

A BETTER CHOICE

XCAD USA™

Innovation Through Design, Engineering and Experience™





A BETTER CHOICE

Innovation Through Design, Engineering and Experience™

XCAD USA is a committed leader in the irrigation industry. We proudly supply our customers with a superior product that is crafted with integrity and excellence. Our mission is to bring innovation to our industry through design, engineering and experience.

Over the last seventeen years, **XCAD USA** has been devoted to building lasting relationships with our customers. Those relationships have allowed our business to grow and provided us with the privilege to utilize and conserve the world's greatest resource, water (H₂O).

At **XCAD USA** we are invested in our people, our state, and our world. Not only do we provide world class irrigation products for agricultural and industrial applications, we support communities and grow local economies.

All **XCAD USA** irrigation products are designed and engineered in Paul, Idaho. We are proud to invest in the people that build our products and the communities that they live in. Our company reflects the exemplary values of our customers, our employees, and our great state. We are proud to be recognized as a leader in our industry. **XCAD USA** will continue to serve local communities throughout the USA with our innovative products and our commitment to excellence.

AQUA BURST ®
Torque Driven™



A BETTER CHOICE

Innovation Through Design, Engineering and Experience™

AQUA BURST

Torque Driven™



Multi-Composite™

Advanced Flow Nozzles™

Raven-Smart™

Technology of Modern Design™

Precision Channel Spoon™

X SERIES BRASS™ - MADE TO LAST™

X100 End Gun™

Thunderbolt™

Creoplology™

The Science of Making Rain™

All XCAD® Products Are Designed and Engineered in the USA
From Materials Made in the USA, Germany, India and Other Foreign Sources

INSTALLATION, MAINTENANCE & USER GUIDE

Installation, Maintenance and User Guide for Aqua Burst® Full Circle Impact Sprinklers

Operation of the Spoon-Driven Sprinkler

- ◆ Pressurized water passes through the bearing and sprinkler body exiting through the nozzle onto the sloping vane. The water is then directed through the arm window into the curve of the spoon creating a reactionary force.
- ◆ The reactionary force of the pressurized water leaving the spoon forces the arm out of the stream and away from the nozzle.
- ◆ The tension of the arm spring then pulls the arm back into its original position. During this process the impact is accelerated by the angle of the leading edge of the sloping vane causing the sprinkler to move a small degree of travel so that the rotation of the sprinkler is relatively slow and uniform (one-half to three minutes per revolution, depending on the model, pressure and nozzle size).

Common Causes of Impact Sprinkler Failure

1 - Foreign objects in water causing nozzle to become plugged

Remove and clean nozzle, then reinstall. Brass nozzles plugged with soft materials may be removed by inserting a wire to dislodge plug as long as care is used not to scratch the internal bore of the nozzle.

2 - Oils or Pipe Dope

Most Aqua Burst® sprinklers come with **pre-applied XC-33 thread sealant** and require no other sealant during installation. All Aqua Burst® impact sprinklers are water-lubricated. Never use additional lubricants such as oil, grease, anti-seize or pipe dope on bearing assembly or arm. Doing so will damage sprinkler and will *void warranty*. **Teflon tape, properly installed is the only other recommended thread sealant.**

3 - Improper Pressure

Always operate sprinkler within its recommended normal pressure range. Operation of sprinkler outside of its intended performance range may cause premature wear or crop damage and will *void warranty*. (See Aqua Burst® nozzle performance charts for working pressure ranges).

4 - Worn and Improper Nozzle Sizes

Aqua Burst® Impact Sprinklers are only guaranteed to function optimally with recommended nozzle sizes and types for each individual model. Only use recommended nozzle sizes and types for each model. Using improper size and type may cause excessive wear or sprinkler failure, inaccurate water distribution and/or crop damage and will void warranty. (See Aqua Burst® nozzle performance charts for proper nozzle selection).

5 - Crushed Bearing Sleeve

Avoid over-tightening sprinkler into riser or fitting during installation. Most Aqua Burst® sprinklers come with **pre-applied XC-33 thread sealant**. Over-tightening can cause the outer bearing sleeve to crush into the inner bearing spindle causing the bearing to bind and fail to rotate. In addition, over-tightening makes removal and replacement difficult and may require professional assistance. ☺

6 - Avoid Incompatible Fittings

Avoid fittings that can come into contact with sprinkler bearing spindle. Some fittings have a shoulder that can interfere with the bearing spindle and cause the sprinkler to seize and fail.

7 - Over-tightening

Avoid over-tightening nozzle and sprinkler bearing nut during installation. Over-tightened nozzle will be very difficult to remove and replace. Never use a wrench or sprinkler wrench that can crush the bearing while installing or removing the sprinkler. Most Aqua Burst® sprinklers come with pre-applied XC-33 thread sealant and do not require sprinkler to be over-tightened during installation.

AQUA BURST 2017 Product Line-Up

Innovation

Through
 Design,
 Engineering,
 and Experience



Torque Driven™



Raven-Smart™

Aqua Burst® Sprinklers Are Water Lubricated

The use of additional lubricants such as Oil, Grease, Anti-Seize or Pipe Dope will damage the bearing assembly and void the warranty.

Thread Sealant XC-33

Most models come with preapplied thread sealant XC-33. XC-33 forms an elastic gasket for easy assembly, removal and reuse.

Teflon® tape is the only other recommended thread sealant.

Designed and Engineered in the USA

Built with Domestic and Foreign Parts

Part #	Base	Coverage	Recommended Nozzles	Material	Qty	List
X10018	2"	18° End Gun	X100-42-	Multi-material	each	
X10024	2"	24° End Gun	X100-42-	Multi-material	each	
X10043	2"	43° End Gun	X100-42-	Multi-material	each	
X100V18	2"	18° End Gun w/Valve	X100-42-	Multi-material	each	
X100V24	2"	24° End Gun w/Valve	X100-42-	Multi-material	each	
X100V43	2"	43° End Gun w/Valve	X100-42-	Multi-material	each	
HF20	1/2"	Adjustable	NOZ5R-	Brass	100/case	
X25EDS	1/2"	Adjustable	9/64" nozzle installed	Multi-Composite™	60/case	
X25ED	1/2"	Adjustable	9/64" nozzle installed	Multi-Composite™	60/case	
AL1023	1/2"	10° or 23° Full Circle	NOZ5R-	Multi-Composite™	100/case	
AL30	3/4"	Full Circle	NOZ75- or NOZPL75-	Multi-Composite™	60/case	
HF30	3/4"	23° Full Circle	NOZ75- or NOZPL75-	Brass	60/case	
HF30AL	3/4"	Full Circle	NOZ75- or NOZPL75-	Brass/Aluminum	60/case	
X35ED	3/4"	Adjustable	NOZ75- or NOZPL75-	Brass	20/case	
X65F-S	1"	Full Circle	NOZ1-	Brass	5/case	
X65ED-S	1"	Adjustable	NOZ1-	Brass	5/case	
X85F24	1 1/4"	Full Circle	NOZ125-	Brass	each	
X85ED18	1 1/4"	Adjustable	NOZ125-	Brass	each	
X85ED24	1 1/4"	Adjustable	NOZ125-	Brass	each	

END GUNS

5-Year Limited Warranty

Designed and Built
 In Paul, Idaho, USA

X100 End Gun™ Thunderbolt™

Raven-Smart™ Technology



Built in the USA

X10018

Now Available with
 Heavy-Duty Stainless Steel
 Waste Water Bearing

Features

- ◆ 37 - 290 gpm, 35 - 100 psi
- ◆ 18° trajectory - Pivot end gun
- ◆ 24° trajectory - Movable and solid set
- ◆ 43° trajectory - Dust control and mining
- ◆ Continuous forward and reverse speeds
- ◆ Adjustable control from 30° to 330°

Advantages

- ◆ Comes standard with both high and low force drive vanes for superior performance of small to large nozzles
- ◆ Powder-coated aluminum drive arm
- ◆ Stainless steel arm bearing
- ◆ Stainless steel nozzle mount and stud
- ◆ Fully adjustable shift box
- ◆ Solid brass reversing stops
- ◆ Taper ring nozzles
- ◆ All aluminum parts are epoxy coated or fully anodized
- ◆ **100% Rebuildable in our factory or your shop!**

End Gun Does Not Include Nozzle

X10018 End Gun™ Thunderbolt™
 sold individually

		List
X10018	18° End Gun	
X10024	24° End Gun	
X10043	43° End Gun	
X10018SS	18° Stainless Steel End Gun	
X10024SS	24° Stainless Steel End Gun	
X100V18	18° End Gun with Valve	
X100V24	24° End Gun with Valve	
X100V43	43° End Gun with Valve	

2" Seal Matic™ Valve Combo

No electric solenoid required for End Gun™ control when used with booster pump

Warranty and Disclaimer

XCAD USA /Aqua Burst™ X-100 End Gun™ sprinklers are warranted for one year from date of manufacture to be free of defective materials and workmanship when used within the working specifications for which the product was designed and intended and under normal use and service. This warranty includes an additional four (4) year service plan (from date of manufacture) for repair of any non-functioning X-100 End Gun™ due to defective materials and workmanship or excessive wear when used in normal working conditions. The manufacturer's liability under this warranty is limited solely to repair of defective parts and labor and the manufacturer will not be liable for any freight, crop loss or other consequential damages resulting from defects, excessive wear or breach of warranty. This warranty is expressly in lieu of all other warranties, express or implied, including the warranties of merchantability and or liabilities of the manufacturer. No agent, employee or representative of the manufacturer has the authority to waive, alter or add to the provisions of this warranty, nor make any representations or warranty not contained herein. **XCAD USA** /Aqua Burst™ reserves the right to define this warranty or any other warranty as **XCAD USA** /Aqua Burst™ sees fit.

END GUNS



X100-51H

AQUA BURST® Preliminary Performance Charts

Single Straight Bore Nozzle

Radius - GPM



X100-51L

X10018

High Force Large Drive Vane X100-51H							Factory Installed Low Force Small Drive Vane X100-51L						
PSI	.4" Nozzle	.45" Nozzle	.5" Nozzle	.55" Nozzle	.6" Nozzle	.65" Nozzle	.70" Nozzle	.75" Nozzle	.80" Nozzle	.85" Nozzle	.90" Nozzle	.95" Nozzle	1." Nozzle
40	74 - 26	79 - 35	85 - 42	90 - 52	95 - 61	99 - 71	102 - 84	107 - 95	111 - 108	119 - 123	122 - 139	128 - 154	-
45	77 - 28	83 - 37	88 - 44	93 - 55	98 - 64	102 - 76	106 - 87	110 - 101	115 - 114	124 - 131	126 - 146	132 - 162	136 - 180
50	80 - 29	86 - 39	92 - 46	96 - 58	101 - 68	105 - 80	110 - 92	114 - 105	118 - 119	127 - 138	131 - 151	135 - 169	140 - 187
55	82 - 31	89 - 40	95 - 49	99 - 61	104 - 72	109 - 84	113 - 97	117 - 111	122 - 125	131 - 145	134 - 160	139 - 178	144 - 196
60	84 - 32	92 - 41	97 - 51	102 - 63	108 - 78	112 - 88	117 - 101	119 - 116	125 - 132	134 - 150	138 - 167	143 - 186	148 - 205
65	86 - 34	94 - 43	100 - 54	105 - 65	110 - 80	116 - 93	121 - 105	123 - 120	129 - 137	139 - 157	141 - 175	147 - 195	153 - 214
70	87 - 36	96 - 44	102 - 55	108 - 68	111 - 81	119 - 98	125 - 110	126 - 125	133 - 142	141 - 163	145 - 181	152 - 202	158 - 223
75	89 - 37	100 - 46	105 - 57	110 - 70	115 - 84	122 - 100	127 - 114	130 - 130	136 - 148	141 - 163	149 - 187	156 - 209	162 - 230
80	91 - 39	103 - 48	108 - 59	111 - 72	118 - 86	125 - 102	130 - 118	134 - 133	138 - 152	144 - 168	152 - 193	159 - 215	165 - 237
85	93 - 40	106 - 50	110 - 61	113 - 75	121 - 89	129 - 104	134 - 120	138 - 137	141 - 157	147 - 174	154 - 199	161 - 222	167 - 244
90	94 - 42	109 - 52	112 - 63	116 - 77	124 - 93	133 - 107	137 - 124	143 - 142	145 - 162	150 - 180	157 - 206	163 - 228	169 - 251
95	97 - 43	112 - 54	115 - 65	118 - 80	128 - 96	137 - 111	141 - 129	147 - 146	149 - 167	152 - 185	159 - 212	165 - 235	172 - 259
100	99 - 45	115 - 56	118 - 67	121 - 83	131 - 99	141 - 115	146 - 133	151 - 150	152 - 172	155 - 191	161 - 217	168 - 242	174 - 265

X10024

High Force Large Drive Vane X100-51H							Factory Installed Low Force Small Drive Vane X100-51L						
PSI	.4" Nozzle	.45" Nozzle	.5" Nozzle	.55" Nozzle	.6" Nozzle	.65" Nozzle	.70" Nozzle	.75" Nozzle	.80" Nozzle	.85" Nozzle	.90" Nozzle	.95" Nozzle	1." Nozzle
40	79 - 28	85 - 37	91 - 45	96 - 55	101 - 65	105 - 76	109 - 89	114 - 101	118 - 115	127 - 131	130 - 148	136 - 164	-
45	82 - 30	89 - 39	94 - 47	99 - 58	104 - 68	109 - 81	113 - 93	118 - 107	122 - 127	132 - 139	135 - 155	140 - 172	145 - 191
50	85 - 31	92 - 41	98 - 49	103 - 62	107 - 72	112 - 85	117 - 98	122 - 112	126 - 127	136 - 147	139 - 161	144 - 180	149 - 199
55	88 - 33	95 - 43	101 - 52	106 - 65	111 - 77	116 - 89	121 - 103	125 - 118	130 - 133	139 - 154	143 - 170	148 - 189	153 - 209
60	90 - 34	98 - 44	104 - 54	109 - 67	115 - 83	120 - 94	125 - 107	127 - 123	134 - 140	143 - 160	147 - 178	152 - 198	157 - 218
65	91 - 36	100 - 46	107 - 57	112 - 69	117 - 85	123 - 99	129 - 112	131 - 128	138 - 146	148 - 167	150 - 186	157 - 207	163 - 228
70	93 - 38	103 - 47	109 - 59	115 - 72	118 - 86	127 - 104	133 - 117	135 - 133	142 - 151	150 - 173	154 - 193	162 - 215	169 - 237
75	95 - 39	107 - 49	112 - 61	117 - 74	122 - 89	130 - 106	136 - 121	139 - 138	145 - 157	154 - 179	158 - 199	166 - 222	173 - 245
80	97 - 41	110 - 51	115 - 63	118 - 77	126 - 92	133 - 108	138 - 125	143 - 142	147 - 162	156 - 185	162 - 205	169 - 229	176 - 252
85	99 - 43	113 - 53	117 - 65	121 - 80	129 - 95	137 - 111	143 - 128	147 - 146	151 - 167	160 - 191	164 - 212	171 - 236	178 - 260
90	101 - 45	116 - 55	119 - 67	123 - 82	132 - 99	142 - 114	146 - 132	152 - 151	154 - 172	162 - 197	167 - 219	174 - 243	180 - 267
95	103 - 46	119 - 57	123 - 69	126 - 85	136 - 102	146 - 118	151 - 137	156 - 155	158 - 178	165 - 203	169 - 225	176 - 250	183 - 275
100	105 - 48	122 - 60	126 - 71	129 - 88	139 - 105	150 - 122	155 - 141	161 - 160	162 - 183	167 - 208	172 - 231	179 - 257	185 - 282

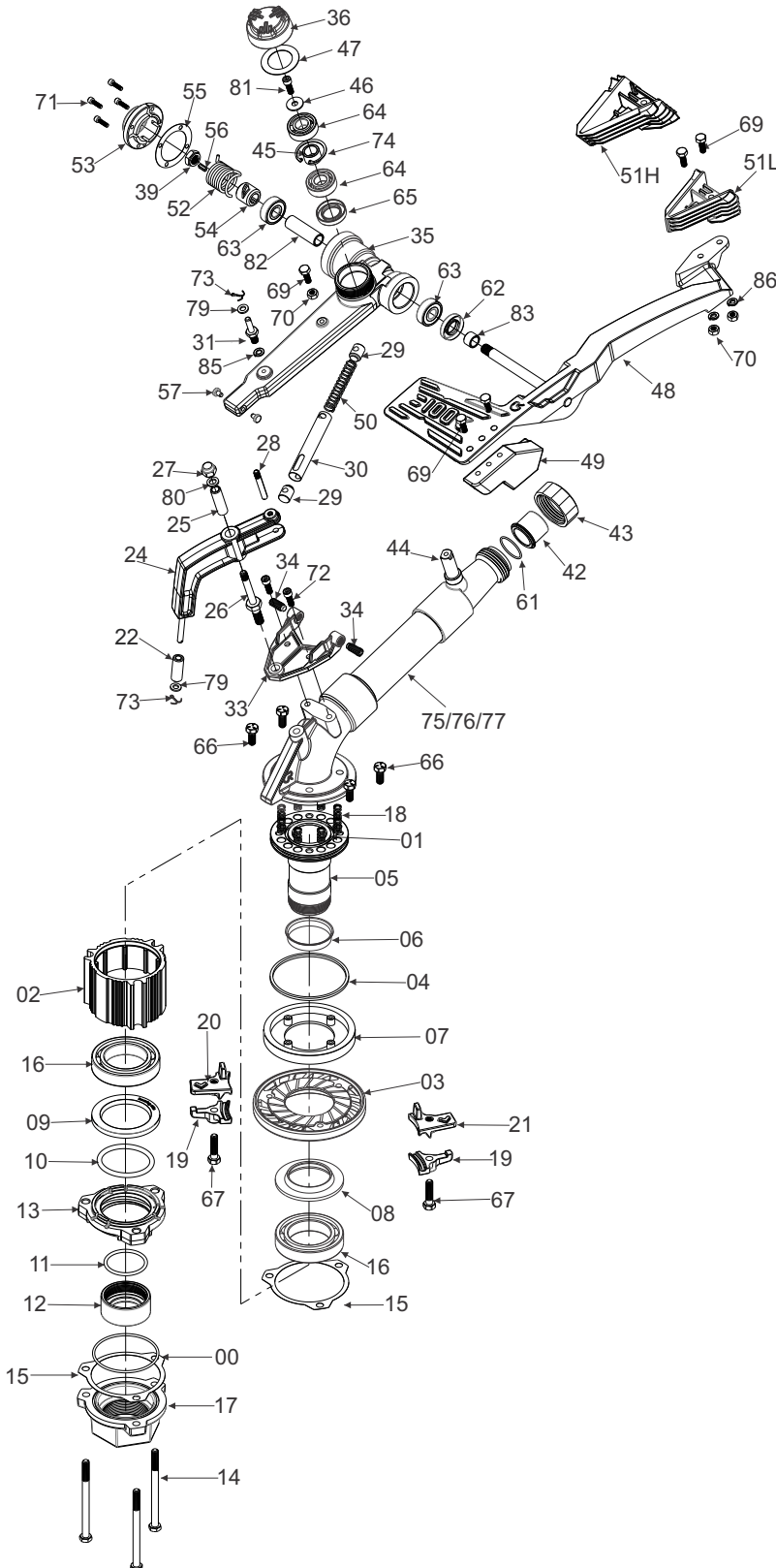
Operate ONLY between 40 psi (min) and 100 psi (max)

Aqua Burst™ impact sprinklers are only guaranteed to function optimally with nozzle sizes and pressure from each individual model's performance chart.

