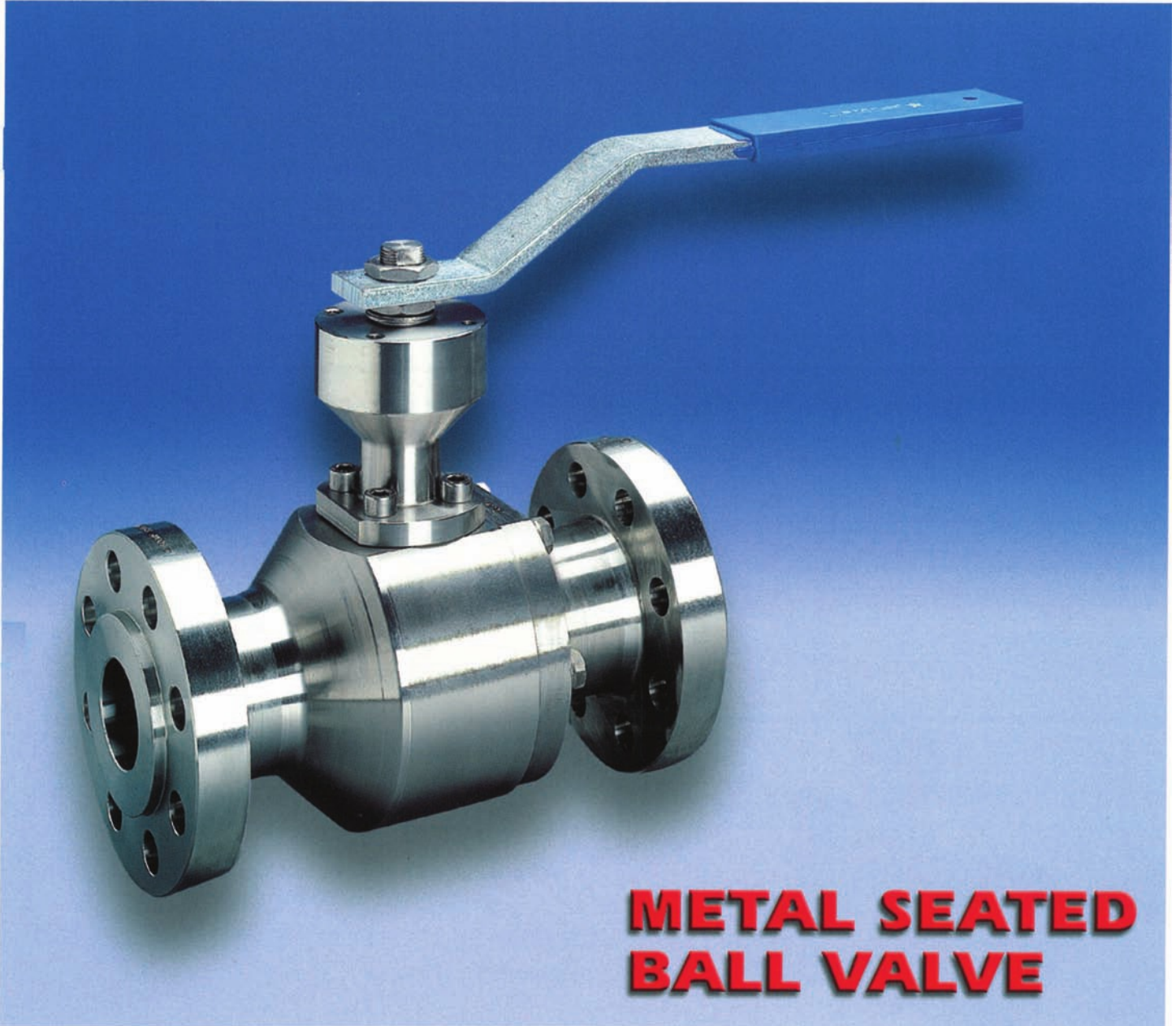


4 METAL STAR FORGED STEEL BALL VALVES



**METAL SEATED
BALL VALVE**

PED 97/23 EC

CE 0038

Certificate N°: RPS 0160304/01

