



Low Flow Series Sprinklers World's Best Uniformity

*New
expanded
flow rates and
5-year extended
warranty*



UNIFORMITY ... Lower Operating Costs

Do you ever worry about your crop getting enough water? Some irrigation methods do not distribute water evenly and more often than not, you may find yourself over watering part of your field to ensure plants in dry areas get enough water. The LF Series Sprinkler has better distribution uniformity than any product on the market. That means that you can save on the water and costs associated with pumping to achieve the same, or better, results. What's more? The LF Series Sprinkler maintains consistent and fast rotation times to give you piece of mind.



DURABILITY ... Lower Maintenance Costs

Your sprinklers are installed in a tough environment. Rain Bird's innovative design and construction of the LF Series Sprinkler has created the most robust sprinkler in its class. That means less breakage, less maintenance, and less money out of your pocket.

"I was a little upset to find that a tree happened to fall on a sprinkler. When I pulled it from the wreckage, the overall structure appeared to be intact, so I put it back on the riser and ran it. To my amazement it worked and the sprinkler has remained a part of my grove."

Tom Rodgers, LF Sprinkler user



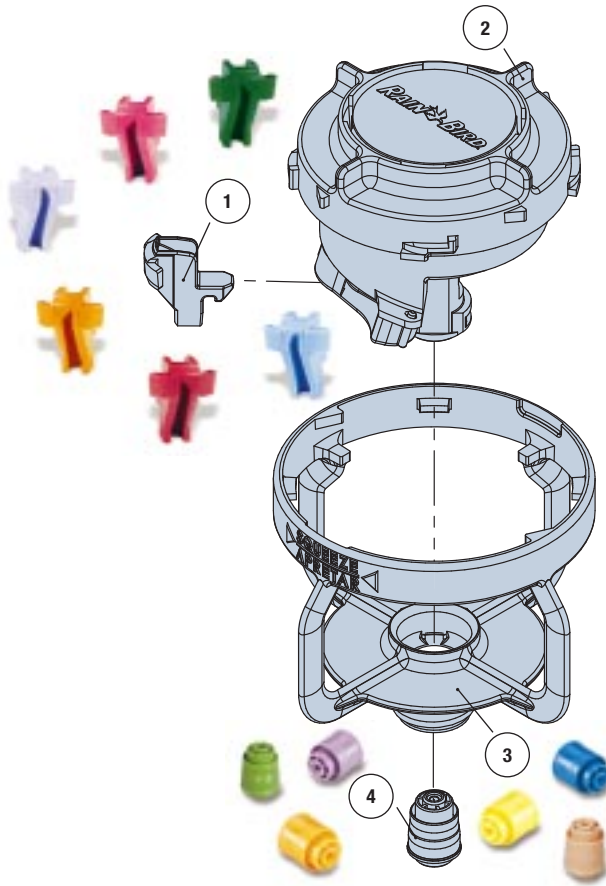
- Withstands temperature cycles from 8 degrees to 140 degrees F without affecting performance
- Resists damage from farm animals
- Weed Guard keeps plant material from growing into the sprinkler
- Withstands harsh agricultural environments

"I keep deer enclosed in my pasture and they usually destroy sprinklers. The LF sprinkler is a tough sprinkler - the deer haven't been able to damage it."

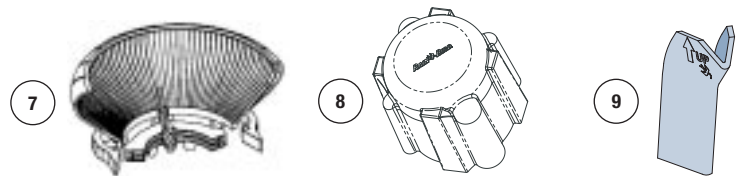
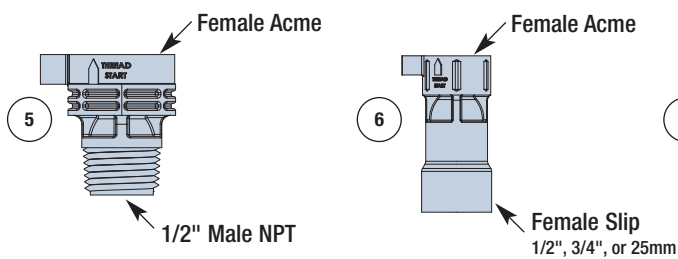
Glenn Bragg, LF Sprinkler user

EASY TO USE ... Saves Time

Don't waste unnecessary time on your irrigation equipment. The simple 4-piece integrated construction makes assembly, deflector changes and nozzle replacement a snap. See why the LF Series Sprinkler is raising the standards in the usability category.



- Current offering includes 10 nozzles ranging from 0.8 gpm to 3.9 gpm and 14 deflectors ranging from 6 degrees to 24 degrees.
- Nozzles and deflectors are color coded for easy identification.
- Snap in nozzles and deflectors have a reliable fit and are easy to remove & replace.
- No tools required for assembly or disassembly.
- Anti-Theft options are available to secure LF sprinkler units.
- Acme x NPT and ACME x slip adapters available for quick attach applications.
- Splash Guard allows users to change or clean nozzles without getting soaked.
- Edge Guard provides users the ability to keep water out of roads, walkways, or just the end of the field by redirecting water back into the desired area.
- Stream Splitter splits the water to avoid direct water streams into tree trunks, equipment, and general areas that do not need watering.



Simple 4-Piece Assembly

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

Optional Accessories

5	Acme x 1/2" Male NPT Adapter
6	Acme x Female Slip Adapter (available with 1/2" x 3/4" or 1/2" x 25mm for international applications)
7	Edge Guard
8	Splash Guard
9	Stream Splitter/Tree Trunk Guard

**Rain Bird is continuously developing new nozzles and deflectors.
Contact us for the latest releases.**

On-Line Emitters PC Emitter and Lady Bug Series

Precise water application,
self-flushing action,
excellent value

- High quality - low volume irrigation
- Excellent pressure compensating performance
- Ideal for vineyards, nurseries, and orchards, among others
- Water saving alternative for greenhouses



PC Emitter

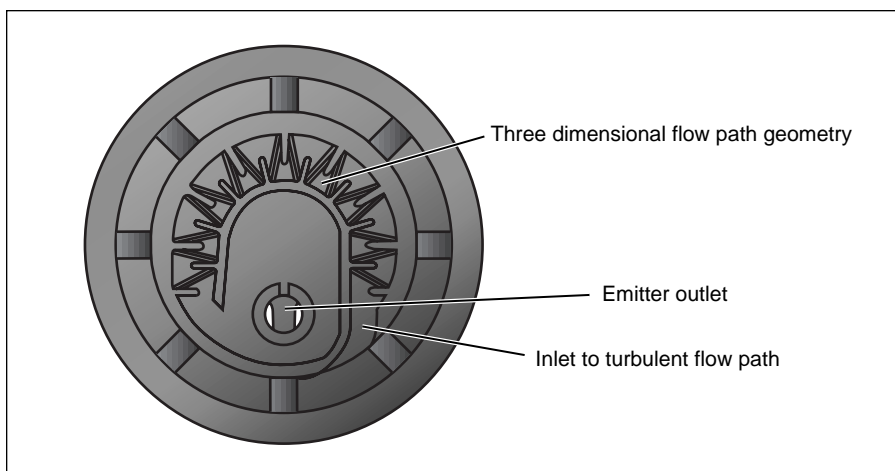


EMT6-M PC Emitter



EM-L Lady Bug Emitter

Interior View of the PC Emitter



Model Number Description

PC - 10 - SP - B	
<p><u>Product Line Identification</u> PC = Pressure Compensating EM6-M = 6-outlet PC EMT6-M = Threaded Inlet, 6-outlet PC EM-L = Lady Bug</p>	<p><u>Outlet Style</u> B = Barbed</p> <p><u>Inlet Style</u> SP = Self-Piercing NSP = Non Self-Piercing</p>
<u>Flow Rate</u>	
<p>0.5 = 0.5 gph 10 = 1.0 gph 20 = 2.0 gph</p>	



Features and Benefits

Pressure compensating

- Provides superior flow uniformity regardless of pressure
- Ideal for undulating terrain or systems with a large variation in pressure

