



# **PRESSURE TEMPERATURE RATINGS GUIDE**

## Introduction

The DeZURIK Pressure/Temperature bulletin is designed to be used, as an aid, in selecting the proper valve for each application.

As a technical aid DeZURIK has listed in this bulletin some of the most commonly used valve body materials for which pressure-temperature data is available.

## Material Classifications

Ductile Iron, ASTM A395  
 Bronze, ASTM B30, Alloy C84400/C83600  
 Cast Iron, ASTM A126, Class B  
 Carbon Steel, ASTM A216, Grade WCB  
 304 Stainless Steel, ASTM A351, CF8  
 316 Stainless Steel, ASTM A351, CF8M  
 Alloy 20, ASTM A351, CN7M

### Ductile Iron-ASTM A395 Standard DeZURIK Material

Temperature °F	Pressure psi	
	ANSI Class 150	ANSI Class 300
-20 to 100	250	640
200	235	600
300	215	565
400	200	525
500	170	495
600	140	465
650	125	450

Notes:

- ANSI B16.42

### Bronze-ASTM B30, Alloy C84400/ C83600 Standard DeZURIK Material

Temperature °F	Pressure psi	
	ANSI Class 150	ANSI Class 300
0 to 150	225	500
175	220	480
200	210	465
225	205	445
250	195	425
275	190	410
300	180	390
350	165	350
400	—	—
406	150	—
450	135	280

Notes:

- ANSI B16.24
- Some codes limit the rating temperature to 406°F (ASME BPVC, Section 1; ANSI B3.1, ANSI B31.5).

### Cast Iron - ASTM A126, Class B Standard DeZURIK Material

Temperature °F	Pressure psi					
	ANSI Class 125			ANSI Class 250		
	1"-12"	14"-24"	30"-48"	1"-12"	14"-24"	30"-48"
-20 to 150	200	150	150	500	300	300
200	190	135	115	460	280	250
225	180	130	100	440	270	225
250	175	125	85	415	260	200
275	170	120	65	395	250	175
300	165	110	50	375	240	150
325	155	150	—	355	230	125
353	150	100	—	335	220	100
375	145	—	—	315	210	—
406	140	—	—	290	200	—
425	130	—	—	270	—	—
450	125	—	—	250	—	—

Notes:

- ANSI B16.1
- 353°F (max.) reflects the temperature of saturated steam at 125 psi.
- 406°F (max.) reflects the temperature of saturated steam at 250 psi.

# Carbon Steel - ASTM A216, Grade WCB Standard DeZURIK Material

## STANDARD CLASS VALVES, FLANGED & BUTT WELD END

Temperature °F	Pressure psi						
	ANSI Class						
	150	300	600	900	1500	2500	4500
-20 to 100	285	740	1480	2220	3705	6170	11110
200	260	675	1350	2025	3375	5625	10120
300	230	655	1315	1970	3280	5470	9845
400	200	635	1270	1900	3170	5280	9505
500	170	600	1200	1795	2995	4990	8980
600	140	550	1095	1640	2735	4560	8210
650	125	535	1075	1610	2685	4475	8055
700	110	535	1065	1600	2665	4440	7990
750	95	505	1010	1510	2520	4200	7560
800	80	410	825	1235	2060	3430	6170
850	65	270	535	805	1340	2230	4010
900	50	170	345	515	860	1430	2570
950	35	105	205	310	515	860	1545
1000	20	50	105	155	260	430	770

Notes:

- ANSI B16.34
- Also applies for A105, A350-LF2, A350-LF3, A515-70, A516-70, A537-1, A696-C, A672-B70, and A672-C70
- Permissible, but not recommended for prolonged use above 800°F - A105, A216-WCB, A350-LF2, A515-70, A516-70, A537-1, A672-B70, AND A672-C70
- Not to be used over 650°F - A350-LF3
- Not to be used over 700°F - A537-1
- Not to be used over 850°F - A516-70.

