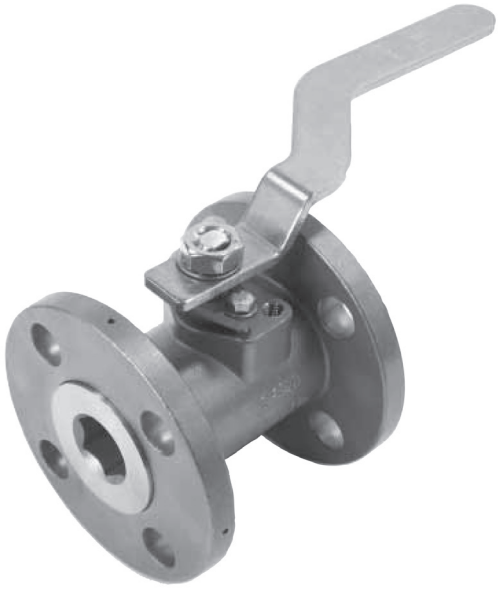
NELES

Jamesbury™ flanged railroad ball valves 7RRR, 7RRT & 7RRU standard bore: 1” – 3” series 7000 (AAR no. E089012)

The Jamesbury™ polymeric-seated flanged ball valves offer a patented flexible-lip seat design that provides positive bi-directional shut-off for your tank car applications. The design incorporates a short body length to accommodate the top fittings requirements of today’s tank cars. They are available with two raised face flanges (7RRR), one ASME raised face flange and one ASME tongue flange (7RRT), one ASME raised face flange and one square AAR flange (7RRU).

Polymeric-seated flanged ball valves are available in sizes 1” – 3”. Materials include carbon steel with 316 stainless steel trim or all stainless steel. Seat material options include PTFE or Xtreme™ for applications involving abrasive media and services with significant temperature fluctuations, Xtreme is recommended. Other materials are available for special applications.



Fire-Tite™ Valves

All *Jamesbury* tank car ball valves have a *Fire-Tite* design tested to API-607. In the event of a fire resulting in destruction of the polymeric seats, a secondary metal sealing surface provides continuous effective shutoff. API 608 compliance in a shortened face to face, serves refineries and related chemical and petro-chemical industries. Flange connections are per ASME and AAR specifications.

FEATURES AND BENEFITS

- Short body design provides minimum face-to-face dimensions.
- Quarter-turn operation for quick and easy cycling.
- *Xtreme* seat provides longer life, industry leading expanded performance boundaries, and greater value.
- Polymeric flexible lip-seat design offers tight shut-off in either direction and extended cycle life with minimum maintenance.
- *Fire-Tite* version with non-metallic seats meets API 607 requirements.

New Features and Benefits

- New patented stem seal system is live loaded and engineered to assure long sealing life.

Ratings

7RRR/7RRT/7RRU valves are rated for pressures and temperatures well in excess of those that are normally encountered in tank car service. Carbon steel valves are rated from -20˚F to +500˚F (-29˚C to +260˚C). 316 stainless steel valves are rated from -60˚F to +500˚F (-51˚C to +260˚C). The AAR pressure rating is 600 psi (41 bar) at ambient temperature. The seat rating, shown on the next page determine the practical temperature and pressure limitations according to actual service conditions.

Service

Representative stocks of 7RRR/7RRT/7RRU valves and spare parts are maintained by the network of Authorized Transportation Stocking Distributors located in key areas of the United States and Canada. For local distributor, visit our website at **www.neles.com.**

SPECIFICATIONS

Flow Data

The table below provides flow coefficients for *Jamesbury* valves covered in this bulletin. Cv values represent the flow of water at +60˚F through the valve in U.S. gallons per minute at a pressure drop of 1 psi. The metric equivalent, Kv, is the flow of water at 16˚C through the valve in cubic meters per hour at a pressure drop of 1 kg/cm^2. To convert Cv to Kv, multiply by 0.8569.

Valve Size		Cv
Inches	DN	Standard Bore
1	25	45
2	50	165
3	80	350

Valve Seat Ratings

Seat ratings, indicated by solid lines in the charts below, are based on differential pressure with the valve ball in the fully closed position and refer to seats only.

