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AUTO CONTROL VALVE PRODUCT BROCHURE

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HVAL[®]
A **HANKUN** Brand

Hankun (Beijing) Fluid Control Technology Co., Ltd

Tel: +86-(0)10-63260308

Fax: +86-(0)10-63265498

E-mail: info@hankunchina.com

Web: www.hankunfluid.com



WhatsApp

Version 4.0

Due to the continuous development and improvement of the product, design and parameter changes will not be notified separately. Please call us for the latest product and technical information.

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Hankun (Beijing) Fluid Control Technology Co., Ltd

**Zero Leakage
Maintenance-free**



Ball Valve

GB Standard Floating Ball Valve
GB Standard Trunnion-Mounted Ball Valve
ASME Standard Floating Ball Valve
ASME Standard Trunnion-Mounted Ball Valve

15-30

Gate Valve

GB Standard Gate Valve
ASME Standard Gate Valve

39-48

Butterfly Valve

Rubber Lined Butterfly Valve
Hard-Seal Butterfly Valve

01-14

Globe Valve

GB Standard Globe Valve
ASME Standard Globe Valve

31-38

Control Valve

Single-Seat Control Valve (Plug Type)
Single-Seat Control Valve (Cage Type)

49-56



Rubber Lined Butterfly Valve



PRODUCT INTRODUCTION

- ◆ Rubber lined butterfly valve is mainly used for fluid shut-off or regulation.
- ◆ Valve opening and closing is achieved by rotating the valve disc.
- ◆ The valve disc is actuated by the handle or actuator that connecting with valve stem.
- ◆ Lightweight, requires less support, and can be quickly closed.
- ◆ Control mode: Manual, Electric or Pneumatic.
- ◆ Electric actuator or pneumatic actuator actuation will make the control more precise.



PRODUCT ADVANTAGE

- ◆ With wafer or flange connection, the valve structure is simple and compact with lightweight, and can be installed in any positions;
- ◆ Valve disc without pin connection, zero leakage, long service life;
- ◆ Small flow resistance coefficient, large flow capacity, and good regulation performance;
- ◆ Axial thrust bearing or lubricated brass bushing protects the valve stem from overloading;
- ◆ The valve disc can be made of duplex stainless steel material, which is corrosion-resistant and wear-resistant;
- ◆ The top mounting flange of the valve complies with the ISO 5211 standard, allowing for the installation of manual operating mechanisms, or electric/pneumatic actuator.



The pinless valve stem features a hexagonal design



The valve disc incorporates a hexagonal socket.



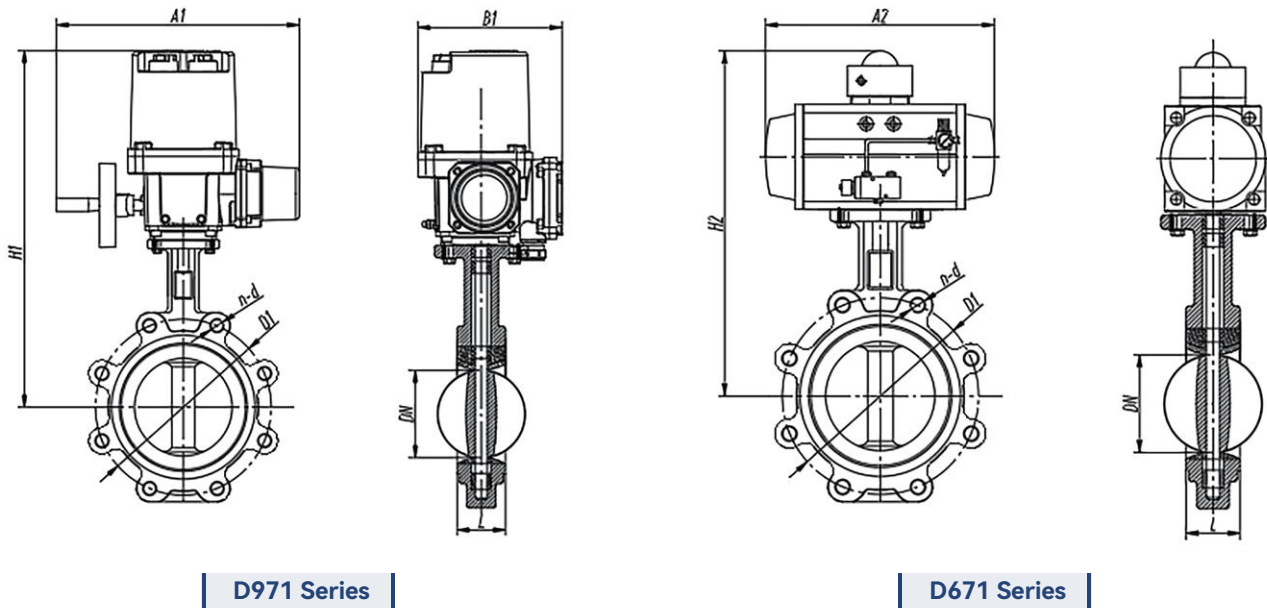
The edge of the valve disc assembly is spherically machined and hand polished, offering advantages such as long service life, low operating torque, and bubble-tight bi-directional sealing with zero leakage.

Material Table	
Component Name	Material
Body	Grey cast iron, Cast Iron, Carbon Steel, Stainless Steel (304/304L/316/316L)
Seat	NBR/EPDM/PTFE/VITON, Special rubber for desulfurization
Trim	2507Duplex stainless steel/1.4529Duplex stainless steel/DI/WCB/CF8/CF8M/C954
Stem	420/304/316/410

NOTE: The above materials are for standard configurations. For special operating conditions, we will match the material to your specific requirements.

Valve Seat Temperature Rating			
EPDM	-29°C~121°C	FKM (VITON)	-18°C~204°C
BUNA-N (NBR)	-18°C~100°C	Polyurethane	-29°C~80°C

The Wafer Rubber Lined Butterfly Valve



D971 Series

D671 Series

| Pressure Class PN6 (0.6MPa)

Nominal diameter DN		Structure length (Standard)	Overall dimension (Reference)					Connection dimension (Standard)		
			D971 Series			D671 Series				
mm	inch	L	H1	A1	B1	H2	A2	D1	n-d	Torque(Nm)
50	2	43	415	250	182	269	141	110	4-14	50
65	2-1/2	46	425	250	182	283	159	130	4-14	80
80	3	49	437	250	182	289	159	150	4-18	100
100	4	56	467	250	182	320	211	170	4-18	100
125	5	64	483	322	248	351	248	200	8-18	200
150	6	70	488	322	248	380	269	225	8-18	200
200	8	71	557	322	248	435	345	280	8-18	400
250	10	76	594	322	248	509	409	335	12-18	400
300	12	83	701	424	346	597	438	395	12-22	800
350	14	92	735	424	346	653	550	445	12-22	800
400	16	102	763	424	346	720	550	495	16-22	1200
450	18	114	797	424	346	772	600	550	16-22	1500
500	20	127	823	424	346	867	633	600	20-22	2000
600	24	154	852	424	346	998	730	705	20-26	3000
700	28	165	906	424	346	1116	1320	810	24-26	5000
800	32	190	996	910	571	1330	1430	920	24-30	9000

| Pressure Class PN10 (1.0MPa)

Nominal diameter DN		Structure length (Standard)	Overall dimension (Reference)					Connection dimension (Standard)		
			D971 Series			D671 Series				
mm	inch	L	H1	A1	B1	H2	A2	D1	n-d	Torque(Nm)
50	2	43	415	250	182	269	141	125	4-18	50
65	2-1/2	46	425	250	182	283	159	145	8-18	80
80	3	49	437	250	182	289	159	160	8-18	100
100	4	56	467	250	182	320	211	180	8-18	100
125	5	64	483	332	248	351	248	210	8-18	200
150	6	70	488	332	248	380	269	240	8-22	200
200	8	71	557	332	248	435	345	295	8-22	400
250	10	76	594	424	346	509	409	350	12-22	800
300	12	83	701	424	346	597	438	400	12-22	800
350	14	92	735	424	346	653	550	460	16-22	1200
400	16	102	763	424	346	720	550	515	16-26	1500
450	18	114	797	424	346	772	600	565	20-26	2500
500	20	127	823	424	346	867	633	620	20-26	4000
600	24	154	852	424	346	998	730	725	20-30	5000
700	28	165	906	890	507	1116	1320	840	24-30	9000
800	32	190	996	984	571	1330	1430	950	24-33	12000

| Pressure Class PN16 (1.6MPa)

Nominal diameter DN		Structure length (Standard)	Overall dimension (Reference)					Connection dimension (Standard)		
			D971 Series			D671 Series				
mm	inch	L	H1	A1	B1	H2	A2	D1	n-d	Torque(Nm)
50	2	43	415	250	182	269	141	125	4-18	50
65	2-1/2	46	425	250	182	283	159	145	8-18	80
80	3	49	437	250	182	289	159	160	8-18	100
100	4	56	467	332	248	320	211	180	8-18	200
125	5	64	483	332	248	351	248	210	8-18	200
150	6	70	488	332	248	380	269	240	8-22	400
200	8	71	557	424	346	435	345	295	12-22	800
250	10	76	594	424	346	509	409	355	12-26	1200
300	12	83	701	424	346	597	438	410	12-26	1200
350	14	92	735	424	346	653	550	470	16-26	1500
400	16	102	763	424	346	720	550	525	16-30	2500
450	18	114	797	424	346	772	600	585	20-30	4000
500	20	127	823	424	346	867	633	650	20-33	5000
600	24	154	852	890	507	998	730	770	20-36	8000
700	28	165	906	984	571	1116	1320	840	24-36	12000
800	32	190	996	984	571	1330	1430	950	24-39	15000

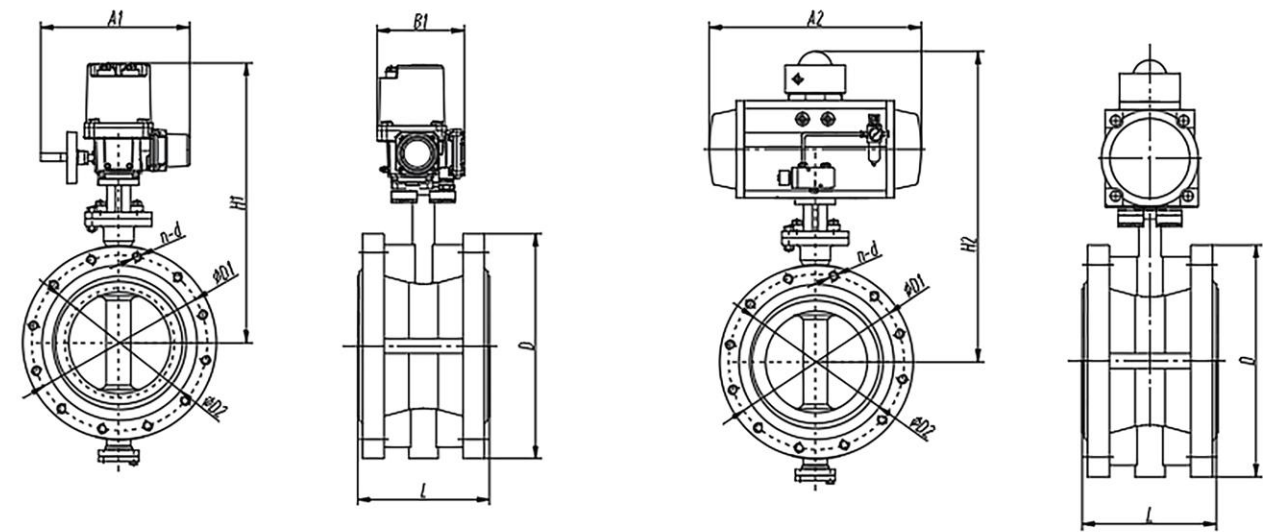
| American Standard ANSI CLASS 150

Nominal diameter DN		Structure length (Standard)	Overall dimension (Reference)					Connection dimension (Standard)		
			D971 Series			D671 Series				
mm	inch	L	H1	A1	B1	H2	A2	D1	n-d	Torque(Nm)
50	2	43	415	250	182	269	141	120.7	4-18	50
65	2-1/2	46	425	250	182	283	159	139.7	4-18	80
80	3	49	437	250	182	289	159	152.4	4-18	100
100	4	56	467	332	248	320	211	190.5	8-18	200
125	5	64	483	332	248	351	248	215.9	8-22	200
150	6	70	488	332	248	380	269	241.3	8-22	400
200	8	71	557	424	346	435	345	298.5	8-22	800
250	10	76	594	424	346	509	409	362.0	12-26	1200
300	12	83	701	424	346	597	438	431.8	12-26	1200
350	14	92	735	424	346	653	550	476.3	12-30	1500
400	16	102	763	424	346	720	550	539.8	16-30	2500
450	18	114	797	424	346	772	600	577.9	16-33	4000
500	20	127	823	424	346	867	633	635	20-33	5000
600	24	154	852	890	507	998	730	749.3	20-36	8000
700	28	165	906	984	571	1116	1320	863.5	20-36	12000
800	32	190	996	984	571	1330	1430	978	28-42	15000

NOTE: Flange standard GB/T 9113、GB/T 9115

- ◆ Dimensions H1, H2, and L can be customized to customer's requirements, this product is typically supplied in a short structure. For long structure or special materials, please specify while ordering.
- ◆ As required, the pneumatic actuators can be equipped with accessories such as solenoid valve, positioner, filter regulator, limit switch, etc.

The Flanged Rubber Lined Butterfly Valve



D941 Series

D641 Series

Pressure Class PN10 (1.0MPa)

Nominal diameter DN		Structure length (Standard)		Overall dimension (Reference)					Connection dimension (Standard)			
				D941 Series			D641 Series					
mm	inch	L	H1	A1	B1	H2	A2	D	D1	D2	n-d	Torque (Nm)
50	2	108	415	250	182	269	141	165	125	102	4-18	50
65	2-1/2	112	425	250	182	283	159	185	145	122	8-18	80
80	3	114	437	250	182	289	159	200	160	138	8-18	100
100	4	127	467	250	182	320	211	220	180	158	8-18	100
125	5	140	483	332	248	351	248	250	210	188	8-18	200
150	6	140	488	332	248	380	269	285	240	212	8-22	200
200	8	152	557	332	248	435	345	340	295	268	8-22	400
250	10	165	594	424	346	509	409	395	350	320	12-22	800
300	12	178	701	424	346	597	438	445	400	370	12-22	800
350	14	190	735	424	346	653	550	505	460	430	16-22	1200
400	16	216	763	424	346	720	550	565	515	482	16-26	1500
450	18	222	797	424	346	772	600	615	565	532	20-26	2500
500	20	229	823	424	346	867	633	670	620	585	20-26	4000
600	24	267	852	424	346	998	730	780	725	685	20-30	5000
700	28	292	906	890	507	1116	1320	895	840	800	24-30	9000
800	32	318	996	984	571	1330	1430	1015	950	905	24-33	12000
900	36	330	996	984	571	1420	1950	1115	1050	1005	28-33	15000
1000	40	410	996	1060	580	1510	1950	1230	1160	1110	28-36	20000

Pressure Class PN16 (1.6MPa)

Nominal diameter DN		Structure length (Standard)		Overall dimension (Reference)					Connection dimension (Standard)			
				D941 Series			D641 Series					
mm	inch	L	H1	A1	B1	H2	A2	D	D1	D2	n-d	Torque (Nm)
50	2	108	415	250	182	269	141	165	125	102	4-18	50
65	2-1/2	112	425	250	182	283	159	185	145	122	8-18	80
80	3	114	437	250	182	289	159	200	160	138	8-18	100
100	4	127	467	332	248	320	211	235	180	158	8-18	200
125	5	140	483	332	248	351	248	250	210	188	8-18	200
150	6	140	488	332	248	380	269	285	240	212	8-22	400
200	8	152	557	424	346	435	345	340	295	268	12-22	800
250	10	165	594	424	346	509	409	405	355	320	12-26	1200
300	12	178	701	424	346	597	438	460	410	378	12-26	1200
350	14	190	735	424	346	653	550	520	470	428	16-26	1500
400	16	216	763	424	346	720	550	580	525	490	16-30	2500
450	18	222	797	424	346	772	600	640	585	550	20-30	4000
500	20	229	823	424	346	867	633	715	650	610	20-33	5000
600	24	267	852	890	507	998	730	840	770	725	20-36	8000
700	28	292	906	984	571	1116	1320	910	840	795	24-36	12000
800	32	318	996	984	571	1330	1430	1025	950	900	24-39	15000
900	36	330	996	1060	580	1420	1950	1125	1050	1000	28-39	20000
1000	40	410	996	1170	620	1510	1950	1255	1170	1115	28-42	30000

American Standard ANSI CLASS 150

Nominal diameter DN		Structure length (Standard)		Overall dimension (Reference)					Connection dimension (Standard)			
				D941 Series			D641 Series					
mm	inch	L	H1	A1	B1	H2	A2	D	D1	D2	n-d	Torque (Nm)
50	2	108	415	250	182	269	141	150	120.7	92.1	4-18	50
65	2-1/2	112	425	250	182	283	159	180	139.7	104.8	4-18	80
80	3	114	437	250	182	289	159	190	152.4	127	4-18	100
100	4	127	467	332	248	320	211	230	190.5	157.2	8-18	200
125	5	140	483	332	248	351	248	255	215.9	185.7	8-22	200
150	6	140	488	332	248	380	269	280	241.3	215.9	8-22	400
200	8	152	557	424	346	435	345	345	298.5	269.9	8-22	800
250	10	165	594	424	346	509	409	405	362.0	323.8	12-26	1200
300	12	178	701	424	346	597	438	485	431.8	381.0	12-26	1200
350	14	190	735	424	346	653	550	535	476.3	412.8	12-30	1500
400	16	216	763	424	346	720	550	595	539.8	469.9	16-30	2500
450	18	222	797	424	346	772	600	635	577.9	533.4	16-33	4000
500	20	229	823	424	346	867	633	700	635	584.2	20-33	5000
600	24	267	852	890	507	998	730	815	749.3	692.2	20-36	8000
700	28	292	906	984	571	1116	1320	927	863.5	800	20-36	12000
800	32	318	996	984	571	1330	1430	1060	978	914	28-42	15000
900	36	330	996	1060	580	1420	1950	1168	1085.8	1022	32-42	20000
1000	40	410	996	1170	620	1510	1950	1289	1200.2	1124	36-42	30000

NOTE: Flange standard GB/T 9113、GB/T 9115

- ◆ Dimensions H1, H2, and L can be customized to customer's requirements, this product is typically supplied in a short structure. For long structure or special materials, please specify while ordering.
- ◆ As required, the pneumatic actuators can be equipped with accessories such as solenoid valve, positioner, filter regulator, limit switch, etc.