Barbed outlet - standard

- Add “spaghetti” tubing to direct water for maximum accuracy
- Smooth outlet available as a special order (consult factory)

Silicone diaphragm

- Best material for long-term exposure to ag chemicals
- Superior flush of debris when system is activated

Self-piercing inlet

- One-step installation saves labor costs
- Non self-piercing available

Turbulent flow path

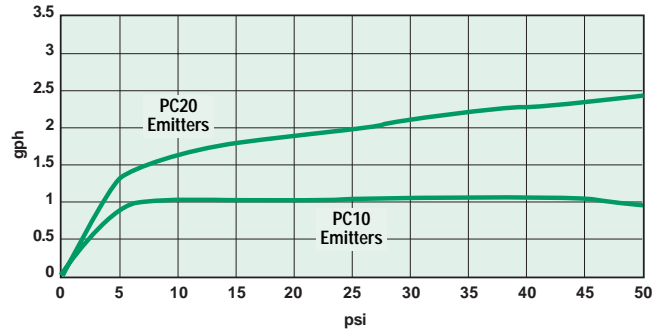
- Three dimensional geometry to keep grit in suspension as it moves through the emitter
- Emitter body and inlet made of materials to withstand chemical and U-V degradation
- No squirting - puts water at the desired spot
- Color-coded inlet barb identifies flow rate

Economical

- Compact design for low cost
- Energy savings

PC Emitters

Performance Curves - U.S. Units



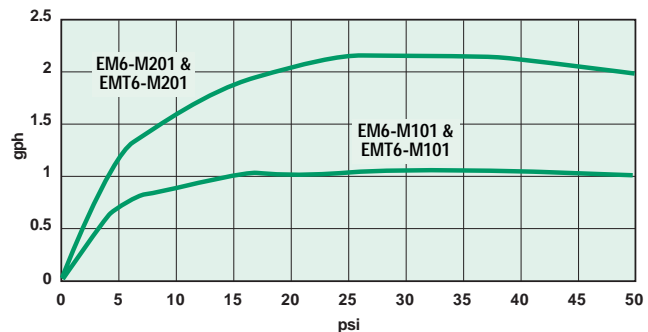
Product Specifications - PC Emitters

	PC Emitter	
	1.0* gph	2.0* gph
Minimum Operating Pressure (psi)	15	15
Maximum Operating Pressure (psi)	50	50
Emitter Flow Rate (gph) @ 25 psi	1.0	2.0
Filtration (mesh)	200	200
Inlet Color	Black	Red

* For flow rate on EM6 and EMT6, multiply number of outlets open by given flow rate.

Multi-Outlet PC Emitters

Performance Curves - U.S. Units

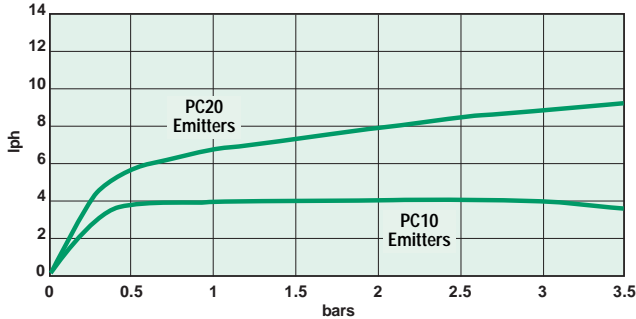


Multi-Outlet additional benefits

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

PC Emitters

Performance Curves - Metric Units



Installation Tool



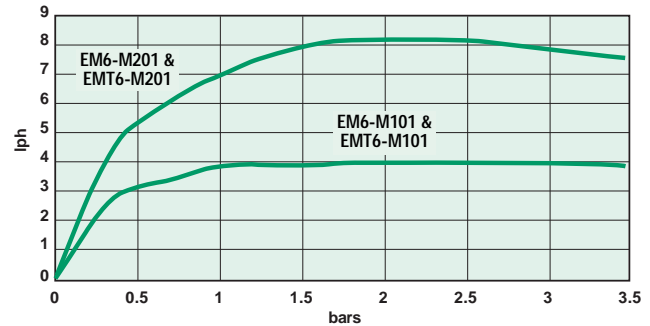
Product Specifications - PC Emitters

	PC Emitter	
	3.8* lph	7.6* lph
Minimum Operating Pressure (bars)	1.0	1.0
Maximum Operating Pressure (bars)	3.5	3.5
Emitter Flow Rate (lph) @ 1.5 bars	3.8	7.6
Filtration (microns)	75	75
Inlet Color	Black	Red

* For flow rate on EM6 and EMT6, multiply number of outlets open by given flow rate.

Multi-Outlet PC Emitters

Performance Curves - Metric Units



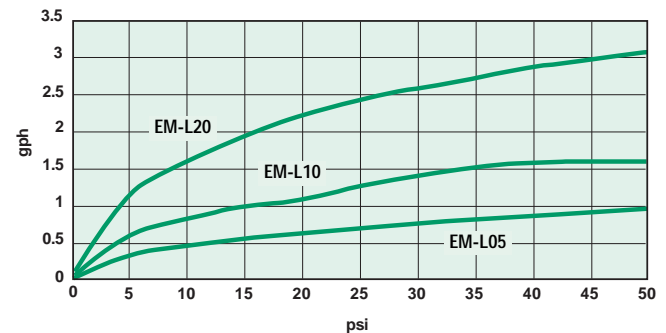
Lady Bug Emitters

Features and Benefits

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

Lady Bug Emitters

Performance Curves - U.S. Units



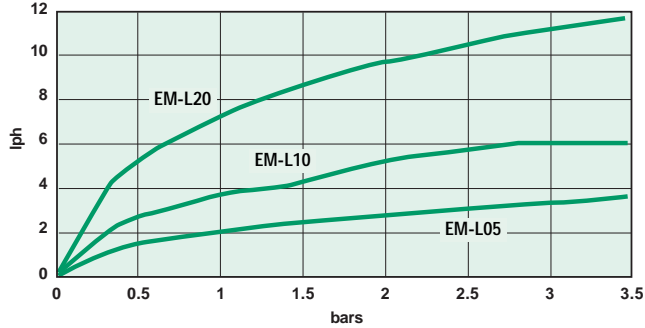
Product Specifications - Lady Bug Emitters

	Lady Bug Emitter		
	0.5 gph	1.0 gph	2.0 gph
Nominal Operating Pressure (psi)	15	15	15
Flow Rate (gph) @ 15 psi	0.5	1.0	2.0
Filtration (mesh)	200	100	100
Inlet Color	Blue	Black	Red



Lady Bug Emitters

Performance Curves - Metric Units



Product Specifications - Lady Bug Emitters

	Lady Bug Emitter		
	1.9 lph	3.8 lph	7.6 lph
Nominal Operating Pressure (bars)	1.0	1.0	1.0
Flow Rate (lph) @ 1 bar	1.9	3.8	7.6
Filtration (microns)	75	150	150
Inlet Color	Blue	Black	Red



PC Emitters

PC Emitter Model Number	Flow Rate gph	Flow Rate lph	Inlet	Outlet	Part Number
PC-10-SP-B	1.0	3.8	Self-piercing	Barbed	A118411
PC-10-NSP-B	1.0	3.8	Non self-piercing	Barbed	A118421
PC-20-SP-B	2.0	7.6	Self-piercing	Barbed	A118412
PC-20-NSP-B	2.0	7.6	Non self-piercing	Barbed	A118422
EM6-M101	1.0*	3.8*	Barbed	6 Barbed, 1 Open	A78314
EM6-M201	2.0*	7.6*	Barbed	6 Barbed, 1 Open	A78312
EMT6-M101	1.0*	3.8*	1/2" Threaded inlet	6 Barbed, 1 Open	A78714
EMT6-M201	2.0*	7.6*	1/2" Threaded inlet	6 Barbed, 1 Open	A78712

* Flow rate for each open outlet

Lady Bug Emitters

Emitter Model Number	Flow Rate gph	Flow Rate lph	Inlet	Outlet	Part Number
EM-L05	0.5	1.9	Self-piercing	Barbed	A77322
EM-L10	1.0	3.8	Self-piercing	Barbed	A77324
EM-L20	2.0	7.6	Self-piercing	Barbed	A77328