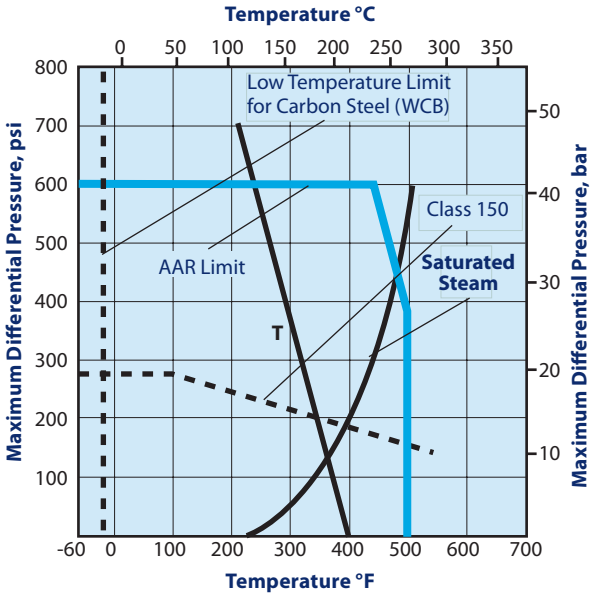
On saturated steam service, stainless steel trim is recommended at all pressures and is required above 200 psi (14 bar). For more information on seat materials, refer to Bulletin T140-1.

Xtreme Performance and Value

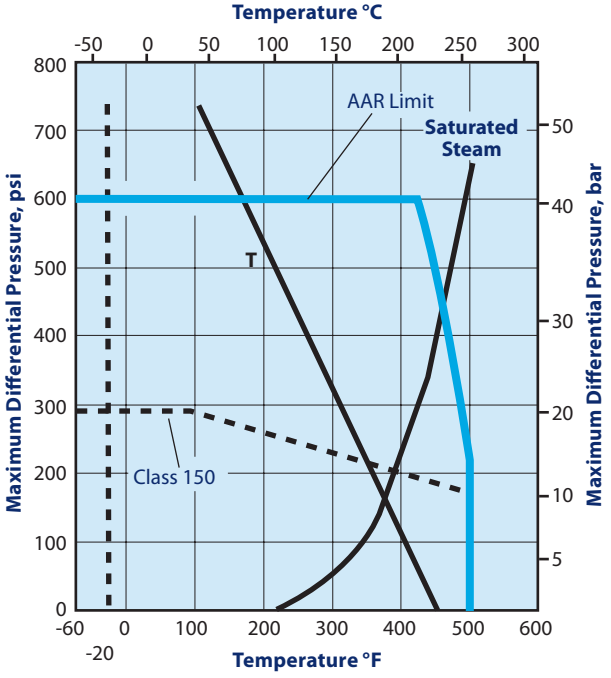
Xtreme seats provide longer life, expanded performance boundaries, and the greatest possible value. *Xtreme* is a unique material that resulted from a technological breakthrough in our polymer research lab. The material is a fluoro-polymer-based blend proprietary to *Jamesbury* that provides superior quarter-turn performance.

TYPICAL SEAT MATERIAL PRESSURE-TEMPERATURE RATINGS

1" – 2" Standard Bore



3" Standard Bore



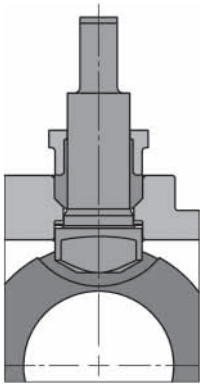


Figure 1
Robust Stem with deep engagement. Excessive torque can only cause failure outside the body.

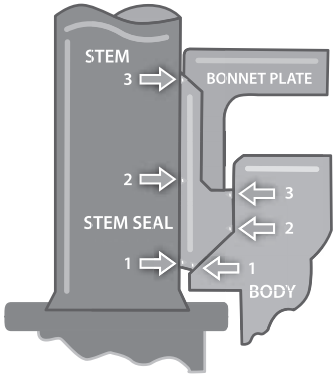


Figure 2
Patented Stem Seal incorporates 3 zones of contact between the stem and the seal.

