

31300

Butterfly valve of carbon steel DN 200 - 1400

06.02.2007

Operation

The welded butterfly valve 31300 with weld ends is specially designed for district heating. It can be used as an on-off or control valve. Högfors butterfly valve is tight in both flow directions.

Nominal pressure 25 bar

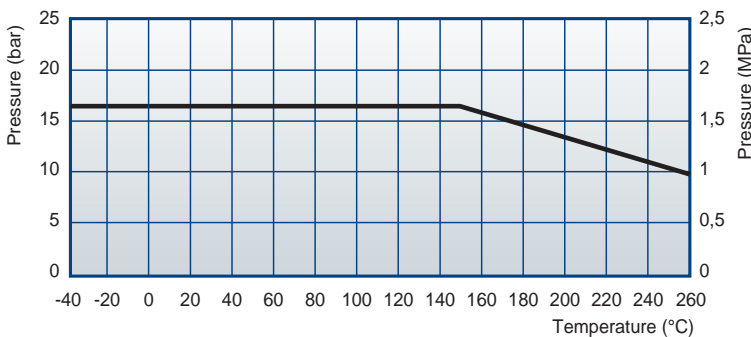
Closing pressure 16 bar

Tightness class ISO 5208, EN 12266-1, RATE B

Temperature max +260°C/ min -40°C (DN200 - 1000)
max +260°C/ min -20°C (DN1200 - 1400)



The max pressure difference depends on the working temperature



Construction

The body of the butterfly valve with weld ends is carbon steel. The double eccentric disc and shafts are made of stainless steel. Replaceable seat ring is also stainless steel. The shaft packing box is a combination of graphite rings and O-rings which are possible to tighten while in pipeline and are also replaceable.

Conform with the requirements of the Council Directive 97/23/EC on Pressure Equipment, marking:

Class: Gas, group 1



Nominal dimensions: DN 200 - 1400

Face-to-face length according to EN 558-1 series 14

Product codes: 31300CS___Z with bare shaft
31300CS___M with manual gear

Connection: Weld end:

The pipe according to DIN-standard.

For steam on special order. Code number: 31301CS

On special order: GOST-standard or others.

Materials

Body:	Carbon steel EN 10028-2 P265GH
Disc:	Stainless steel EN 10213-4 1.4408, ASTM A351 CF8M
Shaft:	Stainless steel EN 10088-3 1.4460
Disc seal:	Stainless steel
Shaft seal:	Graphite/ EPDM O-Rings

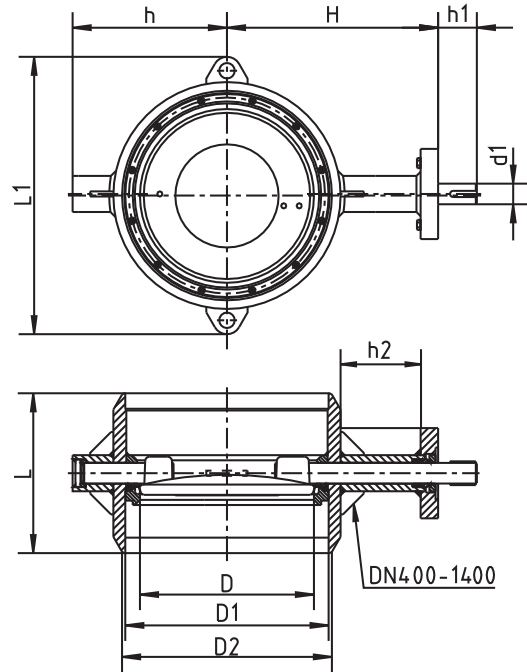
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Dimensions

DN	L	D	D1	D2	h	H	h1	d1	h2	L1	Flange ISO5211
200	230	137,5	210,1	219,1	154	259	58	25	115	233	F10
250	250	187	263,0	273,0	193	298	63	30	125	385	F12
300	270	238	312,7	323,9	229	323	69	35	125	435	F12
350	290	286	344,4	355,6	255	352	75	40	125	465	F14
400	310	337	393,8	406,4	300	409	75	40	155	540	F14
450	330	386	444,4	457,0	326	445	86	50	163	590	F16
500	350	437	495,4	508,0	351	470	86	50	163	660	F16
600	390	483	593,6	609,6	376	548	103	60	186	760	F16
700	430	582	693,6	711,2	440	601	119	70	186	860	F25
800	470	682	795,2	812,8	490	651	119	70	187	955	F30
900	510	775	894,4	914,4	575	718	125	90	200	1070	F30
1000	550	855	994,0	1016	636	764	130	100	183	1200	F30
1200	630	1054	1195	1220	755	873	160	140	182	1440	F35
1400	710	1237	1392	1420	912	1018	180	170	206	1770	F40



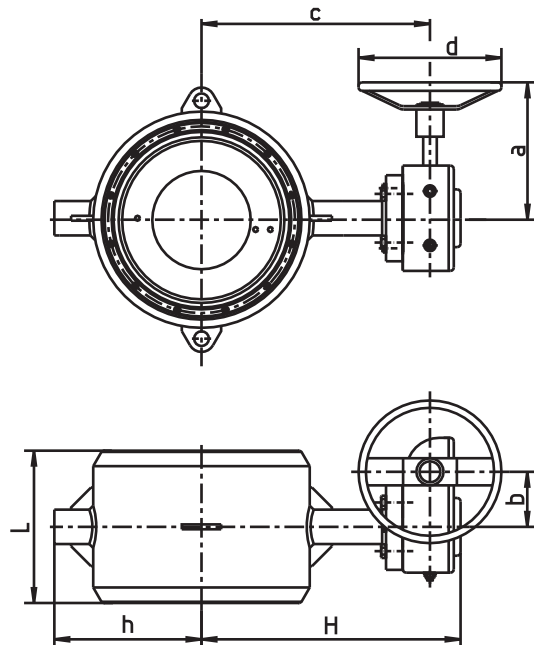
Operation

The butterfly valve is delivered with handlever, manual gear, electric, pneumatic or hydraulic actuator according to customer's needs.

