8" Female NPT Nozzle Port

Straight Bore Nozzle (SBN-1) Performance*

psi @ Nozzle	NOZZLE SIZE (Stream Height: 7 ft.) 9/64" Rad.	9/64" gpm	5/32" Rad.	5/32" gpm
30	38	3.10	39	3.80
35	38	3.40	39	4.10
40	39	3.60	40	4.40
45	39	3.80	40	4.70
50	40	4.00	41	5.00

Straight Bore Nozzle (SBN-1) Performance* **METRIC**

bar@ Nozzle	NOZZLE SIZE (Stream Height: 2.1m) 3.57 mm (9/64") Rad. (m)	3.57 mm Flow (lps)	3.57 mm Flow (m³/h)	3.97 mm (5/32") Rad. (m)	3.97 mm Flow (lps)	3.97 mm Flow (m³/h)
2.1	11.6	0.20	0.70	11.9	0.24	0.86
2.5	11.8	0.22	0.77	12.0	0.26	0.95
3.0	12.0	0.24	0.85	12.2	0.29	1.05
3.5	12.2	0.25	0.91	12.5	0.32	1.14

Part Numbers and Ordering Information

Assembled Sprinkler/Nozzle Factory Combination	
25BPJ-FP-ADJ w/SBN-1 9/64" 3.57mm	**A32901-09**
25BPJ-FP-ADJ w/SBN-1 5/32" 3.97mm	**A32901-10**
25BPJ-FP-ADJ-DA-TNT w/SBN-1 9/64" 3.57mm	**A34403-09**
25BPJ-FP-ADJ-DA-TNT w/SBN-1 5/32" 3.57mm	**A34403-10**

Nozzle Only			XX = Nozzle Size	
		U.S. Standard	9/64"	5/32"
		Metric	3.57 mm	3.97 mm
Brass Straight Bore Nozzle	SBN-1	105780-XX	**09**	10

Bold nozzle size numbers denote the most common nozzle choices.

2045-PJ

1/2" 13mm Full or Part Circle, Plastic Impact Sprinkler

- Durable Delrin™ plastic, body arm, bearing sleeve, nipple and break up pin
- Stainless steel springs and fulcrum pin
- Chemically resistant washers

Features

- Plastic Quick Fit Nozzles
- Low Angle (10°) Nozzles available
- Integral straightening vane for greater distance
- Full or Part Circle operation

Benefits

- Superior chemical and grit resistance
- Smooth rotation at lower pressures
- Design flexibility
- Built to last
- Two-year Customer Satisfaction Policy

Specifications

- Bearing: 1/2" Male NPT, Plastic
- Trajectory Angle: 23°
- Operating Range: 25-60 psi 1.7-4.1 bar
- Flow Rate: 1.5-8.4 gpm 0.34-1.91 m³/h
- Radius: 22-45 ft. 6.7-13.7 meters
- One QuickFit Nozzle Port

Straight Bore Nozzle (SBN-1) Performance*

psi @ Nozzle	NOZZLE SIZE (Stream Height: 6 ft.) 3/32" Red Rad.	gpm	7/64" Black Rad.	gpm	1/8" Blue Rad.	gpm	5/32" Yellow Rad.	gpm	3/16" Beige Rad.	gpm
25	-	-	32	2.20	35	2.80	38	4.20	39	5.50
35	37	2.00	37	2.70	38	3.30	41	4.80	42	6.30
45	38	2.30	39	3.00	40	3.70	42	5.40	44	7.10
55	38	2.50	41	3.30	41	4.10	43	6.00	45	7.90
60	38	2.60	41	3.50	42	4.20	44	6.40	45	8.40

*Shipped Assembled with a 1/8" (08) Straight Bore Nozzle.

Low Angle Nozzle (LAN-1)

psi @ Nozzle	NOZZLE SIZE (Stream Height: 3 ft.) 7/64" Black Rad.	gpm	5/32" Yellow Rad.	gpm
25	22	1.5	25	3.4
35	23	1.9	29	4.0
45	25	2.1	31	4.0
55	25	2.3	32	5.0
60	25	2.4	32	5.4

Straight Bore Nozzle (SBN-1) Performance* METRIC

bar @ Nozzle	NOZZLE SIZE (Stream Height: 1.8m) 2.38 mm (3/32") Red Rad. (m)	Flow (lps)	Flow (m³/h)	2.78 mm (7/64") Black Rad. (m)	Flow (lps)	Flow (m³/h)	3.18 mm (1/8") Blue Rad. (m)	Flow (lps)	Flow (m³/h)	3.97 mm (5/32") Yellow Rad. (m)	Flow (lps)	Flow (m³/h)	4.76 mm (3/16") Beige Rad. (m)	Flow (lps)	Flow (m³/h)
1.7	-	-	-	9.8	0.14	0.5	10.7	0.18	0.64	11.6	0.26	0.95	11.9	0.35	1.25
2.0	-	-	-	10.4	0.15	0.55	11.0	0.19	0.68	11.9	0.28	1.01	12.3	0.37	1.32
2.5	11.3	0.13	0.46	11.4	0.17	0.62	11.7	0.21	0.76	12.5	0.31	1.11	12.9	0.40	1.45
3.0	11.5	0.14	0.51	11.8	0.19	0.67	12.1	0.23	0.83	12.8	0.34	1.21	13.3	0.44	1.59
3.5	11.6	0.15	0.55	12.2	0.20	0.72	12.4	0.25	0.89	13.0	0.36	1.30	13.6	0.48	1.72
4.0	11.6	0.16	0.58	12.5	0.22	0.78	12.7	0.26	0.94	13.3	0.39	1.42	13.7	0.52	1.86
4.1	11.6	0.16	0.59	12.5	0.22	0.79	12.8	0.26	0.95	13.4	0.40	1.45	13.7	0.53	1.91

Low Angle Nozzle (LAN-1-10) METRIC

bar @ Nozzle	NOZZLE SIZE (Stream Height: 0.9m) 2.78 mm (7/64") Black Rad. (m)	Flow (lps)	Flow (m³/h)	3.97 mm (5/32") Yellow Rad. (m)	Flow (lps)	Flow (m³/h)
1.7	6.7	0.09	0.34	706	0.21	0.77
2.0	6.8	0.10	0.38	8.1	0.23	0.83
2.5	7.1	0.12	0.44	8.9	0.26	0.92
3.0	7.5	0.13	0.47	9.4	0.28	1.01
3.5	7.6	0.14	0.50	9.6	0.30	1.09
4.0	7.6	0.15	0.54	9.8	0.33	1.19
4.1	7.6	0.15	0.54	9.8	0.34	1.23

Part Numbers and Ordering Information

Assembled Sprinkler/Nozzle Factory Combination	
Sprinkler with Nozzle **2045-PJ-AG**	**B4610008**

The assembled sprinkler comes with a blue 1/8" nozzle. Other nozzles are available on request at no charge.

Nozzle Only			XX = Nozzle Size				
		U.S. Standard	3/32"	7/64"	1/8"	5/32"	3/16"
		Metric	2.38 mm	2.78 mm	3.18 mm	3.97 mm	4.76 mm
Plastic Quick-Fit Straight Bore Nozzle	PQFN	206592-XX	06	07	**08**	10	12
Low Angle Quick-Fit Nozzle	PQLAN	115902-XX	–	07	–	10	–

35A-TNT
35A-ADJ-TNT
35A-PJ-ADJ-TNT
35A-PJ-DA-TNT

3/4" 19 mm Full or Part Circle, Brass Impact Sprinklers

- "Precision jet" (PJ) arm (35A-PJ)
- Standard spoon style arm also available (35A-TNT)
- Stainless steel springs and fulcrum pin

Features

- Chemically resistant washers
- ADJ-3 Nozzles have break-up pins
- DAN-3 Nozzles have a distance control flap

Benefits

- PJ arm reduces side splash
- Many options provide design and application flexibility
- Corrosion and grit resistant
- Available less Nozzle with standard spoon only
- Standard spoon model also available with 3/16" (#12) Nozzle
- PJ model available with 3/16" (#12) ADJ pr 3/16" (#12) DA Nozzles only
- Full or Part Circle operation
- Built to last
- Five-year Customer Satisfaction Policy

Specifications

- Bearing: 3/4" Male NPT, Brass
- Trajectory Angle: 27°
- Operating Range: 30-60 psi 2.1-4.1 bar
- Flow Rate: 3.9-7.8 gpm 0.89-1.77 m^3/h
- Radius: 42-51 ft. 12.8-15.5 meters
- One 1/4" Female NPT Nozzle Port

Brass Straight Bore Nozzle (ADJN-3) or (DAN-3)

psi @ Nozzle	NOZZLE SIZE (Stream Height: 9 ft.) 5/32" Rad.	5/32" gpm	11/64" Rad.	11/64" gpm	3/16" Rad.	3/16" gpm
30	42	3.90	43	4.60	44	5.50
35	43	4.20	44	5.00	46	6.00
40	44	4.50	45	5.40	47	6.40
45	44	4.70	46	5.70	48	6.80
50	45	5.00	47	6.00	49	7.20
55	45	5.20	48	6.30	50	7.50
60	46	5.40	48	6.60	51	7.80

Brass Straight Bore Nozzle (ADJN-3) or (DAN-3) METRIC

bar @ Nozzle	NOZZLE SIZE (Stream Height: 2.7m) 3.97 mm (5/32") Rad. (m)	Flow (lps)	Flow (m^3/h)	4.37 mm (11/64") Rad. (m)	Flow (lps)	Flow (m^3/h)	4.76 mm (3/16") Rad. (m)	Flow (lps)	Flow (m^3/h)
2.1	12.8	0.25	0.89	13.1	0.29	1.04	13.4	0.35	1.25
2.5	13.2	0.27	0.97	13.5	0.32	1.16	14.1	0.38	1.39
3.0	13.4	0.29	1.05	13.9	0.35	1.27	14.5	0.42	1.52
3.5	13.7	0.32	1.14	14.4	0.38	1.37	15.0	0.46	1.65
4.0	13.9	0.34	1.21	14.6	0.41	1.47	15.4	0.48	1.74
4.1	14.0	0.34	1.23	14.6	0.42	1.50	15.5	0.49	1.77

Part Numbers and Ordering Information

Sprinkler Only

35A-TNT			
Sprinkler without Nozzle	**A39200**	**35A-ADJ-TNT** Sprinkler with **ADJN-3**	**A38820-12**
Sprinkler with brass keyhole nozzle **KHN-3**	**A38810-12**	**35A-PJ-ADJ-TNT** Sprinkler with **ADJN-3**	**A40613-12**
35-PJ-TNT Sprinkler without Nozzle	**A39400**	**35A-PJ-DA-TNT** Sprinkler with **DAN-3**	**A40614-12**

Nozzle Only			XX = Nozzle Size		
		U.S. Standard	5/32"	11/64"	3/16"
		Metric	3.97 mm	4.37 mm	4.76 mm
Brass Straight Bore Adjustable Nozzle	**ADJN-3**	**100328-XX**	10	11	**12**
Brass Adjustable Do-All Nozzle	**DAN-3**	**100332-XX**	10	–	**12**
Brass Keyhole Nozzle	**KHN-3**	**106353-XX**	10	11	**12**

Bold nozzle size numbers denote the most common nozzle choices.

