

# Ball Valves



# KITZ Ball Valves

**KITZ ball valves are manufactured under the same quality system designed according to ISO 9001, no matter where they are produced.**



KITZ Corporation of Taiwan, Kaohsiung Plant, Taiwan (ISO 9001)



KITZ Corporation of Europe, S.A., Barcelona Plant, Spain (ISO 9001)



KITZ Corporation, Ina Plant, Japan (ISO 9001)



KITZ Corporation, Nagasaka Plant, Japan (ISO 9001)

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## Product Range

### Flanged Floating Ball Valves

Shell Material	Nominal Pressure	KITZ Product Code	Bore*1	Body Design	Nominal Size	NPS DN	1/2 15	3/4 20	1 25	1 1/4 32	1 1/2 40	2 50	2 1/2 65	3 80	4 100	5 125	6 150	8 200	10 250	12 300	Page
Carbon Steel	Class 150	150SCTDZ	F	Split			●	●	●		●	●	●	●	●	●	●	●	■		11
	Class 150	150SCTAZM	R	Uni			●	●	●		●	●		●	●		●	●	●		22
	Class 300	300SCTDZ	F	Split			●	●	●		●	●	●	●	●	●	●	●			11
	Class 300	300SCTAZM	R	Uni			●	●	●		●	●		●	●		●	●	●		22
	Class 600	600SCTB	F	Split			●	●	●		●										10
	Class 1500	1500SCTB	F	Split			●	●	●		●										10
	Class 150	150SCTR	R	Split												●	●	●	●	■	*3
	Class 300	300SCTR	R	Split													●	●	●		*3
	10K	10SCTDZ	F	Split			●	●	●		●	●	●	●	●	●	●	●	■		*3
	20K	20SCTDZ	F	Split			●	●	●		●	●	●	●	●	●	●	●			*3
Stainless Steel	Class 150	150UTDZ(M)	F	Split			●	●	●	●	●	●	●	●	●	●	●	●	■		11
	Class 150	150UTB(M)	F	Split			●	●	●		●	●	●	●	●	●	●	●	■		9
	Class 150	150UTAZM	R	Uni			●	●	●		●	●		●	●		●	●	●		22
	Class 300	300UTDZ(M)	F	Split			●	●	●	●	●	●	●	●	●	●	●	●			11
	Class 300	300UTAZM	R	Uni			●	●	●		●	●		●	●		●	●	●		22
	Class 600	600UTB(M)	F	Split			●	●	●		●										10
	Class 1500	1500UTB(M)	F	Split			●	●	●		●										10
	Class 150	150UTDZXL(M)	F	Split/Extended bonnet			●	●	●	●	●	●	●	●	■	■	■	■	■		25
	Class 300	300UTDZXL(M)	F	Split/Extended bonnet			●	●	●	●	●	●	●	●	■	■	■	■	■		26
	Class 150	150UTALM	R	Uni/Extended bonnet			●	●	●		●	●	●	●	●		■	■	■		23
	Class 300	300UTALM	R	Uni/Extended bonnet			●	●	●		●	●	●	●	●		■	■	■		23
	Class 150	150UTDZL(M)	F	Split/Extended bonnet			●	●	●	●	●	●	●	●	■	■	■	■			24
	Class 300	300UTDZL(M)	F	Split/Extended bonnet			●	●	●		●	●	●	■	■	■	■	■	■		24
	10K	10UTDZL(M)	F	Split/Extended bonnet			●	●	●	●	●	●	●	●	■	■	■	■			24
	20K	20UTDZL(M)	F	Split/Extended bonnet			●	●	●	●	●	●	●	■	■	■	■	■			24
	Class 150	150UTR(M)	R	Split								●	●	●	●	●	●	●	●	■	*3
	Class 300	300UTR(M)	R	Split								●	●	●	●	●	●	●	●		*3
	10K	10UTDZ(M)	F	Split			●	●	●	●	●	●	●	●	●	●	●	●	■		*3
	20K	20UTDZ(M)	F	Split			●	●	●	●	●	●	●	●	●	●	●	●			*3
	Class 150	150UTB2L/2T(M)	F	Split/3-way·2-seats					●		●	●	●	●	●		●*4	●*4	●*4		20
	Class 150	150UTB4LA/4T(M)	F	Split/3-way·4-seats			●	●	●		●	●	●	●	●	●	●*4	●*4	●*4		20
	10K	10UTB2L(M)/2T(M)	F	Split/3-way·2-seats					●		●	●	●	●	●		●*4	●*4			*3
	10K	10UTB4LA(M)/4TA(M)	F	Split/3-way·4-seats			●	●	●		●	●	●	●	●	●	●*4	●*4	●*4		*3
	Class 150	150UTBP(M)	F	Split/Pocketless			●	●	●		●	●	●	●	●	●	●	●			19
	Class 150	150UTBJ(M)	F	Jacketed			●	●	●		●	●	●								19
	10K	10UTBJ(M)	F	Jacketed			●	●	●		●	●	●								*3
	Class 150	150UTRJ(M)	R	Jacketed										●	●		●				*3
	10K	10UTRJ(M)	R	Jacketed										●	●		●				*3
	Class 150	150UTBT(M)	F	Split/Tank ball					●		●	●	●	●	●	●	●	■			21
	10K	10UTBT(M)	F	Split/Tank ball					●		●	●	●	●	●	●	●	■			*3
	Class 150	150UTBLN(M)	F	Split/PFA lined			●	●	●		●	●	●	●	●						*3
	10K	10UTBLN(M)	F	Split/PFA lined			●	●	●		●	●	●	●	●						21
Ductile Iron	10K	10STBF	F	Split			●	●	●	●	●	●	●	●	●	●	●	●			27
	10K	10STLBF	F	Split/Gas service			●	●	●	●	●	●	●	●	●	●	●	●			27
	20K	20STLB	F	Split/Gas service			●	●	●	●	●	●	●	●	●		●	●			27
	10K	10STB4LAF/4TAF	F	Split/3-way·4-seats						●	●	●	●	●	●						28
	10K	10STR4LAF/4TAF	R	Split/3-way·4-seats												●	●	●			28
Cast Iron	Class 125	125FCTB	F	Split								●	●	●	●		●	●			29
	10K	10FCTB	F	Split			●	●	●		●	●	●	●	●	●	●	●	■		30
	Class 125	125FCTR	R	Split													●	●	●		29
	10K	10FCTR	R	Split													●	●	●		30
	10K	10FCTB2L	F	Split/3-way·2-seats						●	●	●	●	●	●						31
Bronze	10K	10FCTR2L	R	Split/3-way·2-seats												●	●	●			31
		TB	F	Split			●	●	●	●	●	●	●	●	●						31

\* 1 Bore design: F=Full bore, R=Reduced bore

\* 2 Worm gear operation in standard for the sizes marked ■ with the prefix "G-" on each KITZ product code.

\* 3 Please contact KITZ Corporation for details.

\* 4 Reduced bore

## Product Range

### Flanged Ball Valves

Shell Material	Nominal Pressure	KITZ Product Code	Bore *1	Nominal Size Body Design	NPS	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4	5	6	8	10	12	14	Page
					DN	15	20	25	32	40	50	65	80	100	125	150	200	250	300	350	
^-port Stainless Steel	Class 150	L-150UVC(T)(M)*2	F	Split/For control				●		●	●	●	●	●	●	●	●				48
	Class 150	G-150UVC(T)(M)*2	F	Split/For control												●	●	●	●		48
	Class 300	L-300UVC(T)(M)*2	F	Split/For control				●		●	●	●	●	●	●	●	●				49
	Class 300	G-300UVC(T)(M)*2	F	Split/For control												●	●	●			49
	10K	L-10UVC(T)(M)*2	F	Split/For control				●		●	●	●	●	●	●	●	●				48
	10K	G-10UVC(T)(M)*2	F	Split/For control												●	●	●	●	●	48
	20K	L-20UVC(T)(M)*2	F	Split/For control				●		●	●	●	●	●	●	●	●				49
	20K	G-20UVC(T)(M)*2	F	Split/For control												●	●	●			49
FILLTITE® Seated Carbon and Stainless Steel	Class 150	150SCTDZ1H	F	Split/Max. 300°C		●	●	●		●	●	●	●	●	■	■	■	■			12
	Class 150	150UTDZ1H(M)	F	Split/Max. 300°C		●	●	●	●	●	●	●	●	●	■	■	■	■			12
	Class 300	300SCTDZ1H	F	Split/Max. 300°C		●	●	●		●	●	●	●	■	■	■	■				12
	Class 300	300UTDZ1H(M)	F	Split/Max. 300°C		●	●	●	●	●	●	●	●	■	■	■	■				12
	10K	10SCTDZ1H	F	Split/Max. 300°C		●	●	●		●	●	●	●	●	■	■	■	■			*4
	10K	10UTDZ1H(M)	F	Split/Max. 300°C		●	●	●	●	●	●	●	●	●	■	■	■	■			*4
	20K	20SCTDZ1H	F	Split/Max. 300°C		●	●	●		●	●	●	●	■	■	■	■				*4
	20K	20UTDZ1H(M)	F	Split/Max. 300°C		●	●	●	●	●	●	●	●	■	■	■	■				*4
Graphite Seated Carbon and Stainless Steel	Class 150	150SCTDZ3H	F	Split/Max. 500°C		●	●	●		●	●	●	●	●	■	■	■				13
	Class 150	150UTDZ3H(M)	F	Split/Max. 500°C		●	●	●	●	●	●	●	●	●	■	■	■				13
	Class 300	300SCTDZ3H	F	Split/Max. 500°C		●	●	●		●	●	●	●	■	■	■	■				14
	Class 300	300UTDZ3H(M)	F	Split/Max. 500°C		●	●	●	●	●	●	●	●	■	■	■	■				14
	10K	10SCTDZ3H	F	Split/Max. 300°C		●	●	●		●	●	●	●	●	■	■	■				13
	10K	10UTDZ3H(M)	F	Split/Max. 300°C		●	●	●	●	●	●	●	●	●	■	■	■				13
	20K	20SCTDZ3H	F	Split/Max. 425°C		●	●	●		●	●	●	●	■	■	■	■				14
	20K	20UTDZ3H(M)	F	Split/Max. 425°C		●	●	●	●	●	●	●	●	■	■	■	■				14
Metal Seated Carbon and Stainless Steel	Class 150	150SCTDZ5H	F	Split/Max. 300°C		●	●	●		●	●	●	●	●	■	■	■				15
	Class 150	150UTDZ5H(M)	F	Split/Max. 300°C		●	●	●	●	●	●	●	●	●	■	■	■				15
	Class 300	300SCTDZ5H	F	Split/Max. 300°C		●	●	●		●	●	●	●	■	■	■	■				16
	Class 300	300UTDZ5H(M)	F	Split/Max. 300°C		●	●	●	●	●	●	●	●	■	■	■	■				16
	10K	10SCTDZ5H	F	Split/Max. 300°C		●	●	●		●	●	●	●	●	■	■	■				15
	10K	10UTDZ5H(M)	F	Split/Max. 300°C		●	●	●	●	●	●	●	●	●	■	■	■				15
	20K	20SCTDZ5H	F	Split/Max. 300°C		●	●	●		●	●	●	●	■	■	■	■				16
	20K	20UTDZ5H(M)	F	Split/Max. 300°C		●	●	●	●	●	●	●	●	■	■	■	■				16
Metal Seated Carbon and Stainless Steel	Class 150	150SCTDZ6H	F	Split/Max. 500°C		●	●	●		●	●	●	●	●	■	■	■				17
	Class 150	150UTDZ6H(M)	F	Split/Max. 500°C		●	●	●	●	●	●	●	●	●	■	■	■				17
	Class 300	300SCTDZ6H	F	Split/Max. 500°C		●	●	●		●	●	●	●	■	■	■	■				18
	Class 300	300UTDZ6H(M)	F	Split/Max. 500°C		●	●	●	●	●	●	●	●	■	■	■	■				18
	10K	10SCTDZ6H	F	Split/Max. 300°C		●	●	●		●	●	●	●	●	■	■	■				17
	10K	10UTDZ6H(M)	F	Split/Max. 300°C		●	●	●	●	●	●	●	●	●	■	■	■				17
	20K	20SCTDZ6H	F	Split/Max. 425°C		●	●	●		●	●	●	●	■	■	■	■				18
	20K	20UTDZ6H(M)	F	Split/Max. 425°C		●	●	●	●	●	●	●	●	■	■	■	■				18

\* 1 Bore design: F=Full bore

\* 2 Operation: L=Lever, G=Gear

\* 3 Worm gear operation in standard for the sizes marked ■ with the prefix "G-" on each KITZ product code.

\* 4 Please contact KITZ Corporation for details.

## Product Range

### Flanged Trunnion Mounted Ball Valves

Shell Material	Nominal Pressure	KITZ Product Code	Bore *1	Nominal Body Size Design DN	NPS	2	3	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	Page
						50	80	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	
Carbon Steel	Class 150	T60S/150SF3TCS	F	3-Piece/Fire-safe		●	●	●	●	■	■	■	■	■	■	■	■	■							55
	Class 300	T60S/300SF3TCS	F	3-Piece/Fire-safe		●	●	●	●	■	■	■	■	■	■	■	■	■							56
	Class 600	T60S/600SF3TCS	F	3-Piece/Fire-safe		●	●	●	■	■	■	■	■	■	■	■	■	■							57
	Class 150	150SCTCS	F	Split/Fire-safe*3		●	●	●	●	●	■	■	■	■	■	■	■	■	■	■	■	■	■	■	58
	Class 300	300SCTCS	F	Split/Fire-safe*3		●	●	●	●	●	■	■	■	■	■	■	■	■	■	■	■	■	■	■	59
	Class 600	600SCTCS	F	Split/Fire-safe*3		●	●	●	●	■	■	■	■	■	■	■		■	■	■	■				60
	Class 900	900SCTCS	F	Split/Fire-safe*3		●	●	●	■	■	■	■	■	■	■	■		■							61
	Class 1500	1500SCTCS	F	Split/Fire-safe*3		●	●	■	■	■	■	■	■	■	■	■									62
	Class 150	T60S/150SF3TCRS	R	3-Piece/Fire-safe			●	●	●	●	■	■	■	■	■	■	■	■							55
	Class 300	T60S/300SF3TCRS	R	3-Piece/Fire-safe			●	●	●	●	■	■	■	■	■	■	■	■							56
	Class 600	T60S/600SF3TCRS	R	3-Piece/Fire-safe			●	●	●	■	■	■	■	■	■	■	■	■							57
	Class 150	150SCTCRS	R	Split/Fire-safe*3			●	●	●	●	●	■	■	■	■	■	■	■	■	■	■	■	■	■	58
	Class 300	300SCTCRS	R	Split/Fire-safe*3			●	●	●	●	●	■	■	■	■	■	■	■	■	■	■	■	■	■	59
	Class 600	600SCTCRS	R	Split/Fire-safe*3			●	●	●	●	●	■	■	■	■	■		■	■	■	■				60
	Class 900	900SCTCRS	R	Split/Fire-safe*3			●	●	●	■	■	■	■	■	■	■		■							61
	Class 1500	1500SCTCRS	R	Split/Fire-safe*3			●	●	■	■	■	■	■	■	■	■									62
Stainless Steel	Class 150	T60S/150UF3TCM	F	3-Piece/Fire-safe		●	●	●	●	■	■	■	■	■	■	■	■	■							55
	Class 300	T60S/300UF3TCM	F	3-Piece/Fire-safe		●	●	●	●	■	■	■	■	■	■	■	■	■							56
	Class 600	T60S/600UF3TCM	F	3-Piece/Fire-safe		●	●	●	■	■	■	■	■	■	■	■	■	■							57
	Class 150	150UTC(M)	F	Split/Fire-safe*3		●	●	●	●	●	■	■	■	■	■	■	■	■	■	■	■	■	■	■	58
	Class 300	300UTC(M)	F	Split/Fire-safe*3		●	●	●	●	●	■	■	■	■	■	■	■	■	■	■	■	■	■	■	59
	Class 600	600UTC(M)	F	Split/Fire-safe*3		●	●	●	■	■	■	■	■	■	■	■	■		■	■	■	■			60
	Class 900	900UTC(M)	F	Split/Fire-safe*3		●	●	●	■	■	■	■	■	■	■	■		■							61
	Class 1500	1500UTC(M)	F	Split/Fire-safe*3		●	●	■	■	■	■	■	■	■	■	■									62
	Class 150	T60S/150UF3TCRSM	R	3-Piece/Fire-safe			●	●	●	●	■	■	■	■	■	■	■	■							55
	Class 300	T60S/300UF3TCRSM	R	3-Piece/Fire-safe			●	●	●	●	■	■	■	■	■	■	■	■							56
	Class 600	T60S/600UF3TCRSM	R	3-Piece/Fire-safe			●	●	●	■	■	■	■	■	■	■	■	■							57
	Class 150	150UTC(R)(M)	R	Split/Fire-safe*3			●	●	●	●	●	■	■	■	■	■	■	■	■	■	■	■	■	■	58
	Class 300	300UTC(R)(M)	R	Split/Fire-safe*3			●	●	●	●	●	■	■	■	■	■	■	■	■	■	■	■	■	■	59
	Class 600	600UTC(R)(M)	R	Split/Fire-safe*3			●	●	●	●	●	■	■	■	■	■		■	■	■	■				60
	Class 900	900UTC(R)(M)	R	Split/Fire-safe*3			●	●	●	■	■	■	■	■	■	■		■							61
	Class 1500	1500UTC(R)(M)	R	Split/Fire-safe*3			●	●	■	■	■	■	■	■	■	■									62
FILLTITE® Seated Carbon Steel and Stainless Steel	Class 150	150SCTC1H	F	Split/MAX. 300°C		●	●	●			■	■	■	■	■	■									66
	Class 150	150UTC1H(M)	F	Split/MAX. 300°C		●	●	●			■	■	■	■	■	■									66
	Class 300	300SCTC1H	F	Split/MAX. 300°C		●	●	■	■	■	■	■													67
	Class 300	300UTC1H(M)	F	Split/MAX. 300°C		●	●	■	■	■	■	■													67
	Class 600	600SCTC1H	F	Split/MAX. 300°C		●	●	■	■	■	■	■													68
	Class 600	600UTC1H(M)	F	Split/MAX. 300°C		●	●	■	■	■	■	■													68
	10K	10SCTC1H	F	Split/MAX. 300°C		●	●	●			■	■	■	■	■	■									66
	10K	10UTC1H(M)	F	Split/MAX. 300°C		●	●	●			■	■	■	■	■	■									66
	20K	20SCTC1H	F	Split/MAX. 300°C		●	●	■	■	■	■	■													67
	20K	20UTC1H(M)	F	Split/MAX. 300°C		●	●	■	■	■	■	■													67

\* 1 Bore design: F=Full bore, R=Reduced bore

\* 2 Worm gear operation in standard for the sizes marked ■ with the prefix "G-" on each KITZ product code.

\* 3 Non fire-safe types are also available.



## Product Range

### Flanged Trunnion Mounted Ball Valves

Shell Material	Nominal Pressure	KITZ Product Code	Bore *1	Nominal Size Body Design	NPS DN	1 25	1 1/2 40	2 50	3 80	4 100	6 150	8 200	10 250	12 300	14 350	16 400	18 450	20 500	22 550	24 600	page
Metal Seated Carbon and Stainless Steel	Class 150	T60M/150SF3TC6H	F	3-Piece/MAX. 525°C				●	■	■	■	■	■	■	■	■	■	■	■	■	63
	Class 150	T60M/150UF3TC6HM	F	3-Piece/MAX. 525°C				●	■	■	■	■	■	■	■	■	■	■	■	■	63
	Class 300	T60M/300SF3TC6H	F	3-Piece/MAX. 525°C				●	■	■	■	■	■	■	■	■	■	■	■	■	64
	Class 300	T60M/300UF3TC6HM	F	3-Piece/MAX. 525°C				●	■	■	■	■	■	■	■	■	■	■	■	■	64
	Class 600	T60M/600SF3TC6H	F	3-Piece/MAX. 525°C				■	■	■	■	■	■	■	■	■	■	■	■	■	65
	Class 600	T60M/600UF3TC6HM	F	3-Piece/MAX. 525°C				■	■	■	■	■	■	■	■	■	■	■	■	■	65
	Class 150	150SCTC6H	F	Split/MAX. 500°C				●	●	■	■	■	■	■							69
	Class 150	150UTC6H(M)	F	Split/MAX. 500°C				●	●	■	■	■	■	■							69
	Class 300	300SCTC6H	F	Split/MAX. 500°C				●	●	■	■	■	■	■							70
	Class 300	300UTC6H(M)	F	Split/MAX. 500°C				●	●	■	■	■	■	■							70
	Class 600	600SCTC6H	F	Split/MAX. 500°C	●	●	●	■	■	■	■	■	■	■							71
	Class 600	600UTC6H(M)	F	Split/MAX. 500°C	●	●	●	■	■	■	■	■	■	■							71
	Class 900	900SCTC6H	F	Split/MAX. 500°C				■	■	■	■	■									72
	Class 900	900UTC6H(M)	F	Split/MAX. 500°C				■	■	■	■	■									72
	Class 1500	1500SCTC6H	F	Split/MAX. 500°C	●	■															73
	Class 1500	1500UTC6H(M)	F	Split/MAX. 500°C	●	■															73
	Class 150	T60M/150SF3TCR6H	R	3-Piece/MAX. 525°C				●	■	■	■	■	■	■	■	■	■	■	■	■	63
	Class 150	T60M/150UF3TCR6HM	R	3-Piece/MAX. 525°C				●	■	■	■	■	■	■	■	■	■	■	■	■	63
	Class 300	T60M/300SF3TCR6H	R	3-Piece/MAX. 525°C				●	■	■	■	■	■	■	■	■	■	■	■	■	64
	Class 300	T60M/300UF3TCR6HM	R	3-Piece/MAX. 525°C				●	■	■	■	■	■	■	■	■	■	■	■	■	64
	Class 600	T60M/600SF3TCR6H	R	3-Piece/MAX. 525°C				■	■	■	■	■	■	■	■	■	■	■	■	■	65
	Class 600	T60M/600UF3TCR6HM	R	3-Piece/MAX. 525°C				■	■	■	■	■	■	■	■	■	■	■	■	■	65
	10K	10SCTC6H	F	Split/MAX. 500°C				●	●	■	■	■	■	■							69
	10K	10UTC6H(M)	F	Split/MAX. 500°C				●	●	■	■	■	■	■							69
	20K	20SCTC6H	F	Split/MAX. 500°C				●	●	■	■	■	■	■							70
	20K	20UTC6H(M)	F	Split/MAX. 500°C				●	●	■	■	■	■	■							70

\*1 Bore design: F=Full bore, R: Reduced Bore

\*2 Worm gear operation in standard for the sizes marked ■ with the prefix "G-" on each KITZ product code.

