

**Table Thermodynamique R 404A**

	Liquide	Vapeur	Liquide	Vapeur	Liquide	Vapeur	Liquide	Vapeur
Temperature	Pression	Pression	Densité	Densité	Enthalpie	Enthalpie	Entropie	Entropie
(°C)	(bar abs)	(bar abs)	(Kg/M <sup>3</sup> )	(Kg/M <sup>3</sup> )	(KJ/Kg)	(KJ/Kg)	(KJ/Kg-K)	(KJ/Kg-K)
-70	0.27654	0.26073	1377.6	1.5366	109.93	325.22	0.62215	1.6852
-69	0.29418	0.27771	1374.7	1.63	111.15	325.83	0.62813	1.6829
-68	0.31273	0.29559	1371.7	1.728	112.37	326.44	0.63409	1.6807
-67	0.33221	0.31437	1368.8	1.8305	113.59	327.06	0.64003	1.6786
-66	0.35266	0.33412	1365.8	1.9378	114.82	327.67	0.64594	1.6765
-65	0.37412	0.35485	1362.9	2.0501	116.04	328.28	0.65183	1.6744
-64	0.39661	0.3766	1359.9	2.1675	117.27	328.89	0.65769	1.6724
-63	0.42019	0.39941	1356.9	2.2901	118.49	329.51	0.66353	1.6704
-62	0.44487	0.42332	1354	2.4182	119.72	330.12	0.66935	1.6685
-61	0.47071	0.44836	1351	2.5518	120.95	330.73	0.67515	1.6666
-60	0.49774	0.47457	1348	2.6913	122.18	331.34	0.68092	1.6648
-59	0.526	0.502	1345	2.8366	123.41	331.95	0.68668	1.663
-58	0.55552	0.53068	1342	2.9881	124.64	332.57	0.69241	1.6613
-57	0.58635	0.56064	1339	3.1459	125.88	333.18	0.69813	1.6596
-56	0.61854	0.59194	1336	3.3103	127.11	333.79	0.70382	1.658
-55	0.65211	0.62461	1333	3.4812	128.35	334.4	0.7095	1.6563
-54	0.68712	0.6587	1330	3.6591	129.59	335.01	0.71515	1.6548
-53	0.72361	0.69425	1327	3.844	130.83	335.62	0.72079	1.6532
-52	0.76161	0.7313	1324	4.0362	132.07	336.23	0.72641	1.6517
-51	0.80118	0.7699	1320.9	4.2359	133.32	336.84	0.73201	1.6503
-50	0.84236	0.81009	1317.9	4.4432	134.56	337.44	0.73759	1.6488
-49	0.88519	0.85192	1314.8	4.6584	135.81	338.05	0.74315	1.6474
-48	0.92972	0.89542	1311.8	4.8817	137.06	338.66	0.7487	1.6461
-47	0.976	0.94066	1308.7	5.1133	138.31	339.26	0.75423	1.6447
-46	1.0241	0.98768	1305.6	5.3534	139.57	339.87	0.75975	1.6434
-45	1.074	1.0365	1302.5	5.6023	140.82	340.47	0.76524	1.6422
-44	1.1258	1.0872	1299.4	5.8601	142.08	341.08	0.77073	1.641
-43	1.1795	1.1399	1296.3	6.1272	143.34	341.68	0.77619	1.6398
-42	1.2353	1.1945	1293.2	6.4037	144.6	342.28	0.78164	1.6386
-41	1.293	1.2511	1290.1	6.6898	145.86	342.88	0.78708	1.6374
-40	1.3529	1.3098	1287	6.9859	147.13	343.48	0.7925	1.6363
-39	1.4149	1.3706	1283.8	7.2922	148.4	344.08	0.79791	1.6352
-38	1.4791	1.4336	1280.7	7.6088	149.67	344.68	0.8033	1.6342
-37	1.5455	1.4989	1277.5	7.9362	150.94	345.27	0.80868	1.6331
-36	1.6142	1.5664	1274.3	8.2744	152.22	345.87	0.81404	1.6321
-35	1.6853	1.6362	1271.1	8.6239	153.49	346.46	0.81939	1.6312
-34	1.7588	1.7084	1267.9	8.9848	154.77	347.05	0.82473	1.6302
-33	1.8347	1.7831	1264.7	9.3575	156.06	347.64	0.83006	1.6293
-32	1.9132	1.8603	1261.5	9.7423	157.34	348.23	0.83537	1.6283
-31	1.9942	1.94	1258.3	10.139	158.63	348.82	0.84067	1.6274
-30	2.0778	2.0223	1255	10.549	159.92	349.4	0.84596	1.6266
-29	2.1641	2.1073	1251.8	10.971	161.21	349.98	0.85123	1.6257
-28	2.2532	2.1951	1248.5	11.407	162.5	350.56	0.85649	1.6249
-27	2.345	2.2856	1245.2	11.857	163.8	351.14	0.86174	1.6241
-26	2.4397	2.3789	1241.9	12.32	165.1	351.72	0.86698	1.6233

