



### 78FP UL/FM Check Valve

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 8" 78FP UL/FM Check Valves have a maximum working pressure of 300 PSI (20.7 bar).

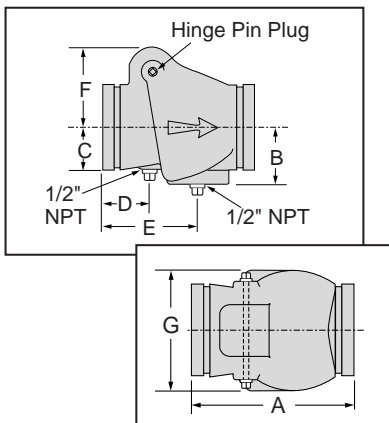
**Design Feature:**

In a full open position the 78FP UL/FM rubber faced swing clapper is held tightly against the valve body, out of the flow stream, to provide maximum flow area and prevention of clapper flutter. The clapper design produces quick, non-slam closure before flow reversal can occur, which provides a leak free sealing of back pressures as low as 1 PSI (0.07 bar) equivalent to 28" water head, meeting FM requirements for an anti-water-hammer check valves.

**Applications:**

Appropriate for use in fire protection connections such as:

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



78FP UL/FM GRUVLOK CHECK VALVE										
Nominal Size	Pipe OD	Nominal Dimensions								Valve Weight
		A	B	C	D	E	F	G		
In. /DN(mm)	In. /mm	In. /mm	In. /mm	In. /mm	In. /mm	In. /mm	In. /mm	In. /mm	Lbs. /Kg.	
2	2.375	6 <sup>3</sup> / <sub>4</sub>	2 <sup>5</sup> / <sub>8</sub>	1 <sup>7</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>4</sub>	4 <sup>1</sup> / <sub>2</sub>	3 <sup>3</sup> / <sub>8</sub>	4 <sup>3</sup> / <sub>8</sub>	7.5	
50	60.3	171	60	36	44	114	81	111	3.4	
2 <sup>1</sup> / <sub>2</sub>	2.875	7 <sup>1</sup> / <sub>4</sub>	2 <sup>7</sup> / <sub>8</sub>	1 <sup>9</sup> / <sub>8</sub>	1 <sup>3</sup> / <sub>4</sub>	3 <sup>13</sup> / <sub>16</sub>	3 <sup>5</sup> / <sub>8</sub>	4 <sup>1</sup> / <sub>2</sub>	10.5	
65	73.0	184	61	39	44	96	92	114	4.8	
3	3.500	7 <sup>3</sup> / <sub>4</sub>	2 <sup>5</sup> / <sub>8</sub>	2	1 <sup>13</sup> / <sub>16</sub>	4 <sup>1</sup> / <sub>8</sub>	3 <sup>1</sup> / <sub>8</sub>	4 <sup>15</sup> / <sub>16</sub>	11.5	
80	88.9	197	67	51	46	103	93	125	5.2	
4	4.500	8 <sup>3</sup> / <sub>8</sub>	3 <sup>3</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>4</sub>	2 <sup>1</sup> / <sub>2</sub>	5 <sup>1</sup> / <sub>8</sub>	4 <sup>1</sup> / <sub>4</sub>	6	13.5	
100	114.3	206	79	57	64	128	108	152	6.1	
5	5.563	9 <sup>3</sup> / <sub>4</sub>	3 <sup>1</sup> / <sub>2</sub>	2 <sup>3</sup> / <sub>4</sub>	2 <sup>7</sup> / <sub>16</sub>	5 <sup>13</sup> / <sub>16</sub>	4 <sup>5</sup> / <sub>8</sub>	6 <sup>3</sup> / <sub>4</sub>	19.0	
125	141.3	248	89	70	61	147	117	171	8.6	
6	6.625	12 <sup>3</sup> / <sub>4</sub>	4 <sup>1</sup> / <sub>4</sub>	3 <sup>3</sup> / <sub>8</sub>	3 <sup>3</sup> / <sub>8</sub>	6 <sup>1</sup> / <sub>4</sub>	6 <sup>3</sup> / <sub>4</sub>	8 <sup>1</sup> / <sub>2</sub>	33.5	
150	168.3	324	108	84	79	159	171	216	15.2	
8	8.625	14 <sup>3</sup> / <sub>8</sub>	5 <sup>1</sup> / <sub>8</sub>	3 <sup>1</sup> / <sub>8</sub>	4	5 <sup>1</sup> / <sub>8</sub>	8	10 <sup>1</sup> / <sub>4</sub>	59.0	
200	219.1	365	128	100	102	150	203	260	26.8	

