

## Saturated Pressure Table

temperature [°C]	pressure [bar]		density [kg/m³]		enthalpy [kJ/kg]		entropy [J/kg*K]	
	liquid	vapour	liquid	vapour	liquid	vapour	liquid	vapour
-45,0	0,482	0,478	1353,2	2,816	143,90	346,19	0,7768	1,6637
-44,0	0,508	0,504	1350,4	2,957	145,08	346,84	0,7819	1,6627
-43,0	0,534	0,530	1347,6	3,104	146,27	347,49	0,7871	1,6617
-42,0	0,562	0,558	1344,8	3,256	147,46	348,15	0,7923	1,6607
-41,0	0,591	0,587	1342,1	3,415	148,66	348,80	0,7974	1,6598
-40,0	0,621	0,618	1339,3	3,579	149,85	349,45	0,8026	1,6589
-39,0	0,653	0,649	1336,4	3,749	151,05	350,11	0,8077	1,6580
-38,0	0,686	0,682	1333,6	3,926	152,26	350,76	0,8128	1,6572
-37,0	0,720	0,716	1330,8	4,110	153,46	351,41	0,8179	1,6563
-36,0	0,755	0,751	1328,0	4,300	154,67	352,06	0,8230	1,6556
-35,0	0,792	0,788	1325,1	4,497	155,88	352,72	0,8281	1,6548
-34,0	0,830	0,826	1322,3	4,701	157,09	353,37	0,8331	1,6540
-33,0	0,869	0,865	1319,4	4,912	158,30	354,02	0,8382	1,6533
-32,0	0,910	0,907	1316,5	5,131	159,52	354,67	0,8432	1,6526
-31,0	0,953	0,949	1313,7	5,357	160,74	355,32	0,8483	1,6520
-30,0	0,997	0,993	1310,8	5,591	161,96	355,97	0,8533	1,6513
-29,0	1,043	1,039	1307,9	5,833	163,19	356,62	0,8583	1,6507
-28,0	1,090	1,086	1305,0	6,083	164,42	357,27	0,8633	1,6501
-27,0	1,139	1,135	1302,1	6,342	165,65	357,92	0,8683	1,6495
-26,0	1,190	1,186	1299,1	6,609	166,88	358,57	0,8733	1,6490
-25,0	1,242	1,239	1296,2	6,885	168,12	359,21	0,8783	1,6485
-24,0	1,296	1,293	1293,3	7,170	169,36	359,86	0,8832	1,6479
-23,0	1,352	1,349	1290,3	7,464	170,60	360,51	0,8882	1,6475
-22,0	1,410	1,407	1287,3	7,767	171,85	361,15	0,8931	1,6470
-21,0	1,470	1,467	1284,4	8,080	173,10	361,80	0,8981	1,6465
-20,0	1,532	1,529	1281,4	8,403	174,35	362,44	0,9030	1,6461
-19,0	1,596	1,593	1278,4	8,736	175,60	363,08	0,9079	1,6457
-18,0	1,662	1,659	1275,4	9,079	176,86	363,72	0,9129	1,6453
-17,0	1,730	1,727	1272,3	9,433	178,12	364,36	0,9178	1,6449
-16,0	1,800	1,798	1269,3	9,798	179,38	365,00	0,9227	1,6446
-15,0	1,873	1,870	1266,3	10,17	180,64	365,64	0,9276	1,6442
-14,0	1,947	1,945	1263,2	10,56	181,91	366,27	0,9324	1,6439
-13,0	2,024	2,022	1260,1	10,96	183,18	366,91	0,9373	1,6436
-12,0	2,104	2,101	1257,1	11,37	184,46	367,54	0,9422	1,6433
-11,0	2,185	2,183	1254,0	11,79	185,74	368,18	0,9470	1,6430
-10,0	2,269	2,267	1250,9	12,23	187,02	368,81	0,9519	1,6427
-9,0	2,356	2,354	1247,7	12,67	188,30	369,44	0,9567	1,6425
-8,0	2,445	2,443	1244,6	13,13	189,59	370,07	0,9616	1,6423
-7,0	2,537	2,535	1241,5	13,61	190,88	370,69	0,9664	1,6420
-6,0	2,631	2,629	1238,3	14,09	192,17	371,32	0,9712	1,6418
-5,0	2,728	2,726	1235,1	14,59	193,47	371,94	0,9760	1,6416

