

Saturated Pressure Table

temperature [°C]	pressure [bar]		density [kg/m ³]		enthalpy [kJ/kg]		entropy [J/kg*K]	
	liquid	vapour	liquid	vapour	liquid	vapour	liquid	vapour
-60,0	0,491	0,339	1391,1	1,684	119,56	366,91	0,6700	1,8507
-59,0	0,519	0,360	1388,2	1,782	120,84	367,52	0,6760	1,8478
-58,0	0,549	0,382	1385,2	1,885	122,13	368,13	0,6820	1,8450
-57,0	0,579	0,406	1382,3	1,992	123,41	368,74	0,6879	1,8423
-56,0	0,612	0,430	1379,4	2,105	124,70	369,35	0,6938	1,8396
-55,0	0,645	0,456	1376,4	2,222	125,99	369,95	0,6998	1,8369
-54,0	0,680	0,483	1373,5	2,344	127,28	370,56	0,7056	1,8343
-53,0	0,717	0,511	1370,5	2,472	128,57	371,17	0,7115	1,8318
-52,0	0,755	0,540	1367,5	2,605	129,86	371,77	0,7173	1,8293
-51,0	0,795	0,571	1364,6	2,744	131,15	372,37	0,7232	1,8268
-50,0	0,836	0,603	1361,6	2,888	132,45	372,98	0,7290	1,8244
-49,0	0,879	0,636	1358,6	3,039	133,75	373,58	0,7348	1,8220
-48,0	0,924	0,671	1355,6	3,195	135,05	374,18	0,7405	1,8197
-47,0	0,971	0,708	1352,6	3,358	136,35	374,78	0,7463	1,8174
-46,0	1,019	0,746	1349,6	3,528	137,65	375,38	0,7520	1,8152
-45,0	1,069	0,786	1346,5	3,704	138,95	375,97	0,7577	1,8130
-44,0	1,122	0,827	1343,5	3,887	140,26	376,57	0,7634	1,8108
-43,0	1,176	0,870	1340,5	4,078	141,56	377,16	0,7691	1,8087
-42,0	1,232	0,915	1337,4	4,275	142,87	377,76	0,7747	1,8066
-41,0	1,291	0,962	1334,3	4,480	144,18	378,35	0,7804	1,8045
-40,0	1,351	1,011	1331,3	4,693	145,49	378,94	0,7860	1,8025
-39,0	1,414	1,061	1328,2	4,913	146,81	379,53	0,7916	1,8005
-38,0	1,479	1,113	1325,1	5,142	148,12	380,11	0,7972	1,7986
-37,0	1,546	1,168	1322,0	5,378	149,44	380,70	0,8028	1,7967
-36,0	1,616	1,225	1318,9	5,624	150,76	381,28	0,8083	1,7948
-35,0	1,688	1,283	1315,7	5,878	152,08	381,86	0,8138	1,7929
-34,0	1,763	1,344	1312,6	6,141	153,41	382,44	0,8194	1,7911
-33,0	1,840	1,407	1309,4	6,413	154,74	383,02	0,8249	1,7893
-32,0	1,920	1,473	1306,3	6,695	156,06	383,60	0,8304	1,7876
-31,0	2,002	1,541	1303,1	6,986	157,40	384,17	0,8359	1,7859
-30,0	2,087	1,611	1299,9	7,287	158,73	384,74	0,8413	1,7842
-29,0	2,175	1,683	1296,7	7,599	160,06	385,31	0,8468	1,7825
-28,0	2,266	1,759	1293,5	7,921	161,40	385,88	0,8522	1,7808
-27,0	2,360	1,837	1290,3	8,253	162,74	386,45	0,8577	1,7792
-26,0	2,456	1,917	1287,1	8,596	164,09	387,01	0,8631	1,7776
-25,0	2,556	2,000	1283,8	8,951	165,43	387,57	0,8685	1,7761
-24,0	2,659	2,086	1280,6	9,316	166,78	388,13	0,8739	1,7745
-23,0	2,765	2,175	1277,3	9,694	168,13	388,69	0,8792	1,7730
-22,0	2,874	2,267	1274,0	10,08	169,48	389,25	0,8846	1,7715
-21,0	2,986	2,362	1270,7	10,49	170,84	389,80	0,8899	1,7701
-20,0	3,102	2,459	1267,4	10,90	172,20	390,35	0,8953	1,7686

