



Gate valves

Our valve technology experts
are at your service when you
are choosing the right valve
solutions for your needs!



Vexve – Inspired by your flow

Vexve is the leading European provider of valve solutions for the energy sector and selected energy-intensive industries.

The company is known for its superior product quality, the expertise of its personnel, and reliability as a partner. Vexve delivers its products to over 70 countries and employs over 700 people with factories in Finland, Czech Republic, Germany and China. Vexve aims to be the leading provider of mission-critical valve solutions in the transition to a low-carbon future.

Under the product brand Vexve Armatury we produce specialised, highly sophisticated valves for Gas & Hydrogen, Power, and Iron & Steel industries. The valves are designed according to the customer specifications taking into account the demanding operating requirements and highest safety standards.

The products are manufactured in our modern factory in Dolní Benesov, Czech Republic. We are specialized in valves for high pressure and temperatures. Products can be manufactured according to different standards such as EN, ASME and GOST.

The manufacturer of Vexve Armatury products is ARMATURY Group a.s., a part of the Vexve company.

Our extensive sales and distribution network covers more than 70 countries!

Content

Cast gate valves S33 (application, technical description)	4
Cast gate valves S33.1	5
Cast gate valves S33.2	8
Fabricated gate valves S33.4	10
Fabricated gate valves S33.5	13
Through-conduit gate valves S33.6	14
Forged gate valves S43 (application, technical description)	20
Forged gate valves S43.1	21
Fully welded gate valves S43.3	22
Forged gate valves with pressure bonnet S43.5	23
Control gate valves S33.C, S43.C	24
Type number composition	27

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, face-to-face dimensions are acc. to EN 558, Series 14, 15 and 26
- 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	•	•	•	•	•	•	•	•	•	•	•	•	•									
S33.4 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

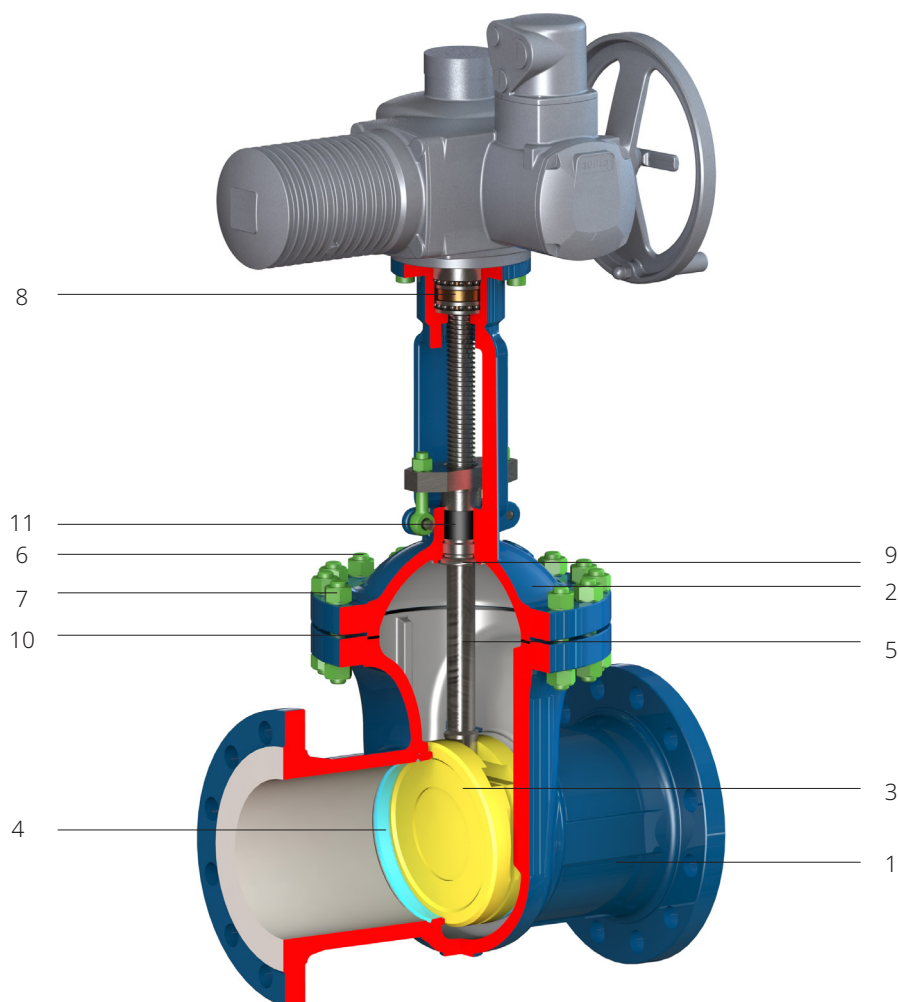
Rising stem

Flexible wedge

Connection:

☉ EN 1092-1 FLANGED ENDS

☼ EN 12627 WELDED ENDS



Material

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

Cast gate valves

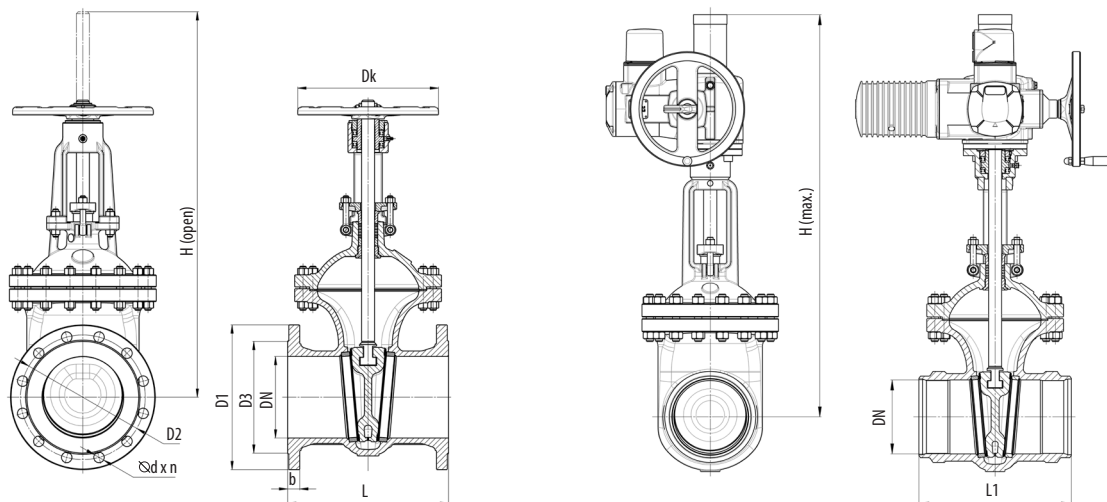
Type S33.1

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

Body design: yoke gate valve

Connection:

- ☉ EN 1092-1 FLANGED ENDS
- ☼ EN 12627 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

Cast gate valves

Type S33.1

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

Body design: yoke gate valve

Connection:

☉ EN 1092-1 FLANGED ENDS

✱ EN 12627 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

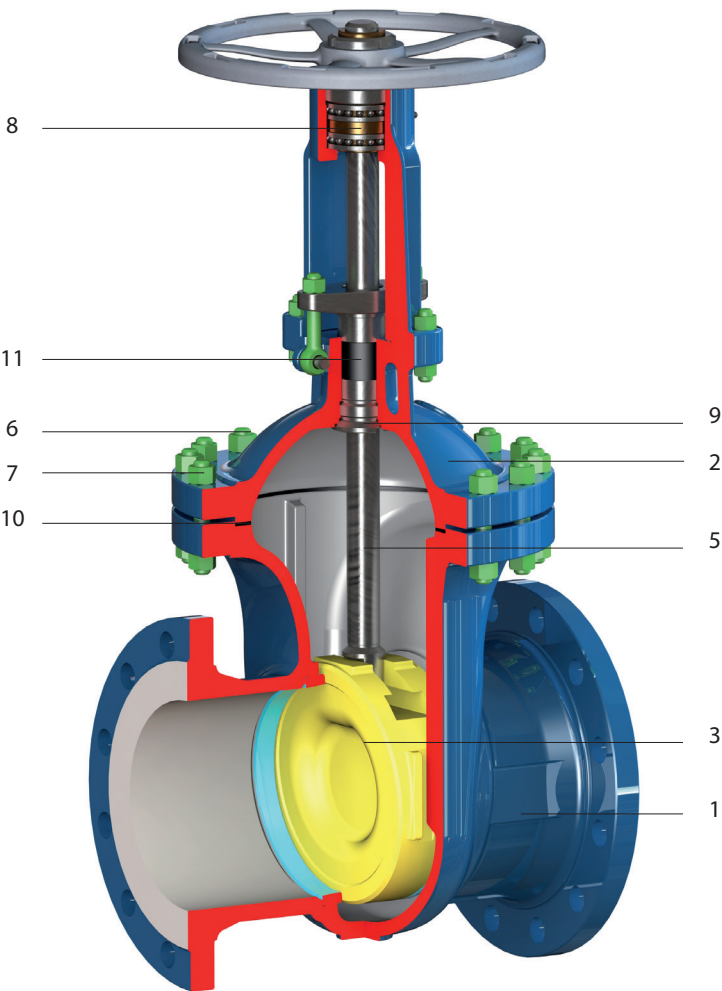
DN	D1	D2	D3	L	H (open)	H (max.)*	Dk	b	d x n	kg	BW**	
											L1	kg
50	195	145	102	250	420	655	280	30	26 x 4	39	292	29
65	220	170	122	290	470	735	280	34	26 x 8	50	330	39
80	230	180	138	310	525	770	300	36	26 x 8	54	356	40
100	265	210	162	350	620	835	350	40	30 x 8	94	432	80
125	315	250	188	400	715	910	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 weld ends with forged nipples on request

DN 50-600 • PN 6-16 • Tmax 450 °C (550 °C)
Body design: yoke gate valve
Body, bonnet, wedge: cast
Rising stem
Solid wedge