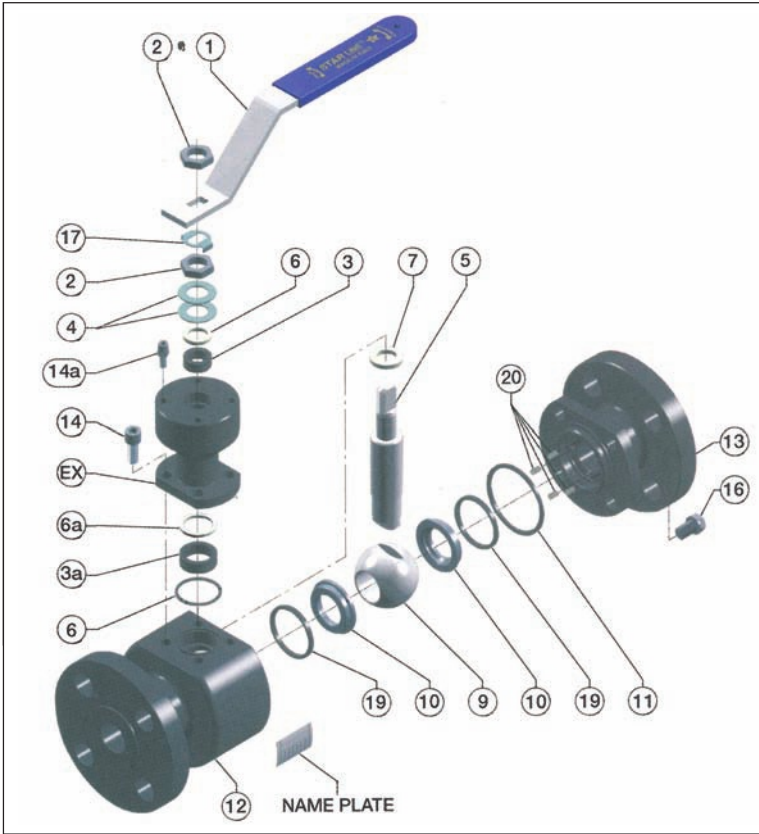
ATEX 94/9 CE



Tech. File N° ST01 ATEX



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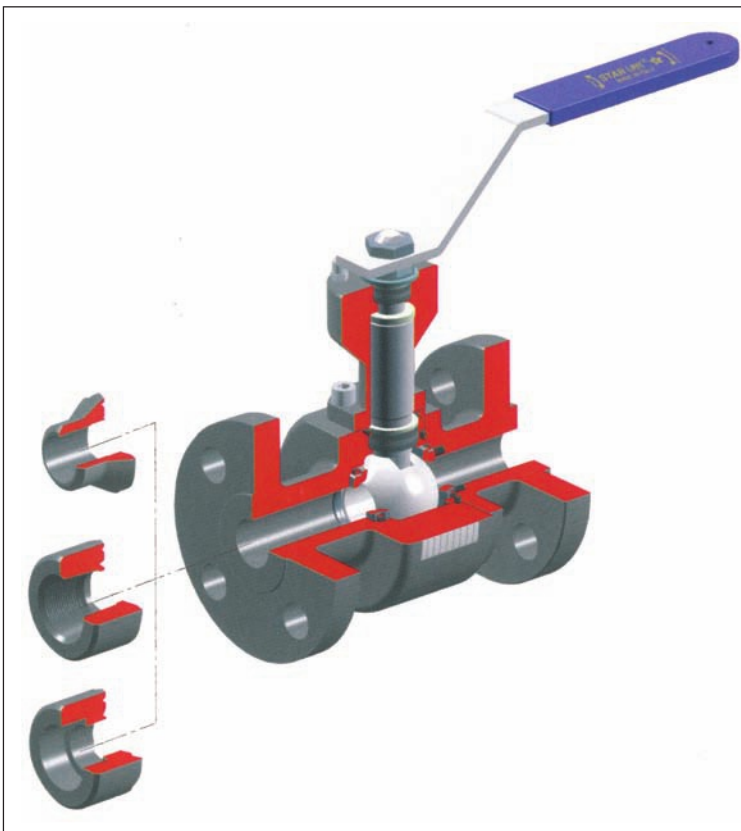


