

Application

Gate valves are isolating valves designed for full closing or opening of working media flow. If the gate valves are used for regulating or throttling purposes, the manufacturer does not guarantee tightness of the gate valves. For regulation we recommend to use special control gate valve type S33.C.

Working medium

- water
- non-corrosive liquids
- steam
- air
- gases of group 1 and 2
- petroleum and petroleum products

The service fluids shall not contain rough impurities.

Technical description

The gate valve is an outside-screw-and-yoke, with flexible or solid wedge, rising or non-rising stem. The body and the bonnet are made of castings and are connected by a flanged joint. The seating surfaces of the seats and the wedge are made in compliance with API 600. The seat rings are welded into the body. The gate valves are equipped with a back seat. The gate valves are a bi-directional sealing valves. The body-bonnet joint and the packing chamber are sealed with asbestos-free gasket and packing which guarantee a long life service. The requirement for an automatic body cavity pressure relief shall be specified in the purchase order. Pressure relief can be achieved by:

- drilling a hole through one disc of the wedge,
- special valve incorporated into the wedge,
- external bypass.

TA-Luft design on request.

Connection to the piping

- **flanged ends** - acc. to EN 1092-1 or GOST, face-to-face dimensions are acc. to EN 558, Series 14, 15 and 26 or GOST
- **welded ends** - acc. to EN 12627

Operation

The gate valves are delivered with a handwheel, a manual bevel gear, an electric actuator or bare stem ready for connection to an actuator. The standard connecting dimensions for connection to a manual gear or an electric actuator meet the requirements of ISO 5210.



Accessories

The gate valves can be equipped with the following accessories:

- drain valve,
- air-vent valve,
- by-pass valves,
- stand for remote control, including chains and chain wheels,
- vent plugs,
- gland packing „live loading“.

Testing

The gate valves are subjected to the following tests performed with water:

- shell strength test
- shell tightness test
- seat tightness test and operability test according to EN 12266.
- other tests by agreement.

Installation

The gate valves may be installed into the piping in vertical or horizontal position. In case of gate valves equipped with an electric actuator or a pneumatic actuator, must you follow instructions of the manufacturer of actuators.

Production range

Typ	PN	DN																						
		50	65	80	100	125	150	200	250	300	350	400	500	600	700	800	900	1000	1200	1400	1600	1800	2000	
S33.1 S33.C*	16
	25
	40
	63
	100
S33.2	6, 10, 16	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
S33.3	16	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
S33.4 S33.C*	2,5												.	.	.	.	.	.	.	.	.	.	.
	6												.	.	.	.	.	.	.	.	.	.	.
	10												.	.	.	.	.	.	.	.	.	.	.
	16												.	.	.	.	.	.	.	.	.	.	.
	25												.	.	.	.	.	.	.	.	.	.	.
S33.5	10												.	.	.	.	.	.	.	.	.	.	.
	16												.	.	.	.	.	.	.	.	.	.	.
	25												.	.	.	.	.	.	.	.	.	.	.

* DN 150 and higher in cast design (S33.1)
Up to DN 1200 in welded design (S33.4)