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
-19,0	3,221	2,560	1264,1	11,33	173,56	390,89	0,9006	1,7672
-18,0	3,343	2,664	1260,7	11,77	174,92	391,44	0,9059	1,7658
-17,0	3,469	2,772	1257,4	12,22	176,29	391,98	0,9112	1,7644
-16,0	3,599	2,882	1254,0	12,69	177,66	392,52	0,9165	1,7631
-15,0	3,733	2,996	1250,6	13,17	179,03	393,06	0,9218	1,7617
-14,0	3,870	3,113	1247,2	13,67	180,40	393,59	0,9271	1,7604
-13,0	4,011	3,234	1243,8	14,18	181,78	394,12	0,9324	1,7591
-12,0	4,155	3,359	1240,4	14,70	183,16	394,65	0,9376	1,7578
-11,0	4,304	3,487	1236,9	15,24	184,55	395,17	0,9429	1,7566
-10,0	4,457	3,619	1233,4	15,80	185,94	395,69	0,9481	1,7553
-9,0	4,613	3,754	1229,9	16,38	187,33	396,21	0,9533	1,7541
-8,0	4,774	3,894	1226,4	16,96	188,72	396,73	0,9585	1,7529
-7,0	4,939	4,037	1222,9	17,57	190,12	397,24	0,9638	1,7517
-6,0	5,109	4,185	1219,4	18,20	191,52	397,75	0,9690	1,7505
-5,0	5,282	4,336	1215,8	18,84	192,92	398,25	0,9741	1,7493
-4,0	5,461	4,492	1212,2	19,50	194,33	398,75	0,9793	1,7481
-3,0	5,643	4,652	1208,6	20,18	195,74	399,25	0,9845	1,7470
-2,0	5,830	4,816	1205,0	20,87	197,16	399,74	0,9897	1,7459
-1,0	6,022	4,985	1201,3	21,59	198,58	400,23	0,9948	1,7447
0,0	6,219	5,158	1197,7	22,33	200,00	400,72	1,0000	1,7436
1,0	6,420	5,335	1194,0	23,08	201,43	401,20	1,0052	1,7425
2,0	6,626	5,518	1190,2	23,86	202,86	401,68	1,0103	1,7415
3,0	6,837	5,704	1186,5	24,66	204,29	402,15	1,0154	1,7404
4,0	7,053	5,896	1182,8	25,48	205,73	402,62	1,0206	1,7393
5,0	7,274	6,093	1179,0	26,33	207,17	403,09	1,0257	1,7383
6,0	7,501	6,294	1175,2	27,19	208,62	403,55	1,0308	1,7372
7,0	7,732	6,501	1171,3	28,08	210,07	404,00	1,0359	1,7362
8,0	7,969	6,712	1167,5	29,00	211,52	404,46	1,0410	1,7351
9,0	8,211	6,929	1163,6	29,94	212,98	404,90	1,0462	1,7341
10,0	8,458	7,151	1159,7	30,90	214,45	405,34	1,0513	1,7331
11,0	8,711	7,379	1155,7	31,89	215,92	405,78	1,0564	1,7321
12,0	8,970	7,612	1151,7	32,91	217,39	406,21	1,0615	1,7310
13,0	9,234	7,850	1147,7	33,95	218,87	406,63	1,0665	1,7300
14,0	9,505	8,094	1143,7	35,03	220,35	407,05	1,0716	1,7290
15,0	9,780	8,344	1139,7	36,13	221,84	407,47	1,0767	1,7280
16,0	10,06	8,599	1135,6	37,26	223,33	407,88	1,0818	1,7270
17,0	10,35	8,861	1131,4	38,42	224,83	408,28	1,0869	1,7260
18,0	10,64	9,128	1127,3	39,61	226,33	408,67	1,0920	1,7250
19,0	10,94	9,401	1123,1	40,83	227,84	409,06	1,0971	1,7240
20,0	11,25	9,681	1118,9	42,09	229,35	409,45	1,1021	1,7230

