

## BUTTERFLY VALVE CENTER STEM SERIE 20 FLANGED END

ref.113A / PN 10-16-ANSI150#

### APPLICATION:

Water, HVAC installations, pressurized air, industry, etc.

### WORKING CONDITIONS:

Pressure Ratings: 1.0Mpa; 1.6Mpa;

Working Temperature: -10C- 80C

Suitable Media: Water

### STANDARDS:

Design: EN 1074-2 Face to Face: EN 558-1 Serie 20.

Mounting between flanges: PN10 / PN16/ANSI150 EN 1092-2.

Pressure Test: EN 12266-1, DIN 3230, BS6755 y ISO 5208:

Body: 24 bars. Seat: 17,6 bars.

Manufacture acc. to the requirements of the EU directive 2014/68/EU

Equipment's under pressure: mod. H.

### GENERAL CHARACTERISTICS:

Concentric Disc Valves. Tightness in both ways.

Range from ND50 up to ND1200.

One-piece shaft. Avoid breakage due to water hammer.

Vulcanized seat. /Cartridge seat

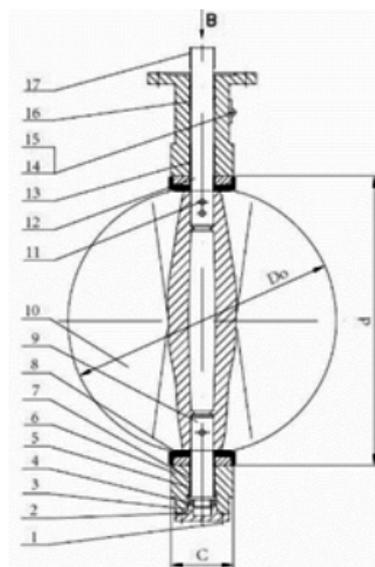
Low head loss.

Top Flange according to ISO 5211.

Epoxy paint 250 microns



NO.	Description	Number	Material
1	Hex Bolt	4	Gr.33
2	"O" Ring	1	NBR
3	End Cover	1	DI
4	Gasket	1	Brass
5	Down-Brushing	1	Lubrized Bronze
6	Body	1	DI
7	"O" Ring	4	NBR
8	Seat	1	EPDM
9	Down-Stem	1	420
10	Disc	1	DI/304/316/C954/WCB+EPDM
11	Taper Pin	3	420
12	Up-stem	1	420
13	Up-Bushing (Long)	1	Lubrized Bronze
14	Plate	1	304
15	Plate Rivets	2	L3
16	Bushing (Short)	5	Lubrized Bronze
17	Key	2	ASTM A29 1045



*All the components can be substituted with equivalent or higher-class materials.*