All Prices Subject To Change Without Notice

END GUN REPLACEMENT PARTS

X100 End Gun™ Parts



- X100-00 Base Nut O-Ring -150
- X100-01 O-Ring -226
- X100-02 Bearing Housing
- X100-03 Upper Bearing Carrier
- X100-04 Brake Seal
- X100-05 Bearing Stem
- X100-06 Seal Sleeve
- X100-07 Brake Disc
- X100-08 Upper Bearing Seal
- X100-09 Lower Bearing Seal
- X100-10 O-Ring -224
- X100-11 O-Ring -331
- X100-12 Stem Nut
- X100-13 Bearing Base Carrier
- X100-14 Bearing Hex Bolt
- X100-15 Housing Gasket
- X100-16 Ball Bearing 6010
- X100-17 Base Nut Flange
- X100-18 Friction Spring
- X100-19 Reverse Stop, Bottom
- X100-20 Reverse Stop, Left
- X100-21 Reverse Stop, Right
- X100-22 Swing Arm Bushing
- X100-24 Reverse Swing Arm Assembly
- X100-25 Swing Arm Top Bushing
- X100-26 Reverse Arm Stud
- X100-27 Brass Stud Nut
- X100-28 Threaded Swing Arm Top Pin
- X100-29 Trip Spring Follower
- X100-30 Spring Guide Pipe
- X100-31 Shift Arm Stud
- X100-33 Shift Box, SS
- X100-34 Shift Box Set Screw
- X100-35 Shift Arm
- X100-36 Bearing Boss Cover
- X100-39 Arm Nut, SS
- X100-42 Straight Bore Nozzle
- X100-43 Nozzle Retainer Nut
- X100-44 Arm Mount Stud, SS
- X100-45 Shift Arm Spacer
- X100-46 Bearing Washer
- X100-47 Arm Bearing Cap Gasket
- X100-48 X-100 Single Strut Arm
- X100-49 Arm Weight
- X100-50 Trip Spring, SS
- X100-51L Low Force Drive Vane
- X100-51H High Force Drive Vane
- X100-52 Arm Spring, SS
- X100-53 Arm Spring Cover
- X100-54 Spring Pawl, SS
- X100-55 Spring Cover Gasket
- X100-56 Pawl Key
- X100-57 Impact Button
- X100-61 Nozzle O-ring -025
- X100-62 Arm Seal
- X100-63 Arm Bearing 6201, SS
- X100-64 Shift Arm Bearing 6202, SS
- X100-65 Shift Arm Seal
- X100-66 Bolt 5/16-18 x 5/8, SS
- X100-67 Bolt 5/16-18 x 1 1/4, SS
- X100-69 Bolt 1/4 X 1, SS
- X100-70 Nut 1/4, SS
- X100-71 Cap Screw #8 x 5/8, SS
- X100-72 Cap Screw 1/4 x 1/2, SS
- X100-73 Cotter Pin
- X100-74 Snap Ring 1 1/4", SS
- X100-75 X100 18° Elbow Body
- X100-76 X100 24° Elbow Body
- X100-77 X100 43° Elbow Body
- X100-79 Brass Washer
- X100-80 Rubber Washer
- X100-81 1/4-20 Buttonhead Screw, SS
- X100-82 Long Shaft Sleeve
- X100-83 Short Shaft Sleeve
- X100-85 Split Lock Washer, 5/16", SS
- X100-86 Split Lock Washer, 1/4", SS

List

END GUN PARTS

X-100 Complete Replacement Bearing

Also Fits Nelson™ SR100 and SR75
 (Does not include stops)



X100BA

X100BA	Complete Bearing Assembly
X100BASS	Heavy-Duty Waste Water Bearing Assembly with stainless steel bearings

List

Features

- ◆ Anodized aluminum body and bearing stem
- ◆ One-piece brass bearing base carrier with Aqua Burst™ exclusive UltraSlip impregnated o-ring
- ◆ Heavy-duty waste water bearing assembly includes stainless steel ball bearings, bearing stem, bearing nut, bearing carrier and base flange

X100 Nozzle

Also fits Nelson™ SR75 Big Gun®



X100-42-.5

X100-42-.4	26 - 45 gpm
X100-42-.45	35 - 46 gpm
X100-42-.5	42 - 67 gpm
X100-42-.55	52 - 83 gpm
X100-42-.6	61 - 99 gpm
X100-42-.65	71 - 115 gpm
X100-42-.7	84 - 133 gpm
X100-42-.75	95 - 150 gpm
X100-42-.8	108 - 172 gpm
X100-42-.85	123 - 191 gpm
X100-42-.9	139 - 217 gpm
X100-42-.95	154 - 242 gpm
X100-42-1	180 - 265 gpm

List

AXIS END OF PIVOT SPRINKLER

AXIS™

End of Pivot Sprinkler



AXIS-G

Raven-Smart™
 Your Future In Irrigation

AQUA BURST Viscous™ Technology

Features

- ◆ First 'In the Turbine' viscous bearing sprinkler
- ◆ Double pin nozzle
- ◆ 15 to 50 psi working pressure
- ◆ Use in conjunction with X100 End Gun sprinkler for added acreage and improved coverage
- ◆ Large range of nozzle sizes:
 #50, #60, #70, #80, #90

AXIS End Of Pivot Sprinkler

includes nozzle

- Axis-P #50
- Axis-R #60
- Axis-Y #70
- Axis-G #80
- Axis-B #90

List

AXIS Replacement Nozzle

- NOZAX-50
- NOZAX-60
- NOZAX-70
- NOZAX-80
- NOZAX-90

List

Preliminary Performance (US Units)

Operating Pressure Must be 15 psi (min) to 50 (max) psi

	#50	#60	#70	#80	#90
PSI	Purple	Red	Yellow	Green	Blue
15	18.3 - 40	27.7 - 41	36.6 - 42	45.2 - 42	52.0 - 44.0
20	20.8 - 42	31.8 - 44	41.8 - 45	51.7 - 45	59.7 - 48
25	23.4 - 45	35.5 - 48	46.7 - 48	57.7 - 49	66.7 - 52
30	25.8 - 46	38.9 - 49	51.1 - 50	63.1 - 50	73.2 - 53
35	27.9 - 47	42.1 - 50	55.1 - 51	68.2 - 53	79 - 54
40	30.0 - 47	44.9 - 50	58.8 - 51	72.7 - 54	84.3 - 55

This performance chart does not represent droplet, conditions, uniformity, application rate or suitability of the applications made herein.
 Poor hydraulic entrance conditions reduce performance.

Aqua Burst™ impact sprinklers are only guaranteed to function optimally with nozzle sizes and pressure from each individual model's performance chart.

All Prices Subject To Change Without Notice

1/2" BRASS IMPACT SPRINKLER

1/2" Full-Circle Brass Impact Torque Driven™ Spoon Technology



HF20

Features

- ◆ Full-circle impact - 23° trajectory
- ◆ 1/2" male NPT base
- ◆ Single nozzle
- ◆ 3/8 - 24 UNF nozzle threads

Advantages

- ◆ Cast brass drive arm with I-Beam construction and Torque-Driven™ spoon technology with improved balance, rotation speed, and durability
- ◆ Advanced arm balance with consistent rotation speed and increased durability
- ◆ Wide range of nozzles - 3/32", 7/64", 1/8" and 9/64"
- ◆ Stainless steel fulcrum pin, arm spring, and bearing spring
- ◆ Cast brass body with large impact bridges and cored water passage
- ◆ Coined body and arm ensures proper arm position and smooth operation
- ◆ Suitable for solid set and portable applications
- ◆ Made with domestic and foreign parts
- ◆ **Preassembled with XC-33 thread sealant**

Sprinkler Head Does Not Include Nozzle

HF20

100 /case

AQUA BURST® Performance Chart

Normal Stream Height At 9' Above Nozzle at Normal Pressure
 Radius - GPM

PSI	3/32" nozzle	7/64" nozzle	1/8" nozzle	9/64" nozzle
35	36 - 1.50	38 - 2.05	39 - 2.69	39 - 3.39
40	36 - 1.61	38 - 2.19	39 - 2.88	40 - 3.62
45	37 - 1.71	39 - 2.32	39 - 3.04	40 - 3.84
50	37 - 1.80	39 - 2.45	40 - 3.21	41 - 4.05
55	38 - 1.89	40 - 2.57	40 - 3.37	41 - 4.24
60	38 - 1.97	40 - 2.68	41 - 3.52	41 - 4.43

Operate **ONLY** between 35 psi (min) and 60 psi (max)

Aqua Burst™ impact sprinklers are only guaranteed to function optimally with nozzle sizes and pressure from each individual model's performance chart.

All Prices Subject To Change Without Notice

MULTI-COMPOSITE™ 1/2" BASE ADJUSTABLE IMPACT SPRINKLERS

1/2" Heavy-Duty Adjustable Multi-Composite™ Impact

Raven-Smart™ Technology

1/2" Heavy-Duty Adjustable Multi-Composite™ Impact



TWO-YEAR WARRANTY

TWO-YEAR WARRANTY

X25EDS

X25ED

60/case

60/case

Standard Spoon Arm

Anti-Backsplash Arm

- ◆ Full or part-circle, impact sprinkler
- ◆ 23° trajectory
- ◆ 1/2" male NPT base
- ◆ Wide range of brass nozzles
- ◆ **9/64" nozzle installed**
- ◆ 3/8-24 UNF nozzle threads

- ◆ Full or part-circle, impact sprinkler
- ◆ 23° trajectory
- ◆ 1/2" male NPT base
- ◆ Wide range of brass nozzles
- ◆ **9/64" nozzle installed**
- ◆ 3/8-24 UNF nozzle threads

- ◆ Anodized aluminum drive arm with brass bushings
- ◆ Composite body is super-strong and impact resistant
- ◆ All brass bearing
- ◆ Stainless steel fulcrum pin, arm spring, and bearing spring
- ◆ Operates well at both high and low pressures
- ◆ Easily adjustable from 20° to 340° or full-circle
- ◆ Built-in vane straightener for improved performance
- ◆ Adjustable diffuser pin
- ◆ Made with domestic and foreign parts

- ◆ Anodized aluminum drive arm with brass bushings
- ◆ Composite body is super-strong and impact resistant
- ◆ All brass bearing
- ◆ Stainless steel fulcrum pin, arm spring, and bearing spring
- ◆ Operates well at both high and low pressures
- ◆ Easily adjustable from 20° to 340° or full-circle
- ◆ Built-in vane straightener for improved performance
- ◆ Adjustable diffuser pin
- ◆ Made with domestic and foreign parts

AQUA BURST® Performance Chart

Normal Stream Height At 2.5' Above Nozzle at Normal Pressure

Radius - GPM

PSI	1/8" nozzle	9/64" nozzle	5/32" nozzle
35	36 - 2.46	36 - 3.41	39 - 4.30
40	37 - 2.68	37 - 3.69	40 - 4.58
45	38 - 2.71	37 - 3.97	43 - 4.89
50	39 - 2.96	39 - 4.09	45 - 5.16
55	39 - 3.18	40 - 4.17	46 - 5.31
60	39 - 3.29	41 - 4.25	47 - 5.60

AQUA BURST® Performance Chart

Normal Stream Height At 2.5' Above Nozzle at Normal Pressure

Radius - GPM

PSI	1/8" nozzle	9/64" nozzle	5/32" nozzle
35	36 - 2.46	36 - 3.41	39 - 4.30
40	37 - 2.68	37 - 3.69	40 - 4.58
45	38 - 2.71	37 - 3.97	43 - 4.89
50	39 - 2.96	39 - 4.09	45 - 5.16
55	39 - 3.18	40 - 4.17	46 - 5.31
60	39 - 3.29	41 - 4.25	47 - 5.60

Operate ONLY between 35 psi (min) and 60 psi (max)

Aqua Burst® impact sprinklers are only guaranteed to function optimally with nozzle sizes and pressure from each individual model's performance chart.

All Prices Subject To Change Without Notice

MULTI-COMPOSITE™ 1/2" BASE IMPACT SPRINKLER

1/2" Full-Circle, Dual-Angle
Multi-Composite™ Impact
Raven-Smart™ Technology



AI1023

Features

- ◆ Full-circle, dual angle, 2 in 1 impact sprinkler
- ◆ **Use as either 10° or 23° trajectory**
- ◆ 1/2" male N.P.T. base
- ◆ Wide range of brass nozzles
- ◆ 3/8-24 UNF nozzle threads

Sprinkler Head Does Not Include Nozzle

Advantages

- ◆ Anodized aluminum drive arm
- ◆ Composite body is super-strong and impact resistant
- ◆ All brass bearing
- ◆ Stainless steel fulcrum pin, arm spring, and bearing spring
- ◆ Suitable for most solid set and portable applications
- ◆ Ideal for low precipitation rates
- ◆ Built-in vane straightener for improved performance
- ◆ Highly efficient water distribution
- ◆ Made from domestic and foreign parts

AL1023

100/case

AQUA BURST® Performance Chart

Normal Stream Height At 2.5' Above Nozzle at Normal Pressure

PSI	Radius - GPM			
	3/32" nozzle	7/64" nozzle	1/8" nozzle	9/64" nozzle
35	36 - 1.51	38 - 2.06	39 - 2.69	40 - 3.40
40	36 - 1.62	39 - 2.21	39 - 2.88	40 - 3.63
45	37 - 1.71	39 - 2.32	39 - 3.04	40 - 3.86
50	37 - 1.82	39 - 2.47	40 - 3.21	41 - 4.07
55	38 - 1.90	40 - 2.58	40 - 3.37	41 - 4.25
60	38 - 1.99	40 - 2.70	40 - 3.52	41 - 4.45

Operate ONLY between 35 psi (min) and 60 psi (max)

Aqua Burst™ impact sprinklers are only guaranteed to function optimally with nozzle sizes and pressure from each individual model's performance chart.

All Prices Subject To Change Without Notice

3/4" MULTI-COMPOSITE™ IMPACT SPRINKLER

Raven-Smart™

3/4" Full-Circle Multi-Composite™ Impact Precision Channel™ Aluminum Arm

Raven-Smart™ Technology



FIVE-YEAR LIMITED BEARING WARRANTY

AL30

Aqua-Burst™ AL30 Multi-Composite™ Sprinklers are designed to outlast and out perform all other 3/4" impact sprinkler brands.

Features

- ◆ Full-circle impact - 26° trajectory
- ◆ 3/4" male NPT base
- ◆ Single (AL30) or dual nozzle (AL30D)

Advantages

- ◆ Anodized diecast aluminum drive arm with *Precision Channel Spoon™* for smooth Torque-Driven™ operation and reduced splash-down
- ◆ Composite body is super-strong and impact resistant
- ◆ Highly efficient water distribution at both high and low operating pressures
- ◆ All-brass Seal-Lock bearing creates a debris resistant captive seal for long bearing wear
- ◆ Bearing spindle with debris journal to slow bearing wear
- ◆ Stainless steel fulcrum pin, arm spring and bearing spring for long wearing reliability
- ◆ Ideal for wheel line, solid set and frost control
- ◆ Works well with either straight bore nozzle or flow-control nozzle with 1/4" npt threads
- ◆ Made with domestic and foreign parts
- ◆ **Preassembled with XC-33 thread sealant**

Sprinkler Head Does Not Include Nozzle

AL30

AL30-C (w/chrome bearing)

AL30SP (w/plastic spindle)

60/case

List

AQUA BURST® Performance Chart

Normal Stream Height At 9' Above Nozzle at Normal Pressure

Single Nozzle
Radius - GPM

PSI	1/8" nozzle	9/64" nozzle	5/32" nozzle	11/64" nozzle	3/16" nozzle
30	39 - 2.1	41 - 3.2	42 - 3.9	44 - 4.7	46 - 5.6
35	40 - 2.4	41 - 3.5	44 - 4.3	46 - 5.3	47 - 6.0
40	40 - 2.5	42 - 3.7	44 - 4.6	46 - 5.5	48 - 6.4
45	41 - 2.8	42 - 3.7	45 - 5.1	47 - 5.8	49 - 6.8
50	41 - 3.1	43 - 3.9	46 - 5.1	48 - 6.2	50 - 7.3
55	42 - 3.2	43 - 4.3	46 - 5.4	48 - 6.4	50 - 7.6
60	42 - 3.4	44 - 4.5	47 - 5.6	49 - 6.6	51 - 7.9
65	43 - 3.6	44 - 4.7	47 - 5.8	49 - 6.9	51 - 8.2
70	44 - 3.9	45 - 4.9	48 - 6.0	50 - 7.9	52 - 8.6

Dual Nozzle
Radius - GPM

PSI	1/8" x 3/32" nozzles	9/64"x3/32" nozzles	5/32"x3/32" nozzles	11/64"x3/32" nozzles	3/16"x1/8" nozzles
30	39 - 3.2	41 - 4.6	43 - 5.4	44 - 6.2	45 - 8.1
35	39 - 3.3	41 - 5.0	43 - 5.8	45 - 6.7	46 - 8.8
40	40 - 3.4	42 - 5.3	44 - 6.2	46 - 7.2	48 - 9.5
45	40 - 3.8	42 - 5.7	45 - 6.5	47 - 7.7	49 - 10.1
50	41 - 4.2	43 - 5.9	45 - 6.9	47 - 8.1	50 - 10.6
55	42 - 4.5	43 - 6.2	46 - 7.3	48 - 8.4	50 - 11.0
60	43 - 4.6	44 - 6.5	46 - 7.6	48 - 8.7	51 - 11.6
65	43 - 4.9	44 - 6.8	47 - 7.9	49 - 9.0	52 - 12.2
70	44 - 5.2	45 - 7.0	47 - 8.2	50 - 9.2	52 - 12.6

Operate ONLY between 30 psi (min) and 70 psi (max)

Aqua Burst™ impact sprinklers are only guaranteed to function optimally with nozzle sizes and pressure from each individual model's performance chart.

All Prices Subject To Change Without Notice

3/4" BRASS IMPACT SPRINKLER

3/4" Full-Circle Brass Impact Torque Driven™



FIVE-YEAR
LIMITED BEARING
WARRANTY

HF30

Features

- ◆ Full-circle impact - 26° trajectory
- ◆ 3/4" male NPT base
- ◆ Single (HF30) or dual nozzle (HF30D)
- ◆ Fits 3/4" size nozzle (NOZ75 series)

Advantages

- ◆ Cast brass drive arm with I-Beam construction and Torque-Driven™ spoon technology with improved balance, rotation speed and durability
- ◆ Cast brass body with triple bridge construction and cored water passage
- ◆ Seal-Lock bearing creates a captive seal
- ◆ Spindle with debris journal to slow bearing wear
- ◆ Stainless steel fulcrum pin, arm spring, and bearing spring for long wearing reliability
- ◆ Ideal for hand line, wheel line, solid set, and a wide-range of other applications
- ◆ Made with domestic and foreign parts
- ◆ **Preassembled with XC-33 thread sealant**

Sprinkler Head Does Not Include Nozzle

HF30	(single)	60/case
HF30-C	(single w/chrome bearing)	
HF30D	(dual)	
HF30D-C	(dual w/chrome bearing)	

List

AQUA BURST® Performance Chart

Normal Stream Height At 9' Above Nozzle at Normal Pressure

Single Nozzle
Radius - GPM

PSI	1/8" nozzle	9/64" nozzle	5/32" nozzle	11/64" nozzle	3/16" nozzle
35	40 - 2.4	41 - 3.3	43 - 4.1	45 - 5.1	46 - 5.9
40	40 - 2.6	42 - 3.5	44 - 4.5	46 - 5.3	47 - 6.4
45	41 - 2.9	42 - 3.7	44 - 4.7	46 - 5.7	48 - 6.7
50	42 - 3.1	43 - 4.0	45 - 4.9	47 - 6.1	48 - 7.2
55	42 - 3.3	43 - 4.3	45 - 5.1	48 - 6.4	49 - 7.5
60	43 - 3.5	44 - 4.5	46 - 5.4	49 - 6.7	49 - 7.8
65	43 - 3.7	44 - 4.7	46 - 5.7	49 - 7.0	50 - 8.1
70	44 - 3.9	45 - 4.8	47 - 5.9	50 - 7.2	51 - 8.4

Dual Nozzle
Radius - GPM

PSI	1/8"x3/32" nozzles	9/64"x3/32" nozzles	5/32"x3/32" nozzles	11/64"x3/32" nozzles	3/16"x3/32" nozzles
35	40 - 4.1	41 - 4.8	44 - 4.7	45 - 6.4	46 - 7.4
40	41 - 4.4	42 - 5.2	44 - 6.1	45 - 7.0	47 - 8.0
45	41 - 4.6	42 - 5.5	45 - 6.5	46 - 7.5	48 - 8.6
50	42 - 4.9	43 - 5.8	45 - 6.8	47 - 7.9	49 - 9.1
55	42 - 5.2	43 - 6.1	46 - 7.1	48 - 8.3	50 - 9.5
60	43 - 5.4	44 - 6.3	46 - 7.4	48 - 8.7	51 - 9.8
65	43 - 5.7	44 - 6.6	47 - 7.8	48 - 9.0	51 - 10.3
70	43 - 5.9	45 - 6.9	47 - 8.1	49 - 9.4	52 - 10.6

Operate ONLY between 35 psi (min) and 70 psi (max)

Aqua Burst™ impact sprinklers are only guaranteed to function optimally with nozzle sizes and pressure from each individual model's performance chart.

All Prices Subject To Change Without Notice

3/4" BRASS/ALUMINUM IMPACT SPRINKLER

Precision Channel™ Aluminum Arm Torque Driven™



FIVE-YEAR LIMITED BEARING WARRANTY

HF30AL

Features

- ◆ Full-circle impact - 26° trajectory
- ◆ 3/4" male NPT base
- ◆ Single nozzle
- ◆ Fits 3/4" size nozzle (NOZ75 series)

Advantages

- ◆ Anodized diecast aluminum drive arm with *Precision Channel Spoon™* for smooth Torque-Driven™ operation and reduced splash-down
- ◆ Cast brass body with triple bridge construction and cored water passage
- ◆ Spindle with debris journal to slow bearing wear
- ◆ Seal-Lock bearing creates a captive seal
- ◆ Stainless steel fulcrum pin, arm spring, and bearing spring for long wearing reliability
- ◆ Suitable for portable, solid-set and row-crop, frost protection and mechanical move systems
- ◆ Made with domestic and foreign parts
- ◆ **Preassembled with XC-33 thread sealant**

Sprinkler Head Does Not Include Nozzle

HF30AL (single)
 HF30AL-C (single w/chrome bearing)

60/case

List

AQUA BURST® Performance Chart

Normal Stream Height At 9' Above Nozzle at Normal Pressure

Radius - GPM

PSI	1/8" nozzle	9/64" nozzle	5/32" nozzle	11/64" nozzle	3/16" nozzle
30	39 - 2.2	41 - 3.0	42 - 3.8	44 - 4.6	45 - 5.5
35	40 - 2.4	41 - 3.3	43 - 4.1	45 - 5.1	45 - 5.9
40	40 - 2.6	42 - 3.5	44 - 4.5	46 - 5.3	46 - 6.4
45	41 - 2.9	42 - 3.7	44 - 4.7	46 - 5.7	47 - 6.7
50	41 - 3.1	43 - 4.0	45 - 4.9	47 - 6.1	48 - 7.2
55	42 - 3.3	43 - 4.3	45 - 5.1	48 - 6.4	49 - 7.5
60	42 - 3.5	44 - 4.5	46 - 5.4	49 - 6.7	49 - 7.8
65	43 - 3.7	44 - 4.7	46 - 5.7	49 - 7.0	50 - 8.1
70	44 - 3.9	45 - 4.8	47 - 5.9	50 - 7.2	51 - 8.4

Operate ONLY between 30 psi (min) and 70 psi (max)

Aqua Burst™ impact sprinklers are only guaranteed to function optimally with nozzle sizes and pressure from each individual model's performance chart.
 All Prices Subject To Change Without Notice

3/4" BRASS IMPACT SPRINKLERS

X SERIES BRASS - MADE TO LAST™

3/4" Adjustable Brass Impact Sprinkler

Features

Full- or part-circle impact - 25° trajectory
 3/4" male NPT base
 Single nozzle
 Fits 3/4" size nozzle - (NOZ75 series)

Advantages

- ◆ Cast brass drive arm with triple bridge construction
- ◆ Super Heavy Duty all brass trip assembly
- ◆ Cast brass body with cored water passage
- ◆ Stainless steel fulcrum pin, arm spring and bearing spring for long wearing reliability
- ◆ An all-purpose, single nozzle, full or part circle, intermediate to high pressure sprinkler
- ◆ Perfect companion for all intermediate sprinklers where arc of coverage must be adjustable
- ◆ Easy to use diffuser pin for precise application
- ◆ Works well with either straight bore or flow control nozzle
- ◆ Made with domestic and foreign parts
- ◆ **Preassembled with XC-33 thread sealant**

