

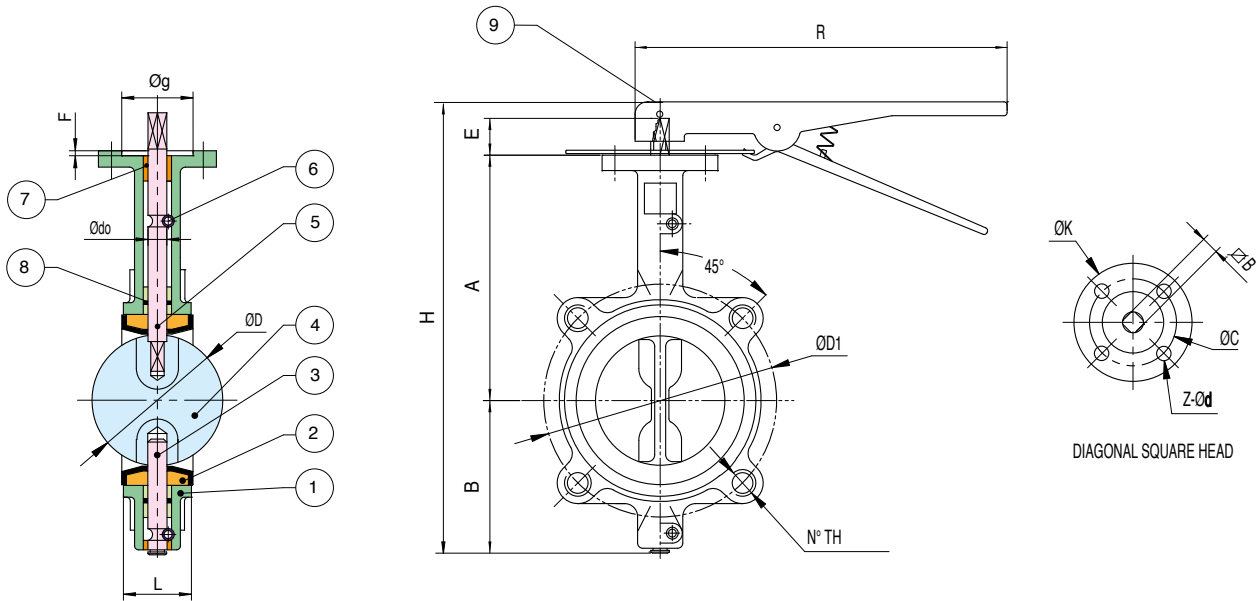
SERIES 501N - 501S

NYLON 11 COATED DISC CF8M SS DISC



- Manually operated butterfly valves.
- Epoxy coated ductile iron lug body.
 - Full port sizes 1 1/2 to 12".
 - EPDM resilient seat -30°F to 250°F.
 - API609 face to face flange.
 - Floating dual shaft disc design.
 - 10 position stop.
 - MSS SP 67 compliant.
 - No pins in disc prevent potential leak points.

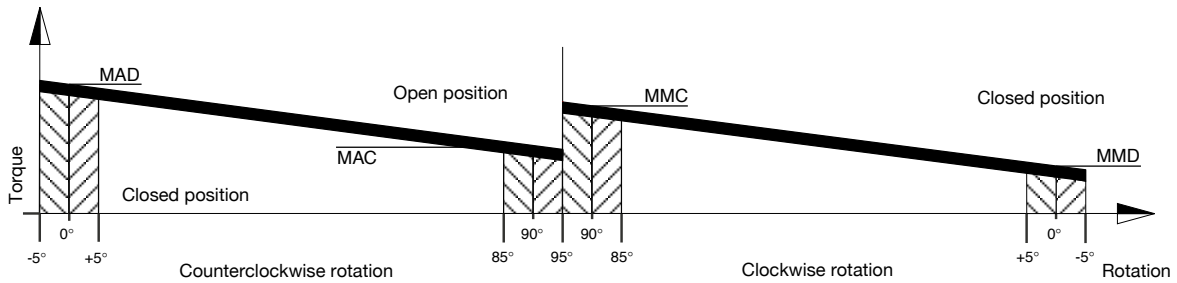
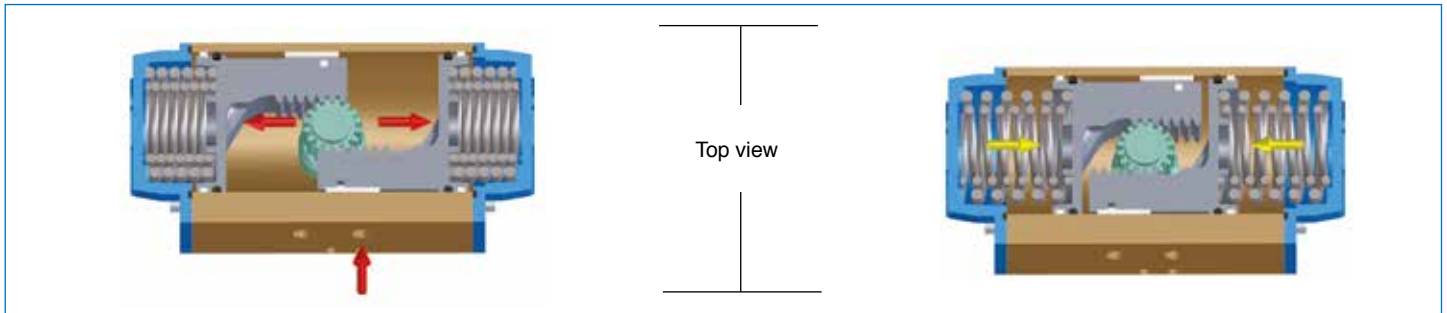
531N-531S: VITON SEATS
541N-541S: BUNA-N SEATS



