FULL-COVERAGE SPRINKLERS:
ROTATING AND IMPACT

World Leader in Irrigation Technology

JAIN

Mini Revolver

Product Features

- Compact, sturdy, closed and protected ball engine
- High distribution uniformity at low pressure and precipitation rate
- Color-coded plastic nozzles for easy operation and service
- Extra-strong plastic compounds and ceramic washers reduce wear and tear
- Insect-resistant, pop-up pop-down nozzle
- Orange and red nozzles are low angle for under tree applications
- Available in pressure regulated grey base
- Optional road protector

Applications

- Orchards, vineyards, banana plantations, strawberries, lettuce and vegetables
- Irrigation, cooling and frost protection
- Low-angle for under-tree applications: Irrigation and frost protection
- High-angle for over-crop applications

Technical Data

- Flow rates 0.6 to 1.7 GPM; wetted diameters: 24 to 52 feet
- Operating Pressure: 15 PSI to 50 PSI non regulated; 20 PSI to 70 PSI regulated

Mini Revolver Nozzle Flow Specifications

Nozzle		Flow Parameters	
Color	Angle	Constant k	Exponent x
Blue	High	0.11	0.50
Yellow	High	0.15	0.50
Orange	Low	0.15	0.50
Violet	High	0.18	0.50
Red	Low	0.18	0.51
Black	High	0.22	0.50

Mini Revolver Regulated Nozzle Flow Specifications

Nozzle Color	Pressure (PSI)	Flow Rate (GPM)	Wetted Diameter (feet)		Max Stream (inches)
			Low Angle Nozzle Body	High Angle Nozzle Body	Low Angle Nozzle Body
Blue	45–70	0.59		42.7	
Yellow	45–70	0.79		45.9	
Orange	45–70	0.79	42.7		23.6
Violet	45–70	0.79		49.2	
Red	45–70	0.99	42.7		25.6
Black	45–70	1.19		52.5	

Mini Revolver Performance Data

Non-Regulated Pressure vs. Flow Data

Nozzle Color	Pressure (PSI)	Flow Rate (GPM)	Wetted Diameter (feet)	
			Low Angle Nozzle Body	High Angle Nozzle Body
Blue	30	0.60		45.9
	35	0.65		45.9
	40	0.70		45.9
	45	0.74		45.9
	50	0.78		42.7
	55	0.82		42.7
	60	0.86		42.7
Yellow	30	0.81		49.2
	35	0.87		45.9
	40	0.93		45.9
	45	0.99		45.9
	50	1.04		45.9
	55	1.09		45.9
	60	1.14		45.9
Orange	30	0.81	23.6	
	35	0.87	23.6	
	40	0.93	23.6	
	45	0.99	23.6	
	50	1.04	23.6	
	55	1.09	23.6	
	60	1.14	23.6	
Violet	30	1.01		49.2
	35	1.09		49.2
	40	1.16		49.2
	45	1.23		49.2
	50	1.30		49.2
	55	1.37		49.2
	60	1.43		49.2
Red	30	1.01	25.6	
	35	1.09	25.6	
	40	1.16	25.6	
	45	1.23	25.6	
	50	1.30	25.6	
	55	1.37	25.6	
	60	1.43	25.6	
Black	30	1.21		52.5
	35	1.31		52.5
	40	1.40		52.5
	45	1.48		52.5
	50	1.56		52.5
	55	1.64		52.5
	60	1.71		52.5

George and Henry Ito are 3rd generation strawberry growers in the Oxnard, CA area—Oxnard is a perfect climate to grow strawberries year round. In the midst of California's current water shortage these growers are finding ways to stay competitive and grow more strawberries with less water using water-saving-technologies such as drip irrigation and the Mini Revolver sprinkler.

According to Ito, the mini revolver provides the much needed field uniformity and water savings to grow a uniform crop. When it comes to water savings, George estimates that the mini revolver only consumes 55% of the water conventional sprinklers use. George is also seeing a reduction in electrical and diesel consumption with the reduced pressure requirement of the mini revolver sprinkler.

George and Henry Ito, Oxnard, CA
Strawberry Grower

Super 10

Product Features

- High-impact, heavy-duty plastic materials provide resistance to corrosion, fertilizers and UV radiation
- Compact, sturdy, closed and protected ball engine
- High and low body angles allow for a wide range of wetted diameters
- Color-coded bayonet nozzle for easy operation and service
- Wetted diameters: 50 - 65 feet
- Optional flow regulator
- Brown nozzle is used with road guard only.

