

Butterfly valve of stainless steel PN 25



Operation

The butterfly valve is a stop and regulating valve which is tight for both directions of flow. The valve is used in demanding industrial pipelines.

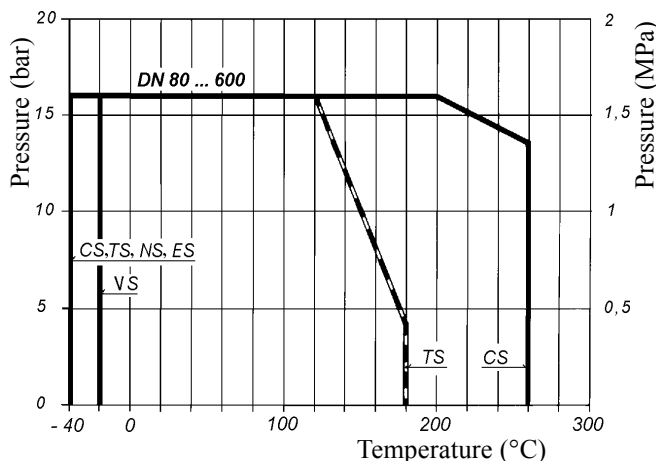
Nominal pressure 25 bar DN 80 ... 600

Closing pressure difference 16 bar DN 80 ... 600

Disc seal alternatives

		max./min.
- FPM (Viton)	chemical-resistant	+150 °C/ -20 °C
- EPDM	heat-resistant	+100 °C/ -40 °C
- NBR (Nitril)	oil-resistant	+80 °C/ -40 °C
- PTFE	chemicals	+180 °C/ -40 °C
- AISI 316		+260 °C/ -40 °C

Maximum closing pressure difference depends on the working temperature



Design

The butterfly valve is flangeless and has a double eccentric disc. The disc is mounted to the shaft with tangential conical keys. The stuffing box can be tightened.

The butterfly valve is supplied complete with optional actuators:
- lever for DN 80 ... 200 valves
besides with metal seal DN 80 ... 150
- manual gear for DN 80 ... 600
- electric, pneumatic or hydraulic actuator for DN 80 ... 600

Face to face lengths according to ISO 5752, EN 558-1 series 20 DIN 3202 K1

Tightness class ISO 5208, rate B Disc seal AISI 316
ISO 5208, rate A Other disc seals

The mounting is between drilled flanges according to DIN 2501 PN25, PN16, PN10, ANSI CLASS 150

Conform with the requirements of the Council Directive 97/23/EC on Pressure Equipment, marking: **CE** 0434

Nominal sizes 411 DN 80 ... 600

Code number

411VS ___
411ES ___
411NS ___
411TS ___
411CS ___

Seal

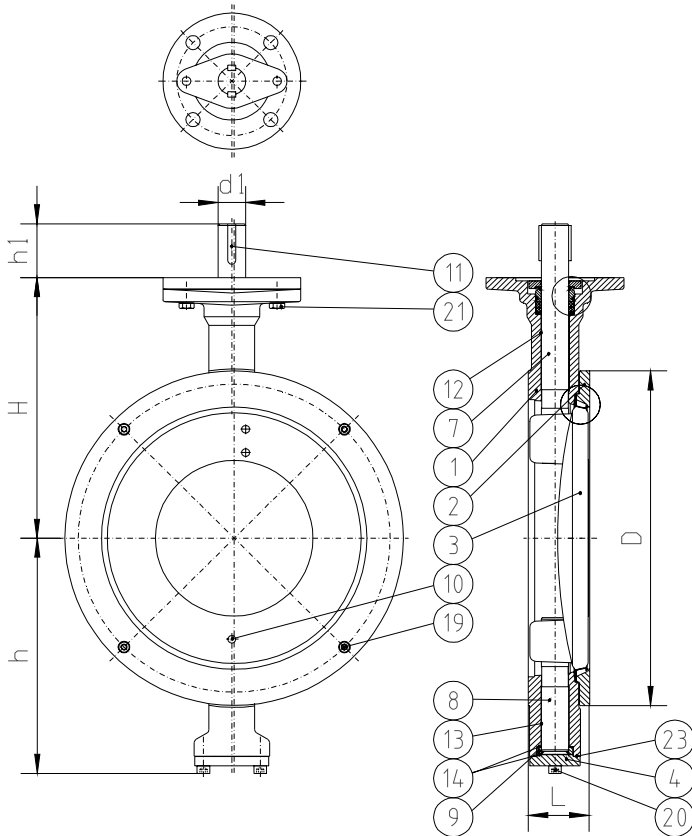
FPM (Viton)
EPDM
NBR (Nitril)
PTFE
AISI 316

