

## 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.

## Ductile Iron-ASTM A395 Standard DeZURIK Material

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

Notes:  
•ANSI B16.42

## 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

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

Temperature °F	Pressure psi	
	ANSI Class 150	ANSI Class 300
0 to 150 175	225 220	500 480
200 225	210 205	465 445
250 275	195 190	425 410
300 350	180 165	390 350
400 406 450	— 150 135	— — 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 150 200 225	200 190 180	150 135 130	150 115 100	500 460 440	300 280 270	300 250 225
250 275 300	175 170 165	125 120 110	85 65 50	415 395 375	260 250 240	200 175 150
325 353 375	155 150 145	150 100 —	— — —	355 335 315	230 220 210	125 100 —
406 425 450	140 130 125	— — —	— — —	290 270 250	200 — —	— — —

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 100 200	285 260	740 675	1480 1350	2220 2025	3705 3375	6170 5625	11110 10120
300 400	230 200	655 635	1315 1270	1970 1900	3280 3170	5470 5280	9845 9505
500 600	170 140	600 550	1200 1095	1795 1640	2995 2735	4990 4560	8980 8210
650 700	125 110	535 535	1075 1065	1610 1600	2685 2665	4475 4440	8055 7990
750 800	95 80	505 410	1010 825	1510 1235	2520 2060	4200 3430	7560 6170
850 900	65 50	270 170	535 345	805 515	1340 860	2230 1430	4010 2570
950 1000	35 20	105 50	205 105	310 155	515 260	860 430	1545 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 100 200 300	275 235 205	720 600 530	1440 1200 1055	2160 1800 1585	3600 3000 2640	6000 5000 4400	10800 9000 7920
400 500 600	180 170 140	470 435 415	940 875 830	1410 1310 1245	2350 2185 2075	3920 3640 3460	7055 6550 6230
650 700 750	125 110 95	410 405 400	815 805 795	1225 1210 1195	2040 2015 1990	3400 3360 3320	6120 6050 5975
800 850 900	80 65 50	395 390 385	790 780 770	1180 1165 1150	1970 1945 1920	3280 3240 3200	5905 5830 5760
950 1000 1050	35 20 20	375 325 310	750 645 620	1125 965 925	1870 1610 1545	3120 2685 2570	5615 4835 4630
1100 1150 1200	20 20 20	260 195 155	515 390 310	770 585 465	1285 980 770	2145 1630 1285	3860 2930 2315
1250 1300 1350	20 20 20	110 85 60	220 165 125	330 245 185	550 410 310	915 685 515	1645 1235 925
1400 1450 1500	20 15 10	50 35 25	95 70 50	145 105 70	240 170 120	400 285 200	720 515 360

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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