**Table Thermodynamique R 404A**

	Liquide	Vapeur	Liquide	Vapeur	Liquide	Vapeur	Liquide	Vapeur
Temperature	Pression	Pression	Densité	Densité	Enthalpie	Enthalpie	Entropie	Entropie
(°C)	(bar abs)	(bar abs)	(Kg/M <sup>3</sup> )	(Kg/M <sup>3</sup> )	(KJ/Kg)	(KJ/Kg)	(KJ/Kg-K)	(KJ/Kg-K)
-25	2.5373	2.4751	1238.6	12.797	166.4	352.3	0.87221	1.6225
-24	2.6379	2.5743	1235.3	13.289	167.71	352.87	0.87743	1.6218
-23	2.7415	2.6765	1231.9	13.795	169.02	353.44	0.88264	1.621
-22	2.8482	2.7818	1228.6	14.317	170.33	354.01	0.88784	1.6203
-21	2.958	2.8902	1225.2	14.854	171.64	354.58	0.89302	1.6196
-20	3.071	3.0018	1221.8	15.408	172.96	355.14	0.8982	1.6189
-19	3.1873	3.1167	1218.4	15.977	174.28	355.7	0.90337	1.6183
-18	3.307	3.2348	1215	16.563	175.6	356.26	0.90852	1.6176
-17	3.43	3.3564	1211.5	17.166	176.93	356.82	0.91367	1.617
-16	3.5564	3.4814	1208.1	17.787	178.26	357.38	0.91881	1.6163
-15	3.6864	3.6099	1204.6	18.425	179.59	357.93	0.92394	1.6157
-14	3.82	3.742	1201.1	19.082	180.93	358.48	0.92906	1.6151
-13	3.9572	3.8777	1197.6	19.757	182.27	359.02	0.93418	1.6145
-12	4.0981	4.0171	1194	20.452	183.61	359.57	0.93928	1.614
-11	4.2427	4.1603	1190.5	21.166	184.95	360.11	0.94438	1.6134
-10	4.3912	4.3073	1186.9	21.9	186.3	360.64	0.94947	1.6128
-9	4.5436	4.4582	1183.3	22.655	187.66	361.18	0.95455	1.6123
-8	4.7	4.6131	1179.7	23.43	189.01	361.71	0.95963	1.6118
-7	4.8604	4.772	1176.1	24.227	190.37	362.23	0.96469	1.6112
-6	5.0249	4.9349	1172.4	25.047	191.74	362.76	0.96976	1.6107
-5	5.1936	5.1021	1168.7	25.889	193.1	363.28	0.97481	1.6102
-4	5.3665	5.2735	1165	26.754	194.48	363.79	0.97986	1.6097
-3	5.5437	5.4492	1161.3	27.642	195.85	364.3	0.9849	1.6092
-2	5.7253	5.6292	1157.6	28.555	197.23	364.81	0.98994	1.6087
-1	5.9113	5.8137	1153.8	29.493	198.61	365.32	0.99497	1.6082
0	6.1018	6.0027	1150	30.457	200	365.82	1	1.6078
1	6.2969	6.1963	1146.2	31.446	201.39	366.31	1.005	1.6073
2	6.4967	6.3946	1142.3	32.463	202.79	366.81	1.01	1.6068
3	6.7011	6.5975	1138.4	33.507	204.19	367.29	1.0151	1.6064
4	6.9104	6.8053	1134.5	34.579	205.59	367.78	1.0201	1.6059
5	7.1245	7.018	1130.6	35.68	207	368.25	1.0251	1.6054
6	7.3436	7.2356	1126.6	36.812	208.41	368.73	1.0301	1.605
7	7.5677	7.4582	1122.6	37.973	209.83	369.19	1.0351	1.6045
8	7.7969	7.6859	1118.5	39.166	211.25	369.66	1.0401	1.6041
9	8.0312	7.9188	1114.5	40.392	212.68	370.11	1.0451	1.6036
10	8.2708	8.1569	1110.4	41.651	214.12	370.57	1.0501	1.6032
11	8.5157	8.4003	1106.2	42.943	215.55	371.01	1.055	1.6027
12	8.7659	8.6492	1102.1	44.271	217	371.45	1.06	1.6022
13	9.0217	8.9035	1097.9	45.635	218.44	371.89	1.065	1.6018
14	9.2829	9.1634	1093.6	47.036	219.9	372.32	1.07	1.6013
15	9.5498	9.4289	1089.3	48.476	221.36	372.74	1.075	1.6009
16	9.8224	9.7002	1085	49.955	222.82	373.15	1.08	1.6004
17	10.101	9.9772	1080.6	51.474	224.29	373.56	1.085	1.5999
18	10.385	10.26	1076.2	53.035	225.77	373.97	1.09	1.5994
19	10.675	10.549	1071.8	54.64	227.25	374.36	1.095	1.5989

