



**World Class Performance
in Abrasive, Scaling and
Corrosive Slurries, Sludge,
Liquids, and Bulk Solids**



RF VALVE® aiRFlex®



RF Technologies' mission is to solve valve problems. We achieve this by providing valves that offer the lowest cost of ownership and operation, highest reliability and minimum maintenance.

Simple and rugged patented construction throughout sets RF valves apart in the most severe service and process control applications.



RF Manual Valves



RF Pneumatic Valves

On/Off and Control Valves

The RF Family of Elastomer Tubes

RF's patented non-stretch tube design features expansion arches that flex rather than stretch when closing. This gives RF valves remarkable wear resistance and cycle life superiority over conventional pinch valves. In addition, the tube arches and positive opening tags ensure tube stability under low or fluctuating line pressures and vacuum conditions. Full port and reduced port tubes permit precise throttling control.

RF tubes are available in a wide range of wear- and chemical-resistant elastomers. KEVLAR® reinforcing cords add unsurpassed performance under high loads and temperatures, and VITON® withstands even the most chemically corrosive process conditions.

Wear-Sensing Monitor

A patented SMART Valve™ Wear Monitoring Sensor is available and molded between the inner thick wear resistant elastomer and the outer reinforcing cords of each tube. If the inner lining wears sufficiently to disturb the sensor wire, it will trigger a signal that can be displayed at the valve or looped into a DCS. This provides for the first time a reliable tool to tell when a tube needs replacement, thus reducing downtime, outage costs and unexpected valve failures.



World Class Performance



RF Electric Valves



RF Control Valves

1" - 6" ID, full port, ASME B31.3 Standard Construction, ASME/ANSI B16.10, DIN 3205 F5/F15, and ISO 5752 face-to-face dimensions, working pressures 15 to 600 psi, temperatures -50° to 250° F, pH 1-13

Fugitive Emission Control

Fugitive Emission Control RF valves are built without valve stems, packings, and seals that can leak. Their seamless elastomer tube design, incorporating the wear sensor wire inside, offers two levels of protection. A third level of emission containment is provided by the sealed body feature.

Note: HON Rule Method 21 emission monitoring occurs inside a sealed valve body isolated from weather and harsh external operating environments, automating compliance process.

Technical Advantages

Standard full- or reduced-port designs, centerline closure and Class VI shut-off provide outstanding elastomer wear life as well as precise, repeatable linear flow control.

The self-cleaning, flexing action of the elastomer tubes prevents build-up of scaling deposits and thus guarantees that the valve will not jam or seize, even in high solids.

High pressure molded elastomer tube insert outperforms more expensive 316, stellite, or alloy ball, plug, globe, diaphragm and conventional pinch valves in abrasive, scaling or corrosive services.

Interchangeable with most standard ASME or DIN face-to-face dimensions for ball, plug, butterfly, globe and diaphragm valves. Versatile retrofit valve for plant upgrade and modernization projects.

Elastomer tube is the only wear part in contact with process stream. Tube replacement, when required, is accomplished in-line without complicated tools, components, or specialized skills; maintenance costs are reduced up to 70 percent

Seamless flange-to-flange tube construction and sealed body design eliminates



Control Valve Performance

Because of their unique design characteristics, RF Control Valves® are recommended when...

- ...abrasion and corrosion result in high maintenance,
- ...turbulent flow causes valves or pipes to wear,
- ...scaling causes valves to seize, and...
- ...fibers or other materials have a tendency to plug the valves.



Full Port



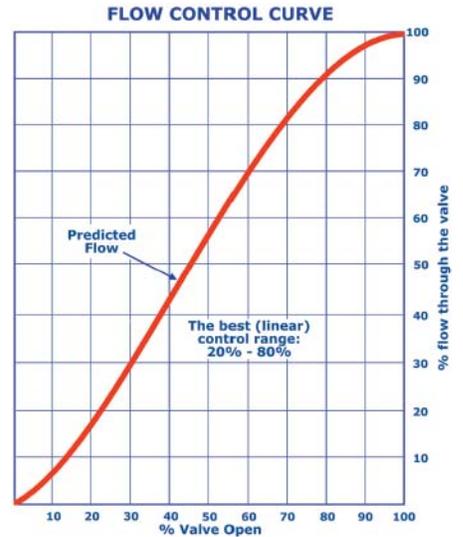
Reduced Port

The inherently high Cv values of RF Control Valves ensure superior cost-vs.-capacity ratios. Control performance is also enhanced, as each valve is uniquely characterized to flow requirements with either full- or reduced-port designs, thus reducing the turbulence and cavitation found in other valve designs.

