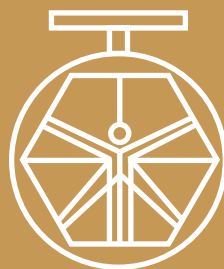


**GROUP 100
BUTTERFLY
VALVES
MOD. 120A/03**



**DAVINCI
VALVES™**

TECHNICAL DATA SHEET

WATER Series

**BUTTERFLY VALVES SERIE 13
CENTER STEM FANGED ENDS**

**DAVINCI
VALVES™**



**QUALITY
ASSUREMENT**

**DAVINCI
VALVES™**



**PRODUCT QT
ASSUREMENT**

**DAVINCI
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**COMPANY QT
ASSUREMENT**

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11th Floor 1101, Jinjiang District,
Chengdu, Sichuan CHINA

10F/Tower A, Billion Center,
1 Wang Kwong Road, Kowloon Bay
Kowloon HONG KONG

BUTTERFLY VALVE CENTER STEM FLANGED END TYPE SERIE 13

ref.120A / PN 10-16-ANSI150#

APPLICATION:

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

GENERAL CHARACTERISTICS:

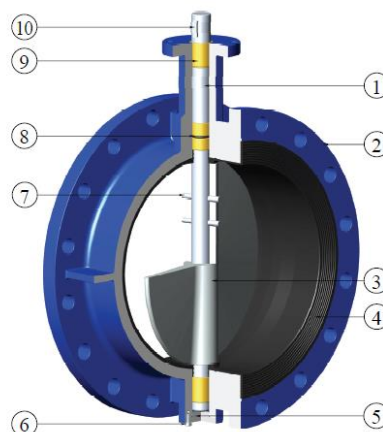
Concentric Disc Valves.
Range from ND50 up to ND3000.
Tightness in both ways.
Vulcanized seat. Does not need joints for installation.
Low head loss.
Top Flange according to ISO 5211.
Epoxy paint 250 microns RAL5017
Difference designs 1 or 2 shafts, with ping or without ...

STANDARDS:

Design: EN 1074-2 Face to Face: EN 558-1 Serie 13.
End connection: PN10 / PN16/PN25 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.

WORKING CONDITIONS:

Pressure Rat: 1.0Mpa; 1.6Mpa; 2.5Mpa
Working Temperature:-10°C- 80°C Suitable Media: Water
Consult Factory for other applications



Item	Part Name	Materials
1	Stem	Zinc Plated Steel; Stainless Steel: ASTM A276 Type 316, Type 410, Type 420; ASTM A582 Type 416;
2	Body	Cast Iron: ASTM A126CL. B , DIN1691 GG25, EN 1561 EN-GJL-200; GB12226 HT200; Ductile Cast Iron:ASTM A536 65-45-12, DIN 1693 GGG40, EN1563 EN-GJS-400-15, GB12227 QT450-10;
3	Disc	Ductile Cast Iron(Nickel plated):ASTM A536 65-45-12, DIN 1693 GGG40, EN1563 EN-GJS-400-15, GB12227 QT450-10 Stainless Steel: ASTM A351 CF8, CF8M; CF3, CF3M; EN 1.4408, 1.4469; 1.4501 AL-Bronze: ASTM B148 C95400
4	Seat	NBR, EPDM, Neoprene, PTFE, Viton;
5	End Cap	Cast Iron: ASTM A126CL. B ,DIN1691 GG25, EN 1561 EN-GJL-200; Ductile Cast Iron: ASTM A536 65-45-12, DIN 1693 GGG40, EN1563 EN-GJS-400-15,
6	Bolt	Zinc Plated Steel;
7	Taper Pin	Stainless Steel: ASTM A276 Type 304, Type 316; EN 1.4501;
8	O-Ring	NBR, EPDM, Neoprene, Viton;
9	Bushing	PTFE, Lubricated Bronze;
10	Key	Carbon Steel

