

OPERATION AND MAINTENANCE MANUAL

SERIES 2100
CHECK VALVE



AMERICAN

FLOW CONTROL

THE RIGHT WAY

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SERIES 2100 RESILIENT SEATED CHECK VALVE

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SERIES 2100 - FEATURES AND SPECIFICATIONS



Features

The AMERICAN Flow Control Series 2100 Resilient Seated Check Valve is designed for use in drinking water, sewage and fire protection systems, as well as irrigation and backflow control systems. The valve complies fully with ANSI/AWWA C508. It is ideal for pump and lift stations. Its design is simple, durable and eliminates most problems associated with metal seated swing check valves. The Series 2100 features a compact ductile iron body and bonnet. Ductile iron has more than twice the strength of gray iron.

The disc is made of ductile iron encapsulated with rubber. The 2100 is rated for 250 psig. The valve seals 100% leak tight at pressure above 5 psig. The waterway is unobstructed and free from pockets.

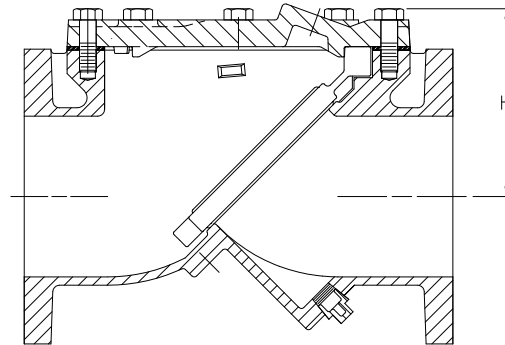
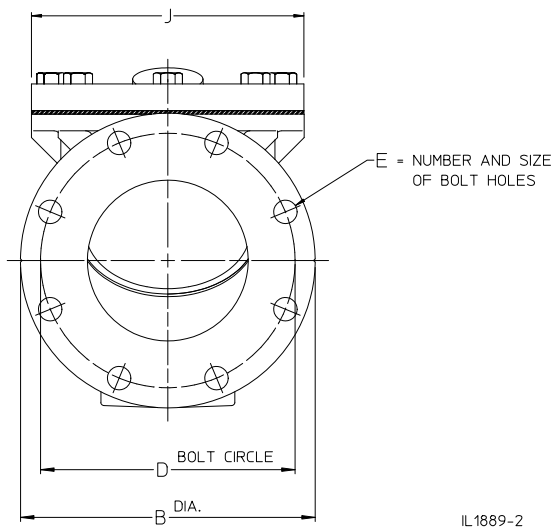
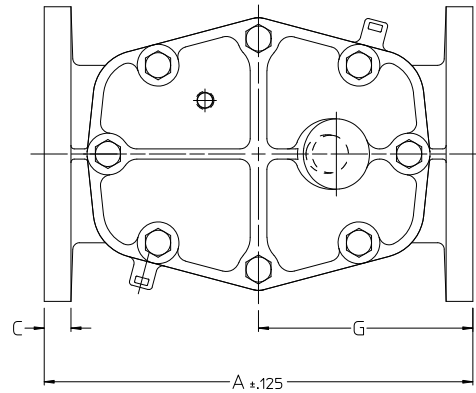
Traditional swing check valves require 90° of travel. The Series 2100 is designed to minimize disc slam. The disc travels only 35° from full open to full closed. The limited travel allows the valve to close before flow reversal in most applications.

There is only one moving part making this valve virtually maintenance free. Should the disc be damaged it can be reversed and the valve put back into immediate service.

Advantages Over Metal Seated Swing Check Valves

- 250 psig rating
- Ductile iron body, bonnet and disc
- Fusion bonded epoxy coating inside and outside
- Does not require outside lever, weights or springs
- Only one moving part
- No bronze seat ring to wear or need replacing
- Tight shutoff at pressures above 5 psig
- The 100% unobstructed flow area is free of pockets, which can trap debris.
- A factory installed back flushing actuator can be furnished as an option. This device is useful for priming pumps, back flushing, draining lines and system testing.