DN 500-2000 • PN 2,5-25 • Tmax 300°C

Body design: yoke gate valve

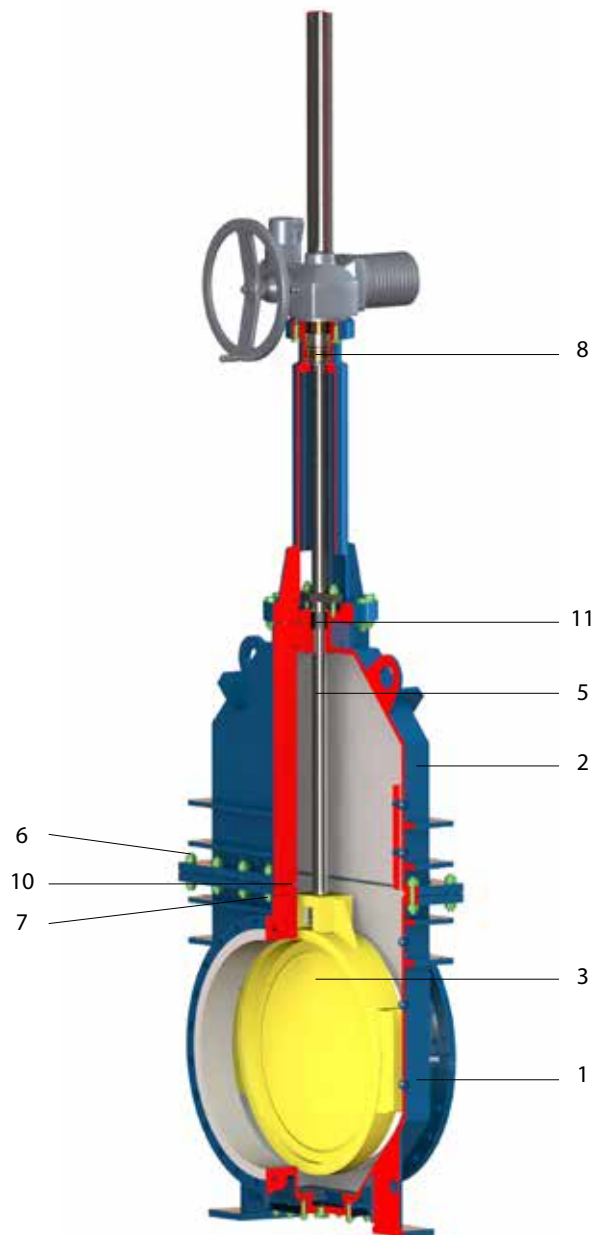
Body, bonnet, wedge: fully welded

Rising stem

Solid / flexible wedge

Connection:  EN 1092-1 FLANGED ENDS

 EN 12 627 WELDED ENDS



Material acc. to EN

Position	Component	Carbon steel	Alloy steel	Carbon steel for low temperatures	Stainless steel
1	Body + overlay	1.0425 + 13Cr	1.5415 + 13Cr	1.0566 + 13Cr	1.4401
2	Bonnet	1.0425	1.5415	1.0566	1.4401
3	Wedge + overlay	1.0425 + 13Cr	1.5415 + 13Cr	1.0566 + 13Cr	1.4401 + 17Cr
5	Stem	1.4021 / 1.4923			1.4057
6	Bonnet bolts*	1.7218 / A193 B7	1.7709 / A193 B16	1.7225 / A320 L7	1.4401 / A193 B8
7	Bonnet nuts*	1.1191 / A194 2H	1.7709 / A194 4	1.7225 / A194 7	1.4401 / A194 8
8	Stem nut	42 3046 (Al-bronze) / A439 D2 (Ni-rezist)			
10	Gasket	Graphite with stainless steel insert			
11	Packing	Braided graphite cord + formed graphite rings			