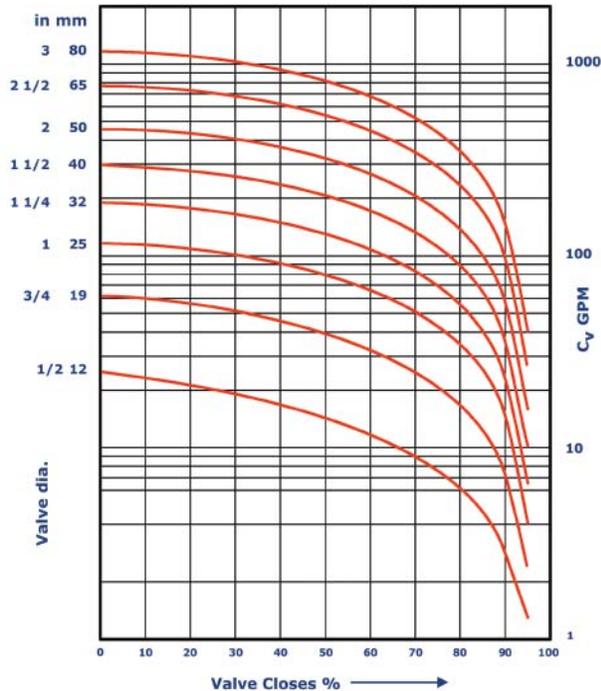
The self-cleaning, flexing elastomer action loosens deposits (Fig. 2, opp. page) and eliminates most problems associated with stiction, overshoot, and conventional control valve irregularities.

When zero-leakage shut-off is a must, RF Control Valves® outperform most others, even against abrasive and scaling-prone slurries and liquids.

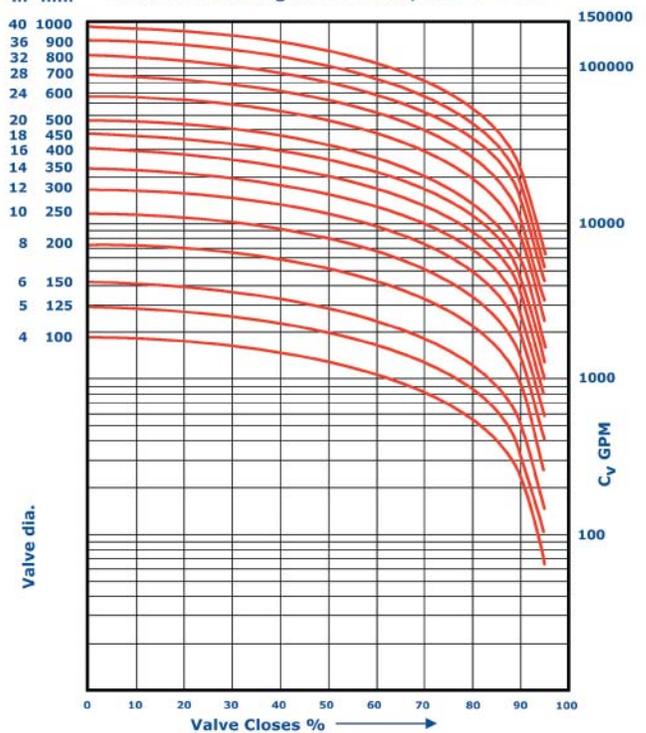
The RF Valve® and aiRFlex® are offered with a wide variety of positioners for modulating control and operating under most protocols, such as Hart, Foundation Fieldbus, Profibus and others.



Cv values for standard full port face-to-face length RF valves, dia. 1" - 3"
(1/2" and 3/4" Cv valves are reduced port 1" dia. valves)



Cv values for standard full port face-to-face length RF valves, dia. 4" - 40"



World Class Performance



PATENTED NO-STRETCH TUBE FOLDS

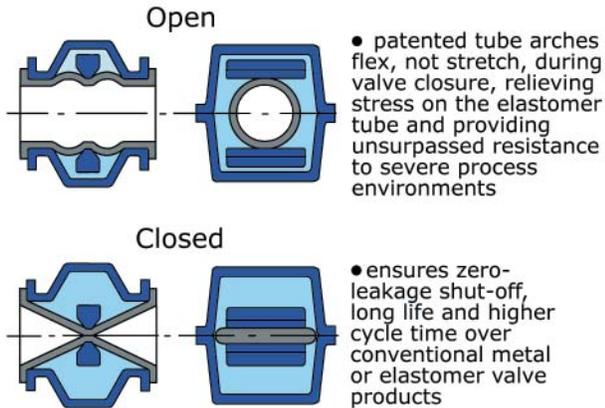


Figure 1

Replaceable elastomer tube will not jam or seize; eliminates "throw away" valves (Figure 2).

Smart Valve™ monitoring system reduces maintenance costs and unscheduled outages (Figure 3).