STARLINE Figure No.	Full Bore	143 MGG	145 MGG	146 MGG
STARLINE Figure No.	Reduced Bore	243 MGG	245 MGG	246 MGG
PART NO	UNIT Q.TY	PART NAME		MATERIALS
		A105 / 316	LF2 / 316	316 / 316
NP	1	NAME PLATE	Stainless Steel	Stainless Steel
G	1	EXTENTION GASKET	Graphite	Graphite
EX	1	EXTENTION	ASTM A105N	ASTM A350 LF2
	1	HANDLE	Stainless Steel + Plastic	Stainless Steel + Plastic
	2	HANDLE NUT	C.S. Zinc Plated	Stainless Steel
	3-3	PACKING RING	Graphite	Graphite
	2	SPRING WASHER	Special S.S. for Springs	Special S.S. for Springs
	1	STEM	UNS S31803	UNS S31803
	1+1	GLAND PACKING	Stainless Steel	Stainless Steel
	1	THRUST WASHER	Stainless Steel	Stainless Steel
	1	BALL	S.S. 316 Hardnet note 3	S.S 316 Hardnet note 3
	2	SEATS	S.S. 316 Hardnet note 3	S.S 316 Hardnet note 3
	2	BODY GASKET	Graphite	Graphite
	1	BODY	ASTM A105N	ASTM A305 LF2
	1	END CONNECTION	ASTM A105N	ASTM A350 LF2
	4	EXTENTION SCREW	Stainless Steel	Stainless Steel
	1	STOP PIN	Stainless Steel	Stainless Steel
	nota 1	BOLTS	ASTM A193 B8	ASTM A193 B8
	1	STOP WASHER	Stainless Steel	Stainless Steel
	2	SEAT SEALS	Graphite	Graphite
	nota 2	SEAT SPRINGS	Inconell X-750	Inconell X-750

NOTE:

- 1) For size 1/4" to 1.1/2" n° 4 bolts - For size 2" n° 6 bolts
- 2) For size 1/4" to 1.1/2" n° 4 springs - For size 2" n° 6 springs.
- 3) Surface are coated with tungsten carbide, chrome carbide, stellite 6 and other coated on request

- Suggested materials after 2 years service
- Suggested materials after 5 years service



DESCRIPTION

CONSTRUCTION: TWO PIECES BOLTED CONSTRUCTION - ANTI BLOW OUT PROOF STEM DESIGN - SOLID BALL AND METAL SEATS SURFACES ARE COATED WITH TUNGSTEN CARBIDE, CHROME CARBIDE AND STELLITE 6 - ANTISTATIC DEVICE - FIRE SAFE DESIGN - ISO 5211 ON THE TOP FOR EASY AUTOMATION.

SIZE: DN 8 ÷ 50 FULL BORE -- DN 20 ÷ 80 REDUCED BORE
1/4" ÷ 2" FULL BORE -- 3/4" ÷ 3" REDUCED BORE

CLASS: PN16 ÷ 100 or ASME 150 ÷ 600 LBS

TEMPERATURE: -200° C UP TO +700° C

MATERIAL: ASTM A105 - LF2 - 316 - 316L - F22 - INCONEL AND SPECIAL MATERIALS

DESIGN: ASME B16.34 - ASME B31.1 - BS5351 - API 6D - P.E.D. 97/23/EC ATEX 94/9 CE

MARKING: MSS SP25
CE 0038: ACCORDING TO DIRECTIVE 97/23/CE - MODULE H CATEGORY III NOTIFIED BODY LLOYD'S REGISTERED CERTIFICATE NR. RPS 01060304/01