On-Line Emitter Accessories

Model Number	Description	Part Number
170654 EMA-GP	Installation Tool for Self-Piercing Barb Line (Goof) Plugs	170654 D24695

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Agri-Products Division
 633 W. Foothill Blvd.
 Glendora, CA 91741-2469
 Phone: (800) 435-5624
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PN L229A

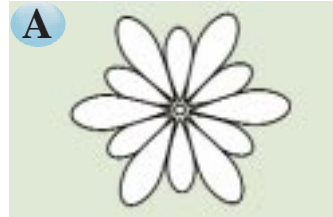


Micro-Quick™ Sprays and Micro-Bird® Spinners

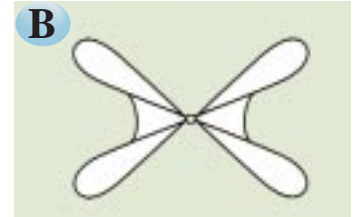




Nozzle Watering Patterns



A
360° - STAR BIRD™
PATTERN



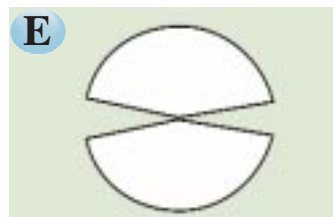
B
PROPORTIONAL
BUTTERFLY PATTERN



C
120° FAN SPRAY
PATTERN



D
360° - 24 STREAM
PATTERN



E
DOWN SPRAY
PATTERN



F
NOTCHED
PATTERN



G
"R"
PATTERN

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 bayoneta.
- 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, inveterados, 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 árvores, 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 árvores.
- 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
QN-05 Black Negro Preto (0.76mm/0.030")	10 15 20 25 30	3.8 4.6 5.4 6.0 6.6	8.5 9.5 10.5 11.0 11.5	8.0 10.0 11.0 11.5 12.0	7.5 8.5 9.0 9.5 10.0	4.0 4.5 5.0 5.3 5.5	8.0 9.5 11.0 11.0 11.0	3.0 3.0 3.0 3.0 3.0	10.0 11.0 12.0 12.5 13.0	9.0 10.0 11.0 12.0 13.0	6.0 6.5 7.0 7.5 8.0
QN-08 Orange Naranja Laranja (0.89mm/0.035")	10 15 20 25 30	5.5 6.7 7.8 8.7 9.6	13.0 13.5 14.0 14.5 15.0	10.0 11.5 12.5 12.5 13.0	7.5 8.5 9.5 9.5 10.0	4.5 5.0 5.5 6.0 6.5	9.5 11.0 12.5 13.5 14.5	3.0 3.0 3.0 3.0 3.0	12.5 13.5 14.0 14.0 14.5	12.0 13.5 15.0 16.5 18.0	7.0 8.0 9.0 10.0 10.5
QN-12 Blue Azul Azul (1.02mm/0.040")	10 15 20 25 30	8.0 9.9 11.4 12.7 13.9	17.0 17.5 18.0 18.0 18.0	11.0 13.0 14.5 15.0 15.5	9.5 10.0 10.5 11.5 12.0	4.5 5.3 6.0 6.5 7.0	11.0 12.5 13.5 15.8 18.0	3.0 3.0 3.0 3.0 3.0	14.5 15.5 16.0 17.0 17.5	15.0 16.5 18.0 20.5 23.0	8.0 9.0 9.5 10.5 11.0
QN-14 Violet Violeta Violeta (1.14mm/0.45")	10 15 20 25 30	10.1 12.3 14.3 15.9 17.5	19.0 20.0 20.5 20.5 21.0	13.0 16.0 17.0 18.0 19.0	10.0 11.5 12.0 12.5 13.0	5.0 5.5 6.0 6.0 7.0	12.0 14.0 15.5 18.0 20.5	3.0 3.0 3.0 3.0 3.0	16.5 17.5 18.5 19.5 20.5	15.5 17.5 19.5 22.0 24.0	8.5 9.5 10.0 11.0 11.5
QN-17 Green Verde Verde (1.27mm/0.50")	10 15 20 25 30	12.1 14.3 16.6 18.6 20.4	21.0 22.0 22.5 23.0 23.5	15.0 15.0 19.0 20.0 21.0	10.5 12.0 12.5 13.0 13.5	6.0 6.0 6.0 6.5 7.0	13.0 15.0 17.0 20.0 23.0	3.0 3.0 3.0 3.0 3.0	17.0 18.5 20.0 21.5 23.0	16.0 18.5 20.5 23.0 25.0	9.0 10.0 10.5 11.0 12.0
QN-24 Red Rojo Vermelho (1.40mm/0.60")	10 15 20 25 30	17.1 21.3 24.5 27.3 29.7	23.0 25.5 28.0 28.0 28.0	16.0 18.0 19.5 21.0 22.0	11.5 12.5 13.0 13.5 14.0	6.5 7.0 7.5 7.5 7.5	15.0 17.0 19.0 24.0 25.0	3.0 3.0 3.0 3.0 3.0	18.0 20.0 21.5 23.5 25.0	18.5 20.5 22.0 24.0 25.5	11.0 12.0 13.0 13.5 14.0
QN-33 White Blanco Branco (1.52mm/0.70")	10 15 20 25 30	24.3 27.0 31.3 35.3 38.6	25.0 26.0 27.0 28.0 28.0	18.0 21.0 23.0 24.0 25.0	11.0 13.0 14.5 15.0 15.5	7.5 8.3 9.0 9.4 9.5	17.5 19.2 21.0 23.0 25.0	3.0 3.0 3.0 3.0 3.0	19.0 21.0 23.0 25.0 27.0	21.0 22.5 23.5 25.0 26.0	13.0 14.0 14.5 15.5 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

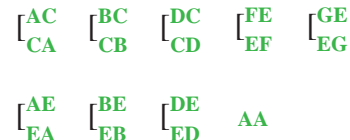
- A 360° Pájaro de Estrella (Star Bird™)
- B Mariposa Proporcional
- C 120° Abanico (Fan Spray)
- D 360° 24 Rayo (Stream Spray)
- E Abanico Doble (Downspray)
- F Patrón en "F"
- G Patrón en "R"

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



* 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.

** Especifique 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.

*** Especifique 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

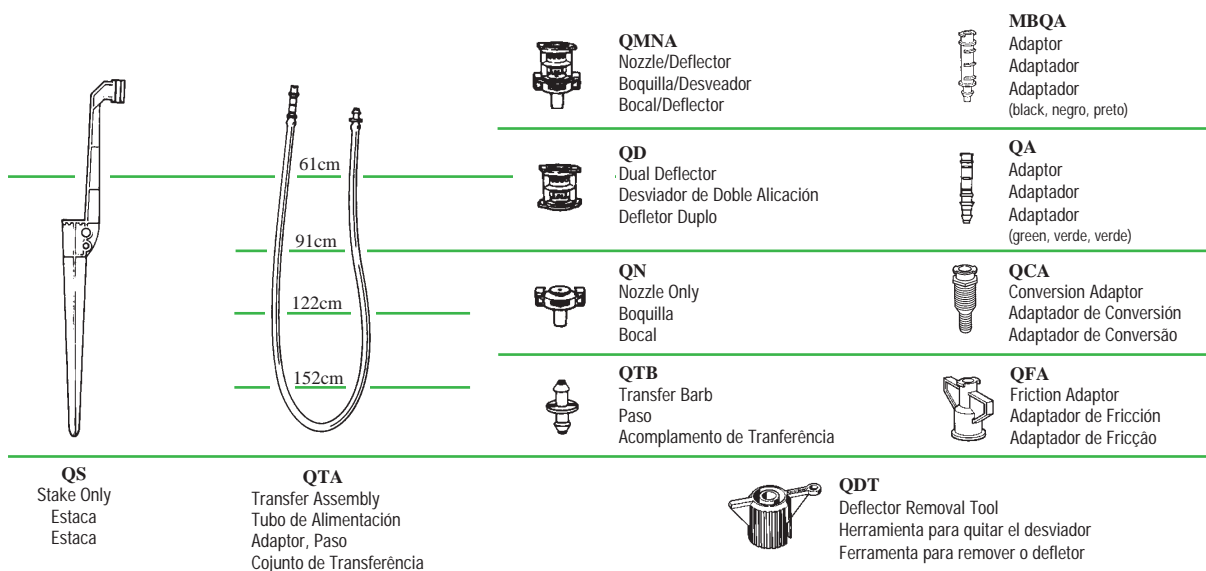
† Las boquillas grandes tienen forma de abanico. Las boquillas pequeñas pueden presentar forma de un sólo chorro. Favor de ponerse en contacto con Rain Bird para más información.

