Datasheet
Butterfly valve
MTV/MTVF/MTVL

Si-205 EN

Edition: 2023-01

- Advanced triple eccentric design
- Designed for control and shut-off applications
- Designed for applications up to 350° C (662 °F)
- Tightness class in accordance with EN 60534-4 Class V as standard
- Solid seat made of stainless steel
- Wafer design (Mounted between flanges) alt. lugged and flanged design

Options

- Fire safe
- PTFE seat
- High temperature applications up to 550° C (1022 °F)



Type MTV:	**Wafer design**
Type MTVF:	**Flanged design**
TYPE MTVL:	**Lugged design**
Nominal pressure:	**PN 10 - 25**
Nominal size:	**DN 80 - 500 MTV** **DN 80 - 500 MTVF** **DN 80 - 350 MTVL**

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Product Information

Somas butterfly valves type MTV, MTVF and MTVL, are control, on/off and shut-off valves. These valves are designed to handle a wide range of liquids, gases and steam within a broad temperature range.

The MTV valve can be mounted between flanges and also supplied in lugged design.

The valve type MTVF is a full flanged butterfly valve.

The valves have an advanced triple eccentric design including a unique shape of the disc allows the use of a solid stainless steel seat.

The solid seat remains un-affected by high flow velocities and temperatures. A good valve function is achieved even on difficult applications.

Somas valves are delivered factory-tested and as complete units with actuators positioners and other accessories. The valves are ready for immediate installation/operation upon delivery.

Option

”Fire safe” (see datasheet Si-202 EN)

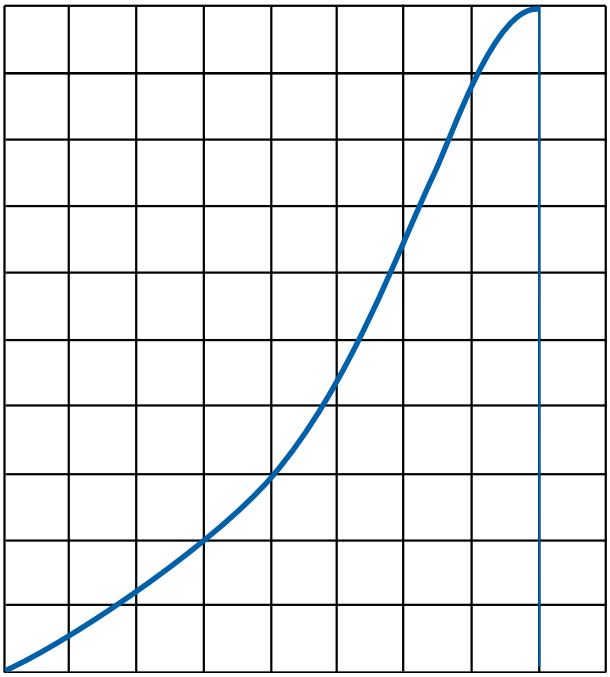
Tightness class

The tightness class is related to the chosen material in the seat ring.

Standard leakage class	Optional leakage class
EN 60534-4	**EN 60534-4**
PTFE - Class V	PTFE - Class VI (≤DN400)
Metal - Class V	
	EN 12266-1
	PTFE - Rate B
	PTFE - Rate C
	Metal - Rate D

Flow characteristics

100% Flow



0° 80° Opening angle

Valve opening

Factor F_{LP}

Factor	Opening angle 10°	20°	30°	40°	50°	60°	70°	80°	90°
F_{LP}	0.88	0.86	0.82	0.80	0.74	0.68	0.61	0.60	0.59

Factor F_{LP} is valid for all sizes

Liquid pressure recovery factor F_L

Factor	Opening angle 10°	20°	30°	40°	50°	60°	70°	80°	90°
F_L	0.88	0.86	0.82	0.80	0.74	0.68	0.61	0.60	0.59

Factor F_L is valid for all sizes

Pipe geometry factor F_P

Valve DN	Pipe DN	Opening angle 10°	20°	30°	40°	50°	60°	70°	80°	90°
	100				0.99	0.99	0.96	0.93	0.91	0.93
80	150	1.0	1.0	0.99	0.98	0.97	0.92	0.86	0.83	0.86
	200				0.97	0.94	0.88	0.81	0.77	0.81
	150				0.98	0.97	0.93	0.88	0.84	0.88
100	200	1.0	1.0	0.99	0.97	0.94	0.87	0.80	0.76	0.80
	250				0.96	0.93	0.85	0.77	0.72	0.77
	150				0.98	0.95	0.91	0.91	0.88	0.91
125	200	1.0	1.0	0.99	0.95	0.89	0.83	0.83	0.79	0.83
	250				0.93	0.86	0.78	0.78	0.74	0.78
	200				0.98	0.95	0.91	0.91	0.88	0.91
150	250	1.0	1.0	0.99	0.95	0.89	0.83	0.83	0.79	0.83
	300				0.93	0.86	0.78	0.78	0.74	0.78
	250				0.99	0.98	0.96	0.93	0.91	0.93
200	300	1.0	1.0	0.99	0.98	0.96	0.92	0.86	0.83	0.86
	350				0.97	0.94	0.88	0.81	0.77	0.81
	300				0.99	0.99	0.97	0.95	0.93	0.95
250	350	1.0	1.0	0.99	0.99	0.97	0.93	0.88	0.85	0.88
	400				0.98	0.95	0.90	0.83	0.80	0.83
	350				0.99	0.99	0.98	0.96	0.95	0.96
300	400	1.0	1.0	0.99	0.99	0.98	0.94	0.90	0.87	0.90
	500				0.98	0.96	0.91	0.85	0.82	0.85
	400				0.99	0.99	0.97	0.95	0.93	0.95
350	500	1.0	1.0	0.99	0.99	0.98	0.94	0.90	0.87	0.90
	600				0.98	0.96	0.91	0.85	0.82	0.85
	500				0.99	0.99	0.99	0.97	0.97	0.97
400	600	1.0	1.0	0.99	0.99	0.98	0.96	0.93	0.91	0.93
	700				0.98	0.96	0.91	0.85	0.82	0.85
	600				0.99	0.99	0.99	0.98	0.98	0.98
500	700	1.0	1.0	0.99	0.98	0.97	0.93	0.88	0.85	0.88
	800				0.98	0.95	0.89	0.83	0.79	0.83

