

76-100 series

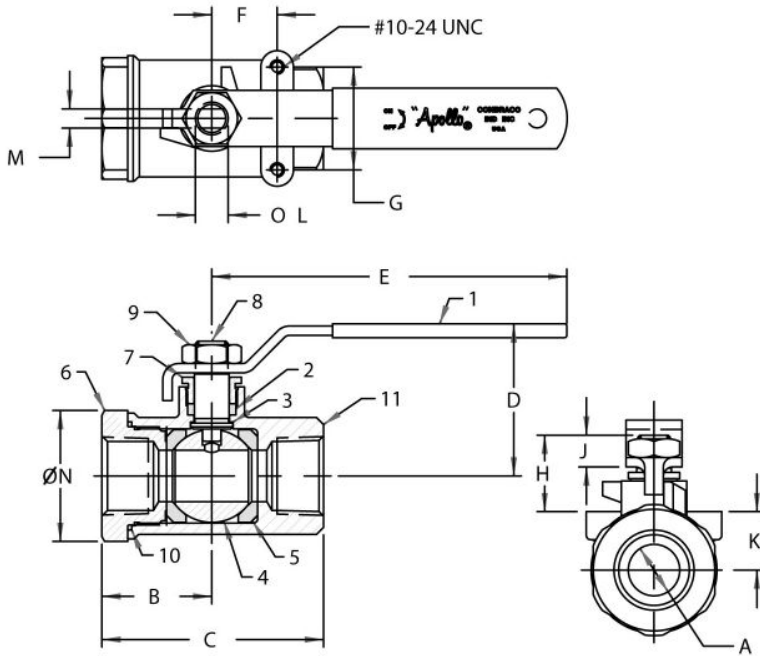
stainless steel ball valve w/ mounting pad
1/4" - 1"



Female NPT Thread, 2000 CWP (psig). Cold Non-Shock. (See referenced P/T chart)
150 psig Saturated Steam.
Vacuum Service to 29 inches Hg.
MSS SP-110 Compliant.

FEATURES

- Investment cast components
- Reinforced seats
- Mounting pad for easy actuator mounting
- Blowout-proof stem design
- Adjustable packing gland
- Stainless steel lever and nut



STANDARD MATERIAL LIST

PART	PART	MATERIAL
1	Lever and grip	304 SS w/vinyl
2	Stem packing	MPTFE
3	Stem bearing	RPTFE
4	Ball	A276-316 Stainless Steel
5	Seat (2)	RPTFE
6	Retainer	A351-CF8M SS or A276-316 SS
7	Gland nut	A276-316 Stainless Steel
8	Stem	A276-316 Stainless Steel
9	Lever nut	18-8 Stainless Steel
10	Body seal	PTFE
11	Body	A351-CF8M Stainless Steel

DIMENSIONS

PART NO.	SIZE	A	B	C	D	E	F	G	H	J	K	L	M	N	WT.
76-101-27A	1/4"	0.37	1.02	2.05	1.71	3.85	0.50	1.12	0.88	0.34	0.53	0.375	0.234	1.16	0.58
76-102-27A	3/8"	0.37	1.02	2.05	1.71	3.85	0.50	1.12	0.88	0.34	0.53	0.375	0.234	1.16	0.55
76-103-27A	1/2"	0.50	1.12	2.23	1.79	3.85	0.50	1.12	0.90	0.34	0.59	0.375	0.234	1.38	0.63
76-104-27A	3/4"	0.68	1.47	2.96	2.03	4.75	0.87	1.37	1.02	0.42	0.78	0.437	0.256	1.75	1.30
76-105-27A	1"	0.87	1.67	3.34	2.16	4.75	0.87	1.37	1.02	0.42	0.91	0.437	0.256	1.94	1.60

- Fire safe to API 607 (requires -24 suffix)
- Meets NACE MR0175 (2000) & MR0103 (2012)
- CSA CGA 3.16-M88 (Requires "GS" suffix)
- NSF/ANSI/CAN 61 Section 8, Annex G
- NSF/ANSI 372 - Drinking Water System Components - Lead Content

OPTIONS AVAILABLE

(MORE INFORMATION IN SECTION J)

- Minimum quantities apply
- To specify an option, replace the "01" standard suffix with the suffix of the option.
- To specify multiple options, replace the "01" suffix with the desired suffixes in the numerical order shown below. NOTE: Not all suffixes can be combined together.

note: all options and materials listed are not available for all valves and sizes listed. pricing may be subjected to minimum requirements and material availability.