### Threaded or Welded Ball Valves

Shell Material	Nominal Pressure	KITZ Product Code	Bore *1	Nominal Size Body Design	NPS DN	1/4 8	3/8 10	1/2 15	3/4 20	1 25	1 1/4 32	1 1/2 40	2 50	2 1/2 65	3 80	Page
Carbon Steel	Type 600	SCTK *2	R	Uni / Threaded ends		●	●	●	●	●	●	●	●			81
	Class 800	800SCTK *3	R	Seal welded / Threaded or Socket welded ends		●	●	●	●	●	●	●	●			82,83
	Type 1000	SC3TZF *3	F	3-piece / Threaded or Socket welded ends		●	●	●	●	●	●	●				83
	Type 1000	SC3TZ *3	R	3-piece / Threaded Socket or welded ends				●	●	●	●	●	●			84
	Type 1500/2000	AKSCTH2M *4	R	Split / Threaded ends		●	●	●	●	●	●	●	●			81
	Type 1500/2000	AKSCTHW2M *4	R	Seal welded / Threaded ends		●	●	●	●	●	●	●	●			82
Stainless Steel	Type 3000	3000SCTK *3	R	Seal welded / Threaded or Socket welded ends		●	●	●	●	●	●	●	●			82,83
	Type 600	UTKM *2	R	Uni / Threaded ends		●	●	●	●	●	●	●	●			84
	Type 800	UTHM *2	R	Split / Threaded ends				●	●	●	●	●	●			85
	Type 1000	UTFM *2	F	Split / Threaded ends				●	●	●	●	●	●			85
	Type 800	UTH4LM / 4TM	R	Split / 3-way / 4-seat / Threaded ends				●	●	●	●	●	●			88
	Type 1000	U3TZFM *3	F	3-piece / Threaded or Socket welded ends	●	●	●	●	●	●	●	●				87
	Type 1000	U3TZM *3	R	3-piece / Threaded or Socket welded ends				●	●	●	●	●	●			87
	Type 1500/2000	AKUTH2M *4	R	Split / Threaded ends		●	●	●	●	●	●	●	●			86
	Type 1500/2000	AKUTHW2M *4	R	Seal welded / Threaded ends		●	●	●	●	●	●	●	●			86
	Class 150	AK150UTM *4	F	Split / Threaded ends			●	●	●	●	●	●	●	●	●	88
Ductile Iron	10K	10UTM	F	Split / Threaded ends			●	●	●	●	●	●	●	●	●	88
	20K	20ST	R	Split / Threaded ends				●	●	●	●	●	●			89
Cast Iron	Type 400	STZ	R	Split / Threaded ends		●	●	●	●	●	●	●	●			89
	10K	10FCT	R	Split / Threaded ends			●	●	●	●	●	●	●	●	●	89

\*1 Bore design: F=Full bore, R=Reduced bore

\*2 Rc threaded ends are standard. Prefix "AK" means NPT threaded end.

\*3 Rc threaded ends are standard. Prefix "AK" means NPT threaded ends and "AW" means socket welded ends.

\*4 NPT threaded ends are only available.

## Product Range

### Threaded or Solder Joint Ball Valves

Shell Material	Class	KITZ Product Code	Bore *1	Design Body	Nominal Size	NPS	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4	Page
						DN	6	8	10	15	20	25	32	40	50	65	80	100	
Bronze and Brass	600	AKTAF *2	F	2-Piece/Threaded ends				●	●	●	●	●	●	●	●				90
	600	CTAF	F	2-Piece/Solder Joint ends				●	●	●	●	●	●	●	●	●	●		90
	600	AKTFL *2	F	2-Piece/Threaded ends				●	●	●	●	●	●	●	●				90
	600	CTFL	F	2-Piece/Solder Joint ends					●	●	●	●	●	●	●				90
	600	AKTAFM *2	F	2-Piece/Threaded ends				●	●	●	●	●	●	●	●				91
	600	CTAFM	F	2-Piece/Solder Joint ends					●	●	●	●	●	●	●				91
	600	AKTAFP *2	F	2-Piece/Threaded ends				●	●	●	●	●	●	●	●	●	●	●	91
	600	AKTAFPM *2	F	2-Piece/Threaded ends				●	●	●	●	●	●	●	●	●	●	●	91
	600	AKTAFD *2	F	2-Piece/Threaded ends						●	●	●							92
	600	CTAFD	F	2-Piece/Solder Joint ends						●	●	●							92
	600	AKTAF *2	F	2-Piece/Threaded ends						●	●								92
	600	CTAFC	F	2-Piece/Solder Joint ends						●	●								92
	600	AKTKFO *2	F	2-Piece/Threaded ends (M&F)				●	●	●	●	●							92
	600	AKTAFU *2	F	2-Piece/Threaded ends (F&Union)				●	●	●	●	●	●	●	●				93
	600	AKTAFS *2	F	2-Piece/Threaded ends				●	●	●	●	●	●	●	●				93
	400	TH	S	2-Piece/Threaded ends				●	●	●	●	●	●	●	●	●	●		94
	600	CTH	S	2-Piece/Solder Joint ends				●	●	●	●	●	●	●	●	●	●		94
	400	T	S	2-Piece/Threaded ends				●	●	●	●	●	●	●	●	●	●	●	94
	400	TT	S	2-Piece/Threaded ends				●	●	●	●	●	●	●	●	●	●	●	94
	400	AKT *2	S	2-Piece/Solder Joint ends				●	●	●	●	●	●	●	●	●	●	●	94
	400	TO	S	2-Piece/Threaded ends (M&F)				●	●	●	●	●							94
	400	TM	S	Split/Threaded ends					●	●	●	●	●	●	●	●	●		95
	600	TK	R	Uni/Threaded ends			●	●	●	●	●	●	●	●	●				95
	600	TKT	R	Uni/Threaded ends			●	●	●	●	●	●	●	●	●				95
	600	AKTK *2	R	Uni/Threaded ends			●	●	●	●	●	●	●	●	●				95
	600	TKW	R	Uni/Threaded ends			●	●	●	●	●	●							95
	400	TF	F	2-Piece/Threaded ends						●	●	●	●	●	●				96
	150	TFJ	F	2-Piece/Threaded ends						●	●	●	●	●	●				96
	400	TL	S	2-Piece/Threaded ends						●	●	●	●	●	●				96
	400	CTL	S	2-Piece/Solder Joint ends						●	●	●	●	●	●				96
	400	TLT	S	2-Piece/Threaded ends						●	●	●	●	●	●				96
	400	TLTU	S	2-Piece/Threaded end M&Union						●	●	●							97
	400	CTLTU	S	2-Piece/Solder Joint end &Union						●	●	●							97
	600	AK3TM *2	F	2-Piece/Threaded ends				●	●	●	●	●	●	●	●	●			97
	600	C3TM	F	3-Piece/Solder Joint ends					●	●	●	●	●	●	●	●			97
	600	ZO	F	2-Piece/Threaded ends (M&F)				●	●	●	●	●							97
	400	ZS	S	2-Piece/Threaded ends				●	●	●	●	●	●	●	●				98
	600	ZET	F	2-Piece/Threaded ends				●	●	●	●	●	●	●	●				98
	600	AKSZA *2	F	2-Piece/Threaded ends				●	●	●	●	●	●	●	●	●	●	●	98
	600	CSZA	F	2-Piece/Solder Joint ends					●	●	●	●	●	●	●	●	●	●	98
	600	SZA	F	2-Piece/Threaded ends				●	●	●	●	●	●	●	●				99
	600	AKSZAW *2	F	2-Piece/Threaded ends				●	●	●	●	●	●	●	●				99
	400	CSZAW	F	2-Piece/Solder Joint ends					●	●	●	●	●	●	●				99
	400	TN	S	3-Way/Threaded ends				●	●	●	●	●	●	●	●	●	●		99
	400	CTN	S	3-Way/Solder Joint ends				●	●	●	●	●	●	●	●	●	●		99
	400	AKTN *2	S	3-Way/Threaded ends				●	●	●	●	●	●	●	●	●	●		99
	400	T4T	S	3-Way/Threaded ends						●	●	●	●	●	●				100
	400	AKT4T *2	S	3-Way/Threaded ends						●	●	●	●	●	●				100
	400	T4L	S	3-Way/Threaded ends						●	●	●	●	●	●				100
	400	AKTNP *2	S	3-Way/Threaded ends						●	●	●	●	●	●				100
	400	CTNP	S	3-Way/Solder Joint ends						●	●	●	●	●	●				100
		TG	S	2-Piece/Threaded ends				●	●	●	●	●	●	●	●	●	●		100

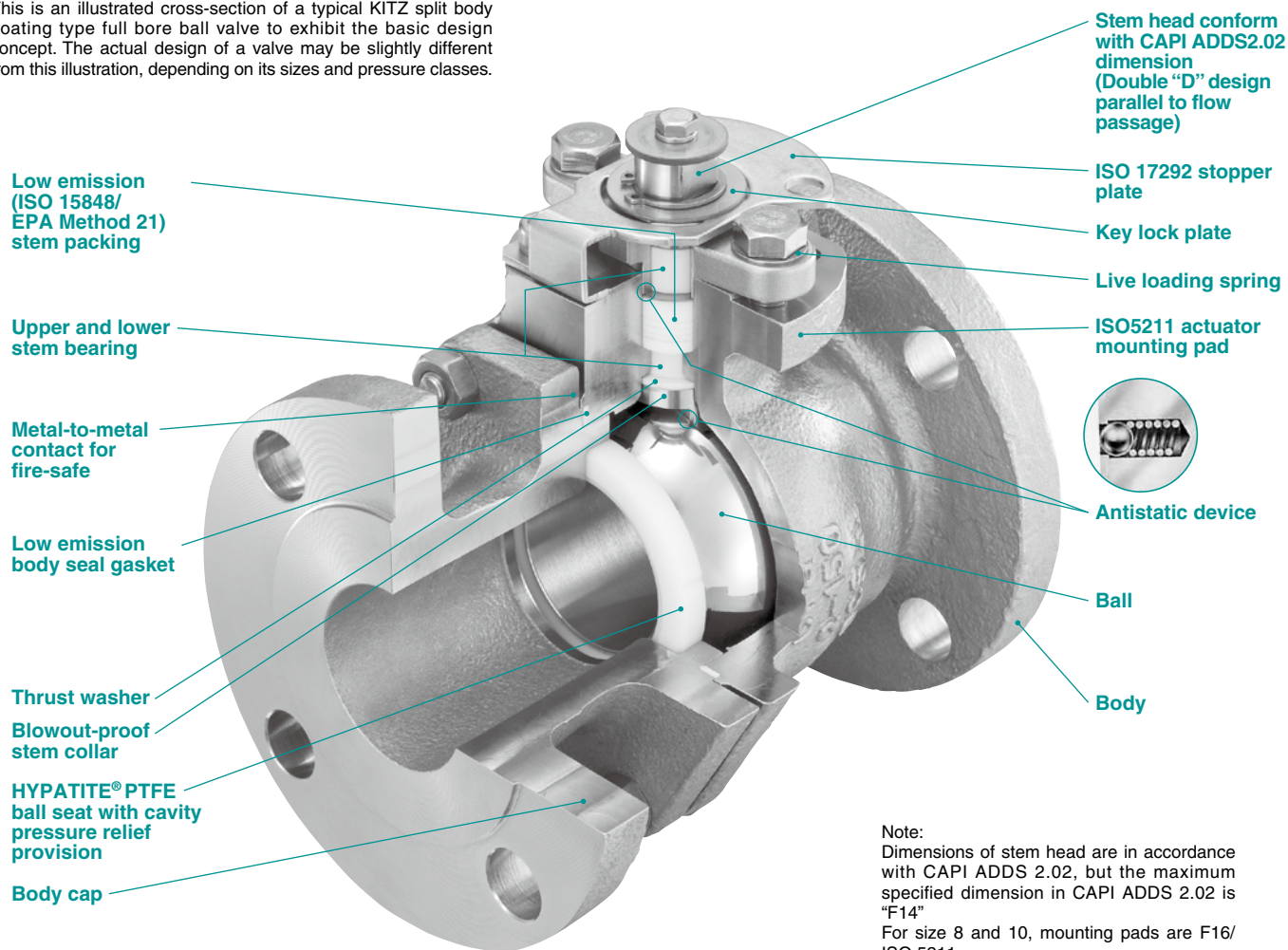
\*1 Bore design: F=Full bore, S=Standard (Regular) bore, R=Reduced bore

\*2 Rc threaded ends are standard. Prefix "AK" means NPT threaded end.

## Floating Ball Valves

### KITZ 150/300SCTDZ/UTDZM Series Full Bore, Split Body, Side Entry Ball Valves

This is an illustrated cross-section of a typical KITZ split body floating type full bore ball valve to exhibit the basic design concept. The actual design of a valve may be slightly different from this illustration, depending on its sizes and pressure classes.



150UTDZ Size 2

### Bubble-tight sealing performance with HYPATITE® PTFE ball seats

**HYPATITE® PTFE** ball seats, standard stem seals of KITZ ball valves, are made of denatured PTFE, a molecularly reinforced PTFE copolymer, and specifically engineered for high **bidirectional** sealing performance and prolonged service life of valves. Its resistance to high or low temperature, creep or compression, abrasion and corrosion is all outstanding. As an option, KITZ **SWELLESS®** ball seats principally made of PFA are recommended specifically for monomer service. This epoch-making new seat maximizes resistance to the permeation of monomer into its molecular structure (generally known as a "swelling" problem) which causes seat deformation and seriously affects shut-off function of valves in styrene and butadiene monomer service.

### Simplified actuator mounting

For 150/300SCTDZ/UTDZM and SCTAZ/UTAZ(M) Series ball valves, **ISO 5211** actuator mounting pad is integrally provided for uniformly simplified mounting of any actuators provided with valve mounting flanges designed to ISO 5211 dimensional requirement. 150UTBM Series ball valves are provided with KITZ standard integral actuator mounting pad.

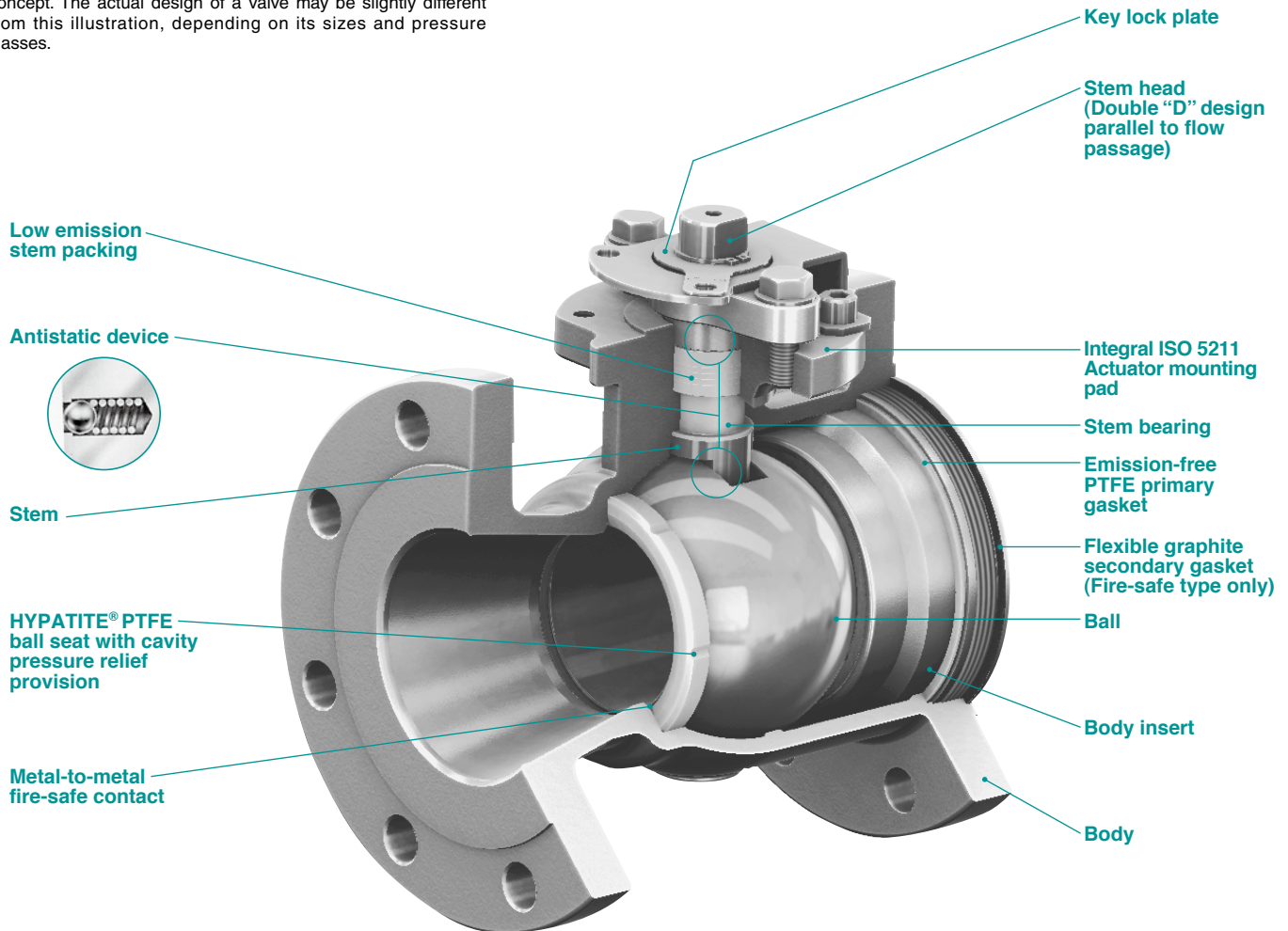
### Easy maintenance

Split body design for KITZ SCTDZ/UTDZM Series provides the convenience of very easy maintenance critically required for process plants. In order to provide maintenance to KITZ 150/300SCTAZ/UTAZM, a uni-body side entry floating ball valve, its insert can be removed from the body by unscrewing it.



## KITZ 150/300SCTAZ/UTAZM Series Reduced Bore, Uni-body, End Entry Ball Valves

This is an illustrated cross-section of a typical KITZ uni-body floating type reduced bore ball valve to exhibit the basic design concept. The actual design of a valve may be slightly different from this illustration, depending on its sizes and pressure classes.



150SCTAZ Size 1 1/2

### Extensive safety considerations

KITZ ball valves are designed with extensive safety considerations for users. Blow-out proof stems, provision of locking devices and prevention of misalignment of lever handles provide safe operation in the field and trouble-free operation in the plant. Antistatic devices, fire-safe design and cavity pressure relief features all assure the economic benefits of smooth, steady plant operation. KITZ advancements in low emission design features contribute to the global battle against fugitive emissions while greatly reducing costs caused by product loss.

### For sour service

Hardness of body, body cap/insert, ball and stem material of KITZ Class 150/300 steel ball valves is controlled by appropriate heat treatment and conformed to the hardness requirements in NACE MR0175, as standard. In addition to the above, following requirements are optionally available.

- Bolting for valves exposed to sour environment.
- NACE requirements for Class 600 and higher steel ball valves.

Please contact KITZ for those requirements.

## Seven Safety Considerations for KITZ 150/300SCTDZ/UTDZ(M) 150UTB(M) and 150/300SCTAZ/UTAZ(M) Series Ball Valves

1. **Double “D”** stem head design provides mounting of the lever handle always in parallel to the flow passage. This feature prevents the lever handle from being installed in a wrong orientation. (Fig. 1)
2. The lower end of the stem is designed with an integral collar to be **blowout-proof**. (Fig. 2)
3. An **antistatic feature** is provided to ensure electrical continuity between ball, stem, and body. (Fig. 2)
4. Facility for mounting a **locking device** for prevention of accidental valve operation is provided.
5. **Plant fires** are a serious concern for soft-seated ball valves because of possible fluid leakage by deterioration of resilient sealing materials.

KITZ ball valves are engineered for fire-safety and successfully **fire tested** to minimize both external and internal fluid leakage after plant fires. They have **post-fire metal-to-metal contact** of all sealing areas such as:

- Contact between ball and valve shell (Fig. 3 and 4)
- Contact between stem and valve shell (Fig. 5 and 6)
- Valve shell coupling flanges of split body design (Fig. 7 and 8)
- Contact between valve body and insert of uni-body design (Fig. 9)

The problem of external fluid leakage is more serious than internal leakage through the valve bore because of the fear of fueling the fire. To prevent this, KITZ ball valves may be ordered with **flexible graphite packing** and **gaskets**, which are extremely heat resistant, and not affected by the fire.

6. The surface of stem and stuffing box, and interface clearance of stem-to-gland, stem-to-body and gland-to-stuffing box are precisely controlled on machining and assembly for **low emission service**. A Belleville spring washer is employed for live loading on gland bolts, to minimize need of retightening the bolts for **low emission service**.
7. Some line fluid is usually left trapped inside the ball-body cavity. This fluid can expand under the influence of high ambient or line temperature. An excessive cavity pressure rise may sometimes damage the valve seats or balls, unless the valve has an adequate cavity pressure relief mechanism. **Trunnion mounted ball valves generally provide perfect protection from this problem**. Please contact KITZ Corporation for details.

In case of floating ball valves, however, their rather simple seating principle requires some special protection from excessive cavity pressure rise **when highly volatile liquid in service is subject to frequent and large temperature variation, while the valve is not frequently operated**. KITZ 150/300 SCTDZ/UTDZ(M) and 150/300 SCTAZ/UTAZ(M) Series ball valves offer **self-relieving of excessive cavity pressure** as a standard feature engineered in **HYPATITE® PTFE** ball seats.

Other general solutions for floating ball valves include employment of automatic pressure relief valves or drilling pressure equalization holes on the ball. If the requirement of automatic cavity pressure relief is as critical as in chlorine service, be sure to contact KITZ Corporation or its distributors for technical advice.

This capability is influenced by many variables including: fluid characteristics, variations in pressure, temperature and thermal cycles.