Capacity factor Kv and Resistance factor ζ

	Opening angle									
DN	**10°**	**20°**	**30°**	**40°**	**50°**	**60°**	**70°**	**80°**	**90°**	**ζ 90°**
80	14	31	48	73	108	165	203	235	205	1,18
100	21	45	70	107	158	240	324	375	326	1,13
125	35	75	116	177	262	400	520	605	523	1,06
150	50	108	168	256	379	580	780	905	784	0,98
200	89	193	299	457	675	1030	1390	1610	1397	0,99
250	142	307	476	727	1076	1650	2211	2555	2222	0,95
300	207	446	692	1058	1566	2400	3219	3720	3235	0,93
350	279	602	934	1427	2111	3230	4341	5020	4362	0,95
400	371	800	1242	1898	2809	4300	5775	6675	5805	0,91
500	584	1258	1951	2981	4413	6760	9071	10485	9117	0,90

Relation between Kv and Cv: Cv = 1.156 x Kv

Pressure and temperature rating

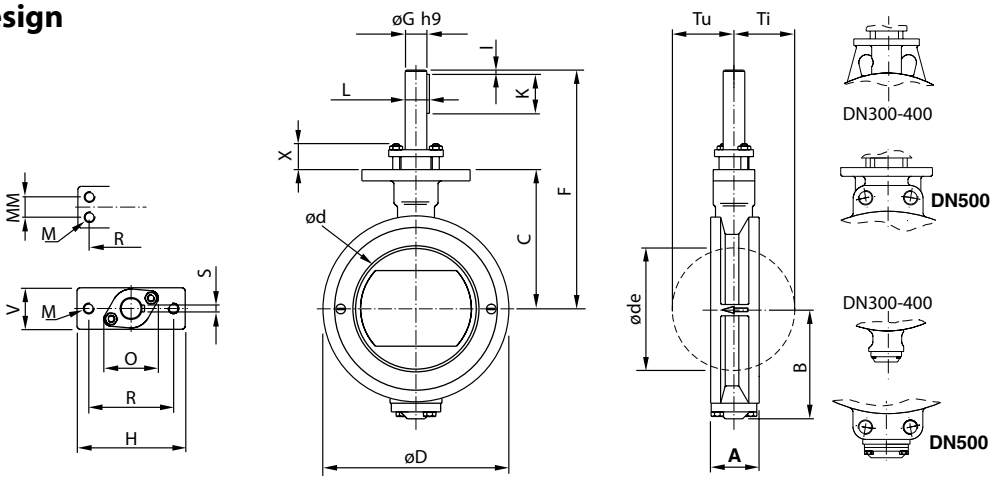
Use shaft material according to material code A for temperatures up to 150° C.
Use shaft material according to material code B for acids and hot gases above 150° C.

Pressure temperature relations from EN1092-1:2007. Max working pressure in bar (g) for Stainless Steel 1.4408 or CF8M

		Working temperature										
		0 °C	**100 °C**	**150 °C**	**200 °C**	**250 °C**	**300 °C**	**350 °C**	**400 °C**	**450 °C**	**500 °C**	**550 °C**
Pressure class	PN6	6	6	5.4	5	4.8	4.4	4.3	4.1	4	4	3.9
	PN10	10	10	9	8.4	7.9	7.4	7.1	6.8	6.7	6.6	6.5
	PN16	16	16	14.5	13.4	12.7	11.8	11.4	10.9	10.7	10.5	10.4
	PN25	25	25	22.7	21	19.8	18.5	17.8	17.1	16.8	16.5	16.3

Minimum working temperature -60°. If lower temperatures are needed contact Somas.

