

**Technical description**

Steel gate valves are designed and manufactured to ensure maximum durability and reliability. Valves meet requirements of API 600, API 6D and EN 12516-1 standards.

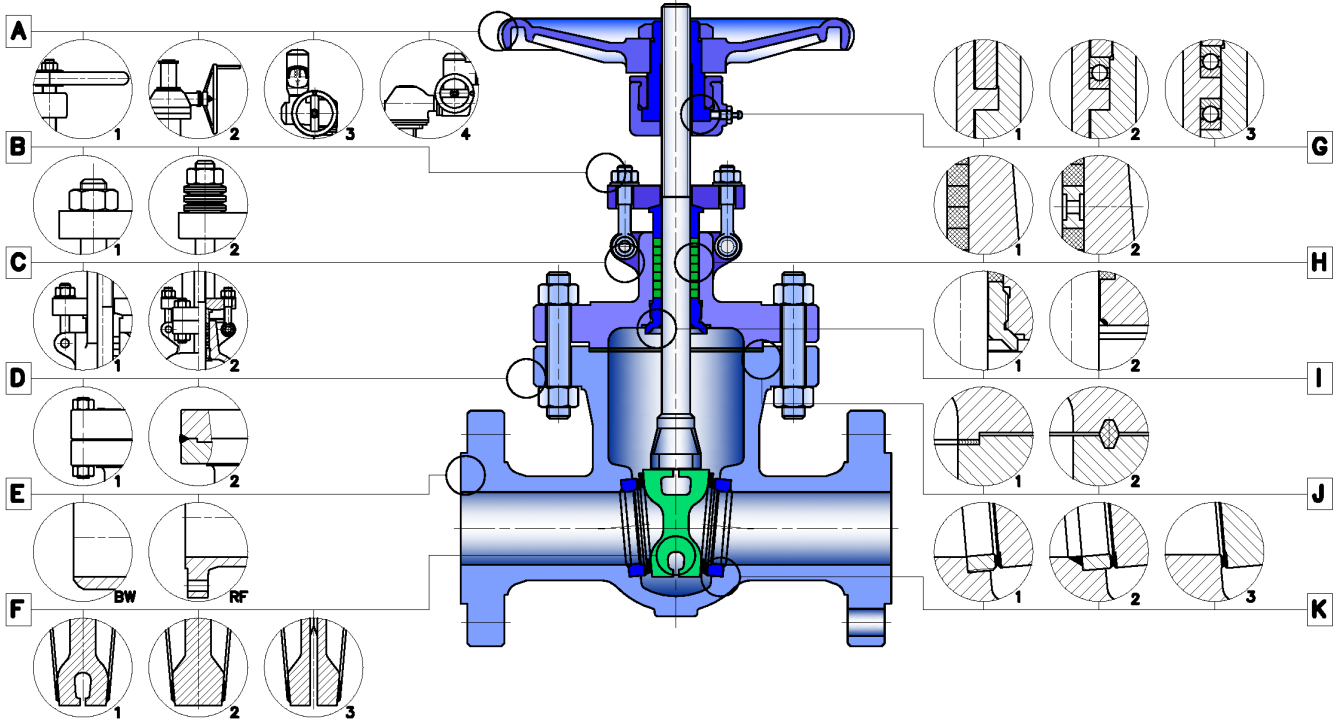
**Material specification**

Gate valves are made from carbon, alloy and stainless steels. Material execution of gate valves can be selected according to the customer's request so that it suits as much as possible valves service conditions.

**Application**

The gate valves can be used for water, inorganic or organic acids, steam, oil, air, hydrocarbons, crude oil and crude oil products.

**STRUCTURAL DESIGN OF GATE VALVE**



**A - Control**

- hand-wheel
- hand-wheel with gearbox
- electric actuator
- electric actuator with gearbox

**B - Gland compression**

- in case of valve operation with cyclic changes in pressure or at high pressures and temperatures, the gland compression by means of Belleville springs, which secure a constant pre-stress in packing, is preferred.