# 304 Stainless Steel - ASTM A351, CF8 Standard DeZURIK Material

## STANDARD CLASS VALVES, FLANGED & BUTT WELD ENDS

Temperature °F	Pressure psi						
	ANSI Class						
	150	300	600	900	1500	2500	4500
-20 to 100	275	720	1440	2160	3600	6000	10800
200	235	600	1200	1800	3000	5000	9000
300	205	530	1055	1585	2640	4400	7920
400	180	470	940	1410	2350	3920	7055
500	170	435	875	1310	2185	3640	6550
600	140	415	830	1245	2075	3460	6230
650	125	410	815	1225	2040	3400	6120
700	110	405	805	1210	2015	3360	6050
750	95	400	795	1195	1990	3320	5975
800	80	395	790	1180	1970	3280	5905
850	65	390	780	1165	1945	3240	5830
900	50	385	770	1150	1920	3200	5760
950	35	375	750	1125	1870	3120	5615
1000	20	325	645	965	1610	2685	4835
1050	20	310	620	925	1545	2570	4630
1100	20	260	515	770	1285	2145	3860
1150	20	195	390	585	980	1630	2930
1200	20	155	310	465	770	1285	2315
1250	20	110	220	330	550	915	1645
1300	20	85	165	245	410	685	1235
1350	20	60	125	185	310	515	925
1400	20	50	95	145	240	400	720
1450	15	35	70	105	170	285	515
1500	10	25	50	70	120	200	360

Notes:

- ANSI B16.34
- Ratings for ANSI Class 150 flanged end valves end at 1000°F
- Also applies for A182-F304, A182-F304H, A240-304, A312-TP304, A312-TP304H, A351-CF3, A358-304, A376-TP304, A376-TP304H, A430-FP304, A430-FP304H, A479-304 and A479-304H.
- Not to be used over 800°F - A351-CF3.

# 316 Stainless Steel - ASTM A351, CF8M Standard DeZURIK Material

## STANDARD CLASS VALVES, FLANGED & BUTT WELD ENDS

Temperature °F	Pressure psi						
	ANSI Class						
	150	300	600	900	1500	2500	4500
-20 to 100	275	720	1440	2160	3600	6000	10800
200	240	620	1240	1860	3095	5160	9290
300	215	560	1120	1680	3795	4660	8390
400	195	515	1030	1540	2570	4280	7705
500	170	480	955	1435	2390	3980	7165
600	140	450	905	1355	2255	3760	6770
650	125	445	890	1330	2220	3700	6660
700	110	430	865	1295	2160	3600	6480
750	95	425	845	1270	2110	3520	6335
800	80	415	830	1245	2075	3460	6230
850	65	405	810	1215	2030	3320	6085
900	50	395	790	1180	1970	3280	5905
950	35	385	775	1160	1930	3220	5795
1000	20	365	725	1090	1820	3030	5450
1050	20	360	720	1080	1800	3000	5400
1100	20	325	645	965	1610	2685	4835
1150	20	275	550	825	1370	2285	4115
1200	20	205	410	620	1030	1715	3085
1250	20	180	365	545	910	1515	2725
1300	20	140	275	410	685	1145	2060
1350	20	105	205	310	515	860	1545
1400	20	75	150	225	380	630	1130
1450	20	60	115	175	290	485	875
1500	15	40	85	125	205	345	620

Notes:

- ANSI B16.34
- Ratings for ANSI Class 150 flanged end valves end at 1000°F

- Also applies for A351-CG8M, A240-316H, A479-316, AND A479-316H
- Not to be used over 650°F - A351-CF3A and A351-CF8A.
- Not to be used over 850°F - A351-CG8M
- Not to be used over 1000°F - A351-CF3M

# Alloy 20 - ASTM A351, CN7M Standard DeZURIK Material

## STANDARD CLASS VALVES, FLANGED & BUTT WELD ENDS

Temperature °F	Pressure psi						
	ANSI Class						
	150	300	600	900	1500	2500	4500
-20 to 100	230	600	1200	1800	3000	5000	9000
120	220	580	1160	1750	2910	4850	8730
212	200	510	1020	1540	2560	4270	7680
300	180	460	930	1390	2320	3870	6970
390	160	430	850	1280	2130	3550	6390
480	150	390	790	1180	1970	3290	5920
570	140	370	740	1100	1840	3060	5520
620	130	350	710	1060	1770	2950	5310

Notes:

- ANSI B16.34
- Only use solution annealed material

### Sales and Service

For information about our worldwide locations, approvals, certifications and local representative:

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