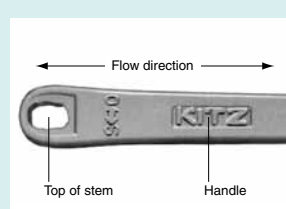


Fig. 1

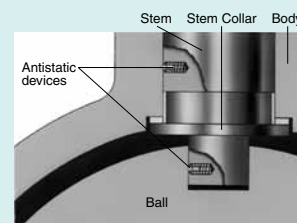


Fig. 2

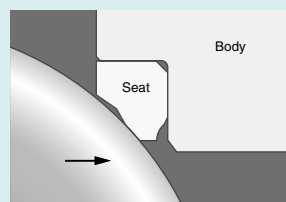


Fig. 3 (Before fire)

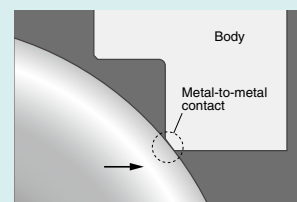


Fig. 4 (After fire)

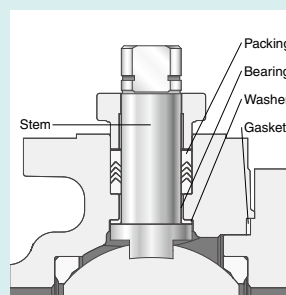


Fig. 5 (Before fire)

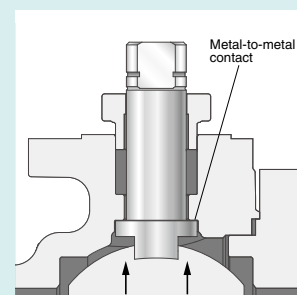


Fig. 6 (After fire)

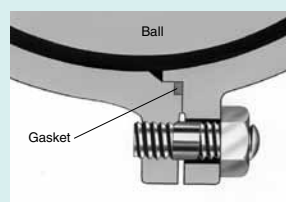


Fig. 7 (Before fire)

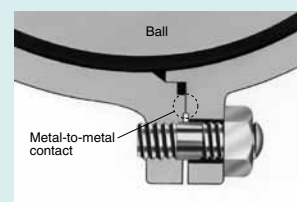


Fig. 8 (After fire)

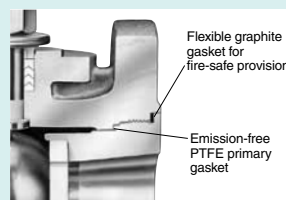


Fig. 9 (Uni-body insert)

As the primary body seal, emission free PTFE gasket is always provided. Flexible graphite gasket may be additionally employed as the secondary body seal for fire-safe provision.

## Class 150 Stainless Steel Ball Valves

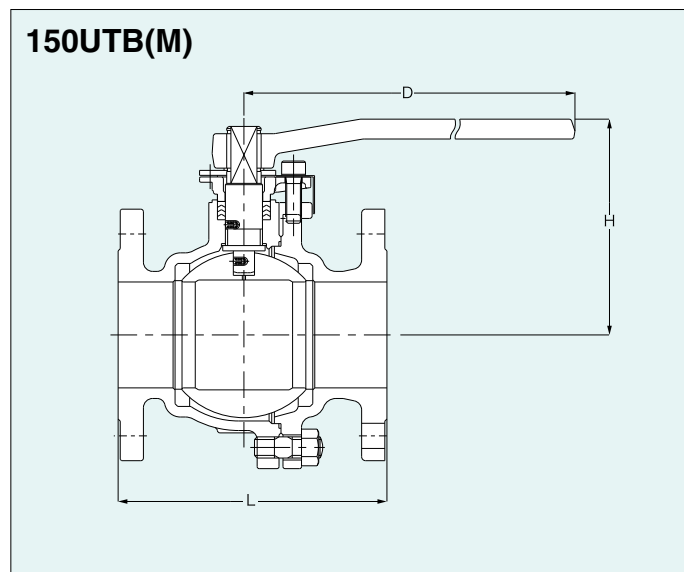
### Full bore, Split body, Side entry design

#### Features

- Antistatic device
- Blowout-proof stem
- Double "D" stem head
- High performance **HYPATITE® PTFE** ball seats

Page 111 for Pressure-Temperature Ratings.

Page 39 for Construction and Materials.



#### Dimensions of 150UTB(M)

Unit: mm

Nominal Size	NPS	1/2	3/4	1	1 1/2	2	2 1/2	3	4	5	6	8	10
	DN	15	20	25	40	50	65	80	100	125	150	200	250
Ball bore		15	20	25	40	50	65	80	100	125	150	200	250
L		108	117	127	165	178	190	203	229	356	394	457	533
H		102	105	124	115	120	155	165	200	220	295	355	Gear operation
D		130	130	160	230	230	400	400	460	460	1000	1500	Gear operation

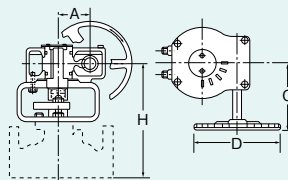
#### Valve operator

NPS 1/2 to 8: Lever operation  
 NPS 5 to 8: Optional gear operation  
 NPS 10: Standard gear operation

#### Gear Operation

Unit: mm

Nominal Pressure	Class 150	Gear Operator			
		H	D	C	A
Nominal size (NPS)	5	312	310	165	65.5
	6	337	310	165	65.5
	8	414	360	210	88.5
	10	477	500	363	93.5



Worm gear operators may be mounted on KITZ ball valves at your option for the smoothest valve operation. Electric or pneumatic actuators are also optionally available. Contact KITZ distributors for appropriate choice and sizing of valve actuators.

## Class 600/1500 Stainless Steel/Carbon Steel Ball Valves

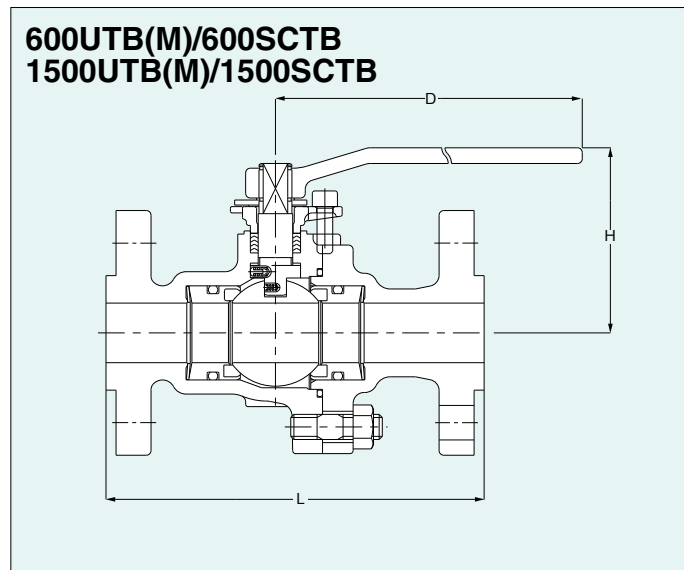
### Full bore, Split body, Side entry design

#### Features

- Antistatic device
- Blowout-proof stem
- Fire test certification★ (API 607) ...Carbon Steel only
- Double "D" stem head
- Ball seats: Reinforced PTFE with MoS<sub>2</sub> for Class 600  
Nylon with MoS<sub>2</sub> for Class 1500

Page 112 for Pressure-Temperature Ratings.

Page 41 to 44 for Construction and Materials.



#### Dimensions of 600UTB(M), 600SCTB

Unit: mm

Nominal Size	NPS	1/2	3/4	1	1 1/2
	DN	15	20	25	40
Ball bore		13	19	25	38
L		165	190	216	241
H		105	108	130	118
D		130	130	160	230

#### Valve operator

Lever operation

#### Options

- ★ Flexible graphite packing and flexible graphite spiral wound gasket (See Pages 8, 41 and 42)
- Ball and stem to 316ss available in carbon steel valves upon request

#### Dimensions of 1500UTB(M), 1500SCTB

Unit: mm

Nominal Size	NPS	1/2	3/4	1	1 1/2
	DN	15	20	25	40
Ball bore		13	19	25	38
L		216	229	254	305
H		132	117	123	157
D		160	230	230	400

#### Valve operator

Lever operation

#### Options

- ★ Flexible graphite packing and flexible graphite spiral wound gasket (See Pages 8, 43 and 44)
- Ball and stem to 316ss available in carbon steel valves upon request

## Class 150/300 Stainless Steel/Carbon Steel Ball Valves

### Full bore, Split body, Side entry design

#### Features

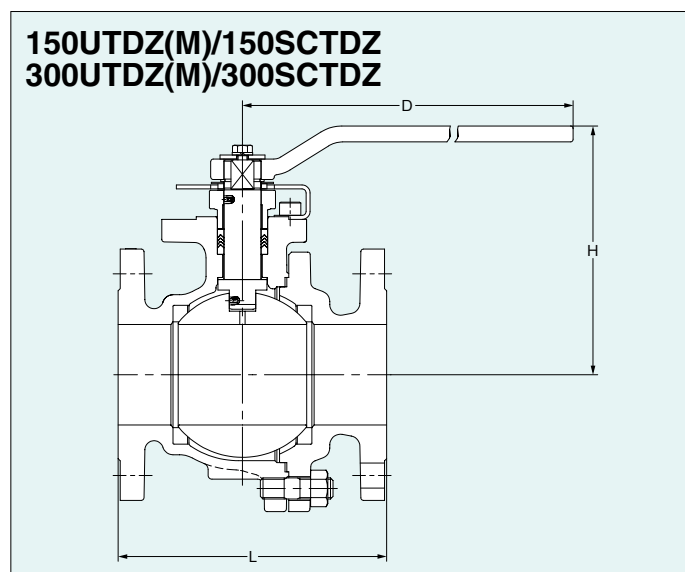
- Antistatic device
- Blowout-proof stem
- Fire test certification★(API 607, ISO 10497)
- Stem head conform to CAPI ADDS 2.02 dimensions
- High performance **HYPATITE® PTFE** ball seats
- Actuator mounting pad to ISO 5211

- Conform to NACE MR0175 for hardness of body, body cap, stem and ball.

Page 108 for Pressure-Temperature Ratings.

Page 38 for Construction and Materials.

Page 105 for Dimension of Actuator Mounting Pad.



#### Dimensions of 150UTDZ(M), 150SCTDZ

Unit: mm

Nominal Size	NPS	1/2	3/4	1	1 1/4*	1 1/2	2	2 1/2	3	4	5	6	8	10
	DN	15	20	25	32*	40	50	65	80	100	125	150	200	250
Ball bore		14	19	24	32	38	50	64	76	100	123	151	202	253
L		108	117	127	140	165	178	190	203	229	356	394	457	533
H		108	111	124	128	134	143	179	189	224	240	315	406	533
D		130	130	160	160	230	230	400	400	460	460	1000	1500	1500

#### Valve operator

NPS 1/2 to 8: Lever operation  
NPS 5 to 8: Optional gear operation  
NPS 10: Standard gear operation

#### Option

- ★ Flexible graphite packing and gasket (See Pages 8 and 38)
- Ball and stem to 316ss available in carbon steel valves upon request

#### Dimensions of 300UTDZ(M), 300SCTDZ

Unit: mm

Nominal Size	NPS	1/2	3/4	1	1 1/4*	1 1/2	2	2 1/2	3	4	5	6	8
	DN	15	20	25	32*	40	50	65	80	100	125	105	200
Ball bore		14	19	24	32	38	50	64	76	100	123	151	202
L		140	152	165	178	190	216	241	283	305	381	403	502
H		108	111	124	128	134	143	179	189	251	267	315	406
D		130	130	160	160	230	230	400	400	750	750	1000	1500

#### Valve operator

NPS 1/2 to 8: Lever operation  
NPS 6 to 8: Optional gear operation

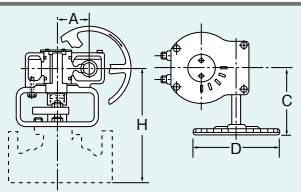
#### Option

- ★ Flexible graphite packing and gasket (See Pages 8 and 38)
- Ball and stem to 316ss available in carbon steel valves upon request

#### Gear Operation

Unit: mm

Nominal Pressure	Class 150	Class 300	Gear Operator							
			H		D		C		A	
			150	300	150	300	150	300	150	300
Nominal size (NPS)	6	6	322	335	310	360	165	210	66.5	88.5
	8	8	412	412	360	360	210	210	88.5	88.5
	10		448	—	500	—	363	—	93.5	—



Worm gear operators may be mounted on KITZ ball valves at your option for the smoothest valve operation. Electric or pneumatic actuators are also optionally available. Contact KITZ distributors for appropriate choice and sizing of valve actuators.



## Class 150/300 Stainless Steel/Carbon Steel Ball Valves

### Full bore, Split body, Side entry design

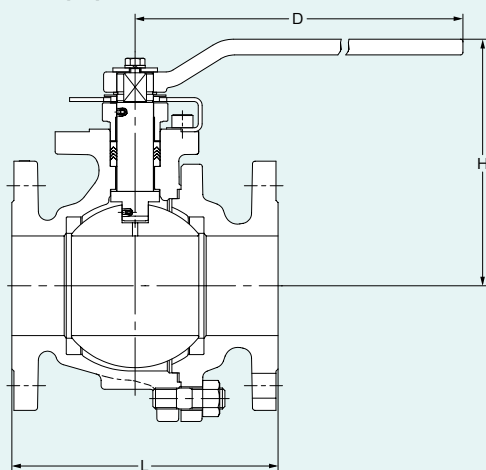
#### Features

- FILLTITE® ball seats. Temperature range: -29°C to 300°C
- Antistatic device
- Blowout-proof stem
- Fire test certification (API 607, ISO 10497)
- Stem head conform to CAPI ADDS2.02 dimensions
- Actuator mounting pad to ISO 5211

- Conform to NACE MR0175 for hardness of body, body cap, stem and ball

Page 109 for Pressure-Temperature Ratings.

#### 150UTDZ1H(M)/150SCTDZ1H 300UTDZ1H(M)/300SCTDZ1H



#### Dimensions of 150UTDZ1H(M), 150SCTDZ1H

Unit: mm

Nominal Size	NPS	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4	5	6	8	10
	DN	15	20	25	32	40	50	65	80	100	125	150	200	250
Ball bore		14	19	24	32	38	50	64	76	100	123	151	202	253
L		108	117	127	140	165	178	190	203	229	356	394	457	533
H		108	111	124	128	134	143	179	189	251	Gear operation	Gear operation	Gear operation	Gear operation
D		130	130	160	160	230	230	400	400	750	Gear operation	Gear operation	Gear operation	Gear operation

#### Dimensions of 300UTDZ1H(M), 300SCTDZ1H

Unit: mm

Nominal Size	NPS	1/2	3/4	1	1 1/2	2	2 1/2	3	4	6	8
	DN	15	20	25	40	50	65	80	100	150	200
Ball bore		14	19	24	38	50	64	76	100	151	202
L		149	152	165	190	216	241	283	305	403	502
H		108	111	124	134	143	179	189	Gear operation	Gear operation	Gear operation
D		130	130	160	230	230	400	400	Gear operation	Gear operation	Gear operation

#### Valve operator

NPS 1/2 to 4: Lever operation  
NPS 5 to 10: Standard gear operation

#### Valve operator

NPS 1/2 to 3: Lever operation  
NPS 4 to 8: Standard gear operation

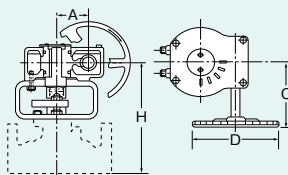
#### Options

- Ball and stem to 316ss available in carbon steel valves upon request

#### Gear Operation

Unit: mm

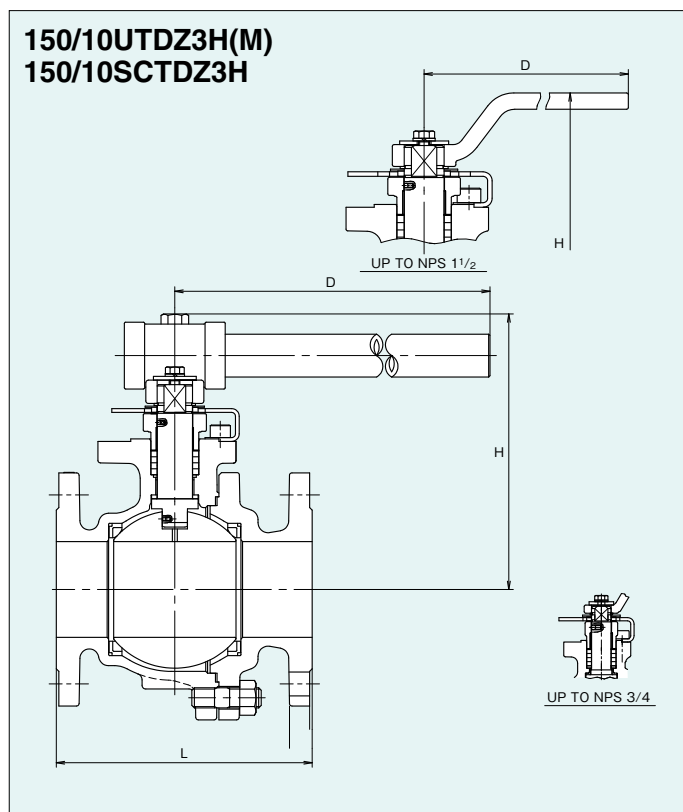
Nominal Pressure	Class 150	Class 300	Gear Operator							
			H		D		C		A	
			150	300	150	300	150	300	150	300
Valve size (NPS)		4		258		310		165		65.5
		5		274		310		165		65.5
	6	6	335	332	360	500	210	363	88.5	93.5
	8	8	409	417	500	500	363	377	93.5	134.0
	10		456		500		377		134.0	



Electric or pneumatic actuators are also optionally available.  
Contact KITZ distributors for appropriate choice and sizing of valve actuators.

## Hard Graphite Seated Floating Ball Valve (Trim 3H)

### 150/10UTDZ3H(M) 150/10SCTDZ3H



Page 109 for Pressure-Temperature Ratings.

### Dimensions of 150UTDZ3H(M), 150SCTDZ3H

Unit: mm

Nominal Size	NPS	1/2	3/4	1	1 1/4*	1 1/2	2	2 1/2	3	4	5	6	8
	DN	15	20	25	32	40	50	65	80	100	125	150	200
L		108	117	127	140	165	178	190	203	229	356	394	457
H		108	111	124	128	134	148	209	219	251	Gear operation	Gear operation	Gear operation
D		130	130	160	160	230	300	600	600	1000	Gear operation	Gear operation	Gear operation

\* 150UTDZ3H only.

### Dimensions of 10UTDZ3H(M), 10SCTDZ3H

Unit: mm

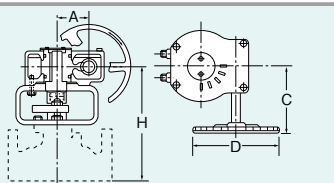
Nominal Size	NPS	1/2	3/4	1	1 1/4*	1 1/2	2	2 1/2	3	4	5	6	8
	DN	15	20	25	32	40	50	65	80	100	125	150	200
L		108	117	127	140	165	178	190	203	229	356	394	457
H		108	111	124	128	134	148	209	219	251	Gear operation	Gear operation	Gear operation
D		130	130	160	160	230	300	600	600	1000	Gear operation	Gear operation	Gear operation

\* 10UTDZ3H only.

### Gear Operation

Unit: mm

Nominal Pressure	Class	10K	Gear Operator			
			H	D	C	A
Nominal size (NPS)	5	5	247	310	165	66.5
	6	6	335	360	210	88.5
	8	8	417	500	377	134.0



### Valve operator

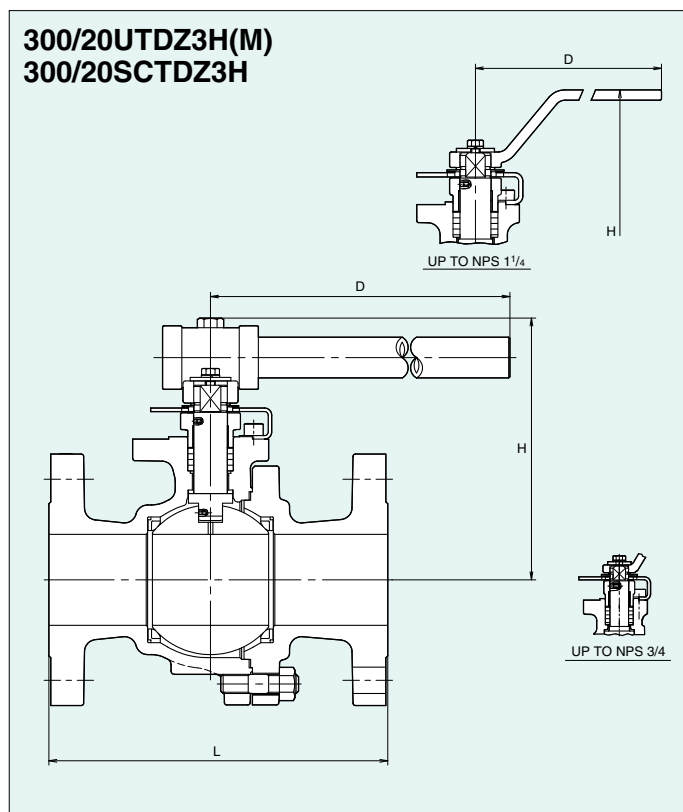
NPS 1/2 to 4: Lever operation

NPS 5 to 8: Standard gear operation

Worm gear operators may be mounted on KITZ ball valves at your option for the smoothest valve operation. Electric or pneumatic actuators are also optionally available. Contact KITZ distributors for appropriate choice and sizing of valve actuators.

## Hard Graphite Seated Floating Ball Valve (Trim 3H)

### 300/20UTDZ3H(M) 300/20SCTDZ3H



Page 109 for Pressure-Temperature Ratings.

### Dimensions of 300UTDZ3H(M), 300SCTDZ3H

Unit: mm

Nominal Size	NPS	1/2	3/4	1	1 1/4*	1 1/2	2	2 1/2	3	4	5	6	8
	DM	15	20	25	32	40	50	65	80	100	125	150	200
L		140	152	165	178	190	216	241	283	305	381	403	502
H		108	111	124	128	139	148	209	219	Gear operation	Gear operation	Gear operation	Gear operation
D		130	130	160	160	600	600	1000	1000	Gear operation	Gear operation	Gear operation	Gear operation

\* 300UTDZ3H only.

### Dimensions of 20UTDZ3H(M), 20SCTDZ3H

Unit: mm

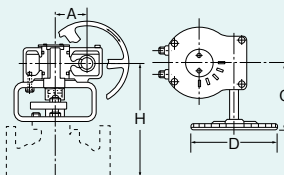
Nominal Size	NPS	1/2	3/4	1	1 1/4*	1 1/2	2	2 1/2	3	4	5	6	8
	DM	15	20	25	32	40	50	65	80	100	125	150	200
L		140	152	165	178	190	216	241	283	305	381	403	502
H		108	111	124	128	139	148	209	219	Gear operation	Gear operation	Gear operation	Gear operation
D		130	130	160	160	230	300	600	600	Gear operation	Gear operation	Gear operation	Gear operation

\* 20UTDZ3H only.