**C - Yoke execution**

- yoke is the separate detail fixed by bolts to a bonnet
- yoke as integral part of the bonnet (yoke-bonnet)

**D - Bonnet execution**

- the bonnet bolted to the body
- the bonnet welded to the body

**E - Connection into piping**

- flanged
- with rough or smooth raised face
- with male / female facing
- with tongue / groove facing

**F - Wedge execution**

- solid
- flexible
- split wedge

**G - Bedding of stem nut**

- friction (sliding) type
- combination of sliding and rolling stem nut bedding
- bedding of stem nut between two axial rolling bearings

**H - Execution of gland packing**

- standard
- double stem packing with lantern ring – shall be chosen in dependence on working conditions.

**I - Back seat execution**

- screwed into the bonnet
- integral part of the bonnet

**J - Bonnet sealing**

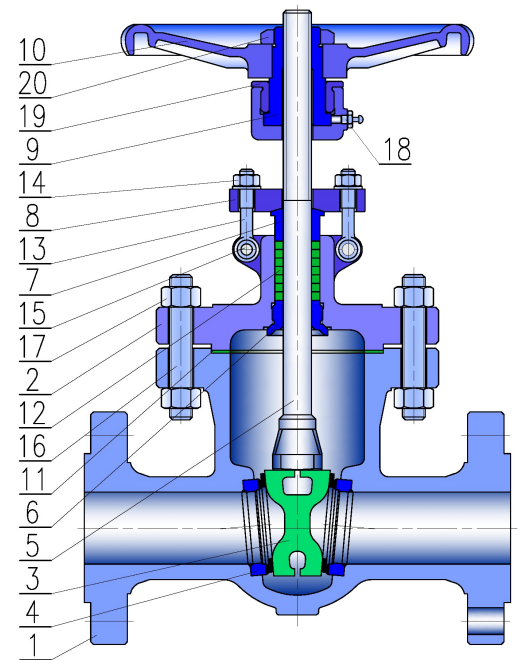
- PN 16 - PN 63 - male / female facing
- PN 100 - RTJ ring

**K - Seats execution**

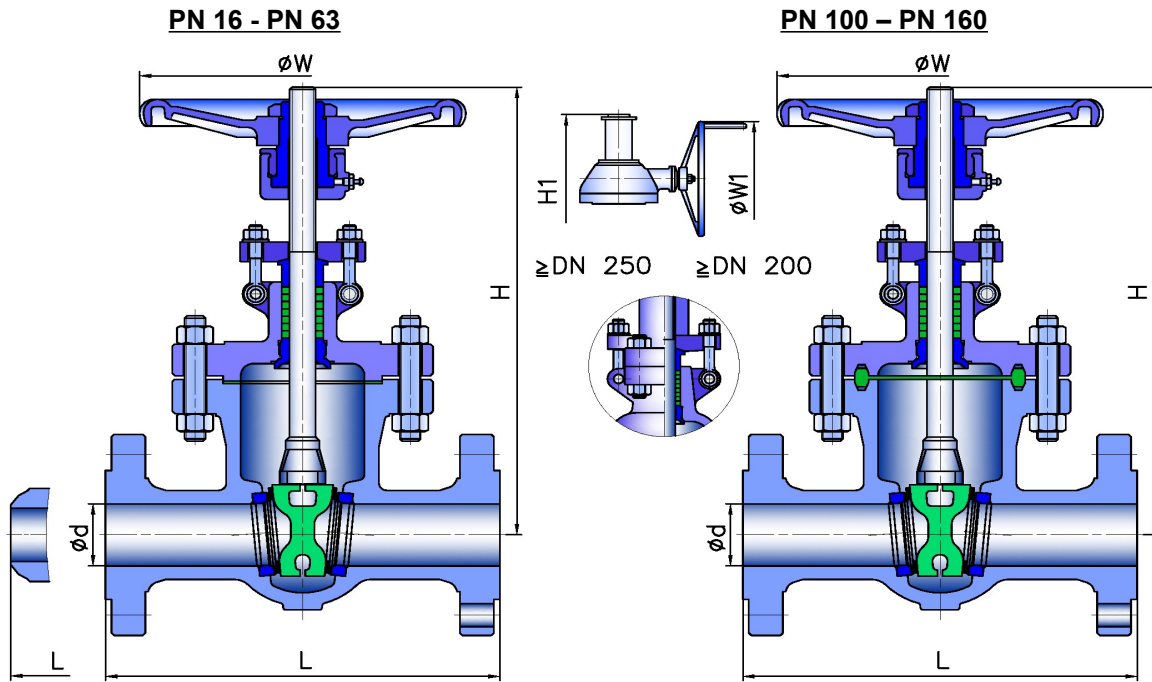
- the seats are screwed into the body
- the seats are inserted into the body and welded on
- the seats are weld layer on the body