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

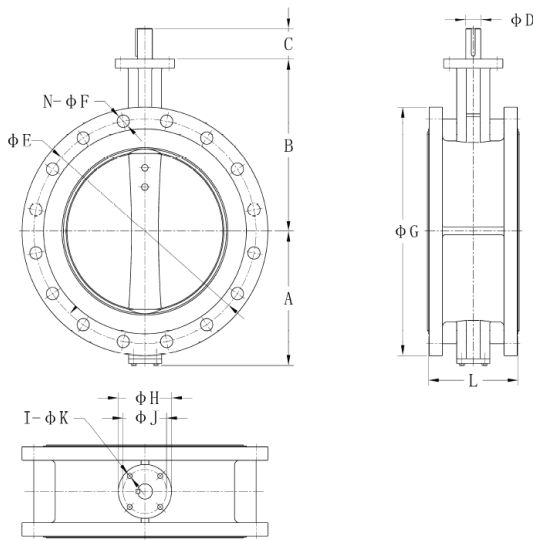
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BUTTERFLY VALVE CENTER STEM FLANGED END TYPE SERIE 13

ref.120A / PN 10-16-ANSI150#



C		A	B	C	D	E			N-F			G			H	J	I-K	L
mm	inch					ANSI 125/150	PN10	PN16	ANSI 125/150	PN10	PN16	ANSI 125/150	PN10	PN16				
50	2	70	130	32	127	1207	125	125	4-19	4-18	4-18	152	165	165	90	70	4-9.5	108
65	2½	75	140	32	127	1397	145	145	4-19	4-18	4-18	178	185	185	90	70	4-9.5	112
80	3	85	150	32	127	1524	160	160	4-19	4-18	8-18	191	200	200	90	70	4-9.5	114
100	4	104	160	32	159	1905	180	180	8-19	8-18	8-18	229	220	220	90	70	4-9.5	127
125	5	112	180	32	191	2159	210	210	8-22	8-18	8-18	254	250	250	90	70	4-9.5	140
150	6	130	200	32	191	2413	240	240	8-22	8-22	8-22	279	285	285	90	70	4-9.5	140
200	8	160	230	38	222	2985	295	295	8-22	8-22	12-22	343	340	340	125	102	4-11.5	152
250	10	194	260	38	286	362	350	355	12-25	12-22	12-26	406	395	405	125	102	4-11.5	165
300	12	220	300	38	318	4318	400	410	12-25	12-22	12-26	483	445	460	125	102	4-11.5	178
350	14	270	360	45	318	4763	460	470	12-29	16-22	16-26	533	505	520	125	102	4-11.5	190
400	16	305	390	51	333	5398	515	525	16-29	16-26	16-30	597	565	580	210	165	4-22	216
450	18	332	420	51	381	5779	565	585	16-32	20-26	20-30	635	615	640	210	165	4-22	222
500	20	362	470	64	413	635	620	650	20-32	20-26	20-33	699	670	715	210	165	4-22	229
600	24	415	540	70	508	7493	725	770	20-35	20-30	20-36	813	780	840	210	165	4-22	267
700	28	515	565	72	55	—	840	840	—	24-30	24-36	—	895	910	300	254	8-18	292
800	32	565	640	72	55	—	950	950	—	24-33	24-39	—	1025	1025	300	254	8-18	318
900	36	605	680	77	75	10859	1050	1050	32-41	28-33	28-39	1168	1115	1125	300	254	8-18	330
1000	40	685	760	85	85	—	1160	1170	—	28-36	28-42	—	1230	1255	300	254	8-18	410
1200	48	790	880	150	92	14224	1380	1390	44-41	32-39	32-48	1511	1455	1485	350	298	8-22	470