Elastomer tube, when worn, is quickly replaced in line without special tools (Figure 4).

TROUBLE-FREE OPERATION

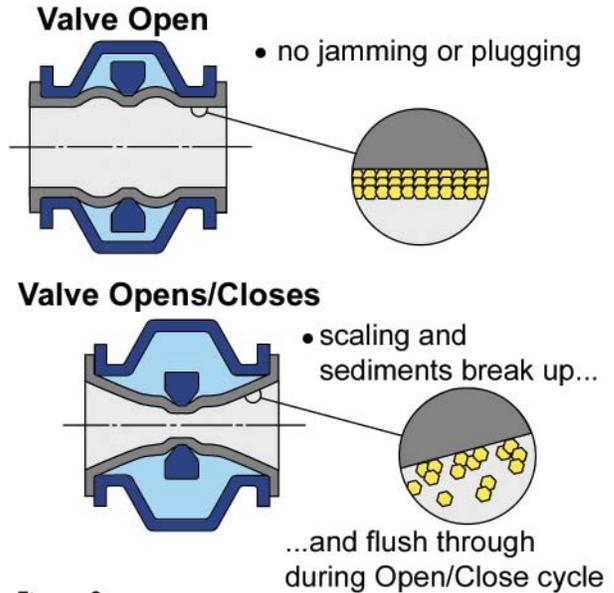


Figure 2

SMART VALVE™ MONITORING SYSTEM

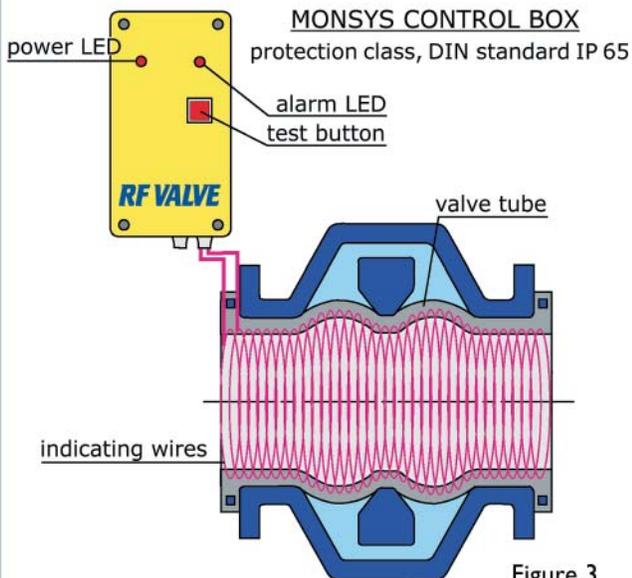


Figure 3

QUICK AND SIMPLE TUBE CHANGE

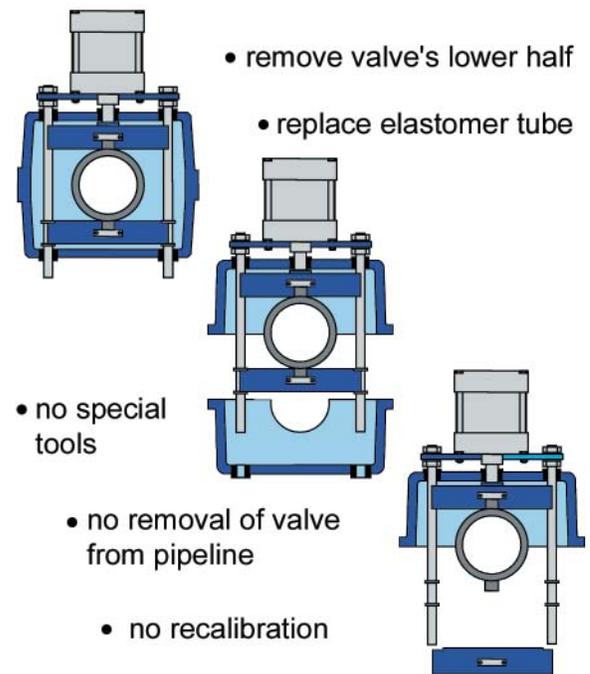
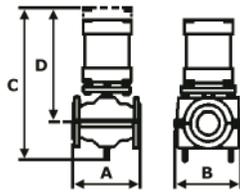


Figure 4

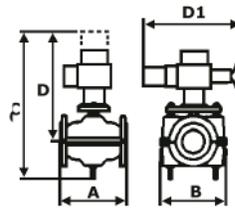


RF VALVE[®] ASME/ANSI Standard Valves

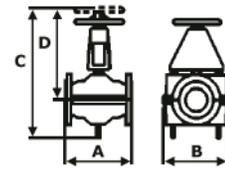
Dimensions = inches
Weight = lbs
Pressure = psig



