

The RF Series Rubber Flapper Check Valve

Sizes 2" to 48" • Available in #150 and #300 ratings
Ductile Iron Body



Crispin
Since 1905

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RF SERIES

Rubber Flapper Check Valve

Rubber Flapper Check Valve

Crispin-Multiplex Manufacturing Co. is proud to announce the introduction of its RF Series Rubber Flapper Check Valve.

It is the perfect combination of simplicity, function and design. Developed as a versatile and cost-effective solution to flow reversal, the RF is based on a low-maintenance concept. Its standard ductile iron body and steel-reinforced Buna-N rubber flapper are produced under the same rigid quality requirements that have

made Crispin synonymous with quality for over 105 years.

The 45 degree seat angle also provides a smaller stroke than conventional swing check valves, reducing slamming.

- In the static position, the “flex” and tension of the flapper provide a firm, tight seal.
- During flow, the flapper flexes out of the media, while not traveling nearly as far as a standard swing check disc.

- On flow stoppage, the flapper flexes back to the body seat, and gives a soft, yet strong and quick seal.

All of this is accomplished in a virtually maintenance-free atmosphere. The steel disc inside the rubber flapper is “over-engineered” for strength, and may never need to be replaced. In addition, the smooth body interior of the valve does not give solids the opportunity to collect anywhere on the inside of the body. ●

Crispin Rubber Flapper Check Valve Function

Design

The “RF” concept is simple: full pipe flow, low head loss, maintenance-free construction. With a standard ASTM A536, grade 65-45-12 Ductile Iron Body, the “RF” valve already meets tomorrow’s material requirements. The Buna-N-Flapper, with “O-Ring” face, is nylon and steel reinforced, providing superior long-term operability and Drip Tight Seating, even with abrasive media. The flow area is equal to or greater than the nominal pipe diameter, making the “RF” ideal for sewage or any other solids-containing application.

Function

Operating on the same principles as most in-line check valves, the “RF” is primarily used for Basic Flow Reversal situations. Because the seat area is angled 45°, the valve can be mounted horizontally or vertically.

Materials

The “RF” comes standard with a 65-45-12 Ductile Iron Body, primer coatings and Buna-N/Steel Flapper. A variety of materials and coatings are available to suit most municipal and industrial applications. The flapper is available in most common

Rubber materials, including Buna-N, Viton and EPDM.

Options

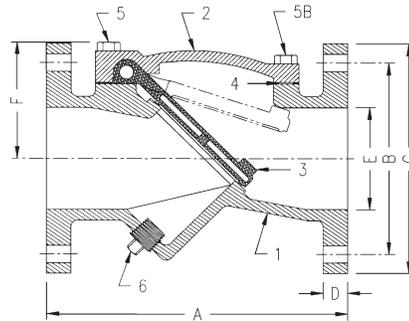
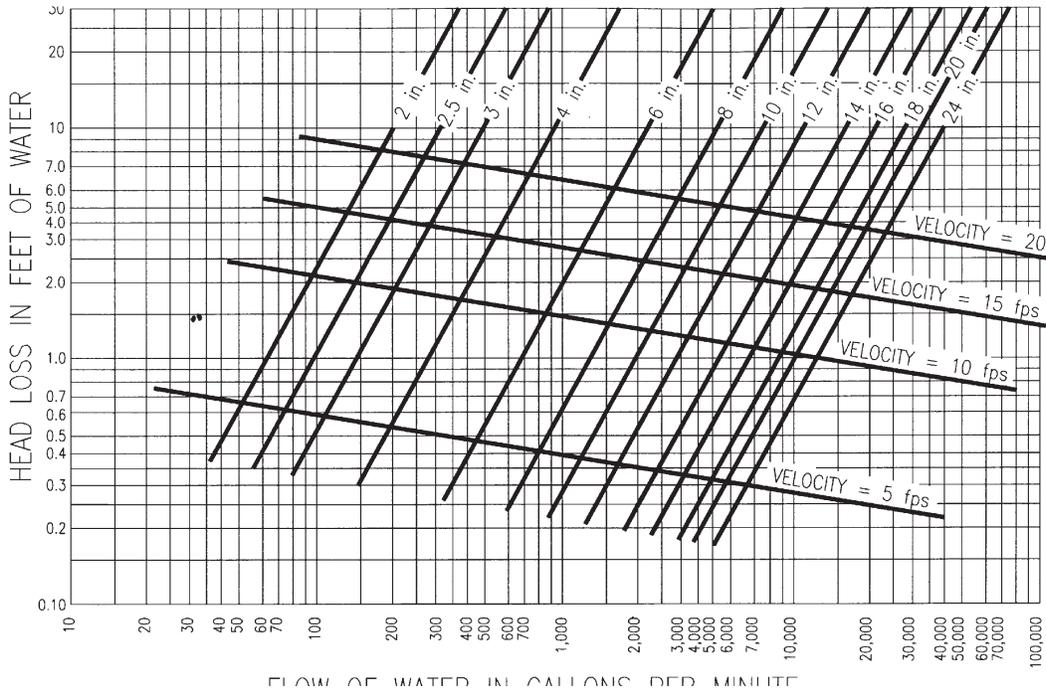
- **Backflow Device**—used for draining or pump priming, this option is a safe and effective way to manually activate the valve.
- **Visual Indicator or Limit Switch** available.
- **Rubber Lining**—is available for abrasive and particularly harsh applications.
- **Special Coatings**—a variety are available. Please contact the factory.