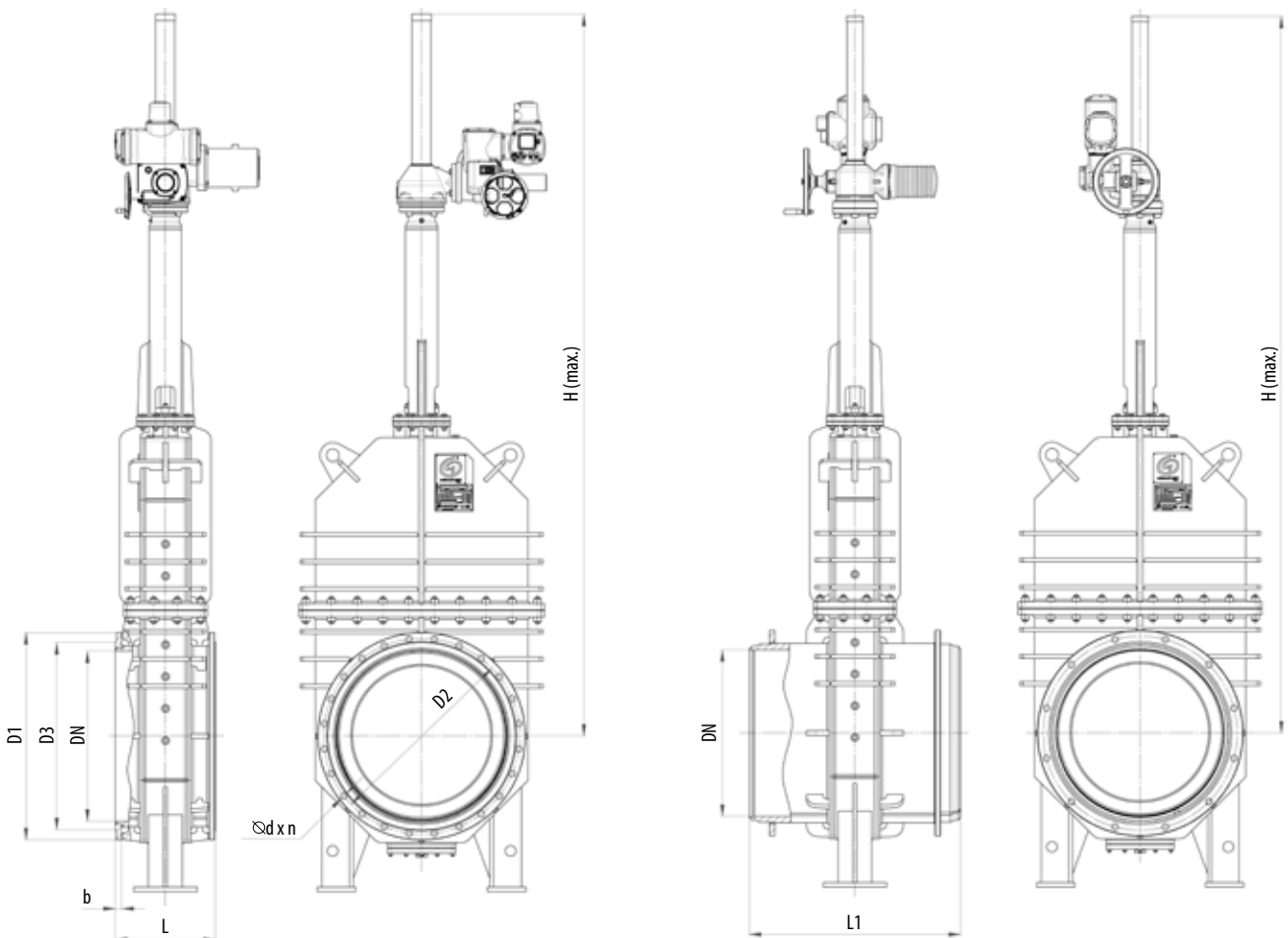
* Other TRIMs according to API 600

** Equivalent or according to customer's request



DN 500-2000 • PN 2,5-25 • Tmax 400 °C (530 °C)
Body design: yoke gate valve

Connection: EN 1092-1 FLANGED ENDS
 EN 12 627 WELDED ENDS



PN 2,5

DN	D1	D2	D3	L	H (max.)*	b	Ød x n	kg	BW	
									L1	kg
500	645	600	570	350	2 450	30	22 x 20	850	700	990
600	755	705	670	390	2 850	30	26 x 20	1 040	800	1 190
700	860	810	775	430	3 250	30	26 x 24	1 250	900	1 490
800	975	920	880	470	3 650	30	30 x 24	1 540	1 000	1 890
900	1 075	1 020	980	510	4 050	30	30 x 24	1 990	1 100	2 150
1000	1 175	1 120	1 080	550	4 300	32	30 x 28	2 350	1 200	3 200
1200	1 375	1 320	1 280	630	5 100	35	30 x 32	3 250	1 400	4 090
1400	1 575	1 520	1 480	710	5 800	40	30 x 36	4 090	-	-
1600	1 790	1 730	1 690	790	6 600	45	30 x 40	5 300	-	-
1800	1 990	1 930	1 890	870	7 500	50	30 x 44	7 050	-	-
2000	2 190	2 130	2 090	950	8 200	55	30 x 48	9 500	-	-



DN 500-2000 • PN 2,5-25 • Tmax 400 °C (530 °C)
Body design: yoke gate valve

Connection: ☉ EN 1092-1 FLANGED ENDS
* EN 12 627 WELDED ENDS

PN 6

DN	D1	D2	D3	L	H (max.)*	b	∅d x n	kg	BW	
									L1	kg
500	645	600	570	350	2 450	30	22 x 20	850	700	990
600	755	705	670	390	2 850	30	26 x 20	1 040	800	1 150
700	860	810	775	430	3 250	30	26 x 24	1 250	900	1 490
800	975	920	880	470	3 650	30	30 x 24	1 540	1 000	1 890
900	1 075	1 020	980	510	4 050	30	30 x 24	1 990	1 100	2 150
1000	1 175	1 120	1 080	550	4 300	38	30 x 28	2 690	1 200	3 500
1200	1 405	1 340	1 295	630	5 100	45	33 x 32	3 500	1 400	4 390
1400	1 630	1 560	1 510	710	5 800	50	36 x 36	4 590	-	-
1600	1 830	1 760	1 710	790	6 600	50	36 x 40	6 200	-	-
1800	2 045	1 970	1 920	870	7 500	65	39 x 44	8 100	-	-
2000	2 265	2 180	2 125	950	8 200	80	42 x 48	10 190	-	-