Wafer design

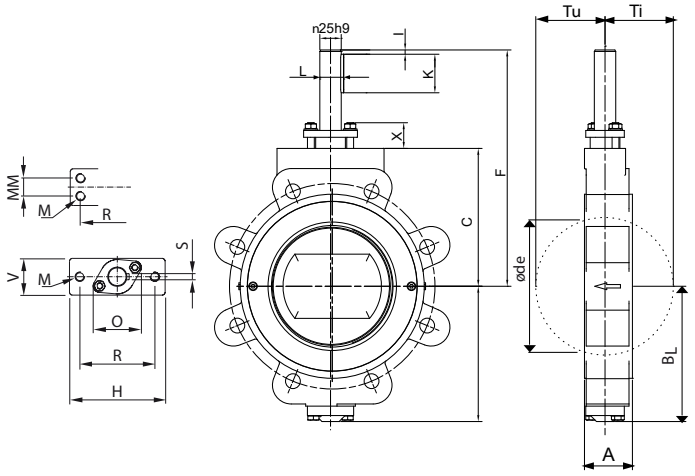


DN	A	B	C	ød	øde	øD	F	øG	H	I	K	L	M	MM	O	R	S	V	X	Tu	Ti	Weight MTV
												Butterfly valve type MTV										
80	46	86	111	70	60	133	226	20	125	5	45	22.5	M12	–	61	98	6	40	30	41	38	5
100	52	99	128	90	86	160	245	20	125	5	45	22.5	M12	–	61	98	6	44	30	52	48	6
125	56	113	146	116	110	190	261	20	125	5	45	22.5	M12	–	61	98	6	48	30	64	60	9
150	56	127	161	140	138	215	276	25	125	5	45	28	M12	–	66	98	8	48	30	77	73	11
200	60	153	191	187	186	270	306	25	125	5	45	28	M12	–	66	98	8	48	30	100	96	17
250	68	188	225	236	235	324	360	30	150	5	60	33	M12	24	72	123	8	50	40	124	120	26
300	78	261	265	285	285	374	400	35	150	3	50	38	M12	24	75	123	10	60	40	149	145	39
350	78	287	294	331	330	432	449	40	150	3	70	43	M12	40	95	123	12	70	50	172	167	54
400	102	339	330	382	380	485	530	50	170	3	80	53.5	M16	55	105	136	14	87	50	199	194	82
500	127	339	395	479	475	590	605	60	210	3	90	64	M20	70	116	150	18	120	60	249	242	153

A = Face to face dimension according to EN 558 series 20
øde = Necessary free diameter for the disc under movement

Lugged design

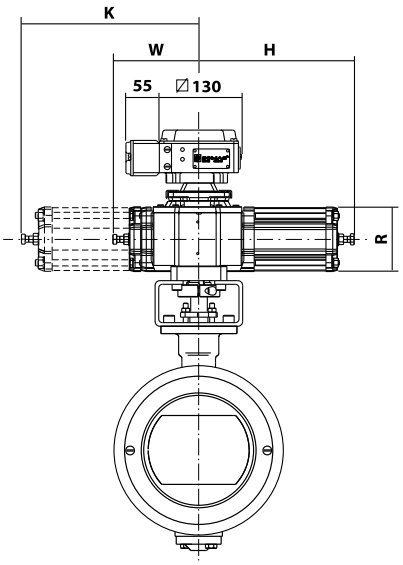
Drilled and threaded according to the ordered flange standard



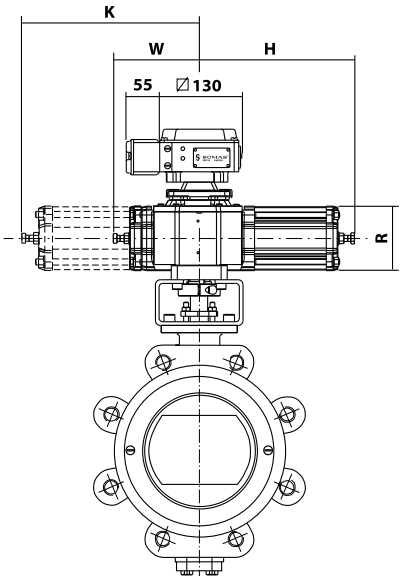
DN	A	BL	C	ød	øde	øD	F	øG	H	I	K	L	M	MM	O	R	S	V	X	Tu	Ti	Weight MTVL
												Butterfly valve type MTVL										
80	46	86	111	70	60	133	226	20	125	5	45	22.5	M12	–	61	98	6	40	30	41	38	10**/14
100	52	129	128	90	86	160	243	20	125	5	45	22.5	M12	–	61	98	6	44	30	52	48	11.5
125	56	137	146	116	110	188	261	20	125	5	45	22.5	M12	–	61	98	6	48	30	64	60	15.5
150	56	158	161	140	138	215	276	25	125	5	45	28	M12	–	66	98	8	48	30	77	73	18.5
200	60	191[1]	191	187	186	270	306	25	125	5	45	28	M12	–	66	98	8	48	30	100	96	21* / 31
250	68	226	225	236	235	324	360	30	150	5	60	33	M12	24	72	123	8	50	40	124	120	45
300	78	261	265	285	285	374	400	35	150	3	50	38	M12	24	75	123	10	60	40	149	145	70
350	78	287	294	331	330	432	449	40	150	3	70	43	M12	40	95	123	12	70	50	172	167	100

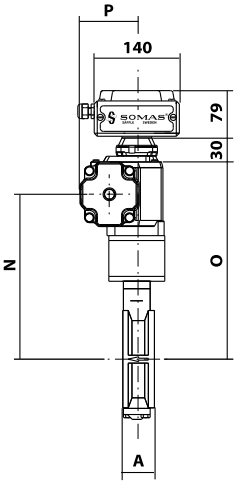
*PN 10/Cl. 150 = 31 kg
** PN 10/16/25=14 kg, PN 20/Class 150=10 kg
PN 16/25 = 31 kg
A = Face to face dimension according to EN 558 series 20
øde = Necessary free diameter for the disc under movement

