

ELASTOMER QUALITIES SELECTION

Elastomer Type	Natural Rubber	Natural Pure Gum Rubber	Chloro-Butyl Rubber	Nitrile Rubber	Chloroprene Rubber	Fluoro-Carbon Rubber	Chloro-Sulfonated Polyethylene	Ethylene Propylene
Designation Tradename ⁽¹⁾	NR	SBR	IIR	NBR Buna-N	N Neopren	FPM Viton®	CSM Hypalon®	EPDM Norde®
Properties								
Temperature of application:								
- Maximum °C	80	115	135	120	115	120	125	120
- Contin. Operating temp. °C	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	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..3	4	3	3	3..4	4	3..4
- Alkaline	2..3	2..3	4	2..3	4	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	1	1	1
- Water	5	3..4	3..4	5	3	4	3..4	5
- Wear	4..5	4	2..3	3..4	3..4	3	3	3
- Fire	1	1	1	1..2	3..4	4	3	1
- Electrical	4	4	4..5	1..2	3	3	3..4	4
Gas Impenetrability	3	2..3	5	2..3	2..3	4	4	2..3

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

Food Grade elastomers are available in NBR, N and EPDM
White elastomers, (T₁O₂ filled) are available in N and EPDM

⁽¹⁾ Viton®, Norde® und Hypalon® are registered trademarks of DuPont Dow Elastomers.



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

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

World Class Performance in Abrasive, Scaling and Corrosive Slurries, Liquids and Powders

Technical Bulletin 0709-BE/BSA



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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 two expansion arches that flex rather than stretch when closing.

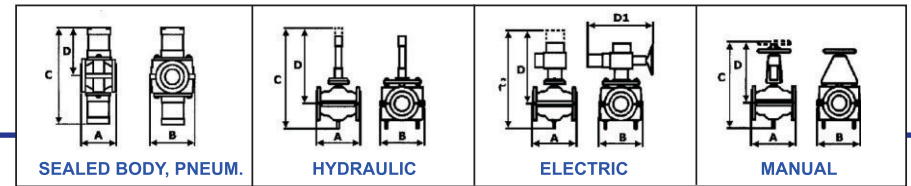
This gives RF valves remarkable wear resistance and cycle life superiority over conventional pinch valves. In addition, the tube arches and positive opening tags ensure tube stability under low or fluctuating line pressures and vacuum conditions. Full port and reduced port tubes permit precise throttling control.

RF tubes are available in a wide range of wear-resistant elastomers. KEVLAR® reinforcing cords add unsurpassed performance under high loads. Our selection of elastomer tubes withstand even the most chemically aggressive and corrosive process conditions.



Wear-Sensing Monitor

A patented SMART Valve™ Wear Monitoring Sensor is imbedded 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.



P1	P6	P10	H1	H6	H10	E1	E6	E10	M1	M6	M10
11	11	12	12	12	12	22	22	22	8.5	8.5	8.5
419	419	443	385	385	385	578	578	578	975	975	975
210	210	222	280	280	280	477	477	477	265	265	265
12	12	14	13	13	13	23	23	23	10	10	10
430	510	454	405	405	405	596	595	596	393	393	393
215	215	227	290	290	290	488	488	788	280	280	280
14	14	16	14	14	14	25	25	25	14	14	14
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	928
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	1520	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	

100	125	150	200	250	300	350	400	450	500	600	700	800	900	1000
229	254	267	229	229	ASME B16 short/ISO 5752, Tabelle 6									
			457	533	610	686	762	864	914	1067	1270	1448	1524	1723
300	325	350	400	450	500	550		750	810	880	1000	1130	1250	1380
305	381	403	502	568	648	838	914	991	1092	1143				

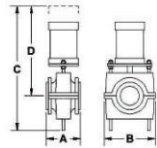
RF VALVES - Standard face to face lengths



RF VALVE.

DIN / ASME
Standard-Valves

Dimensions = mm
Weight = kg
Pressure = bar



PNEUMATIC

World Class Performance



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 DN mm	A F-F mm	B Wid. mm	C Ht. mm	Weight Cast Iron	Kg Cast Alum.
25	128	128	108	2,7	1,6
40	165	150	127	5,0	2,3
50	178	205	185	7,7	3,2
80	203	258	200	12,3	6,4
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

Actuator, Line Pressure	P1	P6	P10
DN	9	9	10
25	A=127 B=180 C D	415 415 310 310	422 317 11 11
32	A=140 B=190 C D	437 324 324 324	444 331 14 14
40	A=165 B=205 C D	438 318 318 350	469 350 24 24
50	A=178 B=242 C D	508 368 368 413	553 413 30 30
65	A=190 B=248 C D	552 398 398 443	621 467 44 44
80	A=203 B=282 C D	602 430 430 464	691 419 62 62
100	A=300 B=316 C D	708 498 498 489	787 577 75 75
125	A=325 B=342 C D	808 573 573 606	841 606 115 115
150	A=350 B=400 C D	912 642 642 675	963 693 194 194
200	A=400 B=516 C D	1105 773 773 779	1188 852 240 240
250	A=450 B=580 C D	1246 869 869 913	1310 829 320 320
300	A=500 B=720 C D	1438 991 991 1100	1620 1150 400 400
350	A=550 B=840 C D	1813 1208 1208 1250	1850 1250 420 420
400	A=750 B=1080 C D	1938 1298 1298 1298	1938 1298 490 490
450	A=810 B=1180 C D	2276 1546 1546 1546	2276 1546 620 620
500	A=880 B=1280 C D	2426 1646 1646 1646	2426 1646 925 925
600	A=1000 B=1350 C D	2910 1970 1970 1970	2910 1970 1025 1025
700	A=1130 B=1500 C D	3225 2180 2180 2180	3225 2180 1025 1025