Connection:
☉ EN 1092-1 FLANGED ENDS
☼ EN 12627 WELDED ENDS



Material

Position	Component	Carbon steel	Stainless steel
1	Body + overlay	1.0619 / A216 WCB + 13Cr	1.4408 / A351 CF8M
2	Bonnet	1.0619 / A216 WCB	1.4408 / A351 CF8M
3	Wedge + overlay	1.0619 / A216 WCB + 13Cr	1.4408 / A351 CF8M
5	Stem	1.4021 / A182 F6a	1.4401 / A182 F316
6	Bonnet bolts*	1.7218 / A193 B7	1.4401 / A193 B8
7	Bonnet nuts*	1.1191 / A194 2H	1.4401 / A194 8
8	Stem nut	Ni-rezist, Al-bronze	
9	Back seat	Overlay 13Cr / 1.4021 / A276 410T	Overlay F316 / 1.4401 / A182 F316
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

Cast gate valves

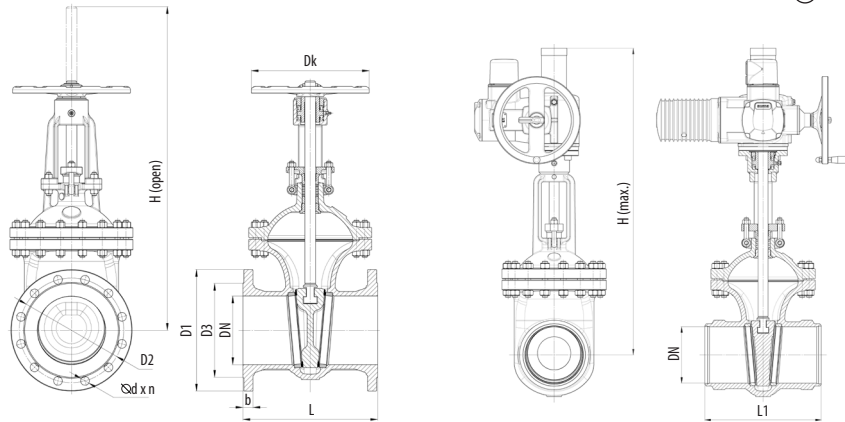
Type S33.2

DN 50-600 • PN 6-16 • Tmax 450 °C (550 °C)

Body design: yoke gate valve

Connection:

- ☉ EN 1092-1 FLANGED ENDS
- ☼ EN 12627 WELDED ENDS



PN 6

DN	D1	D2	D3	L	H (open)	H (max.)*	Dk	b	d x n	kg	BW**	
											L1	kg
50	140	110	90	150	360	605	160	14	14 x 4	16	-	-
65	160	130	110	170	430	650	160	14	14 x 4	18	-	-
80	190	150	128	180	470	680	160	16	18 x 4	23	-	-
100	210	170	148	190	545	735	200	16	18 x 4	36	-	-
125	240	200	178	200	650	790	200	18	18 x 8	48	-	-
150	265	225	202	210	720	885	200	18	18 x 8	60	-	-
200	320	280	258	230	950	1060	250	20	18 x 8	97	-	-
250	375	335	312	250	1170	1240	320	22	18 x 12	166	-	-
300	440	395	365	270	1430	1500	400	22	22 x 12	210	-	-
350	490	445	415	290	1540	1565	450	22	22 x 12	345	-	-
400	540	495	465	310	1755	1800	500	22	22 x 16	480	-	-
500	645	600	570	350	2195	2230	500	24	22 x 20	645	-	-
600	755	705	670	390	2660	2740	600	30	26 x 20	895	-	-

PN 10

DN	D1	D2	D3	L	H (open)	H (max.)*	Dk	b	d x n	kg	BW**	
											L1	kg
50	165	125	102	150	360	605	200	18	18 x 4	17	-	-
65	185	145	122	170	430	650	200	18	18 x 8	19	-	-
80	200	160	138	180	470	680	250	20	18 x 8	25	-	-
100	220	180	158	190	545	735	280	20	18 x 8	36	-	-
125	250	210	188	200	650	790	300	22	18 x 8	52	-	-
150	285	240	212	210	720	885	300	22	22 x 8	62	-	-
200	340	295	268	230	950	1060	350	24	22 x 8	88	-	-
250	395	350	320	250	1170	1240	400	26	22 x 12	180	-	-
300	445	400	370	270	1430	1500	450	26	22 x 12	230	-	-
350	505	460	430	290	1630	1565	500	26	22 x 16	380	-	-
400	565	515	482	310	1755	1800	600	26	26 x 16	505	-	-
500	670	620	585	350	2195	2230	600	28	26 x 20	700	-	-
600	780	725	685	390	2660	2740	600	34	30 x 20	985	-	-

PN 16

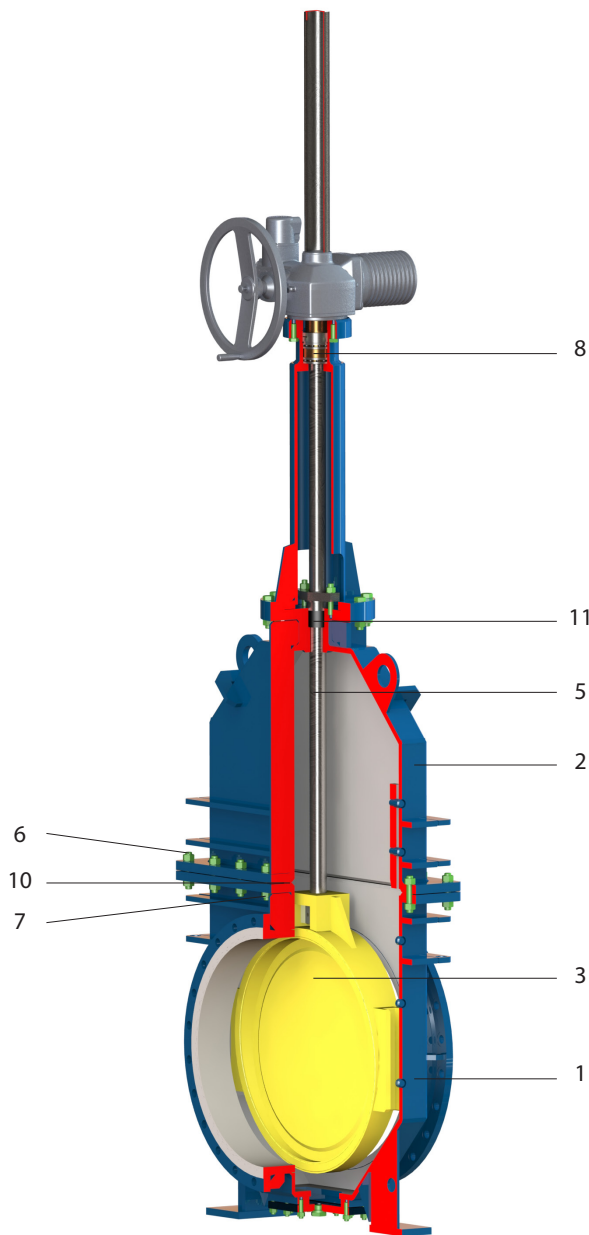
DN	D1	D2	D3	L	H (open)	H (max.)*	Dk	b	d x n	kg	BW**	
											L1	kg
50	165	125	102	180	360	645	200	18	18 x 4	20	250	19
65	185	145	122	200	430	730	200	18	18 x 8	21	270	29
80	200	160	138	210	470	740	200	20	18 x 8	32	280	34
100	220	180	158	230	545	790	250	20	18 x 8	40	300	48
125	250	210	188	255	650	780	250	22	18 x 8	49	325	68
150	285	240	212	280	720	930	320	22	22 x 8	74	350	92
200	340	295	268	330	953	1060	400	24	22 x 12	117	400	155
250	405	355	320	450	1225	1295	450	26	26 x 12	210	450	240
300	460	410	378	500	1440	1510	500	28	26 x 12	300	500	355
350	520	470	438	550	1650	1675	600	30	26 x 16	510	550	450
400	580	525	490	600	1820	1865	600	32	30 x 16	670	600	630
500	715	650	610	700	2080	2110	700	44	33 x 20	930	700	990
600	840	770	725	800	2560	2640	800	54	36 x 20	1310	800	1500

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

** Butt-weld ends with forged nipples on request. Butt-weld ends PN 16 on request.

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 12627 WELDED ENDS



Material

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			

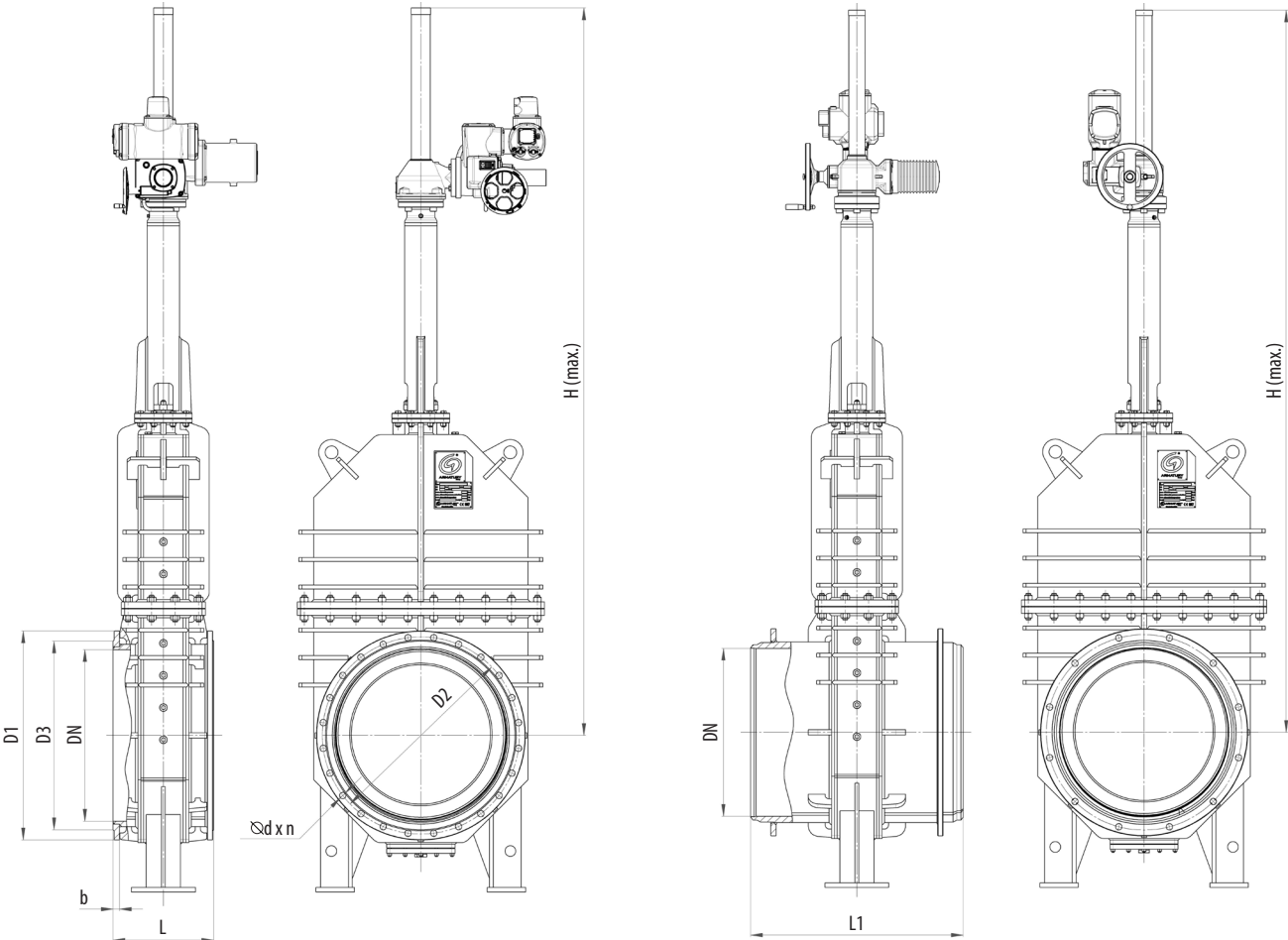
* Other TRIMs according to API 600
** Equivalent or according to customer's request