Hard-Seal Butterfly Valve



PRODUCT FEATURES

Seat & Seal ring

The valve seat and seal ring can be replaced separately, reducing maintenance time and cost while extending the service life of valve;

Stem

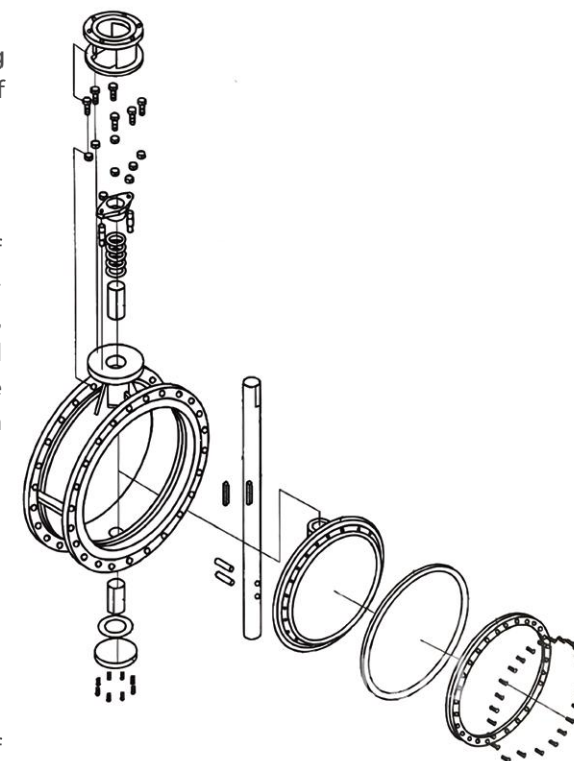
The unique spline connection between the valve disc and stem of HIVAL reduces hysteresis phenomena and eliminates many problems caused by external connections (additional hardware), enabling easy installation and removal. Featuring an integrated valve stem design, HIVAL incorporates an anti blowout ring above the packing, ensuring that the valve stem fully complies with international standards under operating pressure conditions;

Bearing

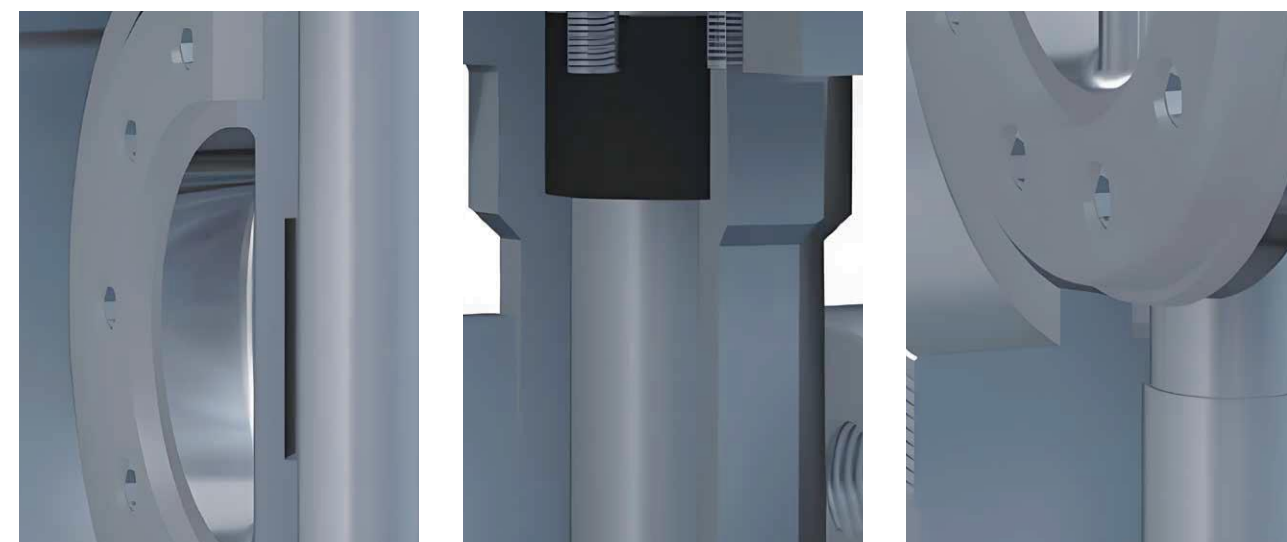
Standard bearing seals effectively prevents destructive particles from entering the valve stem bearing, extending its service life;

Packing

Adjustable packing system (packing gland) reduces the risk of medium leakage and allows for easy replacement.



Exploded View of a Triple Eccentric Butterfly Valve

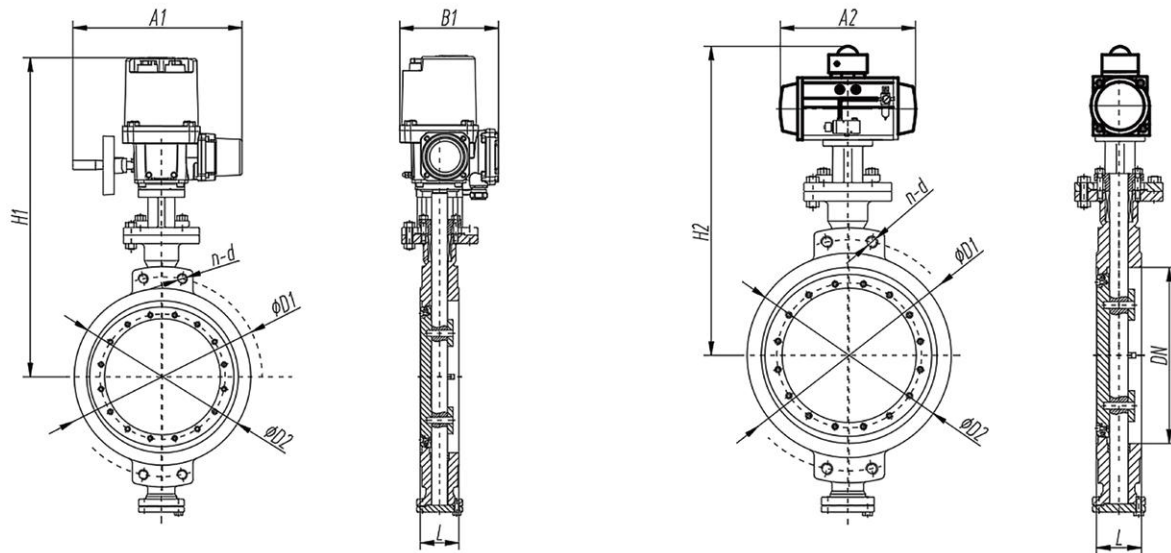


Main performance parameters and Adopted standard				
Design Standard		API 609		
Flange Connection Dimensions		DN≤24"(As per ANSI B16.5); DN > 24"(As per ANSI B16.47)		
Testing and Inspection		API 598		
Temperature and Pressure Class		ASME B16.34		
Structure Length	Short Structure	API 609, ISO 5752		
	Long Structure	ASME B16.10		
Fire-proof Manufacturing		API 607		
Pressure Class		150Lb	300Lb	600Lb
Pressure Testing at Normal Temperature (MPa)	The Shell Pressure Testing	2.93	7.58	15
	High-Pressure Sealing Testing	2.07	5.52	11.03
	Low-Pressure Sealing Testing	0.6	0.6	0.6
Applicable Medium		Water, Oil, Gas, and various corrosive medium (different materials are selected for different medium)		
Applicable Temperature		-196℃~+650℃		

Material Table	
Component Name	Material
Body	Cast steel, Stainless Steel, Chromium molybdenum steel, Alloy steel
Trim	Cast steel, Alloy steel, Stainless Steel, Chromium molybdenum steel
Sealing Ring	The stainless steel and high-temperature-resistant asbestos plates are combined to form a multi-layered composite structure.
Stem	2Cr13, 1Cr13Stainless Steel, Chromium molybdenum steel
Bearing	Austenitic stainless steel, 304+Nitriding
Packing	Flexible graphite

NOTE: The above materials are for standard configurations. For special operating conditions, we will match the material to your specific requirements.

Wafer Type Triple Eccentric Butterfly Valve



D973 Series

D673 Series

Pressure Class PN16 (1.6MPa)

Nominal diameter DN		Structure length (Standard)	Overall dimension (Reference)					Connection dimension (Standard)		
			D973 Series			D673 Series				
mm	inch	L	H1	A1	B1	H2	A2	D1	n-d	Torque(Nm)
50	2	43	415	250	182	277	159	125	4-18	100
65	2-1/2	46	425	250	182	287	211	145	8-18	100
80	3	49	437	250	182	365	248	160	8-18	100
100	4	56	467	332	248	420	269	180	8-18	200
125	5	64	483	332	248	436	315	210	8-18	200
150	6	70	488	332	248	466	345	240	8-22	400
200	8	71	557	424	346	593	409	295	12-22	900
250	10	76	594	424	346	682	438	355	12-26	1500
300	12	83	701	424	346	725	550	410	12-26	2000
350	14	92	735	424	346	832	600	470	16-26	3000
400	16	102	763	424	346	862	633	525	16-30	3500
450	18	114	797	424	346	945	633	585	20-30	4000
500	20	127	823	424	346	1058	730	650	20-33	5000
600	24	154	852	984	571	1108	1180	770	20-36	9000
700	28	165	906	984	571	1170	1320	840	24-36	14000
800	32	190	996	1060	580	1325	1430	950	24-39	20000

| Pressure Class PN25 (2.5MPa)

Nominal diameter DN		Structure length (Standard)	Overall dimension (Reference)					Connection dimension (Standard)		
			D973 Series			D673 Series				
mm	inch	L	H1	A1	B1	H2	A2	D1	n-d	Torque(Nm)
50	2	43	375	250	182	277	159	125	4-18	150
65	2-1/2	46	385	250	182	287	211	145	8-18	150
80	3	49	395	332	248	365	248	160	8-18	200
100	4	56	422	332	248	420	269	190	8-22	200
125	5	64	431	332	248	436	315	220	8-26	300
150	6	70	450	332	248	466	409	250	8-26	400
200	8	71	514	424	346	593	438	310	12-26	1200
250	10	76	558	424	346	682	550	370	12-30	2000
300	12	83	668	424	346	702	600	430	16-30	2500
350	14	92	710	424	346	832	633	490	16-33	4000
400	16	102	733	424	346	910	633	550	16-36	4500
450	18	114	780	424	346	1005	730	600	20-36	5000
500	20	127	816	890	507	1058	730	660	20-36	6000
600	24	154	846	984	571	1110	1320	770	20-39	14000
700	28	165	916	1060	580	1255	1430	875	24-42	20000
800	32	190	971	1170	620	1325	1950	990	24-48	30000

| Pressure Class PN40 (4.0MPa)

Nominal diameter DN		Structure length (Standard)	Overall dimension (Reference)					Connection dimension (Standard)		
			D973 Series			D673 Series				
mm	inch	L	H1	A1	B1	H2	A2	D1	n-d	Torque(Nm)
50	2	43	375	332	248	277	211	125	4-18	300
65	2-1/2	46	385	332	248	310	248	145	8-18	400
80	3	49	395	332	248	375	269	160	8-18	400
100	4	56	422	424	346	436	315	190	8-22	500
125	5	64	431	424	346	462	345	220	8-26	600
150	6	70	150	424	346	543	438	250	8-26	800
200	8	71	514	424	346	665	550	320	12-30	2000
250	10	76	558	424	346	752	600	385	12-33	2500
300	12	83	668	424	346	820	633	450	16-33	4000
350	14	92	710	890	507	938	730	510	16-36	6000
400	16	102	733	890	507	970	1180	585	16-39	7000
450	18	152	780	984	571	1005	1180	610	20-39	8500
500	20	152	816	984	571	1145	1320	670	20-42	10000
600	24	178	846	1060	580	1195	1970	795	20-48	20000

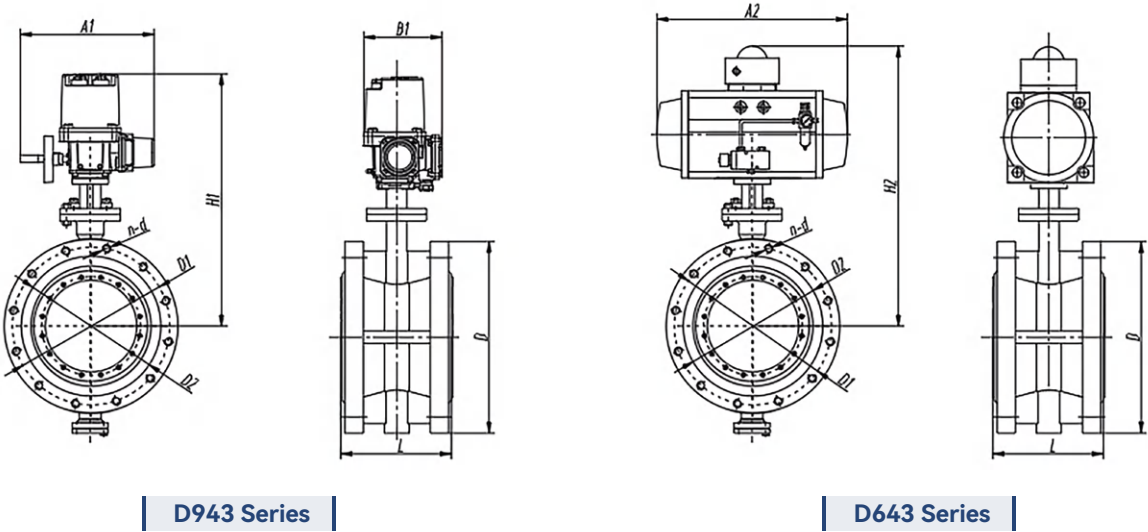
| American standard ANSI CLASS 150

Nominal diameter DN		Structure length (Standard)	Overall dimension (Reference)					Connection dimension (Standard)		
			D973 Series		D673 Series					
mm	inch	L	H1	A1	B1	H2	A2	D1	n-d	Torque(Nm)
50	2	43	415	250	182	277	159	120.7	4-18	100
65	2-1/2	46	425	250	182	287	211	139.7	4-18	100
80	3	49	437	250	182	365	248	152.4	4-18	100
100	4	56	467	332	248	420	269	190.5	8-18	200
125	5	64	483	332	248	436	315	215.9	8-22	200
150	6	70	488	332	248	466	345	241.3	8-22	400
200	8	71	557	424	346	593	409	298.5	8-22	900
250	10	76	594	424	346	682	438	362	12-26	1500
300	12	86	701	424	346	725	550	431.8	12-26	2000
350	14	92	735	424	346	832	600	476.3	12-30	3000
400	16	102	763	424	346	862	633	539.8	16-30	3500
450	18	114	797	424	346	945	633	577.9	16-33	4000
500	20	127	823	424	346	1058	730	635	20-33	5000
600	24	154	852	984	571	1108	1180	749.3	20-36	9000
700	28	165	906	984	571	1170	1320	863.5	20-36	14000
800	32	190	996	1060	580	1325	1430	978	28-42	20000

NOTE: Flange standard GB/T 9113、GB/T 9115

- ◆ Dimensions H1, H2, and L can be customized to customer’s requirements, this product is typically supplied in a short structure. For long structure or special materials, please specify while ordering.
- ◆ As required, the pneumatic actuators can be equipped with accessories such as solenoid valve, positioner, filter regulator, limit switch, etc.

Flange-Type Triple Eccentric Butterfly Valve



| Pressure Class PN16 (1.6MPa)

Nominal diameter DN		Structure length (Standard)	Overall dimension (Reference)					Connection dimension (Standard)				
			D943 Series			D643 Series						
mm	inch	L	H1	A1	B1	H2	A2	D	D1	D2	n-d	Torque(Nm)
50	2	108	415	250	182	277	159	165	125	102	4-18	100
65	2-1/2	112	425	250	182	287	211	185	145	122	8-18	100
80	3	114	437	250	182	365	248	200	160	138	8-18	100
100	4	127	467	332	248	420	269	235	180	158	8-18	200
125	5	140	483	332	248	436	315	250	210	188	8-18	200
150	6	140	488	332	248	466	345	285	240	212	8-22	400
200	8	152	557	424	346	593	409	340	295	268	12-22	900
250	10	165	594	424	346	682	438	405	355	320	12-26	1500
300	12	178	701	424	346	725	550	460	410	378	12-26	2000
350	14	190	735	424	346	832	600	520	470	428	16-26	3000
400	16	216	763	424	346	862	633	580	525	490	16-30	3500
450	18	222	797	424	346	945	633	640	585	550	20-30	4000
500	20	229	823	424	346	1058	730	715	650	610	20-33	5000
600	24	267	852	984	571	1108	1180	840	770	725	20-36	9000
700	28	292	906	984	571	1170	1320	910	840	795	24-36	14000
800	32	318	996	1060	580	1325	1430	1025	950	900	24-39	20000
900	36	330	1041	1060	580	1360	1950	1125	1050	1000	28-39	25000
1000	40	410	1101	1170	620	1420	2210	1255	1170	1115	28-42	35000

| Pressure Class PN25 (2.5MPa)

