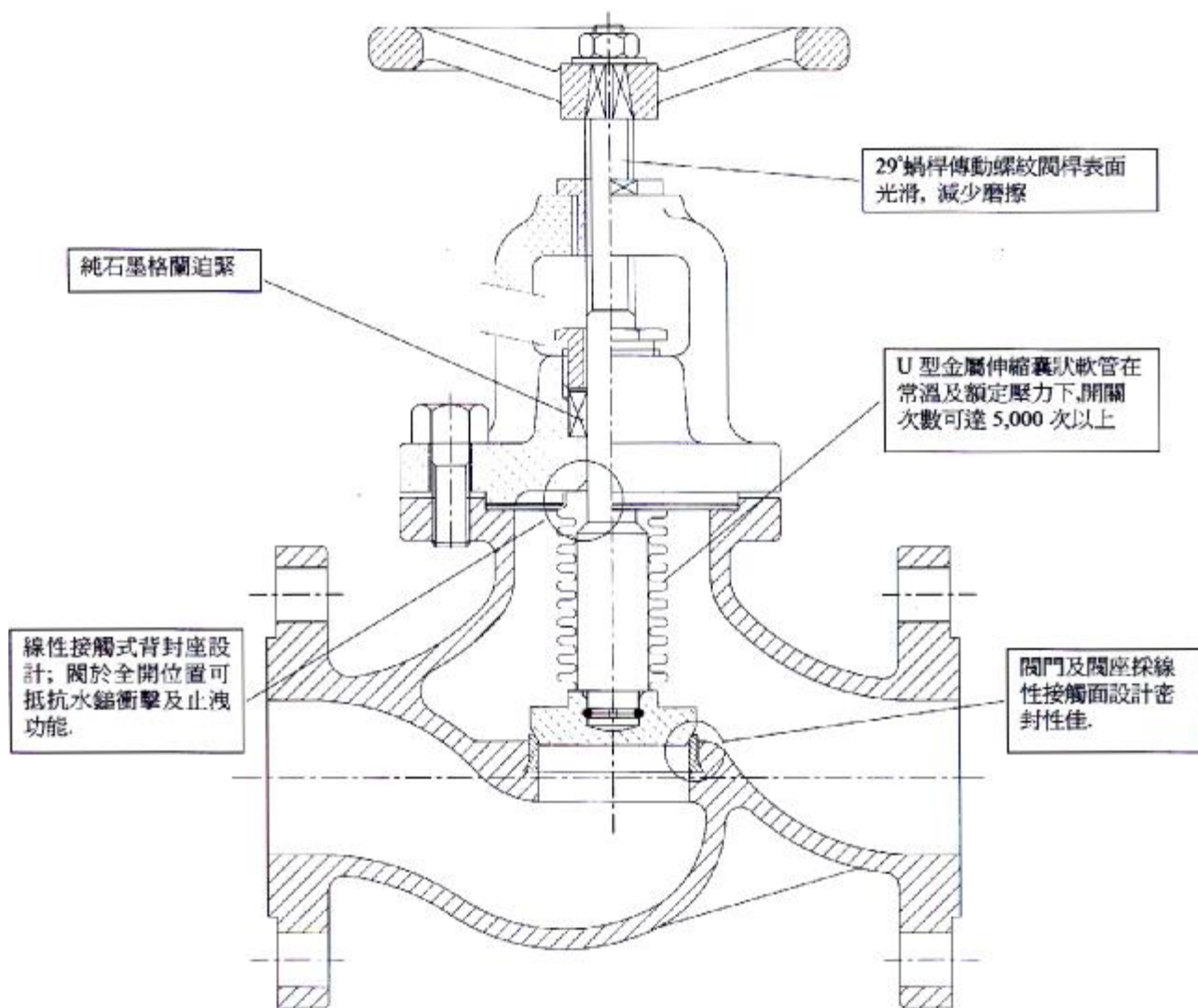


三. 蒸汽、液體、氣體系統整合配件

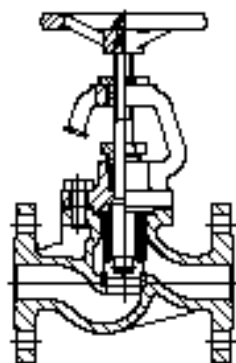
BEST AIV 伸縮囊密封型球形閥設計特性



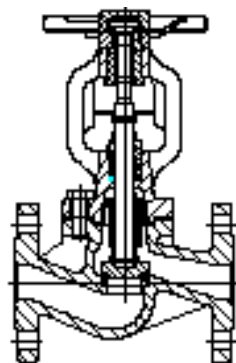
Size	1/2" to 12" (Large Sizes Available Upon Request)
Pressure Range	ANSI 150 / DIN PN16, 25 / JIS 10K
Face to Face Dimensions	ANSI B16.10 / DIN 3202 F1 / JIS B 2002
Body Material	ASTM A395 - DIN 0.7043 (GGG 40.3) ASTM A216 WCV and A351 CF8M - DIN 1.0619 and 1.4408
Bellows	One and Two-Ply Welded Design, Hydraulically Formed, Yields Consistent Wall Thickness and Reduces the Possibility of Stress Corrosion Cracking, (Guaranteed for 5,000 Cycles).

BEST AV 伸縮囊球形閥 與 同類型產品設計比較表

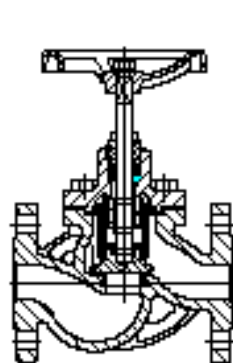
項 目	Best AV H 與 A 系列	A 與 S 廠牌	K 廠牌
閥門與閥座接觸方式	線性接觸	平面接觸	平面接觸
閥蓋含軛型(Yoke)設計	標準設計	標準設計	無
閥桿螺紋襯套安裝位置	軛型座頂端	軛型座頂端	閥體內部
閥桿螺紋設計	29° 蝸桿傳動螺紋	29° 蝸桿傳動螺紋	60° 鎖緊螺紋
背封座設計(Back Seat)	標準設計	無 (直軸閥桿)	無 (直軸閥桿)
