



## Agricultural Irrigation Products Catalog





## Table of Contents

<b>Impact Sprinklers</b> .....	<b>3-46</b>
1/2" Performance Data .....	7-27
3/4" Performance Data .....	28-37
1" Performance Data .....	38-39
1 1/4" Performance Data .....	40-42
General Performance Data (1/2" & 3/4") .....	43-46
<b>808A Series Tech Spec</b> .....	<b>47-48</b>
<b>Rain Flow Nozzles Tech Spec</b> .....	<b>49-50</b>
<b>Rain Guns</b> .....	<b>51-59</b>
3000 Series Rain Guns .....	52-55
2000 Series Rain Guns .....	56-59
<b>PC Dripline</b> .....	<b>60-72</b>
16mm Product Specifications .....	64-66
20mm Product Specifications .....	67-69
PC Dripline Tech Spec .....	70-72
<b>Cast Iron Agricultural Valves</b> .....	<b>73-81</b>
<b>PGA, PESB, &amp; BPES Valves</b> .....	<b>82-85</b>
<b>Controllers</b> .....	<b>86-90</b>
<b>Micro-Quick Sprays &amp; Micro-Bird Spinners</b> .....	<b>91-96</b>
<b>Accessories</b> .....	<b>97-99</b>



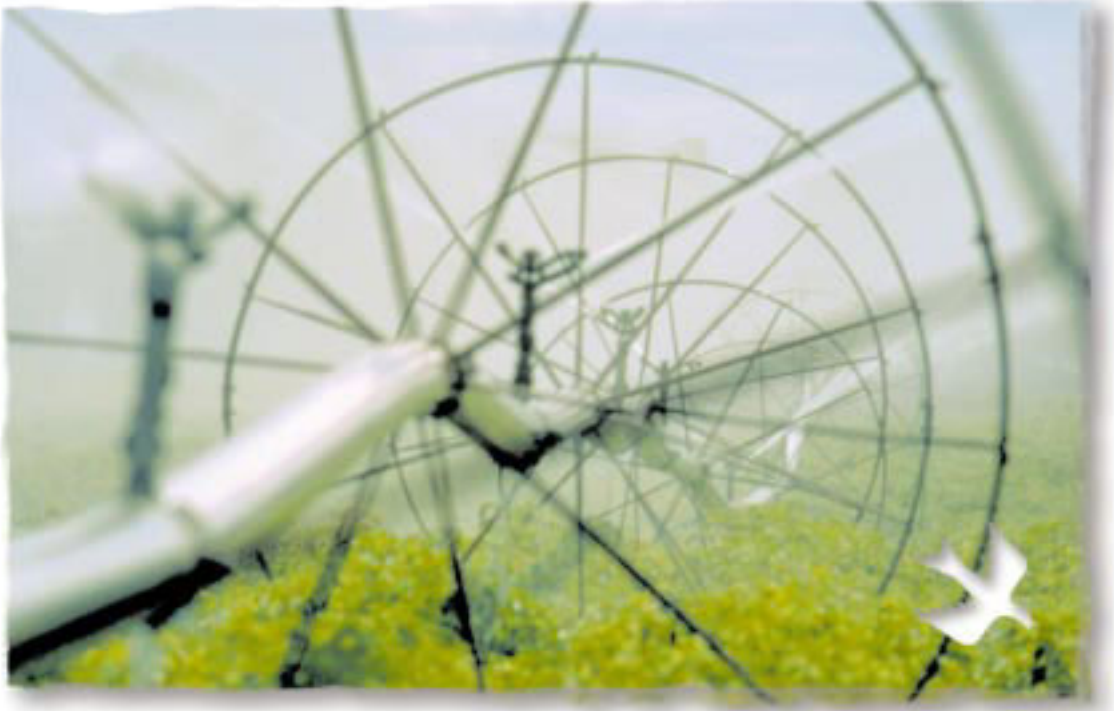
## Impact Sprinklers

1/2", 3/4", 1" & 1 1/4" Brass and Plastic, Full and Part Circle





## Impact Sprinklers

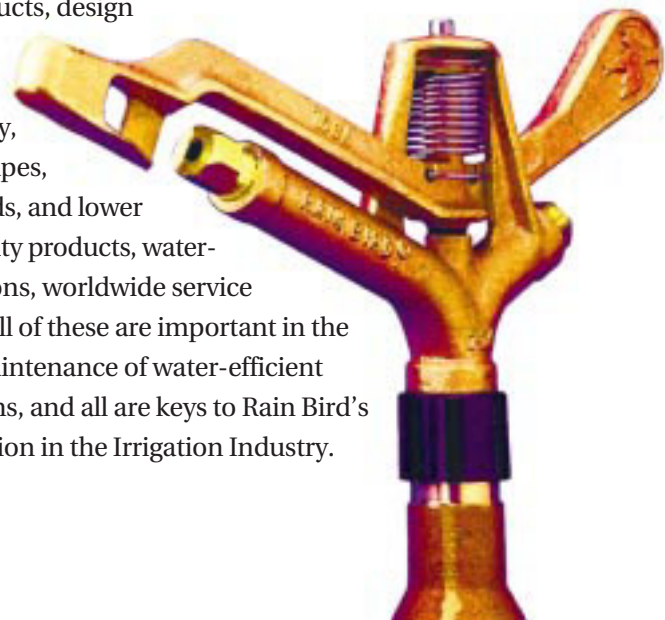


**I**t all began with U.S. Patent number 1,997,901, awarded on December 18, 1933, to citrus farmer Orton Englehart for a novel watering device described as a “spring-activated horizontal impact arm driven sprinkler.” This new type of sprinkler was durable and distributed water farther, more evenly and much more efficiently than the existing sprinklers of the day. Englehart’s neighbors Clement and Mary La Fetra were so taken with the invention that in 1935 they arranged to manufacture the devices in their barn. Thus, Rain Bird Sprinkler Manufacturing Corporation was born.

Since its founding over 60 years ago, Rain Bird has grown into the largest manufacturer of irrigation systems in the world serving more than 120 countries worldwide. Today, Rain Bird holds over 130 patents for all types of irrigation equipment,

many of which are dedicated to the improvement of the original impact sprinkler.

At every step, Rain Bird focuses on the most efficient possible use of the planet’s most valuable resource—water. This concern shows in Rain Bird’s innovative products, design aids, training seminars, and most importantly, in green landscapes, higher crop yields, and lower water bills. Quality products, water-saving innovations, worldwide service and support—all of these are important in the creation and maintenance of water-efficient irrigation systems, and all are keys to Rain Bird’s leadership position in the Irrigation Industry.





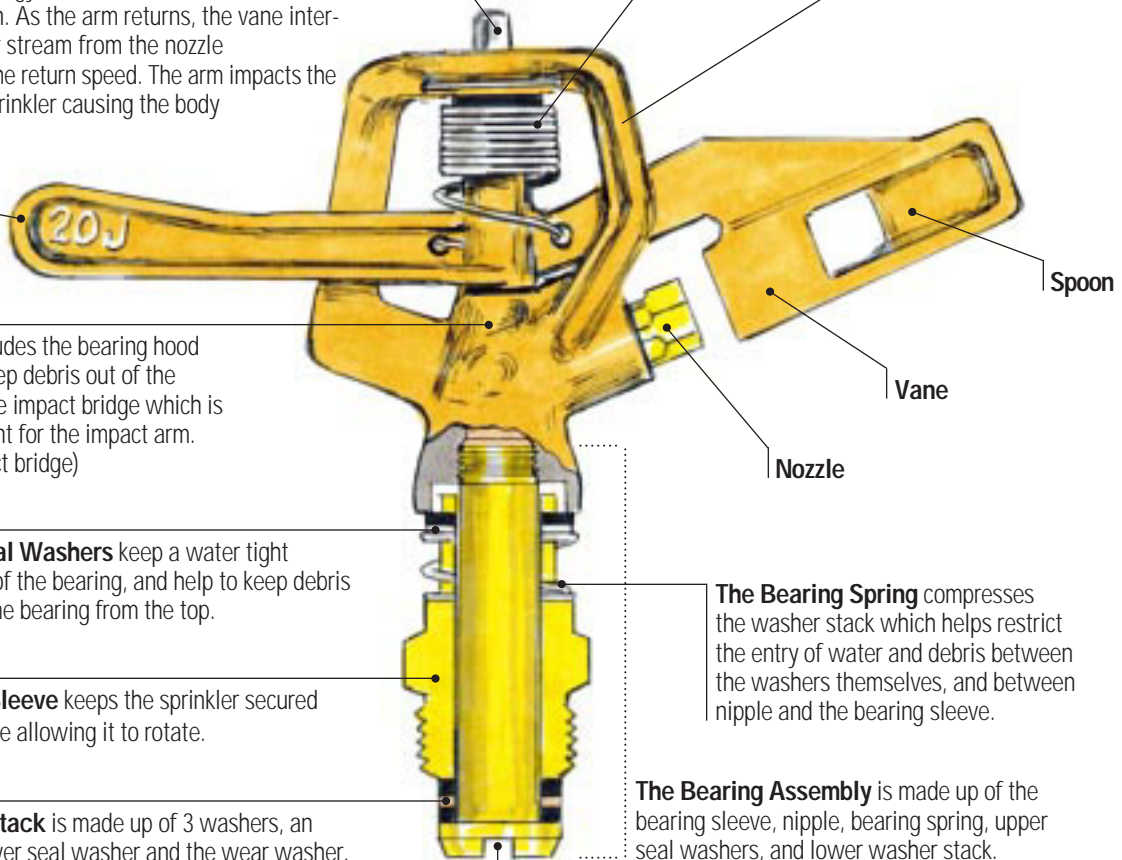
## The Impact Sprinkler

**The Impact Arm** is the most important part of the sprinkler. A properly balanced and positioned arm is necessary to maintain smooth rotation. The arm includes a rear counterweight, a spoon and a vane. The spoon directs water from the nozzle at a 90 degree angle which forces the arm away from the impact bridge. The arm spring absorbs this energy, and returns the arm to its original position. As the arm returns, the vane intersects the water stream from the nozzle and increases the return speed. The arm impacts the bridge of the sprinkler causing the body to rotate.

**The Fulcrum Pin** allows the arm to pivot freely.

**The Arm Spring** keeps the sprinkler from rotating in reverse by absorbing excess energy and returning the arm to the impact bridge.

**The Impact Bridge**



**Spoon**

**Vane**

**Nozzle**

**The Body** includes the bearing hood which helps keep debris out of the bearing, and the impact bridge which is the contact point for the impact arm. (arrow to impact bridge)

**The Upper Seal Washers** keep a water tight seal at the top of the bearing, and help to keep debris from entering the bearing from the top.

**The Bearing Sleeve** keeps the sprinkler secured to the riser while allowing it to rotate.

**The Washer Stack** is made up of 3 washers, an upper and a lower seal washer and the wear washer. The middle wear washer provides the surface on which the sprinkler rotates. This surface is water lubricated. Different materials are used for the wear washer in order to speed up or slow down rotation.

**The Bearing Spring** compresses the washer stack which helps restrict the entry of water and debris between the washers themselves, and between nipple and the bearing sleeve.

**The Bearing Assembly** is made up of the bearing sleeve, nipple, bearing spring, upper seal washers, and lower washer stack.

**The Bearing Nipple** keeps the bearing assembly secured to the body of the sprinkler.

## Features and Benefits

### Key features of Rain Bird Impact Sprinklers

- Heavy duty plastic, brass, stainless steel, and aluminum components
- Die-cast brass arms on all 1/2" brass sprinklers
- Patented, self-flushing wedge and "precision jet" (PJ) drives
- Chemically resistant washers
- Wide variety of nozzles available
- Two year warranty on all sprinklers

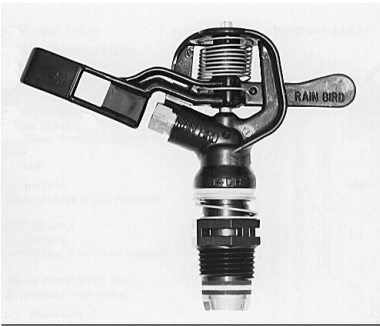


### Benefits to Growers

- Long life and low maintenance
- Stronger and more consistent components
- Wear resistance and conservation of water
- Worry free chemical and fertilizer application
- Design flexibility and retro-fitability
- Peace of mind knowing that Rain Bird is committed to producing quality products and standing behind them.



Please Note: The following performance charts are based upon actual test data gathered under "zero wind" conditions. Field performance may vary due to wind, manufacturing variations, hydraulic conditions, or other factors. Unless otherwise noted, all diameters are based upon a 30 inch riser height. Distribution uniformity varies with sprinkler spacing and field conditions. Consult your local Rain Bird dealer or Rain Bird regarding recommended spacings for specific sprinkler, nozzle, and pressure combinations.



## PERFORMANCE DATA

14DH

### 14DH

#### 1/2" Full Circle, Plastic Impact Sprinkler

Bearing: 1/2" Male NPT, Plastic  
Trajectory Angle: 22°

Operating Range: 20-60 psi

Flow Rate: .79-2.68 GPM

Radius: 23-38 ft.

#### FEATURES

- Durable Delrin™ plastic body, arm and bearing sleeve
- Stainless steel springs and fulcrum pin
- Brass bearing nipple
- Chemically resistant washers
- Teflon™ wear washer
- Two-year warranty

#### BENEFITS

- Superior chemical and grit resistance
- Smooth rotation at lower pressures
- Design flexibility
- Built to last

#### Brass Straight Bore Nozzle (SBN-1) (Stream Height: 6 ft.)

PSI @ Nozzle	NOZZLE SIZE					
	5/64"		3/32"		7/64"	
	Rad.	GPM	Rad.	GPM	Rad.	GPM
20	30	0.79	33	1.14	34	1.55
25	31	0.88	33	1.27	35	1.73
30	31	0.97	34	1.39	35	1.90
35	32	1.05	34	1.50	36	2.05
40	32	1.12	35	1.61	36	2.19
45	33	1.19	35	1.71	37	2.32
50	33	1.25	36	1.80	37	2.45
55	34	1.31	36	1.89	38	2.57
60	34	1.37	37	1.97	38	2.68

#### Off Axis Nozzle (OAN-1-15) Down (Stream Height: 3 ft.)

PSI @ Nozzle	NOZZLE SIZE					
	5/64"		3/32"		7/64"	
	Rad.	GPM	Rad.	GPM	Rad.	GPM
20	23	0.79	26	1.14	27	1.55
25	25	0.88	27	1.27	29	1.73
30	27	0.97	30	1.39	31	1.90
35	28	1.05	31	1.50	32	2.05
40	29	1.12	31	1.61	33	2.19
45	30	1.19	32	1.71	34	2.32
50	30	1.25	33	1.80	34	2.45

## PART NUMBERS AND ORDERING INFORMATION

Ordering Example	MAKE YOUR SPRINKLER CHOICE FROM CHART 1	CHOOSE NOZZLE SIZE(S) FROM CHART 2	ADD THEM TOGETHER TO CREATE THE PART NUMBER
To order a 14DH sprinkler with a 5/64" Brass Straight Bore Nozzle the part number would be:	<b>A01813-</b>	<b>+</b> <b>05</b>	<b>=</b> <b>A01813-05</b>

Chart 1	PART NUMBER: FIRST HALF
<b>SPRINKLER ONLY</b>	
Sprinkler without Nozzle	<b>A01811</b>
<b>SPRINKLER WITH SINGLE NOZZLE INSTALLED</b>	
Sprinkler with <b>SBN-1</b>	<b>A01813-</b>
Sprinkler with <b>OAN-1-15</b>	<b>A01814-</b>

Chart 2	PART NUMBER: SECOND HALF		
NOZZLE	5/64"	3/32"	7/64"
Brass Straight Bore Nozzle (105780-) SBN-1	<b>05</b>	<b>06</b>	<b>07</b>
Brass 15° Off Axis Nozzle (103513-) OAN-1-15	<b>05</b>	<b>06</b>	<b>07</b>





## SLL20VH

### 1/2" Full Circle, Stainless Steel Impact Sprinkler

Bearing: 1/2" Male NPT, Plastic  
 Trajectory Angle: 7°  
 Operating Range: 25-50 psi  
 Flow Rate: .88-2.45 GPM  
 Radius: 19-29 ft.

#### FEATURES

- Strong Drive Arm
- Teflon™ wear washer
- One piece, tubular stainless steel body
- Stainless steel arm
- Hooded spring
- Durable plastic, quick-fit nozzles
- Two-year warranty

#### BENEFITS

- Runs on smaller nozzle sizes
- Smooth rotation at lower pressures
- Minimal internal turbulence
- Greater distance of throw
- Superior corrosion resistance
- Great protection from the elements
- Quick and easy nozzle changes

## PERFORMANCE DATA

**SLL20VH**

### Straight Bore Nozzle (SBN-1)

(Stream Height: 2 ft.)

PSI @ Nozzle	NOZZLE SIZE							
	5/64"		44 DRILL		3/32"		7/64"	
	Rad.	GPM	Rad.	GPM	Rad.	GPM	Rad.	GPM
25	23	0.88	23	1.07	23	1.27	24	1.73
30	24	0.97	24	1.17	24	1.39	25	1.90
35	25	1.05	25	1.27	25	1.50	26	2.05
40	25	1.12	25	1.36	26	1.61	27	2.19
45	26	1.19	26	1.44	27	1.71	28	2.32
50	27	1.25	27	1.51	28	1.80	29	2.45

### Low Pressure Nozzle (LPN-1)

(Stream Height: 2 ft.)

PSI @ Nozzle	NOZZLE SIZE							
	5/64"		44 DRILL		3/32"		7/64"	
	Rad.	GPM	Rad.	GPM	Rad.	GPM	Rad.	GPM
25	22	0.88	22	1.07	23	1.27	24	1.73
30	23	0.97	23	1.17	24	1.39	25	1.90
35	24	1.05	24	1.27	25	1.50	26	2.05
40	25	1.12	25	1.36	26	1.61	27	2.19
45	25	1.19	26	1.44	26	1.71	27	2.32
50	26	1.25	26	1.51	27	1.80	28	2.45

### Spacing Master Nozzle (SMN-1)

(Stream Height: 2 ft.)

PSI @ Nozzle	NOZZLE SIZE							
	5/64"		44 DRILL		3/32"		7/64"	
	Rad.	GPM	Rad.	GPM	Rad.	GPM	Rad.	GPM
25	19	0.88	19	1.07	19	1.27	20	1.73
30	19	0.97	20	1.17	20	1.39	21	1.90
35	20	1.05	21	1.27	21	1.50	22	2.05
40	21	1.12	22	1.36	22	1.61	23	2.19
45	21	1.19	22	1.44	22	1.71	24	2.32
50	22	1.25	23	1.51	23	1.80	24	2.45

Chart data for SMN-1 shown on 12" riser.

## PART NUMBERS AND ORDERING INFORMATION

### Nozzle Ordering Example

To order a 5/64" Plastic Straight Bore Nozzle the part number would be:

MAKE YOUR NOZZLE CHOICE	CHOOSE YOUR NOZZLE SIZE	ADD THEM TOGETHER TO CREATE THE NOZZLE PART NUMBER
108831- +	05 =	108831-05

### Sprinkler Only

SPRINKLER	
SLL20VH	A03500

**For model SLL20VH, sprinkler and nozzle must be ordered separately.**

### Nozzle Only

NOZZLE		5/64"	44 DRILL	3/32"	7/64"
Plastic Straight Bore Nozzle (108831-)	SBN-1	05	44	06	07
Plastic Low Pressure Nozzle (109248-)	LPN-1	05	44	06	07
Plastic Spacing Master Pressure Nozzle (108800-)	SMN-1	05	44	06	07



## PERFORMANCE DATA

**SLL20H**

### SLL20H

#### 1/2" Full Circle, Stainless Steel Impact Sprinkler

Bearing: 1/2" Male NPT, Plastic

Trajectory Angle: 7°

Operating Range: 25-60 psi

Flow Rate: 1.73-4.43 GPM

Radius: 21-33 ft.

#### FEATURES

- Spoon Drive Arm
- One piece, tubular stainless steel body
- Stainless steel arm
- Hooded spring
- Durable plastic, quick-fit nozzles
- Two-year warranty

#### BENEFITS

- Runs on larger nozzle sizes
- Minimal internal turbulence
- Greater distance of throw
- Superior corrosion resistance
- Great protection from the elements
- Quick and easy nozzle changes

#### Straight Bore Nozzle (SBN-1)

(Stream Height: 2 ft.)

PSI @ Nozzle	NOZZLE SIZE					
	7/64"		1/8"		9/64"	
	Rad.	GPM	Rad.	GPM	Rad.	GPM
25	25	1.73	26	2.26	27	2.86
30	26	1.90	27	2.48	28	3.14
35	27	2.05	28	2.68	29	3.39
40	28	2.19	29	2.86	30	3.62
45	28	2.32	29	3.03	30	3.84
50	30	2.45	30	3.20	31	4.05
55	30	2.57	31	3.35	32	4.24
60	31	2.68	32	3.50	33	4.43

#### Low Pressure Nozzle (LPN-1)

(Stream Height: 2 ft.)

PSI @ Nozzle	NOZZLE SIZE					
	7/64"		1/8"		9/64"	
	Rad.	GPM	Rad.	GPM	Rad.	GPM
25	25	1.73	25	2.26	26	2.86
30	26	1.90	26	2.48	27	3.14
35	27	2.05	27	2.68	28	3.39
40	28	2.19	28	2.86	29	3.62
45	28	2.32	29	3.03	30	3.84
50	29	2.45	30	3.20	31	4.05
55	30	2.57	31	3.35	32	4.24
60	31	2.68	32	3.50	32	4.43

#### Spacing Master Nozzle (SMN-1)

(Stream Height: 2 ft.)

PSI @ Nozzle	NOZZLE SIZE	
	7/64"	
	Rad.	GPM
25	21	1.73
30	22	1.90
35	23	2.05
40	23	2.19
45	24	2.32
50	25	2.45
55	26	2.57
60	27	2.68

Chart data for SMN-1 shown on 12" riser.

## PART NUMBERS AND ORDERING INFORMATION

Nozzle Ordering Example	MAKE YOUR NOZZLE CHOICE	CHOOSE YOUR NOZZLE SIZE	ADD THEM TOGETHER TO CREATE THE NOZZLE PART NUMBER
To order a 7/64" Plastic Straight Bore Nozzle the part number would be:	<b>108831-</b>	<b>+</b> <b>07</b>	<b>= 108831-07</b>

Sprinkler Only	
SPRINKLER	
<b>SLL20H</b>	<b>A03200</b>

**For model SLL20H, sprinkler and nozzle must be ordered separately.**

Nozzle Only				
NOZZLE		7/64"	1/8"	9/64"
Plastic Straight Bore Nozzle (108831-)	SBN-1	<b>07</b>	<b>08</b>	<b>09</b>
Plastic Low Pressure Nozzle (109248-)	LPN-1	<b>07</b>	<b>08</b>	<b>09</b>
Plastic Spacing Master Pressure Nozzle (108800-)	SMN-1	<b>07</b>	<b>-</b>	<b>-</b>



## PERFORMANCE DATA

SL20VH

### SL20VH

**1/2" Full Circle, Stainless Steel Impact Sprinkler**

Bearing: 1/2" Male NPT, Plastic  
Trajectory Angle: 12°  
Operating Range: 25-50 psi  
Flow Rate: .88-2.45 GPM  
Radius: 20-32 ft.

#### FEATURES

- Strong Drive Arm
- Teflon™ wear washer
- One piece, tubular stainless steel body
- Stainless steel arm
- Hooded spring
- Durable plastic, quick-fit nozzles
- Two-year warranty

#### BENEFITS

- Runs on smaller nozzle sizes
- Smooth rotation at lower pressures
- Minimal internal turbulence
- Greater distance of throw
- Superior corrosion resistance
- Great protection from the elements
- Quick and easy nozzle changes

#### Brass Straight Bore Nozzle (SBN-1)

(Stream Height: 3 ft.)

PSI @ Nozzle	NOZZLE SIZE							
	5/64"		44 DRILL		3/32"		7/64"	
	Rad.	GPM	Rad.	GPM	Rad.	GPM	Rad.	GPM
25	25	0.88	26	1.07	26	1.27	27	1.73
30	26	0.97	27	1.17	27	1.39	28	1.90
35	27	1.05	28	1.27	28	1.50	29	2.05
40	28	1.12	29	1.36	29	1.61	30	2.19
45	29	1.19	30	1.44	30	1.71	31	2.32
50	30	1.25	30	1.51	31	1.80	32	2.45

#### Low Pressure Nozzle (LPN-1)

(Stream Height: 3 ft.)

PSI @ Nozzle	NOZZLE SIZE							
	5/64"		44 DRILL		3/32"		7/64"	
	Rad.	GPM	Rad.	GPM	Rad.	GPM	Rad.	GPM
25	25	0.88	25	1.07	26	1.27	27	1.73
30	26	0.97	26	1.17	27	1.39	28	1.90
35	27	1.05	27	1.27	28	1.50	29	2.05
40	28	1.12	28	1.36	29	1.61	30	2.19
45	29	1.19	29	1.44	30	1.71	31	2.32
50	29	1.25	30	1.51	30	1.80	31	2.45

#### Spacing Master Nozzle (SMN-1)

(Stream Height: 3 ft.)

PSI @ Nozzle	NOZZLE SIZE							
	5/64"		44 DRILL		3/32"		7/64"	
	Rad.	GPM	Rad.	GPM	Rad.	GPM	Rad.	GPM
25	20	0.88	21	1.07	21	1.27	22	1.73
30	21	0.97	21	1.17	22	1.39	23	1.90
35	21	1.05	22	1.27	22	1.50	24	2.05
40	22	1.12	23	1.36	23	1.61	25	2.19
45	23	1.19	26	1.44	24	1.71	26	2.32
50	23	1.25	24	1.51	24	1.80	26	2.45

Chart data for SMN-1 shown on 12" riser.

## PART NUMBERS AND ORDERING INFORMATION

Nozzle Ordering Example	MAKE YOUR NOZZLE CHOICE	CHOOSE YOUR NOZZLE SIZE	ADD THEM TOGETHER TO CREATE THE NOZZLE PART NUMBER
To order a 5/64" Plastic Straight Bore Nozzle the part number would be:	108831-	+	05 = 108831-05

Sprinkler Only	
SPRINKLER	
SL20VH	A03400

**For model SL20VH, sprinkler and nozzle must be ordered separately.**

Nozzle Only						
NOZZLE		5/64"	44 DRILL	3/32"	7/64"	
Plastic Straight Bore Nozzle (108831-)	SBN-1	05	44	06	07	
Plastic Low Pressure Nozzle (109248-)	LPN-1	05	44	06	07	
Plastic Spacing Master Pressure Nozzle (108800-)	SMN-1	05	44	06	07	





## PERFORMANCE DATA

**SL20H**

### SL20H

#### 1/2" Full Circle, Stainless Steel Impact Sprinkler

Bearing: 1/2" Male NPT, Plastic

Trajectory Angle: 12°

Operating Range: 25-60 psi

Flow Rate: 1.73-4.43 GPM

Radius: 23-37 ft.

#### FEATURES

- Spoon Drive Arm
- One piece, tubular stainless steel body
- Stainless steel arm
- Hooded spring
- Durable plastic, quick-fit nozzles
- Two-year warranty

#### BENEFITS

- Runs on larger nozzle sizes
- Minimal internal turbulence
- Greater distance of throw
- Superior corrosion resistance
- Great protection from the elements
- Quick and easy nozzle changes

#### Straight Bore Nozzle (SBN-1)

(Stream Height: 3 ft.)

PSI @ Nozzle	NOZZLE SIZE					
	7/64"		1/8"		9/64"	
	Rad.	GPM	Rad.	GPM	Rad.	GPM
25	29	1.73	30	2.26	31	2.86
30	30	1.90	31	2.48	32	3.14
35	31	2.05	32	2.68	33	3.39
40	32	2.19	33	2.86	34	3.62
45	33	2.32	34	3.03	35	3.84
50	34	2.45	35	3.20	36	4.05
55	34	2.57	35	3.35	36	4.24
60	35	2.68	36	3.50	37	4.43

#### Low Pressure Nozzle (LPN-1)

(Stream Height: 3 ft.)

PSI @ Nozzle	NOZZLE SIZE					
	7/64"		1/8"		9/64"	
	Rad.	GPM	Rad.	GPM	Rad.	GPM
25	27	1.73	28	2.26	29	2.86
30	29	1.90	30	2.48	31	3.14
35	30	2.05	31	2.68	32	3.39
40	31	2.19	32	2.86	33	3.62
45	32	2.32	33	3.03	34	3.84
50	33	2.45	34	3.20	35	4.05
55	33	2.57	34	3.35	35	4.24
60	34	2.68	35	3.50	36	4.43

#### Spacing Master Nozzle (SMN-1)

(Stream Height: 3 ft.)

PSI @ Nozzle	NOZZLE SIZE	
	7/64"	
	Rad.	GPM
25	23	1.73
30	24	1.90
35	25	2.05
40	26	2.19
45	27	2.32
50	28	2.45
55	29	2.57
60	29	2.68

Chart data for SMN-1 shown on 12" riser.

## PART NUMBERS AND ORDERING INFORMATION

Nozzle Ordering Example	MAKE YOUR NOZZLE CHOICE	CHOOSE YOUR NOZZLE SIZE	ADD THEM TOGETHER TO CREATE THE NOZZLE PART NUMBER
To order a 7/64" Plastic Straight Bore Nozzle the part number would be:	<b>108831-</b>	<b>+</b> <b>07</b>	<b>= 108831-07</b>

Sprinkler Only	
SPRINKLER	
<b>SL20H</b>	<b>A03100</b>

**For model SL20H, sprinkler and nozzle must be ordered separately.**

Nozzle Only				
NOZZLE		7/64"	1/8"	9/64"
Plastic Straight Bore Nozzle (108831-)	SBN-1	<b>07</b>	<b>08</b>	<b>09</b>
Plastic Low Pressure Nozzle (109248-)	LPN-1	<b>07</b>	<b>08</b>	<b>09</b>
Plastic Spacing Master Pressure Nozzle (108800-)	SMN-1	<b>07</b>	<b>-</b>	<b>-</b>



## PERFORMANCE DATA

**SM20VH**

### SM20VH

#### 1/2" Full Circle, Stainless Steel Impact Sprinkler

**Bearing:** 1/2" Male NPT, Plastic  
**Trajectory Angle:** 17°  
**Operating Range:** 25-50 psi  
**Flow Rate:** .88-2.45 GPM  
**Radius:** 22-37 ft.

#### FEATURES

- Strong Drive Arm
- Special 50 Drill Nozzle available (Please specify A03350)
- Teflon™ wear washer for smooth rotation at lower pressures
- One piece, tubular stainless steel body
- Stainless steel arm
- Hooded spring
- Durable plastic, quick-fit nozzles
- Two-year warranty

#### BENEFITS

- Runs on smaller nozzle sizes
- Smooth rotation at lower pressures
- Minimal internal turbulence
- Greater distance of throw
- Superior corrosion resistance
- Great protection from the elements
- Quick and easy nozzle changes

#### Straight Bore Nozzle (SBN-1)

(Stream Height: 3.5 ft.)

PSI @ Nozzle	NOZZLE SIZE							
	5/64"		44 DRILL		3/32"		7/64"	
	Rad.	GPM	Rad.	GPM	Rad.	GPM	Rad.	GPM
25	31	0.88	31	1.07	32	1.27	33	1.73
30	32	0.97	32	1.17	32	1.39	34	1.90
35	33	1.05	33	1.27	33	1.50	34	2.05
40	33	1.12	34	1.36	34	1.61	35	2.19
45	34	1.19	34	1.44	35	1.71	36	2.32
50	35	1.25	35	1.51	36	1.80	37	2.45

#### Low Pressure Nozzle (LPN-1)

(Stream Height: 3.5 ft.)

PSI @ Nozzle	NOZZLE SIZE							
	5/64"		44 DRILL		3/32"		7/64"	
	Rad.	GPM	Rad.	GPM	Rad.	GPM	Rad.	GPM
25	30	0.88	30	1.07	31	1.27	32	1.73
30	31	0.97	31	1.17	32	1.39	33	1.90
35	32	1.05	32	1.27	33	1.50	34	2.05
40	33	1.12	33	1.36	34	1.61	35	2.19
45	33	1.19	34	1.44	34	1.71	35	2.32
50	34	1.25	34	1.51	35	1.80	36	2.45

#### Spacing Master Nozzle (SMN-1)

(Stream Height: 3.5 ft.)

PSI @ Nozzle	NOZZLE SIZE							
	5/64"		44 DRILL		3/32"		7/64"	
	Rad.	GPM	Rad.	GPM	Rad.	GPM	Rad.	GPM
25	22	0.88	22	1.07	23	1.27	24	1.73
30	23	0.97	23	1.17	24	1.39	25	1.90
35	24	1.05	24	1.27	25	1.50	26	2.05
40	25	1.12	25	1.36	25	1.61	27	2.19
45	25	1.19	26	1.44	26	1.71	28	2.32
50	26	1.25	27	1.51	27	1.80	29	2.45

Chart data for SMN-1 shown on 12" riser.

## PART NUMBERS AND ORDERING INFORMATION

Nozzle Ordering Example	MAKE YOUR NOZZLE CHOICE	CHOOSE YOUR NOZZLE SIZE	ADD THEM TOGETHER TO CREATE THE NOZZLE PART NUMBER
To order a 5/64" Plastic Straight Bore Nozzle the part number would be:	<b>108831-</b>	<b>+</b> <b>05</b>	<b>= 108831-05</b>

Sprinkler Only	
SPRINKLER	
<b>SM20VH</b> For use with SBN-1, LPN-1, SMN-1 only	<b>A03300</b>
Sprinkler Only	
SPRINKLER	
<b>SM20VH</b> For use with LPN-50 only	<b>A03350</b>

Nozzle Only						
NOZZLE		50 DRILL	5/64"	44 DRILL	3/32"	7/64"
Plastic Straight Bore Nozzle (108831-)	SBN-1	—	<b>05</b>	<b>44</b>	<b>06</b>	<b>07</b>
Plastic Low Pressure Nozzle (109248-)	LPN-1	—	<b>05</b>	<b>44</b>	<b>06</b>	<b>07</b>
Plastic Low Pressure Nozzle (109248-50)	LPN-50	<b>50</b>	(use with A03350 only)			
Plastic Spacing Master Pressure Nozzle (108800-)	SMN-1	—	<b>05</b>	<b>44</b>	<b>06</b>	<b>07</b>

**For model SM20VH, sprinkler and nozzle must be ordered separately.**



## PERFORMANCE DATA

**SM20H**

### SM20H

#### 1/2" Full Circle, Stainless Steel Impact Sprinkler

Bearing: 1/2" Male NPT, Plastic  
 Trajectory Angle: 17°  
 Operating Range: 25-60 psi  
 Flow Rate: 1.73-4.43 GPM  
 Radius: 26-42 ft.

#### FEATURES

- Spoon Drive Arm
- One piece, tubular stainless steel body
- Stainless steel arm
- Hooded spring
- Durable plastic, quick-fit nozzles
- Two-year warranty

#### BENEFITS

- Runs on larger nozzle sizes
- Minimal internal turbulence
- Greater distance of throw
- Superior corrosion resistance
- Great protection from the elements
- Quick and easy nozzle changes

#### Straight Bore Nozzle (SBN-1)

(Stream Height: 3.5 ft.)

PSI @ Nozzle	NOZZLE SIZE					
	7/64"		1/8"		9/64"	
	Rad.	GPM	Rad.	GPM	Rad.	GPM
25	33	1.73	34	2.26	35	2.86
30	34	1.90	35	2.48	36	3.14
35	35	2.05	36	2.68	37	3.39
40	36	2.19	37	2.86	38	3.62
45	37	2.32	38	3.03	39	3.84
50	38	2.45	38	3.20	40	4.05
55	39	2.57	39	3.35	41	4.24
60	40	2.68	41	3.50	42	4.43

#### Low Pressure Nozzle (LPN-1)

(Stream Height: 3.5 ft.)

PSI @ Nozzle	NOZZLE SIZE					
	7/64"		1/8"		9/64"	
	Rad.	GPM	Rad.	GPM	Rad.	GPM
25	32	1.73	33	2.26	34	2.86
30	33	1.90	34	2.48	35	3.14
35	34	2.05	35	2.68	36	3.39
40	35	2.19	36	2.86	37	3.62
45	36	2.32	37	3.03	38	3.84
50	37	2.45	38	3.20	39	4.05
55	38	2.57	39	3.35	40	4.24
60	38	2.68	39	3.50	40	4.43

#### Spacing Master Nozzle (SMN-1)

(Stream Height: 3.5 ft.)

PSI @ Nozzle	NOZZLE SIZE	
	7/64"	
	Rad.	GPM
25	26	1.73
30	27	1.90
35	28	2.05
40	29	2.19
45	29	2.32
50	30	2.45
55	31	2.57
60	32	2.68

Chart data for SMN-1 shown on 12" riser.

## PART NUMBERS AND ORDERING INFORMATION

Nozzle Ordering Example	MAKE YOUR NOZZLE CHOICE	CHOOSE YOUR NOZZLE SIZE	ADD THEM TOGETHER TO CREATE THE NOZZLE PART NUMBER
To order a 7/64" Plastic Straight Bore Nozzle the part number would be:	<b>108831-</b>	<b>+</b> <b>07</b>	<b>= 108831-07</b>

Sprinkler Only	
SPRINKLER	
<b>SM20H</b>	<b>A03000</b>

**For model SM20H, sprinkler and nozzle must be ordered separately.**

Nozzle Only				
NOZZLE		7/64"	1/8"	9/64"
Plastic Straight Bore Nozzle (108831-)	SBN-1	<b>07</b>	<b>08</b>	<b>09</b>
Plastic Low Pressure Nozzle (109248-)	LPN-1	<b>07</b>	<b>08</b>	<b>09</b>
Plastic Spacing Master Pressure Nozzle (108800-)	SMN-1	<b>07</b>	<b>-</b>	<b>-</b>





## PERFORMANCE DATA

**S20VH**

### S20VH

#### 1/2" Full Circle, Stainless Steel Impact Sprinkler

Bearing: 1/2" Male NPT, Plastic  
Trajectory Angle: 23°

Operating Range: 25-50 psi

Flow Rate: .88-2.45 GPM

Radius: 24-38 ft.

#### FEATURES

- Strong Drive Arm
- Teflon™ wear washer
- One piece, tubular stainless steel body
- Stainless steel arm
- Hooded spring
- Durable plastic, quick-fit nozzles
- Two-year warranty

#### BENEFITS

- Runs on smaller nozzle sizes
- Smooth rotation at lower pressures
- Minimal internal turbulence
- Greater distance of throw
- Superior corrosion resistance
- Great protection from the elements
- Quick and easy nozzle changes

#### Straight Bore Nozzle (SBN-1)

(Stream Height: 6 ft.)

PSI @ Nozzle	NOZZLE SIZE							
	5/64"		44 DRILL		3/32"		7/64"	
	Rad.	GPM	Rad.	GPM	Rad.	GPM	Rad.	GPM
25	31	0.88	32	1.07	32	1.27	33	1.73
30	33	0.97	34	1.17	34	1.39	35	1.90
35	34	1.05	34	1.27	35	1.50	36	2.05
40	35	1.12	35	1.36	36	1.61	37	2.19
45	35	1.19	36	1.44	36	1.71	37	2.32
50	36	1.25	36	1.51	37	1.80	38	2.45

#### Low Pressure Nozzle (LPN-1)

(Stream Height: 6 ft.)

PSI @ Nozzle	NOZZLE SIZE							
	5/64"		44 DRILL		3/32"		7/64"	
	Rad.	GPM	Rad.	GPM	Rad.	GPM	Rad.	GPM
25	31	0.88	31	1.07	32	1.27	33	1.73
30	32	0.97	33	1.17	33	1.39	34	1.90
35	33	1.05	34	1.27	34	1.50	35	2.05
40	34	1.12	35	1.36	35	1.61	36	2.19
45	35	1.19	35	1.44	36	1.71	37	2.32
50	35	1.25	36	1.51	36	1.80	37	2.45

#### Spacing Master Nozzle (SMN-1)

(Stream Height: 6 ft.)