Sprinkler Head Does Not Include Nozzle



**TWO-YEAR
 WARRANTY**

X35ED

X35ED

20/case

AQUA BURST® Performance Chart

Normal Stream Height At 9' Above Nozzle at Normal Pressure

Radius - GPM

PSI	9/64" nozzle	5/32" nozzle	11/64" nozzle	3/16" nozzle
35	41 - 3.45	42 - 4.28	43 - 4.99	44 - 5.91
40	42 - 3.66	42 - 4.57	43 - 5.26	44 - 6.44
45	43 - 3.90	43 - 4.84	44 - 5.58	45 - 6.74
50	44 - 4.07	44 - 5.21	45 - 5.94	46 - 7.03
55	45 - 4.30	46 - 5.40	47 - 6.21	47 - 7.41
60	45 - 4.48	46 - 5.73	47 - 6.50	48 - 7.72
70	46 - 4.80	47 - 5.91	48 - 7.00	50 - 8.23

Operate ONLY between 35 psi (min) and 70 psi (max)

Aqua Burst™ impact sprinklers are only guaranteed to function optimally with nozzle sizes and pressure from each individual model's performance chart.
 All Prices Subject To Change Without Notice

1" BRASS IMPACT SPRINKLERS **X SERIES BRASS - MADE TO LAST™**

1" Adjustable Brass Impact Sprinkler



**TWO-YEAR
WARRANTY**

Features

- Full- or part-circle impact - 24° trajectory
- 1" male NPT base
- Single nozzle
- Fits 1" size nozzle - (NOZ1 series)

Advantages

- ◆ Features replaceable stainless steel spoon
- ◆ Chrome bearing standard
- ◆ Adjustable arc from 20° to 340° or full-circle coverage
- ◆ Solid brass construction
- ◆ Stainless steel fulcrum pin, arm spring, and bearing spring for long wearing reliability
- ◆ Easy to use diffuser pin for precise application
- ◆ Ideal for pasture, turf, waste water treatment, auxiliary pivot end gun, and other large scale applications where adjustable coverage is necessary
- ◆ Made with domestic and foreign parts
- ◆ **Preassembled with XC-33 thread sealant**

Sprinkler Head Does Not Include Nozzle

X65ED-S

X65ED-S (Adjustable)
X65F-S

sold
individually

List

AQUA BURST® Performance Chart
 Normal Stream Height At 9' Above Nozzle at Normal Pressure

Single Nozzle
Radius - GPM

PSI	7/32" nozzle	1/4" nozzle	9/32" nozzle	5/16" nozzle	11/32" nozzle	3/8" nozzle	13/32" nozzle
35	52 - 8.1	54 - 10.8	58 - 13.5	59 - 16.5	62 - 19.5	64 - 22.7	67 - 26.2
40	54 - 8.7	56 - 11.5	61 - 14.5	62 - 17.8	65 - 21.3	68 - 24.5	70 - 28.2
45	56 - 9.2	58 - 12.2	63 - 15.2	64 - 18.8	67 - 22.2	71 - 25.9	73 - 30.1
50	59 - 9.9	61 - 12.9	64 - 16.0	67 - 19.9	69 - 23.4	72 - 27.2	75 - 32.0
55	61 - 10.2	63 - 13.4	66 - 16.9	69 - 20.8	72 - 24.5	74 - 28.4	77 - 34.1
60	62 - 10.7	65 - 14.2	67 - 17.6	71 - 21.9	73 - 25.6	76 - 29.5	79 - 36.0
65	64 - 11.2	66 - 14.8	69 - 18.4	73 - 22.8	75 - 26.5	79 - 30.8	82 - 38.2
70	65 - 11.8	67 - 15.4	70 - 19.2	74 - 23.7	77 - 27.7	81 - 32.1	85 - 40.3

Operate ONLY between 35 psi (min) and 70 psi (max)

Aqua Burst™ impact sprinklers are only guaranteed to function optimally with nozzle sizes and pressure from each individual model's performance chart.
 All Prices Subject To Change Without Notice

1 1/4" BRASS IMPACT SPRINKLERS

X SERIES BRASS - MADE TO LAST™

Features

- ◆ Full- or part-circle impact
- ◆ 18° or 24° trajectory
- ◆ 1 1/4" male N.P.T. base
- ◆ Dual nozzle - NOZ125 Series

Advantages

- ◆ Chrome bearing standard
- ◆ Heavy-duty stainless steel and brass construction
- ◆ Easy to use adjustable locking brass trip collars
- ◆ Internal vane straightener standard
- ◆ Removable stainless steel spoon standard
- ◆ Ideal for pasture, waste water treatment, pivot end gun, and other large scale applications where adjustable coverage is necessary
- ◆ Made with domestic and foreign parts
- ◆ **Preassembled with XC-33 thread sealant**

Sprinkler Head Does Not Include Nozzle



X85ED18

**TWO-YEAR
WARRANTY**

X85ED18

X85ED24

X85F24 (full circle)

sold individually

List

X85ED24 Dual Nozzle

AQUA BURST® Performance Chart

Normal Stream Height At 14' Above Nozzle at Normal Pressure

Single Straight Bore Nozzle w/Spreader

Radius - GPM

PSI	11/32" x 7/32"	3/8" x 7/32"	13/32" x 7/32"	7/16" x 7/32"	15/32" x 7/32"
35	66 - 27.1	67 - 30.7	70 - 34.6	72 - 38.5	75 - 42.5
40	68 - 20.8	69 - 32.0	73 - 37.0	76 - 41.3	78 - 45.7
45	70 - 22.1	72 - 34.9	76 - 39.4	78 - 43.9	81 - 48.6
50	72 - 23.3	73 - 37.2	78 - 41.6	80 - 46.2	83 - 51.4
55	74 - 24.2	76 - 38.5	80 - 42.8	82 - 48.6	85 - 54.1
60	76 - 25.0	78 - 40.8	82 - 46.1	85 - 51.0	87 - 56.6
65	77 - 26.2	80 - 42.7	84 - 48.0	87 - 53.3	88 - 59.3
70	80 - 27.2	82 - 44.5	85 - 49.9	89 - 55.2	90 - 61.5
75	81 - 27.9	84 - 46.0	87 - 51.7	90 - 57.3	92 - 63.7
80	83 - 29.1	85 - 47.8	88 - 53.9	91 - 59.4	94 - 66.1

Additional Performance Charts on pg 18

Operate ONLY between 35 psi (min) and 80 psi (max)

Aqua Burst™ impact sprinklers are only guaranteed to function optimally with nozzle sizes and pressure from each individual model's performance chart.

All Prices Subject To Change Without Notice



X85ED24

1" BRASS IMPACT SPRINKLERS

AQUA BURST® Performance Charts

Normal Stream Height At 14' Above Nozzle at Normal Pressure
Single Straight Bore Nozzle

Radius - GPM

X85ED18

PSI	11/32" nozzle	3/8" nozzle	13/32" nozzle	7/16" nozzle	15/32" nozzle	1/2" nozzle	17/32" nozzle	9/16" nozzle	5/8" nozzle	11/16" nozzle
35	59 - 19.8	61 - 23.5	64 - 26.5	66 - 30.9	69 - 34.1	69 - 39.3	72 - 43.3	72 - 49.3	72 - 59.8	73 - 72.2
40	61 - 21.1	63 - 24.9	66 - 28.3	69 - 33.2	71 - 37.3	73 - 41.1	75 - 46.4	77 - 52.8	77 - 64.0	78 - 77.8
45	63 - 22.6	66 - 26.6	69 - 30.4	71 - 34.6	73 - 39.7	75 - 43.7	78 - 49.3	79 - 56.6	83 - 69.9	83 - 83.0
50	66 - 23.8	68 - 27.5	71 - 32.6	73 - 36.9	76 - 42.2	78 - 47.0	80 - 51.5	82 - 59.7	85 - 71.8	86 - 87.3
55	68 - 24.9	70 - 29.3	73 - 33.8	75 - 38.8	78 - 44.4	80 - 49.1	82 - 54.1	85 - 62.6	89 - 76.1	91 - 91.9
60	70 - 25.6	72 - 30.1	75 - 34.9	77 - 41.0	80 - 46.8	82 - 51.9	85 - 57.4	87 - 65.3	91 - 79.0	94 - 96.4
65	72 - 26.7	74 - 31.3	77 - 36.2	79 - 42.8	81 - 48.3	84 - 54.0	87 - 60.2	89 - 67.8	93 - 83.2	96 - 100.9
70	73 - 27.6	76 - 32.5	78 - 37.6	81 - 44.6	83 - 50.5	86 - 56.2	89 - 62.3	91 - 71.3	95 - 86.4	98 - 104.8
75	74 - 28.8	77 - 33.6	80 - 38.9	83 - 45.9	85 - 52.2	87 - 58.4	90 - 64.5	93 - 73.9	97 - 88.8	100 - 108.1
80	76 - 29.7	79 - 34.6	81 - 41.2	84 - 47.6	87 - 54.8	89 - 60.2	92 - 66.9	95 - 76.8	98 - 93.0	101 - 112.2

AQUA BURST® Performance Charts

Normal Stream Height At 14' Above Nozzle at Normal Pressure
Single Straight Bore Nozzle

Radius - GPM

X85ED24

PSI	11/32" nozzle	3/8" nozzle	13/32" nozzle	7/16" nozzle	15/32" nozzle	1/2" nozzle	17/32" nozzle	9/16" nozzle	5/8" nozzle	11/16" nozzle
35	66 - 19.5	67 - 23.3	70 - 26.6	72 - 30.7	75 - 34.5	77 - 39.0	78 - 43.1	78 - 49.3	78 - 60.2	78 - 72.3
40	68 - 20.8	69 - 24.8	73 - 28.2	76 - 33.0	78 - 37.4	81 - 41.4	82 - 46.3	84 - 52.6	85 - 64.4	86 - 78.3
45	70 - 22.1	72 - 26.4	76 - 30.6	78 - 34.8	81 - 39.6	83 - 44.1	86 - 49.0	88 - 56.0	91 - 69.1	92 - 83.3
50	72 - 23.3	73 - 27.6	78 - 32.4	80 - 37.2	83 - 42.0	86 - 47.2	88 - 51.2	91 - 59.3	93 - 72.4	96 - 87.5
55	74 - 24.2	76 - 29.2	80 - 32.0	82 - 38.9	85 - 44.3	88 - 49.4	90 - 54.3	94 - 62.1	97 - 76.5	98 - 92.7
60	76 - 25.0	78 - 30.0	82 - 34.5	85 - 40.8	87 - 46.5	90 - 52.1	93 - 57.6	95 - 64.4	100 - 79.4	101 - 96.8
65	77 - 26.2	80 - 31.2	84 - 36.1	87 - 42.6	88 - 48.4	92 - 54.2	94 - 60.3	98 - 68.0	101 - 83.5	104 - 101.3
70	80 - 27.2	82 - 32.6	85 - 38.0	89 - 44.0	90 - 50.3	94 - 56.4	96 - 62.1	100 - 71.5	102 - 87.1	106 - 105.4
75	81 - 27.9	84 - 33.5	87 - 39.1	90 - 45.5	92 - 52.0	95 - 58.5	98 - 64.7	101 - 73.3	104 - 89.9	108 - 108.8
80	83 - 29.1	85 - 34.8	88 - 41.0	91 - 47.6	94 - 54.2	96 - 60.3	100 - 67.3	103 - 76.2	106 - 93.5	109 - 112.4

Operate ONLY between 35 psi (min) and 80 psi (max)

Aqua Burst™ impact sprinklers are only guaranteed to function optimally with nozzle sizes and pressure from each individual model's performance chart.
All Prices Subject To Change Without Notice

IMPACT SPRINKLER NOZZLES

Better Water Distribution Without Plugging

- ◆ Use where high performance and distribution is needed
- ◆ Color coded for easy identification
- ◆ Built-in no-clog vane straightener for maximum reach
- ◆ Made with high quality wear resistant plastic
- ◆ Hand-tight fit for easy in and out installation
- ◆ Fits 3/4" Aqua Burst™, Rain Bird™, and Nelson™ (hand tighten)

Not for use with Non-Coined or 'One-Side Only Contact' Sprinklers such as Wade Rain™, or V-Rain™ brand Impact Sprinklers

Advanced Flow Nozzles™ w/Built-In No-Clog Vane Straightener 1/4" NPT Straight-Bore Nozzle

NOZPL75-18	Purple	1/8"
NOZPL75-964	Grey	9/64"
NOZPL75-532	Blue	5/32"
NOZPL75-1164	Yellow	11/64"
NOZPL75-316	Red	3/16"

List



Brass 1/8" Straight-Bore Nozzle Fits 1/2" Impact Sprinkler

Or Second Nozzle on 3/4" Dual Impact Sprinkler
Fits Rain Bird™ and Nelson™



NOZ5R-116	1/16"
NOZ5R-564	5/64"
NOZ5R-332	3/32"
NOZ5R-18	1/8"
NOZ5R-532	5/32"
NOZ5R-764	7/64"
NOZ5R-964	9/64"

List

Brass 1/8" NPT Straight-Bore Nozzle Fits 1/2" Impact Sprinkler

Or Second Nozzle on 3/4" Dual Impact Sprinkler
1/8" NPT thread fits Weathertec™ and Storm™



NOZ5W-116	1/16"
NOZ5W-564	5/64"
NOZ5W-332	3/32"
NOZ5W-18	1/8"
NOZ5W-532	5/32"
NOZ5W-764	7/64"
NOZ5W-964	9/64"

List

Brass 1/4" NPT Straight-Bore Nozzle Fits 3/4" Impact Sprinkler

1/4" NPT thread fits most 3/4" base brass impact sprinklers



NOZ75-764	7/64"
NOZ75-18	1/8"
NOZ75-964	9/64"
NOZ75-532	5/32"
NOZ75-1164	11/64"
NOZ75-1364	13/64"
NOZ75-1564	15/64"
NOZ75-316	3/16"
NOZ75-732	7/32"
NOZ75-14	1/4"

List

Brass Straight-Bore Nozzle Fits 1" Impact Sprinkler

Fits most 1" base brass impact sprinklers



NOZ1-732	7/32"
NOZ1-14	1/4"
NOZ1-932	9/32"
NOZ1-516	5/16"
NOZ1-1132	11/32"
NOZ1-38	3/8"

List

Brass Straight-Bore Nozzle

Fits 1 1/4" Impact Sprinkler

Fits AquaBurst™, Nelson™ and RainBird™



NOZ125-11/32	11/32"
NOZ125-38	3/8"
NOZ125-1332	13/32"
NOZ125-7/16	7/16"
NOZ125-15/32	15/32"

NOZ125-12	1/2"
NOZ125-17/37	17/37"
NOZ125-916	9/16"
NOZ125-58	5/8"
NOZ125-1116	11/16"

List

IMPACT SPRINKLER NOZZLES/REPLACEMENT PARTS

Nelson™ SR100 Replacement Nozzle



NOZSR100-

- NOZSR100-.4
- NOZSR100-.45
- NOZSR100-.5
- NOZSR100-.55
- NOZSR100-.6
- NOZSR100-.65
- NOZSR100-.7
- NOZSR100-.75
- NOZSR100-.8
- NOZSR100-.85
- NOZSR100-.9
- NOZSR100-.95
- NOZSR100-1

List

Plug Nozzle



- NOZ-PLG18
- NOZ-PLG25
- NOZ-PLPLG18
- NOZ-PLPLG25

- Brass 1/8" NPT
- Brass 1/4" NPT
- Plastic 1/8" NPT
- Plastic 1/4" NPT

List

Brass Spreader Nozzle

1/8" NPT thread fits Aqua Burst®,
 Weathertec™ and Storm™



NOZ-BKSPRD 3/32" or 1/8" NPT

List



NOZTOOL



NOZTOOL.5

Features

- ◆ All stainless steel construction
- ◆ EZ grip handles
- ◆ 3/4" fits nozzles with 3/8", 7/16", 1/2" and 3/4" hex heads
- ◆ 3/4" fits 3/4" and 13/16" spark plugs
- ◆ 1/2" fits nozzles with 3/8" and 7/16" hex heads
- ◆ Stainless steel nozzle plug wire

AQUA BURST™ Nozzle Multi-Tool

- NOZTOOL 3/4"
- NOZTOOL.5 1/2"

List

Sprinkler Bearing Assembly

Bearing Assembly includes spindle, housing, spring and washers



HF30BRNG



HF20BRNG

- AL30BRNG**
Fits Aqua Burst® 3/4" AL30 Series Impact Sprinklers
- HF30BRNG**
Fits Aqua Burst®, Nelson™ and Rain Bird™
3/4" Full Circle Impact Sprinklers
- HF20BRNG**
Fits Aqua Burst®, Nelson™ and Rain Bird™
1/2" Full Circle Impact Sprinklers
- X35BRNG**
Fits Aqua Burst® X35ED Impact Sprinklers
- X65BRNG (Chrome Plated Spindle).**
Fits Aqua Burst® and Rain Bird™
1" Full Circle Impact Sprinklers
- X85BRNG (Chrome Plated Spindle)**
Fits Aqua Burst® and Rain Bird™
1 1/4" Full Circle Impact Sprinklers

List

For wear washers and other AquaBurst™ sprinkler parts contact **XCAD USA** for price and availability

SELF LEVELING ELBOW/WATERMASTER BEARING

**Built To A
Higher Standard**



LEV75

**More Weight
For Your Dollar**

AQUA BURST 

3/4" Heavy-Duty Wheel Line Leveler

LEV75 For 3/4" Brass Impact
16/Box

List

Features

- ◆ High quality bearing washers
- ◆ Stainless steel drop tube
- ◆ Cast iron weight with smooth water passage
- ◆ Powder coated finish

Universal Leveler Repair Components

LEV01	Stainless Bearing Spring
LEV02	Neoprene Washer
LEV03	Teflon Washer
LEV04	Brass Spindle
LEV05	O-Ring
LEV06	Retaining Washer
LEV07	Snap Ring

List Ea

Leveler Rebuild Kit

LEVRK **Rebuilds 20 levelers**

List

120 piece kit contains:

20 - Lev02	Neoprene Washers	40 - Lev03	Teflon Washers
20 - Lev05	O-rings	20 - Lev06	Retaining Washers
20 - Lev07	Snap Rings		

Standard



HYB1

Heavy-Duty



HYB1-CH

AQUA BURST 

Water Master Hydro Bearing

Replacement Bearing for Water Master

HYB1 1" NPT Base - Brass
 HYB1-CH 1" NPT Base - Chrome Plate

List

IMPACT SPRINKLER ACCESSORIES

AQUA BURST™ YARD ART



SQUIRTLE.75



ST75H



Squirtle Yard Sprinkler

SQUIRTLE.75 3/4" NPT
Can be strung in series

List

Sprinkler Stand

- | | |
|-------|----------------|
| ST50B | 1/2" Butterfly |
| ST50H | 1/2" Heart |
| ST75B | 3/4" Butterfly |
| ST75H | 3/4" Heart |

List

Features

- ◆ 3/4" Heavy-duty hose connector
- ◆ Includes multi-composite X25ED full/part circle sprinkler
- ◆ Epoxy powder coated construction
- ◆ E-Z fold-up design for convenient storage



X-CART.5

X-Cart Sprinkler Cart

Fits 1/2" base impact sprinkler

X-CART.5

1/2" Base

List



Innovation Through Design, Engineering and Experience™

A BETTER CHOICE

xcadusa.com



X-Max Valve™

Black Max™
Torque-tough Coupler



Pressure Guard™

Pressure Lock™ (Patent Pending)

SEAL MATIC™

X-GATE™ Canal Gates

X-Spandable™
Expandable Drive Line

Raven Smart™
Your Future In Irrigation

All **XCAD USA®** Products Are Designed and Engineered in the USA

RISER VALVE PRODUCTS

3" Hand Line Fittings



EP3



EPS3



EPS4



HOOK3



HOOK-S



BL3-ASSY



HLLP3



HLPE3



HLWO3

- EP3 3" Universal Aluminum Hook & Latch End Plug
18 per box
- EPS3 3" Universal Steel Hook & Latch End Plug
(Pierce-type) 12 per box
- EPS4 4" Universal Steel Hook & Latch End Plug
12 per box
- HOOK3 Hook Only for 3" Lake Type B&L Assy
- HKSPR3 Spring Only for 3" B&L Assy (Not shown)
- HKBN3 Bolt and Nut Only for 3" B&L Assy (Not Shown)
- EPFER Ferrule for EPS3 Steel End Plug (Not Shown)
- HOOK-S Hook Only for Pierce Type H&L Assy
12 per box
- BL3-ASSY 3" Universal Band & Latch Assembly
(Weld-On)
- HLLP3 3" Universal Hook & Latch Latch Pad
(Gasket Not Included)
- HLPE3 3" Universal Hook & Latch Female Press End
(Gasket Not Included)
- HLWO3 3" Universal Hook & Latch Weld-On End

List

Center Riser Outlet



CRO3

- CRO3 3" Center Riser Outlet Assembly
(12 per box)
- CRO3FT Replacement Foot for CRO3
- CRO3GSKT Replacement Gasket for CRO3
- CRO3TOP Replacement Top for CRO3

List

EZ-Latch™

Male Hook & Latch Hose Ends

MHLHE3



MHLHE4



- MHLHE3 3" Male Hook & Latch Hose End
- MHLHE4 4" Male Hook & Latch Hose End

List

RISER VALVE PRODUCTS



ALVSC43



ALVSC44



ALVSBRSR



ALVSBRSR-H



ALVSBRSR-R



ALVSBRSR-L

Threaded Aluminum Riser Valve Stubs

ALVSC43SS	4" X 3" Stainless Steel Stem
ALVSC44SS	4" X 4" Stainless Steel Stem
ALVSC43	4" x 3" Plated Stem
ALVSC44	4" x 4" Plated Stem
ALVSBRSR	Replacement Brass Spider (Wade-Style)
ALVSBRSR-L	Weld-in Replacement Spider-Standard
ALVSBRSR-H	Weld-in Replacement Spider-Heavy
ALVSBRSR-R	Weld-in Removable Spider

List

Features

- ◆ Heavy-duty cast aluminum body
- ◆ Cast-in-place, threaded brass insert on ALVSC43 and ALVSC44
- ◆ Available with either plated zinc or stainless steel stems
- ◆ Universal rubber cap