材質	GGG 40.3 (球狀石墨鑄鐵) A216 WCB (碳鋼) A351 CF8M (316SS 不銹鋼)	GG 25 (灰口鑄鐵) A216 WCB 碳鋼 A351 CF8M 不銹鋼	GG 25 (灰口鑄鐵) A216 WCB 碳鋼 A351 CF8M 不銹鋼



BEST AV



A與S廠牌



K廠牌

上述閥之設計特點說明:

閥門與閥座接觸方式:

- Ø 線性式接觸: 關斷扭矩大, 閥座表面不易積存流體雜質; 止漏效果佳, 製作精度及成本較平面式接觸高。
- Ø 平面式接觸: 關斷扭矩較小, 因閥座僅承受閥門垂直擠壓磨損小, 製作簡單且成本經濟; 若遇流體雜質積存閥座表面, 則可能有無法止漏之疑慮。

閥蓋含軛型座(Yoke)設計:

- Ø 閥體結構更行堅固
- Ø 導正閥桿行徑使關斷力矩確實作用在閥門與閥座上; 而不會因為無軛型座設計, 使閥桿僅承受與其接觸密封之格蘭迫緊(Gland Packing)固定; 而可能產生鎖緊時閥桿傾斜影響閥門與閥座之密合性。

背封座(Back Seat)設計:

- Ø 當金屬伸縮軟管損壞並且格蘭迫緊(Gland Packing)亦無法止漏時; 可將閥操作在全開狀態, 使得閥桿與閥蓋產生一金屬密封面。此時; 可放鬆格蘭迫緊鎖緊螺絲, 然後再行更換新的格蘭迫緊使得閥在管線上可延長使用壽命。這樣對於在長時間連續式運轉的製程或無法臨時停車做更換新閥的顧慮, 有提昇管路效率並減損少生產損失的助益。
- Ø 當閥操作在全開位置時; 背封座可輔助閥桿抵抗流體對閥門的正面衝擊。特別是在蒸汽管線上; 這樣的設計可有效的抵抗水錘現象(Water Hammer)。
- Ø 對於無背封座僅直軸型閥桿的設計, 因水錘瞬間產生的高壓; 而只有閥桿銅質襯套及軛型座來吸收, 可能造成閥桿螺紋與銅質襯套擠成一體或軛型座斷裂, 這樣損壞情況都使得閥再也無法操作。

閥體材質:

GGG 40.3球狀石墨鑄鐵比GG 25一般灰口鑄鐵具有絕佳的抗拉強度, 彎曲強度, 吸收震動能力及延展性。同時與鑄鋼有相同的強韌性。對於處於地震帶地基, 震動大的管線, 不平行的對邊法蘭, 高溫高壓的管線等均有良好的性能。