Fabricated gate valves

Type S33.4

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

- Connection:
- ⊙ EN 1092-1 FLANGED ENDS
 - ⊛ EN 12627 WELDED ENDS



PN 2,5

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	1 190
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	-	-

Fabricated gate valves

Type S33.4

DN 500-2000 • PN 2,5-25 • Tmax 400 °C (530 °C)

Body design: yoke gate valve

Connection:

☉ EN 1092-1 FLANGED ENDS

☼ EN 12627 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

Fabricated gate valves

Type S33.5

DN 500-1200 • PN 10-25 • Tmax 250 °C

Body design: bonnet gate valve

Body, bonnet, wedge: fully welded

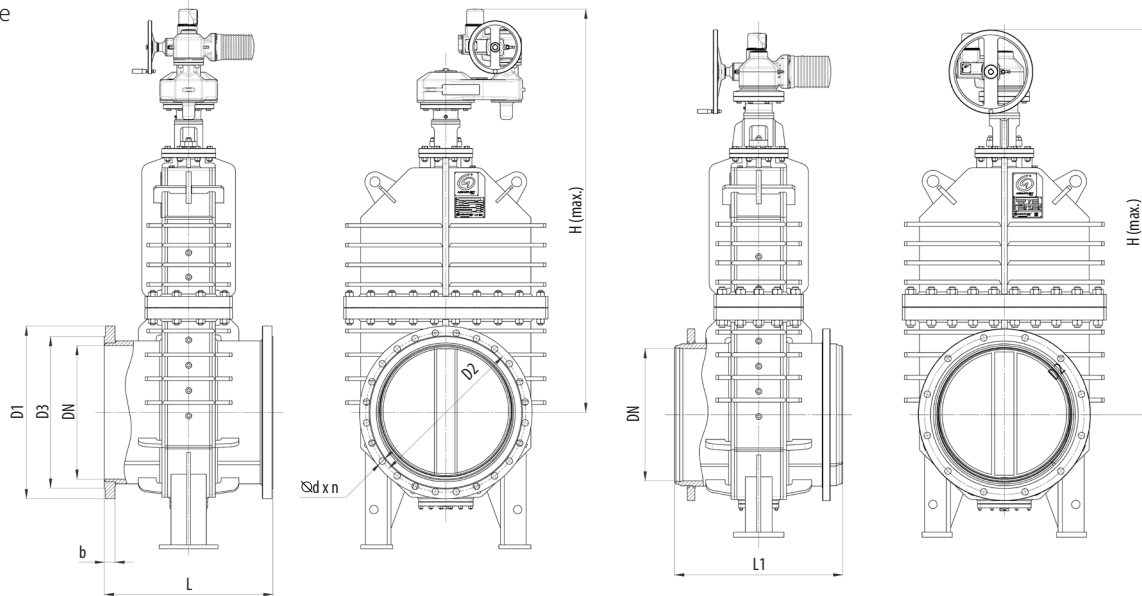
Non-rising stem

Solid wedge

Connection:

☉ EN 1092-1 FLANGED ENDS

☼ EN 12627 WELDED ENDS



PN 10

DN	D1	D2	D3	L	H (max.)*	b	d x n	kg	BW	
									L1	kg
500	670	620	585	700	1 950	30	26 x 20	1 050	700	1 010
600	780	725	685	800	2 220	35	30 x 20	1 250	800	1 190
700	895	840	800	900	2 490	40	30 x 24	1 890	900	2 750
800	1 015	950	905	1 000	2 700	45	33 x 24	2 400	1 000	2 120
900	1 115	1 050	1 005	1 100	2 970	50	33 x 28	3 090	1 100	2 790
1000	1 230	1 160	1 110	1 200	3 190	60	36 x 28	4 100	1 200	3 800
1200	1 455	1 380	1 330	1 400	3 550	75	39 x 32	5 300	1 400	4 950

PN 16

DN	D1	D2	D3	L	H (max.)*	b	d x n	kg	BW	
									L1	kg
500	715	650	610	700	2 000	45	33 x 20	1 190	700	1 100
600	840	770	725	800	2 300	50	36 x 20	1 390	800	1 290
700	910	840	795	900	2 550	55	36 x 24	2 250	900	2 050
800	1 025	950	900	1 000	2 800	65	39 x 24	3 090	1 000	2 690
900	1 125	1 050	1 000	1 100	3 060	70	39 x 28	4 050	1 100	3 700
1000	1 255	1 170	1 115	1 200	3 300	85	42 x 28	5 190	1 200	4 780
1200	1 485	1 390	1 330	1 400	3 700	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	2 000	60	36 x 20	1 250	700	1 190
600	845	770	720	800	2 300	70	39 x 20	1 480	800	1 390
700	960	875	820	900	2 550	80	42 x 24	2 400	900	2 250
800	1 085	990	930	1 000	2 800	95	48 x 24	3 600	1 000	3 200
900	1 185	1 090	1 030	1 100	3 060	105	48 x 28	4 500	1 100	4 000
1000	1 320	1 210	1 140	1 200	3 300	120	56 x 28	5 790	1 200	5 150
1200	-	-	1 350	1 400	3 700	-	-	-	1 400	7 790

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

Application

Through-conduit gate valves are isolating valves designed for full closing of the working media flow. They can be used for temperatures up to 200 °C. If the gate valves are used for regulating or throttling purposes, the manufacturer does not guarantee the tightness. The gate valves are full-bore piggable valves with a flow resistance coefficient equal to that of the piping. Therefore they are suitable especially for long-distance pipeline systems.

Working medium

- water
- non-corrosive liquids
- petroleum and petroleum products
- gas

The working medium shall not contain any mechanical impurities.

Technical description

The gate valves are designed in compliance with API 6D.

- Welded design, cylinder type - the gate valve body is made of wrought semi-finished products.
- Welded design, flat type - the gate valve body is made of wrought semi-finished products.

The body parts and the bonnet are connected by a flanged joint. The slide is entered from the top (TOP ENTRY) and the obturator can be situated in its lower part or its upper part as required by the customer. The design of seats incorporates a primary metal-to-metal sealing and a secondary soft sealing ring in the seat. The design of seats enable to depressurize the valve body cavity (DBB) and to relieve the increased pressure from the body cavity to the piping automatically. The stem is sealed by self-sealing PTFE lip seals or O-rings.

Operation

- manual bevel gear
- electric actuator
- pneumatic actuator
- bare stem ready for connection of an actuator

The standard connecting dimensions for connection of a manual gear operator or an electric actuator are according to ISO 5210.

Accessories

- drain valve or plug
- vent valve or plug
- by-pass valve
- sealant injection to seats and stem
- specific requirements

If accessories are not specified by the customer, the scope of its delivery meets the requirements of API Spec 6D, ISO 14313.

Testing

Pressure tests are carried out with water in compliance with API Spec 6D or API 598. Special tests as required by the customer.

Connection to the piping

- welded ends - according to ASME B16.25
End-to-end dimensions according to API Spec 6D.
- flanged ends - according to ASME B16.5, ASME B16.47

Installation

The gate valves shall be installed into horizontal piping in vertical position with the actuator on the top only.

Advantages

- very low flow resistance coefficient
- special design of seats - guarantee of 100% tightness
- pigability
- no danger of entrapment of liquid in the body cavity
- seating surfaces of the seats in permanent contact with the gate
- TOP ENTRY design - possibility of refurbishment without removal from the piping system
- stem cover with position indicator

Production range

Type	Class	NPS																					
		4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	48	
Welded	150	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
	300	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
	400	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
	600	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	

Through-conduit gate valves

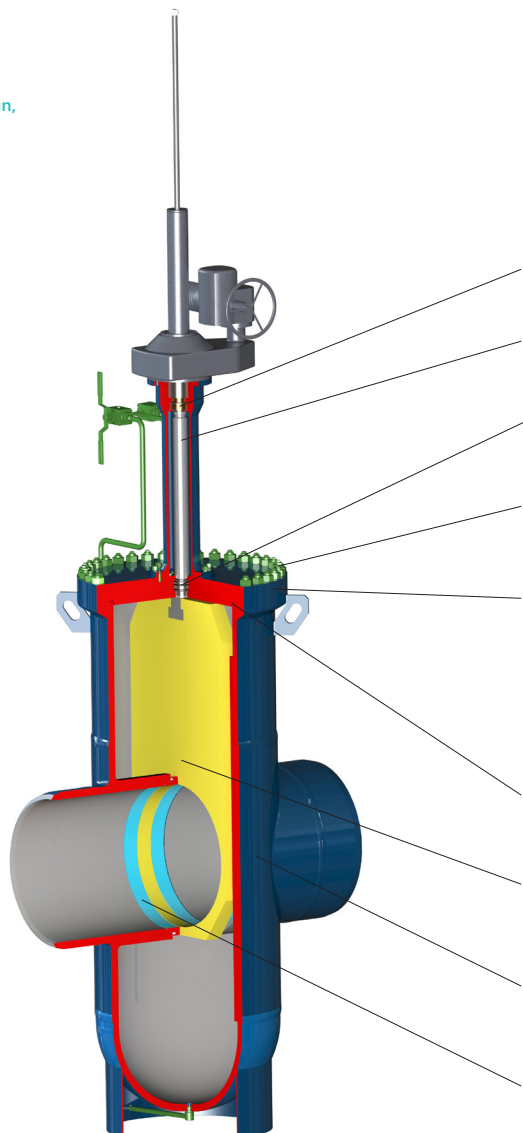
Type S33.6

NPS 4-48 • Class 150-600 • Tmax 200 °C
Body design: through-conduit gate valve
according to API Spec 6D
Full bore