65PJ

1" 25 mm Full or Part Circle, Brass Impact Sprinkler

- Heavy duty brass construction
- 1" Female NPT Bearing
- "Precision jet" (PJ) arm

Features

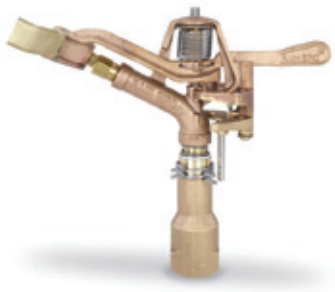
- Stainless steel springs and fulcrum pin
- Chemically resistant washers
- ADJN-4 Nozzles include integral to Nozzle break-up pin
- Full or Part Circle operation

Benefits

- PJ arm reduces side splash
- Many options provide design and application flexibility
- Corrosion and grit resistant
- Built to last
- Five-year Customer Satisfaction Policy

Specifications

- Bearing: 1" Female NPT, Brass
- Trajectory Angle: 27°
- Operating Range: 50-80 psi 3.5-5.5 bar
- Flow Rate: 12.9-16.5 gpm 2.93-3.75 m^3/h
- Radius: 57-65 ft. 17.4-19.8 meters
- One 3/8" Female NPT Nozzle Port



Adjustable Straight Bore Nozzle (ADJN-4) Performance

psi @ Nozzle	NOZZLE SIZE (Stream Height: 10 ft.) 1/4" Rad.	gpm
50	57	12.90
55	57	13.60
60	58	14.20
65	62	14.80
70	63	15.40
75	64	16.00
80	65	16.50

Available without Nozzle or assembled with a 1/4" (16) Straight Bore Nozzle.

Adjustable Straight Bore Nozzle (ADJN-4) Performance METRIC

bar @ Nozzle	NOZZLE SIZE (Stream Height: 3m) 6.35 mm (1/4") Rad. (m)	Flow (lps)	Flow (m^3/h)
3.5	17.4	0.82	2.93
4.0	17.9	0.88	3.16
4.5	18.5	0.93	3.37
5.0	19.2	0.99	3.55
5.5	19.8	1.04	3.75

Part Numbers and Ordering Information

Sprinkler Only	
Sprinkler without Nozzle	AG2001

Assembled Sprinkler/Nozzle Factory Combination	
Sprinkler with Nozzle **65PJ-ADJ-TNT**	A4200316

Nozzle Only			XX = Nozzle Size
		U.S. Standard	1/4"
		Metric	6.35 mm
Brass Straight Bore Adjustable Nozzle	ADJN-4	100385-XX	**16**

Bold nozzle size numbers denote the most common nozzle choices.

85EHD Tough Bird®

1 1/4" 32 mm Full or Part Circle,
Brass Impact Sprinklers

- Heavy duty brass construction
- Stainless steel wear buttons, springs and fulcrum pin
- Locking stainless steel trip collars

Features

- Chemically resistant washers
- Full or Part Circle operation

Benefits

- Internal straightening vane increases distance of throw
- Stainless steel buttons protect trip mechanism from wear
- Corrosion and grit resistant
- Built to last
- Five-year Customer Satisfaction Policy

Specifications

- Bearing: 1 1/4" Male NPT, Brass
- Trajectory Angle: 23°
- Operating Range: 25-100 psi 1.7-6.9 bar
- Flow Rate: 17.1-127.7 gpm 3.88-28.99 m^3/h
- Radius: 61-116 ft. 18.6-35.4 meters
- One 3/4" Female NPT Nozzle Port
- One 1/8" Female NPT Spreader Nozzle Port

Straight Bore Nozzle (SBN-5) with Plug (SBN-1) Performance*

	NOZZLE SIZE (Stream Height: 14 ft.)																					
	11/32"		3/8"		13/32"		7/16"		15/32"		1/2"		17/32"		9/16"		5/8"		11/16"	
psi @ Nozzle	Rad.	gpm	Rad.	gpm	Rad.	gpm	Rad.	gpm	Rad.	gpm	Rad.	gpm	Rad.	gpm	Rad.	gpm	Rad.	gpm	Rad.	gpm
25	61	17.10	62	20.30	64	23.40	66	26.70	66	30.30	66	33.80	66	37.10	66	42.30	66	51.50	66	61.90
30	64	18.80	65	22.30	68	25.70	69	29.30	72	33.20	73	37.10	73	40.80	73	46.40	73	56.50	73	68.10
35	67	20.30	68	24.10	72	27.80	74	31.70	77	35.90	79	40.10	79	44.10	79	50.20	79	61.10	79	73.80
40	69	21.80	71	25.80	75	29.70	77	33.90	80	38.50	83	42.90	83	47.20	86	53.70	86	65.40	86	79.20
45	71	23.10	73	27.40	77	31.60	79	36.00	82	40.80	85	45.60	88	50.10	90	57.10	92	69.50	92	84.20
50	73	24.40	75	28.90	79	33.30	81	38.00	84	43.10	87	48.10	90	52.90	94	60.20	95	73.30	97	88.90
55	75	25.50	77	30.30	81	34.90	83	39.70	86	45.30	89	50.30	92	55.60	96	63.20	99	77.30	100	93.50
60	77	25.80	79	30.80	83	35.90	86	41.60	88	47.40	91	53.00	94	58.80	97	65.50	101	80.10	104	97.80
65	79	26.90	81	32.00	84	37.40	87	43.30	90	49.90	93	55.30	96	61.20	99	69.40	102	84.40	106	102.00
70	81	28.10	83	33.30	86	38.90	89	45.10	91	51.40	94	57.50	98	63.50	101	72.20	104	87.80	108	106.00
75	82	29.20	84	34.50	87	40.30	90	46.80	93	53.30	96	59.60	99	65.80	102	74.90	105	91.00	109	109.90
80	83	30.40	86	35.70	89	41.80	92	48.40	94	55.10	97	61.60	101	68.10	104	77.50	107	94.10	110	113.70
85	85	31.50	87	37.00	90	43.20	93	50.00	96	56.90	99	63.50	102	70.30	105	80.00	108	97.10	112	117.30
90	86	32.70	89	38.30	92	44.60	95	51.50	97	58.50	100	65.30	104	72.40	106	82.20	110	99.90	113	120.90
95	87	33.90	90	39.50	93	46.00	96	53.00	98	60.00	101	67.10	105	74.40	108	84.30	111	102.60	115	124.30
100	88	34.00	91	40.70	94	47.40	97	54.50	99	61.50	102	68.90	106	76.40	109	87.20	112	105.20	116	127.70

Straight Bore Nozzle (SBN-5) and Spreader (LAN-1-20) Performance (SBN-1)*

	NOZZLE SIZE (Stream Height: 14 ft.)									
	11/32" x 7/32-20°		3/8" x 7/32-20°		13/32" x 7/32-20°		7/16" x 7/32-20°		15/32" x 7/32-20°	
psi @ Nozzle	Rad.	gpm	Rad.	gpm	Rad.	gpm	Rad.	gpm	Rad.	gpm
25	61	23.30	62	26.50	64	29.60	66	32.90	66	36.40
30	64	25.60	65	29.10	68	32.40	69	36.10	72	40.00
35	67	27.70	68	31.40	72	35.10	74	39.00	77	43.30
40	69	29.60	71	33.60	75	37.60	77	41.80	80	46.30
45	71	31.50	73	35.70	77	39.90	79	44.40	82	49.20
50	73	33.20	75	37.70	79	42.10	81	46.80	84	51.90
55	75	34.90	77	39.70	81	44.30	83	49.10	86	54.70
60	77	36.50	79	41.40	83	46.60	86	51.50	88	57.20
65	79	38.00	81	43.20	84	48.60	87	53.80	90	59.80
70	81	40.10	83	44.90	86	50.40	89	55.90	91	62.10
75	82	41.00	84	46.70	87	52.40	90	57.90	93	64.30
80	83	42.60	86	48.30	89	54.30	92	60.00	94	66.70
85	85	43.80	87	49.80	90	56.00	93	62.00	96	68.80
90	86	45.70	89	51.40	92	57.90	95	63.90	97	70.70
95	87	46.60	90	53.00	93	59.60	96	65.80	98	72.80
100	88	47.90	91	54.50	94	61.20	97	67.50	99	74.80

* **Nozzles must be purchased separately.**
See Chart below.

Part Numbers and Ordering Information

Sprinkler Only	
Sprinkler without Nozzle without Plug	**A23600**

Nozzle Only			XX = Nozzle Size										
		U.S. Standard	7/32"	11/32"	3/8"	13/32"	7/16"	15/32"	1/2"	17/32"	9/16"	5/8"	11/16"
Brass Straight Bore Nozzle	SBN-5	103043-XX	–	22	24	26	28	30	32	34	36	40	44
Brass Low Pressure Nozzle	LPN-5	108149-XX	–	–	24	–	28	30	32	–	–	40	–
Brass 20° Low Angle Spreader Nozzle	LAN-1-20	100226-XX	14	–	–	–	–	–	–	–	–	–	–
1/8" Male NPT Plug for Spreader port		100255	Bold nozzle size numbers denote the most common nozzle choices.										