### Gear Operation

Unit: mm

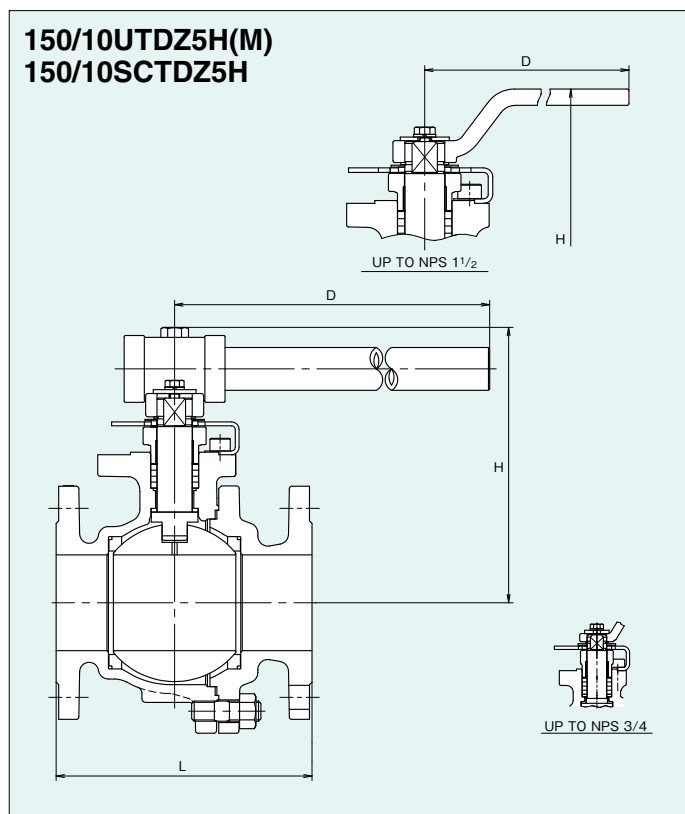
Nominal Pressure	Class 300	20K	Gear Operator			
			H	D	C	A
Valve size (NPS)	5	5	286	360	210	88.5
	6	6	302	360	210	88.5
	8	8	360	500	377	134.0
	10	10	417	500	377	213.0



Worm gear operators may be mounted on KITZ ball valves at your option for the smoothest valve operation. Electric or pneumatic actuators are also optionally available. Contact KITZ distributors for appropriate choice and sizing of valve actuators.

## Metal Seated Floating Ball Valve (Trim 5H)

### 150/10UTDZ5H(M) 150/10SCTDZ5H



Page 110 for Pressure-Temperature Ratings.

#### Dimensions of 150UTDZ5H(M), 150SCTDZ5H

Unit: mm

Nominal Size	NPS	1/2	3/4	1	1 1/4*	1 1/2	2	2 1/2	3	4	5	6	8
	DM	15	20	25	32	40	50	65	80	100	125	150	200
L		108	117	127	140	165	178	190	203	229	356	394	457
H		108	111	124	128	134	148	209	219	251	Gear operation	Gear operation	Gear operation
D		130	130	160	160	230	300	600	600	1000	Gear operation	Gear operation	Gear operation

\* 150UTDZ5H only.

#### Dimensions of 10UTDZ5H(M), 10SCTDZ5H

Unit: mm

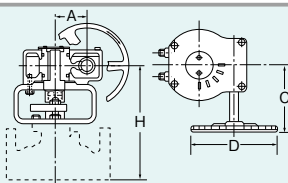
Nominal Size	NPS	1/2	3/4	1	1 1/4*	1 1/2	2	2 1/2	3	4	5	6	8
	DM	15	20	25	32	40	50	65	80	100	125	150	200
L		108	117	127	140	165	178	190	203	229	356	394	457
H		108	111	124	128	134	148	209	219	251	Gear operation	Gear operation	Gear operation
D		130	130	160	160	230	300	600	1000	1000	Gear operation	Gear operation	Gear operation

\* 10UTDZ5H only.

#### Gear Operation

Unit: mm

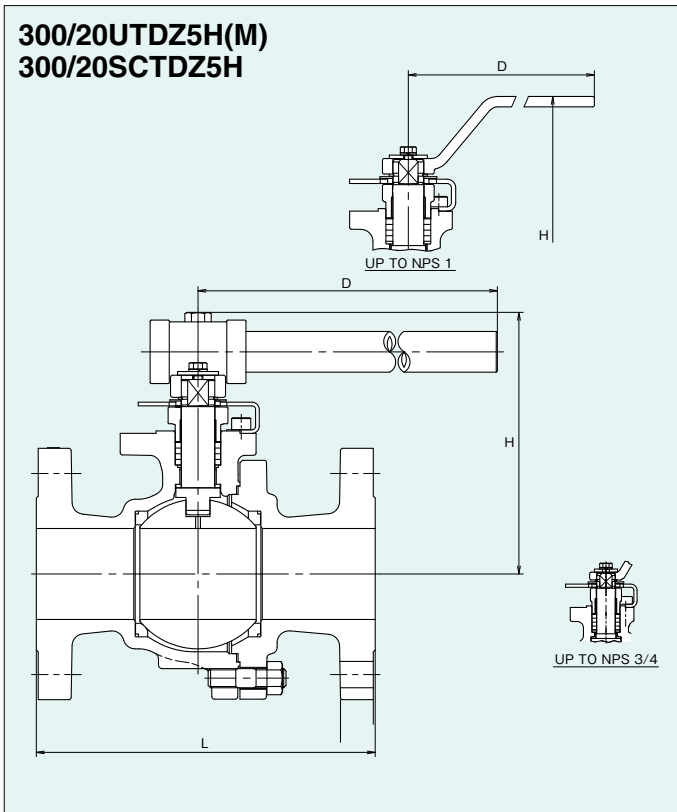
Nominal Pressure	Class 150	10K	Gear Operator			
			H	D	C	A
Nominal size (NPS)	5	5	302	360	210	88.5
	6	6	335	360	210	88.5
	8	8	417	500	377	134.0



Worm gear operators may be mounted on KITZ ball valves at your option for the smoothest valve operation. Electric or pneumatic actuators are also optionally available. Contact KITZ distributors for appropriate choice and sizing of valve actuators.

## Metal Seated Floating Ball Valve (Trim 5H)

### 300/20UTDZ5H(M) 300/20SCTDZ5H



Page 110 for Pressure-Temperature Ratings.

#### Dimensions of 300UTDZ5H(M), 300SCTDZ5H

Unit: mm

Nominal Size	NPS	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4	5	6	8
	DN	15	20	25	32	40	50	65	80	100	125	150	200
L		140	152	165	178	190	216	241	283	305	381	403	502
H		108	111	124	128	139	148	209	219	Gear operation	Gear operation	Gear operation	Gear operation
D		130	130	160	160	600	600	1000	1000	Gear operation	Gear operation	Gear operation	Gear operation

#### Valve operator

NPS 1/2 to 3: Lever operation

NPS 4 to 8: Standard gear operation

#### Dimensions of 20UTDZ5H(M), 20SCTDZ5H

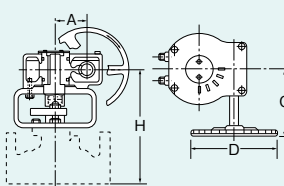
Unit: mm

Nominal Size	NPS	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4	5	6	8
	DN	15	20	25	32	40	50	65	80	100	125	150	200
L		140	152	165	178	190	216	241	283	305	381	403	502
H		108	111	124	128	139	148	209	219	Gear operation	Gear operation	Gear operation	Gear operation
D		130	130	160	160	600	600	1000	1000	Gear operation	Gear operation	Gear operation	Gear operation

#### Gear Operation

Unit: mm

Nominal Pressure	Class	300	20K	Gear Operator			
				H	D	C	A
Nominal size (NPS)	4	4	286	360	210	88.5	
	5	5	299	500	210	88.5	
	6	6	360	500	377	134.0	
	8	8	489	500	377	213.0	

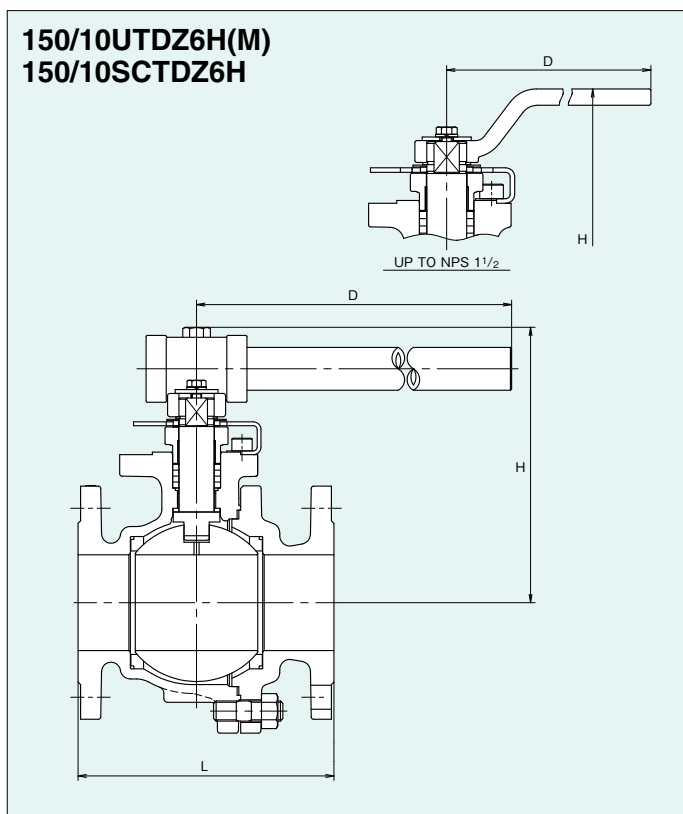


Worm gear operators may be mounted on KITZ ball valves at your option for the smoothest valve operation. Electric or pneumatic actuators are also optionally available. Contact KITZ distributors for appropriate choice and sizing of valve actuators.



## Metal Seated Floating Ball Valve (Trim 6H)

### 150/10UTDZ6H(M) 150/10SCTDZ6H



Page 110 for Pressure-Temperature Ratings.

#### Dimensions of 150UTDZ6H(M), 150SCTDZ6H

Unit: mm

Nominal Size	NPS	1/2	3/4	1	1 1/4*	1 1/2	2	2 1/2	3	4	5	6	8
	DN	15	20	25	32	40	50	65	80	100	125	150	200
L		108	117	127	140	165	178	190	203	229	356	394	457
H		108	111	124	128	134	148	209	219	251	Gear operation	Gear operation	Gear operation
D		130	130	160	160	230	300	600	600	1000	Gear operation	Gear operation	Gear operation

\* 150UTDZ6H only.

#### Dimensions of 10UTDZ6H(M), 10SCTDZ6H

Unit: mm

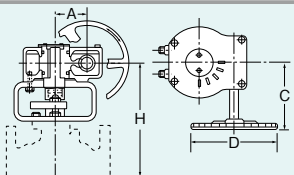
Nominal Size	NPS	1/2	3/4	1	1 1/4*	1 1/2	2	2 1/2	3	4	5	6	8
	DN	15	20	25	32	40	50	65	80	100	125	150	200
L		108	117	127	140	165	178	190	203	229	356	394	457
H		108	111	124	128	134	148	209	219	251	Gear operation	Gear operation	Gear operation
D		130	130	160	160	230	300	600	600	1000	Gear operation	Gear operation	Gear operation

\* 10UTDZ6H only.

#### Gear Operation

Unit: mm

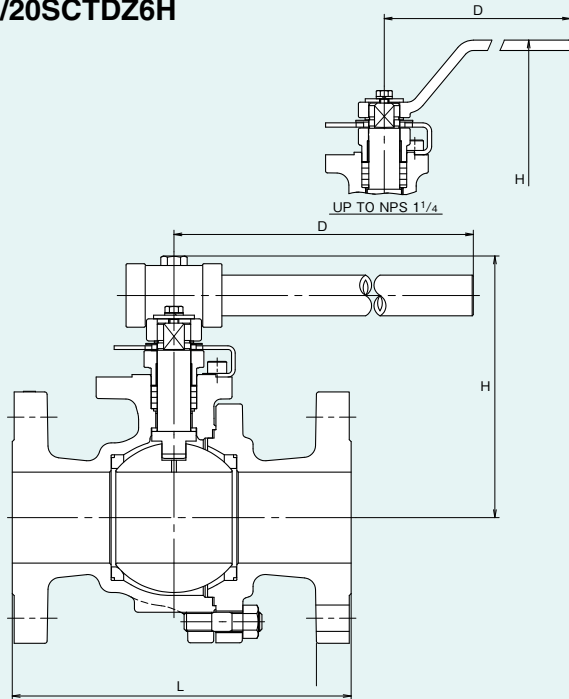
Nominal Pressure	Class 150	10K	Gear Operator			
			H	D	C	A
Nominal size (NPS)	5	5	302	360	210	88.5
	6	6	335	360	210	88.5
	8	8	417	500	377	134.0



Worm gear operators may be mounted on KITZ ball valves at your option for the smoothest valve operation. Electric or pneumatic actuators are also optionally available. Contact KITZ distributors for appropriate choice and sizing of valve actuators.

## Metal Seated Floating Ball Valve (Trim 6H)

### 300/20UTDZ6H(M) 300/20SCTDZ6H



Page 110 for Pressure-Temperature Ratings.

#### Dimensions of 300UTDZ6H(M), 300SCTDZ6H

Unit: mm

Nominal Size	NPS	1/2	3/4	1	1 1/4*	1 1/2	2	2 1/2	3	4	5	6	8
	DN	15	20	25	32	40	50	65	80	100	125	150	200
L		140	152	165	178	190	216	241	283	305	381	403	502
H		108	111	124	128	139	148	209	219	Gear operation	Gear operation	Gear operation	Gear operation
D		130	130	160	160	600	600	1000	1000	Gear operation	Gear operation	Gear operation	Gear operation

\* 300UTDZ6H only.

#### Dimensions of 20UTDZ6H(M), 20SCTDZ6H

Unit: mm

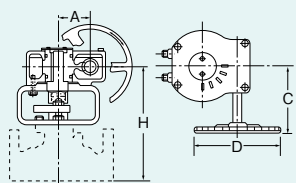
Nominal Size	NPS	1/2	3/4	1	1 1/4*	1 1/2	2	2 1/2	3	4	5	6	8
	DN	15	20	25	32	40	50	65	80	100	125	150	200
L		140	152	165	178	190	216	241	283	305	381	403	502
H		108	111	124	128	139	148	209	219	Gear operation	Gear operation	Gear operation	Gear operation
D		130	130	160	160	600	600	1000	1000	Gear operation	Gear operation	Gear operation	Gear operation

\* 20UTDZ6H only.

#### Gear Operation

Unit: mm

Nominal Pressure	Class 300	20K	Gear Operator							
			H		D		C		A	
			300	20	300	20	300	20	300	20
Nominal size (NPS)	4	4	286	286	360	360	210	210	88.5	88.5
	5	5	299	299	500	500	210	363	88.5	93.5
	6	6	360	360	500	500	377	377	134.0	134.0
	8	8	489	489	500	500	377	377	213.0	213.0



Worm gear operators may be mounted on KITZ ball valves at your option for the smoothest valve operation. Electric or pneumatic actuators are also optionally available. Contact KITZ distributors for appropriate choice and sizing of valve actuators.

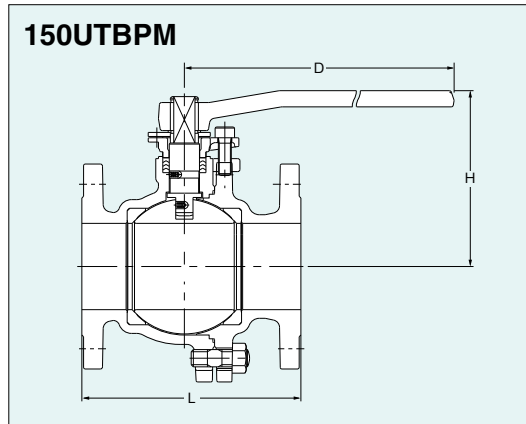
## Class 150 Stainless Steel Pocketless Ball Valves

### Full bore, Split body, Side entry design

Page 111 for Pressure-Temperature Ratings.

#### Features

- Unique filled cavity provides excellent resistance to media build up and/or stagnation between seats
- Antistatic device
- Blowout-proof stem
- Double "D" stem head
- High performance **HYPATITE®** PTFE ball seats
- Actuator mounting pad to KITZ standard



#### Valve operator

NPS 1/2 to 8: Lever operation  
NPS 5 to 8: Optional gear operation

#### Dimensions of 150UTBPM

Unit: mm

Nominal Size	NPS	1/2	3/4	1	1 1/2	2	2 1/2	3	4	5	6	8
	DN	15	20	25	40	50	65	80	100	125	150	200
Ball bore		15	20	25	40	50	65	80	100	125	150	200
L		108	117	127	165	178	190	203	229	356	394	457
H		102	105	124	115	120	155	165	200	220	295	355
D		130	130	160	230	230	400	400	460	460	1000	1500

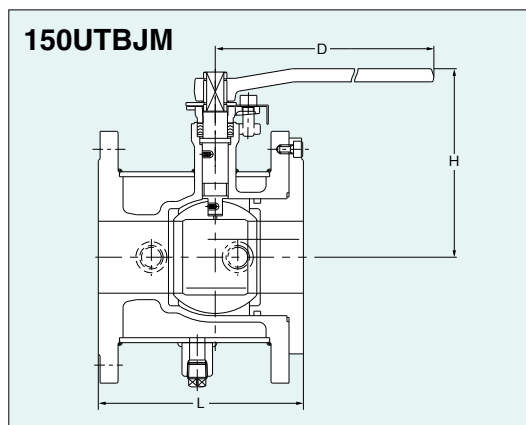
## Class 150 Stainless Steel Jacketed Ball Valves

### Full bore

Page 111 for Pressure-Temperature Ratings.

#### Features

- Fully jacketed to maintain media temperature
- Antistatic device
- Double "D" stem head
- High performance **HYPATITE®** PTFE ball seats
- Actuator mounting pad to KITZ standard



#### Valve operator

NPS 1/2 to 6: Lever operation  
NPS 6: Optional gear operation

#### Note

- Maximum allowable pressure is 1.4 MPa (200 psi) at 260°C (500°F).
- 10K type is also available.

#### Dimensions of 150UTBJM

Unit: mm

Nominal Size	NPS	1/2	3/4	1	1 1/2	2	2 1/2	3*	4*	6*
	DN	15	20	25	40	50	65	80	100	150
Ball bore		15	20	25	40	50	65	65	80	125
L		110	120	130	165	180	190	200	230	270
H		131	135	150	150	157	188	188	213	258
D		130	130	160	230	230	400	400	400	460

\* 150UTRJM

## Class 150 Stainless Steel 3-way Ball Valves

### Full bore, 2-seated or 4-seated, Split body, Side entry design

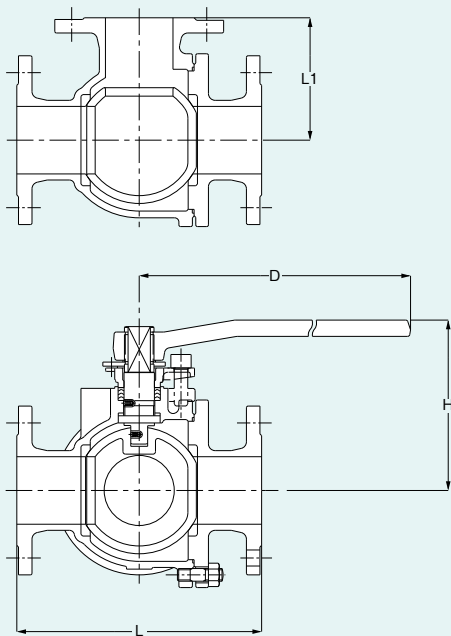
#### Features

- Used for diverting or mixing process media
- One 3-way valve can replace several other valves plus the associated piping pieces
- Antistatic device
- Blowout-proof stem
- Double "D" stem head
- High performance **HYPATITE® PTFE** ball seats
- Actuator mounting pad to KITZ standard

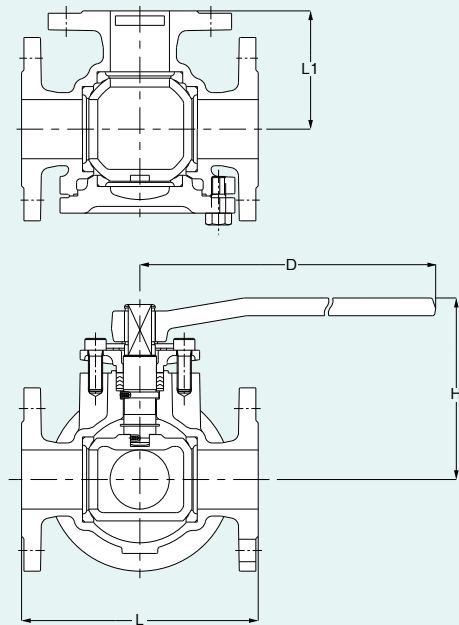
150UTB2L/2T: Page 108 for Pressure-Temperature Ratings. (See UTDZ Series)

150UTB4LA/4TA: Page 112 for Pressure-Temperature Ratings.

**150UTB2L(M) (L-port, 2-seated)**  
**150UTB2T(M) (T-port, 2-seated)**



**150UTB4LA(M) (L-port, 4-seated)**  
**150UTB4TA(M) (T-port, 4-seated)**



**Dimensions of 150UTB2L(M), 150UTB2T(M)**

Unit: mm

Nominal Size	NPS	1	1½	2	2½	3	4	6*
	DN	25	40	50	65	80	100	150
Ball bore		25	38	51	65	76	102	127
L		165	210	220	250	262	342	437
L1		82.5	105	110	125	131	171	218.5
H		124	115	123	155	165	200	220
D		160	230	230	400	400	460	460

\* 150UTR2LM, 150UTR2TM

**Dimensions of 150UTB4LA(M), 150UTB4TA(M)**

Unit: mm

Nominal Size	NPS	½	¾	1	1½	2	2½	3	4	5*	6*	8*
	DN	15	20	25	40	50	65	80	100	125	150	200
Ball bore		15	19	25	38	51	64	76	102	100	125	150
L		120	140	160	180	200	242	262	342	348	407	463
L1		65	70	80	90	100	121	131	171	174	203.5	231.5
H		128	132	135	146	155	185	198	267	267	289	335
D		160	160	160	400	400	460	460	1000	1000	1000	1500

\* 150UTR4LAM, 150UTB4TM

#### Valve operator

NPS 1 to 6: Lever operation  
NPS 6: Optional gear operation

#### Note

· 10K type is also available.

#### Valve operator

NPS ½ to 8: Lever operation  
NPS 5 to 8: Optional gear operation

#### Note

· 10K type is also available.

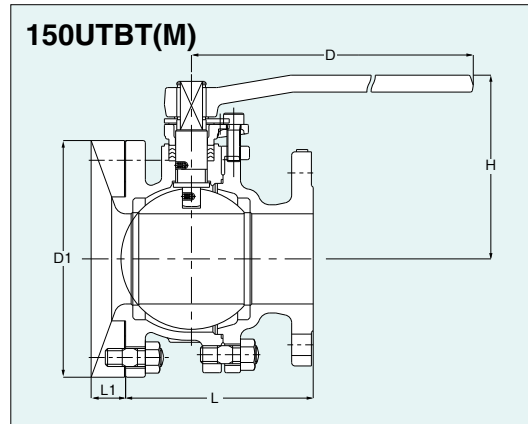
## Class 150 Stainless Steel Tank Ball Valves

### Full bore, Split body, Side entry design

Page 111 for Pressure-Temperature Ratings.