SERIES 2100 - STANDARD DIMENSIONS, 3" - 12" SIZES



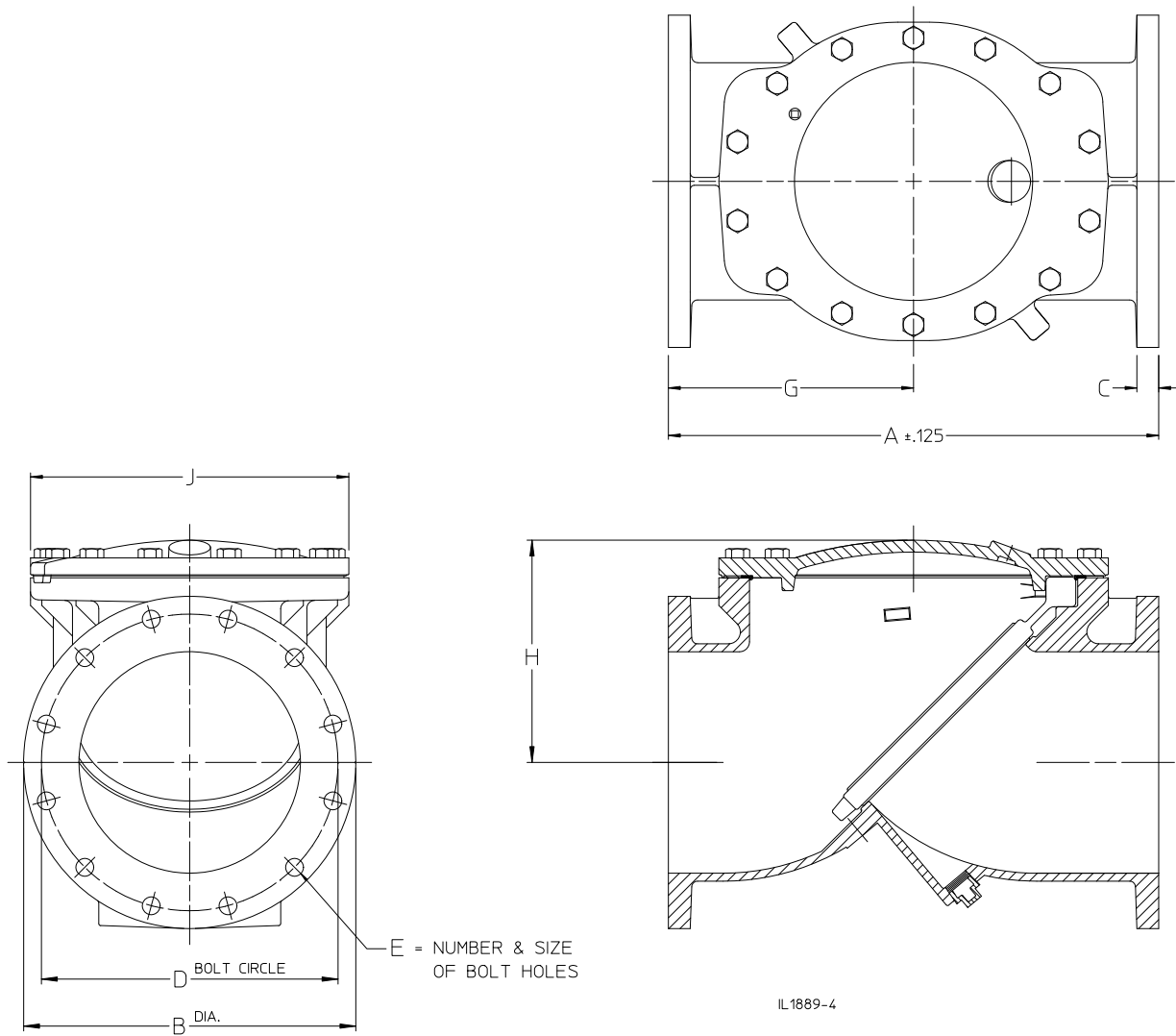
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Size	A	B	C	D	E	G	H	J
3"	11.00	7.50	.75	6.00	4 - 0.62	5.50	4.50	5.31
4"	13.00	9.00	.94	7.50	8 - 0.75	6.50	5.19	6.75
6"	16.00	11.00	1.00	9.50	8 - 0.88	8.00	7.00	10.25
8"	19.50	13.50	1.12	11.75	8 - 0.88	9.75	8.41	12.06
10"	24.50	16.00	1.19	14.25	12 - 1.00	12.25	10.19	14.88
12"	27.50	19.00	1.25	17.00	12 - 1.00	13.75	11.94	17.62

NOTES:

1. Series 2100 Check Valves meet or exceed requirements of ANSI/AWWA C508.
2. Series 2100 has a 250 psig rated working pressure and 500 psig test pressure.
3. End flanges are in accordance with ANSI/AWWA C110/A21.10 or ANSI B16.1, Class 125.
4. Body and bonnet are coated with fusion bonded epoxy coating in compliance with ANSI/AWWA C550.
5. Valves have manufacturer's name, pressure class and year of manufacture are cast on body or bonnet.
6. 4 in.-16 in. valves are Certified to NSF/ANSI Standard 61 and NSF/ANSI 372.