Applications

- Orchards, vineyards, banana plantations, strawberries, lettuce and vegetables
- Irrigation and frost protection
- Low-angle for under-tree applications
- High-angle for over-crop applications: Irrigation, cooling and frost protection

Technical Data

- Flow rates 1.5 to 3.8 GPM
- Working pressure: 35 to 60 PSI
- Wetted Diameters: 35 to 67 feet

Super 10 Revolver Nozzle Flow Specifications

Nozzle		Flow Parameters	
Color	Angle	Constant k	Exponent x
Blue	High	0.27	0.50
Violet	Low	0.27	0.50
Yellow	High / Low	0.33	0.50
Green	High / Low	0.40	0.50
Red	High / Low	0.49	0.50
Brown*	High	0.23	0.50

* Brown nozzle only for road guard

Regulated Pressure vs. Flow Data

Nozzle Color	Pressure (PSI)					
	45	50	55	60	65	70
Brown*	1.46	1.51	1.56	1.50	1.51	1.53
Blue	1.60	1.55	1.51	1.49	1.52	1.54
Yellow	2.02	2.03	1.94	1.91	1.98	2.05
Green	2.42	2.47	2.48	2.4	2.43	2.46
Red	2.93	3.03	2.99	2.96	2.96	2.95

* Brown nozzle only for road guard

Super 10 Performance Data

Non-Regulated Pressure vs. Flow Data

Nozzle Color	Pressure (PSI)	Flow Rate (GPM)	Wetted Diameter (feet)		Max Stream (inches)
			Low Angle 14˚ Nozzle Body	High Angle 25˚ Nozzle Body	Low Angle 14˚ Nozzle Body
Blue	35	1.6		56	
	40	1.7		56	
	45	1.8		55	
	50	1.9		55	
	55	2		53	
	60	2		52	
Violet	35	1.6	57		35
	40	1.7	58		38
	45	1.8	59		40
	50	1.9	59		42
	55	2	59		44
	60	2	59		47
Yellow	35	2	57	66	40
	40	2.1	59	66	40
	45	2.2	59	65	42
	50	2.3	59	64	43
	55	2.4	58	63	44
	60	2.5	57	62	46
Green	35	2.4	52	65	41
	40	2.5	56	66	42
	45	2.7	58	66	44
	50	2.8	59	66	45
	55	3	60	65	46
	60	3.1	61	64	48
Red	35	2.9	61	68	43
	40	3.1	62	67	44
	45	3.3	62	67	46
	50	3.5	63	66	47
	55	3.6	63	66	48
	60	3.8	62	65	50
Brown*	35	1.4		33**	
	40	1.5		33**	
	45	1.6		33**	
	50	1.7		33**	
	55	1.7		33**	
	60	1.8		33**	

* Used with Road Protector ONLY

** Radius not diameter

5022 SD 1/2" Impact Sprinkler

Product Features

- Full circle impact–25° trajectory
- 1/2" Male NPT
- Single and dual bayonet nozzles
- Plastic bearing
- Plastic head and lever for strength, durability, and consistent performance
- High impact, heavy-duty plastic materials provide resistance to corrosion, chemicals, and UV radiation
- Color-coded bayonet nozzles for easy service
- Color-coded bearing sleeve:
  Red sleeve — Low flow (5022-U)
  Black sleeve — High flow (5022)

Applications

- Ideal for high uniformity applications like germination
- Irrigation of vegetables, flowers, and row crops

Technical Data

- Flow rates: 2.0 to 6.4 GPM
- Working pressure: 25 to 60 PSI
- Wetted diameter: 63 to 85 feet

5022 SD Nozzle Flow Specifications

Nozzle Number	Nozzle Color	Flow Constants	
		K	x
#12 x #9	Purple x Lt Green	0.46	0.46
#14 x #9	Orange x Lt Green	0.52	0.47
#15 x #9	Red x Lt Green	0.53	0.51
#16 x #9	Green x Lt Green	0.58	0.51
#18 x #9	Blue x Lt Green	0.57	0.54
#20 x #9	Black x Lt Green	0.65	0.56
#15	Red	0.42	0.50
#16	Green	0.46	0.50
#18	Blue	0.57	0.48
#20	Black	0.79	0.46

5022 SD Performance Data

5022 SD Single Nozzle Flow vs Pressure

Sleeve Color	Nozzle Size	Pressure (PSI)	Flow (GPM)	Diameter (feet)
Black	#15 Nozzle (15/128", 3.0 mm) Red	35	2.5	69
		40	2.7	71
		45	2.8	73
		50	3.0	74
		55	3.1	76
		60	3.2	77
	#16 Nozzle (1/8", 3.2 mm) Green	35	2.8	70
		40	3.0	71
		45	3.1	73
		50	3.3	74
		55	3.5	76
		60	3.6	77
	#18 Nozzle (9/65", 3.0 mm) Blue	35	3.2	74
		40	3.4	76
		45	3.6	77
		50	3.8	79
		55	4.0	80
		60	4.2	82
	#20 Nozzle (5/32", 4.0 mm) Black	35	4.1	75
		40	4.4	78
		45	4.6	80
		50	4.9	82
		55	5.1	84
		60	5.3	86