**MATERIAL SPECIFICATION**
**Basic standards for design**

Basic design.....	API 600, API 6D, EN 12516-1
Building length.....	EN 558-1, EN 12982
Flange dimension.....	EN 1092-1
Dimension of welding-on ends.....	EN 12627
Testing.....	EN 12266-1, EN 12266-2
Pressure-temperature dependence.....	EN 12516-1
Top flange dimension.....	EN ISO 5210
Special.....	NACE MR-0175



Pos.	Designation	WCB	LCC	WC6	WC9	C5	C12	CF8 / 304	CF8M / 316
1	Body	A216 WCB	A352 LCC	A217 WC6	A217 WC9	A217 C5	A217 C12	A351 CF8	A351 CF8M
2	Bonnet	A216 WCB	A352 LCC	A217 WC6	A217 WC9	A217 C5	A217 C12	A351 CF8	A351 CF8M
3	Wedge	A216 WCB + overlay	A352 LCC + overlay	A217 WC6 + overlay	A217 WC9 + overlay	A217 C5 + overlay	A217 C12 + overlay	A351 CF8 + overlay	A351 CF8M + overlay
4	Seat	A105 + overlay	A350 LF2 + overlay	A182 F5 + overlay	A182 F5 + overlay	A182 F5 + overlay	A182 F5 + overlay	A351 CF8 + overlay	A351 CF8M + overlay
5	Stem	A182 F6a	A182 F6a	A182 F6a	A182 F6a	A182 F6a	A182 F6a	A182 F304	A182 F316
6	Back seat	A182 F6a	A182 F6a	A182 F6a	A182 F6a	A182 F6a	A182 F6a	A351 CF8	A351 CF8M
7	Stuffing box bushing	A182 F6a	A182 F6a	A182 F6a	A182 F6a	A182 F6a	A182 F6a	A182 F304	A182 F316
8	Gland flange	A216 WCB	A352 LCC	A217 WC6	A217 WC9	A217 C5	A217 C12	A351 CF8	A351 CF8M
9	Stem nut	A439 D2	A439 D2	A439 D2	A439 D2	A439 D2	A439 D2	A439 D2	A439 D2
10	Hand wheel	cast iron							
11	Bonnet gasket	304 + graphite	304 + graphite	304 + graphite	304 + graphite	304 + graphite	304 + graphite	316 + graphite	304L + graphite
12	Gland packing	graphite							
13	Eye bolt	A193 B7	A320 L7	A193 B16	A193 B16	A193 B16	A193 B16	A193 B8	A193 B8M
14	Nut	A194 2H	A194 4	A194 B8M	A194 B8M	A194 B8M	A194 B8M	A194 8	A194 8M
15	Pin	A36	A276 410	A276 410	A276 410	A276 410	A276 410	304	316
16	Bonnet bolt	A193 B7	A320 L7	A193 B16	A193 B16	A193 B16	A193 B16	A193 B8	A193 B8M
17	Nut	A194 2H	A194 4	A194 B8M	A194 B8M	A194 B8M	A194 B8M	A194 8	A194 8M
18	Grease nipple	Carbon steel							
19	Threaded bushing	Carbon steel							
20	Nut	Carbon steel							



