

## SWQ type/ Fully Welded Body Ball Valve

Fully welded ball valve are main applicable for district heating/cooling system, water supply and petrochemical, electrical station, city coal gas, natural gas, transmission pipeline, food industry, paper. Fully welded body design makes it free of maintenance, free of leakage point, light in weight, reliable quality and safety.



### Standard and Scope:

Size: NPS 1/2"~40" DN10~DN1200

Pressure Rating: Class 150~600 PN16~PN100

Connection: weld or flange or thread

Body Material: Carbon steel(**ST37.0**, 20#, A106-B, S235JR, or relevant), stainless steel, ALLOY and so on

Ball: SS304, SS316

Seat: Metal with polymer, PTFE, RTFE, Viton, Nylon, Peek, **PTFE+C**, and so on

Design and Manufacture: API 6D, ASME B16.34, BS5351

Test and Inspection: API 598, API 6D, BS5146

Face to Face: ASME B16.10, API 6D, **Manufacture standard**

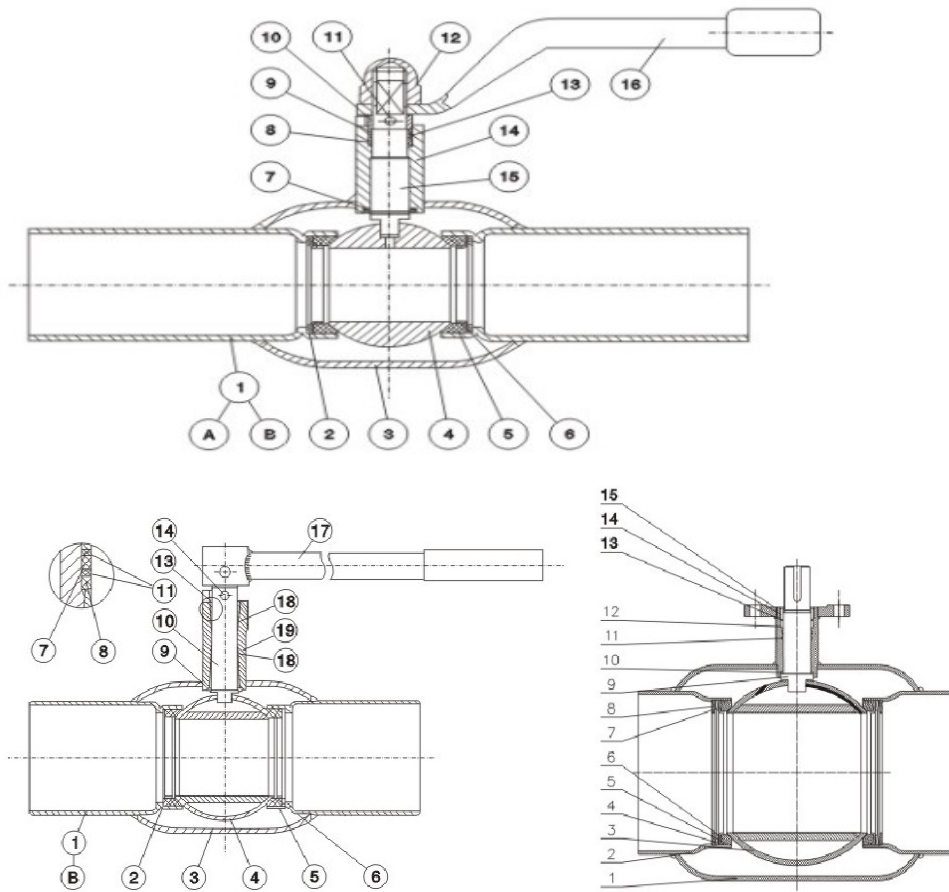
End Connection: ASME/ANSI B16.5 B16.47, B16.25; EN, DIN, JIS, GB

### Design feature

- Trunnion mounted for big size and floating ball for small size,
- Spring energized seats
- Double Block and Bleed,
- Full bore or reduced bore
- Anti blow out stem

- Removable stem seals under full line pressure in fully opened or closed position
- Anti static device
- Self lubricated bearings
- Emergency sealing injection
- T type Lever
- Stem extension
- Underground installation,
- Extended lines for drain, vent and emergency sealing injection,
- Special coatings
- Bypass directly at the valve
- Locking device
- Other design features on request

