

**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 50-600 • PN 16-100 • Tmax 450 °C (595 °C)

Body design: yoke gate valve

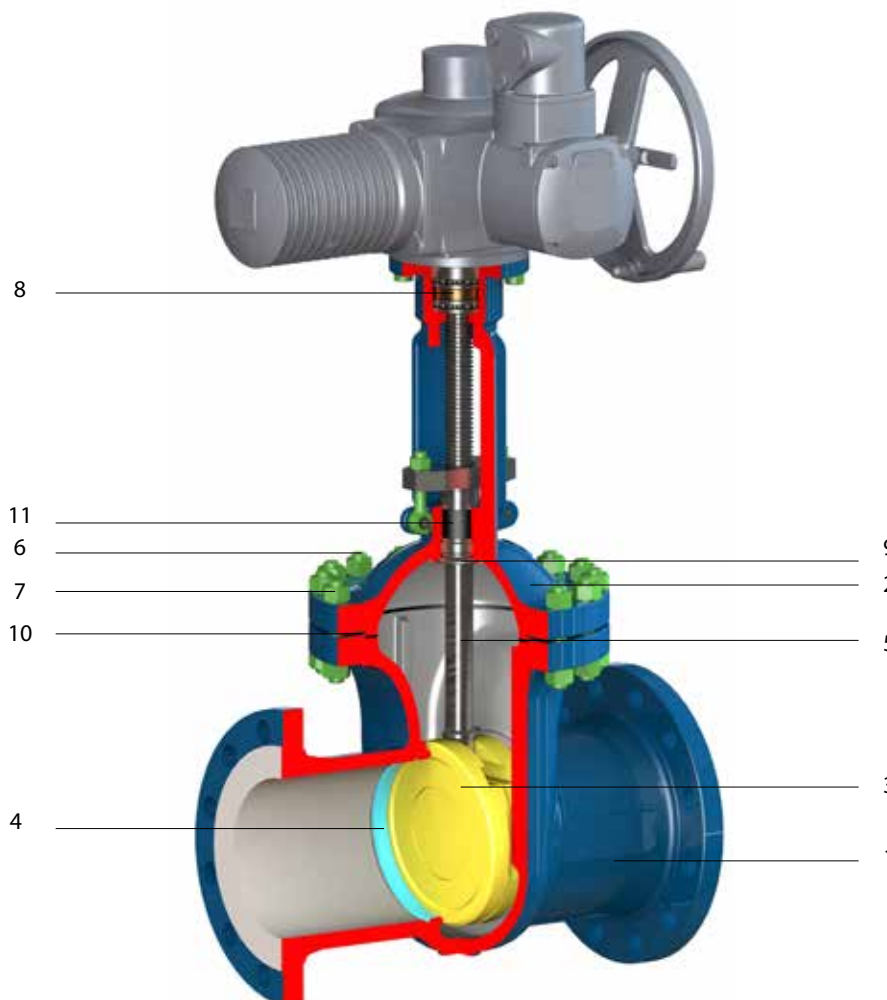
Body, bonnet, wedge: cast

Rising stem

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	1.0619 / A216 WCB	1.7357 / A217 WC6	1.6220 / A352 LCB	1.4408 / A351 CF8M
2	Bonnet	1.0619 / A216 WCB	1.7357 / A217 WC6	1.6220 / A352 LCB	1.4408 / A351 CF8M
3	Wedge + overlay	1.0619 / A216 WCB + 13Cr	1.7357 / A217 WC6 + Stellite 6	1.6220 / A352 LCB + F304	1.4408 / A351 CF8M
4	Seat + overlay	1.0460 / A105 + Stellite 6	1.7335 / A182 F11 + Stellite 6	1.0566 / A350 LF2 + Stellite 6	1.4401 / A182 F316
5	Stem	1.4021 / A182 F6a	1.4923 / A182 F6a	1.4301 / A182 F304	1.4401 / A182 F316
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	Ni-rezist, Al-bronze			
9	Back seat	1.4021 / A276 410T		1.4301 / A182 F304	1.4401 / A182 F316
10	Gasket	Graphite with stainless steel insert			
11	Packing	Pressed graphite			