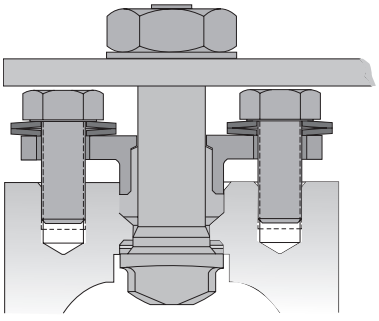
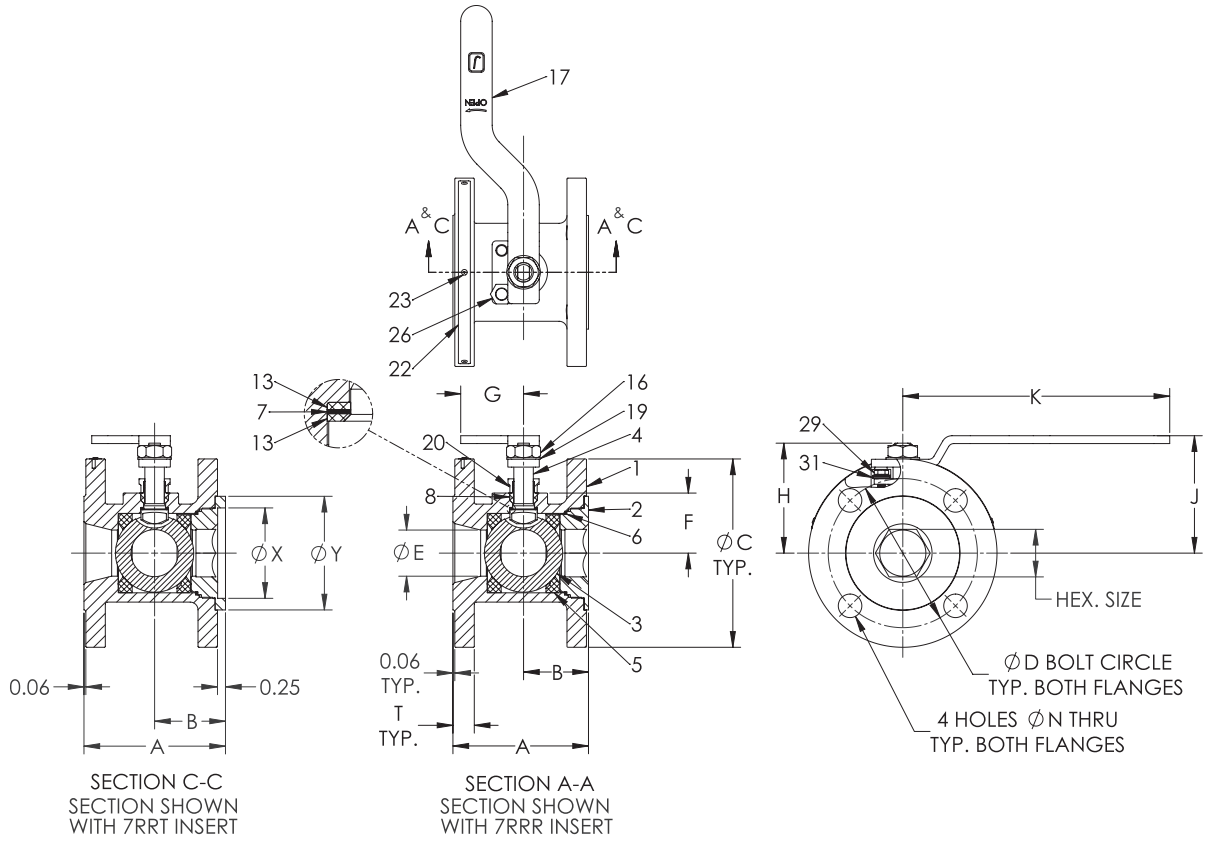


Figure 3
Live loading of stem seals eliminates theneed for frequent adjustment.