Ex IM2/II 2GD: ACCORDING TO ATEX 94/9 CE - TECHNICAL FILE NR. ST01 ATEX

TEST CERTIFICATE: UNI EN 10204 TYPE 3.1B UNLESS OTHERWISE REQUIRED

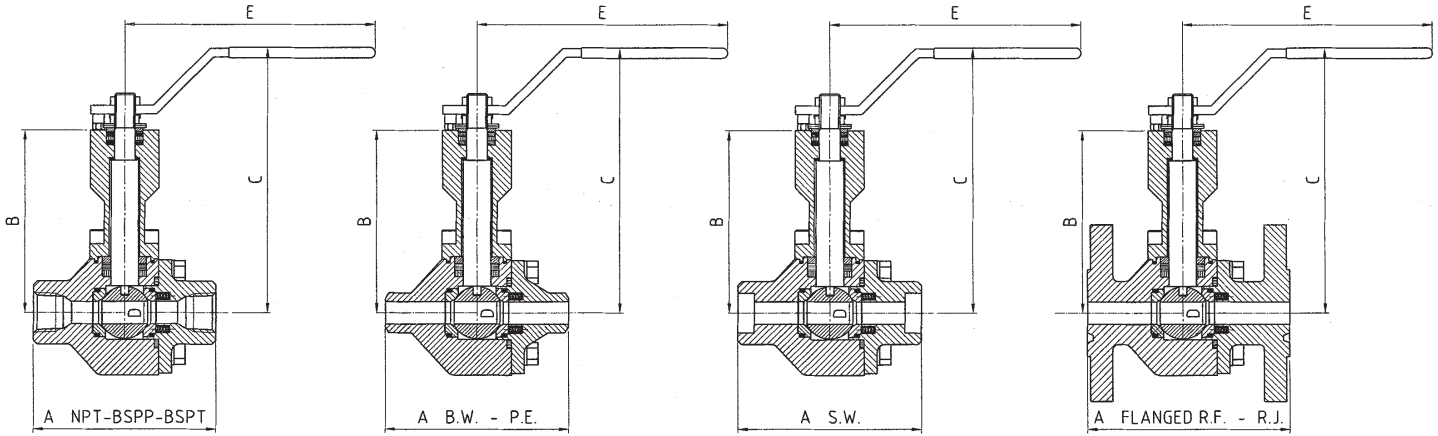
SERVICES: FOR EXTREME TEMPERATURE, ABRASIVE AND CORROSIVE SERVICE

BSP Parallel: BS21Rp - ISO 228/1 - ISO 7/1Rp
 BSP Taper: BS21Rc - ISO 7/1Rc - DIN 2999/1
 NPT: ANSI B1 20.1

B.W. - P.E.: ANSI B16.25 Sch. 40 - XS - 80 - 160
 Note: other overall lengths are available on request.

S.W.: ANSI B16.11

FLANGES in according to ASME / ANSI B 16.5
 FACE TO FACE in according to ASME / ANSI B16.10
 Note: when flanges are RF type of finish must be stated on the order