Nominal diameter DN		Structure length (Standard)	Overall dimension (Reference)					Connection dimension (Standard)				
			D943 Series			D643 Series						
mm	inch	L	H1	A1	B1	H2	A2	D	D1	D2	n-d	Torque(Nm)
50	2	108	415	250	182	277	159	165	125	102	4-18	150
65	2-1/2	112	425	250	182	287	211	185	145	122	8-18	150
80	3	114	437	332	248	365	248	200	160	138	8-18	200
100	4	127	467	332	248	420	269	235	190	162	8-22	200
125	5	140	483	332	248	436	315	270	220	188	8-26	300
150	6	140	488	332	248	466	409	300	250	218	8-26	400
200	8	152	557	424	346	593	438	360	310	278	12-26	1200
250	10	165	594	424	346	682	550	425	370	335	12-30	2000
300	12	178	701	424	346	702	600	485	430	395	16-30	2500
350	14	190	735	424	346	832	633	555	490	450	16-33	4000
400	16	216	763	424	346	910	633	620	550	505	16-36	4500
450	18	222	797	424	346	1005	730	670	600	555	20-36	5000
500	20	229	823	890	507	1058	730	730	660	615	20-36	6000
600	24	267	852	984	571	1110	1320	845	770	720	20-39	14000
700	28	292	906	1060	580	1255	1430	960	875	820	24-42	20000
800	32	318	996	1170	620	1325	1950	1085	990	930	24-48	30000
900	36	330	996	1245	720	1360	1950	1185	1090	1030	28-48	40000
1000	40	410	996	1245	720	1420	2210	1320	1210	1140	28-55	50000

| American standard ANSI CLASS 150

Nominal diameter DN		Structure length (Standard)	Overall dimension (Reference)					Connection dimension (Standard)				
			D943 Series			D643 Series						
mm	inch	L	H1	A1	B1	H2	A2	D	D1	D2	n-d	Torque(Nm)
50	2	108	415	250	182	277	159	152	120.7	92	4-18	100
65	2-1/2	112	425	250	182	287	211	178	139.7	105	4-18	100
80	3	114	437	250	182	365	248	190	152.4	127	4-18	100
100	4	127	467	332	248	420	269	229	190.5	157	8-18	200
125	5	140	483	332	248	436	315	254	215.9	186	8-22	200
150	6	140	488	332	248	466	345	279	241.3	216	8-22	400
200	8	152	557	424	346	593	409	343	298.5	270	8-22	900
250	10	165	594	424	346	682	438	406	362	324	12-26	1500
300	12	178	701	424	346	725	550	483	431.8	381	12-26	2000
350	14	190	735	424	346	832	600	533	476.3	413	12-30	3000
400	16	216	763	424	346	862	633	579	539.8	470	16-30	3500
450	18	222	797	424	346	945	633	635	577.9	533	16-33	4000
500	20	229	823	424	346	1058	730	700	635	584	20-33	5000
600	24	267	852	984	571	1108	1180	813	749.3	692	20-36	9000
700	28	292	906	984	571	1170	1320	927	863.5	800	28-36	14000
800	32	318	996	1060	580	1325	1430	1060	978	914	28-42	20000
900	36	330	996	1060	580	1360	1950	1168	1085.8	1022	32-42	25000
1000	40	410	996	1170	620	1420	2210	1289	1200.2	1124	36-42	35000

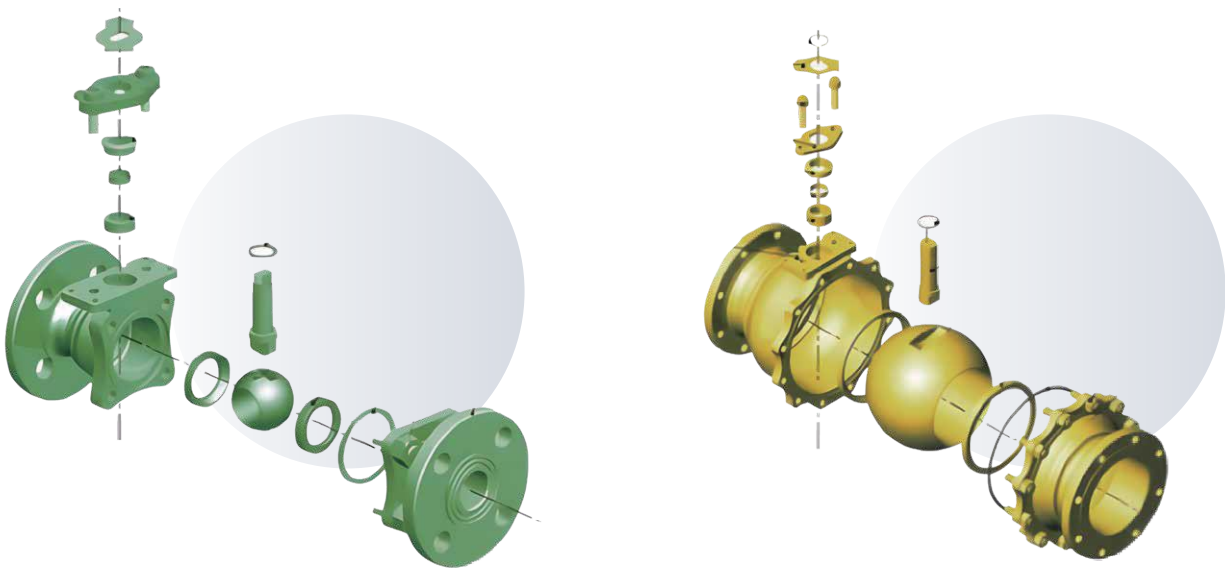
| American standard ANSI CLASS 300

Nominal diameter DN		Structure length (Standard)	Overall dimension (Reference)					Connection dimension (Standard)				
			D943 Series			D643 Series						
mm	inch	L	H1	A1	B1	H2	A2	D	D1	D2	n-d	Torque(Nm)
50	2	108	415	332	248	277	159	165	127	92	8-19	300
65	2-1/2	112	425	332	248	287	211	190	149	105	8-22	400
80	3	114	437	332	248	365	248	210	168.5	127	8-22	400
100	4	127	467	424	346	420	269	255	200	157	8-22	500
125	5	140	483	424	346	436	315	280	235	186	8-22	600
150	6	140	488	424	346	466	409	320	270	216	12-22	800
200	8	152	557	424	346	593	438	380	330	270	12-26	2000
250	10	165	594	424	346	682	550	445	387.5	324	16-29	2500
300	12	178	701	424	346	702	600	520	451	381	16-32	4000
350	14	190	735	890	507	832	633	585	514.5	413	20-32	6000
400	16	216	763	890	507	910	633	650	571.5	470	20-35	7000
450	18	222	797	984	571	1005	730	710	628.5	533	24-35	8500
500	20	229	823	984	571	1058	730	775	686	584	24-35	10000
600	24	267	852	1060	580	1110	1320	915	813	692	24-41	20000
700	28	292	906	1170	620	1255	1430	1035	940	800	28-45	35000
800	32	318	996	1245	720	1325	1950	1149	1054	914	28-52	45000
900	36	330	996	1245	720	1360	1950	1270	1168.5	1022	32-54	55000
1000	40	410	996	1410	880	1420	2210	1238	1155.7	1086	32-45	70000

NOTE: Flange standard GB/T 9113、GB/T 9115

- ◆Dimensions H1, H2, and L can be customized to customer’s requirements, this product is typically supplied in a short structure. For long structure or special materials, please specify while ordering.
- ◆As required, the pneumatic actuators can be equipped with accessories such as solenoid valve, positioner, filter regulator, limit switch, etc.

GB Standard Floating Ball Valve

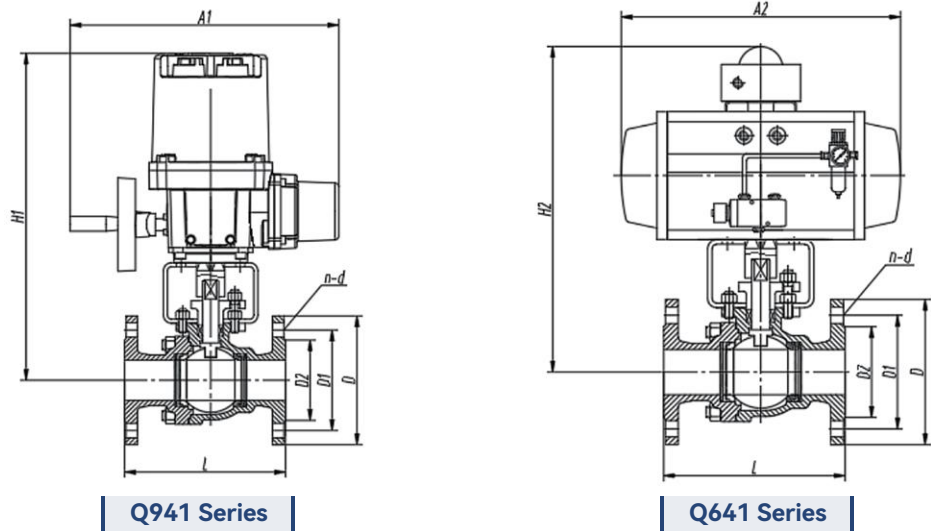


Implementation Standard

	Design Standard	Structure Length	Flange Connection Dimensions	Testing and Inspection
Adopted Standard	GB/T12237 JB/T7745	GB/T12221 JB/T7745	JB/T 79	GB/T 13927 JB/T 9092

Material Table

Component Name	Material				
	WCB/A105+HCr (ENP)	WCB/304	WCB/316	CF8	CF8M
Body	A216 WCB	A216 WCB	A216 WCB	A351 CF8	A351 CF8M
Packing	PTFE				
Bushing	PTFE				
Packing Bushing	A182 F6a	A182 F304	A182 F316	A182 F304	A182 F304
Packing Plate	A216 WCB	A216 WCB	A216 WCB	A351 CF8	A351 CF8M
Screw	A193 B7	A193 B7	A193 B7	A193 B8	A193 B8M
Upper Sealing Gasket	PTFE				
Stem	A182 F6a	A182 F304	A182 F316	A182 F304	A182 F316
Ball	A105+HCr (ENP)	A182 F304	A182 F316	A182 F304	A182 F316
Sealing Ring	RPTFE				
Gasket	PTFE				
Bolt	A192 2H	A192 2H	A192 2H	A194 8	A194 8M
Nut	A193 B7	A193 B7	A193 B7	A193 B8	A193 B8M
Bonnet	A216 WCB	A216 WCB	A216 WCB	A351 CF8	A351 CF8M



| Pressure Class PN16 (1.6MPa)

Nominal diameter DN	Structure length (Standard)	Overall dimension (Reference)						Connection dimension (Standard)				
		Q941 Series			Q941 Series			D	D1	D2	n-d	Torque (Nm)
mm	inch	L	H1	A1	B1	H2	A2					
20	3/4	140	352	250	182	230	528	105	75	55	4-14	40
25	1	150	371	250	182	257	528	115	85	65	4-14	40
32	1-1/4	165	393	250	182	262	528	135	100	78	4-18	40
40	1-1/2	180	412	250	182	264	601	145	110	85	4-18	40
50	2	200	440	250	182	340	683	160	125	100	4-18	40
65	2-1/2	220	472	250	182	370	683	180	145	120	4-18	100
80	3	250	486	250	182	389	683	195	160	135	8-18	150
100	4	280	579	322	248	594	683	215	180	155	8-18	300
125	5	320	595	322	248	646	988	245	210	185	8-18	400
150	6	360	650	424	346	658	988	280	240	210	8-23	700
200	8	400	739	424	346	781	1451	335	295	265	12-23	1200

| Pressure Class PN25 (2.5MPa)

Nominal diameter DN	Structure length (Standard)	Overall dimension (Reference)						Connection dimension (Standard)				
		Q941 Series			Q641 Series			D	D1	D2	n-d	Torque (Nm)
mm	inch	L	H1	A1	B1	H2	A2					
20	3/4	140	371	250	182	230	528	105	75	55	4-14	50
25	1	150	393	250	182	257	528	115	85	65	4-14	50
32	1-1/4	165	412	250	182	262	528	135	100	78	4-18	50
40	1-1/2	180	440	250	182	264	601	145	110	85	4-18	50
50	2	200	472	250	182	340	683	160	125	100	4-18	100
65	2-1/2	220	486	322	248	370	683	185	145	120	8-18	200
80	3	250	579	322	248	389	683	200	160	135	8-18	300
100	4	280	595	424	346	594	683	220	180	160	8-18	600
125	5	320	650	424	346	646	988	250	210	188	8-18	800
150	6	360	739	424	346	658	988	285	240	218	8-22	1200
200	8	400	799	424	346	781	1451	340	295	278	12-22	2000

| Pressure Class PN40 (4.0MPa)

Nominal diameter DN	Structure length (Standard)	Overall dimension (Reference)						Connection dimension (Standard)				
		Q941 Series			Q941 Series			D	D1	D2	n-d	Torque (Nm)
mm	inch	L	H1	A1	B1	H2	A2					
20	3/4	140	371	250	182	230	528	105	75	55	4-14	100
25	1	150	393	250	182	257	528	115	85	65	4-14	100
32	1-1/4	180	412	250	182	262	528	135	100	78	4-18	100
40	1-1/2	200	440	250	182	264	601	145	110	85	4-18	100
50	2	220	472	250	182	340	683	160	125	100	4-18	100
65	2-1/2	250	486	322	248	370	683	180	145	120	8-18	200
80	3	280	579	322	248	389	683	195	160	135	8-18	300
100	4	320	595	424	346	594	683	230	190	160	8-23	600
125	5	400	650	424	346	646	988	270	220	188	8-25	800
150	6	400	739	424	346	658	988	300	250	218	8-25	1200
200	8	457	799	424	346	781	1451	375	320	282	12-30	2500

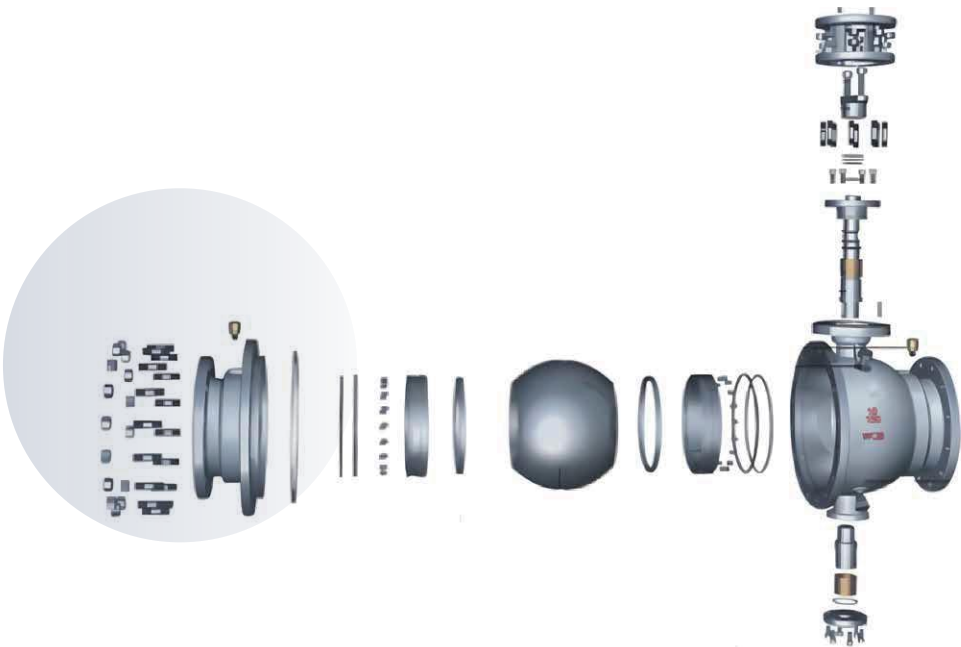
| Pressure Class PN64 (6.4MPa)

Nominal diameter DN	Structure length (Standard)	Overall dimension (Reference)						Connection dimension (Standard)				
		Q941 Series			Q941 Series			D	D1	D2	n-d	Torque (Nm)
mm	inch	L	H1	A1	B1	H2	A2					
20	3/4	190	371	250	182	230	528	125	90	68	4-14	100
25	1	216	393	250	182	257	528	135	100	78	4-18	100
32	1-1/4	229	412	250	182	262	528	150	110	82	4-18	100
40	1-1/2	241	440	250	182	264	601	165	125	95	4-23	100
50	2	292	472	250	182	340	683	175	135	105	4-23	150
65	2-1/2	330	486	322	248	370	683	200	160	130	8-23	300
80	3	356	579	424	346	389	683	210	170	140	8-23	500
100	4	432	595	424	346	594	683	250	200	168	8-25	900

| Pressure Class PN100 (10.0MPa)

Nominal diameter DN	Structure length (Standard)	Overall dimension (Reference)						Connection dimension (Standard)				
		Q941 Series			Q941 Series			D	D1	D2	n-d	Torque (Nm)
mm	inch	L	H1	A1	B1	H2	A2					
20	3/4	190	402	250	182	250	528	125	90	68	4-18	100
25	1	216	413	250	182	268	528	135	100	78	4-18	100
32	1-1/4	229	422	250	182	275	601	150	110	82	4-23	100
40	1-1/2	241	455	322	248	285	683	165	125	95	4-23	200
50	2	292	486	322	248	358	683	195	145	112	4-25	300
65	2-1/2	330	499	424	346	390	683	220	170	138	8-25	600
80	3	356	598	424	346	408	683	230	180	148	8-25	800
100	4	432	620	424	346	620	683	265	210	172	8-30	1200

GB Standard Trunnion-Mounted Ball Valve

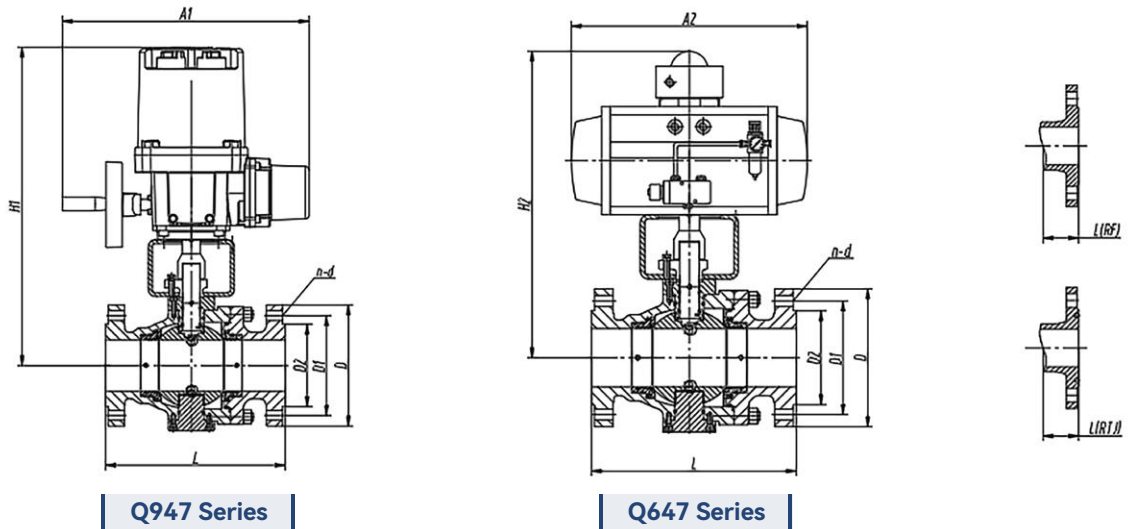


Implementation Standard

	Design Standard	Structure Length	Flange Connection Dimensions	Welding	Testing and Inspection
Adopted Standard	GB/T12237 GB/T19672	GB/T12221 JB/T7745	GB/T 9113 JB/T 79	GB/T 1224	GB/T 13927 JB/T 9092

