

Butterfly Valve

Eurovalve

AT 2310, 2311, 2312, 2313,
2314, 2319

Dimension range DN 50-1600	PN 10-16	Temperature range -30 - 200 °C	Material Cast iron/nodular iron
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Quality Assurance

Testing is performed acc. to SS-ISO 5208, leakage class 3. Applies to the valve type.

Certificate SS 110001 type 2 and 3, and most classification companies. Type of certification to be stated in the order.

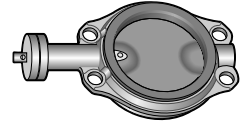
End of the line valve DN 50–200 max. 10 bar, DN 250–300 max. 6 bar.

CE-marking.

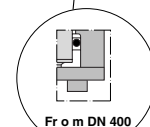
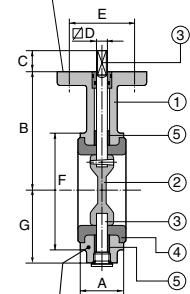
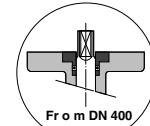
AT 2310 fulfil PED 97/23 EC acc. to art.3.3.

AT 2310, 2312, 2313 and AT 2314 fulfills PED 97/23 EC acc. to category I group 1 and 2.

Other categories are available on request.



AT 2310



AT 2310

Material Specification

			AT 2310	AT 2311	AT 2312	AT 2313	AT 2314	AT 2319
1	Body	cast iron/nodular iron	GG-25	GG-25	GG-25	GG-25	GG-25	GGG-40
2	Disk							
	(DN 50-600)	stainless steel	AISI 431	AISI 431	1.4462 Duplex	1.4462 Duplex		1.4462 Duplex
	Disk							
	(DN 700-1600)	stainless steel	316L	316L				316L
	Disk							
	(DN 700-1400)	stainless steel			1.4435	1.4435		
	Disk	aluminium bronze					G-CuAl10Ni	
3	Shafts	stainless steel	AISI 431	AISI 431	1.4462	1.4462		1.4462
		aluminium bronze					G-CuAl10Ni	
4	Linig	rubber	NBR	EPDM	NBR	EPDM	NBR	Viton®
5	Bushing		Steel-PTFE	Steel-PTFE	Steel-PTFE	Steel-PTFE	Steel-PTFE	Steel-PTFE
	Sealing ring		Copper	Copper	Copperr	Copper	Copper	Copper
	Plugg		Steel	Steel	Steel	Steel	Steel	Steel

Dimension and Weight

DN	A	B	B*	C	D	E	F	G	Weight
50	43	118	152	34	10	70	100	63	3
65	46	126	160	34	10	70	115	71	3,5
80	46	133	167	34	10	70	130	78	5
100	52	147	189	34	12	70	150	96	6
125	56	160	202	34	12	70	182	109	8
150	56	180	224	34	16	70	210	133	10
200	60	204	248	34	16	70	262	158	14
250	68	245		45	24	102	315	194	24
300	78	270		45	24	102	371	219	28
350	78	315		45	24	102	405	256	35
400	102	363		50	30	140	470	308	65
450	114	388		50	30	140	522	334	80
500	127	413		50	30	140	576	360	95
600	154	510		50	40	140	672	426	140
700	165	560		60	46	165	776	480	200
800	190	610		60	46	165	880	525	305
900	203	690		70	60	254	980	635	425
1000	216	740		70	60	254	1085	685	635

B* AT 2310-11 with long stem neck for insulation. DN 50-200.

Measurements in mm, weight in kg.

Function and Design

Bubble-tight, maintenance-free butterfly valve with centrally placed disc and stem, two-piece stem, one-piece body with fixed vulcanized rubber liner, eliminating risk of contact corrosion and protecting body internally against corrosion and also serving as flange packing.

Bi-directional design.

Face to face dimension acc. to SSG 1035, SS-ISO 5752 short serie. SS-EN588-1 base-serie 20.

Disc and shaft are connected by one or more strong conical pins.

Butterfly valve AT 2310-11 DN 50-200 is delivered with long stem neck as standard for insulation.

Top flange acc. to ISO 5211.

AT 2310 and AT 2311 are equipped with mounting wholes up to DN 300.

AT 2312, AT 2313 and AT 2314 are equipped with mounting wholes up to DN 200.

Due to this design, the valve will keep its sealing function even in end of the line installation

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Technical Information

Pressure and temperature			
Fig. No	DN	Working pressure	Working temperature.
		Max bar	Max °C
AT 2310	50-200	16*	90
AT 2311	50-200	16*	120
AT 2313	50-300	16*	120
AT 2314/2312	50-300	16*	90
AT 2310	250-1600	10**	90
AT 2311	250-1600	10**	120
AT 2313	350-1600	10	120
AT 2312/2314	350-1600	10	90
AT 2319	50-1600	10**	200

* End of the line valve DN 50-200 Max. 10 bar (e).