temperature [°C]	pressure [bar]		density [kg/m³]		enthalpy [kJ/kg]		entropy [J/kg*K]	
	liquid	vapour	liquid	vapour	liquid	vapour	liquid	vapour
21,0	11,56	9,967	1114,6	43,38	230,87	409,82	1,1072	1,7221
22,0	11,88	10,26	1110,3	44,71	232,40	410,19	1,1123	1,7211
23,0	12,21	10,56	1106,0	46,07	233,93	410,56	1,1174	1,7201
24,0	12,54	10,86	1101,6	47,47	235,47	410,91	1,1225	1,7191
25,0	12,88	11,18	1097,2	48,90	237,01	411,26	1,1275	1,7180
26,0	13,22	11,49	1092,7	50,38	238,56	411,60	1,1326	1,7170
27,0	13,57	11,82	1088,2	51,89	240,11	411,93	1,1377	1,7160
28,0	13,93	12,15	1083,7	53,44	241,68	412,25	1,1428	1,7150
29,0	14,30	12,49	1079,1	55,04	243,25	412,57	1,1479	1,7140
30,0	14,67	12,84	1074,4	56,69	244,82	412,88	1,1530	1,7129
31,0	15,05	13,19	1069,7	58,37	246,40	413,17	1,1581	1,7119
32,0	15,44	13,55	1065,0	60,11	247,99	413,46	1,1632	1,7108
33,0	15,83	13,92	1060,2	61,89	249,59	413,74	1,1683	1,7098
34,0	16,23	14,30	1055,4	63,72	251,20	414,01	1,1734	1,7087
35,0	16,64	14,68	1050,5	65,61	252,81	414,27	1,1785	1,7076
36,0	17,06	15,07	1045,5	67,54	254,43	414,52	1,1836	1,7065
37,0	17,48	15,47	1040,5	69,54	256,06	414,76	1,1887	1,7054
38,0	17,91	15,88	1035,5	71,59	257,70	414,98	1,1939	1,7043
39,0	18,35	16,30	1030,3	73,69	259,34	415,20	1,1990	1,7031
40,0	18,80	16,72	1025,1	75,87	261,00	415,40	1,2042	1,7020
41,0	19,26	17,15	1019,9	78,10	262,66	415,60	1,2093	1,7008
42,0	19,72	17,59	1014,5	80,40	264,34	415,77	1,2145	1,6996
43,0	20,19	18,04	1009,1	82,77	266,02	415,94	1,2197	1,6983
44,0	20,67	18,50	1003,6	85,22	267,72	416,09	1,2249	1,6971
45,0	21,16	18,97	998,08	87,74	269,42	416,23	1,2301	1,6958
46,0	21,66	19,45	992,43	90,33	271,14	416,35	1,2354	1,6945
47,0	22,16	19,93	986,69	93,01	272,87	416,46	1,2406	1,6932
48,0	22,68	20,43	980,86	95,78	274,61	416,55	1,2459	1,6918
49,0	23,20	20,93	974,94	98,63	276,36	416,62	1,2512	1,6905
50,0	23,73	21,45	968,91	101,6	278,13	416,68	1,2565	1,6890
51,0	24,27	21,97	962,77	104,6	279,91	416,71	1,2618	1,6876
52,0	24,82	22,51	956,53	107,8	281,70	416,73	1,2671	1,6861
53,0	25,38	23,05	950,16	111,0	283,51	416,73	1,2725	1,6846
54,0	25,94	23,61	943,67	114,4	285,34	416,70	1,2779	1,6830
55,0	26,52	24,17	937,04	117,9	287,18	416,66	1,2834	1,6813
56,0	27,10	24,75	930,27	121,5	289,04	416,59	1,2888	1,6797
57,0	27,70	25,34	923,35	125,3	290,92	416,49	1,2943	1,6779
58,0	28,30	25,93	916,27	129,2	292,82	416,37	1,2999	1,6761
59,0	28,92	26,54	909,02	133,3	294,73	416,22	1,3055	1,6743
60,0	29,54	27,17	901,58	137,5	296,68	416,04	1,3111	1,6724

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
61,0	30,18	27,80	893,94	141,9	298,64	415,82	1,3168	1,6704
62,0	30,82	28,44	886,09	146,5	300,63	415,57	1,3225	1,6683
63,0	31,47	29,10	878,00	151,3	302,65	415,29	1,3283	1,6661
64,0	32,14	29,77	869,66	156,3	304,70	414,96	1,3342	1,6638
65,0	32,81	30,46	861,05	161,6	306,78	414,59	1,3401	1,6615
66,0	33,50	31,15	852,13	167,1	308,90	414,17	1,3461	1,6590
67,0	34,19	31,86	842,87	172,9	311,06	413,70	1,3522	1,6564
68,0	34,90	32,59	833,25	179,1	313,26	413,18	1,3584	1,6536
69,0	35,61	33,33	823,20	185,6	315,51	412,59	1,3648	1,6507
70,0	36,34	34,08	812,69	192,5	317,81	411,93	1,3712	1,6476
71,0	37,07	34,85	801,64	199,8	320,17	411,19	1,3778	1,6443
72,0	37,82	35,64	789,98	207,7	322,61	410,36	1,3846	1,6408
73,0	38,58	36,45	777,61	216,2	325,12	409,43	1,3916	1,6370
74,0	39,34	37,27	764,39	225,3	327,74	408,37	1,3989	1,6329
75,0	40,12	38,11	750,17	235,3	330,47	407,18	1,4064	1,6284
76,0	40,91	38,97	734,70	246,3	333,34	405,81	1,4144	1,6234
77,0	41,70	39,86	717,65	258,5	336,39	404,23	1,4228	1,6179
78,0	42,50	40,77	698,51	272,4	339,68	402,38	1,4319	1,6117
79,0	43,31	41,70	676,45	288,5	343,32	400,15	1,4419	1,6044
80,0	44,11	42,68	649,91	307,9	347,48	397,39	1,4533	1,5956
81,0	44,90	43,70	615,43	332,9	352,59	393,72	1,4674	1,5843
82,0	45,64	44,80	561,99	370,4	360,10	388,05	1,4882	1,5675

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 Zöller
 Sitz: Würzburg - Registergericht: Würzburg, HRB 21
 USt-IdNr.: DE 811145437

Deutsche Bank Würzburg

IBAN: DE707907001600202804 00
 BIC: DEUTDEM790