PSI @ Nozzle	NOZZLE SIZE							
	5/64"		44 DRILL		3/32"		7/64"	
	Rad.	GPM	Rad.	GPM	Rad.	GPM	Rad.	GPM
25	24	0.88	24	1.07	25	1.27	26	1.73
30	25	0.97	25	1.17	26	1.39	27	1.90
35	26	1.05	26	1.27	27	1.50	28	2.05
40	27	1.12	27	1.36	28	1.61	29	2.19
45	27	1.19	28	1.44	28	1.71	29	2.32
50	28	1.25	27	1.51	29	1.80	30	2.45

Chart data for SMN-1 shown on 12" riser.

## PART NUMBERS AND ORDERING INFORMATION

Nozzle Ordering Example	MAKE YOUR NOZZLE CHOICE	CHOOSE YOUR NOZZLE SIZE	ADD THEM TOGETHER TO CREATE THE NOZZLE PART NUMBER
To order a 5/64" Plastic Straight Bore Nozzle the part number would be:	<b>108831-</b>	<b>+</b> <b>05</b>	<b>= 108831-05</b>

Sprinkler Only	
SPRINKLER	
<b>S20VH</b>	<b>A00700</b>

**For model S20VH, sprinkler and nozzle must be ordered separately.**

Nozzle Only						
NOZZLE		5/64"	44 DRILL	3/32"	7/64"	
Plastic Straight Bore Nozzle (108831-)	SBN-1	<b>05</b>	<b>44</b>	<b>06</b>	<b>07</b>	
Plastic Low Pressure Nozzle (109248-)	LPN-1	<b>05</b>	<b>44</b>	<b>06</b>	<b>07</b>	
Plastic Spacing Master Pressure Nozzle (108800-)	SMN-1	<b>05</b>	<b>44</b>	<b>06</b>	<b>07</b>	



## PERFORMANCE DATA

**S20H**

### S20H

#### 1/2" Full Circle, Stainless Steel Impact Sprinkler

Bearing: 1/2" Male NPT, Plastic  
 Trajectory Angle: 23°  
 Operating Range: 25-60 psi  
 Flow Rate: 1.73-4.43 GPM  
 Radius: 29-43 ft.

#### FEATURES

- Spoon Drive Arm
- One piece, tubular stainless steel body
- Stainless steel arm
- Hooded spring
- Durable plastic, quick-fit nozzles
- Two-year warranty

#### BENEFITS

- Runs on larger nozzle sizes
- Minimal internal turbulence
- Greater distance of throw
- Superior corrosion resistance
- Great protection from the elements
- Quick and easy nozzle changes

#### Straight Bore Nozzle (SBN-1)

(Stream Height: 6 ft.)

PSI @ Nozzle	NOZZLE SIZE					
	7/64"		1/8"		9/64"	
	Rad.	GPM	Rad.	GPM	Rad.	GPM
25	35	1.73	36	2.26	37	2.86
30	36	1.90	37	2.48	38	3.14
35	37	2.05	38	2.68	39	3.39
40	38	2.19	39	2.86	40	3.62
45	39	2.32	40	3.03	41	3.84
50	40	2.45	41	3.20	42	4.05
55	40	2.57	41	3.35	42	4.24
60	41	2.68	42	3.50	43	4.43

#### Low Pressure Nozzle (LPN-1)

(Stream Height: 6 ft.)

PSI @ Nozzle	NOZZLE SIZE					
	7/64"		1/8"		9/64"	
	Rad.	GPM	Rad.	GPM	Rad.	GPM
25	33	1.73	34	2.26	35	2.86
30	35	1.90	36	2.48	37	3.14
35	36	2.05	37	2.68	38	3.39
40	37	2.19	38	2.86	39	3.62
45	38	2.32	39	3.03	40	3.84
50	39	2.45	40	3.20	41	4.05
55	40	2.57	41	3.35	42	4.24
60	40	2.68	41	3.50	42	4.43

#### Spacing Master Nozzle (SMN-1)

(Stream Height: 6 ft.)

PSI @ Nozzle	NOZZLE SIZE	
	7/64"	
	Rad.	GPM
25	29	1.73
30	30	1.90
35	31	2.05
40	31	2.19
45	32	2.32
50	33	2.45
55	34	2.57
60	35	2.68

Chart data for SMN-1 shown on 12" riser.

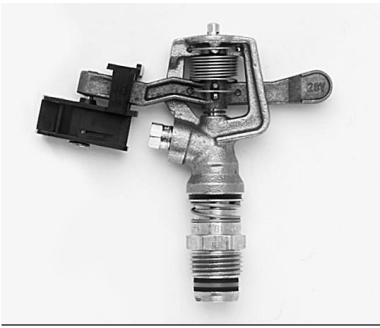
## PART NUMBERS AND ORDERING INFORMATION

Nozzle Ordering Example	MAKE YOUR NOZZLE CHOICE	CHOOSE YOUR NOZZLE SIZE	ADD THEM TOGETHER TO CREATE THE NOZZLE PART NUMBER
To order a 7/64" Plastic Straight Bore Nozzle the part number would be:	<b>108831-</b>	<b>+</b> <b>07</b>	<b>= 108831-07</b>

Sprinkler Only	
SPRINKLER	
<b>S20H</b>	<b>A02900</b>

**For model S20H, sprinkler and nozzle must be ordered separately.**

Nozzle Only				
NOZZLE		7/64"	1/8"	9/64"
Plastic Straight Bore Nozzle (108831-)	SBN-1	<b>07</b>	<b>08</b>	<b>09</b>
Plastic Low Pressure Nozzle (109248-)	LPN-1	<b>07</b>	<b>08</b>	<b>09</b>
Plastic Spacing Master Pressure Nozzle (108800-)	SMN-1	<b>07</b>	<b>-</b>	<b>-</b>



## L20VH

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

Bearing: 1/2" Male NPT, Brass  
 Trajectory Angle: 10°  
 Operating Range: 25-80 psi  
 Flow Rate: .56-2.98 GPM  
 Radius: 22-32 ft.

#### FEATURES

- Patented, self-flushing wedge drive
- Durable brass die-cast arm
- Stainless steel springs and fulcrum pin
- Chemically resistant washers
- Two-year warranty

#### BENEFITS

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

## PERFORMANCE DATA

L20VH

### Straight Bore Nozzle (SBN-1)

(Stream Height: 2.5 ft.)

PSI @ Nozzle	NOZZLE SIZE									
	1/16"		5/64"		44 DRILL		3/32"		7/64"	
	Rad.	GPM	Rad.	GPM	Rad.	GPM	Rad.	GPM	Rad.	GPM
25	23	0.56	25	0.88	26	1.07	26	1.27	27	1.73
30	24	0.62	26	0.97	27	1.17	27	1.39	28	1.90
35	25	0.66	27	1.05	28	1.27	28	1.50	29	2.05
40	25	0.72	27	1.12	28	1.36	29	1.61	30	2.19
45	26	0.75	28	1.19	29	1.44	30	1.71	31	2.32
50	27	0.80	29	1.25	30	1.51	31	1.80	32	2.45

### Off Axis Low Pressure Nozzle (LP-1-3) Down

(Stream Height: 2 ft.)

PSI @ Nozzle	NOZZLE SIZE					
	5/64"		3/32"		7/64"	
	Rad.	GPM	Rad.	GPM	Rad.	GPM
25	22	0.90	23	1.32	24	1.81
30	23	0.98	24	1.45	25	1.98
35	24	1.06	25	1.57	26	2.14
40	24	1.13	26	1.67	27	2.28
45	25	1.20	27	1.78	27	2.42
50	26	1.27	27	1.87	28	2.55

### Low Pressure Nozzle (LPN-1)

(Stream Height: 2.5 ft.)

PSI @ Nozzle	NOZZLE SIZE											
	50 DRILL		5/64"		44 DRILL		3/32"		7/64"		1/8"	
	Rad.	GPM	Rad.	GPM	Rad.	GPM	Rad.	GPM	Rad.	GPM	Rad.	GPM
25	23	0.71	24	0.90	25	1.11	25	1.32	26	1.81	26	2.36
30	24	0.77	25	0.98	26	1.21	26	1.45	27	1.98	28	2.58
35	24	0.84	26	1.06	27	1.31	27	1.57	28	2.14	29	2.79
40	25	0.90	27	1.13	28	1.41	27	1.67	29	2.28	29	2.98
45	26	0.95	27	1.20	28	1.49	28	1.78	30	2.42	-	-
50	26	1.00	28	1.27	29	1.56	30	1.87	30	2.55	-	-

### Rain Flow Nozzle (RFN-1)

BASE PRESSURE PSI	RADIUS			
	1.0 GPM	1.5 GPM	2.0 GPM	2.5 GPM
30	26	27	28	-
40	27	29	29	-
50	27	30	31	31
60	28	30	31	32
70	-	31	32	32
80	-	31	32	32

## PART NUMBERS AND ORDERING INFORMATION

### Ordering Example

To order an L20VH sprinkler with an RFN-1 1.5 GPM Rain Flow Nozzle the part number would be:

MAKE YOUR SPRINKLER CHOICE FROM CHART 1

CHOOSE NOZZLE SIZE(S) FROM CHART 2

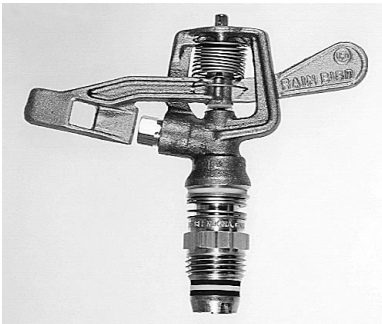
ADD THEM TOGETHER TO CREATE THE PART NUMBER

**A06243- + 01-50 = A06243-01-50**

Chart 1	PART NUMBER: FIRST HALF
<b>SPRINKLER ONLY</b>	
Sprinkler without Nozzle	<b>A06240</b>
<b>SPRINKLER WITH SINGLE NOZZLE INSTALLED</b>	
Sprinkler with <b>SBN-1</b>	<b>A06241-</b>
Sprinkler with <b>LPN-1</b>	<b>A06242-</b>
Sprinkler with <b>RFN-1</b>	<b>A06243-</b>
Sprinkler with <b>LP-1-3 (Down)</b>	<b>A06244-</b>
Sprinkler with <b>OAN-1-3 (Down)</b>	<b>A06245-</b>
Sprinkler with <b>LP-1-3 (Up)</b>	<b>A06246-</b>
Sprinkler with <b>PQFN-1</b>	<b>A06247-</b>

Chart 2	PART NUMBER: SECOND HALF							
NOZZLE	1/16"	50 DRILL	5/64"	44 DRILL	3/32"	7/64"	1/8"	
Brass Straight Bore Nozzle (105780-) SBN-1	<b>04</b>	<b>50</b>	<b>05</b>	<b>44</b>	<b>06</b>	<b>07</b>	-	
Brass Low Pressure Nozzle (104571-) LPN-1	-	<b>50</b>	<b>05</b>	<b>44</b>	<b>06</b>	<b>07</b>	<b>08</b>	
Brass 3" Off Axis Low Pressure Nozzle (104572-) LP-1-3	-	-	<b>05</b>	-	<b>06</b>	<b>07</b>	-	
Brass 3" Off Axis Nozzle (106171-) OAN-1-3	<b>04</b>	<b>50</b>	<b>05</b>	<b>44</b>	<b>06</b>	<b>07</b>	-	
Plastic Straight Bore Quick-Fit Nozzle (117324-) PQFN-1	<b>04</b>	<b>50</b>	<b>05</b>	-	<b>06</b>	<b>07</b>	-	
<b>RAIN FLOW NOZZLE</b>	<b>1.0 GPM</b>		<b>1.5 GPM</b>		<b>2.0 GPM</b>		<b>2.5 GPM</b>	
Brass Rain Flow Nozzle (111088-) RFN-1	<b>01-00</b>		<b>01-50</b>		<b>02-00</b>		<b>02-50</b>	

Bold nozzle size numbers denote the most common nozzle choices.



## PERFORMANCE DATA

**L20H**

### L20H

**1/2" Full Circle, Brass Impact Sprinkler**

Bearing: 1/2" Male NPT, Brass  
Trajectory Angle: 10°  
Operating Range: 25-80 psi  
Flow Rate: 1.73-4.05 GPM  
Radius: 24-35 ft.

#### FEATURES

- Durable brass die-cast arm
- Stainless steel springs and fulcrum pin
- Chemically resistant washers
- Two-year warranty

#### BENEFITS

- Spoon drive arm runs on larger nozzles and higher pressures
- Corrosion and grit resistant
- Built to last

**Straight Bore Nozzle (SBN-1)** (Stream Height: 2.5 ft.)

PSI @ Nozzle	NOZZLE SIZE					
	7/64"		1/8"		9/64"	
	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

**Low Pressure Nozzle (LPN-1-3) Up** (Stream Height: 3 ft.)

PSI @ Nozzle	NOZZLE SIZE			
	7/64"		1/8"	
	Rad.	GPM	Rad.	GPM
25	28	1.81	28	2.36
30	29	1.98	30	2.58
35	30	2.14	31	2.79
40	31	2.28	32	2.98
45	32	2.42	32	3.17
50	32	2.55	33	3.34

**Low Pressure Nozzle (LPN-1-3) Down** (Stream Height: 2 ft.)

PSI @ Nozzle	NOZZLE SIZE			
	7/64"		1/8"	
	Rad.	GPM	Rad.	GPM
25	24	1.81	24	2.36
30	25	1.98	25	2.58
35	26	2.14	26	2.79
40	27	2.28	27	2.98
45	28	2.42	28	3.17
50	28	2.55	29	3.34

**Rain Flow Nozzle (RFN-1)**

BASE PRESSURE PSI	RADIUS	
	2.0 GPM	2.5 GPM
30	28	29
40	29	31
50	-	31
60	-	32
70	-	32
80	-	32

## PART NUMBERS AND ORDERING INFORMATION

Ordering Example	MAKE YOUR SPRINKLER CHOICE FROM CHART 1	CHOOSE NOZZLE SIZE(S) FROM CHART 2	ADD THEM TOGETHER TO CREATE THE PART NUMBER
To order an L20H sprinkler with a 7/64" Brass Straight Bore Nozzle the part number would be:	<b>A06016-</b>	<b>07</b>	<b>= A06016-07</b>

Chart 1	PART NUMBER: FIRST HALF
<b>SPRINKLER ONLY</b>	
Sprinkler without Nozzle	<b>A06015</b>
<b>SPRINKLER WITH SINGLE NOZZLE INSTALLED</b>	
Sprinkler with <b>SBN-1</b>	<b>A06016-</b>
Sprinkler with <b>LPN-1</b>	<b>A06017-</b>
Sprinkler with <b>RFN-1</b>	<b>A06018-</b>
Sprinkler with <b>OAN-1-3 (Up)</b>	<b>A06019-</b>
Sprinkler with <b>OAN-1-3 (Down)</b>	<b>A06020-</b>
Sprinkler with <b>LP-1-3 (Up)</b>	<b>A06021-</b>
Sprinkler with <b>LP-1-3 (Down)</b>	<b>A06022-</b>
Sprinkler with <b>PQFN-1</b>	<b>A06023-</b>

Chart 2	PART NUMBER: SECOND HALF		
NOZZLE	7/64"	1/8"	9/64"
Brass Straight Bore Nozzle (105780-) <b>SBN-1</b>	<b>07</b>	<b>08</b>	<b>09</b>
Brass Low Pressure Nozzle (104571-) <b>LPN-1</b>	<b>07</b>	<b>08</b>	<b>09</b>
Brass 3° Off Axis Low Pressure Nozzle (104572-) <b>LP-1-3</b>	<b>07</b>	<b>08</b>	<b>09</b>
Brass 3° Off Axis Nozzle (106171-) <b>OAN-1-3</b>	<b>07</b>	<b>08</b>	-
Plastic Straight Bore Quick-Fit Nozzle (117324-) <b>PQFN-1</b>	<b>07</b>	<b>08</b>	<b>09</b>
<b>RAIN FLOW NOZZLE</b>	<b>2.0 GPM</b>	<b>2.5 GPM</b>	
Brass Rain Flow Nozzle (111088-) <b>RFN-1</b>	<b>02-00</b>	<b>02-50</b>	

Bold nozzle size numbers denote the most common nozzle choices.





## M20VH M20VH-PM

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

Bearing: 1/2" Male NPT

VH Model: Brass

PM Model: Plastic

Trajectory Angle: 15°

Operating Range: 25-80 psi

Flow Rate: .56-2.55 GPM

Radius: 25-36 ft.

### FEATURES

- Patented, self-flushing wedge drive
- Durable brass die-cast arm
- Stainless steel springs and fulcrum pin
- Chemically resistant washers
- Two-year warranty

### BENEFITS

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

## PERFORMANCE DATA

## M20VH/M20VH-PM

### Straight Bore Nozzle (SBN-1)

(Stream Height: 3.5 ft.)

PSI @ Nozzle	NOZZLE SIZE													
	1/16"		51 DRILL		50 DRILL		5/64"		44 DRILL		3/32"		7/64"	
	Rad.	GPM	Rad.	GPM	Rad.	GPM	Rad.	GPM	Rad.	GPM	Rad.	GPM	Rad.	GPM
25	25	0.56	26	0.65	26	0.70	27	0.88	28	1.07	29	1.27	31	1.73
30	26	0.62	27	0.71	27	0.78	28	0.97	29	1.17	30	1.39	32	1.90
35	27	0.66	28	0.77	28	0.84	29	1.05	30	1.27	31	1.50	33	2.05
40	28	0.72	28	0.83	29	0.90	30	1.12	31	1.36	32	1.61	34	2.19
45	29	0.75	29	0.87	30	0.95	31	1.19	32	1.44	33	1.71	35	2.32
50	29	0.80	30	0.92	31	1.00	32	1.25	32	1.51	33	1.80	35	2.45

### Low Pressure Nozzle (LPN-1)

(Stream Height: 3.5 ft.)

PSI @ Nozzle	NOZZLE SIZE									
	50 DRILL		5/64"		44 DRILL		3/32"		7/64"	
	Rad.	GPM	Rad.	GPM	Rad.	GPM	Rad.	GPM	Rad.	GPM
25	26	0.71	27	0.90	27	1.11	29	1.32	31	1.81
30	28	0.77	28	0.98	29	1.21	30	1.45	32	1.98
35	29	0.84	29	1.06	30	1.31	31	1.57	33	2.14
40	30	0.90	30	1.13	31	1.41	32	1.67	34	2.28
45	31	0.95	31	1.20	32	1.49	33	1.78	35	2.42
50	31	1.00	31	1.27	32	1.56	34	1.87	35	2.55

### Rain Flow Nozzle (RFN-1)

BASE PRESSURE PSI	RADIUS			
	1.0 GPM	1.5 GPM	2.0 GPM	2.5 GPM
30	28	30	32	-
40	30	32	33	-
50	30	32	34	35
60	31	33	34	36
70	-	33	35	36
80	-	33	35	36

## PART NUMBERS AND ORDERING INFORMATION

Ordering Example	MAKE YOUR SPRINKLER CHOICE FROM CHART 1	CHOOSE NOZZLE SIZE(S) FROM CHART 2	ADD THEM TOGETHER TO CREATE THE PART NUMBER
To order an M20VH sprinkler with a 3/32" Brass Straight Bore Nozzle the part number would be:	<b>A05991-</b>	<b>+ 06</b>	<b>= A05991-06</b>

Chart 1: M20VH-PM	PART NUMBER: FIRST HALF
<b>SPRINKLER ONLY</b>	
M20VH-PM Sprinkler without Nozzle	<b>A05980</b>
<b>SPRINKLER WITH SINGLE NOZZLE INSTALLED</b>	
Sprinkler with SBN-1	<b>A05981-</b>
Sprinkler with LPN-1	<b>A05982-</b>
Sprinkler with RFN-1	<b>A05983-</b>
Sprinkler with PQFN-1	<b>A05984-</b>

Chart 1: M20VH	PART NUMBER: FIRST HALF
<b>SPRINKLER ONLY</b>	
M20VH Sprinkler without Nozzle	<b>A05990</b>
<b>SPRINKLER WITH SINGLE NOZZLE INSTALLED</b>	
Sprinkler with SBN-1	<b>A05991-</b>
Sprinkler with LPN-1	<b>A05992-</b>
Sprinkler with RFN-1	<b>A05993-</b>
Sprinkler with PQFN-1	<b>A05994-</b>

Chart 2		PART NUMBER: SECOND HALF							
NOZZLE		1/16"	51 DRILL	50 DRILL	5/64"	44 DRILL	3/32"	7/64"	
Brass Straight Bore Nozzle (105780-)	SBN-1	<b>04</b>	<b>51</b>	<b>50</b>	<b>05</b>	<b>44</b>	<b>06</b>	<b>07</b>	
Brass Low Pressure Nozzle (104571-)	LPN-1	-	-	<b>50</b>	<b>05</b>	<b>44</b>	<b>06</b>	<b>07</b>	
Plastic Straight Bore Quick-Fit Nozzle (117324-)	PQFN-1	<b>04</b>	<b>51</b>	<b>50</b>	<b>05</b>	-	<b>06</b>	<b>07</b>	
<b>RAIN FLOW NOZZLE</b>		<b>1.0 GPM</b>		<b>1.5 GPM</b>		<b>2.0 GPM</b>		<b>2.5 GPM</b>	
Brass Rain Flow Nozzle (111088-)	RFN-1	<b>01-00</b>		<b>01-50</b>		<b>02-00</b>		<b>02-50</b>	

Bold nozzle size numbers denote the most common nozzle choices.



## PERFORMANCE DATA

M20H

### M20H

#### 1/2" Full Circle, Brass Impact Sprinkler

Bearing: 1/2" Male NPT, Brass  
 Trajectory Angle: 15°  
 Operating Range: 25-80 psi  
 Flow Rate: 1.73-4.22 GPM  
 Radius: 31-38 ft.

#### FEATURES

- Durable brass die-cast arm
- Stainless steel springs and fulcrum pin
- Chemically resistant washers
- Two-year warranty

#### BENEFITS

- Spoon drive arm runs on larger nozzles and higher pressures
- Corrosion and grit resistant
- Built to last

#### Straight Bore Nozzle (SBN-1)

(Stream Height: 3.5 ft.)

PSI @ Nozzle	NOZZLE SIZE					
	7/64"		1/8"		9/64"	
	Rad.	GPM	Rad.	GPM	Rad.	GPM
25	31	1.73	32	2.26	33	2.86
30	32	1.90	33	2.48	34	3.14
35	33	2.05	34	2.68	36	3.39
40	34	2.19	35	2.86	37	3.62
45	35	2.32	36	3.03	38	3.84
50	35	2.45	37	3.20	38	4.05

#### Low Pressure Nozzle (LPN-1)

(Stream Height: 3.5 ft.)

PSI @ Nozzle	NOZZLE SIZE					
	7/64"		1/8"		9/64"	
	Rad.	GPM	Rad.	GPM	Rad.	GPM
25	31	1.81	32	2.36	33	2.98
30	32	1.98	33	2.58	34	3.27
35	33	2.14	34	2.79	36	3.53
40	34	2.28	35	2.98	37	3.77
45	35	2.42	36	3.17	38	4.00
50	35	2.55	37	3.34	38	4.22

#### Rain Flow Nozzle (RFN-1)

BASE PRESSURE PSI	RADIUS	
	2.0 GPM	2.5 GPM
30	32	33
40	33	35
50	-	35
60	-	36
70	-	36
80	-	36

## PART NUMBERS AND ORDERING INFORMATION

Ordering Example	MAKE YOUR SPRINKLER CHOICE FROM CHART 1	CHOOSE NOZZLE SIZE(S) FROM CHART 2	ADD THEM TOGETHER TO CREATE THE PART NUMBER
To order an M20H sprinkler with a 7/64" Straight Bore Nozzle the part number would be:	<b>A05621-</b>	<b>07</b>	<b>= A05621-07</b>

Chart 1	PART NUMBER: FIRST HALF
<b>SPRINKLER ONLY</b>	
Sprinkler without Nozzle	<b>A05621</b>
<b>SPRINKLER WITH SINGLE NOZZLE INSTALLED</b>	
Sprinkler with <b>SBN-1</b>	<b>A05621-</b>
Sprinkler with <b>LPN-1</b>	<b>A05622-</b>
Sprinkler with <b>RFN-1</b>	<b>A05623-</b>
Sprinkler with <b>PQFN-1</b>	<b>A05624-</b>

Chart 2	PART NUMBER: SECOND HALF		
NOZZLE	7/64"	1/8"	9/64"
Brass Straight Bore Nozzle (105780-) SBN-1	<b>07</b>	<b>08</b>	<b>09</b>
Brass Low Pressure Nozzle (104571-) LPN-1	<b>07</b>	<b>08</b>	<b>09</b>
Plastic Straight Bore Quick-Fit Nozzle (117324-) PQFN-1	<b>07</b>	<b>08</b>	<b>09</b>
<b>RAIN FLOW NOZZLE</b>	<b>2.0 GPM</b>	<b>2.5 GPM</b>	
Brass Rain Flow (111088-) RFN-1	<b>02-00</b>	<b>02-50</b>	

Bold nozzle size numbers denote the most common nozzle choices.



## PERFORMANCE DATA

14VH

### 14VH

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

Bearing: 1/2" Male NPT, Brass  
 Trajectory Angle: 23°  
 Operating Range: 20-80 psi  
 Flow Rate: .56-2.68 GPM  
 Radius: 29-39 ft.

#### FEATURES

- Patented, self-flushing wedge drive
- Durable brass die-cast arm
- Stainless steel springs and fulcrum pin
- Chemically resistant washers
- Two-year warranty

#### BENEFITS

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

#### Straight Bore Nozzle (SBN-1) (Stream Height: 6 ft.)

PSI @ Nozzle	NOZZLE SIZE													
	1/16"		51 DRILL		50 DRILL		5/64"		44 DRILL		3/32"		7/64"	
	Rad.	GPM	Rad.	GPM	Rad.	GPM	Rad.	GPM	Rad.	GPM	Rad.	GPM	Rad.	GPM
20	-	-	29	0.59	29	0.62	30	0.79	32	0.97	33	1.14	34	1.55
25	29	0.56	29	0.65	30	0.70	31	0.88	32	1.07	33	1.27	35	1.73
30	29	0.62	30	0.71	30	0.78	31	0.97	33	1.17	34	1.39	35	1.90
35	30	0.66	30	0.77	31	0.84	32	1.05	33	1.27	34	1.50	36	2.05
40	30	0.72	31	0.83	31	0.90	32	1.12	34	1.36	35	1.61	37	2.19
45	31	0.75	31	0.87	32	0.95	33	1.19	34	1.44	35	1.71	37	2.32
50	31	0.80	32	0.92	32	1.00	34	1.25	35	1.51	36	1.80	38	2.45
55	32	0.84	32	0.96	33	1.05	34	1.31	35	1.57	36	1.89	38	2.57
60	32	0.88	33	1.01	33	1.10	34	1.37	36	1.62	37	1.97	38	2.68

#### Rain Flow Nozzle (RFN-1)

BASE PRESSURE PSI	RADIUS			
	1.0 GPM	1.5 GPM	2.0 GPM	2.5 GPM
30	31	34	35	-
40	32	34	36	-
50	32	35	36	38
60	33	35	37	38
70	-	36	37	39
80	-	36	37	39

## PART NUMBERS AND ORDERING INFORMATION

Ordering Example	MAKE YOUR SPRINKLER CHOICE FROM CHART 1	CHOOSE NOZZLE SIZE(S) FROM CHART 2	ADD THEM TOGETHER TO CREATE THE PART NUMBER
To order a 14VH sprinkler with a 3/32" Brass Straight Bore Nozzle the part number would be:	<b>A01620-</b>	<b>06</b>	<b>= A01620-06</b>

Chart 1	PART NUMBER: FIRST HALF
<b>SPRINKLER ONLY</b>	
Sprinkler without Nozzle	<b>A01619</b>
<b>SPRINKLER WITH SINGLE NOZZLE INSTALLED</b>	
Sprinkler with <b>SBN-1</b>	<b>A01620-</b>
Sprinkler with <b>LPN-1</b>	<b>A01621-</b>
Sprinkler with <b>RFN-1</b>	<b>A01622-</b>
Sprinkler with <b>PQFN-1</b>	<b>A01623-</b>

Chart 2	PART NUMBER: SECOND HALF							
NOZZLE	1/16"	51 DRILL	50 DRILL	5/64"	44 DRILL	3/32"	7/64"	
Brass Straight Bore Nozzle (105780-) SBN-1	<b>04</b>	<b>51</b>	<b>50</b>	<b>05</b>	<b>44</b>	<b>06</b>	<b>07</b>	
Brass Low Pressure Nozzle (104571-) LPN-1	-	-	<b>50</b>	<b>05</b>	<b>44</b>	<b>06</b>	<b>07</b>	
Plastic Straight Bore Quick-Fit Nozzle (117324-) PQFN-1	<b>04</b>	<b>51</b>	<b>50</b>	<b>05</b>	-	<b>06</b>	<b>07</b>	
<b>RAIN FLOW NOZZLE</b>	<b>1.0 GPM</b>		<b>1.5 GPM</b>		<b>2.0 GPM</b>		<b>2.5 GPM</b>	
Brass Rain Flow Nozzle (111088-) RFN-1	<b>01-00</b>		<b>01-50</b>		<b>02-00</b>		<b>02-50</b>	

Bold nozzle size numbers denote the most common nozzle choices.



## PERFORMANCE DATA

20-14H

### 20-14H

#### 1/2" Full Circle, Brass Impact Sprinkler

Bearing: 1/2" Male NPT, Brass  
 Trajectory Angle: 23°  
 Operating Range: 20-80 psi  
 Flow Rate: .79-3.50 GPM  
 Radius: 31-40 ft.

#### FEATURES

- Durable brass die-cast arm
- Stainless steel springs and fulcrum pin
- Chemically resistant washers
- Two-year warranty

#### BENEFITS

- Spoon drive arm runs on larger nozzles and higher pressures
- Corrosion and grit resistant
- Built to last

#### Straight Bore Nozzle (SBN-1) (Stream Height: 6 ft.)

PSI @ Nozzle	NOZZLE SIZE							
	5/64"		3/32"		7/64"		1/8"	
	Rad.	GPM	Rad.	GPM	Rad.	GPM	Rad.	GPM
20	31	0.79	34	1.14	36	1.55	36	2.03
25	32	0.88	35	1.27	37	1.73	37	2.26
30	33	0.97	35	1.39	37	1.90	38	2.48
35	33	1.05	36	1.50	38	2.05	38	2.68
40	34	1.12	37	1.61	38	2.19	39	2.86
45	34	1.18	37	1.71	39	2.32	39	3.03
50	35	1.25	37	1.80	39	2.45	39	3.20
55	35	1.31	37	1.89	39	2.57	40	3.35
60	36	1.37	37	1.97	39	2.68	40	3.50

#### Rain Flow Nozzle (RFN-1)

BASE PRESSURE PSI	RADIUS		
	1.5 GPM	2.0 GPM	2.5 GPM
30	34	35	37
40	34	36	38
50	-	36	38
60	-	37	38
70	-	37	39
80	-	37	39

## PART NUMBERS AND ORDERING INFORMATION

Ordering Example	MAKE YOUR SPRINKLER CHOICE FROM CHART 1	CHOOSE NOZZLE SIZE(S) FROM CHART 2	ADD THEM TOGETHER TO CREATE THE PART NUMBER
To order a 20-14H sprinkler with a 3/32" Plastic Straight Bore Nozzle the part number would be:	<b>A00428-</b>	<b>06</b>	<b>= A00428-06</b>

Chart 1	PART NUMBER: FIRST HALF
<b>SPRINKLER ONLY</b>	
Sprinkler without Nozzle	<b>A00427</b>
<b>SPRINKLER WITH SINGLE NOZZLE INSTALLED</b>	
Sprinkler with <b>SBN-1</b>	<b>A00428-</b>
Sprinkler with <b>LPN-1</b>	<b>A00429-</b>
Sprinkler with <b>RFN-1</b>	<b>A00430-</b>
Sprinkler with <b>PQFN-1</b>	<b>A00431-</b>

Chart 2	PART NUMBER: SECOND HALF			
NOZZLE	5/64"	3/32"	7/64"	1/8"
Plastic Straight Bore Nozzle (105780-) <b>SBN-1</b>	<b>05</b>	<b>06</b>	<b>07</b>	<b>08</b>
Plastic Low Pressure Nozzle (104571-) <b>LPN-1</b>	<b>05</b>	<b>06</b>	<b>07</b>	<b>08</b>
Plastic Straight Bore Quick-Fit Nozzle (117324-) <b>PQFN-1</b>	<b>05</b>	<b>06</b>	<b>07</b>	<b>08</b>
<b>RAIN FLOW NOZZLE</b>	<b>1.5 GPM</b>	<b>2.0 GPM</b>	<b>2.5 GPM</b>	
Brass Rain Flow Nozzle (111088-) <b>RFN-1</b>	<b>01-50</b>	<b>02-00</b>	<b>02-50</b>	

Bold nozzle size numbers denote the most common nozzle choices.





## PERFORMANCE DATA

20JH

### 20JH

#### 1/2" Full Circle, Brass Impact Sprinkler

Bearing: 1/2" Male NPT, Brass  
 Trajectory Angle: 23°  
 Operating Range: 35-80 psi  
 Flow Rate: 2.0-5.47 GPM  
 Radius: 35-44 ft.

#### FEATURES

- Durable brass die-cast arm
- Stainless steel springs and fulcrum pin
- Chemically resistant Teflon™ washers
- Two-year warranty

#### BENEFITS

- Spoon drive arm runs on larger nozzles and higher pressures
- Corrosion and grit resistant
- Built to last

#### Straight Bore Nozzle (SBN-1) (Stream Height: 6 ft.)

PSI @ Nozzle	NOZZLE SIZE							
	7/64"		1/8"		9/64"		5/32"	
	Rad.	GPM	Rad.	GPM	Rad.	GPM	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) (Stream Height: 7 ft.)

PSI @ Nozzle	NOZZLE SIZE							
	7/64"		1/8"		9/64"		5/32"	
	Rad.	GPM	Rad.	GPM	Rad.	GPM	Rad.	GPM
35	38	2.05	39	2.68	41	3.39	42	4.19
40	39	2.19	40	2.86	41	3.62	42	4.47
45	39	2.32	40	3.03	42	3.84	42	4.73
50	40	2.45	41	3.20	42	4.05	43	5.00
55	40	2.57	41	3.35	43	4.24	43	5.23
60	40	2.68	41	3.50	43	4.43	44	5.47

#### Rain Flow Nozzle (RFN-1)

BASE PRESSURE PSI	RADIUS	
	2.0 GPM	2.5 GPM
30	35	37
40	36	38
50	-	38
60	-	38
70	-	39
80	-	39

## PART NUMBERS AND ORDERING INFORMATION

Ordering Example	MAKE YOUR SPRINKLER CHOICE FROM CHART 1	CHOOSE NOZZLE SIZE(S) FROM CHART 2	ADD THEM TOGETHER TO CREATE THE PART NUMBER
To order a 20JH sprinkler with a 7/64" Straight Bore Nozzle the part number would be:	<b>A05841-</b>	<b>07</b>	<b>= A05841-07</b>

Chart 1	PART NUMBER: FIRST HALF
<b>SPRINKLER ONLY</b>	
Sprinkler without Nozzle	<b>A05840</b>
<b>SPRINKLER WITH SINGLE NOZZLE INSTALLED</b>	
Sprinkler with <b>SBN-1</b>	<b>A05841-</b>
Sprinkler with <b>LPN-1</b>	<b>A05842-</b>
Sprinkler with <b>RFN-1</b>	<b>A05843-</b>
Sprinkler with <b>SBN-1V</b>	<b>A05846-</b>

Chart 2	PART NUMBER: SECOND HALF			
NOZZLE	7/64"	1/8"	9/64"	5/32"
Brass Straight Bore Nozzle (105780-) SBN-1	<b>07</b>	<b>08</b>	<b>09</b>	<b>10</b>
Brass Low Pressure Nozzle (104571-) LPN-1	<b>07</b>	<b>08</b>	<b>09</b>	-
Brass SBN-1 with Straightening Vane (106160-) SBN-1V	<b>07</b>	<b>08</b>	<b>09</b>	<b>10</b>
<b>RAIN FLOW NOZZLE</b>	<b>2.0 GPM</b>		<b>2.5 GPM</b>	
Brass Rain Flow Nozzle (111088-) RFN-1	<b>02-00</b>		<b>02-50</b>	

Bold nozzle size numbers denote the most common nozzle choices.



## PERFORMANCE DATA

20AH

### 20AH

#### 1/2" Full Circle, Aluminum Arm Impact Sprinkler

Bearing: 1/2" Male NPT, Brass  
 Trajectory Angle: 25°  
 Operating Range: 15-50 psi  
 Flow Rate: 1.55-3.22 GPM  
 Radius: 21-28 ft.

#### FEATURES

- Durable die-cast, black anodized aluminum arm
- Extra-large spoon
- Stainless steel springs and fulcrum pin
- Chemically resistant washers
- Two-year warranty

#### BENEFITS

- Aluminum arm allows for smaller nozzle sizes and lower pressures
- Large spoon accommodates a wide range of Straight Bore and Off-Axis Nozzles
- Corrosion and grit resistant
- Built to last

#### Low Angle Nozzle (LAN-1-7) (Stream Height: 3 ft.)

PSI @ Nozzle	NOZZLE SIZE			
	7/64"		1/8"	
	Rad.	GPM	Rad.	GPM
15	-	-	21	1.75
20	21	1.55	22	1.97
25	22	1.73	23	2.21
30	23	1.89	24	2.44
35	24	2.05	25	2.66
40	25	2.20	26	2.86
45	25	2.32	27	3.04
50	26	2.44	28	3.22

## PART NUMBERS AND ORDERING INFORMATION

Ordering Example	MAKE YOUR SPRINKLER CHOICE FROM CHART 1	CHOOSE NOZZLE SIZE(S) FROM CHART 2	ADD THEM TOGETHER TO CREATE THE PART NUMBER
To order a 20AH sprinkler with a 7/64" Brass Low Angle Nozzle the part number would be:	<b>A04002-</b>	<b>07</b>	<b>A04002-07</b>

Chart 1	PART NUMBER: FIRST HALF
<b>SPRINKLER ONLY</b>	
Sprinkler without Nozzle	<b>A04001</b>
<b>SPRINKLER WITH SINGLE NOZZLE INSTALLED</b>	
Sprinkler with LAN-1	<b>A04002-</b>
Sprinkler with PQFN-1	<b>A04003-</b>

Chart 2	PART NUMBER: SECOND HALF	
NOZZLE	7/64"	1/8"
Brass Low Angle Nozzle (100225-) LAN-1	<b>07</b>	<b>08</b>
Plastic Straight Bore Quick-Fit Nozzle (117324-) PQFN-1	<b>07</b>	<b>08</b>

Bold nozzle size numbers denote the most common nozzle choices.



## PERFORMANCE DATA

29JH

### 29JH

#### 1/2" Full Circle, Brass Impact Sprinkler

Bearing: 1/2" Male NPT, Brass

Trajectory Angle: 23°

Operating Range: 20-80 psi

Flow Rate: 1.56-6.35 GPM

Radius: 35-46 ft.

#### FEATURES

- Extra large body
- Stainless steel springs and fulcrum pin
- Chemically resistant washers
- Two-year warranty

#### BENEFITS

- Large body accommodates a wide range of flow rates
- Corrosion and grit resistant
- Built to last

#### Straight Bore Nozzle (SBN-3)

(Stream Height: 7 ft.)