閥桿螺紋襯套安裝位置:

- Ø 閥桿螺紋襯套安裝若位於閥體內, 則會因為高溫所產生的熱膨脹, 使得閥桿與襯套的接觸更行緊密, 而造成操作閥開關時需要更大的力拒及不便。
- Ø 閥桿螺紋襯套安裝於牛角座頂端可避免前面說明的操作不便, 同時; 襯套與閥桿的接觸在閥體頂端形成一個閥桿行徑的固定點。

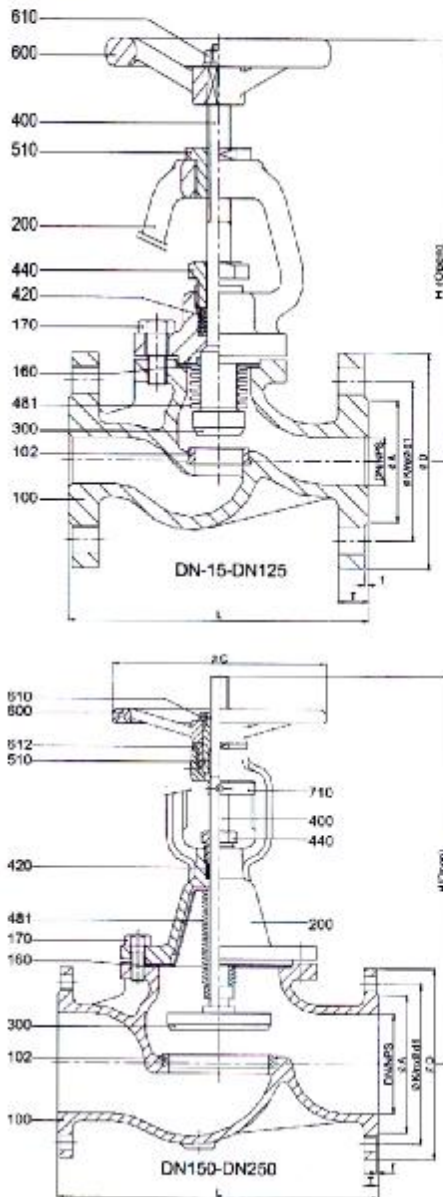
閥桿螺紋設計:

V 型螺紋主要用於調整及接合機件, 若用於傳遞動力時, 因其承受軸向巨大剪應力 V 型螺紋會趨於破裂, 而 29° 蝸桿傳動螺紋與 V 型螺紋在同一軸長之螺紋數少一半, 故承受軸向剪應力(Shear)較 V 型螺紋亦少一半。所以閥桿使用之螺紋必須設計為堅固的 29° 蝸桿傳動螺紋。

Best AV

FIG. H16

BELLOWS SEALED GLOBE VALVE - Flanged DIN PN16 DUCTILE IRON (DN15~250) 1/2"~10"



DESIGN DESCRIPTION:

- GLOBE VALVE IN STRAIGHT WAY TYPE
- BOLTED BONNET
- OUTSIDE SCREW AND YOKE
- RISING STEM AND HANDWHEEL, BUT δ DN150/6" WITH NON-RISING HANDWHEEL
- DISC WITH CONICAL METALLIC SEALING SURFACE
- METAL BACK SEAT, SAFETY STUFFING BOX PACKING
- δ DN150/6" WITH ANTI-TORSION DEVICE
- STEM SEALED WITH BELLOWS TESTED FOR 5,000 FULL OPEN/CLOSED OPERATIONS AT 20°C
- TECHNICAL CONDITIONS DELIVERY OF VALVES ACC. TO DIN 3230
- FACE TO FACE DIMENSIONS ACC. TO DIN 3202 F1
- FLANGES ACC. TO DIN 2501
- MAINTENANCE FREE

PART LIST

Item	Designation	Material DIN
100	Body	D.I. (GGG 40.3 / 0.7043)
102	Body Seat	X 20 Cr 13 / 1.4021
160	Gasket	Graphite
170	Bonnet Bolt	CK 35 / 1.1181
200	Bonnet	GGG 40.3 / 0.7043
300	Disc	X 20 Cr 13 / 1.4021
400	Stem	X 20 Cr 13 / 1.4021
420	Gland Packing	Graphite
440	Gland	Steel
481	Bellows	X 10 CrNiTi 18 9 / 1.4541
510	Stem Nut	Al-Bronze
600	Handwheel	Ductile Iron
610	Handwheel nut	C 35 / 1.0501
612	Retainer Nut	C 35 / 1.0501
710	Position Indicator	Steel