Material Table

Component Name	Material				
Body	WCB/A105+HCr (ENP)	WCB/304	WCB/316	CF8	CF8M
Bonnet	A216 WCB	A216 WCB	A216 WCB	A351 CF8	A351 CF8M
Lower Bonnet	A105	A105	A105	A182 F304	A182 F316
Ball	A105+HCr (ENP)	A182 F304	A182 F316	A182 F304	A182 F316
Seat	RPTFE				
Stem	A182 F6a	A182 F304	A182 F316	A182 F304	A182 F316
Lower Shaft	A182 F6a	A182 F304	A182 F316	A182 F304	A182 F316
Seat	A105	A105	A105	A182 F304	A182 F316
Gasket	PTFE				
Gasket	PTFE				
Stem Shaft Sleeve	A182 F6a	A182 F304	A182 F316	A182 F304	A182 F316
Lower Stem Shaft Sleeve	A182 F6a	A182 F304	A182 F316	A182 F304	A182 F316
Gasket	PTFE				
Gasket	PTFE				
Cover	A216 WCB	A216 WCB	A216 WCB	A351 CF8	A351 CF8M
Relief Valve	A29 1025	A29 1025	A29 1025	SS	SS
Bolt	A192 2H	A192 2H	A192 2H	A194 8	A194 8M
Spring	SS304/Inconel 750	SS304/Inconel 750	SS316/Inconel 750	SS304/Inconel 750	SS316/Inconel 750
O-ring	Viton				
Injection Valve	A29 1025	A29 1025	A29 1025	SS	SS
Discharge Plug	A29 1025	A29 1025	A29 1025	SS	SS
Key	Carbon Steel	Carbon Steel	Carbon Steel	Stainless Steel	Stainless Steel
Bracket	A216 WCB	A216 WCB	A216 WCB	A351 CF8	A351 CF8M
O-ring	Viton				
Screw	A193 B7	A193 B7	A193 B7	A193 B8	A193 B8M



| Preesure Class PN16 (1.6MPa)

Nominal diameter DN		Structure length (Standard)	Overall dimension (Reference)					Connection dimension (Standard)				
			Q947 Series			Q647 Series						
mm	inch	L	H1	A1	B1	H2	A2	D	D1	D2	n-d	Torque (Nm)
50	2	178	420	250	182	269	405	160	125	100	4-18	40
65	2-1/2	191	440	250	182	379	405	180	145	120	4-18	100
80	3	203	459	250	182	452	574	195	160	135	8-18	150
100	4	229	472	322	248	579	574	215	180	155	8-18	300
125	5	356	482	322	248	595	756	245	210	185	8-18	400
150	6	394	492	424	346	595	756	280	240	210	8-23	700
200	8	457	592	424	346	736	756	335	295	265	12-23	1200
250	10	533	648	424	346	942	1060	405	355	320	12-25	2000
300	12	610	788	424	346	994	1060	460	410	375	12-25	3000
350	14	686	822	424	346	1188	1360	520	470	436	16-25	5000
400	16	762	922	890	507	1280	1360	580	525	485	16-30	7000
450	18	864	1004	910	571	1480	2910	640	585	515	20-30	10000
500	20	914	1152	984	571	1554	2910	715	650	608	20-34	12000
600	24	1067	1354	984	571	1580	3330	840	770	718	20-36	15000

| Preesure Class PN25 (2.5MPa)

Nominal diameter DN		Structure length (Standard)	Overall dimension (Reference)					Connection dimension (Standard)				
			Q947 Series			Q647 Series						
mm	inch	L	H1	A1	B1	H2	A2	D	D1	D2	n-d	Torque (Nm)
50	2	216	420	250	182	269	405	160	125	100	4-18	100
65	2-1/2	241	440	322	248	379	405	180	145	120	8-18	200
80	3	283	459	322	248	452	574	195	160	135	8-18	300
100	4	305	472	424	346	579	574	230	190	160	8-23	600
125	5	381	482	424	346	595	756	270	220	188	8-25	800
150	6	457	492	424	346	595	756	300	250	218	8-25	1200
200	8	521	592	424	346	736	756	360	310	278	12-25	2000
250	10	568	648	424	346	942	1060	425	370	332	12-30	2500
300	12	648	788	424	346	994	1060	485	430	390	16-30	4000
350	14	762	822	890	507	1188	1360	550	490	448	16-34	7500
400	16	838	922	984	571	1280	1360	610	550	505	16-34	9000
450	18	914	1004	984	571	1480	2910	660	600	555	20-34	12000
500	20	991	1152	984	571	1554	2910	730	660	610	20-41	15000
600	24	1143	1354	1060	580	1580	3330	840	770	718	20-41	25000

| Preesure Class PN40 (4.0MPa)

Nominal diameter DN		Structure length (Standard)	Overall dimension (Reference)					Connection dimension (Standard)				
			Q947 Series			Q647 Series						
mm	inch	L	H1	A1	B1	H2	A2	D	D1	D2	n-d	Torque (Nm)
50	2	216	420	250	182	269	405	160	125	100	4-18	100
65	2-1/2	241	440	322	248	379	405	180	145	120	8-18	200
80	3	283	459	322	248	452	574	195	160	135	8-18	300
100	4	305	472	424	346	579	574	230	190	160	8-23	600
125	5	381	482	424	346	595	756	270	220	188	8-25	800
150	6	457	492	424	346	595	756	300	250	218	8-25	1200
200	8	521	592	424	346	736	756	360	310	278	12-25	2000
250	10	568	648	424	346	942	1060	425	370	332	12-30	2500
300	12	648	788	424	346	994	1060	485	430	390	16-30	4000
350	14	762	822	890	507	1188	1360	550	490	448	16-34	7500
400	16	838	922	984	571	1280	1360	610	550	505	16-34	9000
450	18	914	1004	984	571	1480	2910	660	600	555	20-34	12000
500	20	991	1152	984	571	1554	2910	730	660	610	20-41	15000
600	24	1143	1354	1060	580	1580	3330	840	770	718	20-41	25000

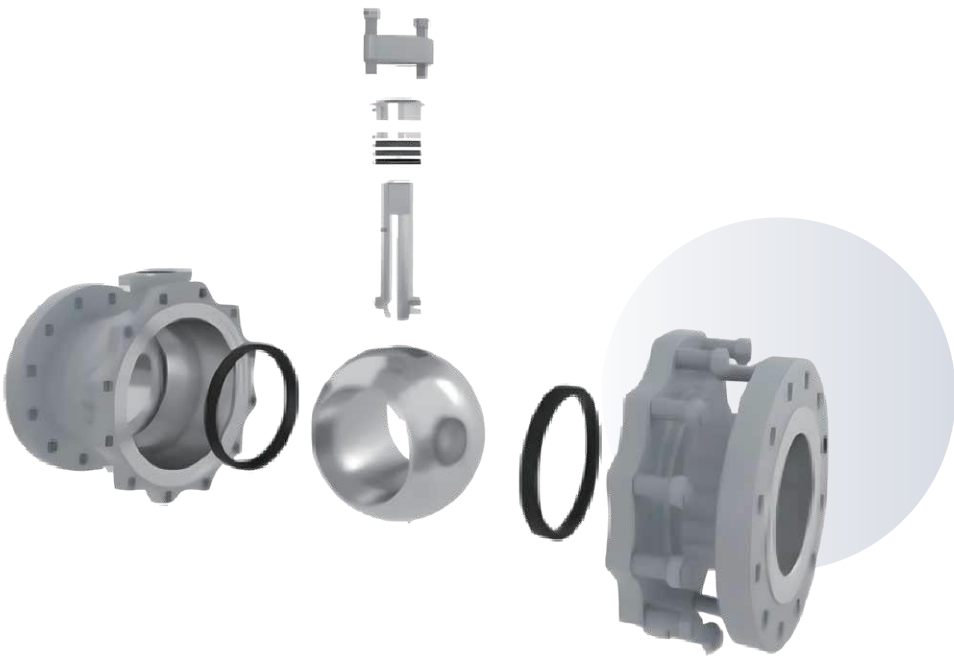
| Preesure Class PN64 (6.4MPa)

Nominal diameter DN		Structure length (Standard)	Overall dimension (Reference)					Connection dimension (Standard)				
			Q947 Series			Q647 Series						
mm	inch	L	H1	A1	B1	H2	A2	D	D1	D2	n-d	Torque (Nm)
50	2	292	460	250	182	279	405	175	135	105	4-23	150
65	2-1/2	330	485	322	248	385	574	200	160	130	8-23	300
80	3	356	509	424	346	465	574	210	170	140	8-23	500
100	4	406	530	424	346	590	756	250	200	168	8-25	900
150	6	495	554	424	346	606	756	340	280	240	8-34	1500
200	8	597	600	424	346	606	756	405	345	300	12-34	3000
250	10	673	652	424	346	746	1060	470	400	352	12-36	5000
300	12	762	761	890	507	962	1060	530	460	415	16-36	7000
350	14	826	771	984	571	1020	1360	595	525	475	16-41	10000
400	16	902	831	984	571	1210	1360	670	585	525	16-42	14000
450	18	978	943	1060	580	1300	2910	715	630	570	20-48	20000
500	20	1054	1123	1060	580	1520	2910	800	705	640	20-48	25000
600	24	1232	1218	1170	620	1580	3330	930	820	750	20-58	35000

| Preesure Class PN100 (10.0MPa)

Nominal diameter DN		Structure length (Standard)	Overall dimension (Reference)					Connection dimension (Standard)				
			Q947 Series			Q647 Series						
mm	inch	L	H1	A1	B1	H2	A2	D	D1	D2	n-d	Torque (Nm)
50	2	292	500	322	248	269	405	195	145	112	4-25	300
65	2-1/2	330	525	424	346	379	405	220	170	138	8-25	600
80	3	356	548	424	346	519	574	230	180	148	8-25	800
100	4	432	560	424	346	636	574	265	210	172	8-30	1200
150	6	559	600	424	346	728	756	350	290	250	12-34	2500
200	8	660	652	424	346	839	1060	430	360	312	12-36	4000
250	10	787	761	890	507	1014	1060	500	430	382	12-41	6000
300	12	838	771	984	571	1120	1360	585	500	442	16-48	9500
350	14	889	831	984	571	1224	2890	665	560	498	16-48	14000
400	16	991	921	1060	580	1374	2890	715	620	558	16-54	20000
450	18	1092	943	1060	580	1450	2890	770	675	615	20-58	25000
500	20	1194	1123	1170	620	1490	3330	870	760	690	20-58	35000
600	24	1397	1218	1245	720	1615	3330	990	875	800	24-58	50000

ASME Standard Floating Ball Valve



PRODUCT INTRODUCTION

The ball in a floating ball valve is free to move and under the medium pressure,the ball can shift slightly and press tightly against the sealing surface at the outlet end, ensuring the sealing of the outlet end.

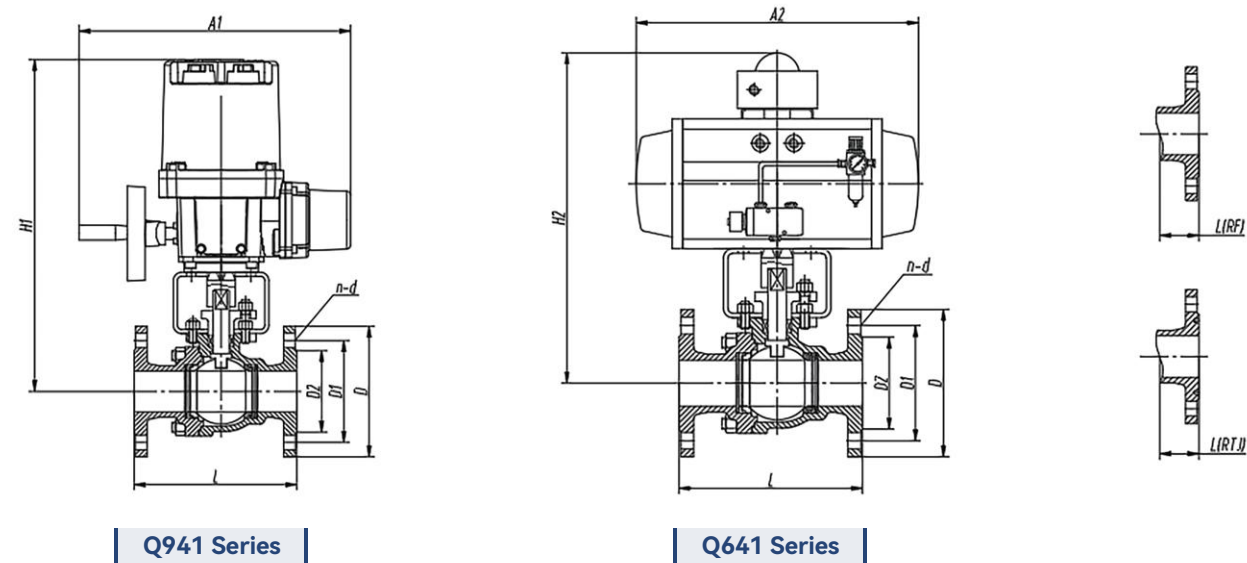
The floating ball valve has a simple structure and provides excellent sealing performance. However, the load exerted on the ball by the working medium is entirely transferred to the outlet sealing ring. Therefore, it is necessary to consider whether the sealing ring material can withstand the working load of the medium. When subjected to high pressure impact, the ball may shift. Generally applicable to medium and low pressure ball valves.

PRODUCT FEATURES

- ◆ Ball valves offer low flow resistance.When a full-bore ball valve is open, the bore of the ball, valve body and connecting pipes share the same diameter and form a straight flow path, allowing the medium to pass through without restriction.
- ◆ The ball valve can be fully closed or fully opened by rotating 90 degrees, enabling quick operation. Its compact size and lightweight design facilitate easy pipeline installation.
- ◆ Advanced valve seat: Ensures excellent sealing performance, low friction coefficient, minimal operating torque. Offers multiple seat material options, suitable for a wide range of applications.
- ◆ Applicable medium: water, gas, oil, natural gas, and acidic or alkaline corrosive medium.

Implementation Standard					
Adopted Standard	Design Standard	Structure Length	Welding	Flange Connection Dimensions	Testing and Inspection
	API 608/API 6D	ANSI B16.10/API 6D	ASME B16.25	ANSI B16.5	API 1598/API 6D

Material Table					
Component Name	Material				
	WCB/A105+HCr (ENP)	WCB/304	WCB/316	CF8	CF8M
Body	A216 WCB	A216 WCB	A216 WCB	A351 CF8	A351 CF8M
Packing	PTFE				
Bushing	PTFE				
Packing Bushing	A182 F6a	A182 F304	A182 F316	A182 F304	A182 F304
Packing Plate	A216 WCB	A216 WCB	A216 WCB	A351 CF8	A351 CF8M
Screw	A193 B7	A193 B7	A193 B7	A193 B8	A193 B8M
Locating Plate	Carbon Steel	Carbon Steel	Carbon Steel	Stainless Steel	Stainless Steel
Retaining Ring	Carbon Steel	Carbon Steel	Carbon Steel	Stainless Steel	Stainless Steel
Wrench	Carbon Steel	Carbon Steel	Carbon Steel	Carbon Steel	Carbon Steel
Nut	Carbon Steel	Carbon Steel	Carbon Steel	Carbon Steel	Carbon Steel
Upper Sealing Gasket	PTFE				
Stem	A182 F6a	A182 F304	A182 F316	A182 F304	A182 F316
Ball	A105+HCr (ENP)	A182 F304	A182 F316	A182 F304	A182 F316
Sealing Ring	RPTFE				
Gasket	PTFE				
Bolt	A192 2H	A192 2H	A192 2H	A194 8	A194 8M
Nut	A193 B7	A193 B7	A193 B7	A193 B8	A193 B8M
Bonnet	A216 WCB	A216 WCB	A216 WCB	A351 CF8	A351 CF8M



Pressure Class CLASS 150

Nominal diameter DN		Structure length (Standard)		Overall dimension (Reference)					Connection dimension (Standard)				
				Q941 Series			Q641 Series						
mm	inch	L (RF)	L (RTJ)	H1	A1	B1	H2	A2	D	D1	D2	n-d	Torque (Nm)
25	1	127	140	371	250	182	257	528	110	79.4	50.8	4-16	40
32	1-1/4	140	153	393	250	182	262	528	115	88.9	63.5	4-16	40
40	1-1/2	165	178	412	250	182	264	601	125	98.4	73	4-16	40
50	2	178	191	440	250	182	340	683	150	120.7	92.1	4-18	40
65	2-1/2	190	203	472	250	182	370	683	180	139.7	104.8	4-18	100
80	3	203	216	486	250	182	389	683	19	152.4	127	4-18	150
100	4	229	242	579	322	248	594	683	230	190.5	157.2	8-18	300
125	5	256	369	595	322	248	646	988	255	215.9	185.7	8-22	400
150	6	394	407	650	424	346	658	988	280	241.3	215.9	8-22	700
200	8	457	470	739	424	346	781	1451	345	298.5	269.9	8-22	1200
250	10	533	546	799	424	346	830	1451	405	362.0	323.8	12-26	2000

Pressure Class CLASS 300

Nominal diameter DN		Structure length (Standard)		Overall dimension (Reference)					Connection dimension (Standard)				
				Q941 Series			Q641 Series						
mm	inch	L (RF)	L (RTJ)	H1	A1	B1	H2	A2	D	D1	D2	n-d	Torque (Nm)
25	1	165	178	393	250	182	257	528	125	88.9	50.8	4-18	100
32	1-1/4	178	191	412	250	182	262	528	135	98.4	63.5	4-18	100
40	1-1/2	190	203	440	250	182	264	601	155	114.3	73	4-22	100
50	2	216	232	472	250	182	340	683	165	127	92.1	8-18	100
65	2-1/2	241	257	486	322	248	370	683	190	149.2	104.8	8-22	200
80	3	283	299	579	322	248	389	683	210	168.3	127	8-22	300
100	4	305	321	595	424	346	594	683	255	200	157.2	8-22	600
125	5	381	397	650	424	346	646	988	280	235	185.7	8-22	800
150	6	403	419	739	424	346	658	988	320	269.9	215.9	12-22	1200
200	8	502	518	799	424	346	781	1451	380	330.2	269.9	12-26	2500