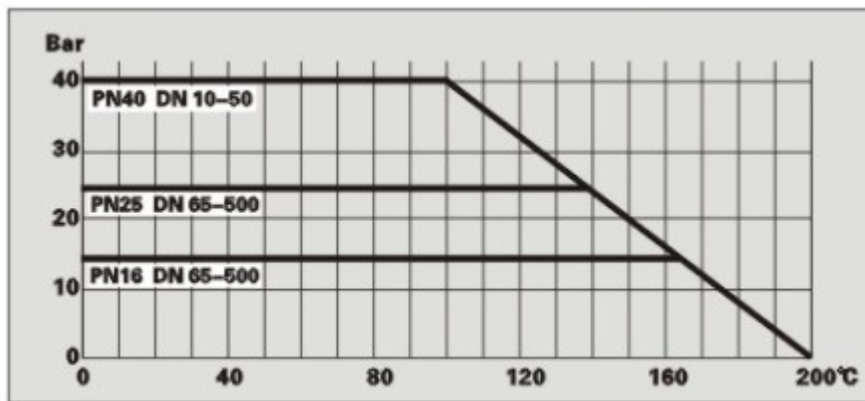
**Major Parts Chart – Typical material**



Handle Typical Material			Lever Typical Material			Gearbox Typical Material		
No.	Part Name	Material	No.	Part Name	Material	No.	Part Name	Material
1	Welding end	Steel St 37.0	1	Welding end	Steel St 37.0	2	Body	Steel St 37.0
	Flange end	Steel St52/St 37.0		Flange end	Steel R St 37-2		Welding end	Steel St 37.0
	Female end	Steel R St 37-2	2	Butterfly spring	65Mn	Flange end	Steel R St 37-2	
2	Butterfly spring	65Mn	3	Body	Steel St 37.0	3	Ball	CF8/AISI 304
3	Body	Steel St 37.0	4	Ball	CF8/AISI 304	4	O ring	Viton

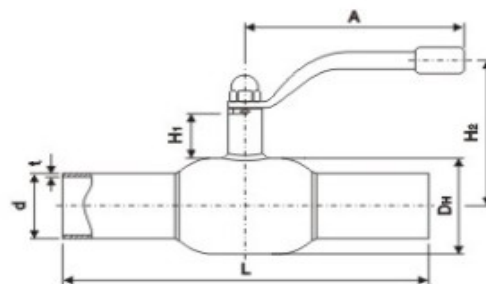
4	Ball	CF8/AISI 304	5	Seat	PTFE 20%C	5	Seat	PTFE 20%C
5	Seat	PTFE 20%C	6	Back up ring	2Cr13	6	Back up ring	2Cr13
6	Back up ring	2Cr13	7	O ring	EPDM	7	Disc spring	65Mn
7	Friction packing	PTFE 20%C	8	O ring	Viton	8	Intermediate ring	St 37.0
8	O ring	Viton	9	Friction packing	PTFE 20%C	9	Stem	2Cr13
9	O ring	EPDM	10	Stem	2Cr13	10	Friction packing	PTFE 20%C
10	Intermediate ring	St 37.0	11	Back up ring	PTFE 20%C	11	O ring	Viton
11	Cylinder Pin	Hardened steel	12	Cover disc	Steel FEZ	12	O ring	Viton
12	Stem Nut	Steel FZB	13	Intermediate ring	St 37.0	13	Washer	Steel St 37.0
13	Back up ring	PTFE 20%C	15	Seeger circlip	spring steel	14	Bedding set pressure	Steel St 37.0
14	Stem guide	Steel st 52	14	Stop pin	steel	15	Top flange	Steel St 37.0
15	Stem	2Cr13	17	Handle	steel			
16	Handle	steel	18	Radial bearing	Steel bush / PTFE			
17			19	Stem guide	Steel St52/St 37.0			

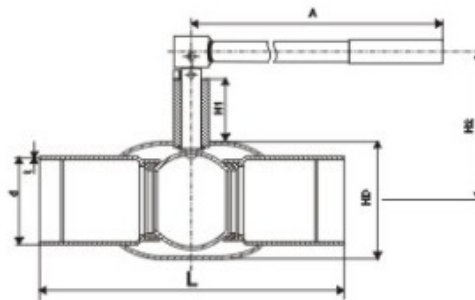
Note: The charts above just only list common combination of ball valve. SGV able to offer other material if required.



