

31500

# Butterfly valve of carbon steel DN 200 - 1200

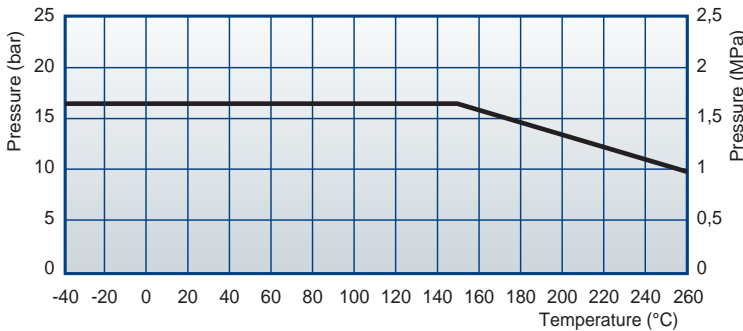
06.02.2007

## Operation

The welded butterfly valve 31500 with flanges is used for example in district heating and in industry. 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 difference** max 16 bar
- Tightness class** ISO 5208, EN 12266-1, RATE B
- Operating temperature** max +260°C/ min -40°C (DN200 - 1000)  
max +260°C/ min -20°C (DN1200)

The max pressure difference depends on the working temperature



## Construction

The body of the butterfly valve with flanges 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 and are also replaceable.

**Face-to-face length:** EN 558-1 series 14

**Connection** between flanges:  
PN 25, PN 16 and PN 10 ANSI CLASS 150

Conform with the requirements of the Council Directive 97/23/EC on Pressure Equipement, marking:  
Class: Gas, group 1



Nominal dimensions: DN 200 - 1200  
Product codes: 31500CS\_ \_ \_Z with bare shaft  
31500CS\_ \_ \_M with manual gear

For steam on special order. Code number: 31501CS

## 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

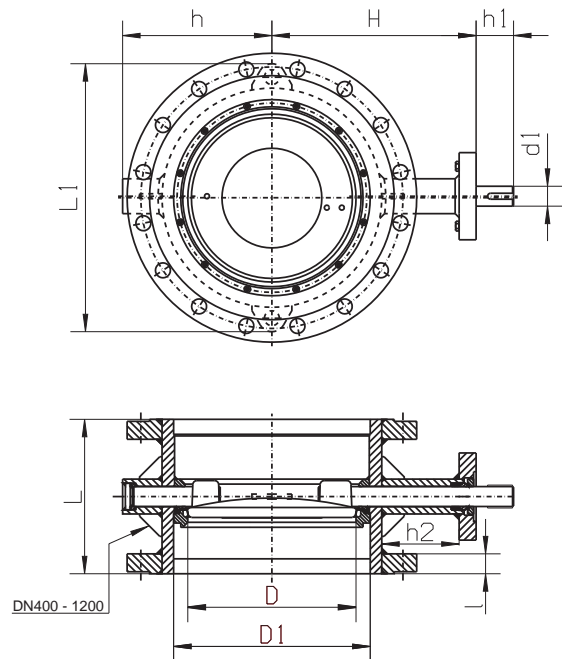
31500

Butterfly valve of carbon steel  
DN 200 - 1200

06.02.2007

Dimensions

DN	L	D	D1	l	h	H	h1	d1	h2	L1	Flange ISO5211
200	230	137,5	210,1	30	154	259	58	25	115	233	F10
250	250	187	263,0	32	193	298	63	30	125	385	F12
300	270	238	312,7	34	229	323	69	35	125	435	F12
350	290	286	344,4	38	255	352	75	40	125	465	F14
400	310	337	393,8	40	300	409	75	40	155	540	F14
450	330	386	444,4	42	326	445	86	50	163	590	F16
500	350	437	495,4	44	351	470	86	50	163	660	F16
600	390	483	593,6	46	376	548	103	60	186	760	F16
700	430	582	693,6	46	440	601	119	70	186	860	F25
800	470	682	795,2	47	490	651	119	70	187	955	F30
900	510	775	894,4	58	575	718	125	90	200	1070	F30
1000	550	855	994,0	62	636	764	130	100	183	1200	F30
1200	630	1054	1195	70	755	873	160	140	183	1440	F35