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

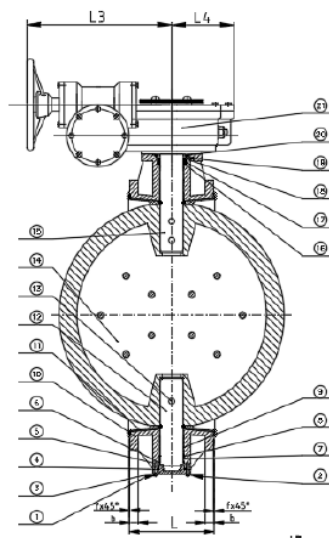
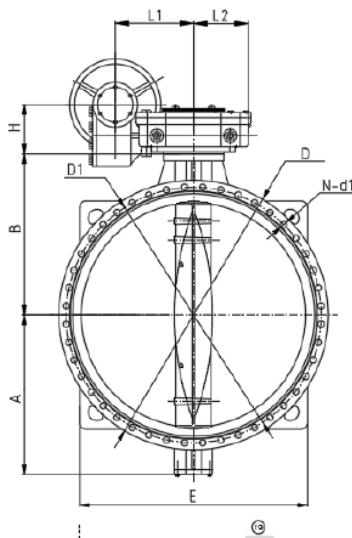
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BUTTERFLY VALVE CENTER STEM FLANGED END TYPE SERIE 13

ref.120A / PN 10-16-ANSI150#



PN10

DN	A	B	H	D	D1	N-d1	E	L	b	f	Ø1	Ø2	Ø3	K	J	L1	L2	L3	L4	Torque of value (N.m)	Torque gearbox	Weight KG
1400	918	1040	292	Ø1675	Ø1590	36-Ø43	1410	530	46	5	Ø356	Ø415	Ø120	134	32	370	320	600	230	26000	360	2130
1600	1110	1150	310	Ø1915	Ø1820	40-Ø49	1630	600	49	5	Ø356	Ø415	Ø140	156	36	448	425	665	316	45500	300	3560
1800	1255	1270	327	Ø2115	Ø2020	44-Ø49	1800	670	52	5	Ø406	Ø475	Ø160	178	40	461	475	715	360	66650	350	4620
2000	1350	1323	438	Ø2325	Ø2230	48-Ø49	1960	760	55	5	Ø406	Ø475	Ø160	178	40	695	562	980	405	120370	400	6160
2200	1430	1500	438	Ø2555	Ø2240	52-Ø56	2150	636	60	5	Ø483	Ø560	Ø180	200	45	695	562	980	406		450	6730
2400	1523	1560	462	Ø2760	Ø2650	56-Ø56	2330	750	68	5	Ø603	Ø686	Ø220	242	50	831	714	1056	438		600	9586

PN16

DN	A	B	H	D	D1	N-d1	E	L	b	f	Ø1	Ø2	N-d2	Ø3	K	J	L1	L2	L3	L4	Torque	Torque Gear box
1400	918	1040	292	Ø1685	Ø1590	36-Ø49	1410	530	60	5	Ø356	Ø415	8-Ø33	Ø120	134	32	370	320	600	230	34500	360
1600	1110	1150	310	Ø1930	Ø1820	40-Ø56	1630	600	65	5	Ø356	Ø415	8-Ø33	Ø140	156	36	448	425	665	316	60000	300
1800	1255	1270	327	Ø2130	Ø2020	44-Ø56	1800	670	70	5	Ø406	Ø475	8-Ø40	Ø160	178	40	461	475	715	360	90000	350
2000	1350	1323	438	Ø2345	Ø2230	48-Ø62	1960	760	75	5	Ø406	Ø475	8-Ø40	Ø160	178	40	695	562	980	405	125000	400

Bigger sizes Will provided by specific drawing.