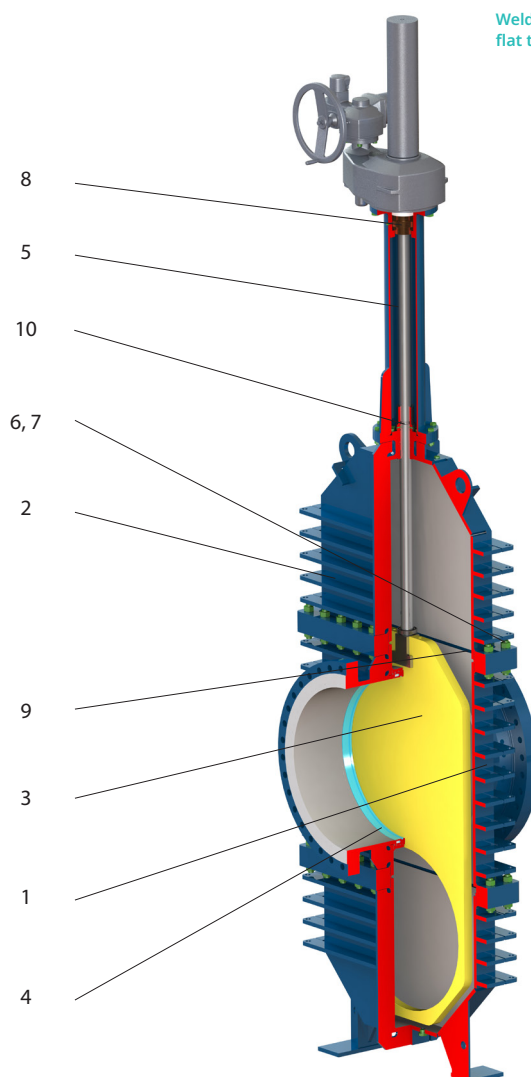
Connection:

- ⊙ ASME B16.5, ASME B16.47 FLANGED ENDS
- ⊛ ASME B16.25 WELDED ENDS

Welded design,
cylinder type



Welded design,
flat type



Material

Position	Component	Carbon steel for low temperature		Carbon steel	
1	Body	A516 Gr.70	1.104, P355NL2	A516 Gr.60	P355NL1
2	Bonnet	A516 Gr.70	1.104, P355NL2	A516 Gr.60	P355NL1
3	Slide	A516 Gr.70		A516 Gr.60 + ENP	
4	Seat	A350LF2 + ENP + HNBR + PEEK		A350LF2 + ENP + HNBR + PEEK	
5	Stem	A182 F6a	1.4021	A182 F6a	1.4021
6	Bonnet bolt	A320 L7*		A320 L7*	
7	Bonnet nut	A194 7*		A194 7*	
8	Stem nut	Al-bronze			
9	Bonnet gasket	Graphite, Viton*			
10	Packing	PTFE, Viton*			

*Equivalent or as required by the customer

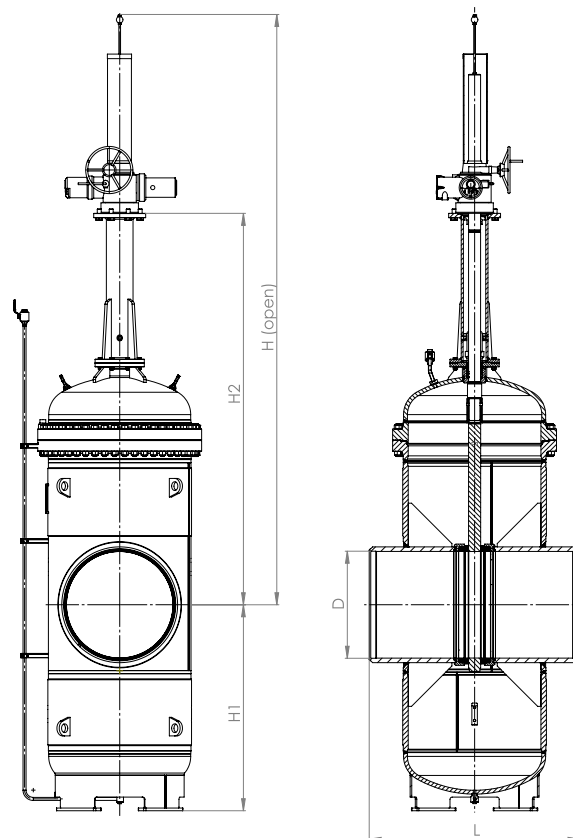
Through-conduit gate valves

Type S33.6

NPS 4-48 • Class 300-600 • Tmax 200 °C
 Body design: through-conduit gate valve
 according to API Spec 6D
 Fully welded design, cylinder type

Connection:

- ⊙ ASME B16.5, ASME B16.47 FLANGED ENDS
- ✱ ASME B16.25 WELDED ENDS



Class 300

NPS	D	L WE	L RF	H1	H2	H (open)	kg WE	kg RF
4	102	305	305	270	530	905	140	155
6	152	403	403	340	640	1100	225	245
8	203	419	419	430	840	1390	370	410
10	254	457	457	500	960	1640	530	585
12	305	502	502	565	1100	1880	700	770
14	337	762	762	630	1170	2010	990	1090
16	387	838	838	700	1360	2300	1340	1480
18	438	914	914	770	1460	2540	1700	1880
20	489	991	991	845	1600	2795	2150	2380
22	540	1092	1092	980	1800	3120	2700	2850
24	591	1143	1143	1035	1900	3360	3050	3400
26	635	1245	1245	1150	2100	3600	3800	4200
28	686	1346	1346	1200	2200	3840	4500	4950
30	737	1397	1397	1280	2310	4070	5300	5900
32	781	1524	1524	1345	2490	4350	6050	6700
34	832	1626	1626	1410	2640	4590	7050	7800
36	876	1727	1727	1500	2750	4800	7950	8800
38	927	-	-	1600	2950	5100	9000	10000
40	978	1931	1931	1650	3140	5400	9500	10500
42	1022	-	-	1750	3200	5540	11400	12600
48	1168	2286	2286	1950	3600	6300	16500	18200

Through-conduit gate valves

Type S33.6

NPS 4-48 • Class 300-600 • Tmax 200 °C
Body design: through-conduit gate valve
according to API Spec 6D

Connection:

- ☉ ASME B16.5, ASME B16.47 FLANGED ENDS
- ☼ ASME B16.25 WELDED ENDS

Class 400

NPS	D	L WE	L RF	H1	H2	H (open)	kg WE	kg RF
4	102	406	406	270	530	905	155	175
6	152	495	495	340	640	1100	255	285
8	203	597	597	430	840	1390	420	460
10	254	673	673	500	960	1640	635	705
12	305	762	762	565	1100	1920	815	910
14	337	826	826	630	1170	2050	1050	1180
16	387	902	902	700	1360	2340	1600	1780
18	438	978	978	800	1460	2600	2050	2275
20	489	1054	1054	870	1600	2850	2200	2450
22	540	1143	1143	980	1800	3100	3300	3650
24	591	1232	1232	1040	1950	3360	3950	4450
26	635	1308	1308	1150	2100	3650	4800	5350
28	686	1397	1397	1250	2200	3850	5450	6100
30	737	1524	1524	1300	2400	4200	6500	7250
32	781	1651	1651	1360	2500	4350	7600	8450
34	832	1778	1778	1450	2640	4600	8600	9650
36	876	1880	1880	1550	2750	4850	9800	11000
38	927	-	-	1600	2950	5100	11000	12500
40	978	2083	2083	1650	3140	5400	13400	14800
42	1022	-	-	1750	3200	5600	14600	16200
48	1168	-	-	1950	3600	6300	20400	22700

Class 600

NPS	D	L WE	L RF	H1	H2	H (open)	kg WE	kg RF
4	102	432	432	280	530	905	270	300
6	152	559	559	350	660	1100	320	390
8	203	660	660	430	840	1390	530	570
10	254	787	787	510	960	1640	805	895
12	305	838	838	580	1120	1920	1150	1200
14	337	889	889	630	1200	2050	1250	1380
16	387	991	991	720	1360	2340	2050	2260
18	438	1092	1092	800	1500	2600	2650	2900
20	489	1194	1194	870	1660	2850	3350	3750
22	540	1295	1295	980	1870	3100	4100	4600
24	591	1397	1397	1060	2000	3360	4350	5000
26	635	1448	1448	1150	2150	3650	5900	6600
28	686	1549	1549	1250	2250	3850	6700	7500
30	737	1651	1651	1320	2400	4200	7800	8650
32	781	1778	1778	1380	2550	4350	8900	9900
34	832	1930	1930	1450	2750	4600	10300	11400
36	876	2083	2083	1550	2850	4850	11750	13000
38	927	-	-	1600	3000	5100	13300	14800
40	978	-	-	1700	3160	5400	15200	16800
42	1022	2439	2439	1800	3300	5600	16800	18700
48	1168	-	-	2000	3750	6300	23900	26500