SERIES 2100 - STANDARD DIMENSIONS, 14" & 16" SIZES



Size	A	B	C	D	E	G	H	J
14"	31.00	21.00	1.38	18.75	12 - 1.12	15.50	14.12	20.12
16"	36.00	23.50	1.44	21.25	16 - 1.12	17.00	15.75	22.88

SERIES 2100 - WEIGHTS



Size	Assembly Weight
3"	31 lb
4"	50 lb
6"	98 lb
8"	168 lb
10"	290 lb
12"	449 lb
14"	545 lb
16"	760 lb

AMERICAN Flow Control
SERIES 2100 RESILIENT SEATED CHECK VALVE
SUBMITTAL SHEET



Quantity							
3"	4"	6"	8"	10"	12"	14"	16"
Optional Back flushing Actuator: <input type="checkbox"/> Yes <input type="checkbox"/> No							
Other Requirements (List):							

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American-Darling Valve and Waterous
A Division of AMERICAN

NOTES:

1. Series 2100 Check Valves meet or exceed requirements of ANSI/AWWA C508.
2. 250 psig rated working pressure
3. 4 in.–16 in. valves are Certified to NSF/ANSI Standard 61 and NSF/ANSI 372.

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SERIES 2100 - INSTALLATION



This instruction is issued as a recommendation to the customer for the proper installation of resilient seated check valves.

Receiving Inspection

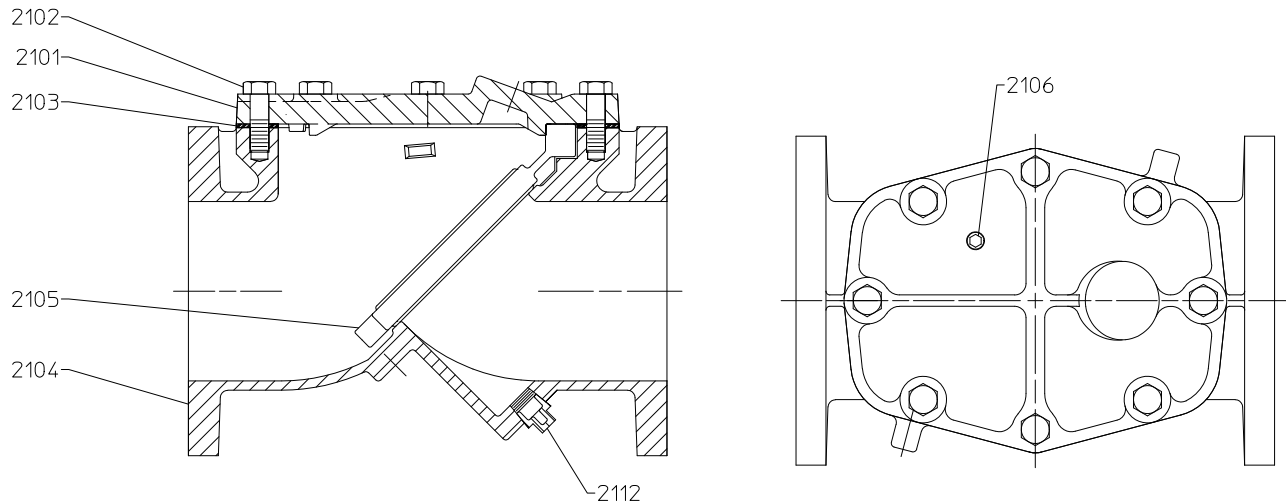
When valves are received, they should be unloaded carefully and stored with disc in closed position. Any damage or shortage should be reported immediately to the delivering carrier, noted on the bill of lading, and signed by the driver on your copy.