Straight Bore Nozzle (SBN-5) with Plug Performance* — METRIC

	NOZZLE SIZE (Stream Height: 4.3m)														
	8.7 mm (11/32")			9.5 mm (3/8")			10.3 mm (13/32")			11.1 mm (7/16")			11.9 mm (15/32")		
bar @ Nozzle	Rad. (m)	Flow (lps)	Flow (m^3/h)	Rad. (m)	Flow (lps)	Flow (m^3/h)	Rad. (m)	Flow (lps)	Flow (m^3/h)	Rad. (m)	Flow (lps)	Flow (m^3/h)	Rad. (m)	Flow (lps)	Flow (m^3/h)
1.7	18.6	1.08	3.88	18.9	1.28	4.61	19.5	1.48	5.31	20.1	1.68	6.06	20.1	1.91	6.88
2.0	19.3	1.16	4.19	19.6	1.38	4.97	20.5	1.59	5.73	20.8	1.82	6.53	21.6	2.06	7.41
2.5	20.6	1.30	4.69	21.0	1.55	5.57	22.2	1.78	6.42	22.8	2.03	7.32	23.7	2.31	8.30
3.0	21.5	1.43	5.16	22.1	1.70	6.11	23.3	1.96	7.05	23.9	2.23	8.03	24.8	2.53	9.11
3.5	22.3	1.55	5.58	22.9	1.84	6.61	24.2	2.12	7.62	24.8	2.41	8.69	25.7	2.74	9.86
4.0	23.2	1.62	5.83	23.8	1.93	6.95	25.1	2.24	8.06	25.8	2.58	9.27	26.6	2.94	10.57
4.5	24.1	1.70	6.12	24.7	2.02	7.28	25.6	2.36	8.51	26.5	2.74	9.85	27.4	3.15	11.35
5.0	24.8	1.81	6.51	25.4	2.14	7.70	26.4	2.50	8.99	27.3	2.90	10.43	28.0	3.30	11.89
5.5	25.3	1.91	6.89	26.2	2.25	8.09	27.1	2.63	9.47	28.0	3.05	10.97	28.6	3.47	12.49
6.0	26.0	2.02	7.26	26.8	2.37	8.52	27.7	2.76	9.94	28.6	3.19	11.49	29.4	3.63	13.07
6.5	26.5	2.13	7.66	27.4	2.48	8.93	28.3	2.89	10.40	29.2	3.33	11.98	29.8	3.77	13.57
6.9	26.8	2.15	7.72	27.7	2.57	9.24	28.7	2.99	10.77	29.6	3.44	12.38	30.2	3.88	13.97

	NOZZLE SIZE (Stream Height: 4.3m)														
	12.7 mm (1/2")			13.5 mm (17/32")			14.3 mm (9/16")			15.9 mm (5/8")			17.5 mm (11/16")		
bar @ Nozzle	Rad. (m)	Flow (lps)	Flow (m^3/h)	Rad. (m)	Flow (lps)	Flow (m^3/h)	Rad. (m)	Flow (lps)	Flow (m^3/h)	Rad. (m)	Flow (lps)	Flow (m^3/h)	Rad. (m)	Flow (lps)	Flow (m^3/h)
1.7	20.1	2.13	7.68	20.1	2.34	8.43	20.1	2.67	9.61	20.1	3.25	11.70	20.1	3.91	14.06
2.0	21.8	2.30	8.27	21.8	2.53	9.10	21.8	2.87	10.35	21.8	3.50	12.60	21.8	4.22	15.18
2.5	24.4	2.57	9.26	24.4	2.83	10.19	24.6	3.22	11.60	24.6	3.92	14.12	24.6	4.74	17.06
3.0	25.7	2.83	10.17	26.4	3.11	11.18	27.1	3.54	12.73	27.5	4.31	15.50	27.5	5.22	18.78
3.5	26.6	3.05	11.00	27.5	3.36	12.10	28.7	3.83	13.77	29.1	4.66	16.78	29.7	5.65	20.34
4.0	27.5	3.27	11.79	28.4	3.63	13.06	29.4	4.07	14.66	30.5	4.98	17.93	31.2	6.06	21.82
4.5	28.4	3.49	12.58	29.3	3.87	13.92	30.2	4.39	15.79	31.1	5.33	19.20	32.3	6.45	23.21
5.0	29.0	3.69	13.29	30.0	4.08	14.68	30.9	4.64	16.70	31.8	5.64	20.30	33.1	6.81	24.51
5.5	29.5	3.88	13.96	30.7	4.29	15.44	31.7	4.88	17.57	32.6	5.93	21.33	33.5	7.16	25.77
6.0	30.3	4.05	14.58	31.3	4.49	16.15	32.1	5.10	18.37	33.2	6.20	22.30	34.3	7.49	26.96
6.5	30.7	4.22	15.17	32.0	4.67	16.83	32.8	5.30	19.07	33.8	6.45	23.21	35.0	7.81	28.11
6.9	31.1	4.35	15.65	32.3	4.82	17.35	33.2	5.50	19.81	34.1	6.64	23.89	35.4	8.06	29.00

Straight Bore Nozzle (SBN-5) and Spreader (LAN-1-20) Performance* — METRIC

	NOZZLE SIZE (Stream Height: 4.3m)														
	8.7 mm x 5.56 mm (11/32" x 7/32") 20°			9.5 mm x 5.56 mm (3/8" x 7/32") 20°			10.3 mm x 5.56 mm (13/32" x 7/32") 20°			11.1 mm x 5.56 mm (7/16" x 7/32") 20°			11.9 mm x 5.56 mm (15/32" x 7/32") 20°		
bar @ Nozzle	Rad. (m)	Flow (lps)	Flow (m^3/h)	Rad. (m)	Flow (lps)	Flow (m^3/h)	Rad. (m)	Flow (lps)	Flow (m^3/h)	Rad. (m)	Flow (lps)	Flow (m^3/h)	Rad. (m)	Flow (lps)	Flow (m^3/h)
1.7	18.6	1.47	5.29	18.9	1.67	6.02	19.5	1.87	6.72	20.1	2.08	7.47	20.1	2.30	8.27
2.0	19.3	1.59	5.71	19.6	1.80	6.49	20.5	2.01	7.23	20.8	2.24	8.05	21.6	2.48	8.92
2.5	20.6	1.78	6.40	21.0	2.02	7.25	22.2	2.25	8.11	22.8	2.50	9.01	23.7	2.78	10.00
3.0	21.5	1.95	7.02	22.1	2.21	7.96	23.3	2.47	8.90	23.9	2.75	9.90	24.8	3.05	10.97
3.5	22.3	2.11	7.60	22.9	2.40	8.63	24.2	2.68	9.63	24.8	2.97	10.71	25.7	3.30	11.88
4.0	23.2	2.26	8.14	23.8	2.57	9.25	25.1	2.88	10.37	25.8	3.19	11.48	26.6	3.54	12.76
4.5	24.1	2.40	8.65	24.7	2.73	9.83	25.6	3.07	11.06	26.5	3.40	12.24	27.4	3.78	13.60
5.0	24.8	2.56	9.21	25.4	2.89	10.40	25.5	3.24	11.67	27.3	3.59	12.92	28.0	3.99	14.35
5.5	25.3	2.68	9.65	26.2	3.04	10.95	27.0	3.42	12.31	28.0	3.78	13.60	28.6	4.20	15.12
6.0	26.0	2.81	10.12	26.8	3.18	11.45	27.7	3.58	12.89	28.6	3.96	14.25	29.4	4.39	15.79
6.5	26.5	2.93	10.55	27.4	3.33	11.98	28.3	3.74	13.48	29.2	4.13	14.88	29.8	4.57	16.46
6.9	26.8	3.02	10.88	27.7	3.44	12.38	28.7	3.86	13.90	29.6	4.26	15.33	30.2	4.72	16.99

Part Numbers and Ordering Information

Sprinkler Only	
Sprinkler without Nozzle without Plug	**A23600**

Nozzle Only			XX = Nozzle Size									
		Metric	5.56mm	8.7 mm	9.5mm	10.3mm	11.1mm	11.9mm	12.7mm	13.5mm	14.3mm	15.9mm	17.5mm
Brass Straight Bore Nozzle	SBN-5	103043-XX	–	22	24	26	28	30	32	34	36	40	44
Brass Low Pressure Nozzle	LPN-5	108149-XX	–	–	24	–	28	30	32	–	–	40	–
Brass 20° Low Angle Spreader Nozzle	LAN-1-20	100226-XX	14	–	–	–	–	–	–	–	–	–	–
1/8" Male NPT Plug for Spreader port		100255	Bold nozzle size numbers denote the most common nozzle choices.										

85EHD-LA Tough Bird®

1 1/4" 32 mm Full or Part Circle,
Brass Impact Sprinklers

- Heavy duty brass construction
- Stainless steel wear buttons, springs and fulcrum pin
- Locking stainless steel trip collars

Features

- Chemically resistant washers
- Full or Part Circle operation

Benefits

- Internal straightening vane increases distance of throw
- Stainless steel buttons protect trip mechanism from wear
- Corrosion and grit resistant
- Built to last
- Five-year Customer Satisfaction Policy

Specifications

- Bearing: 1 1/4" Male NPT, Brass
- Trajectory Angle: 17°
- Operating Range: 20-100 psi 1.4-6.9 bar
- Flow Rate: 17.1-127.7 gpm 3.88-29.0 m^3/h
- Radius: 48-108 ft. 14.64-32.9 meters
- One 3/4" Female NPT Nozzle Port, only

Straight Bore Nozzle (SBN-5) with Plug Performance*

	NOZZLE SIZE (Stream Height: 10 ft.)																					
	11/32"		3/8"		13/32"		7/16"		15/32"		1/2"		17/32"		9/16"		5/8"		11/16"	
psi @ Nozzle	Rad.	gpm	Rad.	gpm	Rad.	gpm	Rad.	gpm	Rad.	gpm	Rad.	gpm	Rad.	gpm	Rad.	gpm	Rad.	gpm	Rad.	gpm
25	52	17.10	55	20.30	57	23.40	60	26.70	60	30.30	60	33.80	60	37.10	60	42.30	60	51.50	60	61.90
30	57	18.80	59	22.30	62	25.70	63	29.30	65	33.20	67	37.10	67	40.80	67	46.40	67	56.50	67	68.10
35	60	20.30	62	24.10	65	27.80	67	31.70	70	35.90	71	40.10	73	44.10	73	50.20	73	61.10	73	73.80
40	62	21.80	65	25.80	67	29.70	70	33.90	72	38.50	75	42.90	76	47.20	79	53.70	79	65.40	79	79.20
45	65	23.10	67	27.40	70	31.60	72	36.00	75	40.80	77	45.60	80	50.10	80	57.10	84	69.50	84	84.20
50	67	24.40	69	28.90	72	33.30	74	38.00	77	43.10	79	48.10	82	52.90	84	60.20	87	73.30	88	88.90
55	69	25.50	71	30.30	74	34.90	76	39.70	79	45.30	82	50.30	84	55.60	86	63.20	91	77.30	92	93.50
60	71	25.80	73	30.80	76	35.90	78	41.60	81	47.40	83	53.00	86	58.80	88	66.50	93	80.70	96	97.80
65	72	26.90	75	32.00	77	37.40	80	43.30	83	49.90	85	55.30	88	61.20	90	69.40	94	84.40	98	102.00
70	74	28.10	77	33.30	79	38.90	82	45.10	84	51.40	87	57.50	89	63.50	92	72.20	96	87.80	100	106.00
75	76	29.20	78	34.50	81	40.30	83	46.80	86	53.30	89	59.60	91	65.80	93	74.90	98	91.00	102	109.90
80	77	30.40	80	35.70	82	41.80	85	48.40	88	55.10	90	61.60	93	68.10	95	77.50	99	94.10	103	113.70
85	79	31.50	81	37.00	84	43.20	86	50.00	89	56.90	92	63.50	94	70.30	97	80.00	101	97.10	105	117.30
90	80	32.70	83	38.30	85	44.60	88	51.50	91	58.50	93	65.30	96	72.40	98	82.20	102	99.90	106	120.90
95	82	33.90	84	39.50	87	46.00	89	53.00	92	60.00	95	67.10	97	74.40	99	84.30	103	102.60	107	124.30
100	83	34.00	85	40.10	88	47.40	91	54.50	93	61.50	96	68.90	98	76.40	101	87.20	105	105.20	108	127.70

Low Pressure Nozzle (LPN-5) Performance *

	NOZZLE SIZE (Stream Height: 10 ft.)							
	3/8"		7/16"		1/2"		5/8"	
psi @ Nozzle	Rad.	gpm	Rad.	gpm	Rad.	gpm	Rad.	gpm
20	48	17.80	51	24.00	54	30.80	56	46.00
25	52	20.30	55	26.70	58	33.80	61	51.50
30	55	22.30	60	29.30	63	37.10	67	56.50
35	59	24.10	64	31.70	68	40.10	72	61.10
40	63	25.80	68	33.90	72	42.90	77	65.40
45	66	27.40	72	36.00	75	45.60	82	69.50
50	68	28.90	73	38.00	77	48.10	85	73.30
55	70	30.30	75	39.70	80	50.30	89	77.30

* **Nozzles must be purchased separately.**
See Chart below.