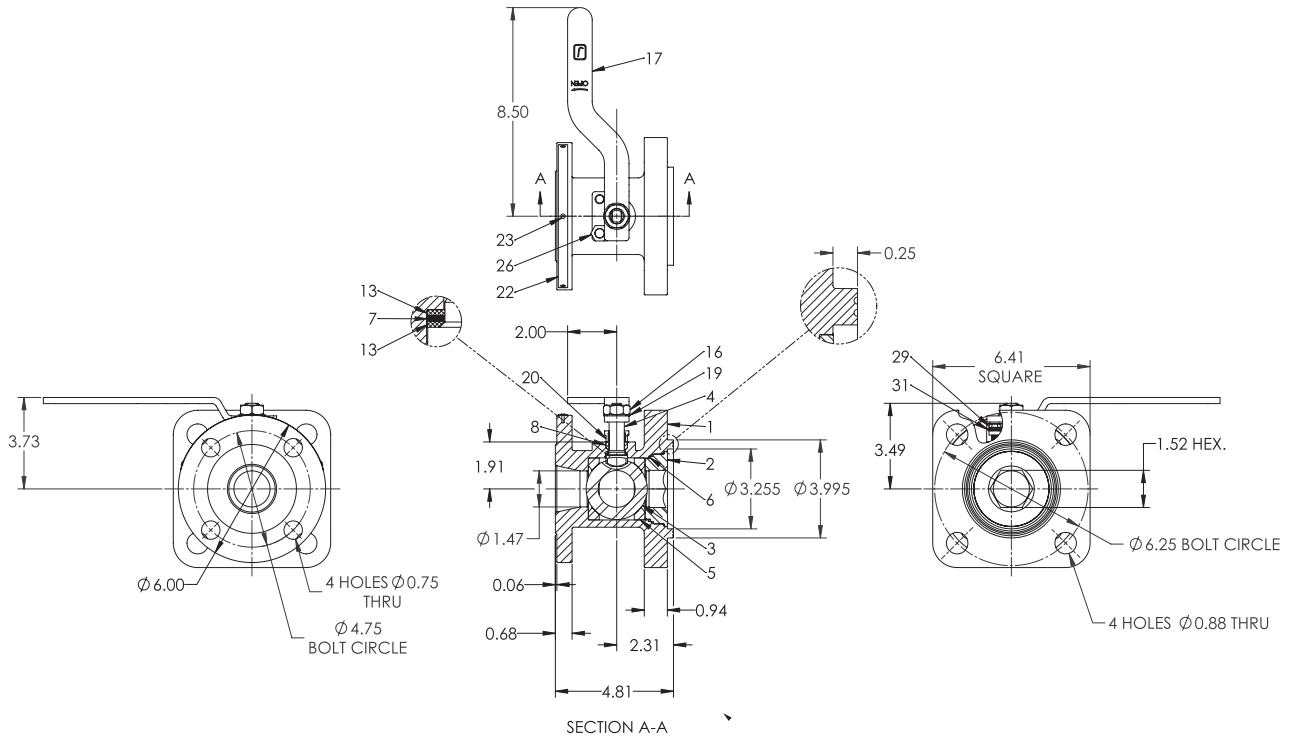
DIMENSIONS, 1" – 2" 7RRR/7RRT



Valve Size inches	Nominal Dimensions - inches																
	A	B	A	B	C	D	E	F	G	H	J	K	N	T	X	Y	Hex Size
	7RRR		7RRT														
1	3.83	2.01	4.02	2.20	4.25	3.12	0.88	1.36	1.92	2.58	2.92	7.12	0.62	0.56	1.50	2.00	0.88
2	4.32	2.07	4.51	2.26	6.00	4.75	1.50	1.91	2.00	3.49	3.73	8.50	0.75	0.75	2.88	3.62	1.50