Wafer design



Lugged design





Butterfly valve type MTV/MTVL/MTVF with actuator type A-DA

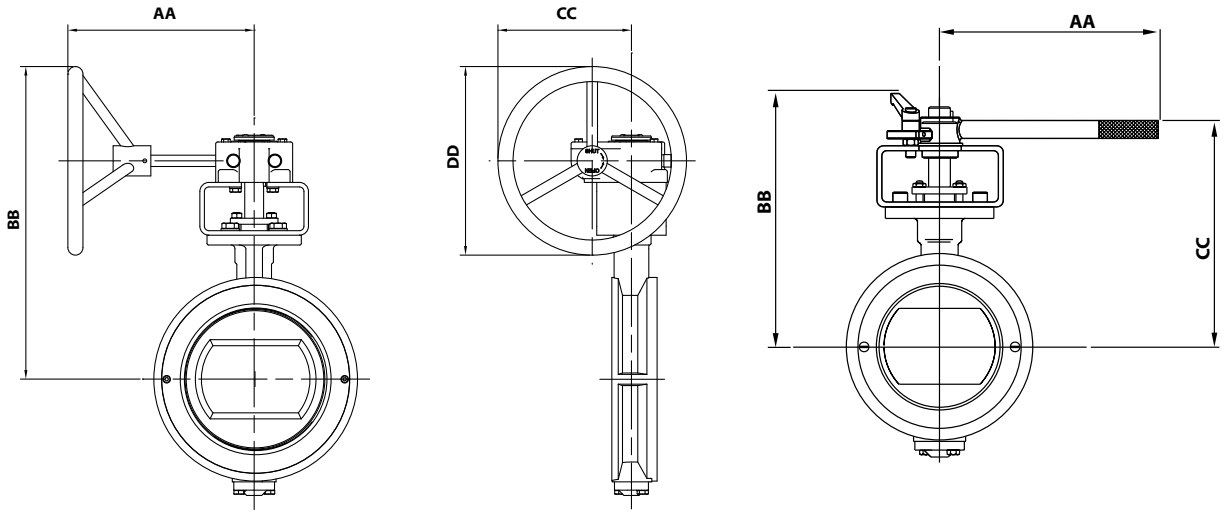
DN	Type	H	K	N	O	N	O	P	R	W	Weight	Weight	Weight
				MTV/MTVL		MTVF					MTV	MTVL	MTVF
80	**A21-DA**	255	-	255	320	255	320	94	106	140	14	16	22
100	**A21-DA**	255	-	270	335	270	335	94	106	140	15	21	25
100	**A22-DA**	255	260	270	335	270	335	94	106	-	17	23	26
125	**A21-DA**	255	-	290	355	290	355	94	106	140	18	24	32
125	**A22-DA**	255	260	290	355	290	355	94	106	-	20	26	33
150	**A21-DA**	255	-	305	370	305	370	94	106	140	20	28	43
150	**A22-DA**	255	260	305	370	305	370	94	106	-	22	30	45
200	**A22-DA**	255	260	335	400	335	400	94	106	-	28	35	53
250	**A24-DA**	305	310	375	440	375	440	117	152	-	46	64	86
250	**A31-DA**	380	-	415	505	415	505	144	152	215	51	69	89
300	**A31-DA**	380	-	455	540	455	540	144	152	215	64	86	112
300	**A32-DA**	380	395	455	540	455	540	144	152	-	70	92	118
350	**A31-DA**	380	-	505	590	505	590	144	152	215	78	134	158
350	**A32-DA**	380	395	505	590	505	590	144	152	-	84	140	175
400	**A32-DA**	380	395	560	645	560	645	144	152	-	113	-	230
400	**A33-DA**	470	-	560	645	560	645	185	230	215	120	-	240
500	**A41-DA**	550	-	670	795	670	795	210	230	315	226	-	445
500	**A42-DA**	550	560	670	795	670	795	210	230	-	241	-	460

For units with the positioner type SP405, add 2 kg
For units with the positioner type SPE405, add 3 kg

Actuator type A-SC/SO

DN	Type	H	K	N	O	N	O	P	R	W	Weight	Weight	Weight
				MTV/MTVL		MTVF					MTV	MTVL	MTVF
80	**A23-SO/SC**	415	-	255	317	255	317	117	152	140	22	24	29
100	**A23-SO/SC**	415	-	270	335	270	335	117	152	140	24	30	33
100	**A24-SO/SC**	415	420	270	335	270	335	117	152	-	33	39	42
125	**A24-SO/SC**	415	420	290	355	290	355	117	152	-	30	32	47
150	**A24-SO/SC**	415	420	305	370	305	370	117	152	-	38	45	51
200	**A24-SO/SC**	415	420	335	400	335	400	117	152	-	44	51	69
250	**A33-SO/SC**	660	-	415	505	415	505	185	230	215	84	102	122
300	**A33-SO/SC**	660	-	455	540	455	540	185	230	215	97	119	145
350	**A34-SO/SC**	665	680	505	590	505	590	185	230	-	145	202	230
400	**A34-SO/SC**	665	680	560	645	560	645	185	230	-	174		345
400	**A43-SO/SC**	925	-	605	730	605	730	280	355	330	245	-	365
500	**A43-SO/SC**	925	-	670	795	670	795	280	355	330	311	-	477
500	**A44-SO/SC**	925	935	670	795	670	795	280	355	-	365	-	585

X = SC – Spring to close
X = SO – Spring to open
For units with the positioner type SP405, add 2 kg
For units with the positioner type SPE405, add 3 kg