Installation

1. Protect stored valves from the elements and from undue damage in handling.
2. Check bonnet bolting for tightness.
3. At the time of installation make sure that the disc swings freely from the closed position to the stop in the open position. Check the direction of flow in the pipeline and make sure that the arrow cast on the side of the valve body agrees with this direction of flow so that the disc will swing open with flow through the valve.
4. Check valves should be installed in accordance with Standard MSS SP-92.
5. Do not install check valves in a vertical line with downward flow.
6. Valve must be supported so that strains are not exerted on the check valve body. In cases where the valve is to be inserted as a final step on the piping, make sure that the piping is properly lined up and spaced so that the bolting of the valve in the line is not used to correct any errors in piping alignment or spacing.
7. If the disc is ever damaged, it can be reversed as an intermediate resolution and the valve restored to service. To reverse the disc, you must shut off line pressure and bleed residual pressure from the line before attempting to remove the bonnet cover. Remove bonnet bolting and the bonnet. Reverse disc and replace bonnet and bolting. Be sure that bonnet gasket is in its proper position before tightening the bolts.

WARNING: Special care should be taken in the installation, inspection and repair of pressure containing devices such as valves and hydrants. FAILURE TO FOLLOW PROPER PRACTICE AND GUIDELINES CAN RESULT IN SERIOUS INJURY OR DEATH. Do not make repairs while check valve is under pressure.

SERIES 2100 - STANDARD PARTS LIST, 3"-12" SIZES



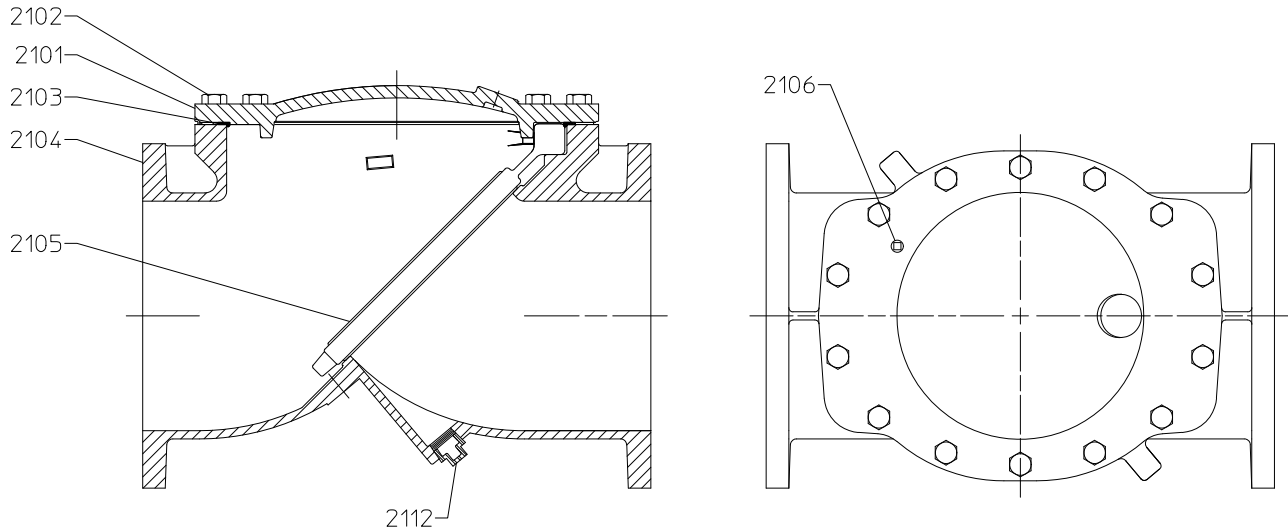
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REF NO.	DESCRIPTION	MATERIAL	QTY
2101	Valve Bonnet	Ductile Iron	1
2102	Bonnet Bolt	Stainless Steel	Varies
2103	Bonnet Gasket	Buna N	1
2104	Valve Body	Ductile Iron	1
2105	Disc	See Note 7	1
2106	Pipe Plug, Square Head 3/8 NPT	Stainless Steel	1
2112	Pipe Plug, Square Head 3/4 NPT	Stainless Steel	1

NOTES:

1. Series 2100 Check Valves meet or exceed requirements of ANSI/AWWA C508.
2. Series 2100 has a 250 psig rated working pressure and 500 psig test pressure.
3. End flanges are in accordance with ANSI/AWWA C110/A21.10 or ANSI B16.1, Class 125.
4. Body and bonnet are coated with fusion bonded epoxy coating in compliance with ANSI/AWWA C550.
5. Valves have manufacturer's name, pressure class and year of manufacture cast on body or bonnet.
6. Ductile iron is ASTM A536 grade 65-45-12.
7. Disc is ductile iron with stainless steel shaft and nylon reinforcement, encapsulated with rubber.
8. 4 in.-12 in. valves are Certified to NSF/ANSI Standard 61 and NSF/ANSI 372.

