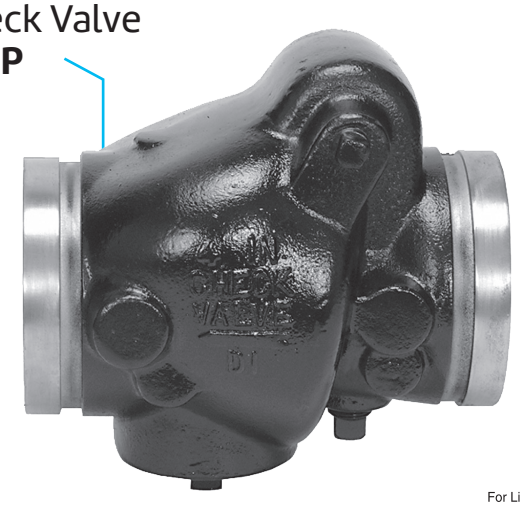
ASC Engineered Solutions

Fire Check Valve
Fig. 78FP



c UL us LISTED FM APPROVED

For Listings/Approval Details and Limitations, visit our website at www.asc-es.com or contact an ASC Engineered Solutions Sales Representative.

The Gruvlok 78FP UL/ULC Listed and FM Approved Check Valve is a compact, cost effective valve, designed for use in grooved-end pipe fire protection systems and related equipment. Valves are to be used in conjunction with grooved pipe and pipe couplings that are listed or approved for fire protection systems.

Pressure Rating:

2" through 12" 78FP UL/FM Check Valves have a maximum working pressure of 300 PSI (20.7 bar).

Design Feature

The clapper design produces quick, non-slam closure before flow reversal can occur, providing a leak free sealing of back pressures as low as 1 PSI (0.07 bar) equivalent to 28" water head. Meets FM requirements for anti-water-hammer check valves.

Applications

- Fire Department pumper to sprinkler systems
- Public water supplies to automatic sprinkler systems
- Fire pump discharges and by-pass
- Gravity and pressure tanks

Installation

The 78FP UL/FM Check Valves can be installed vertically or horizontally. In a horizontal installation the Hinge Pin is to be located on top. Proper installation and maintenance should be in accordance to Gruvlok specifications, as well as being in compliance with the applicable standards of the National Fire Protection Association.

Material Specifications

Body
Ductile Iron conforming to ASTM A 536, Grade 65-45-12

Coatings
Rust inhibiting orange enamel paint on exterior and interior surfaces.

Clapper
2"- 5" Type 304 or 302 stainless steel to ASTM A 167

6"- 8" Ductile iron conforming to ASTM A 536, Grade 65-45-12.

Clapper Facing
Grade "E" EPDM

-40°F to 230°F (Service Temperature Range) (-40°C to 110°C)

Recommended for water service, diluted acids, alkaline solutions, oil-free air and many chemical services.

Not For Use In Petroleum Applications.

Seat Ring
Type 304 stainless steel to ASTM A 312

Spring
Type 302 stainless steel to ASTM A 313

Hinge Pin
Type 304 or 302 stainless steel to ASTM A 580

Hinge Pin Bushings
Sintered bronze to ASTM B 438

Hinge Pin Plugs And Drain Plugs
Cast iron to ASTM A 126 Class A

GRUVLOK
An ASC Engineered Solution

PROJECT INFORMATION	APPROVAL STAMP
Project:	Approved
Address:	Approved as noted
Contractor:	Not approved
Engineer:	Remarks:
Submittal Date:	
Notes 1:	
Notes 2:	

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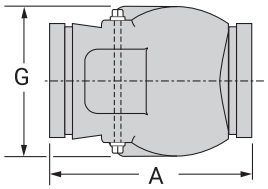