Pressure Class CLASS 600

Nominal diameter DN		Structure length (Standard)		Overall dimension (Reference)					Connection dimension (Standard)				
				Q941 Series			Q641 Series						
mm	inch	L (RF)	L (RTJ)	H1	A1	B1	H2	A2	D	D1	D2	n-d	Torque (Nm)
25	1	216	216	413	250	182	268	528	125	88.9	50.8	4-18	100
32	1-1/4	229	229	422	250	182	275	601	135	98.4	63.5	4-18	100
40	1-1/2	241	241	455	322	248	285	683	155	114.3	73	4-22	200
50	2	292	292	486	322	248	358	683	165	127	92.1	8-18	300
65	2-1/2	330	333	499	424	346	390	683	190	149.2	104.8	8-22	600
80	3	356	359	598	424	346	408	683	210	168.3	127	8-22	800
100	4	432	435	620	424	346	620	683	275	215.9	157.2	8-26	1200

ASME Standard Trunnion-Mounted Ball Valve



Material Table					
Component Name	Material				
	WCB/A105+HCr (ENP)	WCB/304	WCB/316	CF8	CF8M
Body	A216 WCB	A216 WCB	A216 WCB	A351 CF8	A351 CF8M
Bolt-1	A192 2H	A192 2H	A192 2H	A194 8	A194 8M
Nut-1	A193 B7	A193 B7	A193 B7	A193 B8	A193 B8M
O-Ring-1	Viton				
Bushing	Metal backed PTFE				
Gasket	A182 F6a	A182 F304	A182 F316	A182 F304	A182 F316
Stem	A182 F6a	A182 F304	A182 F316	A182 F304	A182 F316
Key-1	Carbon steel	Carbon steel	Carbon steel	Stainless steel	Stainless steel
Key-2	Carbon steel	Carbon steel	Carbon steel	Stainless steel	Stainless steel
O-Ring-2	Viton				
Gasket	PTFE				
Packing Gland	A105	A105	A105	A182 F304	A182 F316
Screw	A193 B7	A193 B7	A193 B7	A193 B8	A193 B8M
O-Ring-3	Viton				
Ball	A105+HCr(ENP)	A182+F304	A182+F316	A182+F304	A182+F316
Seat	RPTFE				
O-Ring-4	Viton				
Seat	A105	A105	A105	A182 F304	A182 F316
Spring	SS304/Inoonel 750	SS304/Inoonel 750	SS316/Inoonel 750	SS304/Inoonel 750	SS316/Inoonel 750
Gasket	PTFE				
Bolt-2	A192 2H	A192 2H	A192 2H	A192 8	A194 8M
Nut-2	A193 B7	A193 B7	A193 B7	A193 B8	A193 B8M
Bonnet	A216 WCB	A216 WCB	A216 WCB	A351 CF8	A351 CF8M
Lower Shaft	A182 F6a	A182 F304	A182 F316	A182 F304	A182 F316
O-Ring-5	Viton				
Adjusting Pad	A182 F6a	A182 F304	A182 F316	A182 F304	A182 F316
Lower Bonnet	A105	A105	A105	A182 F304	A182 F316
Screw	A193 B7	A193 B7	A193 B7	A193 B8	A193 B8M

Implementation Standard

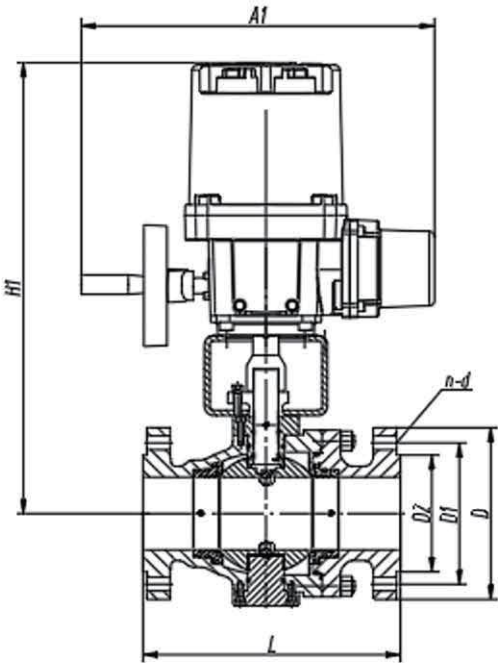
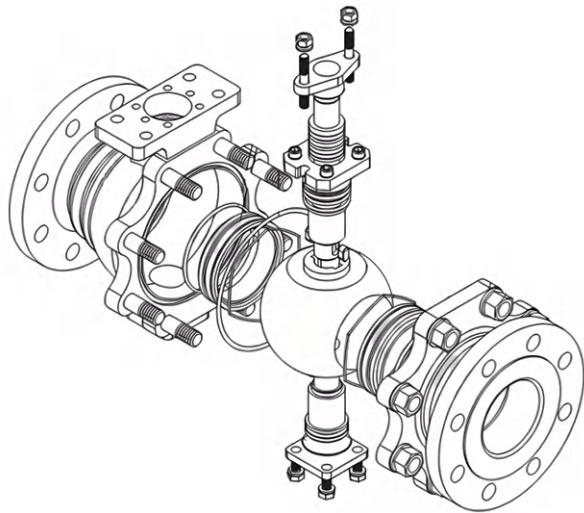
Adopted Standard	Design Standard	Structure Length	Welding	Flange Connection Dimensions	Testing and Inspection
	API 608/API 6D	ANSI B16.10/API 6D	ASME B16.25	ANSI B16.5	API1598/API 6D

PRODUCT ADVANTAGE

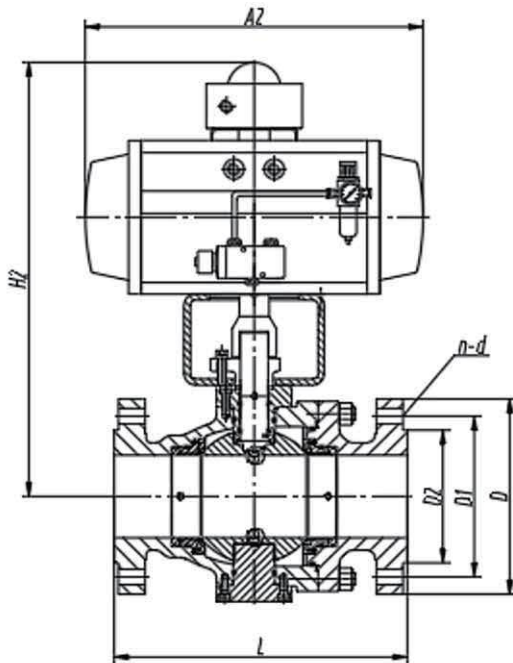
The trunnion-mounted ball valve operates with a 90-degree rotation, and is primarily designed for on/off service. It features a spring-loaded floating seat mechanism that maintains positive sealing against both upstream and downstream sides, regardless of the valve being fully open or closed. Any trapped medium in the body middle chamber can be discharged through the discharge valve.

When abnormal pressure buildup occurs in the chamber due to temperature rise, the valve automatically releases pressure through its seat design without relying on a safety valve, significantly enhancing the safety of the pipeline system. The trunnion-mounted ball valves are suitable for industrial applications that requiring tight shut-off and critical positioning.

The trunnion-mounted ball valve features upper and lower bearing supports that significantly reduce friction and eliminate the sealing load torque caused by inlet pressure. This design is particularly suitable for high-pressure working applications and requires relatively low operating torque.



Q947 Series



Q647 Series

Pressure Class CLASS 150

Nominal diameter DN		Structure length (Standard)	Overall dimension (Reference)					Connection dimension (Standard)				
			Q947 Series			Q647 Series						
mm	inch	L	H1	A1	B1	H2	A2	D	D1	D2	n-d	Torque (Nm)
50	2	178	420	250	182	269	405	150	120.7	92.1	4-18	40
65	2-1/2	190	440	250	182	379	405	180	139.7	104.8	4-18	100
80	3	203	459	250	182	452	574	190	152.4	127	4-18	150
100	4	229	472	322	248	579	574	230	190.5	157.2	8-18	300
125	5	256	482	322	248	595	756	255	215.9	185.7	8-22	400
150	6	394	492	424	346	595	756	280	241.3	215.9	8-22	700
200	8	457	592	424	346	736	756	345	298.5	269.9	8-22	1200
250	10	533	648	424	346	942	1060	405	362.0	323.8	12-26	2000
300	12	610	788	424	346	994	1060	485	431.8	381.0	12-26	3000
350	14	686	822	424	346	1188	1360	535	476.3	412.8	12-30	5000
400	16	762	922	890	507	1280	1360	595	539.8	469.9	16-30	7000
450	18	864	1004	910	571	1480	2910	635	577.9	533.4	16-33	10000
500	20	914	1152	984	571	1554	2910	700	635	584.2	20-33	12000
600	24	1067	1354	984	571	1580	3330	815	749.3	692.2	20-36	15000

Pressure Class CLASS 300

Nominal diameter DN		Structure length (Standard)	Overall dimension (Reference)					Connection dimension (Standard)				
			Q947 Series			Q647 Series						
mm	inch	L	H1	A1	B1	H2	A2	D	D1	D2	n-d	Torque (Nm)
50	2	216	440	250	182	269	405	165	127	92.1	8-18	100
65	2-1/2	241	460	322	248	379	405	190	149.2	104.8	8-22	200
80	3	283	479	322	248	452	574	210	168.3	127	8-22	300
100	4	305	502	424	346	579	574	255	200	157.2	8-22	600
125	5	381	512	424	346	595	756	280	235	185.7	8-22	800
150	6	403	522	424	346	595	756	320	269.9	215.9	12-22	1200
200	8	502	622	424	346	736	756	380	330.2	269.9	12-26	2500
250	10	568	678	424	346	942	1060	445	387.4	323.8	16-30	4000
300	12	648	888	424	346	994	1060	520	450.8	381.0	16-33	5000
350	14	762	922	984	571	1188	1360	585	514.4	412.8	20-33	9000
400	16	838	1022	984	571	1280	1360	650	571.5	469.9	20-36	10000
450	18	814	1104	984	571	1480	2910	710	628.6	533.4	24-36	12000
500	20	991	1252	1060	580	1554	2910	775	685.8	584.2	24-36	20000
600	24	1143	1454	1060	580	1580	3330	915	812.8	692.2	24-42	25000

Pressure Class CLASS 600

Nominal diameter DN		Structure length (Standard)	Overall dimension (Reference)					Connection dimension (Standard)				
			Q947 Series			Q647 Series						
mm	inch	L	H1	A1	B1	H2	A2	D	D1	D2	n-d	Torque (Nm)
50	2	292	500	322	248	269	405	165	127	92.1	8-18	300
65	2-1/2	330	525	424	346	379	405	190	149.2	104.8	8-22	600
80	3	356	548	424	346	519	574	210	168.3	127	8-22	800
100	4	432	560	424	346	636	574	275	215.9	157.2	8-26	1200
125	5	508	583	424	346	689	756	330	266.7	185.7	8-30	2000
150	6	559	600	424	346	728	756	355	292.1	215.9	12-30	2500
200	8	660	652	424	346	839	1060	420	349.2	269.9	12-33	4000
250	10	787	761	890	507	1014	1060	510	431.8	323.8	16-36	6000
300	12	838	771	984	571	1120	1360	560	489.0	381.0	20-36	9500
350	14	889	831	984	571	1224	2890	605	527.0	412.8	20-39	14000
400	16	991	921	1060	580	1374	2890	685	603.2	469.9	20-42	20000
450	18	1092	943	1060	580	1450	2890	745	654.0	533.4	20-45	25000
500	20	1194	1123	1170	620	1490	3330	815	723.9	584.2	24-45	35000
600	24	1397	1218	1245	720	1615	3330	940	838.2	692.2	24-51	50000

GB Standard Globe Valve



PRODUCT FEATURES

Bolt connected valve bonnet, rising stem, lifting stem, metal seal.

Connection of valve body and valve bonnet

The valve body and valve bonnet of globe valves within Class150~Class900 (PN10~PN160) pressure ratings typically employ a stud-and-nut connection design.

Actuation Type

Generally, hand-wheel actuation, worm gear actuation, gear actuation, electric and pneumatic actuation are used.

Packing

Standard packing is flexible graphite formed packing; PTFE, metal wire reinforced flexible graphite formed packing or composite packing can be selected according to actual requirements.

Backseat structure

The entire series is equipped with a backseat structure. Carbon steel valves generally have replaceable backseat

ring, while stainless steel valves feature a formed back-seat through integral machining or overlay welding; The backseat structure ensures reliable sealing when the valve is fully open.

Seat

Carbon steel globe valves use forged valve seats with spray-welded, user-specified alloy sealing surfaces. For NPS≤10 and DN≤250, the valve seat are default threaded connections to the valve body,, with welded connections also available.. Valves with NPS≥12 and DN≥300 typically employ welded connections. Stainless steel globe valves generally feature integral seats (machined from the valve body) or overlay-welded alloy directly on the body. Threaded or welded seats may also be configured based on requirements.

Design of valve stem

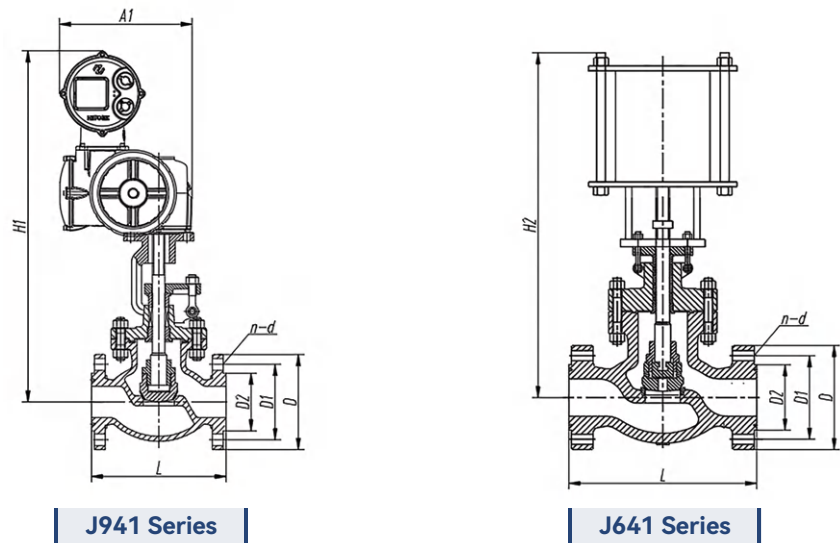
The valve stem is manufactured as an integral forged component, with its minimum diameter strictly adhering to industry standard specifications.

Implementation Standard

	Design Standard	Structure Length	Temperature and Pressure Class	Flange Connection Dimensions	Testing and Inspection
Adopted Standard	GB/T 12235	GB/T 12221	GB/T 9131	JB/T 79 GB/T 9113 HG 20592	GB/T 13927 JB/T 9094

Material Table

Component Name	Material				
	WCB	WC6	WC9	CF8	CF8M
Body	WCB	WC6	WC9	CF8	CF8M
Trim	2Cr13	25Cr2MoV	25Cr2MoV	1Cr18Ni9Ti	1Cr18Ni12Mo2Ti
Stem	2Cr13	25Cr2MoV	25Cr2MoV	1Cr18Ni9Ti	1Cr18Ni12Mo2Ti
Valve Disc Retainer	2Cr13	25Cr2MoV	25Cr2MoV	1Cr18Ni9Ti	1Cr18Ni12Mo2Ti
Gasket	Flexible graphite				
Bonnet	WCB	WC6	WC9	CF8	CF8M
Bolt	35Cr2Mo	35Cr2Mo	35Cr2Mo	1Cr18Ni9	1Cr18Ni9
Nut	35Cr2Mo	35Cr2Mo	35Cr2Mo	1Cr18Ni9	1Cr18Ni9
Packing	Flexible graphite				
Plate	WCB	WC6	WC9	CF8	CF8M
Stem Nut	Copper alloy				



| Pressure Class PN40 (4.0MPa)

Nominal diameter DN	Structure length (Standard)	Overall dimension (Reference)				Connection dimension (Standard)				
		J941 Series			J641 Series					
mm	inch	L	H1	A1	B1	H2	D	D1	D2	n-d Torque (Nm)
25	1	160	692	306	507	373	115	85	68	4-14 50
32	1-1/4	180	698	306	507	416	140	100	78	4-18 50
40	1-1/2	200	718	306	507	530	150	110	88	4-18 100
50	2	230	777	306	507	575	165	125	102	4-18 100
65	2-1/2	290	823	306	507	656	185	145	122	8-18 200
80	3	310	848	306	507	713	200	160	138	8-18 200
100	4	350	910	354	571	775	235	190	162	8-22 300
125	5	400	917	354	571	892	270	220	188	8-26 400
150	6	480	1053	354	571	940	300	250	218	8-26 600
200	8	600	1210	417	668	1054	375	320	285	12-30 900

| Pressure Class PN64 (6.4MPa)

Nominal diameter DN	Structure length (Standard)	Overall dimension (Reference)				Connection dimension (Standard)				
		J941 Series			J641 Series					
mm	inch	L	H1	A1	B1	H2	D	D1	D2	n-d Torque (Nm)
25	1	210	710	306	507	390	140	100	68	4-18 50
32	1-1/4	230	765	306	507	436	155	110	78	4-22 100
40	1-1/2	260	792	306	507	550	170	125	88	4-22 100
50	2	300	810	306	507	595	180	135	102	4-22 200
65	2-1/2	340	850	306	507	675	205	160	122	8-22 200
80	3	380	885	354	571	730	215	170	138	8-22 300
100	4	430	937	354	571	795	250	200	162	8-26 400
125	5	500	1131	354	571	912	295	240	188	8-30 600
150	6	550	1166	417	668	940	345	280	218	8-33 900
200	8	650	1313	428	668	1075	415	345	285	12-36 1200

| Pressure Class PN100 (10.0MPa)