† 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 (diâ 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 Diâ Diâm	Length Comprim. Long.	Width Largura Ancho
NOZZLE BOQUILLA BOCAL	bar	l/h	m	m	m	m	m	m	m	m	m
QN-05 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
QN-08 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
QN-12 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
QN-14 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
QN-17 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
QN-24 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
QN-33 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 quimicos 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 (diám nominal do bocal)	Filtration Requirements mesh (Microns) Requisitos de Filtración mesh (Micrones) Filtragem Necessária mesh (Microns)	PRES (psi) (pol. quadr.) (bar)	Flow Gasto (gph) Vazao (gph)	Dia (in.) (pés) (ft)	PRES (bar)	Flow Gasto (l/h)	Rad (m)
SP12-340 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
SP16-340 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
SP24-340 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
SP30-340 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

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Fax: (626) 963-4287



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:	A01620-	06	A01620-06

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

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	04	51	50	05	44	06	07	
Brass Low Pressure Nozzle (104571-) LPN-1	-	-	50	05	44	06	07	
Plastic Straight Bore Quick-Fit Nozzle (117324-) POFN-1	04	51	50	05	-	06	07	
RAIN FLOW NOZZLE	1.0 GPM		1.5 GPM		2.0 GPM		2.5 GPM	
Brass Rain Flow Nozzle (111088-) RFN-1	01-00		01-50		02-00		02-50	

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:	A00428-	06	A00428-06

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

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

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:	A04002-	07	A04002-07

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

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

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:	A05841-	07	A05841-07

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

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

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:	A32901-	09	A32901-09

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

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

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:	A06502-	10	A06502-10

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

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

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:	A06016-	07	A06016-07

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

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

Bold nozzle size numbers denote the most common nozzle choices.



PERFORMANCE DATA

L20VH

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

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	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 L20VH sprinkler with an RFN-1 1.5 GPM Rain Flow Nozzle the part number would be:	A06243-	01-50	A06243-01-50

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

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	04	50	05	44	06	07	-	
Brass Low Pressure Nozzle (104571-) LPN-1	-	50	05	44	06	07	08	
Brass 3" Off Axis Low Pressure Nozzle (104572-) LP-1-3	-	-	05	-	06	07	-	
Brass 3" Off Axis Nozzle (106171-) OAN-1-3	04	50	05	44	06	07	-	
Plastic Straight Bore Quick-Fit Nozzle (117324-) PQFN-1	04	50	05	-	06	07	-	
RAIN FLOW NOZZLE	1.0 GPM		1.5 GPM		2.0 GPM		2.5 GPM	
Brass Rain Flow Nozzle (111088-) RFN-1	01-00		01-50		02-00		02-50	

Bold nozzle size numbers denote the most common nozzle choices.



PERFORMANCE DATA

M20VH/M20VH-PM

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

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:	A05991-	06	A05991-06

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

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

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	04	51	50	05	44	06	07	
Brass Low Pressure Nozzle (104571-)	LPN-1	-	-	50	05	44	06	07	
Plastic Straight Bore Quick-Fit Nozzle (117324-)	POFN-1	04	51	50	05	-	06	07	
RAIN FLOW NOZZLE		1.0 GPM		1.5 GPM		2.0 GPM		2.5 GPM	
Brass Rain Flow Nozzle (111088-)	RFN-1	01-00	01-50	02-00	02-50				

Bold nozzle size numbers denote the most common nozzle choices.



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:	A01813-	05	A01813-05

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

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



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:	B46000-	07	B46000-07

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

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

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	-	-	-	-



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:	A11356-	08	A11356-08

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

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

Bold nozzle size numbers denote the most common nozzle choices.



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	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 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:	A08402F-	08-06	A08402F-08-06

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

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



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

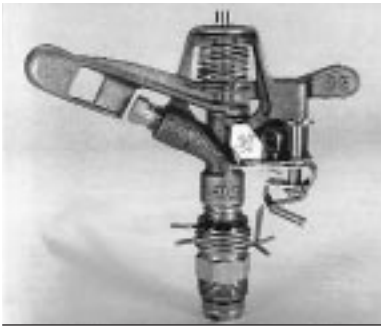
PART NUMBERS AND ORDERING INFORMATION

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:	A08402-	11-08	A08402-11-08

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

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	-	-	-	09	10	11	12					
Brass Straight Bore with Vane (106131-) SBN-3V	-	-	-	09	10	11	12					
Brass 7° Low Angle Spreader (100225-) LAN-1-7	06	07	08	09	10	11	-					
Brass 20° Low Angle Spreader (100226-) LAN-1-20	06	07	08	09	10	11	-					
Brass Low Pressure Nozzle (104538-) LPN-3	-	-	-	09	10	11	12					
RAIN FLOW NOZZLE GPM:	3.5	4	4.5	5	5.5	6	6.5	7.5	8	9	10	11
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

35A-TNT/35A-PJ

**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

**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:	A38820-	12	A38820-12

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

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

Bold nozzle size numbers denote the most common nozzle choices.

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



PERFORMANCE DATA (chart data shown on 13' riser)

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:	107881-	08	107881-08

Sprinkler Only	
SPRINKLER	
L36H	A07360

Sprinkler Only	
SPRINKLER	
L36AH	A07350

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-) QF-SBN-3	07	08	09
Plastic Quick-Fit Low Pressure Nozzle (109247-) QF-LPN-3	07	08	09
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-) QF-SBN-3	10	11	12	13	14	15	16	17	18	
Plastic Quick-Fit Low Pressure Nozzle (109247-) QF-LPN-3	10	11	12	13	14	15	16	17	18	
Plastic Quick-Fit Plug (107881-99) Bold nozzle size numbers denote the most common nozzle choices.										

PERFORMANCE DATA

46H



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

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:	L46031-	11-06	L46031-11-06

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

Chart 2	PART NUMBER: SECOND HALF								
	NOZZLE	3/32"	1/8"	5/32"	11/64"	3/16"	13/64"	7/32"	
Brass Straight Bore Nozzle (105842-) SBN-3	-	-	10	11	12	13	14		
Brass Straight Bore Nozzle with Vane (106131-) SBN-3V	-	-	10	11	12	13	14		
Plastic Vaned Straight Bore Nozzle (71-P00002-) SBN-3P	-	-	10	11	12	13	14		
Brass 7° Low Angle Spreader Nozzle (100225-) LAN-1-7	06	08	-	-	-	-	-		
Brass 20° Low Angle Spreader Nozzle (100226-) LAN-1-20	06	08	-	-	-	-	-		
Plastic Plug (71-P00001) Brass Plug (100225)									

Bold nozzle size numbers denote the most common nozzle choices.