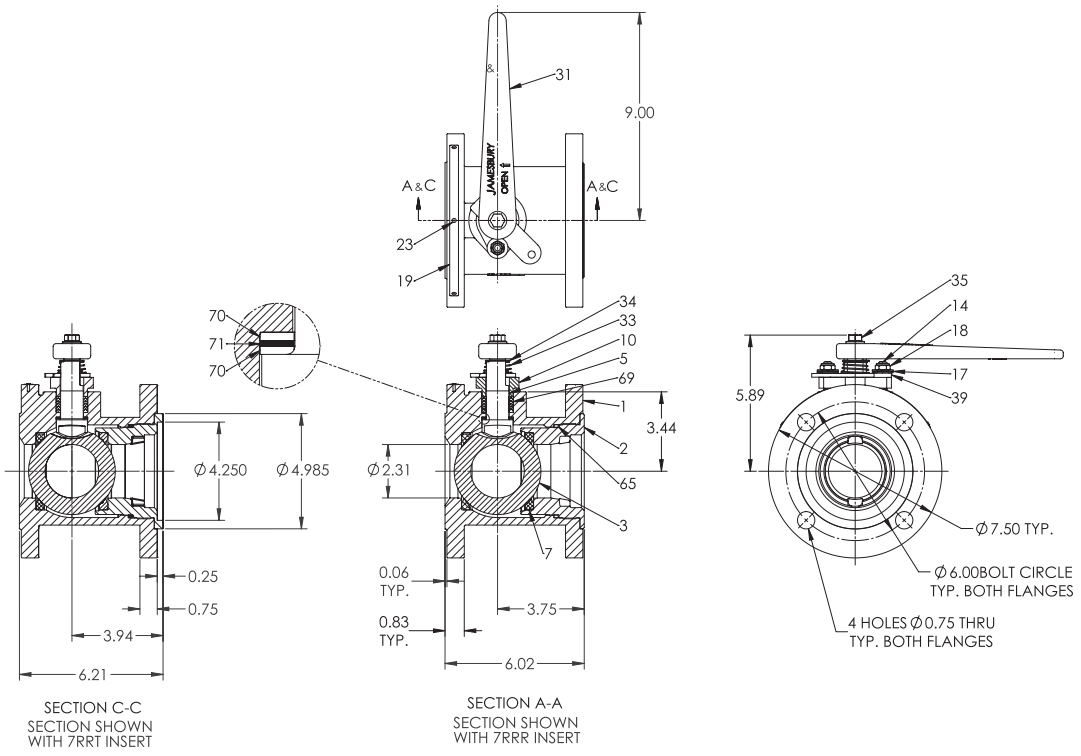
BILLS OF MATERIALS AND PARTS LIST 1" – 2" Series 7RRR & 7RRT			
Part No.	Part Name	Body Material	
		Carbon Steel	316 Stainless Steel
1	Body	Carbon Steel ASTM A-216 Gr. WCB	316 Stainless Steel ASTM A-351 Gr. CF8M
2	Insert	Carbon Steel	316 Stainless Steel
3	Ball	316 Stainless Steel	
4	Stem	316 Stainless Steel	
5	Seat	PTFE, *Xtreme*	
6	Body Seal	TFM	
7	Secondary Stem Seal	Graphite	
8	Stem Seal	PTFE, TFM® (*Xtreme* seated valves)	
13	Stem Bearing	Teflon, Filled PTFE (*Xtreme* seated valves)	
16	Handle Nut	300 Series Stainless Steel	
17	Handle	300 Series Stainless Steel	
19	Shakeproof Washer	300 Series Stainless Steel	
20	Compression Plate	316 Stainless Steel	
22	Identification Tag	300 Series Stainless Steel	
23	Pop Rivet	300 Series Stainless Steel	
26	Handle Stop	17-4 PH Stainless Steel	
29	Hex. Head Cap Screw	300 Series Stainless Steel	
31	Disc Spring	Inconel	