(SUFFIX)	OPTION	SIZES
-P -27-	BSPP (Parallel) Thread Connection	All
-T -27-	BSPT (Tapered) Thread Connection	All
-02-	Stem Grounded	All
-07-	Steel Tee Handle	All
-08-	90° Reversed Stem	All
-14-	Side Vented Ball (Uni-Directional)	All
-15-	Wheel Handle, Steel	All
-16-	Chain Lever - Vertical	3/4" to 2"
-19-	Lock Plate	All
-21-	UHMWPE Trim (Non-PTFE)	All
-24-	Graphite Packing, PTFE Body Seal, RPTFE Bearing (API 607, 6th Edition, ISO 10497:2010)	All
-27-	Standard Configuration, SS Latch-Lock Lever & Nut	All
-30-	Cam-Lock and Grounded	All
-32-	SS Tee Handle & Nut	All
-35-	PTFE Trim	All
-39-	SS Hi-Rise Locking Wheel Handle, SS Nut	All
-40-	Cyl-Loc and Grounded	All
-44-	Seal Welded	All
-45-	Less Lever & Nut	All
-46-	Latch Lock Lever - Lock in Closed Position Only	All
-47-	SS Latch Lock Oval Handle	All
-48-	SS Oval Handle (No Latch) & Nut	All
-49-	No Lubrication. Assembled Dry.	All
-50-	2-1/4" CS Locking Stem Extension	All
-57-	Oxygen Cleaned	All
-58-	Chain Lever - Horizontal	3/4" to 2"
-60-	Static Grounded Ball & Stem	All
-64-	250# Steam Trim (MPTFE Seats & Packing)	All
-GS-	CSA CGA 3.16	All
-UA-	AIS (American Iron & Steel) Compliant	All

Pressure/Temperature Ratings - Page M-14, Graph No. 14

*LEAD FREE: The wetted surfaces of this product shall contain no more than 0.25% lead by weighted average. Complies with Federal Public Law 111-380. ANSI 3rd party approved and listed.

76-100 SERIES

STAINLESS STEEL BALL VALVE W/ MOUNTING PAD
1-1/4" - 2"



Female NPT Thread, 1500 CWP (psig). Cold Non-Shock. (See referenced P/T chart)
150 psig Saturated Steam.
Vacuum Service to 29 inches Hg.
MSS SP-110 Compliant.

FEATURES

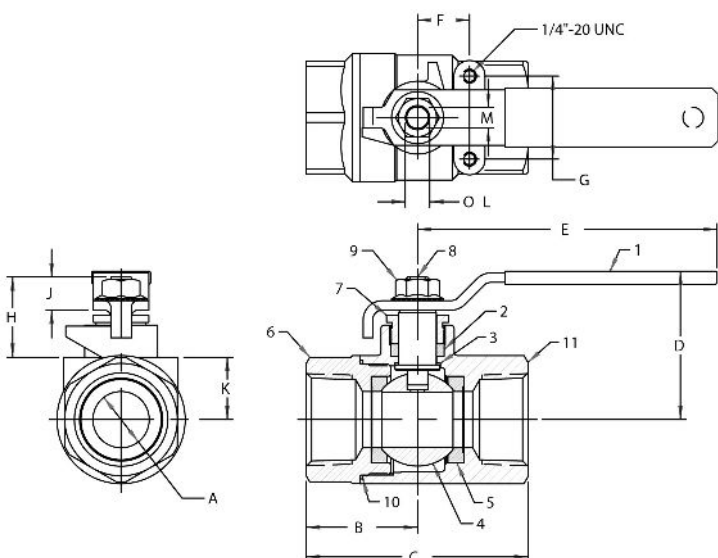
- Investment cast components
- Reinforced seats
- Mounting pad for easy actuator mounting
- Blowout-proof stem design
- Adjustable packing gland
- Stainless steel lever and nut

- Fire safe to API 607 (requires -24 suffix)
- Meets NACE MR0175 (2000) & MR0103 (2012)
- CSA CGA 3.16-M88 (Requires "GS" suffix)
- NSF/ANSI/CAN 61 Section 8, Annex G
- NSF/ANSI 372 - Drinking Water System Components - Lead Content

OPTIONS AVAILABLE

(MORE INFORMATION IN SECTION J)

- Minimum quantities apply
- To specify an option, replace the "01" standard suffix with the suffix of the option.
- To specify multiple options, replace the "01" suffix with the desired suffixes in the numerical order shown below. NOTE: Not all suffixes can be combined together.



(SUFFIX)	OPTION	SIZES
-P -27-	BSPP (Parallel) Thread Connection	All
-T -27-	BSPT (Tapered) Thread Connection	All
-02-	Stem Grounded	All
-07-	Steel Tee Handle	All
-08-	90° Reversed Stem	All
-14-	Side Vented Ball (Uni-Directional)	All
-15-	Wheel Handle, Steel	All
-16-	Chain Lever - Vertical	All
-19-	Lock Plate	All
-21-	UHMWPE Trim (Non-PTFE)	All
-24-	Graphite Packing, PTFE Body Seal, RPTFE Bearing (API 607, 6th Edition, ISO 10497:2010)	All
-27-	Standard Configuration, SS Latch-Lock Lever & Nut	All
-30-	Cam-Lock and Grounded	All
-32-	SS Tee Handle & Nut	All
-35-	PTFE Trim	All
-39-	SS Hi-Rise Locking Wheel Handle, SS Nut	All
-40-	Cyl-Loc and Grounded	All
-44-	Seal Welded	All
-45-	Less Lever & Nut	All
-46-	Latch Lock Lever - Lock in Closed Position Only	All
-47-	SS Latch Lock Oval Handle	All
-48-	SS Oval Handle (No Latch) & Nut	All
-49-	No Lubrication. Assembled Dry.	All
-50-	2-1/4" CS Locking Stem Extension	All
-57-	Oxygen Cleaned	All
-58-	Chain Lever - Horizontal	All
-60-	Static Grounded Ball & Stem	All
-64-	250# Steam Trim (MPTFE Seats & Packing)	All
-GS-	CSA CGA 3.16	All
-UA-	AIS (American Iron & Steel) Compliant	All