UNVSPS
Plated



NEW
UNVSTS
Stainless Steel



UNVSBS
Brass



UNRRBS
Brass



UNVPS8TPI
Plated

Riser Valve Stems

**SUPERIOR THREAD QUALITY
 HEAVY-DUTY PLATING**

UNVSPS	6 3/4" x 5/8" 7TPI Plated	70/Box
UNVSTS	6 3/4" x 5/8" 7TPI Stainless	70/Box
UNVSBS	6 3/4" x 5/8" 7TPI Brass	
UNVRRBS	5" x 5/8" 8TPI Brass (Redi Rain)	
UNVPS8TPI	6 3/4" X 5/8" 8 TPI Plated (Shur Rain/Felco)	70/Box

List

Rubber Valve Stem Caps



UNVSRRC



UNVSFC

UNVSRRC	4" Universal Cap	50/Box
UNVSFC	4" Universal Flat Cap	50/Box

List

RISER VALVE PRODUCTS



VOE4X3



VOE4X4

Valve Opening Elbows Heavy-Duty Aluminum

VOE4X3	4" x 3" Aluminum VOE	3 per box
VOEST4X3	4" x 3" Steel VOE	3 per box
VOE4X4	4" x 4" Aluminum VOE	2 per box
VOEST4X4	4" x 4" Steel VOE	2 per box

List



VOEST4X3



VOEST4X4

Features

- ◆ 3/4" Auxiliary outlet on aluminum models
- ◆ Large latch pad reduces blowouts
- ◆ Easy serviceability with bolt-on handle
- ◆ Large handle for easy opening & closing
- ◆ Brass wear bushing on aluminum models
- ◆ Brass connection clutch



6RLC



WHLC

Clamps

4RLC	4" Ring Lock Clamp	16 per box
6RLC	6" Ring Lock Clamp Fits Wade Round Wheel Line Coupler and Most 6" Ring Lock Couplers	10 per box
WHLC	5" Wheel Line Clamp Heavy Duty Western Style	10 per box
8RLC	8" Ring Lock Clamp	10 per box

List

VALVE OPENING ELBOW REPLACEMENT PARTS

VOE Replacement Components

Features

- ◆ High quality universal replacement parts
- ◆ Fit most brands
- ◆ Both 5/8" and 3/4" components

			4RLVOE	4" VOE Clamp 16 per box
			VOEHDL34	3/4" Aluminum Handle 50 per box
			VOEHDLST34	3/4" Steel Handle 50 per box
			VOESHFT34	3/4"x10" Zinc-Plated Shaft 40 per box
			VOECLT34	3/4" Brass Connection Clutch 60 per box
			VOESEAL34	3/4" Chevron Seal
			VOESEAL58	5/8" Chevron Seal
			VOEHDL58	5/8" Aluminum Handle 50 per box
			VOEHDL58ST	5/8" Steel Handle 50 per box
			VOESHFT58	5/8"x10" Zinc-Plated Shaft 50 per box
			VOESHFTSS58	5/8" X 8" Stainless Steel Shaft
			VOECLT58	5/8" Brass Connection Clutch 100 per box
			VOECLTGR34	3/4" Receiver Gheen-style 100 per box
			VOECLTGR58	5/8" Receiver Gheen-style 40 per box
			VOECLTGS34	3/4" Stem Gheen-style 100 per box
			VOECLTGS58	5/8" Stem Gheen-style 40 per box

List

Clamp Fits: XCAD, A&M, Western, and Pierce

GASKETS/PRESS SLEEVES

Flange Gaskets

1/16" Fiber-Filled Ring Gaskets

- FG-RG2
- FG-RG2.5
- FG-RG3
- FG-RG4
- FG-RG5
- FG-RG6
- FG-RG8
- FG-RG10
- FG-RG12
- FG-RG14
- FG-RG16

List

1/16" Fiber-Filled Full-Face Gaskets

- FG-FFG2
- FG-FFG2.5
- FG-FFG3
- FG-FFG4
- FG-FFG5
- FG-FFG6
- FG-FFG8
- FG-FFG10
- FG-FFG12
- FG-FFG14
- FG-FFG16

List

Rubber Coupler Gaskets

- RCG-3RFR 3" Lake/Rain For Rent Style
- RCG-4RFR 4" Lake/Rain For Rent Style

- RCG-3RB 3" Round Back Pierce Style
- RCG-4RB 4" Round Back Pierce Style

List

- RCG-4WD 4" Wade Style
- RCG-4.5WD 4.5" Wade Style
- RCG-5WD 5" Wade Style

- RCG-4.5WST 4.5" Western Style

List

EZ-Press™

Galvanized Steel Press Sleeves



PRSL4

PRSL3

- PRSL3 3" Press Sleeve
- PRSL4 4" Press Sleeve
- PRSL5 5" Press Sleeve

List

WHEEL LINE COUPLERS

Heat-Treated Aluminum Torque Couplers



RWTCB5

RWTC5



SWTCB5

SWTC5

SWC5

RWTC4	4" Round Male
RWTCB4	4" Round Female
RWTC5	5" Round Male
RWTCB5	5" Round Female
SWTC4	4" Square Male
SWTCB4	4" Square Female
SWTC5	5" Square Male
SWTCB5	5" Square Female
SWC4	4" Square Clamp
SWC5	5" Square Clamp
WSTC4	4" Western Round Female
WSTCB4	4" Western Round Male
WSTC5	5" Western Round Female
WSTCB5	5" Western Round Male

List

Torque Couplers Do Not Include Gaskets or Drains



WSTCB5

WSTC5

Features

- ◆ All XCAD aluminum wheel line couplers are heat-treated for maximum strength
- ◆ RW and SW couplers are universal with Wade Rain™ and Poweroll™ couplers
- ◆ High performance casting and machining



RWTC5-S

Wheel Line Coupler Sets

RWTC4-S	Includes RWTC4, RWTCB4, Gasket, WSSD and 6RLC
RWTC5-S	Includes RWTC5, RWTCB5, Gasket, WSSD and 6RLC
SWTC4-S	Includes SWTC4, SWTCB4, Gasket, and WSSD
SWTC5-S	Includes SWTC5, SWTCB5, Gasket, and WSSD
WSTC4-S	Includes WSTC4, WSTCB4, Gasket, FDC78 and WHLC
WSTC5-S	Includes WSTC5, WSTCB5, Gasket, FDC78 and WHLC

List

AUTOMATIC DRAINS

Universal 3-piece Design Eliminates Need for Jam Nut



FDC-78



FDI-78



FDR-78



FDSN-78

Drain-Fast™ Flapper Drain

High Quality Zinc Construction

- FDC-78
- FDI-78
- FDR-78
- FDSN-78

- Complete Flapper Drain
- Threaded Insert
- Rubber Flapper
- Splash Nut

List

Heavy-Duty Star Drain



SDMBC-1



SDMB-1



SDMC-1



SDRS-1

- SDMBC-1
- SDMC-1
- SDRS-1
- SDMB-1

Star Drain™

High Quality Zinc Construction
 (1" Male NPT)

- Complete Metal Base Drain
100/Box
- Metal Cap
- Neoprene Rubber Star Gasket
- Metal Base

List

Heavy-Duty – Built To Outperform and Outlast Poweroll™



WSSD

- ◆ Thicker body design with tapered seat
- ◆ Strongest, and smoothest operating spring drain in the industry
- ◆ Heavy-duty design with tapered seat
- ◆ Designed to last longer and outperform other brands

- WSSD
- WSSD-PL
- WSSD-SPR
- WSSD-RW
- WSSD-SPL

Spring Drain™

High Quality Zinc Construction

- 1" Spring Drain - Complete
100/Box
- Plunger
- Spring
- Rubber Washer
- Splash Plate

List

Pivot Star Drains

Heavy-Duty Replaceable Rubber Star



SDPBC-1

SDPB-1



SDMC-1



SDRS-1

- SDPBC-1
- SDMC-1
- SDRS-1
- SDPB-1

V-Drain™

1" NPT Replacement Drain
 for Valley Pivot Systems

- Complete w/Plastic Base
100/Box
- Metal Cap
- Neoprene Rubber Star
- Plastic Base

List

Converts Mushroom-Type to Star-Drain Type

Easy External Installation



ZDCOMP

ZDBASE



ZDGROM

SDMC-1



SDRS-1

- ZDCOMP
- ZDBASE
- ZDGROM
- ZDBGS
- SDMC-1
- SDRS-1

Z-Drain™

7/8" Hole Replacement Drain
 For Lindsay Pivot Systems

- Complete Drain Assembly
100/Box
- Base
- Rubber Grommet
- Base & Grommet Set
- Metal Cap
- Neoprene Rubber Star Gasket

List

AIR VENTS/VACUUM RELIEF VALVES

X-SERIES™

Air Vent/Vacuum Relief Valves



AVP75	3/4" Plastic Air Vent
AVP1	1" Plastic Air Vent
VRV1ZX	1" ZX Series
VRV1.5ZX	1 1/2" ZX Series
VRV2ZX	2" ZX Series
VRV1.5X	1 1/2" X Series
VRV2X	2" X Series
VRV3X	3" X Series
VRV4X	4" X Series

List

Features

X SERIES™

- ◆ High quality cast aluminum and plastic designs
- ◆ Unique ball retention bridge
- ◆ Operates well at low and high pressures
- ◆ X Series: 10 - 120 psi
- ◆ ZX Series: 5 - 100 psi
- ◆ **NRCS Cost Share Approved**

Continuous Acting Air Vents



AVCA3

AVCA2	2" Aluminum
AVCA3	3" Aluminum
AVCA4	4" Aluminum

List

Features

- ◆ Continuous Acting Air Vent/Vacuum Relief
- ◆ Cast Iron Base
- ◆ Exhausts large volumes of trapped air from pipelines
- ◆ Provides continuous air release during system operation
- ◆ Aluminum body with plastic float

Built in the USA
 from domestic and foreign parts

PIPELINE SAFETY PRODUCTS

Superior Industry Quality

Pressure Lock™
 (Patent Pending)



PRV2YBA



PRV4YB

Available Field or Factory Set

Pressure Guard™ Pressure Relief Valves are designed to provide maximum pressure surge protection for irrigation systems. These high quality spring loaded valves can be either field set or factory preset to ensure accurate and dependable operation.

Built in the USA from domestic and foreign parts

Pressure Guard™

Pressure Relief Valve

(External Spring Surge Plug)
 4 per box

Features

- ◆ Pressure Lock™ tamper resistant locking cap
- ◆ Sizes: 2", 2.5", 3" and 4"
- ◆ Brass linear bearing to ensure smooth function
- ◆ Laminated Teflon seat gasket prevents seat sticking even after long periods of inactivity
- ◆ Cast iron base, stainless stem, painted spring
- ◆ Available in four spring configurations to meet varied pressure and surge requirements
- ◆ Available as either field or factory set
- ◆ **Pressure Guard™** pressure relief valves are designed for years of dependable, reliable service
- ◆ NRCS cost share approved

Size	Pressure Range	Spring Color	For Factory Preset (Add 'A' to Part#, ie. PRV2GA)	List Field Set	List Factory Set with Pressure Lock™
2" Threaded NPT	0-25	Gray	PRV2G		
	30-40	Yellow	PRV2Y		
	45-85	Black	PRV2B		
	85-150	Yellow/Blue*	PRV2YB		
2.5" Threaded NPT	0-25	Gray	PRV2.5G		
	30-40	Yellow	PRV2.5Y		
	45-85	Black	PRV2.5B		
	85-150	Yellow/Blue*	PRV2.5YB		
3" Threaded NPT	0-25	Gray	PRV3G		
	30-40	Yellow	PRV3Y		
	45-85	Black	PRV3B		
	85-150	Yellow/Blue*	PRV3YB		
4" Threaded NPT	0-25	Gray	PRV4G		
	30-40	Yellow	PRV4Y		
	45-85	Black	PRV4B		
	85-150	Yellow/Blue*	PRV4YB		

XCAD recommends that *85 -150 PSI set takes two springs, yellow and blue
 For Individual PRV Parts, Contact XCAD

XCAD Pressure Relief Valves were performance tested at CIT.
 Performance of Individual Valves May Vary Slightly Due to Spring Variations

Cost Share Approved

See PRV Curves, Page 33

PIPELINE SAFETY PRODUCTS

Pressure Guard™

3" Internal Spring Pressure Relief Valve

(Internal Spring Surge Plug)
 5 per box



ISPRV3

ISPRV3

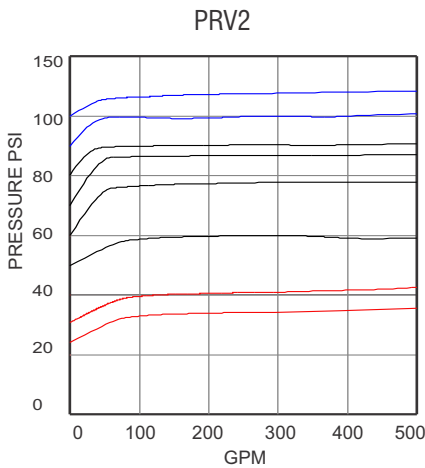
3" NPT, 25 to 100 psi

List

Features

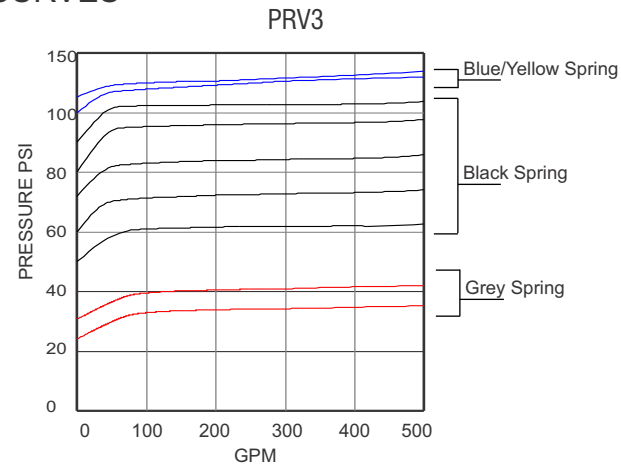
- ◆ **Only internal spring PRV that is field adjustable without removal**
- ◆ 1" and 1/4" multiple porting for addition of air vent and psi gauges
- ◆ Cast iron body with 3" NPT male threading
- ◆ PSI range: 25 to 100 psi
- ◆ Replaceable rubber seat
- ◆ Stainless stem and brass bushings for long life
- ◆ Splash guard for ease of adjustment

2" AND 3" PRV DISCHARGE CURVES

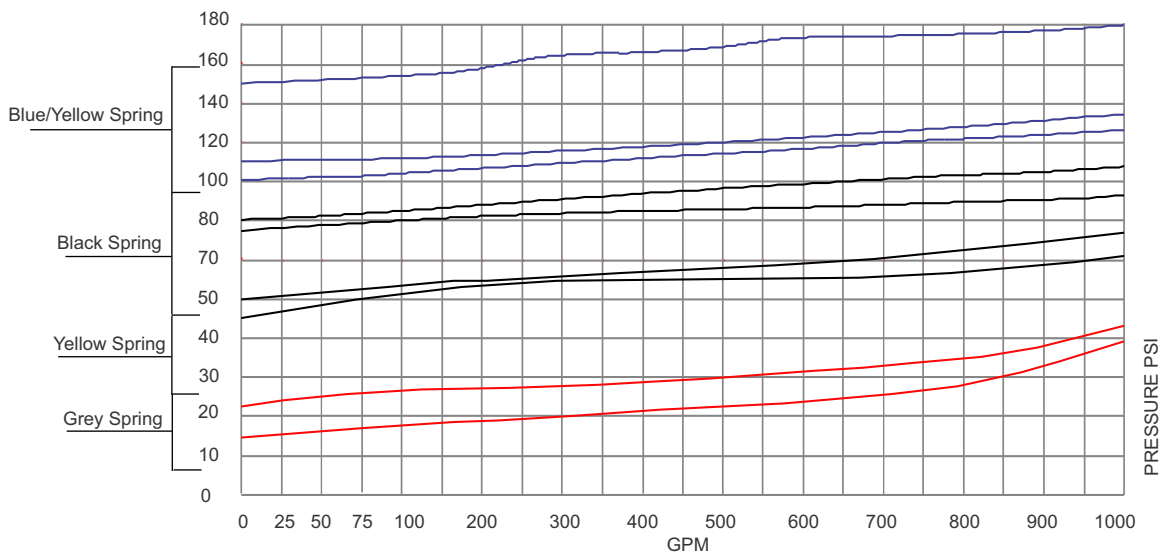


Note:
 Results represent actual test results from Center For Irrigation Technology (3/24/05)

Blue/Yellow Spring —
 Black Spring —
 Grey Spring —



4" PRV DISCHARGE CURVES



Note:
 Results represent typical discharge volumes at designated pressures

PIVOT ACCESSORIES -- PIVOT BOOSTER PUMPS

Highest Specifications In The Industry

Standard Stainless Steel Impeller



BP2HP-LI



Motor Made in USA

BP2HP-B

Built in the USA

2-HP Pivot Booster Pump

2 1/2" suction x 2" discharge

BP2HP-L	Leeson 2-HP, 130 GPM w/Stainless Impeller - Domestic
BP2HP-LI	Leeson 2-HP, 130 GPM w/Stainless Impeller - Import
BP2HPLWOVC	Leeson Domestic 2-HP, 130 GPM, Stainless Steel Impeller, Less Volute Case
BP2HPLIWOVC	Leeson Import 2-HP, 130 GPM, Stainless Steel Impeller, Less Volute Case
BP2HP-B	Bluffton 2-HP, 130 GPM w/Stainless Impeller
BP2HPBWOVC	Bluffton 2-HP, 130 GPM, Stainless Steel Impeller, Less Volute Case

(See Pump Curve, Page 35)

List

Pivot Booster Pump Components

BPVC	Volute Case
BPMBKT	Motor Bracket
BPIMP-SS	Stainless Steel Impeller
BPMGSKT	Mylar Motor Gasket
BPCGSKT	Paper Motor Case Gasket
BPIMPSPC	Impeller Spacer
BPSEAL	Shaft Seal

List

All Parts Are Interchangeable With
 Berkley Model #C2MPS Booster Pumps



BPM2HP-LI



BPM2HP-B

Specifications

Leeson Model	#112991
Bluffton Model	#1313007404
Leeson Frame	56CZ
Bluffton Frame	56J
Phase	Three
Insul. Class	F4
Serv. Factor	1.5
Hertz	60
RPM	3450
Volts	460
Bearings	6203/6205

Irrigation Booster Pump Motors

2-HP (TEFC)

Thermally Protected

BPM2HP-L	Leeson Domestic 2-HP, 130 GPM Motor Only
BPM2HP-LI	Leeson Import 2-HP, 130 GPM Motor Only
BPM2HP-B	Bluffton Domestic 2-HP, 130 GPM Motor Only

List

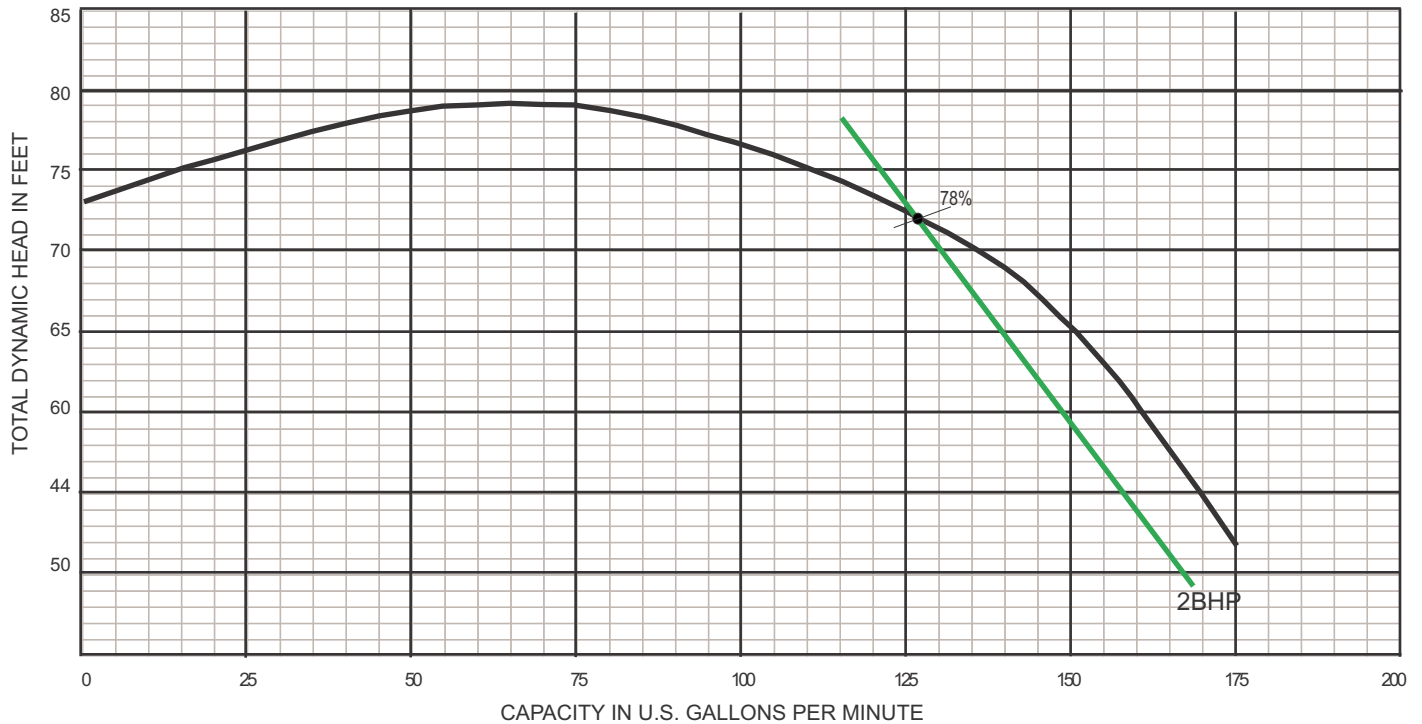
Motor Fits Berkley Model #C2MPS Booster Pump
 and Paco Model #2050-1 Booster Pump

BOOSTER PUMP CURVES

Pressure Loss Data

2-HP Booster Pump - BPM2HP

Nominal RPM: 3600
Based on Fresh Water @ 80°F
Maximum Working Pressure: 100 psi



XCAD USA Pivot Booster Pumps are engineered and built in Idaho using only the highest quality stainless steel impellers. We take pride in our workmanship.