PSI @ Nozzle	NOZZLE SIZE							
	7/64"		1/8"		9/64"		5/32"	
	Rad.	GPM	Rad.	GPM	Rad.	GPM	Rad.	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	44	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

## PART NUMBERS AND ORDERING INFORMATION

Ordering Example	MAKE YOUR SPRINKLER CHOICE FROM CHART 1	CHOOSE NOZZLE SIZE(S) FROM CHART 2	ADD THEM TOGETHER TO CREATE THE PART NUMBER
To order a 29JH sprinkler with a 5/32" Brass Straight Bore Nozzle the part number would be:	<b>A06502-</b>	<b>+</b> <b>10</b>	<b>= A06502-10</b>

Chart 1	PART NUMBER: FIRST HALF
<b>SPRINKLER ONLY</b>	
Sprinkler without Nozzle	<b>A06501</b>
<b>SPRINKLER WITH SINGLE NOZZLE INSTALLED</b>	
Sprinkler with <b>SBN-3</b>	<b>A06502-</b>

Chart 2	PART NUMBER: SECOND HALF			
NOZZLE	7/64"	1/8"	9/64"	5/32"
Brass Straight Bore Nozzle (105842-) <b>SBN-3</b>	<b>07</b>	<b>08</b>	<b>09</b>	<b>10</b>

Bold nozzle size numbers denote the most common nozzle choices.



## PERFORMANCE DATA

2045-PJ

### 2045-PJ

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

Bearing: 1/2" Male NPT, Plastic

Trajectory Angle: 23°

Operating Range: 25-60 psi

Flow Rate: 1.5-6.4 GPM

Radius: 22-44 ft.

#### FEATURES

- Durable Delrin™ plastic, body arm, bearing sleeve and nipple
- Stainless steel springs and fulcrum pin
- Chemically resistant washers
- Plastic Quick Fit Nozzles
- Low Angle (10°) Nozzles available
- Integral straightening vane for greater distance
- Full or Part Circle operation
- Two-year warranty

#### BENEFITS

- Superior chemical and grit resistance
- Smooth rotation at lower pressures
- Design flexibility
- Built to last

#### Straight Bore Nozzle (SBN-1)

(Stream Height: 6 ft.)

PSI @ Nozzle	NOZZLE SIZE							
	3/32"		7/64"		1/8"		5/32"	
	Rad.	GPM	Rad.	GPM	Rad.	GPM	Rad.	GPM
25	-	-	22	2.20	35	2.80	38	4.20
35	37	2.00	37	2.70	38	3.30	41	4.80
45	38	2.30	39	3.00	40	3.70	42	5.40
55	38	2.50	41	3.30	41	4.10	43	6.00
60	38	2.60	41	3.50	42	4.20	44	6.40

#### Low Angle Nozzle (LAN-1)

(Stream Height: 3 ft.)

PSI @ Nozzle	NOZZLE SIZE			
	7/64"		5/32"	
	Rad.	GPM	Rad.	GPM
25	-	-	22	2.20
35	37	2.00	37	2.70
45	38	2.30	39	3.00
55	38	2.50	41	3.30
60	38	2.60	41	3.50

## PART NUMBERS AND ORDERING INFORMATION

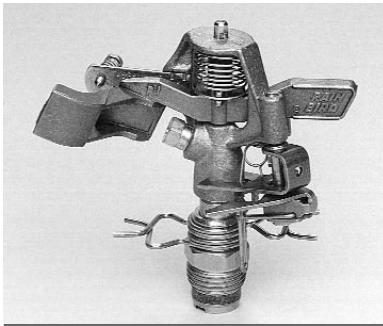
Ordering Example	MAKE YOUR SPRINKLER CHOICE FROM CHART 1	CHOOSE NOZZLE SIZE(S) FROM CHART 2	ADD THEM TOGETHER TO CREATE THE PART NUMBER
To order a 2045-PJ sprinkler with a 7/64" Plastic Quick-Fit Straight Bore Nozzle the part number would be:	<b>B46000-</b>	<b>07</b>	<b>= B46000-07</b>

Chart 1	PART NUMBER: FIRST HALF
<b>SPRINKLER WITH SINGLE NOZZLE INSTALLED</b>	
Sprinkler with <b>PQFN</b> or <b>PQLAN</b> Nozzle	<b>B46000-</b>

Chart 2	PART NUMBER: SECOND HALF				
NOZZLE	3/32"	7/64"	1/8"	5/32"	
Plastic Quick-Fit Straight Bore Nozzle (206592-)	PQFN	<b>06</b>	<b>07</b>	<b>08</b>	<b>10</b>
Low Angle Quick-Fit Nozzle (115902-)	PQLAN	-	<b>07-LA</b>	-	<b>10-LA</b>

Bold nozzle size numbers denote the most common nozzle choices.





**PERFORMANCE DATA**

**25BPJ-FP-ADJ / 25BPJ-FP-ADJ-DA / 25B-FP-ADJ**

**25BPJ-FP-ADJ  
25BPJ-FP-ADJ-DA  
25B-FP-ADJ**

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

Bearing: 1/2" Male NPT, Brass  
Trajectory Angle: 25°  
Operating Range: 30-50 psi  
Flow Rate: 3.1-5.0 GPM  
Radius: 38-41 ft.

**FEATURES**

- Durable brass die-cast, 'precision jet' (PJ) arm
- Standard spoon style arm also available (25B-FP-ADJ)
- Stainless steel springs and fulcrum pin
- Chemically resistant washers
- All models include integral break-up pin for adjustable distribution
- DA option also includes integral distance control flap
- Full or Part Circle operation
- Two-year warranty

**BENEFITS**

- PJ arm reduces side splash
- Many options provide design and application flexibility
- Corrosion and grit resistant
- Built to last

**Straight Bore Nozzle (SBN-1)**  
(Stream Height: 7 ft.)

PSI @ Nozzle	NOZZLE SIZE			
	9/64"		5/32"	
	Rad.	GPM	Rad.	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

**PART NUMBERS AND ORDERING INFORMATION**

Ordering Example	MAKE YOUR SPRINKLER CHOICE FROM CHART 1	CHOOSE NOZZLE SIZE(S) FROM CHART 2	ADD THEM TOGETHER TO CREATE THE PART NUMBER
To order a 25BPJ-FP-ADJ sprinkler with a 9/64" Brass Straight Bore Nozzle the part number would be:	<b>A32901-</b>	<b>09</b>	<b>A32901-09</b>

Chart 1	PART NUMBER: FIRST HALF
SPRINKLER ONLY	
<b>25BPJ-FP-ADJ</b>	<b>A32901-</b>
<b>25BPJ-FP-ADJ-DA</b>	<b>A34403-</b>
<b>25B-FP-ADJ</b>	<b>A34321-</b>

Chart 2	PART NUMBER: SECOND HALF	
NOZZLE	9/64"	5/32"
Brass Straight Bore Nozzle (105780-)	SBN-1 <b>09</b>	<b>10</b>

Bold nozzle size numbers denote the most common nozzle choices.



## PERFORMANCE DATA

25A-FP-TNT

### 25A-FP-TNT

**1/2" Full or Part Circle, Aluminum Arm, Impact Sprinkler**

**Bearing:** 1/2" Male NPT, Brass

**Trajectory Angle:** 25°

**Operating Range:** 25-70 psi

**Flow Rate:** 2.08-3.75 GPM

**Radius:** 23-39 ft.

#### FEATURES

- Durable die-cast, black anodized aluminum arm
- Extra-large spoon
- Stainless steel springs and fulcrum pin
- Chemically resistant washers
- TNT bearing
- Full or Part circle operation
- Two-year warranty

#### BENEFITS

- Aluminum arm allows for smaller nozzle sizes and lower pressures
- Large spoon accommodates a wide range of Straight Bore and Off-Axis Nozzles
- Corrosion and grit resistant
- Built to last

#### Straight Bore Nozzle (SBN-1) (Stream Height: 7 ft.)

PSI @ Nozzle	NOZZLE SIZE			
	7/64"		1/8"	
	Rad.	GPM	Rad.	GPM
30	-	-	36	2.47
35	36	2.08	36	2.65
40	37	2.24	37	2.85
45	37	2.37	37	3.00
50	37	2.50	38	3.15
55	37	2.65	38	3.32
60	37	2.75	38	3.47
65	38	2.87	39	3.60
70	38	3.00	39	3.75

#### Off Axis Nozzle (OAN-1-7) (Stream Height: 3 ft.)

PSI @ Nozzle	NOZZLE SIZE	
	1/8"	
	Rad.	GPM
25	23	2.21
30	24	2.44
35	25	2.66
40	26	2.86
45	27	3.04
50	28	3.22

#### 12° Off Axis Nozzle (OAN-1-12) (Stream Height: 3.5 ft.)

PSI @ Nozzle	NOZZLE SIZE	
	1/8"	
	Rad.	GPM
25	27	2.21
30	29	2.44
35	30	2.66
40	31	2.86
45	32	3.04
50	32	3.22

#### 23° Off Axis Nozzle (OAN-1-23) (Stream Height: 5 ft.)

PSI @ Nozzle	NOZZLE SIZE	
	1/8"	
	Rad.	GPM
25	32	2.21
30	33	2.44
35	34	2.66
40	35	2.86
45	36	3.04
50	37	3.22

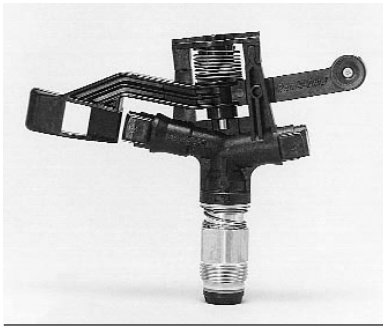
## PART NUMBERS AND ORDERING INFORMATION

Ordering Example	MAKE YOUR SPRINKLER CHOICE FROM CHART 1	CHOOSE NOZZLE SIZE(S) FROM CHART 2	ADD THEM TOGETHER TO CREATE THE PART NUMBER
To order a 25A-FP-TNT sprinkler with a 7/64" Brass Straight Bore Nozzle the part number would be:	<b>A36202-</b>	<b>07</b>	<b>A36202-07</b>

Chart 1	PART NUMBER: FIRST HALF
<b>SPRINKLER ONLY</b>	
Sprinkler without Nozzle	<b>A36201</b>
<b>SPRINKLER WITH SINGLE NOZZLE INSTALLED</b>	
Sprinkler with <b>SBN-1</b>	<b>A36202-</b>
Sprinkler with <b>LAN-1-7</b>	<b>A36203-</b>
Sprinkler with <b>LAN-1-12</b>	<b>A36204-</b>
Sprinkler with <b>LAN-1-23</b>	<b>A36205-</b>

Chart 2	PART NUMBER: SECOND HALF	
NOZZLE	7/64"	1/8"
Brass Straight Bore Nozzle (105780-) <b>SBN-1</b>	<b>07</b>	<b>08</b>
Brass 7° Low Angle Nozzle (100225-) <b>LAN-1-7</b>	<b>07</b>	<b>08</b>
Brass 12° Low Angle Nozzle (100622-) <b>LAN-1-12</b>	-	<b>08</b>
Brass 23° Low Angle Nozzle (100227-) <b>LAN-1-23</b>	-	<b>08</b>

Bold nozzle size numbers denote the most common nozzle choices.



## PERFORMANCE DATA

**L36H/L36AH**

### L36H L36AH

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

Bearing: 3/4" Male NPT, Brass  
Trajectory Angle: 10°  
Operating Range: 20-60 psi  
Flow Rate: 1.6-17.8 GPM  
Radius: 40-61 ft.

#### FEATURES

- Durable Delrin™ plastic body and arm
- AH unit has standard spoon for smaller nozzles
- H unit has slotted spoon for larger nozzles
- Exceptionally wide range of quick-fit nozzles
- Stainless steel springs and fulcrum pin
- Brass bearing sleeve
- Chemically resistant washers
- Dual nozzle ports
- Two-year warranty

#### 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

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

PSI @ Nozzle	NOZZLE SIZE					
	7/64"		1/8"		9/64"	
	Rad.	GPM	Rad.	GPM	Rad.	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 (QF-LPN-3)

PSI @ Nozzle	NOZZLE SIZE					
	7/64"		1/8"		9/64"	
	Rad.	GPM	Rad.	GPM	Rad.	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)

PSI @ Nozzle	NOZZLE SIZE																	
	5/32"		11/64"		3/16"		13/64"		7/32"		15/64"		1/4"		17/64"		9/32"	
	Rad.	GPM	Rad.	GPM	Rad.	GPM	Rad.	GPM	Rad.	GPM	Rad.	GPM	Rad.	GPM	Rad.	GPM	Rad.	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)

PSI @ Nozzle	NOZZLE SIZE																	
	5/32"		11/64"		3/16"		13/64"		7/32"		15/64"		1/4"		17/64"		9/32"	
	Rad.	GPM	Rad.	GPM	Rad.	GPM	Rad.	GPM	Rad.	GPM	Rad.	GPM	Rad.	GPM	Rad.	GPM	Rad.	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

## PART NUMBERS AND ORDERING INFORMATION

Nozzle Ordering Example	MAKE YOUR NOZZLE CHOICE	CHOOSE YOUR NOZZLE SIZE	ADD THEM TOGETHER TO CREATE THE NOZZLE PART NUMBER
To order an L36H sprinkler with a 1/8" Plastic Quick-Fit Straight Bore Nozzle the part number would be:	<b>107881-</b>	<b>08</b>	<b>= 107881-08</b>

Sprinkler Only	
SPRINKLER	
<b>L36H</b>	<b>A07360</b>

Sprinkler Only	
SPRINKLER	
<b>L36AH</b>	<b>A07350</b>

**For model L36/L36AH, sprinkler and nozzle must be ordered separately.**

Nozzle Only (when ordering an L36H sprinkler)			
NOZZLE	7/64"	1/8"	9/64"
Plastic Quick-Fit Straight Bore Nozzle (107881-)	<b>07</b>	<b>08</b>	<b>09</b>
Plastic Quick-Fit Low Pressure Nozzle (109247-)	<b>07</b>	<b>08</b>	<b>09</b>
Plastic Quick-Fit Plug (107881-99) Bold nozzle size numbers denote the most common nozzle choices.			

Nozzle Only (when ordering an L36AH sprinkler)										
NOZZLE	5/32"	11/64"	3/16"	13/64"	7/32"	15/64"	1/4"	17/64"	9/32"	
Plastic Quick-Fit Straight Bore Nozzle (107881-)	<b>10</b>	<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>	<b>17</b>	<b>18</b>	
Plastic Quick-Fit Low Pressure Nozzle (109247-)	<b>10</b>	<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>	<b>17</b>	<b>18</b>	
Plastic Quick-Fit Plug (107881-99) Bold nozzle size numbers denote the most common nozzle choices.										



## PERFORMANCE DATA

**L3030H**

### L3030H

**3/4" Full Circle, Brass,  
Low Angle Impact Sprinkler**

Bearing: 3/4" Male NPT, Brass

Trajectory Angle: 10°

Operating Range: 25-60 psi

Flow Rate: 2.9-15.9 GPM

Radius: 34-48 ft.

#### FEATURES

- Heavy duty brass construction
- Stainless steel springs and fulcrum pin
- Chemically resistant washers
- Dual nozzle ports
- Two-year warranty

#### BENEFITS

- Low angle fights strong wind conditions
- Great choice for pivot or under tree applications
- Corrosion and grit resistant
- Built to last

#### Straight Bore Nozzle (SBN-3)

PSI @ Nozzle	NOZZLE SIZE																	
	9/64"		5/32"		11/64"		3/16"		13/64"		7/32"		15/64"		1/4"		17/64"	
	Rad.	GPM	Rad.	GPM	Rad.	GPM	Rad.	GPM	Rad.	GPM	Rad.	GPM	Rad.	GPM	Rad.	GPM	Rad.	GPM
40	42	3.60	43	4.40	43	5.30	44	6.30	45	7.60	45	8.90	45	10.00	45	11.40	45	12.40
45	43	3.80	43	4.70	44	5.60	45	6.60	45	8.10	45	9.40	45	10.60	46	12.10	46	13.10
50	43	4.00	44	4.90	45	5.90	45	7.00	46	8.50	46	9.90	46	11.10	46	12.80	46	13.80
55	44	4.20	45	5.20	45	6.20	45	7.30	46	8.90	46	10.30	46	11.80	47	13.50	47	15.20
60	45	4.40	45	5.40	45	6.50	46	7.80	46	9.30	47	10.80	47	12.40	47	14.10	48	15.90

#### Low Pressure Nozzle (LPN-3)

PSI @ Nozzle	NOZZLE SIZE																			
	9/64"		5/32"		11/64"		3/16"		13/64"		7/32"		15/64"		1/4"		17/64"		9/32"	
	Rad.	GPM	Rad.	GPM	Rad.	GPM	Rad.	GPM	Rad.	GPM	Rad.	GPM	Rad.	GPM	Rad.	GPM	Rad.	GPM	Rad.	GPM
25	34	2.90	35	3.50	35	4.20	36	5.00	36	5.80	35	6.60	35	7.50	36	8.50	36	9.50	36	10.50
30	35	3.20	35	3.90	36	4.60	36	5.40	37	6.30	37	7.30	37	8.20	37	9.30	38	10.40	38	11.50
35	35	3.40	36	4.20	36	5.00	37	5.90	37	6.80	38	7.80	38	8.90	38	10.00	39	11.20	38	12.40
40	35	3.70	36	4.50	37	5.30	37	6.30	37	7.30	38	8.40	38	9.50	39	10.70	39	12.00	40	13.30
45	36	3.90	36	4.70	37	5.70	37	6.70	36	7.70	38	8.90	38	10.10	39	11.40	39	12.70	40	14.10
50	36	4.10	36	5.00	37	6.00	37	7.00	36	8.20	38	9.40	38	10.60	39	12.00	39	13.40	40	14.80

Chart data shown on 10 ft. riser.

## PART NUMBERS AND ORDERING INFORMATION

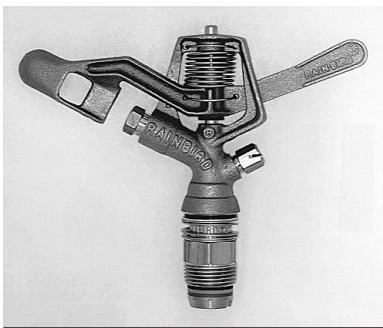
Nozzle Ordering Example	MAKE YOUR NOZZLE CHOICE	CHOOSE YOUR NOZZLE SIZE	ADD THEM TOGETHER TO CREATE THE NOZZLE PART NUMBER
To order a 9/64" Brass Straight Bore Nozzle the part number would be:	<b>105842-</b>	<b>+</b> <b>09</b>	<b>= 105842-09</b>

Sprinkler Only	
SPRINKLER	
<b>L3030H</b>	<b>A11640</b>

**For model L3030H, sprinkler and nozzle must be ordered separately.**

Nozzle Only		9/64"	5/32"	11/64"	3/16"	13/64"	7/32"	15/64"	1/4"	17/64"	9/32"
Brass Straight Bore Nozzle (105842-)	SBN-3	<b>09</b>	<b>10</b>	<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>	<b>17</b>	<b>-</b>
Brass Low Pressure Nozzle (104538-)	LPN-3	<b>09</b>	<b>10</b>	<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>	<b>17</b>	<b>18</b>
Brass Plug (100289)											





### 30H

#### 3/4" Full Circle, Brass Impact Sprinkler

Bearing: 3/4" Male NPT, Brass  
Trajectory Angle: 27°  
Operating Range: 25-80 psi  
Flow Rate: 2.9-13.1 GPM  
Radius: 40-56 ft.

#### FEATURES

- Heavy duty brass construction
- Stainless steel springs and fulcrum pin
- Chemically resistant washers
- Dual nozzle ports
- Two-year warranty

#### BENEFITS

- Wide range of flow rates
- Corrosion and grit resistant
- Built to last

### PERFORMANCE DATA

30H

#### Brass Straight Bore Nozzle (SBN-3) with Plug (Stream Height: 9 ft.)

PSI @ Nozzle	NOZZLE SIZE							
	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) (Stream Height: 9 ft.)

PSI @ Nozzle	NOZZLE SIZE									
	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 (Stream Height: 10 ft.)

PSI @ Nozzle	NOZZLE SIZE							
	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	46	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	54	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) (Stream Height: 10 ft.)

PSI @ Nozzle	NOZZLE SIZE									
	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

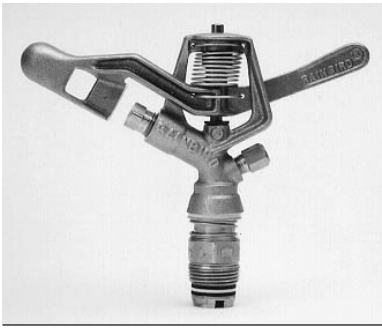
### PART NUMBERS AND ORDERING INFORMATION

Ordering Example	MAKE YOUR SPRINKLER CHOICE FROM CHART 1	CHOOSE NOZZLE SIZE(S) FROM CHART 2	ADD THEM TOGETHER TO CREATE THE PART NUMBER
To order a 30H sprinkler with an 11/64" Brass Straight Bore Nozzle and a 1/8" 20° Brass Low Angle Spreader Nozzle the part number would be:	<b>A08402-</b>	<b>+ 11-08</b>	<b>= A08402-11-08</b>

Chart 1	PART NUMBER: FIRST HALF
<b>SPRINKLER ONLY / PLUG</b>	
Sprinkler without Nozzle	<b>A08401</b>
Sprinkler without Nozzle plus Brass Plug	<b>A08411</b>
<b>SPRINKLER WITH SINGLE NOZZLE INSTALLED</b>	
Sprinkler with <b>SBN-3</b> and Plug	<b>A08413-</b>
Sprinkler with <b>SBN-3V</b> and Plug	<b>A10713-</b>
Sprinkler with <b>RFN-3</b> and Plug	<b>A08414-</b>
<b>SPRINKLER WITH COMBINATION NOZZLES INSTALLED</b>	
Sprinkler with <b>SBN-3</b> and <b>LAN-1-7</b>	<b>A08403-</b>
Sprinkler with <b>SBN-3</b> and <b>LAN-1-20</b>	<b>A08402-</b>
Sprinkler with <b>SBN-3V</b> and <b>LAN-1-7</b>	<b>A10703-</b>
Sprinkler with <b>SBN-3V</b> and <b>LAN-1-20</b>	<b>A10702-</b>
Sprinkler with <b>LPN-3</b> and <b>LAN-1-20</b>	<b>A08405-</b>

Chart 2	PART NUMBER: SECOND HALF											
NOZZLE	3/32"	7/64"	1/8"	9/64"	5/32"	11/64"	3/16"					
Brass Straight Bore Nozzle (105842-) SBN-3	—	—	—	<b>09</b>	<b>10</b>	<b>11</b>	<b>12</b>					
Brass Straight Bore with Vane (106131-) SBN-3V	—	—	—	<b>09</b>	<b>10</b>	<b>11</b>	<b>12</b>					
Brass 7° Low Angle Spreader (100225-) LAN-1-7	<b>06</b>	<b>07</b>	<b>08</b>	<b>09</b>	<b>10</b>	<b>11</b>	—					
Brass 20° Low Angle Spreader (100226-) LAN-1-20	<b>06</b>	<b>07</b>	<b>08</b>	<b>09</b>	<b>10</b>	<b>11</b>	—					
Brass Low Pressure Nozzle (104538-) LPN-3	—	—	—	<b>09</b>	<b>10</b>	<b>11</b>	<b>12</b>					
<b>RAIN FLOW NOZZLE</b>	<b>GPM:</b>											
Brass Rain Flow (111089-) RFN-3	03-50	04-00	04-50	05-00	05-50	06-00	06-50	07-50	08-00	09-00	10-50	11-00
Brass Plug (100225)	Bold nozzle size numbers denote the most common nozzle choices.											

For flow rate information on RFN-3 see page 40.



## PERFORMANCE DATA

**30FH**

### 30FH

#### 3/4" Full Circle, Brass Impact Sprinkler

Bearing: 3/4" Male NPT, Brass

Trajectory Angle: 27°

Operating Range: 25-80 psi

Flow Rate: 2.26-6.47 GPM

Radius: 39-43 ft.

#### FEATURES

- Heavy duty brass construction
- Stainless steel springs and fulcrum pin
- Chemically resistant, Teflon™ washers
- Dual nozzle ports
- Two-year warranty

#### BENEFITS

- Teflon washers allow for smaller nozzles and lower pressures
- Wide range of flow rates
- Corrosion and grit resistant
- Built to last

#### Straight Bore Nozzle (SBN-3)

(Stream Height: 9 ft.)

PSI @ Nozzle	NOZZLE SIZE	
	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) (Stream Height: 9 ft.)

PSI @ Nozzle	NOZZLE SIZE	
	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

## PART NUMBERS AND ORDERING INFORMATION

### Ordering Example

To order a 30FH sprinkler with a 1/8" Brass Straight Bore Nozzle and a 3/32" Brass 20° Low Angle Spreader Nozzle the part number would be:

MAKE YOUR SPRINKLER CHOICE FROM CHART 1

CHOOSE NOZZLE SIZE(S) FROM CHART 2

ADD THEM TOGETHER TO CREATE THE PART NUMBER

**A08402F-** +

**08-06** =

**A08402F-08-06**

Chart 1	PART NUMBER: FIRST HALF
<b>SPRINKLER ONLY / PLUG</b>	
Sprinkler without Nozzle	<b>A08401F</b>
Sprinkler without Nozzle plus Brass Plug	<b>A08901F</b>
<b>SPRINKLER WITH SINGLE NOZZLE INSTALLED</b>	
Sprinkler with <b>SBN-3</b> and Brass Plug	<b>A08902F-</b>
<b>SPRINKLER WITH COMBINATION NOZZLES INSTALLED</b>	
Sprinkler with <b>SBN-3</b> and <b>LAN-1-20</b>	<b>A08402F-</b>

Chart 2	PART NUMBER: SECOND HALF	
NOZZLE	3/32"	1/8"
Brass Straight Bore Nozzle (105842-) <b>SBN-3</b>	-	<b>08</b>
Brass 20° Low Angle Spreader Nozzle (100226-) <b>LAN-1-20</b>	<b>06</b>	-
Brass Plug (100225)		



## PERFORMANCE DATA

**30PWH**

### 30PWH

#### 3/4" Full Circle, Aluminum Arm Impact Sprinkler

Bearing: 3/4" Male NPT, Brass

Trajectory Angle: 27°

Operating Range: 25-80 psi

Flow Rate: 1.7-5.5 GPM

Radius: 38-46 ft.

#### FEATURES

- Durable die-cast, anodized, aluminum arm
- Stainless steel springs and fulcrum pin
- Chemically resistant washers
- Dual nozzle ports
- Two-year warranty

#### BENEFITS

- Aluminum arm allows for smaller nozzles and lower pressures
- Wide range of flow rates
- Corrosion and grit resistant
- Built to last

#### Straight Bore Nozzle (SBN-3)

(Stream Height: 9 ft.)

PSI @ Nozzle	NOZZLE SIZE							
	7/64"		1/8"		9/64"		5/32"	
	Rad.	GPM	Rad.	GPM	Rad.	GPM	Rad.	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	-	-	-	-

## PART NUMBERS AND ORDERING INFORMATION

Ordering Example	MAKE YOUR SPRINKLER CHOICE FROM CHART 1	CHOOSE NOZZLE SIZE(S) FROM CHART 2	ADD THEM TOGETHER TO CREATE THE PART NUMBER
To order a 30PWH sprinkler with a 1/8" Brass Straight Bore Nozzle the part number would be:	<b>A11356-</b>	<b>08</b>	<b>= A11356-08</b>

Chart 1	PART NUMBER: FIRST HALF
<b>SPRINKLER ONLY</b>	
Sprinkler without Nozzle plus Brass Plug	<b>A11355</b>
<b>SPRINKLER WITH SINGLE NOZZLE INSTALLED</b>	
Sprinkler with <b>SBN-3</b>	<b>A11356-</b>
Sprinkler with <b>SBN-3V</b>	<b>A11352-</b>
Sprinkler with <b>LPN-3</b>	<b>A11357-</b>

Chart 2	PART NUMBER: SECOND HALF			
NOZZLE	7/64"	1/8"	9/64"	5/32"
Brass Straight Bore Nozzle (105842-) <b>SBN-3</b>	<b>07</b>	<b>08</b>	<b>09</b>	<b>10</b>
Brass Straight Bore Nozzle with Vane (106131-) <b>SBN-3V</b>	<b>07</b>	<b>08</b>	<b>09</b>	<b>10</b>
Brass Low Pressure Nozzle (104538-) <b>LPN-3</b>	<b>07</b>	<b>08</b>	<b>09</b>	<b>10</b>

Bold nozzle size numbers denote the most common nozzle choices.



# 46H

## 3/4" Full Circle, Plastic Impact Sprinkler

**Bearing:** 3/4" Male NPT, Plastic  
**Trajectory Angle:** 23°  
**Operating Range:** 45-80 psi  
**Flow Rate:** 5.0-16.2 GPM  
**Radius:** 47-62 ft.

### FEATURES

- Durable Delrin™ plastic body, arm and bearing sleeve
- Stainless steel springs and fulcrum pin
- Chemically resistant, Teflon™ washers
- Brass bearing nipple
- Brass or Vaned, plastic nozzles available
- Dual nozzle ports
- Two-year warranty

### BENEFITS

- Teflon™ washers allow for smaller nozzles and lower pressures
- Superior chemical and grit resistance
- Exceptionally wide range of flow rates
- Built to last

## PERFORMANCE DATA

46H

### Plastic Straight Bore Nozzle with Vane (SBN-3P) with Spreader (LAN-1) (Stream Height: 7 ft.)

PSI @ Nozzle	NOZZLE SIZE									
	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 (Stream Height: 7 ft.)

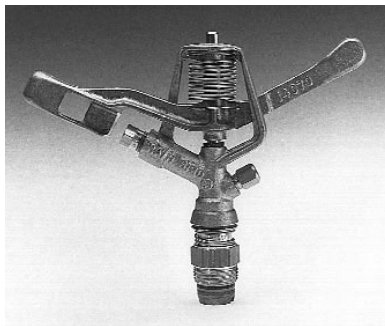
PSI @ Nozzle	NOZZLE SIZE									
	5/32"		11/64"		3/16"		13/64"		7/32"	
	Rad.	GPM	Rad.	GPM	Rad.	GPM	Rad.	GPM	Rad.	GPM
45	47	5.00	48	6.10	52	6.90	54	8.10	53	9.10
50	48	5.20	49	6.40	52	7.30	56	8.40	54	9.50
55	49	5.40	50	6.50	53	7.70	57	8.80	55	10.00
60	49	5.60	51	6.80	54	8.00	58	9.20	56	10.40
65	50	5.80	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

## PART NUMBERS AND ORDERING INFORMATION

Ordering Example	MAKE YOUR SPRINKLER CHOICE FROM CHART 1	CHOOSE NOZZLE SIZE(S) FROM CHART 2	ADD THEM TOGETHER TO CREATE THE PART NUMBER
To order a 46H sprinkler with a 11/64" Brass Straight Bore Nozzle and a 3/32" Brass 7° Low Angle Spreader Nozzle the part number would be:	<b>L46031-</b>	<b>+</b> <b>11-06</b>	<b>= L46031-11-06</b>

Chart 1	PART NUMBER: FIRST HALF
<b>SPRINKLER ONLY / PLUG</b>	
Sprinkler without Nozzle	<b>L46000</b>
Sprinkler without Nozzle plus Plug	<b>L46020</b>
<b>SPRINKLER WITH SINGLE NOZZLE INSTALLED</b>	
Sprinkler with <b>SBN-3</b> and Plug	<b>L46021-</b>
Sprinkler with <b>SBN-3P</b> and Plug	<b>L46025-</b>
<b>SPRINKLER WITH COMBINATION NOZZLES INSTALLED</b>	
Sprinkler with <b>SBN-3</b> and <b>LAN-1-7</b>	<b>L46031-</b>
Sprinkler with <b>SBN-3V</b> and <b>LAN-1-7</b>	<b>L46032-</b>
Sprinkler with <b>SBN-3P</b> and <b>LAN-1-7</b>	<b>L46030-</b>

Chart 2	NOZZLE	PART NUMBER: SECOND HALF						
		3/32"	1/8"	5/32"	11/64"	3/16"	13/64"	7/32"
	Brass Straight Bore Nozzle (105842-) SBN-3	—	—	<b>10</b>	<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>
	Brass Straight Bore Nozzle with Vane (106131-) SBN-3V	—	—	<b>10</b>	<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>
	Plastic Vaned Straight Bore Nozzle (71-P00002-) SBN-3P	—	—	<b>10</b>	<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>
	Brass 7° Low Angle Spreader Nozzle (100225-) LAN-1-7	<b>06</b>	<b>08</b>	—	—	—	—	—
	Brass 20° Low Angle Spreader Nozzle (100226-) LAN-1-20	<b>06</b>	<b>08</b>	—	—	—	—	—
	Plastic Plug (71-P00001) Brass Plug (100225)	Bold nozzle size numbers denote the most common nozzle choices.						



## 14070H

### 3/4" Full Circle, Brass Impact Sprinkler

Bearing: 3/4" Male NPT, Brass  
Trajectory Angle: 27°

Operating Range: 25-80 psi

Flow Rate: 4.2-23 GPM

Radius: 44-71 ft.

#### FEATURES

- Heavy duty brass construction
- Extra large body and barrel
- Stainless steel springs and fulcrum pin
- Chemically resistant washers
- Dual nozzle ports
- Two-year warranty

#### 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

## PERFORMANCE DATA

### Straight Bore Nozzle (SBN-3) with Spreader (LAN-1-20) (Stream Height: 10 ft.)

PSI @ Nozzle	NOZZLE SIZE													
	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"	
	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 (Stream Height: 10 ft.)

PSI @ Nozzle	NOZZLE SIZE																	
	5/32"		11/64"		3/16"		13/64"		7/32"		15/64"		1/4"		17/64"		9/32"	
	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)** (Stream Height: 10 ft.)

PSI @ Nozzle	NOZZLE SIZE													
	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'	
	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	-	-	-	-

**PART NUMBERS AND ORDERING INFORMATION**

Ordering Example	MAKE YOUR SPRINKLER CHOICE FROM CHART 1	CHOOSE NOZZLE SIZE(S) FROM CHART 2	ADD THEM TOGETHER TO CREATE THE PART NUMBER
To order a 14070H sprinkler with a 3/16" Brass Straight Bore Nozzle and a 1/8" Brass 20° Low Angle Spreader Nozzle the part number would be:	<b>A12802-</b>	<b>+</b> <b>12-08</b>	<b>=</b> <b>A12802-12-08</b>

Chart 1	PART NUMBER: FIRST HALF
<b>SPRINKLER ONLY / PLUG</b>	
Sprinkler without Nozzle	<b>A12800</b>
Sprinkler without Nozzle plus Brass Plug	<b>A12808</b>
<b>SPRINKLER WITH SINGLE NOZZLE INSTALLED</b>	
Sprinkler with <b>SBN-3</b> and Plug	<b>A12810-</b>
Sprinkler with <b>SBN-3V</b> and Plug	<b>A12860-</b>
Sprinkler with <b>RFN-3</b> and Plug	<b>A12811-</b>
<b>SPRINKLER WITH COMBINATION NOZZLES INSTALLED</b>	
Sprinkler with <b>SBN-3</b> and <b>LAN-1-20</b>	<b>A12802-</b>
Sprinkler with <b>SBN-3V</b> and <b>LAN-1-20</b>	<b>A12852-</b>
Sprinkler with <b>RFN-3</b> and <b>LAN-1-20</b>	<b>A12803-</b>

Chart 2	PART NUMBER: SECOND HALF									
NOZZLE	1/8"	5/32"	11/64"	3/16"	13/64"	7/32"	15/64"	1/4"	17/64"	9/32"
Brass Straight Bore Nozzle (105842-) <b>SBN-3</b>	-	<b>10</b>	<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>	<b>17</b>	<b>18</b>
Brass Straight Bore Nozzle with Vane (106131-) <b>SBN-3V</b>	-	<b>10</b>	<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>	<b>17</b>	<b>18</b>
Brass 20° Low Angle Spreader Nozzle (100226-) <b>LAN-1-20</b>	<b>08</b>	-	-	-	-	-	-	-	-	-
<b>RAIN FLOW NOZZLE</b> GPM:		<b>6.0</b>	<b>6.5</b>	<b>7.5</b>	<b>8.0</b>	<b>9.0</b>	<b>10.0</b>	<b>11.0</b>		
Brass Rain Flow Nozzle (111089-) <b>RFN-3</b>	<b>06-00</b>	<b>06-50</b>	<b>07-50</b>	<b>08-00</b>	<b>09-00</b>	<b>10-00</b>	<b>11-00</b>			
Brass Plug (100225)		Bold nozzle size numbers denote the most common nozzle choices.								

For flow rate information on RFN-3 see page 40.



## PERFORMANCE DATA

**30PSH**

### 30PSH

#### 3/4" Full Circle, Brass Impact Sprinkler

Bearing: 3/4" Male NPT, Brass  
 Trajectory Angle: 27°  
 Operating Range: 25-100 psi  
 Flow Rate: 5.89-23.4 GPM  
 Radius: 47-68 ft.

#### FEATURES

- Heavy duty brass construction
- High pressure spoon
- Stainless steel springs and fulcrum pin
- Chemically resistant washers
- Dual nozzle ports
- Two-year warranty

#### BENEFITS

- High pressure spoon allows for larger nozzles and pressures
- Exceptionally wide range of flow rates
- Corrosion and grit resistant
- Built to last

#### Straight Bore Nozzle (SBN-3) with Spreader (LAN-1-20) (Stream Height: 10 ft.)

PSI @ Nozzle	NOZZLE SIZE							
	13/64" x 1/8-20"		7/32" x 1/8-20"		15/64" x 1/8-20"		1/4" x 1/8-20"	
	Rad.	GPM	Rad.	GPM	Rad.	GPM	Rad.	GPM
25	47	8.30	48	9.24	49	10.30	50	11.30
30	49	9.15	50	10.20	51	11.30	52	12.40
35	51	9.94	52	11.10	52	12.20	54	13.50
40	52	10.70	53	11.90	54	13.00	56	14.50
45	53	11.30	54	12.70	55	13.80	57	15.40
50	53	11.90	55	13.30	56	14.50	58	16.20
55	54	12.50	56	13.90	57	15.30	59	17.00
60	55	13.00	57	14.40	58	15.30	60	17.70
65	56	13.50	58	14.90	59	16.00	61	18.40
70	57	14.00	59	15.40	60	17.20	62	19.10
75	58	14.50	60	15.90	61	17.80	63	19.80
80	59	15.00	61	16.40	62	18.40	64	20.50
85	60	15.43	62	16.81	63	18.90	65	21.20
90	61	15.87	63	17.25	64	19.30	66	22.00
95	62	16.29	64	17.67	65	19.80	67	22.70
100	63	16.71	65	18.08	66	20.20	68	23.40

#### Brass Straight Bore Nozzle and Vane (SBN-3V) with Plug (Stream Height: 10 ft.)

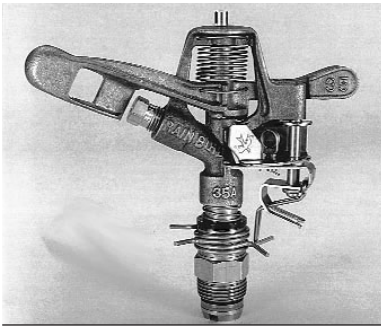
PSI @ Nozzle	NOZZLE SIZE							
	13/64"		7/32"		15/64"		1/4"	
	Rad.	GPM	Rad.	GPM	Rad.	GPM	Rad.	GPM
25	47	5.89	48	6.83	49	7.90	50	8.90
30	48	6.51	50	7.58	51	8.70	52	9.80
35	51	7.08	52	8.26	52	9.40	54	10.60
40	52	7.60	53	8.87	54	10.00	56	11.40
45	53	8.07	54	9.41	56	10.60	57	12.40
50	53	8.49	55	9.88	56	11.10	58	12.80
55	54	8.87	56	10.30	57	11.60	59	13.40
60	55	9.20	57	10.60	58	12.10	60	14.00
65	56	9.47	58	10.95	59	12.60	61	14.60
70	57	9.78	59	11.29	60	13.10	62	15.10
75	58	10.18	60	11.71	61	13.60	63	15.60
80	59	10.52	61	12.10	62	14.00	64	16.10
85	60	10.84	62	12.52	63	14.40	65	16.60
90	61	11.17	63	12.94	64	14.80	66	17.10
95	62	11.50	64	13.38	65	15.20	67	17.50
100	63	11.83	65	13.83	66	15.60	68	18.00

## PART NUMBERS AND ORDERING INFORMATION

Ordering Example	MAKE YOUR SPRINKLER CHOICE FROM CHART 1	CHOOSE NOZZLE SIZE(S) FROM CHART 2	ADD THEM TOGETHER TO CREATE THE PART NUMBER
To order a 30PSH sprinkler with a 13/64" Brass Straight Bore Nozzle and a 1/8" Brass 20° Low Angle Spreader Nozzle the part number would be:	<b>A08714-</b>	<b>+</b> <b>13-08</b>	<b>= A08714-13-08</b>

Chart 1	PART NUMBER: FIRST HALF
<b>SPRINKLER ONLY / PLUG</b>	
Sprinkler without Nozzle	<b>A08713</b>
<b>SPRINKLER WITH COMBINATION NOZZLES INSTALLED</b>	
Sprinkler with <b>SBN-3</b> and <b>LAN-1-20</b>	<b>A08714-</b>
Sprinkler with <b>SBN-3V</b> and <b>LAN-1-20</b>	<b>A10803-</b>

Chart 2	PART NUMBER: SECOND HALF				
NOZZLE	1/8"	13/64"	7/32"	15/64"	1/4"
Brass Straight Bore Nozzle (105842-) SBN-3	—	<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>
Brass Straight Bore Nozzle with Vane (106131-) SBN-3V	—	<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>
Brass 20° Low Angle Spreader Nozzle (100226-) LAN-1-20	<b>08</b>	—	—	—	—
Brass Plug (100225)					



## 35A-TNT 35A-PJ

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

Bearing: 3/4" Male NPT, Brass  
Trajectory Angle: 27°  
Operating Range: 30-60 psi  
Flow Rate: 3.9-7.8 GPM  
Radius: 42-51 ft.