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:	A42003-	16	A42003-16

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

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



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:	A20038-	14-08	A20038-14-08

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

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-) SBN-4	-	14	16	18	20	22	24	26
Brass Spreader Bushing (100418-) SPB-1	(Needed for use with LAN-1-20)							
Brass 20° Low Angle Spreader Nozzle (100226-) LAN-1-20	08	-	-	-	-	-	-	-
Brass Plug (100417)								



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	94.10	110	113.70
85	85	31.50	87	37.00	90	43.20	93	50.00	96	56.90	99	63.50	102	70.30	105	80.00	108	97.10	112	117.30
90	86	32.70	89	38.30	92	44.60	95	51.50	97	58.50	100	65.30	104	72.40	106	82.20	110	99.90	113	120.90
95	87	33.90	90	39.50	93	46.00	96	53.00	98	60.00	101	67.10	105	74.40	108	84.30	111	102.60	115	124.30
100	88	34.00	91	40.70	94	47.40	97	54.50	99	61.50	102	68.90	106	76.40	109	87.20	112	105.20	116	127.70

Straight Bore Nozzle (SBN-5) and Spreader (LAN-1-20) (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:	A23803-	24-14	= A23803-24-14

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

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	-	-	-	-	-	-	-	-	-	-



PERFORMANCE DATA

85EHD

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

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	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:	A23601-	24-14	= A23601-24-14

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

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										



PERFORMANCE DATA

85EHD-LA

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

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:	A23962-	24	A23962-24

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

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-) 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	-

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

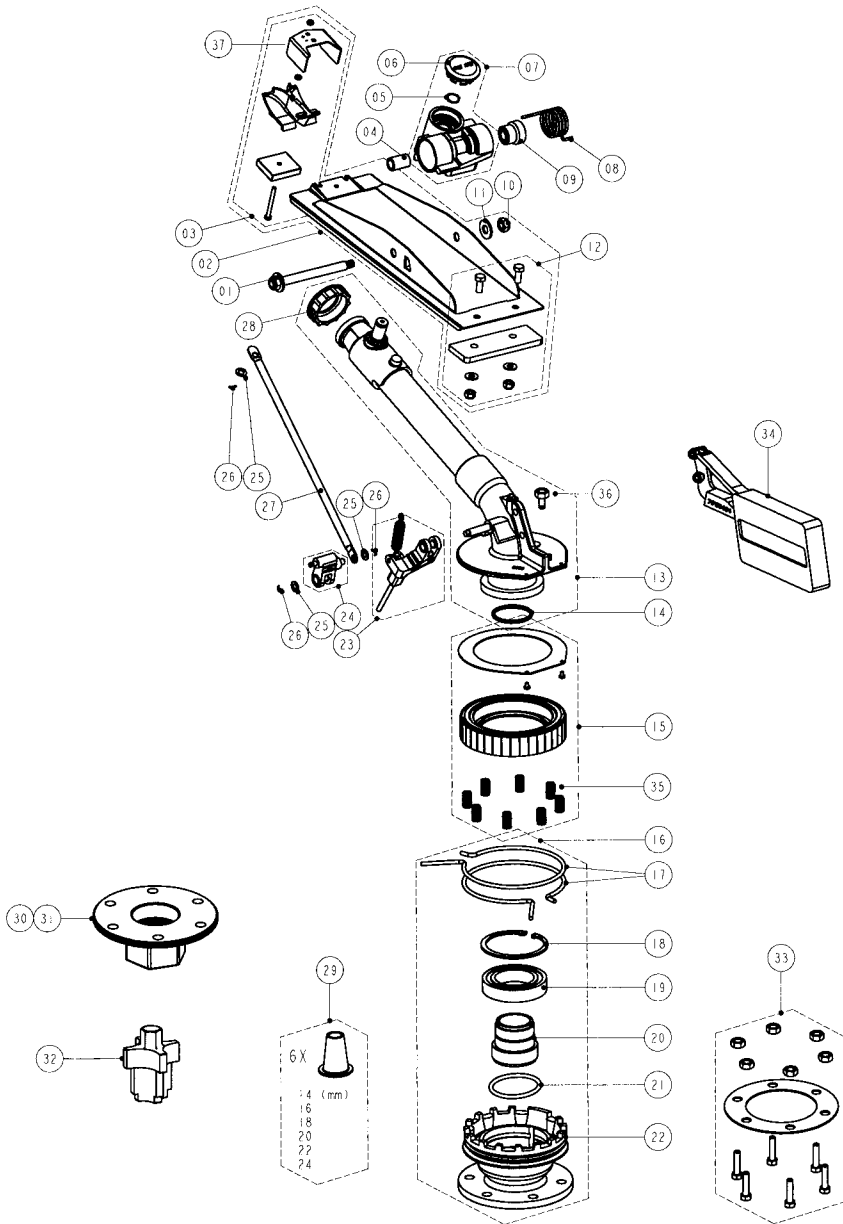
Performance Data - Metric Units

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
Accessories		
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
Spare Parts Kit		
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

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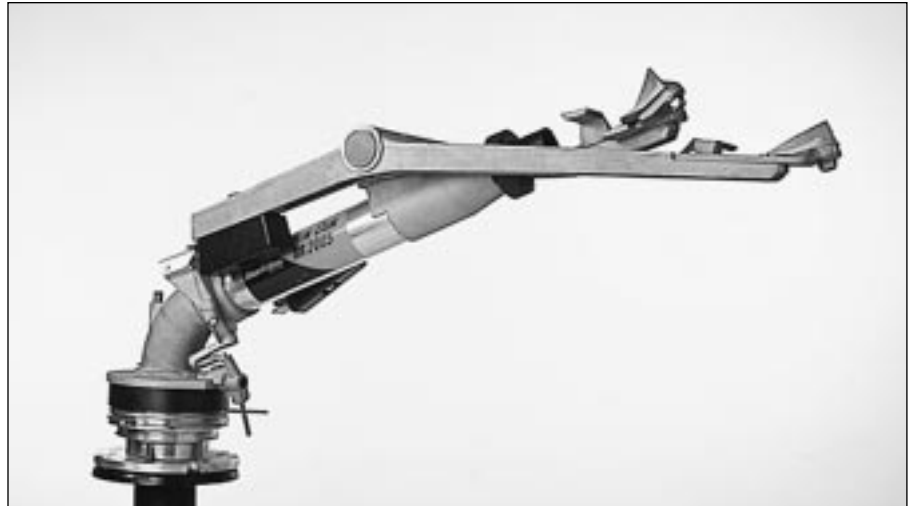
2000 Series Rain Guns® Three Inch, Full and Part Circle

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

<p><u>Arc Settings</u> SR=Slow Reverse F=Full Circle</p>	<p><u>(optional) Female Flange Adapter</u> NPT=Standard Pipe Thread BSP=British Standard Pipe</p>
<p><u>Model</u></p>	



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"	
	(ft.) Rad.	(gpm) Flow	(ft.) Rad.	(gpm) Flow	(ft.) Rad.	(gpm) Flow	(ft.) Rad.	(gpm) Flow	(ft.) Rad.	(gpm) Flow	(ft.) Rad.	(gpm) 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"	
	(ft.) Rad.	(gpm) Flow	(ft.) Rad.	(gpm) Flow	(ft.) Rad.	(gpm) Flow	(ft.) Rad.	(gpm) Flow	(ft.) Rad.	(gpm) Flow	(ft.) Rad.	(gpm) 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

