

## 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

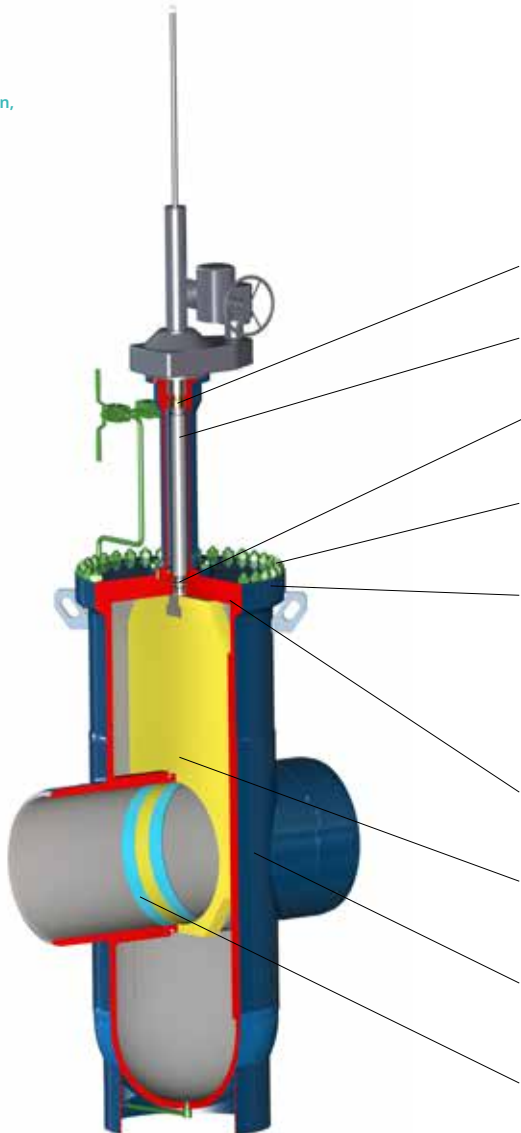
# Type S33.6

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

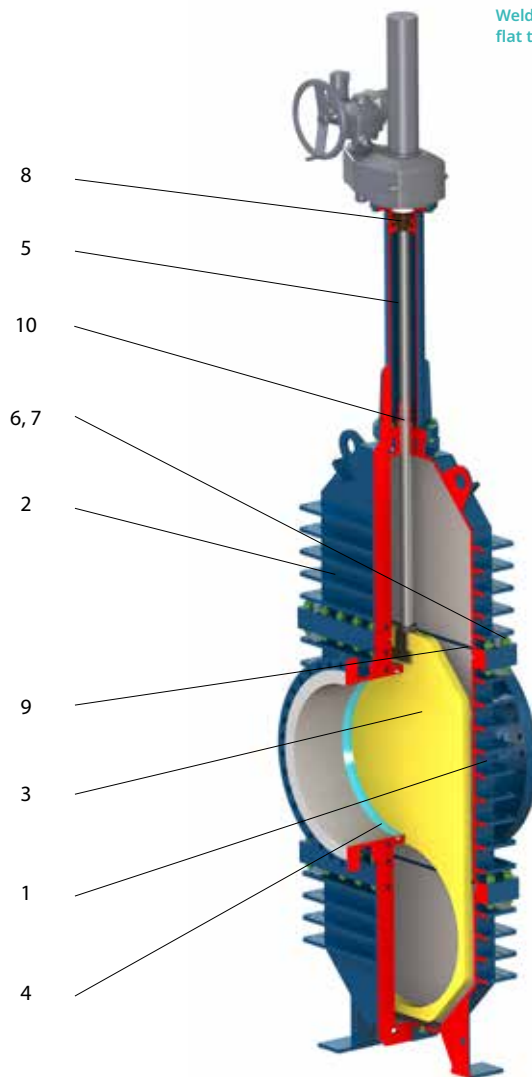
**Connection:**

- ☉ 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

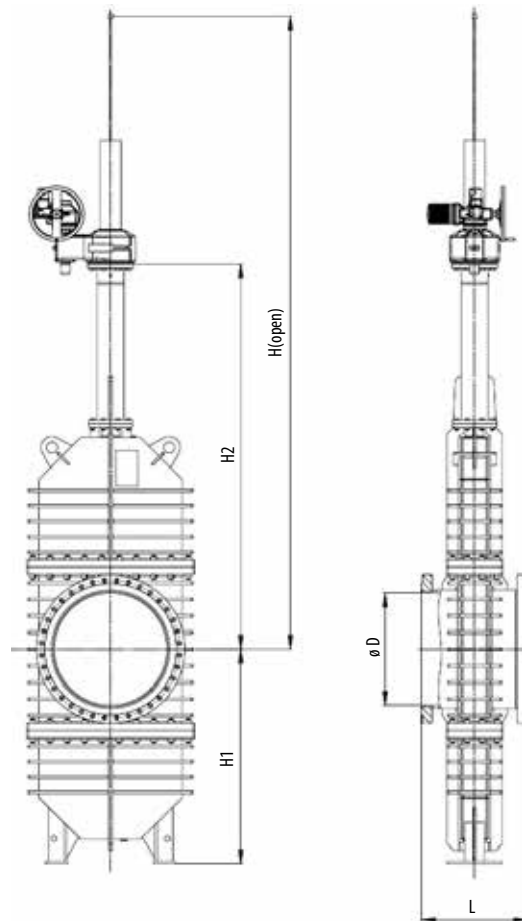
# Through-conduit gate valves

# Type S33.6

NPS 4-48 • Class 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

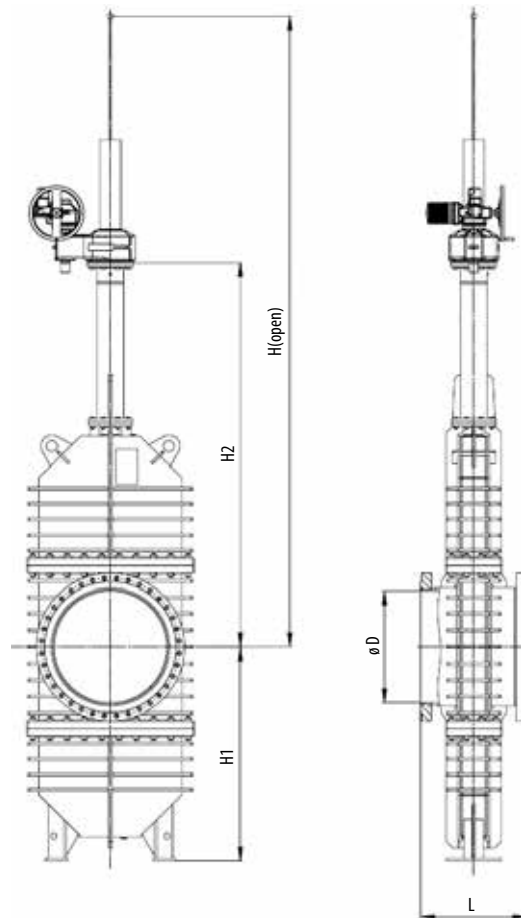
# Through-conduit gate valves

# 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