STANDARD MATERIAL LIST

	PART	MATERIAL
1	Lever and grip	304 SS w/vinyl
2	Stem packing	MPTFE
3	Stem bearing	RPTFE
4	Ball	A276-316 Stainless Steel
5	Seat (2)	RPTFE
6	Retainer	A351-CF8M Stainless Steel
7	Gland nut	A276-316 Stainless Steel
8	Stem	A276-316 Stainless Steel
9	Lever nut	18-8 Stainless Steel
10	Body seal	PTFE
11	Body	A351-CF8M Stainless Steel

DIMENSIONS

Pressure/Temperature Ratings - Page M-13, Graph No. 12

PART NO.	SIZE	A	B	C	D	E	F	G	H	J	K	L	M	WT.
76-106-27	1-1/4"	1.00	2.00	4.00	2.68	5.40	0.94	1.50	1.50	0.60	1.12	0.625	0.377	3.10
76-107-27	1-1/2"	1.25	2.17	4.34	3.25	7.75	0.94	1.50	1.50	0.60	1.28	0.625	0.377	4.20
76-108-27	2"	1.50	2.69	5.43	3.24	7.75	0.94	1.50	1.46	0.60	1.50	0.625	0.377	6.10

*LEAD FREE: The wetted surfaces of this product shall contain no more than 0.25% lead by weighted average. Complies with Federal Public Law 111-380. ANSI 3rd party approved and listed.

76-100 SERIES

STAINLESS STEEL BALL VALVE W/ MOUNTING PAD
2-1/2" - 3"



Female NPT Thread, 1000 CWP (psig). Cold Non-Shock. (See referenced P/T chart)
150 psig Saturated Steam.
Vacuum Service to 29 inches Hg.
MSS SP-110 Compliant.

FEATURES

- Investment cast components
- Reinforced seats
- Mounting pad for easy actuator mounting
- Blowout-proof stem design
- Adjustable packing gland
- Stainless steel lever and nut

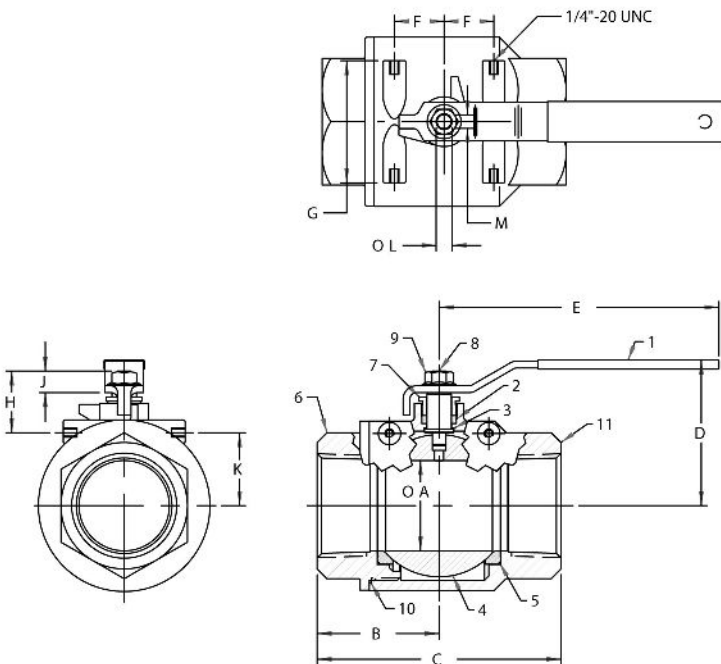
- Fire safe to API 607 (requires -24 suffix)
- Meets NACE MR0175 (2000) & MR0103 (2012)
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- NSF/ANSI 372 - Drinking Water System Components - Lead Content

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(MORE INFORMATION IN SECTION J)

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- To specify multiple options, replace the "01" suffix with the desired suffixes in the numerical order shown below. NOTE: Not all suffixes can be combined together.