#### Features

- Direct mounting to tank bottom
- Churning media evenly
- Antistatic device
- Blowout-proof stem
- Double "D" stem head
- High performance **HYPATITE®** PTFE ball seats
- Actuator mounting pad to KITZ standard



#### Valve operator

NPS 1 to 6: Lever operation

#### Note

- Maximum allowable temperature is 200°C (392°F).
- Class 300 and 10K/20K types are also available.

#### Dimensions of 150UTBT(M)

Unit: mm

Nominal Size	NPS DN	1	1½	2	2½	3	4	5	6	8	10
Ball bore		25	40	50	65	80	100	125	150	200	250
L		102	125	142	160	171	176	255	292	For these sizes, please contact KITZ Corporation.	
H		150	134	143	177	187	222	242	312		
D		160	230	230	400	400	460	460	1000		
L1		35	35	41	43	45	53	53	53		
D1		135	155	175	185	210	280	305	330		

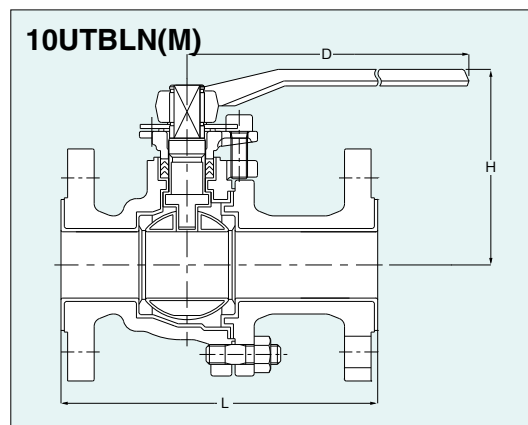
## 10K Stainless Steel PFA Lined Ball Valves

### Full bore, Split body, Side entry design

Page 112 for Pressure-Temperature Ratings.

#### Features

- Highly corrosion-resistant PFA lining
- Fine lining without a pinhole
- Highly heat-resistant PFA
- No additives or paints are included
- Double "D" stem head
- High performance **HYPATITE®** PTFE ball seats
- Actuator mounting pad to KITZ standard



#### Valve operator

NPS ½ to 4: Lever operation

#### Note

- Class 150 type is also available.

#### Dimensions of 10UTBLN(M)

Unit: mm

Nominal Size	NPS DN	½	¾	1	1½	2	2½	3	4
Ball bore		15	20	25	40	50	65	80	100
L		140	152	165	191	216	240	250	280
H		104	106	129	118	124	157	166	204
D		130	130	160	230	230	400	400	460



## Class 150/300 Stainless Steel/Carbon Steel Ball Valves

### Reduced bore, Uni-body, End entry design

#### Features

- Antistatic device
- Blowout-proof stem
- Fire test certification★ (API 607)
- Double "D" stem head
- High performance **HYPATITE® PTFE** ball seats
- Actuator mounting pad to ISO 5211

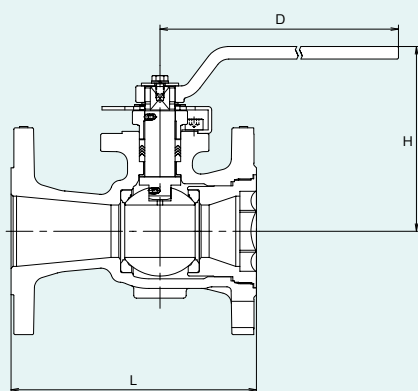
- Conform to NACE MR0175 for hardness of body, body insert, stem and ball.

Page 111 for Pressure-Temperature Ratings.

Page 40 for Construction and Materials.

Page 106 for Dimension of Actuator Mounting Pad.

#### 150UTAZM/150SCTAZM 300UTAZM/300SCTAZM



#### Dimensions of 150UTAZM/150SCTAZM

Unit: mm

Nominal Size	NPS	1/2	3/4	1	1 1/2	2	3	4	6	8	10
	DN	15	20	25	40	50	80	100	150	200	250
Ball bore		10	12.5	17.5	30	38	58	76	100	151	187
L		108	117	127	165	178	203	229	267	292	330
H		82	95	110	127	134	173	189	224	315	392
D		130	130	130	160	230	400	400	460	1000	1500

#### Valve operator

NPS 1/2 to 10: Lever operation  
NPS 6 to 10: Optional gear operation

#### Options

- ★ Flexible graphite packing and gasket (See Pages 8 and 40)
- Ball and stem to CF8M (316) (150SCTAZM)

#### Dimensions of 300UTAZM/300SCTAZM

Unit: mm

Nominal Size	NPS	1/2	3/4	1	1 1/2	2	3	4	6	8	10
	DN	15	20	25	40	50	80	100	150	200	250
Ball bore		10	12.5	17.5	30	38	58	76	100	151	187
L		140	152	165	190	216	283	305	403	419	457
H		92	95	110	127	134	173	189	251	315	392
D		130	130	130	160	230	400	400	750	1000	1500

#### Valve operator

NPS 1/2 to 10: Lever operation  
NPS 6 to 10: Optional gear operation

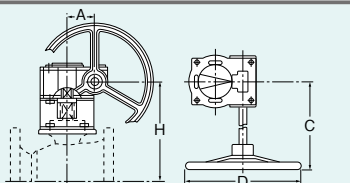
#### Options

- ★ Flexible graphite packing and gasket (See Pages 8 and 40)
- Ball and stem to CF8M (316) (300SCTAZM)

#### Gear Operation

Unit: mm

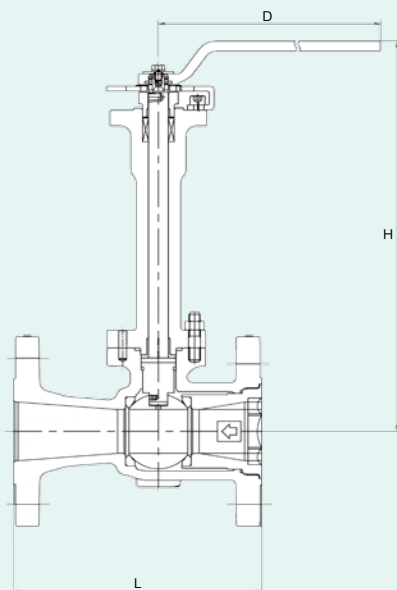
Nominal Pressure	150	300	Gear Operator			
			H	D	C	A
Nominal size (NPS)	6	6	267	300	283	71
	8	8	336	300	283	71
	10	10	400	400	337	86



Worm gear operators may be mounted on KITZ ball valves at your option for the smoothest valve operation. Electric or pneumatic actuators are also optionally available. Contact KITZ distributors for appropriate choice and sizing of valve actuators.

## Class 150/300 Stainless Steel Floating Ball Valve (Reduced Bore)

### 150/300UTAZLM



Page 116 for Pressure-Temperature Ratings.

#### Design Specifications

Items	
Wall thickness	ASME B16.34
Face to face dimensions	ASME B16.10
Flange	ASME B16.5

#### Materials

Name of Parts	Materials
Body	SCS14A
Bonnet	SUS316
Insert	SCS14A
Stem	SCS660
Seat spring	SUS304-CSP (NPS 3 & larger)
Ball	SCS14A
Gland	SCS14A
Gland packing	Flexible graphite
Ball seat (Body side)	PCTFE (NPS 2 and smaller: body side)
	HYPATITE® PTFE (NPS 2 and smaller: insert side)
Handle	FCD450-10
Gasket	Flexible graphite
	PTFE
Bonnet bolt	A320 Gr. B8M
Bonnet nut	A194 Gr. 8M

#### Dimensions of Class 150 RF-flanged 150UTAZLM

Unit: mm

Nominal Size	NPS	1/2	3/4	1	1 1/2	2	3	4	6	8	10
	DN	15	20	25	40	50	80	100	150	200	250
L		108	117	127	165	178	203	229	267	292	330
H		307	309	331.7	405	421	549.6	565.6	※	※	※
D		130	130	130	160	230	700	700	※	※	※

#### Dimensions of Class 300 RF-flanged 300UTAZLM

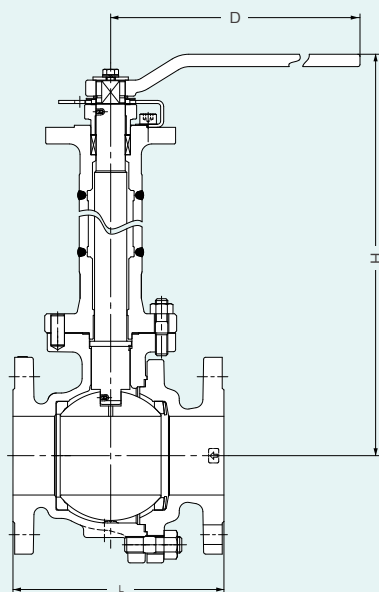
Unit: mm

Nominal Size	NPS	1/2	3/4	1	1 1/2	2	3	4	6	8	10
	DN	15	20	25	40	50	80	100	150	200	250
L		140	152	165	190	216	283	229	267	292	330
H		307	309	331.7	405	421	549.6	※	※	※	※
D		130	130	130	160	400	700	※	※	※	※

※Gear operation only. Please contact KITZ Corporation for details.

## Class 150/300 10/20K Stainless Steel Floating Ball Valve (Full Bore)

### 10/20/150/300UTDZL(M)



Page 117 for Pressure-Temperature Ratings.

#### Design Specifications

Items	
Wall thickness	ASME B16.34
Face to face dimensions	ASME B16.10
Flange	JIS B 2220 (10K/20K)
	ASME B16.5 (150/300)

#### Materials

Name of Parts	Materials
Body	CF8 (CF8M <sup>*1</sup> )
Body cap	CF8 (CF8M <sup>*1</sup> )
Bonnet	Type304 (316 <sup>*1</sup> )
Stem	Type304 (316 <sup>*1*2</sup> )
Seat spring	Type304 <sup>*2</sup> (NPS 2 & larger)
Ball	Type304 (316 <sup>*1</sup> )
Ball seat A	HYPATITE® PTFE
Ball seat B	HYPATITE® PTFE PCTFE (NPS 1½ & smaller)
Gasket	Flexible graphite spiral wound Flexible graphite sheet
Bonnet bolt	B8/8
Bonnet nut	B8/8
Gland packing	Flexible graphite die mold packing

<sup>\*1</sup>CF8M/316 are available for (M).

<sup>\*2</sup>A638 Gr.660 are available for NPS 10 and 20K/  
Class300 NPS 2 and larger.

<sup>\*3</sup>INCONEL® X-750

#### Dimensions of Class 150 RF-flanged 150UTDZL(M)

Unit: mm

Nominal Size	NPS	1½	¾	1	1¼	1½	2	2½	3	4	5	6	8	10
	DN	15	20	25	32	40	50	65	80	100	125	150	200	250
L		108	117	127	140	165	178	190	203	229	356	394	457	533
H		330	333	354	358	421	430	526	536	619	635	758	849	937
D		130	130	160	160	230	230	400	400	※	※	※	※	※

#### Dimensions of Class 300 RF-flanged 300UTDZL(M)

Unit: mm

Nominal Size	NPS	1½	¾	1	1¼	1½	2	2½	3	4	5	6	8	10
	DN	15	20	25	32	40	50	65	80	100	125	150	200	250
L		140	152	165	—	190	216	241	283	305	—	403	502	—
H		330	333	354	—	421	435	557	557	619	—	755	849	—
D		130	130	160	—	230	300	600	※	※	—	※	※	—

#### Dimensions of Class 10K RF-flanged 10UTDZL(M)

Unit: mm

Nominal Size	NPS	1½	¾	1	1¼	1½	2	2½	3	4	5	6	8	10
	DN	15	20	25	32	40	50	65	80	100	125	150	200	250
L		108	117	127	140	165	178	190	203	229	356	394	457	533
H		330	333	354	358	421	430	526	536	619	635	758	841	937
D		130	130	160	160	230	230	400	400	※	※	※	※	※

#### Dimensions of Class 20K RF-flanged 20UTDZL(M)

Unit: mm

Nominal Size	NPS	1½	¾	1	1¼	1½	2	2½	3	4	5	6	8	10
	DN	15	20	25	32	40	50	65	80	100	125	150	200	250
L		140	152	165	178	190	216	241	283	305	381	403	502	—
H		330	333	354	358	421	435	557	557	619	663	755	849	—
D		130	130	160	160	230	300	600	※	※	※	※	※	—

※Gear operation only. Please contact KITZ Corporation for details.

## Class 150 Low Temperature Service Ball Valves

### Full bore, Split body, Side entry design

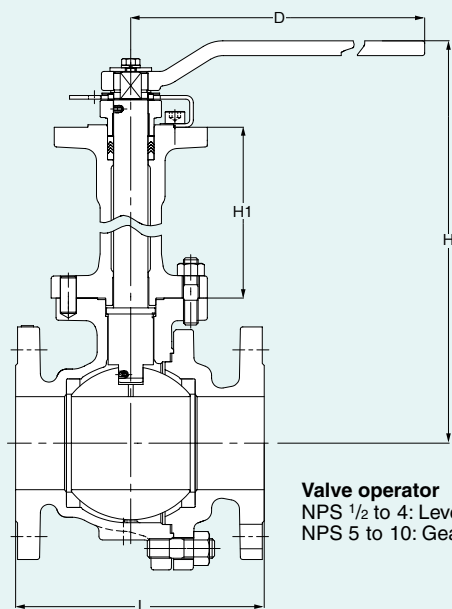
#### Features

- Extended bonnet for assured stem seal and freezing prevention.
- Bolted bonnet with body seal gasket.
- Protection of stem alignment by means of two bearings built on top and bottom of stem extension.

Page 112 for Pressure-Temperature Ratings.

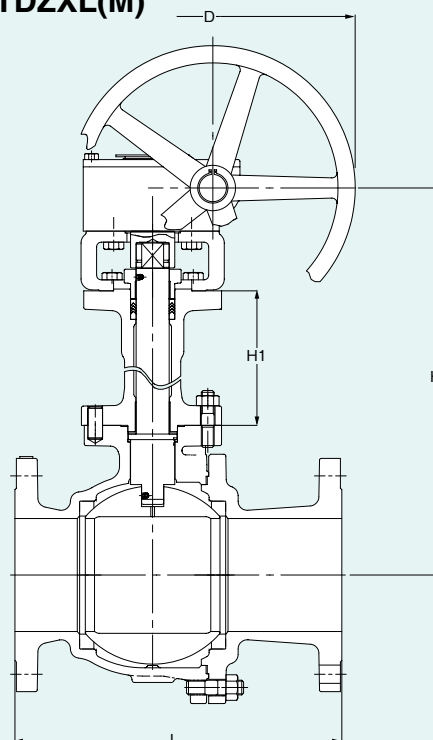
**Lowest working temperature:  $-104^{\circ}\text{C}$**

**150UTDZXL(M)**



**Valve operator**  
NPS  $\frac{1}{2}$  to 4: Lever operation  
NPS 5 to 10: Gear operation

**G-150UTDZXL(M)**



Refer to Page 32 and 33 for the basic construction and materials.

**Dimensions of 150UTDZXL(M)**

Unit: mm

Nominal Size	NPS	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	4
	DN	15	20	25	32	40	50	65	80	100
Ball bore		14	19	24	32	38	50	64	76	100
L		108	117	127	140	165	178	190	203	229
H		228	231	268	272	300	309	373	383	458
H1		120	120	143	143	165	165	194	194	207
D		130	130	160	160	230	230	400	400	750

**Dimensions of G-150UTDZXL(M)**

Unit: mm

Nominal Size	NPS	5	6	8	10
	DN	125	150	200	250
Ball bore		123	151	202	253
L		356	394	457	533
H		482	572	685	724
H1		207	236	268	268
D		310	360	500	500

**Standard Materials**

Parts	Materials
Body	CF8 (CF8M*)
Body cap	CF8 (CF8M*)
Bonnet	CF8 (CF8M*)
Stem	Type304 (316*)
Ball	Type304(316*)/CF8(CF8M*)
Gland	CF8
Gland packing	PTFE
Ball seat	HYPATITE® PTFE
Gasket	Flexible graphite spiral wound Ceramic filled PTFE
Bonnet bolt/nut	B8/8
Cap bolt/nut	B8/8

\* CF8M/316 are available for (M).

## Class 300 Low Temperature Service Ball Valves

### Full bore, Split body, Side entry design

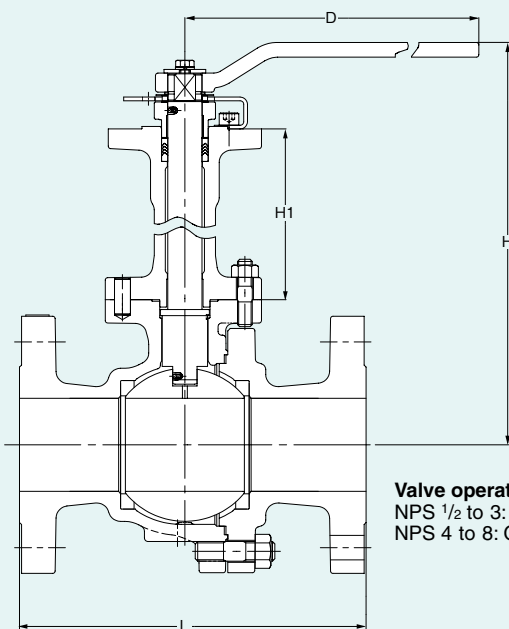
#### Features

- Extended bonnet for assured stem seal and freezing prevention.
- Bolted bonnet with body seal gasket.
- Protection of stem alignment by means of two bearings built on top and bottom of stem extension.

Page 112 for Pressure-Temperature Ratings.

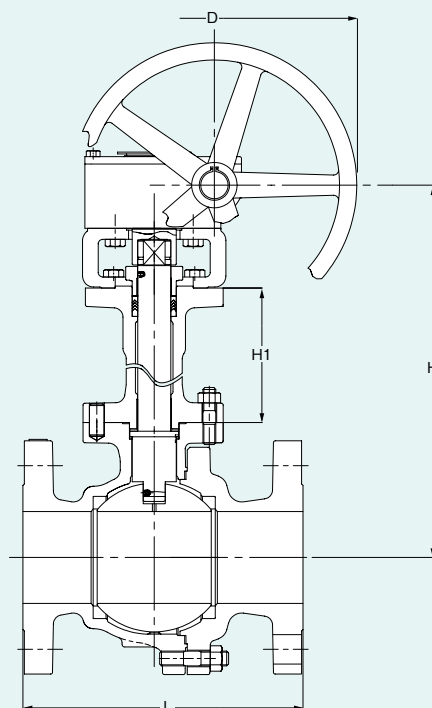
**Lowest working temperature:  $-104^{\circ}\text{C}$**

#### 300UTDZXL(M)



**Valve operator**  
NPS 1/2 to 3: Lever operation  
NPS 4 to 8: Gear operation

#### G-300UTDZXL(M)



Refer to Page 32 and 33 for the basic construction and materials.

#### Dimensions of 300UTDZXL(M)

Unit: mm

Nominal Size	NPS	1/2	3/4	1	1 1/2	2	2 1/2	3
	DN	15	20	25	40	50	65	80
Bore size		14	19	24	38	50	64	76
L		140	152	165	190	216	241	283
H		228	231	268	300	309	373	383
H1		120	120	143	165	165	194	194
D		130	130	160	230	230	400	400

#### Dimensions of G-300UTDZXL(M)

Unit: mm

Nominal Size	NPS	4	6	8
	DN	100	150	200
Bore size		100	151	202
L		305	403	502
H		466	569	685
H1		207	236	268
D		310	500	500

※Nominal size NPS 1 1/4 and 5 are available.

#### Standard Materials

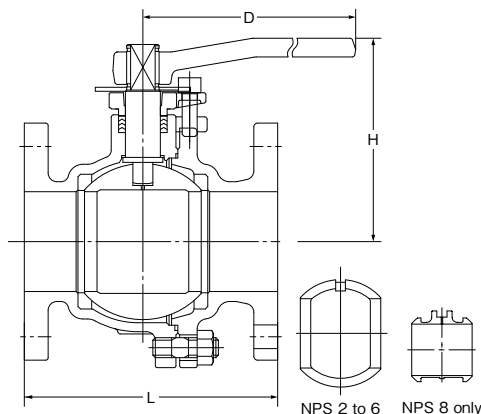
Parts	Materials
Body	CF8 (CF8M*)
Body cap	CF8 (CF8M*)
Bonnet	CF8 (CF8M*)
Stem	Type304 (316*)
Ball	Type304(316*)/CF8(CF8M*)
Gland	CF8
Gland packing	PTFE
Ball seat	HYPATITE® PTFE
Gasket	Flexible graphite spiral wound Ceramic filled PTFE
Bonnet bolt/nut	B8/8
Cap bolt/nut	B8/8

\* CF8M/316 are available for (M).



## 10K Ball Valve (Full Bore)

### 10STBF 10STLBF (Gas service) FF-flanged



Face to face dimensions : ASME B16.10  
End flanges : JIS B 2239 10K (FF)

#### Maximum Service Pressure

Code	Valve Size	Temperature	Pressure
10STBF	All size	120°C W.O.G.	1.4 MPa
	NPS 4 and smaller	160°C W.O.G.	1.0 MPa
	NPS 5 to 8	140 W.O.G.	1.0 MPa
10STLBF	All size	80°C gas	1.2 MPa

● Use for lubricating or hydraulic oil is acceptable.

#### Materials

Parts	JIS Material
Body	FCD-S
Body cap	FCD-S
Stem	SUS 403
Ball	SUS 304 / SCS 13A / SUS 304TP
Gland	FCD-S
Gland packing	PTFE
Handle	FCD 400
Gasket	PTFE
Packing washer	SUS 304 (1½ to 1¼)
Ball seat	HYPATITE® PTFE* <sup>1</sup>
Cap bolt/nut	SS 400* <sup>2</sup>
Gland bolt	SCM 435
O ring* <sup>3</sup>	NBR
Stopper	SUS 430
Name plate* <sup>3</sup>	SUS 304

\*<sup>1</sup>PTFE or C/F PTFE is optionally available.

\*<sup>2</sup>Different bolt/nut material is required for service exceeding temperature range of 0 to 225°C.

Contact KITZ Corporation for technical advice.

\*<sup>3</sup>for 10STLB only

Contact KITZ Corporation for use of valve actuators.