Look for **Built in the USA**

PIVOT ACCESSORIES

BLACK MAX™

Universal Heavy-Duty Drive Line Coupler With In-Flex™ Technology

Torque-Tough

Raven Smart™
 Technology of Modern Design



PDLTTBM Fits 3/4", 7/8" and 1" square shaft

List

PDLTTBM

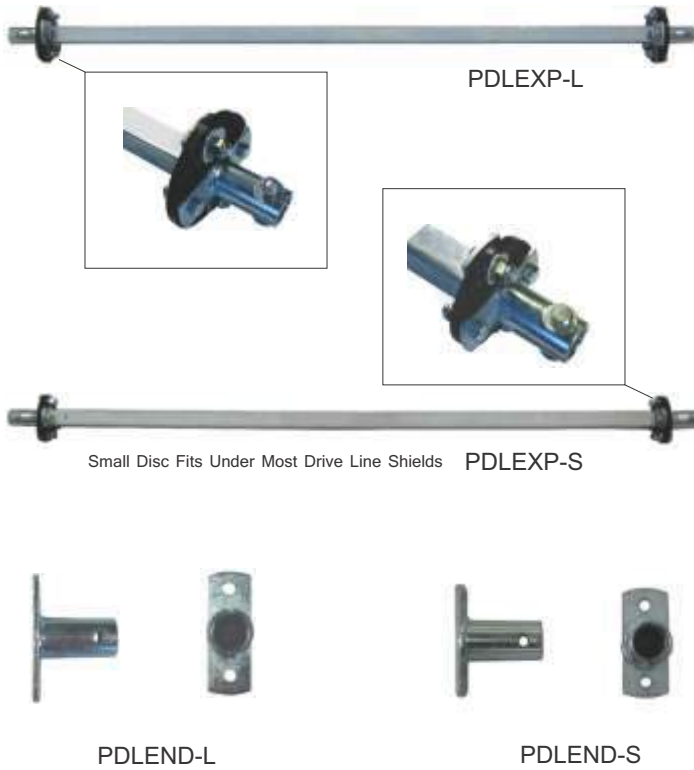


Black Max™ driveline couplers are torque-tough for today's tough field conditions. Try one today and give it your own torque tough test.

Features

- ◆ Our heat treated anodized aluminum body coupled with In-Flex™ Disc adds the strength and flexibility that is ideal for today's mechanized irrigation systems with large tires, 4x4 corner machines and corner-steering gear boxes
- ◆ In-Flex™ Thermoplastic Disc is 30% more flexible than the competitive brands
- ◆ In-Flex™ technology keeps gear boxes and centerdrives running longer
- ◆ Pre-Assembled for easy one-size wrench installation
- ◆ Universal Design – Fits 3/4", 7/8" and 1" square shafts
- ◆ Fits under Valley, Lindsay, and Reinke driveline couplers for maximum safety

PIVOT ACCESSORIES



X-Spandable™ Expandable Drive Line

(With Super Flex Disc)
Leave the Rubber on the Road

List

- PDLEXP-L Universal w/Large (4 1/2") Disc
- PDLEXP-S Universal w/Small (3 5/8") Disc
- PDLEND-L Replacement Shaft End (Large disc)
- PDLEND-S Replacement Shaft End (Small disc)

Features

- **X-Spandable™** drive line systems with Super Flex disc
- Strongest and most versatile in the industry
- Heavy duty telescoping design
- Super Flex Discs out perform rubber
- Quickly attaches with just two bolts
- Replacement Super Flex Discs available for competitive brands
- Small disc fits under most pivot manufacturers' driveline covers
- Zinc plated finish

Replacement Super Flex Disc

Leave the Rubber on the Road



List

- PDLDISC-L Large Replacement Super Flex Disc (4 1/2")
- PDLDISC-S Small Replacement Super Flex Disc (3 5/8")

Heavy Duty V-Bolt Universal U-Joint

Quickly Attaches to Both 3/4" and 7/8" Shafts
 (With Super Flex Disc)

List



- PDLVBTL Universal 7/8" or 3/4"
12/Box

Weld-In Pivot Rim Repair Ring



List

- PVTRNG Universal Style
8/Box

CONTROL VALVES

Built in the USA

from domestic and foreign parts

SEAL MATIC™

Seal Matic™ 3/4", 1", 1 1/4" and 1 1/2"
 Pivot Auxillary & Corner Control Valve
 Raven Smart™ Diaphragm Technology

5-Year Diaphragm Guarantee

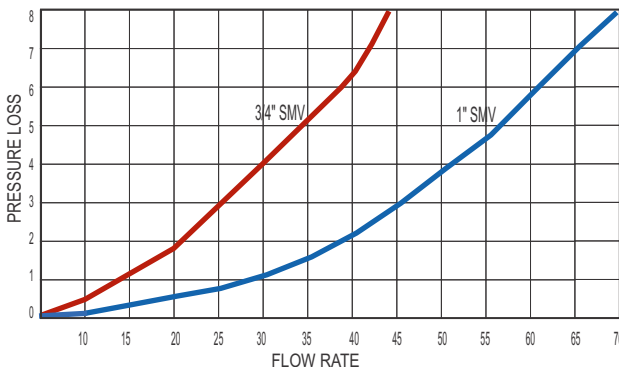
Features

- ◆ Ductile iron body and bonnet
- ◆ Brass auto-drain included with PEG model
- ◆ One diaphragm for all working pressures
- ◆ Diaphragm is **made in USA**
- ◆ 200 psi max working pressure
- ◆ Highly efficient high-flow, low head loss design
- ◆ Easy in-place maintenance
- ◆ Pressure reducing and pressure sustaining valves come with P6000 brass pilot



SMV75PEG

3/4" and 1" SMV Valves



Seal Matic valves are only guaranteed to perform optimally in accordance with the size and model of each valve's performance chart in standard irrigation use and practices.

Graphs Represent Results From CIT

Seal Matic™ Pivot End Gun Valve

SMV75PEG	3/4" w/Auto Drain and Plug
SMV1PEG	1" w/Auto Drain and Plug
SMV1.25PEG	1 1/4" w/Auto Drain and Plug
SMV1.5PEG	1 1/2" w/Auto Drain and Plug

List

Seal Matic™ Basic Valve

SMV75B	3/4" Basic w/Plugs
SMV1B	1" Basic w/Plugs
SMV1.25B	1 1/4" w/Plugs
SMV1.5B	1 1/2" w/Plugs

List

Seal Matic™ Electric On/Off Valve

SMV75WS	3/4" w/Solenoid
SMV1WS	1" w/Solenoid
SMV1.25WS	1 1/4" w/Solenoid
SMV1.5WS	1 1/2" w/Solenoid

List

Seal Matic™ Manual Pressure Reducing Valve

SMV75MPR	3/4" w/P-6000 Pilot
SMV1MPR	1" w/P-6000 Pilot
SMV1.25MPR	1 1/4" w/P-6000 Pilot
SMV1.5MPR	1 1/2" w/P-6000 Pilot

List

Seal Matic™ Electric Pressure Reducing Valve

SMV75EPR	3/4" w/P-6000 Pilot/Solenoid
SMV1EPR	1" w/P-6000 Pilot/Solenoid
SMV1.25EPR	1 1/4" w/P-6000 Pilot/Solenoid
SMV1.5EPR	1 1/2" w/P-6000 Pilot/Solenoid

List

Seal Matic™ Manual Pressure Sustaining Valve

SMV75MPS	3/4" w/P-6000 Pilot
SMV1MPS	1" w/P-6000 Pilot
SMV1.25MPS	1 1/4" w/P-6000 Pilot
SMV1.5MPS	1 1/2" w/P-6000 Pilot

List

CONTROL VALVES

Built in the USA

from domestic and foreign parts

SEAL MATIC™

Seal Matic™ 2" Pivot End Gun Valve
 Raven Smart™ Diaphragm Technology

5-Year Diaphragm Guarantee

Features

- ◆ Ductile iron body and bonnet with 1/4" porting
- ◆ Brass auto-drain included with PEG model
- ◆ One diaphragm for all working pressures
- ◆ 200 psi max working pressure
- ◆ Easy in-place maintenance
- ◆ Pressure sustaining and pressure reducing valves come with P-6000 pilot
- ◆ SMVX100PEG is interchangeable with Aqua Burst™ X-100 and Nelson™ SR100 and SR75

Seal Matic™ Pivot End Gun Valve

- | | | |
|------------|------------------------------|------|
| SMV2PEG | 2" w/Auto Drain and Plug | List |
| SMV902PEG | 2" 90° w/Auto Drain and Plug | |
| SMVX100PEG | 2" X-100 End Gun Valve | |

Seal Matic™ Basic Valve

- | | | |
|---------|----------------------|------|
| SMV2B | 2" Basic w/Plugs | List |
| SMV902B | 2" 90° Basic w/Plugs | |

Seal Matic™ Electric On/Off Valve

- | | | |
|-----------|-----------------------------------|------|
| SMV2WS | 2" w/Solenoid | List |
| SMV902WS | 2" 90° w/Solenoid | |
| SMVX100WS | 2" X-100 End Gun Valve w/Solenoid | |

Seal Matic™ Manual Pressure Reducing Valve

- | | | |
|-----------|-----------------------|------|
| SMV2MPR | 2" w/P-6000 Pilot | List |
| SMV902MPR | 2" 90° w/P-6000 Pilot | |

Seal Matic™ Electric Pressure Reducing Valve

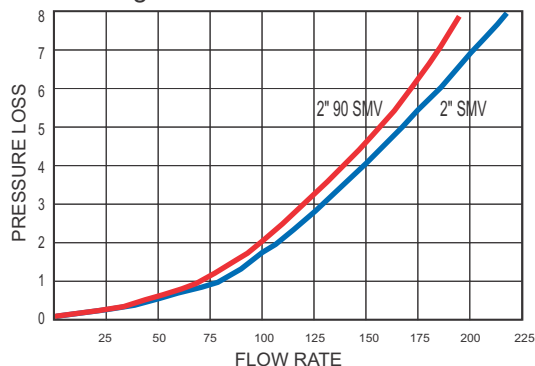
- | | | |
|-----------|--------------------------------|------|
| SMV2EPR | 2" w/P-6000 Pilot/Solenoid | List |
| SMV902EPR | 2" 90° w/P-6000 Pilot/Solenoid | |

Seal Matic™ Manual Pressure Sustaining Valve

- | | | |
|-----------|-----------------------|------|
| SMV2MPS | 2" w/P-6000 Pilot | List |
| SMV902MPS | 2" 90° w/P-6000 Pilot | |



2" Straight and 2" 90° Seal Matic™ Valves



Cv = 2" 90° = 110
 Cv = 2" Str = 90

(control vented to atmosphere)

Seal Matic valves are only guaranteed to perform optimally in accordance with the size and model of each valves performance chart in standard irrigation use and practices.

Graphs Represent Results From CIT

CONTROL VALVES

Built in the USA

from domestic and foreign parts

SEAL MATIC™

Raven Smart™ Diaphragm Technology

5-Year Diaphragm Guarantee

Features

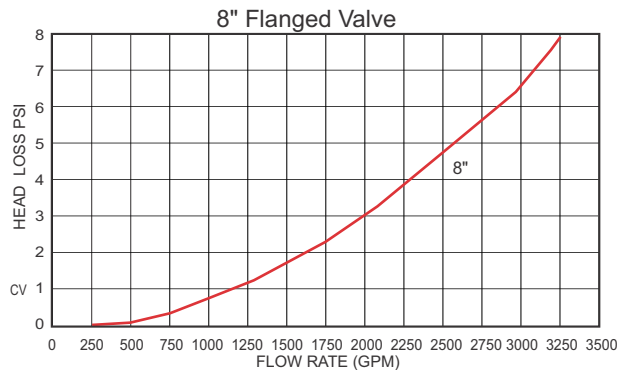
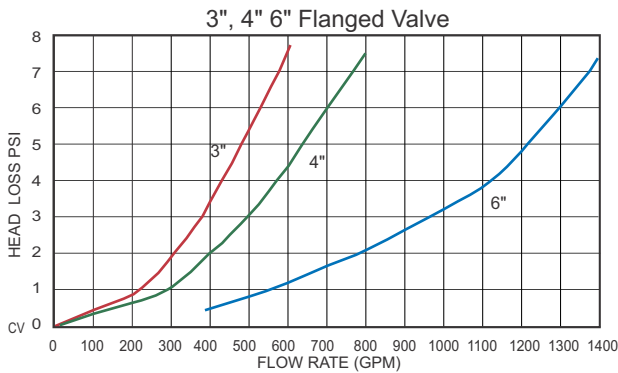
- ◆ One diaphragm for all pressures
- ◆ Easy in-place maintainance
- ◆ Fully open at 5 psi
- ◆ CIT tested flow rates
- ◆ 3" and 4" valves available with either P-6000 or P-3000 pilot
- ◆ Pilot Control Options: Pressure reducing, pressure sustaining, pressure relief
- ◆ 6" and 8" Dual-X™ double-diaphragm valve available with P-6000 pilot only
- ◆ Solenoid available in 12v DC, 24v AC, 24v DC or 120 v AC



SMV6MPR
6" Dual-X™ Control Valve



SMV4WS



Graphs Represent Results From CIT

Seal Matic™ Electric On/Off Valve

SMV3WS	3" w/Solenoid
SMV4WS	4" w/Solenoid
SMV6WS	6" w/Solenoid
SMV8WS	8" w/Solenoid

List

Seal Matic™ Basic Valve

SMV3B	3" Basic w/Plugs
SMV4B	4" Basic w/Plugs
SMV6B	6" Basic w/Plugs
SMV8B	8" Basic w/Plugs

List

Seal Matic™ Manual Pressure Reducing Valve

SMV3MPR	3" w/P-6000 Pilot
SMV4MPR	4" w/P-6000 Pilot
SMV6MPR	6" w/P-6000 Pilot
SMV8MPR	8" w/P-6000 Pilot

List

Seal Matic™ Electric Pressure Reducing Valve

SMV3EPR	3" w/P-6000 Pilot/Solenoid
SMV4EPR	4" w/P-6000 Pilot/Solenoid
SMV6EPR	6" w/P-6000 Pilot/Solenoid
SMV8EPR	8" w/P-6000 Pilot/Solenoid

List

Seal Matic™ Manual Pressure Sustaining Valve

SMV3MPS	3" w/P-6000 Pilot
SMV4MPS	4" w/P-6000 Pilot
SMV6MPS	6" w/P-6000 Pilot
SMV8MPS	8" w/P-6000 Pilot

List

CONTROL VALVES

Built in the USA

from domestic and foreign parts

X-Max Valve™

Where Function and Efficiency Meet

New High-Flow Design

Features

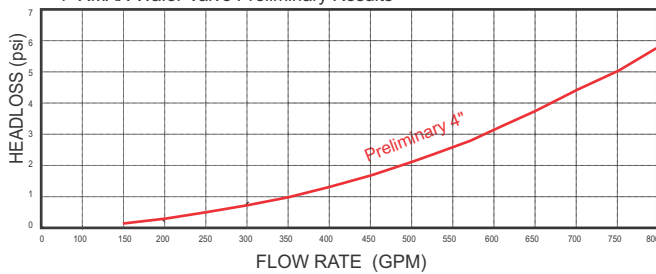
- ◆ **Five-Year Diaphragm Warranty**
- ◆ Hot dipped galvanized and oven baked powder coatings
- ◆ Pilot control options: pressure reducing, pressure sustaining and pressure relief
- ◆ Electric on/off with Parker Skinner solenoid and manual three-way controller
- ◆ Solenoid available in 12 v DC, 24v AC, 24v DC or 120v AC
- ◆ 6" Available with P-6000 brass pilot only
- ◆ **Bolt Kit Included**



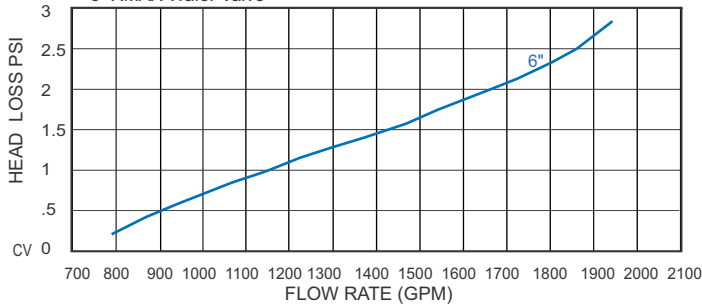
XMAX4WS

XMAX6WS

4" XMAX Wafer Valve Preliminary Results



6" XMAX Wafer Valve



Graphs Represent Results From CIT

X-MAX Electric On/Off Valve

XMAX4WS	4" w/Solenoid
XMAX6WS	6" w/Solenoid

List

X-MAX Basic Valve

XMAX4B	4" Basic w/Plugs
XMAX6B	6" Basic w/Plugs

List

X-MAX Manual Pressure Reducing Valve

XMAX4MPR	4" w/P-6000 Pilot
XMAX6MPR	6" w/P-6000 Pilot

List

X-MAX Electric On/Off Pressure Reducing Valve

XMAX4EPR	4" w/P-6000 Pilot/Solenoid
XMAX6EPR	6" w/P-6000 Pilot/Solenoid

List

X-MAX Manual Pressure Sustaining Valve

XMAX4MPS	4" w/P-6000 Pilot
XMAX6MPS	6" w/P-6000 Pilot

List

See Installation and Storage Guide for Bolt Torque Specification. (Pg. 56)

Designed and engineered to out-flow and out-control all other hydraulic control valves.
 1150 gpm @ 1.0 cv

CONTROL VALVES

Built in the USA

from domestic and foreign parts

XCON Valve™

Where Function and Efficiency Meet

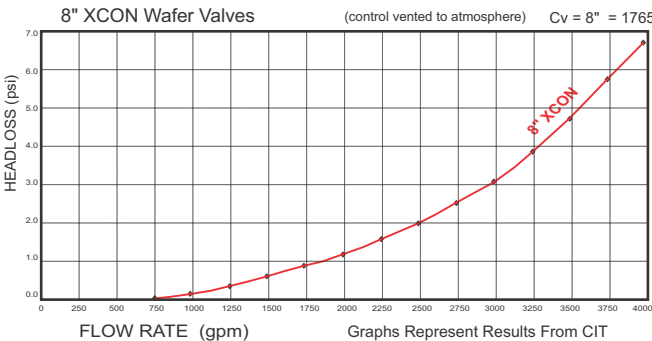
5-Year Diaphragm Guarantee

Features

- ◆ Money saving operation with low friction loss
- ◆ CIT tested flow rates
- ◆ Pilot control options: Pressure reducing, pressure sustaining and pressure relief
- ◆ Electric on/off with Parker Skinner solenoid and manual three-way controller
- ◆ Solenoid available in 12v DC, 24v AC, 24v DC or 120v AC
- ◆ Available with P-6000 brass pilot
- ◆ **Bolt Kit Included**



XCON8WS



XCON/XMAX Bolt Kits

- XMAX4-BK 8 - 5/8" X 10 1/2" bolts, 16 - 5/8" nuts (O-Rings Standard on 4" XCAD/XMAX Valves)
- XMAX6-BK 8 - 3/4" x 14" bolts, 16 - 3/4" nuts (O-Rings Standard on 6" XCAD/XMAX Valves)
- XMAX8-BK 8 - 3/4" x 16" bolts, 16 - 3/4" nuts, 2 - flange gaskets

List

XCON Electric On/Off Valve

XCON8WS 8" w/Solenoid

List

XCON Basic Valve

XCON8B 8" Basic w/Plugs

List

XCON Manual Pressure Reducing Valve

XCON8MPR 8" w/P-6000 Pilot

List

XCON Electric On/Off Pressure Reducing Valve

XCON8EPR 8" w/P-6000 Pilot/Solenoid

List

XCON Manual Pressure Sustaining Valve

XCON8MPS 8" w/P-6000 Pilot

List

See Installation and Storage Guide for Bolt Torque Specification. (Pg 56)

Control Valve Replacement Valve Diaphragms

- XMAX4DIA 4" diaphragm for XMAX valve
- XMAX6DIA 6" diaphragm for XMAX valve
- XCON4DIA 4" diaphragm for XCON valve
- XCON6DIA 6" diaphragm for XCON valve
- XCON8DIA 8" diaphragm for XCON valve
- SMV75-1DIA 3/4"/1" diaphragm for SMV valve
- SMV2DIA 2" diaphragm for SMV valve
- SMV346DIA 3",4", 6" diaphragm for SMV valve
- SMV8DIA 8" diaphragm for SMV valve

List

CONTROL VALVE PARTS

Nylon Valve Fittings













Nylon and Plated Brass

						List
				NE4-4	1/4" x 1/4" NPT Elbow	\$ 2.00
NE4-4	NHH4-4	NSC-38	NSC-4	NHH4-4	1/4" Hose x 1/4" Hose Swivel Straight Nipple	\$ 0.60
				NSC-38	3/8" Hose Swivel Connector Tee	\$ 0.60
				NSC-4	1/4" Hose Swivel Connector Tee	\$ 2.20
				NSBT38-4	3/8" x 1/4" NPT Swivel Branch Tee	\$ 1.10
NSBT38-4	NSBT4-2	NSBT4-4		NSBT4-2	1/4" x 1/8" NPT Swivel Branch Tee	\$ 1.40
				NSBT4-4	1/4" x 1/4" NPT Swivel Branch Tee	\$ 1.30
				NSE38-4	3/8" x 1/4" NPT Swivel Elbow	\$ 0.80
				NSE4-2	1/4" x 1/8" NPT Swivel Elbow	\$ 1.70
NSE38-4	NSE4-2	NSE4-4	NHHE4-4	NSE4-4	1/4" x 1/4" NPT Swivel Elbow	\$ 1.00
				NHHE4-4	1 1/4" Hose x 1/4" Hose Swivel Elbow	\$ 1.30
				NSRT12-4	1/2" x 1/4" NPT Swivel Run Tee	\$ 2.90
				NSRT38-4	3/8" x 1/4" NPT Swivel Run Tee	\$ 2.20
NSRT38-4	NSRT4-2	NSRT4-4		NSRT4-2	1/4" x 1/8" NPT Swivel Run Tee	\$ 1.20
				NSRT4-4	1/4" x 1/4" NPT Swivel Run Tee	\$ 1.50
				NSSN4-2	1/4" x 1/8" NPT Swivel Straight Nipple	\$ 2.60
NSSN4-2	NSSN4-4	NSSN12-4	NSSN38-4	NSSN4-4	1/4" x 1/4" NPT Swivel Straight Nipple	\$ 2.80
				NSSN12-4	1/2" x 1/4" NPT Swivel Straight Nipple	\$ 1.90
				NSSN38-4	3/8" x 1/4" NPT Swivel Straight Nipple	\$ 1.60
				NSYC-4	1/4" Hose Swivel Y Connector	\$ 0.70
NSYC-4	NSYC4-2	NSYC4-4		NSYC4-2	1/4" x 1/8" NPT Swivel Y Connector	\$ 1.00
				NSYC4-4	1/4" x 1/4" NPT Swivel Y Connector	\$ 0.80
				NSSC4-2	1/4" x 1/8" NPT Swivel Speed Control/Needle Valve	\$ 1.20
				NSSC4-4	1/4" x 1/4" NPT Swivel Speed Control/Needle Valve	\$ 1.50
NSSSC4-2	NSSSC4-4	BVT14		BVT14	Heavy Duty Nylon 1/4" Valve Tubing, per foot	\$ 0.37
				BVT12	Heavy Duty Nylon 3/8" Valve Tubing, per foot	\$ 0.88
				BVT38	Heavy Duty Nylon 1/2" Valve Tubing, per foot	\$ 0.73