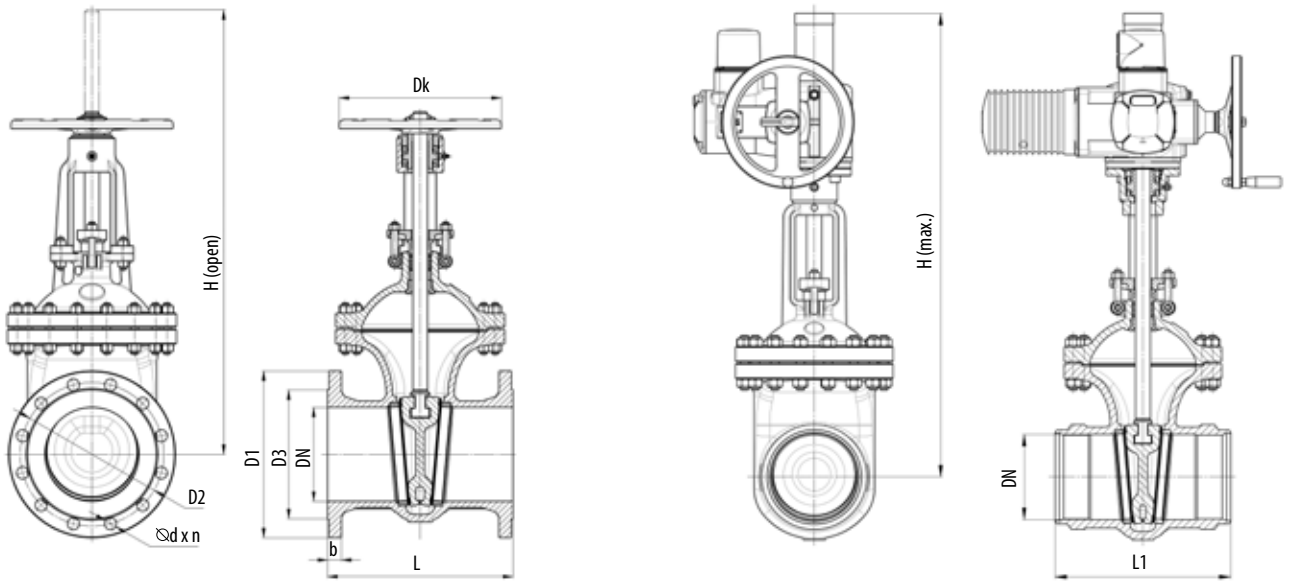
\* Other TRIMs according to API 600

\*\* Equivalent or according to customer's request



DN 50-600 • PN 16-100 • Tmax 450 °C (595 °C)  
 Body design: yoke gate valve

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



PN 16

DN	D1	D2	D3	L	H (open)	H (max.)*	Dk	b	∅d x n	kg	BW**	
											L1	kg
50	165	125	102	250	360	605	200	18	18 x 4	20	216	17
65	185	145	122	270	410	630	250	18	18 x 8	30	241	26
80	200	160	138	280	460	670	250	20	18 x 8	36	282	34
100	220	180	158	300	550	740	300	20	18 x 8	49	305	48
125	250	210	188	325	660	810	300	22	18 x 8	66	381	72
150	285	240	212	350	775	930	300	22	22 x 8	95	403	100
200	340	295	268	400	960	1070	350	24	22 x 12	154	419	160
250	405	355	320	450	1175	1245	400	26	26 x 12	225	457	240
300	460	410	378	500	1360	1430	500	28	26 x 12	334	502	355
350	520	470	438	550	1525	1550	550	30	26 x 16	445	762	490
400	580	525	490	600	1675	1720	600	32	30 x 16	610	838	690
500	715	650	610	700	2050	2080	700	44	33 x 20	1105	991	1070
600	840	770	725	800	2400	2480	800	54	36 x 20	1190	1143	1660