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

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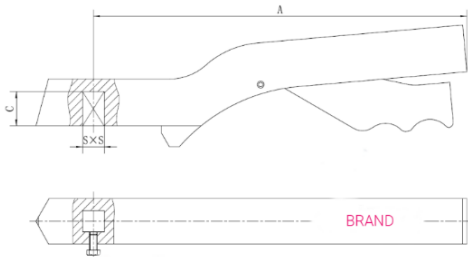
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BUTTERFLY VALVE CENTER STEM FLANGED END TYPE SERIE 13

ref.120A / PN 10-16-ANSI150#

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:



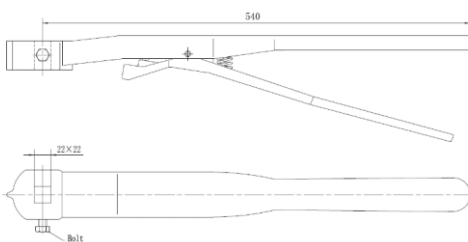
- ❖ Malleable cast iron handle
- ❖ 10 position zinc plated steel throttling plate
- ❖ High strength, durable

Model HF:



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

CAST IRON LEVER DN250/300



DN250-300	540	22	22
	A	S	C min

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

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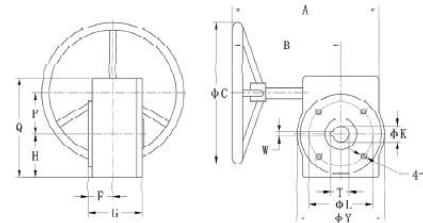
BUTTERFLY VALVE CENTER STEM FLANGED END TYPE SERIE 13

ref.120A / PN 10-16-ANSI150#

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.

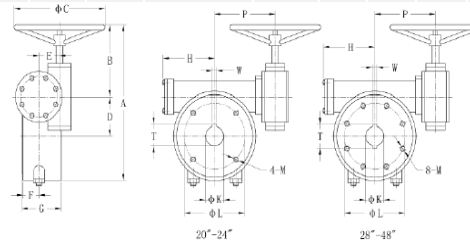
Material of Main Part

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



Single-Stage

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

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

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BUTTERFLY VALVE CENTER STEM FLANGED END TYPE SERIE 13

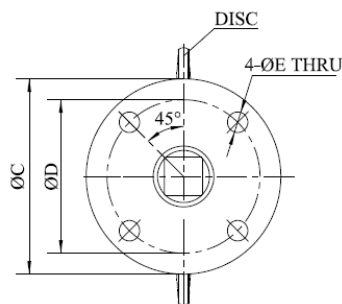
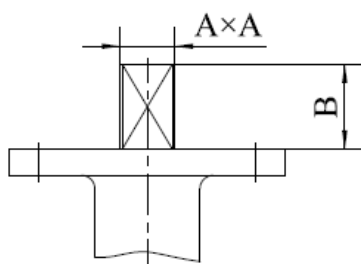
ref.120A / PN 10-16-ANSI150#

OD connection bar of hand wheel

DN50-150	16mm
DN200-350	19mm
DN400-450	25mm
DN500-600	20mm
DN700-1000	28mm
DN1200	36mm



Free shaft square connection details



DN	A	B	C	D	E
40	9	32	65	50	7
50	9	32	65	50	7
65	9	32	65	50	7
80	9	32	65	50	7
100	11	38	90	70	9.5
125	14	38	90	70	9.5
150	14	38	90	70	9.5
200	17	38	90	70	9.5
250	22	38	125	102	11.5
300	22	38	125	102	11.5
350	22	45	125	102	11.5
400	27	51	210	165	22
450	27	51	210	165	22
500	27	64	210	165	22
600	36	70	210	165	22

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BUTTERFLY VALVE CENTER STEM FLANGED END TYPE SERIE 13 ref.120A / PN 10-16-ANSI150#

Valve Torques

(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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BUTTERFLY VALVE CENTER STEM FLANGED END TYPE SERIE 13 ref.120A / PN 10-16-ANSI150#

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

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

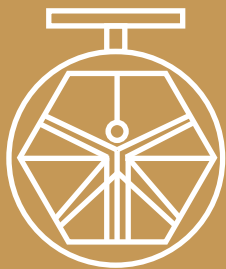
All the components can be substituted with equivalent or higher-class materials.

DAVINCI VALVES LTD, is constantly looking at all ways of improving our products and services related to the water, fire and industry sector and therefore we reserve the right to change, without prior notice, any of the data contained here. Please contact our Technical Sales Department for detailed advice.

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