



brands of Storm Manufacturing Group, Inc.



# Product Catalog

## Buckner & Superior Irrigation

*Buckner and Superior brands have a long-standing history within the irrigation industry. Now consolidated within The Storm Manufacturing Group, these brands continue to represent the performance and reliability that have been industry standards for nearly a century.*

*The Buckner Company was founded by W.A. Buckner in 1912 with the introduction of a patented slow-rotation sprinkler. The Buckner Company helped revolutionize the industry with new products such as the first hose-less irrigation system, the quick coupler valve, the hose swivel, and the sand-resistant bearing and cam-drive sprinkler. The famous Pebble Beach Golf Course was an early site of Buckner's innovative automated irrigation systems. The Buckner Company became part of Storm Manufacturing Group in 2000.*

*The Superior Controls Company, founded in Valencia, California by Allen and Powell Greenland, introduced the first diaphragm-operated remote control valve to the irrigation industry. With its extensive line of brass control valves, adaptors, and Sterling controllers, Superior has become a name known for quality and durability. Superior products are used today in a wide range of applications that include residences, municipal parks, sports fields, golf courses, nurseries, greenhouses, and agricultural fields. The Superior Controls Company became part of Storm Manufacturing Group in 2006.*

*Together, the Buckner and Superior brands continue to offer quality solutions for a wide range of irrigation needs. Our promise is to offer a reliable and affordable product accompanied by unmatched service and support.*

## Storm Manufacturing Group

*Storm Manufacturing Group is a leading supplier of manufactured products that are sold into a variety of applications that include irrigation, water drilling, compressed air, and other industries. The firm is distinguished by a long-standing reputation for high-quality products, technical expertise, and exceptional service to its customer base, resulting from many years of experience in its markets.*

*Storm Manufacturing Group exists as a result of the consolidation of three highly-regarded manufacturing companies:*

- *Buckner Company, a manufacturer of irrigation products to markets including golf courses, municipal parks, sports fields, agriculture, and traditional turf irrigation*
- *Superior Controls Company, a manufacturer and pioneer of valves and controls in the sprinkler automation industry*
- *Kingston, a manufacturer of hydraulic and air valves serving industries that include compressed air, floor cleaning, automotive, medical/dental and food service*

*The history of Storm Manufacturing Group dates back to the infant stages of the irrigation industry, when Walter Storm founded the Western Brass company in Los Angeles in 1932. His company developed and manufactured irrigation and water products for many of the landscape irrigation industry pioneers. Over the years, the Storm family of businesses has manufactured quality products under the brand names of Western Brass, West Ag, Imperial, and Western Raintrol. These businesses have evolved to become what is known today as The Storm Manufacturing Group, proud parent company for the Buckner, Superior, and Kingston brands.*

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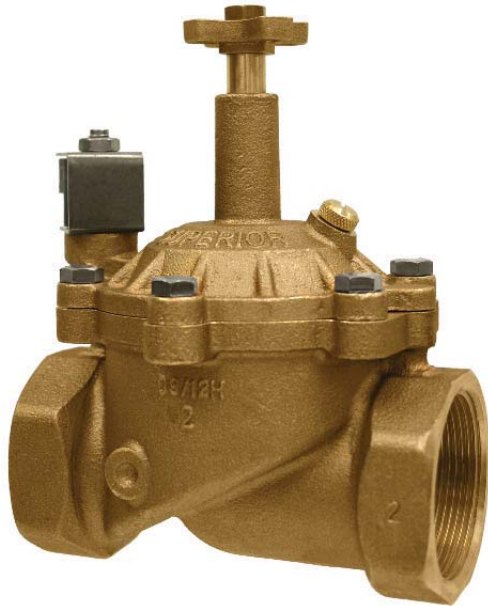
## **WARRANTY**

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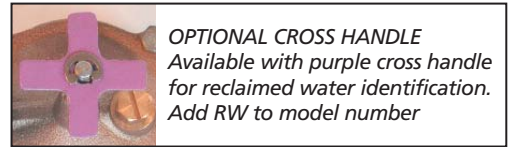
**Model 950**

Available in

3/4", 1", 1 1/4", 1 1/2", 2", 2 1/2" & 3"



**950150**



**OPTIONAL CROSS HANDLE**  
 Available with purple cross handle for reclaimed water identification. Add RW to model number

**Features and Benefits**

- Pressure rating: 200 psi.
- Solid brass construction.
- EPDM diaphragm reinforced with 600 lb. test nylon cord material.
- Coil can be rotated 360° and easily removed without removing solenoid operator.
- Slow closing. No water hammer, surge or noise.
- Brass drain cock for manual operation.
- Cross handle flow control standard on 1" through 3" sizes, optional on 3/4" size.
- Self-cleaning orifice.
- All EPDM Rubber Parts.

**MODEL DESCRIPTIONS**

Model No.	Description	Dimension (Inches)	
		Height	Length
950075	3/4" NPT electric globe valve	4 3/32	3 11/16
950100	1" NPT electric globe valve	5 15/16	4 13/32
950125	1 1/4" NPT electric globe valve	5 19/32	4 3/4
950150	1 1/2" NPT electric globe valve	7 5/32	5 19/32
950200	2" NPT electric globe valve	7 5/32	5 19/32
950250	2 1/2" NPT electric globe valve	11 3/4	9 13/16
950300	3" NPT electric globe valve	11 3/4	9 13/16
OPTIONS	For BSPT threads, add BSPT to model number		
	For 110 VAC, change 950 to 975; for 220 VAC, change 950 to 980		

**Solenoid Specifications**

**Standard 24 VAC**

In-rush current: .45 A (10.8 VA)  
 Holding current: .30 A (7.2 VA)

**Optional Low Watt 24 VAC**

In-rush current: .33 A (7.9 VA)  
 Holding current: .20 A (4.9 VA)

**Optional 110 VAC**

In-rush current: 95 mA (10.5 VA)  
 Holding current: 65 mA (7.2 VA)

**Operating Ranges**

**Flow:** 5 - 320 gpm  
**Pressure:** 20 - 200 psi  
**Maximum Temperature:** 180° f

**Pressure Loss in PSI**

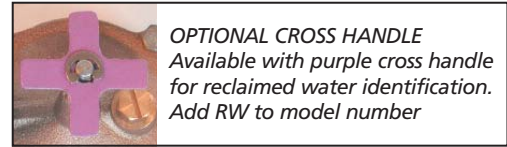
GPM	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"
5	0.45	0.16					
10	1.75	0.75					
15	4	1.5	0.48				
20	7	2.6	0.85	0.45			
30		5.7	1.9	1			
40		10	3.5	1.7	0.53		
50			5.3	2.65	0.82		
60			7.6	3.8	1.2		
70			10.1	5.1	1.6		
80				6.6	2.05		
90				8.3	2.6		
100				10.9	3.2	2.38	2.38
120					4.6	2.45	2.45
140					6.3	2.5	2.5
160					8	2.9	2.9
200					13.9	4	4
240						6	6
260						8.2	8.2
320						10.7	10.7
360						13.2	13.2



## Model 950DW

Dirty Water Valve  
 Available in  
 3/4", 1", 1 1/4", 1 1/2", 2", 2 1/2" & 3"

950200DW



The model 950DW is equipped with an internal self-cleaning filter as well as a self-cleaning metering rod, so only "clean" water can enter the upper diaphragm chamber.

### Features and Benefits

- Solid brass construction.
- All EPDM rubber parts.
- Coil can be rotated 360° and easily removed without removing solenoid operator.
- Slow closing. No water hammer, surge or noise.
- Brass drain cock for manual operation.
- Pressure rating 200 psi
- Cross handle flow control standard on 1" through 3" sizes, optional on 3/4" size.
- EPDM diaphragm reinforced with 600 lb. test nylon cord material.
- Stainless steel insert seat in solenoid chamber.

### Solenoid Specifications

#### Standard 24 VAC

In-rush current: .45 A (10.8 VA)  
 Holding current: .30 A (7.2 VA)

#### Optional Low Watt 24 VAC

In-rush current: .33 A (7.9 VA)  
 Holding current: .20 A (4.9 VA)

#### Optional 110 VAC

In-rush current: 95 mA (10.5 VA)  
 Holding current: 65 mA (7.2 VA)

### Operating Ranges

Flow: 5 - 320 gpm  
 Pressure: 20 - 200 psi

### MODEL DESCRIPTIONS

Model No.	Description	Dimension (Inches)	
		Height	Length
950075DW	3/4" NPT dirty water globe valve	4 3/32	3 11/16
950100DW	1" NPT dirty water globe valve	5 15/16	4 13/32
950125DW	1 1/4" NPT dirty water globe valve	5 19/32	4 3/4
950150DW	1 1/2" NPT dirty water globe valve	7 5/32	5 19/32
950200DW	2" NPT dirty water globe valve	7 5/32	5 19/32
950250DW	2 1/2" NPT dirty water globe valve	11 3/4	9 13/16
950300DW	3" NPT dirty water globe valve	11 3/4	9 13/16
OPTIONS	For BSPT threads, add BSPT to model number		
	For 110 VAC, change 950 to 975; for 220 VAC, change 950 to 980		

### Pressure Loss in PSI

GPM	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"
5	0.45	0.16					
10	1.75	0.75					
15	4	1.5	0.48				
20	7	2.6	0.85	0.45			
30		5.7	1.9	1			
40		10	3.5	1.7	0.53		
50			5.3	2.65	0.82		
60			7.6	3.8	1.2		
70			10.1	5.1	1.6		
80				6.6	2.05		
90				8.3	2.6		
100				10.9	3.2	2.38	2.38
120					4.6	2.45	2.45
140					6.3	2.5	2.5
160					8	2.9	2.9
200					13.9	4	4
240						6	6
260						8.2	8.2
320						10.7	10.7
360						13.2	13.2

*Ideal for Reclaimed Water Applications*



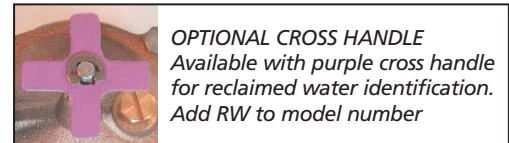
**950200DWIB**

**Model 950DWIB**

**Dirty Water Valve  
with Internal Bleed**

**Available in**

**3/4", 1", 1 1/4", 1 1/2", 2", 2 1/2" & 3"**



**OPTIONAL CROSS HANDLE**  
 Available with purple cross handle for reclaimed water identification. Add RW to model number

**Features and Benefits**

- Manual internal bleed valve.
- EPDM diaphragm reinforced with 600 lb. test nylon cord material.
- Internal self-flushing filter for dirty water protection.
- Solid brass construction.
- Water-proof solenoid coil.
- Coil can be rotated 360° and easily removed without removing solenoid operator.
- Slow closing. No water hammer, surge or noise.
- Pressure rating 200 psi.
- Cross handle flow control standard on 1" through 3" sizes, optional on 3/4" size.
- All EPDM rubber parts.
- Stainless Steel insert seat in solenoid chamber.

**Solenoid Specifications**

**Standard 24 VAC**

In-rush current: .45 A (10.8 VA)  
 Holding current: .30 A (7.2 VA)

**Optional Low Watt 24 VAC**

In-rush current: .33 A (7.9 VA)  
 Holding current: .20 A (4.9 VA)

**Optional 110 VAC**

In-rush current: 95 mA (10.5 VA)  
 Holding current: 65 mA (7.2 VA)

**Pressure Loss in PSI**

GPM	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"
5	0.45	0.16					
10	1.75	0.75					
15	4	1.5	0.48				
20	7	2.6	0.85	0.45			
30		5.7	1.9	1			
40		10	3.5	1.7	0.53		
50			5.3	2.65	0.82		
60			7.6	3.8	1.2		
70			10.1	5.1	1.6		
80				6.6	2.05		
90				8.3	2.6		
100				10.9	3.2	2.38	2.38
120					4.6	2.45	2.45
140					6.3	2.5	2.5
160					8	2.9	2.9
200					13.9	4	4
240						6	6
260						8.2	8.2
320						10.7	10.7
360						13.2	13.2

**Operating Ranges**

**Flow:** 5 - 320 gpm  
**Pressure:** 20 - 200 psi

**M O D E L D E S C R I P T I O N S**

Model No.	Description	Dimension (Inches)	
		Height	Length
950075DWIB	3/4" NPT dirty water valve, internal bleed	4 3/32	3 11/16
950100DWIB	1" NPT dirty water valve, internal bleed	5 15/16	4 13/32
950125DWIB	1 1/4" NPT dirty water valve, internal bleed	5 19/32	4 3/4
950150DWIB	1 1/2" NPT dirty water valve, internal bleed	7 5/32	5 19/32
950200DWIB	2" NPT dirty water valve, internal bleed	7 5/32	5 19/32
950250DWIB	2 1/2" NPT dirty water valve, internal bleed	11 3/4	9 13/16
950300DWIB	3" NPT dirty water valve, internal bleed	11 3/4	9 13/16
OPTIONS	For BSPT threads, add BSPT to model number For 110 VAC, change 950 to 975; for 220 VAC, change 950 to 980		



**950150SD**

## Model 950SD

Electric Brass Valve

Available in  
 3/4", 1", 1 1/4", 1 1/2", 2", 2 1/2" & 3"

**Premium External Bleed Valve.**  
 The 950SD is equipped with an electroless-nickel-plated bleed valve that will not corrode due to frequent use and/or poor water quality.

### Features and Benefits

- Pressure rating: 200 psi.
- Solid brass construction.
- Electroless nickel plated manual bleed valve.
- EPDM diaphragm reinforced with 600 lb. test nylon cord material.
- Coil can be rotated 360° and easily removed without removing solenoid operator.
- Slow closing. No water hammer, surge or noise.
- Cross handle flow control standard on 1" through 3" sizes, optional on 3/4" size.
- Self-cleaning orifice.
- All EPDM rubber parts.

### Solenoid Specifications

#### Standard 24 VAC

In-rush current: .45 A (10.8 VA)  
 Holding current: .30 A (7.2 VA)

#### Optional Low Watt 24 VAC

In-rush current: .33 A (7.9 VA)  
 Holding current: .20 A (4.9 VA)

#### Optional 110 VAC

In-rush current: 95 mA (10.5 VA)  
 Holding current: 65 mA (7.2 VA)

#### Pressure Loss in PSI

GPM	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"
5	0.45	0.16					
10	1.75	0.75					
15	4	1.5	0.48				
20	7	2.6	0.85	0.45			
30		5.7	1.9	1			
40		10	3.5	1.7	0.53		
50			5.3	2.65	0.82		
60			7.6	3.8	1.2		
70			10.1	5.1	1.6		
80				6.6	2.05		
90				8.3	2.6		
100				10.9	3.2	2.38	2.38
120					4.6	2.45	2.45
140					6.3	2.5	2.5
160					8	2.9	2.9
200					13.9	4	4
240						6	6
260						8.2	8.2
320						10.7	10.7
360						13.2	13.2

### Operating Ranges

**Flow:** 5 - 320 gpm  
**Pressure:** 20 - 200 psi

#### MODEL DESCRIPTIONS

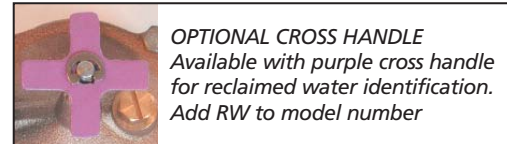
Model No.	Description	Dimension (Inches)	
		Height	Length
950075SD	3/4" NPT valve, non-corrosive external bleed	4 3/32	3 11/16
950100SD	1" NPT valve, non-corrosive external bleed	5 15/16	4 13/32
950125SD	1 1/4" NPT valve, non-corrosive external bleed	5 19/32	4 3/4
950150SD	1 1/2" NPT valve, non-corrosive external bleed	7 5/32	5 19/32
950200SD	2" NPT valve, non-corrosive external bleed	7 5/32	5 19/32
950250SD	2 1/2" NPT valve, non-corrosive external bleed	11 3/4	9 13/16
950300SD	3" NPT valve, non-corrosive external bleed	11 3/4	9 13/16



950200PRS

**Model 950PRS**  
**Pressure Regulating Valve**

Available in  
 1", 1 1/4", 1 1/2", 2", 2 1/2" & 3"



**OPTIONAL CROSS HANDLE**  
 Available with purple cross handle for reclaimed water identification. Add RW to model number

*Designed to maintain constant outlet pressure regardless of variations in inlet pressure. Also incorporates all of the features of the Model 950DW with Internal self-flushing filter and g metering rod.*

**Features and Benefits**

- Solid brass construction.
- EPDM diaphragm reinforced with 600 lb. test nylon cord material.
- Slow opening, slow closing with no water hammer, surge or noise.
- Regulation is maintained when valve is manually operated with use of internal bleed valve.
- Cross handle flow control for regulating water from fully on to completely off.
- All EPDM rubber parts.
- Regulating range 10 to 125 psi.
- Regulating module fitted with shraeder valve so that pressure readings can be taken.
- Internal self-flushing filter for dirty water protection.

**Solenoid Specifications**

- Standard 24 VAC**  
 In-rush current: .45 A (10.8 VA)  
 Holding current: .30 A (7.2 VA)
- Optional Low Watt 24 VAC**  
 In-rush current: .33 A (7.9 VA)  
 Holding current: .20 A (4.9 VA)
- Optional 110 VAC**  
 In-rush current: 95 mA (10.5 VA)  
 Holding current: 65 mA (7.2 VA)

**Operating Ranges**

**Flow:** 5 - 320 gpm  
**Pressure:** 20 - 200 psi

Pressure Loss in PSI							
GPM	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"
5	0.45	0.16					
10	1.75	0.75					
15	4	1.5	0.48				
20	7	2.6	0.85	0.45			
30		5.7	1.9	1			
40		10	3.5	1.7	0.53		
50			5.3	2.65	0.82		
60			7.6	3.8	1.2		
70			10.1	5.1	1.6		
80				6.6	2.05		
90				8.3	2.6		
100				10.9	3.2	2.38	2.38
120					4.6	2.45	2.45
140					6.3	2.5	2.5
160					8	2.9	2.9
200					13.9	4	4
240						6	6
260						8.2	8.2
320						10.7	10.7
360						13.2	13.2

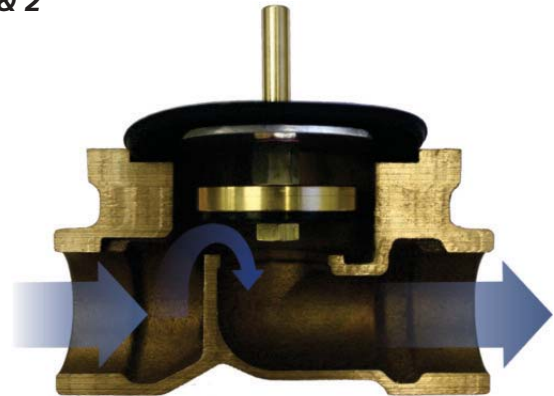
M O D E L D E S C R I P T I O N S				
Model No.	Description	Dimension (Inches)		
		Height	Length	Width
950100PRS	1" NPT pressure regulating, dirty water valve	4 1/2	4 3/8	5 1/2
950125PRS	1 1/4" NPT pressure regulating, dirty water valve	5 1/2	5	5 3/4
950150PRS	1 1/2" NPT pressure regulating, dirty water valve	8	6	7 1/2
950200PRS	2" NPT pressure regulating, dirty water valve	9	7	7 3/4
950250PRS	2 1/2" NPT pressure regulating, dirty water valve	10	11 5/8	10
950300PRS	3" NPT pressure regulating, dirty water valve	10	11 5/8	10
OPTIONS	For BSPT threads, add BSPT to model number			
	For purple cross handle, add RW to model number			





## Model 950RF Reverse Flow Valve

Available in  
1", 1 1/4", 1 1/2" & 2"



950200RF

### Features and Benefits

- Solid brass construction.
- Reverse flow functionality.
- EPDM diaphragm.
- Brass drain cock for manual operation.
- Two-piece diaphragm assembly.
- Self-cleaning dirty water filter.
- Cross handle flow control.

### Solenoid Specifications

#### Standard 24 VAC

In-rush current: .45 A (10.8 VA)  
Holding current: .30 A (7.2 VA)

#### Optional 110 VAC

In-rush current: 95 mA (10.5 VA)  
Holding current: 65 mA (7.2 VA)

*The 950RF Series Reverse Flow Valve offers the same dependable product performance, quality and value as the 950 valve, now available for applications that require reverse flow functionality which prevents valve failure in the open position.*

### Operating Ranges

Flow: 5 - 320 gpm

Pressure: 20 - 200 psi

### Pressure Loss in PSI

GPM	1"	1 1/4"	1 1/2"	2"
5	0.16			
10	0.75			
15	1.5	0.48		
20	2.6	0.85	0.45	
30	5.7	1.9	1	
40	10	3.5	1.7	0.53
50		5.3	2.65	0.82
60		7.6	3.8	1.2
70		10.1	5.1	1.6
80			6.6	2.05
90			8.3	2.6
100			10.9	3.2
120				4.6
140				6.3
160				8
200				13.9
240				
260				
320				

### How To Specify / Order

950 100 DWIB RW\* RF

Model	Size	Option 1	Option 2
950 - 24V Coil	100 = 1"	DWIB = Dirty Water w/Internal Bleed	RW = Reclaimed Water (Purple Cross Handle)
960 - DC Latching	125 = 1-1/4"	PRS = Pressure Regulating (Includes DW & DWIB Features)	
975 - 110V Coil	150 = 1-1/2"	SD = Nickel Plated Bleed Screw	
980 - 220v Coil	200 = 2"		*Leave blank if no option chosen



## Model 450

Plastic Valve

Available in 1"  
Normally Closed

### Features and Benefits

- Molded from heavy duty, high impact mineral reinforced nylon material for maximum strength.
- Internally molded brass screw inserts.
- Internal bleed control lever for manual operation.
- Self-cleaning orifice with metering rod that prevents dirty water from entering diaphragm chamber.
- EPDM diaphragm reinforced with 600 lb. test nylon cord material.
- Flow control for regulating water from fully on to completely off.
- Slow closing, smooth operation.
- Can withstand high water pressure up to 150 psi.

### Solenoid Specifications

#### Standard 24 VAC

In-rush current: .45 A (10.8 VA)  
 Holding current: .30 A (7.2 VA)

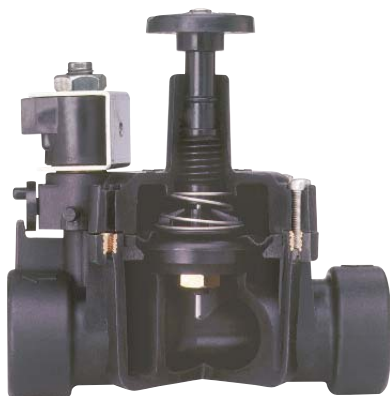
#### Optional 110 VAC

In-rush current: 95 mA (10.5 VA)  
 Holding current: 65 mA (7.2 VA)

### Operating Ranges

Flow: 5 - 40 gpm

Pressure: 20 - 150 psi



### Pressure Loss in PSI

GPM	5	10	15	20	25	30	35	40"
Pressure Loss:	.04	.056	1.00	1.90	2.90	4.18	5.91	7.62

M O D E L D E S C R I P T I O N S				
Model No.	Description	Dimension (Inches)		
		Height	Length	Width
450100	1" NPT normally closed electric valve, plastic	4 3/4	5	3 3/4
OPTIONS	For 110 VAC, change 450 to 475 For 220 VAC, change 450 to 480			

## Premier Series



### VB15

1 1/2" Brass two-way electric valve

#### Features and Benefits

- Available in 3/4", 1", 1 1/4", 1 1/2", 2" sizes.
- Slow, smooth opening and closing speeds reduce water hammer and extend life.
- Normally closed, reverse flow design.
- Operational bleed water is metered through innovative flow passages.
- High strength, molded EPDM diaphragm reinforced with mesh nylon has a 600 lb. burst test rating.
- Both internal and external manual bleed.
- Easier service with stainless steel hex head bolts.
- Corrosion-free operation with water proof solenoid.
- Efficient design provides low friction loss performance.
- Optional heavy duty (HD) and 120 VAC (HV) solenoids.
- Brass cross handle.