Nominal diameter DN	Structure length (Standard)	Overall dimension (Reference)				Connection dimension (Standard)				
		J941 Series			J641 Series					
mm	inch	L	H1	A1	B1	H2	D	D1	D2	n-d Torque (Nm)
25	1	210	720	306	507	395	140	100	68	4-18 50
32	1-1/4	230	775	306	507	446	155	110	78	4-22 100
40	1-1/2	260	802	306	507	560	170	125	88	4-22 200
50	2	300	814	306	507	605	195	145	102	4-26 200
65	2-1/2	340	880	354	571	685	220	170	122	8-26 300
80	3	380	890	354	571	740	230	180	138	8-26 400
100	4	430	950	354	571	805	265	210	162	8-30 600
125	5	500	1142	417	668	922	315	250	188	8-33 900
150	6	550	1240	428	668	950	355	290	218	12-33 1200
200	8	650	1425	988	507	1085	430	360	285	12-36 1800

| Pressure Class PN16 (1.6MPa)

Nominal diameter DN	Structure length (Standard)	Overall dimension (Reference)				Connection dimension (Standard)				
		J941 Series			J641 Series					
mm	inch	L	H1	A1	B1	H2	D	D1	D2	n-d Torque (Nm)
25	1	160	692	306	507	353	115	85	68	4-14 30
32	1-1/4	180	698	306	507	390	140	100	78	4-18 50
40	1-1/2	200	718	306	507	518	150	110	88	4-18 50
50	2	230	777	306	507	555	165	125	102	4-18 50
65	2-1/2	290	823	306	507	630	185	145	122	8-18 100
80	3	310	848	306	507	683	200	160	138	8-18 200
100	4	350	891	306	507	745	220	180	158	8-18 200
125	5	400	898	354	571	855	250	210	188	8-18 300
150	6	480	1053	354	571	870	285	240	212	8-22 400
200	8	600	1163	354	571	954	340	295	268	12-22 600
250	10	650	1303	417	668	1065	405	355	320	12-26 900
300	12	750	1442	428	668	1185	460	410	378	12-26 1200

| Pressure Class PN25 (2.5MPa)

Nominal diameter DN	Structure length (Standard)	Overall dimension (Reference)				Connection dimension (Standard)				
		J941 Series			J641 Series					
mm	inch	L	H1	A1	B1	H2	D	D1	D2	n-d Torque (Nm)
25	1	160	692	306	507	353	115	85	68	4-14 50
32	1-1/4	180	698	306	507	390	140	100	78	4-18 50
40	1-1/2	200	718	306	507	518	150	110	88	4-18 50
50	2	230	777	306	507	555	165	125	102	4-18 100
65	2-1/2	290	823	306	507	630	185	145	122	8-18 100
80	3	310	848	306	507	683	200	160	138	8-18 200
100	4	350	891	306	507	745	235	190	162	8-22 200
125	5	400	917	354	571	855	270	220	188	8-26 300
150	6	480	1053	354	571	870	300	250	218	8-26 400
200	8	600	1163	417	668	954	360	310	278	12-26 900

ASME Standard Globe Valve



PRODUCT INTRODUCTION

- ◆Globe valve is a linear motion valve mainly designed for fluid isolation or complete shut-off applications. Its trim assembly can be fully retracted from the flow path in the open position or completely seated to block the flow channel when closed.
- ◆Globe valves are mainly used for medium shut-off , and their flow resistance characteristics are higher than those of straight-through valves such as gate valves,making them suitable for applications where pressure drop control is not critical.
- ◆Globe valves are widely used for precise flow regulation. Their design must incorporate critical considerations of flow control range, pressure drop characteristics, and mechanical load distribution to prevent premature valve failure.
- ◆Valves designed specifically for high-pressure differential throttling applications require specially engineered internal trim components.

APPLICATION STATION

- ◆Cooling water system that requires flow regulation
- ◆Fuel system with flow regulation and water tightness regulation
- ◆When water tightness and safety are the main considerations, high inlet and low outlet configuration is adopted
- ◆Water supply, chemical feed, container air extraction, and extraction drainage system
- ◆Boiler ventilation and drainage pipes, main steam ventilation and drainage pipes, and heater drainage pipes
- ◆Turbine sealing components and drainage pipes
- ◆Turbine lubricating oil system

Material Table					
Component Name	Material				
	WCB/Trim 1	WCB/Trim 5	WCB/Trim 8	CF8/304	CF8M/316
Body	A216 WCB	A216 WCB	A216 WCB	A351 CF8	A351 CF8M
Seat	A105+13Cr	A105+STL	A105+STL	A351 CF8	A351 CF8M
Trim	A216 WCB+13Cr	A216 WCB+STL	A216 WCB+13Cr	A351 CF8	A351 CF8M
Stem	A182 F6a	A182 F6a	A182 F6a	A182 F304	A182 F316
Valve Disc Retainer	A216 WCB	A216 WCB	A216 WCB	A351 CF8	A351 CF8M
Nuts for Bonnet	A194 2H	A194 2H	A194 2H	A194 8	A194 8M
Bolts for Bonnet	A193 B7	A193 B7	A193 B7	A193 B8	A193 B8M
Gasket	Soft Iron+Graphite or 304+Graphite			304+Graphite	316+Graphite
Upper Sealing Seat	A182 F6a	A182 F6a	A182 F6a	A351 CF8	A351 CF8M
Bonnet	A216 WCB	A216 WCB	A216 WCB	A351 CF8	A351 CF8M
Packing	Flexible graphite				
Pin	ASTM A36	ASTM A36	ASTM A36	304SS	316SS
Screw	A193 B7	A193 B7	A193 B7	A193 B8	A193 B8M
Bushing	A182 F6a	A182 F6a	A182 F6a	A182 F304	A182 F316
Plate	A216 WCB	A216 WCB	A216 WCB	A351 CF8	A351 CF8M
Eye Nut	A194 2H	A194 2H	A194 2H	A194 8	A194 8M
Stem Nut	A194 2H	A194 2H	A194 2H	A194 8	A194 8M
Handwheel	Cast Iron				
Locking Nut	Carbon Steel				

Implementation Standard					
Adopted Standard	Design Standard	Structure Length	Temperature and Pressure Class	Flange Connection Dimensions	Testing and Inspection
	API 600/BSS160	ANSI B16.10	ANSI B16.34	ANSI B16.5	API1598

| Pressure Class CLASS 150

Nominal diameter DN		Structure length (Standard)		Overall dimension (Reference)				Connection dimension (Standard)				
				J941 Series			J641 Series					
mm	inch	L (RF)	L (RTJ)	H1	A1	B1	H2	D	D1	D2	n-d	Torque (Nm)
25	1	127	140	692	306	507	353	110	79.4	50.8	4-16	30
32	1-1/4	140	153	698	306	507	390	115	88.9	63.5	4-16	50
40	1-1/2	165	178	718	306	507	518	125	98.4	73	4-16	50
50	2	203	216	777	306	507	555	150	120.7	92.1	4-18	50
65	2-1/2	216	229	823	306	507	630	180	139.7	104.8	4-18	100
80	3	241	254	848	306	507	683	190	152.4	127	4-18	200
100	4	292	305	891	306	507	745	230	190.5	157.2	8-18	200
125	5	356	369	898	354	571	855	255	215.9	185.7	8-22	300
150	6	406	419	1053	354	571	870	280	241.3	215.9	8-22	400
200	8	495	508	1163	354	571	954	345	298.5	269.9	8-22	600
250	10	622	635	1303	417	668	1065	405	362.0	323.8	12-26	900
300	12	698	711	1442	428	668	1185	485	431.8	381.0	12-26	1200

| Pressure Class CLASS 300

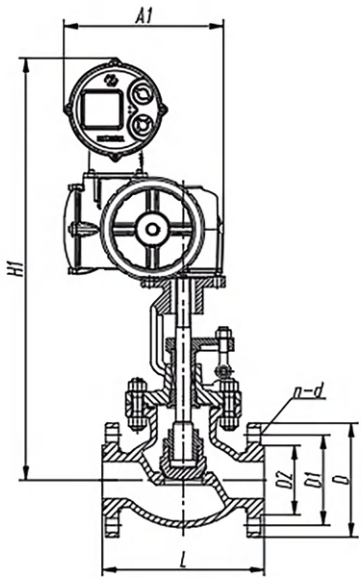
Nominal diameter DN		Structure length (Standard)		Overall dimension (Reference)				Connection dimension (Standard)				
				J941 Series		J641 Series						
mm	inch	L (RF)	L (RTJ)	H1	A1	B1	H2	D	D1	D2	n-d	Torque (Nm)
25	1	203	216	692	306	507	353	124	89	51	4-19	50
32	1-1/4	216	229	698	306	507	390	133	98.5	64	4-19	100
40	1-1/2	229	241	718	306	507	518	156	114.5	73	4-22	100
50	2	267	283	777	306	507	555	165	127	92	8-19	100
65	2-1/2	292	308	823	306	507	630	190	149	105	8-22	200
80	3	318	333	848	306	507	683	210	168	170	8-22	300
100	4	356	371	910	354	571	745	254	200	157	8-22	400
125	5	400	416	917	354	571	855	279	235	186	8-22	600
150	6	444	460	1053	354	571	870	318	270	216	12-22	900
200	8	559	575	1210	417	668	954	381	330	270	12-25	1200
250	10	622	638	1260	417	668	1020	444	387.4	324	16-28.5	1800
300	12	711	727	1350	417	668	1130	521	450.8	381	16-31.8	2500

| Pressure Class CLASS 600

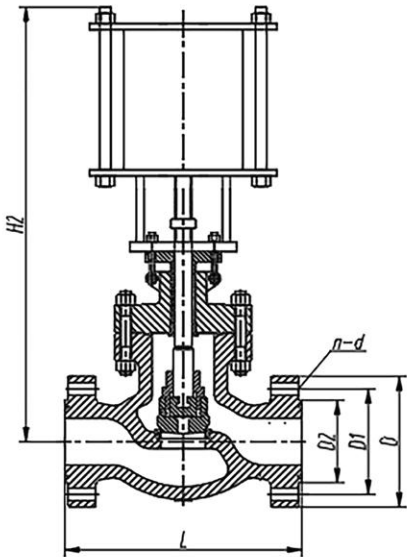
Nominal diameter DN		Structure length (Standard)		Overall dimension (Reference)				Connection dimension (Standard)				
				J941 Series			J641 Series					
mm	inch	L (RF)	L (RTJ)	H1	A1	B1	H2	D	D1	D2	n-d	Torque (Nm)
25	1	216	219	720	306	507	373	125	88.9	50.8	4-18	50
32	1-1/4	229	232	775	306	507	416	135	98.4	63.5	4-18	100
40	1-1/2	241	243	802	306	507	530	155	114.3	73	4-22	200
50	2	292	295	814	306	507	575	165	127	92.1	8-18	200
65	2-1/2	330	333	880	354	571	656	190	149.2	104.8	8-22	300
80	3	356	359	890	354	571	713	210	168.3	127	8-22	400
100	4	432	435	950	354	571	775	255	200	157.2	8-22	600
125	5	508	511	1142	417	668	892	280	235	185.7	8-22	900
150	6	559	562	1240	428	668	940	320	269.9	215.9	12-22	1200
200	8	660	664	1425	988	507	1054	380	330.2	269.9	12-26	1800

| Pressure Class CLASS 900

Nominal diameter DN		Structure length (Standard)		Overall dimension (Reference)				Connection dimension (Standard)				
				J941 Series		J641 Series						
mm	inch	L (RF)	L (RTJ)	H1	A1	B1	H2	D	D1	D2	n-d	Torque (Nm)
50	2	368	371	814	306	507	605	165	127	92.1	8-18	200
65	2-1/2	419	422	880	354	571	685	190	149.2	104.8	8-22	300
80	3	381	384	890	354	571	740	210	168.3	127	8-22	400
100	4	457	460	950	354	571	805	275	215.9	157.2	8-26	600
125	5	559	562	1142	417	668	922	330	266.7	185.7	8-30	900
150	6	610	613	1240	428	668	950	355	292.1	215.9	12-30	1200



J941 Series



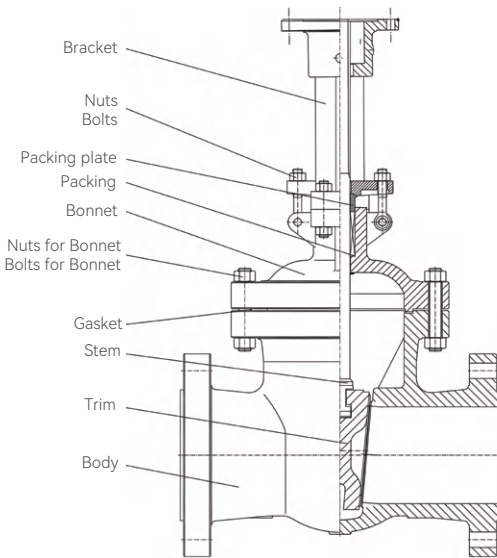
J641 Series

GB Standard Gate Valve

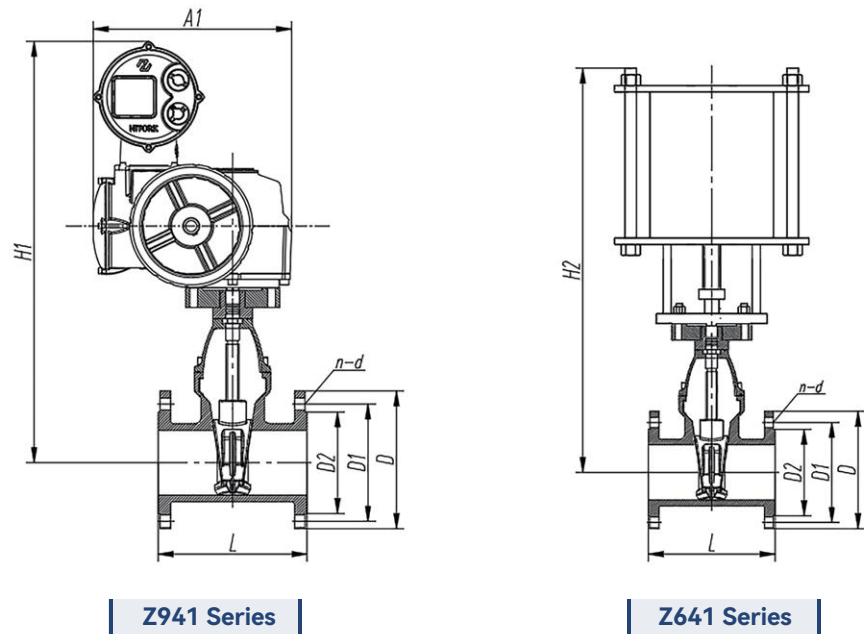


Pressure Testing MPa								
Nominal pressure	1.6	2.5	4.0	6.4	10.0	16.0	25.0	42.0
The shell pressure testing	2.4	3.75	6.0	9.6	15.0	24.0	37.5	63.0
Water seal pressure testing	1.76	2.75	4.4	7.04	11.0	17.6	27.5	46.2
Backseat pressure testing	1.76	2.75	4.4	7.04	11.0	17.6	27.5	46.2
Air seal pressure testing	0.4~0.7							

Implementation Standard					
Adopted Standard	Design Standard	Structure Length	Temperature and Pressure Class	Flange Connection Dimensions	Testing and Inspection
	GB/T 12234	GB/T 12221	GB/T 9131	JB/T 79 GB/T 9113 HG 20592	GB/T 13927 JB/T 9094



Material Table					
Component Name	Material				
	A216 WCB	A217 WC6	A217 WC9	A351 CF8	A351 CF8M
Body	A216 WCB	A217 WC6	A217 WC9	A351 CF8	A351 CF8M
Trim	WCB+13Cr	WC6+STL	WC9+STL	A351 CF8	A351 CF8M
Seat	WCB+13Cr	WC6+STL	WC9+STL	A351 CF8	A351 CF8M
Stem	2Cr13	25Cr2MoV	25Cr2MoV	1Cr18Ni9Ti	1Cr18Ni12Mo2Ti
Bolt	35CrMo	35CrMo	35CrMo	1Cr18Ni9	1Cr18Ni9
Nut	35CrMo	35CrMo	35CrMo	1Cr18Ni9	1Cr18Ni9
Gasket	Flexible graphite				
Upper Sealing Seat	2Cr13	25Cr2MoV	25Cr2MoV	1Cr18Ni9Ti	1Cr18Ni12Mo2Ti
Bonnet	A216 WCB	A217 WC6	A217 WC9	A351 CF8	A351 CF8M
Packing	Flexible graphite				
Bushing	2Cr13	1Cr18Ni9Ti	1Cr18Ni9Ti	1Cr18Ni9Ti	1Cr18Ni12Mo2Ti
Plate	A216 WCB	A217 WC6	A217 WC9	A351 CF8	A351 CF8M
Stem Nut	Copper alloy				



| Pressure Class PN40 (4.0MPa)

Nominal diameter DN	Structure length (Standard)	Overall dimension (Reference)				Connection dimension (Standard)				
		Z941 Series			Z641 Series					
mm	inch	L	H1	A1	B1	H2	D	D1	D2	n-d Torque (Nm)
50	2	250	618	306	507	950	165	125	102	4-18 100
65	2-1/2	280	670	306	507	1050	185	145	122	8-18 200
80	3	310	700	306	507	1080	200	160	138	8-18 200
100	4	350	785	306	507	1145	235	190	162	8-22 200
125	5	400	845	354	571	1210	270	220	188	8-26 300
150	6	450	990	354	571	1330	300	250	218	8-26 300
200	8	550	1080	354	571	1660	375	320	285	12-30 400
250	10	650	1150	354	571	1820	450	385	345	12-33 450
300	12	750	1415	354	571	1990	515	450	410	16-33 600

| Pressure Class PN64 (6.4MPa)

Nominal diameter DN	Structure length (Standard)	Overall dimension (Reference)				Connection dimension (Standard)				
		Z941 Series			Z641 Series					
mm	inch	L	H1	A1	B1	H2	D	D1	D2	n-d Torque (Nm)
50	2	250	667	306	507	980	180	135	102	4-22 150
65	2-1/2	280	685	306	507	1080	205	160	122	8-22 200
80	3	310	748	306	507	1130	215	170	138	8-22 200
100	4	350	845	354	571	1190	250	200	162	8-26 300
125	5	400	920	354	571	1250	295	240	188	8-30 300
150	6	450	1009	354	571	1390	345	280	218	8-33 400
200	8	550	1253	354	571	1710	415	345	285	12-36 600
250	10	650	1449	417	668	1840	470	400	345	12-36 900
300	12	750	1867	417	668	2030	530	460	410	16-36 900

| Pressure Class PN100 (10.0MPa)