PART NAME	MATERIAL	N PCS	SIZE	ØC ISO	Z/B	A	B	L	ØD	E	H	R	Ødo	UPPER FLANGE				DISC	LUG	WT.	SEAT TORQUE				CV (GPM@ 1psi)	
														ØK	Z-d	Øg	F				ØD1	N°-TH	Lbs	100 psi	200 psi	50% OP
1	BODY	DUCTILE IRON	1	1 1/2	F05	9 mm	5.71	2.97	1.61	1.67	0.47	12.95	10.63	0.50	3.03	4-0.28	1.38	0.12	4.74	4-5/8"-11	7.9	111	133	35	108	
2	SEAT	EPDM (30F to 250F)	1	2"	F05	9 mm	6.34	3.15	1.65	2.07	0.47	13.94	10.63	0.50	3.03	4-0.28	1.38	0.12	4.74	4-5/8"-11	8.4	126	146	45	135	
3	LOWER SHAFT	SS 416	1	2 1/2"	F05	9 mm	6.89	3.50	1.76	2.54	0.47	15.04	10.63	0.50	3.03	4-0.28	1.38	0.12	5.49	4-5/8"-11	9.3	134	167	65	220	
4	DISC 500N	IRON NYLON 11	1	3"	F05	9 mm	7.13	3.74	1.78	3.10	0.47	15.51	10.63	0.50	3.03	4-0.28	1.38	0.12	6.00	4-5/8"-11	10.4	205	223	70	300	
	DISC 500S	STAINLESS STEEL		4"	F07	11 mm	7.87	4.49	2.05	4.09	0.63	17	10.63	0.62	3.54	4-0.35	2.17	0.12	7.50	8-5/8"-11	19.8	339	386	140	605	
5	UPPER SHAFT	SS 416	1	5"	F07	14 mm	8.34	5.00	2.14	4.85	0.75	17.94	10.63	0.75	3.54	4-0.35	2.17	0.12	8.50	8-3/4"-10	24	523	602	235	1010	
6	LOCATING PIN	CARBON STEEL	1	6"	F07	14 mm	8.90	5.47	2.20	6.13	0.75	19.06	10.63	0.75	3.54	4-0.35	2.17	0.12	9.50	8-3/4"-10	31.3	677	996	360	1620	
7	BUSHING	P.T.F.E.	1	8"	F10	17 mm	10.24	6.89	2.34	7.97	0.75	22.25	14.17	0.87	4.92	4-0.47	2.76	0.14	11.75	8-3/4"-10	40.1	1205	1864	715	3205	
8	O-RING	EPDM	1	10"*	F10	22 mm	11.50	7.99	2.58	9.86	0.94	24.77	19.68	1.12	4.92	4-0.47	2.76	1.40	14.25	12-7/8"-9	59.1	1890	3140	1225	5305	
9	LEVER	EPOXY-COATED CARBON STEEL	1	12"*	F10	22 mm	13.27	9.53	3.03	11.87	0.94	28.31	19.68	1.24	5.51	4-0.47	2.76	1.40	17.00	12-7/8"-9	88.2	2808	4767	1900	8250	

* 10" and 12" available in bare stem version only.





With reference to the above diagram the torque of a spring return actuator is not constant but decreasing. This is due to the action of the springs that when compressed during air actuation counteract the piston movement and accumulate energy which will be available in a decreasing way during the rotation inversion.

The torque given by the actuator is defined by four fundamental values.

- Opening rotation
- MAD = Actuator torque with unfolded springs
- MAC = Actuator torque with compressed springs.
- Closing rotation
- MMC = Torque with compressed springs.
- MMD = Torque with unfolded springs

The users can decide on which model to choose according their own specific requirements, using the following guidelines:

1. Define the maximum torque of the valve to automate.
2. To obtain a safety factor increase the torque value chosen by 25% - 50% (subject to the type of valve and working conditions).
3. Once the torque value suggested is obtained consult the torque chart and in relation to the corresponding air pressure find the torque value exact to or exceeding the one obtained, taking account of the lower value between the MMD and MAC values.
4. Once the torque value is determined move horizontally to the column "model" to find the actuator model required.