#### Dimensions of 10STBF, 10STLBF

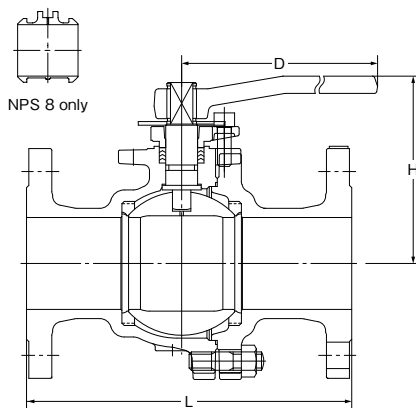
Unit: mm

Nominal Size	NPS	1½	¾	1	1¼	1½	2	2½	3	4	5	6	8
	DN	15	20	25	32	40	50	65	80	100	125	150	200
L		108	117	127	140	165	178	190	203	229	356	394	457
H		106	109	130	135	115	120	153	162	199	219	293	352
D		130	130	160	160	230	230	400	400	460	460	1000	1500

※RF-flanged ends are optionally available.

## 20K Ball Valve for Gas Service (Full Bore)

### 20STLB RF-flanged



Face to face dimensions : ASME B16.10  
End flanges : JIS B 2239 20K

80°C Gas ..... 2.4 MPa

#### Materials

Parts	JIS Material
Body	FCD-S
Body cap	FCD-S
Stem	SUS 403
Ball	SUS 304 / SCS 13A
Gland	FCD-S
Gland packing	PTFE
Gasket	PTFE
Packing washer	SUS 304 (NPS 1¼ & smaller)
Ball seat	HYPHTITE® PTFE
O-ring	NBR
Cap bolt/nut	S45C
Stopper	SUS 430
Snap ring	SK5
Handle	FCD 400-15

#### Dimensions of 20STLB

Unit: mm

Nominal Size	NPS	1½	¾	1	1¼	1½	2	2½	3	4	6	8
	DN	15	20	25	32	40	50	65	80	100	150	200
L		140	152	165	178	190	216	241	283	305	403	502
H		106	109	130	135	115	120	153	162	241	293	352
D		130	130	160	160	230	230	400	400	750	1000	1500

## 10K Ball Valve 3-way 4-seat

### 10STB4LAF

(L-port. Full Bore NPS 1½ to 4)

### 10STB4TAF

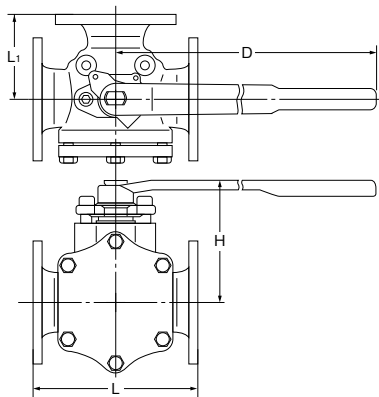
(T-port. Full Bore NPS 1½ to 4)

### 10STR4LAF

(L-port. Reduced Bore NPS 5 and larger)

### 10STR4TAF

(T-port. Reduced Bore NPS 5 and larger)



End to end dimensions : KITZ Std.  
End flanges : JIS B 2239 10K (FF)

120°C W.O.G. .... 1.0 MPa  
150°C W.O.G. .... 0.4 MPa

#### Materials

Code	JIS Material
Body	FCD-S
Body cap	FCD-S
Ball	SCS 13A
Stem	SUS 304
Ball seat	HYPATITE® PTFE
Gland packing	PTFE

Gear operators may be optionally used for NPS 6 and 8.

● Page 118 for Allowable Port Orientation.

#### Dimensions of 10STB4LAF, 10STB4TAF, 10STR4LAF, 10STR4TAF

Unit: mm

Nominal Size	NPS	1½	2	2½	3	4	5	6	8
	DN	40	50	65	80	100	125	150	200
L	(STB)	180	200	240	260	330	—	—	—
	(STR)	—	—	—	—	—	340	400	450
L <sub>1</sub>	(STB)	90	100	120	130	165	—	—	—
	(STR)	—	—	—	—	—	170	200	225
H	(STB)	143	152	177	190	259	—	—	—
	(STR)	—	—	—	—	—	259	281	323
D	(STB)	400	400	460	460	1000	—	—	—
	(STR)	—	—	—	—	—	1000	1000	1500

※RF-flanged ends are optionally available.

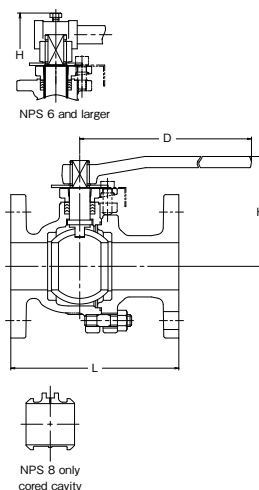
## CLASS 125 Iron Ball Valves (Full Bore)

120°C non-shock water 1.4 MPa, 120°C W.O.G. 1.0 MPa  
Saturated steam 0.7 MPa

### 125FCTB



Blowout-proof stem



#### Materials

Parts	Material	ASTM Spec.
Body	Cast iron	A126 CL. B
Body cap	Cast iron	A126 CL. B
Stem	Stainless steel	A276 Type 403
Ball	Stainless steel	A276 Type 304 or A312 Gr.TP304 or A351 Gr.CF8
Grand packing	PTFE	
Gasket	PTFE	
Ball seat	PTFE	
Cap bolt	Carbon steel	
Handle	Ductile iron	

#### Design Specifications

Items	
Shell wall thickness and general valve design	KITZ standard
Face to face dimensions End to end dimensions	ASME B16.10 Class 150
End flange dimensions Gasket contact facing	ASME B16.1 Class 125

#### Dimensions of 125FCTB

Unit: mm

Nominal Size	NPS	2	2½	3	4	6	8
	DN	50	65	80	100	150	200
L		178	190	203	229	394	457
H		120	155	165	200	295	355
D		230	400	400	460	1000	1500

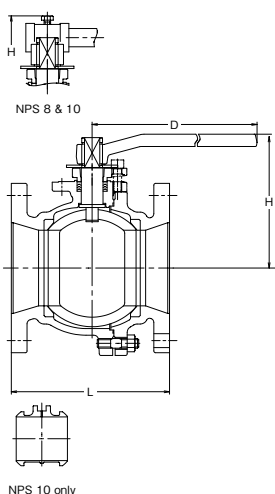
## CLASS 125 Iron Ball Valves (Reduced Bore)

120°C non-shock water 1.4 MPa, 120°C W.O.G. 1.0 MPa  
Saturated steam 0.7 MPa

### 125FCTR



Blowout-proof stem



#### Materials

Parts	Material	ASTM Spec.
Body	Cast iron	A126 CL. B
Body cap	Cast iron	A126 CL. B
Stem	Stainless steel	A276 Type 403
Ball	Stainless steel	A312 Gr.TP304 or A351 Gr.CF8
Grand packing	PTFE	
Gasket	PTFE	
Ball seat	PTFE	
Cap bolt	Carbon steel	
Handle	Ductile iron	

#### Design Specifications

Items	
Shell wall thickness and general valve design	KITZ standard
Face to face dimensions End to end dimensions	ASME B16.10 Class 150
End flange dimensions Gasket contact facing	ASME B16.1 Class 125

#### Dimensions of 125FCTR

Unit: mm

Nominal Size	NPS	6	8	10
	DN	150	200	250
L		267	292	330
H		220	295	355
D		460	1000	1500

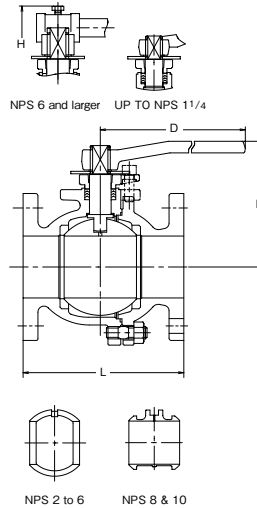
## 10K Iron Ball Valves (Full Bore)

120°C non-shock water 1.4 MPa, 120°C W.O.G. 1.0 MPa  
Saturated steam 0.7 MPa

### 10FCTB



Blowout-proof stem



#### Materials

Parts	Material	JIS Spec.
Body	Cast iron	FC200
Body cap	Cast iron	FC200
Stem	Stainless steel	SUS403
Ball	Stainless steel	SCS13A or SUS304 or SUS304TP
Grand packing	PTFE	
Gasket	PTFE	
Ball seat	PTFE	
Cap bolt	Carbon steel	SS400
Handle	Ductile iron	FCD400

#### Design Specifications

Items		
Shell wall thickness and general valve design		KITZ standard
Face to face dimensions		KITZ standard
End flange dimensions Gasket contact facing		JIS B2239 10K (FF)

#### Dimensions of 10FCTB

Unit: mm

Nominal Size	NPS	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4	5	6	8	10
	DN	15	20	25	32	40	50	65	80	100	125	150	200	250*
L		110	120	130	140	165	180	190	200	230	300	340	450	533
H		102	105	124	128	114	121	154	163	199	219	292	352	477
D		130	130	160	160	230	230	400	400	460	460	1000	1500	—

\* Note: Gear Operated. Contact KITZ or KITZ distributors for details.

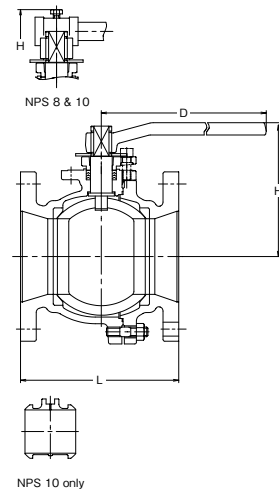
## JIS 10K Iron Ball Valves (Reduced Bore)

120°C non-shock water 1.4 MPa, 120°C W.O.G. 1.0 MPa  
Saturated steam 0.7 MPa

### 10FCTR



Blowout-proof stem



#### Materials

Parts	Material	JIS Spec.
Body	Cast iron	FC200
Body cap	Cast iron	FC200
Stem	Stainless steel	SUS403
Ball	Stainless steel	SCS13A or SUS304 or SUS304TP
Grand packing	PTFE	
Gasket	PTFE	
Ball seat	PTFE	
Cap bolt	Carbon steel	SS400
Handle	Ductile iron	FCD400

#### Design Specifications

Items		
Shell wall thickness and general valve design		KITZ standard
Face to face dimensions		JIS B2002*
End flange dimensions Gasket contact facing		JIS B2239 10K

\* For NPS 5=KITZ standard

Unit: mm

#### Dimensions of 10FCTR

Nominal Size	NPS	5	6	8	10
	DN	125	150	200	250
L		250	270	290	330
H		200	220	295	355
D		460	460	1000	1500

## 10K Iron Ball Valves (Full or Reduced Bore)

120°C non-shock water 1.4 MPa, 120°C W.O.G. 1.0 MPa  
Saturated steam 0.7 MPa

### 10FCTB2L

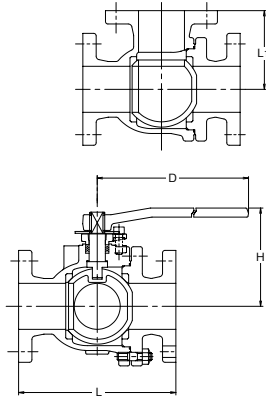
- Full Bore: NPS 1 1/2 to 4

### 10FCTR2L

- Reduced Bore: NPS 5 to 8



Blowout-proof stem



### Materials

Parts	Material	JIS Spec.
Body	Cast iron	FC200
Body cap	Cast iron	FC200
Stem	Stainless steel	SUS403
Ball	Stainless steel	SCS13
Grand packing	PTFE	
Gasket	PTFE	
Ball seat	PTFE	
Cap bolt/nut	Carbon steel	SS400
Handle	Ductile iron	FCD400

• Page 118 for Allowable Port Orientation.

### Design Specifications

Items	
Shell wall thickness	JIS B2031
Face to face dimensions	KITZ standard
End flange dimensions Gasket contact facing	JIS B2239 10K (FF)

### Dimensions of 10FCTB2L, 10FCTR2L

Unit: mm

Nominal Size	NPS	1 1/2	2	2 1/2	3	4	5	6	8
	DN	40	50	65	80	100	125	150	200
L		210	220	250	260	330	370	430	540
L <sub>1</sub>		105	110	125	130	165	185	215	270
H		115	123	155	163	205	205	225	295
D		230	230	400	400	460	460	460	1000

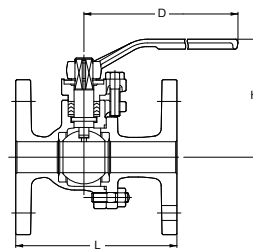
## Bronze Ball Valves

W.O.G. non-shock 1.4 MPa  
W.O.G. 150°C 0.7 MPa

Bolted body cap, Full bore  
Flanged ends to JIS B2240 10K

### TB

- Flanged ends to JIS 10K



### Materials

Parts	Material
Body	Bronze
Body cap	Bronze
Stem	Dezincification resistant brass
Ball	Brass <sup>*1</sup> /Stainless steel <sup>*2</sup>
Ball seat	PTFE
Grand packing	PTFE

<sup>\*1</sup>Chrome or Nickel-chrome plated

<sup>\*2</sup>NPS 4 only

### Dimensions of TB

Unit: mm

Nominal Size	NPS	1 1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4
	DN	15	20	25	32	40	50	65	80	100
L		110	120	130	140	165	180	190	200	230
H		85	88	95	100	115	122	153	162	190
D		130	130	160	160	230	230	400	400	460

## Construction and Materials

### Parts List :1H

No.	Parts	Standard	Fire-safe
		150/300SCTDZ	150/300SCTDZ-FS
1	Body* <sup>1</sup>	A216 Gr.WCB	
2	Body cap* <sup>1</sup>	A216 Gr.WCB	
3	Stem	A276 Type 304	
4	Ball* <sup>2</sup>	A276 Type 304 or A351 Gr.CF8	
7	Gland	A351 Gr.CF8	
8	Gland packing	PTFE	Flexible graphite
9	Handle* <sup>3</sup>	Ductile iron	
9A	Handle bar* <sup>3</sup>	Carbon steel	
9B	Handle head* <sup>3</sup>	Ductile iron	
16	Name plate	A276 Type 304	
19	Gasket	PTFE	Flexible graphite
20	Packing washer* <sup>4</sup>	A276 Type 316L	
30	Ball seat	HYPATITE® PTFE	
33	Cap nut	A194 Gr.2H	
35	Cap bolt	A193 Gr.B7	
36	Gland bolt	Stainless steel	
40	Key-lock plate	A276 Type 304	
43	Handle-lock plate	A276 Type 304	
48	Snap ring	A276 Type 304	
49	Stopper	A276 Type 304	
51	Stopper plate	A276 Type 304	
57	Gland bush	Reinforced PTFE	
58	Gland washer	A276 Type 304	
67	Stem bearing	Reinforced PTFE	
123A	Handle-lock plate bolt	Stainless steel	
123B	Handle bolt	Stainless steel	
124	Spring & pin	A313 & A276 Type 316	
126	Stopper plate bolt	Stainless steel	
145	Coned disc spring	Stainless steel	

\*1 A352 Gr. LCC low-temperature service materials are optionally available.

\*2 CF8M or Type 316 is optionally available for balls and stems.

\*3 Class 150: Bar type handle used for NPS 6 and 8.

Class 300: Bar type handle used for NPS 4 and 8.

\*4 Up to NPS 1

All part numbers are corresponding with those shown in valve assembly drawings.

No.	Parts	ASTM Material Designation			JIS Material Designation		
		Stainless steel valve		Carbon steel valve	Stainless steel valve		Carbon steel valve
		150/300UTDZ1H	150/300UTDZ1HM	150/300SCTDZ1H	10/20UTDZ1H	10/20UTDZ1HM	10/20SCTDZ1H
1	Body	A351 Gr.CF8	A351 Gr.CF8M	A216 Gr.WCB	SCS13A	SCS14A	SCPH2
2	Body cap	A351 Gr.CF8	A351 Gr.CF8M	A216 Gr.WCB	SCS13A	SCS14A	SCPH2
3	Stem	A276 Type 304	A276 Type 316	A276 Type 304	SUS304	SUS316	SUS304
4	Ball	A276 Type 304 or A351 Gr.CF8	A276 Type 316 or A351 Gr.CF8M	A276 Type 304 or A351 Gr.CF8	SUS304 or SCS13A	SUS316 or SCS14A	SUS304 or SCS14A
7	Gland	A351 Gr.CF8			SCS13A		
8	Gland packing	Flexible graphite			Flexible graphite		
9	Handle* <sup>1</sup>	Ductile iron			FCD400-10		
9A	Handle bar* <sup>1</sup>	Carbon steel			SGP		
9B	Handle head* <sup>1</sup>	Ductile iron			FCD400-10		
16	Name plate	A276 Type 304			SUS304		
19	Gasket	Flexible graphite			Flexible graphite		
20	Packing washer	A276 Type 316L			SUS316L		
30	Ball seat	FILLTITE® PTFE			FILLTITE® PTFE		
33	Cap nut	A194 Gr.8		A194 Gr.2H	SUS304		S45C
35	Cap bolt	A193 Gr.B8		A193 Gr.B7	SUS304		SNB7
36	Gland bolt	Stainless steel			Stainless steel		
40	Key-lock plate	A276 Type 304			SUS304		
43	Handle-lock plate	A276 Type 304			SUS304		
47	Thrust washer	Carbon			Carbon		
48	Snap ring	A276 Type 304			SUS304		
49	Stopper	A276 Type 304			SUS304		
51	Stopper plate	A276 Type 304			SUS304		
57	Gland bush	Carbon			Carbon		
58	Gland washer	A276 Type 304			SUS304		
67	Stem bearing	Carbon			Carbon		
123A	Handle-lock plate bolt	Stainless steel			Stainless steel		
123B	Handle bolt	Stainless steel			Stainless steel		
124	Spring & pin	A313 & A276 Type 316			SUS316-WPA & SUS316		
126	Stopper plate bolt	Stainless steel			Stainless steel		
145	Coned disc spring	Stainless steel			SUS304-CSP		

\*1) Refer to the following table \*2) Equivalent to AISI Type 329

• The substitutional equivalent materials may be used for valve part materials where ASTM A276 and/or A564 is stated on the material descriptions in this catalog.

Operation (Standard)	Class 150/10K	Class 300/20K
Lever type	NPS 1/2 to 3	NPS 1/2 to 3
Bar type	NPS 4	
Gear	NPS 5 to 8	NPS 4 to 8

Refer to illustration on Page 33.

## Construction and Materials

### ■ Class 150/300 10/20K Floating Ball Design Valve

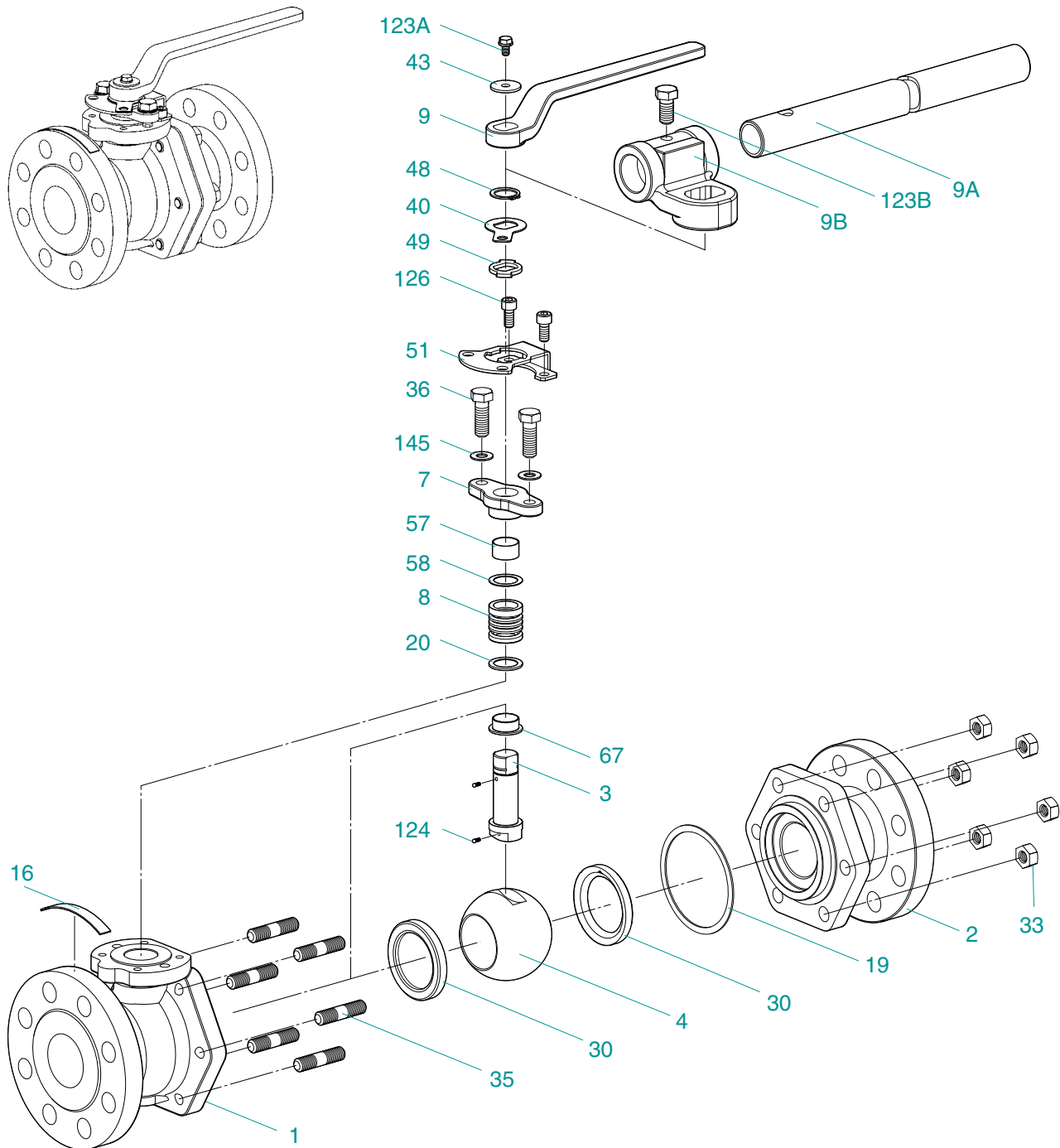


Illustration shows NPS 4 design.