(SUFFIX)	OPTION	SIZES
-02-	Stem Grounded	All
-07-	Steel Tee Handle	All
-08-	90° Reversed Stem	All
-14-	Side Vented Ball (Uni-Directional)	All
-15-	Wheel Handle, Steel	All
-16-	Chain Lever - Vertical	All
-19-	Lock Plate	All
-21-	UHMWPE Trim (Non-PTFE)	All
-24-	Graphite Packing, PTFE Body Seal, RPTFE Bearing (API 607, 6th Edition, ISO 10497:2010)	All
-27-	Standard Configuration, SS Latch-Lock Lever & Nut	All
-30-	Cam-Lock and Grounded	All
-32-	SS Tee Handle & Nut	All
-35-	PTFE Trim	All
-39-	SS Hi-Rise Locking Wheel Handle, SS Nut	All
-40-	Cyl-Loc and Grounded	All
-44-	Seal Welded	All
-45-	Less Lever & Nut	All
-46-	Latch Lock Lever - Lock in Closed Position Only	All
-47-	SS Latch Lock Oval Handle	All
-48-	SS Oval Handle (No Latch) & Nut	All
-49-	No Lubrication. Assembled Dry.	All
-50-	2-1/4" CS Locking Stem Extension	All
-57-	Oxygen Cleaned	All
-58-	Chain Lever - Horizontal	All
-60-	Static Grounded Ball & Stem	All
-64-	250# Steam Trim (MPTFE Seats & Packing)	All
-GS-	CSA CGA 3.16	All
-UA-	AIS (American Iron & Steel) Compliant	All



STANDARD MATERIAL LIST

PART	MATERIAL
1 Lever and grip	304 SS w/vinyl
2 Stem packing	MPTFE
3 Stem bearing	RPTFE
4 Ball	A276-316 Stainless Steel
5 Seat (2)	RPTFE
6 Retainer	A351-CF8M Stainless Steel
7 Gland nut	A276-316 Stainless Steel
8 Stem	A276-316 Stainless Steel
9 Lever nut	18-8 Stainless Steel
10 Body seal	PTFE
11 Body	A351-CF8M Stainless Steel

DIMENSIONS

PART NO.	SIZE	A	B	C	D	E	F	G	H	J	K	L	M	WT.
76-109-27	2-1/2"	2.50	3.38	6.75	4.03	7.75	1.38	3.37	1.71	0.60	2.00	0.625	0.377	15.60
76-100-27	3"	2.50	3.38	6.75	4.03	7.75	1.38	3.37	1.71	0.60	2.00	0.625	0.377	16.50

*LEAD FREE: The wetted surfaces of this product shall contain no more than 0.25% lead by weighted average. Complies with Federal Public Law 111-380. ANSI 3rd party approved and listed.

Pressure/Temperature Ratings - Page M-12, Graph No. 8

the listed C_v "factors" are derived from actual flow testing, at apollo's pageland, south carolina factory. these tests were completed using standard "off the shelf" valves with no special preparation and utilizing standard schedule 40 pipe. it should be understood that these factors are for the valve only and also include the connection configuration. the flow testing is done utilizing water as a fluid media and is a direct statement of the gallons of water flowed per minute with a 1 psig pressure differential across the valve/ connection unit. line pressure is not a factor. because the C_v is a factor, the formula can be used to estimate flow of most media for valve sizing.

flow of liquid

$$Q = C_v \sqrt{\frac{\Delta P}{\text{SpGr}}}$$

$$\text{or } \Delta P = \frac{(Q)^2 (\text{SpGr})}{(C_v)^2}$$

where:

- q = flow in us gpm
- Δp = pressure drop (psig)
- spgr = specific gravity at flowing temperature
- C_v = valve constant

flow of gas

$$Q = 1360 C_v \sqrt{\frac{(\Delta P) (P_2)}{(\text{SpGr}) (T)}}$$

$$\text{or } \Delta P = \frac{5.4 \times 10^{-7} (\text{SpGr}) (T) (Q)^2}{(C_v)^2 (P_2)}$$

where:

- q = flow in scfh
- Δp = pressure drop (psig)
- spgr = specific gravity (based on air = 1.0)
- p_2 = outlet pressure-psia (psig + 14.7)
- t = (temp. °f + 460)
- C_v = valve constant

CAUTION: the gas equation shown, is valid at very low pressure drop ratios. the gas equation is not valid when the ratio of pressure drop (ΔP) to inlet pressure (P_1) exceeds 0.02.

NOTE: only use the gas equation shown if $(P_1 - P_2)/P_1$ is less than 0.02.

CV factors for apollo valves (continued on M-4)