5022 SD Dual Nozzle Flow vs Pressure

Sleeve Color	Nozzle Size	Pressure (PSI)	Flow (GPM)	Diameter (feet)
Red	#12 x #9 Nozzle (13/32" x 9/128") (2.5 mm x 1.8 mm) Purple x Lt. Green	25	2.0	63
		30	2.2	65
		35	2.4	67
		40	2.5	68
		45	2.6	70
		50	2.8	71
		55	2.9	72
		60	3.0	73
	#14 x #9 Nozzle (7/64" x 9/128") (2.8 mm x 1.8 mm) Orange x Lt. Green	25	2.4	64
		30	2.6	67
		35	2.8	69
		40	2.9	71
		45	3.1	72
		50	3.3	74
		55	3.4	75
		60	3.6	76
Black	#15 x #9 Nozzle (15/128" x 9/128", 3.0 mm x 1.8 mm) Red x Lt Green	35	3.3	69
		40	3.5	71
		45	3.7	73
		50	4.0	74
		55	4.2	76
		60	4.3	77
	#16 x #9 Nozzle (1/8" x 9/128") (3.2 mm x 1.8 mm) Green x Lt Green	35	3.6	69
		40	3.8	71
		45	4.0	73
		50	4.3	74
		55	4.5	76
		60	4.7	77
	#18 x #9 Nozzle (9/64" x 9/128") (3.0 mm x 1.8 mm) Blue x Lt Green	35	3.9	75
		40	4.1	76
		45	4.4	77
		50	4.7	78
		55	4.9	79
		60	5.1	79
	#20 x #9 Nozzle (5/32" x 9/128") (4.0 mm x 1.8 mm) Black x Lt Green	35	4.8	79
		40	5.1	80
		45	5.5	82
		50	5.8	83
		55	6.1	84
		60	6.4	85

5024 SD 1/2" Impact Sprinkler

Product Features

- Full circle impact—12° trajectory
- High uniformity even at low pressure (20 PSI)
- Single nozzle only
- Integrated stream-straightening vane for maximum range
- Plastic head and lever for strength, durability and consistent performance
- High impact, heavy-duty plastic materials provide resistance to corrosion, chemicals and UV radiation
- Color-coded bayonet nozzles for easy service
- Color-coded bearing sleeve:
  Red sleeve: Low flow
  Black sleeve: High flow

Applications

- Orchards, plantations and vineyards

Technical Data

- Flow rates: 1.2 to 4.2 GPM
- Working pressure: 20 to 55 PSI
- Wetted diameter: 46 to 75 feet

5024 SD Performance Data

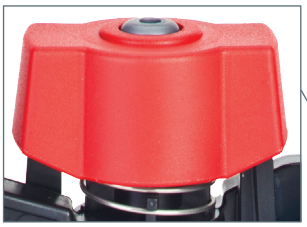
5024 SD Flow vs Pressure

Sleeve Color	Nozzle Color	Pressure (PSI)	Flow (GPM)	Diameter (feet)	Maximum Stream Height (inches)	Flow (K)	Constants (x)
Red	#12 Purple	20.0	1.25	45.9	39	0.24	0.54
		30.0	1.54	52.5			
		40.0	1.80	59.1			
		50.0	2.03	59.1			
		55.0	2.16	59.1			
	#14 Orange	20.0	1.61	52.5	43	0.33	0.52
		30.0	1.98	59.1			
		40.0	2.31	62.3			
		50.0	2.60	65.6			
		55.0	2.77	65.6			
Black	#15 Red	20.0	1.89	55.8	47	0.38	0.52
		30.0	2.20	59.1			
		40.0	2.59	63.9			
		50.0	2.95	68.9			
		55.0	3.15	68.9			
	#16 Green	20.0	2.25	55.8	49	0.46	0.51
		30.0	2.62	59.1			
		40.0	3.10	63.9			
		50.0	3.48	68.9			
		55.0	3.72	72.2			
	#18 Blue	20.0	2.55	59.1	50	0.52	0.52
		30.0	2.97	62.3			
		40.0	3.48	67.2			
		50.0	3.96	72.2			
		55.0	4.25	75.5			

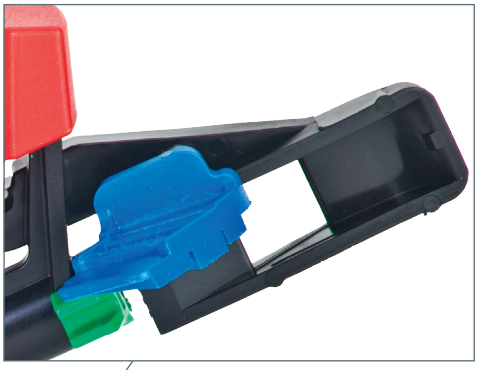
Performance table prepared under laboratory conditions

For windy conditions use closer spacing

SD Features



Plastic protection cap protects the spring from sand and frost to give sprinkler longer life.