#### Operating Ranges

U.S.	Metric
Flow: 5 - 140 gpm	1.13 - 31.64 m <sup>3</sup> /hr.
Pressure: 20 - 200 psi	1.4 - 10.54 bars
Valve Closing Speed: 0.9 - 2.0 sec. @ 50 - 100 psi	

#### Solenoid Ratings

##### Comes standard with:

- 5.8 VA holding (0.24 A at 24 VAC, 60 Hz)
- 6.9 VA holding (0.29 A at 24 VAC, 50 Hz)
- Coil Resistance (DC) - 20-25 Ohms
- Min./Max. Voltage - 20/30 VAC

##### HD option comes with:

- 7.5 VA holding (0.32 A at 24 VAC, 60 Hz)
- 9.0 VA holding (0.38 A at 24 VAC, 50 Hz)
- Coil Resistance (DC) - 18.8 Ohms
- Min./Max. Voltage - 20/30 VAC



Non-Potable Cross Handle available by adding "NP" to the valve model number (example VB15NP)

**VB Valves**

Pressure Loss in PSI			
GPM	VB07	VB10	VB12
5	3.6	3.3	
10	4.6	4.5	0.3
15	4.8	4.7	0.7
20	5.2	5.0	1.2
25	6.6	5.8	1.7
30	8.9	7.7	2.5
35	10.0	9.6	2.8
40		12.6	3.8
45		16.3	5.1
50			6.5
55			7.6
60			8.8
70			9.7

**VB Valves**

Pressure Loss in Bars			
(m <sup>3</sup> /hr.)	VB07	VB10	VB12
1.13	0.24	0.22	
2.25	0.31	0.31	0.02
3.38	0.33	0.32	0.05
4.50	0.35	0.34	0.08
5.63	0.45	0.39	0.12
6.75	0.61	0.52	0.17
7.88	0.68	0.65	0.19
9.00		0.86	0.26
10.13		1.11	0.35
11.25			0.44
12.38			0.52
13.50			0.60
15.75			0.66

**Metric**

**VB Valves**

Pressure Loss in kPa			
(l/min.)	VB07	VB10	VB12
19.0	24.8	22.7	
38.0	31.6	30.9	2.1
57.0	33.0	32.3	4.8
76.0	35.8	34.4	8.3
95.0	45.4	39.9	11.7
114.0	61.2	52.9	17.2
133.0	68.8	66.0	19.3
152.0		86.6	26.1
171.0		112.1	35.1
190.0			44.7
209.0			52.3
228.0			60.5
266.0			66.7

**Metric**

**VB Valves**

Pressure Loss in PSI		
GPM	VB15	VB20
50	3.0	
60	3.7	
70	5.1	3.0
80	7.6	3.4
90	10.2	4.2
100	13.0	4.8
120		6.7
140		7.2

**VB Valves**

Pressure Loss in Bars		
m <sup>3</sup> /hr	VB15	VB20
11.25	0.20	
13.50	0.25	
15.75	0.35	0.20
18.00	0.52	0.23
20.25	0.69	0.29
22.50	0.88	0.33
27.00		0.46
31.50		0.49

**Metric**

**VB Valves**

Pressure Loss in kPa		
l/min	VB15	VB20
190.0	20.6	
228.0	25.4	
266.0	35.1	20.6
304.0	52.3	23.4
342.0	70.1	28.9
380.0	89.4	33.0
456.0		46.1
532.0		49.5

**Metric**

**M O D E L D E S C R I P T I O N S**

Model No.	Description	Dimension (Inches)		
		Height	Width	Length
VB07	3/4" NPT two-way brass valve, with flow control	5 1/4	2 1/2	4
VB10	1" NPT two-way brass valve, with flow control	5 1/4	2 1/2	4 1/4
VB12	1 1/4" NPT two-way brass valve, with flow control	5 1/4	2 3/4	4 7/8
VB15	1 1/2" NPT two-way brass valve, with flow control	6	3 3/4	5
OPTIONS	For BSPT, add (BS) to model number			
	For heavy duty 24 VAC-50/60 Hz, add (HD) to model number			

To Specify:

**V B 20 HD**

Valve Brass Size Option

## Premier Series



### VBDW15

1 1/2" Dirty Water Valve

#### Features and Benefits

- Available in 3/4", 1", 1 1/4", 1 1/2", and 2" sizes.
- Non-continuous flow through solenoid and valve orifices minimizes clogging.
- Moisture and electrical surge resistant direct burial solenoid.
- High strength, molded EPDM diaphragm reinforced with mesh nylon has a 600 lb. burst test rating.
- Slow closing and opening speeds extend diaphragm assembly life.
- Accessibility to all internal components through top of valve makes servicing easy.
- Low friction loss design provides more water-efficient service.
- Normally closed, reverse flow design.
- Brass cross handle.
- External Manual Bleed

#### Operating Ranges

U.S.	Metric
Flow: 0 - 190 gpm	0 - 43.14 m <sup>3</sup> /hr.
Pressure: 10 - 200 psi	.7 - 10.54 bars
Valve Closing Speed: 0.4 - 3.4 sec. @ 50 - 100 psi	

#### Solenoid Ratings

##### Comes standard with:

- 8.5 VA holding (0.35 A at 24 VAC, 60 Hz)
- 10.2 VA holding (0.42 A at 24 VAC, 50 Hz)
- Coil Resistance (DC) - 18.8 Ohms
- Min./Max. Voltage - 20/30 VAC



Non-Potable Cross Handle  
available as kit.

NPH1KIT (VB07-VB20)

**VBDW Valves**

<b>Pressure Loss in PSI</b>			
GPM	VBDW07	VBDW10	VBDW12
5	0.5	0.4	0.2
10	1.1	1.0	0.4
15	2.4	2.0	0.8
20	4.3	3.4	1.1
25	7.0	5.0	1.8
30	10.9	7.3	2.5
35	14.3	10.0	3.2
40	18.7	12.9	4.3
45		16.2	5.4
50		20.5	6.7
55			7.9
60			9.5
65			11.2
70			13.0
75			14.9
80			17.1

**VBDW Valves**

<b>Pressure Loss in Bars</b>			
(m <sup>3</sup> /hr.)	VBDW07	VBDW10	VBDW12
1.13	0.03	0.03	0.01
2.25	0.07	0.07	0.03
3.38	0.16	0.14	0.05
4.50	0.29	0.23	0.07
5.63	0.48	0.34	0.12
6.75	0.74	0.50	0.17
7.88	0.97	0.68	0.22
9.00	1.27	0.88	0.29
10.13		1.10	0.37
11.25		1.39	0.46
12.38			0.54
13.50			0.65
14.63			0.76
15.75			0.88
16.88			1.01
18.00			1.16

**Metric**

**VBDW Valves**

<b>Pressure Loss in kPa</b>			
(l/min.)	VBDW07	VBDW10	VBDW12
19.0	3.4	2.8	1.4
38.0	7.6	6.9	2.8
57.0	16.5	13.8	5.5
76.0	29.6	23.4	7.6
95.0	48.1	34.4	12.4
114.0	74.9	50.2	17.2
133.0	98.3	68.8	22.0
152.0	128.6	88.7	29.6
171.0		111.4	37.1
190.0		140.9	46.1
209.0			54.3
228.0			65.3
247.0			77.0
266.0			89.4
285.0			102.4
304.0			117.6

**Metric**

**VBDW Valves**

<b>Pressure Loss in PSI</b>		
GPM	VBDW15	VBDW20
5	0.0	0.0
10	0.2	0.0
20	0.6	0.3
30	1.2	0.6
40	2.0	0.9
50	3.0	1.4
60	4.0	1.9
70	5.8	2.5
80	7.5	3.2
90	9.6	4.2
100	11.6	5.1
110	14.0	6.2
120	16.8	7.3
130	20.0	8.6
140		9.9
150		11.2
160		12.9
170		4.8
180		16.5
190		19.0

**VBDW Valves Metric**

<b>Pressure Loss in Bars</b>		
(m <sup>3</sup> /hr.)	VBDW15	VBDW20
1.13	0.00	0.00
2.25	0.01	0.00
4.50	0.04	0.02
6.75	0.08	0.04
9.00	0.14	0.06
11.25	0.20	0.10
13.50	0.27	0.13
15.75	0.39	0.17
18.00	0.51	0.22
20.25	0.65	0.29
22.50	0.79	0.35
24.75	0.95	0.42
27.00	1.14	0.50
29.25	1.36	0.58
31.50		0.67
33.75		0.76
36.00		0.88
38.25		1.01
40.5		1.12

**VBDW Valves Metric**

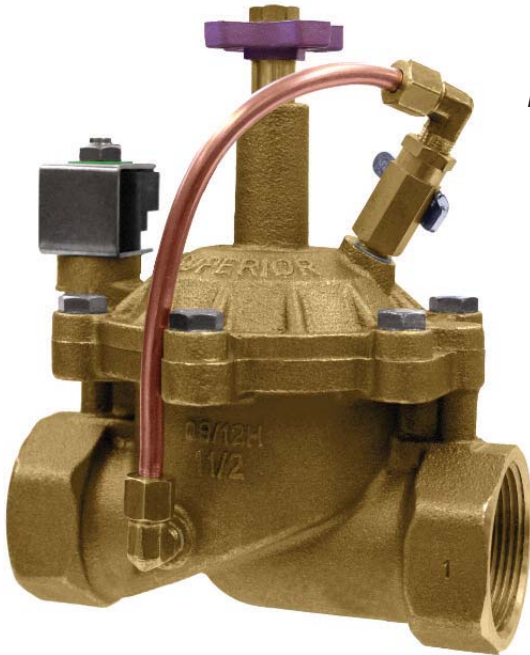
<b>Pressure Loss in kPa</b>		
(l/min.)	VBDW15	VBDW20
19.0	0.0	0.0
38.0	1.4	0.0
76.0	4.1	2.1
114.0	8.3	4.1
152.0	13.8	6.2
190.0	20.6	9.6
228.0	27.5	13.1
266.0	39.9	17.2
304.0	51.6	22.0
342.0	66.0	28.9
380.0	79.8	35.1
418.0	96.3	42.6
456.0	115.5	50.2
494.0	137.5	59.1
532.0		68.1
570.0		77.0
608.0		88.7
646.0		101.8
684.0		113.4
722.0		130.6

<b>M O D E L D E S C R I P T I O N S</b>				
Model No.	Description	Dimension (Inches)		
		Height	Width	Length
VBDW07	3/4" NPT, brass dirty water solenoid valve w/FC	4 1/2	2 1/2	4
VBDW10	1" NPT, brass dirty water solenoid valve w/FC	4 3/4	2 1/2	4 1/4
VBDW12	1 1/4" NPT, brass dirty water solenoid valve w/FC	5 1/4	2 3/4	4 7/8
VBDW15	1 1/2" NPT, brass dirty water solenoid valve w/FC	6	3 1/2	5
VBDW20	2" NPT, brass dirty water solenoid valve w/FC	6 3/4	5	6

To Specify:

**V B DW 15**

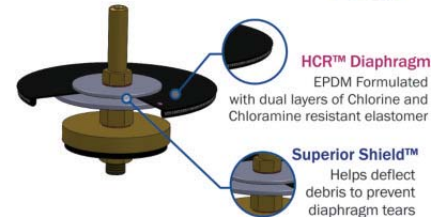
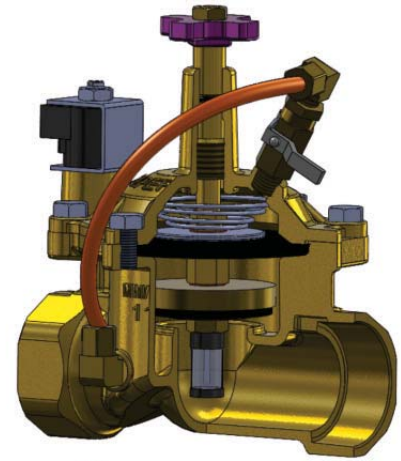
Valve    Brass    Dirty Water    Size



## Model 1000 Reclaimed Water Valve

Available in  
 3/4", 1", 1 1/4", 1 1/2", 2"  
 2 1/2" & 3"

1000150



### Features and Benefits

- Solid brass construction.
- HCR™ diaphragm.
- Two-piece diaphragm assembly.
- Superior Shield™.
- Heavy duty copper tubing.
- Precision ball valve adjustment.
- Self-cleaning dirty water filter.
- Purple cross handle flow control

*The 1000 Series Reclaimed Water Valve offers a complete reclaimed water solution. The 1000 Series Valve is manufactured with chemical resistant components, including heavy duty copper tubing, precision ball valve adjustment, dirty water filter system and two-piece diaphragm assembly with our HCR™ Diaphragm and Superior Shield™.*

### Operating Ranges

Flow: 5 - 320 gpm  
 Pressure: 20 - 200 psi

### Solenoid Specifications

#### Standard 24 VAC

In-rush current: .45 A (10.8 VA)  
 Holding current: .30 A (7.2 VA)

#### Optional 110 VAC

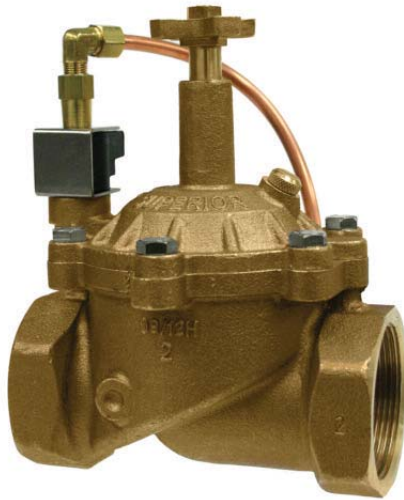
In-rush current: 95 mA (10.5 VA)  
 Holding current: 65 mA (7.2 VA)

### How To Specify / Order

1000 100	
Model	Size
1000 - 24V Coil	075 = 3/4"
1060 - DC Latching	100 = 1"
1075 - 110V Coil	125 = 1 1/4"
1080 - 220v Coil	150 = 1 1/2"
	200 = 2"
	250 = 2 1/2"
	300 = 3"

### Pressure Loss in PSI

GPM	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"
5	0.45	0.16					
10	1.75	0.75					
15	4	1.5	0.48				
20	7	2.6	0.85	0.45			
30		5.7	1.9	1			
40		10	3.5	1.7	0.53		
50			5.3	2.65	0.82		
60			7.6	3.8	1.2		
70			10.1	5.1	1.6		
80				6.6	2.05		
90				8.3	2.6		
100				10.9	3.2	2.38	2.38
120					4.6	2.45	2.45
140					6.3	2.5	2.5
160					8	2.9	2.9
200					13.9	4	4
240						6	6
260						8.2	8.2
320						10.7	10.7
360						13.2	13.2



**3000150**

**Model 3000**

**Master Valve**  
**Normally Closed, 3-Way Solenoid**  
**Design**

**Available in**  
**1", 1 1/4", 1 1/2", 2", 2 1/2" & 3"**

Designed to maximize flow, the model 3000 utilizes a 3-way solenoid that allows all water to be exhausted from the top of the diaphragm when the solenoid is energized. This permits the seat disc to lift higher resulting in increased flow through the valve. Excellent dirty water protection is afforded by the removable filter and metering rod assembly plus the added protection of a non-continuous flow through the solenoid.

**Features and Benefits**

- Solid brass construction.
- All EPDM rubber parts.
- Slow opening, slow closing with no water hammer, surge or noise.
- Brass drain cock for manual operation.
- Cross handle flow control standard on 1" through 3" sizes.
- EPDM diaphragm reinforced with 600 lb. test nylon cord material.
- Operating range from 20 to 200 psi.
- Not dependent on flow for full opening.
- Removable filter assembly.
- Non-continuous flow through solenoid.
- Sizes range from 1" NPT through 3" NPT.
- Designed with external plumbing for easy access to filter assembly.
- Normally closed electric, 24 VAC 50/60 HZ.

**Solenoid Specifications**

**Standard 24 VAC**

In-rush current: .45 A (10.8 VA)  
 Holding current: .30 A (7.2 VA)

**Optional 110 VAC**

In-rush current: 95 mA (10.5 VA)  
 Holding current: 65 mA (7.2 VA)

**Operating Ranges**

**Flow: 5 - 320 gpm**  
**Pressure: 20 - 200 psi**

**Pressure Loss in PSI**

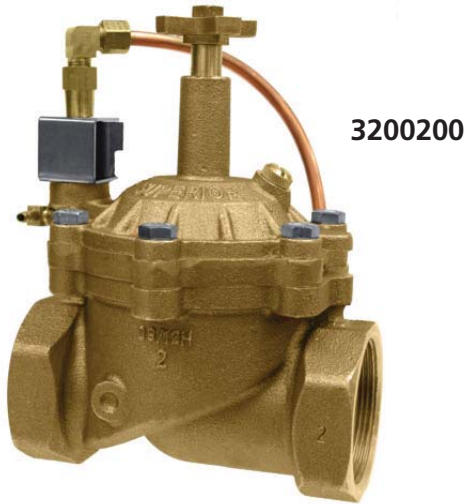
GPM	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"
5	0.16					
10	0.75					
15	1.5	0.48				
20	2.6	0.85	0.45			
30	5.7	1.9	1			
40	10	3.5	1.7	0.53		
50		5.3	2.65	0.82		
60		7.6	3.8	1.2		
70		10.1	5.1	1.6		
80			6.6	2.05		
90			8.3	2.6		
100			10.9	3.2	2.38	2.38
120				4.6	2.45	2.45
140				6.3	2.5	2.5
160				8	2.9	2.9
200				13.9	4	4
240					6	6
260					8.2	8.2
320					10.7	10.7
360					13.2	13.2

**M O D E L D E S C R I P T I O N S**

Model No.	Description	Dimension (Inches)	
		Height	Length
3000100	1" NPT normally closed master valve	4 1/2	4 3/8
3000125	1 1/4" NPT normally closed master valve	5 1/2	5
3000150	1 1/2" NPT normally closed master valve	8	6
3000200	2" NPT normally closed master valve	9	7
3000250	2 1/2" NPT normally closed master valve	10	11 5/8
3000300	3" NPT normally closed master valve	10	11 5/8
OPTIONS	For BSPT threads, add BSPT to model number For purple cross handle, add RW to model number.		



## No Minimum Flow Requirement



## Model 3200

### Normally Closed Master Valve

Available in  
**1 1/2", 2", 2 1/2" & 3"**

Specially designed to operate with flow as low as 1 gallon per hour. This ensures that the model 3200 will completely close regardless of the flow rate thru the individual zone valves, including low flow drip zones.

### Features and Benefits

- Not affected by excessive back pressure.
- Allows complete opening and closing with flow as low as 1 gallon per hour.
- Solid brass construction.
- 200 psi rating.
- Cross handle flow control
- Slow closing. No water hammer, surge or noise.
- EPDM diaphragm reinforced with 600 lb. test nylon cord material.
- Dirty water protection afforded by removable filter and metering rod assembly plus added protection of non-continuous flow through solenoid.
- All EPDM rubber parts.

### Solenoid Specifications

#### Standard 24 VAC

In-rush current: .45 A (10.8 VA)  
 Holding current: .30 A (7.2 VA)

#### Optional 110 VAC

In-rush current: 95 mA (10.5 VA)  
 Holding current: 65 mA (7.2 VA)

### Operating Ranges

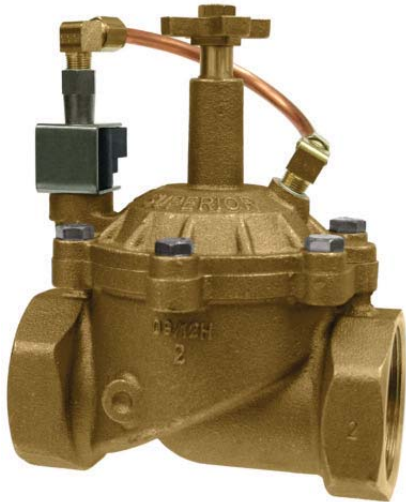
**Flow:** 0 - 360 gpm  
**Pressure:** 20 - 200 psi

### Pressure Loss in PSI

GPM	1 1/2"	2"	2 1/2"	3"
5				
10				
15				
20	0.45			
30	1			
40	1.7	.53		
50	2.65	0.82		
60	3.8	1.2		
70	5.1	1.6		
80	6.6	2.05		
90	8.3	2.6		
100	10.9	3.2	2.38	2.38
120		4.6	2.45	2.45
140		6.3	2.5	2.5
160		8	2.9	2.9
200		13.9	4	4
240			6	6
260			8.2	8.2
320			10.7	10.7
360			13.2	13.2

### MODEL DESCRIPTIONS

Model No.	Description	Dimension (Inches)	
		Height	Length
3200150	1 1/2" normally closed master valve, no minimum flow requirement	8	6
3200200	2" normally closed master valve, no minimum flow requirement	9	7
3200250	2 1/2" normally closed master valve, no minimum flow requirement	10	11 5/8
3200300	3" normally closed master valve, no minimum flow requirement	10	11 5/8
OPTIONS	For 110 VAC, change 3200 to 3275. For purple cross handle, add RW to model number.		



3100200

**Model 3100**  
**Master Valve**  
**Normally Open, Electric**

**Available in**  
**3/4", 1", 1 1/4", 1 1/2", 2", 2 1/2" & 3"**

The Model 3100 performs in the opposite manner of a normally closed electric valve with electricity required to close the valve rather than open it. During the time the solenoid is not energized, the Model 3100 will remain open.

**Features and Benefits**

- Normally open design.
- Solid brass construction.
- All EPDM rubber parts.
- Self-cleaning orifice.
- EPDM diaphragm reinforced with 600 lb. test nylon cord material.
- Cross handle flow control standard on 1" through 3" sizes, optional on 3/4" size.
- Slow closing. No water hammer, surge or noise.
- Will operate on pressure up to 150 psi.
- 24 VAC 3-way solenoid.

MODEL DESCRIPTIONS			
Model No.	Description	Dimension (Inches)	
		Height	Length
3100075	3/4" NPT normally open master valve	5	3 1/4
3100100	1" NPT normally open master valve	4 1/2	4 3/8
3100125	1 1/4" NPT normally open master valve	5 1/2	5
3100150	1 1/2" NPT normally open master valve	8	6
3100200	2" NPT normally open master valve	9	7
3100250	2 1/2" NPT normally open master valve	10	11 5/8
3100300	3" NPT normally open master valve	10	11 5/8
OPTIONS	For 110 VAC, change 3100 to 3175. For purple cross handle, add RW to model number. For pressure regulating model, add PRS to model number. (PRS not available on 3/8" model)		



3100150PRS

**Model 3100PRS**  
**Pressure Regulating Valve**

**Available in**  
**1", 1 1/4", 1 1/2", 2", 2 1/2" & 3"**

Downstream pressure can be adjusted to a desired level. Once set, the downstream pressure will remain constant regardless of variations in inlet pressure. Incorporates all features of the 3100 valve.

**Solenoid Specifications**

**Standard 24 VAC**

In-rush current: .45 A (10.8 VA)  
 Holding current: .30 A (7.2 VA)

**Optional 110 VAC**

In-rush current: 95 mA (10.5 VA)  
 Holding current: 65 mA (7.2 VA)

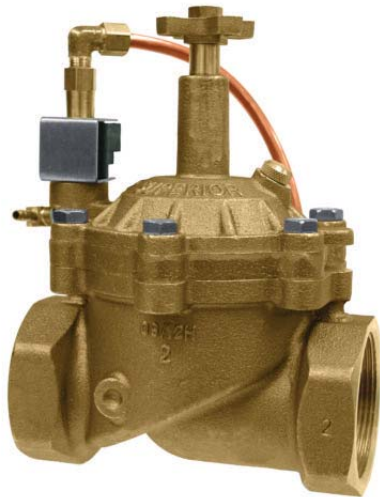
**Operating Ranges**

**Flow: 5 - 320 gpm**

**Pressure: 20 - 150 psi**

Pressure Loss in PSI							
GPM	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"
5	0.45	0.16					
10	1.75	0.75					
15	4	1.5	0.48				
20	7	2.6	0.85	0.45			
30		5.7	1.9	1			
40		10	3.5	1.7	0.53		
50			5.3	2.65	0.82		
60			7.6	3.8	1.2		
70			10.1	5.1	1.6		
80				6.6	2.05		
90				8.3	2.6		
100				10.9	3.2	2.38	2.38
120					4.6	2.45	2.45
140					6.3	2.5	2.5
160					8	2.9	2.9
200					13.9	4	4
240						6	6
260						8.2	8.2
320						10.7	10.7
360						13.2	13.2

## No Minimum Flow Requirement



3300200

## Model 3300 Normally Open Master Valve

Available in  
1 1/2", 2", 2 1/2" & 3"

Specially designed to operate with flow as low as 1 gallon per hour. This ensures that the model 3300 will completely close regardless of the flow rate thru the individual zone valves, including low flow drip zones.

### Features and Benefits

- Normally open. Closes when solenoid is energized.
- Not affected by excessive back pressure.
- Allows complete opening and closing with flow as low as 1 gallon per hour.
- Solid brass construction.
- 200 psi rating.
- Cross handle flow control.
- Slow closing. No water hammer, surge or noise.
- EPDM diaphragm reinforced with 600 lb. test nylon cord material.
- Dirty water protection afforded by removable filter and metering rod assembly plus added protection of non-continuous flow through solenoid.
- All EPDM rubber parts.



**OPTIONAL CROSS HANDLE**  
Available with purple cross handle for reclaimed water identification. Add RW to model number.

### Solenoid Specifications

#### Standard 24 VAC

In-rush current: .45 A (10.8 VA)  
Holding current: .30 A (7.2 VA)

#### Optional 110 VAC

In-rush current: 95 mA (10.5 VA)  
Holding current: 65 mA (7.2 VA)

### Operating Ranges

Flow: 0 - 360 gpm  
Pressure: 20 - 200 psi

### Pressure Loss in PSI

GPM	1 1/2"	2"	2 1/2"	3"
5				
10				
15				
20	0.45			
30	1			
40	1.7	0.53		
50	2.65	0.82		
60	3.8	1.2		
70	5.1	1.6		
80	6.6	2.05		
90	8.3	2.6		
100	10.9	3.2	2.38	2.38
120		4.6	2.45	2.45
140		6.3	2.5	2.5
160		8	2.9	2.9
200		13.9	4	4
24			6	6
260			8.2	8.2
320			10.7	10.7
360			13.2	13.2

### MODEL DESCRIPTIONS

Model No.	Description	Dimension (Inches)	
		Height	Length
3300150	1 1/2" NPT normally open master valve, no minimum flow requirement	9	7
3300200	2" NPT normally open master valve, no minimum flow requirement	9	7
3300250	2 1/2" NPT normally open master valve, no minimum flow requirement	10	11 5/8
3300300	3" NPT normally open master valve, no minimum flow requirement	10	11 5/8
OPTIONS	For 110 VAC, change 3300 to 3375. For purple cross handle, add RW to model number.		



**Model 950A**

**Electric Diaphragm Angle Valve**

**Available in  
 1", 1 1/2", & 2"**

**Additional Angle  
 Valve Models**

**Available in  
 1", 1 1/2", & 2"**

The following models are available in above sizes: 950DWA, 950DWIBA, 950SDA, 950PRSA, 100A, 3000A, 3100A, 3200A, and 3300A. Parts for 1" angle models are interchangeable with 1" globe models. Parts for 1 1/2" and 2" angle models are interchangeable with 2" globe models.