valve	size (IN.)														
	1/4	3/8	1/2	3/4	1	1.25	1.5	2	2.5	3	4	6	8	10	12
70B-140 series	8.4	7.2	15	30	43	48	84	108	190	370	670	--	--	--	--
70-100/200 series	8.4	7.2	15	30	43	48	84	108	190	370	670	--	--	--	--
70-300/400 series	--	--	15	30	43	48	84	108	--	--	--	--	--	--	--
70-600 series	2.3	4.5	5.4	12	14	21	34	47	--	--	--	--	--	--	--
70-800 series	8.4	7.2	15	30	43	48	84	--	--	--	--	--	--	--	--
71-AR series	--	--	--	30	43	48	84	108	190	370	--	--	--	--	--
71-100/200 series	--	--	--	30	43	48	84	108	190	370	--	--	--	--	--
72-100/900 series	--	--	26	48	65	125	170	216	--	--	--	--	--	--	--
72-1xx-A/72-9xx-A series	--	--	26	48	65	125	170	245	--	--	--	--	--	--	--
73A-100 series	8.4	7.2	15	30	43	48	84	108	--	--	--	--	--	--	--
73-300/400 series	--	--	26	48	65	125	170	216	--	--	--	--	--	--	--
74-100 series	8.4	7.2	15	30	43	48	84	108	190	370	670	--	--	--	--
75-100 series	8.4	7.2	15	30	43	48	84	108	190	370	670	--	--	--	--
76-AR series	8.4	7.2	15	30	43	48	84	108	190	370	670	--	--	--	--
76F-100 series	8.1	15	15	51	68	125	177	389	--	--	--	--	--	--	--
76FJ-100 series	8.1	15	15	51	68	125	177	389	--	--	--	--	--	--	--
76FK-100 series	8.1	15	15	51	68	125	177	389	--	--	--	--	--	--	--
76-100 series	8.4	7.2	15	30	43	48	84	108	190	370	--	--	--	--	--
76-300/400 series	--	--	26	48	65	125	170	216	--	--	--	--	--	--	--
76-600 series	2.3	4.5	5.4	12	14	21	34	47	--	--	--	--	--	--	--
76J-100 series	8.4	7.2	15	30	43	48	84	108	190	370	--	--	--	--	--
76J-AR series	8.4	7.2	15	30	43	48	84	108	190	370	670	--	--	--	--
76K-100 series	8.4	7.2	15	30	43	48	84	108	190	370	--	--	--	--	--
76K-AR series	8.4	7.2	15	30	43	48	84	108	190	370	670	--	--	--	--
7K-100 series	--	--	15	51	68	125	177	389	503	--	--	--	--	--	--
77-AR series	8.1	15	15	51	68	--	177	389	--	--	--	--	--	--	--

CV factors for apollo valves (continued from M-3)

valve	size (in.)														
	1/4	3/8	1/2	3/4	1	1.25	1.5	2	2.5	3	4	6	8	10	12
77C-100/200 series	4.5	7.2	16	36	68	125	177	389	503	--	--	--	--	--	--
77D-140 series	4.5	7.2	16	36	68	125	177	389	--	--	--	--	--	--	--
77D-640 series	--	--	--	11	24	35	--	--	--	--	--	--	--	--	--
77G-UL series	4.5	7.2	16	36	68	125	177	389	503	--	--	--	--	--	--
77W series	--	--	16	36	68	125	177	389	--	--	--	--	--	--	--
77-100/200 series	8.1	15	15	51	68	125	177	389	503	--	--	--	--	--	--
79 series	8.5	8.5	9.8	32	44	66	148	218	440	390	--	--	--	--	--
80 series	8.4	7.2	15	30	43	48	84	108	190	370	--	--	--	--	--
82-100/200 series	8.1	14	26	51	68	120	170	376	510	996	1893	--	--	--	--
83A/83B series	8.1	14	26	51	68	120	170	376	--	--	--	--	--	--	--
83R-100/200 series	--	--	--	--	--	--	170	376	--	996	1893	--	--	--	--
86A/86B series	8.1	14	26	51	68	120	170	376	--	--	--	--	--	--	--
86R-100/200 series	--	--	--	--	--	--	170	376	--	996	1893	--	--	--	--
87A-100 series	--	--	--	--	--	--	86	104	234	375	673	1099	1902	3890	--
87A-200 series	--	--	15	19	75	--	195	410	545	1021	2016	4837	9250	15170	22390
87A-700 series	--	--	--	--	--	--	86	104	234	375	673	1099	1902	3890	--
87A-900 series	--	--	15	19	75	--	195	410	545	1021	2016	4837	9250	15170	22390
87A-F00 series	--	--	--	--	75	--	195	410	545	1021	2016	4837	--	--	--
87B-100 series	--	--	--	--	--	--	--	--	--	375	673	1099	1902	3890	--
87J-100 series	--	--	--	--	--	--	86	104	234	375	673	1099	1902	3890	--
87J-200 series	--	--	15	19	75	--	195	410	545	1021	2016	4837	9250	15170	22390
87J-700 series	--	--	--	--	--	--	86	104	234	375	673	1099	1902	3890	--
87J-900 series	--	--	15	19	75	--	195	410	545	1021	2016	4837	9250	15170	22390
87K-100 series	--	--	--	--	--	--	86	104	234	375	673	1099	1902	3890	--
87K-200 series	--	--	15	19	75	--	195	410	545	1021	2016	4837	9250	15170	22390
87K-700 series	--	--	--	--	--	--	86	104	234	375	673	1099	1902	3890	--
87K-900 series	--	--	15	19	75	--	195	410	545	1021	2016	4837	9250	15170	22390
88A-100 series	--	--	--	--	--	--	86	104	234	375	673	1099	1902	3890	--
88A-200 series	--	--	15	19	75	--	195	410	545	1021	2016	4837	9250	15170	22390
88A-700 series	--	--	--	--	--	--	86	104	234	375	673	1099	1902	3890	--
88A-900 series	--	--	15	19	75	--	195	410	545	1021	2016	4837	9250	15170	22390
88A-F00 series	--	--	--	--	75	--	195	410	545	1021	2016	4837	--	--	--
88B-100 series	--	--	--	--	--	--	--	--	--	375	673	1099	1902	3890	--
89-100 series	8.4	7.2	15	30	43	48	84	108	190	370	--	--	--	--	--
9A-100 series	8.3	6.7	5.7	10	16	25	40	62	--	--	--	--	--	--	--
90-100 series	8.3	6.7	5.7	10	16	25	40	62	--	--	--	--	--	--	--
92-100 series	8.3	6.7	5.7	10	16	25	40	62	--	--	--	--	--	--	--
93-100 series	8.3	6.7	5.7	10	16	25	40	62	--	--	--	--	--	--	--
94A-100/200 series	6	7	19	34	50	104	268	309	629	1018	1622	--	--	--	--
96-100 series	8.3	6.7	5.7	10	16	25	40	62	--	--	--	--	--	--	--
399-100 series	8.4	7.2	15	30	43	48	84	108	190	370	--	--	--	--	--
489-100 series	8.4	7.2	15	30	43	48	84	108	190	370	--	--	--	--	--