Part Numbers and Ordering Information

Sprinkler Only	
Sprinkler without Nozzle	**A23960**

Nozzle Only			XX = Nozzle Size									
		U.S. Standard	11/32"	3/8"	13/32"	7/16"	15/32"	1/2"	17/32"	9/16"	5/8"	11/16"
Brass Straight Bore Nozzle	SBN-5	103043-XX	**22**	**24**	**26**	**28**	**30**	**32**	**34**	**36**	**40**	**44**
Brass Low Pressure Nozzle	LPN-5	108149-XX	–	**24**	–	**28**	**30**	**32**	–	–	**40**	–
1/8" Male NPT Plug for Spreader port		100255	Bold nozzle size numbers denote the most common nozzle choices.									

Straight Bore Nozzle (SBN-5) Performance* METRIC

bar @ Nozzle	NOZZLE SIZE (Stream Height: 3m)														
	8.7 mm (11/32")			9.5 mm (3/8")			10.3 mm (13/32")			11.1 mm (7/16")			11.9 mm (15/32")		
	Rad. (m)	Flow (lps)	Flow (m^3/h)	Rad. (m)	Flow (lps)	Flow (m^3/h)	Rad. (m)	Flow (lps)	Flow (m^3/h)	Rad. (m)	Flow (lps)	Flow (m^3/h)	Rad. (m)	Flow (lps)	Flow (m^3/h)
1.7	15.8	1.08	3.88	16.8	1.28	4.61	17.4	1.48	5.31	18.3	1.68	6.06	18.3	1.91	6.88
2.0	17.1	1.16	4.19	17.7	1.38	4.97	18.6	1.59	5.73	19.0	1.82	6.53	19.5	2.06	7.41
2.5	18.4	1.30	4.69	19.1	1.55	5.57	20.0	1.78	6.42	20.6	2.03	7.32	21.5	2.31	8.30
3.0	19.5	1.43	5.16	20.2	1.70	6.11	21.1	1.96	7.05	21.8	2.23	8.03	22.6	2.53	9.11
3.5	20.5	1.55	5.58	21.1	1.84	6.61	22.0	2.12	7.62	22.6	2.41	8.69	23.6	2.74	9.86
4.0	21.4	1.62	5.83	22.0	1.93	6.95	22.9	2.24	8.06	23.5	2.58	9.27	24.4	2.94	10.57
4.5	22.0	1.70	6.12	22.9	2.02	7.28	23.5	2.36	8.51	24.4	2.74	9.85	25.3	3.15	11.35
5.0	22.9	1.81	6.51	23.6	2.14	7.70	24.4	2.50	8.99	25.1	2.90	10.43	25.9	3.30	11.89
5.5	23.5	1.91	6.89	24.3	2.25	8.09	25.0	2.63	9.47	25.9	3.05	10.97	26.8	3.47	12.49
6.0	24.2	2.02	7.26	24.9	2.37	8.52	25.7	2.76	9.94	26.5	3.19	11.49	27.4	3.63	13.07
6.5	24.9	2.13	7.66	25.6	2.48	8.93	26.4	2.89	10.40	27.1	3.33	11.98	28.0	3.77	13.57
6.9	25.3	2.15	7.72	25.9	2.57	9.24	26.8	2.99	10.77	27.7	3.44	12.38	28.3	3.88	13.97

bar @ Nozzle	NOZZLE SIZE (Stream Height: 3m)														
	12.7 mm (1/2")			13.5 mm (17/32")			14.3 mm (9/16")			15.9 mm (5/8")			17.5 mm (11/16")		
	Rad. (m)	Flow (lps)	Flow (m^3/h)	Rad. (m)	Flow (lps)	Flow (m^3/h)	Rad. (m)	Flow (lps)	Flow (m^3/h)	Rad. (m)	Flow (lps)	Flow (m^3/h)	Rad. (m)	Flow (lps)	Flow (m^3/h)
1.7	18.3	2.13	7.68	18.3	2.34	8.43	18.3	2.67	9.61	18.3	3.25	11.70	18.3	3.91	14.06
2.0	20.0	2.30	8.27	20.0	2.53	9.10	20.0	2.87	10.35	20.0	3.50	12.60	20.0	4.22	15.18
2.5	21.9	2.57	9.26	22.5	2.83	10.19	22.7	3.22	11.60	22.7	3.92	14.12	22.7	4.74	17.06
3.0	23.3	2.83	10.17	24.0	3.11	11.18	24.3	3.54	12.73	25.1	4.31	15.50	25.1	5.22	18.78
3.5	24.2	3.05	11.00	25.1	3.36	12.10	25.7	3.83	13.77	26.7	4.66	16.78	27.0	5.65	20.34
4.0	25.2	3.27	11.79	26.0	3.63	13.06	26.6	4.07	14.66	28.1	4.98	17.93	28.8	6.06	21.82
4.5	25.9	3.49	12.58	26.8	3.87	13.92	27.5	4.39	15.79	28.7	5.33	19.20	29.9	6.45	23.21
5.0	26.8	3.69	13.29	27.4	4.08	14.68	28.2	4.64	16.70	29.6	5.64	20.30	30.8	6.81	24.51
5.5	27.4	3.88	13.96	28.3	4.29	15.44	28.9	4.88	17.57	30.2	5.93	21.33	31.4	7.16	25.77
6.0	28.2	4.05	14.58	28.9	4.49	16.15	29.7	5.10	18.37	30.9	6.20	22.30	32.1	7.49	26.96
6.5	28.9	4.22	15.17	29.5	4.67	16.83	30.1	5.30	19.07	31.3	6.45	23.21	32.6	7.81	28.11
6.9	29.3	4.35	15.65	29.9	4.82	17.35	30.8	5.50	19.81	32.0	6.64	23.89	32.9	8.06	29.00

Low Pressure Nozzle (LPN-5) Performance* METRIC

bar @ Nozzle	NOZZLE SIZE (Stream Height: 3m)											
	9.5 mm (3/8")			11.1 mm (7/16")			12.7 mm (1/2")			15.9 mm (5/8")		
	Rad. (m)	Flow (lps)	Flow (m^3/h)	Rad. (m)	Flow (lps)	Flow (m^3/h)	Rad. (m)	Flow (lps)	Flow (m^3/h)	Rad. (m)	Flow (lps)	Flow (m^3/h)
1.4	14.6	1.12	4.04	15.5	1.51	5.45	16.5	1.94	7.00	17.1	2.90	10.45
1.5	15.1	1.18	4.24	16.0	1.57	5.66	16.9	2.01	7.23	17.6	3.02	10.88
2.0	16.6	1.38	4.97	18.0	1.82	6.53	18.9	2.30	8.27	20.1	3.50	12.60
2.5	18.3	1.55	5.57	19.8	2.03	7.32	21.0	2.57	9.26	22.3	3.92	14.12
3.0	19.8	1.70	6.11	21.6	2.23	8.03	22.6	2.83	10.17	24.5	4.31	15.50
3.5	20.8	1.84	6.61	22.3	2.41	8.69	23.6	3.05	11.00	26.1	4.66	16.78
3.8	21.3	1.91	6.88	22.9	2.50	9.02	24.4	3.17	11.42	27.1	4.88	17.56

* **Nozzles must be purchased separately.**
See Chart below.

Part Numbers and Ordering Information

Sprinkler Only	
Sprinkler without Nozzle	**A23960**

Nozzle Only			XX = Nozzle Size									
		Metric	8.7 mm	9.5 mm	10.3 mm	11.1 mm	11.9 mm	12.7 mm	13.5 mm	14.3 mm	15.9 mm	17.5 mm
Brass Straight Bore Nozzle	SBN-5	103043-XX	**22**	**24**	**26**	**28**	**30**	**32**	**34**	**36**	**40**	**44**
Brass Low Pressure Nozzle	LPN-5	108149-XX	–	**24**	–	**28**	**30**	**32**	–	–	**40**	–

Bold nozzle size numbers denote the most common nozzle choices.

Rain Bird® ClimateMinder™ Monitoring and Control System

Irrigation controls plus crop growing condition monitoring and alerts, all in a single, economic system provide higher crop yields and reduced costs. ClimateMinder systems are the most simplified yet most advanced in the industry.

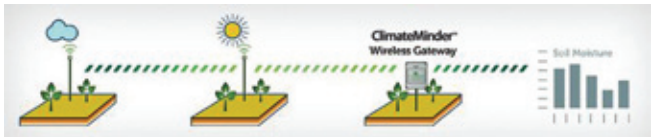
ClimateMinder is a revolutionary monitoring and control solution for agriculture. Its mobile network technology sends key data directly from the field right to your fingertips – via your mobile phone, computer and/or control systems.

Product Overview

ClimateMinder's battery/solar-operated wireless sensors collect real-time soil and environmental data and relay this information to our Web server through a cellular network. Users receive their choice of text messages, email alerts or phone calls on their cell phones and/or use the Web site or mobile software to check measurements and set alert and control conditions. The ClimateMinder solution consists of three parts: wireless network, mobile software and the Web server.