Unique hammer with SD (super-diffuser) plate design for uniform distribution.

Easily interchangeable color-coded bayonet nozzles to match the required precipitation rate. Integrated stream straightening vanes for maximum throw.

HOW WORN NOZZLES COST YOU MONEY

Just a tiny bit of nozzle wear (a few thousandths of an inch) can cause a big increase in sprinkler output and can seriously decrease the system's application efficiency. Worn nozzles, like leaks, are one of the most common and underrated problems with irrigation systems and a primary cause of increased electrical demand costs. They also decrease pumping plant efficiency and overload motors, leading to substantially reduced motor life. Depending on your system's total dynamic head, efficiency and electric costs, EACH worn sprinkler nozzle might be costing you anywhere from $0.25 to $5.00 or more annually.

429 AG 1/2" Impact Sprinkler

Product Features

- Full and part circle impact—26° trajectory
- 1/2" Male NPT
- Single bayonet constructed nozzles
- Integrated stream-straightening vane for maximum range
- Plastic head and lever for strength, durability and consistent performance
- High impact, heavy-duty plastic materials provide resistance to corrosion, chemicals and UV radiation
- Color-coded bayonet nozzles for easy service

Applications

- Multi purpose impact used for wastewater, landscape, nurseries, greenhouses and portable systems
- Specifically designed for irrigation of field edges

Technical Data

- Flow Rates: 2.0 to 5.3 GPM
- Working Pressure: 30 to 60 PSI
- Wetted Diameter: 72 to 85 feet

Nozzle Size	Pressure (PSI)	Flow Rate (GPM)	Wetted Diameter (feet)
#14 Nozzle (7/64", 2.8 mm) Orange	30	2.0	72
	35	2.2	73
	40	2.3	74
	45	2.5	76
	50	2.6	77
	55	2.6	78
	60	2.8	79
#15 Nozzle (15/128", 3.0 mm) Red	30	2.3	75
	35	2.5	76
	40	2.6	77
	45	2.8	79
	50	2.9	80
	55	3.1	81
	60	3.2	82
#16 Nozzle (1/8", 3.2 mm) Green	30	2.6	75
	35	2.8	75
	40	3.0	78
	45	3.2	79
	50	3.3	82
	55	3.5	83
	60	3.6	85
#18 Nozzle (9/64", 3.6 mm) Blue	30	3.0	75
	35	3.2	76
	40	3.4	78
	45	3.6	79
	50	3.8	81
	55	4.0	83
	60	4.2	85
#16 Nozzle (5/32", 4.0 mm) Black	30	3.8	79
	35	4.1	80
	40	4.4	82
	45	4.6	85
	50	4.9	85
	55	5.1	85
	60	5.3	85

5035 SD 3/4" Impact Sprinkler

Product Features

- Full and part circle impact–25° trajectory
- 3/4" Male NPT
- Single and dual bayonet constructed nozzles
- Integrated stream—straightening vane for maximum range
- Plastic head and lever for strength, durability and consistent performance
- High impact, heavy-duty plastic materials provide resistance to corrosion, chemicals and UV radiation
- Color-coded bayonet nozzles for easy service
- New rear nozzles for improved performance
- Color-coded bearing sleeve:
  Red sleeve: Low flow
  Black sleeve: High flow

Applications

- General field use with solid-set irrigation systems

Technical Data

- Flow rates: 3.1 to 15.3 GPM
- Working pressure: 35 to 70 PSI
- Wetted diameter: 79 to 114 feet

5022 SD Nozzle Flow Specifications

Nozzle Number	Nozzle Color	Flow Constants	
		K	x
#18 x #12	Blue x Purple	0.76	0.52
#20 x #12	Black x Purple	0.90	0.53
#22 x #12	Brown x Purple	1.16	0.51
#25 x #12	Purple x Purple	1.55	0.47
#28 x #12	Orange x Purple	1.58	0.50
#30 x #12	Red x Purple	1.61	0.53
#18	Blue	0.48	0.53
#20	Black	0.68	0.51
#22	Brown	0.87	0.50
#25	Purple	0.98	0.52
#28	Orange	1.28	0.50
#30	Red	1.44	0.51