Tech
Sheet

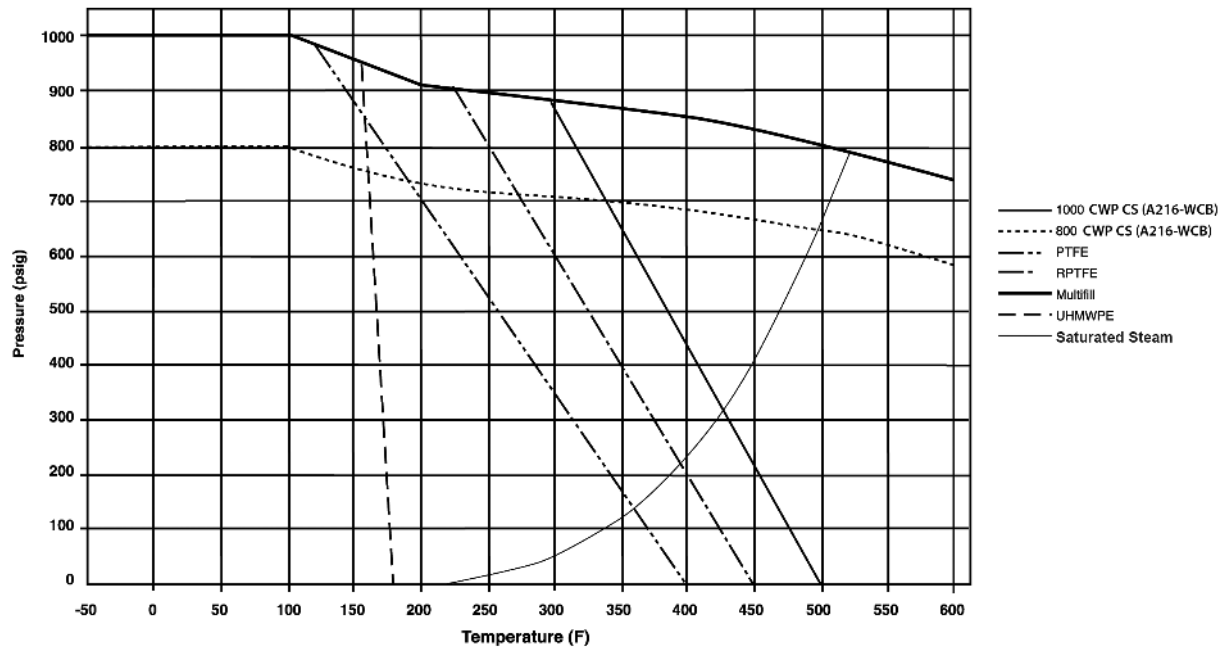
PRESSURE/TEMPERATURE RATINGS

engineering data

1000 CWP

(CS) ASTM A216-WCB

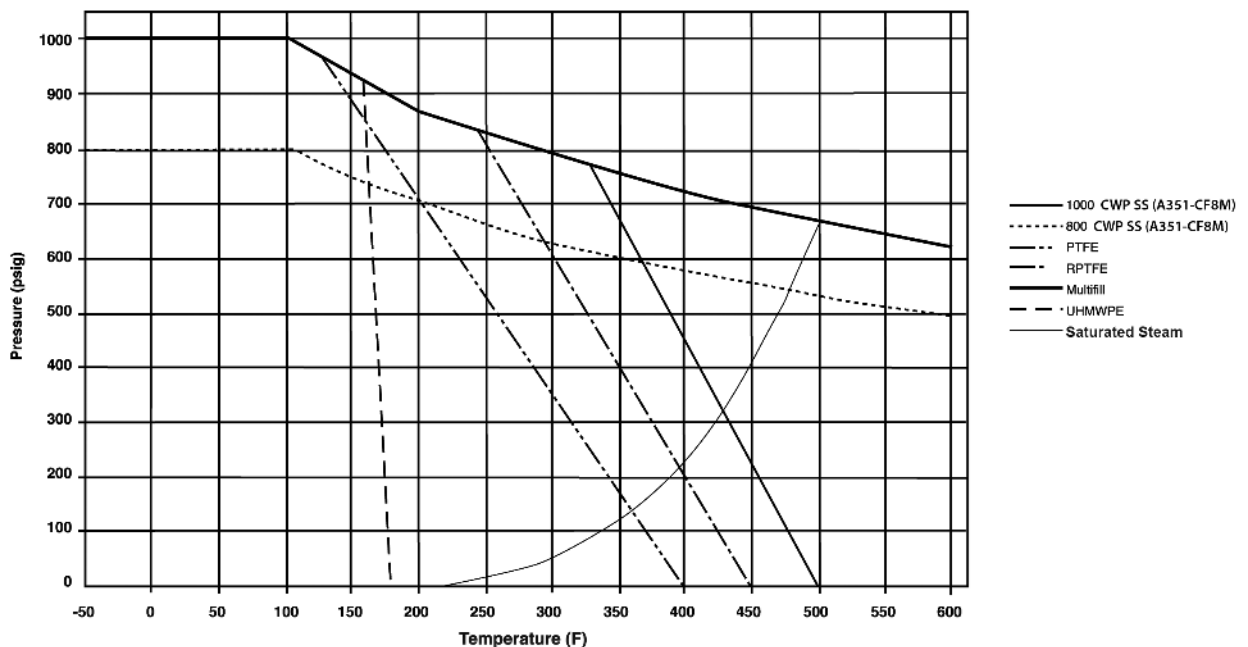
GRAPH 7



1000 CWP

(SS) ASTM A351-CF8M