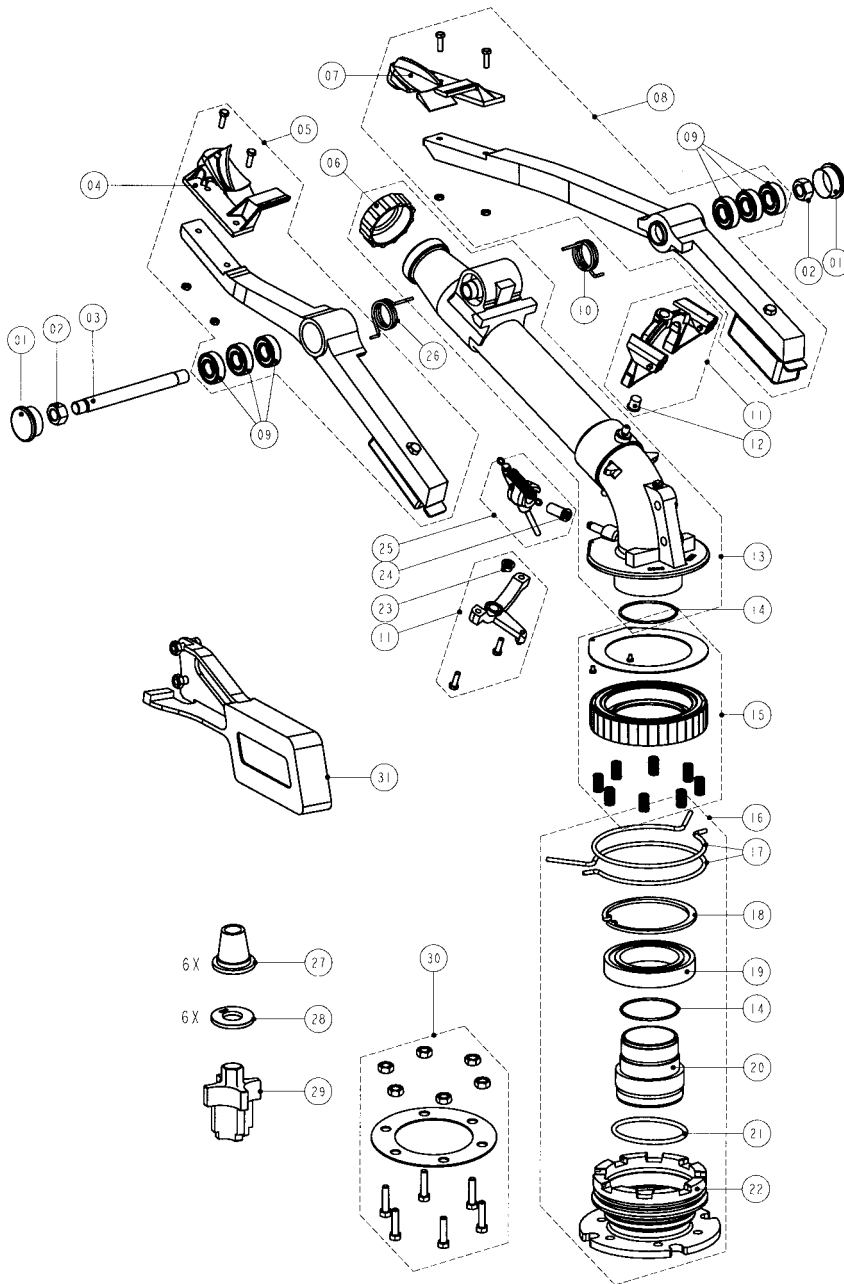
SR2005/F2004 - GNS-2005T Taper Bore Nozzles

BARS @ Nozzle	NOZZLE SIZE											
	21 mm		23 mm		26 mm		28 mm		30 mm		33 mm	
	(m) Rad.	(m ³ /hr) Flow	(m) Rad.	(m ³ /hr) Flow	(m) Rad.	(m ³ /hr) Flow	(m) Rad.	(m ³ /hr) Flow	(m) Rad.	(m ³ /hr) Flow	(m) Rad.	(m ³ /hr) 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	
	(m) Rad.	(m ³ /hr) Flow	(m) Rad.	(m ³ /hr) Flow	(m) Rad.	(m ³ /hr) Flow	(m) Rad.	(m ³ /hr) Flow	(m) Rad.	(m ³ /hr) Flow	(m) Rad.	(m ³ /hr) 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/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. 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.

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**1005M-DC
Part Circle Dust Control Rain Gun Sprinkler**

- Dust control Rain Gun for industrial applications
- Part and full circle
- 3 in (80 mm) flange mount inlet
- 43° body trajectory
- Used with CS aluminium straight bore nozzles.
- 6 sizes available



1005M-DC

Applications:

Used for controlling dust in open pit mines, quarries and storage applications

Specifications:

1005M-DC - Part circle and full circle
 Bearing Size/Type - 3 in/80 mm Flange Mount, bolt circles diam. 130 mm/6 bolt holes
 Body trajectory - 43°

Materials:

Body: Cast Aluminum
 Arm: Cast Aluminum
 Bearing Sleeve: Cast Iron
 Flange Adapter: Cast Bronze
 All Springs and Hardware: Stainless Steel
 All Washers: Chemically resistant
 Disk brake: Delrin™

1005M-DC (43°)/STRAIGHT BORE NOZZLES

U.S. UNITS

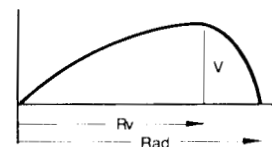
PSI@ Elbow	Nozzle 0.790"				Nozzle 0.890"				Nozzle 0.990"				Nozzle 1.090"				Nozzle 1.190"				Nozzle 1.290"			
	Rad	V	Rv	GPM	Rad.	V	Rv	GPM	Rad.	V	Rv	GPM	Rad.	V	Rv	GPM	Rad.	V	Rv	GPM	Rad.	V	Rv	GPM
60	127	49	79	142	133	50	81	185	138	51	85	226	144	52	87	275	148	53	90	331	153	54	91	390
70	131	53	86	154	137	55	89	199	145	56	91	245	151	57	94	295	155	59	97	354	160	60	98	418
80	136	56	91	164	142	59	95	214	150	60	96	263	157	61	99	315	161	64	105	374	166	65	105	447
90	139	59	94	177	147	62	99	227	153	64	101	276	162	65	104	336	165	68	110	400	170	70	111	475
100	144	62	97	185	149	65	103	235	156	67	106	290	167	68	110	352	169	71	114	422	175	73	116	500
110	147	64	101	195	154	67	106	249	161	69	110	305	172	70	115	372	171	74	117	444	179	76	120	525
120	151	65	104	202	157	69	109	262	165	71	114	323	176	72	117	392	176	77	120	465	182	79	124	550

METRIC UNITS

B a r s	Nozzle 20,07 mm 0.790"					Nozzle 22,61 mm 0.890"					Nozzle 25,15 mm 0.990"					Nozzle 27,69 mm 1.090"				
	Rad. M	V M	Rv M	Flow M³/h	Flow L/s	Rad. M	V M	Rv M	Flow M³/h	Flow L/s	Rad. M	V M	Rv M	Flow M³/h	Flow L/s	Rad. M	V M	Rv M	Flow M³/h	Flow L/s
4.0	38,3	14,7	23,9	32,1	8,92	40,2	15,0	24,3	40,9	11,36	41,9	15,2	25,5	50,8	14,10	43,4	15,5	26,1	61,7	17,14
5.0	40,4	16,4	26,4	35,9	9,96	42,5	17,0	27,5	45,6	12,67	44,3	17,4	28,1	56,5	15,69	46,1	17,7	29,0	68,6	19,05
6.0	42,3	17,8	28,4	39,3	10,92	44,4	18,7	29,9	50,0	13,87	46,4	19,2	30,4	61,8	17,17	48,2	19,5	31,5	75,0	20,83
7.0	44,1	18,9	30,0	42,6	11,82	46,2	19,9	31,7	54,0	15,01	48,2	20,5	32,4	66,9	18,58	50,1	20,8	33,6	81,1	22,54
8.0	45,8	19,7	31,3	45,6	12,67	47,9	20,8	32,9	58,0	16,10	49,8	21,4	34,3	71,8	19,94	51,7	21,7	35,4	87,1	24,20

B a r s	Nozzle 30,23 mm 1.190"					Nozzle 32,77 mm 1.290"				
	Rad. M	V M	Rv M	Flow M³/h	Flow L/s	Rad. M	V M	Rv M	Flow M³/h	Flow L/s
4.0	44,9	15,8	26,8	73,8	20,51	46,2	16,1	27,2	87,1	24,20
5.0	47,7	18,3	30,3	81,9	22,75	49,4	18,7	30,5	96,5	26,80
6.0	50,1	20,3	33,0	89,5	24,86	51,9	20,8	33,3	105,4	29,26
7.0	52,0	21,9	35,0	96,8	26,89	55,4	23,7	37,4	122,5	34,03
8.0	53,5	23,1	36,3	104,0	28,89	55,4	23,7	37,4	122,5	34,03

1005M-DC performance charts include in addition to flow and radius data, stream height data (see legend).



LEGEND

Rad = Radius of throw
 V = Maximum stream height above nozzle
 Rv = Distance from sprinkler to maximum stream height

NOTE: Radius of throw can vary significantly in windy conditions.

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.