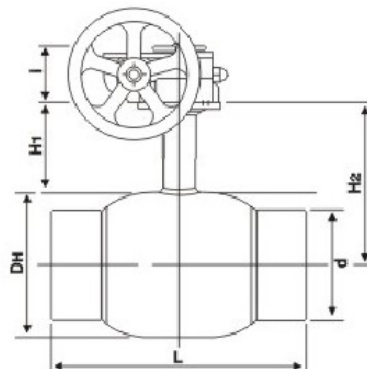
Reduce port/Standard port

Welded Fully-weld-body Ball Valve





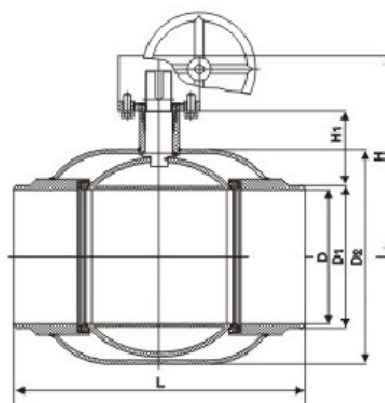
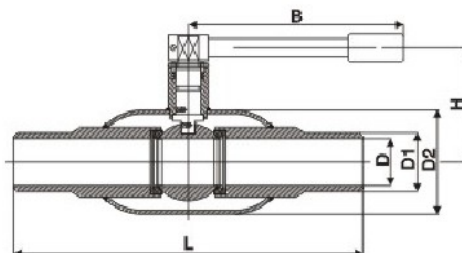
DN	PN	L	D(Bore)	d(A/B)	t	DH	H1	H2	A	Weight(kg)	ISO	KV
10	40	210	10	17.2/14	3	33	50	116	140	0.8		8
15	40	210	10	21.3/18	3	33	50	116	140	0.8		8
20	40	230	15	26.9/25	3	42	47	115	140	1.1		14
25	40	230	20	33.7/32	3	48	47	120	140	1.4		25
32	40	260	25	42.4/38	3	60	48	124	140	1.9		41
40	40	260	32	48.3/45	4	76	41	129	180	2.3		65
50	40	300	40	60.3/57	4	89	40	135	180	4		103
65	25	300	50	76.1/76	4	108	35	144	275	5.2		180
80	25	300	65	88.9/89	5	133	44	154	275	6.3		290
100	25	325	80	114.5/108	5	159	50	193	365	11		470
125	25	325	100	139.7/133	5	193	42	218	365	16		830
150	25	350	125	168.3/159	6	219	83	343	659	24		1150
200	25	400	150	219.1/219	7	273	84	345	800	39		1750



DN	PN	L	D(Bore)	d(A/B)	t	DH	H1	H2	i	Weight(kg)	ISO	KV
125	25	325	100	139.7/133	5	193	42	221	40	22	F07	830
150	25	350	125	168.3/159	6	219	83	244	50	32	F10	1150
200	25	400	150	219.7/219	7	273	84	290	60	43	F12	1750
250	25	530	200	273/273	8	351	90	305	84	101	F14	3200
300	25	550	250	323.9/325	12	425	87	335	105	149	F16	4600
350	25	650	300	355.6/377	14	508	102	395	110	265	F25	9600
400	25	760	350	406.4/426	14	610	95	445	120	458	F25	13300
450	25	760		457/480	16	610	95	461	120	550	F25	18700
500	25	840	400	508/530	18	680	95	522	150	720	F30	18700
600	25	1020	500	610/630	22	813	105	610	170	1550	F30	45000

Full port

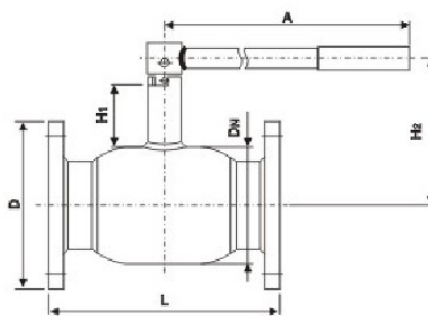
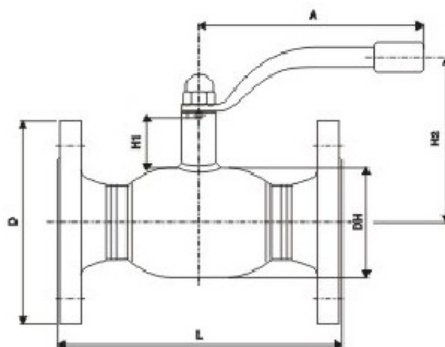
Welded Fully-weld-body Ball Valve