**Table Thermodynamique R 404A**

	Liquide	Vapeur	Liquide	Vapeur	Liquide	Vapeur	Liquide	Vapeur
Temperature	Pression	Pression	Densité	Densité	Enthalpie	Enthalpie	Entropie	Entropie
(°C)	(bar abs)	(bar abs)	(Kg/M <sup>3</sup> )	(Kg/M <sup>3</sup> )	(KJ/Kg)	(KJ/Kg)	(KJ/Kg-K)	(KJ/Kg-K)
20	10.971	10.844	1067.3	56.289	228.74	374.75	1.1	1.5984
21	11.274	11.145	1062.7	57.984	230.24	375.13	1.105	1.5979
22	11.582	11.452	1058.1	59.726	231.74	375.5	1.11	1.5974
23	11.897	11.766	1053.5	61.518	233.25	375.86	1.115	1.5969
24	12.218	12.086	1048.8	63.361	234.76	376.22	1.12	1.5964
25	12.546	12.412	1044	65.256	236.29	376.56	1.125	1.5958
26	12.88	12.745	1039.2	67.206	237.82	376.9	1.13	1.5953
27	13.221	13.085	1034.4	69.212	239.36	377.23	1.135	1.5947
28	13.568	13.431	1029.4	71.276	240.9	377.55	1.14	1.5941
29	13.922	13.785	1024.4	73.401	242.45	377.86	1.1451	1.5935
30	14.284	14.145	1019.4	75.59	244.02	378.15	1.1501	1.5929
31	14.652	14.512	1014.3	77.843	245.59	378.44	1.1552	1.5923
32	15.027	14.886	1009.1	80.165	247.17	378.72	1.1602	1.5917
33	15.409	15.268	1003.8	82.558	248.75	378.98	1.1653	1.591
34	15.799	15.657	998.45	85.025	250.35	379.23	1.1704	1.5903
35	16.196	16.053	993.03	87.569	251.96	379.47	1.1755	1.5896
36	16.601	16.457	987.53	90.193	253.58	379.7	1.1806	1.5888
37	17.013	16.868	981.94	92.902	255.2	379.91	1.1857	1.5881
38	17.432	17.288	976.26	95.699	256.84	380.11	1.1909	1.5873
39	17.86	17.715	970.48	98.588	258.49	380.29	1.196	1.5864
40	18.295	18.149	964.6	101.57	260.15	380.46	1.2012	1.5856
41	18.739	18.592	958.62	104.66	261.83	380.6	1.2064	1.5847
42	19.19	19.044	952.53	107.86	263.51	380.74	1.2116	1.5838
43	19.65	19.503	946.32	111.17	265.21	380.85	1.2168	1.5828
44	20.118	19.971	940	114.59	266.93	380.94	1.2221	1.5818
45	20.595	20.447	933.54	118.15	268.66	381.02	1.2273	1.5807