**Features and Benefits**

- Solid brass construction.
- Slow opening, slow closing, with no water hammer, surge or noise.
- Cross handle flow control for regulating flow from fully on to completely off.
- Brass drain cock for manual operation.
- Solenoid coil can be rotated 360° and removed without having to unscrew solenoid post.
- EPDM diaphragm reinforced with 600 lb. test nylon cord material.
- 200 psi rating.
- All EPDM rubber parts.

**Solenoid Specifications**

- Standard 24 VAC**  
 In-rush current: .45 A (10.8 VA)  
 Holding current: .30 A (7.2 VA)
- Optional Low Watt 24 VAC**  
 In-rush current: .33 amp (7.9 VA)  
 Holding current: .20A (4.9 VA)
- Optional 110 VAC**  
 In-rush current: 95 mA (10.5 VA)  
 Holding current: 65 mA (7.2 VA)

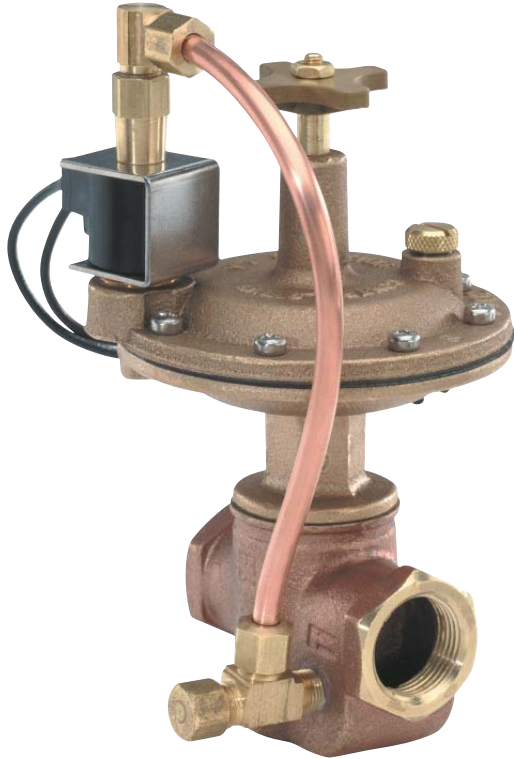
**Pressure Loss in PSI**

GPM	1	1 1/2"	2"
10	0.75		
15	1.6		
20	2.6		
30	5.7		
40	10	0.53	0.53
50	15.95	0.82	0.82
60		1.2	1.2
70		1.6	1.6
80		2.05	2.05
90		2.6	2.6
100		3.2	3.2
120		4.6	4.6
140		6.3	6.3
160		8	8
200		13.9	13.9

**Operating Ranges**

**Flow:** 10 - 200 gpm  
**Pressure:** 20 - 200 psi  
 20 - 150 psi (3100A)

M O D E L D E S C R I P T I O N S				
Model No.	Description	Dimension (Inches)		
		Height	Length	Width
950100A	1" NPT electric angle valve	7	4 3/4	3
950150A	1 1/2" NPT electric angle valve	8 1/4	5 1/2	4 3/4
950200A	2" NPT electric angle valve	8 1/4	5 1/2	4 3/4
OPTIONS	For BSPT threads, add BSPT to model number For 110 VAC, change 950 to 975; for 220 VAC change 950 to 980 For DW (Dirty Water Filter) add DW model number and for SD (Nickel Plated Bleed Screw), add SD model number			



**850DIGB075**



**850DIAS075**

## Model 850-DI

*Ideal for Drip Irrigation*

**Remote control valve designed to operate efficiently in conditions that normally impede valve operation.**

**Available in  
3/4" and 1"**

Low pressure, low flow, and excessive back-pressure are conditions that often impede the operation of a valve. The 850-DI is specially designed to operate efficiently when one or more of these conditions exists.

Allows complete opening and closing on flows as low as 1 gallon per hour.

Operates on pressures from 15 to 150 psi.

Not affected by excessive back-pressure.

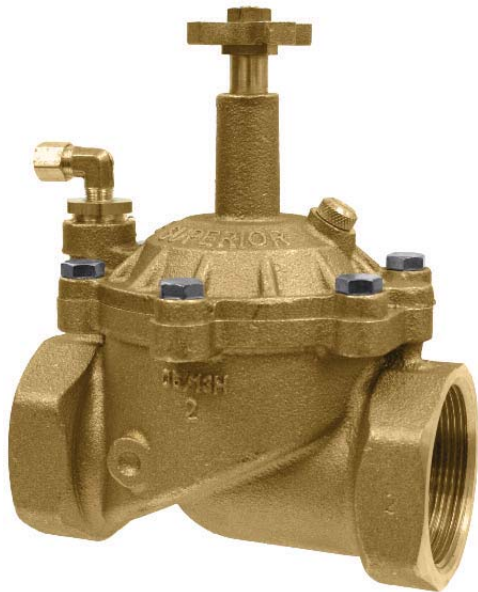
## Features and Benefits

- Solid brass construction.
- Coil can be rotated 360° and easily removed without removing solenoid operator.
- Slow closing. No water hammer, surge or noise.
- Available on either a Straight-Thru or Anti-Siphon body.
- Cross handle flow control for regulating water from fully on to completely off.
- Available in 24 or 110 volts. Conduit solenoid housing available as optional equipment.
- Manual operation with a solid brass heavy duty drain cock.

M O D E L D E S C R I P T I O N S	
Model No.	Description
850DIGB075	3/4" drip irrigation valve, globe body
850DIGB100	1" drip irrigation valve, globe body
850DIAS075	3/4" drip irrigation valve, anti-syphon body
850DIAS100	1" drip irrigation valve, anti-syphon body

**Model 100**  
**Hydraulic Valve**  
**Normally Open Type**

**Available in**  
**3/4", 1", 1 1/4", 1 1/2", 2", 2 1/2" & 3"**



**100200**

Normally open hydraulic valves remain closed as long as the static supply line from the controller is pressurized. When the pressure is relieved at the controller, the valve will open.

**Features and Benefits**

- Solid brass construction.
- Brass drain cock for manual operation.
- Will operate on high pressure up to 200 psi.
- Cross handle flow control which can be adjusted from full on position to completely off.
- Control valve equipped with 1/4" brass compression fitting.
- EPDM diaphragm reinforced with 600 lb. test nylon cord material.

**Pressure Loss in PSI**

GPM	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"
5	0.45	0.16					
10	1.75	0.75					
15	4	1.5	0.48				
20	7	2.6	0.85	0.45			
30		5.7	1.9	1			
40		10	3.5	1.7	0.53		
50			5.3	2.65	0.82		
60			7.6	3.8	1.2		
70			10.1	5.1	1.6		
80				6.6	2.05		
90				8.3	2.6		
100				10.9	3.2	2.38	2.38
120					4.6	2.45	2.45
140					6.3	2.5	2.5
160					8	2.9	2.9
200					13.9	4	4
240						6	6
260						8.2	8.2
320						10.7	10.7
360						13.2	13.2

**M O D E L D E S C R I P T I O N S**

Model No.	Description	Dimension (Inches)	
		Height	Length
100075	3/4" NPT N/O hydraulic globe valve	4 3/32	3 11/16
100100	1" NPT N/O hydraulic globe valve	5 15/16	4 13/32
100125	1 1/4" NPT N/O hydraulic globe valve	5 19/32	4 3/4
100150	1 1/2" NPT N/O hydraulic globe valve	7 5/32	5 19/32
100200	2" NPT N/O hydraulic globe valve	7 5/32	5 19/32
100250	2 1/2" NPT N/O hydraulic globe valve	11 3/4	9 13/16
100300	3" NPT N/O hydraulic globe valve	11 3/4	9 13/16



## VBM20

2" Manual Angle Valve

### Features and Benefits

- Available in 3/4", 1", 1 1/4", 1 1/2" and 2" NPT inlet/outlet.
- Heavy duty cast brass construction for constant use and corrosion resistance.
- Removable bonnet and internal assembly for easy service and cleaning.
- Free-rotating seat disc serviceable without removing valve body from the pipe line.
- Flow control stem with cast brass cross handle for manual valve key.
- Designed to provide low

### Operating Ranges

Flow: 0 - 200 gpm  
Pressure: 150 psi max.

To Specify:

<b>V</b>	<b>B</b>	<b>M</b>	<b>20</b>
Valve	Brass	Manual	Size

MODEL DESCRIPTIONS				
Model No.	Description	Dimension (Inches)		
		Height	Width	Length
VBM07	3/4" NPT, brass angle valve	5 3/4	2 1/2	2 1/4
VBM10	1" NPT, brass angle valve	6 3/4	2 3/4	3
VBM12	1 1/4" NPT, brass angle valve	8 1/4	3 1/2	3 1/4
VBM15	1 1/2" NPT, brass angle valve	9 3/4	5	4 1/2
VBM20	2" NPT, brass angle valve	11 1/4	5 1/2	4 1/2

### VBM Valves

Pressure Loss in PSI					
GPM	VBM07	VBM10	VBM12	VBM15	VBM20
10	0.5				
20	2.2	0.7			
40		2.5	0.7		0.22
60			1.4		0.42
80				1	0.85
100				2.1	1.25
125				2.6	1.85
150				3.7	2.7
175					3.65
200					4.67

Pressure Loss in Bars					
m <sup>3</sup> /hr.	VBM07	VBM10	VBM12	VBM15	VBM20
2.25	0.03				
4.50	0.15	0.05			
9.00		0.17	0.05		0.01
13.50			1		0.03
18.00				1	0.06
22.50				2.1	0.09
28.13				2.6	0.13
33.75				3.7	0.19
39.38					0.25
45.00					0.32

Pressure Loss in kPa					
l/min.	VBM07	VBM10	VBM12	VBM15	VBM20
38.0	3.45				
76.0	15.17	4.8			
152.0		17.24	4.82		1.52
228.0			9.65		2.92
304.0				6.9	5.93
380.0				14.48	8.62
475.0				17.93	12.75
570.0				25.51	18.62
665.0					25.17
760.0					32.2

**ASV07**



**ASVU07**



### Features and Benefits

- Red Brass Construction.
- Atmospheric Vacuum Breaker prevents the backflow of irrigation system water into the household supply.
- Operating pressure 25 to 150 psi.
- Full size opening for low pressure loss.
- Uniform Plumbers Code (UPC) listed.
- International Association of Plumbers and Mechanical Officials Approved (IAPMO).

### MODEL DESCRIPTIONS

Model No.	Description
ASV07	3/4" NPT, brass anti-siphon valve
ASV10	1" NPT, brass anti-siphon valve
ASVU07	3/4" anti-siphon valve w/union
ASVU10	1" anti-siphon valve w/union
ASB07	3/4" anti-siphon body only
ASB10	1" anti-siphon body only
ASBU07	3/4" anti-siphon body w/union
ASBU10	1" anti-siphon body w/union
AVB07	3/4" NPT, atmospheric vacuum breaker
AVB10	1" NPT, atmospheric vacuum breaker
AVBU07	3/4" NPT, atmospheric vacuum breaker w/union
AVBU10	1" NPT, atmospheric vacuum breaker w/union
OPTIONS	For Yellow Brass, add (Y) to Model Number For Wheel Handle, add (W) to Model Number (Only available: ASVW07Y, ASVW10Y, ASVUW07Y, ASVUW10Y, AVW075Y)

**ASB07**



**ASBU07**



**AVB07**



**AVBU07**



**ASVW10Y**



**ASVW075Y**

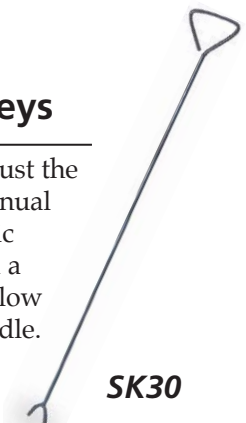


**ASVUW10Y**



### Manual Valve Keys

Used to adjust the flow on manual or automatic valves with a cross type flow control handle.



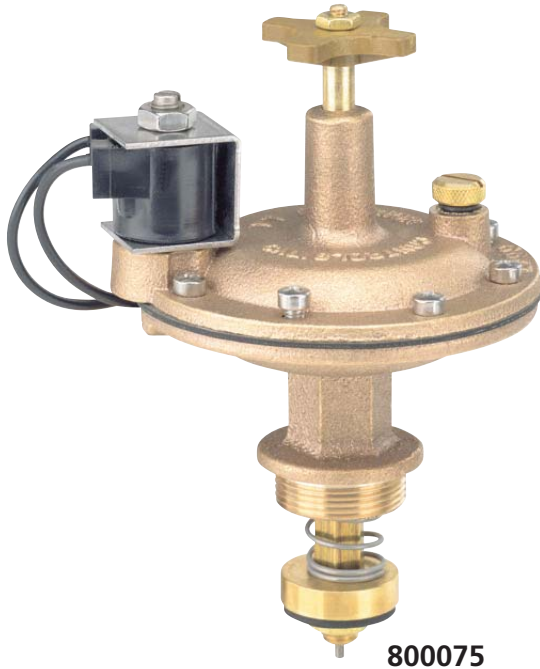
**SK30**

*The anti-siphon valves meet most local backflow requirements for residential sprinkler systems.*

### MODEL DESCRIPTIONS

Model No.	Description
SK6	6" handle valve key
SK30	30" handle valve key
SK54	54" handle valve key





800075

## 800 Series Electric Adaptors

*Ideal for new installations and for converting existing manual valves to automatic.*

*Available in 3/4" to 1" for Superior, Champion, Lawnlife, Orbit, and Aqualine brass manual valves (1 1/2" - 2" Available for Superior and Champion Only).*

### Features and Benefits

- Solid brass construction.
- Slow closing. This means no water hammer, surge or noise.
- Manual operation.
- Flow control for regulating water from fully on to completely off.
- Will operate in high pressure up to 200 psi.
- Supplied with 24 VAC solenoid unless otherwise specified. Also available with 110 VAC solenoid and with latching solenoid.
- Self-cleaning, dirt-free, clog-free design.
- 600 pound test nylon reinforced diaphragm.



Model 800EX

## Model 800EX Extension Adaptors

*Available in 3/4" and 1" sizes.*

If two or more manual valves are too close together to be retrofitted with 800's, Extension Adaptors can be used to overcome this problem. An extension adaptor has an extended neck that allows its diaphragm housing to overlap with the diaphragm housing of a standard 800 adaptor (creating a high-low effect).

## Model 800HP High Pressure Adaptor

The Model 800HP can be used to convert manual valves to automatic in systems with extremely high water pressure.

- Will operate on pressure up to 300 psi.
- High torque assembly.
- 7 watt solenoid.

MODEL DESCRIPTIONS	
Model No.	Description
800075	3/4" electric adaptor, brass
800075EX	3/4" electric extension adaptor, brass
800100	1" electric adaptor, brass
800100EX	1" electric extension adaptor, brass
800125	1 1/4" electric adaptor, brass
800150	1 1/2" adaptor, brass
800200	2" electric adaptor, brass
OPTION	For high pressure models, add (HP) to model number.



2000075



Model 2000  
 Mounted on  
 Antisiphon  
 Body

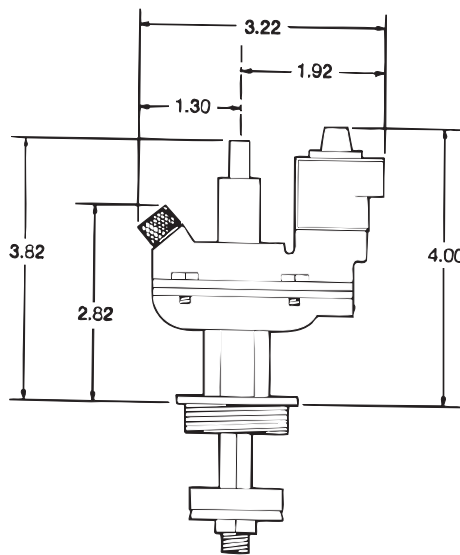
**Model 2000**  
*Mini Adaptors*

*Designed specifically for tight fitting installations like curbs, walls and close manifolds.*

*Available in 3/4" and 1" for Superior, Champion, Lawnlife, Orbit, and Aqualine brass manual valves.*

**Features and Benefits**

- Solid brass construction.
- Coil can be rotated 360° and easily removed without removing solenoid operator.
- Slow closing. This means no water hammer, surge or noise.
- Manual operation.
- Flow control for regulating water from fully on to completely off.
- Will operate in high pressure up to 200 psi.
- Supplied with 24 VAC solenoid unless otherwise specified. Also available with 110 VAC solenoid and with latching solenoid.
- Self-cleaning, dirt-free, clog-free design.



**M O D E L D E S C R I P T I O N S**

Model No.	Description
2000075	3/4" electric min-adaptor, brass
2000100	1" electric min-adaptor, brass



600075

**Model 600**  
Plastic Adaptors



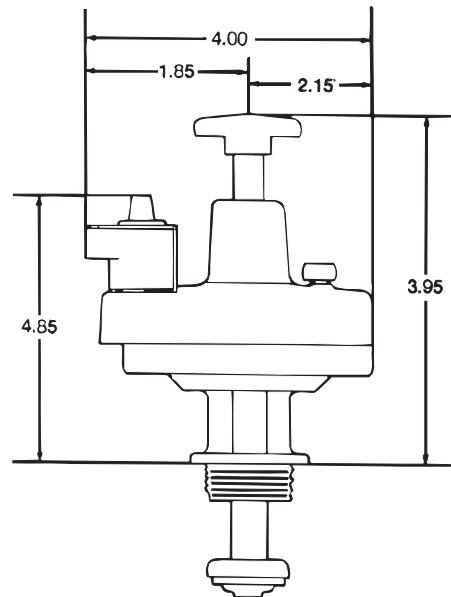
**Model 600**  
with Antisiphon

*Ideal for new installations and for converting existing manual valves to automatic.*

*Available in 3/4" and 1" for Superior, Champion, Lawnlife, Orbit, and Aqualine brass manual valves.*

### Features and Benefits

- Molded from heavy duty, high impact glass-reinforced nylon material.
- Removable waterproof coil.
- EPDM diaphragm reinforced with 600 lb. test nylon cord material.
- Self-cleaning, clog-free design.
- Flow control for regulating water from fully on to completely off.
- Slow closing, smooth operation.
- Manual drain cock.
- Tempered stainless steel diaphragm plate for extra strength.
- Supplied with 24 VAC solenoid unless otherwise specified. Also available with 110 VAC solenoid and with latching solenoid.
- Can withstand high water pressure up to 150 psi.



### MODEL DESCRIPTIONS

Model No.	Description
600075	3/4" electric adaptor, plastic
600100	1" electric adaptor, plastic

# Since 1912, The First Name in Quick Coupling Valves

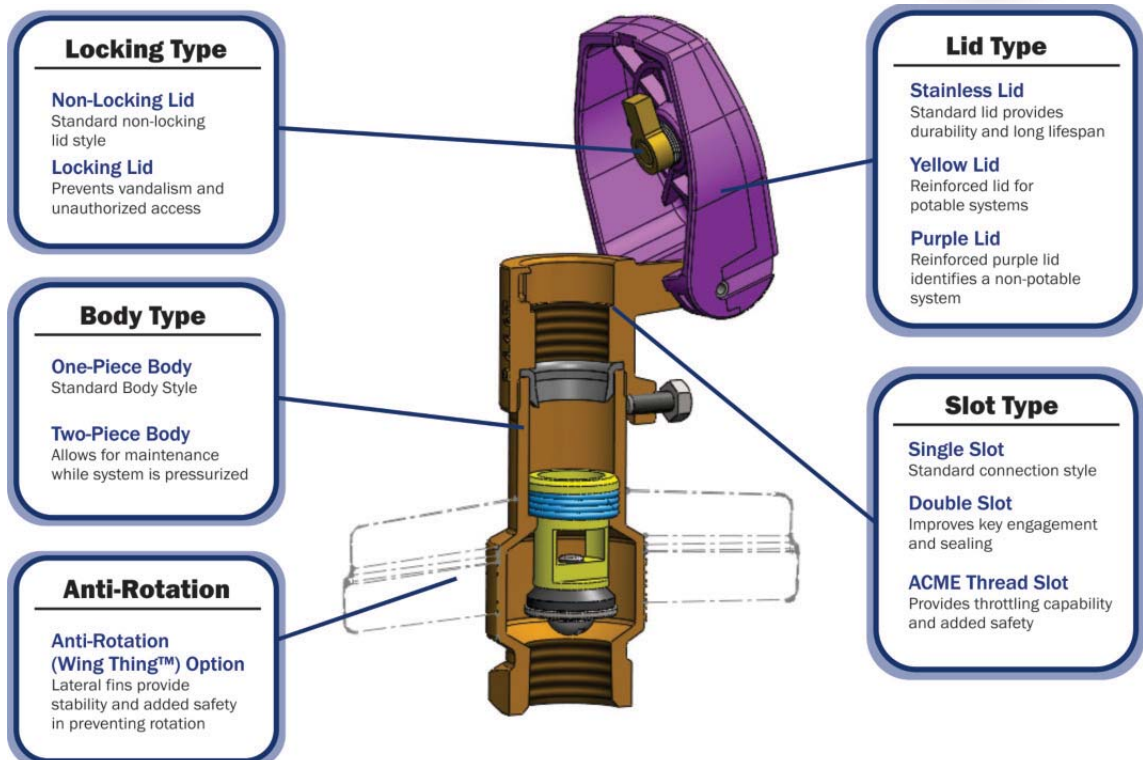
## Quick Coupler Solutions for Every Application

An early pioneer in the manufacture of quick coupling valves, Buckner today continues to provide the most complete options to meet current landscape needs.

- Industry's Widest Range of Quick Coupler Solutions**  
 Offering a full line of quick coupling valves for both portable and recycled water applications
- Durable Design**  
 Manufactured with top-quality red brass and EPDM rubber components to ensure maximum longevity and performance
- Water District Compliant**  
 Non-potable quick couplers meet all requirements of updated water district standards and current recycled water best practices



**QB44RC10**



# QUICK COUPLING VALVES

## Quick Couplers for Potable Water

### QCV Series

#### Standard Single-Slot Model



Size	Models	Keys	Hose Swivel
3/4"	QCV075	QB33K07	HS075
	QCV075R		
	QCV075RL		
1"	QCV100	QB44K10	HS100 / HS101
	QCV100R		
	QCV100RL		
1-1/2"	QCV151	QC151	HS151
	QCV151R		
	QCV151RL		

R=Yellow Lid L-Locking Lid

- ✓ 1-piece Body, Single Slot
- ✓ Locking Lid Option Available

### QB Series

#### Double-Slot Model for Frequent Water Access



Size	Models	Keys	Hose Swivel
3/4"	QB3RC07	QB33K07	HS075
	QB3LRC07		
1"	QB5RC10	QB55K10	HS100 / HS101
	QB5LRC10		
	QB5SL10		
	QB5RCAR10		
	QB5LRCAR10		
1-1/2"	QB7RC15	QB7DK15	HS151
	QB7SL15		
	QB7LRC15		

R=Yellow Lid L-Locking Lid AR=Anti-Rotation

- ✓ 1-piece Body, Double Slot
- ✓ Locking Lid Option Available
- ✓ Anti-Rotation Option Available

### QB Series

#### Premium Model for Performance & Serviceability



Size	Models	Keys	Hose Swivel
3/4"	QB33RC07	QB33K07	HS075
	QB33LRC07		
1"	QB44RC10	QB44K10	HS100 / HS101
	QB44LRC10		
	QB44RCAR10		
	QB44LRCAR10		

R=Yellow Lid L-Locking Lid AR=Anti-Rotation

- ✓ 2-piece Body
- ✓ Locking Lid Option Available
- ✓ Anti-Rotation Option Available

For additional models & options, please see [www.BucknerSuperior.com](http://www.BucknerSuperior.com)

## Quick Couplers for Non-Potable Water



- ✓ ACME Key
- ✓ 150+ PSI Rated
- ✓ Locking Purple Lid
- ✓ English/Spanish "Do Not Drink" Stamp

Conforms to the Most Stringent Water District Best Practices & Labeling Requirements

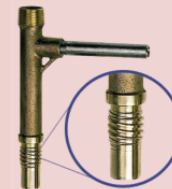
(\*See Below)

### QB44NPAT10

#### The Industry Standard for Recycled Water Sites



Size	Models	Keys	Hose Swivel
1"	QB44NPAT10	QB44KAT10	HS100 / HS101

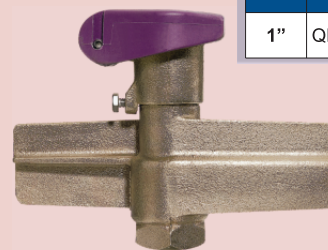


ACME Key

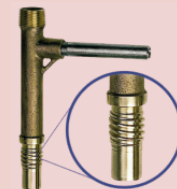
- ✓ 2-piece Body
- ✓ Locking Purple Lid
- ✓ ACME Thread

### QB44NPATAR10

#### The Industry Standard Quick Coupler w/Anti-Rotation



Size	Models	Keys	Hose Swivel
1"	QB44NPATAR10	QB44KAT10	HS100 / HS101



ACME Key

- ✓ 2-piece Body
- ✓ Locking Purple Lid
- ✓ ACME Thread
- ✓ Adds Anti-Rotation Wings

#### \*RECYCLED WATER SPECIFICATION BEST PRACTICES

Quick Coupling Valves used in recycled water systems shall conform to the following:

- 1) A type approved for recycled water use with a normal working pressure of 150 psi
- 2) Recycled water quick coupler must be different from potable water quick coupler valves
- 3) In order to prevent unauthorized use, the valve shall be operated only with a special coupler key with an ACME thread for opening and closing the valve
- 4) The cover shall be permanently attached to the quick coupling valves. It shall be purple rubber or vinyl
- 5) Locking covers are required

\*Recycled Water User Manual, Los Angeles County Recycled Water Advisory Committee