#### FEATURES

- "Precision jet" (PJ) arm (35A-PJ)
- Standard spoon style arm also available (35A-TNT)
- Stainless steel springs and fulcrum pin
- Chemically resistant washers
- ADJ-3 Nozzles include integral break-up pin
- DAN-3 Nozzles include break-up pin and distance flap
- Full or Part Circle operation
- Two-year warranty

#### BENEFITS

- PJ arm reduces side splash
- Many options provide design and application flexibility
- Corrosion and grit resistant
- Built to last

## PERFORMANCE DATA

35A-TNT/35A-PJ

### Brass Straight Bore Nozzle (ADJN-3) or (DAN-3) (Stream Height: 9 ft.)

PSI @ Nozzle	NOZZLE SIZE					
	5/32"		11/64"		3/16"	
	Rad.	GPM	Rad.	GPM	Rad.	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

## PART NUMBERS AND ORDERING INFORMATION

Ordering Example	MAKE YOUR SPRINKLER CHOICE FROM CHART 1	CHOOSE NOZZLE SIZE (S) FROM CHART 2	ADD THEM TOGETHER TO CREATE THE PART NUMBER
To order a 35A-TNT sprinkler with a 3/16" Brass Straight Bore Adjustable Nozzle the part number would be:	<b>A38820-</b>	<b>+</b> <b>12</b>	<b>= A38820-12</b>

Chart 1: 35A-TNT	PART NUMBER: FIRST HALF
<b>SPRINKLER ONLY</b>	
Sprinkler without Nozzle	<b>A39200</b>
<b>SPRINKLER WITH SINGLE NOZZLE INSTALLED</b>	
Sprinkler with <b>ADJN-3</b>	<b>A38820-</b>
Sprinkler with <b>KHN-3</b>	<b>A38810-</b>

Chart 2	PART NUMBER: SECOND HALF		
NOZZLE	5/32"	11/64"	3/16"
Brass Straight Bore Adjustable Nozzle (100328-) <b>ADJN-3</b>	<b>10</b>	<b>11</b>	<b>12</b>
Brass Adjustable Do-All Nozzle (100332-) <b>DAN-3</b>	<b>10</b>	—	<b>12</b>
Brass Keyhole Nozzle (106353-) <b>KHN-3</b>	<b>10</b>	<b>11</b>	<b>12</b>

Bold nozzle size numbers denote the most common nozzle choices.

Chart 1: 35A-PJ	PART NUMBER: FIRST HALF
<b>SPRINKLER WITH NOZZLE INSTALLED</b>	
Sprinkler with <b>ADJN-3</b>	<b>A40613-</b>
Sprinkler with <b>DAN-3</b>	<b>A40614-</b>



## PERFORMANCE DATA

70H

### 70H

#### 1" Full Circle, Brass Impact Sprinkler

Bearing: 1" Female NPT, Brass  
Trajectory Angle: 21°

Operating Range: 40-80 psi

Flow Rate: 8.8-45.8 GPM

Radius: 57-82 ft.

#### FEATURES

- Heavy duty brass construction
- 1" Female NPT Bearing
- Integral Straightening Vanes
- Stainless steel springs and fulcrum pin
- Chemically resistant washers
- Dual nozzle ports
- Two-year warranty

#### BENEFITS

- Integral straightening vanes increase distance of throw
- Wide range of flow rates
- Corrosion and grit resistant
- Built to last

#### Straight Bore Nozzle (SBN-4) with Plug (Stream Height: 8 ft.)

PSI @ Nozzle	NOZZLE SIZE													
	7/32"		1/4"		9/32"		15/16"		11/32"		3/8"		13/32"	
	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) (Stream Height: 8 ft.)

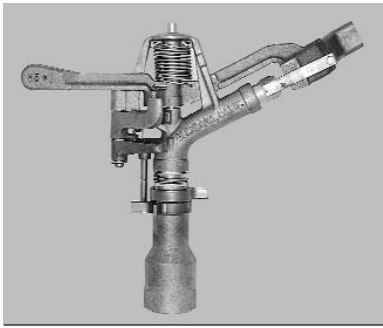
PSI @ Nozzle	NOZZLE SIZE													
	7/32" x 1/8-20°		1/4" x 1/8-20°		9/32" x 1/8-20°		15/16" x 1/8-20°		11/32" x 1/8-20°		3/8" x 1/8-20°		13/32" x 1/8-20°	
	Rad.	GPM	Rad.	GPM	Rad.	GPM	Rad.	GPM	Rad.	GPM	Rad.	GPM	Rad.	GPM
40	57	11.60	60	14.30	62	17.40	65	20.50	61	23.90	68	27.20	70	31.40
45	58	12.40	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

## PART NUMBERS AND ORDERING INFORMATION

Ordering Example	MAKE YOUR SPRINKLER CHOICE FROM CHART 1	CHOOSE NOZZLE SIZE(S) FROM CHART 2	ADD THEM TOGETHER TO CREATE THE PART NUMBER
To order a 70H sprinkler with a 7/32" Brass Straight Bore Nozzle, a Brass Spreader Bushing, and a 1/8" Brass 20° Low Angle Spreader Nozzle the part number would be:	<b>A20038-</b>	<b>+ 14-08</b>	<b>= A20038-14-08</b>

Chart 1	PART NUMBER: FIRST HALF
<b>SPRINKLER ONLY/ PLUG</b>	
Sprinkler without Nozzle	<b>A20000</b>
Sprinkler without Nozzle plus Brass Plug	<b>A20001</b>
<b>SPRINKLER WITH SINGLE NOZZLE INSTALLED</b>	
Sprinkler with <b>SBN-4</b> and Plug	<b>A20002-</b>
<b>SPRINKLER WITH COMBINATION NOZZLES INSTALLED</b>	
Sprinkler with <b>SBN-4, SPB-1</b> and <b>LAN-1-20</b>	<b>A20038-</b>

Chart 2	PART NUMBER: SECOND HALF							
NOZZLE	1/8"	7/32"	1/4"	9/32"	5/16"	11/32"	3/8"	13/32"
Brass Straight Bore Nozzle (100382-) <b>SBN-4</b>	-	<b>14</b>	<b>16</b>	<b>18</b>	<b>20</b>	<b>22</b>	<b>24</b>	<b>26</b>
Brass Spreader Bushing (100418-) <b>SPB-1</b>	(Needed for use with LAN-1-20)							
Brass 20° Low Angle Spreader Nozzle (100226-) <b>LAN-1-20</b>	<b>08</b>	-	-	-	-	-	-	-
Brass Plug (100417)								



## PERFORMANCE DATA

**65PJ**

### 65PJ

#### 1" Full or Part Circle, Brass Impact Sprinkler

**Bearing:** 1" Female NPT, Brass

**Trajectory Angle:** 27°

**Operating Range:** 50-80 psi

**Flow Rate:** 12.9-16.5 GPM

**Radius:** 57-65 ft.

#### FEATURES

- Heavy duty brass construction
- 1" Female NPT Bearing
- "Precision jet" (PJ) arm
- Stainless steel springs and fulcrum pin
- Chemically resistant washers
- ADJ-4 Nozzles include integral break-up pin
- Full or Part Circle operation
- Two-year warranty

#### BENEFITS

- PJ arm reduces side splash
- Many options provide design and application flexibility
- Corrosion and grit resistant
- Built to last

#### Adjustable Straight Bore Nozzle (ADJ-4) (Stream Height: 10 ft.)

PSI @ Nozzle	NOZZLE SIZE	
	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

## PART NUMBERS AND ORDERING INFORMATION

Ordering Example	MAKE YOUR SPRINKLER CHOICE FROM CHART 1	CHOOSE NOZZLE SIZE(S) FROM CHART 2	ADD THEM TOGETHER TO CREATE THE PART NUMBER
To order a 65PJ sprinkler with a 1/4" Brass Straight Bore Adjustable Nozzle the part number would be:	<b>A42003-</b>	<b>+</b> <b>16</b>	<b>=</b> <b>A42003-16</b>

Chart 1	PART NUMBER: FIRST HALF
<b>SPRINKLER ONLY</b>	
Sprinkler without Nozzle	<b>A42001</b>
<b>SPRINKLER WITH SINGLE NOZZLE INSTALLED</b>	
Sprinkler with ADJ-4	<b>A42003-</b>

Chart 2	PART NUMBER: SECOND HALF
<b>NOZZLE</b>	<b>1/4"</b>
Brass Straight Bore Adjustable Nozzle (100382-) ADJN-4	<b>16</b>





# 80E

## 1 1/4" Full Circle, Brass Impact Sprinkler

Bearing: 1 1/4" Male NPT, Brass  
 Trajectory Angle: 27°  
 Operating Range: 25-100 psi  
 Flow Rate: 17.1-127.7 GPM  
 Radius: 61-116 ft.

### FEATURES

- Heavy duty brass construction
- Internal plastic straightening vane
- Stainless steel springs and fulcrum pin
- Plastic bearing hood
- Chemically resistant washers
- Dual nozzle ports
- Two-year warranty

### 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

## PERFORMANCE DATA

80E

### Straight Bore Nozzle (SBN-5) with Plug (Stream Height: 14 ft.)

PSI @ Nozzle	NOZZLE SIZE																			
	11/32"		3/8"		13/32"		7/16"		15/32"		1/2"		17/32"		9/16"		5/8"		11/16"	
	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	97.10	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) (Stream Height: 14 ft.)

PSI @ Nozzle	NOZZLE SIZE									
	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"					
	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

## PART NUMBERS AND ORDERING INFORMATION

Ordering Example	MAKE YOUR SPRINKLER CHOICE FROM CHART 1	CHOOSE NOZZLE SIZE(S) FROM CHART 2	ADD THEM TOGETHER TO CREATE THE PART NUMBER
To order an 80E sprinkler with a 3/8" Brass Straight Bore Nozzle and an 7/32" Brass 20° Low Angle Spreader Nozzle the part number would be:	<b>A23803-</b>	<b>+ 24-14</b>	<b>= A23803-24-14</b>

Chart 1	PART NUMBER: FIRST HALF
<b>SPRINKLER ONLY</b>	
Sprinkler without Nozzle	<b>A23802</b>
<b>SPRINKLER WITH SINGLE NOZZLE INSTALLED</b>	
Sprinkler with <b>SBN-5</b> and Brass Plug	<b>A23813-</b>
Sprinkler with <b>LPN-5</b> and Brass Plug	<b>A23814-</b>
<b>SPRINKLER WITH COMBINATION NOZZLES INSTALLED</b>	
Sprinkler with <b>SBN-5</b> and <b>LAN-1-20</b>	<b>A23803-</b>

Chart 2	PART NUMBER: SECOND HALF										
NOZZLE	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 (103043-) <b>SBN-5</b>	-	<b>22</b>	<b>24</b>	<b>26</b>	<b>28</b>	<b>30</b>	<b>32</b>	<b>34</b>	<b>36</b>	<b>40</b>	<b>44</b>
Brass Low Pressure Nozzle (108149-) <b>LPN-5</b>	-	<b>22</b>	<b>24</b>	<b>26</b>	<b>28</b>	<b>30</b>	<b>32</b>	-	-	<b>40</b>	-
Brass 20° Low Angle Spreader Nozzle (100226-) <b>LAN-1-20</b>	<b>14</b>	-	-	-	-	-	-	-	-	-	-



## 85EHD

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

Bearing: 1 1/4" Male NPT, Brass

Trajectory Angle: 27°

Operating Range: 25-100 psi

Flow Rate: 17.1-127.7 GPM

Radius: 61-116 ft.

#### FEATURES

- Heavy duty brass construction
- Stainless steel wear buttons, springs and fulcrum pin
- Locking stainless steel trip collars
- Chemically resistant washers
- Full or Part Circle operation
- Two-year warranty

#### BENEFITS

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

## PERFORMANCE DATA

85EHD

### Straight Bore Nozzle (SBN-5) with Plug (Stream Height: 14 ft.)

PSI @ Nozzle	NOZZLE SIZE																			
	11/32"		3/8"		13/32"		7/16"		15/32"		1/2"		17/32"		9/16"		5/8"		11/16"	
	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) with Spreader (LAN-1-20) (Stream Height: 14 ft.)

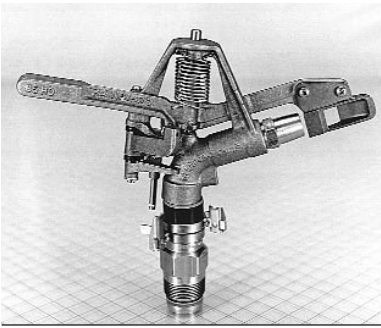
PSI @ Nozzle	NOZZLE SIZE									
	11/32" x 7/32-20"	3/8" x 7/32-20"	13/32" x 7/32-20"	7/16" x 7/32-20"	15/32" x 7/32-20"					
	Rad.	GPM	Rad.	GPM	Rad.	GPM				
25	61	23.30	62	26.50	64	29.60	66	32.90	66	36.40
30	64	25.60	65	29.10	68	32.40	69	36.10	72	40.00
35	67	27.70	68	31.40	72	35.10	74	39.00	77	43.30
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

## PART NUMBERS AND ORDERING INFORMATION

Ordering Example	MAKE YOUR SPRINKLER CHOICE FROM CHART 1	CHOOSE NOZZLE SIZE(S) FROM CHART 2	ADD THEM TOGETHER TO CREATE THE PART NUMBER
To order an 85EHD sprinkler with a 3/8" Brass Straight Bore Nozzle and a 7/32" Brass 20° Low Angle Spreader Nozzle the part number would be:	<b>A23601-</b>	<b>+ 24-14</b>	<b>= A23601-24-14</b>

Chart 1: 85EHD	PART NUMBER: FIRST HALF
<b>SPRINKLER ONLY / PLUG</b>	
Sprinkler without Nozzle	<b>A23600</b>
Sprinkler without Nozzle plus Brass Plug	<b>A23612</b>
<b>SPRINKLER WITH SINGLE NOZZLE INSTALLED</b>	
Sprinkler with <b>SBN-5</b> and Brass Plug	<b>A23613-</b>
<b>SPRINKLER WITH COMBINATION NOZZLES INSTALLED</b>	
Sprinkler with <b>SBN-5</b> and <b>LAN-1-20</b>	<b>A23601-</b>
Sprinkler with <b>LPN-5</b> and <b>LAN-1-20</b>	<b>A23602-</b>

Chart 2	PART NUMBER: SECOND HALF										
NOZZLE	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 (103043-) SBN-5	-	22	24	26	28	30	32	34	36	40	44
Brass Low Pressure Nozzle (108149-) LPN-5	-	22	24	26	28	30	32	-	-	40	-
Brass 20° Low Angle Spreader Nozzle (100226-) LAN-1-20	14										



## 85EHD-LA

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

Bearing: 1 1/4" Male NPT, Brass  
Trajectory Angle: 17°

Operating Range: 20-100 psi

Flow Rate: 17.1-127.7 GPM

Radius: 48-108 ft.

#### FEATURES

- Heavy duty brass construction
- Stainless steel wear buttons, springs and fulcrum pin
- Locking stainless steel trip collars
- Chemically resistant washers
- Full or Part Circle operation
- Two-year warranty

#### BENEFITS

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

## PERFORMANCE DATA

85EHD-LA

### Straight Bore Nozzle (SBN-5) with Plug (Stream Height: 14 ft.)

PSI @ Nozzle	NOZZLE SIZE																			
	11/32"		3/8"		13/32"		7/16"		15/32"		1/2"		17/32"		9/16"		5/8"		11/16"	
	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)

(Stream Height: 10 ft.)

PSI @ Nozzle	NOZZLE SIZE							
	3/8"		7/16"		1/2"		5/8"	
	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

## PART NUMBERS AND ORDERING INFORMATION

Ordering Example	MAKE YOUR SPRINKLER CHOICE FROM CHART 1	CHOOSE NOZZLE SIZE(S) FROM CHART 2	ADD THEM TOGETHER TO CREATE THE PART NUMBER
To order an 85EHD-LA sprinkler with a 3/8" Brass Straight Bore Nozzle the part number would be:	<b>A23962-</b>	<b>+</b> <b>24</b>	<b>=</b> <b>A23962-24</b>

Chart 1: 85EHD-LA	PART NUMBER: FIRST HALF
<b>SPRINKLER ONLY</b>	
Sprinkler without Nozzle	<b>A23960</b>
<b>SPRINKLER WITH SINGLE NOZZLE INSTALLED</b>	
Sprinkler with <b>SBN-5</b>	<b>A23962-</b>

Chart 2	PART NUMBER: SECOND HALF									
NOZZLE	11/32"	3/8"	13/32"	7/16"	15/32"	1/2"	17/32"	9/16"	5/8"	11/16"
Brass Straight Bore Nozzle (103043-) <b>SBN-5</b>	<b>22</b>	<b>24</b>	<b>26</b>	<b>28</b>	<b>30</b>	<b>32</b>	<b>34</b>	<b>36</b>	<b>40</b>	<b>44</b>
Brass Low Pressure Nozzle (108149-) <b>LPN-5</b>	<b>22</b>	<b>24</b>	<b>26</b>	<b>28</b>	<b>30</b>	<b>32</b>	-	-	<b>40</b>	-

# 1/2" Impact Sprinklers

## GENERAL PERFORMANCE DATA

### Sprinkler Throw

U.S. Units

**GENERAL NOTE**

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

**NOTE A**

Diameters are based on a 30"/76cm riser height.

**NOTE B**

This data is not appropriate for the 20AH(ALUM). See catalog performance chart.

**NOTE C**

Some data shown will vary from catalog data. This occurs because two sprinklers with the same nozzle size can have a different diameter of throw.

PRESSURE (PSI) @ NOZZLE	RADIUS FOR 23° TRAJECTORY - STRAIGHT BORE NOZZLES									
	1/16"	51 DRILL	50 DRILL	5/64"	44 DRILL	3/32"	7/64"	1/8"	9/64"	5/32"
20	-	29	29	30	32	33	34	36	38	39
30	30	30	30	31	33	34	35	38	39	40
40	30	31	31	32	34	35	36	39	40	41
50	31	32	32	33	35	36	37	39	41	42
60	32	33	33	34	36	37	38	40	41	42
RADIUS FOR 15° TRAJECTORY										
20	-	-	-	-	-	-	-	-	-	-
30	26	-	-	28	29	30	32	33	34	-
40	28	-	-	30	31	32	34	35	37	-
50	29	-	-	32	32	33	35	37	38	-
RADIUS FOR 13° TRAJECTORY										
20	-	-	-	-	-	-	-	-	-	-
30	25	-	-	27	28	29	30	32	33	-
40	26	-	-	29	30	31	32	34	35	-
50	28	-	-	31	31	32	34	36	37	-
RADIUS FOR 10° TRAJECTORY										
20	-	-	-	-	-	-	-	-	-	-
30	24	24	24	26	27	27	28	-	-	-
40	25	25	26	27	28	29	30	-	-	-
50	27	27	27	29	30	31	31	-	-	-
RADIUS FOR 7° TRAJECTORY										
20	-	-	-	-	-	-	-	-	-	-
30	-	-	-	24	25	25	26	28	-	-
40	-	-	-	26	27	27	28	30	-	-
50	-	-	-	27	28	29	29	32	-	-

PRESSURE (PSI) @ NOZZLE	RADIUS FOR 23° TRAJECTORY - LOW PRESSURE NOZZLES						
	50 DRILL	5/64"	44 DRILL	3/32"	7/64"	1/8"	9/64"
20	-	-	-	-	-	-	-
30	-	29	31	32	33	36	-
40	-	31	32	33	34	37	-
50	-	32	33	34	36	38	-
RADIUS FOR 15° TRAJECTORY							
20	-	-	-	-	-	-	-
30	28	28	29	30	32	33	-
40	30	30	31	32	34	35	-
50	31	32	32	33	35	-	-
RADIUS FOR 13° TRAJECTORY							
20	-	-	-	-	-	-	-
30	-	27	-	28	29	30	30
40	-	29	-	30	31	32	32
50	-	30	-	32	33	33	34
RADIUS FOR 10° TRAJECTORY							
20	-	-	-	-	-	-	-
30	-	25	26	26	27	28	-
40	-	27	28	28	29	29	-
50	-	28	29	30	30	-	-
RADIUS FOR 7° TRAJECTORY							
20	-	-	-	-	-	-	-
30	-	23	-	24	25	25	26
40	-	24	-	26	27	27	28
50	-	26	-	27	28	29	29

### Sprinkler Flow

U.S. Units

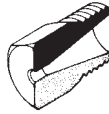
PRESSURE (PSI) @ NOZZLE	FLOW (GALLONS PER MINUTE) FOR LPN					
	50 DRILL	5/64"	44 DRILL	3/32"	7/64"	1/8"
20	-	-	-	-	-	-
30	0.77	0.98	1.21	1.45	1.98	2.56
40	0.90	1.13	1.41	1.67	2.28	2.96
50	1.00	1.27	1.56	1.87	2.55	3.33

PRESSURE (PSI) @ NOZZLE	FLOW (GALLONS PER MINUTE) FOR SB									
	1/16"	51 DRILL	50 DRILL	5/64"	44 DRILL	3/32"	7/64"	1/8"	9/64"	5/32"
20	-	0.59	0.62	0.79	0.97	1.14	1.55	2.03	2.57	3.17
30	0.62	0.71	0.78	0.97	1.17	1.39	1.90	2.48	3.15	3.89
40	0.72	0.83	0.90	1.12	1.36	1.61	2.19	2.86	3.64	4.49
50	0.80	0.92	1.00	1.25	1.51	1.80	2.45	3.20	4.07	5.02
60	0.88	1.01	1.10	1.37	1.62	1.97	2.68	3.50	4.45	5.50

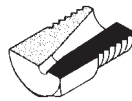
# Nozzle Configurations for 1/2" Sprinkler Models

## Color Coding Chart

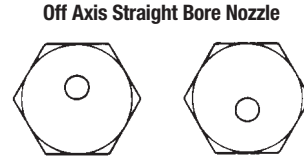
NOZZLE SIZE	BORE ANGLE	COLOR
Brass Housing Nozzle insert		
inch	mm	
#50		White
5/64	1.98	Blue
#44	0°	Gray
3/32	2.38	Violet
7/64	2.78	Green
1/8	3.18	Red
9/64	3.57	Black
5/32	3.97	Light Orange
5/64	1.98	Yellow
3/32	2.38	Pink
7/64	2.78	Orange
1/8	3.18	Brown
9/64	3.57	Tan



**#14/20 Straight Bore Nozzle**  
shown less vane  
Less Vane - 105780  
With Vane - 106160

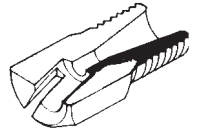


**#14/20 Off Axis Straight Bore Nozzle**  
3° - 106171  
11° - 103511  
15° - 103513

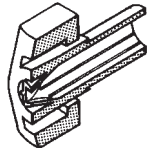


Hole Up

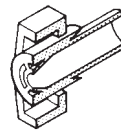
Hole Down



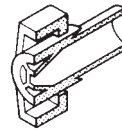
**#20AH-AL Nozzle**  
7° - 100225  
20° - 100226



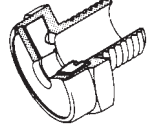
**QF-SMN Nozzle**  
108880



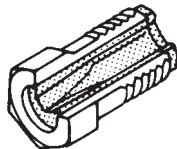
**QF-SMN-1 Nozzle**  
108831



**QF-LPN-1 Nozzle**  
109248

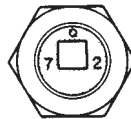


**1/2" Rain Flow Nozzle**  
111088

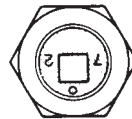


**#14/20 LPN-1 Nozzle**  
0° - 104571  
3° - 104572

LPN-1 Nozzle

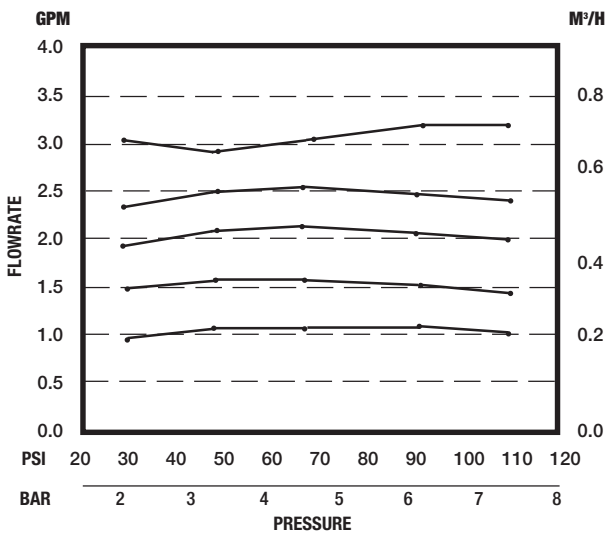


Hole Up



Hole Down

## RFN-1 Performance





# 3/4" Impact Sprinklers

## GENERAL PERFORMANCE DATA

### Sprinkler Throw

U.S. Units

**GENERAL NOTE**

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

**NOTE A**

Diameters are based on a 30"/76cm riser height.

**NOTE B**

Some data shown will vary from catalog data. This occurs because two sprinklers with the same nozzle size can have a different diameter of throw.

Because of the design of the LPN-3 nozzles, a reduced diameter of throw can be expected at 3/16"/4.76mm and above. This is because these larger sizes utilize a two-hole configuration as opposed to the one-hole design of the smaller nozzles. Flow data for the larger nozzles will still be higher (see flow tables.)

PRESSURE (PSI) @ NOZZLE	RADIUS OF THROW (FT.) FOR STRAIGHT BORE NOZZLES											
	7/64"	1/8"	9/64"	5/32"	11/64"	3/16"	13/64"	7/32"	15/64"	1/4"	17/64"	9/32"
30	39	39	40	42	44	45	48	49	50	51	51	52
40	39	40	41	44	46	48	51	52	53	54	55	56
50	40	41	42	45	47	50	53	55	56	57	58	59
60	41	42	43	46	48	51	55	57	58	60	61	62
70	41	43	44	47	49	52	57	59	60	62	63	65
80	42	43	45	48	50	53	58	61	62	65	-	-

PRESSURE (PSI) @ NOZZLE	RADIUS OF THROW (FT.) FOR STRAIGHT BORE NOZZLES WITH VANES											
	7/64"	1/8"	9/64"	5/32"	11/64"	3/16"	13/64"	7/32"	15/64"	1/4"	17/64"	9/32"
30	40	42	43	45	46	47	51	54	54	55	55	55
40	40	43	45	47	48	50	54	56	57	59	59	60
50	41	44	46	49	50	53	56	58	60	62	63	64
60	42	45	47	50	51	54	57	60	62	64	66	68
70	43	46	48	51	53	55	58	62	64	66	69	71
80	44	47	50	52	55	56	60	63	66	69	-	-

PRESSURE (PSI) @ NOZZLE	RADIUS OF THROW (FT.) FOR LOW PRESSURE (LPN-3) NOZZLES							
	1/8"	9/64"	5/32"	11/64"	3/16"	13/64"	1/4"	17/64"
30	37	38	38	39	37	38	40	40
40	39	39	40	40	39	39	41	42
50	40	41	41	41	40	41	42	44

### Sprinkler Flow

U.S. Units

**GENERAL NOTE**

When using range nozzle sizes 15/64", 1/4", 17/64", and 9/32" / 5.59mm, 6.35mm, 6.75mm, and 7.14mm with vanes, see 14070EH tables (page??) for accurate flow data.

Flow for keyhole nozzles is the same as for straight bore nozzles; throw diameters are approximately 5% less than straight bore nozzles.

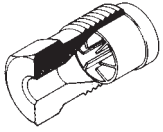
PRESSURE (PSI) @ NOZZLE	FLOW (GALLONS PER MINUTE) FOR STRAIGHT BORE NOZZLES											
	7/64"	1/8"	9/64"	5/32"	11/64"	3/16"	13/64"	7/32"	15/64"	1/4"	17/64"	9/32"
30	1.9	2.5	3.1	3.9	4.7	5.6	6.6	7.6	8.8	10.0	11.2	12.6
40	2.2	2.9	3.6	4.5	5.4	6.4	7.6	8.8	10.1	11.5	13.0	14.6
50	2.4	3.2	4.1	5.0	6.1	7.2	8.5	9.8	11.3	12.9	14.5	16.3
60	2.7	3.6	4.4	5.5	6.6	7.9	9.3	10.8	12.4	14.1	15.9	17.8
70	2.9	3.8	4.8	5.9	7.2	8.5	10.0	11.6	13.4	15.2	17.2	19.2
80	3.1	4.1	5.1	6.3	7.7	9.1	10.7	12.4	14.3	16.3	-	-

PRESSURE (PSI) @ NOZZLE	FLOW (GPM) FOR SB NOZZLE WITH 3/32" SPREADER							
	1/8" x 3/32"	9/64" x 3/32"	5/32" x 3/32"	11/64" x 3/32"	3/16" x 3/32"	13/64" x 3/32"	7/32" x 3/32"	
30	3.9	4.6	5.3	6.1	7.0	7.9	9.0	
40	4.5	5.2	6.1	7.0	8.1	9.2	10.5	
50	5.0	5.9	6.8	7.9	9.0	10.3	11.7	
60	5.5	6.4	7.4	8.6	9.9	11.2	12.6	
70	5.9	6.9	8.1	9.3	10.7	12.0	13.4	
80	6.4	7.5	8.7	10.0	11.5	12.9	14.5	

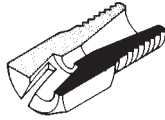
PRESSURE (PSI) @ NOZZLE	FLOW (GPM) FOR SB NOZZLE WITH 1/8" SPREADER											
	1/8" x 1/8"	9/64" x 1/8"	5/32" x 1/8"	11/64" x 1/8"	3/16" x 1/8"	13/64" x 1/8"	7/32" x 1/8"	15/64" x 1/8"	1/4" x 1/8"	17/64" x 1/8"	9/32" x 1/8"	
30	5.0	5.6	6.4	7.2	8.1	9.1	10.1	11.2	12.4	13.7	15.1	
40	5.7	6.5	7.3	8.3	9.3	10.5	11.7	13.0	14.4	15.8	17.4	
50	6.4	7.3	8.2	9.3	10.4	11.7	13.1	14.5	16.1	17.7	19.5	
60	7.0	7.9	9.0	10.1	11.4	12.8	14.3	15.9	17.6	19.4	21.3	
70	7.5	8.5	9.7	10.9	12.3	13.8	15.4	17.2	19.0	21.0	23.0	
80	8.0	9.1	10.3	11.6	13.1	14.8	16.5	18.4	20.3	-	-	

PRESSURE (PSI) @ NOZZLE	FLOW (GPM) FOR LOW PRESSURE (LPN-3) NOZZLES							
	1/8"	9/64"	5/32"	11/64"	3/16"	13/64"	1/4"	17/64"
30	2.5	3.2	3.9	4.6	5.4	6.3	9.3	10.4
40	2.9	3.7	4.5	5.3	6.3	7.3	10.7	12.0
50	3.3	4.1	5.0	6.0	7.0	8.2	12.0	13.4

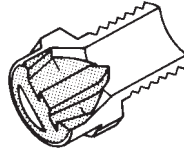
## Nozzle Configurations for 3/4" Sprinkler Models



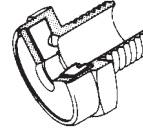
#30 Straight Bore Nozzle  
shown less vane  
Less Vane - 105842  
With Vane - 106131



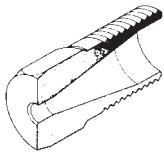
#30 Spreader Nozzle  
7° - 100225  
20° - 100226



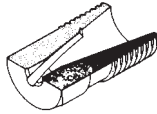
#30 LPN-3 Nozzle  
104538



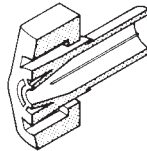
3/4" Rain Flow Nozzle  
111089



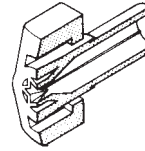
#70E/70C Range Nozzle  
100382



#35 Keyhole Nozzle  
Less Vane - 106353  
With Vane - 106354

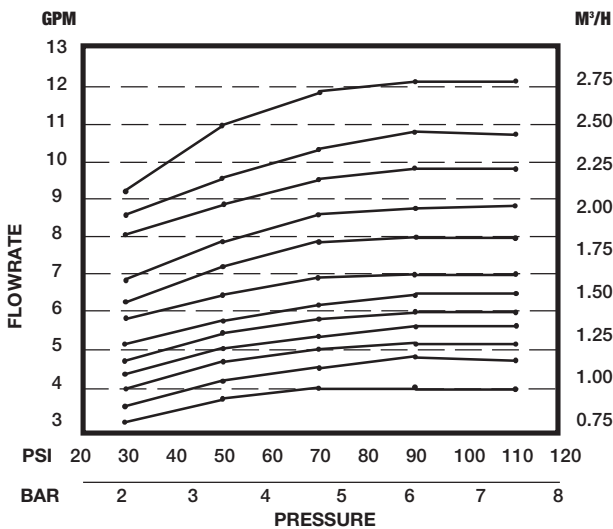


L36 QF-SBN-3  
107881



L36 QF-LPN-3  
109247

### RFN-3 Performance



PSI @ Nozzle	RADIUS (FT.)					
	3.5 GPM	4.0 GPM	4.5 GPM	5.0 GPM	5.5 GPM	6.0 GPM
30	41	41	43	44	44	45
40	41	42	44	45	46	47
50	-	42	44	45	46	47
60	-	-	44	45	46	48
70	-	-	-	45	46	47
80	-	-	-	45	46	47

### 808A Series 1 1/4" (32mm) Impact Sprinkler



Rugged, reliable, long throwing with uniform coverage. The Rain Bird 808A series full circle 1 1/4" (32mm) impact sprinklers are engineered to last under demanding conditions in agricultural irrigation systems. The extended barrel design increases distance of throw, allowing wider spacing and more economical designs. The 21 degree trajectory provides the right balance of wind resistance and distance of throw.

The 808A sprinkler is available with or without spreader nozzle. The dual nozzle configuration provides outstanding uniformity and the single nozzle model is suited for wastewater applications. (Contact factory for SPACE data and uniformity information). Use either the 85 ESHD or low angle 85 ESHD-LA part circle sprinklers to complete the system. Ideal for specifying on wastewater sprayfield systems or any other agricultural irrigation system.

#### **Applications**

- Permanent set irrigation of crops such as corn, hay, sod, nurseries, tobacco, etc.
- Portable systems
- Wastewater sprayfield irrigation
- Pastures and arenas
- Dust control

#### **Features**

- Balanced long range drive arm provides even rotation and maximum driving force. Permits single or dual nozzle operation
- 21 degree trajectory body for long throw even in windy conditions
- Range tube extension maximizes throw distance.
- Durable anodized aluminum body, arm, and extension tube - lightweight and rugged
- Dual nozzle model has matched rear mounted spreader for each range nozzle
- Single range nozzle (spreader plugged) model for wastewater applications
- Brass bearing is the same as used on model 80 & 85 series sprinklers. Proven design & common parts

#### **Models**

- 808A

#### **Specifications**

##### **Material:**

- Body and barrel: Anodized aluminum
- Arm: Anodized aluminum
- Bearing sleeve and nipple: Heavy duty brass
- All springs: Stainless steel
- All washers: Chemically resistant

##### **Inlet threads:**

- 1 1/4" Male NPT (32mm)

**Body trajectory:** 21 degrees

**Spreader nozzle trajectory:** 20 deg

#### **How to Specify**

- 808A-XX-xx (dual nozzle)
- 808A-XX (single nozzle)
- 808A (less nozzles)

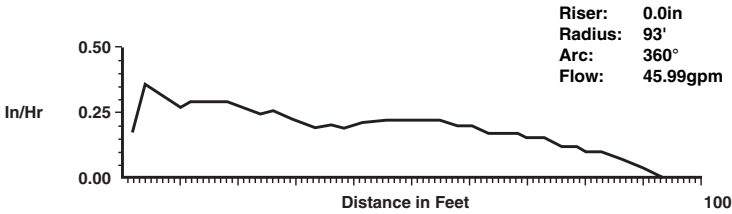
##### **Notes**

1. See performance chart for available nozzle combinations
2. BSP models available, please specify when ordering

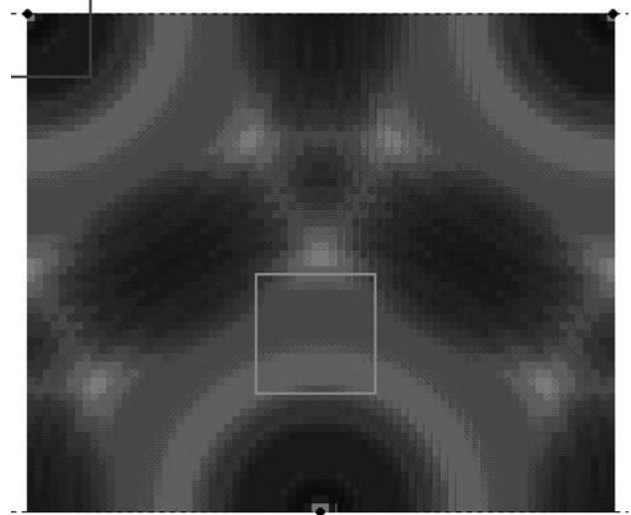


Matched range nozzle and spreader nozzle combinations provide many high uniformity combinations. Here is an example:

Spacing: 145' x 126' (44,2 x 38,4 m) equilateral



Distribution test of 26 x 8 nozzles @ 80 psi (5,5 bar)



CU=89%, DU=85%, SC=1.1  
Precipitation rate = .25 in/hr (6,3 mm/hr)

**Performance Data - U.S. Units**  
**Range and Spreader Nozzle**

Pressure	26x8		28x10		30x10		32x12		34x12		36x12		40x14	
	psi	ft gpm	ft gpm	ft gpm	ft gpm	ft gpm	ft gpm	ft gpm	ft gpm	ft gpm	ft gpm	ft gpm	ft gpm	
60	83	39.9	87	47.1	89	52.3	87	58.9	95	65.2	95	71.1	95	87.0
70	89	43.0	91	50.4	95	56.6	97	64.8	99	70.4	101	76.7	101	95.0
80	93	46.0	95	54.3	99	59.0	97	67.9	105	75.2	105	82.0	105	101.0
90	97	48.7	97	57.6	103	63.9	99	72.0	109	79.6	109	87.4	111	108.0
100	103	51.4	101	60.7	107	67.4	101	75.8	111	84.1	113	92.9	113	114.0

**Range Nozzle only**

Pressure	26	28	30	32	34	36	40							
	psi	ft gpm	ft gpm	ft gpm	ft gpm	ft gpm	ft gpm							
60	83	35.7	86	40.8	87	47.5	87	52.1	88	57.2	89	62.7	91	74.5
70	85	38.5	87	44.0	89	51.3	93	56.2	93	61.8	95	67.6	100	80.5
80	89	41.2	93	47.1	95	54.8	97	60.1	100	66.1	101	72.2	105	86.1
90	94	43.7	97	49.9	100	58.2	103	63.7	104	70.0	105	76.6	107	91.3
100	97	46.0	102	53.6	105	61.3	107	67.2	108	73.8	109	81.5	111	96.2

Note: Nozzle size = nozzle number / 64 in.

