

APCO FRF FULL FLOW RUBBER FLAPPER FOOT VALVES

Design & Construction

APCO FRF Full Flow Rubber Flapper Foot Valve is a type of check valve designed for raw sewage and clean water applications typically installed at the bottom of a suction line and inside a wet well. It is an inexpensive way to maintain prime on a single centrifugal pump.

They are available with ductile Iron bodies with ASME 125/150 end connections in sizes 2-24" (50-600mm).

Since the valve is continuously submerged, it is not readily accessible for inspection or repair. For this reason, the valve is constructed with high quality long-wearing materials. It has a heavy cast body with integral flanges and drop tight resilient seating to ensure no loss of suction.

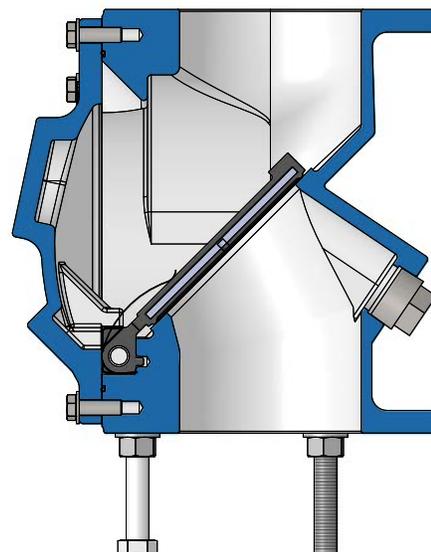
Seat Closing

The APCO Rubber Flapper Foot Valve seat is at a 45 degree angle to the centerline of the pipe. This allows flow up vertical installation and minimizes the flapper travel distance from closed to fully open position. The shorter travel distance minimizes head loss and aids in non-slam closure.

How it Works

The foot valve is installed in the vertical position with the direction of flow upward. In this position, the valve is normally closed. Prior to initial start up of the centrifugal pump, it is recommended to manually fill the suction line with water. This eliminates the risk of damage to the centrifugal pump from running dry.

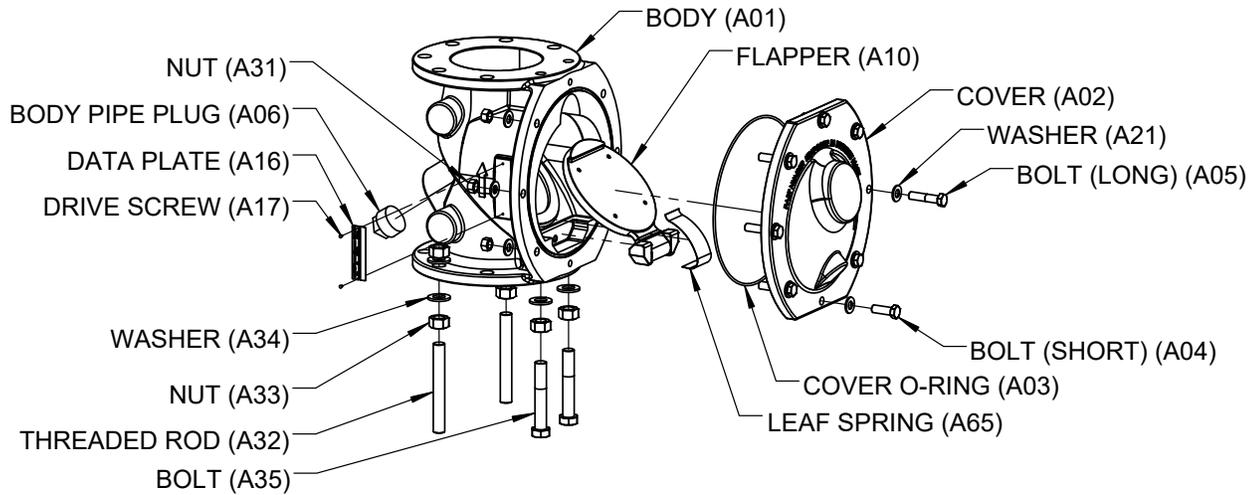
Once the suction line is filled, the foot valve takes over and opens while the centrifugal pump is running and closes when the pump stops running to maintain a primed flooded suction pump.



Full Flow Rubber Flapper Foot Valves (FRF)

Materials of Construction

Item	Description	Material
A01	Body	Ductile Iron, ASTM A536
A02	Cover	Ductile Iron, ASTM A536
A03	Cover O-Ring	Acrylonitrile-Butadiene (NBR)
A04	Bolt	316 Stainless Steel, ASTM F593, Grade G or H
A05	Bolt	316 Stainless Steel, ASTM F593, Grade G or H
A10	Flapper	Acrylonitrile-Butadiene
A16	Data Plate	316 Stainless Steel
A17	Drive Screw	18-8 Stainless Steel
A21	Washer	316 Stainless Steel
A31	Nut	316 Stainless Steel, ASTM F594F
A32	Threaded Rod	1018 Steel, Cold Drawn Bar, ASTM A108
A33	Nut	316 Stainless Steel
A34	Washer	316 Stainless Steel
A35	Bolt	316 Stainless Steel
A65	Leaf Spring	301 Stainless Steel, ASTM A666