Diameter DN	PN 16									PN 25								
	L		d	H	H1	W	W1	weight (kg)		RF	BW	d	H	H1	W	W1	weight (kg)	
	RF	BW						H.W.	G.O.								H.W.	G.O.
15	130	130	14,0	170	-	120	-	5	-	130	130	14,0	170	-	120	-	5,5	-
20	150	150	19,0	190	-	140	-	6,5	-	150	150	19,0	190	-	140	-	7	-
25	160	160	25,0	205	-	160	-	9	-	160	160	25,0	205	-	160	-	11	-
32	180	180	32,0	270	-	180	-	12	-	180	180	32,0	270	-	180	-	14	-
40	240	240	43,1	310	-	200	-	26,5	-	240	240	43,1	310	-	200	-	20	-
50	250	250	54,5	358	-	240	-	29	-	250	250	54,5	358	-	240	-	34	-
65	270	270	70,3	373	-	240	-	33	-	270	270	70,3	373	-	240	-	36	-
80	280	280	82,5	435	-	280	-	46	-	280	280	82,5	435	-	280	-	50	-
100	300	300	107,1	500	-	320	-	63	-	300	300	107,1	500	-	320	-	69	-
125	325	325	131,7	614	-	360	-	108	-	325	325	131,7	614	-	360	-	116	-
150	350	350	159,3	674	994	360	310	134	199	350	350	161,5	674	994	360	310	141	206
200	400	400	206,5	818	1138	400	310	192	254	400	400	206,5	818	1138	400	310	192	257
250	450	450	260,4	969	1409	450	310	273	310	450	450	258,2	969	1409	450	310	207	317
300	500	500	309,7	1145	1588	560	310	379	391	500	500	307,9	1145	1588	560	310	400	412
350	550	550	339,6	1280	1755	640	310	590	729	550	550	337,6	1280	1750	640	310	631	750
400	600	600	390,0	1450	1902	640	460	849	992	600	600	388,8	1450	1902	640	460	900	1042
450	650	650	438,0	1563	2141	720	460	907	1168	650	650	438,0	1563	2141	720	460	1013	1274
500	700	700	492,0	1676	2276	720	460	958	1222	700	700	488,0	1676	2276	720	460	1166	1420
600	800	800	591,0	1810	2474	800	460	1112	1376	800	800	591,0	1810	2474	800	460	1258	1522
700	900	900	684,0	-	3046	-	600	-	-	900	900	684,0	-	3046	-	600	-	-
800	1000	1000	779,0	-	3250	-	600	-	-	1000	1000	779,0	-	6250	-	600	-	-
900	1100	1100	874,0	-	3509	-	600	-	-	1100	1100	874,0	-	3509	-	600	-	-