**Performance Data - Metric Units**  
**Range and Spreader Nozzle**

Pressure	26x8		28x10		30x10		32x12		34x12		36x12		40x14	
	bars	m m <sup>3</sup> /hr	m m <sup>3</sup> /hr	m m <sup>3</sup> /hr	m m <sup>3</sup> /hr	m m <sup>3</sup> /hr	m m <sup>3</sup> /hr	m m <sup>3</sup> /hr	m m <sup>3</sup> /hr	m m <sup>3</sup> /hr	m m <sup>3</sup> /hr	m m <sup>3</sup> /hr		
4.1	25.3	9.1	26.5	10.7	27.1	11.9	26.5	13.4	29.0	14.8	29.0	16.1	29.0	19.8
4.5	26.3	9.4	27.2	11.1	28.1	12.4	28.1	14.1	29.6	15.4	29.9	16.8	29.9	20.7
5.0	27.4	9.9	28.0	11.7	29.3	13.0	29.6	14.9	30.6	16.3	31.1	17.7	31.1	21.9
5.5	28.3	10.4	28.9	12.3	30.1	13.4	29.6	15.4	32.0	17.1	32.0	18.6	32.0	22.9
6.0	29.2	10.9	29.4	12.9	31.0	14.2	30.0	16.1	32.9	17.8	32.9	19.5	33.3	24.1
6.5	30.3	11.3	30.1	13.4	31.9	14.9	30.4	16.7	33.5	18.5	33.7	20.4	34.1	25.1

**Range Nozzle only**

Pressure	26	28	30	32	34	36	40							
	bars	m m <sup>3</sup> /hr	m m <sup>3</sup> /hr	m m <sup>3</sup> /hr	m m <sup>3</sup> /hr	m m <sup>3</sup> /hr	m m <sup>3</sup> /hr							
4.1	25.1	8.1	26.2	9.3	26.4	10.8	26.5	11.8	26.8	13.0	27.1	14.2	27.7	16.9
4.5	25.5	8.4	26.4	9.6	26.8	11.2	27.5	12.3	27.6	13.5	28.1	14.8	29.2	17.6
5.0	26.2	8.9	27.0	10.2	27.6	11.9	28.7	13.0	28.9	14.3	29.4	15.6	30.9	18.6
5.5	27.1	9.3	28.3	10.7	28.9	12.4	29.5	13.6	30.4	15.0	30.7	16.4	32.0	19.5
6.0	28.1	9.8	29.2	11.1	30.0	13.0	30.9	14.2	31.3	15.6	31.6	17.1	32.4	20.4
6.5	28.9	10.2	30.2	11.7	31.1	13.5	31.9	14.8	32.2	16.3	32.5	17.9	33.1	21.2

Note: Nozzle size = nozzle number x 0,4 mm.

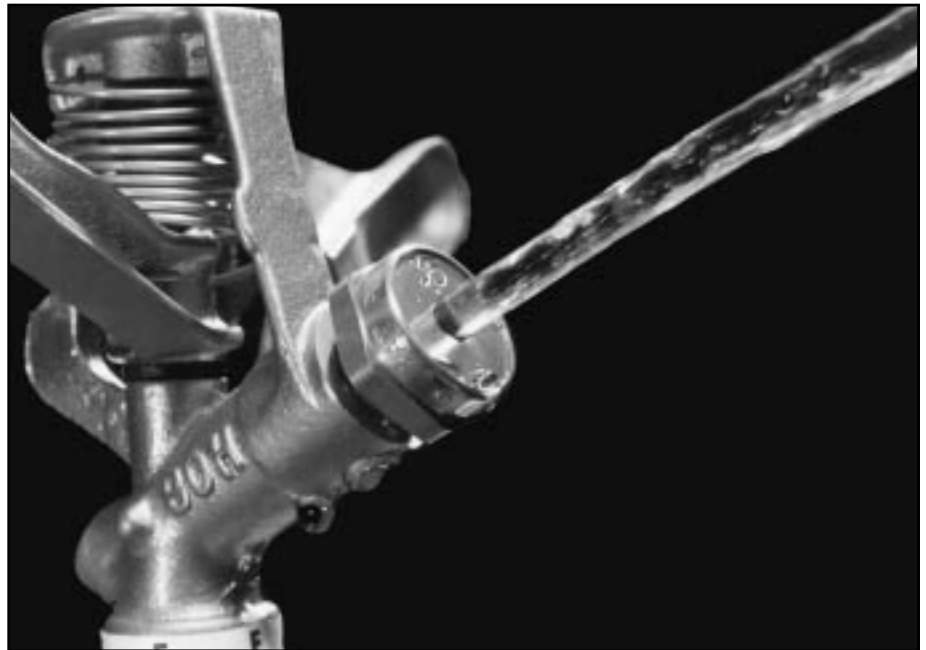
**Rain Bird Agri-Products Co.**  
633 W. Foothill Blvd.  
Glendora, CA 91741-2469  
Phone: (800) 435-5624  
Fax: (626) 852-7310

**Rain Bird International, Inc.**  
145 N. Grand Ave.  
Glendora, CA 91741-2469  
Phone: (626) 963-9311  
Fax: (626) 963-4287

### Rain Flow™ Nozzles

#### Looking for constant performance at changing pressures?

Try Rain Bird's Rain Flow™ Nozzles (RFN). For decades, growers have learned to rely on Rain Bird products. The RFN is no exception. Rain Flow Nozzles allow growers to maintain optimum water application uniformity even when the irrigation system has excessive elevation changes, fluctuating system pressures, or long, high-pressure lateral or wheel-line runs. RFN's exceptional design coupled with Rain Bird reliability make Rain Flow Nozzles the right choice for growers who rely on performance and quality.



Rain Flow Nozzle shown on 30H Impact Sprinkler

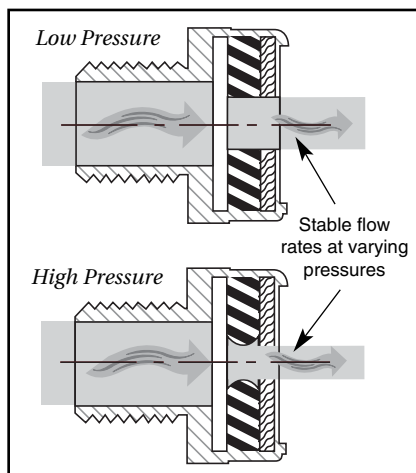
#### Features & Benefits

- Uniform flow control over a very wide range of operating pressures
- Pump and pipeline damage is prevented by managing flow control
- RFNs accept standard stream straightening vanes to increase distance of throw
- Unique design offers complete support of flow washer during operation, regardless of pressure
- Wide range of flows from which to choose
- Competitively priced
- RFNs are covered by a TWO-YEAR warranty

The RFN has an elastomer washer that controls the size of the orifice. When no pressure is present, the washer is in a natural and relaxed state. As system pressure increases, radial deformation occurs, contracting the elastomer washer and narrowing the orifice. The orifice size is proportionally reduced according to the pressure applied. As a result, flow is held constant even when pressures fluctuate.

#### Operating Specifications

- Pressure: 30 to 110 psi (2 to 7.5 bar)
- Optimum Pressure: 40 to 80 psi (2.75 to 5.5 bar)
- Install nozzle hex flat on top to prevent interference with drive arm.



#### How to Specify/Order:

RFN - 1 - 1.75		
Model	Type of Connection	GPM Size
	1 = use with	1.75
	1/2" sprinklers	2.0
	3 = use with	2.5
	3/4" sprinklers	3.0
		3.5
		4.0
		4.5
		5.0
		5.5





## Specifications

The nozzle shall be capable of covering a \_\_\_\_\_ feet radius / (meter) at \_\_\_\_\_ pounds per square inch (psi) / (bars) with a discharge rate of \_\_\_\_\_ gallons per minute, (gpm) / (m<sup>3</sup>/h).

The nozzle shall be constructed of an elastomer washer, a brass housing and a stainless steel washer.

The nozzle shall accept standard stream straightening vanes to increase distance of throw.

The Rain Flow Nozzles shall be as sold by Rain Bird Corporation, Glendora, California.

Rain Bird 1/2" Sprinkler Matching Guide					
Model	RFN-1 Sizes				
	1.0	1.75	2.0	2.5	3.0
14VH	*	*	*		
L20VH	*	*	*		
L20H			*		
M20H			*	*	*
M20VH	*	*	*		
20-14H	*	*	*	*	
20JH			*	*	*

Rain Bird 3/4" Sprinkler Matching Guide					
Model	RFN-3 Sizes				
	3.5	4.0	4.5	5.0	5.5
29JH	*	*	*	*	
30PWSH	*	*	*	*	
30H	*	*	*	*	*
30WH	*	*	*	*	*
30EH	*	*	*	*	*
30EWH	*	*	*	*	*
30FH	*	*	*	*	
46H				*	*

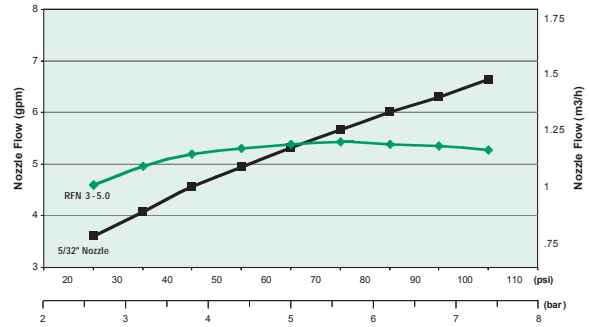
**Rain Bird Corporation**  
**Agri-Products Division**  
 633 W. Foothill Blvd.  
 Glendora, CA 91741-2469  
 Phone: (800) 435-5624  
 Fax: (626) 852-7310

**Rain Bird International, Inc.**  
 145 N. Grand Ave.  
 Glendora, CA 91741-2469  
 Phone: (626) 963-9311  
 Fax: (626) 963-4287  
 1-800-HELLO-AG  
 6am-6pm M-F (MST)

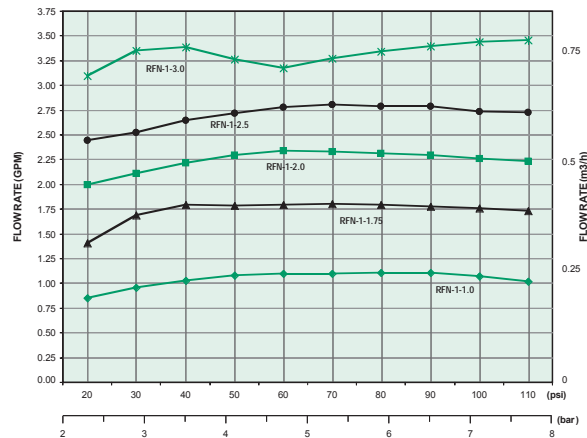
www.rainbird.com  
 Rain Bird. The Intelligent Use of Water.™

© Registered Trademark of Rain Bird Corporation  
 © 2003 Rain Bird Corporation 4/03

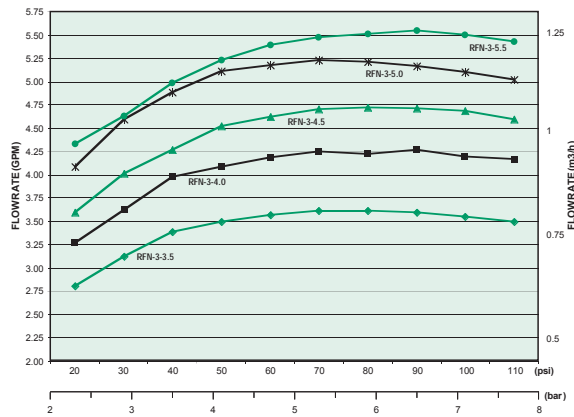
## RFN Performance vs Standard Nozzle: 3/4" Impact Sprinkler



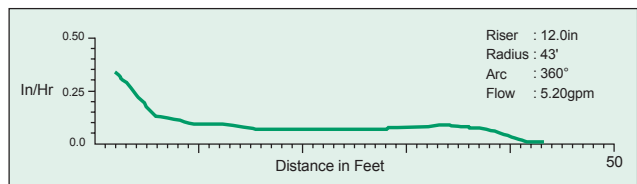
### Performance RFN-1



### Performance RFN-3



### Distribution Chart – Model 30WH RFN-3-5.0 Nozzle @ 50 psi





**Rain Guns®**  
**2" and 3" Full and Part Circle**



### 3000 Series Rain Guns® Two Inch, Full and Part Circle

#### **Longer life, improved performance and better value – guaranteed!**

The new 3000 Series Rain Gun® brings Rain Bird back to the forefront of quality, performance, and reliability. This next generation model incorporates recent end user feedback and new materials to bring you the best value in today's high volume sprinkler market. To back up this claim, Rain Bird offers the best warranty in the industry. For all agricultural applications, the 3000 Series Rain Gun is backed by an unprecedented 3-year warranty. No other gun manufacturer in the industry stands behind their product for this long.



SR3003 Slow Reverse Rain Gun

#### **SR3003 and F3002 Features**

- 23° body trajectory
- Laser cut, spring loaded, stainless steel arm
- Improved spoon design with adjustable spoon bracket to increase or decrease rotation speed
- Set of 6 metric, taper bore nozzles included - 14, 16, 18, 20, 22, & 24 mm (.55, .63, .71, .79, .87, .94 inches)
- Integral straightening vanes
- Stronger body assembly
- Reinforced linkage assemblies
- Self-adjusting brake mechanism
- Sealed lube-for-life bearing
- Improved trip-collar adjustments
- 6 hole, flange mount standard
- NPT and BSP flange adapters
- Counterweight available for sloped conditions
- 3 year warranty

#### **High Standards means Longer Life**

Some of the factors that lead to long life and low maintenance:

- Rain Guns are manufactured to the highest standards in a factory that is ISO9002 certified.
- Every Rain Gun is water tested before it leaves the factory.

- Grease maintenance is eliminated with permanently sealed bearings.
- The braking system is also maintenance free with new springs for 2002 to allow for reliable rotation and reduced sensitivity to uneven pressure conditions.
- Trip mechanisms are reinforced with stainless steel washers and cotter pins. Straightening vanes are extruded directly into the body to reduce fluid turbulence and add strength and distance to the water stream.

#### **Lower Maintenance**

Rain Guns are designed to keep working for years with minimal maintenance. Many of our competitors pack their bearings less than 30% full. This unfilled space allows for condensation and water build-up which can lead to an eventual breakdown of the grease, corrosion, and bearing failure. This is why all Rain Gun bearings are permanently sealed and packed 70% full with a robust, wide temperature range, water resistant silicone grease.

The braking system is also maintenance free. The spring loaded break self-adjusts to keep consistent rotation times through the life of the gun. All trip mechanisms are reinforced with stainless steel washers and cotter pins. Straightening vanes are molded directly into the body to cut down

*continued inside*

#### **Part Numbers**

##### **SR3003**

Slow Reverse,  
Part Circle Rain Gun

##### **F3002**

Full Circle Rain Gun

#### **How to Order:**

##### **SR - 3003 - NPT**

##### **Arc Settings**

SR=Slow Reverse  
F=Full Circle

##### **(optional) Female Flange Adapter**

NPT=Standard  
Pipe Thread  
BSP=British  
Standard Pipe

##### **Model**

## Lower Maintenance *continued*

on water turbulence and to add strength and distance of throw.

All body joints are bonded and threaded together using a chemical process that is rated for up to 7 tons of pressure. The trip collars are easily adjustable and stay in place without the use of tools or time consuming adjustments. The bearing assembly is marked every 10° to make arc adjustments easier.

Even with all these features, 3000 Series Rain Guns are constructed using less than 50 components. Fewer components mean fewer problems so you can rest easy – confident in your decision to choose Rain Bird.

## The Best Value

- Aluminum body construction with stainless steel hardware to provide all the value at the lowest price possible.
- All accessories are included in each box including:
  - Standard 2 mm neoprene gasket and bolt kit for the mounting flange.
  - Set of 6 taper bore nozzles – 14, 16, 18, 20, 22, & 24 mm sizes.
  - Glycerin filled pressure gauge to ensure optimal setup.

- Comprehensive user manual with installation and application troubleshooting tips.

## Outstanding Performance

The 3000 Series Rain Guns are built to perform and to last. The all new arm is laser cut from a solid sheet of stainless steel to provide maximum strength, durability and corrosion resistance. The spoon is molded from chemical and impact resistant Delrin®. A stainless steel spring absorbs excess shock from the arm which allows for a much smoother arm stroke, and the removal of excess counterweights. With the counterweights out of the way, the arm can be centered directly over the body of the gun, distributing weight evenly. By reducing the weight of the gun and bringing it into balance, excess vibration and wear are reduced which dramatically improves the performance and life of the gun.



Stainless steel arm with Delrin® spoon



Set of 6 taper bore nozzles

## Performance Data - U.S. Units

PSI @ Nozzle	NOZZLE SIZE											
	.55"		.63"		.71"		.79"		.87"		.94"	
	Rad.	Flow	Rad.	Flow	Rad.	Flow	Rad.	Flow	Rad.	Flow	Rad.	Flow
40	103	55	105	72	113	92	131	114	126	134	126	162
50	109	61	111	79	124	101	137	124	136	148	137	177
60	115	66	120	86	133	110	141	136	140	162	142	193
70	121	72	126	93	140	118	146	147	149	175	151	209
80	128	77	128	99	146	127	153	157	161	188	166	224
90	134	82	135	106	151	136	159	168	168	201	175	240
100	140	88	141	113	154	144	164	178	176	214	184	255

## Performance Data - Metric Units

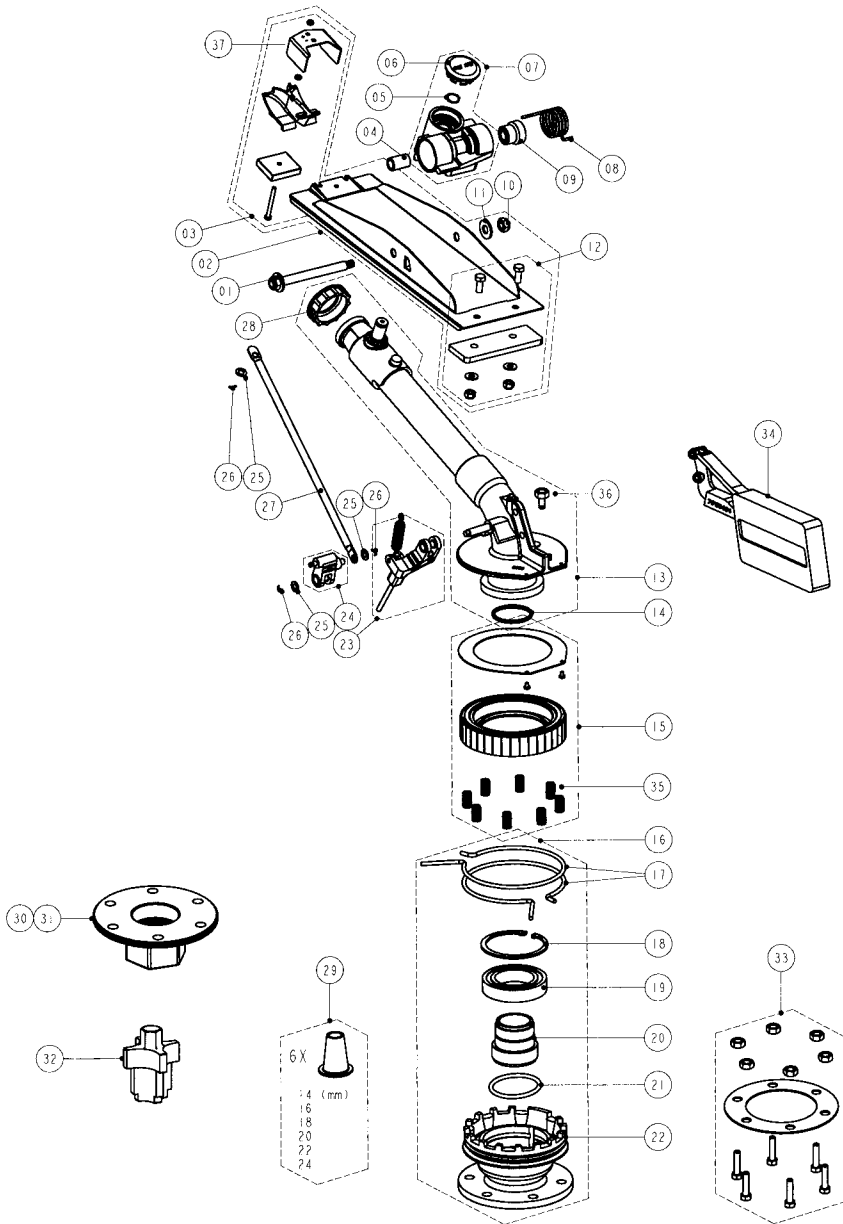
BARS @ Nozzle	NOZZLE SIZE											
	14 mm		16 mm		18 mm		20 mm		22 mm		24 mm	
	Rad.	Flow	Rad.	Flow	Rad.	Flow	Rad.	Flow	Rad.	Flow	Rad.	Flow
2.8	31,4	12,5	32,0	16,4	34,4	20,9	39,9	25,9	38,4	30,4	38,4	36,8
3.4	33,2	13,9	33,8	17,9	37,8	22,9	41,8	28,2	41,5	33,6	41,8	40,2
4.1	35,1	15,0	36,6	19,5	40,5	25,0	43,0	30,9	42,7	36,8	43,3	43,9
4.8	36,9	16,4	38,4	21,1	42,7	26,8	44,5	33,4	45,4	39,8	46,0	47,5
5.5	39,0	17,5	39,0	22,5	44,5	28,9	46,6	35,7	49,1	42,7	50,6	50,9
6.2	40,8	18,6	41,1	24,1	46,0	30,9	48,5	38,2	51,2	45,7	53,3	54,5
6.9	42,7	20,0	43,0	25,7	46,9	32,7	50,0	40,4	53,6	48,6	56,1	57,9



Arm pivot housing



## Parts Diagram and Description



Ref.	Part Description	Part Numbers
1	Arm Shaft Assembly	Included in Kit B
2	Arm Assembly/Counterweight	71-P50472
3	Spoon Assembly	71-P50824
4	Spacer	71-P50420
5	Snap Ring	71-P00358
6	Pivot Cap Assembly	71-P50825
7	Pivot Assembly	71-P50826
8	Arm Spring	71-P50812
9	Spring Spacer	71-P50706
10	Arm Locknut	Included in Kit B
11	Arm Washer	Included in Kit B
12	Counterweight Kit	71-P50827
13	Elbow/Range Tube Assembly	71-P50471
14	O-Ring	71-P50155
15	Brake Assembly	71-P50814
16	Bearing Assembly	71-P50976
17	Friction Collar (2 Required)	71-P50116
18	Snap Ring	71-P50463
19	Ball Bearing	71-P50544
20	Lock Nut	71-P50793
21	O-Ring	71-P50121
22	Bearing Sleeve	71-P50794
23	Trip Lever Assembly	71-P50538
24	Trip Link Bushing	71-P50539
25	Elbow Shaft Washer (3 Required)	Included in Kit A
26	Cotter Pin (3 Required)	Included in Kit A
27	Trip Rod	71-P50478
28	Nozzle Retainer	71-105943
29	GNS-3003T Nozzle Set	L003003
35	Spring, Red (8 Required)	71-P51165
36	Pressure Port Plug (1/4", 17mm Hex)	71-P20006
37	Spoon Bracket	71-P51099
38	Glycerin Filled Pressure Gauge (not shown)	71-P00080
<b>Accessories</b>		
30	2" Female BSP Adapter	71-P50545
31	2" Female NPT Adapter	71-P50596
32	Bearing Wrench	71-P50697
33	Riser Installation Kit	71-P50368
34	Rear Counterweight	L00270
<b>Spare Parts Kit</b>		
A	Misc. Kit	71-P50590
B	Arm Shaft Kit	71-P50591



## Specifications (For Specifiers)

The full circle or part circle impulse drive sprinkler shall be a single nozzle type, capable of covering \_\_\_\_\_ (feet/meters) radius, at \_\_\_\_\_ (PSI/bars) with a discharge rate of \_\_\_\_\_ (GPM/M3H). The sprinkler body and bearing sleeve shall be of heat treated, cast aluminum.

Straightening vanes shall be integral to the body. The sprinkler arm, springs, fulcrum shafts, and trip mechanisms shall be stainless steel. All trip mechanisms shall be reinforced with stainless steel washers and cotter pins. The drive nozzle trajectory shall be 23 degrees from horizontal.

The rotation of the sprinkler shall be accomplished by a spring loaded, stainless steel vertical oscillating arm, actuated by the outlet water stream. The part circle models shall have a slow-reverse feature for reduced vibration and greater safety. A stainless steel spoon bracket assembly can be adjusted to increase or decrease rotation speed.

The nozzle and spoon assembly shall be durable, chemically resistant plastic and shall be easily replaceable. A set of six metric sized, taper bore nozzles shall be included with the gun - 14, 16, 18, 20, 22, & 24 mm (.55, .63, .71, .79, .87, .94 inches). The nozzle size shall be molded into the plastic for easy identification.

The bearing assembly shall be permanently sealed and packed 70% with a wide temperature range, water resistant silicone grease. The brake mechanism will be spring loaded and self-adjusting.

On part circle models, adjustable friction collars will be supplied to set arc adjustments without the use of tools, and the bearing assembly will be marked in ten degree increments to facilitate adjustments.

The F3002 shall be for full circle operation only. The SR3003 shall have adjustable part circle or full circle operation.

The sprinkler shall have six hole flange inlets, and a 2 mm (.08") neoprene gasket and bolt kit shall be supplied with the gun.

An optional (NPT/BSP) flange adapter will be supplied to adapt the flange inlet to a (2" /50 mm) female inlet.

The sprinkler shall carry a three year warranty against original defects in material or workmanship in agricultural applications. The sprinkler shall be supplied by Rain Bird Sprinkler Mfg. Corp., Glendora, California.

## Rain Gun Warranty

### Agricultural Applications

- Our latest generation of Rain Guns is built on a legacy of knowledge, trust, and feedback from end users. Our warranty is simple and in line with Rain Bird's reputation as the most reliable agricultural sprinkler manufacturer in the world. To back up our claim, we offer the best warranty in the agriculture industry. For all agricultural applications, we offer a three-year, no questions asked warranty including free service or parts replacement. Product replacement, full credit, or return in lieu of spare parts or service is at Rain Bird's discretion upon approval. Approval may include product testing.

### Non-agricultural Applications

- We understand that Rain Guns are often utilized in applications that may be more demanding than general agricultural applications. In these circumstances, Rain Bird offers an eighteen month warranty including free service or parts replacement, but excludes coverage in the following general applications or environments:
  - Electrolytic conditions, such as high salt environments or salt water spray applications
  - Applications where environmental conditions are not compatible with the materials used in Rain Guns
  - Caustic or corrosive chemical conditions or spray applications
  - Abrasive fluid spray applications

---

### Rain Bird Corporation Agri-Products Division

633 W. Foothill Blvd.  
Glendora, CA 91741-2469  
Phone: (800) 435-5624  
Fax: (626) 852-7310

### Rain Bird International, Inc.

145 N. Grand Ave.  
Glendora, CA 91741-2469  
Phone: (626) 963-9311  
Fax: (626) 963-4287

1-800-HELLO-AG  
6am-6pm MST M-F  
www.rainbird.com

® Registered Trademark of Rain Bird Corporation  
© 2003 Rain Bird Corporation 2/03



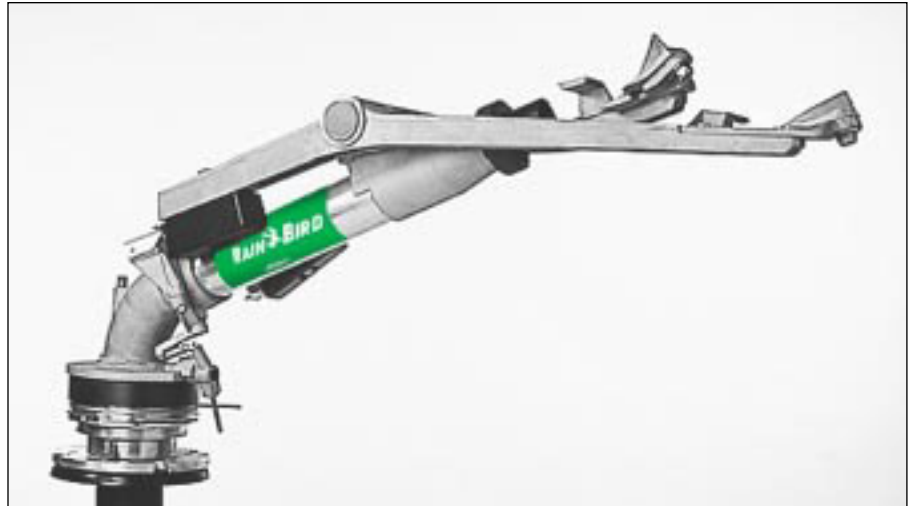
### 2000 Series Rain Guns® Three Inch, Full and Part Circle

**Longer life, improved performance and better value – guaranteed!**

The new 2000 Series Rain Gun® brings Rain Bird back to the forefront of quality, performance, and reliability. This next generation model incorporates recent end user feedback and new materials to bring you the best value in today's high volume sprinkler market. To back up this claim, Rain Bird offers the best warranty in the industry. For all agricultural applications, the 2000 Series Rain Gun is backed by an unprecedented 3-year warranty. No other gun manufacturer in the industry stands behind their product for this long.

#### SR2005 and F2004 Features

- 23° body trajectory
- Dual spring loaded, cast aluminum arms
- Adjustable aluminum spoon design
- Set of 6 metric taper bore nozzles included 21, 23, 26, 28, 30, 33 mm
- Ring orifice nozzles available .87, .99, 1.1, 1.2, 1.29, & 1.38 inches (22, 25, 28, 30, 33, 35 mm)
- Integral straightening vanes
- Stronger body assembly
- Improved trip assembly
- Self-adjusting brake mechanism
- Sealed lube-for-life bearing
- Improved trip-collar adjustments
- DN 80 (3") 4 or 6 hole flange mount standard
- NPT and BSP flange adapters
- Counterweight available for sloped conditions



SR2005

#### High Standards means Longer Life

Some of the factors that lead to long life and low maintenance:

- Rain Guns are manufactured to the highest standards in a factory that is ISO9002 certified.
- Every Rain Gun is water tested before it leaves the factory.
- Trip mechanisms are reinforced with stainless steel washers and cotter pins. Straightening vanes are extruded directly into the body to reduce fluid turbulence and add strength and distance to the water stream.

#### Lower Maintenance

Rain Guns are designed to keep working for years with minimal maintenance. Grease maintenance is eliminated with permanently sealed bearings. Many of our competitors pack their bearings less than 30% full. This unfilled space allows for *continued inside*

#### Part Numbers

##### SR2005

Slow Reverse, Full/Part Circle Rain Gun

##### F2004

Full Circle Rain Gun

#### How to Order:

**SR - 2005 - NPT**

**Arc Settings**  
SR=Slow Reverse  
F=Full Circle

**(optional) Female Flange Adapter**  
NPT=Standard Pipe Thread  
BSP=British Standard Pipe

**Model**



### Lower Maintenance *continued*

condensation and water infiltration that can lead to an eventual breakdown of the grease, corrosion, and bearing failure. This is why F2004 and SR2005 Rain Gun bearings are permanently sealed and packed 70% full with a robust, wide temperature range, water resistant silicone grease.

The braking system on these models is also maintenance free. The spring-loaded clutch self-adjusts to keep consistent rotation times through the life of the gun.

All body joints are bonded and threaded together through a chemical process that is rated for up to 7 tons of pressure. The trip collars are easily adjustable and stay in place without the use of tools or time consuming adjustments. The bearing assembly is marked every 10° to make arc adjustments easier.

### The Best Value

All accessories are included in each box including:

- Standard 2 mm (.03") neoprene gasket and bolt kit.
- Set of 6 taper bore nozzles – 21, 23, 26, 28, 30, & 33 mm sizes.
- Glycerin filled pressure gauge to ensure optimal setup.
- Aluminum body construction with stainless steel hardware to provide all the value at the lowest price possible.

### Outstanding Performance

Rain Bird Rain Guns are built to perform and to last. The dual arm design of our part circle guns provides better distribution and uniformity than single arm designs. The cast aluminum spoons are adjustable to provide greater control of the rotation speed. Stainless steel springs are used to absorb excess shock from the arms which allows for a much smoother arm stroke, and the removal of excess counterweights.

### Performance Data - U.S. Units

**SR2005/F2004 - GNS-2005T Taper Bore Nozzles**

PSI @ Nozzle	NOZZLE SIZE											
	.8"		.9"		1.0"		1.1"		1.2"		1.3"	
	Rad.	Flow	Rad.	Flow	Rad.	Flow	Rad.	Flow	Rad.	Flow	Rad.	Flow
58	144	141	148	170	153	220	164	256	169	298	177	363
60	146	144	149	173	155	224	166	260	171	303	179	369
70	154	155	157	186	165	242	178	282	184	328	188	398
80	158	166	162	199	169	258	186	301	195	350	193	426
90	162	176	166	212	171	274	193	319	204	372	197	451
100	168	186	169	224	172	289	196	336	212	392	-	-
109	172	193	174	233	174	301	198	351	210	409	-	-

**SR2005/F2004 - GNS-20050 Ring Orifice Nozzles**

PSI @ Nozzle	NOZZLE SIZE											
	.87"		.99"		1.10"		1.20"		1.29"		1.38"	
	Rad.	Flow	Rad.	Flow	Rad.	Flow	Rad.	Flow	Rad.	Flow	Rad.	Flow
60	133	110	143	142	151	181	160	224	167	274	177	326
70	138	120	148	154	157	199	167	245	175	296	184	352
80	143	129	154	165	163	216	174	262	183	318	192	378
90	148	136	159	175	169	227	180	278	189	337	199	401
100	153	143	163	184	174	238	186	293	196	356	205	424
110	157	150	167	193	179	249	191	306	201	371	210	441

### Performance Data - Metric Units

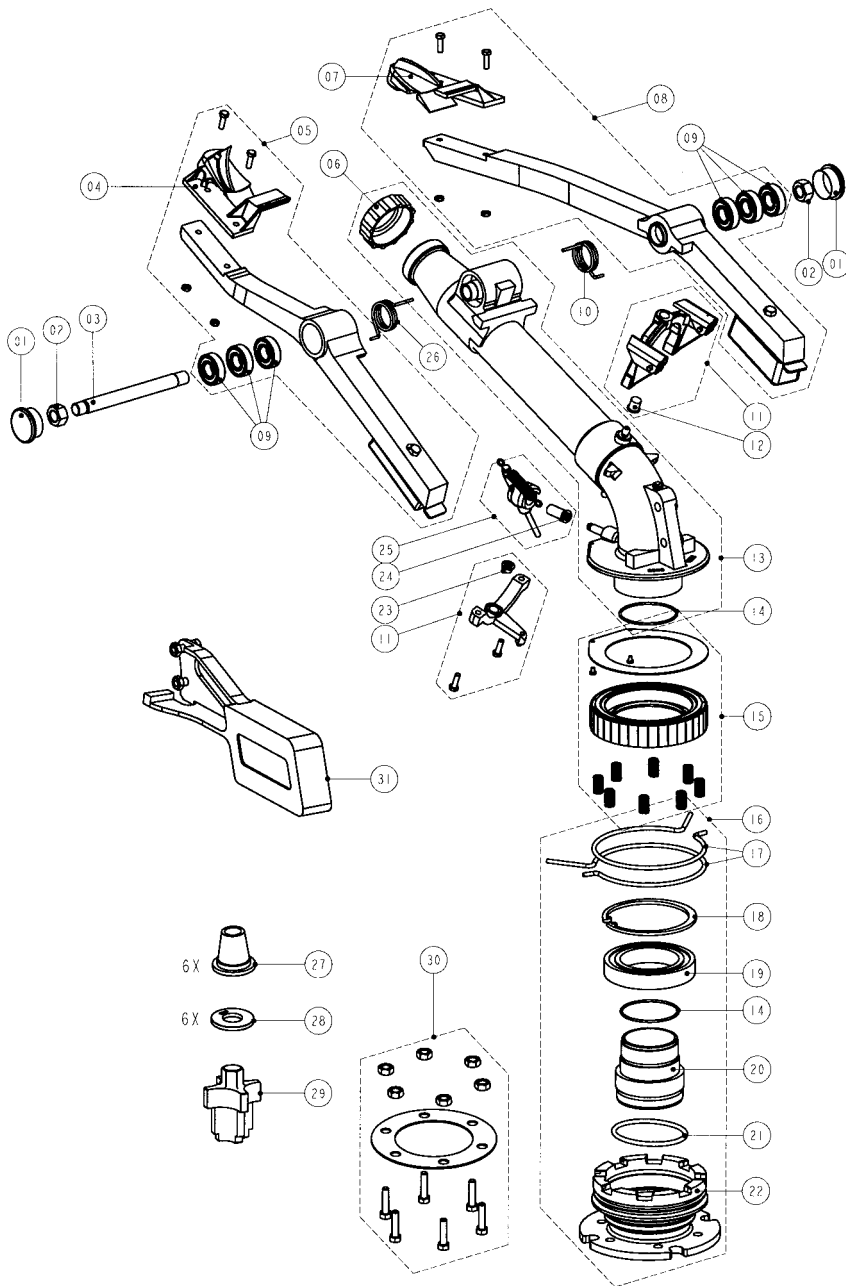
**SR2005/F2004 - GNS-2005T Taper Bore Nozzles**

BARS @ Nozzle	NOZZLE SIZE											
	21 mm		23 mm		26 mm		28 mm		30 mm		33 mm	
	Rad.	Flow	Rad.	Flow	Rad.	Flow	Rad.	Flow	Rad.	Flow	Rad.	Flow
4.0	44,0	32,1	45,0	38,6	46,5	50,0	50,0	58,1	51,5	67,7	54,0	82,4
4.5	45,8	34,0	46,8	40,9	48,8	53,0	52,5	61,7	54,3	71,8	56,0	87,3
5.0	47,5	35,9	48,5	43,1	51,0	56,0	55,0	65,3	57,0	75,8	58,0	92,2
5.5	48,3	37,6	49,5	45,2	51,5	58,6	56,8	68,3	59,3	79,4	58,8	96,6
6.0	49,0	39,3	50,5	47,3	52,0	61,1	58,5	71,3	61,5	83,0	59,5	100,9
6.5	50,3	40,9	51,0	49,3	52,3	63,6	59,3	74,1	63,3	86,4	60,5	104,5
7.0	51,5	42,5	51,5	51,2	52,5	66,1	60,0	76,9	65,0	89,8	-	-
7.5	52,5	43,9	53,0	53,0	53,0	68,4	60,5	79,8	64,0	92,8	-	-

**SR2005/F2004 - GNS-20050 Ring Orifice Nozzles**

BARS @ Nozzle	NOZZLE SIZE											
	20.32 mm		22.86 mm		25.40 mm		27.94 mm		30.78 mm		33.02 mm	
	Rad.	Flow	Rad.	Flow	Rad.	Flow	Rad.	Flow	Rad.	Flow	Rad.	Flow
4.0	43,5	32,5	46,2	42,4	49,4	51,8	51,5	62,2	53,6	73,5	-	-
4.5	45,5	33,6	48,6	43,6	51,5	53,4	54,2	64,5	57,0	77,4	59,9	91,7
5.0	46,8	35,7	50,1	46,2	53,0	56,7	55,9	68,6	58,8	82,1	61,6	92,7
5.5	48,1	37,6	51,3	48,6	54,4	59,6	57,4	72,2	60,3	86,3	63,2	102,2
6.0	49,2	39,4	52,5	50,7	55,6	62,3	58,8	75,5	61,7	90,2	64,7	106,8
6.5	50,2	41,0	53,3	52,7	56,7	64,8	60,1	78,5	63,1	93,7	66,0	111,1
7.0	51,2	42,4	54,6	54,6	57,7	67,0	61,2	81,4	64,3	97,0	67,2	114,9
7.5	52,1	43,8	55,6	56,3	58,7	69,2	62,3	84,0	65,4	100,0	-	-

## Parts Diagram and Description



### Ref. Part Description

Ref.	Part Description	Part Numbers
1	Arm Cap (2)	Included in Kit B
2	Arm Nut (2)	Included in Kit B
3	Arm Shaft	Included in Kit B
4	Reverse Spoon Bracket Assembly	71-P00382
5	Reverse Arm Assembly	71-P50809
6	Nozzle Retainer	71-P50302
7	Forward Spoon Bracket Assembly	71-P00364
8	Forward Arm Assembly	71-P50807
9	Arm Ball Bearing	71-P00324
10	Forward Arm Spring	71-P50295
11	Trip Yoke Assembly	71-P50215
12	Upper Yoke Bushing	Included in Kit A
13	Elbow/Range Tube Assembly	71-P50803
14	O-Ring (2)	Included in Kit A
15	Brake Assembly	71-P50814
16	Bearing Assembly	71-P50975
17	Friction Collar (2 Required)	71-P50116
18	Snap Ring	71-P50344
19	Ball Bearing	71-P50549
20	Lock Nut	71-P50796
21	O-Ring	71-102155
22	Bearing Sleeve	71-P50795
23	Lower Yoke Bushing	Included in Kit A
24	Trip Lever Bushing	Included in Kit A
25	Trip Lever Assembly	71-P50331
26	Reverse Arm Spring	71-P50296
27	GNS-2005T Taper Nozzle (6) Set	L00250
28	GNS-20050 Ring Nozzle (6) Set	L00255

### Accessories

29	Bearing Wrench	71-P50697
30	Riser Installation Kit	71-P00368
31	Rear Counterweight	L00260
32	Glycerin Filled Pressure Gauge (not shown)	71-P00080

### Spare Parts Kit

A	Maintenance Kit	71-P50364
B	Arm Shaft Kit	71-P50365



## Specifications (For Specifiers)

The full circle or part circle impulse drive sprinkler shall be a single nozzle type, capable of covering \_\_\_\_\_ (feet/meters) radius, at \_\_\_\_\_ (PSI/bars) with a discharge rate of \_\_\_\_\_ (GPM/M<sup>3</sup>H). The sprinkler body and bearing sleeve shall be of heat treated, cast aluminum. Straightening vanes shall be integral to the body. The sprinkler arm, springs, fulcrum shafts, and trip mechanisms shall be stainless steel. The drive nozzle trajectory shall be 23 degrees from horizontal.