Nominal diameter DN	Structure length (Standard)	Overall dimension (Reference)				Connection dimension (Standard)				
		Z941 Series			Z641 Series					
mm	inch	L	H1	A1	B1	H2	D	D1	D2	n-d Torque (Nm)
50	2	250	697	306	507	1020	195	145	102	4-26 200
65	2-1/2	280	715	306	507	1150	220	170	122	8-26 200
80	3	310	768	354	571	1170	230	180	138	8-26 300
100	4	350	870	354	571	1210	265	210	162	8-30 300
125	5	400	955	354	571	1270	315	250	188	8-33 400
150	6	450	1060	354	571	1430	355	290	218	12-33 600
200	8	550	1285	417	668	1740	430	360	285	12-36 900
250	10	650	1490	428	558	1860	505	430	345	12-39 1200
300	12	750	1899	998	507	2050	585	500	410	16-42 1800

| Pressure Class PN16 (1.6MPa)

Nominal diameter DN	Structure length (Standard)	Overall dimension (Reference)				Connection dimension (Standard)				
		Z941 Series			Z641 Series					
mm	inch	L	H1	A1	B1	H2	D	D1	D2	n-d Torque (Nm)
50	2	250	618	306	507	950	165	125	102	4-18 100
65	2-1/2	265	670	306	507	1050	185	145	122	8-18 100
80	3	280	700	306	507	1080	200	160	138	8-18 100
100	4	300	785	306	507	1145	220	180	158	8-18 200
125	5	325	845	306	507	1210	250	210	188	8-18 200
150	6	350	990	306	507	1300	285	240	212	8-22 200
200	8	400	1080	354	571	1660	340	295	268	12-22 300
250	10	450	1150	354	571	1790	405	355	320	12-26 350
300	12	500	1415	354	571	1990	460	410	378	12-26 450

| Pressure Class PN25 (2.5MPa)

Nominal diameter DN	Structure length (Standard)	Overall dimension (Reference)				Connection dimension (Standard)				
		Z941 Series			Z641 Series					
mm	inch	L	H1	A1	B1	H2	D	D1	D2	n-d Torque (Nm)
50	2	250	618	306	507	950	165	125	102	4-18 100
65	2-1/2	265	670	306	507	1050	185	145	122	8-18 100
80	3	280	700	306	507	1080	200	160	138	8-18 150
100	4	300	785	306	507	1145	235	190	162	8-22 200
125	5	325	845	306	507	1210	270	220	188	8-26 200
150	6	350	990	354	571	1300	300	250	218	8-26 300
200	8	400	1080	354	571	1660	360	310	278	12-26 300
250	10	450	1150	354	571	1790	425	370	335	12-30 350
300	12	500	1415	354	571	1990	485	430	395	16-30 600

ASME Standard Gate Valve



Standard and Specification

Design and Manufacture	Casting Gate Valve API 600 Steel Gate Valves – Flanged and Butt-welding Ends, Bolted Bonnets ISO 10434 Bolted bonnet steel gate valves for the petroleum, petrochemical and allied industries API 6D Specification for Valves
	Cast stainless steel gate valve API 603 Corrosion – resistant, Bolted Bonnet Gate Valves – Flanged and Butt-welding Ends ISO 10434 Bolted bonnet steel gate valves for the petroleum, petrochemical and allied industries API 600 Steel Gate Valves – Flanged and Butt-welding Ends, Bolted Bonnets
Connection size	Forged Steel Gate Valve API 602 Gate, Globe, and Check Valves for Sizes DN 100 (NPS 4) and Smaller for the Petroleum and Natural Gas Industries ISO 15761 Steel gate, globe and check valves for sizes DN 100 and smaller, for the petroleum and natural gas industries
	For gate valves NPS≤24 ASME B16.5 Pipe Flanges and Flanged Fittings: NPS 1/2 through NPS 24, Metric/Inch Standard
	For gate valves NPS > 24 ASME B16.47 Large Diameter Steel Flanges: NPS 26 through NPS 60, Metric/Inch API 605 Large-Diameter Carbon Steel Flanges (Nominal Pipe Sizes 26 Through 60, Classes 75, 150, 300, 400, 600, and 900) MSS SP-44 Steel Pipeline Flanges
	Butt-welding ends gate valve ASME B16.25 Butt-welding Ends BS 12627 Industrial valves. Butt welding ends for steel valves
Structure Length	Socket-welding and threaded gate valve ASME B16.11 Forged Fittings, Socket-Welding and Threaded
	ASME B16.10 Face-to-Face and End-to-End Dimensions of Valves
Pressure Test	API 598 Valve inspection and testing API 6D Specification for Pipeline Valves
	API 600 Steel Gate Valves – Flanged and Butt-welding Ends, Bolted Bonnets ISO 10434 Bolted bonnet steel gate valves for the petroleum, petrochemical and allied industries



PRODUCT INTRODUCTION

Gate valves are used for full opening or full closing, as isolation valves, and not used as control valves.

The gate valve is closed (CTC) or opened (CTO) by rotating the valve stem clockwise, and the gate plate moves upward or downward through the valve stem thread.

Gate valves are suitable for applications requiring minimum pressure drop and a full-bore design. When

fully opened, the unobstructed flow path ensures low pressure loss, and their full-bore configuration allows compatibility with pipeline pigging operations.

The gate valve adopts the multi-turn threaded stem operation, which requires multiple rotations to fully open and close. Its slow actuation effectively prevents water hammer effect.

PRODUCT FEATURES

Gate structure

For NPS≥2 gate valve adopts flexible wedge; NPS<2 gate valves adopts solid wedge.

Connection of valve body and valve bonnet

For Class 150 to Class 900 and PN10 to PN160 gate valves, the valve body and bonnet are generally connected by double-ended stud bolts with nuts. For gate valves of Class 1500~Class 2500, the body and bonnet generally adopt a pressure-energized sealing structure.

Flange sealing gasket(Between body and bonnet)

Class150、PN10: Carbon steel or stainless steel+flexible graphite composite gasket;
Class300、PN16 ~ PN100: Stainless steel+flexible graphite wrapped gasket;
Class600: Stainless steel+flexible graphite wrapped gasket or metal ring gasket;
Class900、PN160: Metal ring gasket;
Class1500 ~ 2500: Pressure-energized sealing struc-

Actuation type

Generally, handwheel actuation, pneumatic actuation, and electric actuation are used.

Packing

Flexible graphite formed packing can be used, with options for PTFE packing, metal wire-reinforced flexible graphite formed packing or composite packing. The stem area in contact with the packing undergoes precision machining followed by roller burnishing, enhancing surface finish (Ra 0.8 μm) and density.

Belleville spring-loaded packing glands

The use of belleville spring-loaded packing glands makes the sealing of the packing more durable and reliable.

Backseat structure

Gate valve is equipped with a backseat structure. Carbon steel valves generally have replaceable backseat ring, while stainless steel valves feature a formed backseat through integral machining or overlay welding; The backseat structure ensures reliable sealing when the valve is fully open.

Seat

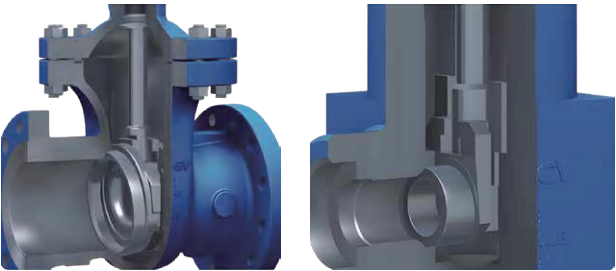
Carbon steel gate valve: forged valve seat with spray-welded alloy sealing surface; For NPS≤10 and DN ≤250 replaceable threaded connections or welded connections are commonly used; For NPS≥12 and DN≥ 300 welded connections are commonly used;
Stainless steel gate valve: generally adopts integral seat (machined from the valve body)seat, or the overlay-welded alloy directly on the body, threaded or welded seats may also be configured based on requirements.

Design of valve stem

The valve stem adopts an integral forging structure. The minimum diameter of the valve stem meets the standard requirements. The valve stem and gate are connected via a T-slot joint, and the strength at the connection is greater than that at the trapezoidal thread of the valve stem. The strength testing of the stem-to-gate connection complies with API 591 requirements.

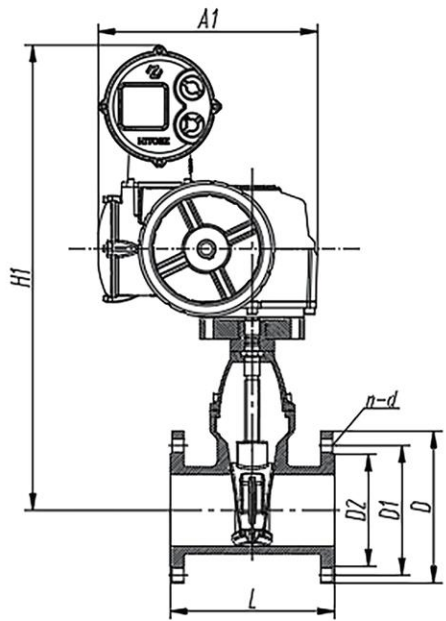
Stem nut

Pound-class and K-class gate valves: generally made of ASTM A439 D2 material, optional copper alloy;
Nominal pressure grade (GB standard) gate valve: generally made of copper alloy material, but can also be made of ASTM A439 D2 material.
Large caliber gate valve: equipped with thrust roller bearings, effectively reducing the operating torque of the gate valve.

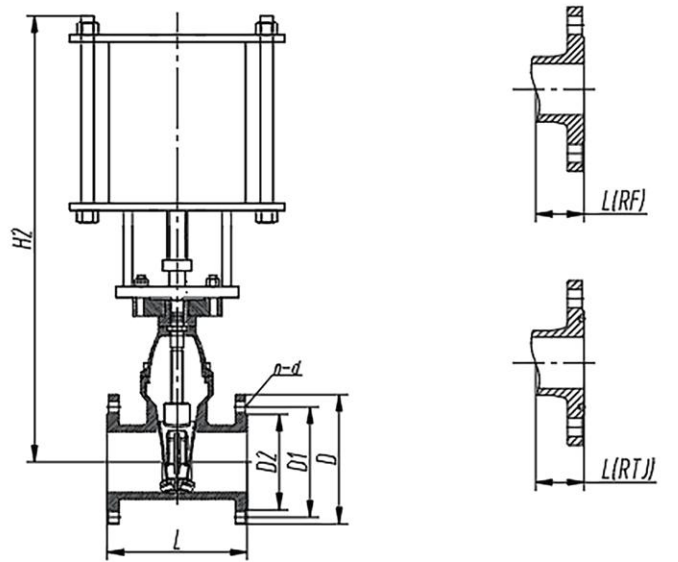


Material Table

Component Name	Material				
	WCB/Trim 1	WCB/Trim 5	WCB/Trim 8	CF8/304	CF8M/316
Body	A216 WCB	A216 WCB	A216 WCB	A351 CF8	A351 CF8M
Gasket	Soft Iron + Graphite or 304 + Graphite			304 + Graphite	316 + Graphite
Seat	A105+13Cr	A105+STL	A105+STL	A351 CF8	A351 CF8M
Trim	A216 WCB+13Cr	A216 WCB+STL	A216 WCB+13Cr	A351 CF8	A351 CF8M
Stem	A182 F6a	A182 F6a	A182 F6a	A182 F304	A182 F316
Upper Sealing Seat	A182 F6a	A182 F6a	A182 F6a	A182 CF8	A182 CF8M
Packing	Flexible graphite				
Bushing	A182 F6a	A182 F6a	A182 F6a	A182 F304	A182 F316
Screw	A193 B7	A193 B7	A193 B7	A193 B8	A193 B8M
Nut	A194 2H	A194 2H	A194 2H	A194 8	A194 8M
Pin	ASTM A36	ASTM A36	ASTM A36	304SS	316SS
Plate	A216 WCB	A216 WCB	A216 WCB	A351 CF8	A351 CF8M
Bolt	A193 B7	A193 B7	A193 B7	A193 B8	A193 B8M
Nut	A194 2H	A194 2H	A194 2H	A194 8	A194 8M
Bonnet	A216 WCB	A216 WCB	A216 WCB	A351 CF8	A351 CF8M
Oil Cup	Carbon Steel				
Stem Nut	A439 D2				
Gland Nut	Carbon Steel				



Z941 Series



Z641 Series

| Pressure Class CLASS 150

Nominal diameter DN		Structure length (Standard)		Overall dimension (Reference)				Connection dimension (Standard)				
				Z941 Series			Z641 Series					
mm	inch	L (RF)	L (RTJ)	H1	A1	B1	H2	D	D1	D2	n-d	Torque(Nm)
50	2	178	191	618	306	507	950	150	120.7	92.1	4-18	100
65	2-1/2	190	203	670	306	507	1050	180	139.7	104.8	4-18	100
80	3	203	216	700	306	507	1080	190	152.4	127	4-18	100
100	4	229	241	785	306	507	1145	230	190.5	157.2	8-18	200
125	5	254	267	845	306	507	1210	255	215.9	185.7	8-22	200
150	6	267	279	990	306	507	1300	280	241.3	215.9	8-22	200
200	8	292	305	1080	354	571	1660	345	298.5	269.9	8-22	300
250	10	330	343	1150	354	571	1790	405	362.0	323.8	12-26	350
300	12	356	368	1415	354	571	1990	485	431.8	381.0	12-26	450

| Pressure Class CLASS 300

Nominal diameter DN		Structure length (Standard)		Overall dimension (Reference)				Connection dimension (Standard)				
				Z941 Series			Z641 Series					
mm	inch	L (RF)	L (RTJ)	H1	A1	B1	H2	D	D1	D2	n-d	Torque(Nm)
50	2	216	232	618	306	507	950	165	127	92.1	8-18	100
65	2-1/2	241	257	670	306	507	1050	190	149.2	104.8	8-22	100
80	3	283	298	700	306	507	1080	210	168.3	127	8-22	150
100	4	305	321	785	306	507	1145	255	200	157.2	8-22	200
125	5	381	397	845	306	507	1210	280	235	185.7	8-22	200
150	6	403	419	990	354	571	1300	320	269.9	215.9	12-22	300
200	8	419	435	1080	354	571	1660	380	330.2	269.9	12-26	300
250	10	457	473	1150	354	571	1790	445	387.4	323.8	16-30	350
300	12	502	518	1415	354	571	1990	520	450.8	381.0	16-33	600

| Pressure Class CLASS 600

Nominal diameter DN		Structure length (Standard)		Overall dimension (Reference)				Connection dimension (Standard)				
				Z941 Series			Z641 Series					
mm	inch	L (RF)	L (RTJ)	H1	A1	B1	H2	D	D1	D2	n-d	Torque(Nm)
50	2	292	295	667	306	507	980	165	127	92.1	8-18	150
65	2-1/2	330	333	685	306	507	1080	190	149.2	104.8	8-22	200
80	3	356	359	748	306	507	1130	210	168.3	127	8-22	200
100	4	432	435	845	354	571	1190	275	215.9	157.2	8-26	300
125	5	508	511	920	354	571	1250	330	266.7	185.7	8-30	300
150	6	559	562	1009	354	571	1390	355	292.1	215.9	12-30	400
200	8	660	664	1253	354	571	1710	420	349.2	269.9	12-33	600
250	10	787	791	1449	417	668	1840	510	431.8	323.8	16-36	900
300	12	838	841	1867	417	668	2030	560	489.0	381.0	20-36	900

| Pressure Class CLASS 900

Nominal diameter DN		Structure length (Standard)		Overall dimension (Reference)				Connection dimension (Standard)				
				Z941 Series			Z641 Series					
mm	inch	L (RF)	L (RTJ)	H1	A1	B1	H2	D	D1	D2	n-d	Torque(Nm)
50	2	368	371	697	306	507	1020	215	165.1	92.1	8-26	200
65	2-1/2	419	422	715	306	507	1150	245	190.5	104.8	8-30	200
80	3	381	384	768	354	571	1170	240	190.5	127	8-26	300
100	4	457	460	870	354	571	1210	290	235	157.2	8-33	300
125	5	559	562	955	354	571	1270	350	279.4	185.7	8-36	400
150	6	610	613	1060	354	571	1430	380	317.5	215.9	12-33	600
200	8	737	740	1285	417	668	1740	470	393.7	269.9	12-39	900
250	10	838	841	1490	428	558	1860	545	469.9	323.8	12-39	1200
300	12	965	968	1899	998	507	2050	610	533.4	381.0	20-39	1800

Single-Seat Control Valve (Plug Type)



PRODUCT INTRODUCTION

The single seat valve is a compact control valve with few internal components, small volume, and excellent shut-off performance.

Single-seat control valve, easier to maintain.

Widely applicable, it can have various valve trim configurations and provide a larger flow range. Its lighter plug weight ensures reduced vibration.

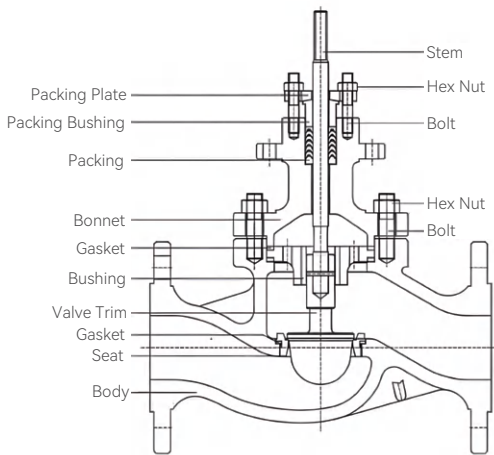


Table 1: Body Material is CS

Body	WCB	LCB	WC9
Seat	304	304	304
Valve trim	304	304	304
Gasket	316+Graphite/PTFE		
Bushing	304	304	304
Bonnet	WCB	LCB	WC9
Packing	PTFE/Flexible graphite		
Packing Bushing	304	304	304
Packing plate	WCB	WCB	WCB
Stem	304	304	304
Bolt	45	40MnB	25Cr 2Mo1VA
Nut	35	35	25Cr 2Mo1VA

Table 2: Body Material is SS

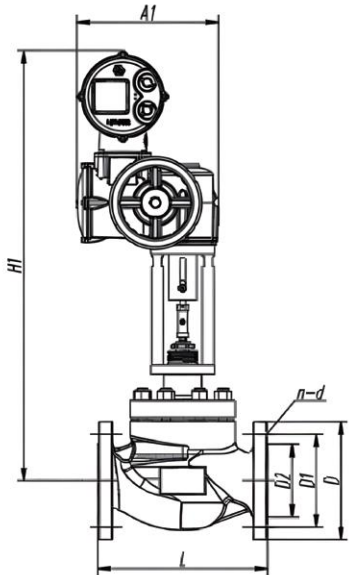
Body	CF8	CF8M	CF3M
Seat	304	316	316L
Valve trim	304	316	316L
Gasket	316+Graphite/PTFE		
Bushing	304	316	316L
Bonnet	CF8	CF8M	CF3M
Packing	PTFE/Flexible graphite		
Packing Bushing	304	316	316L
Packing plate	CF8	CF8M	CF3M
Stem	304	316	316L
Bolt	304	316	316L
Nut	304	316	316L

Note:

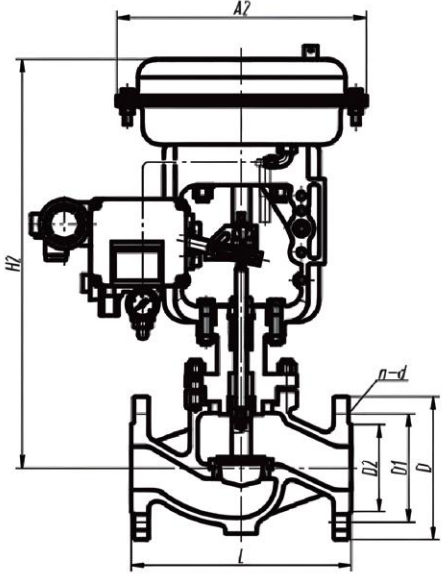
- ◆The above describes the standard configuration structure featuring a metal-to-metal seat. A PTFE soft seat with Class VI sealing is an optional component. Hardened valve trim components coated with stellite alloy can also be provided.
- ◆The PTFE V-ring stem packing is a standard configuration and flexible graphite can also be an optional alternative.. An extended bonnet equipped with graphite packing can be used in applications where the temperature exceeds 232°C (450 Fahrenheit).
- ◆The standard valve body materials are carbon steel and stainless steel, and a variety of alloy materials are available for for highly corrosive applications.