TEST PRESSURE TO DIN 3230, PART 3

HYDROSTATIC SHELL TEST = 24 BAR
HYDROSTATIC SEAT TIGHTNESS TEST = 16 BAR
AIR SEAT TIGHTNESS TEST = 6 BAR
LEAKAGE RATE 1

MAXIMUM PRESSURE UNDER THE DISC

DN	125	150	200	250
ΔP (bar)	25	17	10	6

TEMPERATURE AND PRESSURE RATING

T (°C)	-10 + 120	200	300	350
P (bar)	16	13	13	10

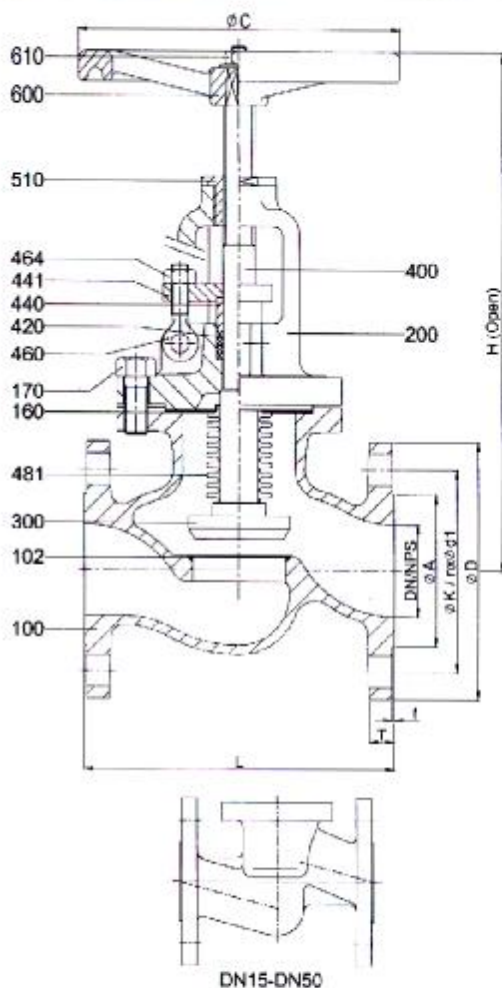
DIMENSIONS TABLE:

DN	NPS	H (OPEN)	ϕ C	L	ϕ D	ϕ K	ϕ A	n x ϕ d1	T	f	Kv-value
15	1/2"	194	120	130	95	55	45	4 x 14	14	2	4.7
20	3/4"	194	120	150	105	75	58	4 x 14	16	2	11.7
25	1"	194	120	160	115	85	68	4 x 14	16	2	12.9
40	1 1/2"	233	160	200	150	110	88	4 x 18	16	3	35.1
50	2"	252	160	230	165	125	102	4 x 18	18	3	44.5
65	2 1/2"	347	224	290	185	145	122	4 x 18	18	3	93.6
80	3"	369	224	310	200	160	138	8 x 18	20	3	111
100	4"	462	320	350	220	180	158	8 x 18	20	3	210.6
125	5"	462	320	400	250	210	188	8 x 18	22	3	292.5
150	6"	565	320	480	285	240	212	8 x 22	22	3	444.6
200	8"	689	400	600	340	295	268	12 x 22	24	3	760.5
250	10"	791	400	730	405	355	320	12 x 26	26	3	1053

Best A/V

FIG. A150

BELLOWS SEALED GLOBE VALVE-Flanged ANSI 150LB RF CAST STEEL & STAINLESS STEEL (DN15~125) 1/2"~5"



DESIGN DESCRIPTION:

- GLOBE VALVE IN STRAIGHT WAY TYPE
- BOLTED BONNET
- OUTSIDE SCREW AND YOKE
- RISING STEM AND HANDWHEEL
- DISC WITH CONICAL METALLIC SEALING SURFACE
- METAL BACK SEAT, SAFETY STUFFING BOX PACKING
- INTEGRAL BODY SEAT
- STEM SEALED WITH BELLOWS TESTED FOR 5,000 FULL OPEN/CLOSED OPERATIONS AT 20°C
- SHELL WALL THICKNESS ACC. ANSI B16.34
- FACE TO FACE ACC. ANSI B16.10
- END FLANGE DIMENSIONS ACC. ANSI B16.5
- INSPECTION AND TEST ACC. API 598
- MAINTENANCE FREE