The rotation of the sprinkler shall be accomplished by a spring loaded, vertical oscillating arms, actuated by the outlet water stream. The part circle models shall have a slow-reverse feature for reduced vibration and greater safety.

The nozzle shall be of durable, chemically resistant plastic and shall be easily replaceable. A set of six taper bore nozzles shall be included with the gun - 21, 23, 26, 28, 30, 33 mm. The nozzle size shall be molded into the plastic for easy identification.

The bearing assembly shall be permanently sealed and packed 70% with a wide temperature range, water resistant silicone grease. The brake mechanism will be spring loaded and self-adjusting.

On part circle models, adjustable friction collars will be supplied to set arc adjustments without the use of tools, and the bearing assembly will be

marked in ten degree increments to facilitate adjustments.

The F2004 shall be for full circle operation only. The SR2005 shall have adjustable part circle or full circle operation.

The sprinkler shall have a DN 80 4 or 6 hole patterns with a 2 mm (.08") neoprene gasket and bolt kit shall be supplied with the gun.

An optional (NPT/BSP) flange adapter will be supplied to adapt the flange inlet to a (3"/76 mm) female inlet.

The sprinkler shall carry a three year warranty against original defects in material or workmanship in agricultural applications. The sprinkler shall be supplied by Rain Bird Corporation, Glendora, California.

## Rain Gun Safety

Operating Rain Guns remotely under circumstances where the operator cannot see the gun being activated can be dangerous if persons or animals are close to the device. When activated these guns can come on with significant force. Operators should also be aware of trip hazard, over-head obstruction, thrust, etc. for their applications, to prevent any bodily harm. If an operator has any question pertaining to Rain Gun Safety please contact your local dealer or Rain Bird representative.

## Rain Gun Warranty

### Agricultural Applications

- Our latest generation of Rain Guns is built on a legacy of knowledge, trust, and feedback from end users like you. Our warranty is simple and in line with Rain Bird's reputation as the most reliable agricultural sprinkler in the world. To back up our claim, we offer the best warranty in the agriculture industry. For all agricultural applications, we offer a three-year; no questions asked warranty including free service or parts replacement. Product replacement, full credit, or return in lieu of spare parts or service is at Rain Bird's discretion upon approval. Approval may include product testing.

### Non-agricultural Applications

- We understand that Rain Guns are often utilized in applications that may be more demanding than general agricultural applications. In these circumstances, Rain Bird offers an eighteen month warranty including free service or parts replacement, but excludes coverage in the following general applications or environments:
- Electrolytic conditions, such as high salt environments or salt water spray applications
- Applications where environmental conditions are not compatible with the materials used in Rain Guns
- Caustic or corrosive chemical conditions or spray applications
- Abrasive fluid spray applications

---

### Rain Bird Corporation Agri-Products Division

633 W. Foothill Blvd.  
Glendora, CA 91741-2469  
Phone: (800) 435-5624  
Fax: (626) 852-7310

### Rain Bird International, Inc.

145 N. Grand Ave.  
Glendora, CA 91741-2469  
Phone: (626) 963-9311  
Fax: (626) 963-4287  
1-800-HELLO-AG  
6am-6pm MST M-F

[www.rainbird.com](http://www.rainbird.com)  
Rain Bird. The Intelligent Use of Water.™

® Registered Trademark of Rain Bird Corporation  
© 2003 Rain Bird Corporation 3/03



**PC Dripline**  
**Pressure Compensating Inline Emitter Tubing**







## PC Dripline



**Rain Bird PC Dripline** is the latest in inline emitter tubing. It delivers unparalleled clog resistance for long-term reliability. Pressure compensation is achieved by varying the length of the large labyrinth – the greater the pressure, the longer the labyrinth. Moreover, it's supported and backed by the industry's most capable dealer network.

The Rain Bird PC Dripline emitter has the largest cross-sectional water passage area during pressure compensation which results in superior clog resistance. Grit tests conducted by the Center for Irrigation Technology (CIT) confirmed Rain Bird PC Dripline's superior clog resistance. Test results are available from CIT or Rain Bird.

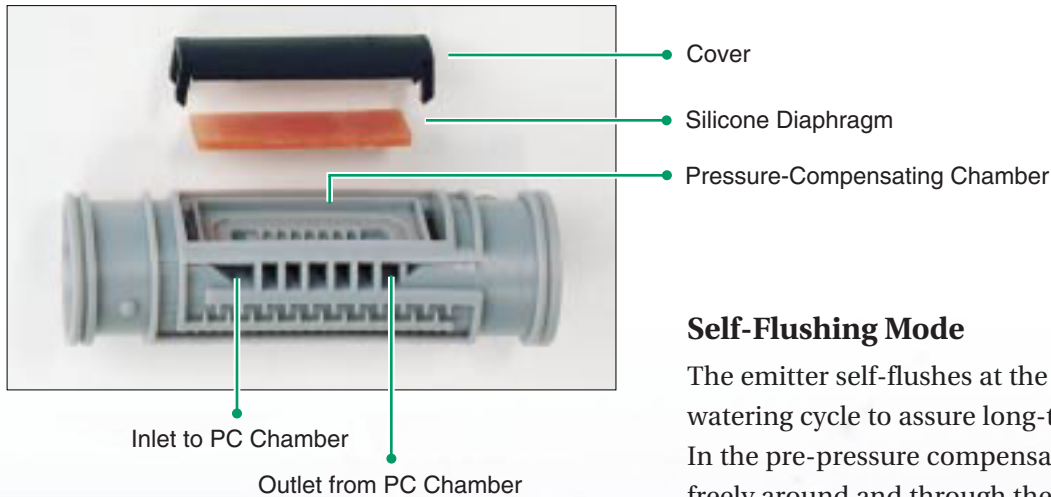
The high emission uniformity, which exceeds 96%, means more consistent emitter flow over the entire lateral length. Rain Bird PC Dripline has an average Manufacturing Coefficient of Variation ( $C_v \leq 0.05$ ).  $C_v$  measures consistency of emitter output from one emitter to the next. The lower the  $C_v$  value, the more consistent the emitter output. The American Society of Agricultural Engineers considers any  $C_v$  below 0.05 to be excellent.

Rain Bird PC Dripline is widely used on:

- Tree Crops
- Row Crops
- Vineyards
- Nurseries



## How PC Dripline Works



### Self-Flushing Mode

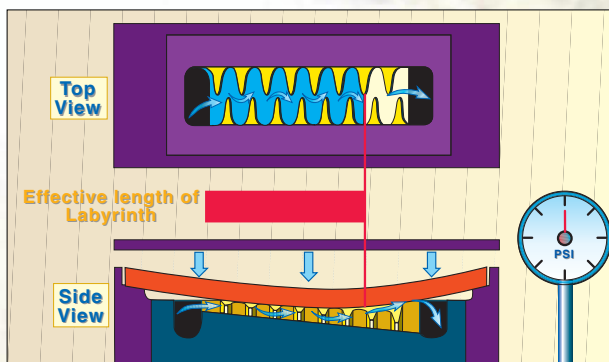
The emitter self-flushes at the beginning and end of each watering cycle to assure long-term reliable performance. In the pre-pressure compensating mode, the water flows freely around and through the labyrinth, flushing any contamination through the emitter outlets.

### Pressure Compensation without Flow Path Reduction

Conventional emitters pressure compensate by using a restrictive metering groove that increases the likelihood of clogging. Using a new, patented technology, the PC Dripline emitter eliminates the metering groove. Pressure compensation is achieved by gradually lengthening the turbulent flow path which is significantly larger than conventional metering grooves.

### Compensation Mode

As pressure increases, the diaphragm is further pushed against the labyrinth. This increases the effective length of the labyrinth.



### Rain Bird PC Dripline Flow Path Lengthens as Pressure Increases

As pressure increases, the diaphragm begins to compress longitudinally against the emitter's sloped labyrinth. This compression lengthens the torturous path through which the water must pass without reducing the cross-sectional size of the flow path. The cross-sectional area of the Rain Bird PC Dripline emitter flow path at higher pressure is significantly larger than that of conventional pressure compensating inline emitters. The result is the most clog-resistant, pressure compensating inline emitter available.

## Features and Benefits

### Key Features of Rain Bird PC Dripline

#### Patented emitter design

#### High emission uniformity

#### Fully pressure compensating between 8-60 psi

#### Excellent average manufacturing coefficient of variation ( $Cv \leq 0.05$ )

#### Multiple inlet design

#### Emitter flushes during start up, and shut down

#### Filtered inlets are located 180 degrees apart

#### Two outlet ports positioned 90 degrees apart

### Benefits to Growers

- Reduced system maintenance costs
- Greater yields
- Longer product life
- Uniform plant growth
- Greater yields
- Water savings
- Chemical savings
- Even distribution of water over the length of the run
- Longer runs
- Improved productivity on undulating terrain
- Total system cost savings
- Consistent flow among all the emitters
- Uniform plant growth
- Greater yields
- Longer product life
- Superior clog resistance
- Lower system maintenance costs
- Longer product life
- Better uniformity
- Improved clog-resistance
- Orientation of emitter does not affect performance
- Cleanest water enters emitter
- Less susceptible to clogging
- One port is always open to atmosphere
- Reduces chances of back-siphoning and clogging



# PC Dripline - 16mm, .4 gph

### Product Specifications

	<b>PC Dripline 16mm</b>
Minimum Operating Pressure (psi)	8.5
Maximum Operating Pressure (psi)	60
Maximum Air Temperature	140°F
Maximum Water Temperature	110°F
Emitter Flow Rate (gph)	.4
Coil Length (feet)	1000
Filtration (mesh)	120
Outer Diameter (inches)	.630
Inner Diameter (inches)	.540
Wall Thickness (inches)	.045

Custom emitter spacing available, please consult factory.

**Part Number**     **DP1604** \_ \_  
                                  Please specify spacing (in)

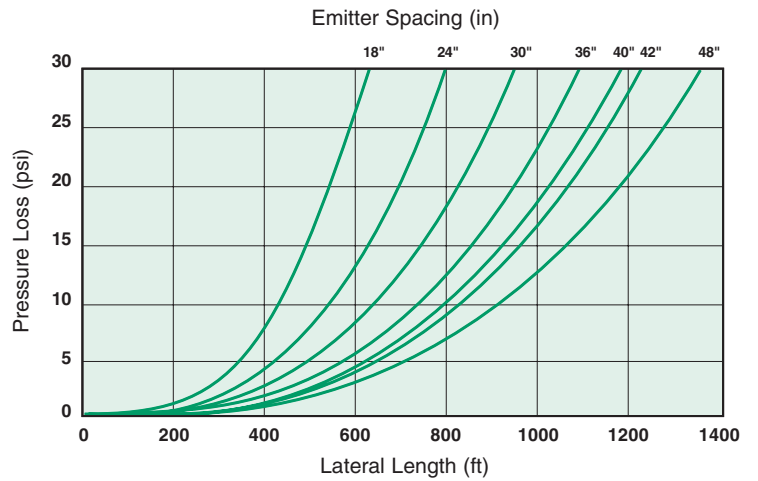
### Maximum Lateral Lengths (ft) 0% slope .4 gph emitter

Inlet Pressure	18 inch	24 inch	30 inch	36 inch	40 inch	42 inch	48 inch
15 psi	360	460	550	630	690	710	790
25 psi	500	630	760	880	950	990	1090
35 psi	600	750	900	1030	1120	1170	1290
45 psi	660	840	1000	1160	1260	1300	1440

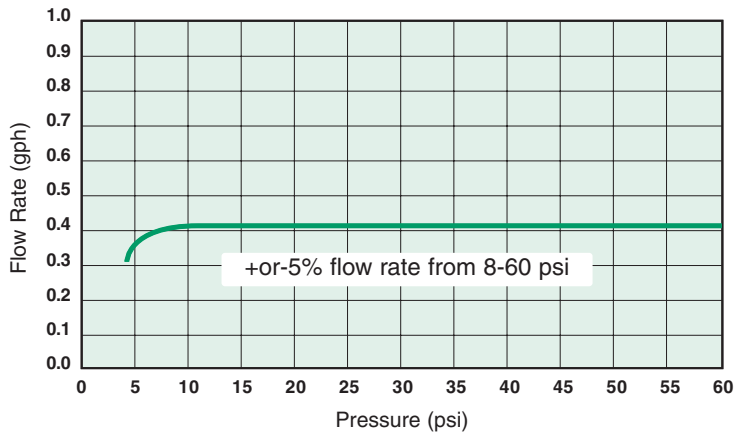
**Rain Bird Agri-Products Co.**  
 633 W. Foothill Blvd.  
 Glendora, CA 91741-2469  
 Phone: (800) 435-5624  
 Fax: (626) 852-7310

www.rainbird.com

### Rain Bird PC Dripline .4 gph emitter



### Rain Bird PC Dripline Flow Rate vs Pressure



**Rain Bird International, Inc.**  
 145 N. Grand Ave.  
 Glendora, CA 91741-2469  
 Phone: (626) 963-9311  
 Fax: (626) 963-4287





## PC Dripline - 16mm, .6 gph

### Product Specifications

	PC Dripline 16mm
Minimum Operating Pressure (psi)	8.5
Maximum Operating Pressure (psi)	60
Maximum Air Temperature	140°F
Maximum Water Temperature	110°F
Emitter Flow Rate (gph)	.6
Coil Length (feet)	1000
Filtration (mesh)	120
Outer Diameter (inches)	.630
Inner Diameter (inches)	.540
Wall Thickness (inches)	.045

Custom emitter spacing available, please consult factory.

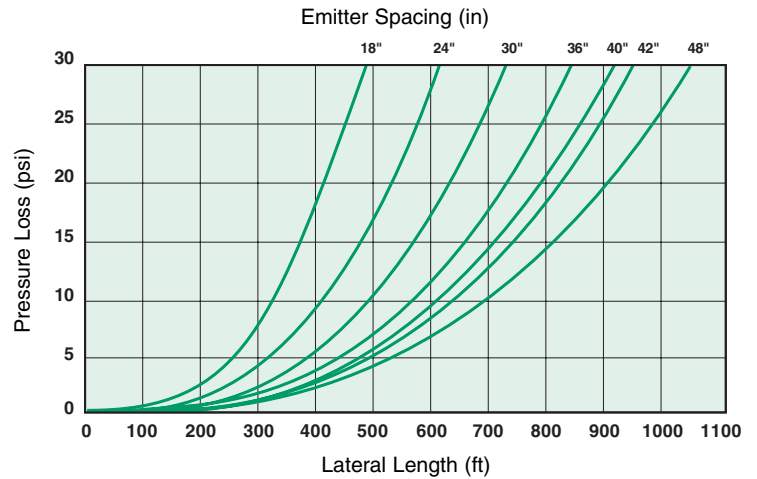
**Part Number**     **DP1606** \_ \_

Please specify spacing (in)

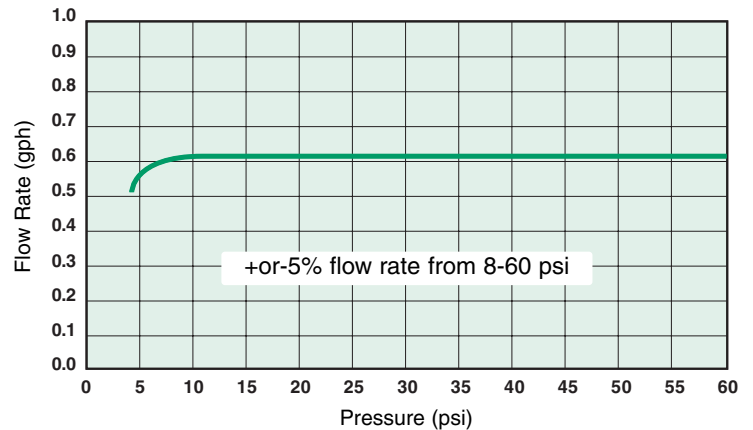
### Maximum Lateral Lengths (ft) 0% slope .6 gph emitter

Inlet Pressure	18 inch	24 inch	30 inch	36 inch	40 inch	42 inch	48 inch
15 psi	280	350	420	490	530	550	600
25 psi	390	490	580	680	730	760	840
35 psi	450	580	690	800	870	900	990
45 psi	510	640	780	890	970	1000	1110

### Rain Bird PC Dripline .6 gph emitter



### Rain Bird PC Dripline Flow Rate vs Pressure



**Rain Bird Agri-Products Co.**  
633 W. Foothill Blvd.  
Glendora, CA 91741-2469  
Phone: (800) 435-5624  
Fax: (626) 852-7310

**Rain Bird International, Inc.**  
145 N. Grand Ave.  
Glendora, CA 91741-2469  
Phone: (626) 963-9311  
Fax: (626) 963-4287



# PC Dripline - 16mm, .9 gph

## Product Specifications

	<b>PC Dripline 16mm</b>
Minimum Operating Pressure (psi)	8.5
Maximum Operating Pressure (psi)	60
Maximum Air Temperature	140°F
Maximum Water Temperature	110°F
Emitter Flow Rate (gph)	.9
Coil Length (feet)	1000
Filtration (mesh)	120
Outer Diameter (inches)	.630
Inner Diameter (inches)	.540
Wall Thickness (inches)	.045

Custom emitter spacing available, please consult factory.

**Part Number**     **DP1609** \_\_ \_\_  
                                  Please specify spacing (in)

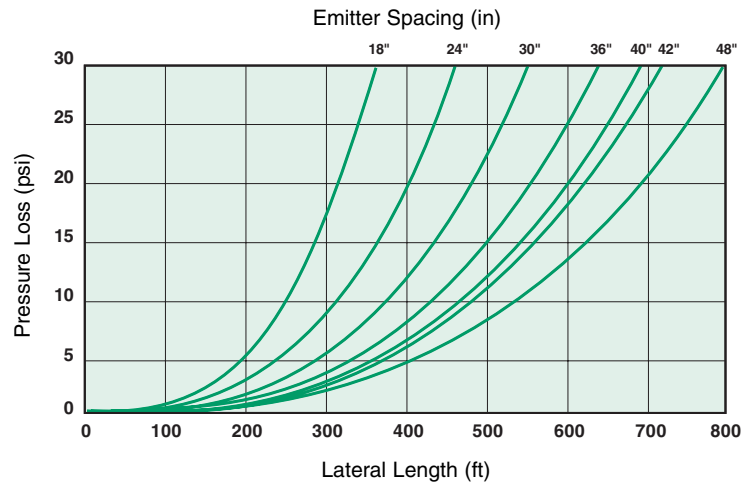
## Maximum Lateral Lengths (ft) 0% slope .9 gph emitter

Inlet Pressure	18 inch	24 inch	30 inch	36 inch	40 inch	42 inch	48 inch
15 psi	220	270	320	370	410	420	470
25 psi	300	380	540	520	560	590	650
35 psi	350	440	530	610	670	690	770
45 psi	390	500	590	680	740	780	860

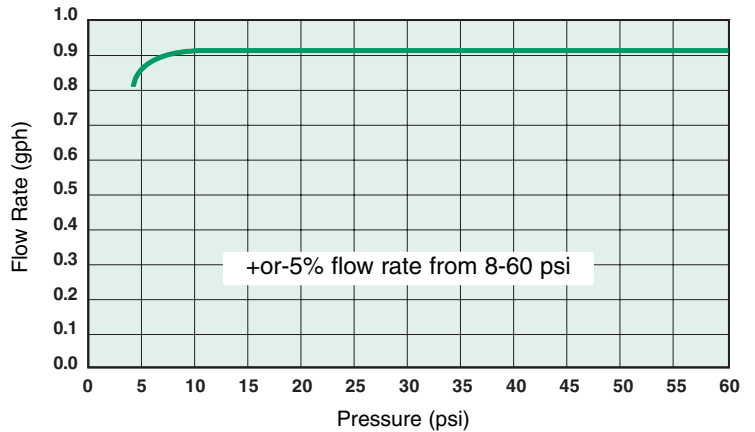
**Rain Bird Agri-Products Co.**  
 633 W. Foothill Blvd.  
 Glendora, CA 91741-2469  
 Phone: (800) 435-5624  
 Fax: (626) 852-7310

www.rainbird.com

## Rain Bird PC Dripline .9 gph emitter



## Rain Bird PC Dripline Flow Rate vs Pressure



**Rain Bird International, Inc.**  
 145 N. Grand Ave.  
 Glendora, CA 91741-2469  
 Phone: (626) 963-9311  
 Fax: (626) 963-4287



## PC Dripline - 20mm, .4 gph

### Product Specifications

	PC Dripline 20mm
Minimum Operating Pressure (psi)	8.5
Maximum Operating Pressure (psi)	60
Maximum Air Temperature	140°F
Maximum Water Temperature	110°F
Emitter Flow Rate (gph)	.4
Coil Length (feet)	1000
Filtration (mesh)	120
Outer Diameter (inches)	.807
Inner Diameter (inches)	.709
Wall Thickness (inches)	.049

Custom emitter spacing available, please consult factory.

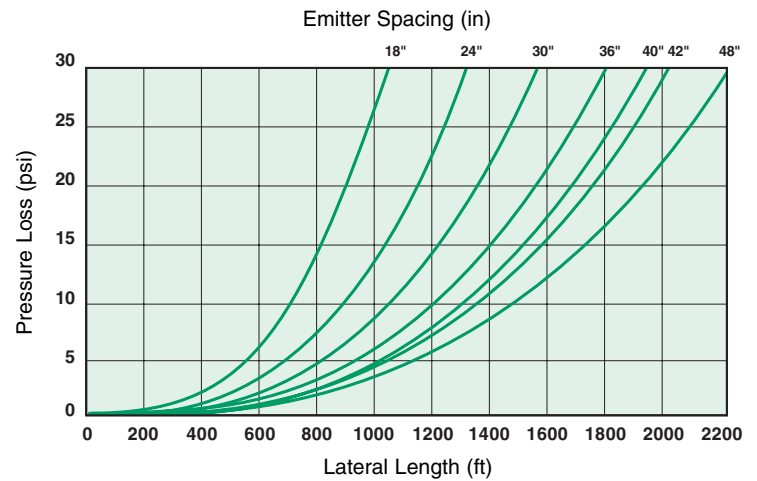
**Part Number**     **DP2004** \_ \_

Please specify spacing (in)

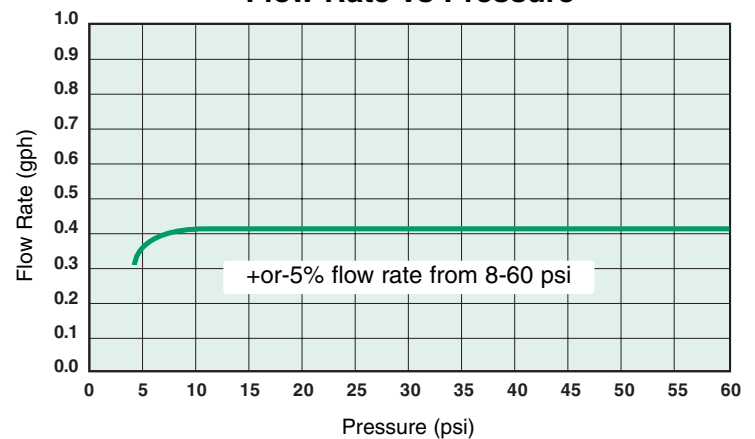
### Maximum Lateral Lengths (ft) 0% slope .4 gph emitter

Inlet Pressure	18 inch	24 inch	30 inch	36 inch	40 inch	42 inch	48 inch
15 psi	610	780	900	1030	1120	1160	1290
25 psi	850	1060	1280	1450	1550	1620	1780
35 psi	990	1260	1490	1710	1840	1910	2110
45 psi	1110	1400	1670	1910	2160	2140	2360

### Rain Bird PC Dripline .4 gph emitter



### Rain Bird PC Dripline Flow Rate vs Pressure



**Rain Bird Agri-Products Co.**  
633 W. Foothill Blvd.  
Glendora, CA 91741-2469  
Phone: (800) 435-5624  
Fax: (626) 852-7310

**Rain Bird International, Inc.**  
145 N. Grand Ave.  
Glendora, CA 91741-2469  
Phone: (626) 963-9311  
Fax: (626) 963-4287





# PC Dripline - 20mm, .6 gph

## Product Specifications

	<b>PC Dripline 20mm</b>
Minimum Operating Pressure (psi)	8.5
Maximum Operating Pressure (psi)	60
Maximum Air Temperature	140°F
Maximum Water Temperature	110°F
Emitter Flow Rate (gph)	.6
Coil Length (feet)	1000
Filtration (mesh)	120
Outer Diameter (inches)	.807
Inner Diameter (inches)	.709
Wall Thickness (inches)	.049

Custom emitter spacing available, please consult factory.

**Part Number**     **DP2006** \_ \_  
                                  Please specify spacing (in)

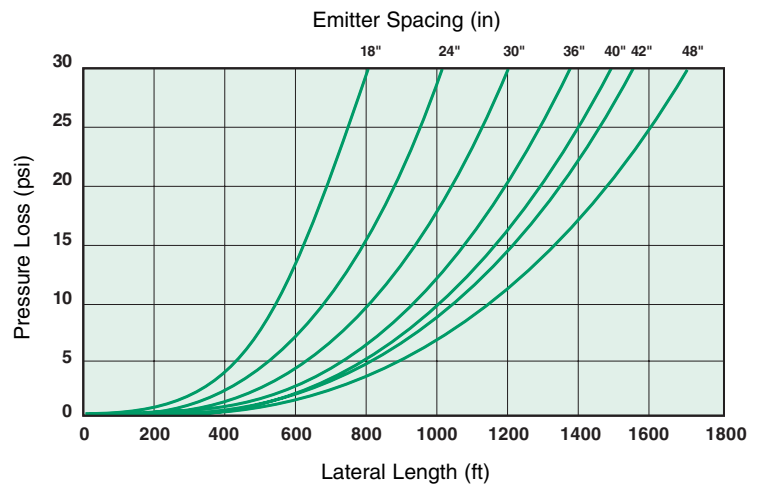
## Maximum Lateral Lengths (ft) 0% slope .6 gph emitter

Inlet Pressure	18 inch	24 inch	30 inch	36 inch	40 inch	42 inch	48 inch
15 psi	470	590	700	800	860	900	1000
25 psi	640	810	960	1110	1200	1240	1380
35 psi	760	960	1140	1310	1450	1480	1630
45 psi	850	1080	1280	1470	1590	1650	1820

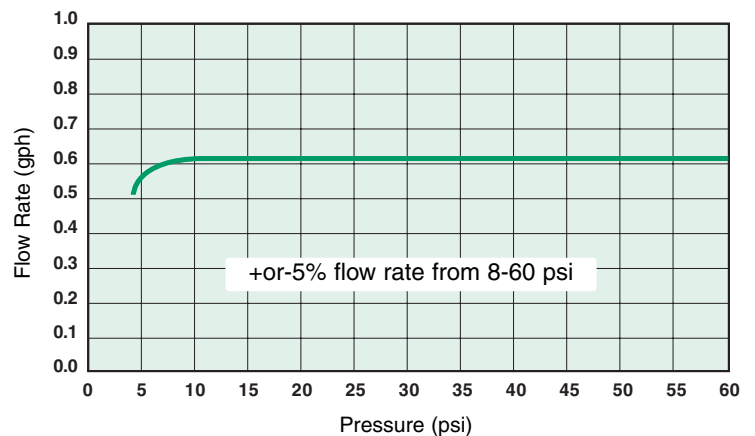
**Rain Bird Agri-Products Co.**  
 633 W. Foothill Blvd.  
 Glendora, CA 91741-2469  
 Phone: (800) 435-5624  
 Fax: (626) 852-7310

[www.rainbird.com](http://www.rainbird.com)

## Rain Bird PC Dripline .6 gph emitter



## Rain Bird PC Dripline Flow Rate vs Pressure



**Rain Bird International, Inc.**  
 145 N. Grand Ave.  
 Glendora, CA 91741-2469  
 Phone: (626) 963-9311  
 Fax: (626) 963-4287



# PC Dripline - 20mm, .9 gph

## Product Specifications

	<b>PC Dripline 20mm</b>
Minimum Operating Pressure (psi)	8.5
Maximum Operating Pressure (psi)	60
Maximum Air Temperature	140°F
Maximum Water Temperature	110°F
Emitter Flow Rate (gph)	.9
Coil Length (feet)	1000
Filtration (mesh)	120
Outer Diameter (inches)	.807
Inner Diameter (inches)	.709
Wall Thickness (inches)	.049

Custom emitter spacing available, please consult factory.

**Part Number**     **DP2009** \_ \_  
                                  Please specify spacing (in)

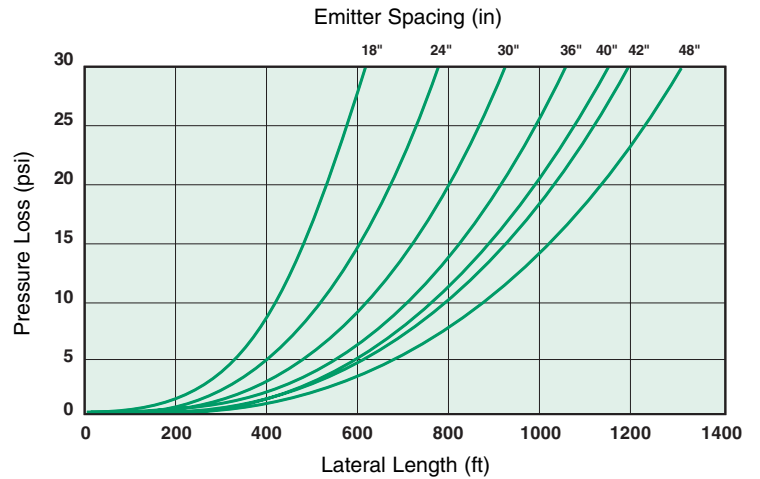
## Maximum Lateral Lengths (ft) 0% slope .9 gph emitter

Inlet Pressure	18 inch	24 inch	30 inch	36 inch	40 inch	42 inch	48 inch
15 psi	360	450	540	610	670	690	760
25 psi	490	620	750	860	930	960	1060
35 psi	580	740	880	1010	1100	1140	1260
45 psi	640	830	980	1130	1230	1270	1400

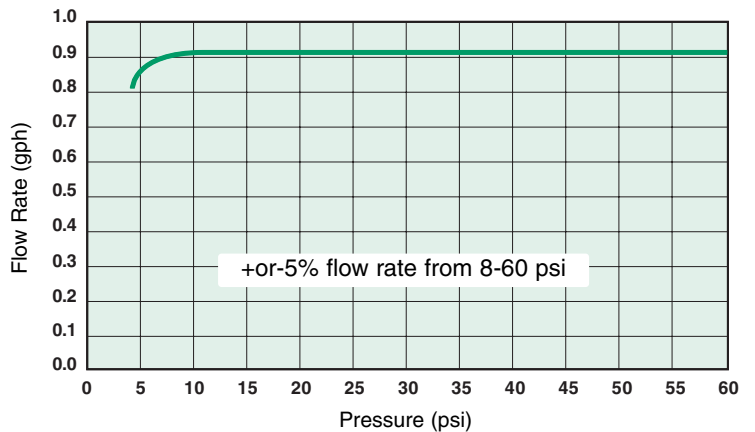
**Rain Bird Agri-Products Co.**  
 633 W. Foothill Blvd.  
 Glendora, CA 91741-2469  
 Phone: (800) 435-5624  
 Fax: (626) 852-7310

[www.rainbird.com](http://www.rainbird.com)

## Rain Bird PC Dripline .9 gph emitter



## Rain Bird PC Dripline Flow Rate vs Pressure

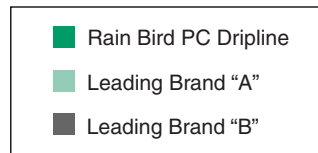


**Rain Bird International, Inc.**  
 145 N. Grand Ave.  
 Glendora, CA 91741-2469  
 Phone: (626) 963-9311  
 Fax: (626) 963-4287



## PC Dripline - Tech Spec

The Center of Irrigation Technology (CIT) test results demonstrate that Rain Bird PC Dripline is the most clog resistant dripline available.



### Tech Spec

The flexible polyethylene tubing shall have factory installed, pressure compensating, inline emitters installed every \_\_\_\_ inches. The flow rate from each installed inline emitter shall be a consistent \_\_\_\_ gallons per hour when inlet pressure is between 8.5 and 60 psi.

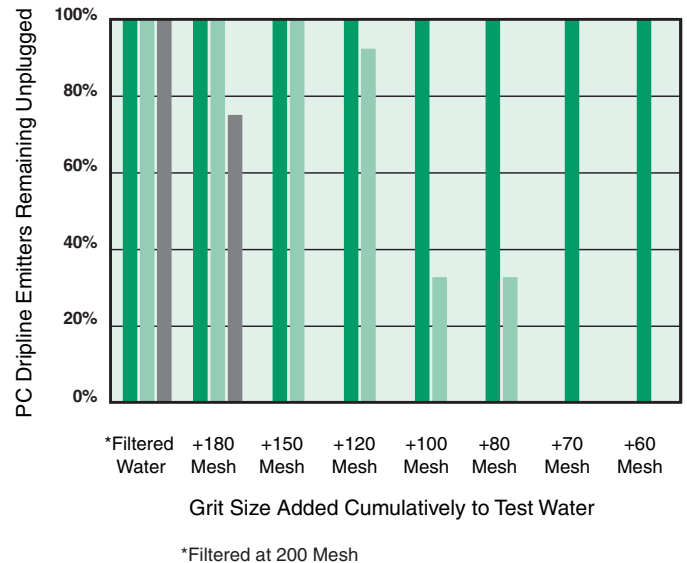
Pressure compensation shall be accomplished through the effective lengthening of the emitter flow path. This method of pressure compensation shall in no way reduce the size of the emitter flow path. As a result, superior clog-resistance shall be achieved.

The inline emitter's cylindrical shape shall permit the welding of the emitter to the inner circumference of the polyethylene tubing. This shall create a physical barrier that keeps the cover of the inline emitter securely in place. This will make the emitter cover and the silicone diaphragm beneath the cover impossible to dislodge when the polyethylene tubing is kinked. This, in turn,

**Rain Bird Agri-Products Co.**  
 633 W. Foothill Blvd.  
 Glendora, CA 91741-2469  
 Phone: (800) 435-5624  
 Fax: (626) 852-7310

www.rainbird.com

### CIT Test Results PC Dripline Emitter Plugging



shall ensure consistent flow from each inline emitter throughout the line.

The inline emitter's cylindrical shape shall provide surface area for filtration throughout the 360 degrees of its outer circumference. This increased filtration surface area shall assure that the water that enters the inline emitter can always come from the upper half, or cleanest part of the flow path in the polyethylene tubing regardless of how the inline tubing lays on the ground.

The inline emitter shall also have dual outlet ports, ensuring that only one port ever has direct contact with the ground when the polyethylene tubing is installed on the surface. This shall virtually eliminate the chance of back-siphoning debris into the tubing. The PC Dripline inline tubing shall be supplied by Rain Bird Sprinkler Mfg. Corp., Glendora, California.