411 ___
411 ___ Z
411 ___ M

with manual lever
with bare shaft
with gear

For steam on special order. Code number: **41101CS**

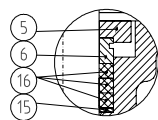
Butterfly valve



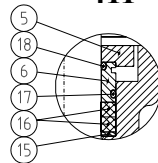
Parts

- | | |
|-------------------------|-------------------------------|
| 1. Body | CF-8M |
| 2. Counter flange | AISI316L, CF-8M |
| 3. Disc | W:no 4408 |
| 4. Subshaft cover | W:no 4401 |
| 5. Gland | AISI316L |
| 6. Shaft seal bushing | W:no 4401 |
| 7. Stem | W:no 4460 |
| 8. Subshaft | W:no 4460 |
| 9. Retaining ring | W:no 4401 |
| 10. Conical pin | W:no 4460 |
| 11. Key | St |
| 12. Stem bearing | PTFE+AISI316 |
| 13. Subshaft bearing | PTFE+AISI316 |
| 14. Bearing plate | PTFE+AISI316 |
| 15. Back-up-ring | AISI316L |
| 16. Box packing | Graphite |
| 17. O-Ring | FPM |
| 18. O-Ring | FPM |
| 19. Socket screw | Stainless steel |
| 20. Socket screw | Stainless steel |
| 21. Hexagonal screw | Stainless steel |
| 22. Seat ring | FPM, EPDM, NBR, PTFE, AISI316 |
| 23. Bottom cover gasket | SFS5811 carbon fibre |
| 24. Gasket (411) | SFS5811 carbon fibre |
| (41101) | Graphite |
| 25. Gasket (411) | SFS5811 carbon fibre |
| (41101) | Graphite |

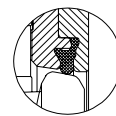
41101



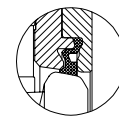
411



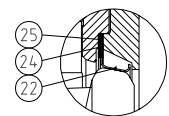
Seal alternatives



FPM
EPDM
NBR



PTFE-C
 carbon filled



AISI 316
 hard chromed

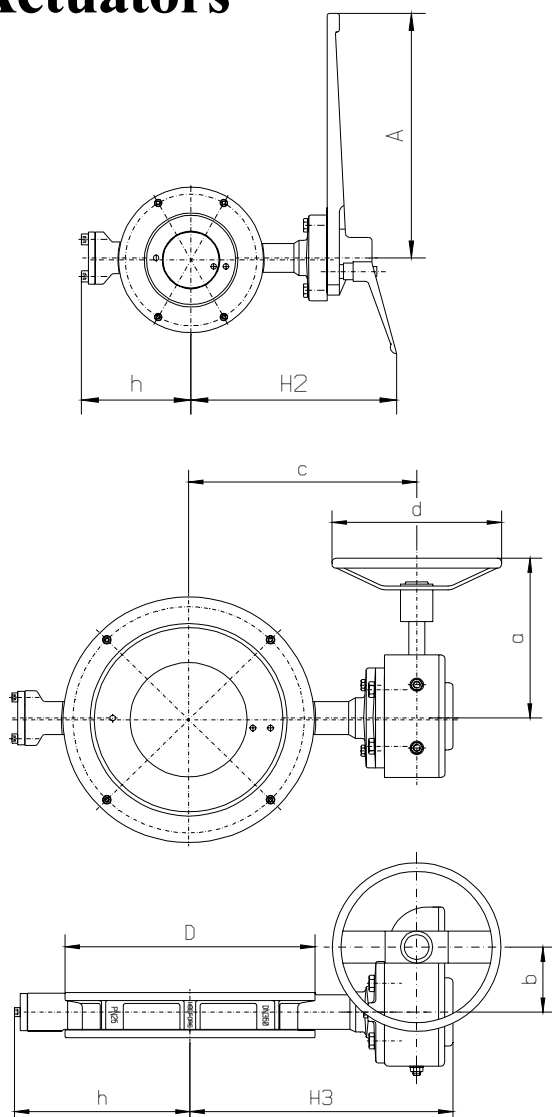
Dimensions

DN	L	D	h	H	h1	d1	Flange ISO5211	Weight*) kg
80	46	138	114	144	45	15	F07	6,2
100	52	158	131	168	52	20	F07	8,0
125	56	188	143	179	52	20	F07	9,8
150	56	212	160	199	58	25	F10	14,9
200	60	268	200	224	58	25	F12	29 ^{*)}
250	68	320	232	269	63	30	F12	38 ^{*)}
300	78	370	275	308	69	35	F14	54 ^{*)}
350	78	430	303	335	69	35	F14	67 ^{*)}
400	102	482	333	380	86	50	F16	118 ^{*)}
500	127	585	388	458	103	60	F16	198 ^{*)}
600	154	685	448	530	119	70	F25	337 ^{*)}

*) with manual gear

Butterfly valves

Actuators



Butterfly valves are supplied with following actuator options:

- a lever or gear,
- electric, pneumatic or hydraulic actuators.

Hand lever

A lever is suitable for manual operation of small sizes of butterfly valves DN 80 to 200, except for valves with metal to metal seats, where gear and handwheel is used in size DN 200 and larger. The position of the disc can be firmly fixed in any position between open and closed by the locking device incorporated. The hand lever is supplied positioned crosswise to the pipe with the valve closed.