## QB – One-piece Body Design

Pressure Loss in PSI			
GPM	All QB3 Series	All QB5 Series	All QB7 Series
5	0.8		
10	1.8		
15	4.1		
20	7.2	1.0	
30		3.0	
40		6.3	
50		9.2	2.8
60		13.0	3.6
70			4.9
80			6.6
100			11.0

## QB – Two-piece Body Design

Pressure Loss in PSI			
GPM	All QB33 Series	All QB44 Series	All Q66 Series
5	0.8		
5	1.0		
10	2.0		
15	4.3		
20	7.6	1.0	0.7
30		3.9	3.0
40		8.3	4.5
50		13.8	8.2
60			10.3
70			14.2

## QB – One-piece Body Design Metric

Pressure Loss in Bars			
m <sup>3</sup> /hr	All QB3 Series	All QB5 Series	All QB7 Series
1.13	0.05		
2.25	0.12		
3.38	0.28		
4.50	0.49	0.07	
6.75		0.20	
9.00		0.43	
11.25		0.63	0.19
13.50		0.88	0.24
15.75			0.33
18.00			0.45
22.50			0.75

## QB - Two-piece Body Design Metric

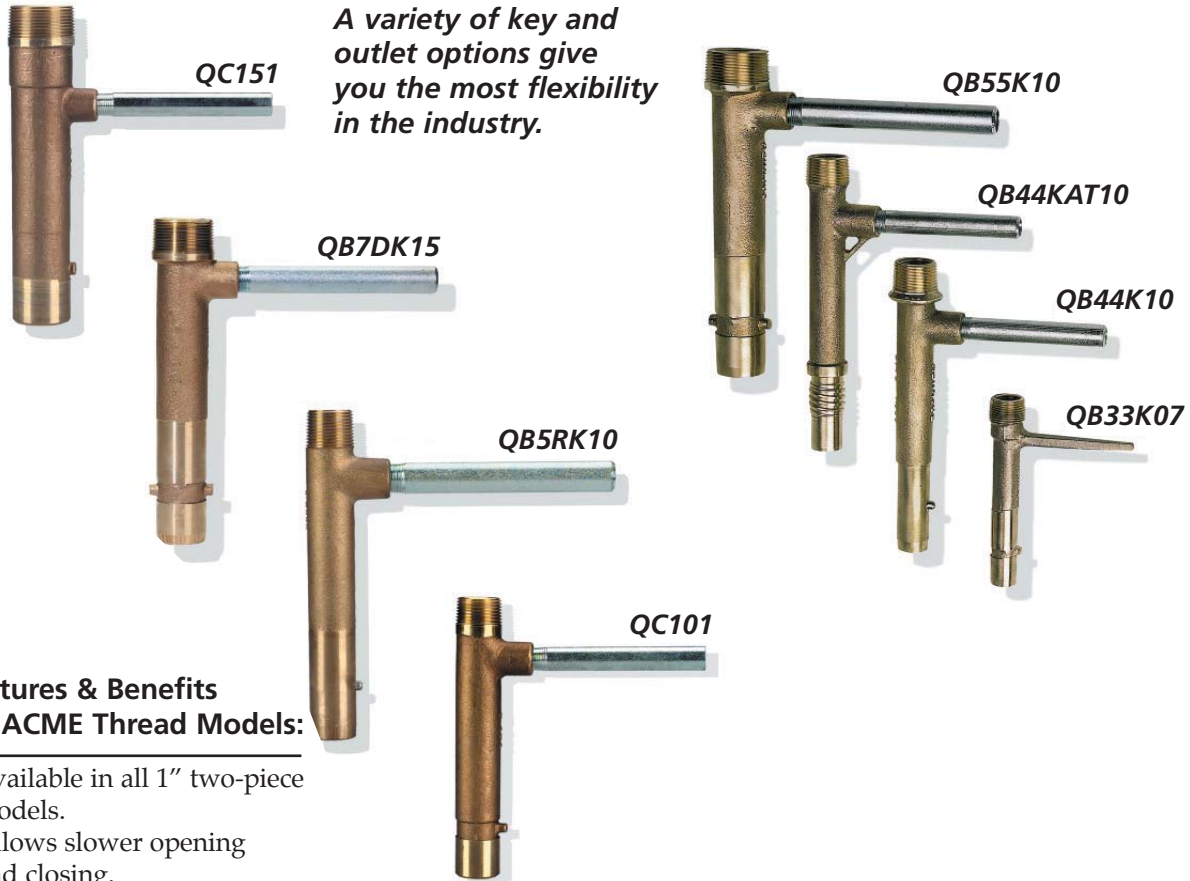
Pressure Loss in Bars			
m <sup>3</sup> /hr.	All QB33 Series	All QB44 Series	All Q66 Series
1.13	0.07		
2.25	0.14		
3.38	0.29		
4.50	0.52	0.07	0.05
6.75		0.27	0.20
9.00		0.56	0.31
11.25		0.94	0.56
13.50			0.70
15.75			0.97

## QB – One-piece Body Design Metric

Pressure Loss in kPa			
l/min	All QB3 Series	All QB5 Series	All QB7 Series
19.0	5.5		
38.0	12.4		
57.0	28.2		
76.0	49.5	6.9	
114.0		20.6	
152.0		43.3	
190.0		63.3	19.3
228.0		89.4	24.8
266.0			33.7
304.0			45.4
380.0			75.6

## QB - Two-piece Body Design Metric

Pressure Loss in kPa			
l/min	All QB33 Series	All QB44 Series	All Q66 Series
19.0	6.9		
38.0	13.8		
57.0	29.6		
76.0	52.3	6.9	4.8
114.0		26.8	20.6
152.0		57.1	30.9
190.0		94.9	56.4
228.0			70.8
266.0			97.6



*A variety of key and outlet options give you the most flexibility in the industry.*

### Features & Benefits for ACME Thread Models:

- Available in all 1" two-piece models.
- Allows slower opening and closing.
- Easier operation under pressure.
- Ideal for reclaimed water.
- Reduces possible user injury.

### Quick Coupler Keys:

- Solid red brass shaft.
- Most models have stainless steel lug.
- Available in new ACME Threads.
- Strut on ACME QC key provides an anchor for a lock top key.
- Heavy duty threaded galvanized handles (3/4" handles are cast brass).



**Acme Thread**

### Hose Swivels



MODEL DESCRIPTIONS	
Model No.	Hose Swivels
HS075	3/4" MHT x 3/4" FPT
HS100	3/4" MHT x 1" FPT
HS101	1" MHT x 1" FPT
HS125	1" MHT x 1 1/4" FPT
HS151	1" MHT x 1 1/2" FPT

Cross reference chart on page 29.

## Quick Couplers, Keys and Hose Swivel Cross Reference of Buckner Products

### Quick Couplers (Brass)

<i>Buckner Model Number</i>	<i>Rain Bird® Model Number</i>	<i>Toro® Model Number</i>
QCV075	NA	473-00
QCV075R	3RC	473-01
QCV075RL	NA	473-03
QCV075N	3NP	473-04
QB33RC07	33DRC	NA
QB33LRC07	33DLRC	NA
QB33NP07	33DNP	NA
QCV100	NA	474-00
QCV100R	NA	474-01
QCV100RL	NA	474-03
QVC100N	NA	474-04
QCV100NA	4NP-ACME	474-44
QB44RC10	44RC	474-21
QB44LRC10	44LRC	NA
QB44NP10	44NP	474-24
QCV101	NA	NA
QCV101R	5RC	475-01
QCV101RL	NA	475-03
QCV101N	5NP	475-04
QBRB5BL10	NA	NA
QBRB5RC10	5RC	475-01
QB5RBNP10	5NP	475-04
QCV151	7	476-00
QCV151R	NA	476-01
QCV151RL	NA	NA
QCV151N	NA	476-04

*Note: Chart includes models that may have been discontinued.*

### Hose Swivels

<i>Buckner Model Number</i>	<i>Rain Bird® Model Number</i>	<i>Toro® Model Number</i>
HS075	SH-0	477-00
HS100	SH-1	477-01
HS101	SH-2	477-02
HS125	NA	NA
HS151	SH-3	NA

### Quick Couplers Keys (Brass)

<i>Buckner Model Number</i>	<i>Rain Bird® Model Number</i>	<i>Toro® Model Number</i>
QB33K07 / QC075	33DK	463-01
QC100	44K	464-01
QB44K10 / QC100	44K	464-01
QB44KAT10	4K-ACME	464-03
QCS100	NA	464-02
QB5RK10 / QC101	55K-1	465-01
QC151	7K	466-01





## Sterling Series Controllers

4, 8, 12, 18, 24, 30 & 36 Station Models

### Features & Benefits

- Six independent programs that can run concurrently.
- Up to 9 daily cycle starts per program; or, loop watering optional in all six programs for unlimited cycles.
- No limit on the number of programs to which a station can be assigned (all six if desired).
- Station timing adjustable from 1 minute to 24 hours in 1 minute increments. Seconds/minutes time base optional in all six programs. An illuminated LED lets you know if a program is in the seconds/minutes mode.
- Automatic, semi-automatic, manual, and timed manual operation.
- Programmable watering calendar. The watering calendar is factory set at 7 days, but can be changed to any length from 1 to 32 days.
- Programmable "system check" cycle that can be initiated at any station. Station "On" duration programmable from 1 min. to 15 min. (or 1 to 15 sec. per station).
- Water budgeting feature to simultaneously change the watering duration of all stations within a program (1% to 255%). An illuminated LED lets you know if water budgeting is set at other than 100%.
- Single program option gives you the flexibility of having two or more programs scheduled, but limiting automatic operation to only that program at which the dial is set.
- Programmable rain off up to 14 days. The controller will resume automatic operation on the day following the last "Off" day.
- Program erase feature allows existing programs to be erased individually or all at once.

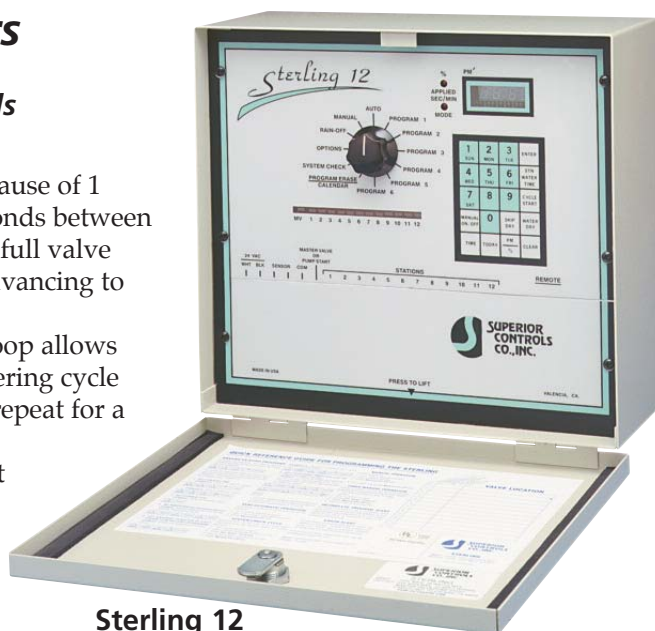
- Programmable pause of 1 second to 59 seconds between stations to allow full valve closure before advancing to the next station.
- Programmable loop allows a program's watering cycle to continuously repeat for a desired period. Cycles can repeat immediately or after a programmed delay of 1 minute to 4 hours, 15 minutes.
- Program 6 can be activated by a sensor switch such as a thermostat. Ideal for frost protection or cooling.
- Simplified program review. Program information can be scrolled on the display.
- Master valve/pump start circuit can be disabled during operation of any program.
- Master valve/pump start station can be turned on manually without another station turning on.

### Pedestal Specifications

- Heavy duty steel, rust resistant.
- Weather proof.
- Removable cover with lock and key.
- Partition to separate valve wires from power supply wires.

### Technical Information & Specifications

- Non-volatile memory holds program information during power outages of any length.
- Ten year lithium battery (included) keeps real-time during power outages of any length.



**Sterling 12**

- Electronic circuit breaker identifies and overrides shorted solenoid valves.
- Remote control connector for direct interface with Sidekick® from TRC Irrigation Remotes, Kirkland, WA.
- Master valve/pump start circuit.
- Lightning and surge protector.
- Wall or pedestal mount. Pedestal sold separately.
- Weather-proof metal cabinet with lock and key.

### Electrical Specifications

Input: 120 VAC @ 50 or 60 Hz.

Output: 24 VAC @ 40 VA, 1.5 AMP MAX.

Maximum of three 4-watt solenoids per station.

Maximum of four 4-watt solenoids to operate simultaneously.

Optional 50 VA transformer enables five solenoids to operate simultaneously, or, for solenoids with current draw at or below 0.25 Amps, up to six solenoids can operate simultaneously.

## Misting Applications

The Sterling is a highly flexible misting controller in addition to being ideally suited for virtually all other watering applications. An extra set of instructions tailored specifically for misting applications is included with all controllers.



**Sterling 30**



**Sterling 30 with pedestal**

## Misting Features & Benefits

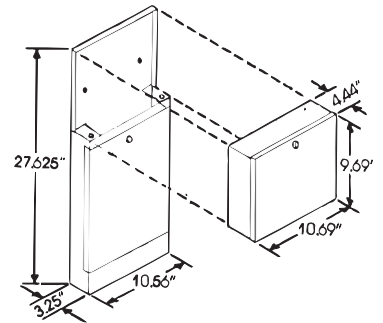
- The time base in all six programs can be changed to seconds/minutes so that the individual station timing is adjustable from 1 second to 24 minutes in 1 second increments.
- Misting cycles can repeat immediately or after a programmed delay of 1 minute to 4 hours, 15 minutes.
- Cycling can be started and stopped manually as well as automatically.
- Stations can be assigned to multiple programs (up to six) with different "On" and "Off" durations in each program. This makes it possible for the "On" duration and "Off" duration of a station to change automatically during the day to match the changing misting requirements of plant material.
- Programmable pause of 1 second to 59 seconds between stations to allow full valve closure before advancing to the next station.

## Sensor Activation of Program #6

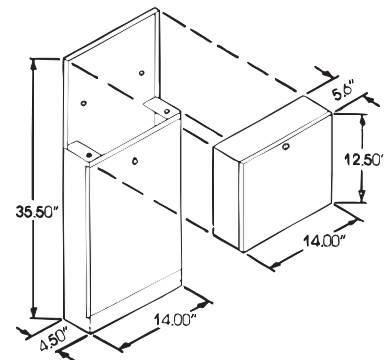
A temperature switch (or other "normally open" sensor switch) can be connected to sensor terminals of controller. When sensor contacts close, a watering cycle is initiated in program #6. The cycle will continuously repeat as long as the sensor switch remains closed.

If the Frost Override Option (one of 16 programmable options) is used, programs 1 thru 5 will be suspended during the sensor activated operation of program #6. When the sensor switch opens, the watering cycle in program #6 will immediately stop and programs 1 thru 5 will be allowed to resume operation.

## Sterling 4, 8, & 12 Pedestal

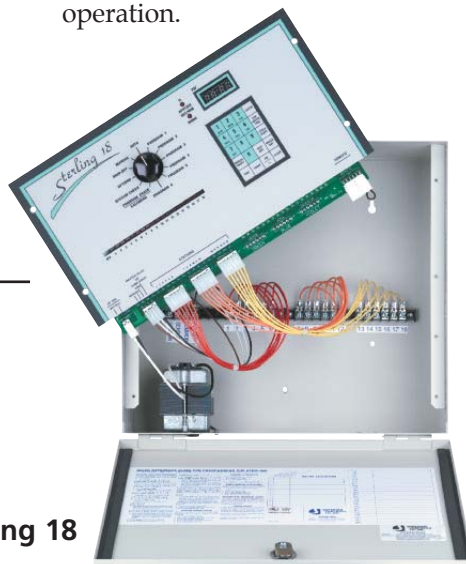


## Sterling 18, 24, 30, & 36 Pedestal



## Terminal Strip Option (TS)

Sterling 18, 24, 30, and 36 models ordered with this option are equipped with terminal strips mounted to the inside rear of the enclosure to connect field wires.



**Sterling 18**

	D I M E N S I O N S			
	Sterling 4, 8, 12		Sterling 18, 24, 30, 36	
	Case	Pedestal	Case	Pedestal
Height	9.69	27.625	12.5	35.5
Depth	4.44	3.25	5.6	4.5
Width	10.69	10.56	14	14

*Designed for agricultural use in center pivots, solid sets, hand lines, crop cooling and frost control, these models of impact sprinklers can also be used in landscape irrigation situations requiring large area coverage.*



**17023R**



**17023W**

**Features and Benefits**

- Solid brass construction.
- Stainless steel drive spring.
- "Sure Seal" sand load bearing assembly.
- Bearing assembly hood for longer wear life.
- Chemical resistant bearing seals.
- 23° angle of trajectory
- 17023W stainless steel spindle.
- Solid brass nozzle.

**Operating Ranges**

	<b>U.S.</b>	<b>Metric</b>
<b>Pressure:</b>	25 - 60 psi	1.72 - 4.14 bars
<b>Flow:</b>	1.28 - 5.48 gpm	4.84 - 20.74 l/min
<b>Spacing:</b>	33 - 44 feet	10.06 - 13.42 m
<b>Trajectory:</b>	23°	

**MODEL DESCRIPTIONS**

Model No.	1/2" Full Circle, Brass Impact Sprinklers
17023R	23° angle, 1/2" Full Circle, Brass Impact Sprinkler
17023W	23° angle, 1/2" Full Circle, Brass Impact Sprinkler

**Specifications**

- 1/2" male inlet, National Pipe Thread (NPT).
- 17023R nozzle thread, 3/8" - 24 UNF.
- 17023W nozzle thread, 1/8" - 27 NPT.

**MODEL 17023W Standard Nozzle Performance**

PSI	<b>Nozzle Sizes</b>									
	3/32"		#39		7/64"		1/8"		9/64"	
	Dia	GPM	Dia	GPM	Dia	GPM	Dia	GPM	Dia	GPM
25	67	1.28	68	1.44	69	1.73	71	2.19	74	2.82
30	69	1.41	70	1.59	71	1.89	74	2.42	77	3.10
35	70	1.51	71	1.68	73	2.04	76	2.60	79	3.36
40	71	1.62	72	1.80	74	2.19	77	2.79	80	3.61
45	72	1.72	73	1.92	75	2.31	78	2.96	81	3.81
50	73	1.84	74	2.02	76	2.44	79	3.14	82	4.03
55	74	1.92	75	2.10	77	2.57	80	3.27	83	4.23
60	75	2.02	76	2.19	78	2.67	81	3.44	84	4.44

\*Standard Nozzle

Nominal stream height 7'

**To Specify:**

<b>17023R</b>	<b>07</b>
Model	Nozzle Code

**MODEL 17023R Standard Nozzle Performance**

PSI	<b>Nozzle Sizes</b>									
	7/64"		3/32"		1/8"		9/64"		5/32"	
	Dia	GPM	Dia	GPM	Dia	GPM	Dia	GPM	Dia	GPM
35	76	2.05	68	1.49	78	2.67	82	3.40	84	4.19
40	78	2.20	70	1.6	80	2.86	82	3.62	84	4.48
45	78	2.33	70	1.72	80	3.04	84	3.84	84	4.72
50	80	2.45	72	1.81	82	3.21	84	4.07	86	4.99
55	80	2.56	72	1.9	82	3.35	86	4.23	86	5.22
60	80	2.69	74	1.98	82	3.51	86	4.42	88	5.48

\*Standard Nozzle

Nominal stream height 7'

<b>NOZZLE CODE</b>		
Code	Inches	mm
06	3/32"	2.40
07	7/64"	2.80
08	1/8"	3.20
09	9/64"	3.60
10	5/32"	4.00

# 1/2" WEDGE DRIVE BRASS IMPACT SPRINKLERS



**170W23R**

*These impact sprinklers are designed for agricultural use in solid sets, hand lines, crop cooling and frost control.*



**170W23W**

## Operating Ranges

	U.S.	Metric
Pressure:	25 - 60 psi	1.72 - 4.14 bars
Flow:	.33 - 3.51 gpm	1.25 - 13.28 l/min
Spacing:	31 - 41 feet	9.45 - 12.50 m
Trajectory:	23°	

## Specifications

- 1/2" male inlet, National Pipe Thread (NPT).
- 170W23R nozzle thread, 3/8" - 24 UNF.
- 170W23W nozzle thread, 1/8" - 27 NPT.

## Features and Benefits

- Solid brass construction.
- Stainless steel drive spring.
- Plastic, self-cleaning wedge drive assembly.
- "Sure Seal<sup>®</sup>" sand load bearing assembly.
- Chemical resistant bearing seals.
- 23° angle of trajectory.
- Solid brass nozzle.
- Bearing assembly hood for longer wear life.
- 170W23W stainless steel spindle.

## To Specify:

NOZZLE CODE		
Code	Inches	mm
04	1/16"	1.60
05	5/64"	2.00
06	3/32"	2.40
07	7/64"	2.80

<b>170W23R</b>	<b>05</b>
Model	Nozzle Code

MODEL DESCRIPTIONS	
Model No.	1/2" Full Circle, Brass Impact Sprinklers
170W23R	23° angle, 1/2" Full Circle
170W23W	23° angle, 1/2" Full Circle

## MODEL 170W23W (Wedge) Performance

PSI	Nozzle Sizes											
	#55		1/16"		5/64"		3/32"		7/64"		1/8"	
	Dia	GPM	Dia	GPM	Dia	GPM	Dia	GPM	Dia	GPM	Dia	GPM
25	62	0.33	66	0.54	62	0.85	64	1.28	74	1.70	72	2.25
30	65	0.38	68	0.61	64	0.92	68	1.40	75	1.83	76	2.46
35	68	0.44	70	0.66	66	1.01	72	1.53	76	2.03	78	2.68
40	66	0.47	69	0.71	65	1.08	72	1.65	76	2.19	78	2.81
45	64	0.51	68	0.77	64	1.15	72	1.75	76	2.32	78	3.02
50	64	0.55	67	0.83	64	1.22	73	1.82	77	2.45	80	3.20
55	64	0.57	66	0.86	64	1.29	74	1.95	78	2.57	82	3.36
60	61	0.61	65	0.89	65	1.36	74	2.03	78	2.70	82	3.51

\*Standard Nozzle

## MODEL 170W23R (Wedge) Performance

PSI	Nozzle Sizes										PSI			
	1/16"		#51		#50		5/64"		#44			3/32"		7/64"
	Dia	GPM	Dia	GPM	Dia	GPM	Dia	GPM	Dia	GPM	Dia	GPM	Dia	GPM
25	58	0.56	58	0.64	60	0.69	62	0.89	64	1.06	66	1.26	70	1.72
30	58	0.63	60	0.7	60	0.77	62	0.98	66	1.16	68	1.38	70	1.91
35	60	0.67	60	0.78	62	0.83	64	1.04	66	1.28	68	1.49	72	2.04
40	60	0.72	62	0.84	62	0.91	64	1.11	68	1.37	70	1.60	74	2.20
45	62	0.76	62	0.88	64	0.96	66	1.18	68	1.45	70	1.72	74	2.33
50	62	0.80	64	0.91	64	1.01	68	1.26	70	1.50	72	1.81	76	2.46
55	64	0.83	64	0.97	66	1.04	68	1.30	70	1.56	72	1.90	76	2.56
60	64	0.87	66	1.01	66	1.11	68	1.36	72	1.61	74	1.98	76	2.67

\*Standard Nozzle

*Designed for agricultural use in under tree solid set systems.*

## Wedge Series

### 1/2" Full Circle Impact Sprinkler - Wedge Drive



**170W15RP**

#### Features and Benefits

for longer wear life.

- Solid brass construction.
- Stainless steel drive spring.
- Plastic, self-cleaning wedge drive assembly.
- "Sure Seal" sand load bearing assembly.
- Bearing assembly hood
- Chemical resistant bearing seals.
- 1/2" male NPT plastic bearing.
- 15° angle of trajectory.
- Solid brass nozzle.

#### Operating Ranges

U.S.	Metric
Pressure: 25 - 50 psi	1.72 - 3.45 bars
Flow: .55 - 2.45 gpm	2.08 - 9.27 l/min
Spacing: 25 - 35 feet	7.62 - 10.67 m
Trajectory: 15°	

To Specify:

<b>170W15RP</b>	<b>06</b>
Model	Nozzle Code

NOZZLE CODE		
Code	Inches	mm
04	1/16"	1.60
05	5/64"	2.00
06	3/32"	2.40
07	7/64"	2.80
#51	.067"	1.70
#50	.07"	1.77
#44	.086"	2.18

#### Specifications

- 1/2" NPT inlet plastic bearing.
- 170W15RP nozzle thread, 3/8" - 24 UNF.

#### MODEL DESCRIPTIONS

Model No.	Description
170W15RP	15° angle, Full Circle

#### MODEL 170W15RP Performance

Nozzle Sizes														
PSI	1/16"		#51		#50		5/64"		#44		3/32"		7/64"	
	Dia	GPM	Dia	GPM	Dia	GPM	Dia	GPM	Dia	GPM	Dia	GPM	Dia	GPM
25	51	0.56	52	0.65	53	0.70	54	0.88	55	1.07	57	1.27	61	1.73
30	53	0.62	54	0.71	55	0.78	56	0.97	57	1.17	59	1.39	63	1.90
35	54	0.66	56	0.77	57	0.84	58	1.05	60	1.27	61	1.50	65	2.05
40	56	0.72	57	0.83	58	0.90	60	1.12	62	1.36	63	1.61	67	2.19
45	57	0.75	59	0.87	60	0.95	62	1.19	63	1.44	65	1.71	69	2.32
50	58	0.80	60	0.92	61	1.00	63	1.25	64	1.51	66	1.80	70	2.45

Nominal Stream Height 3.5"



## 2000S Dual Nozzle

Available with plug  
for single nozzle use

## 2000S Series

3/4" Full Circle Impact Sprinkler

### Features and Benefits

- Solid brass construction.
- Stainless steel drive spring.
- "Sure Seal<sup>®</sup>" sand load bearing assembly.
- Bearing assembly hood for longer wear life.
- Chemical resistant bearing seals.
- Optional stream straightener for nozzle sizes 11, 12 and 13 only
- Single nozzle or dual nozzle (use plug for single nozzle).
- Solid brass nozzle.