**Rain Bird International, Inc.**  
 145 N. Grand Ave.  
 Glendora, CA 91741-2469  
 Phone: (626) 963-9311  
 Fax: (626) 963-4287



## Specifications / Ordering

### U.S. Units

PC Emitter	Tubing O.D.	Emitter Flow Rate	Emitter Spacing	Part Number
DP	16 mm	.4 gph	12"	DP1604-12
			18"	DP1604-18
			24"	DP1604-24
			30"	DP1604-30
			36"	DP1604-36
			42"	DP1604-42
			48"	DP1604-48
DP	16 mm	.6 gph	12"	DP1606-12
			18"	DP1606-18
			24"	DP1606-24
			30"	DP1606-30
			36"	DP1606-36
			42"	DP1606-42
			48"	DP1606-48
DP	16 mm	.9 gph	12"	DP1609-12
			18"	DP1609-18
			24"	DP1609-24
			30"	DP1609-30
			36"	DP1609-36
			42"	DP1609-42
			48"	DP1609-48
DP	16 mm	.6 gph	12"	DP1606-12
			18"	DP1606-18
			24"	DP1606-24
			30"	DP1606-30
			36"	DP1606-36
			42"	DP1606-42
			48"	DP1606-48
DP	16 mm	.9 gph	12"	DP1609-12
			18"	DP1609-18
			24"	DP1609-24
			30"	DP1609-30
			36"	DP1609-36
			42"	DP1609-42
			48"	DP1609-48
DP	16 mm	.6 gph	12"	DP1606-12
			18"	DP1606-18
			24"	DP1606-24
			30"	DP1606-30
			36"	DP1606-36
			42"	DP1606-42
			48"	DP1606-48
DP	16 mm	.9 gph	12"	DP1609-12
			18"	DP1609-18
			24"	DP1609-24
			30"	DP1609-30
			36"	DP1609-36
			42"	DP1609-42
			48"	DP1609-48

### Metric Units

PC Emitter	Tubing O.D.	Emitter Flow Rate	Emitter Spacing	Part Number
DP	16 mm	1.6 lph	30 cm	DP1616-030
			50 cm	DP1616-050
			60 cm	DP1616-060
			75 cm	DP1616-075
			100 cm	DP1616-100
			120 cm	DP1616-120
			150 cm	DP1616-150
DP	16 mm	2.2 lph	30 cm	DP1622-030
			50 cm	DP1622-050
			60 cm	DP1622-060
			75 cm	DP1622-075
			100 cm	DP1622-100
			120 cm	DP1622-120
			150 cm	DP1622-150
DP	16 mm	3.4 lph	30 cm	DP1634-030
			50 cm	DP1634-050
			60 cm	DP1634-060
			75 cm	DP1634-075
			100 cm	DP1634-100
			120 cm	DP1634-120
			150 cm	DP1634-150

PC Emitter	Tubing O.D.	Emitter Flow Rate	Emitter Spacing	Part Number
DP	18 mm	0.5 gph	18"	DP180518
			24"	DP180524
			30"	DP180530
			36"	DP180536
			40"	DP180540
			42"	DP180542
			48"	DP180548
DP	18 mm	0.9 gph	18"	DP180918
			24"	DP180924
			30"	DP180930
			36"	DP180936
			40"	DP180940
			42"	DP180942
			48"	DP180948

PC Emitter	Tubing O.D.	Emitter Flow Rate	Emitter Spacing	Part Number
DP	18 mm	2.0 lph	30 cm	DP1820030
			50 cm	DP1820050
			60 cm	DP1820060
			75 cm	DP1820075
			90 cm	DP1820090
			100 cm	DP1820100
			DP	18 mm
50 cm	DP1834050			
60 cm	DP1834060			
75 cm	DP1834075			
90 cm	DP1834090			
100 cm	DP1834100			

Custom emitter spacing available, please consult factory.



## Specifications / Ordering

### U.S. Units

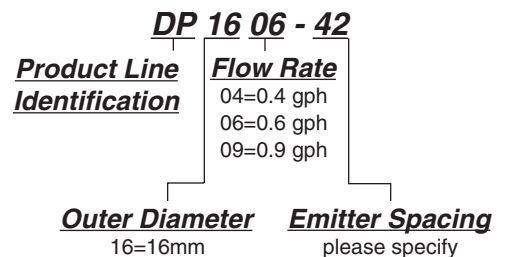
PC Emitter	Tubing O.D.	Emitter Flow Rate	Emitter Spacing	Part Number
DP	20 mm	0.4 gph	18"	DP200418
			24"	DP200424
			30"	DP200430
			36"	DP200436
			40"	DP200440
			42"	DP200442
			48"	DP200448
DP	20 mm	0.6 gph	18"	DP200618
			24"	DP200624
			30"	DP200630
			36"	DP200636
			40"	DP200640
			42"	DP200642
			48"	DP200648
DP	20 mm	0.9 gph	18"	DP200918
			24"	DP200924
			30"	DP200930
			36"	DP200936
			40"	DP200940
			42"	DP200942
			48"	DP200948

### Metric Units

PC Emitter	Tubing O.D.	Emitter Flow Rate	Emitter Spacing	Part Number
DP	20 mm	1.6 lph	30 cm	DP2016030
			50 cm	DP2016050
			60 cm	DP2016060
			75 cm	DP2016075
			90 cm	DP2016090
			100 cm	DP2016100
DP	20 mm	2.2 lph	30 cm	DP2022030
			50 cm	DP2022050
			60 cm	DP2022060
			75 cm	DP2022075
			90 cm	DP2022090
			100 cm	DP2022100
DP	20 mm	3.4 lph	30 cm	DP2034030
			50 cm	DP2034050
			60 cm	DP2034060
			75 cm	DP2034075
			90 cm	DP2034090
			100 cm	DP2034100

**PC Drip for Windows** is a design software tool for designers and growers to evaluate Rain Bird PC Dripline performance under varying conditions including emitter flow rate and spacing, lateral length and spacing, and slope. It provides answers for optimum lateral lengths, problem slope conditions, and flow per acre. Each design scenario can be viewed graphically by lateral pressure and lateral length. This feature helps growers see where minimum pressures and flows occur in a lateral given certain design and field conditions. Please order part number L195.

### How to Order:





## Agricultural Valves





## Agricultural Valves



Shown with Rain Bird® CYCLIK™ battery-operated controller

**Rain Bird's Cast Iron Valves**, designed specifically for agricultural applications, combine high quality, affordability, ease of installation and durable construction. These features, together with the support of the industry's most capable dealer network, will assure years of reliable, trouble-free operation.

These valves are designed with a large water passage, which results in low pressure losses. They are coated with a baked-on polyurethane layer that protects against corrosion. Valves that are 3" in diameter and larger feature a unique cover design to avoid damaging the diaphragm if the bolts are over tightened. Basic valve bodies can be equipped with a variety of control options to fit different operating conditions encountered in irrigation systems. These options include remote hydraulic control, electric solenoid control, pressure reducing, pressure sustaining, pressure relief and combinations of the above.

AG-3WAY	<i>Hydraulic Control Valve with 3-way Manual Selector</i>
AG-ELEC	<i>Solenoid Control Valve</i>
AG-EL3W	<i>Solenoid Control Valve with 3-way Manual Selector</i>
AG-PR2M	<i>Pressure Reducing Valve with 2-way Metal Pilot</i>
AG-PR3P	<i>Pressure Reducing Valve with 3-way Plastic Pilot</i>
AG-PR3M	<i>Pressure Reducing Valve with 3-way Metal Pilot</i>
AG-PS3_	<i>Pressure Sustaining Valve with 3-way Metal or Plastic Pilot</i>
AG-SRLF	<i>Quick Relief Safety Valve with Metal Pilot</i>
AG-PRPS	<i>Pressure Reducing / Sustaining Valve</i>



## Features and Options

### Key Features

#### Body

- Cast Iron ISO 185 with 220° C Baked Epoxy Coating, 4 Mil (100 micron) minimum thickness.
- Nitrile rubber diaphragm, oil resistant and non-toxic. Top-replaceable, without removing valve from line.
- Pressure rating of 235 psi (16 bar). Slow and gradual opening and closing to avoid water hammer.
- Stainless steel spring AISI304.
- Self-cleaning internal strainer.
- HPDE tube 4 x 6mm PN16 for diameters 5" and smaller.
- HPDE tube 6 x 8mm PN16 for diameters 6" and larger.

#### Options available

- Basic hydraulic valve with 3-way manual selector
- Basic valve with solenoid (24VAC, 12VDC latch, 6-9VDC latch)
- Basic valve with solenoid and 3-way manual selector
- Basic valve with 2-way metal pressure reducing pilot ^
  - 7-145 psi (0.5-10 bar)
- Basic valve with 3-way plastic pressure reducing pilot ^\*
  - 3-44 psi (0.2-3 bar)
  - 15-80 psi (1-5.5 bar)
- Basic valve with 3-way metal pressure reducing pilot ^\*
  - 15-101 psi (1-7 bar)
  - 88-176 psi (6-12 bar)
- Basic valve with 3-way pressure sustaining pilot ^\*
  - Metal: 15-101 psi (1-7 bar)
  - Metal: 88-176 psi (6-12 bar)
  - Plastic: 15-80 psi (1-5.5 bar)
- Basic valve with quick relief safety pilot
  - 15-87 psi (1-6 bar)
  - 88-176 psi (6-12 bar)
- Basic valve with pressure reducing and sustaining pilots \*

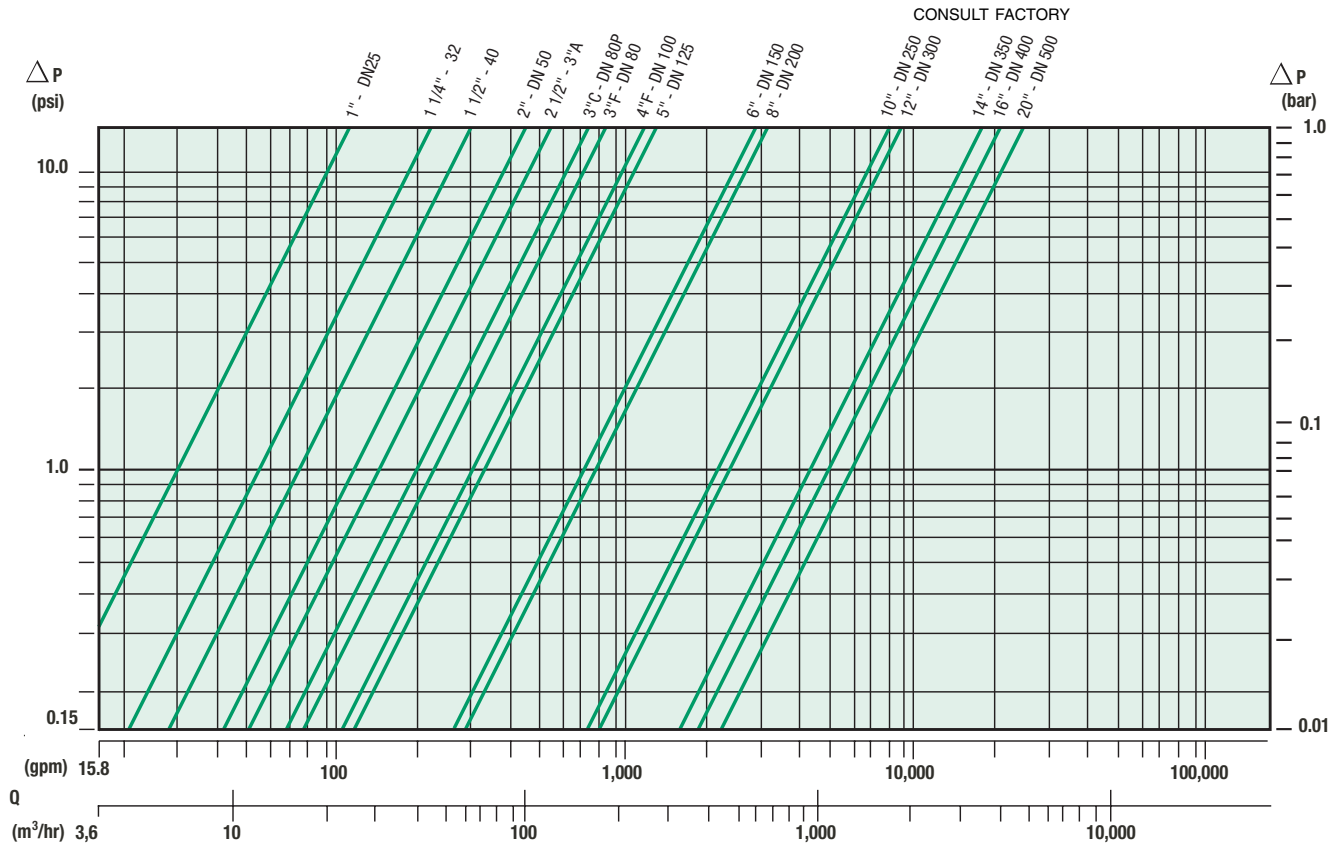
^ Solenoid available as an option in these models

\* All these options include 3-way manual selector



# Specifications

## Pressure Loss vs. Flow Rate



### Flow Range Table - U.S.

DIA.	Connection*	MIN	NOMINAL	MAX	CV
		gpm	gpm	gpm	gpm
1"	NPT, BSP	0.4	40	53	30
1 1/2"	NPT, BSP	4	132	176	71
2"	NPT, BSP, VIC	13	221	265	113
3" C	NPT, BSP, VIC	18	353	419	174
4"	NPT, Flange	44	662	838	285
6"	Flange	110	1544	1764	682
8"	Flange	154	1588	1852	761

CV = Flow rate in gpm that creates a pressure drop of 1 psi.  
\* Other connections available. Consult factory.

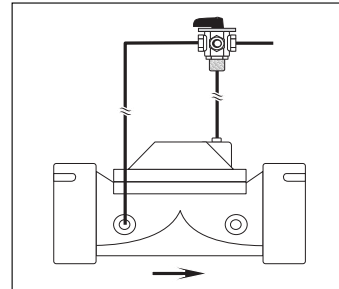
### Flow Range Table - Metric

DIA.	Connection*	MIN	NOMINAL	MAX	KV
		m³/h	m³/h	m³/h	m³/h
1" (DN25)	NPT, BSP	0,1	9	12	22
1 1/2" (DN40)	NPT, BSP	1	30	40	65
2" (DN50)	NPT, BSP, VIC	3	50	60	100
3" C (DN80P)	NPT, BSP, VIC	4	80	95	160
4" (DN100)	NPT, Flange	10	150	190	250
6" (DN150)	Flange	25	350	400	620
8" (DN200)	Flange	35	360	420	640

KV = Flow rate in m³/h that creates a pressure drop of 1 bar.  
\* Other connections available. Consult factory.

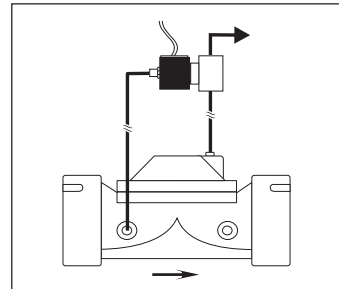
## Agricultural Valves

**AG-3WAY** Manual Hydraulic Control Valve



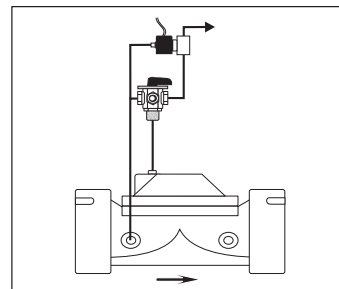
**Three-way selector for manual opening and closing.**

**AG-ELEC** Solenoid Control Valve



**Equipped with solenoid for electric operation.**  
Specify solenoid type when ordering.

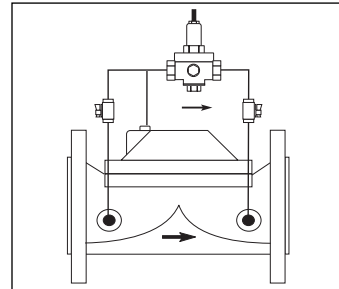
**AG-EL3W** Solenoid Control Valve with 3-way Manual Selector



**Combines manual and electric operation for greater flexibility.**  
Specify solenoid type when ordering.

## Agricultural Valves

### AG-PR2M Pressure Reducing Valve with 2-way Metal Pilot



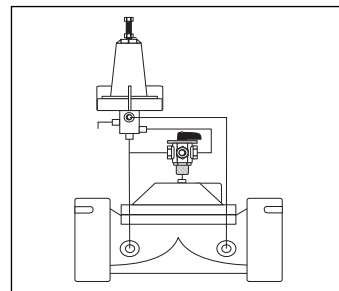
**2-way metal pilot with standard adjustment range of:**

- 7 to 145 psi (0.5 to 10 bar)

**Maximum reduction rate: 4:1.**

Valve can be equipped with a 2-way solenoid. Specify solenoid type when ordering.

### AG-PR3P Pressure Reducing Valve with 3-way Plastic Pilot



**3-way plastic pilot with adjustment range of:**

- 3 to 44 psi (0.2 to 3 bar)
- 15 to 80 psi (1 to 5.5 bar)

**Maximum reduction rate: 4:1.**

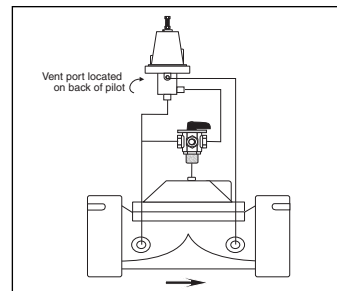
Includes 3-way Selector.

Valve can be solenoid equipped. Specify solenoid type when ordering.



## Agricultural Valves

### AG-PR3M Pressure Reducing Valve with 3-way Metal Pilot

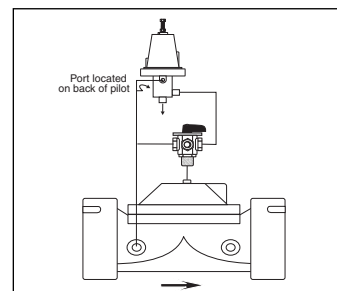


**3-way metal pilot with adjustment range of:**

- 15 to 101 psi (1 to 7 bar)
- 88 to 176 psi (6 to 12 bar)

**Maximum reduction rate: 4:1.**  
Includes 3-way Selector.  
Valve can be solenoid equipped. Specify solenoid type when ordering.

### AG-PS3\_ Pressure Sustaining Valve with 3-way Pilot (metal pilot shown)



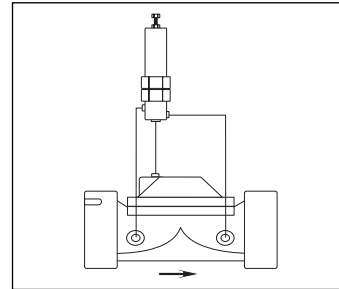
**3-way pilot with adjustment range of:**

- Metal Pilot: 15 to 101 psi (1 to 7 bar)
- Metal Pilot: 88 to 176 psi (6 to 12 bar)
- Plastic Pilot: 15 to 80 psi (1 to 5.5 bar)

**Maximum reduction rate: 4:1.**  
Includes 3-way Selector.  
Valve can be solenoid equipped. Specify solenoid type when ordering.

## Agricultural Valves

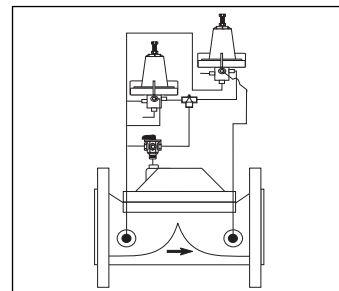
### AG-SRLF Quick Relief Safety Valve with Metal Pilot



Quick relief metal pilot with adjustment range of:

- 15 to 87 psi (1 to 6 bar)
- 88 to 176 psi (6 to 12 bar)

### AG-PRPS Pressure Reducing / Sustaining Valve (plastic pilot shown)



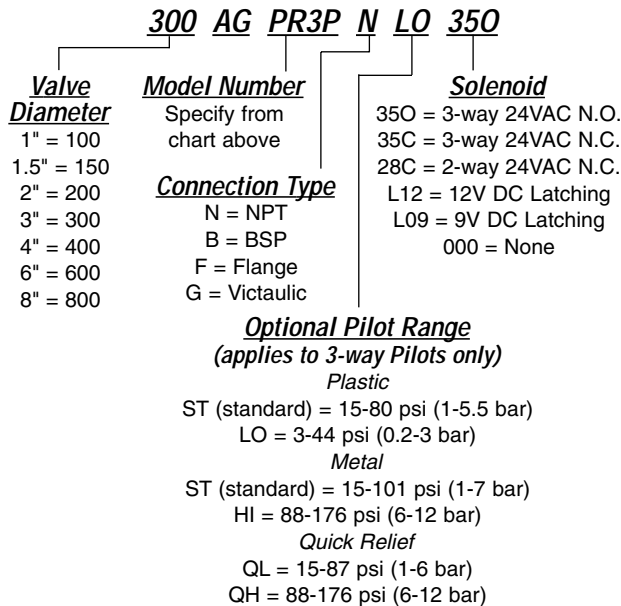
Two 3-way pilots for accurate control of downstream and upstream pressure. Includes 3-way Selector.



## Order Information

XXX AG-3WAY X 00 000	Hydraulic Control Valve with 3-way Manual Selector
XXX AG-ELEC X 00 XXX	Solenoid Control Valve
XXX AG-EL3W X 00 XXX	Solenoid Control Valve with 3-way Manual Selector
XXX AG-PR2M X 2W XXX	Pressure Reducing Valve with 2-way Metal Pilot
XXX AG-PR3P X XX XXX	Pressure Reducing Valve with 3-way Plastic Pilot
XXX AG-PR3M X XX XXX	Pressure Reducing Valve with 3-way Metal Pilot
XXX AG-PS3_ X XX XXX	Pressure Sustaining Valve with 3-way Metal or Plastic Pilot
XXX AG-SRLF X XX 000	Quick Relief Safety Valve with Metal Pilot
XXX AG-PRPS X XX XXX	Pressure Reducing / Sustaining Valve

### How to Order:



RECOMMENDED FLOW RANGE TABLE - US/METRIC								
DIA.	Minimum		Nominal		Maximum		CV	KV
	gpm	m <sup>3</sup> /h	gpm	m <sup>3</sup> /h	gpm	m <sup>3</sup> /h	gpm	m <sup>3</sup> /h
1"	0.4	0,1	40	9	53	12	30	22
1 1/2"	4	1	132	30	176	40	71	65
2"	13	3	221	50	265	60	113	100
3"C	18	4	353	80	419	95	174	160
4"	44	10	662	150	838	190	285	250
6"	110	25	1544	350	1764	400	682	620
8"	154	35	1588	360	1852	420	761	640

### How to Order Components:

#### Cast Iron Valve Body

Part Number	Description
B4100B	1" Basic Valve, BSP Connection
B4100N	1" Basic Valve, NPT Connection
B4150B	1.5" Basic Valve, BSP Connection
B4150N	1.5" Basic Valve, NPT Connection
B4200B	2" Basic Valve, BSP Connection
B4200N	2" Basic Valve, NPT Connection
B4200G	2" Basic Valve, Victaulic Connection
B4300B	3"C Basic Valve, BSP Connection
B4300N	3"C Basic Valve, NPT Connection
B4300G	3"C Basic Valve, Victaulic Connection
B4400F	4" Basic Valve, Flange Connection
B4400N	4" Basic Valve, NPT Connection
B4600F	6" Basic Valve, Flange Connection
B4800F	8" Basic Valve, Flange Connection

Other connections available. Consult factory.

#### Accessory Kits and Parts

Part Number	Description
118443	3-Way Manual Selector
118444	3-Way Electric Solenoid 5W N.O. PN10 Kit
118460	3-Way Electric Solenoid 5W N.C. PN10 Kit
118455	3-Way 12V Latching DC Solenoid Kit
JA3000	3-Way 9V Latching DC Solenoid Kit
118457	2-Way Electric Solenoid 8W N.C. PN16 Kit
118445	Pressure Reducing, 2-way Metal Pilot Kit (7-145 psi; 0.5-10 bar)
118446	Pressure Reducing, 3-way Metal Pilot Kit (15-101 psi; 1-7 bar)
118458	Pressure Reducing, High Pressure Metal Pilot Kit (88-176 psi; 6-12 bar)
118447	Pressure Reducing, 3-way Plastic Pilot Kit (15-80 psi; 1-5.5 bar)
118453	Pressure Reducing, Low Pressure Plastic Pilot Kit (3-44 psi; 0.2-3 bar)
118448	Pressure Sustaining, 3-way Metal Pilot Kit (15-101 psi; 1-7 bar)
118456	Pressure Sustaining, 3-way Plastic Pilot Kit (15-80 psi; 1-5.5 bar)
118459	Pressure Sustaining, High Pressure Metal Pilot Kit (88-176 psi; 6-12 bar)
118449	Quick Relief Metal Pilot Kit (15-87 psi; 1-6 bar)
118454	Quick Relief High Pressure Metal Pilot Kit (88-176 psi; 6-12 bar)
118450	Low Pressure Diaphragm, for 1.5"-2" Valve Diameter
118451	Standard Diaphragm, for 1.5"-2" Valve Diameter
118452	Standard Diaphragm, for 3" Valve Diameter

### Valves for Agricultural Irrigation

- PGA 1", 1 1/2", and 2" Plastic Electric Valves 24VAC
- PESB 1", 1 1/2", and 2" Plastic Electric Valves 24VAC
- BPES 3" Hybrid Brass and Plastic Electric Valves 24VAC

Rugged, reliable, versatile. Rain Bird valves are engineered to perform under demanding conditions in agricultural irrigation systems. Got dirty water? Just use the PESB or BPES Series valves with the patented self-cleaning scrubber feature, which keeps grit and contaminants from building up and clogging internal ports. Need pressure regulation? Add the new optional PRS-D dial pressure regulating module for smooth, accurate downstream pressure control.

All valves feature the internal bleed solenoid for manual operation, even with pressure regulation. And all of this performance is available at an affordable price. Rain Bird valves, performance and value.

#### Applications

- Zone control for sprinkler and micro irrigation systems
- System headworks control
- Master valve pressure regulation
- Filter control
- Specialty Rain Gun systems - wastewater, dust control of coal piles and feedlots, pastures, arenas, and logyards

#### Common Features

- Flow control handle to adjust flows as needed
- Turn of solenoid handle permits manual operation with internal bleed. Allows pressure regulation without electrical operation. (BPES model - turn the adapter 1/4 turn counterclockwise)
- Electrical
  - Power: 24 VAC 50/60 cycle solenoid
  - Inrush current: 0.41 A (9.9 VA)
  - Holding current: 0.28 A (6.7 VA)
  - BPES: Model A solenoid with adapter
- One-piece solenoid design with captured plunger and spring for easy servicing



*PESB Series 1 1/2"*



*BPES Series 3"*



*PGA Series 1 1/2"*

- Accept optional field installed PRS-D pressure regulating module with adjusting dial. Control pressure from 15 to 100 psi (1,0 to 6,9 Bars). Simple adjustment with no external tubing. (See section on PRS-Dial)

## PESB and BPES Series Valves

Built-in rugged performance for the toughest field conditions

The heavy duty PESB and BPES valves are designed to handle dirty water and pressure surges often found in agricultural irrigation systems. Both



feature the patented nylon scrubber device, which scrapes a stainless steel screen every time the valve opens and closes. This prevents debris build-up and clogging, with no external piloting. The PESB 1", 1 1/2", and 2" series globe valves are constructed of industrial-strength glass-filled nylon with stainless steel studs for long term service and easy maintenance.

The BPES 3" series globe / angle valves feature brass body and glass-filled nylon bonnet construction. Both are built to withstand 200 psi (13,8 bars) operating pressure. An external bleed manual operation is standard for evacuating debris without passing through the solenoid ports. And their low flow operating capabilities ensure reliable operation for both sprinkler and micro irrigation systems.

### PESB and BPES Features

- Durable glass-filled nylon construction (BPES has heavy duty brass body) rated to 200 psi (13,8 bars)
- Patented scrubber mechanism to resist clogging of internal ports
- Manual internal and external bleed Pressure regulation operation without electrical signal using internal bleed (BPES model - turn adapter)

- Globe configuration (**BPES only:** Globe and angle configuration)



- Convert to pressure regulating operation by adding PRS-D module (Shown with BPES)

### Operating Range

- Pressure: 20 to 200 psi (1,38 to 13,8 Bars)
- Flow: 0.25 to 300 gpm (0,06 to 45,40 m<sup>3</sup>/h; 0,02 to 12,60 l/s)

### Models

- 100PESB 1" NPT (25mm)
- 150PESB 1 1/2" NPT (40mm)
- 200PESB 2" NPT (50mm)
- 300BPES 3" NPT (75mm)

Notes:

1. Valve and PRS-D module must be ordered separately
2. BSP models available, please specify when ordering



PESB 1 1/2" with PRS module

### Performance Data - PESB

#### Pressure Loss (psi)

gpm	100-1"	150-1 1/2"	200-2"
0.25	0.8	0.06	0.02
0.5	1.0	-	-
1	1.3	-	-
5	1.7	-	-
10	1.8	-	-
20	2.9	4.0	-
30	5.6	3.6	-
40	10.0	2.7	-
50	15.6	2.4	3.1
75	-	4.2	2.9
100	-	8.5	3.9
125	-	14.6	6.8
150	-	21.2	10.0
175	-	-	13.6
200	-	-	17.5

#### Pressure Loss (bars)

m <sup>3</sup> /h	l/s	100-1"	150-1 1/2"	200-2"
0.06	0,2	0,05	-	-
1	0,28	0,11	-	-
2	0,56	0,12	-	-
3	0,83	0,15	-	-
4	1,11	0,18	-	-
5	1,39	0,24	0,27	-
6	1,67	0,32	0,26	-
7	1,94	0,41	0,24	-
8	2,22	0,54	0,21	-
9	2,50	0,68	0,19	-
10	2,78	0,84	0,18	-
12	3,33	-	0,18	0,21
14	3,89	-	0,22	0,21
16	4,44	-	0,26	0,20
22	6,11	-	0,55	0,26
28	7,78	-	0,98	0,46
34	9,45	-	1,46	0,69
40	11,11	-	-	0,95
45	12,50	-	-	1,18

### Performance Data - BPES 3"

#### Pressure Loss (psi)

gpm	Globe	Angle
60	7.5	6.8
80	7.4	7.1
100	7.3	6.8
120	5.8	5.2
160	1.8	1.8
200	2.2	1.9
250	3.3	2.6
300	4.9	3.5

#### Pressure Loss (bars)

m <sup>3</sup> /h	l/s	Globe	Angle
14	3,89	0,52	0,47
20	5,56	0,51	0,48
30	8,33	0,32	0,29
40	11,11	0,14	0,13
50	13,89	0,18	0,15
60	16,67	0,26	0,20
68	18,89	0,34	0,24

Notes:

1. Loss values are with flow control fully open.
2. PRS-D module recommended for use below bold line.



## PGA Series Valves

Globe / angle valves at an affordable price

The PGA series valves are high performance, versatile, and economical. These globe and angle configuration valves allow installation either inline or on risers feeding individual zones.



And the PVC construction is designed to handle 150 psi operating pressures. Like the PESB and BPES series valves, the PGA valves have a flow control and internal bleed solenoid for manual internal bleed operation. They can also be easily converted to pressure regulating operation by adding the PRS-D. Available in sizes from 1", 1 1/2", and 2".

### PGA Features

- Globe / angle PVC construction rated to 150 psi (10,35 bars)
- Manual internal bleed. Pressure regulation operation without electrical control signal
- Convert to pressure regulating operation by adding PRS-D module

### Operating Range

- Pressure: 15 to 150 psi (1,04 to 10,35 Bars)
- Flow: 2 to 150 gpm (0,45 to 34,1 m<sup>3</sup>/h; 0,13 to 9,45 l/s)
- Temperature: up to 110 F (43 C)

### Models

- 100PGA 1" NPT (25mm)
- 150PGA 1 1/2" NPT (40mm)
- 200PGA 2" NPT (50mm)

#### Notes:

1. Valve and PRS-D module must be ordered separately
2. BSP models available, please specify when ordering

### Performance Data - PGA

#### Pressure Loss (psi)

gpm	100PGA	100PGA	150PGA	150PGA	200PGA	200PGA
	Globe	Angle	Globe	Angle	Globe	Angle
	1"	1"	1 1/2"	1 1/2"	2"	2"
2	4.1	4.1	-	-	-	-
5	4.9	4.6	-	-	-	-
10	5.8	5.1	-	-	-	-
20	5.3	4.5	-	-	-	-
30	5.0	4.5	2.1	1.6	-	-
40	8.5	7.4	2.8	2.2	1.9	2.0
50	-	-	4.8	2.9	2.0	1.6
75	-	-	11.1	7.4	2.7	1.9
100	-	-	18.8	12.7	4.6	3.4
125	-	-	-	-	8.1	5.1
150	-	-	-	-	11.5	7.3

#### Pressure Loss (bars)

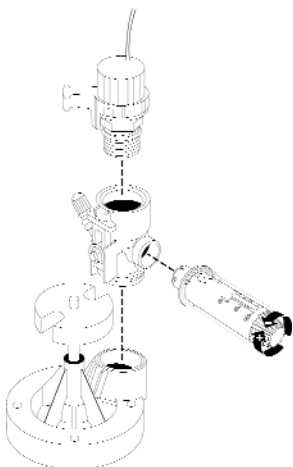
m <sup>3</sup> /h	l/s	100PGA	100PGA	150PGA	150PGA	200PGA	200PGA
		Globe	Angle	Globe	Angle	Globe	Angle
		1"	1"	1 1/2"	1 1/2"	2"	2"
0.5	0,14	0,29	0,28	-	-	-	-
1	0,28	0,32	0,31	-	-	-	-
2	0,56	0,38	0,34	-	-	-	-
3	0,83	0,39	0,34	-	-	-	-
4	1,11	0,38	0,32	-	-	-	-
5	1,39	0,36	0,31	-	-	-	-
6	1,67	0,35	0,31	-	-	-	-
7	1,94	0,37	0,32	0,15	0,11	-	-
8	2,22	0,47	0,41	0,17	0,13	-	-
9	2,50	0,57	0,50	0,19	0,15	-	-
10	2,78	-	-	0,25	0,17	-	-
12	3,33	-	-	0,38	0,24	0,14	0,11
14	3,89	-	-	0,54	0,35	0,16	0,12
16	4,40	-	-	0,69	0,46	0,18	0,13
22	6,10	-	-	1,23	0,83	0,30	0,22
28	7,80	-	-	-	-	0,54	0,34
34	9,44	-	-	-	-	0,79	0,50

#### Notes:

1. Loss values are with flow control fully open.
2. PRS-D module recommended for all flow rates.

## PRS-Dial

Pressure regulating module



The PRS-Dial is an excellent means of regulating outlet pressure at the valve.

It is used where consistent outlet pressure regulation is required regardless of inlet pressure variations. The visible scale makes installation quick and easy. The regulator fits all Rain Bird PGA, PESB, and BPES valves. Simply insert between the solenoid and valve bonnet for quick and easy field installation.

### Features

- Regulates and maintains constant outlet pressure between 15 and 100 psi (1,0 to 6,9 bars) within +/- 3 psi (+/- 0,2 bars)
- Adjustment knob with detents permits fine-tune setting in 1/3 psi (0,02 bars) increments
- Schrader valve connects pressure hose gauge, ordered separately

- Inlet pressure difference must be 15 psi (1 bar) greater than desired outlet pressure for PRS module to function
- Easy field installation. PRS Dial threads underneath solenoid and adapter
- Improved spike reduction capabilities reduce water hammer
- Dial cartridge retrofits into existing PRS-B units

### Model

- PRS-D
- PRSPIC (dial cartridge)
- PHG (pressure hose gauge)



# Valve Wire Sizing Procedure

## Step 1

Determine actual distance, along wire run, from controller out to the first valve on a circuit and between each succeeding valve on a multiple valve circuit (as shown in example).  
 Example: (Two watt solenoid, 26.5 volt transformer at 80 psi water pressure at valves.)

## Step 2

Calculate the equivalent circuit length for each valve circuit on the controller. (See Calculations)

## Step 3

Selecting Common Ground Wire Size: Using the longest equivalent length calculated above, go to the

appropriate valve chart and select a ground wire and a control wire that are as close to the same size as possible (the ground wire size should always be equal to or one size larger than the control wire size.) In the example above, the circuit for station #3 has the longest equivalent length, 7000 feet. In the chart (for this example use the chart for 80 psi water pressure at the valve and a 26.5 volt transformer) select a wire size of 14 for both the common ground wire and control wire. Since one common ground wire shall be used for all valves on the controller, you have now established the common ground wire size for that controller as size 14 wire.

## Step 4

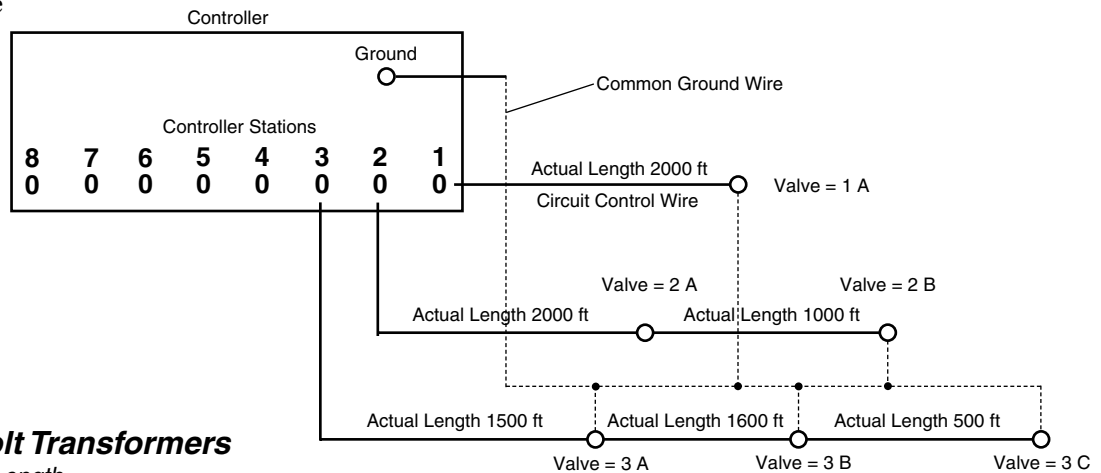
Sizing Circuit Control Wires: Using the common ground wire size selected in Step 3 (size 14), proceed to select each control wire size from the chart using the calculated equivalent length for each circuit.

### Calculations:

**Station #1:** Equiv. Length = 1 valve x 2000 ft. = 2000 ft. select size 18 control wire

**Station #2:** Equiv. Length = (1 valve x 1000 ft.) + (2 valves x 2000 ft.) = 5000 ft. select size 16 control wire

**Station #3:** Equiv. Length = (1 valve x 500 ft.) + (2 valves x 1000 ft.) + (3 valves x 1500 ft.) = 7000 ft. select size 14 control wire



## Valves with 26.5 Volt Transformers

Equivalent Feet of Circuit Length

### 80psi (5,5 bars) Water Pressure at Valve

Common Wire Size	Control Wire Size				
	18	16	14	12	10
18	3000	3700	4300	4800	5200
16	3700	4800	5900	6900	7700
14	4300	5900	7700	9400	11000
12	4800	6900	9400	12200	15000
10	5200	7700	11000	15000	19400

### 100psi (6,9 bars) Water Pressure at Valve

Common Wire Size	Control Wire Size				
	18	16	14	12	10
18	2800	3500	4100	4500	4900
16	3500	4500	5500	6500	7300
14	4100	5500	7200	8900	10300
12	4500	6500	8900	11500	14100
10	4900	7300	10300	14100	18300

**Rain Bird Corporation Agri-Products Division**  
 633 W. Foothill Blvd.  
 Glendora, CA 91741-2469  
 Phone: (800) 435-5624  
 Fax: (626) 852-7310

**Rain Bird International, Inc.**  
 145 N. Grand Ave.  
 Glendora, CA 91741-2469  
 Phone: (626) 963-9311  
 Fax: (626) 963-4287



## Controllers





### 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.

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.

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.
- 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.