GRAPH 8





Tech
Sheet

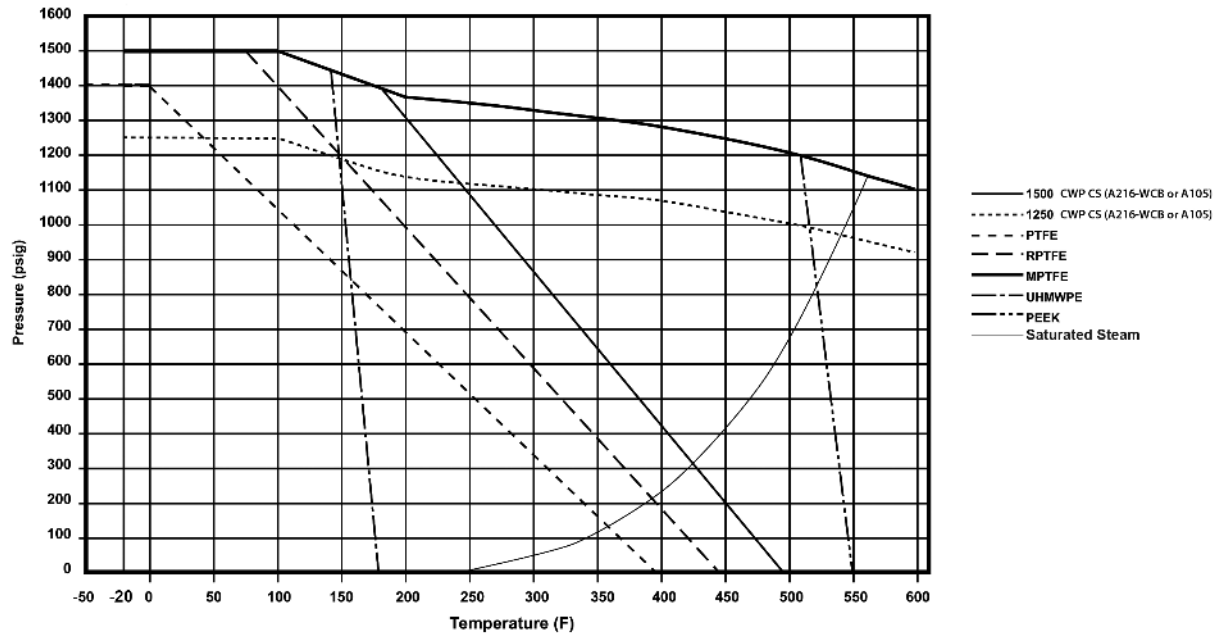
PRESSURE/TEMPERATURE RATINGS

ENGINEERING DATA

1500 CWP

(CS) ASTM A216-WCB OR ASTM A105

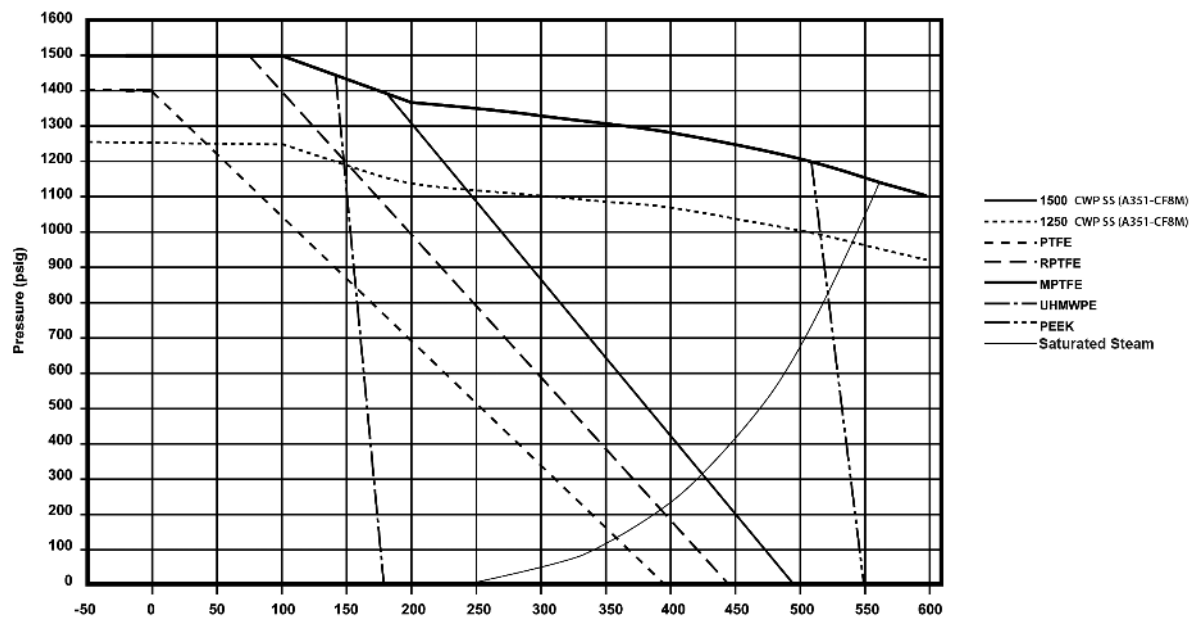
graph 11



1500 CWP