5035 SD Performance Data

5035 SD Single Nozzle Flow vs Pressure

Sleeve Color	Nozzle Size	Pressure (PSI)	Flow (GPM)	Diameter (feet)
Red	#18 Nozzle (9/64", 3.5 mm) Blue	35	3.1	79
		40	3.3	79
		45	3.5	79
		50	3.7	79
		55	3.9	79
		60	4.1	79
		65	4.3	79
		70	4.5	79
	#20 Nozzle (5/32", 4.0mm) Black	35	4.1	79
		40	4.4	79
		45	4.7	79
		50	4.9	79
		55	5.2	79
		60	5.4	79
		65	5.6	79
		70	5.8	79
Black	#22 Nozzle (11/64", 4.5mm) Brown	35	5.2	79
		40	5.6	79
		45	5.9	79
		50	6.3	79
		55	6.6	79
		60	6.9	79
		65	7.1	79
		70	7.4	79
	#25 Nozzle (25/128", 5.0mm) Purple	35	6.3	79
		40	6.8	79
		45	7.2	79
		50	7.6	79
		55	8.0	79
		60	8.4	79
		65	8.7	79
		70	9.1	79
	#28 Nozzle (7/32", 5.5mm) Orange	35	7.6	79
		40	8.1	79
		45	8.6	79
		50	9.1	79
		55	9.6	79
		60	10.0	79
		65	10.4	79
		70	10.8	79
	#30 Nozzle (15/64", 6.0mm) Red	35	8.9	79
		40	9.5	79
		45	10.1	79
		50	10.7	79
		55	11.2	79
		60	11.7	79
		65	12.2	79
		70	12.7	79

5035 SD Dual Nozzle Flow vs Pressure

Sleeve Color	Nozzle Size	Pressure (PSI)	Flow (GPM)	Diameter (feet)
Red	#18 x #12 Nozzle (9/64" x 3/32") (3.5 mm x 2.5 mm) Blue x Purple	40	5.2	89
		45	5.5	89
		50	5.9	89
		55	6.2	89
		60	6.4	89
		65	6.7	89
		70	7.0	89
	#20 x #12 Nozzle (5/32" x 3/32") (4.0 mm x 2.5 mm) Black x Purple	40	6.3	92
		45	6.7	92
		50	7.1	93
		55	7.4	94
		60	7.8	95
		65	8.1	95
		70	8.4	96
Black	#22 x #12 Nozzle (11/64" x 3/32") (4.5 mm x 2.5 mm) Brown x Purple	40	7.6	95
		45	8.0	97
		50	8.5	99
		55	8.9	100
		60	9.3	102
		65	9.7	103
		70	10.3	104
	#25 x #12 Nozzle (25/128" x 3/32") (5.0mm x 2.5mm) Purple x Purple	40	8.9	101
		45	9.4	104
		50	9.9	106
		55	10.4	108
		60	10.8	111
		65	11.2	112
		70	11.6	114
	#28 x #12 Nozzle (7/32" x 3/32") (5.5 mm x 2.5 mm) Orange x Purple	40	10.1	105
		45	10.7	107
		50	11.3	109
		55	11.8	110
		60	12.4	112
		65	12.9	113
		70	13.4	115
	#30 x #12 Nozzle (15/64" x 3/32") (6.0 mm x 2.5 mm) Red x Purple	40	11.4	114
		45	12.1	114
		50	12.8	114
		55	13.5	114
		60	14.1	114
		65	14.7	114
		70	15.3	114

233 AF 3/4" Impact Sprinkler

Product Features

- Full circle impact — 30° trajectory
- 3/4" Male NPT
- Red cap completely seals drive spring and protects from freezing
- Brass head and lever with cored water passages and double-bridge construction
- Brass disk under thrust spring (in sprinklers with small nozzles only), hammer, split pin, connector tube and connector base for added strength
- Integrated stream-straightening vane for maximum range
- Sand and dust protection sleeve ensures reliable operation and durability
- Stainless steel construction of hammer's shaft, drive spring, thrust spring and sector lever provide long-wearing durability
- Available in single and dual nozzle models
- Rear nozzle for improved performances
- Color-coded bayonet nozzles for easy service

Applications

- All overhead irrigation of crops with solid-set, mechanized or handline systems
- Irrigation under frost conditions in vineyards, orchards and vegetables

Technical Data

- Flow rates: 3.5 to 15.6 GPM
- Working pressure: 40 to 70 PSI
- Wetted diameter: 88 to 131 feet