*CYCLIK control module shown operating two Rain Bird cast iron hydraulic valves.*

<b>Features</b>	<b>Benefits</b>
<ul style="list-style-type: none"> <li>• Accurate, synchronized control without control wires or AC power</li> <li>• Weatherproof optical port</li> </ul>	<ul style="list-style-type: none"> <li>• Low cost installation</li> </ul>
<ul style="list-style-type: none"> <li>• Simple menu-driven programming</li> <li>• Programming changes are made only through the field transmitter</li> <li>• One year control module operation with one 9-volt alkaline battery</li> <li>• On/Off rainy weather control via the field transmitter</li> </ul>	<ul style="list-style-type: none"> <li>• Trouble-free operation, even under water</li> <li>• Saves time and reduces errors</li> <li>• Unauthorized individuals cannot change irrigation programs</li> <li>• Battery is reliable for one irrigation season</li> </ul>
<ul style="list-style-type: none"> <li>• Synchronized control of up to 85 irrigation blocks</li> </ul>	<ul style="list-style-type: none"> <li>• Saves water by allowing shut-off during rain without losing the stored program</li> <li>• Economical system, even for large farms</li> </ul>



*CYCLIK control module and field transmitter connected via optical port.*

#### How to Specify/Order:

<b>Part Number</b>	<b>Description</b>
JA1100	Cyclik CI Field Transmitter
JA1300	Cyclik Micro Field Transmitter
JA3000	3-Way Latching Solenoid
JA3001	Control Module - 1 Valve
JA3002	Control Module - 2 Valves
JA3004	Control Module - 4 Valves
71P51018	Bracket (attaches control module to valve)
TBOSPSOL	2-Way Latching Solenoid



## Cyclik CI

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.

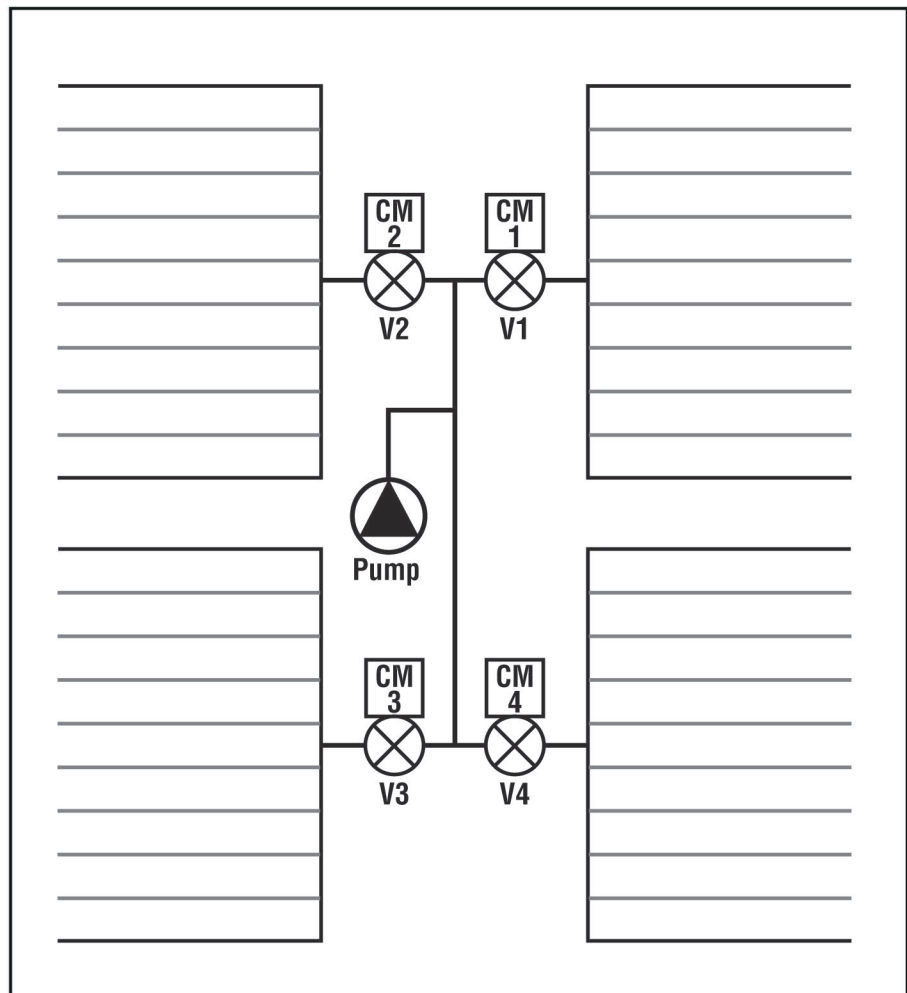
The Cyclik CI, combined with Rain Bird automatic valves provides an ideal system for pulse irrigation. As many as 85 valves can be programmed to open and close in a coordinated sequence. The Cyclik CI also features a time overlap between valve operations so that the next valve will be sure to be open before the previous valve closes. Cyclik does not allow a pump to operate against a closed system, so this avoids the situation where a pump could “dead head”.

The simple four valve system illustrated here shows the location of the Cyclik control modules and Rain Bird valves, with connecting piping to the water source. For example, suppose the grower wants to irrigate each block for one hour, then rest each block for three hours. The Cyclik CI field transmitter would be programmed to operate block 1 for one hour, then open the valve for block 2 slightly before closing the valve for block 1. One hour later, the valve for block 3 would open, slightly before closing block 2, and so on until all four blocks receive one hour of water.

The Cyclik control modules can be programmed to repeat the pulsing schedule as many times as necessary to apply the required irrigation to all blocks. After the irrigation is completed, the grower can turn off the pump. A popular option is to program the Cyclik control modules to keep opening and closing the valves, even while the pump is off. This approach means that one of the valves will be open at all times, so a grower can start an irrigation at any time by simply starting the pump. Once the water is on, the Cyclik control modules operate the valves to provide “pulse” irrigation to the field.

### 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



Typical field layout with Cyclik control of each valve in a sequence.



## Cyclik Micro Mode A

Growers who need to irrigate on a weekly schedule may use Cyclik Micro Program A. The first step is to choose the days of the week to receive irrigation, and skip the days that will not get water. Next, set the start time and run time, up to 8 start times per day, and the Cyclik control modules will repeat the program until a new program is entered.

### Key Features

- Works with 1, 2, or 4 station control modules
- Up to 8 start times and run times per day
- Can assign an independent program to each station

Example: A remote pasture requires irrigation Monday through Friday only. On irrigation days, the pasture needs two irrigations per day, three hours starting at 5 AM, and for one hour starting at 3 PM.



*Controlling a Rain Bird Rain Gun on a remote pasture without electric power or wiring.*

## Cyclik Micro Mode B

This sequence is designed for growers that want to operate on the same schedule every day, and need to irrigate in short bursts, followed by a “soak-in” time. After the time of day is set, the next step is to enter the start time and end time of the irrigation window (up to 2 irrigation windows per day). Once the irrigation windows are set, the final step is to enter the run time (from 10 seconds up to 99 minutes), and soak time (up to 99 minutes) within the irrigation windows.

### 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”

Example: A Greenhouse requires 30 seconds on and 3 minutes off all day from 6 AM to 7 PM.



*Greenhouse application with many short on-cycles during an irrigation “window”.*



## Additional Features

### 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 is used often 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.



*Automated irrigation of a corn field with Cyclik control system.*



*This control module was buried for 2 weeks due to flooding. Infra-red communication with the field transmitter still worked.*

**Rain Bird Corporation**  
**Agri-Products Division**  
633 W. Foothill Blvd.  
Glendora, CA 91741-2469  
Phone: (800) 435-5624  
Fax: (626) 852-7310

**Rain Bird International, Inc.**  
145 N. Grand Ave.  
Glendora, CA 91741-2469  
Phone: (626) 963-9311  
Fax: (626) 963-4287

www.rainbird.com  
Rain Bird. The Intelligent Use of Water.™

© Registered Trademark of Rain Bird Corporation  
© 2003 Rain Bird Corporation 2/03



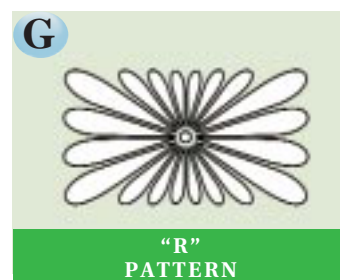
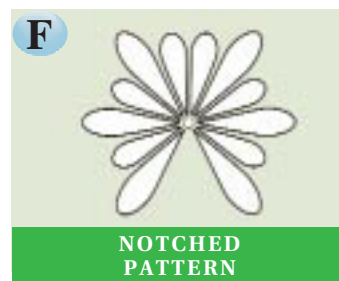
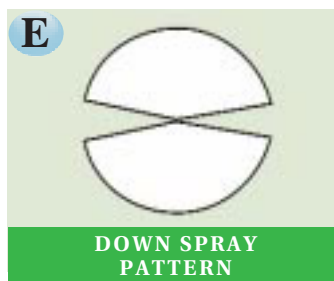
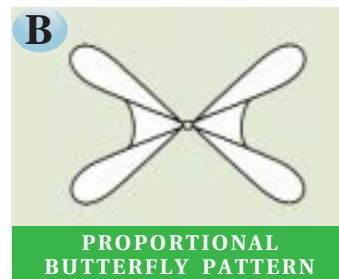


## Micro-Quick™ Sprays and Micro-Bird® Spinners





### Nozzle Watering Patterns



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

Todos os componentes deste microaspersor, possuem inibidores de UV (ultra violeta) e resistem aos químicos utilizados na agricultura.

Todos los componentes están protegidos por inhibidores de luz ultravioleta y resisten las sustancias químicas agrícolas.

# Features and Benefits

## Micro-Quick

*A Micro-Quick™ system leads to efficient use of water, chemicals and energy, and reduced labor, inventory and management time needed to make system modifications for various growing conditions. Micro-Quick sprays are the only micro sprays available with reversible dual pattern deflectors and a selection of deflector pattern combinations available to meet your specific application requirements.*

- No tools are required to remove and re-install nozzle/deflector on the bayonet mount.
- Nozzle/deflector assembly is easily removed for cleaning.
- Quickly change the nozzle/deflector assembly to achieve a higher flow rate or different spray pattern.
- The taper bore nozzle design prevents debris from clogging the orifice.
- All nozzles are color-coded.
- With no moving parts, Micro-Quick is virtually maintenance free.
- Upright (upward spraying) or inverted (downward spraying) nozzle/deflector position available.
- The transfer tubing offers maximum flexibility, durability and kink-resistance.
- Wide flow range from 14,00 l/h (3.8 GPH) to 144,00 l/h (38.6 GPH).

## 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 nozzles 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-Quick

*Un sistema Micro-Quick™ lo llavará al uso eficiente del agua, sustancias químicas y energía, además de reducir la mano de obra, el inventario y el tiempo de gestión necesarios para realizar modificaciones al sistema por variaciones en las condiciones de crecimiento. Los rociadores Micro-Quick son los únicos micro-rociadores con desviadores reversibles dobles del patrón de riego y diversas combinaciones de patrones de desviación para satisfacer sus necesidades específicas.*

- No se requieren herramientas para quitar el conjunto de boquilla/desviador o instalarlo en el soporte tipo baioneta.
- Es fácil quitar el conjunto de boquilla/desviador para limpiarlo.
- Cambie el conjunto de boquilla/desviador en unos cuantos segundos para obtener un caudal mayor o un patrón de aspersión distinto.
- El diseño cónico hueco de la boquilla evita que la basura obstruya el orificio.
- Todas las boquillas están codificadas con colores.
- El Micro-Quick no tiene piezas móviles y por lo tanto casi no requiere mantenimiento.
- El desviador de la boquilla puede ajustarse a una posición vertical (rocío hacia arriba) o invertida (rocío hacia abajo).
- La manguera de transferencia ofrece máxima flexibilidad, durabilidad y resistencia a dobleces.
- Amplia gama de caudales: de 14,00 l/h (3.8 GPH) a 144,00 l/h (38.6 GPH).

## Rotores Micro-Bird II

*El rotor Micro-Bird II es un micro-aspersor de bajo caudal, ideal para usarse en árboles maduros, invmaderos, viveros, jardines y áreas verde*

- “Puente alto” y excelente diseño de plástico que reducen el desgaste y los problemas.
- Un exclusivo diseño de rotor que provee un patrón de humectación superior.
- Configuración de rosca de “dos pasos”, para permitir el uso de mangueras de distribución grandes o pequeñas.
- Cuatro boquillas codificadas con colores para facilitar la identificación.
- Patrón de riego de 340° que permite aplicar el agua con una cobertura uniforme sin mojar los troncos de los árboles.
- Ángulo de trayectoria baja de 10° para resistir la deriva por viento.
- El tamaño de orificio de la malla de filtración es unas 10 veces más pequeño que el tamaño de la boquilla.

## Micro-Quick

*O sistema de microaspersão Micro-Quick™ promove o uso eficiente da água, fertilizantes e energia, reduz mão-de-obra, estoque de peças e o tempo necessário para realizar mudanças na operação de acordo com as condições de crescimento das culturas. Os difusores Micro-Quick, são os únicos microaspersores do tipo spray disponíveis com dois padrões de distribuição num mesmo defletor reversível, que possui uma ampla seleção de combinações adequada para cada tipo de aplicação.*

- Bocal e defletor são instalados sem o auxílio de ferramentas (possui encaixe do tipo baioneta).
- O conjunto bocal e defletor é facilmente desmontado para limpeza quando necessário.
- Mudança rápida do conjunto bocal e defletor propiciando variação tanto na vazão como no padrão de distribuição da água.
- Design do bocal previne entupimento por pequenas partículas.
- Bocais codificados quanto a vazão, por cores diferentes.
- Sem possuir partes móveis o microaspersor Micro-Quick, não necessita de manutenção.
- O Micro-Quick tanto pode ser usado em sua posição normal (jatos para cima) como invertido (jatos para baixo).
- O conjunto de transferência (microtubo e conectores) oferece a máxima flexibilidade e são resistentes ao dobramento ou torção.
- Grande amplitude de vazão de 14,00 l/h (3.8 GPH) a 144,00 l/h (38.6 GPH).

## Micro-Bird II Spinners (“Bailarina”)

*O Micro-Bird II Spinner (“Bailarina”) é um microaspersor de baixa vazão, ideal para aplicação em arvores, estufas, pomares, hortas, e na irrigação paisagística.*








- Eficiente design estrutural e alta qualidade do material plástico permitem reduzido. Desgaste e previne contra paradas de funcionamento do microaspersor.
- Possui base com rosca em dois tamanhos a fim de acomodar microtubos de diâmetros diferentes.
- Design do microaspersor propicia um padrão de distribuição superior.
- Quatro bocais com cores diferentes para fácil identificação da vazão.
- Distribuição em 340° permite uniformidade sem molhar o tronco das arvores.
- Trajetória baixa, 10°, combate deriva causado por ventos.
- A abertura ou mesh dos filtros deve ser aproximadamente 10 vezes menor do que o diâmetro do bocal.



# Micro-Quick™ Sprays

# Performance Data

## U.S. Units

MODEL (nominal nozzle diam.) MODELO (diá nominal de boquilla) MODELO (diám nominal do bocal)	PRES. PRES. PRES.	FLOW GASTO VAZÃO	A 	B 	C 	D 	E 	F 	G 		
			Diam Diá Diám	Length Comprim. Long.	Width Largura Ancho	Rad Raio RAZ	Diam Diá Diám	Diam Diá Diám	Diam Diá Diám	Length Comprim. Long.	Width Largura Ancho
NOZZLE BOQUILLA BOCAL	psi pol. quadr. psi	gph por h. gph	ft p pés	ft p pés	ft p pés	ft p pés	ft p pés	ft p pés	ft p pés	ft p pés	ft p pés
<b>QN-05</b> Black Negro Preto (0.76mm/0.030")	10	3.8	8.5	8.0	7.5	4.0	8.0	3.0	10.0	9.0	6.0
	15	4.6	9.5	10.0	8.5	4.5	9.5	3.0	11.0	10.0	6.5
	20	5.4	10.5	11.0	9.0	5.0	11.0	3.0	12.0	11.0	7.0
	25	6.0	11.0	11.5	9.5	5.3	11.0	3.0	12.5	12.0	7.5
	30	6.6	11.5	12.0	10.0	5.5	11.0	3.0	13.0	13.0	8.0
<b>QN-08</b> Orange Naranja Laranja (0.89mm/0.035")	10	5.5	13.0	10.0	7.5	4.5	9.5	3.0	12.5	12.0	7.0
	15	6.7	13.5	11.5	8.5	5.0	11.0	3.0	13.5	13.5	8.0
	20	7.8	14.0	12.5	9.5	5.5	12.5	3.0	14.0	15.0	9.0
	25	8.7	14.5	12.5	9.5	6.0	13.5	3.0	14.0	16.5	10.0
	30	9.6	15.0	13.0	10.0	6.5	14.5	3.0	14.5	18.0	10.5
<b>QN-12</b> Blue Azul Azul (1.02mm/0.040")	10	8.0	17.0	11.0	9.5	4.5	11.0	3.0	14.5	15.0	8.0
	15	9.9	17.5	13.0	10.0	5.3	12.5	3.0	15.5	16.5	9.0
	20	11.4	18.0	14.5	10.5	6.0	13.5	3.0	16.0	18.0	9.5
	25	12.7	18.0	15.0	11.5	6.5	15.8	3.0	17.0	20.5	10.5
	30	13.9	18.0	15.5	12.0	7.0	18.0	3.0	17.5	23.0	11.0
<b>QN-14</b> Violet Violeta Violeta (1.14mm/0.45")	10	10.1	19.0	13.0	10.0	5.0	12.0	3.0	16.5	15.5	8.5
	15	12.3	20.0	16.0	11.5	5.5	14.0	3.0	17.5	17.5	9.5
	20	14.3	20.5	17.0	12.0	6.0	15.5	3.0	18.5	19.5	10.0
	25	15.9	20.5	18.0	12.5	6.0	18.0	3.0	19.5	22.0	11.0
	30	17.5	21.0	19.0	13.0	7.0	20.5	3.0	20.5	24.0	11.5
<b>QN-17</b> Green Verde Verde (1.27mm/0.50")	10	12.1	21.0	15.0	10.5	6.0	13.0	3.0	17.0	16.0	9.0
	15	14.3	22.0	15.0	12.0	6.0	15.0	3.0	18.5	18.5	10.0
	20	16.6	22.5	19.0	12.5	6.0	17.0	3.0	20.0	20.5	10.5
	25	18.6	23.0	20.0	13.0	6.5	20.0	3.0	21.5	23.0	11.0
	30	20.4	23.5	21.0	13.5	7.0	23.0	3.0	23.0	25.0	12.0
<b>QN-24</b> Red Rojo Vermelho (1.40mm/0.60")	10	17.1	23.0	16.0	11.5	6.5	15.0	3.0	18.0	18.5	11.0
	15	21.3	25.5	18.0	12.5	7.0	17.0	3.0	20.0	20.5	12.0
	20	24.5	28.0	19.5	13.0	7.5	19.0	3.0	21.5	22.0	13.0
	25	27.3	28.0	21.0	13.5	7.5	24.0	3.0	23.5	24.0	13.5
	30	29.7	28.0	22.0	14.0	7.5	25.0	3.0	25.0	25.5	14.0
<b>QN-33</b> White Blanco Branco (1.52mm/0.70")	10	24.3	25.0	18.0	11.0	7.5	17.5	3.0	19.0	21.0	13.0
	15	27.0	26.0	21.0	13.0	8.3	19.2	3.0	21.0	22.5	14.0
	20	31.3	27.0	23.0	14.5	9.0	21.0	3.0	23.0	23.5	14.5
	25	35.3	28.0	24.0	15.0	9.4	23.0	3.0	25.0	25.0	15.5
	30	38.6	28.0	25.0	15.5	9.5	25.0	3.0	27.0	26.0	16.0

### Dual Pattern

- A 360° Star Bird™
- B Proportional Butterfly
- C 120° Fan Spray
- D 360° 24 Stream Spray
- E Downspray
- F Notched Spray
- G "R" Pattern

### Doble Aplicación

- A 360° Pájaro de Estrella (Star Bird™)
- B Mariposa Proporcional
- C 120° Abanico (Fan Spray)
- D 360° 24 Rayo (Stream Spray)
- E Abanico Doble (Downspray)
- F Patrón en "F"
- G Patrón en "R"

### Configurações Duplas

- A Star Bird™ 360° Estrela
- B Barboleta Proporcional
- C Aspersão em Leque 120°
- D Aspersão em Jato 360°-24
- E Aspersão Invertida
- F Padrão "F"
- G Padrão "R"

### Dual Pattern Configurations

#### Doble Aplicación Configurações Duplas

- [AC] [BC] [DC] [FE] [GE]
- [CA] [CB] [CD] [EF] [EG]
- [AE] [BE] [DE] AA
- [EA] [EB] [ED]

\* Specify nozzle size (05, 08, 12, 14, 24, 33).

\* Especificar tamaño de las boquillas (05, 08, 12, 14, 24, 33).

\* Especificar o tamanho de bocal (05, 08, 12, 14, 24, 33).

\*\* Specify deflector pattern to be installed down in the operational position by listing desired pattern letter first i.e., "AC"=360° Star Bird installed down in the operational position, with 120° Fan Spray installed up.

\*\* Especificar la aplicación del desviador indicando las letras correspondientes a su configuración por ejemplo: "AC"= 360° Pájaro de Estrella (Star Bird) instalado hacia abajo con 120° Abanico (Fan Spray) hacia arriba.

\*\* Especificar a configuração do defletor para ser instalado no posição operacional, indicando primeiro a letra da configuração desejada como, por exemplo, "AC"= Star Bird 360° instalado para baixo no posição operacional com Aspersão em Leque 120° instalado para cima.

\*\*\* Specify transfer tubing length: 24" (61cm), 36" (91cm), 48" (122cm), or 60" (152cm).  
Note: Allow additional delivery time for 48" (122cm) and 60" (152cm) lengths.

\*\*\* Especificar longitud del tubo de alimentación: 24" (61cm), 36" (91cm), 48" (122cm), o 60" (152cm).  
Nota: Longitud de 48" (122cm) y 60" (152cm) tienen mayor tiempo de entrega.

\*\*\* Especificar o comprimento da tubulação de transferência: 24 pol. (61cm), 36 pol. (91cm), 48 pol. (122cm), 60 pol. (152cm).

Nota: Tempo adicional será necessário para entrega de comprimentos de 48 pol. (122cm) e 60 pol. (152cm).








† Larger nozzles appear as fan spray. Smaller nozzles may appear as individual streams. Contact factory for more information.  
Note: 1 bar = 14.5 psi; 1 m = 3.281 ft; 1 l = 0.264 gal

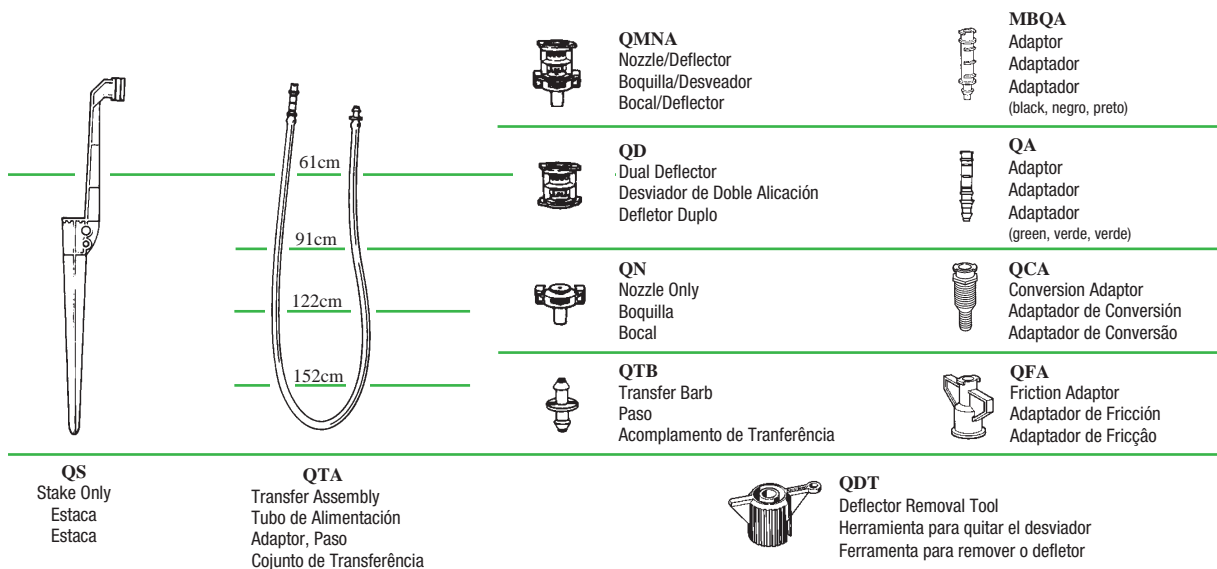
† Las boquillas grandes tienen forma de abanico. Las boquillas pequeñas pueden presentar forma de un sólo chorro. Favor de ponerse en contacto con Rain Bird para más información.

† Bocais maiores parecem ter aspersão em leque. Bocais menores podem parecer ter jatos.

# Micro-Quick™ Sprays Performance Data And Stake Assembly

## Metric Units

MODEL (nominal nozzle diam.) MODELO (diá nominal de boquilla) MODELO (diâm nominal do bocal)	PRES. PRES. PRES.	FLOW GASTO VAZÃO	A 	B 	C 	D 	E 	F 	G 		
			Rad Raio Rad	Length Comprim. Long.	Width Largura Ancho	Rad Raio Rad	Rad Raio Rad	Rad Raio Rad	Diam Diá Diám	Length Comprim. Long.	Width Largura Ancho
NOZZLE BOQUILLA BOCAL	bar	l/h	m	m	m	m	m	m	m	m	m
<b>QN-05</b> Black Negro Preto (0.76mm/0.030")	.75	14,00	1,30	2,40	2,30	1,20	1,20	0,45	3,0	2,7	1,80
	1,00	17,00	1,45	3,00	2,60	1,40	1,45	0,45	3,3	3,0	2,00
	1,50	21,00	1,63	3,34	2,70	1,55	1,60	0,45	3,6	3,3	2,10
	1,75	22,00	1,68	3,50	2,90	1,60	1,70	0,45	3,8	3,6	2,25
	2,00	25,00	1,75	3,70	3,00	1,70	1,70	0,45	4,0	4,0	2,40
<b>QN-08</b> Orange Naranja Laranja (0.89mm/0.035")	.75	21,00	1,95	3,00	2,30	1,40	1,45	0,45	3,8	3,6	2,1
	1,00	25,00	1,98	3,50	2,60	1,50	1,65	0,45	4,1	4,1	2,4
	1,50	31,00	2,15	3,80	2,90	1,70	1,90	0,45	4,2	4,6	2,7
	1,75	33,00	2,20	3,80	2,90	1,80	2,00	0,45	4,2	5,0	3,01
	2,00	36,00	2,25	4,00	3,00	1,95	2,10	0,45	4,4	5,4	3,2
<b>QN-12</b> Blue Azul Azul (1.02mm/0.040")	.75	31,00	2,55	3,40	2,90	1,40	1,65	0,45	4,4	4,6	2,4
	1,00	37,00	2,63	4,00	3,00	1,60	1,85	0,45	4,7	5,0	2,7
	1,50	45,00	2,70	4,40	3,20	1,90	2,00	0,45	4,9	5,4	2,9
	1,75	48,00	2,73	4,60	3,50	1,95	2,40	0,45	5,1	6,2	3,2
	2,00	52,00	2,75	4,70	3,70	2,10	2,65	0,45	5,3	7,0	3,3
<b>QN-14</b> Violet Violeta Violeta (1.14mm/0.45")	.75	38,00	2,90	4,00	3,00	1,50	1,80	0,45	5,0	4,7	2,6
	1,00	46,00	3,03	4,90	3,50	1,65	2,08	0,45	5,3	5,3	2,9
	1,50	56,00	3,13	5,20	3,70	1,80	2,50	0,45	5,6	5,9	3,0
	1,75	60,00	3,13	5,50	3,80	1,85	2,75	0,45	5,9	6,7	3,3
	2,00	65,00	3,20	5,80	4,00	2,05	3,05	0,45	6,2	7,3	3,5
<b>QN-17</b> Green Verde Verde (1.27mm/0.50")	.75	45,00	3,20	4,60	3,20	1,75	2,00	0,45	5,1	4,9	2,7
	1,00	54,00	3,35	5,20	3,70	1,80	2,25	0,45	5,6	5,6	3,0
	1,50	65,00	3,45	5,80	3,80	1,90	2,75	0,45	6,1	6,2	3,2
	1,75	72,00	3,50	6,10	4,00	1,95	3,00	0,45	6,5	7,0	3,3
	2,00	77,00	3,55	6,40	4,10	2,10	3,40	0,45	7,0	7,6	3,7
<b>QN-24</b> Red Rojo Vermelho (1.40mm/0.60")	.75	64,00	3,55	4,90	3,50	2,00	2,30	0,45	5,4	5,6	3,3
	1,00	79,00	3,90	5,50	3,80	2,15	2,55	0,45	6,1	6,2	3,7
	1,50	97,00	4,10	5,90	4,00	2,20	3,15	0,45	6,5	6,7	3,9
	1,75	103,00	4,25	6,40	4,10	2,30	3,50	0,45	7,1	7,3	4,1
	2,00	111,00	4,25	6,70	4,30	2,30	3,65	0,45	7,6	7,7	4,2
<b>QN-33</b> White Blanco Branco (1.52mm/0.70")	.75	92,00	3,80	5,50	3,40	2,30	2,68	0,45	5,8	6,4	3,9
	1,00	103,00	3,95	6,40	4,00	2,50	2,90	0,45	6,4	6,9	4,2
	1,50	122,00	4,15	7,00	4,40	2,80	3,30	0,45	7,0	7,1	4,4
	1,75	133,00	4,20	7,30	4,60	2,85	3,55	0,45	7,6	7,6	4,7
	2,00	144,00	4,25	7,60	4,70	2,90	3,75	0,45	8,2	7,9	4,9



Micro-Bird® Spinner  
Micro-Bird® Spinner  
Rociador Micro-Bird®

Micro-Bird® Adaptor  
Adaptador Micro-Bird®  
Adaptador para Micro-Bird®



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

Todos los componentes estan protegidos por inhibidores de luz ultravioleta y resisten las sustancias químicas agrícolas.

Todos os componentes deste microaspersor, possuem inibidores de UV (ultra violeta) e resistem aos químicos utilizados na agricultura.

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./15 cm riser height.

**NOTA:** Los datos de desempeño son obtenidos bajo condiciones ideales de prueba ser afectados adversamente por viento, condiciones hidráulicas y otros factores.

\* El caudal y el diámetro estan basados en la presión en la Micro-Bird II Spinner y 15 cm/6" de altura.

**NOTA:** Dados de performance foram obtidos em condições ideais de teste e podem ser afetados por vento, condições hidráulicas, e outros fatores.

\* Dados de vazão foram baseados no pressão no base do microaspersor Micro-Bird II Spinner a 15 cm do solo.

## Performance Data\* Dados de Performance Características de Funcionamiento

MODEL (nominal nozzle diam.) MODELO (diá nominal de boquilla) MODELO (diâ nominal do bocal)	Filtration Requirements mesh (Microns) Requisitos de Filtración mesh (Micrones) Filtragem Necessaria mesh (Microns)	PRES (psi) (pol. cuadr.) (bar)	Flow Gasto Vazão (gph)	Dia (p) (ft)	PRES (bar)	Flow Gasto Vazão (l/h)	Rad (m)
<b>SP12-340</b> Blue Azul Azul (0.99mm/0.039")	150 (111)	15	10.1	18	1,0	38,0	2,8
		20	11.6	19	1,5	45,0	3,0
		25	12.9	20	2,0	53,0	3,2
		30	14.1	21	2,5	58,0	3,3
<b>SP16-340</b> Green Verde Verde (1.21mm/0.48")	100 (150)	15	15.1	20	1,0	57,0	3,0
		20	17.4	21	1,5	67,0	3,3
		25	19.4	22	2,0	80,2	3,5
		30	21.2	23	2,5	86,3	3,6
<b>SP24-340</b> Red Rojo Vermelho (1.45mm/0.57")	100 (150)	15	20.9	21	1,0	79,0	3,2
		20	24.1	23	1,5	95,0	3,5
		25	26.9	24	2,0	110,0	3,7
		30	29.3	24	2,5	118,0	3,8
<b>SP30-340</b> Orange Naranja Laranja (1.73mm/0.068")	100 (150)	15	28.9	23	1,0	110,0	3,5
		20	33.4	24	1,5	129,0	3,8
		25	37.2	26	2,0	153,0	4,0
		30	40.5	26	2,5	164,0	4,1
		35	43.3	27	3,0	180,0	4,2
		40	45.8	27			

### How to Order:

**Specify Model Number:**

**SP-12, SP-16, SP-24, SP-30**

Example: SP24-340

### Como Ordenar:

**Especificar el Modelo:**

**SP-12, SP-16, SP-24, SP-30**

Exemplo: SP24-340

### Como Ordenar:

**Especifique o Modelo:**

**SP-12, SP-16, SP-24, SP-30**

Exemplo: SP24-340

### Micro-Quick Stake Transfer Tube Assembly Pressure Loss Chart

Flow gph	U.S. Units Pressure Loss (psi)			Flow lph	Metric Units Pressure Loss (bar)		
	24"	36"	48"		61cm	91cm	122cm
05	0.2	0.2	0.3	20	0,01	0,02	0,02
10	0.6	0.8	1.0	40	0,04	0,06	0,08
15	1.2	1.7	2.2	60	0,10	0,13	0,17
20	2.2	3.0	3.7	80	0,17	0,23	0,29
25	3.3	4.5	5.7	100	0,25	0,35	0,44
30	4.7	6.4	8.1	120	0,36	0,49	0,62
35	6.2	8.5	10.8	140	0,48	0,65	0,83

**Rain Bird Corporation - Agri-Products Division**

633 W. Foothill Blvd.  
Glendora, CA 91741-2469  
Phone: (800) 435-5624  
Fax: (626) 852-7310

www.rainbird.com

**Rain Bird International, Inc.**

145 N. Grand Ave.  
Glendora, CA 91741-2469  
Phone: (626) 963-9311  
Fax: (626) 963-4287



## Accessories





### Accessories

## Air Vents, Software, Pressure Regulators, Pressure Gauges and Tools

### Air Vents

**Superior protection against air blockage and vacuum collapse. Great value.**

The RB-2AV Air Vent / Vacuum Relief Valve has a large orifice to allow air to escape during pipeline filling and to reenter during pipeline draining. During pipeline filling, air must be allowed to escape to prevent blockages and surges, which can damage the pipe. And during pipeline draining, air must be allowed to reenter to prevent vacuum, which can cause the pipe to collapse. These valves do not release air from pipelines once the pipelines are under pressure.

The RB-2AV valves are typically installed at all high points along the line, near all pipe ends, downstream of any line shutoff valve, upstream of pump check valves, and every quarter of a mile on long pipelines.

Rain Bird Air Vent / Vacuum Relief valves are manufactured of cast aluminum (body), engineering grade plastic (float), and 300 series stainless steel (stem). RB-2AV valves are the ideal choice for all irrigation systems.

- Patented, aerodynamic float design
- Lightweight
- Pop-up stem indicator
- Economical
- 2 in NPT/ 50 mm inlet
- 1.75 in / 44,5 mm orifice
- Pressure Range: 2-150 psi / 0,1-10,3 bars



### Air Vents

#### How to Order:

**RB - 2 - AV**  
Product Line Identification  
Inlet Size

### Liquid-Filled Pressure Gauges

#### How to Order:

**RBG - L - 30 - DC**  
Product Line Identification  
Display Case  
Gauge Scale  
 (U.S. and Metric Units)  
Liquid-Filled

### Liquid-Filled Pressure Gauges

**Accurate, durable, and economical.**

RBG liquid-filled pressure gauges are accurate, durable, and economical. They are built to operate with irrigation and other agricultural systems and machines. The stainless steel case and glass lens are heavy duty and weather and chemical resistant. The glycerine fill is non-yellowing, prevents fogging, and dampens vibrations, pulsations, and surges.

The RBG-L has a 2 1/2 in / 65 cm dial face and 1/4 in NPT connector.

- Glycerine-filled for long life
- High accuracy
- Rugged stainless steel case
- Glass lens
- Large numbers for easy reading
- Dual display (psi / bars)
- Easy to operate pressure release valve for greater accuracy

Model Number	Gauge Scale		Quantity per Carton
	psi	bars	
RBG-L30DC	0-30	0-2	15
RBG-L60DC	0-60	0-4	15
RBG-L100DC	0-100	0-7	15
RBG-L160DC	0-120	0-11	15

1 bar = approx. 100kPa





## “L” and “M” Pressure Regulators

**Accurate pressure regulation at an economical price.**

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 bars. 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.

“L” Series are recommended for low flow conditions encountered in low volume irrigation systems.

Flow Range - 0.1-5 gpm /  
0,02-1,1 m<sup>3</sup>/hr/lps / 0.01-0.32

“M” Series are recommended for most operating conditions. This series is designed to withstand surges up to 100 psi / 6,8 bars 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<sup>3</sup>/hr/lps / 0.13-1.4

- Preset outlet pressure regulators
- 3/4 in / 20mm female inlet and outlet
- Choice of 8 outlet pressures
- Diaphragm operated
- Use in above and below ground applications
- Manufactured from rugged engineering-grade plastic
- Stainless steel spring

Pressure Range: 10-150 psi /  
0,7-10,3 bars

**Rain Bird Agri-Products Co.**  
633 W. Foothill Blvd.  
Glendora, CA 91741-2469  
Phone: (800) 435-5624  
Fax: (626) 852-7310

www.rainbird.com

Regulated Outlet Pressure		
Model Number	US Units	Metric
	psi	bars
PSI-L	6	0,4
	10	0,7
	15	1,0
	20	1,4
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

### Pressure Regulators

#### How to Order:

**PSI - L - 30**

Product Line Identification

Outlet Pressure  
(U.S. Units)

Pressure Range

L = Low Pressure  
H = High Pressure

Part Number	Description
L107	PC-Tape™ Software
L160	Tree-Gram™ Software
L195	PC-Drip™ Software

### Software

#### How to Order:

**L - 107**

Product Line Identification

Numeric Identification

## Software

A sophisticated, yet easy to use selection of Rain Bird Agri-Products software assists the system designer in determining optimal irrigation solutions.

**PC-TAPE™ (L107)** is a unique program for analyzing Rain Tape pressure-compensating tape performance given field dimensions and slope information. Results are presented in graphical form illustrating pressure and emitter flow profiles along the lateral for uniform or non-uniform slopes.

**TREE-GRAM™ (L160)** provides graphical analysis of Micro-Quick™ patterns used in tree crops. Using the densogram output capabilities of the CIT SPACE® program, the software overlays tree canopies for any desired orchard or grove layout. Tree-Gram received the prestigious AE-50 Award from the American Society of Agricultural Engineers (ASAE).

**PC-DRIP™ (L195)** provides critical design assistance when using Rain Bird PC Dripline tubing. In addition, PC Drip received an AE-50 Award from the American Society of Agricultural Engineers (ASAE).

Rain Bird also offers universal bearing wrenches for both impact sprinklers and Rain Guns.

- **IMPACT BEARING WRENCH (IBW)** fits 1/2", 3/4", 1" and 1 1/4" male H bearings, and is manufactured from heavy-duty steel stock.
- **RAIN GUN BEARING WRENCH (GBW)** fits both 2" and 3" Rain Gun bearing lock nuts, and is machined from a solid piece of hardened steel.

These heavy-duty wrenches take time and effort out of your rebuilding projects, and since they are universal, you can be sure that you will always have the right tool for the job.

Please consult the Rain Bird Master Numerical Parts Book for a guide to a complete selection of Genuine Rain Bird parts and tools.

**Rain Bird International, Inc.**  
145 N. Grand Ave.  
Glendora, CA 91741-2469  
Phone: (626) 963-9311  
Fax: (626) 963-4287