46	21.08	20.932	926.95	121.84	270.4	381.07	1.2327	1.5796
47	21.574	21.426	920.21	125.67	272.16	381.1	1.238	1.5785
48	22.076	21.929	913.32	129.65	273.94	381.1	1.2434	1.5772
49	22.588	22.441	906.26	133.79	275.74	381.08	1.2488	1.576
50	23.109	22.961	899.03	138.11	277.55	381.03	1.2542	1.5746
51	23.639	23.492	891.61	142.61	279.39	380.95	1.2597	1.5732
52	24.178	24.032	884	147.31	281.24	380.84	1.2652	1.5717
53	24.727	24.581	876.16	152.23	283.12	380.69	1.2708	1.5701
54	25.285	25.14	868.09	157.38	285.03	380.51	1.2765	1.5685
55	25.854	25.709	859.76	162.79	286.96	380.28	1.2822	1.5667
56	26.432	26.289	851.16	168.48	288.92	380.02	1.2879	1.5648
57	27.021	26.878	842.25	174.47	290.92	379.7	1.2938	1.5628
58	27.62	27.479	832.99	180.81	292.95	379.33	1.2997	1.5607
59	28.23	28.09	823.36	187.53	295.02	378.9	1.3057	1.5584
60	28.85	28.712	813.31	194.68	297.13	378.4	1.3118	1.5559
61	29.482	29.346	802.77	202.32	299.29	377.83	1.3181	1.5532
62	30.124	29.991	791.67	210.51	301.51	377.17	1.3245	1.5503
63	30.779	30.648	779.93	219.37	303.8	376.41	1.331	1.5472
64	31.445	31.318	767.42	228.99	306.16	375.54	1.3378	1.5437

**Table Thermodynamique R 404A**

	Liquide	Vapeur	Liquide	Vapeur	Liquide	Vapeur	Liquide	Vapeur
Temperature	Pression	Pression	Densité	Densité	Enthalpie	Enthalpie	Entropie	Entropie
(°C)	(bar abs)	(bar abs)	(Kg/M <sup>3</sup> )	(Kg/M <sup>3</sup> )	(KJ/Kg)	(KJ/Kg)	(KJ/Kg-K)	(KJ/Kg-K)
65	32.124	32	753.97	239.55	308.61	374.52	1.3448	1.5398
66	32.816	32.696	739.37	251.27	311.18	373.33	1.3521	1.5354
67	33.52	33.406	723.27	264.47	313.9	371.92	1.3598	1.5305
68	34.239	34.131	705.14	279.69	316.81	370.21	1.3681	1.5247
69	34.972	34.873	684.03	297.83	320.03	368.07	1.3772	1.5177
70	35.721	35.633	658	320.74	323.72	365.25	1.3876	1.5087