FULL BORE																			
VALVE SIZE	A								B	C	D	E	ISO 5211	WEIGHT KG. LBS					
	NPT BSPP BSPT BW PE - SW	FLANGED						FLANGED											
		150 RF	300 RF	300 RJ	600 RF	600 RJ	PN 10/100	150 RF						300 RF - RJ	600 RF - RJ	PN 16-40	PN 63	PN 100	
DN 8	106	-	-	-	-	-	-	106	160	13	193	F04	3.5	-	-	-	-	-	-
Inch 1/4"	4.3/16"	-	-	-	-	-	-	4.17"	6.30"	51"	7.60"	F04	7.7	-	-	-	-	-	-
DN 10	106	-	-	-	-	-	130	106	160	13	193	F04	3.5	-	-	-	5	6	6
Inch 3/8"	4.3/16"	-	-	-	-	-	5.1/8"	4.17"	6.30"	51"	7.60"	F04	7.7	-	-	-	11	13.2	13.2
DN 15	106	140	140	151	165	163.5	130	106	160	13	193	F04	3.2	4.5	5	7	5	6	6
Inch 1/2"	4.3/16"	5.1/2"	5.1/2"	5.15/16"	6.1/2"	6.7/16"	5.1/8"	4.17"	6.30"	51"	7.60"	F04	7	9.9	11	15.4	11	13.2	13.2
DN 20	110	152	152	165	191	191	150	110	165	19	193	F04	4.5	5.5	6.5	10.5	6.5	8.5	8.5
Inch 3/4"	4.5/16"	6"	6"	6.1/2"	7.1/2"	7.1/2"	5.7/8"	4.33"	6.50"	75"	7.60"	F04	10	12.1	14.3	23.1	14.3	18.7	18.7
DN 25	127	165	165	178	216	216	160	117	183	25	222	F05	7	7.5	9	13.5	9	11	11
Inch 1"	5"	6.1/2"	6.1/2"	7"	8.1/2"	8.1/2"	6.5/16"	4.60"	7.20"	1"	8.75"	F05	15.5	16.5	19.8	29.8	19.8	24.2	24.2
DN 32	180	178	178	191	229	229	180	152	235	38	365	F07	11	13	15	25.5	15	23.5	23.5
Inch 1.1/4"	7.1/8"	7"	7"	7.1/2"	9"	9"	7.1/8"	6"	9.25"	1.5"	14.4"	F07	24	28.6	33	56	33	52	52
DN 40	180	191	191	203	241	241	200	152	235	38	365	F07	11	14	17	28	17.5	25.5	25.5
Inch 1.1/2"	7.1/8"	7.1/2"	7.1/2"	8"	9.1/2"	9.1/2"	8.1/4"	6"	9.25"	1.5"	14.4"	F07	24	30.8	37.5	62	38.6	56.2	56.2
DN 50	216	216	216	232	292	295	230	167	-	50	-	F07	16	20	24	34	25	30	30
Inch 2"	8.1/2"	8.1/2"	8.1/2"	9.1/8"	11.1/2"	11.5/8"	9.1/16"	6.57"	-	1.97"	-	F07	35	44	53	75	55	66	66

NOTE:
 For size DN 40 or 1.1/2" gear operated for class 300 to 600 or PN 40 to 100
 For size DN 50 or 2" gear operated for all pressure ratings

REDUCED BORE																			
VALVE SIZE	A								B	C	D	E	ISO 5211	WEIGHT KG. LBS					
	NPT BSPP BSPT BW PE - SW	FLANGED						FLANGED											
		150 RF	300 RF	300 RJ	600 RF	600 RJ	PN 10/100	150 RF						300 RF - RJ	600 RF - RJ	PN 16-40	PN 63	PN 100	
DN 20	106	152	152	165	191	191	150	106	160	13	193	F04	3.2	5	6	8	6	7	7
Inch 3/4"	4.3/16"	6"	6"	6.1/2"	7.1/2"	7.1/2"	5.7/8"	4.17"	6.30"	51"	7.60"	F04	7	11	13.2	17.6	13.2	15.4	15.4
DN 25	110	165	165	178	216	216	160	110	165	19	193	F04	4.5	6	7.5	12.5	7.5	9.5	9.5
Inch 1"	4.5/16"	6.1/2"	6.1/2"	7"	8.1/2"	8.1/2"	6.5/16"	4.33"	6.50"	75"	7.60"	F04	10	13.2	16.5	27.5	16.5	21	21
DN 32	127	178	178	191	229	229	180	117	183	25	222	F05	7	8.5	11	15	11	13	13
Inch 1.1/4"	5"	7"	7"	7.1/2"	9"	9"	7.1/8"	4.60"	7.20"	1"	8.75"	F05	15.5	18.7	24.2	33	24.2	28.6	28.6
DN 40	180	191	191	203	241	241	200	152	235	38	365	F07	11	14	17	28	17.5	25	25
Inch 1.1/2"	7.1/8"	7.1/2"	7.1/2"	8"	9.1/2"	9.1/2"	8.1/4"	6"	9.25"	1.5"	14.4"	F07	24	30.8	37.5	62	38.6	55	55
DN 50	180	216	216	232	292	295	230	152	235	38	365	F07	11	17	21	36	22	28	28
Inch 2"	7.1/8"	8.1/2"	8.1/2"	9.1/8"	11.1/2"	11.5/8"	9.1/16"	6"	9.25"	1.5"	14.4"	F07	24	37.5	46.3	79.4	48.5	62	62
DN 80	216	283	283	298	356	359	310	152	-	38	-	F07	16	28	32	44	34	36	36
Inch 3"	8.1/2"	11.1/8"	11.1/8"	11.3/4"	14"	14.1/8"	12.3/16"	6"	-	1.5"	-	F07	35	62	71	97	75	80	80