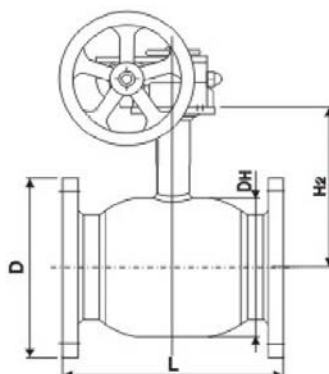
DN	PN	L	D(Bore)	D1(A/B)	t	D2	H	H1	B	Weight(kg)	ISO	KV
15	40	230	15	21.3/18	3	42.4	120		145	1.5		14
20	40	230	20	26.9/25	3	48	130		145	1.8		25
25	40	260	25	33.7/32	3	60	140		170	2.9		41
32	40	260	32	42.4/38	3	76	150		170	3.4		65
40	40	300	40	48.3/45	4	89	110		210	5.8		103
50	40	300	50	60.3/57	4	108	125		270	7.1		180
65	25	300	65	76.1/76	4	133	140		275	9.9		290
80	25	325	80	88.9/89	5	159	165		300	14.8		470
100	25	325	100	114.5/108	5	193	175		470	22.5		830
125	25	350	125	139.7/133	5	219	200		670	36		1150
150	25	400	150	168.3/159	6	273	220		970	58		1750
200	25	530	200	219.1/219	7	351	265		1250	101		3200
DN	PN	L	D(Bore)	D1(A/B)	t	D2	H	H1	B	Weight(kg)	ISO	KV
125	25	350	125	139.7/133	5	219	365	109		48		1150
150	25	400	150	168.3/159	6	273	422	112		75	F12	1750
200	25	530	200	219.7/219	7	351	520	129		143	F14	3200
250	25	550	250	273/273	8	425	555	138		204	F16	4600
300	25	650	300	323.9/325	12	508	637	179		268	F25	9600
350	25	760	350	355.6/377	14	610	680	197		460	F25	13300
400	25	760	400	406.4/426	14	680	750	229		618	F25	18700
500	25	1020	500	508/530	18	680	820	245		1795	F30	45000

Reduce port/Standard port

Flanged Fully-weld-body Ball Valve



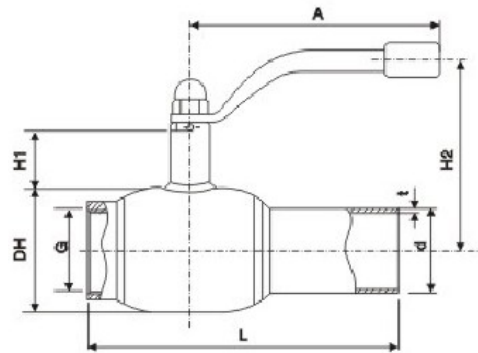
DN	PN	L	D(Bore)	D	DH	H1	H2	A	Weight(kg)	ISO	KV
15	40	130	10	95	33	50	116	140	2		8
20	40	150	15	105	42	47	115	140	3.4		14
25	40	160	20	115	48	47	120	140	4.5		25
32	40	180	25	140	60	48	124	140	5.5		41
40	40	200	32	150	76	41	129	180	7		65
50	40	230	40	165	89	40	135	180	9		103
65	25/16	270	50	185	108	35	144	275	11		180
80	25/16	280	65	200	133	44	154	275	13		290
100	25/16	300	80	220	159	50	193	365	22		470



DN	PN	L	D(Bore)	D	DH	H1	H2	i	Weight(kg)	ISO	KV
125	25/16	325	100	250	193	47	221	40	32	F07	830

