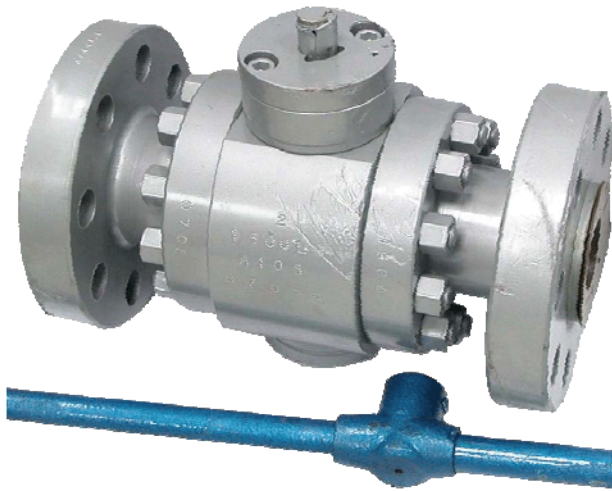


**Bolted Body Side Entry
Forged Steel Ball valve**



Model: KO-311FF

Rating: Class 600/900/1500

Design feature:

- Designed to be fire-safe to minimize both external and internal fluid leakage after plant fires.
- The double block and bleed feature, both with the ball in the fully closed or fully open position, is a standard feature.
- Primary soft seat - Secondary metal-to-metal seat Fire-safe seat design.
- With Independent Stem & Ball and Independent Floating Seats.
- Self-Relief in the body Cavity.
- Blow-Out Proof Stem & Antistatic Device design Provides Maximum Safety.
- Emergency Sealant Injection on Stem & Seats is available.
- Wide range of seat & seal materials is available.

Specifications:

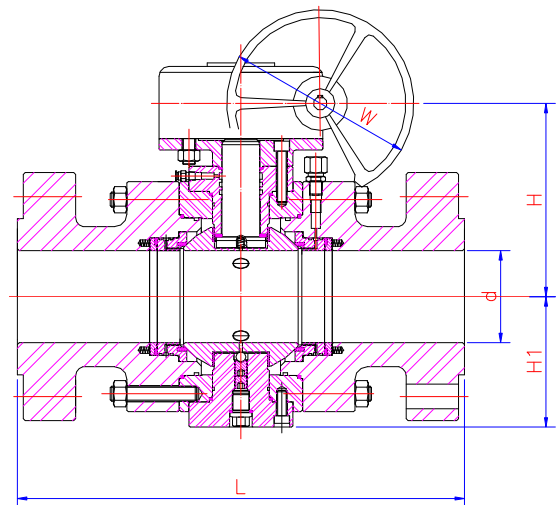
- Construction: Three piece bolted body side entry, trunnion ball design.
- Flow bore: full port.
- Rating: ANSI Class 600/ 900/ 1500
- Temperature: -20°F ~ 400°F (PTFE/ R.PTFE)
- Materials: ASTM A105, A182 F304/ F316
- Size range: 2"~24".

Standard:

- Basic Design to ANSI B16.34
- Flange Dimension to ANSI B16.5
- Face-to-face meets to ANSI B16.10
- Inspection & testing according to API 598