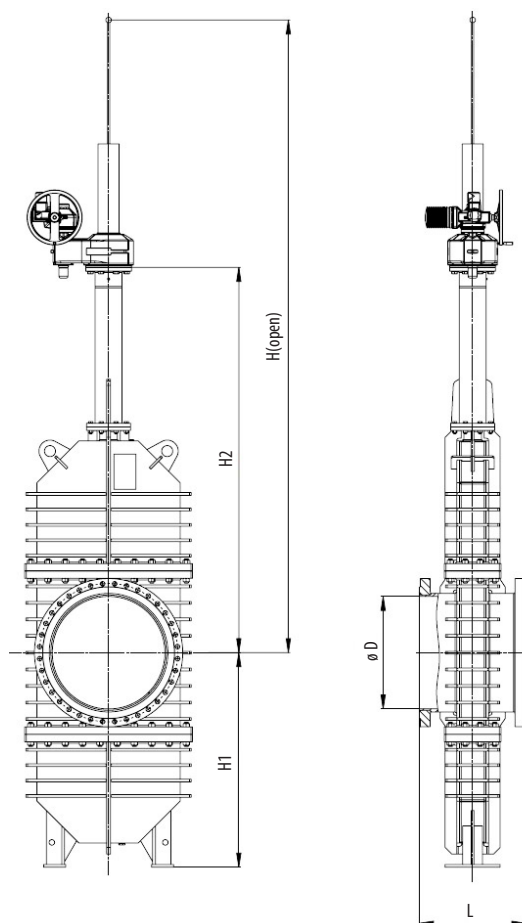
Through-conduit gate valves

Type S33.6

NPS 4-48 • Class 150 • Tmax 200 °C
 Body design: through-conduit gate valve
 according to API Spec 6D
 Welded design, flat type

Connection:

- ⊙ ASME B16.5, ASME B16.47 FLANGED ENDS
- ✱ ASME B16.25 WELDED ENDS



Class 150

NPS	D	L WE	L RF	H1	H2	H (open)	kg WE	kg RF
4	102	305	229	270	530	905	90	100
6	152	403	267	340	640	1100	178	200
8	203	419	292	430	840	1390	318	348
10	254	457	330	500	960	1640	445	505
12	305	502	356	565	1100	1880	520	575
14	337	572	381	630	1170	2010	815	905
16	387	610	406	700	1360	2300	910	1010
18	438	660	432	770	1460	2540	1340	1490
20	489	711	457	845	1600	2795	1610	1790
22	540	762	508	980	1800	3120	1990	2205
24	591	813	508	1035	1900	3360	2320	2580
26	635	864	559	1150	2100	3600	2680	2980
28	686	914	610	1200	2200	3840	3140	3480
30	737	914	660	1280	2310	4070	3590	3980
32	781	965	711	1345	2490	4350	4120	4580
34	832	1016	762	1410	2640	4590	4700	5200
36	876	1016	813	1500	2750	4800	5100	5680
38	927	-	-	1600	2950	5100	5680	6300
40	978	-	1575	1650	3140	5400	6300	7000
42	1022	-	1625	1750	3200	5540	6950	7700
48	1168	-	1803	1950	3600	6300	8900	9900

Through-conduit gate valves

Type S33.6

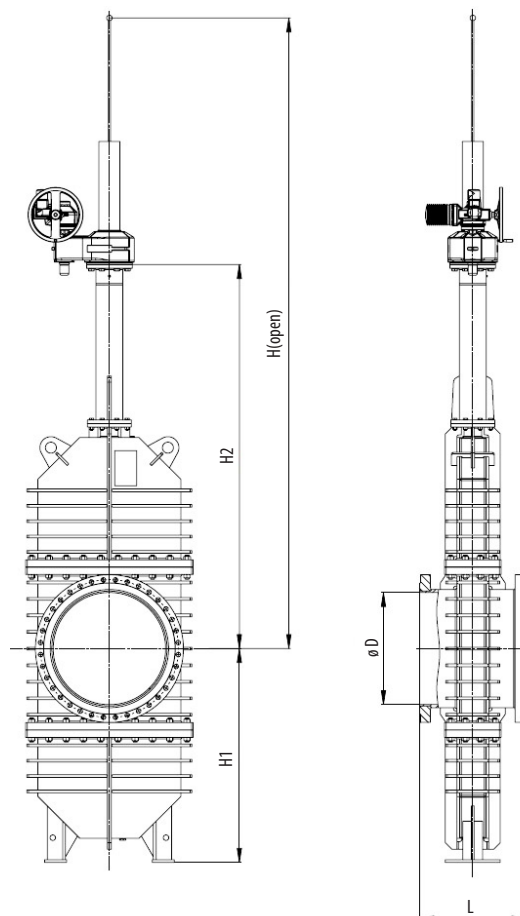
NPS 4-48 • Class 300 • Tmax 595 °C

Body design: through-conduit gate valve
according to API Spec 6D

Welded design, flat type

Connection:

- ⊙ ASME B16.5, ASME B16.47 FLANGED ENDS
- ✱ ASME B16.25 WELDED ENDS



Class 300

NPS	D	L WE	L RF	H1	H2	H (open)	kg WE	kg RF
4	102	305	305	270	530	905	90	110
6	152	403	403	340	640	1100	178	215
8	203	419	419	430	840	1390	318	380
10	254	457	457	500	960	1640	500	660
12	305	502	502	565	1100	1880	800	910
14	337	762	762	630	1170	2010	820	1010
16	387	838	838	700	1360	2300	1100	1360
18	438	914	914	770	1550	2640	1650	1950
20	489	991	991	970	1700	2890	1950	2400
22	540	1092	1092	980	1900	3220	2400	2900
24	591	1143	1143	1035	2000	3460	3100	3650
26	635	1245	1245	1150	2200	3700	3600	4050
28	686	1346	1346	1200	2300	3940	4100	4700
30	737	1397	1397	1280	2400	4170	4800	5350
32	781	1524	1524	1350	2600	4450	6300	6950
34	832	1626	1626	1410	2750	4700	7000	7800
36	876	1727	1727	1500	2850	4900	7750	8500
38	927	-	-	1600	3050	5200	9350	10000
40	978	-	2083	1700	3250	5500	11000	11700
42	1022	-	2134	1800	3300	5700	12000	12800
48	1168	-	2286	2000	3700	6400	17500	18600

Application

Gate valves are shut-off valves. It is used especially in power engineering, chemical industry as well as other industries depending on material selection.

Working medium

- water
- steam
- gas
- other fluids

Technical description

The body is a forging into which a flexible wedge is inserted through the yoke-type bonnet or through the pressure seal bonnet. The seating surfaces of the wedge are hard faced and proper seating of the wedge is provided for by precision-machined guides in the body. The seat rings are weld deposited in the body and hard faced as well. The bonnet and the stuffing box are sealed with special graphite gaskets and packing rings. The gate valves can be on request designed with pressure cavity released system against over pressurizing of body cavity. There is an option of drilling a hole on an input side of the disc, using diaphragm or safety valve or making a by-pass. Also upon request, the gate valve can be equipped with one to three bypass valves.

Connection to the piping

- flanged ends acc. to EN 1092-1
- welded ends acc. to EN 12627

Position	Component
1	Body
2	Pressure seal bonnet
3	Wedge + overlay
4	Seat + overlay
5	Stem
6	Stem nut
7	Segmented ring
8	Gasket
9	Packing

Operation

- manual (hand wheel)
- electric actuator
- pneumatic actuator
- actuator located out of the valve

Gate valves can be equipped with a locking device.

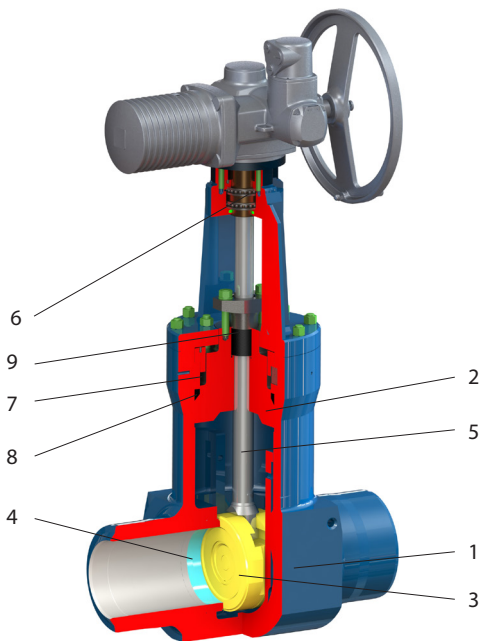
Testing

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. There is a separate pressure-temperature system for the valves, we will send it on request.



Production range

Typ	PN	DN													
		50	65	80	100	125	150	200	250	300	350	400	500	600	
S43.1	63	•	•	•	•	•	•	•	•	•	•				
	100	•	•	•	•	•	•	•	•	•	•				
S43.3	16	•	•	•	•	•	•	•	•	•	•	•			
	25	•	•	•	•	•	•	•	•	•	•	•			
	40	•	•	•	•	•	•	•	•	•	•	•			
	63	•	•	•	•	•	•	•	•	•	•	•			
	100	•	•	•	•	•	•	•	•	•	•	•			
	160		•	•	•	•	•	•	•	•	•	•	•	•	
S43.5	250		•	•	•	•	•	•	•	•	•	•	•	•	
	320		•	•	•	•	•	•	•	•	•	•			
	400		•	•	•	•	•	•	•	•	•	•			

Forged gate valves

Type S43.1

DN 50-350 • PN 63-100 • Tmax 600 °C (450 °C)

Body design: forged body, bolted bonnet

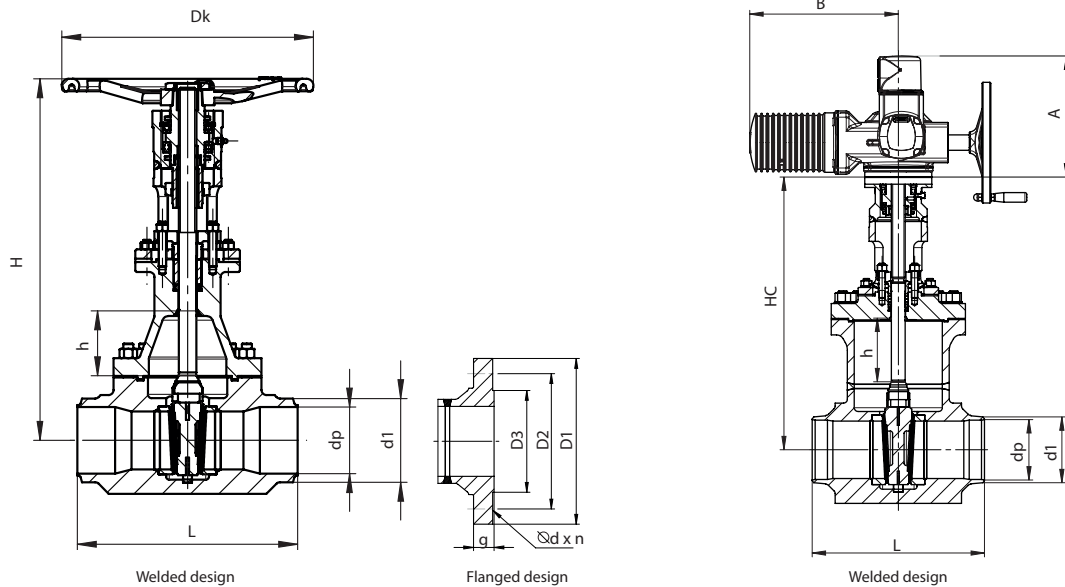
Gate valve can be supplied in cast design as well.