## Construction and Materials

### ■ Class 150/300, 10/20K Metal Seated Floating Ball Valve (Trim 3H)

No.	Parts	ASTM Material Designation (Trim 3H)			JIS Material Designation (Trim 3H)		
		Stainless steel valve		Carbon steel valve	Stainless steel valve		Carbon steel valve
		150/300UTDZ3H	150/300UTDZ3HM	150/300SCTDZ3H	10/20UTDZ3H	10/20UTDZ3HM	10/20SCTDZ3H
1	Body	A351 Gr.CF8	A351 Gr.CF8M	A216 Gr.WCB	SCS13A	SCS14A	SCPH2
2	Body cap	A351 Gr.CF8	A351 Gr.CF8M	A216 Gr.WCB	SCS13A	SCS14A	SCPH2
3	Stem	A276 Type 304	A276 Type 316	A276 Type 304	SUS304	SUS630	SUS304
4	Ball	A276 Type 304	A276 Type 316	A276 Type 304	SUS304	SUS316	SUS304
7	Gland	A351 Gr.CF8			SCS13A		
8	Gland packing	Flexible graphite			Flexible graphite		
9	Handle*1	Ductile iron			FCD400-10		
9A	Handle bar*1	Carbon steel			SGP		
9B	Handle head*1	Ductile iron			FCD400-10		
16	Name plate	A276 Type 304*3			SUS304		
19	Gasket	Flexible graphite			Flexible graphite		
20	Packing washer	A276 Type 316L*4			SUS316L		
30	Ball seat	Carbon + JIS SUS329J1*2			Carbon + SUS329J1		
33	Cap nut	A194 Gr.8		A194 Gr.2H	SUS304		S45C
35	Cap bolt	A193 Gr.B8		A193 Gr.B7	SUS304		SNB7
36	Gland bolt	Stainless steel			Stainless steel		
40	Key-lock plate	A276 Type 304*3			SUS304		
43	Handle-lock plate	A276 Type 304*3			SUS304		
47	Thrust washer	Carbon			Carbon		
48	Snap ring	A276 Type 304*3			SUS304		
49	Stopper	A276 Type 304*3			SUS304		
51	Stopper plate	A276 Type 304*3			SUS304		
57	Gland bush	Carbon			Carbon		
58	Gland washer	A276 Type 304*3			SUS304		
67	Stem bearing	Carbon			Carbon		
123A	Handle-lock plate bolt	Stainless steel			Stainless steel		
123B	Handle bolt	Stainless steel			Stainless steel		
124	Spring & pin	A313 & A276 Type 316			SUS316-WPA & SUS316		
126	Stopper plate bolt	Stainless steel			Stainless steel		
145	Coned disc spring	Stainless steel			SUS304-CSP		
176	Seat packing	Flexible graphite			Flexible graphite		

\*1 Refer to the following table.

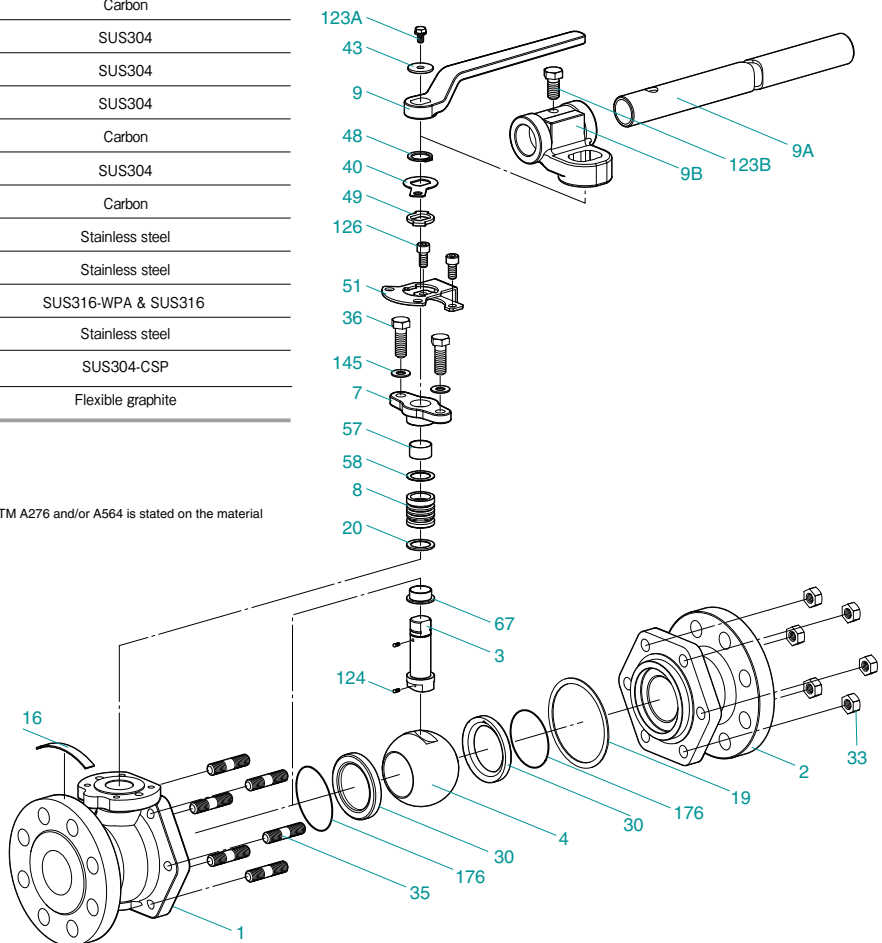
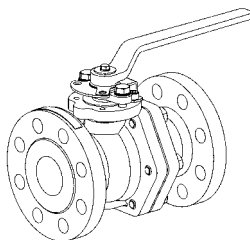
\*2 Equivalent to AISI Type 329

\*3 A276 Type 304 or equivalent

\*4 A276 Type 316L or equivalent

• The substitutional equivalent materials may be used for valve part materials where ASTM A276 and/or A564 is stated on the material descriptions in this catalog.

Operation (Standard)	Class 150/10K	Class 300/20K
Lever type	NPS 1/2 to 11/2	NPS 1/2 to 11/4
Bar type	NPS 2 to 4	NPS 11/2 to 3
Gear	NPS 5 to 8	NPS 4 to 8



## Construction and Materials

### ■ Class 150/300, 10/20K Metal Seated Floating Ball Valve (Trim 5H)

No.	Parts	ASTM Material Designation (Trim 5H)			JIS Material Designation (Trim 5H)		
		Stainless steel valve		Carbon steel valve	Stainless steel valve		Carbon steel valve
		150/300UTDZ5H	150/300UTDZ5HM	150/300SCTDZ5H	10/20UTDZ5H	10/20UTDZ5HM	10/20SCTDZ5H
1	Body	A351 Gr.CF8	A351 Gr.CF8M	A216 Gr.WCB	SCS13A	SCS14A	SCPH2
2	Body cap	A351 Gr.CF8	A351 Gr.CF8M	A216 Gr.WCB	SCS13A	SCS14A	SCPH2
3	Stem	A564 Type 630			SUS630		
4	Ball	A276 Type 316 with Cr. plating			SUS316 with Cr. plating		
7	Gland	A351 Gr.CF8			SCS13A		
8	Gland packing	Flexible graphite			Flexible graphite		
9	Handle*1	Ductile iron			FCD400-10		
9A	Handle bar*1	Carbon steel			SGP		
9B	Handle head*1	Ductile iron			FCD400-10		
16	Name plate	A276 Type 304*3			SUS304		
19	Gasket	Flexible graphite			Flexible graphite		
20	Packing washer	A276 Type 316L*4			SUS316L		
30	Ball seat	A276 Type 316 + Ni-Cr alloy hard facing*2			SUS 316 + Ni-Cr alloy hard facing*2		
33	Cap nut	A194 Gr.8		A194 Gr.2H	SUS304		S45C
35	Cap bolt	A193 Gr.B8		A193 Gr.B7	SUS304		SNB7
36	Gland bolt	Stainless steel			Stainless steel		
40	Key-lock plate	A276 Type 304*3			SUS304		
43	Handle-lock plate	A276 Type 304*3			SUS304		
47	Thrust washer	Carbon			Carbon		
48	Snap ring	A276 Type 304*3			SUS304		
49	Stopper	A276 Type 304*3			SUS304		
51	Stopper plate	A276 Type 304*3			SUS304		
57	Gland bush	Carbon			Carbon		
58	Gland washer	A276 Type 304*3			SUS304		
67	Stem bearing	Carbon			Carbon		
123A	Handle-lock plate bolt	Stainless steel			Stainless steel		
123B	Handle bolt	Stainless steel			Stainless steel		
126	Stopper plate bolt	Stainless steel			Stainless steel		
145	Coned disc spring	Stainless steel			SUS304-CSP		
176	Seat packing	Flexible graphite			Flexible graphite		

\*1 Refer to the following table.

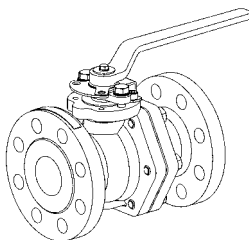
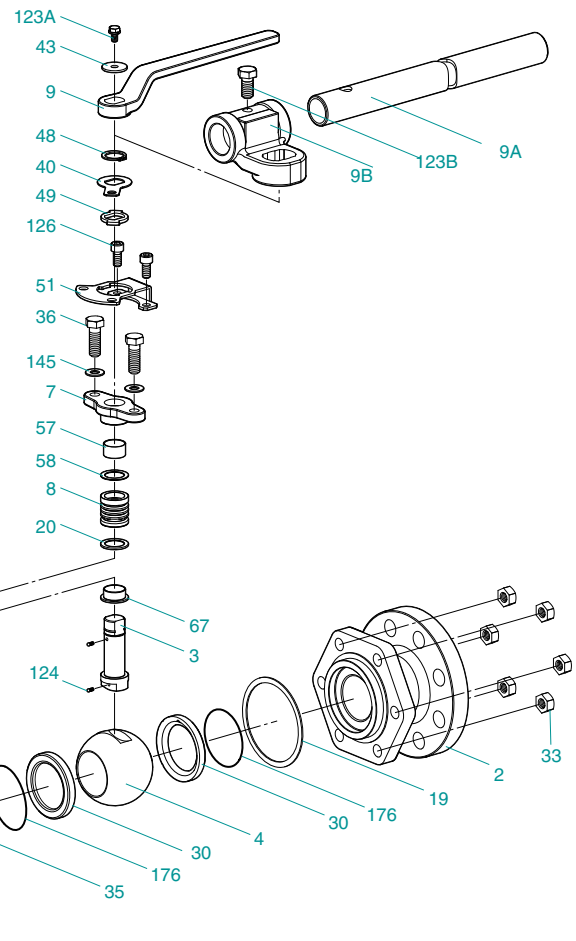
\*2 Equivalent to METCO Type 16C

\*3 A276 Type 304 or equivalent

\*4 A276 Type 316L or equivalent

• The substitutional equivalent materials may be used for valve part materials where ASTM A276 and/or A564 is stated on the material descriptions in this catalog.

Operation (Standard)	Class 150/10K	Class 300/20K
Lever type	NPS 1/2 to 11/2	NPS 1/2 to 1
Bar type	NPS 2 to 4	NPS 11/2 to 3
Gear	NPS 5 to 8	NPS 4 to 8



## Construction and Materials

### ■ Class 150/300, 10/20K Metal Seated Floating Ball Design Valve (Trim 6H)

No.	Parts	ASTM Material Designation (Trim 6H)			JIS Material Designation (Trim 6H)		
		Stainless steel valve		Carbon steel valve	Stainless steel valve		Carbon steel valve
		150/300UTDZ6H	150/300UTDZ6HM	150/300SCTDZ6H	10/20UTDZ6H	10/20UTDZ6HM	10/20SCTDZ6H
1	Body	A351 Gr.CF8	A351 Gr.CF8M	A216 Gr.WCB	SCS13A	SCS14A	SCPH2
2	Body cap	A351 Gr.CF8	A351 Gr.CF8M	A216 Gr.WCB	SCS13A	SCS14A	SCPH2
3	Stem	A564 Type 630			SUS630		
4	Ball	A276 Type 316 with Ni-Cr alloy hard facing			SUS316 with Ni-Cr alloy hard facing		
7	Gland	A351 Gr.CF8			SCS13A		
8	Gland packing	Flexible graphite			Flexible graphite		
9	Handle*1	Ductile iron			FCD400-10		
9A	Handle bar*1	Carbon steel			SGP		
9B	Handle head*1	Ductile iron			FCD400-10		
16	Name plate	A276 Type 304*2			SUS304		
19	Gasket	Flexible graphite			Flexible graphite		
20	Packing washer	A276 Type 316L*3			SUS316L		
30	Ball seat	A276 Type 316 + Ni-Cr alloy hard facing			SUS 316 + Ni-Cr alloy hard facing		
33	Cap nut	A194 Gr.8		A194 Gr.2H	SUS304		S45C
35	Cap bolt	A193 Gr.B8		A193 Gr.B7	SUS304		SNB7
36	Gland bolt	Stainless steel			Stainless steel		
40	Key-lock plate	A276 Type 304*2			SUS304		
43	Handle-lock plate	A276 Type 304*2			SUS304		
47	Thrust washer	Carbon			Carbon		
48	Snap ring	A276 Type 304*2			SUS304		
49	Stopper	A276 Type 304*2			SUS304		
51	Stopper plate	A276 Type 304*2			SUS304		
57	Gland bush	Carbon			Carbon		
58	Gland washer	A276 Type 304*2			SUS304		
67	Stem bearing	Carbon			Carbon		
123A	Handle-lock plate bolt	Stainless steel			Stainless steel		
123B	Handle bolt	Stainless steel			Stainless steel		
126	Stopper plate bolt	Stainless steel			Stainless steel		
145	Coned disc spring	Stainless steel			SUS304-CSP		
176	Seat packing	Flexible graphite			Flexible graphite		

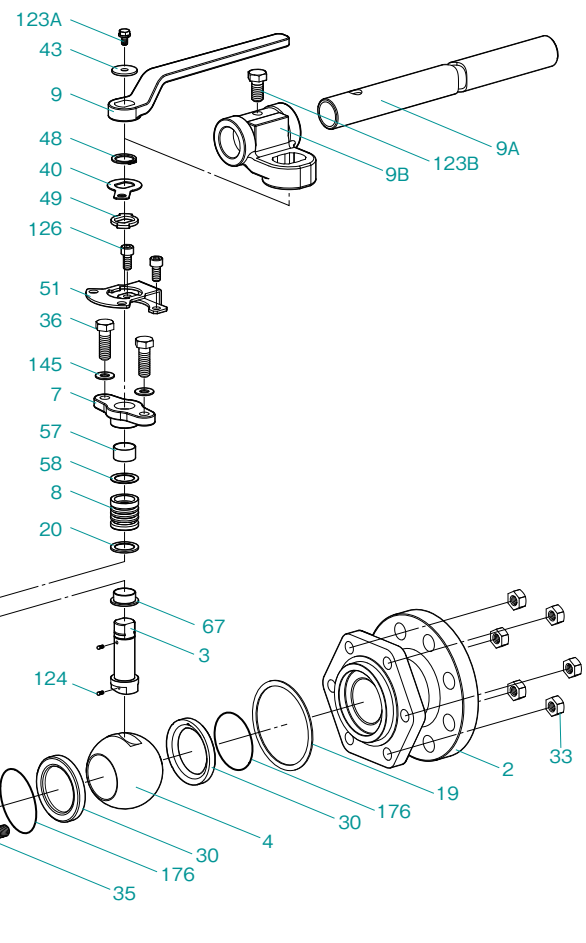
\*1 Refer to the following table.

\*2 A276 Type 304 or equivalent

\*3 A276 Type 316L or equivalent

• The substitutional equivalent materials may be used for valve part materials where ASTM A276 and/or A564 is stated on the material descriptions in this catalog.

Operation (Standard)	Class 150/10K	Class 300/20K
Lever type	NPS 1/2 to 11/2	NPS 1/2 to 11/4
Bar type	NPS 2 to 4	NPS 11/2 to 3
Gear	NPS 5 to 8	NPS 4 to 8



## Construction and Materials

■ Standard material configuration can be applied to sour service.

No.	Parts	Standard	Fire-safe
		150SCTAZM 300SCTAZM	150SCTAZM-FS 300SCTAZM-FS
1	Body	A216 Gr. WCB * <sup>1</sup>	
3	Stem	A276 Type 316* <sup>2</sup> * <sup>4</sup>	
4	Ball	A276 Type 316 / A351 Gr. CF8M	
7	Gland	A351 Gr. CF8M	
8	Gland packing	PTFE	Flexible graphite
9	Handle* <sup>3</sup>	Ductile iron	
9A	Handle bar	Carbon steel	
9B	Handle head	Ductile iron	
16A	Name plate	Stainless steel	
16B	Lev plate	Stainless steel	
19A	Gasket	PTFE	
19B	Gasket	—	Flexible graphite
20	Packing washer	A276 Type 316L* <sup>5</sup>	
29	Insert	A216 Gr. WCB / A105	
30	Ball seat	HYPATITE®PTFE	
36	Gland bolt	Stainless steel	
40	Key-lock plate	Stainless steel	
43	Handle-lock plate	Stainless steel	
48	Snap ring	Stainless steel	
49	Stopper	Stainless steel	
51	Stopper plate	Stainless steel	
57	Gland bush	G/F PTFE	
58	Gland washer	A276 Type 304	
67	Stem bearing	G/F PTFE	
123A	Handle-lock plate bolt	Stainless steel	
123B	Handle bolt	Stainless steel	
124	Spring + pin	A313 & A276 Type 316	
126	Stopper plate bolt	Stainless steel	
145	Coned disc spring	Stainless steel	
216A	Ce plate	Stainless steel	
216B	Atex plate	Stainless steel	

\*1 A352 low-temperature service materials are optionally available.

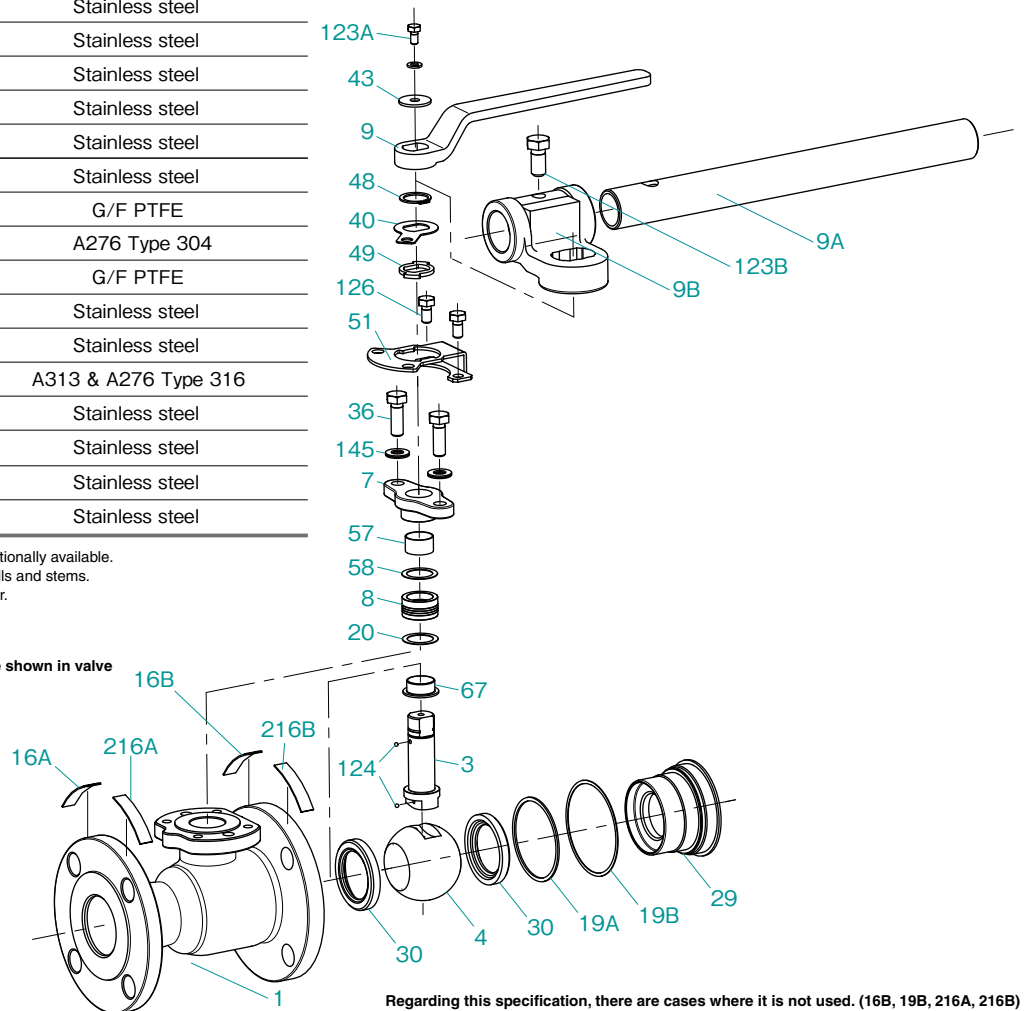
\*2 CF8M or Type 316 is optionally available for balls and stems.

\*3 Bar type handles are used for NPS 6 and larger.

\*4 A276 Type 304 or equivalent

\*5 A276 Type 316 or equivalent

All part numbers are corresponding with those shown in valve assembly drawings.



Regarding this specification, there are cases where it is not used. (16B, 19B, 216A, 216B)

Illustration shows NPS 1/2 design.

## Construction and Materials

■ Standard material configuration can be applied to sour service.

No.	Parts	Standard		Fire-safe	
		150UTDZ 300UTDZ	150UTDZM 300UTDZM	150UTDZ-FS 300UTDZ-FS	150UTDZM-FS 300UTDZM-FS
1	Body	A351 Gr.CF8	A351 Gr.CF8M	A351 Gr.CF8	A351 Gr.CF8M
2	Body cap	A351 Gr.CF8	A351 Gr.CF8M	A351 Gr.CF8	A351 Gr.CF8M
3	Stem	A276 Type 304	A276 Type 316	A276 Type 304	A276 Type 316
4	Ball*2	A276 Type 304 or A351 Gr.CF8	A276 Type 316 or A351 Gr.CF8M	A276 Type 304 or A351 Gr. CF8	A276 Type 316 or A351 Gr. CF8M
7	Gland	A351 Gr.CF8			
8	Gland packing	PTFE		Flexible graphite	
9	Handle*3	Ductile iron			
9A	Handle bar*3	Carbon steel			
9B	Handle head*3	Ductile iron			
16	Name plate	A276 Type 304*4			
19	Gasket	PTFE		Flexible graphite	
20	Packing washer*4	A276 Type 316L*5			
30	Ball seat	HYPATITE® PTFE (Trim 1H: FILLTITE®)*6			
33	Cap nut	A194 Gr.8			
35	Cap bolt	A193 Gr.B8			
36	Gland bolt	Stainless steel			
40	Key-lock plate	A276 Type 304*4			
43	Handle-lock plate	A276 Type 304*4			
48	Snap ring	A276 Type 304*4			
49	Stopper	A276 Type 304*4			
51	Stopper plate	A276 Type 304*4			
57	Gland bush	Reinforced PTFE (Carbon: Trim 1H)*6			
58	Gland washer	A276 Type 304*4			
67	Stem bearing	Reinforced PTFE (Carbon: Trim 1H)*6			
123A	Handle-lock plate bolt	Stainless steel			
123B	Handle bolt	Stainless steel			
124	Spring & pin	A313 & A276 Type 316			
126	Stopper plate bolt	Stainless steel			
145	Coned disc spring	Stainless steel			

\*1 CF8M or Type 316 is optionally available for balls and stems.

\*2 Class 150: Bar type handle used for NPS 6 and 8.