PN 25

DN	D1	D2	D3	L	H (open)	H (max.)*	Dk	b	∅d x n	kg	BW**	
											L1	kg
50	165	125	102	250	360	605	200	20	18 x 4	20	216	17
65	185	145	122	270	410	630	250	22	18 x 8	32	241	26
80	200	160	138	280	460	670	250	24	18 x 8	39	282	34
100	235	190	162	300	550	740	300	24	22 x 8	53	305	48
125	270	220	188	325	660	810	300	26	26 x 8	71	381	72
150	300	250	218	350	775	930	300	28	26 x 8	101	403	100
200	360	310	278	400	960	1070	350	30	26 x 12	160	419	160
250	425	370	335	450	1175	1245	400	32	30 x 12	232	457	240
300	485	430	395	500	1360	1430	500	34	30 x 16	345	502	355
350	555	490	450	550	1525	1550	550	38	33 x 16	460	762	490
400	620	550	505	600	1675	1720	600	40	36 x 16	645	838	690
500	730	660	615	700	2050	2080	700	48	36 x 20	1166	991	1070
600	845	770	720	800	2450	2480	800	58	39 x 20	1258	1143	1660



DN 50-600 • PN 16-100 • Tmax 450 °C (595 °C)  
Body design: yoke gate valve

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

## PN 40

DN	D1	D2	D3	L	H (open)	H (max.)*	Dk	b	∅d x n	kg	BW**	
											L1	kg
50	165	125	102	250	360	605	200	20	18 x 4	20	216	17
65	185	145	122	290	410	630	250	22	18 x 8	28	241	26
80	200	160	138	310	460	670	250	24	18 x 8	44	282	34
100	235	190	162	350	560	740	300	24	22 x 8	62	305	48
125	270	220	188	400	660	810	300	26	26 x 8	87	381	72
150	300	250	218	450	765	930	350	28	26 x 8	125	403	100
200	375	320	285	550	955	1070	400	34	30 x 12	265	419	160
250	450	385	345	650	1185	1245	450	38	33 x 12	405	457	240
300	515	450	410	750	1380	1430	500	42	33 x 16	500	502	355
350	580	510	465	850	1510	1550	500	46	36 x 16	725	762	490
400	660	585	535	950	1690	1720	600	50	39 x 16	1280	838	690
500	755	670	615	1150	2065	2080	600	52	42 x 20	1589	991	1070
600	890	795	735	1350	2465	2480	700	60	48 x 20	1903	1143	1660

## PN 63

DN	D1	D2	D3	L	H (open)	H (max.)*	Dk	b	∅d x n	kg	BW**	
											L1	kg
50	180	135	102	250	420	655	280	26	22 x 4	37	292	28
65	205	160	122	290	470	735	280	26	22 x 8	46	330	37
80	215	170	138	310	525	770	300	28	22 x 8	49	356	38
100	250	200	162	350	620	835	350	30	26 x 8	86	432	75
125	295	240	188	400	715	910	350	34	30 x 8	129	508	113
150	345	280	218	450	815	980	400	36	33 x 8	150	559	132
200	415	345	285	550	1115	1205	500	42	36 x 12	360	660	320
250	470	400	345	650	1280	1360	640	46	36 x 12	570	787	500
300	530	460	410	750	1550	1570	680	52	36 x 16	815	838	720
350	600	525	465	850	1665	1680	-	56	39 x 16	1080	889	950
400	670	585	535	950	1820	1840	-	60	42 x 16	1460	991	1290
500	800	705	615	1150	2235	2250	-	68	48 x 20	2315	1194	2040
600	930	820	735	1350	2570	2590	-	76	56 x 20	3480	1397	3060

## PN 100

DN	D1	D2	D3	L	H (open)	H (max.)*	Dk	b	∅d x n	kg	BW**	
											L1	kg
50	195	145	102	250	420	655	280	30	26 x 4	39	292	29
65	220	170	122	290	470	735	280	34	26 x 8	50	330	39
80	230	180	138	310	525	770	300	36	26 x 8	54	356	40
100	265	210	162	350	620	835	350	40	30 x 8	94	432	80
125	315	250	188	400	715	910	350	40	33 x 8	138	508	122
150	355	290	218	450	815	980	400	44	33 x 12	160	559	141
200	430	360	285	550	1115	1205	500	52	36 x 12	385	660	340
250	505	430	345	650	1280	1360	640	60	39 x 12	610	787	540
300	585	500	410	750	1550	1570	680	68	42 x 16	890	838	780
350	655	560	465	850	1665	1680	-	74	48 x 16	1190	889	1050
400	715	620	535	950	1820	1840	-	78	48 x 16	1570	991	1380
500	870	760	615	1150	2235	2250	-	90	56 x 20	2630	1194	2315
600	940	838	692	1350	2570	2590	-	105	52 x 24	3870	1397	3405