RF SERIES

Rubber Flapper Check Valve

“RF” Head Loss Characteristics



RF Series Materials Description

ITEM	DESCRIPTION	MATERIAL	ASTM
1	Body	Ductile Iron	A536 GR. 65-45-12
2	Cover	Ductile Iron	A536 GR. 65-45-12
3	Disc	Buna-N-Rubber, Steel & Nylon	D2000
4	Gasket	Armstrong N-8092	N/A
5	Bolt	Steel	SAE GR. 5 ALLOY STEEL
5B	Bolt	Steel	SAE GR. 5 ALLOY STEEL
6	Plug	Cast Steel	A105





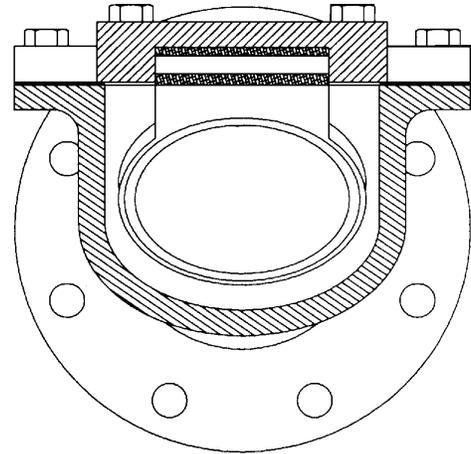
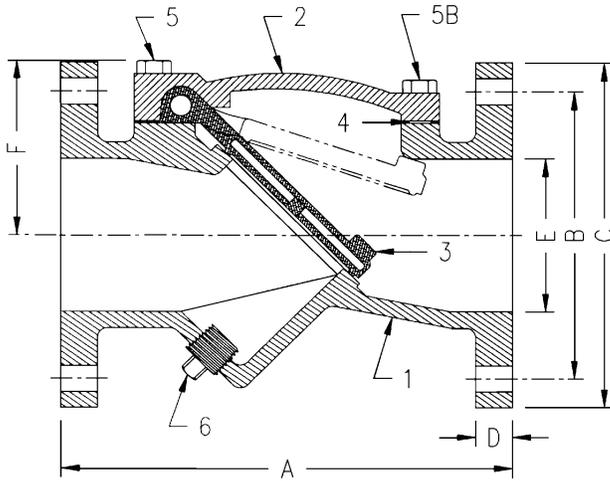
Submittal Sheet for Crispin RF Series

2"-24" Rubber Flapper Check Valve

Manufactured in compliance with ANSI/AWWA C508

Date: 2016

SUBMITTAL SHEET FOR RF SERIES



Rubber Flapper Parts List

ITEM	DESCRIPTION	MATERIAL	ASTM
1	BODY	DUCTILE IRON	A536 GR. 65-45-12
2	COVER	DUCTILE IRON	A536 GR. 65-45-12
3	DISC	BUNA-N RUBBER, STEEL & NYLON	D2000, A240
4	GASKET	ARMSTRONG N-8092	N/A
5	BOLT	STEEL	SAE GR. 5 ALLOY STEEL
5B	BOLT	STEEL	SAE GR. 5 ALLOY STEEL
6	PLUG	CAST STEEL	A05

Class 150 Specifications*

MODEL #	A	B	C	D	E	F	# OF BOLTS	WT. lbs.
RF21	8	4.75	6	0.63	2	3.38	4	24
RF251	8.5	5.5	7	0.69	2.5	3.38	4	26
RF31	9.5	6	7.5	0.75	3	3.88	4	37
RF41	11.5	7.5	9	0.94	4	4.63	8	67
RF61	15	9.5	11	1	6	5.88	8	120
RF81	19.5	11.75	13.5	1.13	8	7.63	8	219
RF101	24.5	14.25	16	1.19	10	9.88	12	360
RF121	27.5	17	19	1.25	12	11.38	12	503
RF141	31	18.75	21	1.38	14	13.38	12	680
RF161	32	21.25	23.5	1.44	16	15.38	16	975
RF181	36	22.75	25	1.57	18	17.13	16	1325
RF201	40	25	27.5	1.69	20	19.13	20	1650
RF241	48	29.5	32	1.88	24	22.75	20	2125

Specifications

The Rubber Flapper Check Valve(s) shall be installed for use in basic flow reversal situations, and may be mounted either horizontally or vertically.