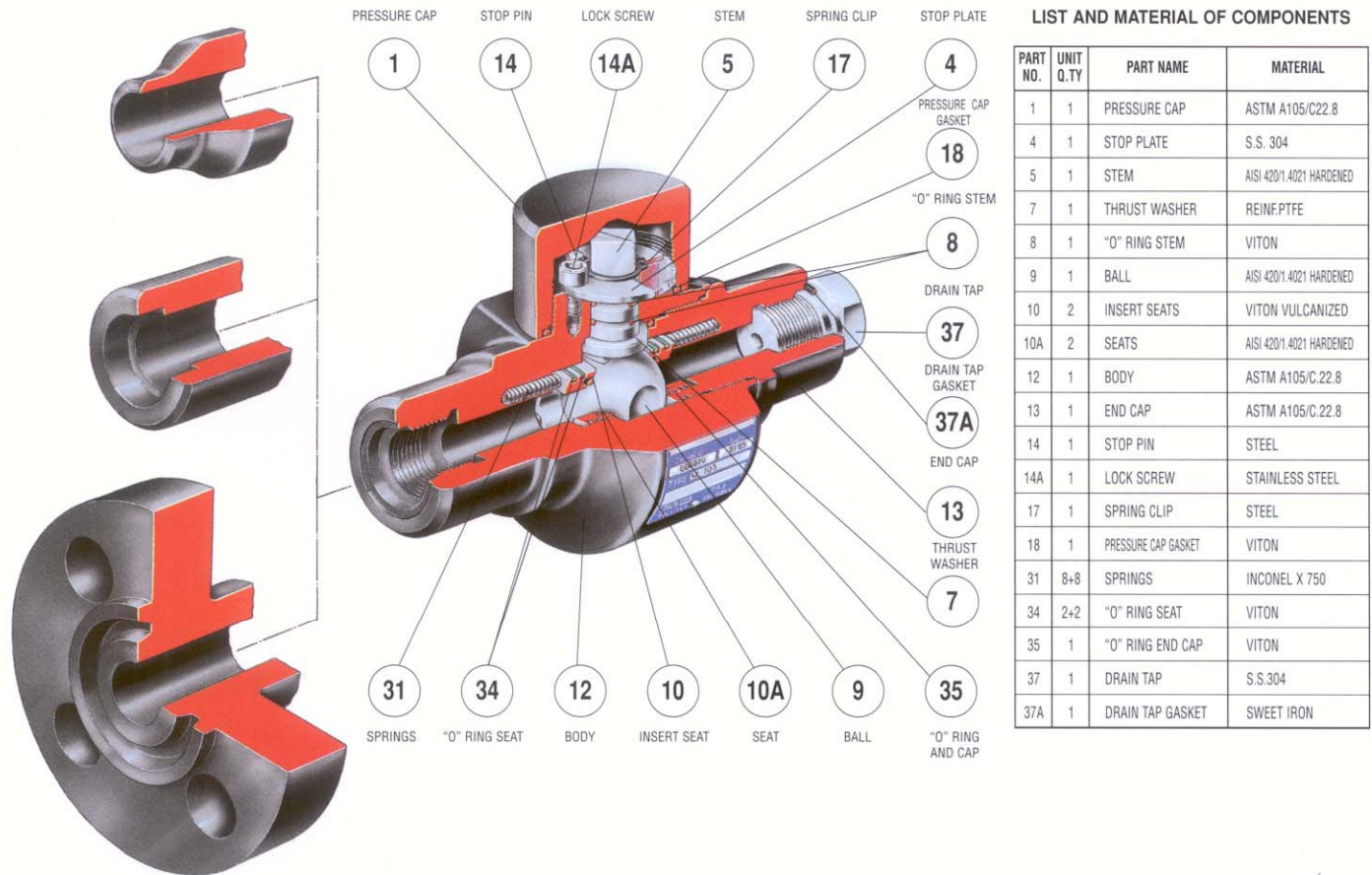
NOTE:
 For size DN 50 or 2" gear operated for class 300 to 600 or PN 40 to 100
 For size DN 80 or 3" gear operated for all pressure ratings

