

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

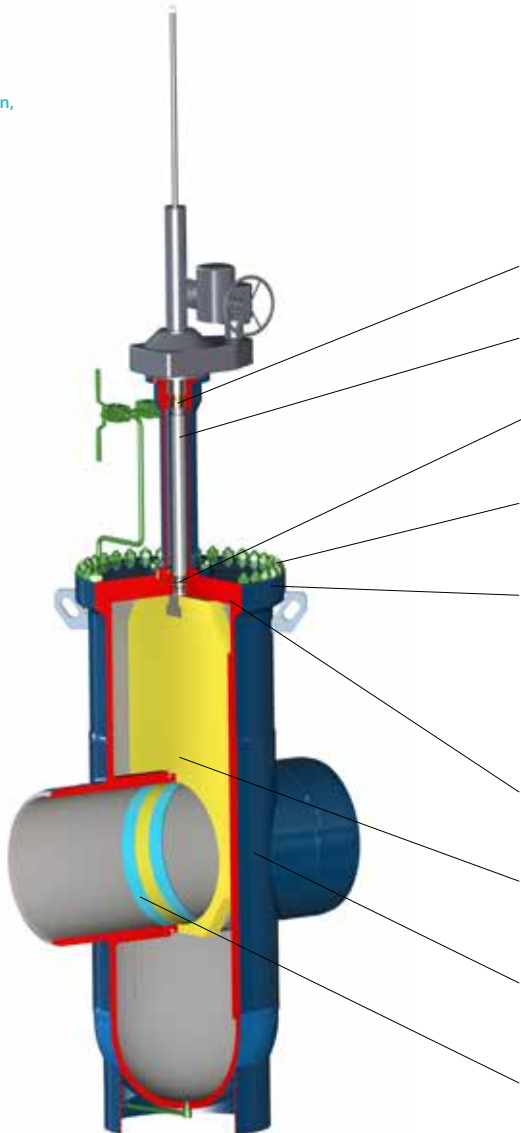
Type S33.6

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

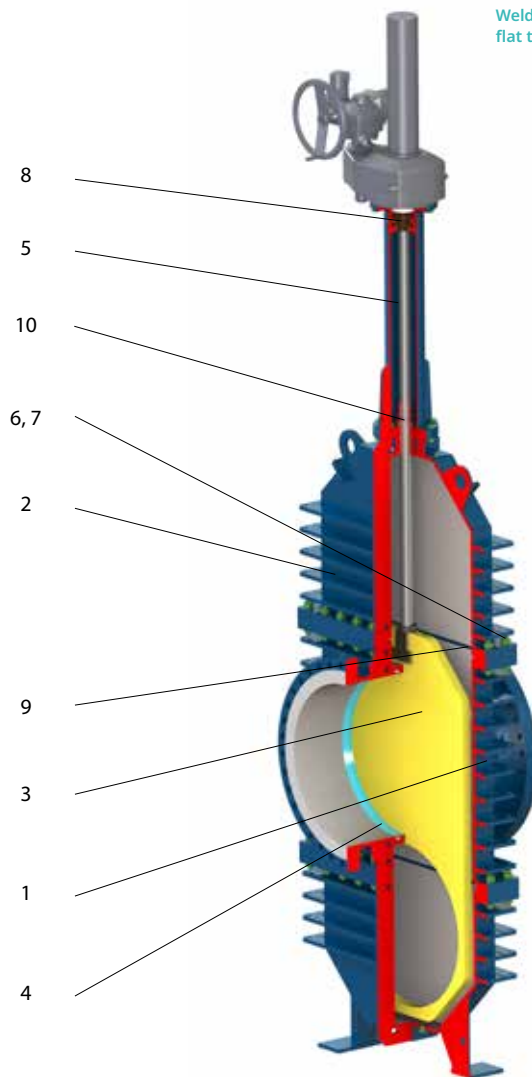
Connection:

- ☉ 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	
		A516 Gr.70	1.104, P355NL2	A516 Gr.60	P355NL1
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

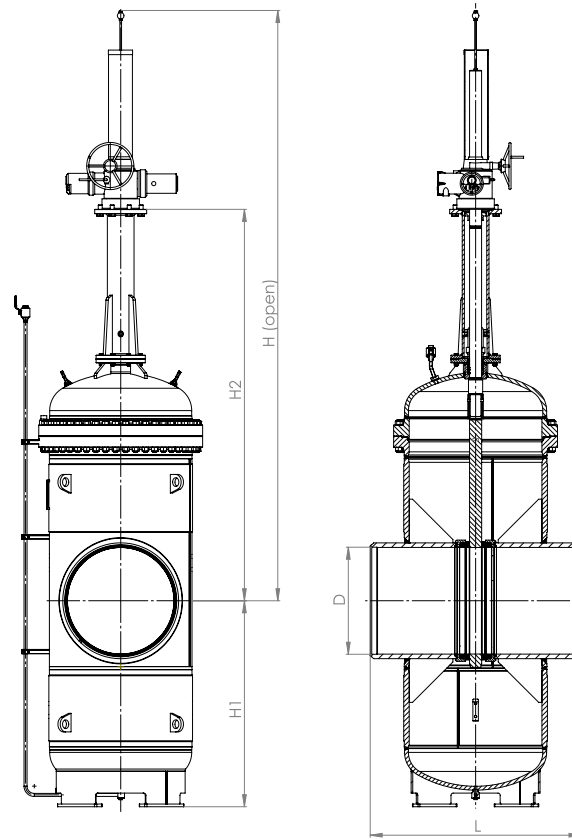
Through-conduit gate valves

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