Manual gear

Opening and closing of the valves from the handwheel.
The position of disc can be seen on a position indicator on top of the gear.

DN	H	h	L	a	b	c	d	Weight kg
200	349	154	230	270	71	301	200	50
250	389	193	250	322	71	341	300	57
300	414	229	270	322	71	366	300	70
350	452	255	290	345	97	403	500	107
400	509	300	310	345	97	459	500	131
450	573	326	330	405	138	500	500	190
500	598	351	350	405	138	525	500	219
600	676	376	390	405	138	603	500	350
700	760	440	430	500	182	665	500	485
800	810	490	470	500	182	715	500	574
900	896	575	510	615	431	807	500	975
1000	942	636	550	615	431	807	500	1290
1200	1051	755	630	615	431	962	600	2480
1400	1218	912	710	755	450	1158	700	3210

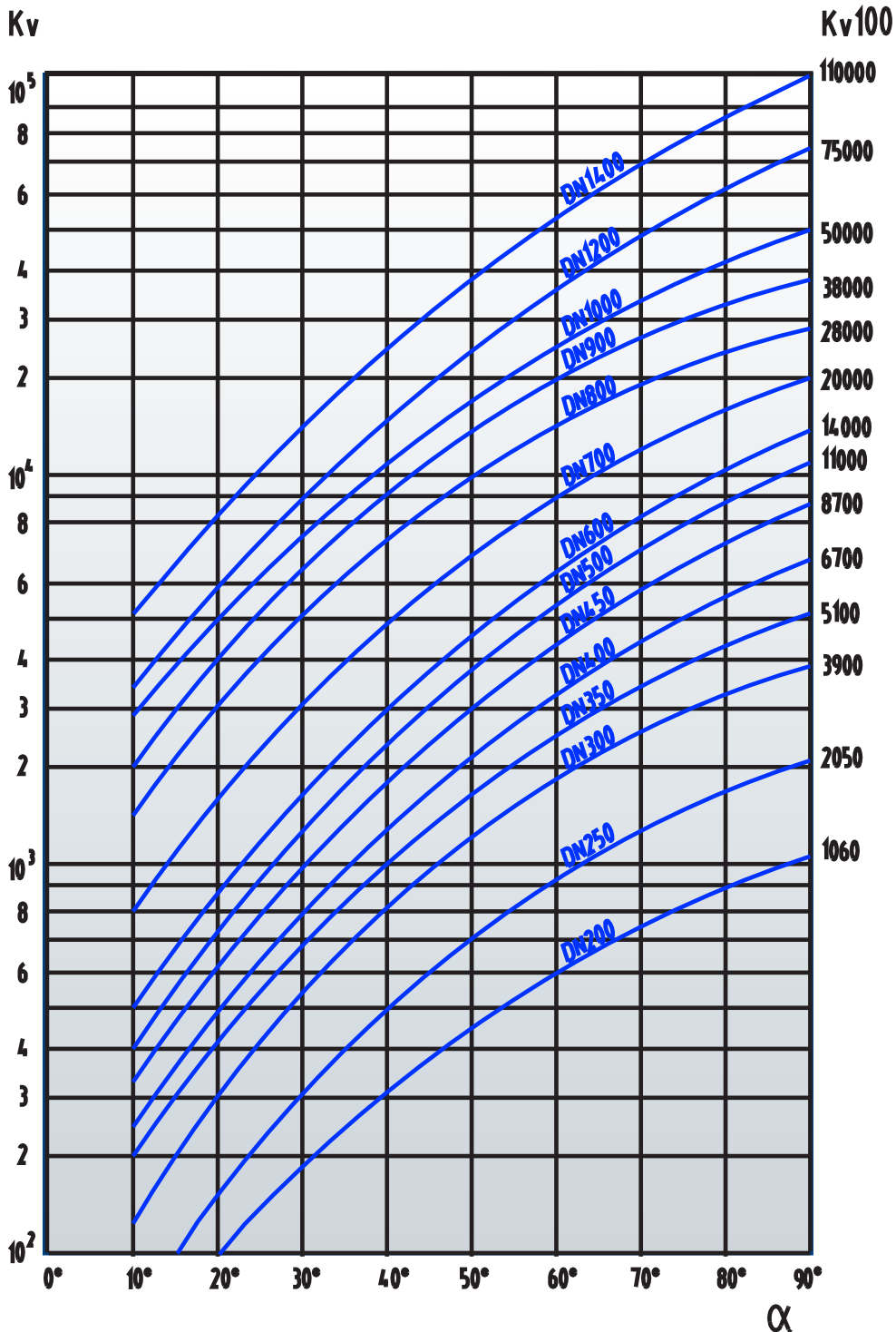


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The control curves

The curves indicate the regulating values of the valve at different opening angles.



WATER:

Volume flow:

$$Q = K_v \sqrt{\frac{\Delta p}{\rho}}$$

Flow velocity:

$$v = 354 \frac{Q}{DN^2}$$

- K_v = kv-value — Capacity factors
- DN = nominal valve size (mm)
- α = disc opening angle
- Q = volume flow m^3/h
- Δp = pressure difference bar
- ρ = density of liquid kg/dm^3
- v = flow velocity m/s