### Operating Ranges

U.S.	Metric
Pressure: 35 - 80 psi	2.41 - 5.52 bars
Flow: 2.53 - 15.71 gpm	9.52 - 59.52 l/min
Spacing: 40 - 60 feet	12.19 - 18.90 m
Trajectory: 25°	

To Specify:

<b>2000S</b>	<b>BS</b>	<b>10</b>	<b>06</b>
Model	Option	Nozzle Code	Nozzle Code

### Specifications:

- 3/4" male inlet, National Pipe Thread (NPT).
- Drive side nozzle 1/4"-18 NPT.
- Range side nozzle 3/8"-24 UNF.

*Designed for agricultural use in center pivots, solid sets, hand lines, wheel lines, side rolls and large area landscape irrigation. The model 2000SX impact sprinkler can also be used in the mining and logging industries.*

*These impacts are also designed for frost protection.*

NOZZLE CODE		
Code	Inches	mm
06	3/32"	2.40
08	1/8"	3.20
09	9/64"	3.60
10	5/32"	4.00
11	11/64"	4.30
12	3/16"	4.80
13	13/64"	5.20
14	7/32"	5.60

MODEL DESCRIPTIONS	
Model No.	3/4" Full Circle Brass Impact Sprinklers
2000SX	Includes stream straightening vane
OPTIONS	Add (X) for stream straightener. (Only available for nozzle sizes 11,12 and 13)

**2000S Series**

Dual Nozzle	Pressure		Radius		Flow	
	PSI	Bars	Feet	Meters	GPM	Ltrs/Min
09/06	35	2.41	41	12.50	4.89	18.53
	40	2.76	42	12.80	5.24	19.85
	45	3.10	42	12.80	5.71	21.63
	50	3.45	43	13.11	5.85	22.16
	55	3.79	43	13.11	6.19	23.45
	60	4.14	44	13.41	6.39	24.21
	65	4.48	44	13.41	6.73	25.50
	70	4.83	45	13.72	6.94	26.29
10/06	75	5.17	45	13.72	7.14	27.05
	80	5.52	46	14.02	7.28	27.58
	35	2.41	44	13.41	5.78	21.90
	40	2.76	44	13.41	6.26	23.72
	45	3.10	45	13.72	6.66	25.23
	50	3.45	45	13.72	6.87	26.03
	55	3.79	46	14.02	7.21	27.32
	60	4.14	46	14.02	7.55	28.60
11/06*	65	4.48	47	14.33	7.88	29.85
	70	4.83	47	14.33	8.16	30.91
	75	5.17	48	14.63	8.36	31.67
	80	5.52	48	14.63	8.64	32.73
	35	2.41	45	13.72	6.73	25.50
	40	2.76	46	14.02	7.21	27.32
	45	3.10	47	14.33	7.62	28.87
	50	3.45	48	14.63	8.03	30.42
12/06	55	3.79	48	14.63	8.43	31.94
	60	4.14	49	14.94	8.71	33.00
	65	4.48	49	14.94	9.11	34.51
	70	4.83	50	15.24	9.45	35.80
	75	5.17	50	15.24	9.79	37.09
	80	5.52	51	15.55	10.06	38.11
	35	2.41	48	14.63	7.41	28.07
	40	2.76	49	14.94	7.82	29.63
12/08*	45	3.10	49	14.94	8.29	31.41
	50	3.45	50	15.24	8.77	33.23
	55	3.79	51	15.55	9.18	34.78
	60	4.14	51	15.55	9.58	36.29
	65	4.48	52	15.85	9.86	37.35
	70	4.83	52	15.85	10.26	38.87
	75	5.17	53	16.15	10.67	40.42
	80	5.52	53	16.15	10.94	41.45
13/08	35	2.41	48	14.63	8.63	32.69
	40	2.76	49	14.94	9.31	35.27
	45	3.10	49	14.64	9.79	37.09
	50	3.45	50	15.24	10.41	39.44
	55	3.79	51	15.55	10.88	41.22
	60	4.14	51	15.55	11.28	42.73
	65	4.48	52	15.85	11.76	44.55
	70	4.83	52	15.85	12.17	46.11
14/08	75	5.17	53	16.15	12.58	47.66
	80	5.52	53	16.15	13.05	49.44
	35	2.41	49	14.94	9.66	36.60
	40	2.76	50	15.24	10.27	38.91
	45	3.10	51	15.55	10.88	41.22
	50	3.45	52	15.85	11.42	43.26
	55	3.79	52	15.85	12.04	45.61
	60	4.14	53	16.15	12.58	47.66
14/08	65	4.48	53	16.15	13.06	49.48
	70	4.83	54	16.46	13.43	50.88
	75	5.17	54	16.46	13.82	52.36
	80	5.52	55	16.76	14.21	53.83
	35	2.41	50	15.24	10.61	40.20
	40	2.76	52	15.85	11.28	42.73
	45	3.10	53	16.15	11.91	45.12
	50	3.45	53	16.15	12.58	47.66
14/08	55	3.79	54	16.46	13.12	49.71
	60	4.14	54	16.46	13.73	52.02
	65	4.48	55	16.76	14.21	53.83
	70	4.83	55	16.76	14.75	55.88
	75	5.17	56	17.07	15.23	57.70
	80	5.52	56	17.07	15.71	59.52

\*Standard Nozzle

**2000S Series**

Single Nozzle	Pressure		Diameter		Flow	
	PSI	Bars	Feet	Meters	GPM	Ltrs/Min
08	35	2.41	80	24.38	2.69	10.18
	40	2.76	82	24.99	2.88	10.90
	45	3.10	82	24.99	3.05	11.55
	50	3.45	83	25.30	3.21	12.15
	55	3.79	84	25.60	3.37	12.76
	60	4.14	85	25.91	3.53	13.36
	65	4.48	85	25.91	3.67	13.89
	70	4.83	85	25.91	3.81	14.42
09	75	5.17	85	25.91	3.94	14.91
	80	5.52	85	25.91	4.07	15.41
	35	2.41	82	24.99	3.47	13.14
	40	2.76	83	25.30	3.74	14.17
	45	3.10	84	25.60	4.01	15.20
	50	3.45	85	25.91	4.13	15.63
	55	3.79	86	26.21	4.18	15.84
	60	4.14	87	26.52	4.28	16.23
10	65	4.48	88	26.82	4.49	17.00
	70	4.83	89	27.13	4.69	17.78
	75	5.17	90	27.43	4.83	18.29
	80	5.52	91	27.74	4.96	18.81
	35	2.41	87	26.52	4.35	16.49
	40	2.76	88	26.82	4.62	17.52
	45	3.10	89	27.13	4.90	18.55
	50	3.45	90	27.43	5.17	19.58
11	55	3.79	91	27.74	5.44	20.61
	60	4.14	92	28.04	5.64	21.38
	65	4.48	93	28.35	5.92	22.41
	70	4.83	94	28.65	6.05	22.93
	75	5.17	95	28.96	6.26	23.70
	80	5.52	96	29.26	6.53	24.73
	35	2.41	90	27.43	5.03	19.06
	40	2.76	92	28.04	5.57	20.35
12*	45	3.10	94	28.65	5.64	21.38
	50	3.45	95	28.96	6.05	22.93
	55	3.79	96	29.26	6.39	24.22
	60	4.14	97	29.57	6.53	24.73
	65	4.48	98	29.87	6.87	26.02
	70	4.83	99	30.18	7.21	27.31
	75	5.17	100	30.48	7.41	28.08
	80	5.52	101	30.79	7.62	28.85
13	35	2.41	95	28.96	5.84	22.12
	40	2.76	97	29.57	6.32	23.94
	45	3.10	98	29.87	6.66	25.23
	50	3.45	100	30.48	7.01	26.56
	55	3.79	101	30.79	7.34	27.81
	60	4.14	102	31.09	7.68	29.10
	65	4.48	103	31.40	7.95	30.12
	70	4.83	104	31.70	8.29	31.41
14	75	5.17	105	32.01	8.56	32.43
	80	5.52	106	32.31	8.84	33.49
	35	2.41	97	29.57	7.21	27.32
	40	2.76	100	30.48	7.68	29.10
	45	3.10	102	31.09	8.23	31.18
	50	3.45	103	31.40	8.70	32.96
	55	3.79	104	31.70	9.04	34.25
	60	4.14	105	32.01	9.38	35.54
14	65	4.48	106	32.31	9.79	37.09
	70	4.83	107	32.61	10.13	38.38
	75	5.17	108	32.92	10.47	39.67
	80	5.52	109	33.22	10.74	40.69
	35	2.41	100	30.48	7.75	29.36
	40	2.76	103	31.40	8.29	31.41
	45	3.10	105	32.01	8.77	33.23
	50	3.45	106	32.31	9.31	35.27
14	55	3.79	107	32.61	9.65	36.56
	60	4.14	108	32.92	10.21	38.68
	65	4.48	109	33.22	10.61	40.20
	70	4.83	110	33.53	10.94	41.45
	75	5.17	111	33.83	11.28	42.73
	80	5.52	112	34.14	11.69	44.29

\*Standard Nozzle





**300SAX**



**350SAX**

## 300SAX & 350SAX Series

### Features and Benefits

- Solid brass construction.
- Stainless steel drive spring.
- "Sure Seal"™ sand load bearing assembly.
- Bearing assembly hood for longer wear life (model 300SAX only).
- Chemical resistant bearing seals.
- Adjustable diffuser pin.
- Opposing nozzles or nozzles on same side.
- Stream straightener standard.
- Optional British Standard Pipe Threaded version available (BS).
- Solid brass nozzle.

### Operating Ranges

U.S.	Metric
Pressure: 40 - 80 psi	2.76 - 5.52 bars
Flow: 14.61 - 46.59 gpm	55.3 - 176.96 l/min
Spacing: 47 - 80 feet	14.33 - 24.38 m
Trajectory: 23°	

### Specifications:

- 1" male inlet, National Pipe Thread (NPT).
- 300SAX drive nozzle 1/4"-18 NPT.
- 300SAX range nozzle 5/8"-18 UNF.
- 350SAX drive nozzle 5/8"-18 UNF.
- 350SAX filler nozzle 3/8"-24 UNF.

### To Specify:

<b>300SAX</b>	<b>12</b>	<b>06</b>	<b>BS</b>
Model	Nozzle Code	Nozzle Code	Options

NOZZLE CODE		
Code	Inches	mm
08	1/8"	3.20
12	3/16"	4.80
14	7/32"	5.60
16	1/4"	6.40
18	9/32"	7.10
20	5/16"	7.90
22	11/32"	8.30
24	3/8"	8.50
PG	Plug	Available on 350 Series

**Designed for agricultural use in crop irrigation on solid sets, side rolls and hose reel systems. The model 300SAX and 350SAX impact sprinkler can also be used in the mining, logging and waste water treatment industries.**

MODEL DESCRIPTIONS	
300SAX	Opposing nozzles. Includes stream straightening vane.
350SAX	Nozzles on same side and plug available on inner nozzle. Includes stream straightening vane.

**300SAX Series**

300SAX						
Double Nozzle	Pressure		Radius		Flow	
	PSI	Bars	Feet	Meters	GPM	Ltrs/Min
12/14 (3/16" x 7/32")	40	2.76	59	18.0	14.61	55.30
	45	3.10	60	18.3	15.43	58.40
	50	3.45	61	18.6	16.32	61.77
	55	3.79	62	18.9	16.99	64.31
	60	4.14	63	19.2	17.89	67.74
	65	4.48	64	19.5	18.56	70.25
	70	4.83	65	19.8	19.23	72.79
	75	5.17	66	20.1	19.84	75.09
	80	5.52	67	20.4	20.53	77.71
	85	5.86	68	20.7	21.24	80.39
12/16 (3/16" x 1/4")	40	2.76	61	18.6	17.02	64.42
	45	3.10	62	18.9	17.88	67.68
	50	3.45	63	19.2	18.91	71.57
	55	3.79	64	19.5	19.85	75.13
	60	4.14	64	19.5	19.85	75.13
	65	4.48	65	19.8	21.48	81.30
	70	5.17	68	20.7	23.12	87.51
	75	5.17	68	20.7	23.12	87.51
	80	5.62	69	21.0	24.07	91.10
	85	5.86	70	21.3	24.91	94.28
14/16* (7/32" x 1/4")	40	2.76	62	18.9	18.56	70.25
	45	3.10	63	19.2	19.65	74.38
	50	3.45	63	19.2	20.74	78.50
	55	3.79	64	19.5	21.76	82.36
	60	4.14	64	19.5	22.91	86.71
	65	4.48	65	19.8	23.66	89.55
	70	4.83	66	20.1	24.61	93.15
	75	5.17	67	20.4	25.43	96.25
	80	5.52	68	20.7	26.24	99.32
	85	5.86	70	21.3	28.73	108.74
14/18 (7/32" x 9/32")	40	2.76	63	19.2	20.94	79.26
	45	3.10	64	19.5	22.23	84.14
	50	3.45	65	19.8	23.39	88.53
	55	3.79	66	20.1	24.54	92.88
	60	4.14	68	20.7	25.56	96.74
	65	4.48	69	21.0	26.58	100.61
	70	4.83	70	21.3	27.64	104.62
	75	5.17	71	21.6	28.49	107.83
	80	5.52	72	21.9	29.44	111.43
	85	5.86	73	22.3	32.68	123.69
14/20 (7/32" x 5/16")	40	2.76	64	19.5	23.46	88.80
	45	3.10	66	20.1	25.03	94.74
	50	3.45	67	20.4	26.25	99.36
	55	3.79	68	20.7	27.61	104.50
	60	4.14	69	21.0	28.70	108.63
	65	4.48	71	21.6	29.92	113.25
	70	4.83	72	21.6	30.87	116.84
	75	5.17	73	22.3	32.03	121.23
	80	5.52	74	22.6	32.91	124.56
	85	5.86	76	23.2	37.04	140.20
16/22 (1/4" x 11/32")	40	2.76	65	19.8	30.05	113.74
	45	3.10	67	20.4	31.81	120.40
	50	3.45	68	20.7	33.52	126.87
	55	3.79	70	21.3	35.22	133.31
	60	4.14	73	22.3	36.78	139.21
	65	4.48	74	22.6	37.88	143.38
	70	4.83	75	22.9	39.56	149.73
	75	5.17	76	23.2	40.93	155.92
	80	5.52	78	23.8	42.30	160.11
	85	5.86	77	23.5	46.71	176.80
16/24 (1/4" x 3/8")	40	2.76	66	20.1	34.06	128.92
	45	3.10	67	20.4	36.16	136.87
	50	3.45	70	21.3	38.21	144.62
	55	3.79	72	21.9	40.06	151.63
	60	4.14	75	22.9	41.67	157.72
	65	4.48	77	23.5	43.38	164.19
	70	4.83	78	23.8	44.87	169.83
	75	5.17	79	24.1	46.64	176.53
	80	5.52	80	24.4	48.08	181.98
	85	5.86	82	25.0	52.77	199.73

\*Standard Nozzle

**350SAX Series**

350SAX									
Single Nozzle	Pressure		Radius		Flow		Double Nozzle	Flow	
	PSI	Bars	Feet	Meters	GPM	Ltrs/Min		GPM	Ltrs/Min
12/PG* (3/16")	40	2.76	49	14.9	6.32	23.92	12/08 (3/16" x 1/8")	9.31	35.24
	45	3.10	50	15.2	6.66	25.21		9.79	37.05
	50	3.45	51	15.5	7.01	26.53		10.41	39.40
	55	3.79	52	15.9	7.34	27.78		10.88	41.18
	60	4.14	52	15.9	7.68	29.07		11.28	42.69
	65	4.48	53	16.2	7.95	30.09		11.76	44.51
	70	4.83	53	16.2	8.29	31.38		12.17	46.06
	75	5.17	54	16.5	8.56	32.40		12.58	47.62
	80	5.52	55	16.8	8.84	33.46		13.05	49.39
	85	5.56	57	17.4	9.40	35.58		13.71	51.89
14/PG (3/16")	40	2.76	51	15.5	8.29	31.38	14/08 (3/16" x 1/8")	11.28	42.69
	45	3.10	53	16.2	8.77	33.19		11.91	45.08
	50	3.45	55	16.8	9.31	35.24		12.58	47.62
	55	3.79	57	17.4	9.65	36.64		13.12	49.67
	60	4.14	58	17.7	10.21	38.68		13.73	51.96
	65	4.48	60	18.3	10.61	40.16		14.21	53.78
	70	4.83	61	18.6	10.94	41.41		14.75	55.83
	75	5.17	62	18.9	11.28	42.69		15.23	57.65
	80	5.52	63	19.2	11.69	44.25		15.71	59.46
	85	5.86	65	19.8	12.62	47.77		16.84	63.74
16/PG (1/4")	40	2.76	54	16.5	10.94	41.41	16/08 (1/4" x 1/8")	14.93	53.25
	45	3.10	55	16.8	11.62	43.98		14.89	56.36
	50	3.45	58	17.7	12.24	46.33		15.84	59.95
	55	3.79	59	18.0	12.85	48.64		16.52	64.57
	60	4.14	60	18.3	13.32	50.42		17.06	64.63
	65	4.48	62	18.9	13.87	52.50		17.88	67.68
	70	4.83	63	19.2	14.34	54.28		18.56	70.25
	75	5.17	64	19.5	14.82	56.09		19.04	72.07
	80	5.52	65	19.8	15.31	57.95		19.72	74.64
	85	5.86	66	20.1	16.50	62.45		20.91	79.14
18/PG* (9/32")	40	2.76	58	17.7	13.94	52.76	18/08* (9/32" x 1/8")	16.52	62.53
	45	3.10	60	18.3	14.75	55.83		17.54	66.39
	50	3.45	62	18.9	15.43	58.40		18.49	69.98
	55	3.79	63	19.2	16.32	61.77		19.31	73.09
	60	4.14	65	19.8	17.01	64.38		20.26	76.68
	65	4.48	67	20.4	17.61	66.65		21.01	79.52
	70	4.83	69	21.0	18.29	69.23		21.82	82.59
	75	5.17	70	21.3	18.91	71.57		22.57	85.43
	80	5.52	71	21.6	19.52	73.88		23.25	88.00
	85	5.86	72	21.9	20.95	79.30		25.03	94.74
20/PG (5/16")	40	2.76	60	18.3	16.72	63.39	20/08 (5/16" x 1/8")	19.38	73.35
	45	3.10	62	18.9	17.61	66.65		20.40	77.21
	50	3.45	63	19.2	18.63	70.51		21.35	80.81
	55	3.79	65	19.8	19.44	73.56		22.51	85.20
	60	4.14	67	20.4	20.33	76.95		23.52	89.02
	65	4.48	69	21.0	21.14	80.01		24.41	92.39
	70	4.83	67	21.6	21.96	83.12		25.36	95.99
	75	5.17	73	22.3	22.71	85.96		26.18	99.09
	80	5.52	74	22.6	23.46	88.80		26.99	102.16
	85	5.86	75	22.9	25.55	96.71		29.52	111.73
22/PG (11/32")	40	2.76	61	18.6	19.11	72.33	22/08 (11/32" x 1/8")	21.49	81.34
	45	3.10	63	19.2	20.19	76.42		23.05	87.24
	50	3.45	65	19.8	21.28	80.54		24.28	91.90
	55	3.79	67	20.4	22.37	84.67		25.56	96.74
	60	4.14	69	21.0	23.46	88.80		26.52	100.38
	65	4.48	71	21.6	24.01	90.88		27.54	104.24
	70	4.83	73	22.3	25.22	95.46		28.70	108.63
	75	5.17	74	22.6	26.11	98.83		29.37	111.17
	80	5.52	76	23.2	26.99	102.16		30.32	114.76
	85	5.86	77	23.5	30.21	114.34		34.09	129.03
24/PG (3/8")	40	2.76	63	19.2	23.12	87.51	24/08 (3/8" x 1/8")	25.22	95.46
	45	3.10	65	19.8	24.54	92.88		26.72	101.14
	50	3.45	67	20.4	25.97	98.30		28.83	109.12
	55	3.79	70	21.3	27.21	102.99		29.65	112.23
	60	4.14	73	22.3	28.35	107.30		30.80	116.58
	65	4.48	75	22.9	29.51	111.70		31.96	120.97
	70	4.83	76	23.2	30.53	115.56		33.05	124.66
	75	5.17	76	23.2	31.82	120.44		34.07	128.95
	80	5.52	78	23.8	32.77	124.03		35.36	133.84
	85	5.86	79	24.1	36.28	137.22		39.78	150.57

\*Standard Nozzle



Drive Nozzle

Range Nozzle

## 400S

### 400S Series

#### Features and Benefits

- Solid brass construction.
- Stainless steel drive spring.
- "Sure Seal" sand load bearing assembly.
- Chemical resistant bearing seals.
- Adjustable diffuser pin.
- Opposing nozzles.
- Range tube for improved throw.
- Optional British Standard Pipe Threaded version available (BS).
- Solid brass nozzles.

#### To Specify:

<b>400S</b>	<b>14</b>	<b>24</b>	<b>BS</b>
Model	Nozzle Code	Nozzle Code	Options

#### Operating Ranges

U.S.	Metric
Pressure: 65 - 100 psi	4.48 - 6.90 bar
Flow: 34.62 - 132.18 gpm	131.16 - 500.76 l/min
Spacing: 85 - 117 feet	25.91 - 35.66 m
Trajectory: 23°	

*The model 400S is designed for hose reel systems, fertilizer disbursement, waste water treatment, water reclamation, mining, logging and dust control.*



#### Specifications:

- 1 1/4" male inlet, National Pipe Thread (NPT).
- Optional British Standard Pipe Thread version available (BS).
- Drive nozzle 3/4"-16 UNF.
- Range nozzle 3/4"-16 UNF.

MODEL DESCRIPTIONS	
Model No.	Description
400S	1 1/4" full circle sprinkler, opposing nozzles
OPTIONS:	For BSPT inlet, add (BS) to model number

## 400S Series

400S						
Double Nozzle	Pressure		Radius		Flow	
	PSI	Bars	Feet	Meters	GPM	Ltrs/Min
14/22	65	4.48	86	26.21	34.62	131.16
	70	4.83	87	26.52	36.16	136.99
	75	5.17	89	27.13	37.39	141.65
	80	5.52	90	27.43	38.68	146.54
	85	5.86	92	28.04	39.85	150.97
	90	6.21	93	28.35	41.00	155.33
	95	6.55	94	28.65	42.08	159.42
	100	6.90	95	28.96	42.97	162.79
14/24*	65	4.48	89	27.13	40.12	151.99
	70	4.83	90	27.43	41.47	157.11
	75	5.17	92	28.04	43.10	163.28
	80	5.52	93	28.35	44.46	168.44
	85	5.86	95	28.96	45.70	173.13
	90	6.21	96	29.26	46.99	178.02
	95	6.55	97	29.57	48.20	182.61
	100	6.90	98	29.87	49.56	187.76
14/26*	65	4.48	91	27.74	46.50	176.17
	70	4.83	93	28.35	48.68	184.42
	75	5.17	94	28.65	50.13	189.92
	80	5.52	96	29.26	51.65	195.68
	85	5.86	97	29.57	53.55	202.87
	90	6.21	99	30.18	54.86	207.84
	95	6.55	100	30.48	56.37	213.56
	100	6.90	101	30.79	58.00	219.73
16/28	65	4.48	94	28.65	56.05	212.35
	70	4.83	95	28.96	58.18	220.41
	75	5.17	97	29.57	59.96	227.16
	80	5.52	98	29.87	61.93	234.62
	85	5.86	100	30.48	63.68	241.25
	90	6.21	101	30.79	65.57	248.41
	95	6.55	102	31.09	67.65	256.29
	100	6.90	103	31.40	69.30	262.54
16/30	65	4.48	96	29.26	62.52	236.86
	70	4.83	98	29.87	65.03	246.37
	75	5.17	99	30.18	67.17	254.47
	80	5.52	101	30.79	69.52	263.38
	85	5.86	102	31.09	71.45	270.69
	90	6.21	104	31.70	73.34	277.85
	95	6.55	105	32.01	75.42	285.73
	100	6.90	106	32.31	77.25	292.66
16/32	65	4.48	99	30.18	68.81	260.69
	70	4.83	100	30.48	71.69	271.60
	75	5.17	102	31.09	74.20	281.11
	80	5.52	103	31.40	75.43	285.77
	85	5.86	105	32.01	79.04	299.44
	90	6.21	106	32.31	81.11	307.29
	95	6.55	107	32.61	83.23	315.32
	100	6.90	108	32.92	85.21	322.82
16/34	65	4.48	101	30.79	80.28	304.14
	70	4.83	103	31.40	82.97	314.33
	75	5.17	104	31.70	84.56	320.36
	80	5.52	106	32.31	87.46	331.34
	85	5.86	107	32.61	89.95	340.78
	90	6.21	109	33.22	92.79	351.54
	95	6.55	110	33.53	95.63	362.29
	100	6.90	111	33.83	98.60	373.55
16/36	65	4.48	104	31.70	80.28	304.14
	70	4.83	105	32.01	82.97	314.33
	75	5.17	107	32.61	84.56	320.36
	80	5.52	108	32.92	87.46	331.34
	85	5.86	110	33.53	89.95	340.78
	90	6.21	111	33.83	92.79	351.54
	95	6.55	112	34.14	95.63	362.29
	100	6.90	113	34.44	98.21	373.55
16/40	65	4.48	108	32.92	97.42	369.08
	70	4.83	110	33.53	102.39	387.90
	75	5.17	111	33.83	107.37	406.77
	80	5.52	113	34.44	112.36	425.68
	85	5.86	114	34.75	117.32	444.47
	90	6.21	116	35.36	122.23	463.07
	95	6.55	117	35.66	127.14	481.67
	100	6.90	118	35.97	132.18	500.76

\*Standard Nozzle

NOZZLE CODE		
Code	Inches	mm
14	7/32"	5.6
16	1/4"	6.4
22	11/32"	8.7
24	3/8"	9.5
26	13/32"	10.3
28	7/16"	11.1
30	15/32"	11.9
32	1/2"	12.7
34	17/32"	13.5
36	9/16"	14.3
40	5/8"	15.90



## AI120

1 1/4" Full Circle  
Over Under Nozzles

### To Specify:

<b>AI120</b>	<b>18</b>	<b>PG</b>
Model	Nozzle Code	Nozzle Code

*If you need an impact that will reach farther, Buckner's 1 1/4" impacts are exactly what you need. With a radius up to 113 feet, your large commercial, agricultural, or municipal requirements are easily met. As always, a wide variety of nozzles give extra control over the impact's use, whether they're being permanently installed or added to a quick coupler for special applications.*

### Features and Benefits

- Inner break-up/spreader nozzle provides uniform water distribution.
- Stream straighteners ensure maximum radius, superior high wind performance.
- Solid brass nozzle.
- Brass and stainless steel construction provide strength, durability and corrosion resistance.
- 23° Trajectory

### Operating Ranges

*Throw: 75' -113' radius  
150' - 226' diameter*

*Flow: 24.9 - 121 gpm*

*Pressure: 55 - 95 psi*

*Trajectory: 23°*

### Specifications

- 1 1/4" male inlet, National Pipe Thread (NPT).
- Nozzle thread top drive 1"-20 UNF.
- Lower nozzle 1/8"-27 NPT.