Rising stem

Connection:

☉ EN 1092-1 FLANGED ENDS

☼ EN 12627 WELDED ENDS



Material acc. to EN

Component	Tmax 450 °C	Tmax 530 °C	Tmax 560 °C	Tmax 570 °C	Tmax 600 °C
Body, bonnet, wedge	P250GH (1.0460)	16Mo3 (1.5415)	13CrMo4-5 (1.7335)	14MoV6-3 (1.7715)	11CrMo9-10 (1.7383)
Stem	X39CrMo17-1 (1.4122)				
Seat + overlay	1.0460 + Stellite	1.5415 + Stellite	1.7335 + Stellite	1.7715 + Stellite	1.7383 + Stellite
Wedge + overlay	1.0460 + Stellite	1.5415 + Stellite	1.7335 + Stellite	1.7715 + Stellite	1.7383 + Stellite
Packing ring	Graphite				

PN 63-100

Welded ends											
DN	d1	dp		L	H	HC	HC	h	Dk	kg PN 63	kg PN 100
		PN 63	PN 100								
50	62	54		250	463	430	430	61	400	28,2	32,2
65	77	69		290	624	420	420	77	400	40,9	45,9
80	91	81		310	545	520	520	92	500	48,7	49,7
100	117	104		350	590	530	530	115	500	70,6	81,6
125	144	130,5	127	400	700	640	640	140	500	133,9	135,9
150	172	156,5	154	450	760	700	700	160	700	215,1	228,1
200	223	204,5	199,5	550	920	850	85	225	700	260,0	360,0
250	278	255	248,5	650	1180	980	980	270	850	440,2	591,4
300	329	301	295,5	750	1540	1450	1450	325	800	604,5	864,0
350	362	330		850	1395	1500	1500	355	630	814,6	963,8

PN 63-100

Flanged ends														
DN	L	D3	PN 63						PN 100					
			D1		D2	d x n	g	kg	D1		D2	d x n	g	kg
			GOST	EN					GOST	EN				
50	250	102	175	180	135	22 x 4	26	39	195		145	26 x 4	30	43
65	290	122	200	205	160	22 x 8	26	56	220		170	26 x 8	34	61
80	310	138	210	215	170	22 x 8	28	62	230		180	26 x 8	36	63
100	350	162	250		200	26 x 8	30	97	265		210	30 x 8	40	108
125	400	188	295		240	30 x 8	34	164	310	315	250	33 x 8	40	166
150	450	218	340	345	280	33 x 12	36	265	350	355	290	33 x 12	44	278
200	550	285	405	415	345	36 x 12	42	335	430		360	36 x 12	52	437
250	650	345	470		400	36 x 16	46	498	500	505	430	39 x 12	60	692
300	750	410	530		460	36 x 16	52	677	585		500	42 x 16	68	1010
350	850	465	595	600	525	39 x 16	56	914	655		560	48 x 16	74	1158

Dimensions A and B depend on the particular actuator type.

Fully welded gate valves

Type S43.3

DN 50-400 • PN 16-100 • Tmax 100 °C

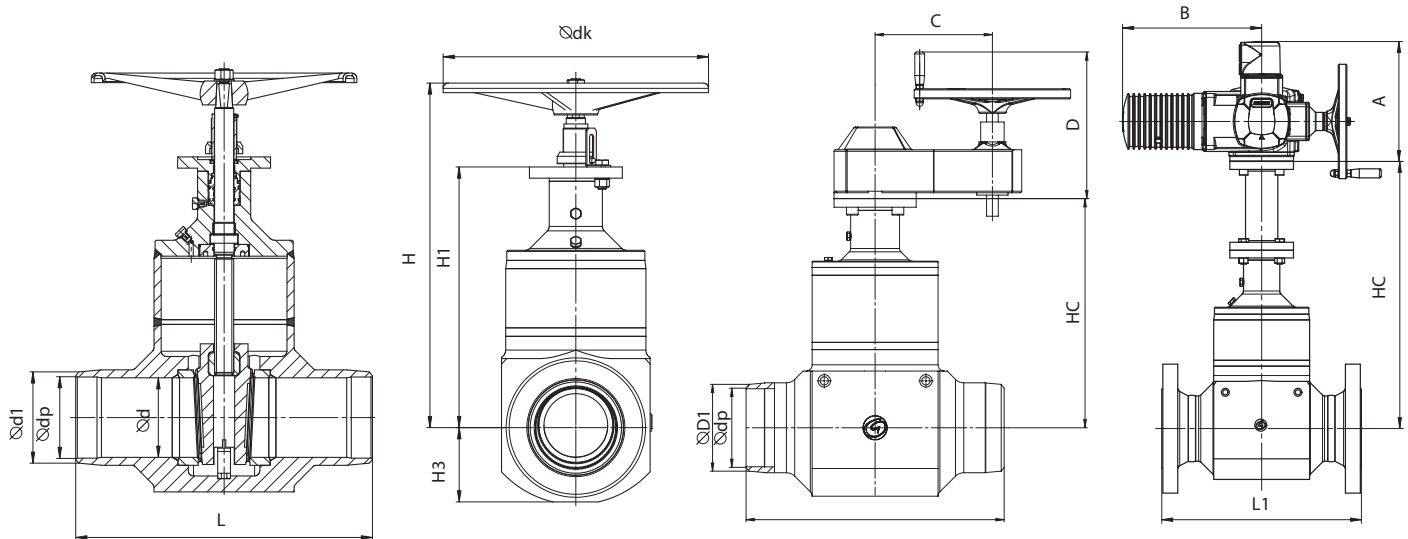
Body design: fully welded gate valve

Non-rising stem

Underground design

Connection:

- ☉ EN 12627 WELDED ENDS
- ☼ EN 1092-1 FLANGED ENDS (on request)



Material

Component	from - 46 °C to 100 °C	from - 46 °C to 100 °C	from - 46 °C to 100 °C
Body	A350 LF2	A350 LF2 Re340MPa	A350 LF2 Re340MPa
Extension	A350 LF2	A350 LF2 Re340MPa	A350 LF2 Re340MPa
Flanges	A350 LF2	A350 LF2 Re340MPa	A694 F52
Bonnet	A350 LF2	A350 LF2 Re340MPa	A350 LF2 Re340MPa
Wedge + overlay	A350 LF2 + Stellite	A350 LF2 + Stellite	A350 LF2 + Stellite
Stem nut	bronz	bronz	bronz
Seat + overlay	A350 LF2 + Stellite	A350 LF2 + Stellite	A350 LF2 + Stellite
Stem	1.4923	1.4923	1.4923
Stem sealing	1.4021	1.4021	1.4021
Actuator flange	1.0570	1.0570	1.0570
Vent plug	1.4021	1.4021	1.4021
Position indicator	1.0570	1.0570	1.0570

PN 16-100

S43.3 - welded ends, with handwheel															
DN	d	d1	dp	H	H1	H2	HC	L	L1 PN 16	L1 PN 100	Dk	kg	C	D	ISO 5210
50	49	60,3	Acc. to order	340	250	65	380	292	250	300	250	41	-	-	F10
80	74	114,3		382	280	87	440	356	310	380	320	56	-	-	F14
100	100	139,7		510	371	120	590	432	350	430	400	72	-	-	F14
150	150	219,1		650	491	140	736	559	450	550	500	169	-	-	F14
200	201	273		748	586	175	840	660	550	650	630	312	-	-	F16
250	252	323,9		1305	740	210	895	787	650	775	400	485	360	410	F25
300	303	406,4		1380	850	265	970	838	750	900	400	670	360	410	F25
400	385	457		1524	980	320	1100	991	950	1150	500	1250	380	424	F30

Dimensions A and B depend on the particular actuator type.

Note: DN 250 up to DN 400 are supplied only with gear and handwheel.

Weight [kg] is only approximate, depending on the actuator type.

Forged gate valves with pressure bonnet Type S43.5

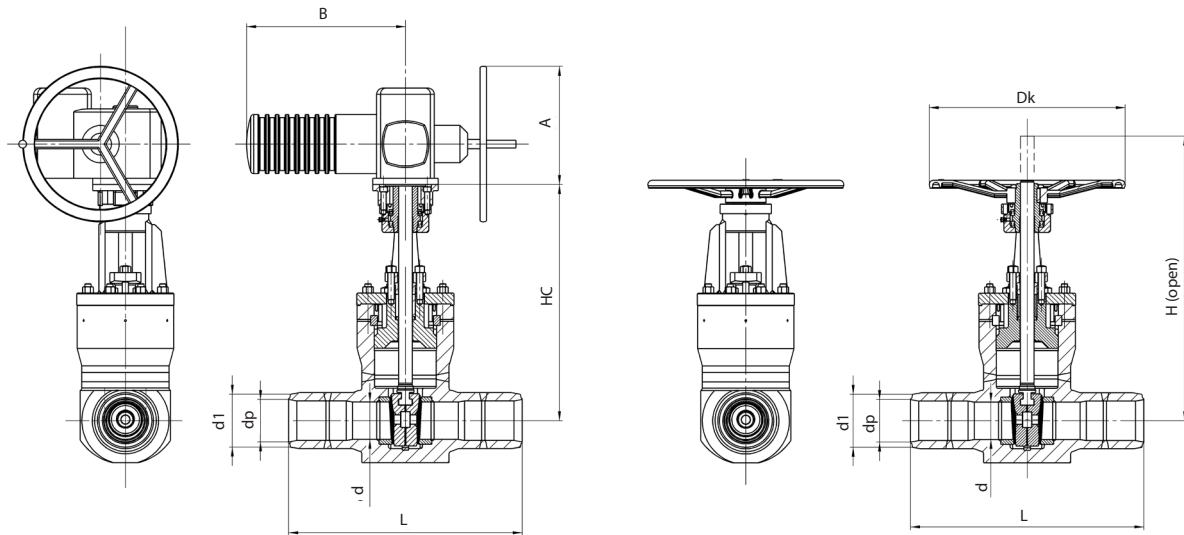
DN 65-400 • PN 160-400 • Tmax 650 °C (450 °C)