Features and Benefits

- Increase crop yield and quality
- Reduce water, fertilizer and chemical applications costs
- Respond to frost and other climate conditions instantly
- Control your irrigation pump, valves and fertilizer injectors from your phone, computer or tablet
- Monitor your field and crop growing conditions in real-time
- Get notified immediately when conditions change in the field
- Receive and send daily or weekly reports of your field conditions



ClimateMinder Wireless Network

The ClimateMinder wireless network is a patent-pending technology system enabling field sensors and controls to work together seamlessly. It includes a self-adjusting wireless network of nodes (with sensors or controls that can be attached to each node) and a gateway that communicates with the ClimateMinder Web server. ClimateMinder provides the flexibility growers need.

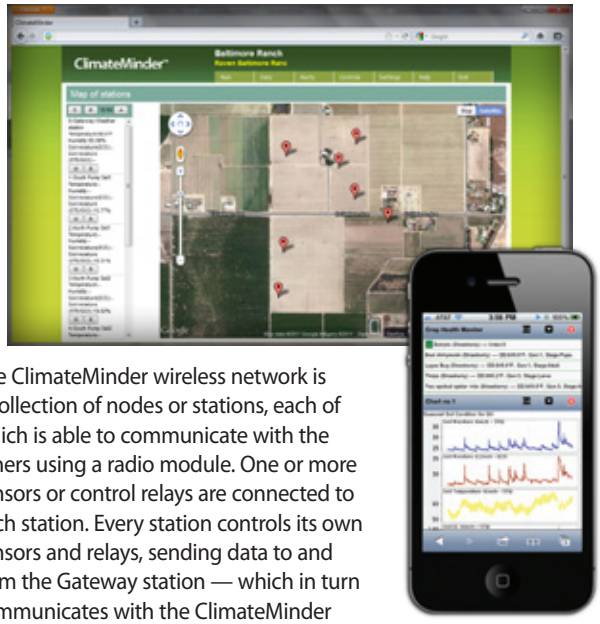
- Wireless, so you don't need to maintain a PC in field facilities or run wires between sensor or controller nodes.
- Self-organizing wireless network that provides maximum versatility, reliability and cost effectiveness, so you don't need to manage the network or spend a fortune on expensive weather stations.
- Battery and solar-powered, and optimized for low-power operation.
- Connected to the Internet via a wireless data connection, just like your mobile phone.
- Built with technology based on open standards, including IEEE 802.15.4.

ClimateMinder Web Server

ClimateMinder Web server is a secure server that operates the ClimateMinder wireless network. It's where all data resides and operations are controlled.

- Core of ClimateMinder's intelligence and enables the system's flexibility.
- Provides the browser-based software that runs on your PC or phone, allowing you to access and control the ClimateMinder system.
- Dashboard enables quick data access, an aerial site map showing all stations, an online notepad for record tracking, advanced graphing and reporting capabilities, and more.
- Reliable, easily accessible and fully, frequently backed up, ensuring peace of mind.
- Data can be instantly exported to spreadsheets.
- System software updates are seamless, without any service interruption.

Wireless Nodes/Stations

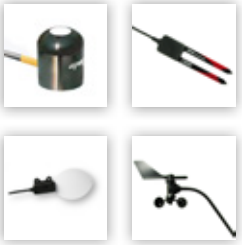


The ClimateMinder wireless network is a collection of nodes or stations, each of which is able to communicate with the others using a radio module. One or more sensors or control relays are connected to each station. Every station controls its own sensors and relays, sending data to and from the Gateway station — which in turn communicates with the ClimateMinder server using a cellular modem. Each station has a weather-proof enclosure containing radio, wireless antenna, battery, interface module, power module, cellular modem and station controller.

Stations form a self-configuring network, which means that when each device is switched on, it introduces itself to the network and finds neighbors to which it can send data. This system is also self-healing: If a station is broken along the route, other stations route information through another path. The entire system is optimized for low-power operation.

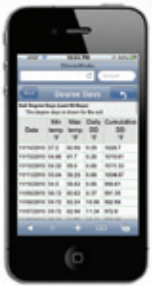
ClimateMinder is available with a complete suite of sensors that provide comprehensive data on your crops.

- Ambient Temperature & Humidity
- Soil Moisture, Temperature, EC
- Soil Moisture Profile Probe
- Tensiometer
- Leaf Wetness
- Wind
- Rain
- Solar Radiation
- Quantum Par
- Flow
- Pressure Switch



ClimateMinder Mobile Software

ClimateMinder provides remote access to and control of the system from any web enabled mobile phone or tablet, including: iPhone, iPad, Android, and Blackberry devices. Growers can use this software to check and set ClimateMinder from any location with wireless connectivity.



Applications

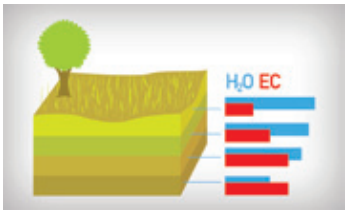
ClimateMinder can be instrumental for:

Soil Profiling

To maintain crop health and minimize costs, growers must constantly monitor the concentrations of water and salt at various depths in their fields. Because of the high cost of water, growers try to keep irrigation to the minimum required for maintaining a healthy crop.

Too little or too much water can damage crops and decrease yield and quality. Automating soil profiling takes the guesswork out of irrigation. ClimateMinder constantly measures water and salt concentration at various depths, capturing and charting trends over time – and sending instant alerts whenever conditions warrant. This process helps precisely regulate water and salt saturation at all depths.

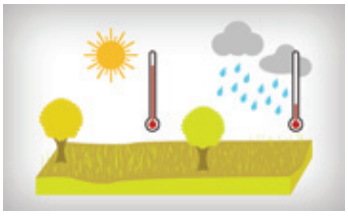
Microclimate Measurements



Accurate weather data is indispensable for growers. Some rely on reports produced by CIMIS, but these may not reflect the exact climate conditions in their fields. It might be raining at the CIMIS weather stations but not in their fields, which may be at higher or lower elevations -- and thus experiencing harmful conditions such as frost or excessive sun and heat.

Meanwhile, separate microclimate zones within one field can cause significant temperature variations. Different soil types and irrigation zones may also make it necessary to sample soil conditions at several locations. ClimateMinder makes the placement of multiple sensors throughout the field affordable, thanks to its wireless technology.

Disease Condition Alerts



Unique combinations of temperature, humidity and light can help cultivate disease in fields and greenhouses. Mildew, for instance, can form on fruit at certain temperature and humidity levels. Automated monitoring of specific conditions can alert growers of the need for action.

Satellite Soil Station

How to Order ClimateMinder Products

MODEL NUMBER	PRODUCT DESCRIPTION	CELLULAR MODEM	TEMP. & HUMIDITY	WIND & RAIN	LEAF WETNESS	PRESSURE SWITCH	SOIL EC	SOIL TEMP.	SOIL MOISTURE DEPTHS	WATER POTENTIAL DEPTHS
WIRELESS GATEWAYS / BASE STATIONS										
CMGW301	Gateway Station with Temp & RH	√	√						N/A	N/A
CMGW302	Weather Gateway Station	√	√	√	√				N/A	N/A
CMGW303	Soil Gateway Station 3D (with 3 x 10HS)	√	√		√	√			3	N/A
CMGW309	Soil Gateway Station 6D AquaCheck Profile Probe	√	√		√	√		√	6	N/A
CMGW323	Soil Gateway Station 2D (with 2 x 5TE)	√	√		√	√	√	√	2	N/A
CMGW324	Soil Gateway Station 2D (with 2 x GS3)	√	√		√	√	√	√	2	N/A
CMGW325	Soil Gateway Station 2D (with 2 x MPS2)	√	√		√	√		√	N/A	2
CMGW311	Soil Gateway Station 3D (with 3 x 5TE)	√	√		√	√	√	√	3	N/A
CMGW312	Soil Gateway Station 3D (with 3 x GS3)	√	√		√	√	√	√	3	N/A
CMGW317	Soil Gateway Station 3D (with 3 x MPS2)	√	√		√	√		√	N/A	3
CMGW3042D	Weather & Soil Gateway Station - 2D (with 2 x 10HS)	√	√	√	√	√			2	N/A
CMGW304	Weather & Soil Gateway Station - 3D (with 3 x 10HS)	√	√	√	√	√			3	N/A
CMGW305	Weather & Soil Gateway Station - 6D AquaCheck	√	√	√	√	√		√	6	N/A
CMGW320	Weather & Soil Gateway Station - 2D (with 2 x 5TE)	√	√	√	√	√	√	√	2	N/A
CMGW321	Weather & Soil Gateway Station - 2D (with 2 x GS3)	√	√	√	√	√	√	√	2	N/A
CMGW322	Weather & Soil Gateway Station - 2D (with 2 x MPS2)	√	√	√	√	√		√	N/A	2
CMGW313	Weather & Soil Gateway Station - 3D (with 3 x 5TE)	√	√	√	√	√	√	√	3	N/A
CMGW314	Weather & Soil Gateway Station - 3D (with 3 x GS3)	√	√	√	√	√	√	√	3	N/A
CMGW318	Weather & Soil Gateway Station - 3D (with 3 x MPS2)	√	√	√	√	√		√	N/A	3
CMGW3062D	Soil Only Gateway Station - 2D	√				√			2	N/A
CMGW306	Soil Only Gateway Station - 3D	√				√			3	N/A
CMGW310	Soil Only Gateway Station - 6D AquaCheck Profile Probe	√				√		√	6	N/A
CMGW326	Soil Only Gateway Station 2D (with 2 x 5TE)	√				√	√	√	2	N/A
CMGW327	Soil Only Gateway Station 2D (with 2 x GS3)	√				√	√	√	2	N/A
CMGW328	Soil Only Gateway Station 2D (with 2 x MPS2)	√				√		√	N/A	2
CMGW315	Soil Only Gateway Station 3D (with 3 x 5TE)	√				√	√	√	3	N/A
CMGW316	Soil Only Gateway Station 3D (with 3 x GS3)	√				√	√	√	3	N/A
CMGW319	Soil Only Gateway Station 3D (with 3 x MPS2)	√				√		√	N/A	3
WIRELESS SENSOR STATIONS (REQUIRES GATEWAY STATION)										
CMSN3TH	Temperature & Humidity Station		√						N/A	N/A
CMSN3SM3	Soil Station 2D					√	√	√	2	N/A
CMSN3SM4	Soil Station 3D					√	√	√	3	N/A
CMSN3SM02	Soil Station 2D - Basic					√			2	N/A
CMSN3SM03	Soil Station 3D - Basic					√			3	N/A
CMSN3SM04	Soil Station 6D - AquaCheck Profile Probe					√			6	N/A
CMSN3SM8	Soil Station 2D - All 5TE					√	√	√	2	N/A
CMSN3SM9	Soil Station 2D - All GS3					√	√	√	2	N/A
CMSN3SM10	Soil Station 2D - All MPS2					√		√	N/A	2
CMSN3SM5	Soil Station 3D - All 5TE					√	√	√	3	N/A
CMSN3SM6	Soil Station 3D - All GS3					√	√	√	3	N/A
CMSN3SM7	Soil Station 3D - All MPS2					√		√	N/A	3
CMSN3AI2	Soil (3D) & Temperature Station		√			√	√	√	3	N/A
WIRELESS CONTROLLERS										
CM8G3CTRL	8-Way Controller		N/A	N/A	N/A		N/A	N/A	N/A	N/A
CONVERSION TELEMETRY UNITS & REPEATERS										
CMGW3TR	Soil Gateway Conversion Telemetry Unit	√				√				
CMGW3TRW	Weather Gateway Conversion Telemetry Unit	√	√		√	√				
CMSN3TR	Wireless Station Conversion Telemetry Unit					√				
CMIKRPT	Wireless repeater to be coupled with a station (tower, cable or attachment pins are not included).									
CMIKRPTSOL	Solar charging kit for repeater (solar charger, battery and solar panel)									