NOZZLE CODE		
Code	Inches	mm
PG	Plug	
14	7/32"	5.60
15	15/64"	6.00
16	1/4"	6.40
17	17/64"	6.70
18	9/32"	7.10
22	11/32"	8.70
24	3/8"	9.50
26	13/32"	10.30
28	7/16"	11.10
32	1/2"	12.70
34	17/32"	13.50
36	9/16"	14.30
40	5/8"	15.90

MODEL DESCRIPTION	
Model No.	1 1/4" Male NPT, Brass, Full Circle
AI120	Full circle, over under nozzle

AI120				AI120				AI120				AI120			
23° Trajectory				23° Trajectory				23° Trajectory				23° Trajectory			
Nozzle Code	Pressure PSI	Radius ft.	Flow GPM	Nozzle Code	Pressure bars	Radius meters	Flow m <sup>3</sup> /hr.	Nozzle Code	Pressure PSI	Radius ft.	Flow GPM	Nozzle Code	Pressure bars	Radius meters	Flow m <sup>3</sup> /hr.
22/PG	55	73	24.9	22/PG	3.9	22.3	5.7	22/14	55	73	34.9	22/14	3.9	22.3	7.9
	60	75	25.8		4.2	22.9	5.9		60	75	36.5		4.2	22.9	8.3
	65	77	26.9		4.6	23.5	6.1		65	77	38.0		4.6	23.5	8.6
	70	80	27.0		4.9	24.4	6.1		70	80	38.8		4.9	24.4	8.8
	75	81	28.9		5.3	24.7	6.6		75	81	41.0		5.3	24.7	9.3
	80	81	30.4		5.6	24.7	6.9		80	81	42.6		5.6	24.7	9.7
	85	81	31.1		6.0	24.7	7.1		85	81	43.8		6.0	24.7	9.9
	90	83	32.7		6.3	25.3	7.4		90	83	44.0		6.3	25.3	10.0
95	85	32.8	6.7	25.9	7.5	95	85	45.6	6.7	25.9	10.4				
24/PG*	55	75	29.6	24/PG*	3.9	22.9	6.7	24/14*	55	77	35.7	24/14*	3.9	23.5	8.1
	60	79	30.8		4.2	24.1	7.0		60	79	37.2		4.2	24.1	8.5
	65	81	32.0		4.6	24.7	7.3		65	81	38.7		4.6	24.7	8.8
	70	83	33.3		4.9	25.3	7.6		70	83	40.2		4.9	25.3	9.1
	75	85	34.7		5.3	25.9	7.9		75	85	41.7		5.3	25.9	9.5
	80	86	35.7		5.6	26.2	8.1		80	85	43.2		5.6	25.9	9.8
	85	87	36.0		6.0	26.5	8.2		85	86	44.7		6.0	26.2	10.2
	90	89	38.3		6.3	27.1	8.7		90	87	46.2		6.3	26.5	10.5
95	91	39.1	6.7	27.7	8.9	95	87	46.9	6.7	26.5	10.7				
26/PG	55	75	32.9	26/PG	3.9	22.9	7.5	26/14	55	75	43.4	26/14	3.9	22.9	9.9
	60	76	34.4		4.2	23.2	7.8		60	76	46.6		4.2	23.2	10.6
	65	77	35.8		4.6	23.5	8.1		65	77	48.6		4.6	23.5	11.0
	70	77	37.2		4.9	23.5	8.5		70	77	50.4		4.9	23.5	11.4
	75	77	38.5		5.3	23.5	8.7		75	77	52.4		5.3	23.5	11.9
	80	78	39.9		5.6	23.8	9.1		80	78	54.3		5.6	23.8	12.3
	85	79	41.2		6.0	24.1	9.4		85	79	56.0		6.0	24.1	12.7
	90	79	42.3		6.3	24.1	9.6		90	79	57.9		6.3	24.1	13.2
95	79	43.3	6.7	24.1	9.8	95	79	59.6	6.7	24.1	13.5				
28/PG	55	83	39.7	28/PG	3.9	25.3	9.0	28/14	55	83	49.1	28/14	3.9	25.3	11.2
	60	86	41.6		4.2	26.2	9.4		60	86	51.5		4.2	26.2	11.7
	65	87	43.3		4.6	26.5	9.8		65	87	53.8		4.6	26.5	12.2
	70	89	45.1		4.9	27.1	10.2		70	89	55.9		4.9	27.1	12.7
	75	90	46.8		5.3	27.4	10.6		75	90	57.9		5.3	27.4	13.2
	80	91	48.0		5.6	27.7	10.9		80	91	60.0		5.6	27.7	13.6
	85	93	50.0		6.0	28.3	11.4		85	93	62.0		6.0	28.3	14.1
	90	95	51.5		6.3	29.0	11.7		90	95	63.9		6.3	29.0	14.5
95	96	53.0	6.7	29.3	12.0	95	96	65.8	6.7	29.3	14.9				
32/PG	55	89	50.7	32/PG	3.9	27.1	11.5	32/16	55	89	63.9	32/16	3.9	27.1	14.5
	60	91	53.0		4.2	27.7	12.0		60	91	67.0		4.2	27.7	15.2
	65	93	55.3		4.6	28.3	12.6		65	93	70.0		4.6	28.3	15.9
	70	94	57.7		4.9	28.7	13.1		70	94	72.6		4.9	28.7	16.5
	75	96	59.6		5.3	29.3	13.5		75	96	75.4		5.3	29.3	17.1
	80	101	63.0		5.6	30.8	14.3		80	101	75.6		5.6	30.8	17.2
	85	102	63.5		6.0	31.1	14.4		85	102	80.5		6.0	31.1	18.3
	90	103	65.3		6.3	31.4	14.8		90	103	83.6		6.3	31.4	19.0
95	105	67.1	6.7	32.0	15.2	95	105	85.0	6.7	32.0	19.3				
36/PG	55	96	63.2	36/PG	3.9	29.3	14.4	36/16	55	96	76.8	36/16	3.9	29.3	17.4
	60	97	65.5		4.2	29.6	14.9		60	97	80.5		4.2	29.6	18.3
	65	99	69.4		4.6	30.2	15.8		65	99	84.1		4.6	30.2	19.1
	70	101	72.2		4.9	30.8	16.4		70	101	87.4		4.9	30.8	19.9
	75	102	74.9		5.3	31.1	17.0		75	102	90.7		5.3	31.1	20.6
	80	104	77.5		5.6	31.7	17.6		80	104	93.6		5.6	31.7	21.3
	85	105	80.0		6.0	32.0	18.2		85	105	96.9		6.0	32.0	22.0
	90	106	82.2		6.3	32.3	18.7		90	106	99.5		6.3	32.3	22.6
95	108	84.3	6.7	32.9	19.1	95	108	102.0	6.7	32.9	23.2				
40/PG	55	97	84.9	40/PG	3.9	29.6	19.3	40/16	55	97	90.0	40/16	3.9	29.6	20.4
	60	101	89.0		4.2	30.8	20.2		60	101	94.7		4.2	30.8	21.5
	65	105	93.2		4.6	32.0	21.2		65	105	99.2		4.6	32.0	22.5
	70	107	96.5		4.9	32.6	21.9		70	107	103.0		4.9	32.6	23.4
	75	109	99.8		5.3	33.2	22.7		75	109	107.0		5.3	33.2	24.3
	80	110	102.9		5.6	33.5	23.4		80	110	110.0		5.6	33.5	25.0
	85	111	106.0		6.0	33.8	24.1		85	111	114.0		6.0	33.8	25.9
	90	112	109.3		6.3	34.1	24.8		90	112	117.0		6.3	34.1	26.6
95	113	112.0	6.7	34.4	25.4	95	113	121.0	6.7	34.4	27.5				

\*Standard Nozzle

# 1/2" PART/FULL BRASS CIRCLE IMPACT SPRINKLERS



**90SD**

## Features and Benefits

- Solid brass construction.
- Manganese bronze die-cast drive arm.
- Patented spray distribution grooves.
- Anti-backsplash arm.
- Stainless steel drive spring and trip assembly.
- "Sure Seal®" sand load bearing assembly
- 20° to 340° arc or full circle.
- Chemical resistant bearing seals.
- Adjustable deflector plate.
- Solid brass nozzle.
- Stream straightener vane.

## Operating Ranges

U.S.	Metric
Pressure: 25 - 55 psi	1.72 - 3.79 bar
Flow: 3.54 - 5.44 gpm	13.40 - 20.61 ltrs/min.
Spacing: 35 - 48 feet	10.67 - 14.63 meters
Trajectory: 25°	

## Specifications

- 1/2" male inlet, National Pipe Thread (NPT).
- Drive nozzle 3/8"-24 UNF.

### To Specify:

**90SD 10**

Model

Nozzle  
Code

### MODEL DESCRIPTIONS

Model No.	Description
90SD	Sure Seal® bearing, deflector and diffuser

*The model 90 series impact sprinkler is designed for general landscape irrigation. It is also well suited for nursery and greenhouse use as well as industrial applications.*

## 90 Series Performance Chart

Nozzle	Pressure		Radius		Flow	
	PSI	Bars	Feet	Meters	GPM	Ltrs/Min
10 *	25	1.72	35	10.67	3.54	13.40
	30	2.07	39	11.89	3.94	14.94
	35	2.41	42	12.80	4.35	16.49
	40	2.76	43	13.11	4.62	17.52
	45	3.10	44	13.41	4.90	18.55
	50	3.45	47	14.33	5.17	19.58
	55	3.79	48	14.63	5.44	20.61

\* Standard Nozzle



**65P**

## Model 65P & 90DZ

### Features and Benefits

- 20° to 340° arc or full circle operation.
- Anti-backsplash drive arm.
- Adjustable deflector plate.
- Adjustable diffuser pin.
- Stainless steel drive spring.
- Chemical resistant bearing seals.
- 1/2" male inlet, National Pipe Thread (NPT)

## Model 65P only

### Features and Benefits

- Heavy duty plastic construction.
- Stream straightener built into nozzle.
- Bayonet nozzle.

### Operating Ranges: 65P

	U.S.	Metric
Pressure:	25 - 60 psi	1.72 - 4.14 bar
Flow:	3.54 - 5.64 gpm	13.40 - 21.38 ltrs/min
Spacing:	33 - 47 feet	10.06 - 14.33 meters



**90DZ**

## Model 90DZ only

### Features and Benefits

- Powder coated zinc die cast body.
- Powder coated zinc die cast arm.
- Solid brass nozzle with vane.

### Operating Ranges: 90DZ

	U.S.	Metric
Pressure:	25 - 55 psi	1.72 - 3.79 bar
Flow:	2.11 - 5.64 gpm	7.99 - 21.38 ltrs/min
Spacing:	34 - 47 feet	10.36 - 14.33 meters
Trajectory:	25°	

To Specify:

**65P      10**

Model

Nozzle

### MODEL DESCRIPTIONS

Model No.	Description
65P	1/2" full/part circle heavy duty plastic impact sprinkler
90DZ	1/2" full/part circle powder coated zinc die cast impact sprinkler

### 90DZ Performance Chart

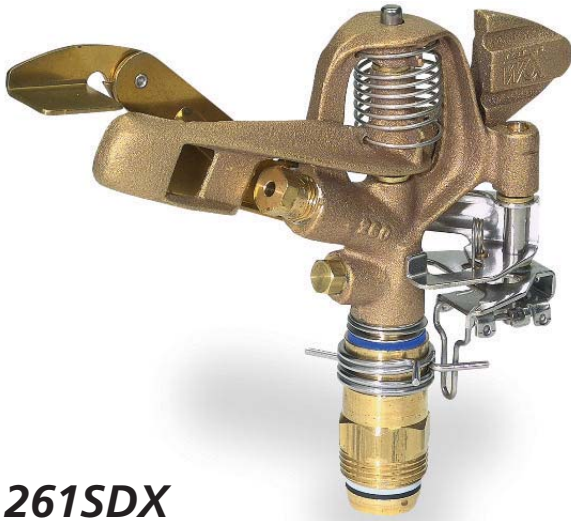
Nozzle	Pressure		Radius		Flow	
	PSI	Bars	Feet	Meters	GPM	Ltrs/Min
10	25	1.72	34	10.36	3.54	13.40
	30	2.07	35	10.67	3.94	14.94
	35	2.41	38	11.58	4.35	16.49
	40	2.76	41	12.50	4.62	17.52
	45	3.10	43	13.11	4.90	18.55
	50	3.45	45	13.72	5.17	19.58
	55	3.79	46	14.02	5.44	20.61

### 65P Performance Chart

Nozzle	Pressure		Radius		Flow	
	PSI	Bars	Feet	Meters	GPM	Ltrs/Min
10	25	1.72	34	10.36	3.54	13.40
	30	2.07	35	10.67	3.94	14.94
	35	2.41	38	11.58	4.35	16.49
	40	2.76	41	12.50	4.62	17.52
	45	3.10	43	13.11	4.90	18.55
	50	3.45	45	13.72	5.17	19.58
	55	3.79	46	14.02	5.44	20.61
	60	4.14	47	14.33	5.64	21.38

**Alternative sprinklers to solid brass models. Ideal for budget projects, including lawn and garden irrigation, nurseries, greenhouses, dust control and temporary installations.**





## 261SDX

### Features and Benefits

- Solid brass construction.
- Anti-backsplash drive arm.
- 20° to 340° arc or full circle.
- Stainless steel drive spring.
- "Sure Seal®" sand load bearing assembly.
- Chemical resistant bearing seals.
- Stainless steel trip assembly & collars.
- Adjustable diffuser pin all models.
- Adjustable deflector plate.
- Double nozzle or single nozzle and plug.
- Solid brass nozzle.

### Operating Ranges

U.S.	Metric
Pressure: 30 - 60 psi	2.07 - 4.14 bar
Flow: 3.94 - 13.73 gpm	14.94 - 52.02 ltrs/min.
Spacing: 41 - 50 feet	12.50 - 15.24 meters
Trajectory: 25°	

### Specifications

- 3/4" male inlet, National Pipe Thread (NPT).
- Nozzle thread top drive 1/4"-18 NPT.
- Lower nozzle 3/8"-24 UNF.

#### To Specify:

<b>261SDX</b>	<b>10</b>	<b>06</b>
Model	Nozzle Code	Nozzle Code

M O D E L D E S C R I P T I O N S	
Model No.	Description
261SDX	Sure Seal® Adjustable deflector plate & diffuser pin

*Designed for large turf areas, dust control, nurseries and general purpose use.*

## 261SDX Series Performance Chart

Single Nozzle	261SDX					
	Pressure		Radius		Flow	
	PSI	Bars	Feet	Meters	GPM	Ltrs/Min
10/PG	30	2.07	41	12.50	3.94	14.94
	35	2.41	42	12.80	4.35	16.49
	40	2.76	43	13.11	4.62	17.52
	45	3.10	44	13.41	4.90	18.55
	50	3.45	45	13.72	5.17	19.58
	55	3.79	45	13.72	5.44	20.61
11/PG	60	4.14	46	14.02	5.64	21.38
	30	2.07	42	12.80	4.62	17.52
	35	2.41	43	13.11	5.03	19.06
	40	2.76	44	13.41	5.37	20.35
	45	3.10	45	13.72	5.64	21.38
	50	3.45	46	14.02	6.05	22.93
12/PG*	55	3.79	47	14.33	6.39	24.22
	60	4.14	47	14.33	6.53	24.73
	30	2.07	43	13.11	5.31	20.12
	35	2.41	44	13.41	5.84	22.12
	40	2.76	45	13.72	6.32	23.94
	45	3.10	46	14.02	6.66	25.23
13/PG	50	3.45	47	14.33	7.01	26.56
	55	3.79	47	14.33	7.34	27.81
	60	4.14	48	14.63	7.68	29.10
	30	2.07	44	13.41	6.66	25.23
	35	2.41	45	13.72	7.21	27.32
	40	2.76	46	14.02	7.68	29.10
14/PG	45	3.10	47	14.33	8.23	31.18
	50	3.45	48	14.63	8.70	32.96
	55	3.79	48	14.63	9.04	34.25
	60	4.14	49	14.94	9.38	35.54
	30	2.07	45	13.72	7.21	27.32
	35	2.41	46	14.02	7.75	29.36
14/PG	40	2.76	47	14.33	8.29	31.41
	45	3.10	48	14.63	8.77	33.23
	50	3.45	49	14.94	9.31	35.27
	55	3.79	49	14.94	9.65	36.56
	60	4.14	50	15.24	10.21	38.68

\* Standard Nozzle

NOZZLE CODE		
Code	Inches	mm
06	3/32"	2.4
08	1/8"	3.2
10	5/32"	4.0
11	11/64"	4.4
12	3/16"	4.8
13	13/64"	5.2
14	7/32"	5.6
PG	Plug	

## 261SDX Series Performance Chart

Double Nozzle	261SDX					
	Pressure		Radius		Flow	
	PSI	Bars	Feet	Meters	GPM	Ltrs/Min
10/06	30	2.07	41	12.50	5.20	19.73
	35	2.41	42	12.80	5.73	21.70
	40	2.76	43	13.11	6.10	23.14
	45	3.10	44	13.41	6.46	24.46
	50	3.45	45	13.72	6.83	25.87
	55	3.79	45	13.72	7.16	27.14
11/06	60	4.14	46	14.02	7.43	28.15
	30	2.07	42	12.80	5.88	22.31
	35	2.41	43	13.11	6.41	24.27
	40	2.76	44	13.41	6.85	25.97
	45	3.10	45	13.72	7.20	27.29
	50	3.45	45	13.72	7.71	29.22
12/06*	55	3.79	46	14.02	8.11	30.75
	60	4.14	47	14.33	8.32	31.50
	30	2.07	43	13.11	6.57	24.91
	35	2.41	44	13.41	7.32	27.33
	40	2.76	45	13.72	7.80	29.56
	45	3.10	46	14.02	8.22	31.14
12/08	50	3.45	47	14.33	8.67	32.85
	55	3.79	47	14.33	9.06	34.34
	60	4.14	48	14.63	9.47	35.87
	30	2.07	43	13.11	7.69	29.13
	35	2.41	44	13.41	8.63	32.69
	40	2.76	45	13.72	9.31	35.27
13/08	45	3.10	46	14.02	9.79	37.09
	50	3.45	47	14.33	10.41	39.44
	55	3.79	47	14.33	10.88	41.22
	60	4.14	48	14.63	11.28	42.73
	30	2.07	44	13.41	7.21	27.32
	35	2.41	45	13.72	7.75	29.36
14/08	40	2.76	46	14.02	8.29	31.41
	45	3.10	47	14.33	8.77	33.23
	50	3.45	48	14.63	9.31	35.27
	55	3.79	48	14.63	9.65	36.56
	60	4.14	49	14.94	10.21	38.68
	30	2.07	45	13.72	9.59	36.33
14/08	35	2.41	46	14.02	10.61	40.20
	40	2.76	47	14.33	11.28	42.73
	45	3.10	48	14.63	11.91	45.12
	50	3.45	49	14.94	12.58	47.66
	55	3.79	49	14.94	13.12	49.71
	60	4.14	50	15.24	13.73	52.02

\* Standard Nozzle

# 1" FULL/PART CIRCLE BRASS IMPACT SPRINKLER



**360SAX**

## 360SAX Series

### Features and Benefits

- Solid brass construction.
- Stainless steel drive spring.
- "Sure Seal<sup>®</sup>" sand load bearing assembly.
- 20° to 340° arc or full circle operation.
- Solid brass nozzle.
- Dual nozzle or single nozzle and plug configuration.
- Chemical resistant bearing seals.
- Cast brass trip assembly.
- Stainless steel trip collars.
- Adjustable diffuser pin.

### Operating Ranges

U.S.	Metric
Pressure: 35 - 100 psi	2.41 - 6.89 bar
Flow: 7.75 - 44.01 gpm	29.36 - 166.58 ltrs/min
Spacing: 49 - 77 feet	14.94 - 23.47 meters
Trajectory: 23°	

### To Specify:

<b>360SAX</b>	<b>18</b>	<b>08</b>	<b>BS</b>
Model	Nozzle Code	Nozzle Code	Options

### Specifications

- 1" male inlet, (NPT).
- Optional British Standard Pipe Threaded version available (BS).
- Drive nozzle 5/8" -18 UNF.
- Filler Nozzle 3/8" -24 UNF.