# 78 FP UL/FM Check Valve

## Material Specifications:

- Body:**  
Ductile iron conforming to ASTM A 536, Grade 65-45-12
- Coating:**  
Rust inhibiting paint on exterior - color, orange  
Nickel Electroplated, Zn Electroplated (optional)
- Clapper:**  
2"- 5" Type 304 or 302 stainless steel to ASTM A 167  
6"-12" Ductile iron conforming to ASTM A 536, Grade 65-45-12

- Clapper Facing:**  
(Specify when ordering)  
Grade E EPDM  
-40° to 230°F (-40° to 110°C) Service Temperature Range  
Recommended for water service, dilute acids, alkaline, oil-free air and many chemical services.

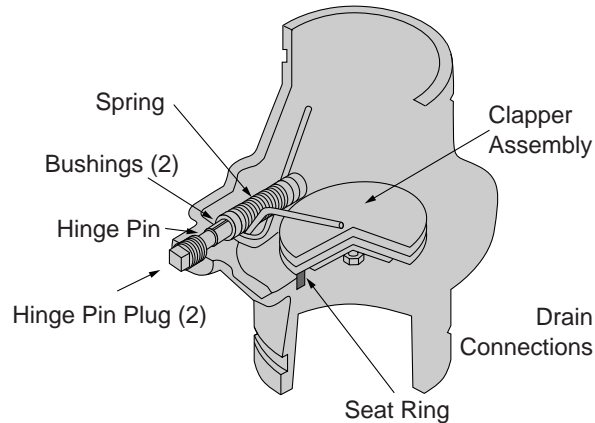
**NOT FOR USE IN PETROLEUM SERVICES.**

- Grade T Nitrile:  
-20° to 180°F (-29° to 80°C) Service Temperature Range  
Recommended for petroleum products, air with oil vapors, vegetable oils and mineral oils.

**NOT FOR USE IN HOT WATER SERVICES**

- Seat Ring:**  
Type 304 stainless steel to ASTM A 123, ASTM A 213, ASTM A 312 or ASTM A 269

- 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



## 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.

## FLOW DATA - FRICTION LOSS (FT. OF PIPE)

Valve Size	Pipe OD	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	2.375	10	—	8	14	—	11
50	60.3	3.0	—	2.4	4.3	—	3.4
2½	2.875	14	—	10	20	—	15
65	73.0	4.3	—	3.0	6.1	—	4.6
3	3.500	17	—	12	23	—	17
80	88.9	5.2	—	3.7	7.0	—	5.2
4	4.500	17	—	13	23	—	18
100	114.3	5.2	—	4.0	7.0	—	5.5
5	5.563	14	—	11	20	—	15
125	141.3	4.3	—	3.4	6.1	—	4.6
6	6.625	23	—	19	33	—	26
150	168.3	7.0	—	5.8	10.1	—	7.9
8	8.625	35	32	30	50	45	43
200	219.1	10.7	9.8	9.1	15.2	13.7	13.1
10	10.750	28	25	24	40	36	34
250	273.1	8.5	7.6	7.3	12.2	11.0	10.4
12	12.750	31	28	26	44	39	37
300	323.9	9.4	8.5	7.9	13.4	11.9	11.3

Friction Loss Series 7800 Check Valve (Water at 65°F)