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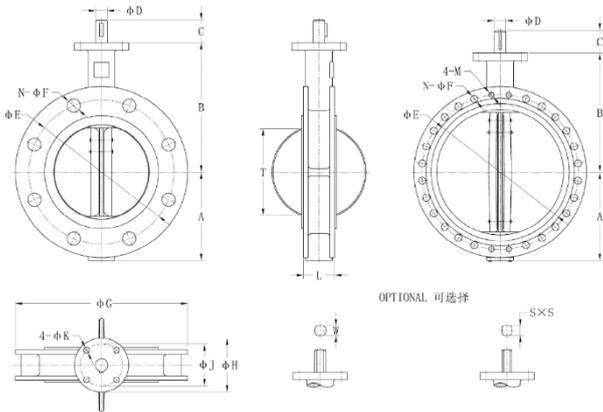
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mm	inch						E			N-F/(4-M)			G			H	J	I-K	L	T
		A	B	C	D	ANSI 125/150	PN10	PN16	ANSI 125/150	PN10	PN16	ANSI 125/150	PN10	PN16						
40	1½	70	145	32	12.7	98.4	110	110	4-16	4-18	4-18	127	150	150	65	50	4-7	33	27	
50	2	76	162	32	12.7	120.7	125	125	4-19	4-18	4-18	152	165	165	65	50	4-7	42	32	
65	2½	80	174	32	12.7	139.7	145	145	4-19	4-18	4-18	178	185	185	65	50	4-7	45	47	
80	3	90	181	32	12.7	152.4	160	160	4-19	4-18	8-18	191	200	200	65	50	4-7	45	65	
100	4	110	200	32	15.9	190.5	180	180	8-19	8-18	8-18	229	220	220	90	70	4-9.5	52	90	
125	5	125	213	32	19.1	215.9	210	210	8-22	8-18	8-18	254	250	250	90	70	4-9.5	54	111	
150	6	143	225	32	19.1	241.3	240	240	8-22	8-22	8-22	279	285	285	90	70	4-9.5	56	145	
200	8	175	260	38	22.2	298.5	295	295	8-22	8-22	12-22	343	340	340	125	102	4-11.5	60	193	
250	10	203	292	38	28.6	362	350	355	12-25	12-22	12-26	406	395	405	125	102	4-11.5	66	241	
300	12	245	337	38	31.8	431.8	400	410	12-25	12-22	12-26	483	445	460	125	102	4-11.5	77	292	
350	14	277	368	45	31.8	476.3	460	470	12-29	16-22	16-26	533	505	520	125	102	4-11.5	77	325	
400	16	308	400	51	33.3	539.8	515	525	16-29	16-26	16-30	597	565	580	210	165	4-22	86	380	
450	18	342	422	51	38.1	577.9	565	585	16-32	20-26	20-30	635	615	640	210	165	4-22	105	428	
500	20	374	479	64	41.3	635	620	650	20-32	20-26	20-33	699	670	715	210	165	4-22	130	474	
600	24	459	562	70	50.8	749.3	725	770	20-35	20-30	20-36	813	780	840	210	165	4-22	152	575	
700	28	520	624	72	55	—	840	840	—	24-30	24-36	—	895	910	300	254	8-18	165	674	
750	30	545	650	72	55	914.4	900	900	24-35	24-33	24-36	984	965	970	300	254	8-18	167	726	
800	32	575	672	72	55	—	950	950	—	24-33	24-39	—	1025	1025	300	254	8-18	190	771	
900	36	635	768	77	75	1085.9	1050	1050	28-41	24-33	24-39	1168	1115	1125	300	254	8-18	207	839	
1000	40	685	823	85	85	—	1160	1170	—	24-36	24-42	—	1230	1255	300	254	8-18	216	939	
1050	42	765	858	85	85	1257.3	—	—	32-41	—	—	1346	—	—	300	254	8-18	256	997	
1200	48	839	940	150	92	1422.4	1380	1390	40-41	28-39	28-48	1511	1455	1485	350	298	8,22	276	1125	

All the components can be substituted with equivalent or higher-class materials.

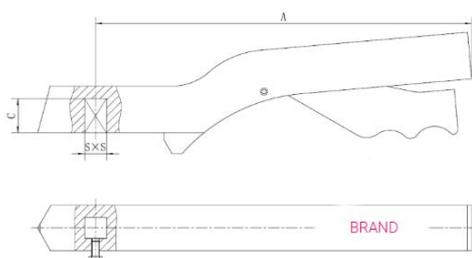
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### ALUMINUM LEVER DN040 TO DN200

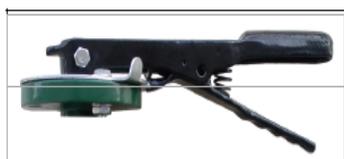


DN200	270	17	22
DN125-DN150	270	14	22
DN100	270	11	22
DN40-DN80	198	9	20
	A	S	Cmin



#### Model HA:

- Malleable cast iron handle
- 10 position zinc plated steel throttling plate
- Economy utility



#### Model HB:

- Malleable cast iron handle
- 10 position zinc plated steel throttling plate
- With padlock hole



#### Model HC:

- Carbon Steel handle
- 10 position zinc plated steel throttling plate
- Beautiful, lower weight



#### Model HD:

- Malleable cast iron handle
- 10 position ABS throttling plate
- With padlock hole