Agricultural Valves





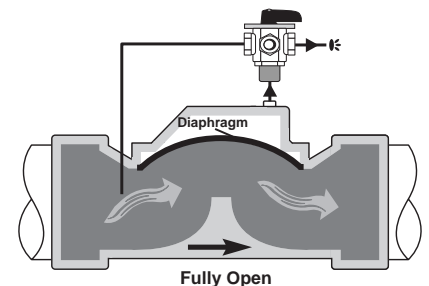
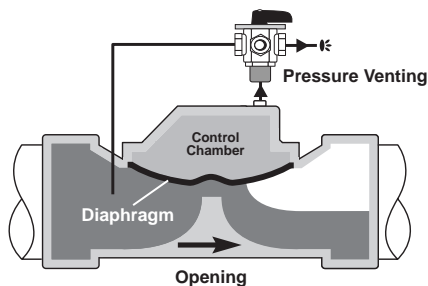
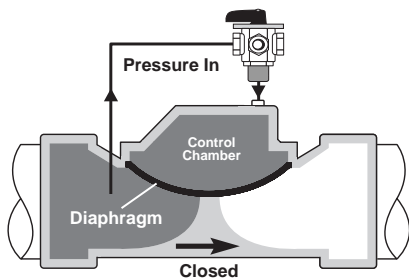
Agricultural Valves



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 polyester epoxy coating 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.

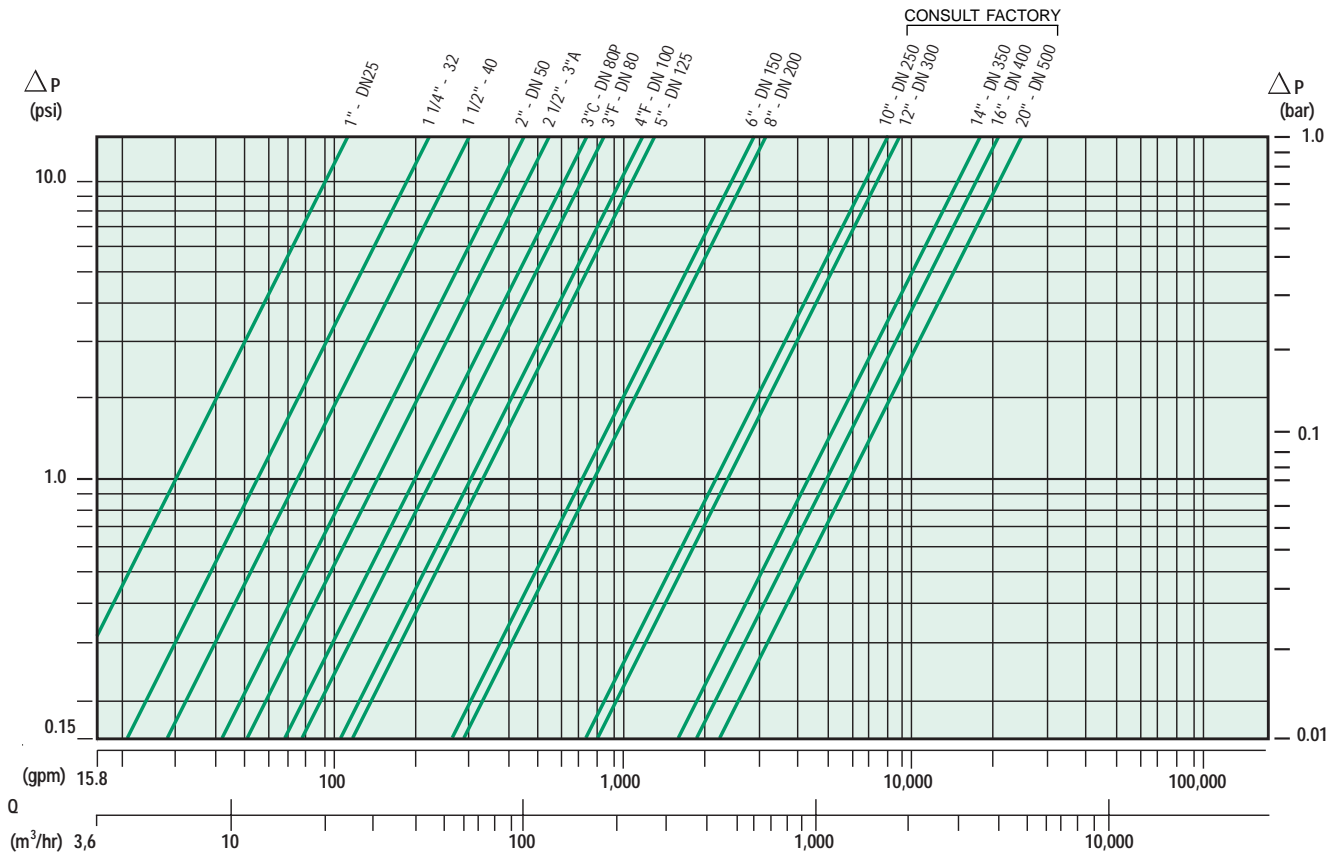




Specifications

Pressure Loss vs. Flow Rate

The table below is based on laboratory conditions for valves that are completely open, and should be used as a general guide. Contact your Rain Bird dealer for a specific valve selection based on project conditions.



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, Flange, VIC	18	353	419	174
4"	NPT, BSP, Flange, VIC	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.

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, Flange, VIC	4	80	95	160
4" (DN100)	NPT, BSP, Flange, VIC	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.

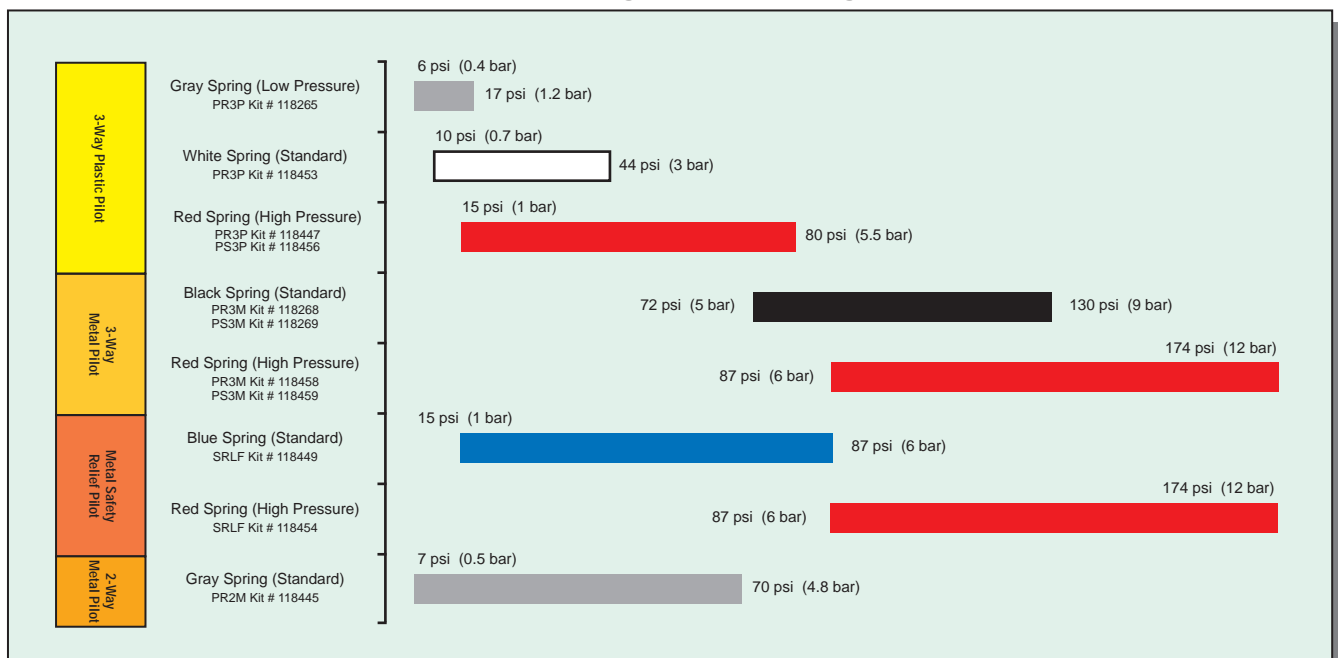
Based on laboratory conditions for valves that are completely open. The maximum flow rate is lower when a pilot is used for pressure control. Contact your Rain Bird dealer for a specific valve selection based on project conditions.