Cyclik™ Wireless Automatic Control System

The Rain Bird® CYCLIK wireless control system is battery operated for economical automation of an irrigation system, without AC power and without control wires

- Accurate, synchronized control without control wires or AC power for a low cost installation
- Weatherproof optical port affords trouble-free operation, even under water
- Simple menu-driven programming saves time and reduces errors

Features and Benefits

- Programming changes are made only through the field transmitter so unauthorized individuals cannot change irrigation programs
- One year control module operation with one 9-volt alkaline battery is reliable for one irrigation season
- Synchronized control of up to 85 irrigation blocks results in an economical system, even for large farms (Cyclik CI only)
- **Manual control:** All Cyclik products have the option of manual control with the field transmitter to close or open a valve immediately.
- **ON/OFF control:** An ON/OFF mode is also available. In the OFF mode, the program is kept from operating (and valves are not allowed to open) until the control modules receive an ON command. This feature may be used during rainy periods when the grower does not wish to irrigate, but wants to store the program in the control modules for activation in the future.
- **Program review:** The system also allows the grower to take the field transmitter to the field and review the program in each control module by connecting the optical port and choosing the key.

Control Module

The control module has a 9-volt battery located in a weatherproof enclosure and operates latching solenoids to interrupt water flow to the valve chamber and provide on/off control of up to four valves.

Field Transmitter

The Field Transmitter uses simple programming steps to create a coordinated irrigation schedule for up to 85 control modules. Programs are loaded into the optical port of the control modules through an infra-red link. The simple programming menu in the field transmitter is used to set up the irrigation schedule for each valve. Then, the transmitter is taken to the field to load the program into each control module via the optical port. After the programs are loaded, each valve will operate until a new program is entered. The programming can be created to repeat a sequence, or operate one time, then remain off.

There are two models of field transmitters for different irrigation applications:

CYCLIK CI

Controls a series of valves to open and close in a sequence such as "pulse" irrigation of a solid set sprinkler or drip system. Many growers who use drip irrigation have found that frequently turning the drip laterals off and on will spread out the water in the ground to create a broader wetting pattern. This also avoids saturation and promotes better oxygenation of the plant roots. By spreading the wetting pattern, excess deep percolation can also be avoided.

- **Key Features**
  - Works with single station control modules
  - Maximum irrigation time is 23 hours, 55 minutes
  - Maximum overlap between valves is 120 seconds
  - Maximum 14 days between irrigation cycles
  - Up to 85 control modules

CYCLIK Micro

Controls valves to open and close at specific times per day. Micro Mode A allows four programs, and up to eight start times per day on a weekly schedule. Micro Mode B allows multiple start and stop times within a specific time window, for use in a system with frequent daily irrigation and rest intervals.

- **Micro Mode A Key Features**
  - Works with 1, 2, or 4 station control modules
  - Each station controls up to 8 start times and run times per day
  - Can assign an independent program to each station
- **Micro Mode B Key Features**
  - Works with single station control modules
  - Up to 2 irrigation operating windows per day
  - 10 seconds to 99 minutes irrigation "run time"
  - 1 minute to 99 minutes "soak time"

Models

- JA1100: Cyclik CI Field Transmitter
- JA1300: Cyclik Micro Field Transmitter
- JA3000: 3-Way Latching Solenoid
- JA3001: Control Module - 1 Station
- JA3002: Control Module - 2 Stations
- JA3004: Control Module - 4 Stations
- 71P51018: Bracket (attaches control module to valve)
- 118253: 2-Way Latching Solenoid

CYCLIK control module and field transmitter connected via optical port

"M" Pressure Regulators

Accurate Pressure Regulation at an Economical Price

- Preset outlet pressure regulators
- 3/4" (20mm) female inlet and outlet
- Choice of 8 outlet pressures

Features and Benefits

PSI series regulators hold outlet pressure at a pre-set level. Regulated outlet pressures are available from 6 to 50 psi / 0,4 to 3,9 bar. As either inlet pressure or flow changes, the outlet pressure remains relatively constant. The charts illustrate the relationship between inlet and outlet pressure at different flows.

- Diaphragm operated
- Use in above and below ground applications
- Manufactured from rugged engineeringgrade plastic
- Stainless steel spring Pressure Range: 10-150 psi (0,7-10,3 bar)

"M" Series

Recommended for most operating conditions. This series is designed to withstand surges up to 100 psi / 6,8 bar greater than the rated outlet pressures, where high inlet pressures are combined with high flows.

- Flow Range - 2-22 gpm (0.5-5.0 m^3/hr, 0.13-1.4 lps)

Models

- PSI-M

Regulated Outlet Pressure

Model Number	US Units (psi)	Metric (bar)
PSI-M	6	0.4
	10	0.7
	15	1.0
	20	1.4
	25	1.7
	30	2.1
	40	2.8
	50	3.4

How To Specify

PSI - M - 30

Outlet Pressure
6 = 6 psi (0.4)
10 = 10 psi (0.7)
15 = 15 psi (1.0)
20 = 20 psi (1.4)
25 = 25 psi (1.7)
30 = 30 psi (2.1)
40 = 40 psi (2.8)
50 = 50 psi (3.4)

Pressure Range
M = Medium Pressure

Model
PSI

"I-Series" Hydraulic Suction Scanning Screen Filter

The High Performance Standard in Scanning Filtration

Rain Bird's "I-Series" Hydraulic Suction Scanning Screen Filter provides worry free high-flow rate 100 micron (standard) filtered water quality. Powered by source line water pressure, the filter's backwashing system produces a concentrated high velocity reverse water flow to systematically clean the mesh screen of any entrapped contaminants. Models are available as a filter unit only, or as a filter assembly including bypass plumbing and valves for fast and easy installation on site.

Operation (see illustration below)

The unit consists of two stages of filtration, a coarse screen pre-filter and a stainless steel fine screen. Suspended solids accumulate on the inner surface of the fine screen, building up a filter layer which eventually restricts the filter and creates a pressure differential. Once the pressure differential reaches a preset level a rinse cycle is initiated by the Rain Bird supplied controller. The solids are removed from the fine screen using a concentrated backwashing method which aggressively sucks the accumulated dirt off the screen where it is carried to drain via the rinse valve. The dirt collector rotates while it moves linearly, ensuring the entire screen is cleaned each cycle. The process takes a matter of seconds, without interruption of system flow.

Monitoring and Controls

The standard Rain Bird automatic control system consists of a microprocessor based controller, a differential pressure switch and a solenoid actuated flush valve. The differential pressure switch monitors inlet and outlet pressures and comes factory preset to 7 psi. The flush valve is activated by the controller when the differential pressure exceeds 7 psi. The filtration system is automatically monitored and controlled on elapsed time since the last cleaning cycle or pressure differential (user definable). If timed cleaning cycles are utilized, the system will automatically default to a backwash based on differential pressure if a 7 psi differential pressure is reached before the next timed cleaning cycle. Standard Rain Bird automatic controls are available for 115 VAC and 230 VAC, 50 / 60 Hz (user-configurable) single phase power.

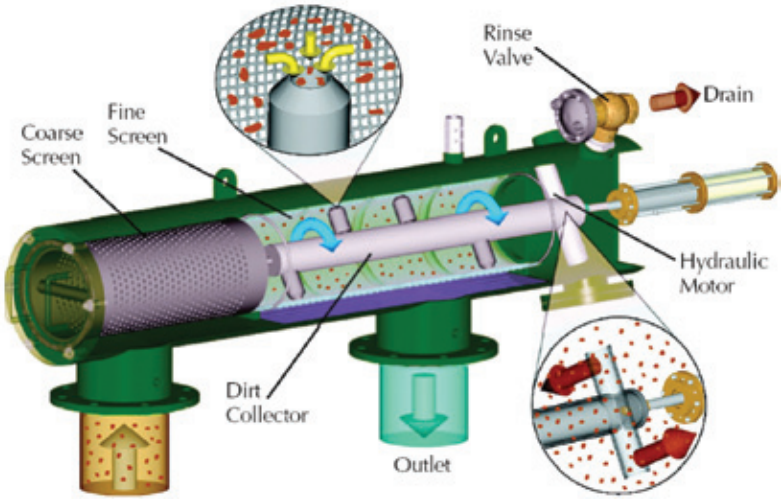
Note: "I-Series" filters integrated with a Rain Bird Pump Station utilize 110 VAC solenoids.

Construction

Rain Bird "I-Series" filters are built for years of durable, trouble-free service. The housing and covers of standard filters are made from thick wall high-grade, low-carbon steel. All exposed surfaces, both inside and out, polyester powder coated over a zinc phosphate primer coat. All wetted components are constructed of either engineered plastics or non-corrosive metals. Standard 100 micron wire mesh screens are PVC-supported which virtually eliminates the possibility of screen collapse. Easy maintenance access to the internal components of the filter is via a removable front cover with handles that are secured to the front end of the filter housing. All wetted components are constructed of either engineered plastics or non-corrosive metals. Larger screens are manufactured in a modular form which allows replacement of sections of the wire mesh, rather that the entire wire mesh element. All Rain Bird "I-Series" filters are also available in Stainless Steel construction, for the most demanding water quality applications.

(shown as filter only)
HS-I-08-PE-A

MADE IN THE U.S.A.



"I-Series" Hydraulic Suction Scanning Screen Filter (cont.)