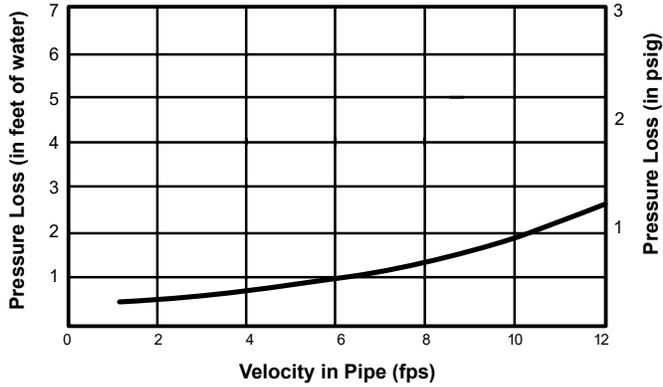


Valve Selection

Pressure Ratings (at ambient temperature)

Body Material	Pressure
Ductile Iron	250 psi (1720 kPa)

Typical Friction Loss Chart



Valve Weights

Valve Size	Weight
2"	32
50mm	15
3"	52
80mm	24
4"	83
100mm	37
6"	134
150mm	62
8"	254
200mm	117
10"	476
250mm	218
12"	696
300mm	318
14"	829
350mm	379
16"	1059
400mm	484
18"	1364
450mm	621
20"	1544
500mm	707
24"	2326
600mm	1058

Pounds
Kilograms

Ordering

To order, simply complete the valve order code from information shown. An ordering example is shown for your reference.

Valve Style Give valve style code as follows: FRF = Full Flow Rubber Flapper Foot Valves

Valve Size Give valve size code as follows: 2 = 2" 50mm 12 = 12" 300mm 3 = 3" 80mm 14 = 14" 350mm 4 = 4" 100mm 16 = 16" 400mm 4.3 = 4.3" 100mm 18 = 18" 450mm 6 = 6" 150mm 20 = 20" 500mm 8 = 8" 200mm 24 = 24" 600mm 10 = 10" 250mm

Note: Size 4.3" is a 4" valve that can pass a 3" diameter solid.

Body Style Give body style code as follows: 100CF= Full Flow Rubber Flapper Foot Valve

End Connection Give end connection code as follows: F1 = Flanged ASME 125/150

Body Material Give body material code as follows: DI = Ductile Iron

Trim Combination Flapper Material Give flapper material code as follows: NBR = Acrylonitrile-Butadiene -70 to 250° F (-57 to 121° C)

Leg Material Give leg material code as follows: S2 = 316 Stainless Steel

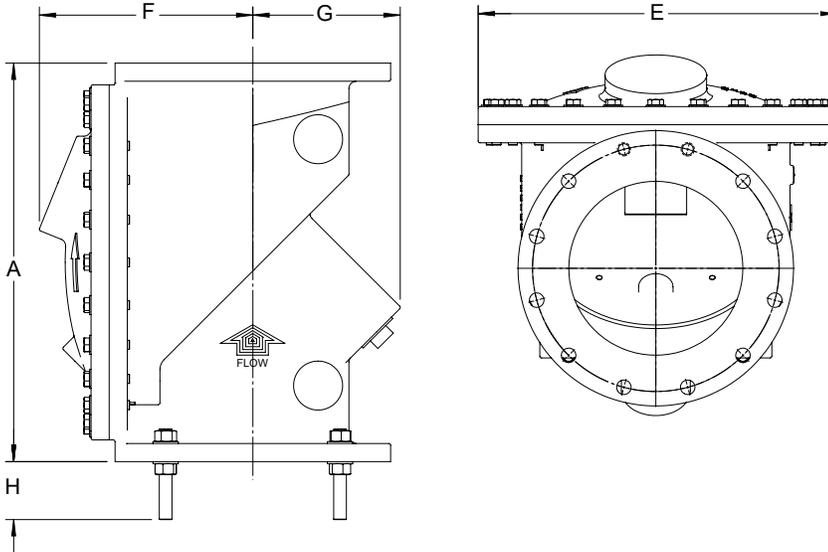
Options Give option code as follows: DTR = DeZURIK Standard Certified Hydrostatic Shell & Seat Test Report --- = Coatings (contact DeZURIK)

Ordering Example:

FRF,8,100CF,F1,DI,NBR-S2*

Note: Additional sizes and materials available on application. Contact DeZURIK.

Dimensions



Basic Valve

Valve Size	A	E	F	G	H
2" 50mm	8.00 203	5.55 141	3.88 99	2.88 73	4.00 102
3" 80mm	9.50 241	7.50 191	6.00 152	3.63 92	4.00 102
4" 100mm	11.50 292	12.28 312	6.88 175	4.13 105	4.00 102
6" 150mm	14.00 356	13.38 340	8.63 219	5.75 146	4.00 102
8" 200mm	19.50 495	17.75 451	10.00 254	7.00 178	4.00 102
10" 250mm	24.50 622	23.00 584	14.13 369	8.75 222	4.00 102
12" 300mm	27.50 699	24.50 622	14.88 378	10.25 260	4.00 102
14" 350mm	31.00 787	27.75 705	15.25 387	12.13 308	4.00 102
16" 400mm	36.00 914	30.00 762	16.75 425	12.13 308	4.00 102
18" 350mm	40.00 1016	33.00 838	18.25 464	13.75 349	6.00 152
20" 500mm	40.00 1016	35.25 895	20.75 527	15.00 381	6.00 152
24" 600mm	48.00 1219	40.25 1022	23.25 591	17.25 438	6.00 152

Inch
Millimeter

Sales and Service

For information about our worldwide locations, approvals, certifications and local representative:

Web Site: DeZURIK.com E-Mail: info@DeZURIK.com



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