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

\*\* Butt-welded ends with forged nipples on request



**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.

**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** - according to ASME B16.5 a B16.47, face-to-face dimensions are according to ASME B16.10
- **welded ends** - according to ASME B16.25

**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
- operability test according to API 598
- other tests by agreement

**Installation**

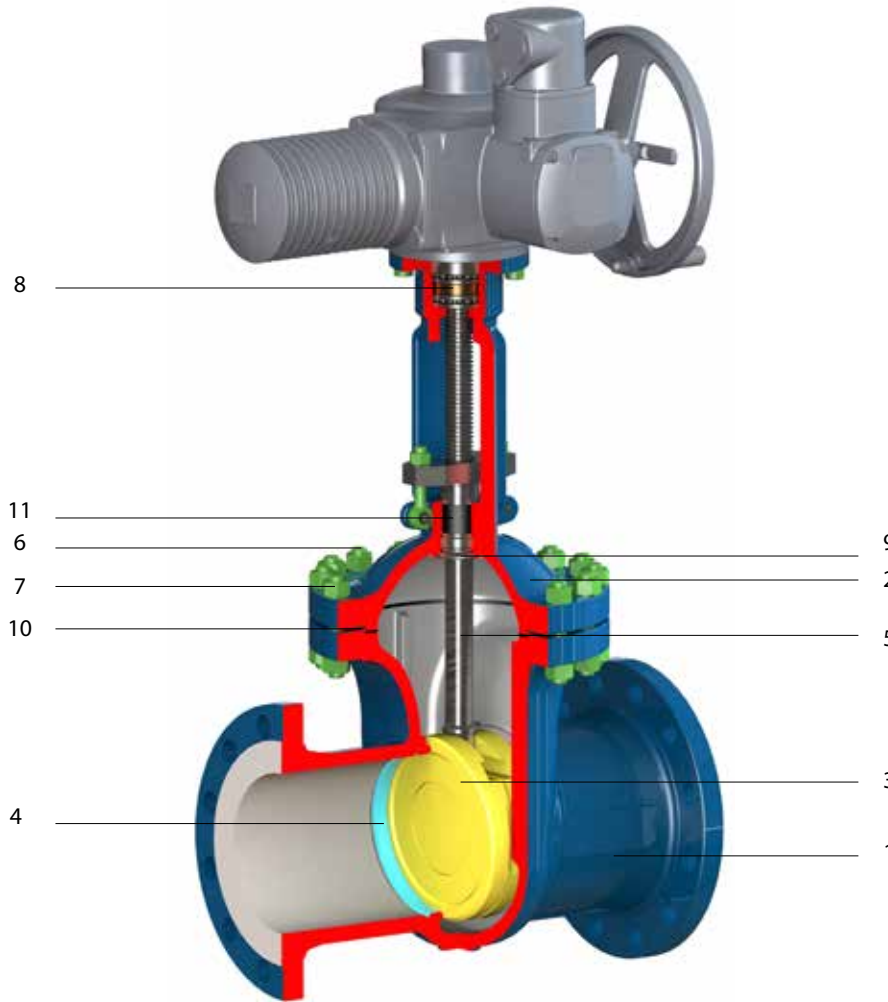
The gate valves may be installed into the piping in vertical or horizontal position. In case of gate valves equipped with an electric actuator or a pneumatic actuator, must you follow instructions of the manufacturer of actuators.

**Production range**

Type	Class	NPS																						
		2	2,5	3	4	6	8	10	12	14	16	18	20	24	26	28	30	32	34	36	40	42	48	
S33.1	150	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	300	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	600	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
S33.4	150												.	.	.	.	.	.	.	.	.	.	.	.