(SS) ASTM A351-CF8M

graph 12



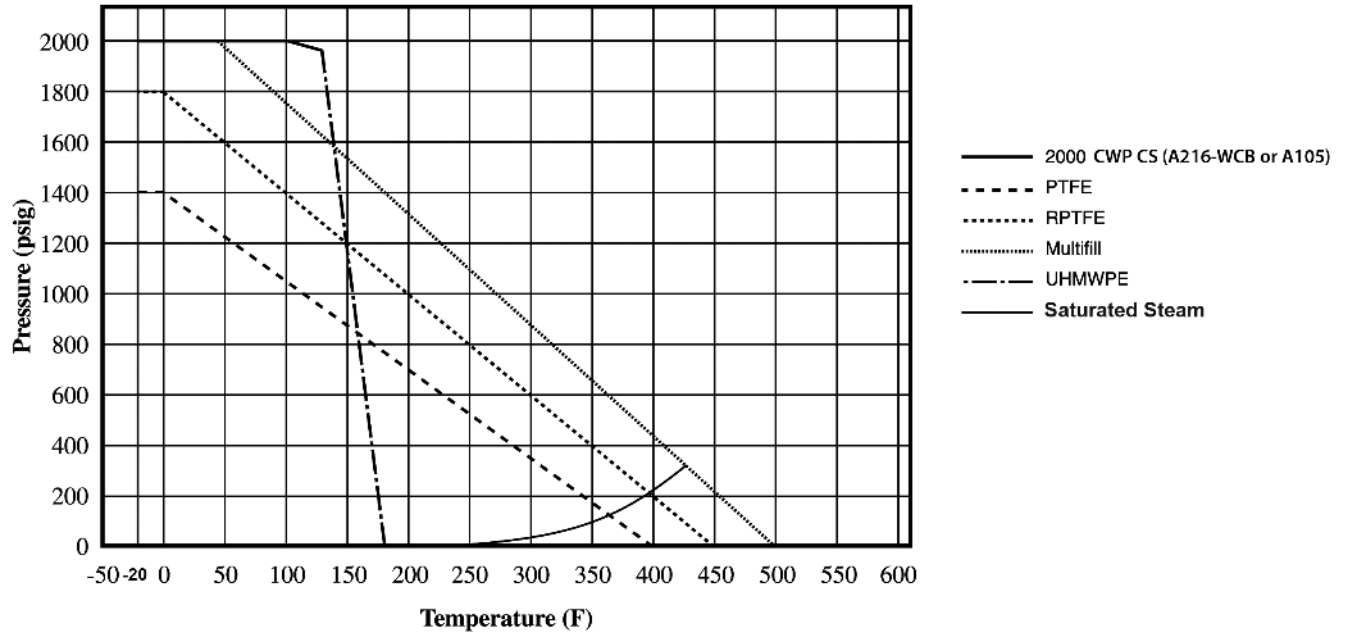
PRESSURE/TEMPERATURE RATINGS

ENGINEERING DATA

2000 CWP

(CS) ASTM A216-WCB OR ASTM A105

graph 13



2000 CWP

(SS) ASTM A351-CF8M

graph 14