**End of the line valve DN 250-300 Max. 6 bar (e).

KVs-value and Torque							
DN	KVs-value			Torque (Nm), Differential pressure (bar)			
	AT 2310/2311	AT 2312/2313	AT 2314	2,5	6	10	16
50	95	95	95	9	10	10	11
65	231	231	231	13	13	14	15
80	491	491	491	17	18	19	21
100	690	690	690	28	30	32	36
125	1450	1450	1450	39	42	46	52
150	1945	1945	1945	60	67	75	86
200	4095	4095	4095	120	130	140	160
250	6085	6085	4265	300	320	350	400
300	9570	9570	6360	420	450	490	560
350	13500	13500	8975	310	360	410	660
400	16350	16350	10230	460	540	640	1020
450	21550	21550	12730	630	740	850	1400
500	27700	27700	17000	840	970	1120	1800
600	37200	37200	24810	910	1100	1900	3100
700	34470	34470	34470	1500	1900	3200	5200
800	45540	45540	45540	2100	2600	4400	7000
900	58290	58290	58290	2900	3800	6400	10200
1000	73510	73510	73510	3800	4900	8100	13000
1200	108400	108400	108400	5900	7900	13000	21000
1400	151400	151400	151400	9000	12000	20000	32000
1600	203200	-	203200	12000	17000	29000	46000

Torque applies to standard valves:

- NBR or EPDM lining
- Temperature between 0 and 80°C
- Liquids
- Gases always at min. Δp 10 bar or special finished disc PN 6
- Viton-lining always at Δp 10 bar
- Manoeuvring min. 10 times/year

The best regulating range for a butterfly valve is between 20–70° opening angle.

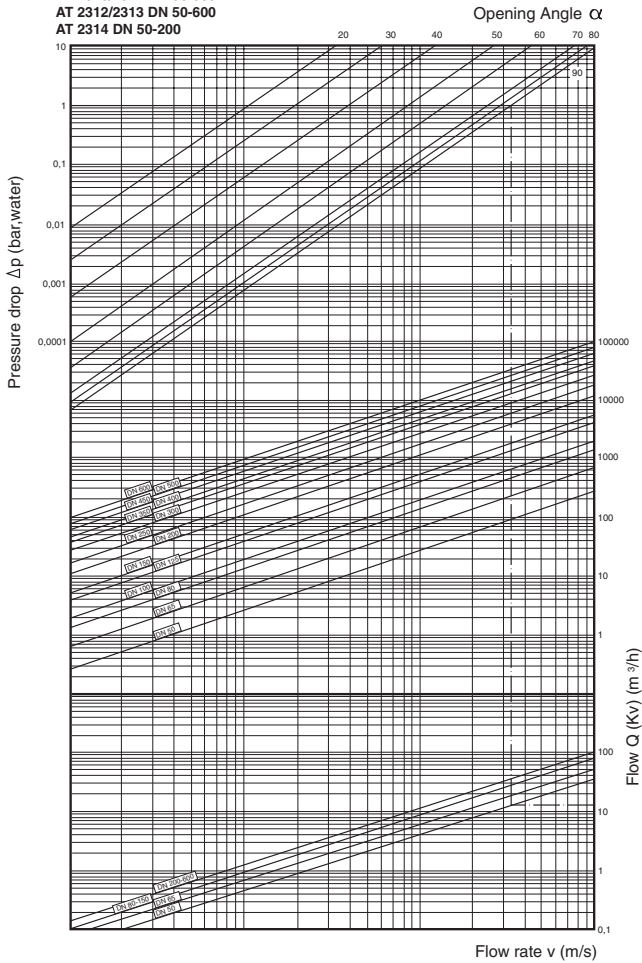
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Flow chart (A)