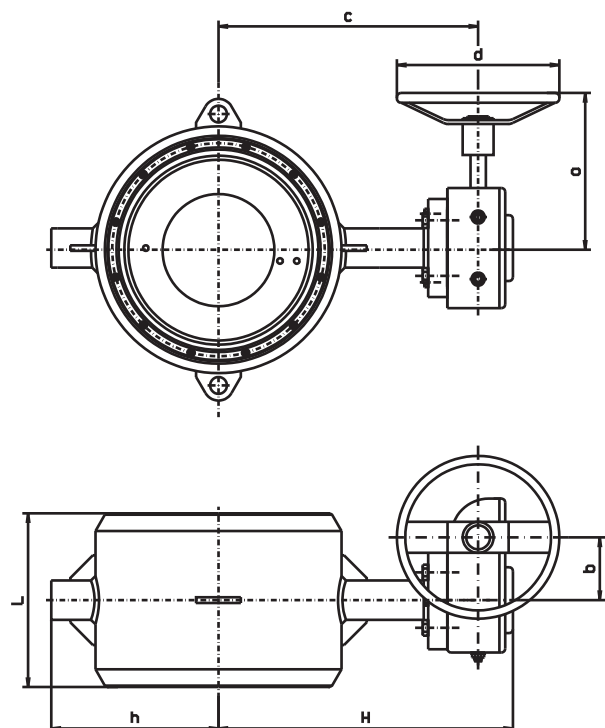
Operation

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

Manual gear

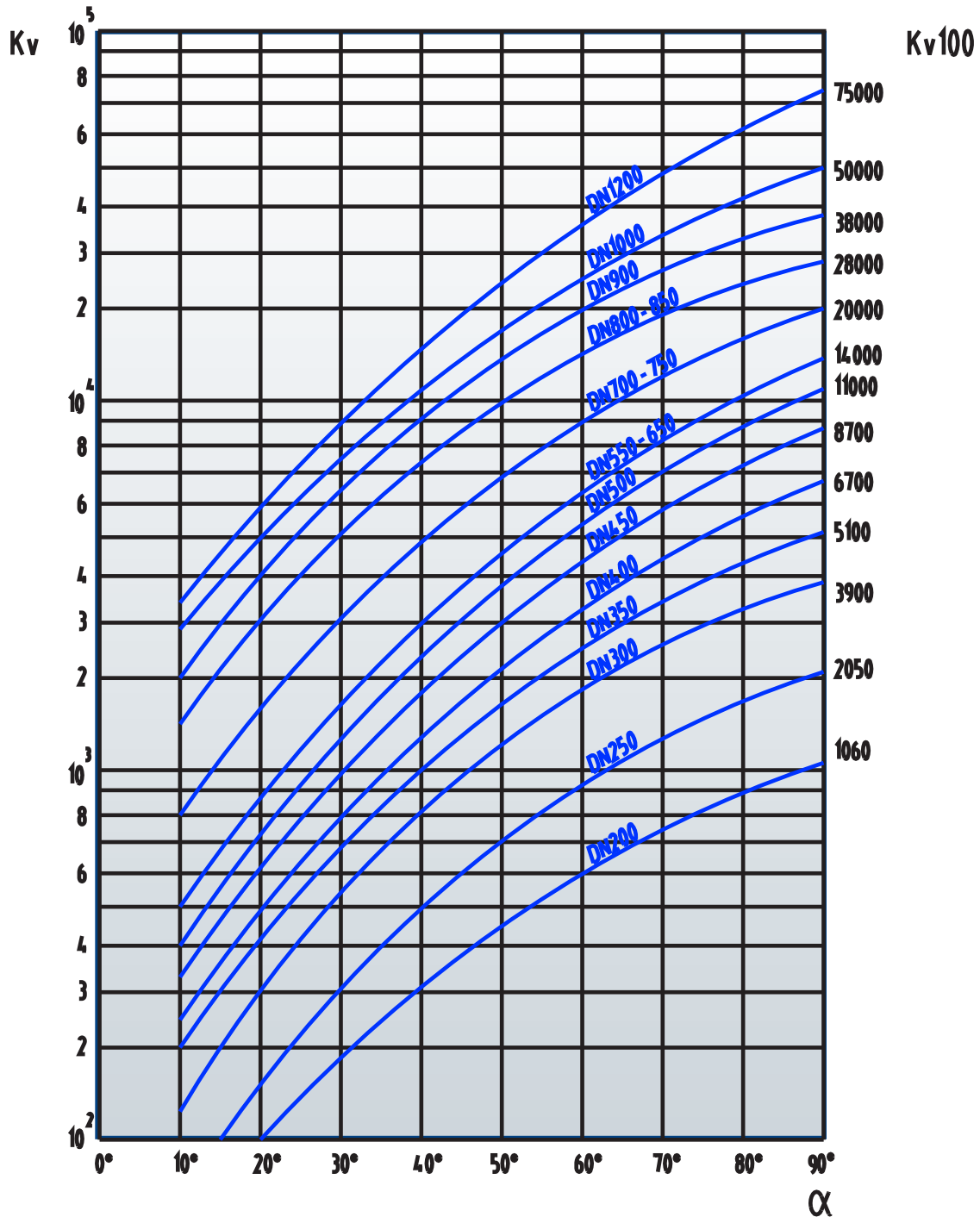
Opening and closing of the valves from the handwheel.  
The position of disc can be seen on a position indicator on top of the gear.

DN	H	h	L	a	b	c	d	Weight kg
200	349	154	230	202	71	301	200	71
250	389	193	250	247	71	341	300	87
300	414	229	270	264	71	366	300	109
350	452	255	290	264	97	403	500	158
400	509	300	310	264	97	459	500	194
450	573	326	330	362	138	500	500	268
500	598	351	350	362	138	525	500	326
600	676	376	390	387	138	603	500	505
700	760	440	430	505	182	665	500	628
800	810	490	470	505	182	715	500	758
900	896	575	510	615	431	807	500	1251
1000	942	636	550	615	431	807	500	1646
1200	1051	755	630	615	431	962	600	2513



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)
- $\alpha$  = disc opening angle
- Q = volume flow  $m^3/h$
- $\Delta p$  = pressure difference bar
- $\rho$  = density of liquid  $kg/dm^3$
- v = flow velocity m/s