SERIES 2100 - STANDARD PARTS LIST, 14" & 16" SIZES



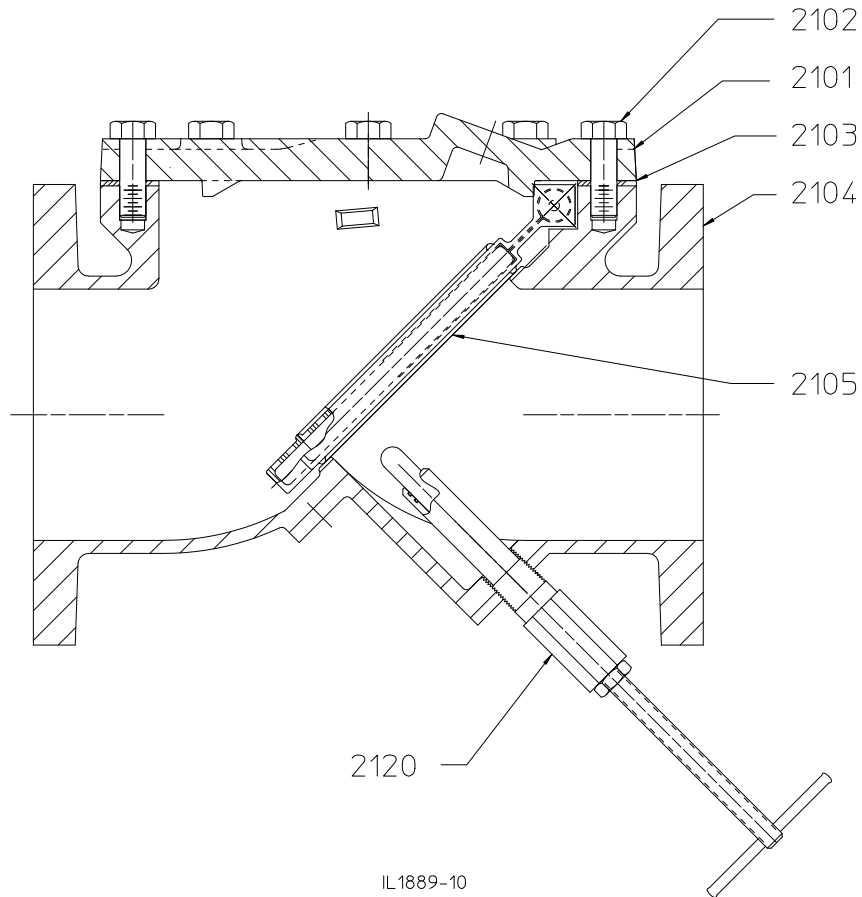
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REF NO.	DESCRIPTION	MATERIAL	QTY
2101	Valve Bonnet	Ductile Iron	1
2102	Bonnet Bolt	Stainless Steel	Varies
2103	Bonnet Gasket	Buna N	1
2104	Valve Body	Ductile Iron	1
2105	Disc	See Note 7	1
2106	Pipe Plug, Square Head 3/8 NPT	Stainless Steel	1
2112	Pipe Plug, Square Head 3/4 NPT	Stainless Steel	1

NOTES:

1. Series 2100 Check Valves meet, or exceed requirements of ANSI/AWWA C508.
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5. Valves have manufacturer's name, pressure class and year of manufacture cast on body or bonnet.
6. Ductile iron is ASTM A536 grade 65-45-12.
7. Disc is ductile iron with stainless steel shaft and nylon reinforcement, encapsulated with rubber.
8. 14 in. and 16 in. valves are Certified to NSF/ANSI Standard 61 and NSF/ANSI 372.