*Well suited for large landscape irrigation requirements, pastures, logging, mining, and waste water treatment.*

M O D E L D E S C R I P T I O N S	
Model No.	Description
360SAX	Adjustable diffuser pin, male bearing
OPTIONS:	For BSPT inlet, add (BS) to model number

**360SA**

Single Nozzle	Pressure		Radius		Flow	
	PSI	Bars	Feet	Meters	GPM	Ltrs/Min
14/PG (7/32")	35	2.41	49	14.94	7.75	29.36
	40	2.76	51	15.55	8.29	31.41
	45	3.10	53	16.15	8.77	33.23
	50	3.45	55	16.76	9.31	35.27
	55	3.79	56	17.07	9.65	36.56
	60	4.14	58	17.68	10.21	38.68
	65	4.48	59	17.98	10.61	40.20
	70	4.83	60	18.29	10.94	41.45
	75	5.17	62	18.90	11.28	42.73
	80	5.52	63	19.20	11.69	44.29
85	5.86	64	19.51	12.20	46.18	
90	6.21	66	20.12	13.54	51.25	
95	6.55	66	20.12	13.91	52.65	
100	6.89	67	20.42	14.27	54.01	
16/PG (1/4")	35	2.41	52	15.85	10.21	38.68
	40	2.76	54	16.46	10.94	41.45
	45	3.10	55	16.76	11.62	44.02
	50	3.45	57	17.37	12.24	46.37
	55	3.79	57	17.37	12.85	48.68
	60	4.14	58	17.68	13.32	50.46
	65	4.48	62	18.90	13.87	52.55
	70	4.83	63	19.20	14.34	54.33
	75	5.17	64	19.51	14.82	56.15
	80	5.52	65	19.81	15.31	58.00
85	5.86	66	20.12	16.50	62.45	
90	6.21	67	20.42	17.68	66.92	
95	6.55	68	20.73	18.16	68.74	
100	6.89	68	20.73	18.364	70.55	
18/PG* (9/32")	35	2.41	55	16.76	12.92	48.95
	40	2.76	57	17.37	13.94	52.81
	45	3.10	58	17.68	14.75	55.88
	50	3.45	60	18.29	15.43	58.46
	55	3.79	62	18.90	16.32	61.83
	60	4.14	65	19.81	17.01	64.44
	65	4.48	67	20.42	17.61	66.72
	70	4.83	70	21.34	18.29	69.29
	75	5.17	71	21.64	18.91	71.64
	80	5.52	72	21.95	19.52	73.95
85	5.86	73	22.25	20.95	79.30	
90	6.21	74	22.56	22.38	84.71	
95	6.55	74	22.56	22.99	87.02	
100	6.89	75	22.86	23.59	89.29	
20/PG (5/16")	35	2.41	59	17.98	15.51	58.76
	40	2.76	59	17.98	16.72	63.34
	45	3.10	61	18.59	17.61	66.72
	50	3.45	63	19.20	18.63	70.58
	55	3.79	65	19.81	19.44	73.65
	60	4.14	67	20.42	20.33	77.02
	65	4.48	69	21.03	21.14	80.09
	70	4.83	71	21.64	21.96	83.20
	75	5.17	73	22.25	22.71	86.04
	80	5.52	75	22.86	23.46	88.88
85	5.86	75	22.86	25.55	96.71	
90	6.21	76	23.17	24.63	104.58	
95	6.55	77	23.47	28.38	107.42	
100	6.89	78	23.78	29.12	110.22	
22/PG (11/32")	35	2.41	59	17.98	17.88	67.74
	40	2.76	60	18.29	19.11	72.40
	45	3.10	63	19.20	20.19	76.49
	50	3.45	65	19.81	21.28	80.62
	55	3.79	67	20.42	22.37	84.75
	60	4.14	69	21.03	23.46	88.88
	65	4.48	70	21.34	24.01	90.96
	70	4.83	72	21.95	25.22	95.55
	75	5.17	74	22.56	26.11	98.92
	80	5.52	76	23.17	26.99	102.25
85	5.86	77	23.47	30.21	114.34	
90	6.21	79	24.08	33.43	126.53	
95	6.55	80	24.35	34.34	129.98	
100	6.89	82	24.99	35.24	133.38	
24/PG (3/8")	35	2.41	60	18.29	21.48	81.38
	40	2.76	62	18.90	23.12	87.59
	45	3.10	65	19.81	24.54	92.97
	50	3.45	67	20.42	25.97	98.39
	55	3.79	70	21.34	27.21	103.09
	60	4.14	73	22.25	28.35	107.40
	65	4.48	74	22.56	29.51	111.80
	70	4.83	75	22.86	30.53	115.66
	75	5.17	76	23.17	31.82	120.55
	80	5.52	77	23.47	32.77	124.15
85	5.86	79	24.08	36.28	137.32	
90	6.21	80	24.38	39.78	150.57	
95	6.55	82	24.99	40.86	154.66	
100	6.89	83	25.30	41.93	157.71	

\* Standard Nozzle

**360SA**

Double Nozzle	Pressure		Radius		Flow	
	PSI	Bars	Feet	Meters	GPM	Ltrs/Min
14/08 (7/32 x 1/8")	35	2.41	49	14.94	10.61	40.20
	40	2.76	51	15.55	11.28	42.73
	45	3.10	53	16.15	11.91	45.12
	50	3.45	55	16.76	12.58	47.66
	55	3.79	56	17.07	13.12	49.71
	60	4.14	58	17.68	13.73	52.02
	65	4.48	59	17.98	14.21	53.83
	70	4.83	60	18.29	14.75	55.88
	75	5.17	62	18.90	15.23	57.70
	80	5.52	63	19.20	15.71	59.52
85	5.86	64	19.51	16.21	61.34	
90	6.21	66	20.12	16.70	63.21	
95	6.55	67	20.42	17.20	65.08	
100	6.89	67	20.42	17.69	66.96	
16/08 (1/4 x 1/8")	35	2.41	52	15.85	13.26	50.24
	40	2.76	54	16.46	14.07	53.30
	45	3.10	55	16.76	14.89	56.41
	50	3.45	57	17.37	15.84	60.01
	55	3.79	57	17.37	16.52	62.59
	60	4.14	58	17.68	17.06	64.63
	65	4.48	62	18.90	17.88	67.74
	70	4.83	63	19.20	18.56	70.31
	75	5.17	64	19.51	19.04	72.13
	80	5.52	65	19.81	19.72	74.71
85	5.86	65	19.81	20.39	77.16	
90	6.21	67	20.42	21.05	79.67	
95	6.55	68	20.73	21.72	82.19	
100	6.89	70	21.34	22.38	84.71	
18/08* (9/32 x 1/8")	35	2.41	55	16.76	15.43	58.46
	40	2.76	57	17.37	16.52	62.59
	45	3.10	58	17.68	17.54	66.45
	50	3.45	60	18.29	18.49	70.05
	55	3.79	62	18.90	19.31	73.16
	60	4.14	65	19.81	20.26	76.76
	65	4.48	67	20.42	21.01	79.60
	70	4.83	70	21.34	21.82	82.67
	75	5.17	71	21.64	22.57	85.51
	80	5.52	72	21.95	23.25	88.08
85	5.86	74	22.56	24.00	90.83	
90	6.21	75	22.86	24.75	93.66	
95	6.55	77	23.47	25.49	96.49	
100	6.89	78	23.78	26.24	99.32	
20/08 (5/16 x 1/8")	35	2.41	59	17.98	18.02	68.27
	40	2.76	59	17.98	19.38	73.42
	45	3.10	61	18.59	20.40	77.29
	50	3.45	63	19.20	21.35	80.88
	55	3.79	65	19.81	22.51	85.28
	60	4.14	67	20.42	23.52	89.11
	65	4.48	69	21.03	24.41	92.48
	70	4.83	71	21.64	25.36	96.08
	75	5.17	73	22.25	26.18	99.18
	80	5.52	75	22.86	26.99	102.25
85	5.86	76	23.17	27.86	105.44	
90	6.21	77	23.47	29.73	112.53	
95	6.55	78	23.78	31.59	119.57	
100	6.89	79	24.08	32.46	122.86	
22/08 (11/32 x 1/8")	35	2.41	59	17.98	20.19	76.49
	40	2.76	60	18.29	21.49	81.41
	45	3.10	63	19.20	23.05	87.32
	50	3.45	65	19.81	24.28	91.98
	55	3.79	67	20.42	25.56	96.83
	60	4.14	69	21.03	26.52	100.47
	65	4.48	70	21.34	27.54	104.34
	70	4.83	72	21.95	28.70	108.73
	75	5.17	74	22.56	29.37	111.27
	80	5.52	76	23.17	30.32	114.87
85	5.86	77	23.47	33.57	125.93	
90	6.21	77	23.47	36.22	137.09	
95	6.55	79	24.08	37.17	140.69	
100	6.89	80	24.38	38.12	144.28	
24/08 (3/8 x 1/8")	35	2.41	60	18.29	23.73	89.90
	40	2.76	62	18.90	25.22	95.55
	45	3.10	65	19.81	26.72	101.23
	50	3.45	67	20.42	28.83	109.22
	55	3.79	70	21.34	29.65	112.33
	60	4.14	73	22.25	30.80	116.69
	65	4.48	74	22.56	31.96	121.08
	70	4.83	75	22.86	35.05	132.79
	75	5.17	76	23.17	34.07	129.07
	80	5.52	77	23.47	35.36	133.96
85	5.86	78	23.78	39.50	149.51	
90	6.21	79	24.08	42.64	161.39	
95	6.55	80	24.38	43.78	165.71	
100	6.89	82	24.99	44.01	166.58	

\* Standard Nozzle

NOZZLE CODE		
Code	Inches	mm
08	1/8"	3.2
14	7/32"	5.6
16	1/4"	6.4
18	9/32"	7.1
20	5/16"	7.9
22	11/32"	8.7
24	3/8"	9.5
PG	Plug	



## AI123

1 1/4" Full or Part Circle  
Over Under Nozzles

### To Specify:

<b>AI123</b>	<b>18</b>	<b>PG</b>
Model	Nozzle Code	Nozzle Code

*If you need an impact that will reach farther, Buckner's 1 1/4" impacts are exactly what you need. With a radius up to 113 feet, your large commercial, agricultural, or municipal requirements are easily met. As always, a wide variety of nozzles give extra control over the impact's use, whether they're being permanently installed or added to a quick coupler for special applications.*

### Features and Benefits

- Solid brass nozzle.
- Inner break-up/spreader nozzle provides uniform water distribution.
- Stream straighteners ensure maximum radius, superior high wind performance.
- Brass and stainless steel construction provide strength, durability and corrosion resistance.
- Stainless stops ease arc adjustment (part circle).
- 23° Trajectory

### Operating Ranges

*Throw: 75' -113' radius  
150' - 226' diameter*

*Flow: 24.9 - 121 gpm*

*Pressure: 55 - 95 psi*

*Trajectory: 23°*

### Specifications

- 1 1/4" male inlet, National Pipe Thread (NPT).
- Nozzle thread top drive 1"-20 UNEF.
- Lower nozzle 1/8"-27 NPT NPT.

NOZZLE CODE		
Code	Inches	mm
PG	Plug	
14	7/32"	5.60
15	15/64"	6.00
16	1/4"	6.40
17	17/64"	6.70
18	9/32"	7.10
22	11/32"	8.70
24	3/8"	9.50
26	13/32"	10.30
28	7/16"	11.10
32	1/2"	12.70
34	17/32"	13.50
36	9/16"	14.30
40	5/8"	15.90

MODEL DESCRIPTIONS	
Model No.	1 1/4" Male NPT, Brass, Full/Part Circle
AI123	Full/part circle, over under nozzle

AI123				AI123				AI123				AI123			
23° Trajectory				23° Trajectory				23° Trajectory				23° Trajectory			
Nozzle Code	Pressure PSI	Radius ft.	Flow GPM	Nozzle Code	Pressure bars	Radius meters	Flow m <sup>3</sup> /hr.	Nozzle Code	Pressure PSI	Radius ft.	Flow GPM	Nozzle Code	Pressure bars	Radius meters	Flow m <sup>3</sup> /hr.
22/PG	55	73	24.9	22/PG	3.9	22.3	5.7	22/14	55	73	34.9	22/14	3.9	22.3	7.9
	60	75	25.8		4.2	22.9	5.9		60	75	36.5		4.2	22.9	8.3
	65	77	26.9		4.6	23.5	6.1		65	77	38.0		4.6	23.5	8.6
	70	80	27.0		4.9	24.4	6.1		70	80	38.8		4.9	24.4	8.8
	75	81	28.9		5.3	24.7	6.6		75	81	41.0		5.3	24.7	9.3
	80	81	30.4		5.6	24.7	6.9		80	81	42.6		5.6	24.7	9.7
	85	81	31.1		6.0	24.7	7.1		85	81	43.8		6.0	24.7	9.9
	90	83	32.7		6.3	25.3	7.4		90	83	44.0		6.3	25.3	10.0
	95	85	32.8		6.7	25.9	7.5		95	85	45.6		6.7	25.9	10.4
24/PG*	55	75	29.6	24/PG*	3.9	22.9	6.7	24/14*	55	77	35.7	24/14*	3.9	23.5	8.1
	60	79	30.8		4.2	24.1	7.0		60	79	37.2		4.2	24.1	8.5
	65	81	32.0		4.6	24.7	7.3		65	81	38.7		4.6	24.7	8.8
	70	83	33.3		4.9	25.3	7.6		70	83	40.2		4.9	25.3	9.1
	75	85	34.7		5.3	25.9	7.9		75	85	41.7		5.3	25.9	9.5
	80	86	35.7		5.6	26.2	8.1		80	85	43.2		5.6	25.9	9.8
	85	87	36.0		6.0	26.5	8.2		85	86	44.7		6.0	26.2	10.2
	90	89	38.3		6.3	27.1	8.7		90	87	46.2		6.3	26.5	10.5
	95	91	39.1		6.7	27.7	8.9		95	87	46.9		6.7	26.5	10.7
26/PG	55	75	32.9	26/PG	3.9	22.9	7.5	26/14	55	75	43.4	26/14	3.9	22.9	9.9
	60	76	34.4		4.2	23.2	7.8		60	76	46.6		4.2	23.2	10.6
	65	77	35.8		4.6	23.5	8.1		65	77	48.6		4.6	23.5	11.0
	70	77	37.2		4.9	23.5	8.5		70	77	50.4		4.9	23.5	11.4
	75	77	38.5		5.3	23.5	8.7		75	77	52.4		5.3	23.5	11.9
	80	78	39.9		5.6	23.8	9.1		80	78	54.3		5.6	23.8	12.3
	85	79	41.2		6.0	24.1	9.4		85	79	56.0		6.0	24.1	12.7
	90	79	42.3		6.3	24.1	9.6		90	79	57.9		6.3	24.1	13.2
	95	79	43.3		6.7	24.1	9.8		95	79	59.6		6.7	24.1	13.5
28/PG	55	83	39.7	28/PG	3.9	25.3	9.0	28/14	55	83	49.1	28/14	3.9	25.3	11.2
	60	86	41.6		4.2	26.2	9.4		60	86	51.5		4.2	26.2	11.7
	65	87	43.3		4.6	26.5	9.8		65	87	53.8		4.6	26.5	12.2
	70	89	45.1		4.9	27.1	10.2		70	89	55.9		4.9	27.1	12.7
	75	90	46.8		5.3	27.4	10.6		75	90	57.9		5.3	27.4	13.2
	80	91	48.0		5.6	27.7	10.9		80	91	60.0		5.6	27.7	13.6
	85	93	50.0		6.0	28.3	11.4		85	93	62.0		6.0	28.3	14.1
	90	95	51.5		6.3	29.0	11.7		90	95	63.9		6.3	29.0	14.5
	95	96	53.0		6.7	29.3	12.0		95	96	65.8		6.7	29.3	14.9
32/PG	55	89	50.7	32/PG	3.9	27.1	11.5	32/16	55	89	63.9	32/16	3.9	27.1	14.5
	60	91	53.0		4.2	27.7	12.0		60	91	67.0		4.2	27.7	15.2
	65	93	55.3		4.6	28.3	12.6		65	93	70.0		4.6	28.3	15.9
	70	94	57.7		4.9	28.7	13.1		70	94	72.6		4.9	28.7	16.5
	75	96	59.6		5.3	29.3	13.5		75	96	75.4		5.3	29.3	17.1
	80	101	63.0		5.6	30.8	14.3		80	101	75.6		5.6	30.8	17.2
	85	102	63.5		6.0	31.1	14.4		85	102	80.5		6.0	31.1	18.3
	90	103	65.3		6.3	31.4	14.8		90	103	83.6		6.3	31.4	19.0
	95	105	67.1		6.7	32.0	15.2		95	105	85.0		6.7	32.0	19.3
36/PG	55	96	63.2	36/PG	3.9	29.3	14.4	36/16	55	96	76.8	36/16	3.9	29.3	17.4
	60	97	65.5		4.2	29.6	14.9		60	97	80.5		4.2	29.6	18.3
	65	99	69.4		4.6	30.2	15.8		65	99	84.1		4.6	30.2	19.1
	70	101	72.2		4.9	30.8	16.4		70	101	87.4		4.9	30.8	19.9
	75	102	74.9		5.3	31.1	17.0		75	102	90.7		5.3	31.1	20.6
	80	104	77.5		5.6	31.7	17.6		80	104	93.6		5.6	31.7	21.3
	85	105	80.0		6.0	32.0	18.2		85	105	96.9		6.0	32.0	22.0
	90	106	82.2		6.3	32.3	18.7		90	106	99.5		6.3	32.3	22.6
	95	108	84.3		6.7	32.9	19.1		95	108	102.0		6.7	32.9	23.2
40/PG	55	97	84.9	40/PG	3.9	29.6	19.3	40/16	55	97	90.0	40/16	3.9	29.6	20.4
	60	101	89.0		4.2	30.8	20.2		60	101	94.7		4.2	30.8	21.5
	65	105	93.2		4.6	32.0	21.2		65	105	99.2		4.6	32.0	22.5
	70	107	96.5		4.9	32.6	21.9		70	107	103.0		4.9	32.6	23.4
	75	109	99.8		5.3	33.2	22.7		75	109	107.0		5.3	33.2	24.3
	80	110	102.9		5.6	33.5	23.4		80	110	110.0		5.6	33.5	25.0
	85	111	106.0		6.0	33.8	24.1		85	111	114.0		6.0	33.8	25.9
	90	112	109.3		6.3	34.1	24.8		90	112	117.0		6.3	34.1	26.6
	95	113	112.0		6.7	34.4	25.4		95	113	121.0		6.7	34.4	27.5

\*Standard Nozzle



**B15F**  
CoalBrass™ 15'  
Full Circle Nozzle



**B12H**  
CoalBrass™ 12'  
Half Circle Nozzle



**B10T**  
CoalBrass™ 10'  
One-third Circle Nozzle

## Features and Benefits

- Available in 5', 8', 10', 12', or 15' radius.
- Uniform spray patterns throughout the full radius with CU slot.
- Virtually eliminates risk of damage from equipment and chemicals.
- Handles freezing temperatures better than plastic.
- Black CoalBrass looks like plastic, reducing threat of theft.
- Matched precipitation across spray patterns and radius sizes.
- End, center and side strip patterns available.
- Features brass adjusting screw and high-flow polypropylene filter.
- Fits all Buckner spray pop-ups.
- 5/8" - 28 Female thread.

May be used on sprinklers accepting a 5/8" - 28 thread (Rainbird®, Richdel®, Weathermatic®, Nelson®, and Buckner®).

*Buckner's brass nozzles are the best performing, longest lasting spray nozzles on the market. Precision designed and tooled from brass, these nozzles are ideal for watering areas requiring precise control of spray patterns and even precipitation. A special coefficient of uniformity (CU) slot ensures matched water disbursement from the base of the sprinkler, all the way to the end of the radius.*

*And with CoalBrass, you have all the benefits of brass nozzles without as much risk of theft. That's because CoalBrass looks like plastic so it doesn't attract attention.*

## Operating Ranges

	U.S.	Metric
Throw:	6' - 14.6' radius	1.8 - 44 m
Flow:	0.37 - 4.0 gpm	1.4 - 15.2 l/min
Pressure:	10 - 30 psi	1 - 2 bars
Trajectory:	0° - 27°	

## Shrub Adapters:

- Shrub adapters fit Buckner's and most competitors' female thread nozzles.
- 1/2" Female NPT inlet for connection to risers; 5/8" - 28 Male thread outlet.



**CoalBrass™ Shrub Adapter (SBA)**  
(shown with brass nozzle)

### CoalBrass™ Nozzle

Nozzle	5 Radius		5° Trajectory		Low Angle	
	Pressure PSI	Radius ft.	Flow GPM	Precip. ■	in/hr ▲	
B5H*	15	4	0.74	3.6	3.7	
	180°	20	5	0.9	3.4	3.5
		25	5	1.02	3.0	3.1
		30	6	1.16	2.8	2.9
B5T*	15	4	0.49	3.6	3.7	
	120°	20	5	0.59	3.4	3.5
		25	5	0.67	3.0	3.1
		30	6	0.77	2.8	2.9
B5Q*	15	4	0.37	3.6	3.7	
	90°	20	5	0.45	3.4	3.5
		25	5	0.51	3.0	3.1
		30	6	0.58	2.8	2.9

### CoalBrass™ Nozzle

Nozzle	1.5m Radius		5° Trajectory		Low Angle		
	Pressure (Bars) (kPa)	Radius (meters)	Flow (m <sup>3</sup> /hr.) (l/min)	Precip. ■	mm/hr ▲		
B5H*	1.0	68.8	1.2	0.17	2.8	90	
	180°	1.4	103.1	1.5	0.20	3.4	85
		1.7	137.5	1.5	0.23	3.9	75
		2.0	171.9	1.8	0.26	4.4	70
B5T*	1.0	68.8	1.2	0.11	1.9	90	
	120°	1.4	103.1	1.5	0.13	2.2	85
		1.7	137.5	1.5	0.15	2.5	75
		2.0	171.9	1.8	0.17	2.9	70
B5Q*	1.0	68.8	1.2	0.08	1.4	90	
	90°	1.4	103.1	1.5	0.10	1.7	85
		1.7	137.5	1.5	0.11	1.9	75
		2.0	171.9	1.8	0.13	2.2	70

**CoalBrass™ Nozzle**

**8 Radius 0° Trajectory Flat**

Nozzle	Pressure PSI	Radius ft.	Flow GPM	Precip. ■	in/hr ▲
B8F	15	6	1.5	3.0	3.4
	20	7	1.6	2.7	3.1
	25	8	1.8	2.4	2.7
	30	9	2.0	2.1	2.4
B8H	15	6	0.75	3.0	3.4
	20	7	0.80	2.7	3.1
	25	8	0.90	2.4	2.7
	30	9	1.0	2.1	2.4
B8T	15	6	0.51	3.0	3.4
	20	7	0.61	2.7	3.1
	25	8	0.66	2.4	2.7
	30	9	0.73	2.1	2.4
B8Q	15	6	0.38	3.0	3.4
	20	7	0.40	2.7	3.1
	25	8	0.45	2.4	2.7
	30	9	0.50	2.1	2.4

**CoalBrass™ Nozzle**

**10 Radius 15° Trajectory Low Angle**

Nozzle	Pressure PSI	Radius ft.	Flow GPM	Precip. ■	in/hr ▲
B10F	15	7	1.6	2.3	2.6
	20	8	1.8	2.0	2.3
	25	9	2.0	1.7	2.0
	30	10	2.2	1.5	1.7
B10H*	15	7	0.80	2.3	2.6
	20	8	0.90	2.0	2.3
	25	9	1.0	1.7	2.0
	30	10	1.10	1.5	1.7
B10T*	15	7	0.53	2.3	2.6
	20	8	0.61	2.0	2.3
	25	9	0.66	1.7	2.0
	30	10	0.73	1.5	1.7
B10Q*	15	7	0.40	2.3	2.6
	20	8	0.45	2.0	2.3
	25	9	0.50	1.7	2.0
	30	10	0.55	1.5	1.7

**CoalBrass™ Nozzle**

**12 Radius 27° Trajectory Standard**

Nozzle	Pressure PSI	Radius ft.	Flow GPM	Precip. ■	in/hr ▲
B12F	15	10	1.6	1.5	1.8
	20	10.5	1.8	1.6	1.8
	25	11	2.0	1.6	1.8
	30	12	2.2	1.7	1.7
	B12TQ*	15	10	1.04	1.5
	20	10.5	1.2	1.6	1.8
	25	11	1.32	1.6	1.8
	30	12	1.46	1.7	1.7
	B12H*	15	10	0.80	1.5
	20	10.5	0.90	1.6	1.8
	25	11	1.0	1.6	1.8
	30	12	1.1	1.7	1.7
	B12T*	15	10	0.52	1.5
	20	10.5	0.61	1.6	1.8
	25	11	0.66	1.6	1.8
	30	12	0.73	1.7	1.7
	B12Q*	15	10	0.40	1.5
	20	10.5	0.45	1.6	1.8
	25	11	0.50	1.6	1.8
	30	12	0.55	1.7	1.7

\* denotes models that have CU slots

To Specify:

**B 15 F**

Brass  
Nozzle

Radius  
15 ft

Pattern  
Full

**CoalBrass™ Nozzle**

**2.4m Radius 0° Trajectory Flat**

Nozzle	Pressure (Bars) (kPa)	Radius (meters)	Flow (m <sup>3</sup> /hr.)	Flow (l/min)	Precip. ■	mm/hr ▲
B8F	1.0	103.1	1.8	0.34	5.7	75
	1.4	137.5	2.1	0.36	6.1	68
	1.7	171.9	2.4	0.41	6.8	60
	2.0	206.3	2.7	0.45	7.6	53
B8H	1.0	103.1	1.8	0.17	2.9	75
	1.4	137.5	2.1	0.18	3.0	68
	1.7	171.9	2.4	0.20	3.4	60
	2.0	206.3	2.7	0.23	3.8	53
B8T	1.0	103.1	1.8	0.11	1.9	75
	1.4	137.5	2.1	0.14	2.3	68
	1.7	171.9	2.4	0.15	2.5	60
	2.0	206.3	2.7	0.16	2.8	53
B8Q	1.0	103.1	1.8	0.08	1.4	75
	1.4	137.5	2.1	0.09	1.5	68
	1.7	171.9	2.4	0.10	1.7	60
	2.0	206.3	2.7	0.11	1.9	53

**CoalBrass™ Nozzle**

**3m Radius 15° Trajectory Low Angle**

Nozzle	Pressure (Bars) (kPa)	Radius (meters)	Flow (m <sup>3</sup> /hr.)	Flow (l/min)	Precip. ■	mm/hr ▲
B10F	1.0	103.1	2.1	0.36	6.1	58
	1.4	137.5	2.4	0.41	6.8	50
	1.7	171.9	2.7	0.45	7.6	43
	2.0	206.3	3.0	0.50	8.4	38
B10H*	1.0	103.1	2.1	0.18	3.0	58
	1.4	137.5	2.4	0.20	3.4	50
	1.7	171.9	2.7	0.23	3.8	43
	2.0	206.3	3.0	0.25	4.2	38
B10T*	1.0	103.1	2.1	0.12	2.0	58
	1.4	137.5	2.4	0.14	2.3	50
	1.7	171.9	2.7	0.15	2.5	43
	2.0	206.3	3.0	0.16	2.8	38
B10Q*	1.0	103.1	2.1	0.09	1.5	58
	1.4	137.5	2.4	0.10	1.7	50
	1.7	171.9	2.7	0.11	1.9	43
	2.0	206.3	3.0	0.12	2.1	38

**CoalBrass™ Nozzle**

**3.7m Radius 27° Trajectory Standard**

Nozzle	Pressure (Bars) (kPa)	Radius (meters)	Flow (m <sup>3</sup> /hr.)	Flow (l/min)	Precip. ■	mm/hr ▲
B12F	1.0	103.1	3.0	0.36	6.1	38
	1.4	137.5	3.2	0.41	6.8	40
	1.7	171.9	3.3	0.45	7.6	40
	2.0	206.3	3.6	0.50	8.4	43
	B12TQ*	1.0	103.1	3.0	0.23	4.0
	1.4	137.5	3.2	0.27	4.6	40
	1.7	171.9	3.3	0.30	5.0	40
	2.0	206.3	3.6	0.33	5.5	43
	B12H*	1.0	103.1	3.0	0.18	3.0
	1.4	137.5	3.2	0.20	3.4	40
	1.7	171.9	3.3	0.23	3.8	40
	2.0	206.3	3.6	0.25	4.2	43
	B12T*	1.0	103.1	3.0	0.12	2.0
	1.4	137.5	3.2	0.14	2.3	40
	1.7	171.9	3.3	0.15	2.5	40
	2.0	206.3	3.6	0.16	2.8	43
	B12Q*	1.0	103.1	3.0	0.09	1.5
	1.4	137.5	3.2	0.10	1.7	40
	1.7	171.9	3.3	0.11	1.9	40
	2.0	206.3	3.6	0.12	2.1	43

**NOZZLE PATTERNS**

Code	Description
F	Full circle 360°
H	Half circle 180°
T	One-third circle 120°
Q	Quarter circle 90°
TT	Two-thirds circle 240°
TQ	Three-quarter circle 270°
CST	Center strip
EST	End strip
SST	Side strip

**CoalBrass™ Nozzle**

**15 Radius 27° Trajectory Standard**

Nozzle	Pressure PSI	Radius ft.	Flow GPM	Precip. ■	in/hr ▲
B15F	15	11.5	2.8	2.0	2.4
	20	12	3.3	1.6	1.8
	25	14	3.6	1.6	1.8
	30	14.6	4.0	1.7	1.7
B15TQ*	15	11.5	2.1	2.0	2.4
	20	12	2.47	1.6	1.8
	25	14	2.7	1.6	1.8
	30	14.6	3.0	1.7	1.7
B15TT*	15	11.5	1.9	2.0	2.4
	20	12	2.2	1.6	1.8
	25	14	2.4	1.6	1.8
	30	14.6	2.6	1.7	1.7
B15H*	15	11.5	1.4	2.0	2.4
	20	12	1.65	1.6	1.8
	25	14	1.8	1.6	1.8
	30	14.6	2.0	1.7	1.7
B15T*	15	11.5	0.95	2.0	2.4
	20	12	1.1	1.6	1.8
	25	14	1.2	1.6	1.8
	30	14.6	1.3	1.7	1.7
B15Q*	15	11.5	0.70	2.0	2.4
	20	12	0.82	1.6	1.8
	25	14	0.90	1.6	1.8
	30	14.6	1.0	1.7	1.7

**15 Radius 30° Trajectory Standard**

Nozzle	Pressure PSI	Radius ft.	Flow GPM	Precip. in/hr
B15SST*	15	4 x 26	0.9	1.7
	20	4 x 28	1.0	1.7
	25	4 x 28	1.1	1.9
	30	4 x 30	1.2	1.9
B15CST*	15	4 x 26	0.9	1.7
	20	4 x 28	1.0	1.7
	25	4 x 28	1.1	1.9
	30	4 x 30	1.2	1.9
B15EST*	15	4 x 26	0.45	1.7
	20	4 x 28	0.50	1.7
	25	4 x 28	0.55	1.9
	30	4 x 30	0.60	1.9

**4.3m Radius 27° Trajectory Standard - Metric**

Nozzle	Pressure (Bars) (kPa)	Radius (meters)	Flow (m <sup>3</sup> /hr.)	Flow (l/min)	Precip. ■	mm/hr ▲
B15F	1.0	103.1	3.5	0.63	10.6	50
	1.4	137.5	3.6	0.74	12.5	40
	1.7	171.9	4.2	0.81	13.7	40
	2.0	206.3	4.4	0.90	15.2	43
	B15TQ*	1.0	103.1	3.5	0.47	8.0
	1.4	137.5	3.6	0.56	9.4	40
	1.7	171.9	4.2	0.61	10.3	40
	2.0	206.3	4.4	0.68	11.4	43
	B15TT*	1.0	103.1	3.5	0.43	7.2
	1.4	137.5	3.6	0.50	8.4	40
	1.7	171.9	4.2	0.54	9.1	40
	2.0	206.3	4.4	0.59	9.9	43
	B15H*	1.0	103.1	3.5	0.32	5.3
	1.4	137.5	3.6	0.37	6.3	40
	1.7	171.9	4.2	0.41	6.8	40
	2.0	206.3	4.4	0.45	7.6	43
	B15T*	1.0	103.1	3.5		





**BPHM**  
 with B Nozzle

*2" Pop-up spray head for residential and commercial properties where a moderately priced, high quality sprinkler is desired.*

### Brass Pop-Up Features and Benefits:

- Body constructed of cast red brass.
- Inner body and spindle machined from yellow brass.
- Metal-to-metal seating.
- Accepts "B" series nozzles. (Also accepts discontinued "M" series).