Butterfly valve type MTV with gear unit

DN	Type	AA	BB	CC	øDD	Weight
80	**AB215N**	247	342	177	200	13
100	**AB215N**	247	357	177	200	14
125	**AB215N**	247	372	177	200	17
150	**AB215N**	247	386	177	200	19
200	**AB215N**	247	414	177	200	25
250	**AB550N**	284	487	221	300	39
300	**AB550N**	284	526	221	300	52
350	**AB550N**	284	589	221	300	65
400	**AB880N**	277	667	261	350	102
500	**AB2000N**	320	866	320	500	184

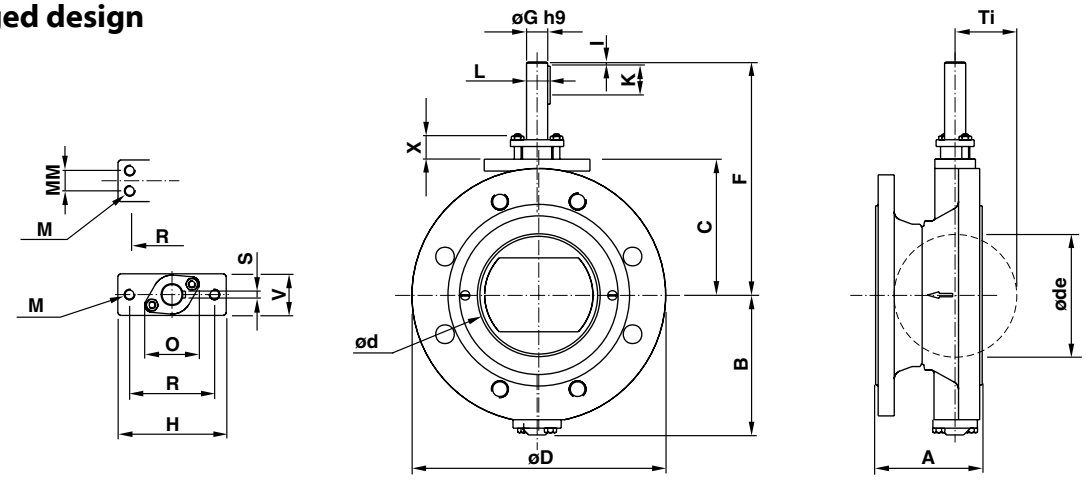
Butterfly valve type MTV with hand lever

DN	Type	AA	BB	CC	Weight
80	**HSR20**	355	236	206	8
100	**HSR20**	355	251	223	9
125	**HSR20**	355	271	241	12

Butterfly valve type MTVL weight with gear unit

	Valve Weight							Total Weight			
DN	**PN 10**	**PN 16**	**PN 25**	**Class 150**	**Gear unit**	**Weight Gear**	**Weight Bracket**	**PN 10**	**PN 16**	**PN 25**	**Class 150**
80	X	X	14	10	**AB215N**	5	1,5	X	X	20,5	16,5
100	X	11,5	11,5	11,5	**AB215N**	5	1,5	X	18	18	18
125	X	15,5	15,5	15,5	**AB215N**	5	1,5	X	22	22	22
150	X	18,5	18,5	18,5	**AB215N**	5	1,5	X	25	25	25
200	21	31	31	21	**AB215N**	5	1,5	27,5	37,5	37,5	27,5
250	45	45	45	45	**AB550N**	10,7	2	57,7	57,7	57,7	57,7
300	70	70	X	70	**AB550N**	10,7	2	82,7	82,7	X	82,7
350	100	100	100	100	**AB550N**	10,7	3	113,7	113,7	113,7	113,7