PN 10

DN	D1	D2	D3	L	H (max.)*	b	∅d x n	kg	BW	
									L1	kg
500	670	620	585	700	2 450	30	26 x 20	1 050	700	1 010
600	780	725	685	800	2 850	35	30 x 20	1 250	800	1 190
700	895	840	800	900	3 300	40	30 x 24	1 890	900	2 750
800	1 015	950	905	1 000	3 700	45	33 x 24	2 400	1 000	2 120
900	1 115	1 050	1 005	1 100	4 100	50	33 x 28	3 090	1 100	2 790
1000	1 230	1 160	1 110	1 200	4 350	60	36 x 28	4 100	1 200	3 800
1200	1 455	1 380	1 330	1 400	5 200	75	39 x 32	5 300	1 400	4 950
1400	1 675	1 590	1 535	-	5 900	90	42 x 36	-	-	-
1600	1 915	1 820	1 760	-	6 700	100	48 x 40	-	-	-

PN 16

DN	D1	D2	D3	L	H (max.)*	b	∅d x n	kg	BW	
									L1	kg
500	715	650	610	700	2 500	45	33 x 20	1 190	700	1 100
600	840	770	725	800	2 900	50	36 x 20	1 390	800	1 290
700	910	840	795	900	3 400	55	36 x 24	2 250	900	2 050
800	1 025	950	900	1 000	3 750	65	39 x 24	3 090	1 000	2 690
900	1 125	1 050	1 000	1 100	4 150	70	39 x 28	4 050	1 100	3 700
1000	1 255	1 170	1 115	1 200	4 400	85	42 x 28	5 190	1 200	4 780
1200	1 485	1 390	1 330	1 400	5 300	105	48 x 32	6 850	1 400	7 390

PN 25

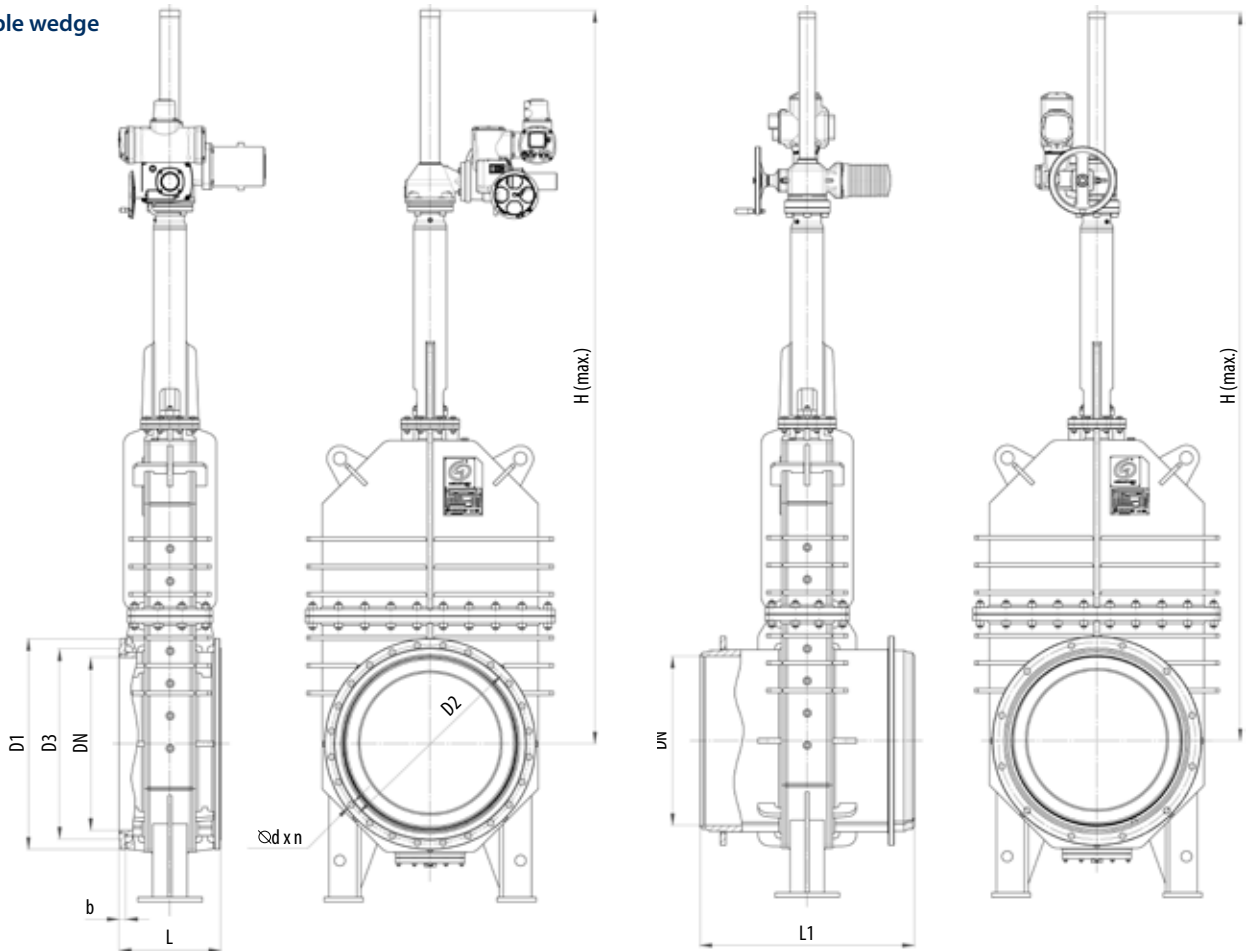
DN	D1	D2	D3	L	H (max.)*	b	∅d x n	kg	BW	
									L1	kg
500	730	660	615	700	2 500	60	36 x 20	1 250	700	1 190
600	845	770	720	800	2 900	70	39 x 20	1 480	800	1 390
700	960	875	820	900	3 400	80	42 x 24	2 400	900	2 250
800	1 085	990	930	1 000	3 750	95	48 x 24	3 600	1 000	3 200
900	1 185	1 090	1 030	1 100	4 150	105	48 x 28	4 500	1 100	4 000
1000	1 320	1 210	1 140	1 200	4 400	120	56 x 28	5 790	1 200	5 150
1200	-	-	1 350	1 400	5 300	-	-	-	1 400	7 790