CONTROL VALVE PARTS

Brass Valve Fittings

Plated Brass

						List
				BHN2-2	1/8" NPT x 1/8" NPT Hex Nipple	\$ 1.20
				BHN4-2	1/4" NPT x 1/8" NPT Hex Nipple	\$ 1.60
				BHN4-4	1/4" NPT x 1/4" NPT Hex Nipple	\$ 1.50
SSN4-2	SSN4-4	SSN38-4	SSN12-4	SSN4-2	1/4" x 1/8" NPT Swivel Straight Nipple	\$ 1.80
				SSN4-4	1/4" x 1/4" NPT Swivel Straight Nipple	\$ 2.20
				SSN38-4	3/8" x 1/4" NPT Swivel Straight Nipple	\$ 3.30
SE4-2	SE4-4	SE38-4	SE12-4	SSN12-4	1/2" X 1/4" NPT Swivel Straight Nipple	\$ 4.10
				SE4-2	1/4" x 1/8" NPT Swivel Elbow	\$ 3.20
				SE4-4	1/4" x 1/4" NPT Swivel Elbow	\$ 3.80
SBT4-2	SBT4-4	SBT38-4	SBT12-4	SE38-4	3/8" x 1/4" NPT Swivel Elbow	\$ 5.10
				SE12-4	1/2" x 1/4" NPT Swivel Elbow	\$ 5.80
				SBT4-2	1/4" x 1/8" NPT Swivel Branch Tee	\$ 4.80
SRT4-2	SRT4-4	SRT38-4		SBT4-4	1/4" x 1/4" NPT Swivel Branch Tee	\$ 4.90
				SBT38-4	3/8" x 1/4" NPT Swivel Branch Tee	\$ 6.80
				SBT12-4	1/2" X 1/4" NPT Swivel Branch Tee	\$ 7.10
SYC4-2	SYC4-4	SYC-4		SRT4-2	1/4" x 1/8" NPT Swivel Run Tee	\$ 4.40
				SRT4-4	1/4" x 1/4" NPT Swivel Run Tee	\$ 4.90
				SRT38-4	3/8" x 1/4" NPT Swivel Run Tee	\$ 6.70
SC-4	SC-38	SUT2-2	SUT4-4	SRT12-4	1/2" x 1/4" NPT Swivel Run Tee	\$ 7.10
				SYC4-2	1/4" x 1/8" NPT Swivel Divider Tee	\$ 4.80
				SYC4-4	1/4" x 1/4" NPT Swivel Divider Tee	\$ 4.90
SSC4-2	SSC4-4	SST4-2	SST4-4	SYC-4	1/4" x 1/4" x 1/4" Hose Swivel Divider Tee	\$ 4.50
				SC-4	1/4" x 1/4" x 1/4" Swivel Hose Tee	\$ 4.50
				SC-38	3/8" X 3/8" X 3/8" Swivel Hose Tee	\$ 7.10
				SUT2-2	1/8" x 1/8" x 1/8" NPT Brass Union Tee	\$ 3.90
				SUT4-4	1/4" x 1/4" x 1/4" NPT Brass Union Tee	\$ 4.60
				SSC4-2	1/4" X 1/8" NPT Swivel Speed Control	\$ 9.80
				SSC4-4	1/4" x 1/4" NPT Swivel Speed Control	\$ 10.60
				SST4-2	1/4" x 1/8" NPT Swivel Splitter Tee	\$ 5.50
				SST4-4	1/4" x 1/4" NPT Swivel Splitter Tee	\$ 5.70

VALVE ACCESSORIES -- PILOT



P-6000

Built in the USA

from domestic and foreign parts

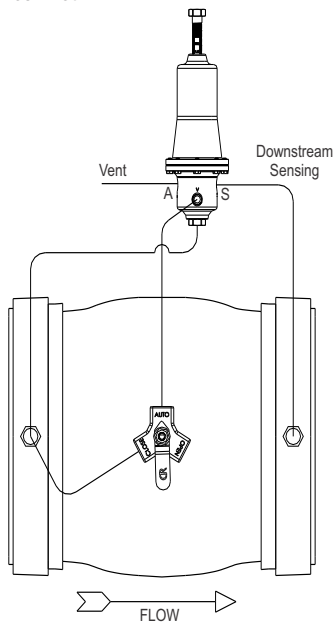
**XCAD Pressure Control Pilot
 P-6000 Series**

		List
P-6000-H	Pressure Control Pilot	\$495.50
P-6000-M	High: 30-120 psi/Medium: 30-60 psi	
P-6000-L	Low: 10-40 psi Includes vent and fittings	
P6MPR-H	Manual Pressure Reduction Kit	\$596.50
P6MPR-M	High: 30-120 psi/Medium: 30-60 psi	
P6MPR-L	Low: 10-40 psi Includes pilot and fittings	
P6EPR-H	Electric On-Off Pressure Reduction Kit	\$704.00
P6MPS-M	High: 30-120 psi/Medium: 30 - 60 psi	
P6EPR-L	Low: 10-40 psi Includes pilot, solenoid, 3-way selector and fittings	
P6MPS-H	Manual Pressure Sustaining/Relief Kit	\$596.50
P6MPS-M	High: 30-120 psi/Medium: 30-60 psi	
P6MPS-L	Low: 10-40 psi Includes pilot and fittings	

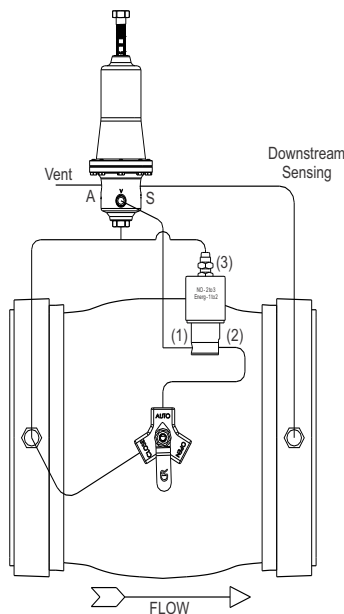
Features

- ◆ **Maintenance free stainless steel control springs (No greasing required)**
- ◆ Calibrated pressure control (low and high)
- ◆ Both sustaining/relief and reducing function
- ◆ No pressure drop required to regulate
- ◆ Easy valve mounting bracket
- ◆ Universal design works with most control valves

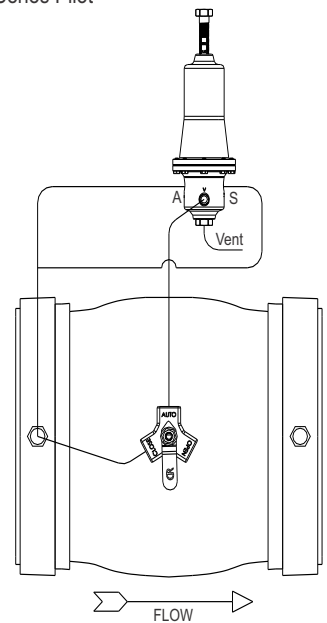
Pressure Reducing (Manual)
 6000 Series Pilot



Pressure Reducing & Electric On/Off
 6000 Series Pilot



Pressure Sustaining (Manual)
 6000 Series Pilot



Upstream and downstream sensing should be placed 24 inches away from valve.

VALVE ACCESSORIES

Made in USA



PK SOL-LO120



PK SOL-120AC



PKPOT-120AC



PKCOIL-12DC

3-Way Solenoids

PK SOL-120UN	120 v AC Solenoid, Unpotted
PK SOL-120AC	120 v AC Solenoid, Potted
PK SOL-24DC	24 v DC Solenoid
PK SOL-24AC	24 v AC Solenoid
PK SOL-12DC	12 v DC Solenoid
PK SOL-12DCL	12 v DC Latching Solenoid
PK SOL-LO120AC	120 v AC 5/32" Orifice Solenoid
PK SOL-LO24AC	24 v AC 5/32" Orifice Solenoid

List
\$ 82.50
\$ 82.50
\$101.00
\$ 98.50
\$ 98.50
\$276.90
\$320.30
\$320.30

Solenoid Coils

PKHS	Coil Housing (pot)
PKCOIL-120AC	120 v AC Coil Only
PKPOT-120AC	120 v AC Potted Coil
PKCOIL-24DC	24 v DC Coil Only
PKCOIL-24AC	24 v AC Coil Only
PKCOIL-12DC	12 v DC Coil Only

List
\$ 40.20
\$ 48.60
\$ 80.40
\$ 51.60
\$ 51.60
\$ 51.60

Selector Valves

(Large Ports)



3WSEL



SVB-4

3WSEL	1/4"x1/8"x1/8"x1/8" 3-way Selector
SVB-4	1/4" Brass Shuttle Valve

List
\$ 20.00
\$ 20.60

Brass Filters and Drains



LBF25



SBF25



EXTFP



TFDVBDL

LBF25	1/4"x1/4" Internal Brass Filter
SBF25	1/4"x1/4" Internal Brass Filter
EXTFP	1/4"x1/4" External Plastic Filer
TFDVBDL	1/4" Internal Brass Drain

List
\$ 10.00
\$ 10.00
\$ 12.80
\$ 9.60

STAINLESS STEEL BUTTERFLY VALVES



BVLO8

BVGO8

Features

- ◆ Double seal seat design eliminates need for flange gaskets
- ◆ Two-piece stainless steel stem design with floating disc
- ◆ Drive stem flattened for easy fit actuation
- ◆ Streamlined disc for maximum flow
- ◆ Locating lugs for easy installation

GX-Series Lever-Op Stainless Steel

Model	Description
BVLO2	2" Lever Op, Stainless Steel Disc
BVLO2.5	2.5" Lever Op, Stainless Steel Disc
BVLO3	3" Lever Op, Stainless Steel Disc
BVLO4	4" Lever Op, Stainless Steel Disc
BVLO5	5" Lever Op, Stainless Steel Disc
BVLO6	6" Lever Op, Stainless Steel Disc
BVLO8	8" Lever Op, Stainless Steel Disc
BVLO10	10" Lever Op, Stainless Steel Disc
BVLO12	12" Lever Op, Stainless Steel Disc

List
\$ 87.00
\$ 91.00
\$ 110.00
\$ 132.00
\$ 156.00
\$ 180.00
\$ 283.00
\$ 389.00
\$ 513.00

Gear-Op Stainless Steel

Model	Description
BVGO2	2" Gear Op, Stainless Steel Disc
BVGO2.5	2.5" Gear Op, Stainless Steel Disc
BVGO3	3" Gear Op, Stainless Steel Disc
BVGO4	4" Gear Op, Stainless Steel Disc
BVGO5	5" Gear Op, Stainless Steel Disc
BVGO6	6" Gear Op, Stainless Steel Disc
BVGO8	8" Gear Op, Stainless Steel Disc
BVGO10	10" Gear Op, Stainless Steel Disc
BVGO12	12" Gear Op, Stainless Steel Disc

List
\$ 140.00
\$ 141.00
\$ 165.00
\$ 184.00
\$ 220.00
\$ 254.00
\$ 342.00
\$ 440.00
\$ 608.00

DR-Series is Where Value and Performance Meet Epoxy Powder Coated Body



DRBVGO6

Features

- ◆ Available in both gear and lever operators
- ◆ Two-piece stainless steel stem design
- ◆ Floating disc ensures positive sealing
- ◆ Fits between 125/150 class ANSI flanges
- ◆ Stainless steel disc
- ◆ Long life cycle design

DR-Series Lever-Op Stainless Steel

Model	Description
DRBVLO2	2" Lever Op, Stainless Steel Disc
DRBVLO4	4" Lever Op, Stainless Steel Disc
DRBVLO5	5" Lever Op, Stainless Steel Disc
DRBVLO6	6" Lever Op, Stainless Steel Disc
DRBVLO8	8" Lever Op, Stainless Steel Disc
DRBVLO10	10" Lever Op, Stainless Steel Disc
DRBVLO12	12" Lever Op, Stainless Steel Disc

List
\$ 88.00
\$ 105.00
\$ 124.00
\$ 144.00
\$ 226.00
\$ 304.00
\$ 410.00

Gear-Op Stainless Steel

Model	Description
DRBVG03	3" Gear Op, Stainless Steel Disc
DRBVG04	4" Gear Op, Stainless Steel Disc
DRBVG05	5" Gear Op, Stainless Steel Disc
DRBVG06	6" Gear Op, Stainless Steel Disc
DRBVG08	8" Gear Op, Stainless Steel Disc
DRBVG010	10" Gear Op, Stainless Steel Disc
DRBVG012	12" Gear Op, Stainless Steel Disc

List
\$ 136.00
\$ 147.00
\$ 176.00
\$ 203.00
\$ 273.00
\$ 352.00
\$ 426.00

DUCTILE IRON BUTTERFLY VALVES



BVLO8-DI



BVGO8-DI

GX-Series Lever-Op Ductile Iron

		List
BVLO2-DI	2" Lever Op, Ductile Iron Disc	\$ 62.00
BVLO2.5-DI	2.5" Lever Op, Ductile Iron Disc	\$ 64.00
BVLO3-DI	3" Lever Op, Ductile Iron Disc	\$ 79.00
BVLO4-DI	4" Lever Op, Ductile Iron Disc	\$ 94.00
BVLO5-DI	5" Lever Op, Ductile Iron Disc	\$ 111.00
BVLO6-DI	6" Lever Op, Ductile Iron Disc	\$ 129.00
BVLO8-DI	8" Lever Op, Ductile Iron Disc	\$ 203.00
BVLO10-DI	10" Lever Op, Ductile Iron Disc	\$ 213.00
BVLO12-DI	12" Lever Op, Ductile Iron Disc	\$ 369.00

Gear-Op Ductile Iron

		List
BVGO2-DI	2" Gear Op Ductile Iron Disc	\$ 99.00
BVGO2.5-DI	2.5" Gear Op, Ductile Iron Disc	\$ 108.00
BVGO3-DI	3" Gear Op, Ductile Iron Disc	\$ 118.00
BVGO4-DI	4" Gear Op, Ductile Iron Disc	\$ 132.00
BVGO5-DI	5" Gear Op, Ductile Iron Disc	\$ 158.00
BVGO6-DI	6" Gear Op, Ductile Iron Disc	\$ 182.00
BVGO8-DI	8" Gear Op, Ductile Iron Disc	\$ 245.00
BVGO10-DI	10" Gear Op, Ductile Iron Disc	\$ 316.00
BVGO12-DI	12" Gear Op, Ductile Iron Disc	\$ 437.00



Class D IPS Pipe Size

		List
SFIPS8-5/8	8" 5/8" thk	\$ 33.30
SFIPS10-5/8	10" 5/8" thk	\$ 42.00
SFIPS12-3/4	12" 3/4" thk	\$ 61.20

Class D OD Pipe Size

		List
SFOD8-5/8	8" 5/8" thk	\$ 38.80
SFOD10-5/8	10" 5/8" thk	\$ 49.80
SFOD12-3/4	12" 3/4" thk	\$ 82.70
SFOD12-13/16	12" 13/16" thk	\$ 91.60
SFOD14-3/4	14" 3/4" thk	\$ 98.30
SFOD14-15/16	14" 15/16" thk	\$122.80
SFOD16-3/4	16" 3/4" thk	\$118.10
SFOD16-1	16" 1" thk	\$156.80

Flat Faced Steel Flanges

1/2" IPS Pipe Size

		List
SFIPS2	2"	\$ 7.40
SFIPS2.5	2 1/2"	\$ 9.40
SFIPS3	3"	\$ 11.20
SFIPS4	4"	\$ 13.00
SFIPS5	5"	\$ 18.00
SFIPS6	6"	\$ 18.90
SFIPS8	8"	\$ 24.70
SFIPS10	10"	\$ 31.80
SFIPS12	12"	\$ 48.60

1/2" OD Pipe Size

		List
SFOD2	2"	\$ 9.10
SFOD2.5	2 1/2"	\$ 10.00
SFOD3	3"	\$ 11.00
SFOD4	4"	\$ 12.40
SFOD5	5"	\$ 16.80
SFOD6	6"	\$ 17.10
SFOD8	8"	\$ 22.40
SFOD10	10"	\$ 37.90
SFOD12	12"	\$ 54.10

BUTTERFLY VALVE PARTS

Fits Both DR and GX Series Valves



BVHDL8



BVLP8



BVBOX8



BVHW8



BVEXT36-8

- BVHDL2-3
- BVHDL4-6
- BVHDL8
- BVHDL10-12

- BVLP2-3
- BVLP4-6
- BVLP8
- BVLP10-12

- BVBOX2-5
- BVBOX6
- BVBOX8
- BVHDL10-12

- BVHW2-3
- BVHW4-6
- BVHW8
- BVHW10-12
- BVRP2-6
- BVRP8-12

- BVEXT24-2
- BVEXT24-4
- BVEXT24-5
- BVEXT24-6
- BVEXT24-8
- BVEXT24-12
- BVEXT36-2
- BVEXT36-4
- BVEXT36-5
- BVEXT36-6
- BVEXT36-8
- BVEXT36-12
- BVEXT48-2
- BVEXT48-4
- BVEXT48-5
- BVEXT48-6
- BVEXT48-8
- BVEXT48-12
- BVEXT60-2
- BVEXT60-4
- BVEXT60-5
- BVEXT60-6
- BVEXT60-8
- BVEXT60-12
- BVEXT72-2
- BVEXT72-4
- BVEXT72-5
- BVEXT72-6
- BVEXT72-8
- BVEXT72-12

Lever Handle

- Handle for 2", 2.5" and 3"
- Handle for 4" and 6"
- Handle for 8"
- Handle for 10" and 12"

- | List |
|----------|
| \$ 15.60 |
| \$ 15.60 |
| \$ 25.20 |
| \$ 25.20 |

Lever Lock Plate

- Lever lock plate for 2", 2.5" and 3"
- Lever lock plate for 4" and 6"
- Lever lock plate for 8"
- Lever lock plate for 10" and 12"

- | List |
|----------|
| \$ 4.60 |
| \$ 4.60 |
| \$ 15.00 |
| \$ 15.00 |

Gear Box

- Gear box for 2", 2.5" and 3"
- Gear box for 4" and 6"
- Gear box for 8"
- Gear box for 10" and 12"

- | List |
|-----------|
| \$ 104.30 |
| \$ 104.30 |
| \$ 195.20 |
| \$ 195.20 |

Hand Wheel

- Hand wheel for 2", 2.5" and 3"
- Hand wheel for 4" and 6"
- Hand wheel for 8"
- Hand wheel for 10" and 12"
- Roll pin for 2-6" hand wheel
- Roll pin for 8-12" hand wheel

- | List |
|----------|
| \$ 36.40 |
| \$ 36.40 |
| \$ 41.70 |
| \$ 41.70 |
| \$ 2.00 |
| \$ 2.00 |

Extensions

- 24" extension for 2", 2.5", 3" valves
- 24" extension for 4" valves
- 24" extension for 5" valves
- 24" extension for 6" valves
- 24" extension for 8" and 10" valves
- 24" extension for 12" valves
- 36" extension for 2", 2.5", 3" valves
- 36" extension for 4" valves
- 36" extension for 5" valves
- 36" extension for 6" valves
- 36" extension for 8" and 10" valves
- 36" extension for 12" valves
- 48" extension for 2", 2.5", 3" valves
- 48" extension for 4" valves
- 48" extension for 5" valves
- 48" extension for 6" valves
- 48" extension for 8" and 10" valves
- 48" extension for 12" valves
- 60" extension for 2", 2.5", 3" valves
- 60" extension for 4" valves
- 60" extension for 5" valves
- 60" extension for 6" valves
- 60" extension for 8" and 10" valves
- 60" extension for 12" valves
- 72" extension for 2", 2.5", 3" valves
- 72" extension for 4" valves
- 72" extension for 5" valves
- 72" extension for 6" valves
- 72" extension for 8" and 10" valves
- 72" extension for 12" valves

- | List |
|-----------|
| \$ 120.90 |
| \$ 120.90 |
| \$ 120.90 |
| \$ 120.90 |
| \$ 150.00 |
| \$ 150.00 |
| \$ 132.50 |
| \$ 132.50 |
| \$ 132.50 |
| \$ 132.50 |
| \$ 158.50 |
| \$ 158.50 |
| \$ 143.50 |
| \$ 143.50 |
| \$ 143.50 |
| \$ 143.50 |
| \$ 171.80 |
| \$ 171.80 |
| \$ 155.10 |
| \$ 155.10 |
| \$ 155.10 |
| \$ 155.10 |
| \$ 185.20 |
| \$ 185.20 |
| \$ 166.80 |
| \$ 166.80 |
| \$ 166.80 |
| \$ 166.80 |
| \$ 199.30 |
| \$ 199.30 |

X-GATE™ LOW HEAD CANAL GATE PARTS

X-GATE™

Super-Heavy Duty

Features

- ◆ Heavy-duty galvanized 3" x 5" head rails and 2 1/2" guide rails standard
- ◆ Spigot back or flat back frame
- ◆ Three stainless steel stem configurations:
X-type, left and right-hand thread
Fresno-type, left-hand thread
- ◆ **Stainless steel stems standard**
- ◆ Bronze lift nuts standard
- ◆ Standard Sizes 8", 10", 12", 15", 18", 24" 30", and 36"
See chart for maximum frame lengths
- ◆ Extension stem adapters for all sizes

All X-GATE™ Canal Gates are available in three stem configurations

Please specify desired stem package when ordering gates
(X-Type left-hand thread standard)

X-Type, Left Hand Thread
X-Type, Right Hand Thread
Fresno-Type, Left Hand Thread

For Gate Lengths in 6" Increments
or Gates Over 120" in length

Additional length for gates under 120" - \$80/6"
--

Additional length for gates over 120" - \$140/ft
--

X-GATE™ Low Head Canal Gates are designed to XCAD's highest specifications. Frames, covers and wedges are not interchangeable with other brands.