PNEUMATIC



ELECTRIC



MANUAL

Actuator, Line Pressure			P15	P90	P150	E15	E90	E150	M15	M90	M150
DN		Weight	20	20	20	55	55	55	20	20	20
1	A=5	C	16 1/8	16 1/8	16 1/2	20 7/8	20 7/8	20 7/8	15 1/8	15 1/8	15 1/8
	B=7 1/8	D	12 3/8	12 3/8	12 3/4	16 7/8	16 7/8	16 7/8	10 7/8	10 7/8	10 7/8
		Weight	26	26	31	55	55	55	26	26	26
1 1/2	A=6 1/2	C	17	18 3/8	18 3/8	22 1/2	22 1/2	22 1/2	16 7/8	16 7/8	16 7/8
	B=9 1/2	D	12 5/8	13 7/8	13 7/8	17 7/8	17 7/8	17 7/8	12 3/4	12 3/4	12 3/4
		Weight	44	44	46	71	71	71	44	44	44
2	A=7	C	19 3/4	19 3/4	20 1/8	23	23	23	17 7/8	17 7/8	17 7/8
	B=9 1/2	D	14 1/4	14 1/4	15 1/2	16	16	16	12 3/4	12 3/4	12 3/4
		Weight	60	66	73	95	95	95	66	66	66
3	A=8	C	23 1/4	23 5/8	26 1/4	26 3/4	26 3/4	26 3/4	20 1/4	20 1/4	20 1/4
	B=11 1/8	D	16 7/8	16 7/8	18 1/2	18 1/2	18 1/2	18 1/2	14 1/8	14 1/8	14 1/8
		Weight	84	93	99	95	95	95	84	84	84
4	A=9	C	27 3/8	28 3/4	28 3/4	23	23	23	26 3/4	26 3/4	26 3/4
	B=13	D	19 1/4	20 1/2	20 1/2	19 1/4	19 1/4	19 1/4	18 7/8	18 7/8	18 7/8
		Weight	168	185	203	150	150	159	190	190	190
6	A=10 1/2	C	35 1/2	35 5/8	41 3/8	34 1/4	34 1/4	34 1/4	35 1/2	35 1/2	35 1/2
	B=16 1/4	D	23 5/8	26 1/2	31 1/8	22	22	22	25 1/4	25 1/4	25 1/4

The weights and dimensions in this table are only approximate and may change with different actuators or accessories. Please contact RF Valves, Inc. if more detailed information is needed.

Be sure to visit our Website
<http://www.rfvalve.com>
for latest industry updates.



RF Valves offers standard centerline closure in order to maximize the useful life of each elastomer tube, both in On/Off and Modulating services.

World Class Performance



ELASTOMER QUALITIES SELECTION

Elastomer Type	Natural Rubber	Natural Pure Gum Rubber	Chloro-Butyl Rubber	Nitrile Rubber	Chloro-prene Rubber	Fluoro-Carbon Rubber	Chloro-Sulfonated Polyethylene	Ethylene Propylene
Designation	NR	PGR	IIR	NBR	N	FPM	CSM	EPDM
Tradename⁽¹⁾				Buna-N	Neoprene	Viton®	Hypalon®	Nordel®
Properties								
Temperature of application:								
- Maximum °F	180	210	280	250	225	250*	260	250*
- Contin. Operating Temp.+	150-160	105-175	240-250	215-220	215-220	215-220	215-220	215-220
- Minimum °F	-65	-60	-60	-40	-40	-5	-40	-60
Elasticity	5	5	2	3.4	3.4	2	3.4	3.4
Resistance								
- Weather & Ozone	1..2	1..2	4	1..2	3..4	5	5	5
- Acids	2..3	2..4	4	3	3	3..4	4	3..4
- Alkaline	2..3	2..4	4	2..3	3	1..3	4	3..4
- Hydrocarbons, aliphatic	1	1	1	4	2..3	4	2..3	1
- Hydrocarbons, aromatic	1	1	1	3	1..2	4	1	1
- Water	5	5	3..4	5	3	4	3..4	5
- Wear	4..5	4..5	2..3	3..4	3..4	3	3	3
- Flame	1	1	1	1..2	3..4	4	3	1
- Electrical	4	3..4	4..5	1..2	3	3	3..4	4
Gas Impermeability	3	2..3	5	2..3	2..3	4	4	2..3

5 = Excellent, 4 = Very Good, 3 = Good, 2 = Fair, 1 = Not Recommended

*FPM HT and EPDM HT available for temperatures up to 250° F

Food Grade elastomers are available in NBR, N, and EPDM

White elastomers (TiO₂ filled) are available in N and EPDM

+Based on Nylon cords; Kevlar® cords are specified for temperatures over 220° F

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