

**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 chemicalresistant 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 Control Valves** 



aiRFlex Pinch Valves

1" - 60" ID, full port, Standard 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





## **Control Valve Performance**

Because of their unique design characteristics, RF Control Valves<sup>®</sup>

- Because of their unique design ....abrasion and corrosion result in high maintenance,
- characteristics, RF Control Valves® ....turbulent flow causes valves or pipes to wear,
  - are recommended when... 

    ....scaling causes valves to seize, and...
    - ■...fibers or other materials have a tendency to plug the valves.



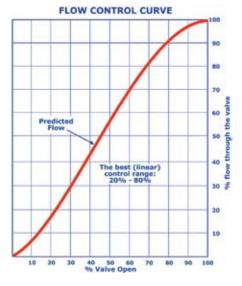
The inherently high Cv values of RF Control Valves ensure superior cost-vs.-capacity ratios. Control performance is also enhanced, as each valve is uniquely characterized to flow requirements with either full- or reduced-port designs, thus reducing the turbulence and cavitation found in other valve designs.

**Full Port** 

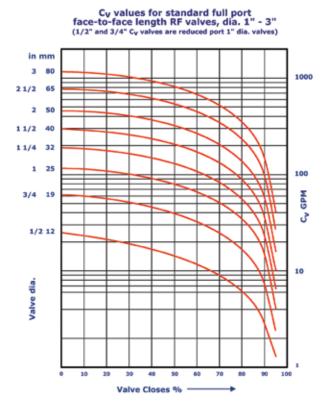
The self-cleaning, flexing elastomer action loosens deposits (Fig. 2, opp. page) and eliminates most problems associated with stiction, overshoot, and conventional control valve irregularities.

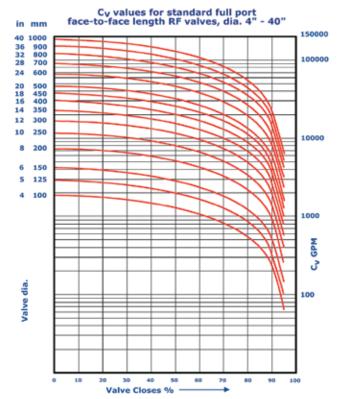
When zero-leakage shut-off is a must, RF Control Valves® outperform most others, even against abrasive and scaling-prone slurries and liquids.

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.



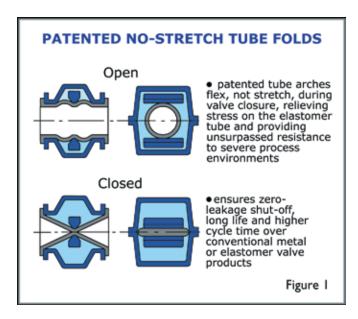




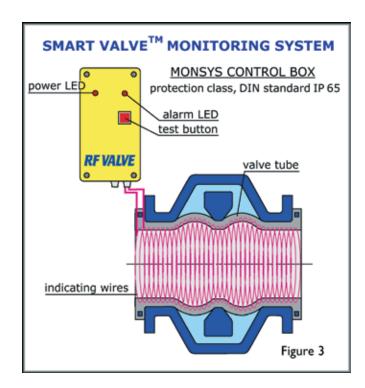


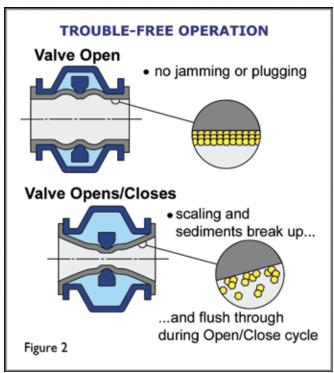
## **World Class Performance**

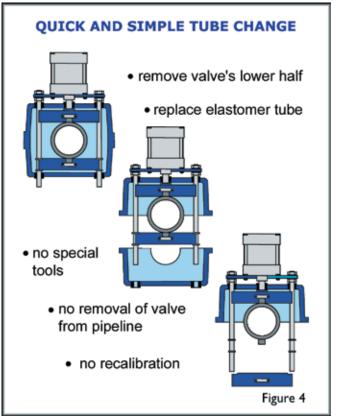




- Replaceable elastomer tube will not jam or seize; eliminates "throw away" valves (Figure 2).
- ■Smart Valve<sup>™</sup> monitoring system reduces maintenance costs and unscheduled outages (Figure 3).
- Elastomer tube, when worn, is quickly replaced in line without special tools (Figure 4).