X-GATE™ LOW HEAD CANAL GATE PARTS (PE)

FLAT BACK FRAME

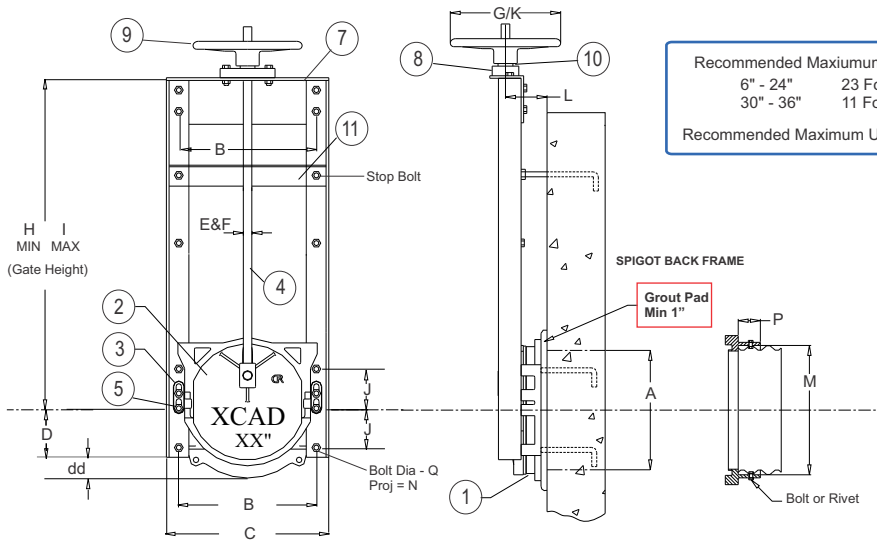
SPIGOT BACK FRAME

CG8FB24	8" Canal Gate w/24" Flat Back Frame	\$ 455.40
CG8FB36	8" Canal Gate w/36" Flat Back Frame	\$ 495.40
CG8FB48	8" Canal Gate w/48" Flat Back Frame	\$ 535.40
CG8FB60	8" Canal Gate w/60" Flat Back Frame	\$ 574.60
CG8FB72	8" Canal Gate w/72" Flat Back Frame	\$ 613.80
CG8FB84	8" Canal Gate w/84" Flat Back Frame	\$ 653.90
CG8FB96	8" Canal Gate w/96" Flat Back Frame	\$ 693.10
CG8FB108	8" Canal Gate w/108" Flat Back Frame	\$ 732.30
CG8FB120	8" Canal Gate w/120" Flat Back Frame	\$ 772.30
CG10FB24	10" Canal Gate w/24" Flat Back Frame	\$ 507.10
CG10FB36	10" Canal Gate w/36" Flat Back Frame	\$ 547.10
CG10FB48	10" Canal Gate w/48" Flat Back Frame	\$ 586.30
CG10FB60	10" Canal Gate w/60" Flat Back Frame	\$ 626.30
CG10FB72	10" Canal Gate w/72" Flat Back Frame	\$ 665.50
CG10FB84	10" Canal Gate w/84" Flat Back Frame	\$ 704.70
CG10FB96	10" Canal Gate w/96" Flat Back Frame	\$ 744.80
CG10FB108	10" Canal Gate w/108" Flat Back Frame	\$ 784.00
CG10FB120	10" Canal Gate w/120" Flat Back Frame	\$ 824.00
CG12FB24	12" Canal Gate w/24" Flat Back Frame	\$ 485.70
CG12FB36	12" Canal Gate w/36" Flat Back Frame	\$ 523.80
CG12FB48	12" Canal Gate w/48" Flat Back Frame	\$ 561.00
CG12FB60	12" Canal Gate w/60" Flat Back Frame	\$ 599.00
CG12FB72	12" Canal Gate w/72" Flat Back Frame	\$ 636.20
CG12FB84	12" Canal Gate w/84" Flat Back Frame	\$ 674.20
CG12FB96	12" Canal Gate w/96" Flat Back Frame	\$ 711.50
CG12FB108	12" Canal Gate w/108" Flat Back Frame	\$ 748.70
CG12FB120	12" Canal Gate w/120" Flat Back Frame	\$ 786.80
CG15FB36	15" Canal Gate w/36" Flat Back Frame	\$ 567.30
CG15FB48	15" Canal Gate w/48" Flat Back Frame	\$ 605.30
CG15FB60	15" Canal Gate w/60" Flat Back Frame	\$ 644.10
CG15FB72	15" Canal Gate w/72" Flat Back Frame	\$ 683.00
CG15FB84	15" Canal Gate w/84" Flat Back Frame	\$ 721.80
CG15FB96	15" Canal Gate w/96" Flat Back Frame	\$ 760.60
CG15FB108	15" Canal Gate w/108" Flat Back Frame	\$ 798.70
CG15FB120	15" Canal Gate w/120" Flat Back Frame	\$ 838.30
CG18FB36	18" Canal Gate w/36" Flat Back Frame	\$ 747.90
CG18FB48	18" Canal Gate w/48" Flat Back Frame	\$ 796.30
CG18FB60	18" Canal Gate w/60" Flat Back Frame	\$ 844.60
CG18FB72	18" Canal Gate w/72" Flat Back Frame	\$ 892.90
CG18FB84	18" Canal Gate w/84" Flat Back Frame	\$ 941.30
CG18FB96	18" Canal Gate w/96" Flat Back Frame	\$ 988.00
CG18FB108	18" Canal Gate w/108" Flat Back Frame	\$1036.40
CG18FB120	18" Canal Gate w/120" Flat Back Frame	\$1084.70
CG24FB48	24" Canal Gate w/48" Flat Back Frame	\$1213.30
CG24FB60	24" Canal Gate w/60" Flat Back Frame	\$1266.90
CG24FB72	24" Canal Gate w/72" Flat Back Frame	\$1320.30
CG24FB84	24" Canal Gate w/84" Flat Back Frame	\$1374.70
CG24FB96	24" Canal Gate w/96" Flat Back Frame	\$1426.50
CG24FB108	24" Canal Gate w/108" Flat Back Frame	\$1480.10
CG24FB120	24" Canal Gate w/120" Flat Back Frame	\$1532.90
CG30FB60	30" Canal Gate w/60" Flat Back Frame	\$2153.60
CG30FB72	30" Canal Gate w/72" Flat Back Frame	\$2234.20
CG30FB84	30" Canal Gate w/84" Flat Back Frame	\$2313.90
CG30FB96	30" Canal Gate w/96" Flat Back Frame	\$2393.60
CG30FB108	30" Canal Gate w/108" Flat Back Frame	\$2473.30
CG30FB120	30" Canal Gate w/120" Flat Back Frame	\$2553.90
CG36FB 72	36" Canal Gate w/72" Flat Back Frame	\$2520.60
CG36FB84	36" Canal Gate w/84" Flat Back Frame	\$2600.20
CG36FB96	36" Canal Gate w/96" Flat Back Frame	\$2679.90
CG36FB108	36" Canal Gate w/108" Flat Back Frame	\$2758.70
CG36FB120	36" Canal Gate w/120" Flat Back Frame	\$2840.20

CG8SB24	8" Canal Gate w/24" Spigot Back Frame	\$ 464.50
CG8SB36	8" Canal Gate w/36" Spigot Back Frame	\$ 503.70
CG8SB48	8" Canal Gate w/48" Spigot Back Frame	\$ 543.80
CG8SB60	8" Canal Gate w/60" Spigot Back Frame	\$ 583.00
CG8SB72	8" Canal Gate w/72" Spigot Back Frame	\$ 622.20
CG8SB84	8" Canal Gate w/84" Spigot Back Frame	\$ 662.20
CG8SB96	8" Canal Gate w/96" Spigot Back Frame	\$ 701.40
CG8SB108	8" Canal Gate w/108" Spigot Back Frame	\$ 741.40
CG8SB120	8" Canal Gate w/120" Spigot Back Frame	\$ 780.60
CG10SB24	10" Canal Gate w/24" Spigot Back Frame	\$ 516.30
CG10SB36	10" Canal Gate w/36" Spigot Back Frame	\$ 555.40
CG10SB48	10" Canal Gate w/48" Spigot Back Frame	\$ 594.60
CG10SB60	10" Canal Gate w/60" Spigot Back Frame	\$ 634.70
CG10SB72	10" Canal Gate w/72" Spigot Back Frame	\$ 673.90
CG10SB84	10" Canal Gate w/84" Spigot Back Frame	\$ 713.90
CG10SB96	10" Canal Gate w/96" Spigot Back Frame	\$ 753.10
CG10SB108	10" Canal Gate w/108" Spigot Back Frame	\$ 793.10
CG10SB120	10" Canal Gate w/120" Spigot Back Frame	\$ 832.30
CG12SB24	12" Canal Gate w/24" Spigot Back Frame	\$ 495.20
CG12SB36	12" Canal Gate w/36" Spigot Back Frame	\$ 532.50
CG12SB48	12" Canal Gate w/48" Spigot Back Frame	\$ 570.50
CG12SB60	12" Canal Gate w/60" Spigot Back Frame	\$ 607.70
CG12SB72	12" Canal Gate w/72" Spigot Back Frame	\$ 648.00
CG12SB84	12" Canal Gate w/84" Spigot Back Frame	\$ 683.00
CG12SB96	12" Canal Gate w/96" Spigot Back Frame	\$ 720.20
CG12SB108	12" Canal Gate w/108" Spigot Back Frame	\$ 758.20
CG12SB120	12" Canal Gate w/120" Spigot Back Frame	\$ 795.50
CG15SB36	15" Canal Gate w/36" Spigot Back Frame	\$ 576.00
CG15SB48	15" Canal Gate w/48" Spigot Back Frame	\$ 623.60
CG15SB60	15" Canal Gate w/60" Spigot Back Frame	\$ 661.60
CG15SB72	15" Canal Gate w/72" Spigot Back Frame	\$ 701.20
CG15SB84	15" Canal Gate w/84" Spigot Back Frame	\$ 739.20
CG15SB96	15" Canal Gate w/96" Spigot Back Frame	\$ 778.80
CG15SB108	15" Canal Gate w/108" Spigot Back Frame	\$ 816.90
CG15SB120	15" Canal Gate w/120" Spigot Back Frame	\$ 854.90
CG18SB36	18" Canal Gate w/36" Spigot Back Frame	\$ 776.50
CG18SB48	18" Canal Gate w/48" Spigot Back Frame	\$ 824.00
CG18SB60	18" Canal Gate w/60" Spigot Back Frame	\$ 872.30
CG18SB72	18" Canal Gate w/72" Spigot Back Frame	\$ 911.20
CG18SB84	18" Canal Gate w/84" Spigot Back Frame	\$ 958.70
CG18SB96	18" Canal Gate w/96" Spigot Back Frame	\$1007.00
CG18SB108	18" Canal Gate w/108" Spigot Back Frame	\$1055.40
CG18SB120	18" Canal Gate w/120" Spigot Back Frame	\$1103.70
CG24SB48	24" Canal Gate w/48" Spigot Back Frame	\$1258.00
CG24SB60	24" Canal Gate w/60" Spigot Back Frame	\$1310.80
CG24SB72	24" Canal Gate w/72" Spigot Back Frame	\$1364.20
CG24SB84	24" Canal Gate w/84" Spigot Back Frame	\$1416.10
CG24SB96	24" Canal Gate w/96" Spigot Back Frame	\$1470.50
CG24SB108	24" Canal Gate w/108" Spigot Back Frame	\$1524.00
CG24SB120	24" Canal Gate w/120" Spigot Back Frame	\$1576.80
CG30SB60	30" Canal Gate w/60" Spigot Back Frame	\$2233.20
CG30SB72	30" Canal Gate w/72" Spigot Back Frame	\$2313.00
CG30SB84	30" Canal Gate w/84" Spigot Back Frame	\$2391.80
CG30SB96	30" Canal Gate w/96" Spigot Back Frame	\$2472.30
CG30SB108	30" Canal Gate w/108" Spigot Back Frame	\$2553.00
CG30SB120	30" Canal Gate w/120" Spigot Back Frame	\$2632.70
CG36SB 72	36" Canal Gate w/72" Spigot Back Frame	\$2781.90
CG36SB84	36" Canal Gate w/84" Spigot Back Frame	\$2861.60
CG36SB96	36" Canal Gate w/96" Spigot Back Frame	\$2941.20
CG36SB108	36" Canal Gate w/108" Spigot Back Frame	\$2909.80
CG36SB120	36" Canal Gate w/120" Spigot Back Frame	\$3100.70



X-GATE™ LOW HEAD CANAL GATES



Parts List & Standard Features			
No.	Description	Qty.	Material
1	Frame	1	Cast Iron
2	Cover	1	Ductile Iron
3	Wedge (Rt. & Lft)	1 ea	Cast Iron
4	Stem	1	Stainless Steel
5	Wedge Bolts	4	Stainless Steel
6	Guide Rail	2	Galv. Structural Steel
7	Head Rail	1	Galv. Structural Steel
8	Lift Collar	1	Cast Iron
9	Handwheel	1	Cast Iron
10	Lift Nut	1	Bronze
11	Stem Support	1-2	Galv. Structural Steel

Cover: Ductile Iron ASTM 65-45-120
Frame: Cast Iron ASTM A 126 class B
Nut: Bronze ASTM B-584
Stem: Stainless Steel
Fasteners/Hardware:
Railing: Hot Galvanized

Flat Back for Headwall and Flange Mounting
 Spigot Back for Mounting to Corrugated Pipe

Dimensions For X-GATE™ Low-Head Canal Gates

(All Measurements in Inches)

A	B	C	D	dd	E XCAD	F Fresno	G XCAD	H Min	I Max	J	K Fresno	L	M	N	P	Q
8	10	13	4"	7/8"	7/8" (.875)	7/8" (.875)	10	24	120	3	10	2.5	9 1/8" (9.125)	3.5	2.25	1/2 x 12
10	12	14 7/8" (14.875)	4 1/2"	1 1/2"	7/8" (.875)	7/8" (.875)	10	24	120	3.5	10	2.5	11 1/4" (11.25)	3.5	2.25	1/2 x 12
12	14	16 7/8" (16.875)	5"	2"	7/8" (.875)	7/8" (.875)	10	24	120	4	10	3	13 1/8" (13.125)	4	2.25	1/2 x 12
15	17	18 7/8" (19.875)	6"	2 1/2"	7/8" (.875)	7/8" (.875)	10	36	120	5	10	3.5	16	4	2.25	1/2 x 12
18	21	22 7/8" (22.875)	7"	3 1/2"	1"	1/18" (1.125)	12	36	120	6	14	4.25	19 1/8" (19.125)	4.5	2.25	5/8 x 12
24	27 1/4" (27.25)	29 1/8" (29.125)	9"	4 3/4"	1"	1 1/8" (1.125)	12	48	120	8	14	4.125	25	4.5	2.25	5/8 x 12
30	33 3/4" (33.75)	36 1/8" (36.125)	11"	6 3/4"	1 1/8" (1.125)	1 1/8" (1.125)	15	60	120	10	14	4.5	31 1/2" (31.5)	6	2.25	3/4 x 12
36	39 3/4" (39.75)	42 1/8" (42.125)	13"	7 1/2"	1 1/8" (1.125)	1 1/8" (1.125)	15	72	120	12	14	5.375	37	6	2.25	3/4 x 12

Gate Size	Gate Heights																
	Min.														Max.		
8	24		36		48		60		72	78	84	90	96	102	108	114	120
10	24		36		48		60		72	78	84	90	96	102	108	114	120
12	24		36		48		60		72	78	84	90	96	102	108	114	120
15	36		48		60		72	78	84	90	96	102	108	114	120		
18	36		48		60		72	78	84	90	96	102	108	114	120		
24	48		60		72	78	84	90	96	102	108	114	120				
30	60		72	78	84	90	96	102	108	114	120						
36	72	78	84	90	96	102	108	114	120								

X-GATE™ Low Head Canal Gates are designed to XCAD USA's highest specifications and frames, covers and wedges are not interchangeable with other brands.

X-GATE™ LOW HEAD CANAL GATE PARTS

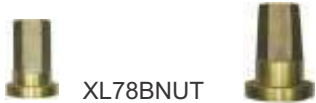
Competitive Brand Replacement Parts
 Wedges, Lift Collars, Bronze Lift Nuts, Stainless Steel Stems and Hand Wheels
 Available for X-GATE™ and Fresno® Brand Gates

WEDGE SET (2pcs)

X-Type		List
X8-15WEDGE	8"-15" gate	\$ 9.30
X18-24WEDGE	18"-24" gate	\$ 20.40
X30-36WEDGE	30"-36" gate	\$ 45.00
Fresno-Type		List
F6-15WEDGE	6"-15" gate	\$ 14.30
F15-36WEDGE	15"-36" gate	\$ 17.60

LIFT NUT

X-Type Left-Hand Thread		List
XL78BNUT	Fits 7/8" Stem	\$ 51.60
XL1BNUT	Fits 1" Stem	\$ 60.20
XL118BNUT	Fits 1 1/8" Stem	\$ 68.80
X-Type Right-Hand Thread		List
XR78BNUT	Fits 7/8" Stem	\$ 51.60
XR1BNUT	Fits 1" Stem	\$ 60.20
XR118BNUT	Fits 1 1/8" Stem	\$ 68.80
Fresno-Type		List
FL78NUT	Fits 7/8" Stem	\$ 74.80
FL118NUT	Fits 1 1/8" Stem	\$ 74.80



XL78BNUT

FL118NUT

STEEL EXTENSION COUPLER

		List
CGEC8-15	7/8" for 8"-15" gate	\$ 60.10
CG3C18-24	1" for 18"-24" gate	\$ 63.60
CGEC30-36	1 1/8" for 30"-36" gate	\$ 91.60

HAND WHEELS

X-Type		List
X8-15WHL	8"-15" gate	\$ 51.60
X18-24WHL	18"-24" gate	\$ 60.20
X30-36WHL	30"-36" gate	\$ 121.80
Fresno-Type		List
F10WHL	6"-15" gate	\$ 37.00
F14WHL	15"-36" gate	\$ 64.60

LIFT COLLAR

X-Type		List
X8-15RING	Fits 7/8" Stem	\$ 12.30
X15-24RING	Fits 1" Stem	\$ 14.50
X30-36RING	Fits 1 1/8" Stem	\$ 17.90
Fresno-Type		List
F-RING	Fits 7/8" and 1 1/8" Stem	\$ 12.80



X8-15RING

CGEC8-15

X8-15WEDGE

STAINLESS STEEL STEMS

Stems Sold per Foot		List
X-Type Left-Hand Thread Stem		
XL78ST	7/8"	\$ 31.70
XL1ST	1"	\$ 39.20
XL118ST	1 1/8"	\$ 45.00
X-Type Right-Hand Thread Stem		
XR78ST	7/8"	\$ 31.70
XR1ST	1"	\$ 39.20
XR118ST	1 1/8"	\$ 45.00
Fresno-Type Left-Hand Thread Stem		
FL78ST	7/8"	\$ 43.40
FL118ST	1 1/8"	\$ 61.70

Contact **XCAD USA™** for Additional Replacement Part Pricing and Availability

STANDARD RAILING AND STEM LENGTHS

All Stems Are Stainless Steel Unless Otherwise Specified

Gate Size

(Rail Color Code)		8" (Red)		10" (Blue)		12" (Green)		15" (Yellow)		18" (Black)		24" (Brown)		30" (White)		36" (Pink)	
H,I Gate Height (In)	H,I Gate Height (Ft)	H,I +D Total Rail Length (In)	Stem Length	H,I +D Total Rail Length (In)	Stem Length	H,I +D Total Rail Length (In)	Stem Length	H,I +D Total Rail Length (In)	Stem Length	H,I +D Total Rail Length (In)	Stem Length	H,I +D Total Rail Length (In)	Stem Length	H,I +D Total Rail Length (In)	Stem Length	H,I +D Total Rail Length (In)	Stem Length
	"D" =	(4")		(4 1/2")		(5")		(6")		(7")		(9")		(11")		(13")	
	"dd" =	(7/8")		(1 1/2")		(2")		(2 1/2")		(3 1/2")		(4 3/4")		(6 3/4")		(7 1/2")	
24"	2'	28 7/8"	30"	30"	30"	31"	30"										
36"	3'	40 7/8"	42"	42"	42"	43"	42"	44 1/2"	42"	46 1/2"	42"						
48"	4'	52 7/8"	54"	54"	54"	55"	54"	56 1/2"	54"	58 1/2"	54"	61 3/4"	54"				
60"	5'	64 7/8"	66"	66"	66"	67"	66"	68 1/2"	66"	70 1/2"	66"	73 3/4"	66"	77 3/4"	66"		
72"	6'	76 7/8"	78"	78"	78"	79"	78"	80 1/2"	78"	82 1/2"	78"	85 3/4"	78"	89 3/4"	78"	92 1/2"	78"
84"	7'	88 7/8"	90"	90"	90"	91"	90"	92 1/2"	90"	94 1/2"	90"	97 3/4"	90"	101 3/4"	90"	104 1/2"	90"
96"	8'	100 7/8"	102"	102"	102"	103"	102"	104 1/2"	102"	106 1/2"	102"	109 3/4"	102"	113 3/4"	102"	116 1/2"	102"
108"	9'	112 7/8"	114"	114"	114"	115"	114"	116 1/2"	114"	118 1/2"	114"	121 3/4"	114"	125 3/4"	114"	128 1/2"	114"
120"	10'	124 7/8"	126"	126"	126"	127"	126"	128 1/2"	126"	130 1/2"	126"	133 3/4"	126"	137 3/4"	126"	140 1/2"	126"

X-GATE™ LOW HEAD CANAL GATES

Low Head Flat Back Gate

Installation Guide for Flat Back Gate to Concrete Headwall

1 - Secure all specified anchor bolts in their proper position in concrete form, checking to see that anchor bolts, projections, perpendicular and horizontal alignments are all correct. Extra care is needed in this initial procedure to ensure that all bolts are properly set. Improperly set bolts will cause gate warpage and excess leakage between the seat surfaces. *Do Not Force Gate Onto Misaligned or Improperly Set Anchor Bolts.*

2 - Each anchor bolt needs to be supplied with two nuts to facilitate proper headwall mounting of the gate. It is also recommended that you provide sufficient access to the back side of the gate, allowing easy adjustment of the back nuts. Sufficient grout space must be left for adjustment of back nuts and proper alignment of gate.