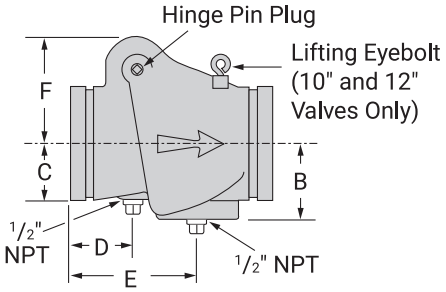

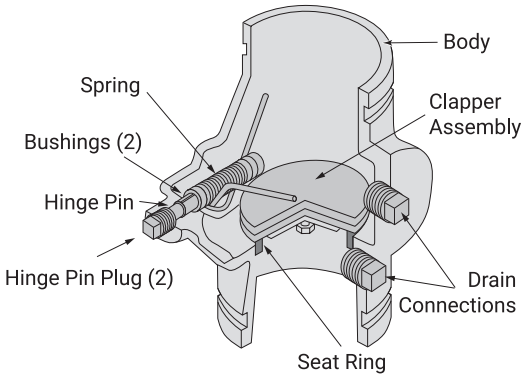

78FP UL/FM Gruvlok Check Valve

Valve Size	O.D.	Nominal Dimensions							Approx. Wt. Ea.
		A	B	C	D	E	F	G	
In./mm	In./mm	Ft./m	Ft./m	Ft./m	Ft./m	Ft./m			Ft./m
2 50	2.375 60.3	6 3/4 171	2 3/8 60	1 7/16 36	1 3/4 44	4 1/2 114	3 3/16 81	4 3/8 111	7.5 3.4
2 1/2 65	2.875 73.0	7 1/4 184	2 7/16 61	1 9/16 39	1 3/4 44	3 13/16 96	3 5/8 92	4 1/2 114	10.5 4.8
3 80	3.500 88.9	7 3/4 197	2 5/8 67	2 51	1 13/16 46	4 1/16 103	3 11/16 93	4 15/16 125	11.5 5.2
4 100	4.500 114.3	8 1/8 206	3 1/8 79	2 1/4 57	2 1/2 64	5 1/16 128	4 1/4 108	6 152	13.5 6.1
5 125	5.563 141.3	9 3/4 248	3 1/2 89	2 3/4 70	2 7/16 61	5 13/16 147	4 5/8 117	6 3/4 171	19.0 8.6
6 150	6.625 168.3	12 3/4 324	4 1/4 108	3 5/16 84	3 1/8 79	6 1/4 159	6 3/4 171	8 1/2 216	33.5 15.2
8 200	8.625 219.1	14 3/8 365	5 1/16 128	3 15/16 100	4 102	5 15/16 150	8 203	10 1/4 260	59.0 26.8
10 250	10.750 273.1	18 457	6 5/16 160	4 15/16 125	4 9/16 115	6 7/8 175	9 3/16 233	12 11/16 322	130.0 59.0
12 300	12.750 323.9	21 533	7 5/16 185	6 152	5 1/16 128	7 1/4 184	10 3/8 264	14 3/4 375	183.0 83.0

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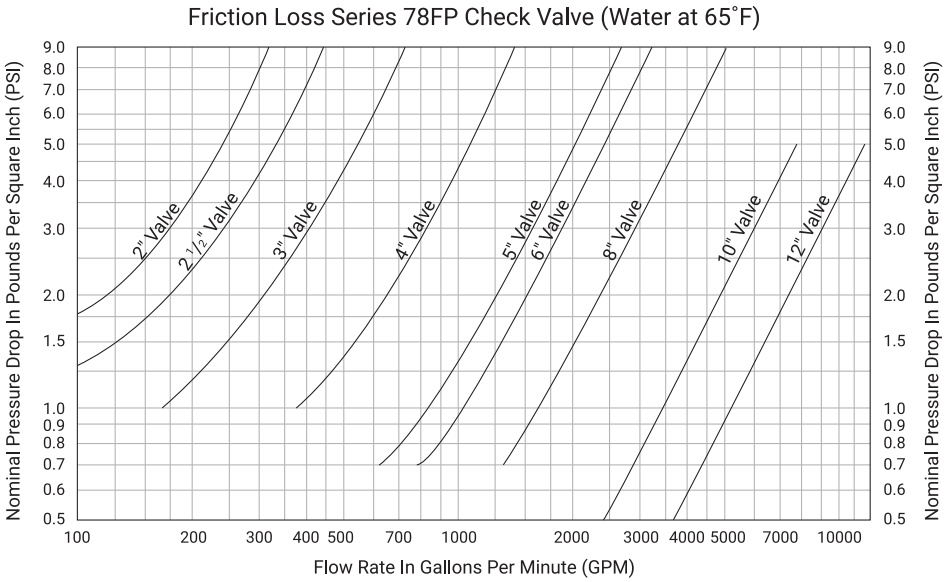

Flow Data – Friction Loss (Ft. of Pipe)

Valve Size	O.D.	C =100			C=120		
		Sch. 10	Sch. 30	Sch. 40	Sch. 10	Sch.30	Sch. 40
In./mm	In./mm	Ft./m	Ft./m	Ft./m	Ft./m	Ft./m	Ft./m
2 50	2.375 60.3	10 3.0	– –	8 2.4	14 4.3	– –	11 3.4
2½ 65	2.875 73.0	14 4.3	– –	10 3.0	20 6.1	– –	15 4.6
3 80	3.500 88.9	17 5.2	– –	12 3.7	23 7.0	– –	17 5.2
4 100	4.500 114.3	17 5.2	– –	13 4.0	23 7.0	– –	18 5.5
5 125	5.563 141.3	14 4.3	– –	11 3.4	20 6.1	– –	15 4.6
6 150	6.625 168.3	23 7.0	– –	19 5.8	33 10.1	– –	26 7.9
8 200	8.625 219.1	35 10.7	32 9.8	30 9.1	50 15.2	45 13.7	43 13.1
10 250	10.750 273.1	28 8.5	25 7.6	24 7.3	40 12.2	36 11	34 10.4
12 300	12.750 323.9	31 9.4	28 8.5	26 7.9	44 13.4	39 11.9	37 11.3

Flow Data

The approximate friction losses, based on the Hazen and Williams formula, expressed in equivalent length of pipe is given below. The friction losses have been calculated on the basis of flow rates typically used with each size valve.

Important Note:

Check valve life may be shortened and system damage may occur if check valves are installed too close to a source of unstable flow.

Check valves must be installed at a reasonable distance away from pumps, elbows, expanders, reducers or other similar devices. Sound piping practices dictate a minimum of five (5) times the pipe diameter for general use. Distances between three (3) and five (5) diameters are allowable provided the flow velocity is less than 8 feet per second. Distances less than 3 diameters are not recommended.

Not for use in copper systems.

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