Dimensions

DN	h	H2	A
80	114	223	300
100	131	246	300
125	143	260	300
150	160	289	420
200	200	314	420

Manual gear

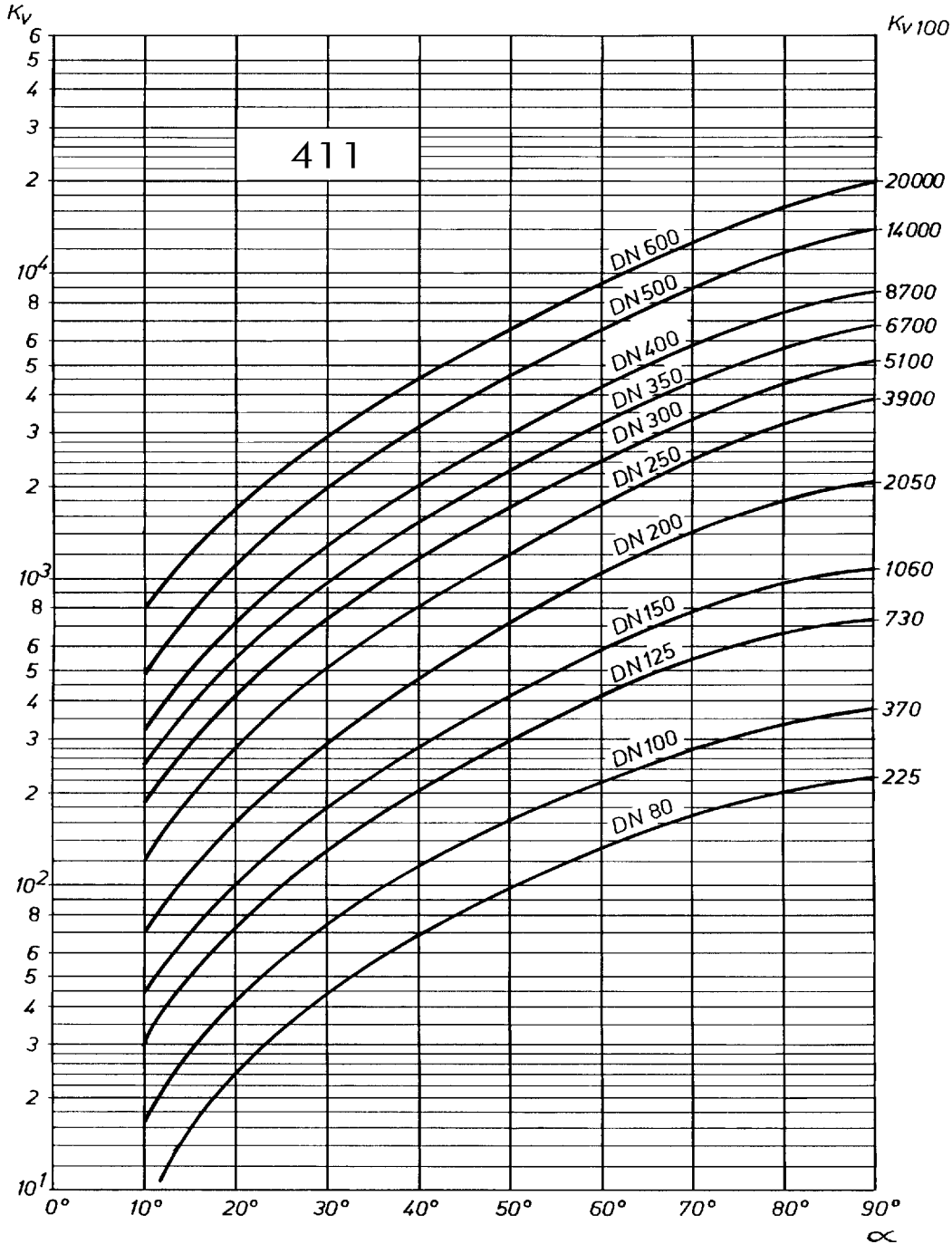
The valves are supplied with gearbox and handwheel. The disc position is shown by a mechanical indicator on the actuator.

Dimensions

DN	L	D	h	H3	a	b	c	d
80	46	138	114	204	218	45	171	200
100	52	158	131	228	218	45	195	200
125	56	188	143	239	218	45	206	200
150	56	212	160	286	220	71	240	200
200	60	268	200	311	220	71	265	200
250	68	320	232	356	255	71	310	300
300	78	370	275	398	291	86	350	400
350	78	430	303	425	291	86	377	400
400	102	482	333	501	387	130	435	500
500	127	585	388	579	387	130	513	500
600	154	685	448	689	500	263	589	500

Regulating curves

The diagram presents the Kv-values of butterfly valves
 - the capacity factors for different disc positions



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 m³/h
- Δp = pressure difference bar
- ρ = density of liquid kg/dm³
- v = flow velocity m/s