3 - After the concrete has been poured and forms stripped, place one nut on each anchor bolt and run them down so they are 1" from the headwall (See Detail Z). Carefully place the closed gate onto the anchor bolts. *Do Not Force Gate onto Misaligned Anchor Bolts.* Place the second nut on each anchor bolt and bring front and back nuts into finger-tight contact with the gate frame, then align gate as necessary.

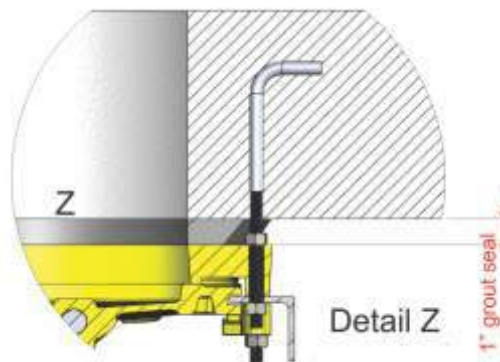
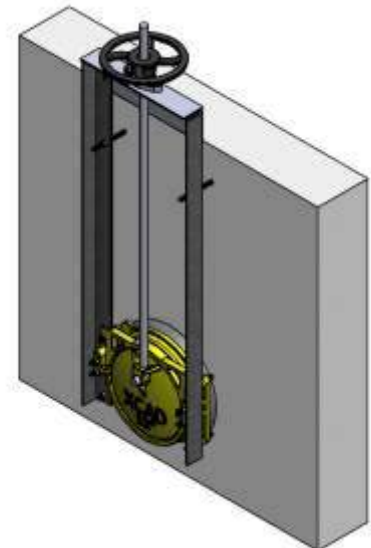
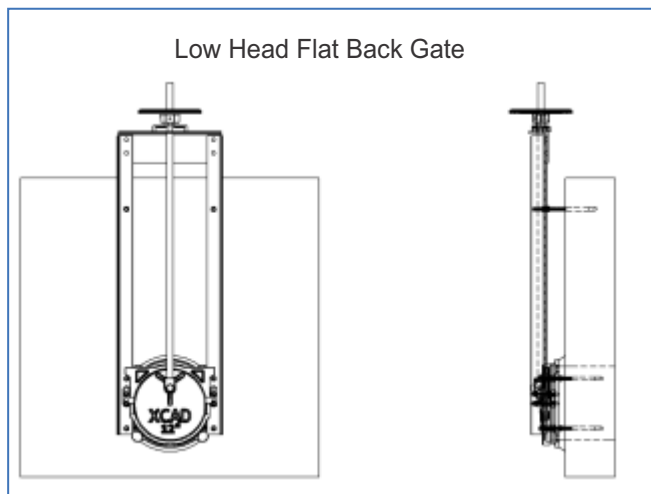
At this point of the installation, check all clearances between seating surfaces with a .004" feeler gauge. If there is proper seating at this point the gauge will not admit. In the event that the gate is not seated properly, check to see if the gate has been warped. If so, readjust nuts on anchor bolts to flatten gate. Adjustment of the wedges may also be necessary.

4 - After the gate is seated properly, carefully dry pack or grout in the 1" gap between frame ring and concrete headwall using a non-shrink material. Check voids and fill as necessary.

5 - Lightly tighten all exposed anchor bolt nuts uniformly so as not to warp gate to uneven surfaces.

6 - Gate is now ready for operation.

NOTE: Gates and Pipe Are Heavy! Use Care and Good Working Practice in Assembly and Installation.



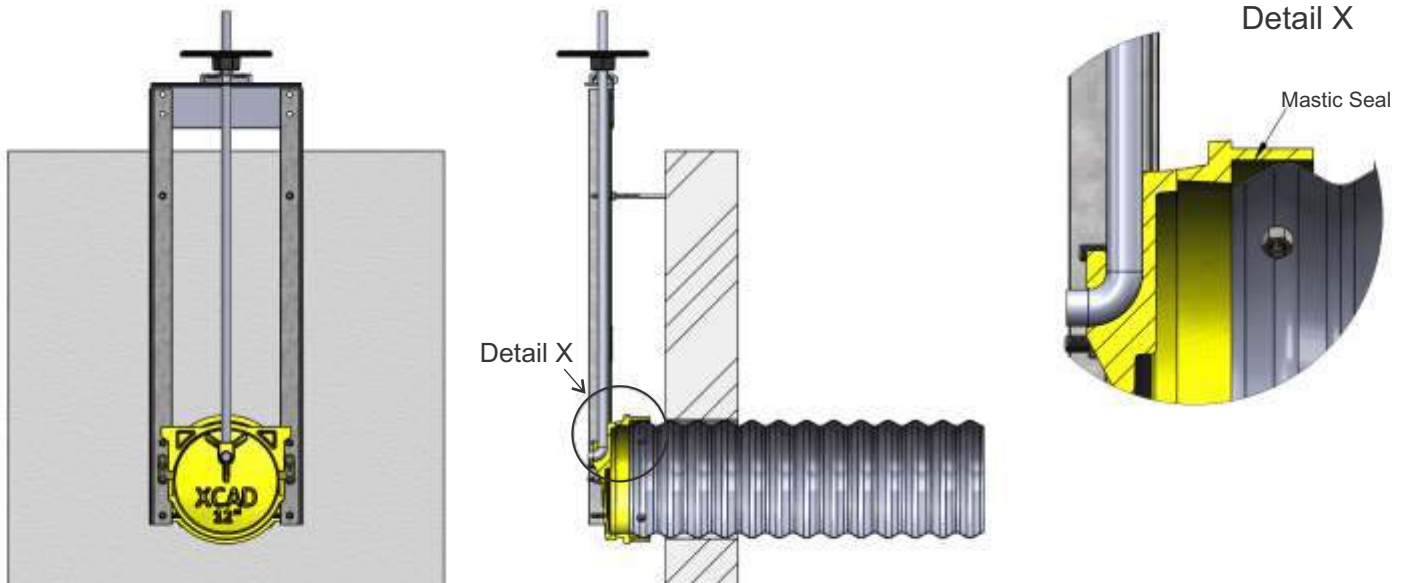
X-GATE™ LOW HEAD CANAL GATES

Low Head Spigot Back Gate

Installation Guide for Spigot Back Gate to Corrugated Pipe

- 1 - Place spigot back gate over corrugated pipe, making sure the pipe and gate are perpendicular.
- 2 - Drill holes through corrugated pipe using holes in spigot back gate as a template (13/52" or 7/16" drill bit).
- 3 - Secure the gate to corrugated pipe using either galvanized Grade 5 steel bolts or stainless 304 bolts and nuts. *Forcing Bolt May Cause Damage to Gate.*
- 4 - Apply a mastic sealant to joint in between corrugated pipe and gate (See Detail X).
- 5 - Brace both pipe and gate as necessary. Deflection and distortion of corrugated pipe may cause the gate to leak.
- 6 - Place braced coupled gate and corugated pipe into ditch or trench, then back fill or pour as required ensuring that gate is vertical from the centerline opening.
- 7 - Remove bracing, check and clean gate seat to make sure proper full periphery seating is achieved. (Use .004 feeler gauge.)
- 8 - Check the gate for any type of damage or irregularities.
- 9 - Gate is now ready for operation.

NOTE: Gates and Pipe Are Heavy! Use Care and Good Working Practice in Assembly and Installation.



INSTALLATION AND STORAGE GUIDELINES

XCAD Inline Control Valves

XCON and X-Max Valves

- ◆ Always flush pipelines before installation of the valve as debris may plug and or damage valve.
- ◆ Arrow on valve housing **must** match actual flow direction. If there is no arrow on valve, make sure **line filter** is **upstream** in pipeline.
- ◆ Tighten bolts to the recommended torque for specific size and model of valve

DO NOT OVER-TIGHTEN BOLTS

4" X-MAX Inline Wafer Valve – 15 Ft. Lbs. Torque
 6" X-MAX Inline Wafer Valve – 20 Ft. Lbs. Torque
 8" XCON Inline Wafer Valve – 20 Ft. Lbs. Torque

Tighten bolts alternately 180° apart. Repeat 3 times in a star pattern.

Over-tightening of valve may cause damage to the diaphragm and void warranty

- ◆ If the valve is to be installed and operated in ambient temperatures below freezing, consult with your nearest **XCAD USA™** distributor.
- ◆ If valve is shut down during cold or freezing weather, the valve control space and control system **must be drained**.
- ◆ Connect solenoid control and pressure switch to control circuit according to local electrical codes.

Optimal Flow Rate for Electric On/Off Valves - GPM

4" XMAX Inline Wafer Valve -- 200 - 800
 6" XMAX Inline Wafer Valve -- 500 - 2250
 8" XCON Inline Wafer Valve -- 1200 - 4000

Specifications:

Wafer Style.
 Mounts between all standard flanges.
 ANSI B16,1 125 and 250
 Valve Length 4" - 8 1/8"
 6" - 10 1/4"
 8" - 12 1/4"

Max Pressure: 140 psi

Water Temp Range: 33°F to 130°F



For Reactive/Piloted Control Valves see page 58

INSTALLATION AND STORAGE GUIDELINES

SEAL-MATIC™ Control Valves

- ◆ Always flush pipelines before installation of the valve as debris may plug and or damage valve.
- ◆ Arrow on valve housing **must** match actual flow direction. If there is no arrow on valve, make sure **line filter** is **upstream** in pipeline.
- ◆ Seal-Matic valves can be mounted either vertically or horizontally, but they must be mounted to allow the control chamber to be drained in freezing conditions.

TIGHTEN FLANGE BOLTS TO 30 FT LBS TORQUE

Tighten bolts alternately 180° apart. Repeat 3 times in a star pattern.

- ◆ If the valve is to be installed in ambient temperatures below freezing, consult with your nearest **XCAD USA™** distributor.
- ◆ If valve is shut down during cold or freezing weather, the valve control space and control system **must be drained**.
- ◆ Connect solenoid control and pressure switch to control circuit according to local electrical codes.

Optimal Flow Rate for Electric On/Off Valves - GPM

- 3/4" Seal-Matic – 5 to 40
- 1" Seal-Matic – 5 to 70
- 1 1/4" Seal-Matic – 15 to 120
- 1 1/2" Seal-Matic – 18 to 135
- 2" Seal-Matic – 25 to 175
- 2" 90° Seal-Matic – 25 to 175
- 3" Seal-Matic – 100 to 500
- 4" Seal-Matic – 200 to 800
- 6" Seal-Matic – 400 to 1400
- 8" Seal-Matic – 1000 to 3500

Specifications:

Fixed Diaphragm Style.
Mounts between all standard flanges.

Max Pressure: 125 psi

Water Temp Range: 33°F to 130°F

Valve Length (flange to flange)

3/4" - 1"	5 1/8"	3" - 4"	12 1/4"
1 1/4"/1 1/2"	6 1/2"	6"	12 3/8"
2"	7 3/4"	8"	14"



For Reactive/Piloted Control Valves see page 58

Control Valve Sizing

Reactive Control Valve Sizing Pressure Reducing and Sustaining

Choosing the correct valve size is critical when designing a pressure reducing or sustaining reactive control valve system. Valves must be sized correctly for the reactive control function to work properly. Control valve system designers need to avoid the most common problems while designing and sizing a control valve system.

Problem #1 – “Over-Sizing The Valve”. An over-sized reactive pressure regulating control valve may lead to severe problems such as pressure cycling, cavitation and water hammering. Valves at the same diameter as the pipe may allow for simplified installation, however they often lead to severe throttling problems.

Problem #2 – Size Selection. When selecting the size of the reactive control valve from valve flow graph minimum and maximum rates, keep in mind that such graphs do not take into account pressure drop across the valve. Since both rate of flow and pressure drop determine the diaphragm/sleeve position, both must be taken into account for proper reactive valve sizing. In order to make the control valve react correctly, the diaphragm/sleeve position should be in the middle of the fully-open and fully-closed positions.

Installation Suggestions for Reactive Valve Control

To Improve Reactive Control Accuracy

1. - Avoid installing a pressure trap in a turbulent flow area
2. - Avoid air in system
3. - For pressure reducing control, installing the downstream pressure trap at the end of a 24” to 30” long straight pipe will help the accuracy of the reactive control
4. - To be the most effective, the upstream and downstream pipe length should be a minimum of five pipe diameters long

Minimum optimal flow for reactive/piloted control valve sizing (Pressure reducing/sustaining)

Seal-Matic				XMAX		XCON	
3/4"	25 gpm	2" 90°	125 gpm	4"	450 gpm	8"	1750 gpm
1"	28 gpm	3"	400 gpm	6"	800 gpm		
1 1/4"	43 gpm	4"	500 gpm				
1 1/2"	45 gpm	6"	800 gpm				
2"	125 gpm	8"	1500 gpm				



2017 Policy and Conditions of Sale

This statement of Policy and Conditions of Sales supersedes all previous Policy and Conditions as stated by **XCAD USA**, hereinafter collectively and individually referred to as the "Company". This will apply to all XCAD, Aqua Burst, Pressure Guard, X-Gate, Seal Matic and OEM made products sold by XCAD unless otherwise stated in writing.

Prices, Terms and Specifications

PRICING: Prices listed in our catalog are recommended list prices F.O.B. the "Company". Prices are subject to change without notice and shall be those in effect at time of shipment. All prices are in U.S. dollars.

DEALERS: Sales are made through authorized distributors, OEM's and/or dealers only. Possession of our catalog does not constitute an offer to sell our product. All orders are subject to acceptance by the "Company".

TAXES: The purchaser shall reimburse the seller for any sales, use, occupation, excise, or other taxes in connection with the sale, which will be charged by invoice. The purchaser will not be invoiced for tax on items that are exempt with an appropriate tax exemption certificate.

TERMS: All orders are subject to the approval and conditions of the "Company's" credit department. Payment terms are net 30 days unless otherwise specified in writing. Cash discounts, if applicable, will be stated on the invoice. Freight or other net priced items are not subject to further discount. Interest may be charged on all past due invoices at the current rate allowed by law. Any check returned for non-sufficient funds will be subject to a \$100.00 handling charge.

SPECIFICATIONS: The "Company" policy is one of continuous improvement. The "Company" reserves the right to make changes to designs or specifications without notice or incurring obligation.

CANCELLATION: Standard items may only be cancelled if request is made prior to shipment. Special or custom-made items may not be cancelled unless cancellation precedes the item being in the process of manufacture. Such cancellations will only be allowed after full costs expended in the process of manufacture have been fully reimbursed.

SECURITY INTEREST: Buyer acknowledges that the "Company" will retain a purchase money security interest in the goods sold until the purchase price has been paid in full and all other conditions of sale fully performed.

Freight, Returns and Delivery

FREIGHT ALLOWANCE: On orders equaling \$10,000 net or more, freight will be prepaid on domestic shipments (excluding X-Gate products and butterfly valves) to the first destination in the continental United States. The "Company" reserves the right to select the carrier and method of delivery.

DAMAGE CLAIMS / SHORTAGES: Freight shortages and damage claims due to transportation shall be made directly to the transportation provider. Shipments should be carefully examined upon arrival, prior to delivery receipt being signed. If any loss or damage is evident, it should be noted on the delivery receipt. Have the driver initial such exceptions. The contents of all packages should be examined within 48 hours for concealed damage. Contact the carrier to arrange for the prompt inspection of any damaged goods. If replacement for damaged or lost items is needed, the purchaser will give the seller a new order marked "replacement for the same". The purchaser shall pay the invoices for such replacement and request a duplicate receipt to be filled with his claim against the carrier. All claims for shortages must be made within 10 days of receipt of shipment. Claims need to identify item, quantity, package list number, invoice number, and date of shipment.

RETURNS: The return of current catalog merchandise in saleable condition may be subject to a 25% restocking charge. All returns must be accompanied by a "Company" approved Return Authorization. Specials, non-current catalog items, custom fabricated or modified items will not be accepted for return. Items not listed in the current "Company" catalog or items purchased more than one year prior to the request date will not receive authorization. All returns must be shipped freight prepaid unless otherwise specified on the Return Authorization. Return parts may be subject to a rework charge. All returned merchandise will be credited to the purchaser's account unless otherwise specified on the Return Authorization.

DELIVERY: The "Company" accepts no liability for delay in delivery caused by circumstances arising beyond the control of the "Company". These circumstances include but are not limited to delays of carriers or suppliers.

Manufacturers Limited Warranty

All products sold and/or manufactured by the "Company" are warranted to be free of defects in material and workmanship for a period of one year from the date of delivery unless otherwise specified. Specific product line warranties may supercede this warranty. No warranty will extend beyond the description of goods sold on the "Company" invoice. Except as expressly provided herein, all warranties expressed or implied, including any implied warranty of merchantability or fitness for a particular purpose or use, are hereby excluded and disclaimed. The buyer assumes all risk and liability resulting from use of products purchased. Any misuse, neglect, modifications or use for purposes not approved by the "Company" shall completely void any warranty claim. The "Company" at it's sole discretion shall have the option to repair or replace, part or all of the defective product or provide full or partial refunds for same. Any warranty claim must be made in writing within the applicable warranty period and postmarked within 30 days after the discovery of the defect. Warranty does not include any installation, attorney fees or transportation costs, which must be borne by the purchaser. "Company" reserves the right to define this warranty or any other warranty of the "Company" as it sees fit.



2017 Policy and Conditions of Sale

Aqua Burst™ Brass Impact 5-Year Extended Bearing Warranty on Select Models HF-30, HF30AL, AL30

Select Aqua Burst™ Brass Impact Sprinklers carry a five-year extended bearing limited warranty. This warranty applies to the Aqua-Burst™ brass impact sprinkler bearings and bearing components which are installed as specified and used for normal irrigation purposes. This warranty applies only to cataloged brass impact sprinkler bearings which have not been altered, converted, damaged, misused or misapplied. This warranty does not cover products adversely affected by the system into which the sprinkler bearings are incorporated; including system failure, improperly designed, installed, operated or maintained systems, or systems using water containing corrosive chemicals, electrolytes, sand, dirt, silt, rust, oil, petroleum or hard water deposits. This warranty does not cover component failures caused by use of additional lubricants such as oil, grease, anti-seize, pipe dope or any other petroleum or non-petroleum based lubricant. This warranty does not cover failure caused by lightning strikes, electrical surges, freezing or any 'Acts of God'. Bearings on, or intended for all other Aqua Burst™ brass, plastic and zinc sprinklers are not included in this extended warranty. "Company" reserves the right to define this warranty or any other warranty of the "Company" as it sees fit.

Aqua Burst™ X-Series Full/Part Circle Brass Impact 2-Year Extended Warranty on Select Models X25ED, X25EDS, X35ED, X65ED, X65EDS, X85ED18, X85ED24

Select Aqua Burst™ X-Series Full/Part Circle Brass Impact Sprinklers carry a two-year extended limited warranty. This warranty applies only to X-Series Full/Part Circle sprinklers listed above which are installed as specified and are used for normal irrigation uses and purposes. This warranty does not cover products adversely affected by the system into which the sprinklers are incorporated including, system failure, improperly designed, installed, operated or maintained systems, or systems using water containing corrosive chemicals, electrolytes, sand, dirt, rust, oil, petroleum or hard water. This warranty does not cover component failures caused by use of additional lubricants such as but not limited to oil, grease, anti-seize, pipe dope or any other petroleum or non-petroleum lubricant. This warranty does not cover failure caused by lightning strikes, wind damage, electrical surge, pivot and wheelline crashes, industrial accidents, freezing or any "Acts of God". The "Company" reserves the right to define this warranty or any other warranty of the "Company" as it sees fit.

Seal Matic™ Warranty and 5-Year Limited Warranty

All Seal Matic™ valves and Seal Matic™ OEM name plate valves are warrantied to be free of defects in materials and workmanship for a period of one year or one season whichever is less from the date of delivery unless otherwise specified in writing. Specific OEM warranties may supersede this warranty. No warranty will extend beyond the description of goods sold on the "Company" invoice except as expressly provided herein. All warranties express or implied, including any implied warranty of mechanical ability or suitability for a particular purpose or use, are hereby excluded and disclaimed. The Buyer assumes all risk and liability resulting from use of "Company" products purchased. Any misuse, neglect, modifications or use for purposes not approved by standard practice of the "Company" shall be completely void of any warranty claims. The "Company" at its sole discretion shall have the option to determine whether to warranty, repair or replace, part or all of the defective product or provide full or partial refund for same. Any warranty claim must be made in writing within the applicable warranty period and postmarked within 30 days after the discovery of the defect. Warranty does not under any circumstances include any installation, attorney fees, or transportation costs which must be borne by the purchaser of "Company" product. Seal-Matic™ valve diaphragms have a limited warranty for five years for replacement diaphragms only. The "Company" reserves the right to define this warranty or any other warranty of the "Company" as it sees fit.

Aqua Burst™ X100 End Gun™ One-Year limited Warranty with Four-Year Service Plan

XCAD USA™ /Aqua Burst™ X-100 End Gun™ sprinklers are warrantied for one year from date of original sale to be free of defective materials and workmanship when used within the working specifications for which the product was designed and intended and under normal use and service. This warranty includes an additional four (4) year service plan from the date of manufacture for repair of any non-functioning X-100 End Gun™ due to defective materials and workmanship or excessive wear when used in normal working conditions. The manufacturer's liability under this warranty is limited solely to repair of defective parts and labor and the manufacturer will not be liable for any freight, crop loss or other consequential damages resulting from defects, excessive wear or breach of warranty. This warranty is expressly in lieu of all other warranties, express or implied, including the warranties of merchantability and or liabilities of the manufacturer. No agent, employee or representative of the manufacturer has the authority to waive, alter or add to the provisions of this warranty, nor make any representations or warranty not contained herein. The "Company" reserves the right to define this warranty or any other warranty as the "Company" sees fit.

Warranty and Disclaimer

Address all warranty claims to:

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