Body design: forged body, pressure seal bonnet

Rising stem

Connection:

- ☉ EN 12627 WELDED ENDS
- ✳ EN 1092-1 FLANGED ENDS (on request)



Material acc. to EN

Component	Tmax 450 °C	Tmax 530 °C	Tmax 570 °C	Tmax 570 °C	Tmax 600 °C	Tmax 450 °C	Tmax 650 °C
Body	P250GH (1.0460)	16Mo3 (1.5415)	13CrMo4-5 (1.7335)	14MoV6-3 (1.7715)	11CrMo9-10 (1.7383)	15NiCuMoNb5-6-4 (1.6368)	X10CrMoVNb9-1 (1.4903)
Pressure seal bonnet	1.0460	1.5415	1.7335	1.7715	1.7380	1.6368	1.4903
Wedge + overlay	1.0460 + Stellite	1.5415 + Stellite	1.7335 + Stellite	1.7715 + Stellite	1.7380 + Stellite	1.6368 + Stellite	1.4903 + Stellite
Seat + overlay	1.0460 + Stellite	1.5415 + Stellite	1.7335 + Stellite	1.7715 + Stellite	1.7380 + Stellite	1.6368 + Stellite	1.4903 + Stellite
Stem	X22CrMoV12-1 (1.4923)						
Stem nut	Bronze 42 3046						
Segmented ring	1.7715					1.6368	1.4903
Gasket	Pressed graphite						
Packing	Pressed graphite						

PN 160-400

DN/d	d1*	dp	L *	HC	kg operation free	Top flange	H (open)	Dk	kg with handwheel
65/50	77	Acc. to order	360	425	47, 49	F10, F14	490	400	48
80/75	90		450	550	105	F14	640	400	105
100/75	115		450	550	107	F14	640	400	106
125/110	141		500	696	244	F14	850	500	250
150/110	170		550	696	255, 262	F14, F16	850	500	254
175/125	180		650	769	317, 325	F14, F16	920	630	326
175/150	196		650	840	361, 372	F14, F16	1000	630	380
200/150	222		650	840	437, 448	F14, F16	1000	630	456
225/175	248		650	900	511, 590	F16, F25	1080	800	528
250/200	276		800	1120	850, 880	F16, F25	1300	800	840
250/225	303		900	1160	1140	F25	1350	F25	1150
300/225	325		900	1160	1170	F25	1350	F25	1180
300/250	325		1000	1330	1500, 1530	F25, F30	1540	F25, F30	1500
350/275	359		1000	1380	1700	F30	1680	F30	1700
400/300	411		1200	1550	2050	F30	1840	F30	2050
500/400	516		1350	1950	4500	F35		F35	
600/500 PN 250	619		1473	2115	6010	F40		F40	
600/550 PN 160	619		1473	2246	6440	F40		F40	

* Dimensions d1 and L can be adjusted acc. to customer request.
Dimensions A and B depend on the particular actuator type.

S33.C: DN 150-1200 • PN 2,5-100 • Tmax 450 °C

S43.C: DN 150-600 • PN 63-100 • Tmax 600 °C

Body design: bonnet gate valve

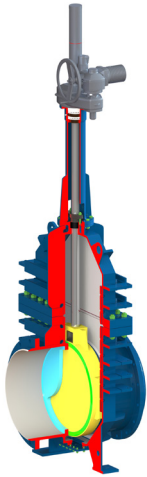
Rising stem

Control wedge

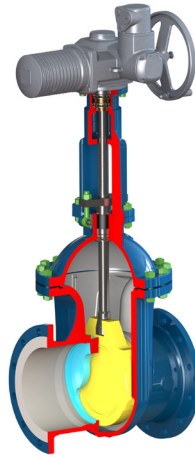
Connection:

☉ EN 1092-1 FLANGED ENDS

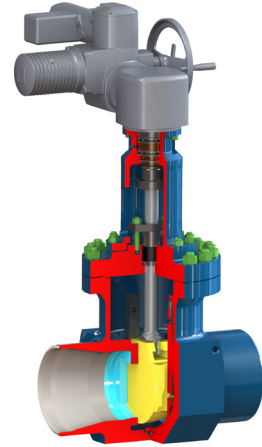
☼ EN 12627 WELDED ENDS



S33.C - Fully welded body



S33.C - Cast body



S43.C - Forged body

Application

- conventional and nuclear power engineering where a specified shape of the performance characteristic depending on the valve travel for different flow rates is required.
- gas industry where pipings with different pressures are to be connected or where gas is to be discharged from the piping system in a defined way.
- heat production and distribution where a defined quantity of the fluid is to be fed to the equipment in order to guarantee performance of the equipment.

Working medium

- water
- steam
- gases
- other fluids

Technical description

The control gate valves are valves used to control the flow of the service fluid which may flow in one direction. The control gate valves are not isolating valves. The design of control gate valves is based on the design of conventional gate valves. The control features of the gate valves are provided by the unique construction of the throttle plate, seats and guides. The throttle plate and the seats are equipped with special holes or grooves that overlap each other during the process of opening so that the regulating characteristic is guaranteed exactly in accordance with the customer's specification. The control gate valves are designed by means of sophisticated computer programs for the performance characteristic of the gate valve

to be in full conformance with requirements of the customer. The gate valves are made as cast or fully welded gate valve. Materials and main design and face-to-face/end-to-end dimensions of gate valves are identical to cast design with type designation S33.1 and for welded design with type S33.4 and forged type S43.1.

Operation

- handwheel
- electric actuator
- pneumatic actuator
- remote operation

The gate valves can be equipped with a locking device.

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.

Table of pressure-temperature ratings for forged gate valve type S43

PN 160

Body material		Maximum allowable working pressure - in bar																			
Temperature		20 °C	100 °C	150 °C	200 °C	250 °C	300 °C	350 °C	400 °C	450 °C	480 °C	500 °C	520 °C	530 °C	540 °C	550 °C	560 °C	570 °C	580 °C	590 °C	600 °C
P250GH (C22.8)	1.0460	175,2	167,6	152,4	133,3	121,9	110,4	102,8	95,2	52,6	-	-	-	-	-	-	-	-	-	-	-
16Mo3	1.5415	197	179	160	144,8	133,3	114,3	110,5	106,7	102,9	100,6	70,9	45	35,8	-	-	-	-	-	-	-
13CrMo4-5	1.7335	194	182,9	171,4	160	152,4	141	133,3	125,7	118,1	115,8	104,4	71,6	59,4	46,5	37,3	30,5	25,1	-	-	-
11CrMo9-10 (1.7383)	1.7380	190,5	178,7	171,2	163,8	156,2	148,6	141	133,3	125,7	121,1	102,9	78,5	68,6	59,4	51,8	44,2	38,9	33,5	29	25,9
14MoV6-3	1.7715	219	215	210	203	183,6	171,4	164,6	159,2	154,7	153,3	147	113,5	99,8	86,1	75,4	65,5	55,6	-	-	-
15NiCu- MoNb5-6-4	1.6368	260	260	260	260	260	258	249	224	157	-	-	-	-	-	-	-	-	-	-	-

PN 250

Body material		Maximum allowable working pressure - in bar																			
Temperature		20 °C	100 °C	150 °C	200 °C	250 °C	300 °C	350 °C	400 °C	450 °C	480 °C	500 °C	520 °C	530 °C	540 °C	550 °C	560 °C	570 °C	580 °C	590 °C	600 °C
P250GH (C22.8)	1.0460	274	262	238	208	190,4	172,6	160,7	148,8	82,1	-	-	-	-	-	-	-	-	-	-	-
16Mo3	1.5415	307	280	250	226	208	178,6	172,6	166,7	160,7	157,1	110,7	70,2	56	-	-	-	-	-	-	-
13CrMo4-5	1.7335	302	286	268	250	238	220	208	196	184,5	181	163,1	111,9	92,9	72,6	58,3	47,6	39,3	-	-	-
11CrMo9-10 (1.7383)	1.7380	298	279	268	256	244	232	220	208	196,4	189,3	160,7	122,6	107,1	92,9	81	69	60,7	52,4	45,2	40,5
14MoV6-3	1.7715	342	336	329	318	287	268	257	249	242	240	230	177,4	156	134,5	117,9	102,4	86,9	-	-	-
15NiCu- MoNb5-6-4	1.6368	400	400	400	400	400	400	389	350	245	-	-	-	-	-	-	-	-	-	-	-

PN 320

Body material		Maximum allowable working pressure - in bar																			
Temperature		20 °C	100 °C	150 °C	200 °C	250 °C	300 °C	350 °C	400 °C	450 °C	480 °C	500 °C	520 °C	530 °C	540 °C	550 °C	560 °C	570 °C	580 °C	590 °C	600 °C
P250GH (C22.8)	1.0460	350	335	305	267	243,8	220,9	205,7	190,4	105,1	-	-	-	-	-	-	-	-	-	-	-
16Mo3	1.5415	393	358	320	290	267	229	221	213	206	201	141,7	89,9	71,6	-	-	-	-	-	-	-
13CrMo4-5	1.7335	387	366	343	320	305	282	267	251	236	232	209	143,2	118,9	93	74,7	61	50,3	-	-	-
11CrMo9-10 (1.7383)	1.7380	381	357	342	328	312	297	282	267	251	242	206	157	137,1	118,9	103,6	88,4	77,7	67	57,9	51,8
14MoV6-3	1.7715	438	430	421	407	367	343	329	318	309	307	294	227	199,6	172,2	150,9	131	111,2	-	-	-
15NiCu- MoNb5-6-4	1.6368	510	510	510	510	510	510	498	448	314	-	-	-	-	-	-	-	-	-	-	-