DIMENSIONS, 2" 7RRU



BILLS OF MATERIALS AND PARTS LIST 2″ Series 7RRU			
Part No.	Part Name	Body Material	
		Carbon Steel	316 Stainless Steel
1	Body	Carbon Steel ASTM A-216 Gr. WCB	316 Stainless Steel ASTM A-351 Gr. CF8M
2	Insert	Carbon Steel	316 Stainless Steel
3	Ball	316 Stainless Steel	
4	Stem	316 Stainless Steel	
5	Seat	*PTFE, Xtreme*	
6	Body Seal	TFM	
7	Secondary Stem Seal	Graphite	
8	Stem Seal	PTFE, TFM® (*Xtreme* seated valves)	
13	Stem Bearing	Teflon, Filled PTFE (*Xtreme* seated valves)	
16	Handle Nut	300 Series Stainless Steel	
17	Handle	300 Series Stainless Steel	
19	Shakeproof Washer	300 Series Stainless Steel	
20	Compression Plate	316 Stainless Steel	
22	Identification Tag	300 Series Stainless Steel	
23	Pop Rivet	300 Series Stainless Steel	
26	Handle Stop	17-4 PH Stainless Steel	
29	Hex. Head Cap Screw	300 Series Stainless Steel	
31	Disc Spring	Inconel	

DIMENSIONS, 3" 7RRR/7RRT



BILLS OF MATERIALS AND PARTS LIST 3" Series 7RRR & 7RRT			
Part No.	**Part Name**	**Body Material**	
		Carbon Steel	**316 Stainless Steel**
1	Body	Carbon Steel ASTM A-216 Gr. WCB	316 Stainless Steel ASTM A-351 Gr. CF8M
2	Insert	Carbon Steel	316 Stainless Steel
3	Ball	316 Stainless Steel	
5	Stem	316 Stainless Steel	
7	Seat	PTFE, *Xtreme*	
10	Compression Plate	Stainless Steel	
14	Bonnet Stud	ASTM A193 Gr. B8, B8C, B8M, B8T	
17	Disc Spring	17-7PH Stainless Steel	
18	Bonnet Stud Nut	300 Series Stainless Steel	
19	Identification Tag	300 Series Stainless Steel	
23	Pop Rivet	300 Series Stainless Steel	
31	Handle	316 Stainless Steel	
32	Indicator Stop	Carbon Steel	
33	Spring	300 Series Stainless Steel	
34	Retaining Ring	300 Series Stainless Steel	
35	Handle Screw	Carbon Steel	
39	Stop Bushing	316 Stainless Steel	
65	Body Seal	PTFE	
69	Packing/V Ring set	PTFE, TFM (*Xtreme* seated valves)	
70	Stem Bearing	Filled PTFE	
71	Secondary Stem Seal	Graphite	

HOW TO ORDER

EXAMPLE: 7RRX RR Ball Valve

1	2	3	4	5	6
1	7RRR	3600	XTZ	2	A

1	Valve Size
1	1″
2	2″
3	3″

2	Series
7RRR	ASME Raised Face x ASME Raised Face
7RRT	ASME Raised Face x ASME Tongue
7RRU	ASME Raised Face x AAR Tongue (2" Only)

3	Valve Construction	
	Body and Body Cap	Ball and Stem
2235	Carbon Steel (WCB)	Alloy 20
2236	Carbon Steel (WCB)	Stainless Steel 316
3600	Stainless Steel 316 (CF8M)	Stainless Steel 316

4	Seat/Seal Materials	
	Seat	Seals (Stem & Body)
-	Standard Fire-Tite	Alloy 20
TTT	Virgin Teflon (PTFE)	Virgin Teflon (PTFE) & TFM or PTFE
XTZ	*Xtreme*	TFM & TFM or PTFE

5	Bolting Material	
	Bolts	Nuts
1	ASTM A193 Gr. B7	ASTM A194 Gr. 2H
2	ASTM A193 B8, B8C, B8M or B8T Class 2	ASTM A194 Gr. 8B, 8CB, 8MB, 8TB or 8FB

6	Model
A	Model A

Neles

Vanha Porvoontie 229, 01380 Vantaa, Finland.
Tel. +358 10 417 5000.

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