PART LIST

Item	Designation	Material ASTM	
		FIG.A150CS	FIG.A150SS
100	Body	C.S. A216-WCB	316SS A351-CF8M
102	Body Seat	410SS	A351-CF8M
160	Gasket	Graphite + 316SS foil	
170	Bonnet Bolt	A193-B7	A193-B8
200	Bonnet	A216-WCB	A351-CF8M
300	Disc	A276-410	A351-CF8M
400	Stem	A276-410	A182-F316
420	Gland Packing	Graphite	PTFE
440	Gland	Steel	A351-CF8M
441	Gland Flange	Steel	A351-CF8M
460	Gland Bolt	A193-B7	A193-B8
464	Gland Nut	A194-2H	A194-8
481	Bellows	A182-F321	
510	Stem Nut	Al-Bronze	
600	Handwheel	Cast Nodular Iron	
610	Handwheel nut	A194-2H	A194-8

**Seating face with stellite is on request.

TEST PRESSURE TO API 598

SHELL TEST	SEAT TEST	SEAT TEST
31 kg/cm ² (water)	23 kg/cm ² (water)	6 kg/cm ² (air)

TEMPERATURE AND PRESSURE RATINGS TO ANSI B16.34

°C	-29 + 38	50	100	150	200	250	300	350	400	450
P (kg/cm ²)	19.6	19.2	17.7	15.8	14.0	12.1	10.2	8.4	6.5	4.7

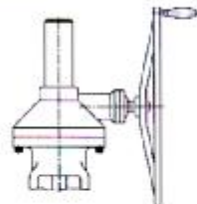
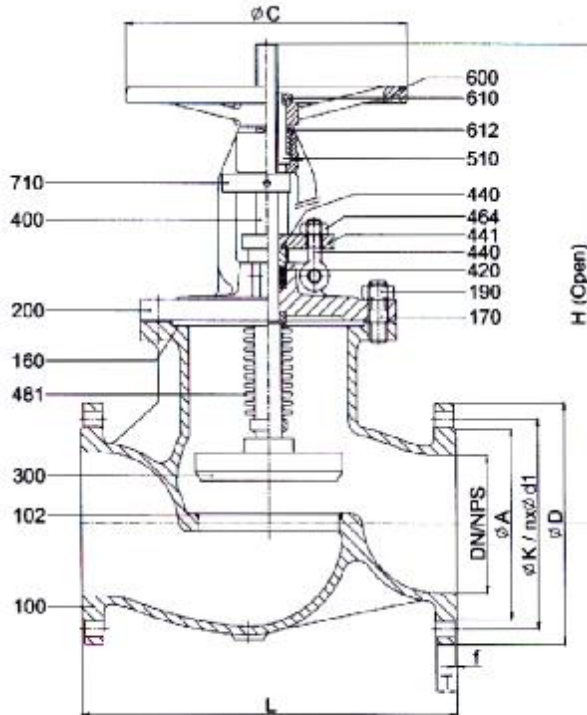
DIMENSIONS TABLE:

DN	NPS	H (Open)	Ø C	L	Ø D	Ø K	Ø A	n x Ø d1	T	f	Cv-value
15	1/2"	194	120	108	88.9	60.3	34.9	4 x 15.9	11.1	1.6	4
20	3/4"	194	120	118	98.4	69.8	42.9	4 x 15.9	11.1	1.6	10
25	1"	194	120	127	108.0	79.4	50.8	4 x 15.9	11.1	1.6	11
40	1 1/2"	233	160	165.1	127.0	98.4	73.0	4 x 15.9	14.3	1.6	30
50	2"	252	180	203.2	152.4	120.6	92.1	4 x 19.0	15.9	1.6	38
65	2 1/2"	347	224	215.9	177.8	139.7	104.8	4 x 19.0	17.5	1.6	80
80	3"	389	224	241.3	190.5	152.4	127.0	4 x 19.0	19.0	1.6	95
100	4"	462	320	292.1	228.6	190.5	157.2	4 x 19.0	23.8	1.6	180
125	5"	462	320	355.5	254.0	215.9	185.7	8 x 22.0	23.8	1.6	250