Basic Specifications

- Available as filter only (no bypass plumbing) or as a complete assembly with bypass plumbing and valves for easy installation
- Heavy-duty, durable, SS woven wire mesh screen filtration element with PVC support is supplied standard. Other screen construction including multi-layer sintered SS and wedgewire are also optionally available upon request.
- Standard SS woven wire mesh screens are supplied as 125 micron (120 mesh). Optional SS screen sizes available for 50, 80, 100, 150 or 200 micron
- Standard flow rates from 400 to 5,000 GPM
- Standard maximum operating pressure of 150 PSI (higher pressures optionally available)
- Filtered, clean water backwashing initiated automatically by time or pressure differential via integrated Rain Bird controller
- Flanged inlet and outlet standard. Grooved inlet and outlet configuration optionally available

Models

See chart below for all standard models available. Consult factory for options and custom configurations.

Economical design with integrated bypass assembly for fast and easy installation.

"I-Series" Suction Scanning Screen Filter Performance Data

Powder Coated Carbon Steel Model Number	Stainless Steel Model Number	Maximum Flow US GPM	m^3/Hour	Max Pressure (psi)	Inlet / Outlet Flange Size (in)	Flush Line Size (in)	Minimum Inlet Pressure During Rinse Cycle (psi)
Filter Only							
HS-I-04-PE-A	HS-I-04-PE-S -A	400	90.9	150	4	4	30
HS-I-06-PE -A	HS-I-06-PE-S -A	650	147.6	150	6	4	30
HS-I-08-PS -A	HS-I-08-PS-S -A	1200	272.6	150	8	4	30
HS-I-08-PE -A	HS-I-08-PE-S -A	1500	340.7	150	8	4	30
HS-I-10-PS -A	HS-I-10-PS-S -A	1750	397.5	150	10	4	30
HS-I-10-PE -A	HS-I-10-PE-S -A	2000	454.3	150	10	4	30
HS-I-12-PS -A	HS-I-12-PS-S -A	2500	567.9	150	12	4	30
Filter Assembly with Bypass Manifold							
HS-I-04-PE-B -A	HS-I-04-PE-S-B -A	400	90.9	150	4	4	30
HS-I-06-PE-B -A	HS-I-06-PE-S-B -A	650	147.6	150	6	4	30
HS-I-08-PS-B -A	HS-I-08-PS-S-B -A	1200	272.6	150	8	4	30
HS-I-08-PE-B -A	HS-I-08-PE-S-B -A	1500	340.7	150	8	4	30
HS-I-10-PS-B -A	HS-I-10-PS-S-B -A	1750	397.5	150	10	4	30
HS-I-10-PE-B -A	HS-I-10-PE-S-B -A	2000	454.3	150	10	4	30
HS-I-12-PS-B -A	HS-I-12-PS-S-B -A	2500	567.9	150	12	4	30
DS-I-08-PE-B -A	DS-I-08-PE-S-B -A	3000	681.5	150	12	4	30
DS-I-10-PS-B -A	DS-I-10-PS-S-B -A	3500	795.0	150	12	4	30
DS-I-10-PE-B -A	DS-I-10-PE-S-B -A	4000	908.6	150	14	4	30
DS-I-12-PS-B -A	DS-I-12-PS-S-B -A	5000	1135.8	150	14	4	30

** Filter flow is based on 200 micron filtration of clear irrigation water. Appropriate flow de-rating is required for excessive debris loads (silt, organics, algae, etc.), reclaim water and finer screens. Contact Rain Bird for filter selection assistance for these applications.*

Contact Rain Bird for drawings or visit www.rainbird.com to download.

"G-Series" Hydraulic Suction Scanning Screen Filter

Economy and Value with Lower Backwash Volumes

MADE IN THE U.S.A.

Rain Bird's "G-Series" Hydraulic Suction Scanning Screen Filter provides worry free medium-flow rate 300 micron (standard) filtered water quality. Powered by source line water pressure, the filter's backwashing system produces a concentrated high velocity and low volume reverse water flow to systematically clean the screen of any entrapped contaminants. Models are available as a filter unit only, or as a filter assembly including bypass plumbing and valves for fast and easy installation on site.

(shown as filter only)
HS-G-06-LE-A

Economical design with integrated bypass assembly for fast and easy installation.

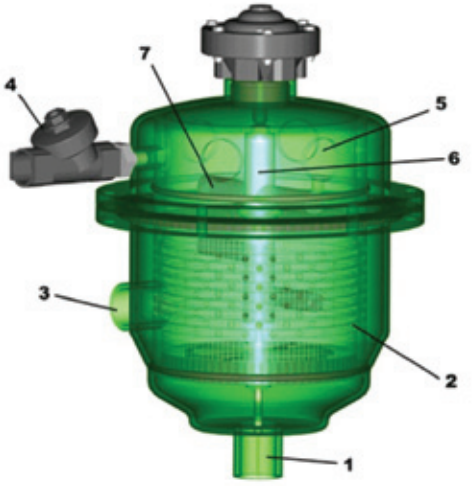
Operation (see illustration below)

Dirty water enters the inlet (1), where it enters the fine screen (2). The water passes through the screen from the inside to the out (3). The solids accumulate on the inner surface of the screen creating a pressure differential across the screen. Once the pressure differential reaches a preset value, a rinse cycle is activated and the Rain Bird supplied control system opens the rinse valve (4) to drain. As a result, the pressure drops in the hydraulic motor chamber (5) and dirt collector assembly (6). The pressure drop causes water to backflush through the screen in a small concentrated area at the nozzle openings. The high velocity backwash stream pulls the dirt off the screen. The backwash water is carried through the collector and ejected out of the holes in the hydraulic motor (7). The dirt collector rotates while it moves linearly (on models with a piston assembly), ensuring the entire screen is cleaned each cycle. The process takes a matter of seconds, without interruption of system flow.

Monitoring and Controls

The standard Rain Bird automatic control system consists of a microprocessor based controller, a differential pressure switch and a solenoid actuated flush valve. The differential pressure switch monitors inlet and outlet pressures and comes factory preset to 7 psi. The flush valve is activated by the controller when the differential pressure exceeds 7 psi. The filtration system is automatically monitored and controlled on elapsed time since the last cleaning cycle or pressure differential (user definable). If timed cleaning cycles are utilized, the system will automatically default to a backwash based on differential pressure if a 7 psi differential pressure is reached before the next timed cleaning cycle. Standard Rain Bird automatic controls are available for 115 VAC and are user configurable to 230 VAC, 50 / 60 Hz power.

Note: "G-Series" filters integrated with a Rain Bird Pump Station utilize 115 VAC solenoids.



Construction

Rain Bird "G-Series" filters are built for years of durable, trouble-free service. The bodies of standard "G-Series" filters are made from high-grade, low-carbon steel. All exposed surfaces, both inside and out, are polyester powder coated over a zinc phosphate primer coat. All wetted components are constructed of either engineered plastics or non-corrosive metals. Standard 300 micron wire mesh screens are PVC-supported which virtually eliminates the possibility of screen collapse. All Rain Bird "G-Series" filters are also available in Stainless Steel construction, for the most demanding water quality applications.

"G-Series" Hydraulic Suction Scanning Screen Filter (cont.)

Basic Specifications

- Heavy-duty, durable, SS woven wire mesh screen filtration element with PVC support is supplied standard. Other screen construction including multi-layer sintered SS and wedgewire are also optionally available upon request.
- Standard SS woven wire mesh screens are supplied as 125 micron (120 mesh). Optional SS screen sizes available for 50, 80, 100, 150 or 200 micron
- Standard flow rates from 25 to 3,500 GPM
- Standard maximum operating pressure of 150 PSI (higher pressures optionally available)
- Filtered, clean water backwashing initiated automatically by time or pressure differential via integrated Rain Bird controller
- Flanged inlet and outlet standard except on models HS-V-01 and HS-G-02 filter only configurations which are threaded. Grooved inlet and outlet configuration optionally available.

(shown as filter only)
HS-G-03-LE-A

Models

See chart below for all standard models available. Consult factory for options and custom configurations.

"G-Series" Suction Scanning Screen Filter Performance Data

Powder Coated Carbon Steel Model Number	Stainless Steel Model Number	Maximum Flow US GPM	m^3/Hour	Max Pressure (psi)	Inlet / Outlet Flange Size (in)	Flush Line Size (in)	Minimum Inlet Pressure During Rinse Cycle (psi)
Filter Only							
HS-V-01-LE-A	HS-V-01-LE-S-A	25	5.7	150	2	2	30
HS-G-02-LE-A	HS-G-02-LE-S-A	100	22.7	150	2	2	30
HS-G-03-LE-A	HS-G-03-LE-S-A	200	45.4	150	3	2	30
HS-G-04-LS-A	HS-G-04-LS-S-A	300	68.1	150	4	2	30
HS-G-04-LE-A	HS-G-04-LE-S-A	400	90.9	150	4	3	30
HS-G-06-LS-A	HS-G-06-LS-S-A	650	147.6	151	6	3	30
HS-G-06-LE-A	HS-G-06-LE-S-A	850	193.1	152	6	3	30
HS-G-08-LS-A	HS-G-08-LS-S-A	1300	295.3	150	8	3	30
HS-G-10-LS-A	HS-G-10-LS-S-A	1750	397.5	150	10	3	30
Filter Assembly with Bypass Manifold							
HS-V-01-LE-B-A	HS-V-01-LE-S-B-A	25	5.7	150	2	2	30
HS-G-02-LE-B-A	HS-G-02-LE-S-B-A	100	22.7	150	2	2	30
HS-G-03-LE-B-A	HS-G-03-LE-S-B-A	200	45.4	150	3	2	30
HS-G-04-LS-B-A	HS-G-04-LS-S-B-A	300	68.1	150	4	2	30
HS-G-04-LE-B-A	HS-G-04-LE-S-B-A	400	90.9	150	4	3	30
HS-G-06-LS-B-A	HS-G-06-LS-S-B-A	650	147.6	150	6	3	30
HS-G-06-LE-B-A	HS-G-06-LE-S-B-A	850	193.1	150	6	3	30
HS-G-08-LS-B-A	HS-G-08-LS-S-B-A	1300	295.3	150	8	3	30
HS-G-10-LS-B-A	HS-G-10-LS-S-B-A	1750	397.5	151	10	3	30
DS-G-060-LE-B-A	DS-G-06-LE-S-B-A	1700	386.2	150	10	3	30
DS-G-080-LS-B-A	DS-G-08-LS-S-B-A	2600	590.6	150	10	3	30
DS-G-100-LS-B-A	DS-G-10-LS-S-B-A	3500	795.0	150	12	3	30

** Filter flow is based on 200 micron filtration of clear irrigation water. Appropriate flow de-rating is required for excessive debris loads (silt, organics, algae, etc.), reclaim water and finer screens. Contact Rain Bird for filter selection assistance for these applications.*

Contact Rain Bird for drawings or visit www.rainbird.com to download.