#### Model HE:

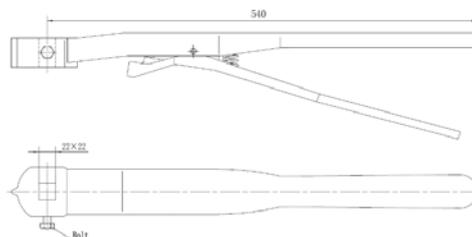
- Malleable cast iron handle
- 10 position zinc plated steel throttling plate
- High strength, durable



#### Model HF:

- Aluminum alloy handle
- 10 position aluminum alloy throttling plate
- Resistance corrosive, lower

### CAST IRON LEVER DN250/300



DN250-300	540	22	22
	A	S	C min

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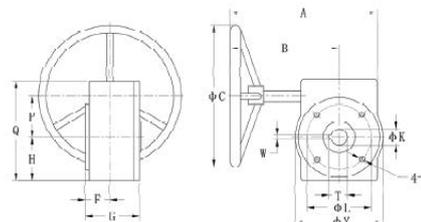
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The series 3D gear operator can be used on all resilient butterfly valves. Adjustable end of travel stops is standard, and factory set when the gear box is factory mounted.

Part	MATERIAL
Housing Body	CI, DI, Aluminum Alloy
Worm Gear	DI, AL-Bronze
Worm	Carbon Steel
Worm Shaft	Carbon Steel, Stainless Steel



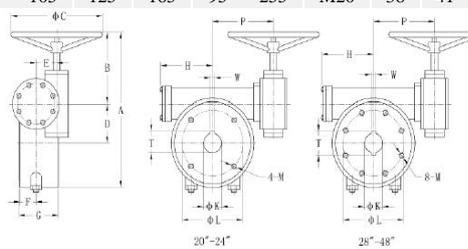
Single-Stage Drive Device



Valves Sizes		Model	Torque (N·M)	Ratio	A	B	C	F	G	H	L	P	Q	M	K	T	W	Y
mm	inch																	
20~80	1~3	3D-15	170	24 : 1	230	178	144	38	62	53	50	45	125	M6	13	14	3	105
100	4	3D-15	170	24 : 1	230	178	144	38	62	53	70	45	125	M8	16	18	5	105
125~150	5~6	3D-15	170	24 : 1	230	178	144	38	62	53	70	45	125	M8	19	21	5	105
200	8	3D-50	750	30 : 1	310	235	208	41	78	76	102	63	174	M10	22	25	8	158
250	10	3D-50	750	30 : 1	310	235	208	41	78	76	102	63	174	M10	29	32	8	158
300~350	12~14	3D-120	1200	50 : 1	305	226	225	42	80	81	102	81	195	M10	32	35	8	170
400	16	3D-250	2500	80 : 1	317	217	291	48	105	125	165	95	255	M20	33	37	10	210
450	18	3D-250	2500	80 : 1	317	217	291	48	105	125	165	95	255	M20	38	41	10	210



Double-Stage Drive Device



Valves Sizes		Model	Torque (N·M)	Ratio	A	B	C	F	D	E	F	G	H	L	P	M	T	W
mm	inch																	
500	20	3D-30/300	3000	300 : 1	480	210	285	110	63	52	120	160	165	185	M20	41	44.6	10
600	24	3D-30/400	4000	697 : 1	520	210	285	125	63	57	120	160	165	185	M20	51	55.1	16
700~800	28~32	3D-60/800	8000	782 : 1	560	220	360	160	78	62	128	160	254	218	M16	55	63.6	16
900	36	3D-120/1500	15000	782 : 1	660	255	450	192	120	130	218	200	254	282	M16	75	84.8	20
1000	40	3D-120/1500	15000	782 : 1	660	255	450	192	120	130	218	200	254	282	M16	85	95.8	22
1050	42	3D-120/1500	15000	782 : 1	660	255	450	192	120	130	218	200	254	282	M16	85	95.8	22
1200	48	3D-120/1500	26000	768 : 1	825	235	570	300	126	196	322	305	298	418	M20	92	103	25