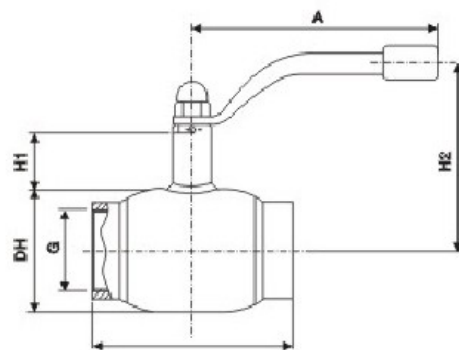
150	25/16	350	125	285	219	83	244	50	44	F10	1150
200	25/16	400	150	340	273	84	290	60	67	F12	1750
250	25/16	530	200	405	351	90	305	84	140	F14	3200
300	25/16	550	250	460	425	87	335	105	210	F16	4600
350	25/16	650	300	520	508	102	395	110	335	F25	9600
400	25/16	760	350	580	610	95	445	120	550	F25	13300
500	25/16	1150	400	715	680	95	522	150	860	F30	18700

**Female/Welded Fully-weld-body Ball Valve**



DN	PN	L	D(Bore)	d(A/B)	t	DH	H1	H2	A	Weight(kg)	KV
10	40	138	10	17.2/14	3	33	36	116	140	0.8	8
15	40	138	10	21.3/18	3	33	36	116	140	0.8	8
20	40	153	15	26.9/25	3	42	35	115	140	1	14
25	40	160	20	33.7/32	3	48	34	120	140	1.3	25
32	40	183	25	42.4/38	3	60	41	124	140	1.8	41
40	40	190	32	48.3/45	4	76	37	129	180	2.2	65
50	40	223	40	60.3/57	4	89	35	135	180	3.9	103

**Female/Female Fully-weld-body Ball Valve**



DN	PN	L	D(Bore)	d(A/B)	t	DH	H1	H2	A	Weight(kg)	KV
10	40	65	10	17.2/14		33	36	116	140	0.8	8
15	40	65	10	21.3/18		33	36	116	140	0.8	8
20	40	75	15	26.9/25		42	35	115	140	1	14

25	40	90	20	33.7/32		48	34	120	140	1.3	25
32	40	105	25	42.4/38		60	41	124	140	1.8	41
40	40	120	32	48.3/45		76	37	129	180	2.2	65
50	40	145	40	60.3/57		89	35	135	180	3.9	103

Underground Fully-weld Ball Valve, pre-incubated

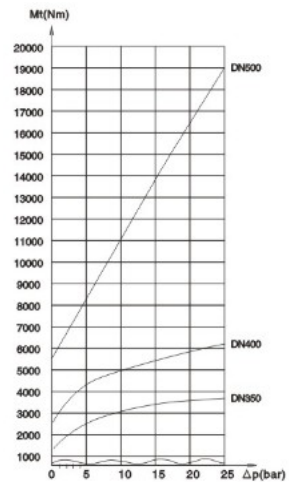
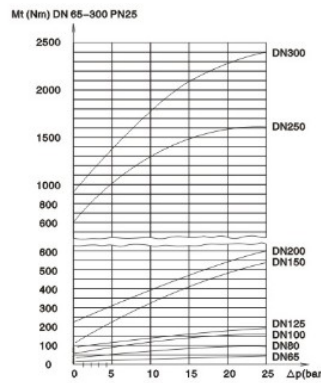
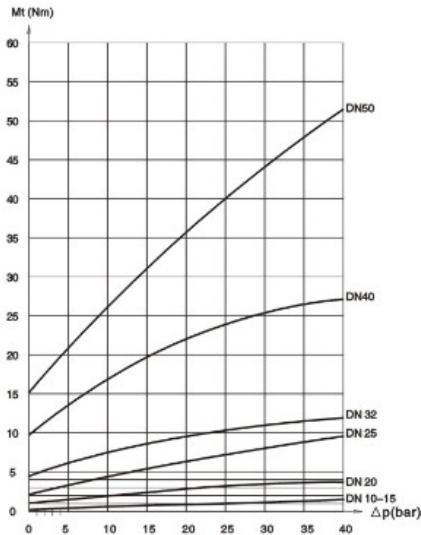
Underground Fully-weld Ball Valve Diffusion/Exhaust function



**Torque Reference Chart**

PN40 DN10-DN50

PN25 DN65-DN500



Note: Above torques are based on new products, the valve without use for long time usually has higher torque, might be 1.5 times of normal torque.

NOTE: The material in this catalog is for general information. For specific performance data, proper material selection and special design, consult us freely. Although every attempt has been made to ensure correct information, Sangong reserves the right to change designs, materials or specifications without notice.