233 AF Performance Data

233 AF Single Nozzle Flow vs Pressure

Sleeve Color	Nozzle Size	Pressure (PSI)	Flow (GPM)	Diameter (feet)
Red	#18 Nozzle Blue	40	3.35	88
		45	3.53	89
		50	3.72	90
		55	3.90	91
		60	4.07	93
		65	4.24	94
		70	4.40	95
	#20 Nozzle Black	40	4.41	95
		45	4.65	95
		50	4.89	95
		55	5.13	95
		60	5.37	95
		65	5.60	95
		70	5.83	95
	#22 Nozzle Brown	40	5.58	98
		45	5.91	100
		50	6.25	102
		55	6.58	104
		60	6.88	105
		65	7.14	107
		70	7.40	108
Black	#25 Nozzle Purple	40	6.81	107
		45	7.21	109
		50	7.60	111
		55	7.99	113
		60	8.37	115
		65	8.73	118
		70	9.08	120
	#28 Nozzle Orange	40	8.18	117
		45	8.63	118
		50	9.09	121
		55	9.54	124
		60	9.97	125
		65	10.34	125
		70	10.71	125
	#30 Nozzle Red	40	9.57	117
		45	10.12	120
		50	10.66	122
		55	11.21	124
		60	11.73	127
		65	12.21	130
		70	12.69	133

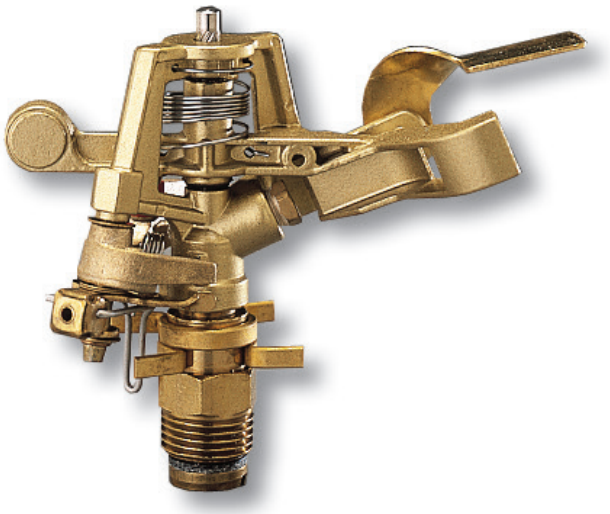
233 AF Dual Nozzle Flow vs Pressure

Sleeve Color	Nozzle Size	Pressure (PSI)	Flow (GPM)	Diameter (feet)
Red	#18 x #12 Nozzle Blue	40	5.33	87
		45	5.51	89
		50	5.70	91
		55	5.88	94
		60	6.36	95
		65	6.53	95
		70	6.69	95
	#20 x #12 Nozzle Black	40	6.39	95
		45	6.63	95
		50	6.87	95
		55	7.12	95
		60	7.75	95
		65	7.98	95
		70	8.21	95
	#22 x #12 Nozzles Brown	40	7.65	98
		45	7.98	99
		50	8.32	100
		55	8.65	101
		60	9.22	102
		65	9.48	103
		70	9.73	104
Black	#25 x #12 Nozzles Purple	40	9.02	104
		45	9.41	106
		50	9.80	108
		55	10.19	110
		60	10.71	112
		65	11.06	113
		70	11.41	114
	#28 x #12 Nozzles Orange	40	10.20	109
		45	10.66	113
		50	11.11	116
		55	11.57	120
		60	12.30	123
		65	12.67	126
		70	13.05	129
	#30 x #12 Nozzles Red	40	11.50	121
		45	12.05	121
		50	12.60	121
		55	13.15	121
		60	14.11	123
		65	14.59	126
		70	15.07	129

423 AG 1/2" Impact Sprinkler

Product Features

- Full and part circle impact—25° trajectory
- 1/2" Male NPT
- Brass head and lever with cored water passages and double-bridge construction
- Brass deflector, deflector disk, diffuser screw, part mechanism disks, connector tube, connector base, nozzle's nut and diffuser screw nut for added strength
- Stainless steel construction of hammer's shaft, sector shaft, drive spring, thrust spring, diffuser spring and sector spring provide long-wearing durability
- Sand and dust protection sleeve ensures reliable operation and durability
- Hammer ensures all water inside pattern.



Applications

- Suitable for field crops like pulses, oil seeds, vegetables, sugarcane, cotton, cereals, tea, coffee and fodder crops
- Specifically designed for use on field edges to keep water inside pattern

Technical Data

- Flow rates: 2.5 to 5.2 GPM
- Working pressure: 30 to 60 PSI
- Wetted diameter: 76 to 92 feet

423 AG Flow vs. Pressure

Nozzle Size	Pressure (PSI)	Flow Rate (GPM)	Diameter (feet)
#16 Nozzle (1/8", 3.2 mm) Green	30	2.5	76
	35	2.7	78
	40	2.9	80
	45	3.1	82
	50	3.3	83
	55	3.4	85
	60	3.6	86
#18 Nozzle (9/64", 3.6 mm) Blue	30	2.9	79
	35	3.2	81
	40	3.4	83
	45	3.6	85
	50	3.8	86
	55	4.0	88
	60	4.1	89
#16 Nozzle (5/32", 4.0 mm) Black	30	3.8	82
	35	4.1	85
	40	4.3	86
	45	4.6	88
	50	4.8	90
	55	5.0	91
	60	5.2	92