NPS 2-24 • Class 150-600 • Tmax 425 °C (595 °C)  
 Body design: yoke gate valve  
 Body, bonnet, wedge: cast  
 Rising stem  
 Flexible wedge

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



**Material acc. to ASTM**

Position	Component	Carbon steel	Alloy steel	Carbon steel for low temperatures	Stainless steel
1	Body	A216 WCB	A217 WC6	A352 LCB	A351 CF8M
2	Bonnet	A216 WCB	A217 WC6	A352 LCB	A351 CF8M
3	Wedge + overlay *	A216 WCB + 13Cr	A217 WC6 + Stellite 6	A352 LCB + F304	A351 CF8M
4	Seat + overlay *	A105 + Stellite 6	A182 F11 + Stellite 6	A350 LF2 + Stellite 6	A182 F316
5	Stem	A182 F6a	A182 F6a	A182 F304	A182 F316
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	A439 D2 (Ni-rezist), Al-bronze			
9	Back seat	A182 F6a / A276 410T		A182 F304	A182 F316
10	Gasket	Graphite with stainless steel insert			
11	Packing	Pressed graphite			

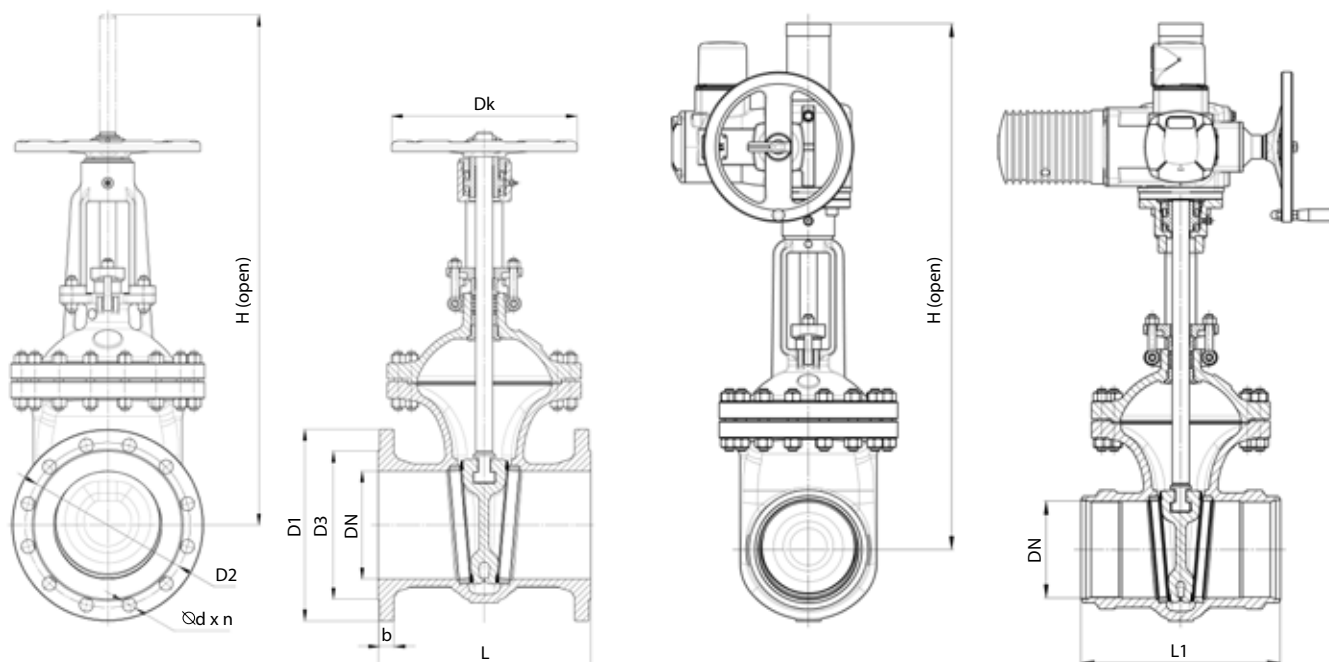
\* Other TRIMs according to API 600

\*\* Equivalent or according to customer's request



NPS 2-24 • Class 150-600 • Tmax 425 °C (595 °C)  
Body design: yoke gate valve

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



Class 150

NPS	D1	D2	D3	L	H (open)	H (max.)*	Dk	b	$\varnothing d \times n$	kg	BW**	
											L1	kg
2	150	120,7	92,1	178	397	645	200	14,3	19,1 x 4	18	216	18
2,5	180	139,7	104,8	190	435	660	250	15,9	19,1 x 4	26	241	28
3	190	152,4	127	203	497	710	250	17,5	19,1 x 4	34	282	30
4	230	190,5	157,2	229	585	775	250	22,3	19,1 x 8	52	305	50
6	280	241,3	215,9	267	765	920	350	23,9	22,4 x 8	88	403	85
8	345	298,5	269,9	292	973	1130	350	27	22,4 x 8	144	419	128
10	405	362	323,8	330	1160	1270	400	28,6	25,4 x 12	197	457	220
12	485	431,8	381	356	1362	1370	450	30,2	25,4 x 12	298	502	310
14	535	476,3	412,8	381	1520	1550	500	33,4	28,6 x 12	406	572	450
16	595	539,8	469,9	406	1725	1780	560	35	28,6 x 16	524	610	550
18	635	577,9	533,4	432	1930	1980	560	38,1	31,8 x 16	626	660	700
20	700	635	584,2	457	2160	2220	610	41,3	31,8 x 20	789	711	910
24	815	749,3	692,2	508	2540	2600	610	46,1	35 x 20	1033	813	1130

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