Self-Cleaning Pump Suction Screen

Keep Debris Out of Your Pumping and Irrigation System

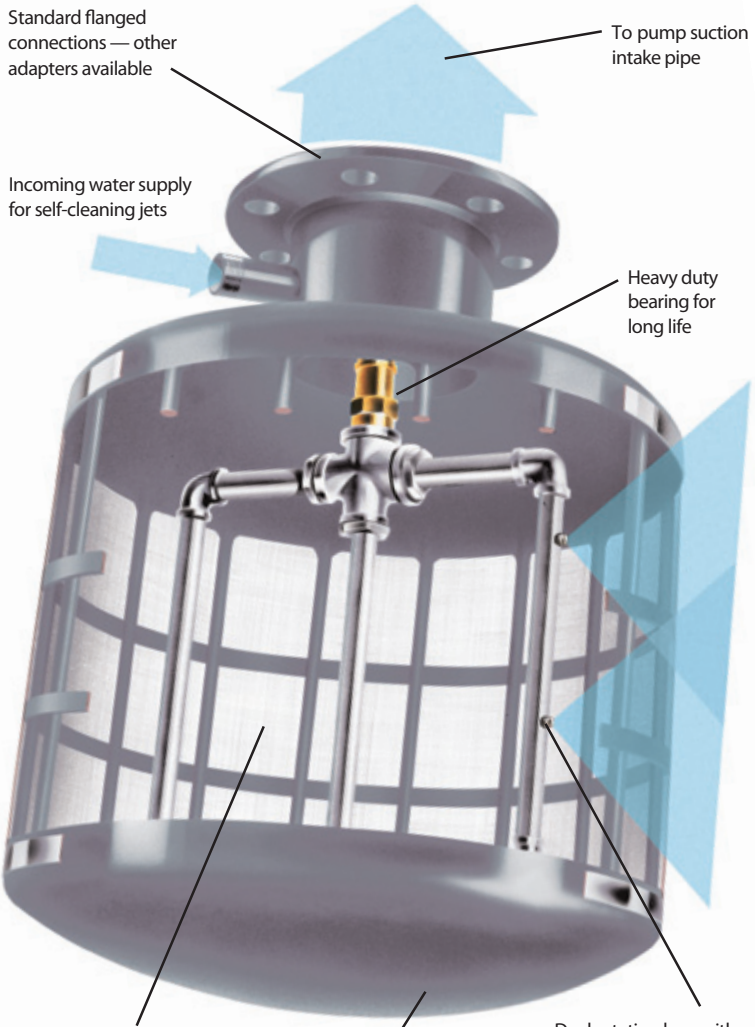
No matter the source of your irrigation water, you need to clear the water of trash and debris that could block flow, damage the pump station or clog irrigation equipment.

Rain Bird's galvanized, Self-Cleaning Pump Suction Screen removes large trash and debris from water sources, saving time and money in energy, pumping efficiency and maintenance costs. With a heavy 12 or 24 mesh stainless steel screen, this model will increase your pump efficiency for many years to come.

The pump suction screen is attached to the end of the pump suction line. All water must pass through the screen before entering the pump intake pipe. A small, side-stream from the pump discharge plumbing drives two spray bars that continually rotate, jetting water at the screen and blasting debris away.

Made to last, Rain Bird's Self-Cleaning Pump Suction Screen's all-metal construction has a removable screen drum. There are no exterior moving parts that can break down or need repair. The unit is completely corrosion resistant and will not collapse under normal operation.

For added flexibility, Rain Bird's Self-Cleaning Pump Suction Screen can be installed at any angle without affecting operation. It also has a standard flanged connection (other connections are available upon request). The included "Y Strainer" — essential on the water jet supply line — provides easy access for cleaning and prevents the spray nozzles from plugging.



MADE IN THE U.S.A.

How To Specify

PSS400 - 24 - A

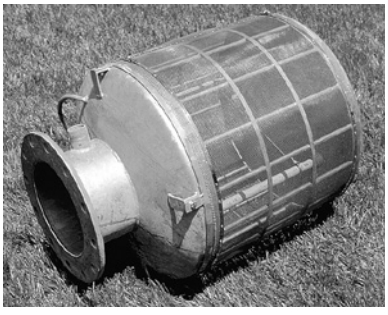
Model
PSS200
PSS400
PSS600
PSS800
PSS1000
PSS1400
PSS1700
PSS2000
PSS2400
PSS3000
PSS3500
PSS4000

Mesh
Blank: 12 mesh
24: 24 mesh

Designation
A: Agriculture

Self-Cleaning Pump Suction Screen Performance Data

Model Number	Flow US GPM	Flow m^3/Hour	Screen Length (in)	Total Length (in)	Screen Diameter (in)	Flange Size (in)	Return Inlet Pipe Size (in)	Operating Pressure (min - max psi)	Weight Lbs.	Cleaning Spray (GPM)
12 Mesh Filter										
PSS200-A	325	73.8	11	25	16	4	1.5	35-100	38	20
PSS400-A	550	124.9	15	28.8	16	6	1.5	40-100	57	20
PSS600-A	750	170.3	16	32.5	24	8	1.5	40-100	101	20
PSS800-A	950	215.7	18	34.5	24	10	1.5	45-100	108	20
PSS1000-A	1350	306.5	23	39.5	24	10	1.5	50-100	116	24
PSS1400-A	1650	374.6	26	42.5	24	12	1.5	55-100	128	24
PSS1700-A	1950	442.7	28	44.5	26	12	1.5	55-100	148	24
PSS2000-A	2350	533.5	32	48.5	26	14	1.5	60-100	160	24
PSS2400-A	2600	590.2	35	52.5	30	16	1.5	65-100	223	28
PSS3000-A	3000	681.0	40	57.5	30	16	1.5	40-65	236	44
PSS3500-A	3500	794.5	40	59.5	36	18	1.5	40-65	283	44
PSS4000-A	4000	908.0	40	63.5	42	18	1.5	40-65	358	44
24 Mesh Filter										
PSS20024-A	225	51.1	11	25	16	4	1.5	35-100	38	20
PSS40024-A	400	90.8	15	28.8	16	6	1.5	40-100	57	20
PSS60024-A	525	119.2	16	32.5	24	8	1.5	40-100	101	20
PSS80024-A	700	158.9	18	34.5	24	10	1.5	45-100	108	20
PSS100024-A	950	215.7	23	39.5	24	10	1.5	50-100	116	24
PSS140024-A	1200	272.4	26	42.5	24	12	1.5	55-100	128	24
PSS170024-A	1400	317.8	28	44.5	26	12	1.5	55-100	148	24
PSS200024-A	1650	374.6	32	48.5	26	14	1.5	60-100	160	24
PSS240024-A	1800	408.6	35	52.5	30	16	1.5	65-100	223	28
PSS300024-A	2075	471.0	40	57.5	30	16	1.5	40-65	236	44
PSS350024-A	2420	549.3	40	59.5	36	18	1.5	40-65	283	44
PSS400024-A	2765	627.7	40	63.5	42	18	1.5	40-65	358	44



Rain Bird's Self-Cleaning Pump Suction Screen is built for years of trouble-free service

Rain Bird's Professional Customer Satisfaction Policy

Rain Bird will repair or replace at no charge any Rain Bird professional product that fails in normal use within the Customer Satisfaction Policy period stated below. You must return it to the dealer or distributor where you bought it. Product failures due to acts of God including without limitation, lighting and flooding, are not covered by this Customer Satisfaction Policy.

This commitment to repair or replace is our sole and total warranty.

Implied Warranties of Merchantability and Fitness, if Applicable, are Limited to One Year from the Date of Sale

We will not under any circumstances be liable for incidental or consequential damages, no matter how they occur.

Agricultural Products

- A5 PC Pressure Compensating AG Dripline – Five Years on Product Workmanship, Seven Years on Environmental Stress Cracking
- PE Polyethylene Tubing - Seven Years on Product Workmanship, Seven Years on Environmental Stress Cracking
- LF™ Series Sprinklers – Five Years
- Brass Impact Sprinklers- Five Years
- Plastic Impact Sprinklers – Two Years
- All other agricultural products – One Year

How to Order

- Toll-free, 800 fax number is available exclusively for fax orders: (800) 843-4162
- Toll-free, 800 phone number is available exclusively for phone orders: (800) 435-5624
- Toll-free, Rain Bird Technical Service (RBTS): (800) 247-3782
- Customers Outside the U.S. call: (520) 878-2400
- Place orders, check palette or carton quantities, or track shipping at www.rainbird.com/distributor

Rain Bird Online Resources

Resource	Link
Technical Articles Distribution Uniformity, Frost Protection, Reference Formulas and Impact Sprinkler Maintenance	www.rainbird.com/AgArticles
Reference Tables Plant root depth, moisture use by crop, precipitation rates, sprinkler spacing, soil types, friction and pressure loss	www.rainbird.com/AgReference
Literature and Manuals Brochures, instruction manuals, replacement parts and performance data	www.rainbird.com/AgLiterature
Dealer Locator Find a Rain Bird Agri-Products Dealer in your local area.	www.rainbird.com/AgDealers
Calculators Sprinkler and Micro Irrigation, Conversion Calculator	www.rainbird.com/AgCalculators
Drip/Micro Irrigation Payback Wizard Simple steps to determine payback on drip and micro irrigation investments	www.rainbird.com/DripWizard
Uniformity Pro Online selection tool for Rain Bird LFS nozzle and deflector combinations	www.rainbird.com/UniformityPro
Intelligent Use of Water™ Our efforts to promote global water efficiency	www.rainbird.com/IUOW
Rain Bird Virtual Museum An interactive tour through 75 years of irrigation innovation	www.rainbird.com/museum
LFS Crops Crop-specific technical and application information for LFS Sprinklers	www.rainbird.com/crops

Thank you for choosing Rain Bird. If you have any questions, please contact your Customer Service representative or District Manager for assistance. We welcome any suggestions you may have for making your partnership with Rain Bird AG a pleasant, effective and positive experience.

A legacy of agricultural innovation.

Rain Bird has a rich history serving the agricultural community. Beginning in 1933 with the invention of the original horizontal action impact drive sprinkler by a Glendora, California citrus farmer (U.S. Patent #1,997,901), Rain Bird revolutionized the food production industry and ushered in a new era in irrigation, worldwide. The original impact sprinkler was designated a historic landmark in 1990 by the American Society of Agricultural Engineers.

For over eighty years, we've been developing new and innovative products that water more intelligently and our work is not done yet. Rain Bird has been awarded hundreds of patents for innovative irrigation products and technologies that are used in over 130 countries around the world to irrigate nearly every imaginable crop. Rain Bird is committed to The Intelligent Use of Water™, bringing expertise and knowledge to further increase irrigation efficiency, minimize maintenance costs and enhance the health of crops.

Local Distributor:

GreenScape Ltd.

For Landscape & Geosynthetic Engineering

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