Performance				
Characteristic	Linear, EQ(%), Quick Open			
Adjustable Range	50:1 (CV<6.3 30:1)			
Rated CV	EQ(%) CV1.6~630, Linear CV1.8~690			
Leakage Class	Class IV: (0.01% of the valve's rated capacity) Class VI: (Bubble level) leakage			

Parameter Selection Table															
Seat diameter		10	12	15	20	25	32	40	50	65	80	100	125	150	200
Rated CV	EQ(%)	1.6	2.5	4.0	6.3	10	16	25	40	63	100	160	250	400	630
	Linear	1.8	2.8	4.4	6.9	11	17.6	27.5	44	69	110	176	275	440	690
Nominal Dameter	Travel	Optional KVs(★Standard ●Recommend ○Customized)													
DN20	16mm	●	●	●	★										
DN25		●	●	●	●										
DN32	25mm	○	○	○	○	○	★								
DN40			○	○	○	○	●	★							
DN50				○	○	○	●	●	★						
DN65	40mm						○	○	○	★					
DN80							○	○	○	●	★				
DN100							○	○	○	●	●	★			
DN125	60mm								○	○	○	★			
DN150										○	○	●	★		
DN200									○	○	○	●	●	★	



T944 Series



T644 Series

| Pressure Class PN16 (1.6MPa) / ANSI 150

Nominal diameter DN		Structure length (Standard)	Overall dimension (Reference)						Connection dimension (Standard)				Weight(Reference)
			T944 Series			T644 Series							
mm	inch	L	H1	A1	B1	H2	A2	B2	D	D1	D2	n-d	T944 Series/ T644 Series
20	3/4	181	825	507	354	431	200	200	105/100	75/69.9	55/42.9	4-14/4-16	16/21
25	1	184	837	507	354	440	200	200	115/110	85/79.4	65/50.8	4-14/4-16	17/22
32	1-1/4	200	848	507	354	451	200	200	138/115	100/88.9	78/63.5	4-14/4-16	24/24
40	1-1/2	222	852	507	354	475	200	200	145/125	110/98.4	85/73	4-14/4-16	32/32
50	2	254	859	507	354	482	200	200	160/150	125/120.7	100/92.1	4-18/4-18	38/38
65	1-1/2	276	918	507	354	735	240	240	180/180	145/139.7	120/104.8	4-18/4-18	52/62
80	3	298	930	507	354	647	240	240	195/190	160/152.4	135/127	8-18/4-18	57/67
100	4	352	938	507	354	655	240	240	215/230	180/190.5	155/157.2	8-18/8-18	73/83
125	5	420	1014	507	354	784	350	350	245/255	210/215.9	185/185.7	8-18/8-22	136/132
150	6	451	1081	507	354	851	350	350	280/280	240/241.3	210/215.9	8-23/8-22	164/160
200	8	600	1126	571	354	866	350	350	335/345	295/298.5	265/269.9	12-23/8-22	249/245

| Pressure Class PN25&40 (2.5&4.0MPa) / ANSI 300

Nominal diameter DN		Structure length (Standard)	Overall dimension (Reference)						Connection dimension (Standard)				Weight(Reference)
			T944 Series			T644 Series							
mm	inch	L	H1	A1	B1	H2	A2	B2	D	D1	D2	n-d	T944 Series/ T644 Series
20	3/4	194	825	306	507	431	200	200	105/115	75/82.6	55/42.9	4-14/4-18	17/22
25	1	197	837	306	507	440	200	200	115/125	85/88.9	65/50.8	4-14/4-18	19/24
32	1-1/4	200	848	306	507	451	200	200	135/135	100/98.4	78/63.5	4-18/4-18	26/26
40	1-1/2	235	852	306	507	475	200	200	145/155	110/114.3	85/73	4-18/4-22	35/35
50	2	267	859	306	507	482	200	200	160/165	125/127	100/92.1	4-18/8-18	42/42
65	1-1/2	292	918	306	507	735	240	240	180/190	145/149.2	120/104.8	8-18/8-22	57/67
80	3	317	930	306	507	647	240	240	195/210	160/168.3	135/127	8-18/8-22	64/74
100	4	368	968	306	507	655	240	240	230/255	190/200	160/157.2	8-23/8-22	79/89
125	5	420	1014	306	507	784	350	350	270/280	220/235	188/185.7	8-25/8-22	144/134
150	6	473	1081	306	507	851	350	350	300/320	250/269.9	218/215.9	8-25/12-22	150/166
200	8	600	1126	354	571	866	350	350	360&375/380	310&320/330.2	278&282/269.9	12-25&12-30/12-26	259/255

| Pressure Class PN63&100 (6.3&10.0MPa) / ANSI 600

Nominal diameter DN		Structure length (Standard)	Overall dimension (Reference)						Connection dimension (Standard)				Weight(Reference)
			T944 Series			T644 Series							
mm	inch	L	H1	A1	B1	H2	A2	B2	D	D1	D2	n-d	T944 Series/ T644 Series
20	3/4	206	828	306	507	431	200	200	125/115	90/82.6	68/42.9	4-18/4-18	20/24
25	1	210	837	306	507	440	200	200	135/125	100/88.9	78/50.8	4-18/4-18	20/25
32	1-1/4	251	848	306	507	451	200	200	150/135	110/98.4	82/63.5	4-23/4-18	30/30
40	1-1/2	251	852	306	507	475	200	200	165/155	125/114.3	95/73	4-23/4-22	42/42
50	2	286	859	306	507	482	200	200	175&195/165	135&145/127	105&112/92.1	4-23&4-25/8-18	52/52
65	1-1/2	311	918	306	507	735	240	240	200&220/190	160&170/149.2	130&138/104.8	8-23&8-25/8-22	68/78
80	3	337	980	306	507	647	240	240	210&230/210	170&180/168.3	140&148/127	8-23&8-25/8-22	72/82
100	4	394	988	306	507	655	240	240	250&265/275	200&210/215.9	168&172/157.2	8-25&8-30/8-26	92/102
125	5	500	1044	354	571	784	350	350	295&310/330	240&250/266.7	202&210/185.7	8-30&8-34/8-30	174/170
150	6	508	1111	354	571	851	350	350	340&350/355	280&290/292.1	240&250/215.9	8-34&12-34/12-30	194/190
200	8	650	1146	354	571	866	350	350	405&430/420	345&360/349.2	300&312/269.9	12-34&12-41/12-33	289/285

Single-Seat Control Valve (Cage Type)



PRODUCT INTRODUCTION

Single-seat control valve (Cage Type) is a mainly used in situations where high pressure differentials such as flash/cavitation may occur. Due to its robust guiding mechanism and cage-protected valve body construction, the cage type control valve is an ideal choice to protect valve body from erosion damage .The S-shaped flow path configuration delivers excellent flow characteristics with low pressure loss and enhanced flow capacity.

The cage-type single-seated valve incorporates a top-guided plug design, thereby delivering exceptional vibration resistance.The flow related-control specifications comply with IEC or JIS standards.

The cage type single-seated control valve is widely used for reliable flow control under high temperature, low temperature, and high pressure differential conditions.

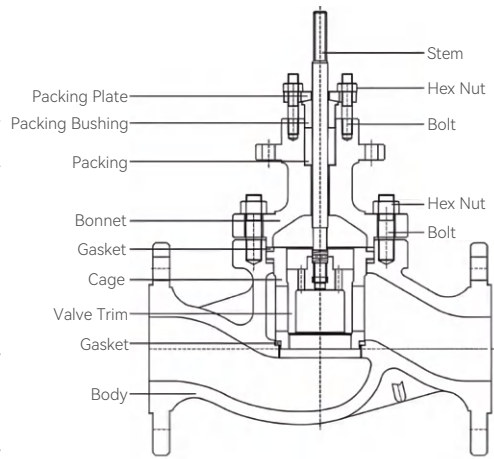


Table 1: Body Material is CS

Body	WCB	LCB	WC9
Valve trim	304	304	304
Gasket	316+Graphite/PTEF		
Cage	304	304	304
Bonnet	WCB	LCB	WC9
Packing	PTFE/Flexible graphite		
Packing Bushing	304	304	304
Packing plate	WCB	WCB	WCB
Stem	304	304	304
Bolt	45	40MnB	25Cr 2Mo1VA
Nut	35	35	25Cr 2Mo1VA

Table 2: Body Material is SS

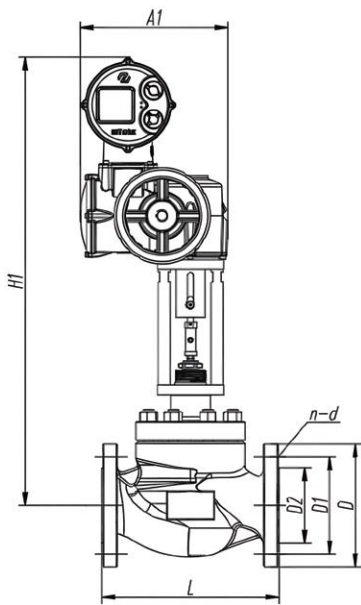
Body	CF8	CF8M	CF3M
Valve trim	304	316	316L
Gasket	316+Graphite/PTEF		
Cage	304	316	316L
Bonnet	CF8	CF8M	CF3M
Packing	PTFE/Flexible graphite		
Packing Bushing	304	316	316L
Packing plate	CF8	CF8M	CF3M
Stem	304	316	316L
Bolt	304	316	316L
Nut	304	316	316L

Note:

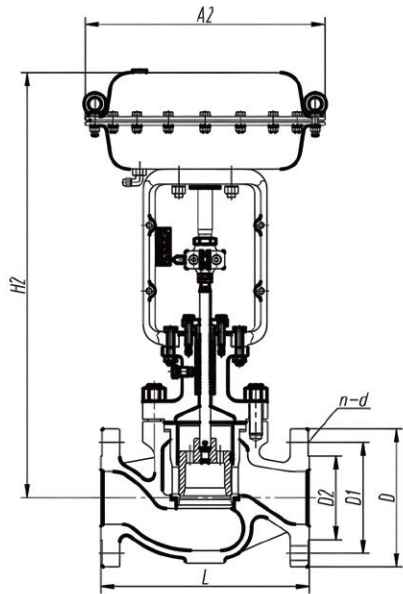
- ◆The above describes the standard configuration structure featuring a metal-to-metal seat. A PTFE soft seat with Class VI sealing is an optional component. Hardened valve trim components coated with stellite alloy can also be provided.
- ◆The PTFE V-ring stem packing is a standard configuration and flexible graphite can also be an optional alternative.. An extended bonnet equipped with graphite packing can be used in applications where the temperature exceeds 232°C (450 Fahrenheit).
- ◆The standard valve body materials are carbon steel and stainless steel, and a variety of alloy materials are available for for highly corrosive applications.

Performance				
Characteristic	Linear, EQ(%), Quick Open		Pneumatic	Electric
Adjustable Range	50:1		Intrinsic error%	±1.5
Leakage Class	Class IV: (0.01% of the valve's rated capacity) Class VI: (Bubble level) leakage		Hysteresis error%	≤1.5
			Dead zone%	<0.6
			Initial tolerance%	±2.5
			Standard travel tolerance%	≤2.5

Parameter Selection Table													
Seat Diameter		25	32	40	50	65	80	100	125	150	200	250	300
Rated CV	EQ(%)	10	16	25	40	63	100	160	250	400	630	1000	1400
	Linear	11	17.6	27.5	44	69	110	176	275	440	690	1100	1500
Nominal Diameter	Travel	Optional KVs (★ Standard • Recommend ○ Customized)											
DN25	16mm	★											
DN32		○	★										
DN40	25mm	○	●	★									
DN50		○	●	●	★								
DN65			○	○		★							
DN80	40mm		○	○	○	●	★						
DN100			○	○	○	●	●	★					
DN125						○	●	○	★				
DN150	60mm						○	○	●	●			
DN200								○	●	●	★		
DN250	100mm								○	●	●	★	
DN300									○	●	●	★	★



T947 Series



T647 Series

Pressure Class PN16 (1.6MPa) / ANSI 150

Nominal diameter DN		Structure length (Standard)	Overall dimension (Reference)						Connection dimension (Standard)				Weight(Reference)
			T947 Series			T647 Series			D	D1	D2	n-d	
mm	inch	L	H1	A1	B1	H2	A2	B2					T944 Series/ T644 Series
25	1	184	837	306	507	440	200	200	115/110	85/79.4	65/50.8	4-14/4-16	17/22
32	1-1/4	200	848	306	507	451	200	200	138/115	100/88.9	78/63.5	4-14/4-16	24/24
40	1-1/2	222	852	306	507	475	200	200	145/125	110/98.4	85/73	4-14/4-16	32/32
50	2	254	859	306	507	482	200	200	160/150	125/120.7	100/92.1	4-18/4-18	38/38
65	1-1/2	276	918	306	507	735	240	240	180/180	145/139.7	120/104.8	4-18/4-18	52/62
80	3	298	930	306	507	647	240	240	195/190	160/152.4	135/127	8-18/4-18	57/67
100	4	352	938	306	507	655	240	240	215/230	180/190.5	155/157.2	8-18/8-18	73/83
125	5	420	1014	306	507	784	350	350	245/255	210/215.9	185/185.7	8-18/8-22	136/132
150	6	451	1081	306	507	851	350	350	280/280	240/241.3	210/215.9	8-23/8-22	164/160
200	8	600	1126	354	571	866	350	350	335/345	295/298.5	265/269.9	12-23/8-22	249/245

Pressure Class PN25&40 (2.5&4.0MPa) / ANSI 300

Nominal diameter DN		Structure length (Standard)	Overall dimension (Reference)						Connection dimension (Standard)				Weight(Reference)
			T947 Series			T647 Series			D	D1	D2	n-d	
mm	inch	L	H1	A1	B1	H2	A2	B2					T944 Series/ T644 Series
25	1	197	837	306	507	440	200	200	115/125	85/88.9	65/50.8	4-14/4-18	19/24
32	1-1/4	200	848	306	507	451	200	200	135/135	100/98.4	78/63.5	4-18/4-18	26/26
40	1-1/2	235	852	306	507	475	200	200	145/155	110/114.3	85/73	4-18/4-22	35/35
50	2	267	859	306	507	482	200	200	160/165	125/127	100/92.1	4-18/8-18	42/42
65	1-1/2	292	918	306	507	735	240	240	180/190	145/149.2	120/104.8	8-18/8-22	57/67
80	3	317	930	306	507	647	240	240	195/210	160/168.3	135/127	8-18/8-22	64/74
100	4	368	968	306	507	655	240	240	230/255	190/200	160/157.2	8-23/8-22	79/89
125	5	420	1014	306	507	784	350	350	270/280	220/235	188/185.7	8-25/8-22	144/134
150	6	473	1081	306	507	851	350	350	300/320	250/269.9	218/215.9	8-25/12-22	150/166
200	8	600	1126	354	571	866	350	350	360&375/380	310&320/330.2	278&282/269.9	12-25&12-30/12-26	259/255

Pressure Class PN63&100 (6.3&10.0MPa) / ANSI 600

Nominal diameter DN		Structure length (Standard)	Overall dimension (Reference)						Connection dimension (Standard)				Weight(Reference)
			T947 Series			T647 Series			D	D1	D2	n-d	
mm	inch	L	H1	A1	B1	H2	A2	B2					T944 Series/ T644 Series
25	1	210	837	306	507	440	200	200	135/125	100/88.9	78/50.8	4-18/4-18	20/25
32	1-1/4	251	848	306	507	451	200	200	150/135	110/98.4	82/63.5	4-23/4-18	30/30
40	1-1/2	251	852	306	507	475	200	200	165/155	125/114.3	95/73	4-23/4-22	42/42
50	2	286	859	306	507	482	200	200	175&195/165	135&145/127	105&112/92.1	4-23&4-25/8-18	52/52
65	1-1/2	311	918	306	507	735	240	240	200&220/190	160&170/149.2	130&138/104.8	8-23&8-25/8-22	68/78
80	3	337	980	306	507	647	240	240	210&230/210	170&180/168.3	140&148/127	8-23&8-25/8-22	72/82
100	4	394	988	306	507	655	240	240	250&265/275	200&210/215.9	168&172/157.2	8-25&8-30/8-26	92/102
125	5	500	1044	354	571	784	350	350	295&310/330	240&250/266.7	202&210/185.7	8-30&8-34/8-30	174/170
150	6	508	1111	354	571	851	350	350	340&350/355	280&290/292.1	240&250/215.9	8-34&12-34/12-30	194/190
200	8	650	1146	354	571	866	350	350	405&430/420	345&360/349.2	300&312/269.9	12-34&12-41/12-33	289/285