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### Valve Torques (N·M) (N·M) Torques for differential pressure

inch	mm	0.4MPa	0.6MPa	1.0MPa	1.4MPa	1.6MPa
1½"	40	10.2	10.8	11.5	12.5	12.9
2"	50	15.7	16.7	17.5	18.5	19.2
2½"	65	23.7	25.8	27.7	29.8	30.9
3"	80	32.6	34.7	36.7	38.5	39.6
4"	100	45.8	51	56.4	61.6	64.8
5"	125	66.8	76	85.4	94.5	101.8
6"	150	94.6	109.2	123.8	138.3	147.8
8"	200	167.6	187	206.6	226.1	240
10"	250	264.2	296.1	328	359.8	380.1
12"	300	406.1	442	478.1	513.8	538
14"	350	417.5	485.5	553.6	627.1	674.9
16"	400	673.8	771.8	870	947	993.4
18"	450	994.4	1145.6	1297	1452.5	1552.9
20"	500	1322.3	1452.1	1581.7	1717.7	1804.6
24"	600	2440.2	2659.4	2878.8	2962.4	3029.9
28"	700	3006.9	3484.6	3978.1	4478	4797.9
30"	750	4320.3	4651.5	4982.6	5303.8	5511.5
32"	800	5695.1	6100.9	6597.6	7102.3	7426
36"	900	8647.1	9021.6	9395.7	9774.4	10020.8
40"	1000	10934	11578.6	12417	13111.3	13555.6
42"	1050	13043.4	13608.7	14172.8		
48"	1200	17085.6	17827.3	18566.4	19313.8	19800.3

All torque values shown on chart are for "wet" (water and other non-lubricating media) on-off service. Under certain conditions, hydrodynamic torque can meet or exceed seating and unseating torques. When designing valve systems, hydrodynamic torque must be considered to help ensure correct selection of application

### Seat Temperature Ratings

Material	NBR	Neoprene	EPDM	Hypalon	Viton	PTFE
°C	-20~100	-40~100	-40~120	-32~135	-12~230	-50~200
°F	-4~212	-40~212	-40~248	-25.6~275	10.4~446	-58~392

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### Cv Values-Valve Sizing Coefficients ( US-GPM@1AP)

Valve Size

DEG. OPEN

inch	mm	10°	20°	30°	40°	50°	60°	70°	80°	90°
1½"	40	0.04	1.92	4.1	8.7	15	26	41	65	72
2"	50	0.06	3	7	15	27	44	70	105	115
2½"	65	0.1	6	12	25	45	75	119	178	196
3"	80	0.2	9	18	39	70	116	183	275	302
4"	100	0.3	17	36	78	139	230	364	546	600
5"	125	0.5	29	61	133	237	392	620	930	1022
6"	150	0.8	45	95	205	366	605	958	1437	1579
8"	200	2	89	188	408	727	1202	1903	2854	3136
10"	250	3	151	320	694	1237	2049	3240	4859	5340
12"	300	4	234	495	1072	1911	3162	5005	7507	8250
14"	350	6	338	715	1549	2761	4568	7230	10844	11917
16"	400	8	464	983	2130	3797	6282	9942	14913	16388
18"	450	11	615	1302	2822	5028	8320	13168	19752	21705
20"	500	14	791	1647	3628	6465	10698	16931	25396	27908
24"	600	22	1222	2587	5605	9989	16528	26157	39236	43116
28"	700	31	1703	3605	7813	13961	23037	36459	54689	60102
30"	750	37	2080	4406	9546	17010	28147	44545	66818	73246
32"	800	100	2436	5272	10636	18025	29440	47622	70876	77897
36"	900	260	3050	6730	12740	20220	32500	52500	79600	87500
40"	1000	313	3665	8089	15942	24299	39056	63093	95660	105154
42"	1050	350	4095	9040	17108	27150	43640	70500	106890	117500
48"	1200	455	5365	11840	22400	30600	51200	92300	140000	154000



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