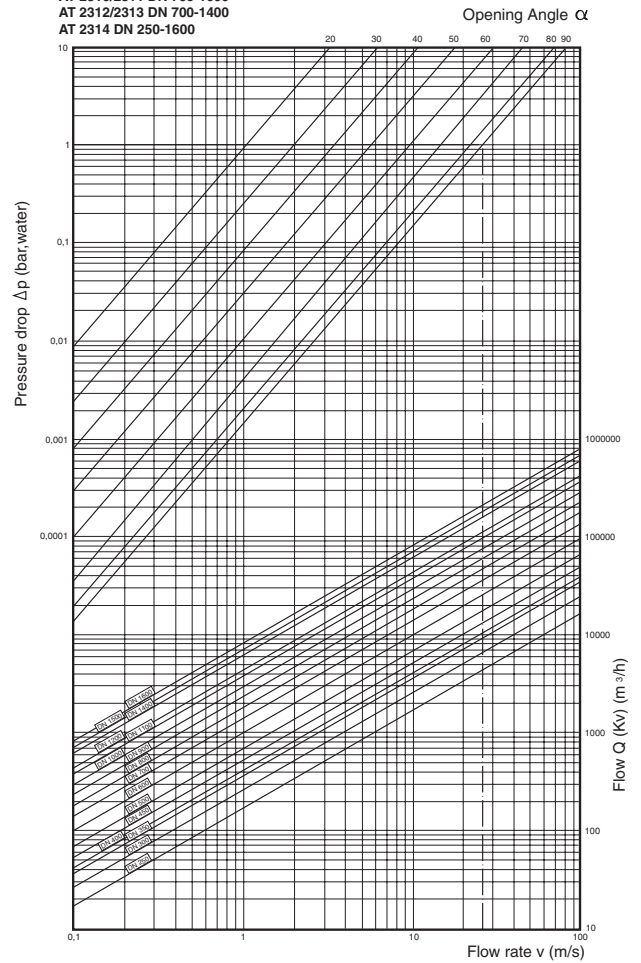
Valid for
AT 2310/2311 DN 50-600
AT 2312/2313 DN 50-600
AT 2314 DN 50-200



Max. permissible flow rate: Liquid: 5 m/sek. Gases: 50 m/s.

Flow chart (B)

Valid for
AT 2310/2311 DN 700-1600
AT 2312/2313 DN 700-1400
AT 2314 DN 250-1600



Max. permissible flow rate: Liquid: 5 m/sek. Gases: 50 m/s.

Example of use.

(A) Given parameters: Q , DN, α
Requested: Δp , v

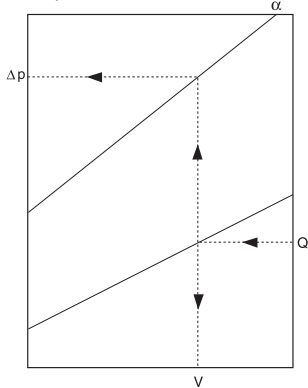
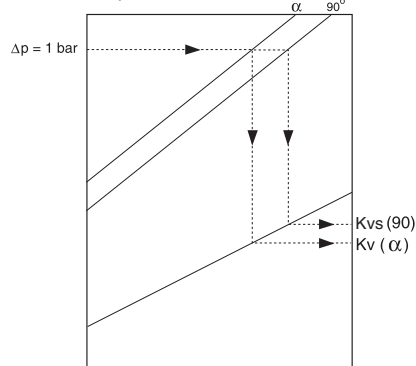
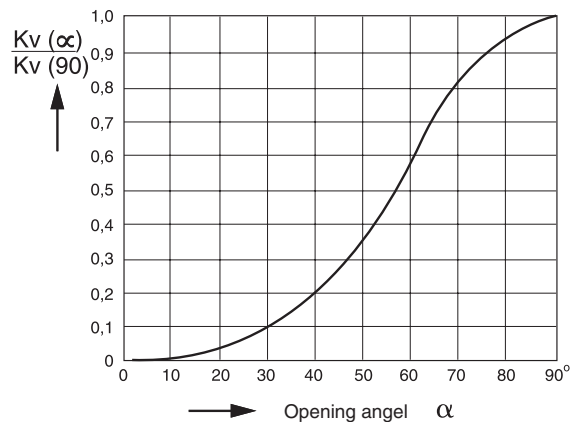


Fig. 2 Example

(B) Given parameters: DN, α
Requested: $Kvs(90)$, $Kv(\alpha)$



Kv-Characteristics



Flow coefficient, Kv at different opening angles

Rätten till ändringar utan föregående meddelande förbehålls.
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A) applies to:

AT 2310/2311 DN 50-600, AT 2312/2313 DN 50-600

AT 2314 DN 50-200

Valve DN	Opening angle °							
	20	40	50	60	70	80	90	
50	3	13	24	44	72	90	95	
65	7	22	44	79	136	212	231	
80	15	42	82	135	231	378	491	
100	21	82	148	246	414	660	690	
125	44	125	232	370	650	1110	1450	
150	58	225	383	592	1016	1691	1945	
200	123	352	599	967	1615	2878	4095	
250	183	626	1151	1939	3289	5154	6085	
300	287	984	1809	3050	5172	8105	9570	
350	405	1388	2553	4303	7296	11434	13500	
400	491	1681	3091	5211	8837	13848	16350	
450	647	2216	4075	6868	11647	18252	21550	
500	831	2848	5237	8828	14971	23460	27700	
600	1116	3825	7034	11856	20106	31506	37200	