Features and Benefits

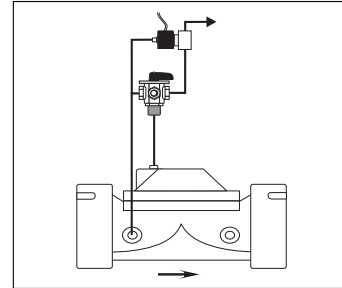
Features	Benefits
Durable Cast Iron body with polyester epoxy coating	Long life and suitable for high pressure
Large internal water passage	Low pressure loss for lowest operating cost
Top-serviceable allows valve cleaning or diaphragm replacement without removing the valve from the line	Saves labor and makes valve service much more practical
Works with AC solenoids or with latching solenoids and the Rain Bird Cyclik controller	Automatic control saves labor cost and saves water through accurate irrigation scheduling
Natural rubber diaphragm with type 304 stainless steel valve spring	Few moving parts made of highest quality, chemical-resistant materials for highest reliability
Unique cover design on valves that are 3 inch and larger	Avoids damage to the diaphragm if bolts are over-tightened
Self-cleaning internal strainer	Keeps pilot and solenoid ports clean for highest reliability
Slow, gradual opening and closing speed	Avoids potentially damaging water hammer to pipes and irrigation components
External tubing in copper is available as an option on all models	Added protection against damage to external tubing
Wide range of pressure control pilots available (see below)	Accurate pressure regulation improves irrigation uniformity

Pilot Spring Pressure Range



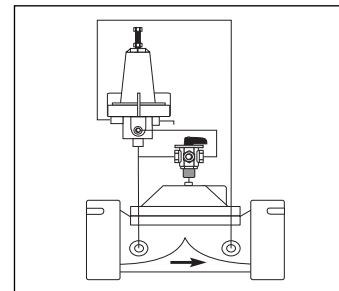
Agricultural Valves

EL3W Solenoid Control Valve
with 3-Way Manual Selector



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

PR3P Pressure Reducing Valve
with 3-Way Plastic Pilot



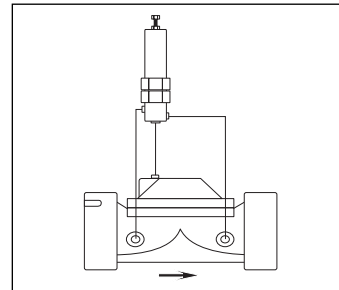
3-Way plastic pilot with adjustment range of:

- 6 to 17 psi (0.4 to 1.2 bar)
- 10 to 44 psi (0.7 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

SRLF Quick Relief Safety Valve with Metal Pilot



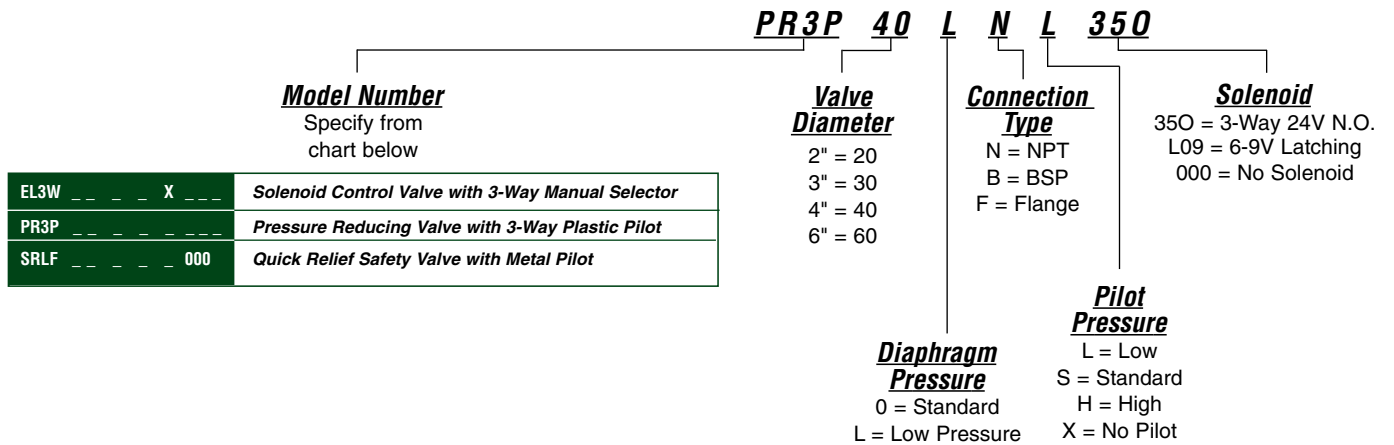
Quick relief metal pilot with adjustment range of:

- 15 to 87 psi (1 to 6 bar)
- 87 to 174 psi (6 to 12 bar)



Order Information

How to Order:



Example: 4 inch pressure reducing valve with a low pressure diaphragm, NPT thread, low pressure plastic pilot, and 3-Way, 24 Volt normally open solenoid.

www.rainbird.com/ag

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.

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



CYCLIK control module and field transmitter connected via optical port.

How to Specify/Order:

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

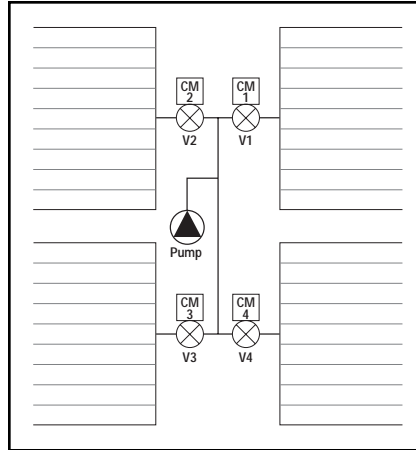
Cyclik CI

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 above 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.

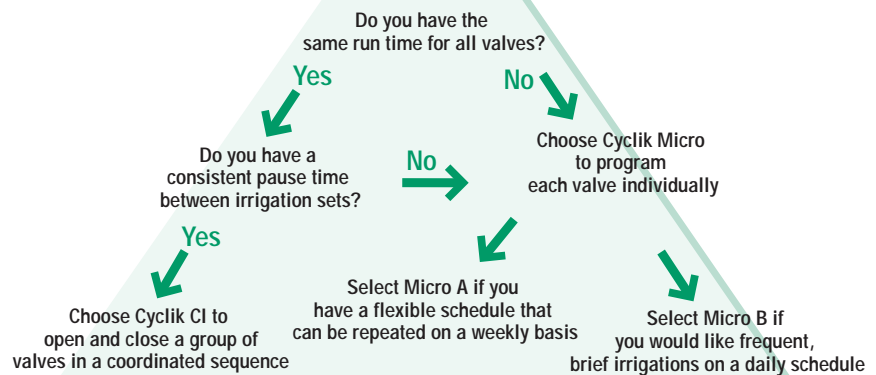


Typical field layout with Cyclik control of each valve in a sequence.

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

Choosing between Cyclik CI, Micro A and Micro B



	CI	Micro A	Micro B
Number of stations (valves) operated by one control module	1	1, 2, or 4	1
Maximum irrigation time per set	23 hours, 55 minutes	12 hours	99 minutes
Interval of runtime	5 minutes	1 minute	Seconds (minimum 10)
Maximum overlap time between valves	120 seconds	No maximum – Valves may be individually programmed	No maximum – Valves may be individually programmed
Maximum number of days between irrigation cycles	14 days	Select from a 7-day calendar	Runs daily
Manual option	Yes	Yes, for each station individually	Yes
Other features	Up to 85 valves in a sequence	Up to 8 start and run times per day at each station	Two irrigation windows per day
Rainy weather shutdown	Yes	Yes	Yes

Cyclik Micro Mode A

Growers who need to irrigate on a weekly schedule may use Cyclik Micro Mode 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 station 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
- Each station controls 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 often used during rainy periods when the grower does not wish to irrigate, but wants to store the program in the control modules for activation in the future.

Program review

The system also allows the grower to take the field transmitter to the field and review the program in each control module by connecting the optical port and choosing the  key.



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



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

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