Best A/V

FIG. A150-6

BELLOWS SEALED GLOBE VALVE-Flanged ANSI 150LB RF CAST STEEL & STAINLESS STEEL (DN150~300) 6"~12"



GEAR OPERATOR

TEST PRESSURE TO API 598

SHELL TEST	SEAT TEST	SEAT TEST
31 kg/cm ² (water)	23 kg/cm ² (water)	6 kg/cm ² (air)

MAXIMUM PRESSURE UNDER DISC

DN/NPS	150/6"	200/8"	250/10"	300/12"
ΔP (kg/cm ²)	21	14	9	6

TEMPERATURE AND PRESSURE RATINGS TO ANSI B16.34

°C	-29 + 38	50	100	150	200	250	300	350	400	450
P (kg/cm ²)	19.6	19.2	17.7	15.8	14.0	12.1	10.2	8.4	6.5	4.7

DIMENSION TABLE:

DN	NPS	H(Open)	ØC	L	ØD	ØK	ØA	n x Ød1	T	f	Cv-value
150	6"	578	320	406.6	279.4	241.3	215.9	8 x 22.0	25.4	1.6	380
200	8"	681	400	495.3	342.9	298.4	269.9	8 x 22.0	28.6	1.6	650
250	10"	791	400	622.3	406.4	361.9	323.8	12 x 25.4	30.2	1.6	900
300	12"	890	520	850.0	482.6	431.8	381.0	12x25.4	31.8	1.6	1285

DESIGN DESCRIPTION:

- GLOBE VALVE IN STRAIGHT WAY TYPE
- BOLTED BONNET
- OUTSIDE SCREW AND YOKE
- RISING STEM AND HANDWHEEL, BUT δ DN150/6" WITH NON-RISING HANDWHEEL
- DISC WITH CONICAL METALLIC SEALING SURFACE
- METAL BACK SEAT, SAFETY STUFFING BOX PACKING
- INTEGRAL BODY SEAT
- δ DN150/6" WITH ANTI-TORSION DEVICE
- STEM SEALED WITH BELLOWS TESTED FOR 5,000 FULL OPEN/CLOSED OPERATIONS AT 20°C
- SHELL WALL THICKNESS ACC. ANSI B16.34
- FACE TO FACE ACC. ANSI B16.10
- END FLANGE DIMENSIONS ACC. ANSI B16.5
- INSPECTION AND TEST ACC. API 598
- MAINTENANCE FREE

PART LIST

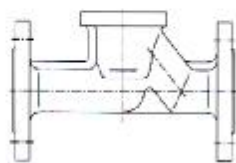
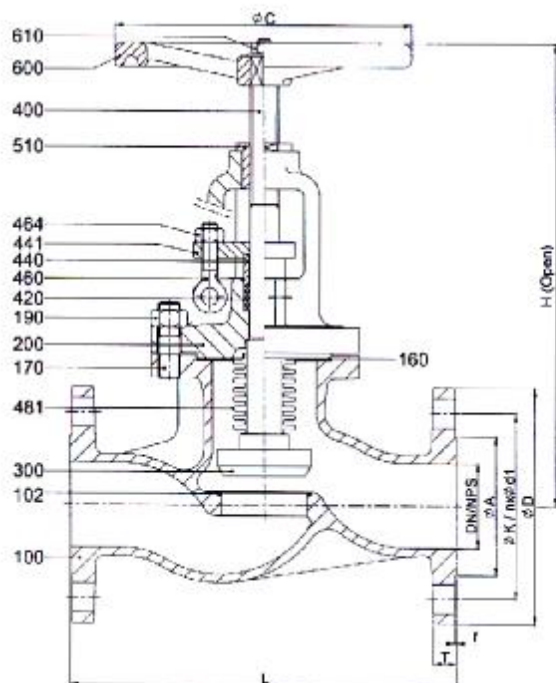
Item	Designation	Material ASTM	
		FIG.A150-6CS	FIG.A150-6SS
100	Body	C.S. A216-WCB	316SS A351-CF8M
102	Body Seat	410SS	A351-CF8M
160	Gasket	Graphite + 316SS foil	
170	Bonnet Bolt	A193-B7	A193-B8
200	Bonnet	A216-WCB	A351-CF8M
300	Disc	A276-410	A351-CF8M
400	Stem	A276-410	A182-F316
420	Gland Packing	Graphite	PTFE
440	Gland	Steel	A351-CF8M
441	Gland Flange	Steel	A351-CF8M
460	Gland Bolt	A193-B7	A193-B8
464	Gland Nut	A194-2H	A194-8
481	Bellows	A182-F321	
510	Stem Nut	Al-Bronze	
600	Handwheel	Cast Nodular Iron	
610	Handwheel nut	A194-2H	A194-8