Class 300: Bar type handle used for NPS 4 to 8.

\*3 Up to NPS 1 1/4

\*4 A276 Type 304 or equivalent

\*5 A276 Type 316L or equivalent

\*6 Trim 1H (150/300UTDZ1H)

All part numbers are corresponding with those shown in valve assembly drawings.

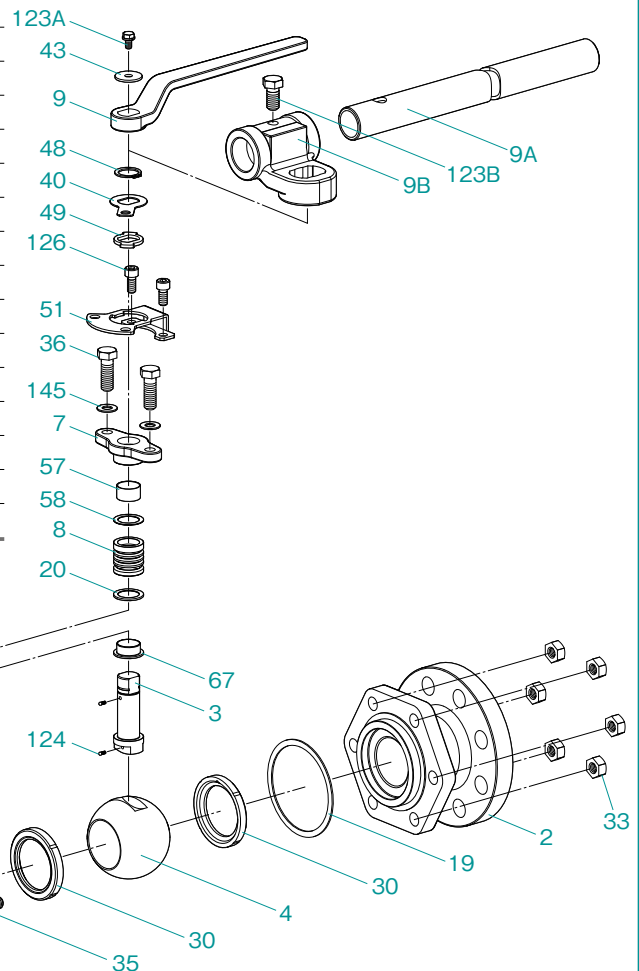


Illustration shows NPS 4 design.

## Construction and Materials

■ Standard material configuration can be applied to sour service.

No.	Parts	Standard	
		150UTB	150UTBM
1	Body	A351 Gr. CF8	A351 Gr. CF8M
2	Body cap	A351 Gr. CF8	A351 Gr. CF8M
3	Stem	A276 Type 304	A276 Type 316
4	Ball	A276 Type 304 or A351 Gr. CF8	A276 Type 316 or A351 Gr. CF8M
7	Gland	A351 Gr. CF8	
8	Gland packing	PTFE	
9	Handle* <sup>1</sup>	Ductile iron	
16A	Name plate	Aluminum	
16B	Washer	Carbon steel	
19	Gasket	PTFE	
20	Packing washer* <sup>2</sup>	A276 Type 316* <sup>4</sup>	
30	Ball seat	HYPATITE® PTFE	
33	Cap nut	A194 Gr. 8	
35	Cap bolt	A193 Gr. B8	
36	Gland bolt	Stainless steel	
47	Thrust washer	Reinforced PTFE	
48	Snap ring	A276 Type 304* <sup>3</sup>	
49	Stopper	A276 Type 304* <sup>3</sup>	
67	Stem bearing	Reinforced PTFE	
123	Handle bolt	NPS 6 to 10	Carbon steel
124A	Spring & pin	NPS 2½ to 10	A313 & A276 Type 316
124B	Spring	NPS ½ to 2	A313 Type 316* <sup>4</sup>

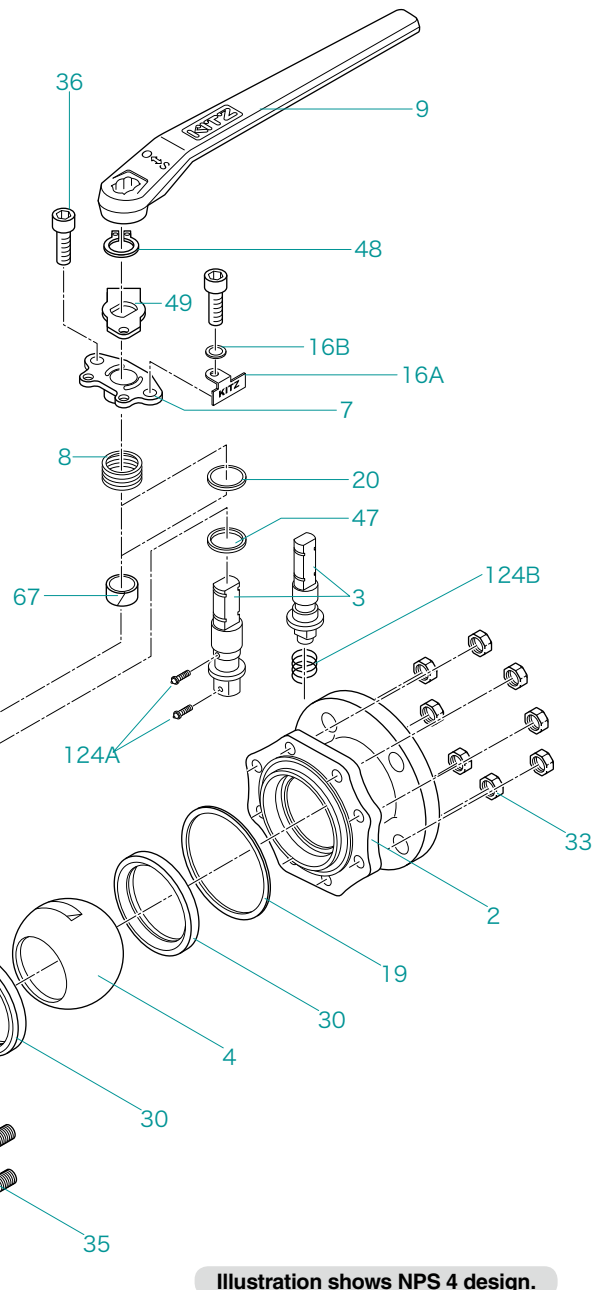
\*1 Bar type handles are used for NPS 6 and 8. Worm gear operations are used for NPS10.

\*2 Packing washers are used only for NPS 1 and smaller.

\*3 A276 Type 304 or equivalent

\*4 A276 Type 316 or equivalent

All part numbers are corresponding with those shown in valve assembly drawings.



## Construction and Materials

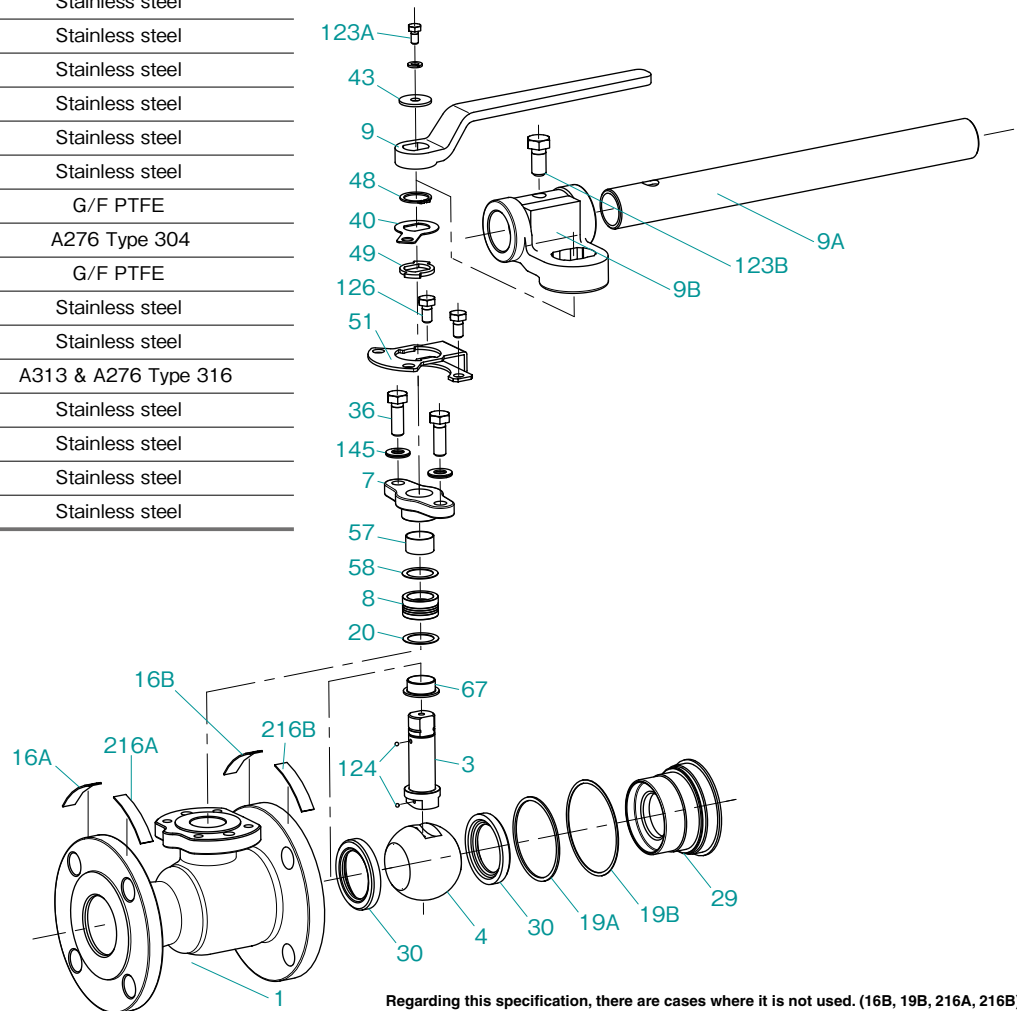
■ Standard material configuration can be applied to sour service.

No.	Parts	Standard	Fire-safe
		150UTAZM 300UTAZM	150UTAZM-FS 300UTAZM-FS
1	Body	A351 Gr. CF8M	
3	Stem	A276 Type 316* <sup>2</sup>	
4	Ball	A276 Type 316* <sup>2</sup> /A351 Gr. CF8M	
7	Gland	A351 Gr. CF8M	
8	Gland packing	PTFE	Flexible graphite
9	Handle* <sup>1</sup>	Ductile iron	
9A	Handle bar	Carbon steel	
9B	Handle head	Ductile iron	
16A	Name plate	Stainless steel	
16B	Lev plate	Stainless steel	
19A	Gasket	PTFE	
19B	Gasket	—	Flexible graphite
20	Packing washer	A276 Type 316L* <sup>2</sup>	
29	Insert	A351 Gr. CF8M/A182 Gr. F316/A276 Type 316	
30	Ball seat	HYPATITE® PTFE	
36	Gland bolt	Stainless steel	
40	Key-lock plate	Stainless steel	
43	Handle-lock plate	Stainless steel	
48	Snap ring	Stainless steel	
49	Stopper	Stainless steel	
51	Stopper plate	Stainless steel	
57	Gland bush	G/F PTFE	
58	Gland washer	A276 Type 304	
67	Stem bearing	G/F PTFE	
123A	Handle lock plate bolt	Stainless steel	
123B	Handle bolt	Stainless steel	
124	Spring & pin	A313 & A276 Type 316	
126	Stopper plate bolt	Stainless steel	
145	Coned disc spring	Stainless steel	
216A	Ce plate	Stainless steel	
216B	Atex plate	Stainless steel	

\*1 Bar type handles are used for NPS 6 and larger.

\*2 A276 Type 316 or equivalent

All part numbers are corresponding with those shown in valve assembly drawings.



Regarding this specification, there are cases where it is not used. (16B, 19B, 216A, 216B)

Illustration shows NPS 1/2 design.



## Construction and Materials

No.	Parts		Standard		Fire-safe
			600UTB	600UTBM	600UTBS/UTBMS
1	Body		A351 Gr. CF8*2	A351 Gr. CF8M*2	A351 Gr. CF8/ CF8M*2
2	Body cap				
3	Stem		A276 Type 304*2*3	A276 Type 316*2*4	A276 Type 304*3/316*2*4
4	Ball				
7	Gland		A351 Gr. CF8		
8	Gland packing		PTFE		Flexible graphite
9	Handle		Ductile iron		
16	Name plate		Stainless steel		
19	Gasket*1		—		Flexible graphite spiral wound
20	Packing washer	NPS 1/2 to 1	A276 Type 316*4		
30	Ball seat		Reinforced PTFE with MoS2		
33	Cap nut		A194 Gr. 8		
35	Cap bolt		A193 Gr. B8		
36	Gland bolt		Stainless steel		
45A	O-ring		FKM		—
45B	O-ring		FKM		
47	Thrust washer		Metal-backed PTFE		
48	Snap ring		A276 Type 304*3		
49	Stopper		A276 Type 304*3		
67	Stem bearing		Reinforced PTFE		
124	Spring & pin		A313 & A276 Type 316		
143	Seat spring		A167 Type 304	INCONEL® X-750	A167 Type 304/ INCONEL® X-750
150	Seat retainer		A276 Type 304*3	A276 Type 316*4	A276 Type 304*3/316*
155	Spacer*1		—	—	PTFE
175	Retainer gland*1		—	—	A276 Type 304*3
176	Retainer packing*1		—	—	Flexible graphite

\*1 This parts are used only for super-firesafe provision.

\*2 Other stainless steel are optionally available.

\*3 A276 Type 304 or equivalent

\*4 A276 Type 316 or equivalent

All part numbers are corresponding with those shown in valve assembly drawings.

■ Standard material configuration can be applied to sour service.

No.	Parts	Standard	Fire-safe
		600SCTB	600SCTBS
1	Body	A105*1	
2	Body cap		
3	Stem	A276 Type 304*2*4	
4	Ball		
7	Gland	A351 Gr. CF8	
8	Gland packing	PTFE	Flexible graphite
9	Handle	Ductile iron	
16	Name plate	Stainless steel	
19	Gasket*3	—	Flexible graphite spiral wound
20	Packing washer NPS 1/2 to 1	A276 Type 316*5	
30	Ball seat	Reinforced PTFE with MoS2	
33	Cap nut	A194 Gr. 2H	
35	Cap bolt	A193 Gr. B7	
36	Gland bolt	Cr-Mo steel	
45A	O-ring	NBR	—
45B	O-ring	NBR	
47	Thrust washer	Metal-backed PTFE	
48	Snap ring	Carbon steel	
49	Stopper	A276 Type 304*4	
67	Stem bearing	Reinforced PTFE	
124	Spring & pin	A313 & A276 Type 316	
143	Seat spring	A167 Type 304	
150	Seat retainer	A105 Zn plating	
155	Spacer*3	—	PTFE
175	Retainer gland*3	—	A105
176	Retainer packing*3	—	Flexible graphite

\*1 A350 low-temperature service materials are optionally available.

\*2 Type 316 and other stainless steels are optionally available for ball and stem.

\*3 These parts are used only for super-firesafe provision.

\*4 A276 Type 304 or equivalent

\*5 A276 Type 316 or equivalent

All part numbers are corresponding with those shown in valve assembly drawings.

■ An optional material configuration is available for sour service.

Refer to the illustration on Page 42.

## Construction and Materials

### ■ Class 600 Floating Ball Valve

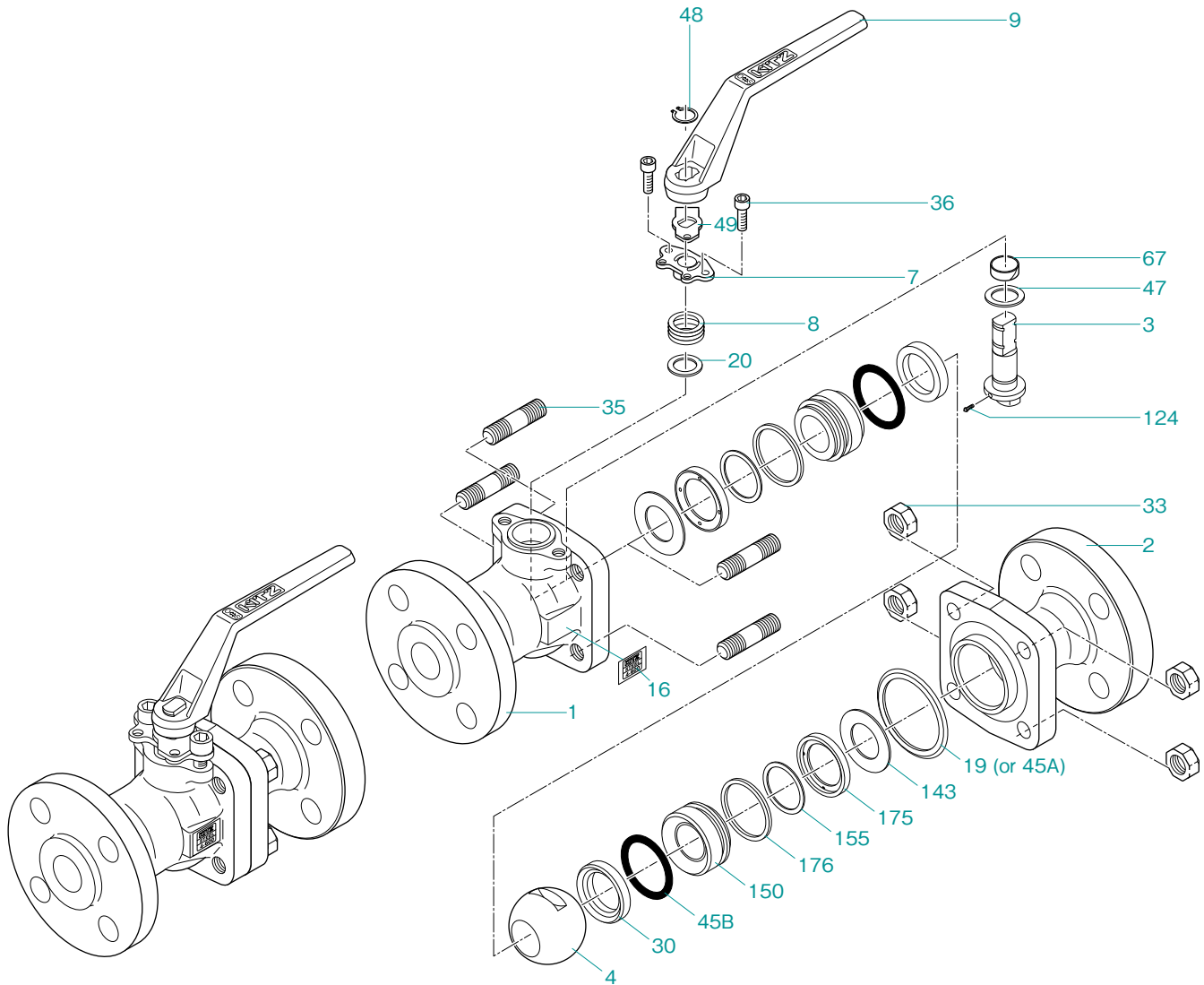


Illustration shows NPS 1/2 design.

## Construction and Materials

No.	Parts	Standard	
		1500UTB(S)	1500UTB(S)M
1	Body	A351 Gr. CF8* <sup>2</sup>	A351 Gr. CF8M* <sup>2</sup>
2	Body cap		
3	Stem	A276 Type 304* <sup>2</sup>	A276 Type 316* <sup>2</sup>
4	Ball		
7	Gland	A351 Gr. CF8	
8	Gland packing	PTFE	
9	Handle	Ductile iron	
19	Gasket* <sup>1</sup>	—	
30	Ball seat	Nylon with MoS <sub>2</sub>	
31	Stem washer	A276 Type 316* <sup>4</sup>	
33	Cap nut	A194 Gr. 8	
35	Cap bolt	Stainless steel	
36	Grand bolt	A193 Gr. B8	
45A	O-ring	FKM	
45B	O-ring	FKM	
47	Thrust washer	Metal-backed PTFE	
48	Snap ring	A276 Type 304* <sup>3</sup>	
49	Stopper	A276 Type 304* <sup>3</sup>	
67	Stem bearing	Reinforced PTFE	
85	Plug	A276 Type 316* <sup>4</sup>	
124	Spring & pin	A313 & A276 Type 316	
143	Seat spring	A167 Type 304	INCONEL <sup>®</sup> X-750
146	Back-up ring	PTFE	
150	Seat retainer	A276 Type 304* <sup>3</sup>	A276 Type 316* <sup>4</sup>
155	Spacer* <sup>1</sup>	PTFE	
175	Retainer gland* <sup>1</sup>	A276 Type 304	A276 Type 316
176	Retainer packing* <sup>1</sup>	Flexible graphite	

\*1 These parts are used only for super-firesafe provision.

\*2 Other stainless steel are optionally available.

\*3 A276 Type 304 or equivalent

\*4 A276 Type 316 or equivalent

All part numbers are corresponding with those shown in valve assembly drawings.

■ Standard materials can be used for to sour service.

No.	Parts	Standard	Fire-safe
		1500SCTB	1500SCTBS
1	Body	A216 Gr. WCB* <sup>1</sup>	
2	Body cap		
3	Stem	A276 Type 304* <sup>2</sup>	
4	Ball		
7	Gland	A351 Gr. CF8	
8	Gland packing	PTFE	Flexible graphite
9	Handle	Ductile iron	
19	Gasket* <sup>3</sup>	—	Flexible graphite spiral wound
30	Ball seat	Nylon with MoS <sub>2</sub>	
31	Stem washer	A276 Type 316* <sup>5</sup>	
33	Cap nut	A194 Gr. 2H	
35	Cap bolt	A193 Gr. B7	
36	Gland bolt	Cr-Mo steel	
45A	O-ring	NBR	—
45B	O-ring	NBR	
47	Thrust washer	Metal-backed PTFE	
48	Snap ring	Carbon steel	
49	Stopper	A276 Type 304* <sup>4</sup>	
67	Stem bearing	Reinforced PTFE	
85	Plug	A576 Gr. 1025 Zn plating	
124	Spring & pin	A313 & A276 Type 316	
143	Seat spring	A167 Type 304	
146	Back-up ring	PTFE	
150	Seat retainer	A105 Zn plating	
155	Spacer* <sup>3</sup>	—	PTFE
175	Retainer gland* <sup>3</sup>	—	A105
176	Retainer packing* <sup>3</sup>	—	Flexible graphite

\*1 A352 low-temperature service materials are optionally available.

\*2 Type 316 is optionally available for ball and stem.

\*3 These parts are used only for fire-safe provision.

\*4 A276 Type 304 or equivalent

\*5 A276 Type 316 or equivalent

All part numbers are corresponding with those shown in valve assembly drawings.

■ Optional materials are available for sour service.

Refer to the illustration on Page 44.