Flanged design

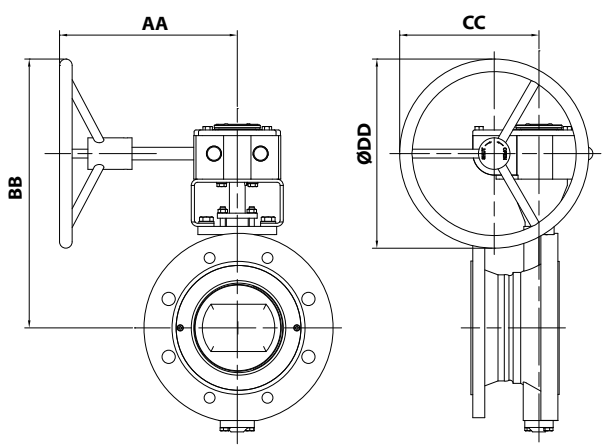


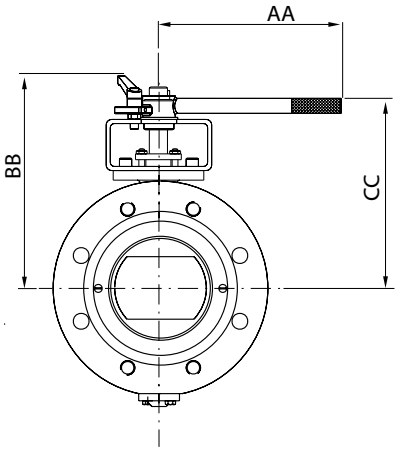
Butterfly valve type MTVF

DN	A	B	C	ød	øde	øD	F	øG	øH	I	K	L	M	MM	O	R	S	V	X	Ti	Weight[1]
80	114	113	111	70	60	According to the flange standard	226	20	125	5	45	22.5	M12	–	61	98	6	40	30	38	14
100	127	130	128	90	86		243	20	125	5	45	22.5	M12	–	61	98	6	44	30	48	17.5
125	140	150	146	116	110		261	20	125	5	45	22.5	M12	–	61	98	6	48	30	60	24
150	140	165	161	140	138		276	25	125	5	45	28	M12	–	66	98	8	48	30	73	34
200	152	195	191	187	186		306	25	125	5	45	28	M12	–	66	98	8	48	30	96	42
250	165	224	225	236	235		360	30	150	5	60	33	M12	24	72	123	8	50	40	120	64
300	178	261	265	285	285		400	35	150	3	50	38	M12	24	75	123	10	60	40	145	100
350	190	297	294	331	330		449	40	150	3	70	43	M12	40	95	123	12	70	50	167	157
400	216	320	330	382	380		530	50	170	3	80	53.5	M16	55	105	136	14	87	50	194	254
500	229	375	395	479	475		605	60	210	3	90	64	M20	70	116	150	18	120	60	242	315

A = Face to face dimension according to EN 558 series 13
øde = Necessary free diameter for the disc under movement

[1] Approximate value dependent on PN-class





Butterfly valve type MTVF with gear unit

DN	Type	AA	BB	CC	øDD	Weight[1]
80	**AB215N**	247	342	177	200	22
100	**AB215N**	247	357	177	200	25.5
125	**AB215N**	247	372	177	200	32
150	**AB215N**	247	386	177	200	42
200	**AB215N**	247	414	177	200	50
250	**AB550N**	284	487	221	300	77
300	**AB550N**	284	526	221	300	112
350	**AB550N**	284	589	221	300	170
400	**AB880N**	277	667	261	350	274
500	**AB2000N**	320	866	320	500	450

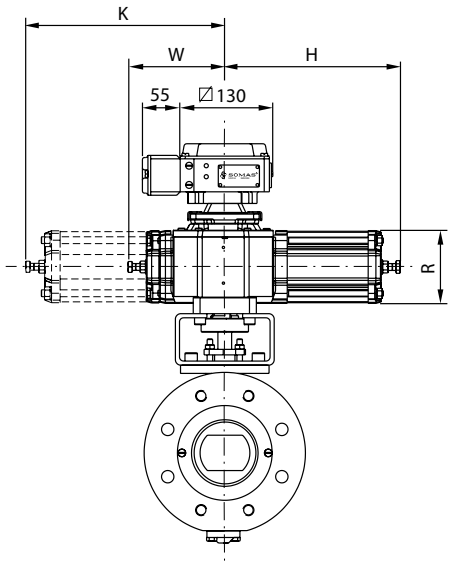
[1] Approximate value dependent on PN-class

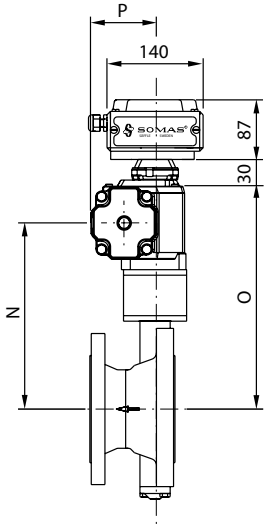
Butterfly valve type MTVF with hand lever

DN	Type	AA	BB	CC	Weight[1]
80	**HSR20**	355	236	206	15
100	**HSR20**	355	251	223	18
125	**HSR20**	355	271	241	25

[1] Approximate value dependent on PN-class

Flanged design





Butterfly valve type MTVF with actuator type A-DA

DN	Type	H	K	N	O	P	R	W	Weight[1]
80	**A21**	255	–	255	320	94	106	140	22
100	**A21**	255	–	270	335	94	106	140	25
100	**A22**	255	260	270	335	94	106	–	26
125	**A22**	255	260	290	355	94	106	–	33
150	**A22**	255	260	305	370	94	106	–	38
200	**A22**	155	260	335	400	94	106	–	53
250	**A31**	380	–	420	510	144	152	215	89
300	**A31**	380	–	460	550	144	152	215	112
300	**A32**	380	395	460	550	144	152	–	118
350	**A32**	380	395	505	590	144	152	–	175
400	**A32**	380	395	560	645	144	152	–	230
400	**A33**	470	–	560	645	185	230	215	240
500	**A41**	550	–	670	795	210	230	315	445
500	**A42**	545	560	670	795	210	230	–	460

For units with the positioner type SP405, add 2 kg
For units with the positioner type SPE405, add 3 kg

Actuator type A-SC/SO

DN	Type	H	K	N	O	P	R	W	Weight[1]
80	**A23-X**	415	–	255	320	117	152	140	29
100	**A24-X**	415	420	270	335	117	152	–	42
125	**A24-X**	415	420	290	355	117	152	–	49
150	**A24-X**	415	420	305	370	117	152	–	54
200	**A24-X**	415	420	335	400	117	152	–	69
250	**A33-X**	660	–	420	510	185	230	215	122
300	**A33-X**	660	–	460	550	185	230	215	145
350	**A34-X**	665	680	505	590	185	230	–	230
400	**A43-X**	920	–	605	730	280	355	315	365
500	**A44-X**	925	935	670	795	280	355	–	585

X = SC – Spring to close
X = SO – Spring to open
For units with the positioner type SP405, add 2 kg
For units with the positioner type SPE405, add 3 kg