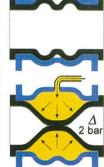


# Specifications

RF Valve specifications are given at right; aiRFlex specifications are shown below.

# aiRFlex...

Patented tube folds prevent tube from stretching when air is introduced between valve body and tube to close the valve. The folds and reinforcing cords insure full opening when actuating air is exhausted.



DN 25-350, full port, on/off and control services, standard ASME/ANSI B16.10 face-to-face dimensions, temperatures up to 105°C, pH 1-13, working pressure 2 bar below available plant air with minimum 3 bar plant air needed to close the valve.

	Valve	А	В	С	Weight	Kg
I <b>←</b> —A—→I	DN	F-F	Wid.	Ht.	Cast	Cast
	mm	mm	mm	mm	Iron	Alum.
¢	25	128	128	108	2,7	1,6
	40	165	150	127	5,0	2,3
aiRFlex.	50	178	205	185	7,7	3,2
ally ica	80	203	258	200	12,3	6,4
B	100	229	295	229	17	7,7
	150	350	385	285	40	28
	200	457	484	340	69	35
	250	533	618	406		70
	300	610	718	483		93
	350	686	709	681		129

#### General Accessories

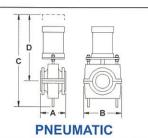
RF Technologies' complete line of valve accessories ensures optimum field performance:

On/off limit switches
Fail Close systems
Air operated hydraulic power packs
Manual overrides
Positive opening tags
Hand wheel lockout
SMART Valve ™ Monsys Alarm Box
Positioners
Solenoid and air valves

# RF VALVE.

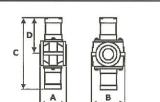
#### DIN / ASME Standard-Valves

Dimensions = mm Weight = kg Pressure = bar

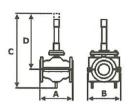


	Actuator, Line Pressure P1 P6 P10												
	Line Press			P6	P10								
DN		Weight	9	9	10								
25	A = 127	C	415	415	422								
	B = 180	D Weight	310	310	317								
32	A = 140		10 437	10 437	11 444								
02	B = 190	C D	324	324	331								
	D = 190	Weight	12	12	14								
40	A = 165	C	438	469	469								
10	B = 205	D	318	350	350								
	D = 200	Weight	20	24	24								
50	A = 178	C	508	553	553								
30	B = 242	D	368	413	413								
	D = 242	Weight	25	27	30								
65	A = 190	C	552	597	621								
00	B = 248	D	398	443	467								
		Weight	30	35	44								
80	A = 203	C	602	636	691								
	B = 282	D	430	464	419								
		Weight	47	56	62								
100	A = 300	C	708	699	787								
	B = 316	Ď	498	489	577								
		Weight	60	68	75								
125	A = 325	C	808	841	841								
	B = 342	D	573	606	606								
		Weight	86	96	115								
150	A = 350	C	912	945	963								
	B = 400	D	642	675	693								
	B = 100	Weight	152	165	194								
200	A = 400	C	1105	1115	1188								
	B = 516	D	773	779	852								
	D = 010	Weight	175	208	240								
250	A = 450	C	1246	1290	1310								
	B = 580	D	869	913	829								
	D = 000	Weight	190	270	320								
300	A = 500	C	1438	1541	1620								
000	B = 720	Ď	991	1100	1150								
		Weight	362	400	1100								
350	A = 550	C	1813	1850									
	B = 840	D	1208	1250									
	D = 010	Weight	420	1230									
400	A = 750	C	1938										
100	B = 1080	D	1298										
	B = 1000	Weight	490	To be seen									
450	A = 810	C	2276										
400	B = 1180	D	1546										
		Weight	620										
500	A = 880	C	2426										
	B = 1280	D	1646		5.								
	5 - 1200	Weight	925										
600	A = 1000	C	2910										
	B = 1350	D	1970										
		Weight	1025										
700	A = 1130	C	3225										
	B = 1500	D	2180										
	·····												