**Seating face with stellite is on request.

Best A/V

FIG. A300

BELLOWS SEALED GLOBE VALVE- Flanged ANSI 300LB RF CAST STEEL & STAINLESS STEEL (DN15~125) 1/2"~5"



DN15-DN50



BUTT-WELD

TEST PRESSURE TO API 598

SHELL TEST	SEAT TEST	SEAT TEST
79 kg/cm ² (water)	58 kg/cm ² (water)	6 kg/cm ² (air)

DESIGN DESCRIPTION:

- GLOBE VALVE IN STRAIGHT WAY TYPE
- BOLTED BONNET
- OUTSIDE SCREW AND YOKE
- RISING STEM AND HANDWHEEL, BUT Ø DN150/6" WITH NON-RISING HANDWHEEL
- DISC WITH CONICAL METALLIC SEALING SURFACE
- METAL BACK SEAT, SAFETY STUFFING BOX PACKING
- INTEGRAL BODY SEAT
- MULTIPLE BELLOW S MADE OF 321SS
- STEM SEALED WITH L BELLOWS TESTED FOR 5,000 FULL OPEN/CLOSED OPERATIONS AT 20°C
- SHELL WALL THICKNESS ACC. ANSI B16.34
- FACE TO FACE ACC. ANSI B 16.10
- END FLANGE DIMENSIONS ACC. ANSI B 16.5
- BUTT-WELDING ENDS ACC. ANSI B16.25
- INSPECTION AND TEST ACC. API 598
- MAINTENANCE FREE

PART LIST

Item	Designation	Material ASTM	
		FIG. A300CS	FIG.A300SS
100	Body	C.S. (A216-WCB)	316SS (A351-CF8M)
102	Body Seat	A182-F6	A351-CF8M
160	Gasket	Graphite + 316SS foil	
170	Bonnet Bolt	A193-B7	A193-B8
190	Bonnet Nut	A194-2H	A194-8
200	Bonnet	A216-WCB	A351-CF8M
300	Disc	A182-F6	A351-CF8M
400	Stem	A182-F6	A182-F316
420	Gland Packing	Graphite PTFE	
440	Gland	A182-F6	A351-CF8
441	Gland Flange	Steel	A351-CF8
460	Gland Bolt	A193-B7	A193-B8
464	Gland Nut	A194-2H	A194-8
481	Bellows	A182-F321	
510	Stem Nut	Al-Bronze	
600	Handwheel	Cast Nodular Iron	
610	Handwheel nut	A194-2H	A194-8

**Seating face with stellite is on request.

TEMPERATURE AND PRESSURE RATINGS TO ANSI B16.34

°C	-29 + 38	50	100	150	200	250	300	350	400	450
P (kg/cm ²)	51.1	50.1	46.4	45.2	43.8	41.7	38.7	37	34.5	20.0

DIMENSIONS TABLE:

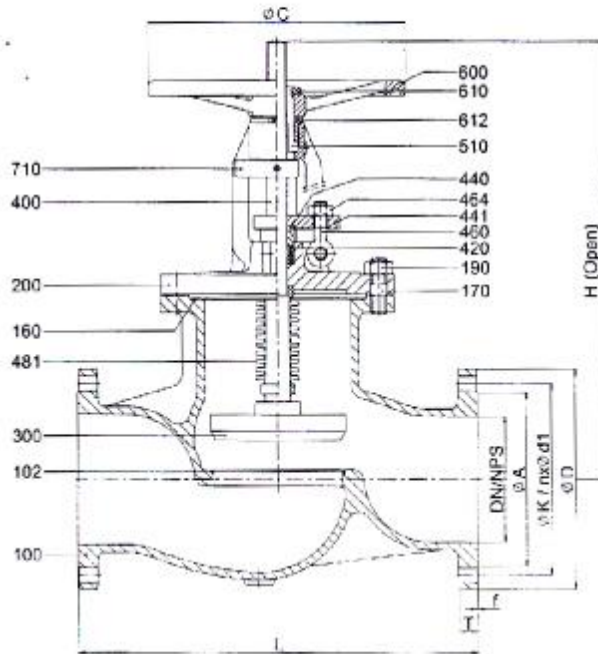
DN	NPS	H	Ø C	L & L1	Ø D	Ø K	Ø A	n x Ød1	T	f	Cv-value
15	1/2"	194	120	152	95	67	35	4 x 16	14.5	1.6	4
20	3/4"	194	120	178	118	83	43	4 x 19	16	1.6	10
25	1"	194	120	203	124	89	51	4 x 19	17.5	1.6	11
40	1 1/2"	233	160	229	155	114	73	4 x 22	21	1.6	30
50	2"	252	160	267	165	127	92	8 x 19	22.5	1.6	38
65	2 1/2"	347	224	292	190	149	105	8 x 22	25.4	1.6	80
80	3"	369	224	318	210	168	127	8 x 22	29	1.6	95
100	4"	462	320	355	254	200	157	8 x 22	32	1.6	180
125	5"	462	320	400	279	235	186	8 x 22	35	1.6	250