PN 400

Body material		Maximum allowable working pressure - in bar																			
Temperature		20 °C	100 °C	150 °C	200 °C	250 °C	300 °C	350 °C	400 °C	450 °C	480 °C	500 °C	520 °C	530 °C	540 °C	550 °C	560 °C	570 °C	580 °C	590 °C	600 °C
P250GH (C22.8)	1.0460	438	419	381	333	304,7	276,1	257,1	238	131,4	-	-	-	-	-	-	-	-	-	-	-
16Mo3	1.5415	491	448	400	362	333	286	276	267	257	251	177,1	112,4	89,5	-	-	-	-	-	-	-
13CrMo4-5	1.7335	484	457	429	400	381	352	333	314	295	290	261	179	148,6	116,2	93,3	76,2	62,9	-	-	-
11CrMo9-10 (1.7383)	1.7380	476	447	428	410	390	371	352	333	314	303	257	196,2	171,4	148,6	129,5	110,5	97,1	83,8	72,4	64,8
14MoV6-3	1.7715	548	537	526	509	459	429	411	398	387	383	368	284	250	215	188,6	163,8	139	-	-	-
15NiCu- MoNb5-6-4	1.6368	640	640	640	640	640	640	623	560	392	-	-	-	-	-	-	-	-	-	-	-

X10CrMoVNb9-1 1.4903		Maximum allowable working pressure - in bar																
Temperature		450 °C	480 °C	500 °C	520 °C	530 °C	540 °C	550 °C	560 °C	570 °C	580 °C	590 °C	600 °C	610 °C	620 °C	630 °C	640 °C	650 °C
PN 160	1.0460	244	235	197	168	153	139,4	126,5	114,3	102,1	91,4	80,8	71,6	63,2	55,6	49,5	42,7	37,3
PN 250	1.5415	381	367	307	262	239	218	198	179	160	142,9	126,2	111,9	98,8	86,9	77,4	66,7	58,3
PN 320	1.7335	488	469	393	335	306	279	253	229	204	183	162	143,2	126,5	111,2	99	85,3	74,7
PN 400	1.7380	610	587	491	419	383	349	316	286	255	229	202	179	158,1	139	123,8	106,7	93,3
PN 630	1.7715	960	924	774	660	603	549	498	450	402	360	318	282	249	219	195	168	147

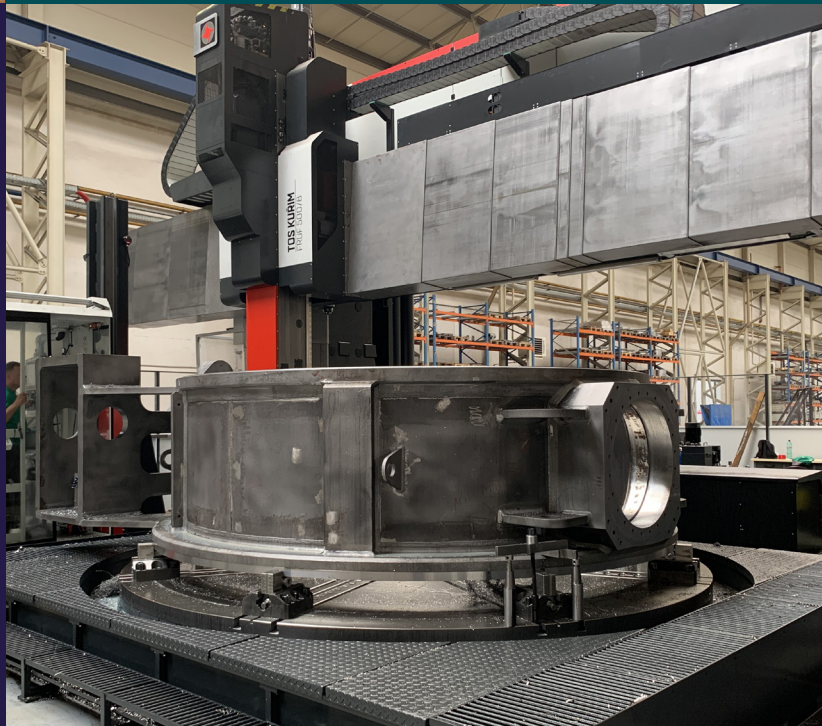


General standards and certificates

- ISO 9001 - Quality management system
- ISO 14001 - Environmental management system
- ISO 45001 - Occupational health and safety management systems
- ISO 3834-2 - Welding quality specifications
- ISO 9606-1 and ISO 14732 - Requirements for welders
- ISO 9712 - Non-destructive testing – Qualification and certification of NDT personnel
- EN 19 - Marking of valves
- PED 2014/68/EU, Module H - Pressure Equipment Directive
- EN ISO 10497 - Testing of valves - Fire type-testing requirements

Design standards

- EN 1092-1 - Flanges and their joints
- ASME B16.5 - Pipe Flanges and Flanged Fittings
- ASME B16.47 - Large Diameter Steel Flanges
- EN 12627 - Industrial valves - Butt welding ends for steel valves
- ASME B16.25 - Buttwelding Ends
- EN ISO 13445 - Strength requirements for valves
- EN 1984 - Industrial valves - Steel gate valves.
- EN ISO 5210 - Industrial valves - Multi-turn valve actuator attachments.
- EN 12570 - Industrial valves - Method for sizing the operating element.
- EN 12982 - Industrial valves - End-to-end and centre-to-end dimensions for butt welding end valves.



- EN 558 - Industrial valves - Face-to-face and centre-to-face dimensions of metal valves for use in flanged pipe systems - PN and Class designated valves.
- ASME B16.34 - Valves-Flanged, Threaded, and Welding End
- API 600 - Steel Gate Valves - Flanged and Butt-welding Ends, Bolted Bonnets
- API Spec 6D - Specification for Pipeline Valves

Testing

- EN 12266 - Industrial valves - Testing of metallic valves
- API 600 - Steel Gate Valves - Flanged and Butt-welding Ends, Bolted Bonnets
- API Spec 6D - Specification for Pipeline Valves
- ISO 14313 - Petroleum and natural gas industries - Pipeline transportation systems - Pipeline valves

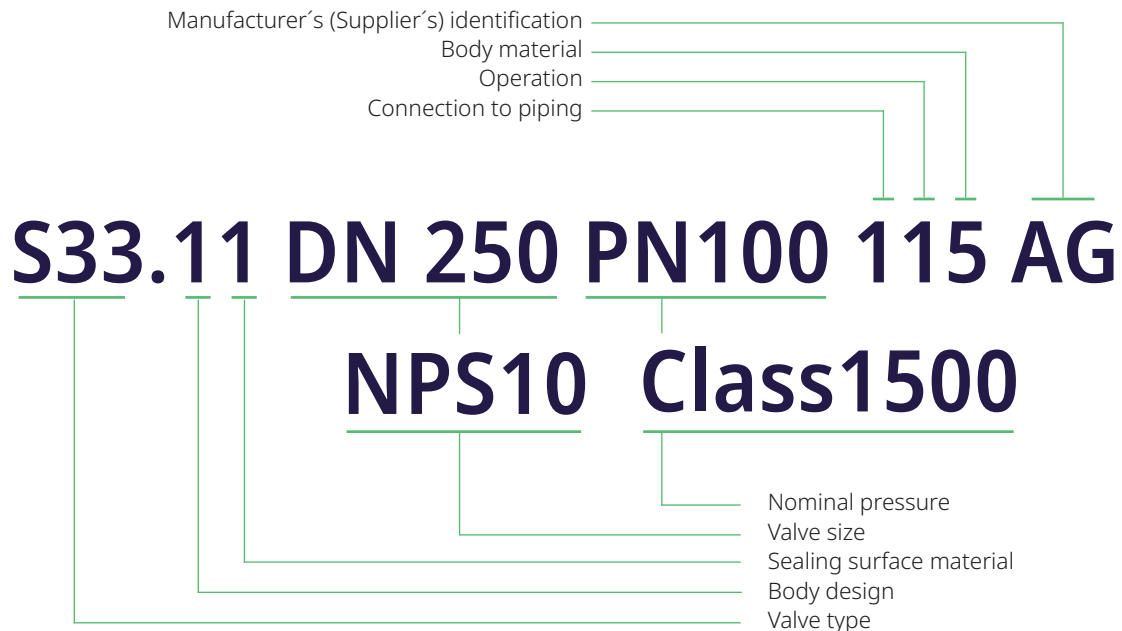
Gate valves

Type number composition

Type number uniquely describes the valve.

Type number is fixed by the manufacturer (supplier).

Type number serves to customers in subsequent communication with the manufacturer (supplier) valve.



Type

- S33 – steel gate valve
- S43 – steel gate valve

Body design - S33

- 1 – yoke gate valve, flexible wedge, cast body
- 2 – yoke gate valve, solid wedge, cast body
- 3 – bonnet gate valve, solid / flexible wedge, cast body
- 4 – yoke gate valve, solid / flexible wedge, fabricated body
- 5 – bonnet gate valve, solid / flexible wedge, fabricated body
- 6 – through-conduit gate valves
- C – control gate valves, special throttle disc

Body design - S43

- 1 – bolted bonnet, forged body
- 3 – fully welded gate valve, non-rising stem
- 5 – pressure seal bonnet, forged body
- C – control gate valves, special throttle disc

Sealing surface material

- 1 – TRIM 1 / 13Cr x 13Cr
- 2 – TRIM 2 / 18Cr-8Ni (304) x 18Cr-8Ni (304)
- 3 – TRIM 12 / HF (Stellite 6) x 18Cr-8Ni-Mo (316)
- 5 – TRIM 5 / HF (Stellite 6) x HF (Stellite 6)
- 8 – TRIM 8 / HF (Stellite 6) x 13 Cr
- A – TRIM 10 / 18Cr-8Ni-Mo (316) x 18Cr-8Ni-Mo (316)

Connection to piping

- 1 – flanged ends
- 2 – welded ends
- 3 – threaded ends
- 4 – socked weldings ends

Operation

- 1 – handwheel
- 2 – gear-box
- 3 – electric actuator
- 4 – pneumatic or hydraulic actuator
- 5 – bare shaft
- 8 – lever with counterweight and hydraulic cylinder

Body material

- 0 – stainless steel
- 2 – alloy cast steel
- 3 – alloy forged steel
- 4 – carbon forged steel
- 5 – carbon cast steel

Manufacturer's (Supplier's) identification

- AG – ARMATURY Group a.s.

Data mentioned in the catalogue are not subject to changes, for an order and delivery of the goods are obligatory the data mentioned in respective specifications.



Vexve Czechia
ARMATURY Group a.s.
Nádražní 129
747 22 Dolní Benešov
Czech Republic
armatury@vexve.com

