Double Diaphragm actuator (Action - Air to open, Spring to close, DOPO) fig:- 5

Particularly used where fluid pressure acts at both ends (i.e 0%). The larger size Diaphragm Valves requires tremendous amount of thrust to close the valve. Actuator as large as 300 sq. In. effective area might not be adequate. Battery of two or three actuators are combined to achieve the desired thrust.

Dimensions of Double Diaphragm actuator, DOPO (fig:-5)

BODY SIZE		ACTUATOR	Face to Face		h1	h2	h3	H	Ø d	L
MM	INCH		Unlined	Lined						
200	8"	1005DD-RWT	521	531	1180	405	172	1290	600	500
200	8"	A2-300DD-RWT	521	531	1190	405	172	1300	616	500
250	10"	1005DD-RWT	635	645	1200	450	203	1320	600	500
250	10"	A2-300DD-RWT	635	645	1215	450	203	1335	616	500
300	12"	A2-300DD-RWT	749	759	1250	605	242	1360	616	500
350	14"	A2-300DD-RWT	749	759	1270	695	267	1380	616	500

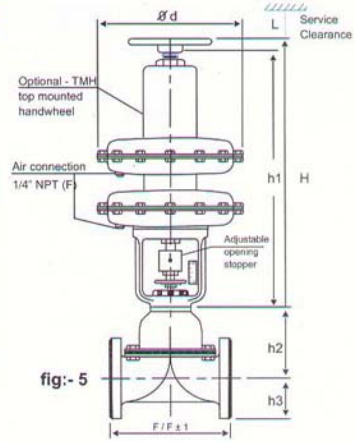

fig:- 5

Double acting Diaphragm valve, (D/A) fig:- 6

The air chamber in this double acting actuator are usually controlled by a single 4-way solenoid operated valve which admits air into one chamber while exhaust air from the other side of chamber, either opening or closing the valve depending on the air connections.

Unlike spring opposed diaphragm actuator where major part of the stem thrust is absorbed by the spring, full thrust depending on the air supply pressure is available as net thrust for operating the valve.

The fail-safe operation for double acting actuator can be stay put by using air lock.

Double acting actuator can be operated by conventional 3-way solenoid valve by providing a constant air pressure loading on the other side of the air chamber.

Dimensions of Double acting Diaphragm, (fig:-6)

BODY Size		ACTUATOR	Face to Face		h2	h3	H	Ød	L
MM	Inch		Unlined	Lined					
25	1	1018D/A	127	133	80	54	326	185	100
40	1 ½	1018D/A	159	165	105	64	326	185	100
50	2	1018D/A	190	196	125	76	326	185	100
65	2 ½	1035D/A	216	222	150	89	351	235	180
80	3	1001D/A	254	261	190	95	355	276	150
100	4	1002D/A	305	312	205	115	375	330	200
125	5	1003D/A	356	364	234	127	405	330	200
150	6	1004D/A	406	414	280	140	535	450	250
200	8	1005D/A	521	531	390	173	590	600	250
250	10	300D/A	635	645	460	203	620	616	300

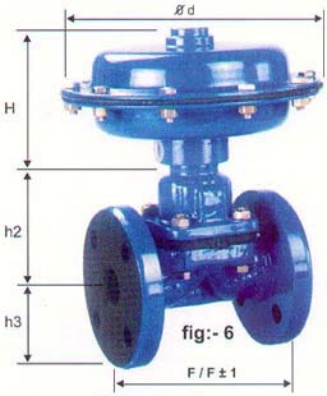

fig:- 6

fig:- 8

Cylinder operated Diaphragm Valve: (fig:-7)

Cylinder actuators are either single or double acting type and are generally used where ever air supply pressure available is more. Double acting cylinder is generally preferred when fail safe position calls for stay put operation with air lock relay or for heavy duty operation.

fig:- 7

Diaphragm Actuator for Throttling Application: (fig:-8)

The actuator can be equipped with Valve Positioner and actuator spring with standard spring range to achieve positioner accuracy.