Best A/V

FIG. 300-6

BELLOWS SEALED GLOBE VALVE- Flanged ANSI 300LB RF CAST STEEL & STAINLESS STEEL (DN150~250) 6"~10"



DESIGN DESCRIPTION:

- GLOBE VALVE IN STRAIGHT WAY TYPE
- BOLTED BONNET
- OUTSIDE SCREW AND YOKE
- RISING STEM AND HANDWHEEL, BUT 8 DN150/6" WITH NON-RISING HANDWHEEL
- DISC WITH CONICAL METALLIC SEALING SURFACE
- METAL BACK SEAT, SAFETY STUFFING BOX PACKING
- INTEGRAL BODY SEAT
- 8 DN150/6" WITH ANTI-TORSION DEVICE
- MULTIPLE BELLOW S MADE OF 316SS
- STEM SEALED WITH L BELLOWS TESTED FOR 5,000 FULL OPEN/CLOSED OPERATIONS AT 20°C
- SHELL WALL THICKNESS ACC. ANSI B16.34
- FACE TO FACE ACC. ANSI B 16.10
- END FLANGE DIMENSIONS ACC. ANSI B 16.5
- BUTT-WELDING ENDS ACC. ANSI B16.25
- INSPECTION AND TEST ACC. API 598
- MAINTENANCE FREE

PART LIST

Item	Designation	Material ASTM	
		FIG. A300-6CS	FIG. A300-6SS
100	Body	C.S. (A216-WCB)	316SS (A351-CF8M)
102	Body Seat	410SS	A351-CF8M
160	Gasket	Graphite + 316SS foil	
170	Bonnet Bolt	A193-B7	A193-B8
190	Bonnet Nut	A194-2H	A194-8
200	Bonnet	A216-WCB	A351-CF8M
300	Disc	410SS	A351-CF8M
400	Stem	A276-410	A182-F316
420	Gland Packing	Graphite	PTFE
440	Gland	Steel	A351-CF8M
441	Gland Flange	Steel	A351-CF8M
460	Gland Bolt	A193-B7	A193-B8
464	Gland Nut	A194-2H	A194-8
481	Bellows	A182-F321	
510	Stem Nut	Al-Bronze	
600	Handwheel	Cast Nodular Iron	
610	Handwheel nut	A194-2H	A194-8
612	Retainer Nut	A36	
710	Indicator	Steel	A351-CF8M

**Seating face with stellite is on request.

MAXIMUM PRESSURE UNDER DISC

DN/NPS	150/6"	200/8"	250/10"
ΔP (kg/cm ²)	21	14	9

TEST PRESSURE TO API 598

SHELL TEST	SEAT TEST	SEAT TEST
79 kg/cm ² (water)	58 kg/cm ² (water)	6 kg/cm ² (air)

TEMPERATURE AND PRESSURE RATINGS TO ANSI B16.34

°C	-29 + 38	50	100	150	200	250	300	350	400	450
P (kg/cm ²)	51.1	50.1	46.4	45.2	43.8	41.7	38.7	37	34.5	20.0

DIMENSIONS TABLE:

DN	NPS	H	ϕC	L & L1	ϕD	ϕK	ϕA	n x $\phi d1$	T	f	Cv-value
150	6"	578	320	444	318	270	216	12 x 22	37	1.6	380
200	8"	681	400	559	381	330	270	12 x 25	41.5	1.6	650
250	10"	791	400	622	445	387	324	16 x 29	48	1.6	900