## Saturated Pressure Table

temperature [°C]	pressure [bar]		density [kg/m³]		enthalpy [kJ/kg]		entropy [J/kg*K]	
	liquid	vapour	liquid	vapour	liquid	vapour	liquid	vapour
-4,0	2,827	2,826	1231,9	15,11	194,77	372,57	0,9808	1,6414
-3,0	2,930	2,928	1228,7	15,63	196,07	373,19	0,9856	1,6413
-2,0	3,035	3,033	1225,5	16,18	197,38	373,81	0,9904	1,6411
-1,0	3,143	3,142	1222,3	16,74	198,69	374,42	0,9952	1,6410
0,0	3,254	3,253	1219,0	17,31	200,00	375,04	1,0000	1,6408
1,0	3,368	3,367	1215,7	17,90	201,32	375,65	1,0048	1,6407
2,0	3,485	3,484	1212,4	18,50	202,64	376,26	1,0095	1,6406
3,0	3,605	3,604	1209,1	19,12	203,96	376,87	1,0143	1,6405
4,0	3,728	3,727	1205,8	19,76	205,29	377,48	1,0191	1,6404
5,0	3,855	3,854	1202,5	20,42	206,62	378,08	1,0238	1,6403
6,0	3,985	3,984	1199,1	21,09	207,95	378,68	1,0286	1,6402
7,0	4,117	4,117	1195,8	21,78	209,29	379,28	1,0333	1,6401
8,0	4,254	4,253	1192,4	22,49	210,63	379,88	1,0380	1,6401
9,0	4,393	4,393	1188,9	23,21	211,97	380,48	1,0428	1,6400
10,0	4,536	4,536	1185,5	23,96	213,32	381,07	1,0475	1,6399
11,0	4,683	4,683	1182,1	24,73	214,67	381,66	1,0522	1,6399
12,0	4,833	4,833	1178,6	25,51	216,03	382,25	1,0569	1,6399
13,0	4,987	4,987	1175,1	26,32	217,39	382,83	1,0617	1,6398
14,0	5,144	5,144	1171,6	27,14	218,75	383,41	1,0664	1,6398
15,0	5,306	5,305	1168,1	27,99	220,11	383,99	1,0711	1,6398
16,0	5,471	5,470	1164,5	28,86	221,49	384,57	1,0758	1,6398
17,0	5,639	5,639	1160,9	29,75	222,86	385,14	1,0805	1,6397
18,0	5,812	5,812	1157,3	30,67	224,24	385,71	1,0852	1,6397
19,0	5,989	5,989	1153,7	31,60	225,62	386,27	1,0898	1,6397
20,0	6,170	6,170	1150,0	32,57	227,01	386,83	1,0945	1,6397
21,0	6,354	6,354	1146,4	33,55	228,40	387,39	1,0992	1,6397
22,0	6,543	6,543	1142,7	34,56	229,79	387,95	1,1039	1,6397
23,0	6,736	6,736	1138,9	35,60	231,19	388,50	1,1086	1,6397
24,0	6,934	6,934	1135,2	36,67	232,60	389,05	1,1132	1,6397
25,0	7,135	7,135	1131,4	37,76	234,01	389,59	1,1179	1,6397
26,0	7,341	7,341	1127,6	38,87	235,42	390,13	1,1226	1,6397
27,0	7,552	7,552	1123,8	40,02	236,83	390,66	1,1272	1,6397
28,0	7,767	7,767	1119,9	41,20	238,26	391,19	1,1319	1,6397
29,0	7,986	7,986	1116,0	42,40	239,68	391,72	1,1366	1,6398
30,0	8,210	8,210	1112,1	43,64	241,11	392,24	1,1412	1,6398
31,0	8,439	8,439	1108,1	44,91	242,55	392,76	1,1459	1,6398
32,0	8,673	8,672	1104,1	46,21	243,99	393,27	1,1505	1,6398
33,0	8,911	8,911	1100,1	47,54	245,43	393,78	1,1552	1,6397
34,0	9,154	9,154	1096,1	48,91	246,88	394,28	1,1599	1,6397
35,0	9,403	9,402	1092,0	50,31	248,34	394,77	1,1645	1,6397