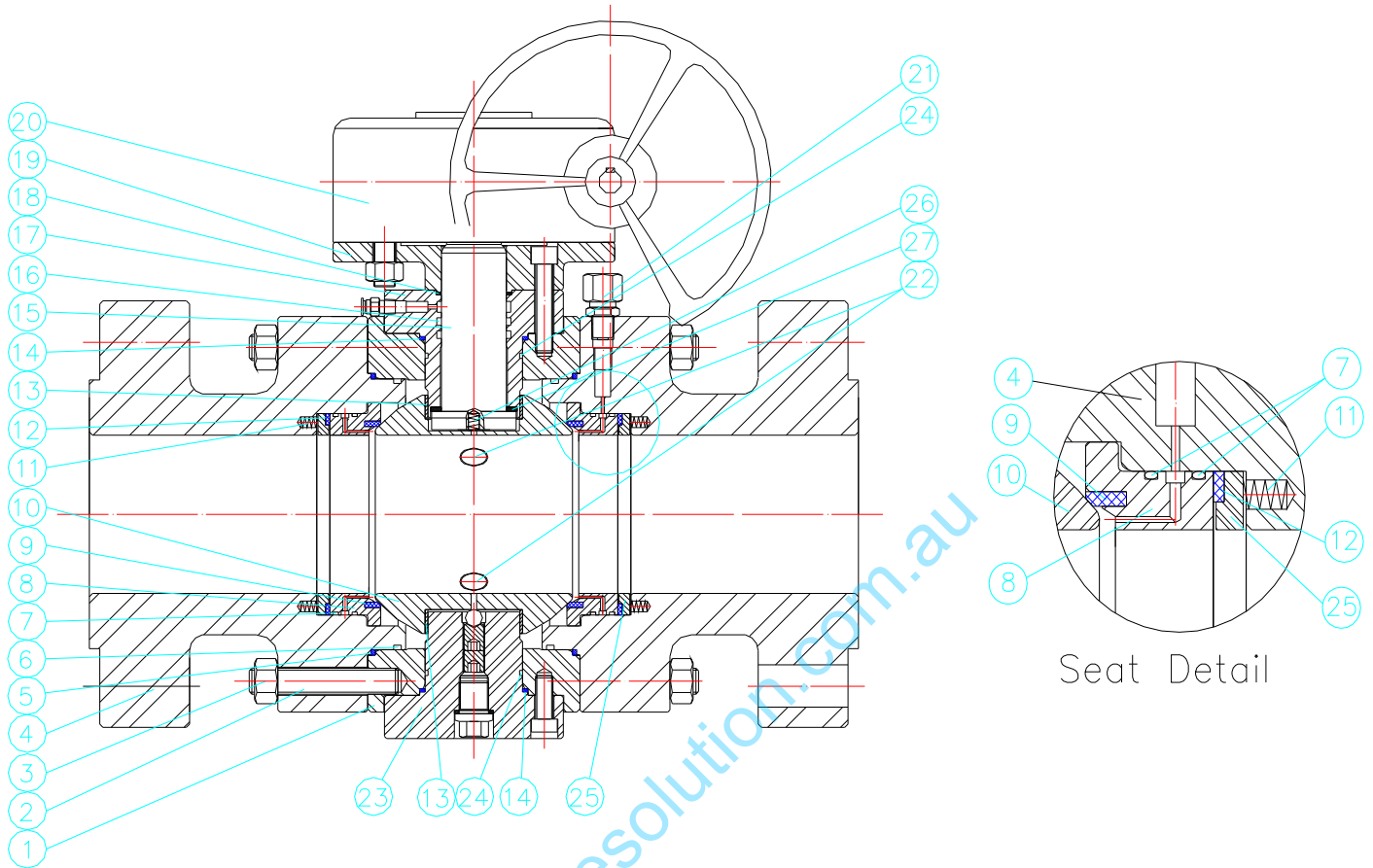
Dimensions List

KO-311FF-600 CLASS 600 WITH GEAR OPERATOR						
DN	SIZE	d	L (RF)	H	H1	φW
50	2"	51	292	177	130	600
65	2-1/2"	64	330	185	138	600
80	3"	75	356	208	175	1000
100	4"	102	432	250	200	600
125	5"	127	508	285	225	600
150	6"	152	559	290	190	800
200	8"	203	660	358	255	800
250	10"	254	787	424	298	800
300	12"	305	838	456	330	800
350	14"	337	889	475	355	600
400	16"	387	991	537	405	800
450	18"	438	1092	610	476	800
500	20"	489	1194	690	560	800
600	24"	591	1397			



KO-311FF-900 CLASS 900 WITH GEAR OPERATOR						
DN	SIZE	d	L (RF)	H	H1	φW
50	2"	51	368	177	130	600
65	2-1/2"	64	419	185	138	600
80	3"	76	381	208	175	1000
100	4"	102	457	250	200	600
150	6"	152	610	290	190	800
200	8"	203	737	358	255	800
250	10"	254	838	424	298	800
300	12"	305	965	456	330	800
350	14"	324	1029	475	355	600
400	16"	375	1130	537	405	800

KO-311FF-1500 CLASS 1500 WITH GEAR OPERATOR						
DN	SIZE	d	L (RF)	H	H1	φW
50	2"	51	368	177	130	600
65	2-1/2"	64	419	185	138	600
80	3"	76	470	208	175	1000
100	4"	102	546	250	200	600
150	6"	146	705	290	190	800
200	8"	194	832	358	255	800
250	10"	241	991	424	298	800
300	12"	289	1130	456	330	800
350	14"	318	1257	475	355	600
400	16"	362	1384	537	405	800



MATERIALS LIST:

NO.	PARTS NAME	MATERIAL	NO.	PARTS NAME	MATERIAL
1	BODY	ASTM A105/ENP	16	O-RING, STEM	VITON
2	STUB	ASTMA19 B7M	17	BONNET	ASTM A105/ENP
3	NUT	ASTM A194 2HM	18	STEM PACKING	GRAPHITE
4	ENDCAP	ASTM A105/ENP	19	GLAND	ASTM A105/ENP
5	SEAL, BODY	GRAPHITE+SS304	20	GEAR BOX	DUCTILE IRON
6	O-RING, BODY	VITON	21	INJECTION FITTING	CARBON STEEL
7	O-RING, SEAT RING	VITON	22	BLOCK & BLEED	CARBON STEEL
8	SEAT RING	ASTM A105/ENP	23	BALL RETAINER	ASTM A105/ENP
9	SEAT INSERT	NYLON	24	O-RING	VITON
10	BALL	ASTM A105/ENP	25	FOLLOWER	ASTM A105/ENP
11	SPRING	17-7PH	26	ANTI-STATIC DEVICE	
12	GASKET, SEAT RING	GRAPHITE+SS316	27	THRUST WASHER	PTFE
13	STEM BEARING	Cu-Pb ALLOY			
14	GASKET, BONNET	GRAPHITE+SS316			
15	STEM	ASTM A105/ENP			

OTHER MATERIALS ARE AVAILABLE UPON REQUEST.