[1] Approximate value dependent on PN-class

Actuator selection table for Butterfly Valves
Air supply 5.5 bar

Valve DN	Shaft (mm) dia.	Closing torque (Nm) Min required Δp>10(bar)	Min required Δp≤10(bar)	Max allowable	Double acting 5,5 (bar) supply air Δp>10(bar)	Double acting 5,5 (bar) supply air Δp≤10(bar)	Single acting 5,5(bar) supply air Δp>10(bar)	Single acting 5,5(bar) supply air Δp≤10(bar)
80	20	120	100	150	A21-DA	A21-DA	A23-SC/SO	A23-SC/SO
100	20	165	120	220	A21-DA	A21-DA	A24-SC/SO	A23-SC/SO
125	20	180	165	220	A22-DA	A21-DA	A24-SC/SO	–
150	25	250	200	300	A22-DA	A21-DA	A24-SC/SO	A24-SC/SO
200	25	290	250	350	A22-DA	A22-DA	A24-SC/SO	A24-SC/SO
250	30	500	400	600	A31-DA	A23-DA	A33-SC/SO	A33-SC/SO
300	35	620	500	750	A31-DA	A31-DA	A33-SC/SO	A33-SC/SO
350	40	1000	800	1200	A32-DA	A31-DA	A34-SC/SO	A34-SC/SO
400	50	1350	1000	1600	A32-DA	A32-DA	A43-SC/SO	A34-SC/SO
500	60	2700	1900	3250	A41-DA	A41-DA	A44-SC/SO	A43-SC/SO

Actuator selection table for Butterfly Valves
Air supply 4 bar

Valve DN	Shaft (mm) dia.	Closing torque (Nm) Min required Δp>10(bar)	Min required Δp≤10(bar)	Max allowable	Double acting 4,0(bar) supply air Δp>10(bar)	Double acting 4,0(bar) supply air Δp≤10(bar)	Single acting 4,0(bar) supply air Δp>10(bar)	Single acting 4,0(bar) supply air Δp≤10(bar)
80	20	120	100	150	A21-DA	A21-DA	A23-SCL/SOL	A23-SCL/SOL
100	20	165	120	220	A22-DA	A21-DA	A24-SCL/SOL	A23-SCL/SOL
125	20	180	165	220	A22-DA	A22-DA	A24-SCL/SOL	A24-SCL/SOL
150	25	250	200	300	A22-DA	A22-DA	A24-SCL/SOL	A24-SCL/SOL
200	25	290	250	350	A22-DA	A22-DA	A24-SCL/SOL	A24-SCL/SOL
250	30	500	400	600	A31-DA	A24-DA	A33-SCL/SOL	A33-SCL/SOL
300	35	620	500	750	A32-DA	A31-DA	A33-SCL/SOL	A33-SCL/SOL
350	40	1000	800	1200	A32-DA	A32-DA	A34-SCL/SOL	A34-SCL/SOL
400	50	1350	1000	1600	A33-DA	A32-DA	A43-SCL/SOL	A34-SCL/SOL
500	60	2700	1900	3250	A42-DA	A41-DA	A44-SOL	A43-SCL/SOL

SC = Spring to close at air failure

SO/SOL = Spring to open at air failure

Valve DN	Shaft dia. (mm)	Manual override Hand lever	Manual override Gear unit
80	20	HSR020	**AB215N**
100	20	HSR020	**AB215N**
125	20	HSR020	**AB215N**
150	25	–	**AB215N**
200	25	–	**AB215N**
250	30	–	**AB550N**
300	35	–	**AB550N**
350	40	–	**AB550N**
400	50	–	**AB880N**
500	60	–	**AB2000N**

Flange standard

Somas butterfly valve type MTV in this data sheet is of wafer type for mounting between flanges PN10 - 25.

The valve can also be delivered in lugged design, MTVL.

The butterfly valve type MTVF is equipped with flanges which can be drilled for PN10 - 25.

Both types of valve can also be drilled for mounting between flanges according to ASME.

When ordering, please always state the pressure rating of the counter flanges. See the valve specification system, code 13.

Seat design

The valves have a metal seat (type Y) according to code D.

PTFE and nickel alloy seat for firesafe design is available as an option.

Further technical information

Technical data for the materials used in the Somas valves, flange standard, steam data, etc. can be found in documents library on www.somas.se.

Data sheet Si-203 shows butterfly valve type VSS for nominal sizes above DN500.

Actuators and accessories

The valves can be fitted with Somas manual, on/off or control actuators in accordance with the selection table. The valves will then be delivered as tested units ready for installation, valves with hand levers are only leakage tested without hand levers installed.

In the documents library on www.somas.se there is also information about positioners, limit switches and solenoid valves.

We can also fit other types of actuators and accessories in accordance with your specification.

Max. allowable pressure drops/torque figures

Maximum allowable pressure drops are valid at 20° C (see below).

