



Forane[®] 410A

(50.0% R-32, 50.0% R-125 by weight)

Thermodynamic Properties (Saturation) - ENG

This data was generated using the NIST REFPROP Database

(Lemmon, E.W., Huber, M.L., McLinden, M.O. NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties-REFPROP, Version 9.0, National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg, 2010)



Thermodynamic Properties of R-410A - Saturation

Temperature (°F)	Pressure (psia)		Volume (ft ³ /lb)		Density (lb/ft ³)		Enthalpy (Btu/lb)		Entropy (Btu/(lb °R))		Temperature (°F)
	Liquid	Vapor	Liquid	Vapor	Liquid	Vapor	Liquid	Vapor	Liquid	Vapor	
-150	0.487	0.482	0.01070	94.62	93.51	0.01057	25.48	159.65	0.08644	0.51987	-150
-149	0.512	0.507	0.01071	90.17	93.41	0.01109	25.80	159.79	0.08748	0.51893	-149
-148	0.539	0.533	0.01072	85.96	93.31	0.01163	26.12	159.93	0.08851	0.51800	-148
-147	0.567	0.561	0.01073	81.98	93.21	0.01220	26.44	160.07	0.08954	0.51708	-147
-146	0.596	0.590	0.01074	78.21	93.11	0.01279	26.77	160.22	0.09057	0.51617	-146
-145	0.626	0.620	0.01075	74.64	93.01	0.01340	27.09	160.36	0.09160	0.51526	-145
-144	0.658	0.651	0.01076	71.26	92.91	0.01403	27.41	160.50	0.09262	0.51437	-144
-143	0.690	0.684	0.01078	68.06	92.81	0.01469	27.73	160.64	0.09364	0.51348	-143
-142	0.725	0.718	0.01079	65.02	92.71	0.01538	28.05	160.78	0.09465	0.51261	-142
-141	0.760	0.754	0.01080	62.14	92.61	0.01609	28.38	160.92	0.09566	0.51174	-141
-140	0.798	0.790	0.01081	59.41	92.51	0.01683	28.70	161.06	0.09667	0.51088	-140
-139	0.836	0.829	0.01082	56.82	92.41	0.01760	29.02	161.21	0.09768	0.51003	-139
-138	0.877	0.869	0.01083	54.36	92.31	0.01840	29.34	161.35	0.09868	0.50919	-138
-137	0.918	0.911	0.01085	52.02	92.21	0.01922	29.66	161.49	0.09968	0.50835	-137
-136	0.962	0.954	0.01086	49.80	92.11	0.02008	29.98	161.63	0.10067	0.50752	-136
-135	1.007	0.999	0.01087	47.69	92.01	0.02097	30.31	161.77	0.10166	0.50671	-135
-134	1.054	1.046	0.01088	45.68	91.91	0.02189	30.63	161.91	0.10265	0.50589	-134
-133	1.103	1.095	0.01089	43.77	91.81	0.02285	30.95	162.05	0.10364	0.50509	-133
-132	1.154	1.145	0.01090	41.96	91.71	0.02383	31.27	162.19	0.10462	0.50430	-132
-131	1.207	1.198	0.01092	40.23	91.61	0.02486	31.59	162.33	0.10560	0.50351	-131
-130	1.262	1.252	0.01093	38.59	91.50	0.02592	31.91	162.48	0.10657	0.50273	-130
-129	1.319	1.309	0.01094	37.02	91.40	0.02701	32.23	162.62	0.10755	0.50195	-129
-128	1.378	1.367	0.01095	35.53	91.30	0.02814	32.56	162.76	0.10852	0.50119	-128
-127	1.439	1.428	0.01097	34.11	91.20	0.02932	32.88	162.90	0.10948	0.50043	-127
-126	1.502	1.491	0.01098	32.76	91.10	0.03053	33.20	163.04	0.11045	0.49968	-126
-125	1.568	1.557	0.01099	31.46	91.00	0.03178	33.52	163.18	0.11141	0.49893	-125
-124	1.636	1.625	0.01100	30.23	90.90	0.03308	33.84	163.32	0.11237	0.49819	-124
-123	1.707	1.695	0.01101	29.06	90.80	0.03442	34.16	163.46	0.11332	0.49746	-123
-122	1.780	1.768	0.01103	27.93	90.70	0.03580	34.48	163.60	0.11427	0.49674	-122
-121	1.856	1.843	0.01104	26.86	90.59	0.03723	34.80	163.74	0.11522	0.49602	-121
-120	1.934	1.921	0.01105	25.84	90.49	0.03870	35.13	163.87	0.11617	0.49531	-120
-119	2.015	2.002	0.01106	24.86	90.39	0.04022	35.45	164.01	0.11712	0.49461	-119
-118	2.099	2.085	0.01108	23.93	90.29	0.04179	35.77	164.15	0.11806	0.49391	-118
-117	2.186	2.172	0.01109	23.04	90.19	0.04341	36.09	164.29	0.11900	0.49322	-117
-116	2.275	2.261	0.01110	22.18	90.09	0.04508	36.41	164.43	0.11993	0.49253	-116
-115	2.368	2.353	0.01111	21.37	89.98	0.04680	36.73	164.57	0.12087	0.49185	-115
-114	2.464	2.449	0.01113	20.59	89.88	0.04858	37.05	164.71	0.12180	0.49118	-114
-113	2.563	2.547	0.01114	19.84	89.78	0.05041	37.38	164.85	0.12272	0.49051	-113
-112	2.665	2.649	0.01115	19.12	89.68	0.05229	37.70	164.98	0.12365	0.48985	-112
-111	2.771	2.754	0.01116	18.44	89.58	0.05424	38.02	165.12	0.12457	0.48920	-111
-110	2.880	2.863	0.01118	17.78	89.47	0.05624	38.34	165.26	0.12549	0.48855	-110
-109	2.993	2.975	0.01119	17.15	89.37	0.05830	38.66	165.40	0.12641	0.48791	-109
-108	3.109	3.091	0.01120	16.55	89.27	0.06042	38.98	165.53	0.12733	0.48727	-108
-107	3.229	3.211	0.01122	15.97	89.16	0.06260	39.31	165.67	0.12824	0.48664	-107
-106	3.353	3.334	0.01123	15.42	89.06	0.06485	39.63	165.81	0.12915	0.48601	-106
-105	3.480	3.461	0.01124	14.89	88.96	0.06716	39.95	165.95	0.13006	0.48539	-105
-104	3.612	3.592	0.01125	14.38	88.86	0.06954	40.27	166.08	0.13097	0.48478	-104
-103	3.748	3.727	0.01127	13.89	88.75	0.07198	40.59	166.22	0.13187	0.48417	-103
-102	3.887	3.866	0.01128	13.42	88.65	0.07450	40.92	166.35	0.13277	0.48356	-102
-101	4.031	4.010	0.01129	12.97	88.55	0.07708	41.24	166.49	0.13367	0.48296	-101
-100	4.180	4.158	0.01131	12.54	88.44	0.07974	41.56	166.63	0.13457	0.48237	-100
-99	4.333	4.310	0.01132	12.13	88.34	0.08247	41.88	166.76	0.13546	0.48178	-99
-98	4.490	4.467	0.01133	11.73	88.23	0.08527	42.21	166.90	0.13635	0.48120	-98