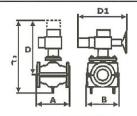
DN	25	32	40	50	65	80
PN 10 ANSI 150	DIN 3	140 E B16 /IS0 202 F5 202 F15	165 O 5752, Tab	178 ble 6	190	203
PN 25/40 ANSI 300/600	165	178	190	216	241	283



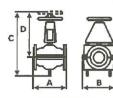




**HYDRAULIC** 



**ELECTRIC** 



MANUAL

P1	P6	P10	H1	H6	H10	E1	E6	E10	M1	M6	M10
11	11	11	12	12	12	22	22	22	8,5	8,5	8,5
419	419	443	385	385	385	578	578	578	371	371	371
210	210	222	280	280	280	477	477	477	266	266	266
12	12	14	13	13	13	23	23	23	10	10	10
430	510	454	405	405	405	596	596	596	393	393	393
215	215	227	290	290	290	488	488	488	280	280	280
14	14	16	14	14	14	25	25	25	14	14	16
443	467	467	438	470	470	618	618	618	419	419	419
222	234	234	316	348	348	501	501	501	297	297	297
25	25	29	18	18	18	32	32	32	22	22	22
490	534	534	455	455	455	676	676	676	485	485	485
245	267	267	325	325	325	541	541	541	345	345	345
31	33	37	25	25	25	39	39	40	25	25	25
512	556	667	500	500	500	713	713	713	520	520	520
256	278	334	355	355	355	563	563	563	366	366	366
33	39	49	30	30	30	43	43	43	30	30	30
537	629	692	555	555	555	755	755	755	570	570	570
269	315	346	390	390	390	588	588	588	398	398	398
51	60	68	38	38	42	54	56	58	51	51	51
629	740	760	660	660	660	841	841	841	699	699	699
315	370	380	455	455	455	636	636	636	489	489	489
63	72	80	65	65	70	68	68	72	68	68	68
715	798	798	740	740	740	905	905	917	793	793	793
358	399	399	525	525	525	674	674	686	558	558	558
92	103	122	80	85	90	85	90	97	90	90	90
762	845	830	890	890	910	996	1008	1068	928	928	996
381	723	415	635	640	645	731	743	803	658	658	726
158	172	215	150	150	170	157	165	198	140	145	147
941	926	1002	1109	1270	1270	1163	1175	1250	1140	1208	1208
471	463	501	773	890	900	827	839	914	799	867	867
181	228	275	170	180	190	175	210	225	130	135	160
1007	992	1218	1360	1480	1480	1255	1342	1342	1272	1340	1226
504	496	609	920	1040	1040	878	965	965	890	958	849
230	310	370	180	210	230	270	300	340	170	200	220
1102	1353	1400	1575	1710	1720	1432	1507	1542	1462	1530	1476
551	677	700	1060	1180	1190	985	1060	1095	1010	1030	1024
381	420		250	270	350	240	290	330	240	290	330
1270	1366		1780	1920	1930	1900	1982	2086	1900	1982	2086
635	683		1195	1320	1330	1300	1342	1406	1300	1342	1406
486			450	530	630	510	580	700	440	520	8,5
1596			2000	2130	2150	1948	1982	2236	2040	1982	2086
798			1340	1460	1470	1308	1342	1456	1395	1342	1406
570			550	590	680	620	750	830	520	620	730
1657			2330	2350	2360	2125	2160	2161	2237	2229	2261
829			1600	1600	1610	1409	1444	1431	1520	1513	1531
705			670	750	870	720	850	1020	670	720	810
1746			2550	2560	2580	2278	2386	2449	2525	2600	2873
873			1740	1740	1760	1478	1556	1619	1690	1745	1988
995			810	880	940	860	1150	1390	810	980	1050
2074			2990	3000	3020	2043	2091	2154	1540	1615	1723
1037			2030	2030	2040	1413	1441	1504	905	960	1038
1100			920	1050	1120	1050	1320		970	1100	
2239			3440	3440	3450	2233	2334		1661	1773	
1120			2320	2320	2320	1548	1629		971	1063	
										.000	