Impact Sprinkler Nozzle Sizes and Colors

Nozzle	Nozzle #	Size	Inches	mm
#9 Nozzle (9/128", 1.8mm) Light Green	9	9/128"	0.0703	1.7859
#11 Nozzle (11/128", 2.2mm) Silver	11	11/128"	0.0859	2.1828
#12 SQ Nozzle (3/32", 2.4mm) Yellow	12 SQ	3/33"	0.0938	2.3813
#12 Nozzle (3/32", 2.5mm) Purple	12	3/32"	0.0938	2.3813
#14 Nozzle (7/64", 2.8mm) Orange	14	7/64"	0.1094	2.7781
#15 Nozzle (15/128", 3.0mm) Red	15	15/128"	0.1172	2.9766
#16 Nozzle (1/8", 3.2mm) Green	16	1/8"	0.1250	3.1750
#18 Nozzle (9/64", 3.6mm) Blue	18	9/64"	0.1406	3.5719
#20 Nozzle (5/32", 4.0mm) Black	20	5/32"	0.1563	3.9688
#22 Nozzle (11/64", 4.4mm) Brown	22	11/34"	0.1719	4.3656
#25 Nozzle (25/128", 5.0mm) Purple	25	25/128"	0.1953	4.9609
#28 Nozzle (7/32", 5.6mm) Orange	28	7/32"	0.2188	5.5563
#30 Nozzle (15/64", 6.0mm) Red	30	15/64"	0.2344	5.9531
#32 Nozzle (1/4", 6.4mm) Grey	32	1/4"	0.2500	6.3500
#36 Nozzle (9/32", 7.1mm) Green	36	9/32"'	0.2813	7.1438

Preventative Maintenance for Full Coverage Sprinklers

1. REGULAR MAINTENANCE

a) **Daily, check that nozzles aren't plugged.** Unplug nozzle by using the quick disconnect bayonet feature. Remove the nozzle, holding firmly, place in water stream to flush nozzle. Replace the clean nozzle

b) **Daily, check for bent or broken arms and broken springs.** Replace the Sprinkler.

c) **Verify nozzle size.** Sprinkler nozzle size should be the same along the length of a lateral. (If you are unsure what the correct nozzle size is for your system, contact your local NRCS office. They should be able to tell you your soil type, soil intake rate, and the size nozzle you should use.)

2. STARTUP MAINTENANCE (BEGINNING OF SEASON)

a) Mainlines and Lateral Pipes

i. Clean pipe of animal nests

ii. Inspect for bent or flattened piping, split seams, and punctures. Use a slightly tapered wooden plug to proper diameter to round out damaged ends

iii. Reassemble all couplers, gaskets, risers and sprinkler heads. Replace damaged gaskets. Gaskets shrink and admit air. Tighten flanges or connections, or replace gaskets.

iv. If mainline valves leak, replace valve plates or lids.

v. If your mainline valves have grease zerks, lubricate according to manufacturer's instructions

vi. Tap exposed steel pipe with a rubber hammer before startup to release rust.

vii. Flush entire system thoroughly with end plugs and wheel line drains removed to prevent plugging nozzles and pressure regulators with any dirt, rust or other foreign material that may be in system. Replace end plugs and drains.

viii. With water supplied to hand line or wheel line, check all nozzles and impact sprinklers for plugging, mismatched sizes, breakage, corrosion, or other damage caused by wear or winter weather. Check couplers, connections, levelers, and drains for leaks.

b) Wheel Line Mover

i. Remove dirt and debris from mover chain and gears of drive mechanism. Lubricate teeth and chains with SAE 30 weight oil or with grease by wearing rubber gloves and using a bucket full of grease. Realign drive chains if necessary.

ii. Open hydraulic fluid valve and check hydraulic fluid. Refill if necessary.

iii. Inspect the entire length of the wheel line, checking wheels and power mover for loose bolts, equipment wear, or winter damage. Repair as necessary.

iv. Before staring the wheel line mover for the first time in the spring, make sure the drive mechanism is disengaged.

v. Make sure fuel tank is free of debris and fill with fresh fuel. If fuel tank was not emptied at shutdown or fuel stabilizer was not added, drain it and fill with fresh fuel.

vi. Remove the spark plug. Clean and set the gap. If the spark plug is damaged or shows excessive heat erosion, replace it.

vii. To check operation of power mover, engage transmission and slowly power unit forward or backward to make sure all wheels, chains, and gears are working properly. Make sure wheel line is straight or the ends are slightly lagging behind the power mover's direction of travel.