* H (max.) - Maximum height in standard operation design



NPS 20-48 • Class 150 • Tmax 425 °C (595 °C)
 Body design: yoke gate valve
 Body, bonnet, wedge: fully welded
 Rising stem
 Solid / flexible wedge

Connection: ASME B16.5, ASME B16.47 FLANGED ENDS
 ASME B16.25 WELDED ENDS



Material

Position	Component	Carbon steel	Alloy steel	Carbon steel for low temperatures	Stainless steel
1	Body + overlay	A516 60 + 13Cr	A387 11 + 13Cr	A350 LF2 + 13Cr	A240 316
2	Bonnet	A516 60	A387 11	A350 LF2	A240 316
3	Wedge + overlay	A516 60 + 13Cr	A387 11 + 13Cr	A350 LF2 + 13Cr	A240 316 + 17Cr
5	Stem	1.4021 / A182 F6a			1.4057 / A182 F431
6	Bonnet bolts*	A193 B7	A193 B16	A320 L7	A193 B8
7	Bonnet nuts*	A194 2H	A194 4	A194 7	A194 8
8	Stem nut	42 3046 (Al-bronze) / A439 D2 (Ni-rezist)			
10	Gasket	Graphite with stainless steel insert			
11	Packing	Braided graphite cord + formed graphite rings			

Class 150

NPS	D1	D2	D3	L	H (max.)*	b	$\varnothing d \times n$	kg	BW	
									L1	kg
20	700	635	584,2	457	2 500	50	32 x 20	1 250	711	1 240
24	815	749,3	692,2	508	2 900	60	35 x 20	1 450	813	1 390
26	870	806,4	749	559	3 150	65	35 x 24	1 790	864	1 500
28	925	863,6	800	610	3 400	70	35 x 28	2 380	914	2 100
30	985	914,4	857	610	3 600	75	35 x 28	2 840	914	2 660
32	1 060	977,9	914	660	3 750	80	41,3 x 28	3 400	965	2 970
34	1 110	1 028,7	965	711	3 950	85	41,3 x 32	3 820	1 000	3 610
36	1 170	1 085,8	1 022	711	4 150	90	41,3 x 32	4 350	1 016	3 900
40	1 290	1 200,2	1 124	762	4 400	100	41,3 x 36	5 500	1 067	4 990
42	1 345	1 257,3	1 194	787	4 700	110	41,3 x 36	6 350	1 118	5 880
48	1 510	1 422,4	1 359	914	5 300	130	41,3 x 44	8 400	1 270	7 400

* H (max.) - Maximum height in standard operation design