The valve(s) shall be _____" ANSI Class (150, 300) with a standard ASTM A536 65-45-12 ductile iron body and a steel-reinforced Buna-N Rubber Flapper with "O-Ring" face, and primer coating inside and out. It shall operate at _____ PSIG, with a maximum 250 PSIG.

The valve(s) shall be Crispin Model _____ Rubber Flapper Valve(s) as manufactured by Crispin-Multiplex Manufacturing Co., Berwick, PA.

Option: A Visual Indicator or Limit Switch can be provided on the exterior for positive confirmation of flapper open/ closed positioning.

Option: A Rubber Lining is available for abrasive and particularly harsh applications.

Option: A variety of special coatings are available. Please contact the factory for more information.

Option: If needed, the rubber flapper can be made from (Viton, EPDM) instead of Buna-N.

**For Class 300 Specifications, please call the factory.*

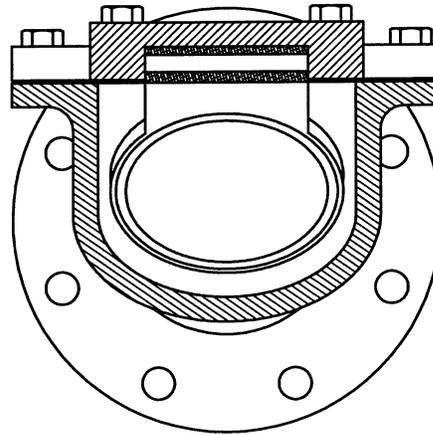
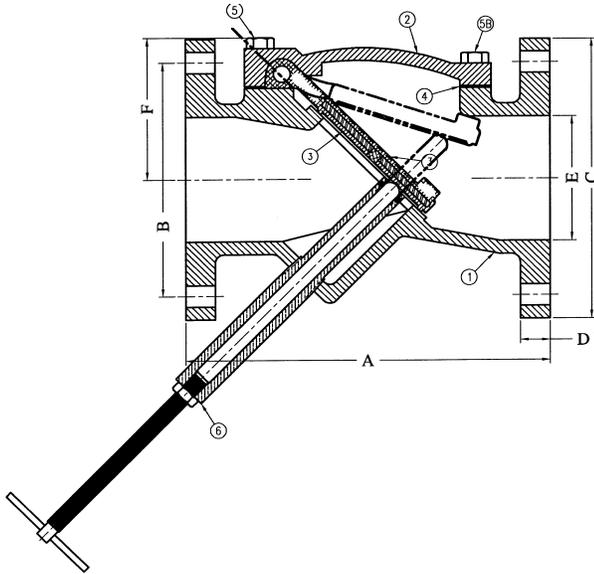
2"-24" Rubber Flapper Check Valve



Manufactured in compliance with ANSI/AWWA C508

Date: 2016

With Backflow Actuator



Specifications

The Rubber Flapper Check Valve(s) shall be installed for use in basic flow reversal situations, and may be mounted either horizontally or vertically.

The valve(s) shall be _____" ANSI Class (150, 300) with a standard ASTM A536 65-45-12 ductile iron body and a steel-reinforced Buna-N Rubber Flapper with "O-Ring" face, and primer coating inside and out. It shall operate at _____ PSIG, with a maximum 250 PSIG. A backflow device will also be used for draining or pump priming.

The valve(s) shall be Crispin Model _____ Rubber Flapper Valve(s) as manufactured by Multiplex Manufacturing Co., Berwick, PA.

Option: A Visual Indicator or Limit Switch can be provided on the exterior for positive confirmation of flapper open/closed positioning.

Option: A Rubber Lining is available for abrasive and particularly harsh applications.

Option: A variety of special coatings are available. Please contact the factory for more information.

Option: If needed, the rubber flapper can be made with (Viton, EPDM) instead of Buna-N.