DN	25	32	40	50	65	80
PN 10 ANSI 150	127	140	165	178	190	203
	ASME B16/ISO 5752, Table 6 DIN 3202 F5 din3202 F15					
PN 25/40 ANSI 300/600	165	178	190	216	241	283



RF Electric Valves



RF Control Valves



aiRFlex Pinch Valves

DN 25-1000, full port, Standard ASME/ANSI B16.10, DIN 3205 F5/F15, and ISO 5752 face-to-face dimensions, working pressures 0-40 bar, temperatures -50° to +150°C, pH 1-13

Technical Advantages

Standard full port design provides unobstructed, bidirectional flow, low resistance, zero leakage shut-off and 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 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 valve stem, packings, or seals that can leak.



World Class Performance



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



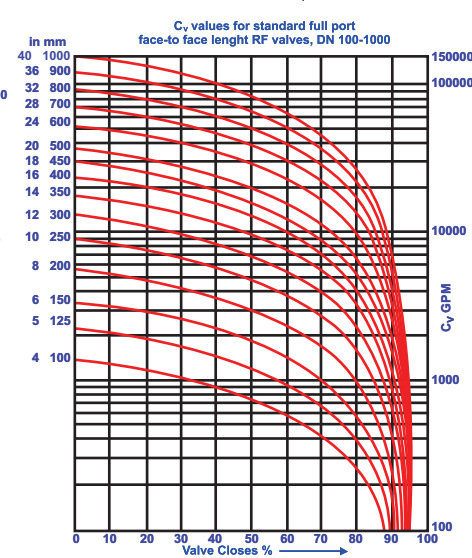
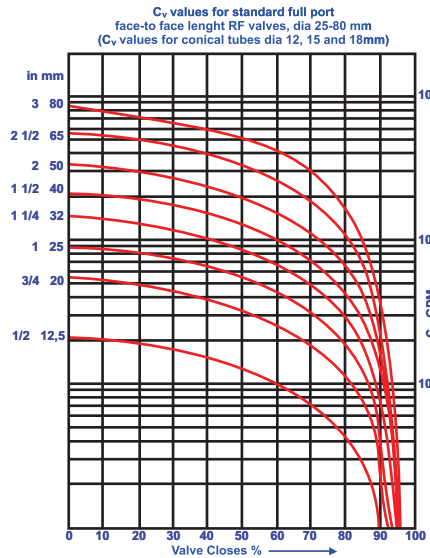
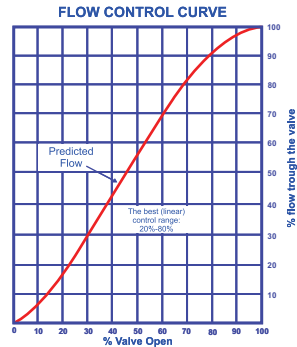
Reduc Port

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.

RF® and airFlex® Valves are offered with a wide variety of positioners with 0,2-0,1 bar and 4-20 mA control signals for modulating control.



PATENTED NO-STRETCH TUBE FOLDS

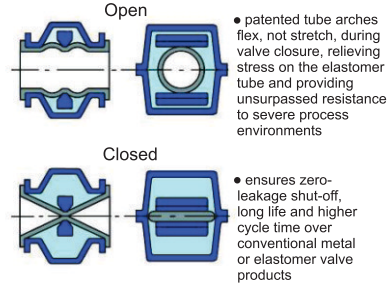


Figure 1

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).

SMART VALVE™ MONITORING SYSTEM

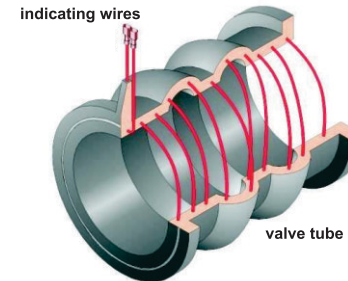


Figure 3

TROUBLE-FREE OPERATION

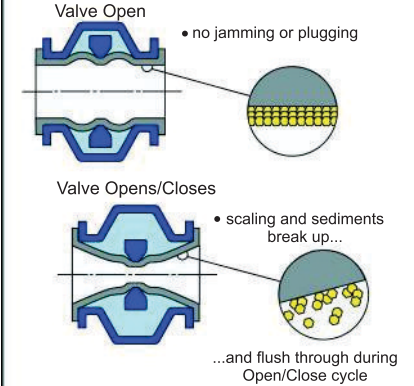


Figure 2

QUICK AND SIMPLE TUBE CHANGE

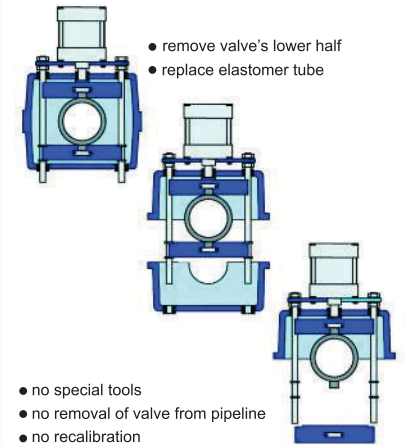


Figure 4