Valve DN	PN	Max. pressure drop. bar at opening angle 0°	60°	80°	Torque min. at ΔP bar	Nm	Torque min. at ΔP bar	Nm	Torque max. shaft Nm
80	25	25	13	4.4	≤ 10	100	> 10	120	150
100	25	25	13	4.4	≤ 10	120	> 10	165	220
125	25	25	15	5.8	≤ 10	165	> 10	180	220
150	25	25	9	2.7	≤ 10	200	> 10	250	300
200	25	25	4.3	1.1	≤ 10	250	> 10	290	350
250	25	25	3.6	1.05	≤ 10	400	> 10	500	600
300	25	20	3.6	1.05	≤ 10	500	> 10	620	750
350	25	20	3.6	1.09	≤ 8	800	> 8	1000	1200
400	25	20	4.7	1.43	≤ 8	1000	> 8	1350	1600
500	25	15	4.4	1.19	≤ 6	1900	> 6	2700	3250

Supplemental information

Note: Use flat gaskets with the correct inside diameter to ensure that pressure is applied on the cover plate. Spiral-wound gaskets shall not be used.

For mounting between flanges according to PN10-25, the inside gasket diameter should not exceed the dimensions specified in the standard EN 1514-1.

Gaskets according to EN 1514-1

Valve DN	Max. Inside dia. di (mm)	Outside dia. (dy) (mm) PN 10	PN 16	PN 25
80	89	142	142	142
100	115	162	162	168
125	141	192	192	194
150	169	218	218	224
200	220	273	273	284
250	273	328	329	340
300	324	378	384	400
350	356	438	444	457
400	407	489	495	514
500	508	594	617	624

For mounting between flanges according to Class 150 dimensions according to the standard ASME B 16.21 RF are valid where the following dimensions refer to the gasket.

Gaskets according to ASME B 16.21 RF

Valve DN	Max. Inside dia. di (mm)	Outside dia. (dy) (mm) Class 150
80	89	136
100	114	174
125	141	196
150	168	222
200	219	279
250	273	340
300	324	410
350	356	451
400	406	515
500	508	606

Variants

The standard MTV valve is designed to be mounted between flanges (wafer), but is also available in lugged and flanged design.



MTVF
Flanged design

MTVL
Lugged design

Ordering

State desired valve according to the valve specification system below as well as type of actuator, positioner and accessories.

Temperature range

Seat	Max. temp.
A = PTFE (10 % carbon)	170° C
D = 1.4462 alt. 1.4470 (metal seat, type Y)	350° C[1] 550° C[2]
E = 1.4547	500° C
P = PTFE (fibreglass 15%)	170° C
N = 1.4835, seat type Y	550° C

Shaft	Max. temp.
A = 1.4460 alt. SS 2324-12	150° C
B = 1.4460 alt. SS 2324-12, hard chromed	350° C[1] 550° C[2]
C = 1.4460 alt. SS 2324-12, HiCo Gr 6 coated	350° C[1] 550° C[2]
G = 1.4404, hard chromed	
J = CK3MCuN / 1.4547	500° C
S = 1.4469 alt. 1.4410	150° C
T = Titan gr.2	200° C[3]
Y = 1.4462 alt. 1.4470, hard chromed	350° C[1] 550° C[2]
Z = 1.4462 alt. 1.4470	150° C

Valve body	Max. temp.
A = CF8M/1.4408	550° C
E = CK3MCuN	500° C
H = 1.4470	250° C
S = Titan Gr C-2 / Gr 2	200° C
Z = 1.4469	250° C

[1] Check with Somas for temperatures between 350 and 550° C. At higher pressures for example steam turbine applications.

[2] At lower pressures for example exhaust applications.

[3] seat, sealings and bearings may limit the temperature below 200° C.

Valve specification system

MTV - A 5 - A A D - A 1 1 - DN... - D... - B... - PN...

1 2 3 4 5 6 7 8 9 10 11 12 13

1 Type of valve

Wafer design

MTV

Flanged design

MTVF

Lugged design

MTVL

2 Valve body design

A = Wafer design
F = Lugged design
L = Flanged design

3 Nominal pressure

4 = Class150
5 = PN25

4 Material - valve body

A = CF8M / 1.4408
E = CK-3MCuN
H = 1.4470
S = Titan Gr C-2 / Gr 2
Z = 1.4469

5 Material – disc

A = CF8M/1.4408 alt. 1.4401
B = CF8M/1.4408 alt. 1.4401, hard chromed
C = CF8M/1.4408 alt. 1.4401, HiCo Gr 21 coated
H = 1.4462 alt. 1.4470
N = 1.4469 alt. 1.4410
S = CK-3MCuN alt. 1.4547
U = Titan Gr C-2 / Gr 2

6 Material – seat

A = PTFE (10 % carbon, percentage by weight)
D = 1.4462 alt. 1.4470, (metal seat, type Y)
E = 1.4547
N = 1.4835, seat type Y
P = PTFE, glass fiber filled 15 %

7 Material – shaft

A = 1.4460 alt. SS 2324-12
B = 1.4460 alt. SS 2324-12, hard chromed
C = 1.4460 alt. SS 2324-12, HiCo Gr 6 coated
F = 1.4404
G = 1.4404 hard chromed
J = CK3MCuN / 1.4547
S = 1.4469 alt. 1.4410
T = Titan gr.2
N = 1.4835
Y = 1.4462 alt. 1.4470, hard chromed
Z = 1.4462 alt. 1.4470

8 Bearing – valve body/shaft

1 = Without bearing
4 = PTFE (Rulon)
6 = N06625 (High Nickel Alloy)
7 = 1.4462

9 Stuffing box

1 = Graphite
2 = PTFE

10 Valve size, DN

11 Shaft diameter

12 Actuator mounting flange drilling

13 Drilling, counter flanges PN/ Class

Other materials are available on request. Contact Somas for further information.

Somas reserves the right to make improvements without prior notice.

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