3. SEASONAL MAINTENANCE

a) Mainlines and Lateral Pipes

i. In spring and fall inspect piping for corrosion. If any is found, consult the supplier for protection methods

ii. Check pipe, valves, drains, and risers for pluggingfrom grass and other debris.

iii. Flush sediment from ends of laterals.

b) Wheel Line Mover

i. Remove dirt, oil, and debris from the exterior engine surfaces, with special attention to coolingfins, surfaces near air intake, and carburetor linkages.

ii. Lubricate mover teeth and chains with either SAE 30 weight oil or grease.

iii. Check air filter weekly. Clean or replace it after every 25 hours of engine operation. Clean or replace more frequently under extremely dusty or dirty operation conditions. Follow manufacturer's guidelines for cleaning and replacement.

iv. Check engine oil once each week or every five operating hours. Change the engine oil after every 25 hours of engine operation, using a high quality oil. Engine oil should be changed more often if air cleaner shows evidence of extremely dusty or dirty operations conditions. When adding or changing engine oil, do not under- or overfill the crankcase.

Preventative Maintenance for Full Coverage Sprinklers

v. Check fluid reservoir of hydraulic transmission every 25 operating hours. Fill to proper level. Drain any water that has seeped into reservoir.

vi. If fluid appears dirty, drain and replace with hydraulic fluid recommended by manufacturer.

4. SHUTDOWN MAINTENANCE (END OF SEASON)

a) Mainlines and Lateral Pipes

i. Flush automatic drains so they are operating and free of sand.

ii. Where freezing is a concern, drain water from all pipelines and completely open valves.

iii. Remove end plugs from wheel lines and empty water, debris, or sediment in pipe ends. Replace plugs.

iv. Dismantle hand lines into sections and store on inclined racks above the ground to permit drainage and air circulation.

v. Remove gaskets, clan off silt, sand, or other debris, and store in a dry place – ideally in a plastic garbage bag and sprinkled with talcum powder to prevent cracking.

vi. After the gaskets have been removed, clean couplers with water to remove foreign matter.

vii. Wire covers onto the ends of wheel line sections to prevent debris and rodents from entering pipe during the winter.

b) Wheel Line Mover

i. Start engine and let run for a few minutes. Shut off fuel tank switch and let the carburetor run out of fuel. Drain or siphon out all remaining fuel in the tank and flush out any debris. If you want to leave Fuel in the tank, add fuel stabilizer.

ii. Remove spark plug and pour a tablespoon of clean motor oil into spark plug hole. Position spark plug wire away from cylinder opening and rotate crankshaft by hand of lubricate piston and the rings. Replace spark plug.

iii. Remove mover chain and store in a bucket of used motor oil for the winter.

iv. Secure engine cover by latching or tying it in place to keep wind from blowing if open.

v. Avoid placing wheels in a ditch where expansion and contraction of piping can twist the wheels.

vi. If livestock will be in the field, move wheel line to the end of the field and surround with electric fence.

vii. To prevent wind damage to wheel lines, secure wheel line to posts driven at every third or fourth wheel.

vii. To check operation of power mover, engage transmission and slowly power unit forward or backward to make sure all wheels, chains, and gears are working properly. Make sure wheel line is straight or the ends are slightly lagging behind the power mover's direction of travel.

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Jain is a fully integrated global food / plant production company recognized by Harvard Business to be one of five global sustainability champions, the G-20 for lifting people out of poverty, and Fortune magazine for being a "Change the World Company." Our irrigation manufacturing capabilities include everything from behind the pump to the flush valve at the end of the lateral and everything in between. We lead the industry in manufacturing technology, owning both our extrusion and mold manufacturing equipment providers.

Jain leads plant science research globally across a variety of food crops and is staffed with some of the world's leading research scientists. With the Gandhi Library, Jain now houses the leading collection of the world's best plant science knowledge in a single facility. Our agronomic knowledge is integrated from our world class plant tissue culture operations through our food processing businesses. We research, educate, advance, manufacture, finance, propagate plants, and purchase produce for processing all in an effort to fulfill the Jain mission:

"Leave This World Better Than You Found It"

Jain Irrigation, Inc.
www.jainsusa.com

Jain Customer Service
Phone: (559) 485-7171
Fax: (800) 777-6162

Western Manufacturing Facility
2851 E. Florence Ave.
Fresno, CA 93721

Southeastern Manufacturing Facility
3777 East State Road 544
Haines City, FL 33845

Northeastern Manufacturing Facility
740 Water St.
Watertown, NY 13601

jainsusa @jainsusa @jainsusa