**SERIES 2100 - OPTIONAL BACKFLUSHING
ACTUATOR PARTS LIST, 3" - 12" SIZES**

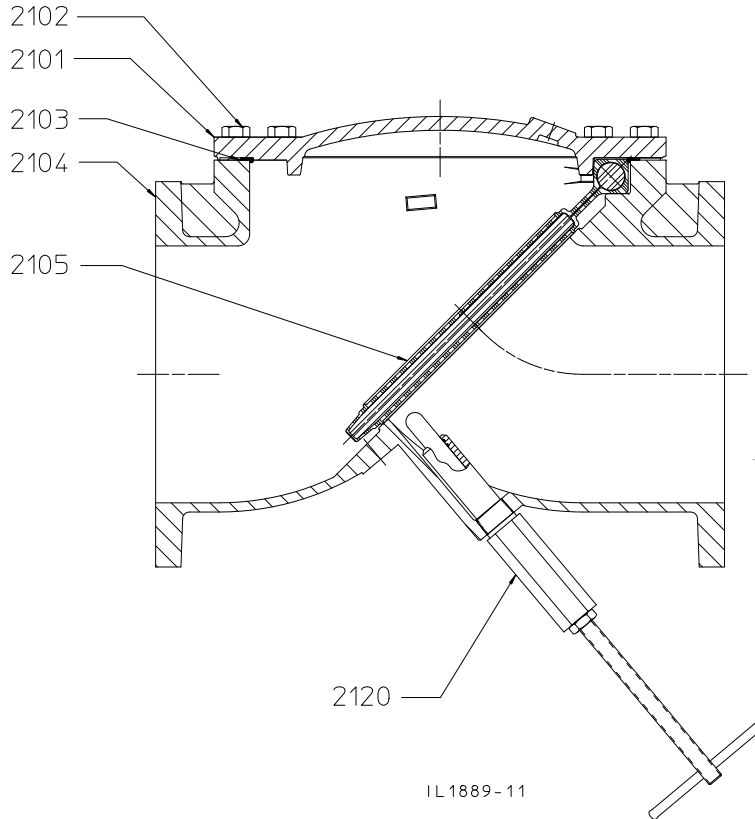


REF NO.	DESCRIPTION	MATERIAL	QTY
2101	Valve Bonnet	Ductile Iron	1
2102	Bonnet Bolt	Stainless Steel	Varies
2103	Bonnet Gasket	Buna N	1
2104	Valve Body	Ductile Iron	1
2105	Disc	See Note 7	1
2120	Back flushing Actuator Assembly	Assembly	1

NOTES:

1. Series 2100 Check Valves meet, or exceed requirements of ANSI/AWWA C508.
2. Series 2100 has a 250 psig rated working pressure and 500 psig test pressure.
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5. Valves have manufacturer's name, pressure class and year of manufacture cast on body or bonnet.
6. Ductile iron is ASTM A536 grade 65-45-12.
7. Disc is ductile iron with stainless steel shaft and nylon reinforcement, encapsulated with rubber.
8. 4 in.-12 in. valves are Certified to NSF/ANSI Standard 61 and NSF/ANSI 372.

**SERIES 2100 - OPTIONAL BACKFLUSHING
ACTUATOR PARTS LIST, 14" & 16" SIZES**



REF NO.	DESCRIPTION	MATERIAL	QTY
2101	Valve Bonnet	Ductile Iron	1
2102	Bonnet Bolt	Stainless Steel	Varies
2103	Bonnet Gasket	Buna N	1
2104	Valve Body	Ductile Iron	1
2105	Disc	See Note 7	1
2120	Backflushing Actuator Assembly	Assembly	1

NOTES:

1. Series 2100 Check Valves meet or exceed requirements of ANSI/AWWA C508.
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8. 14 in. and 16 in. valves are Certified to NSF/ANSI Standard 61 and NSF/ANSI 372.

SERIES 2100 SPECIFICATIONS



- Resilient seated check valves shall be manufactured from ductile iron meeting or exceeding ASTM A536. Valves shall be rated for 250 psig cold water working pressure. Check valves shall comply with ANSI/AWWA C508.
- Valves shall have a ductile iron disc fully encapsulated with EPDM rubber. Disc travel to closure shall not be more than 35° and shall seal with no leakage at pressures above 5 psig.
- Valves to be coated with fusion-bonded epoxy on all internal and external ferrous surfaces. Body to bonnet fasteners to be Type 304 stainless steel.
- Exposed metallic rings are not allowed. Disc shall be the only allowable moving part. No O-Rings, pivot pins or other bearings are allowed. Disc must be reversible such that either side will seal equally.
- Valves shall be equal to AMERICAN Flow Control's Series 2100 Ductile Iron Resilient Seated Check Valve.



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