RF/Backflow Parts List

ITEM	DESCRIPTION	MATERIAL	ASTM
1	BODY	DUCTILE IRON	A536 GR. 65-45-12
2	COVER	DUCTILE IRON	A536 GR. 65-45-12
3	DISC	BUNA-N RUBBER, STEEL & NYLON	D2000, A240
4	GASKET	ARMSTRONG N-8092	N/A
5	BOLT	STEEL	SAE GR. 5 ALLOY STEEL
5B	BOLT	STEEL	SAE GR. 5 ALLOY STEEL
*6	BACKFLOW	STAINLESS STEEL/ACTUATOR	A582, B505 BRASS

* Backflow actuator is optional

Class 150 Specifications*

MODEL #	A	B	C	D	E	F	# OF BOLTS	WT. lbs.
RF21	8	4.75	6	0.63	2	3.38	4	n/a
RF251	8.5	5.5	7	0.69	2.5	3.38	4	n/a
RF31	9.5	6	7.5	0.75	3	3.88	4	39
RF41	11.5	7.5	9	0.94	4	4.63	8	71
RF61	15	9.5	11	1	6	5.88	8	126
RF81	19.5	11.75	13.5	1.13	8	7.63	8	230
RF101	24.5	14.25	16	1.19	10	9.88	12	378
RF121	27.5	17	19	1.25	12	11.38	12	528
RF141	31	18.75	21	1.38	14	13.38	12	714
RF161	32	21.25	23.5	1.44	16	15.38	16	1024
RF181	36	22.75	25	1.57	18	17.13	16	1392
RF201	40	25	27.5	1.69	20	19.13	20	1733
RF241	48	29.5	32	1.88	24	22.75	20	2232

*For Class 300 Specifications, please call the factory.

SUBMITTAL SHEET FOR RF SERIES



ASR SERIES

Adjustable Spring Return

Adjustable Spring Return for RF

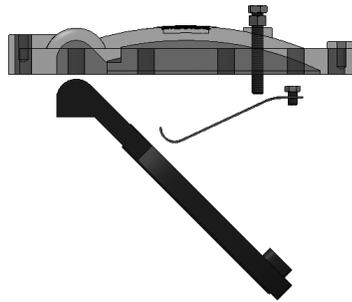
For those situations when the closing speed of the standard “RF” is not quite fast enough, the new “ASR” Adjustable Spring Return attachment is the perfect solution. Extremely cost effective and simple in design, the “ASR” attachment substantially increases the closing speed of the standard “RF” check valve, thus reducing water hammer. Available in both non-adjustable and adjustable configurations, the “ASR” is covered under the comprehensive “RF” warranty.

The “ASR” is a simple flat spring made of stainless steel that is placed inside the “RF” body. The “ASR” is in constant contact with the back of the “RF” disc, creating an accelerated closing speed. During the entire valve stroke, the “ASR” spring remains neatly tucked behind the disc and out of the way of the flow.

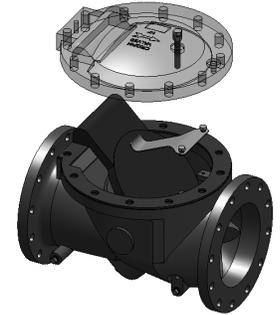
The adjustable configuration employs the same simple flat spring, but also includes an Externally Adjustable Tension Screw for setting spring preload. The “ASR” can give you true adjustability without having to remove the top cover and place additional springs against the disc.



The Adjustable Spring Return’s simple and cost-effective spring is made of stainless steel. It is placed directly inside the body of the Rubber Flapper Valve.



Neatly tucked behind the disc, it accelerates closing speed, reduces water hammer and never interferes with flow.



Available with or without optional externally adjustable tension screws that set spring preload.

RF-ASR Parts List

RUBBER FLAPPER CHECK VALVE PARTS

ITEM	DESCRIPTION	MATERIAL
1	BODY	A536 GR. 65-45-12 DUCTILE IRON
2	COVER	A536 GR. 65-45-12 DUCTILE IRON
3	FLAPPER	BUNA-N STEEL & NYLON
4	GASKET	ARMSTRONG N-8092
5	HEX BOLT	SAE GRADE 5 ALLOY STEEL
5A	HEX BOLT	SAE GRADE 5 ALLOY STEEL
6	PIPE PLUG	CAST STEEL

SPRING ASSIST PARTS LIST

ITEM	DESCRIPTION	MATERIAL
1S	SPRING	A313 GR.302 STAINLESS STEEL
2S	BOLT	A193 STAINLESS STEEL
3S	STOP	A193 STAINLESS STEEL
4S	STOP NUT	D2000 RUBBER & A193 S/S

Ordering the ASR is as simple as using it. Just add “-ASR” to the end of the RF model number. All dimensions remain the same as those listed in the RF brochure.