STARLINE WELDED BALL VALVES FOR GAS STORAGE

One piece seal welded body, floating ball double block. Primary seal METAL, to METAL, secondary seal vulcanized Viton or NBR, pressure safe cover for the stem to prevent any leakage. For operation remove the cover.

Completely in accordance to spec. KN251-005.

Specifically designed as shut off drain and vent lines for larges valve sizes and as Gas Storage valves, these valves have passed a critical prototype testing simulating 50 years service life with raw gas, and sand.

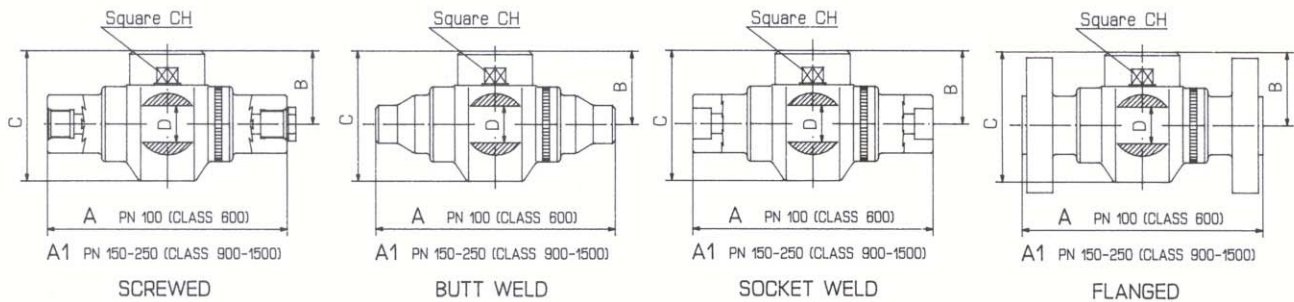


LIST AND MATERIAL OF COMPONENTS

PART NO.	UNIT Q.TY	PART NAME	MATERIAL
1	1	PRESSURE CAP	ASTM A105/C22.8
4	1	STOP PLATE	S.S. 304
5	1	STEM	AISI 420/1.4021 HARDENED
7	1	THRUST WASHER	REINF.PTFE
8	1	"O" RING STEM	VITON
9	1	BALL	AISI 420/1.4021 HARDENED
10	2	INSERT SEATS	VITON VULCANIZED
10A	2	SEATS	AISI 420/1.4021 HARDENED
12	1	BODY	ASTM A105/C.22.8
13	1	END CAP	ASTM A105/C.22.8
14	1	STOP PIN	STEEL
14A	1	LOCK SCREW	STAINLESS STEEL
17	1	SPRING CLIP	STEEL
18	1	PRESSURE CAP GASKET	VITON
31	8+8	SPRINGS	INCONEL X 750
34	2+2	"O" RING SEAT	VITON
35	1	"O" RING END CAP	VITON
37	1	DRAIN TAP	S.S.304
37A	1	DRAIN TAP GASKET	SWEET IRON

Valve range:
produced in the 3 typical sizes 1/2" - 1" - 2"
different combinations of end connections to suit any requirement

Class ratings:
all sizes are available in **ASME class 600 Lbs (ISO PN 100)** and
ASME class 1500 Lbs (ISO PN250)



SIZE		DIMENSION						WEIGHT KG			
INCH	DN	A	A1	B	C	D	CH	SREWED-BUTT WELD-SOCKET WELD		FLANGED	
								PN100 (600)	PN150-250 (900-1500)	PN 100 (600)	PN150-250 (900-1500)
1/2"	15	165	216	58	100	13	11	3.5	4	6	7
1"	25	216	254	90	155	25	14	9	10	11	15
2"	50	292	368	135	240	50	17	37	40	40	55

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