Diameter DN	PN 40									PN 63								
	L		d	H	H1	W	W1	weight (kg)		L		d	H	H1	W	W1	weight (kg)	
	RF	BW						H.W.	G.O.	RF	BW						H.W.	G.O.
15	130	130	14,0	135	-	120	-	6	-	170	170	14,0	140	-	100	-	7	-
20	150	150	19,0	190	-	140	-	8	-	190	190	19,0	140	-	100	-	9	-
25	160	160	25,0	205	-	160	-	12	-	210	210	25,0	215	-	180	-	12	-
32	180	180	32,0	270	-	180	-	15	-	230	230	32,0	270	-	180	-	16	-
40	240	240	43,1	310	-	200	-	31	-	240	240	42,5	345	-	200	-	32	-
50	250	250	54,5	371	-	280	-	34	-	250	250	53,5	371	-	280	-	39	-
65	290	290	70,3	393	-	280	-	38	-	290	290	69,7	393	-	280	-	43	-
80	310	310	82,5	455	-	320	-	51	-	310	310	81,7	455	-	320	-	60	-
100	350	350	107,1	551	871	360	310	81	163	350	350	106,3	551	1020	360	310	89	154
125	400	400	131,7	634	948	400	310	128	190	400	400	130,7	638	1100	400	310	140	205
150	450	450	161,5	708	1028	400	310	155	219	450	450	158,3	718	1290	450	310	207	317
200	550	550	206,3	858	1325	450	310	265	373	550	550	204,9	873	1475	560	310	327	437
250	650	650	258,2	1015	1400	560	310	370	480	650	650	255,2	1050	1500	640	310	467	606
300	750	750	307,9	1201	1653	640	310	550	686	750	750	301,9	1215	1820	640	310	590	732
350	850	850	337,9	1308	1791	640	460	679	821	850	850	337,0	-	2216	-	460	-	1110
400	950	950	384,4	1483	2092	720	460	953	1214	950	950	387,0	-	2838	-	460	-	1540
500	1150	1150	479,6	-	2465	-	460	-	2150	1150	1150	489,0	-	3320	-	460	-	2460

Diameter DN	PN 100									PN 160								
	L		d	H	H1	W	W1	weight (kg)		L		d	H	H1	W	W1	weight (kg)	
	RF	BW						H.W.	G.O.	RF	BW						H.W.	G.O.
15	170	170	14,0	140	-	200	-	6	-	170	170	14,0	230	-	200	-	7	-
20	190	190	19,0	140	-	200	-	11	-	190	190	19,0	260	-	200	-	10	-
25	210	210	25,0	310	-	280	-	13	-	210	210	25,0	280	-	280	-	14	-
32	230	230	32,0	320	-	320	-	20	-	230	230	32,0	312	-	320	-	21	-
40	240	240	42,5	360	-	320	-	30	-	260	260	42,5	350	-	320	-	26	-
50	250	250	53,9	371	-	360	-	50	-	300	300	51,0	512	-	360	-	73	-
65	290	290	68,9	393	-	400	-	70	-	340	340	64,0	560	-	360	-	110	-
80	310	310	80,9	455	892	400	310	100	165	390	390	76,0	585	905	400	310	141	206
100	350	350	104,3	551	1013	400	310	110	220	450	450	102,0	631	1071	450	310	185	295
125	400	400	127,1	638	1184	560	310	186	292	525	525	127,0	723	1163	560	310	320	432
150	450	450	154,1	718	1250	560	310	250	389	600	600	152,0	820	1170	640	460	462	601
200	550	550	199,1	873	1250	560	310	360	502	750	750	203,0	990	1440	720	460	711	853
250	650	650	248,0	1050	1650	640	460	485	790	-	-	-	-	-	-	-	-	-
300	750	750	295,5	1215	1800	640	460	633	910	-	-	-	-	-	-	-	-	-
350	850	850	337,0	-	2030	-	460	-	1610	-	-	-	-	-	-	-	-	-
400	950	950	387,0	-	2250	-	460	-	2512	-	-	-	-	-	-	-	-	-

**Type designation**
**S 38 XYZ - M / As PN**
**S 38** — Valve type — Gate valve

**X** — Flow direction

**1**...Straight

**Y** — Connection into pipeline

**1**...Flanged

**2**...Welding-on ends

**3**...Combined

**Z** — Control method

**1**...Hand wheel

**2**...Hand wheel with gearbox

**3**...Electric actuator

**4**...Electric actuator with gearbox

**9**...Bare shaft

**M** — Body material

**0**...Stainless steel

**2**...Alloy steel

**5**...Carbon steel

**As** - Antistatic design