VALID FROM MOD. 52 TO MOD. 140 *

SPRING SETTING

SET STANDARD 05

SET	EXTERNAL SPRING	INTERNAL SPRING
01	1	1
02	2	-
03	1	2
04	2	1
05	2	2

VALID FROM MOD. 160 TO MOD. 200

SPRING SETTING

SET STANDARD 06

SET	EXTERNAL SPRING	CENTRAL SPRING	INTERNAL SPRING
01	-	2	-
02	2	-	-
03	1	2	-
04	2	-	2
05	2	2	-
06	2	2	2

VALID FROM MOD. 230 TO MOD. 330

SPRING SETTING

PRETENSIONED SPRING

SET	N° OF SPRINGS FOR EACH SIDE	
01	2/3	
02	3/3	
03	3/4	
04	4/4	
05	4/5	
06	5/5	
07	5/6	
08	6/6	

MOD.230
MOD.270 e 330

* Valid also for stainless steel actuator from mod. 52 to mod. 100.

		WORKING TIME (SEC)															
TYPE	MODEL	32	52*	63*	75*	85*	100*	115	125	140	160	180	200	230	270	330	
		ROT. 0°-90°	COUNTERCLOCKWISE ROTATION (DA)	CCW	0,03	0,07	0,11	0,18	0,36	0,38	0,60	0,80	1,13	1,43	1,99	3,08	4,15
CLOCKWISE ROTATION (DA)	CW		0,03	0,05	0,10	0,15	0,25	0,34	0,54	0,70	0,94	1,25	1,80	2,41	3,80	5,47	5,50
COUNTERCLOCKWISE ROTATION (SR)	CCW		-	0,07	0,13	0,32	0,32	0,54	0,92	1,20	1,64	2,27	3,08	3,58	6,20	8,97	6,40
CLOCKWISE ROTATION (SR)	CW		-	0,07	0,13	0,22	0,30	0,48	0,75	0,94	1,25	1,60	2,38	2,80	5,40	6,62	7,40
ROT. 0°-180°	COUNTERCLOCKWISE ROTATION (DA)	CCW	-	0,08	0,14	0,34	0,42	0,64	1,11	1,87	2,95	3,03	-	-	-	-	-
	CLOCKWISE ROTATION (DA)	CW	-	0,06	0,12	0,25	0,39	0,62	1,08	1,13	2,03	2,29	-	-	-	-	-

* Approximative times obtained at the pressure of 90 PSI without valve.

		WEIGHT CHART (Lbs)															
TYPE	MODEL	32	52	63	75	85	100	115	125	140	160	180	200	230	270	330	
		DA 90°		1,08	2,47	3,66	6,13	8,60	12,13	19,51	23,81	35,94	47,96	63,95	81,59	128,99	182,29
SR 90°		/	2,87	4,34	7,47	10,58	15,44	25,25	31,05	48,07	65,05	87,98	121,28	156,56	221,10	460,85	
DA 180°		/	3,75	5,51	9,26	13,19	18,81	30,10	38,26	55,11	68,78	/	/	/	/	/	

		STAINLESS STEEL ACTUATOR WEIGHT CHART (Lbs)				
TYPE	MODEL	52	63	75	85	100
		DA 90°		4,98	6,90	10,94
SR 90°		5,38	7,59	12,28	18,41	25,86

		ACTUATOR AIR CONSUMPTION CHART															
		Litres: 1 Litre = 1000 cm3															
TYPE	MODEL	32	52*	63*	75*	85*	100*	115	125	140	160	180	200	230	270	330	
		ROT. 0°-90°	COUNTERCLOCKWISE ROTATION (DA/SR)	CCW	2,44	6,1	11,6	21,96	31,12	48,2	78,72	99,47	137,91	220,3	282,54	347,83	651,73
CLOCKWISE ROTATION (DA)	CW		1,83	7,93	14,04	26,85	39,06	61,02	104,35	134,86	192,83	306,33	402,75	643,8	918,4	1086,22	2697,25
ROT. 0°-180°	COUNTERCLOCKWISE ROTATION (DA)	CCW	/	10,37	20,13	36,61	54,92	83,6	130	176,96	299	329,52	/	/	/	/	/
	CLOCKWISE ROTATION (DA)	CW	/	9,76	17,7	34,17	50,65	80,55	137,3	183	238	385,67	/	/	/	/	/

To obtain the air consumption in NI/min multiply the value in the chart for the correct parameters. That is to say for the supplied absolute pressure and the number of strokes in a minute.

* Suitable also for stainless steel actuator.