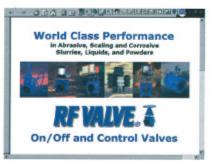
	100	125	150	200	250	300	350	400	450	500	600	700	800	900	1000
	229	254	267	292		ASME	B16 short	/ISO 5752	2. Tabelle	6					
				457	533	610	686	762	864	914	1067	1270	1448	1524	1723
1	300	325	350	400	450	500	550								
								750	810	880	1000	1130	1250	1380	1500
Г	305	381	403	502	568	648	838	914	991	1092	1143				
L	RF VA	LVES - St	tandard f	ace to fac	e lenght	s									

### **ELASTOMER QUALITIES SELECTION**

Elastomer Type	Natural Rubber	Styrene Butadiene Rubber	Chloro- Butyl Rubber	Nitrile Rubber	Chloro- prene Rubber	Fluoro- Carbon Rubber	Chloro- Sulfonated Polyethylene	Ethylene Propylene
Designation	NR	SBR	IIR	NBR	N	<b>FPM</b>	CSM	<b>EPDM</b>
Tadename <sup>(1)</sup>		5	-	Buna-N	Neoprene	Viton®	Hypalon®	Nordel®
Properties	7		九年			-	THE STATE OF THE S	10000000000
Temperature of application:					22.0			
- Maximum °C	80	115	135	120	115	120	125	120
- Contin. Operating Temp.+	65-70	70-95	115-120	100-105	100-105	100-105	100-105	100-105
- Minimum °C	-55	-50	-52	-40	-40	-20	-40	-52
Elasticity	5	5	2	3.4	34	2	3.4	3.4
Resistance	1		10.700	The same	San alexander	-VAL		
- Weather & Ozone	12	1.2	4	1.2	34	5	5	5
- Acids	23	2.3	4	3	3	3.4	4	3.4
- Alkaline	23	2.3	4	23	3	13	4	34
- Oils, alipathic	1	1	1	4	23	4	23	1
- Oils, aromatic	1	1	1	3	12	4	1	1
- Water	5	3.4	3.4	3 5	3	4	34	5
- Wear	45	4	23	34	34	3	3	3
- Flame	1	1	1 105	1.2	3.4	4	3	1
- Electrical	4	W.4	45	12	3	3	34	4
Gas Impermeability	3	23	5	23	23	4	4	23

 FPM HT and EPDM HT available for temperatures up to 150 °C Elastomer tube is also available with a TEFLON liner Food Grade elastomers are available in NBR, N, and EPDM White elastomers (Ti O<sub>2</sub> filled) are available in N and EPDM (1) Viton®, Norde®, and Hypalon® are registered trademarks of DuPont Dow Elastomers.

+ Based on Nylon/Rayon cords; Kevlar cords are specified for high temperatures



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

# We provide the world's most advanced line of pinch valves in standard ASME/ANSI B16, DIN and ISO face-to-face dimensions from DN 25 - 1000!

With manufacturing facilities in the US and Finland — and with sales and support facilities in North and South America, Europe, Australia and the Pacific Rim — RF Technologies supplies the pulp and paper, mining, industrial minerals, chemical, power generation, and waste treatment industries around the globe. Wherever your business is located, RF Technologies is dedicated to providing you with the world's most advanced line of pinch valves in standard ASME/ANSI B16, DIN and ISO face-to-face dimensions from DN 25 - 1000!



RF TEK Oy Koulukatu 19 FIN-53100 Lappeenranta, FINLAND Tel: +358 5 415 0382, Fax: +358 5 415 0342 Email: rfvalves@rftek.fi http://www.rfvalve.com