temperature [°C]	pressure [bar]		density [kg/m³]		enthalpy [kJ/kg]		entropy [J/kg*K]	
	liquid	vapour	liquid	vapour	liquid	vapour	liquid	vapour
36,0	9,656	9,655	1087,9	51,75	249,80	395,26	1,1692	1,6397
37,0	9,914	9,913	1083,7	53,22	251,26	395,75	1,1738	1,6397
38,0	10,18	10,18	1079,5	54,74	252,74	396,23	1,1785	1,6397
39,0	10,45	10,45	1075,3	56,29	254,21	396,70	1,1831	1,6396
40,0	10,72	10,72	1071,0	57,89	255,69	397,17	1,1878	1,6396
41,0	11,00	11,00	1066,7	59,52	257,18	397,63	1,1925	1,6395
42,0	11,28	11,28	1062,3	61,20	258,68	398,08	1,1971	1,6395
43,0	11,57	11,57	1057,9	62,92	260,18	398,53	1,2018	1,6394
44,0	11,87	11,87	1053,5	64,69	261,68	398,97	1,2065	1,6393
45,0	12,17	12,17	1049,0	66,51	263,19	399,40	1,2111	1,6393
46,0	12,48	12,48	1044,5	68,37	264,71	399,83	1,2158	1,6392
47,0	12,79	12,79	1039,9	70,28	266,24	400,24	1,2205	1,6391
48,0	13,11	13,11	1035,2	72,25	267,77	400,65	1,2252	1,6389
49,0	13,43	13,43	1030,5	74,27	269,31	401,05	1,2298	1,6388
50,0	13,76	13,76	1025,8	76,35	270,85	401,45	1,2345	1,6387
51,0	14,10	14,10	1021,0	78,49	272,41	401,83	1,2392	1,6385
52,0	14,44	14,44	1016,1	80,68	273,97	402,20	1,2439	1,6383
53,0	14,79	14,79	1011,2	82,94	275,54	402,57	1,2486	1,6381
54,0	15,15	15,14	1006,2	85,26	277,11	402,92	1,2534	1,6379
55,0	15,51	15,51	1001,2	87,65	278,70	403,26	1,2581	1,6377
56,0	15,88	15,87	996,03	90,11	280,29	403,60	1,2628	1,6375
57,0	16,25	16,25	990,83	92,65	281,89	403,92	1,2676	1,6372
58,0	16,63	16,63	985,55	95,26	283,51	404,23	1,2723	1,6369
59,0	17,02	17,02	980,19	97,95	285,13	404,52	1,2771	1,6366
60,0	17,42	17,41	974,74	100,7	286,76	404,81	1,2819	1,6362
61,0	17,82	17,81	969,21	103,6	288,40	405,08	1,2867	1,6359
62,0	18,23	18,22	963,58	106,5	290,05	405,33	1,2915	1,6355
63,0	18,64	18,64	957,86	109,6	291,72	405,57	1,2963	1,6350
64,0	19,07	19,06	952,03	112,7	293,39	405,80	1,3012	1,6346
65,0	19,50	19,49	946,09	116,0	295,08	406,01	1,3060	1,6341
66,0	19,93	19,93	940,03	119,4	296,78	406,20	1,3109	1,6336
67,0	20,38	20,37	933,85	122,8	298,50	406,37	1,3158	1,6330
68,0	20,83	20,82	927,55	126,4	300,22	406,53	1,3208	1,6324
69,0	21,29	21,28	921,10	130,2	301,97	406,66	1,3257	1,6317
70,0	21,76	21,75	914,51	134,1	303,73	406,77	1,3307	1,6310
71,0	22,24	22,23	907,77	138,1	305,50	406,86	1,3357	1,6302
72,0	22,72	22,71	900,86	142,3	307,29	406,92	1,3408	1,6294
73,0	23,21	23,20	893,77	146,7	309,10	406,96	1,3458	1,6285
74,0	23,71	23,70	886,49	151,2	310,93	406,97	1,3509	1,6276
75,0	24,22	24,21	879,01	156,0	312,78	406,95	1,3561	1,6266

## Saturated Pressure Table

temperature [°C]	pressure [bar]		density [kg/m³]		enthalpy [kJ/kg]		entropy [J/kg*K]	
	liquid	vapour	liquid	vapour	liquid	vapour	liquid	vapour
76,0	24,74	24,73	871,31	160,9	314,66	406,89	1,3613	1,6255
77,0	25,27	25,25	863,36	166,1	316,55	406,80	1,3666	1,6243
78,0	25,80	25,79	855,16	171,6	318,48	406,67	1,3719	1,6231
79,0	26,35	26,33	846,67	177,3	320,43	406,50	1,3772	1,6217
80,0	26,90	26,89	837,87	183,3	322,41	406,29	1,3827	1,6202
81,0	27,46	27,45	828,72	189,7	324,43	406,02	1,3882	1,6186
82,0	28,03	28,02	819,18	196,5	326,49	405,69	1,3938	1,6168
83,0	28,61	28,60	809,21	203,7	328,59	405,30	1,3995	1,6149
84,0	29,21	29,19	798,74	211,4	330,74	404,83	1,4053	1,6128
85,0	29,81	29,79	787,70	219,7	332,94	404,28	1,4113	1,6105
86,0	30,42	30,41	775,98	228,6	335,21	403,63	1,4174	1,6079
87,0	31,04	31,03	763,47	238,3	337,56	402,87	1,4237	1,6050
88,0	31,68	31,67	749,99	249,0	340,00	401,96	1,4302	1,6018
89,0	32,32	32,31	735,28	261,0	342,56	400,88	1,4371	1,5981
90,0	32,98	32,97	718,98	274,5	345,28	399,56	1,4443	1,5938
91,0	33,65	33,64	700,50	290,2	348,20	397,94	1,4521	1,5887
92,0	34,34	34,32	678,74	309,1	351,45	395,86	1,4607	1,5823
93,0	35,03	35,02	651,36	333,7	355,24	393,00	1,4708	1,5739
94,0	35,75	35,74	610,87	371,3	360,31	388,37	1,4843	1,5608

Calculated by Refprop version 10.0

A guarantee, warranty or liability for the accuracy, completeness and timeliness of the content and information provided cannot be assumed.

revised 07.01.2020

TEGA – Technische Gase und Gasetechnik GmbH  
 Werner-von-Siemens-Straße 18  
 97076 Würzburg | Germany  
 www.tega.de

Telefon +49 931 2093-0  
 Telefax +49 931 2093-101  
 Email: info@tega.de

Geschäftsführer: Dr. Jürgen Zöllner  
 Sitz: Würzburg - Registergericht: Würzburg, HRB 21  
 USt-IdNr.: DE 811145437

Deutsche Bank Würzburg

IBAN: DE707907001600202804 00  
 BIC: DEUTDEMM790