\*\* Butt-weld ends with forged nipples on request



NPS 2-24 • Class 150-600 • Tmax 425 °C (595 °C)  
Body design: yoke gate valve

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

### Class 300

NPS	D1	D2	D3	L	H (open)	H (max.)*	Dk	b	∅d x n	kg	BW**	
											L1	kg
2	165	127	92,1	216	422	670	200	20,7	19,1 x 8	24	216	19
2,5	190	149,2	104,8	241	446	695	250	23,9	22,4 x 8	31	241	29
3	210	168,3	127	282	512	725	250	27	22,4 x 8	52	282	38
4	255	200	157,2	305	603	790	250	30,2	22,4 x 8	76	305	57
6	320	269,9	215,9	403	804	955	350	35	22,4 x 12	146	403	118
8	380	330,2	269,9	419	1002	1170	400	39,7	25,4 x 12	218	419	183
10	445	387,4	323,8	457	1229	1345	400	46,1	28,6 x 16	352	457	278
12	520	450,8	381	502	1479	1550	460	49,3	31,8 x 16	460	502	406
14	585	514,4	412,8	762	1630	1680	560	52,4	31,8 x 20	857	762	565
16	650	571,5	469,9	838	1815	1855	460	55,6	35 x 20	1172	838	728
18	710	628,6	533,4	914	2000	2030	460	58,8	35 x 24	1281	914	806
20	775	685,8	584,2	991	2220	2230	560	62	35 x 24	1498	991	1231
24	915	812,8	692,2	1143	2620	2640	610	68,3	41,3 x 24	2282	1143	1890

### Class 600

NPS	D1	D2	D3	L	H (open)	H (max.)*	Dk	b	∅d x n	kg	BW**	
											L1	kg
2	165	127	92,1	292	420	630	250	25,4	19,1 x 8	46	292	31
2,5	190	149,2	104,8	330	470	670	300	28,6	22,4 x 8	62	330	57
3	210	168,3	127	356	525	720	300	31,8	22,4 x 8	72	356	65
4	275	215,9	157,2	432	620	820	350	38,1	25,4 x 8	128	432	87
6	355	292,1	215,9	559	715	900	450	47,7	28,6 x 12	216	559	169
8	420	349,2	269,9	660	815	1170	500	55,6	31,8 x 12	413	660	375
10	510	431,8	323,8	787	1115	1270	640	63,5	35 x 16	754	787	604
12	560	489	381	838	1280	1460	680	66,7	35 x 20	981	838	859
14	605	527	412,8	889	1550	1750	610	69,9	38,1 x 20	1316	889	1154
16	685	603,2	469,9	991	1665	1900	610	76,2	41,3 x 20	1672	991	1530
18	745	654	533,4	1092	1820	2020	640	82,6	44,5 x 20	2780	1092	2282
20	815	723,9	584,2	1194	2235	2150	700	88,9	44,5 x 24	3203	1194	2650
24	940	838,2	692,2	1397	2570	2650	750	101,6	50,8 x 24	4069	1397	3340

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

\*\* Butt-welded ends with forged nipples on request