B) applies to:

AT 2310/2311 DN 700-1600, AT 2312/2313/2319 DN 700-1400,

AT 2314 DN 250-1600

Valve DN	Opening angle °							
	20	30	40	50	60	70	80	90
250	171	299	554	938	1493	2474	3625	4265
300	254	445	763	1272	2099	3434	5533	6360
350	269	359	718	1167	1885	3141	5565	8975
400	405	717	1271	2222	3876	5774	8786	10130
450	509	810	1478	2497	4211	6716	10380	12730
500	680	1069	1943	3283	5452	8730	13677	17000
600	992	1560	2836	4791	7956	12741	19961	24810
700	1379	2167	3941	6656	11054	17701	27733	34470
800	1822	2863	5206	8794	14604	23386	36639	45540
900	2332	3665	6664	11256	18693	29933	46897	58290
1000	2940	4622	8404	14195	23574	37749	59142	73510
1100	3718	5844	10625	17947	29804	47727	74775	92940
1200	4336	6816	12392	20933	34762	55666	87213	108400
1400	6056	9519	17308	29237	48552	77748	121808	151400
1500	7044	11072	20132	34006	56473	90432	14681	176100
1600	8128	12776	23230	39240	65163	104348	163484	203200

Accessories and Options

- Body of steel or nodular iron
- Disc of nodular iron – epoxy coated
- Polished disc Ra 0,1
- Maschined disc PN 6 (undercut disc)
- Rubber-lining of Vitone or EPDM peroxide
- Different types of surface finish, even for submersible service
- DN 350–1600 in pressure class PN 16
- Extended stem in different performances

Manoeuvring

- Hand manoeuvring

The valves are delivered as standard with lever for DN 50–150 (AT 2390) or with worm gear (AT 2394) in all DN. or with worm gear **AT 2394SPR** with internal limit switches.

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Accessories

AT 2390R blockable and lockable fine-slip with 20 positions, for lever

AT 2390L lockable plate with 10 positions, for lever

AT 2390KONT plate with 2 mechanical Honeywell limit switches, for lever

AT 2395 limit position open/closed for worm gear,

Proxymatly sensors erected on worm gear, type of sensors to be stated in the order.

- Automatic manoeuvring

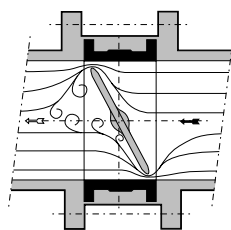
The valves are delivered with AJAC actuator program, pneumatic, hydraulic or electrical operation.

The actuators are performed for direct mounting on the valves.

Torque Nm, undercut disc PN 6	Differential pressure (bar)	
	2,5	6
DN		
600	910	1100
700	1500	1900
800	2100	2600
900	2900	3800
1000	3800	4900
1200	5900	7900
1400	9000	12000
1600	12000	17000

The torque is valid for valves with undercut disc, PN6:

- Temperature $0 \leq 80$ °C
- Liquids
- Gases always at diff. pressure 6 bar
- Manoeuvring min. 10 times/year.



Valve position

Installation

The valve shall be mounted between flanges, **without gaskets** and if possible with the shaft in horizontal position and Min. measurement for the disc movement acc. to table below. End of line mounting, bolts and nuts are not allowed to be tightened with more than:

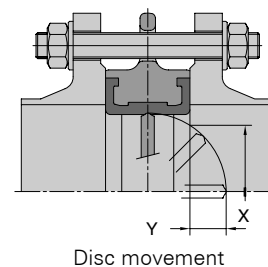
DN	Flanges acc. to	DN	Max. torque Nm
DN 50-300	SS 335-PN 10/16	50-125	100
350-1600	SS 335-PN 10	150-300	250

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Disc diameter		
DN	X	Y
50	26	3,5
65	46	9,5
80	66	17
100	86	24
125	112	34,5
150	140	47
200	191	70
250	241	92
300	290	114
350	327	130
400	373	142
450	421	161
500	470	180



Marking

Manufacturer, DN, PN and material acc.to SMS-ISO 5209.

How to order

Exampel: AT 2310V200-1012

Butterfly valve, NBR lining, stainless disc with worm gear and extra surface coating C2

Valve	Lining	Manoeuvring	DN	Surface coating
231	0= NBR/stainless steel 1= EPDM/stainless steel 2= NBR/acidproof steel 3= EPDM/acidproof steel 4= NBR/alu-bronze 9= Viton®/acidproof steel	V= worm gear S= lever	200	1012= C2 1013= C3 1014= C4

RSK-No, see RSK-file

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