### Specifications

- Overall height: 4 3/4".
- Top diameter: 2 1/4".
- 1/2" NPT inlet.
- Maximum pressure: 50 psi.
- Operating pressure: 15 - 30 psi.

MODEL DESCRIPTIONS	
Model No.	Description
BPHM	2" Brass pop-up, accepts "B" series nozzles. (Also accepts discontinued "M" series nozzles.)



### Features and Benefits:

- Available in 1 1/4" and 2" pop-up action
- Body constructed of cast red brass.
- Yellow brass nozzles with adjusting screw.

### Specifications

- 1/2" NPT inlet.
- Operating pressure: 15 - 30 psi.
- Spacing: 8' - 15'.
- Flow range 0.90 - 4.00 gpm.

Spray Patterns						
Insert #	Pressure PSI	Flow GPM	Radius ft.	Precip. in/hr		
SF	15	3.20	12.00	2.14	2.49	
Full 15'	20	3.50	13.00	1.99	2.32	
	25	3.70	14.00	1.82	1.99	
	30	4.00	15.00	1.71	1.99	
SH	15	1.60	12.00	2.14	2.49	
	Half 15'	20	1.90	13.00	2.17	2.52
		25	2.00	14.00	1.97	2.29
SQ	30	2.20	15.00	1.88	2.19	
	Quarter 15'	15	.90	12.00	2.41	2.80
		20	1.00	13.00	2.28	2.65
25		1.10	14.00	2.16	2.51	
Center Strip	30	1.30	15.00	2.23	2.59	
	15	1.70	3'x17'	2.76	3.21	
	20	2.10	3.5'x18'	2.76	3.21	
Strip	25	3.30	3.7'x19'	2.71	3.15	
	30	2.50	4'x20'	2.58	3.01	

MODEL DESCRIPTIONS	
Model No.	Description
18	Red brass 1 1/4" pop-up body only.
18HP	Red brass 2" pop-up body only.
19	Red brass shrub body.
18SF	Red brass 1 1/4" pop-up full spray.
18SH	Red brass 1 1/4" pop-up half spray.
18SQ	Red brass 1 1/4" pop-up quarter spray.
SF	Brass nozzle - 15' radius - full spray.
SH	Brass nozzle - 15' radius - half spray.
SQ	Brass nozzle - 15' radius - quarter spray.
SS	Brass nozzle - 15' radius - center strip spray.



M O D E L D E S C R I P T I O N S	
Model No.	Description
HB1F	Hose bibb, 3/4" Male HT x 1/2" Female NPT, red brass.
HB1M	Hose bibb, 3/4" Male HT x 1/2" Male NPT, red brass.
HB2F	Hose bibb, 3/4" Male HT x 3/4" Female NPT, red brass.
HB2M	Hose bibb, 3/4" Male HT x 3/4" Male NPT, red brass.
VBH	Hose bibb vacuum breaker.
B401	Bent nose garden valve, 3/4" Male HT x 3/4" Female NPT, red brass.
B402	Bent nose garden valve, 3/4" Male HT x 1" Female NPT, red brass.
I401	Inverted nose garden valve, 3/4" Male HT x 3/4" Female NPT, red brass.
I402	Inverted nose garden valve, 3/4" Male HT x 1" Female NPT, red brass.
B401LK	Bent nose garden valve, 3/4" Hose x 3/4" Female NPT, loose key, red brass.
B402LK	Bent nose garden valve, 3/4" Hose x 1" Female NPT, loose key, red brass.
I401LK	Inverted nose garden valve, 3/4" Hose x 3/4" Female NPT, loose key, red brass.
I401LKY	Inverted nose garden valve, 3/4" Hose x 3/4" Female NPT, loose key, red brass.
TLK	Garden valve loose key.

## BRASS HOSE & PIPE FITTINGS



M O D E L D E S C R I P T I O N S	
Model No.	Description
5	Swivel fitting, 3/4" Female HT x 1/2" Male NPT.
7	Swivel fitting, 3/4" Female HT x 3/4" Female HT.
8	Non-swivel fitting, 3/4" Male HT x 3/4" Male NPT x 1/2" Female NPT.
9	Non-swivel fitting, 3/4" Female HT x 3/4" Male NPT x 1/2" Female NPT.
10	Non-swivel fitting, 3/4" Male HT x 1/2" Female NPT.
12	Swivel fitting, 3/4" Female HT x 3/4" Female NPT.
13	Swivel fitting, 3/4" Female HT x 1/2" Female NPT.
14	Hose cap, 3/4" Female HT.
HA10	Non-swivel fitting, 3/4" Male HT x 1" Female HT (was extnozadp0710).

## GS10

Greens Spray Nozzle  
1" Female Hose Inlet.



## BDV

Brass Drain Valves

**BDV (Automatic Drain Valve)**  
Installed at a 45° angle from the horizontal (downward) side of the pipe. Opens automatically below 4 psi. Allows water to drain out of pipe. Has a brass-to-brass seat. Cannot stick in closed position and cause pipe breakage. 1/2" Male NPT.



**SWEEPNOZ6**  
(6" Sweeper Nozzle)



**SWEEPNOZ2**  
(2" Sweeper Nozzle)



**TWISTNOZ4**  
(4" Twist Nozzle)



**TWISTNOZ3**  
(3" Twist Nozzle)



**TWISTNOZ7**  
(7" Twist Nozzle)

## SPRINKLER BASES



**SPIKEA**  
Zink One-Way Spike



**SPIKEB**  
Zinc Step  
Sprinkler Spike  
(2-way with cap)



**WB05**

### Wire Base

These heavy duty bases are made of powder coated steel for durability. The extra wide base gives an extra measure of stability. Available in both 1/2" and 3/4" FIPT outlets for sprinkler specific attachment. The 3/4" FHT swivel attaches to standard garden hoses.

#### MODEL DESCRIPTIONS

Model No.	Description
WB05	1/2" FIPT outlet
WB07	3/4" FIPT outlet



### Roller Sprinkler Bases

#### (RB1507)

- 15" Metal Roller Base
- 3/4" Hose
- accepts 3/4" Male NPT Sprinkler

#### (RB2210)

- 22" Metal Roller Base
- 1" Hose
- accepts 1" Male NPT Sprinkler

#### MODEL DESCRIPTIONS

Model No.	Description
RB1507	15" Roller Base
RB2210	22" Roller Base

**VBPRASKIT**  
 3/4" x 20 Thread  
 24 VAC



**VBPRASHVKIT**  
 3/4" x 20 Thread (HV)  
 115 VAC High Voltage



**VBPRASHDKIT**  
 3/4" x 20 Thread  
 Heavy Duty (HD)



**VDWASKIT**  
 3/4" x 20 Thread 24 VAC  
 3-Way Dirty Water Solenoid



**16200**  
 3/4" x 20 Thread  
 24 VAC



**16075**  
 3/4" x 20 Thread (HV)  
 3-Way 24 VAC  
 1/16" Orifice



**16275**  
 3/4" x 20 Thread  
 115 VAC



**16302**  
 3/4" x 20 Thread  
 220 VAC



**16075-A**  
 3/4" x 20 Thread  
 3-Way 24 VAC  
 3/64" Orifice

**SERVICE ACCESSORIES**



**PG200**  
 Pressure Gauge  
 0 - 200 psi  
 3/4" FHT Swivel



**TPT**  
 Large Pitot Tube  
 1/4" NPT Inlet



**NEPO50C**  
 Nipple Extractor  
 for 1/2" Nipple

Buckner/Superior Part #	Aqualine Part #	Champion Part #	SMG Part Description
5	HPF5	-	Hose Fitting 3/4" Female Hose x 1/2" Male NPT
7	HPF7	-	Hose Fitting 3/4" Female Hose x 3/4" Female Hose
8	HPF8	-	Hose Fitting 3/4" Male Hose x 3/4" Male x 1/2" Female NPT
9	HPF9	-	Hose Fitting 3/4" Female Hose x 3/4" Male x 1/2" Female NPT
10	HPF10	-	Hose Fitting 3/4" Male Hose x 1/2" Male NPT
12	HPF12	-	Hose Fitting 3/4" Female Hose x 3/4" Female NPT
13	HPF13	-	Hose Fitting 3/4" Female Hose x 1/2" Female NPT
14	HPF14	-	Hose Cap 3/4" Female
18	BLR	18	Red Brass Pop-Up Body Only
19	BS	19	Red Brass Shrub-Body Only
18HP	BHR	18HP	Red Brass High Pop-Up Body Only
18SF	-	18SF	Red Brass Pop-Up Full Spray
18SH	-	18SH	Red Brass Pop-Up Half Spray
18SQ	-	18SQ	Red Brass Pop-Up Quarter Spray
ASB07	-	V19-466P-075	3/4" NPT, brass anti-siphon body
ASB07Y	600	V19-466P-075Y	Anti-Siphon Body 3/4" Yellow Brass
ASB10	-	V19-466P-100	1" NPT, brass anti-siphon body
ASB10Y	602	V19-466-100Y	Anti-Siphon Body 1" Yellow Brass
ASBU07	-	V19-466-075	3/4" NPT, brass anti-siphon body w/union
ASBU07Y	601	466-075Y	Anti-Siphon Body With Union 3/4" Yellow Brass
ASBU10	-	V19-466-100	1" NPT, brass anti-siphon body w/union
ASBU10Y	603	V19-466-100Y	Anti-Siphon Body With Union 1" Yellow Brass
ASV07	-	466P-075	3/4" NPT, brass anti-siphon valve
ASV07Y	AS-075	466P-075Y	Anti-Siphon Valve, 3/4" Yellow Brass
ASV10	-	466P-100	1" NPT, brass anti-siphon valve
ASV10Y	AS-100	466P-100Y	Anti-Siphon Valve, 1" Yellow Brass
ASVU07	-	466-075	3/4" NPT, brass anti-siphon valve w/union
ASVU07Y	ASU-075	466-075Y	Anti-Siphon Valve With Union 3/4"
ASVU10	-	466-100	1" NPT, brass anti-siphon valve w/union
ASVU10Y	ASU-100	466-100Y	Anti-Siphon Valve W/Union 1" Yellow Brass
AV075	-	200RS-075	3/4" Angle Valve with Cross Handle - Red Brass
AV075Y	AV-075	200RS-075Y	3/4" Angle Valve with Cross Handle - Yellow Brass
AV100	-	200RS-100	1" Angle Valve with Cross Handle - Red Brass
AV100Y	AV-100	200RS-100Y	1" Angle Valve with Cross Handle - Yellow Brass
AV120	-	200RS-125	1-1/4" Angle Valve with Cross Handle - Red Brass
AV120Y	AV-125	200RS-125Y	1-1/4" Angle Valve with Cross Handle - Yellow Brass
AV150	-	200RS-150	1-1/2" Angle Valve with Cross Handle - Red Brass
AV150Y	AV-150	200RS-150Y	1-1/2" Angle Valve with Cross Handle - Yellow Brass
AV200	-	200RS-200	2" Angle Valve with Cross Handle - Red Brass
AV200Y	AV-200	200RS-200Y	2" Angle Valve with Cross Handle - Yellow Brass
AVB07	-	262-075	3/4" NPT, Atmospheric Vacuum breaker
AVB07Y	AVB-075	262-075Y	3/4" Atmospheric Vacuum Breaker Yellow Brass
AVB10	-	262-100	1" NPT, Atmospheric Vacuum breaker
AVB10Y	AVB-100	262-100Y	1" NPT, Atmospheric Vacuum breaker - Yellow Brass
AVB12	-	262-125	Atmospheric Vacuum Breaker 1.25" Red Brass
AVB12Y	AVB-125	262-125Y	Atmospheric Vacuum Breaker 1.25" Yellow Brass
AVB15	-	262-150	Atmospheric Vacuum Breaker 1.5" Red Brass
AVB15Y	AVB-150	262-150Y	Atmospheric Vacuum Breaker 1.5" Yellow Brass
AVB20	-	262-200	Atmospheric Vacuum Breaker 2" Red Brass
AVB20Y	AVB-200	260-200Y	Atmospheric Vacuum Breaker 2" Yellow Brass
AVBU07	-	362-075	3/4" NPT, Atmospheric Vacuum Breaker w/ Union
AVBU07Y	AVBU-075	362-075Y	3/4" NPT, Atmospheric Vacuum Breakerw/Union - Yellow Brass
AVBU10	-	362-100	1" NPT, Atmospheric Vacuum Breaker w/ Union
AVBU10Y	AVBU-100	362-100Y	1" NPT, Atmospheric Vacuum Breaker w/ Union - Yellow Brass
AVBU12	-	362-125	Atmospheric Vacuum Breaker W/Union 1.25"
AVBU12Y	AVBU-125	362-125Y	Atmospheric Vacuum Breakerw/Union 1.25" Yellow Brass
AVBU15	-	362-150	Atmospheric Vacuum Breaker W/Union 1.5"
AVBU15Y	AVBU-150	362-150Y	Atmospheric Vacuum Breaker W/Union 1.5" Yellow Brass
AVBU20	-	362-200	Atmospheric Vacuum Breaker W/Union 2"
AVBU20Y	AVBU-200	362-200Y	Atmospheric Vacuum Breaker W/Union 2" Yellow Brass
AVU075	-	300RS-075	Angle Valve W/Union 3/4" Red Brass
AVU075Y	AVU-075	300RS-075Y	Angle Valve W/Union 3/4" Yellow Brass
AVU100	-	300RS-100	Angle Valve W/Union 1" Red Brass
AVU100Y	AVU-100	300RS-100Y	Angle Valve W/Union 1" Yellow Brass
AVU120	-	300RS-125	Angle Valve W/Union 1.25" Red Brass
AVU120Y	AVU-125	300RS-125Y	Angle Valve W/Union 1.25" Yellow Brass

Buckner/Superior Part #	Aqualine Part #	Champion Part #	SMG Part Description
AVU150	-	300RS-150	Angle Valve W/Union 1.5" Red Brass
AVU150Y	AVU-150	300RS-150Y	Angle Valve W/Union 1.50" Yellow Brass
AVU200	-	300RS-200	Angle Valve W/Union 2" Red Brass
AVU200Y	AVU-200	300RS-200Y	Angle Valve W/Union 2" Yellow Brass
ASVUW07Y	ASUW-075	466W-075Y	Anti-Siphon Valve W/ Union, Wheel Handle 3/4"
ASVUW10Y	ASUW-100	466W-100Y	Anti-Siphon Valve W/ Union, Wheel Handle 1"
ASVW07Y	ASW-075	466PW-075Y	Anti-Siphon Valve W/ Wheel Handle 3/4"
ASVW10Y	ASW-100	466PW-100Y	Anti-Siphon Valve W/ Wheel Handle 1"
B400	-	B-400	Garden Valve Bent Nose 3/4" Mht X 1/2" Fnpt Red Brass
B400Y	GV-050	B-401	Garden Valve 3/4" Mht X 1/2" Fnpt Yellow Brass
B401	-	B-401LK	Garden Valve 3/4" x 3/4" Female NPT
B401LK	GV-075L	B-400LK	Garden Valve 3/4" x 3/4" Female NPT Loose Key
B401Y	GV-075	-	Garden Valve 3/4" Mht 3/4" Fnpt Yellow Brass
B402	-	B-402	Garden Valve 3/4" x 1" Female NPT
B402LK	GV-100L	B-402LK	Garden Valve 3/4" x 1" Female NPT Loose Key
B402Y	GV-100	-	Garden Valve 3/4" Mht X 1" Fnpt Yellow Brass
BDV	-	DV-050	Valve, Ball Drain 1/2"
BPHM	BHR	18HP	1/2" NPT, Brass Pop-Up, 2" High
BPM	BLR	18	1/2" NPT, Brass Pop-Up, 1" High
G200	200PGL	G200-C	Pressure Gauge, 0-200 PSI, 3/4" FHT Swivel
GS10	-	-	Greens Spray Nozzle, 1" Female Hose Inlet
HA10	-	-	Hose Adaptor Kit 3/4" to 1" Hose Thread
HB1F	-	HB-1F-D	Hose Bibb 3/4" x 1/2" Female NPT
HB1FY	HB-050F	-	Hose Bib 3/4" Mht X 1/2" Fnpt Yellow Brass
HB1M	-	HB-1M	Hose Bibb 3/4" x 1/2" Male NPT
HB1MY	HB-050M	-	Hose Bib 3/4" Mht X 1/2" Mnpt Yellow Brass
HB2F	-	HB-2F	Hose Bibb 3/4" x 3/4" Female NPT
HB2FY	HB-075F	-	Hose Bib 3/4" Mht X 3/4" Fnpt Yellow Brass
HB2M	-	HB-2M	Hose Bibb 3/4" x 3/4" Male NPT
HB2MY	HB-075M	-	Hose Bib 3/4" Mht X 3/4" Fnpt Yellow Brass
I400	-	I-400	Garden Valve Inverted 3/4" X 1/2" Female Pipe Thread
I400Y	GV-050IN	-	Garden Valve Inverted 3/4" Mht X 1/2" Fnpt Yellow Brass
I401	-	I-401	Inv. Garden Valve 3/4" x 3/4" Female NPT
I401LK	-	I-401LK	Inv. Garden Valve 3/4" x 3/4" Female NPT Loose Key
I401LKY	GV-050INL	-	Garden Valve Inverted Loose Key 3/4" Mht X 3/4" Fnpt Yellow Brass
I401Y	GV-075IN	-	Garden Valve Inverted 3/4" Mht X 3/4" Fnpt Yellow Brass
I402	-	I-402	Inv. Garden Valve 3/4" x 1" Female NPT
I402Y	GV-100IN	-	Garden Valve Inverted 3/4" Mht X 1" Fnpt Yellow Brass
NEP050C	NE-ZINC	-	Nipple Extractor for 1/2" Nipple
PG200	200PGS	G200-C	Pressure Gage 200 Psi
RB1507	-	-	15" Metal Roller Base, 3/4" Hose, accepts 3/4" Male NPT Sprinkler
RB2210	-	-	22" Metal Roller Base, 1" Hose, accepts 1" Male NPT Sprinkler
RK-30C	RK1	RK-30C	3/4" Anti-Siphon Valve Rebuild Kit
RK-31C	RK2	RK-31C	1" Anti-Siphon Valve Rebuild Kit
RK-6C	RK4	RK-6C	3/4" Vacuum Breaker Rebuild Kit
RK-7C	RK5	RK-7C	1" Vacuum Breaker Rebuild Kit
SBA	BHR-M	-	Brass, 1/2" FIPT Inlet, Accepts "B" Series Nozzles
SF	F15	SF	Brass Nozzle-15' Radius-Full Spray
SH	H15	SH	Brass Nozzle-15' Radius-Half Spray
SK30	30VK	30-6	Manual Valve Key 30" Handle
SK54	54VK	30-30	Manual Valve Key 54" Handle
SK6	7VK	30-54	Manual Valve Key 6" Handle
SPIKEA	-	-	Metal Step Sprinkler Base, 1/2" FNPT outlet by 3/4" MHT inlet
SPIKEB	-	-	Metal Step Sprinkler Base, 1/2" FNPT outlet by 3/4" FHT & MHT inlet
SQ	Q15	SQ	Brass Nozzle-15' Radius-Quarter Spray
SS	CS	SS	Brass Nozzle-4' x 20' Center Strip Spray
SWEEPNOZ2	HN-2	34	2" NPT, Sweeper Nozzle
SWEEPNOZ6	HN-6	35	6" NPT, Sweeper Nozzle
TLK	QC-LK	LK	Key for lock top quick coupling valves & valve markers
TPT	-	-	Large Pitot Tube
TWISTNOZ3	-	-	3" NPT, Twist Nozzle
TWISTNOZ4	HN-4	-	4" NPT, Twist Nozzle
TWISTNOZ7	HN-7	-	7" NPT, Twist Nozzle
VBH	HEVB	VBH	Hose Bibb Vacuum Breaker 3/4"
WB05	-	-	1/2" FIPT outlet x 3/4" FHT swivel Wire Base
WB07	-	-	3/4" FIPT outlet x 3/4" FHT swivel Wire Base

## SMG - Buckner/Superior Limited Trade Warranty

Buckner/Superior warrants to its trade customers that its products will be free from original defects in material and workmanship for a period of time (commencing on the date of original sale to the trade customer) as follows:

**3 YEARS for all Buckner/Superior Brass trademarked products, which include:**

- Brass/Plastic body valves
- Brass/Plastic automatic adaptors
- Brass quick coupling valves, keys, and hose swivels
- Brass manual angle valves
- Brass above-ground impact sprinklers
- Brass spray nozzles
- Sterling controllers

**2 YEARS for all other products.**

Note: Solenoids and pressure gauges are warranted for three years.

This warranty applies only to Buckner/Superior products which are installed as specified and used as intended for irrigation purposes. This warranty applies only to cataloged products which have not been altered, converted, damaged, misused, or misapplied. This warranty does not cover products adversely affected by the system into which the products are incorporated, including improperly designed, installed, operated, or maintained systems, or systems using water containing corrosive chemicals, electrolytes, sand, dirt, silt, rust, and scale. This warranty does not cover component failures caused by lightning strikes, electrical power surges, or damage caused by freezing environments. Buckner/Superior's liability is limited to the repair and/or replacement at Buckner/Superior's sole discretion, of products which are returned prepaid through the trade customer to the factory and found by Buckner/Superior to be defective, but in no event shall Buckner/Superior's liability exceed the selling price of the product.

Buckner/Superior makes no other warranties, expressed or implied. No representative, agent, or distributor or other persons has the authority to waive, alter, or add to the printed provisions of this warranty, or to make representation of warranty not contained herein. The sole and exclusive remedy against Buckner/Superior is limited to repair or replacement; Buckner/Superior is not liable for consequential, incidental, indirect, or special damages, including but not limited to labor to inspect, remove, or replace products, vegetation loss, costs of substitute equipment or services, property damage, loss of use or loss of profits; nor is Buckner/Superior liable for economic losses, lost profits, consequential damages or damage to property arising out of Buckner/Superior's negligence or based on strict liability in tort.

The user and/or trade customer agrees to the limitations and exclusion of liability of this warranty by purchase or use of Buckner/Superior products.

Some states do not permit the exclusion or limitation of incidental or consequential damages or of implied warranties. Therefore, some of the exclusions or limitations may not apply to you.

Buckner/Superior reserves the right to redesign, alter or modify its products and shall incur no liability if a trade customer's inventory of Buckner/Superior goods becomes obsolete. Alterations, modifications, and redesign of a product shall not be evidence that the previous product design was defective and the user and/or trade customer so agrees by purchase or use of Buckner/Superior products.



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