Thermodynamic Properties of R-410A - Saturation

Temperature (°F)	Pressure (psia)		Volume (ft ³ /lb)		Density (lb/ft ³)		Enthalpy (Btu/lb)		Entropy (Btu/(lb °R))		Temperature (°F)
	Liquid	Vapor	Liquid	Vapor	Liquid	Vapor	Liquid	Vapor	Liquid	Vapor	
-97	4.652	4.628	0.01135	11.34	88.13	0.08815	42.53	167.03	0.13724	0.48062	-97
-96	4.819	4.794	0.01136	10.98	88.03	0.09111	42.85	167.17	0.13813	0.48004	-96
-95	4.990	4.965	0.01137	10.62	87.92	0.09415	43.17	167.30	0.13901	0.47947	-95
-94	5.167	5.141	0.01139	10.28	87.82	0.09727	43.50	167.44	0.13990	0.47891	-94
-93	5.348	5.322	0.01140	9.953	87.71	0.10047	43.82	167.57	0.14078	0.47835	-93
-92	5.535	5.508	0.01141	9.638	87.61	0.10376	44.14	167.70	0.14166	0.47780	-92
-91	5.727	5.699	0.01143	9.335	87.51	0.10713	44.47	167.84	0.14253	0.47725	-91
-90	5.925	5.896	0.01144	9.043	87.40	0.11059	44.79	167.97	0.14341	0.47670	-90
-89	6.128	6.098	0.01146	8.762	87.30	0.11414	45.11	168.11	0.14428	0.47616	-89
-88	6.336	6.306	0.01147	8.491	87.19	0.11777	45.44	168.24	0.14515	0.47563	-88
-87	6.550	6.519	0.01148	8.230	87.09	0.12151	45.76	168.37	0.14602	0.47510	-87
-86	6.770	6.738	0.01150	7.979	86.98	0.12533	46.08	168.50	0.14689	0.47457	-86
-85	6.996	6.964	0.01151	7.737	86.87	0.12925	46.41	168.64	0.14775	0.47405	-85
-84	7.228	7.195	0.01153	7.504	86.77	0.13327	46.73	168.77	0.14861	0.47353	-84
-83	7.467	7.432	0.01154	7.279	86.66	0.13738	47.06	168.90	0.14947	0.47301	-83
-82	7.711	7.676	0.01155	7.062	86.56	0.14160	47.38	169.03	0.15033	0.47251	-82
-81	7.962	7.926	0.01157	6.853	86.45	0.14592	47.70	169.16	0.15119	0.47200	-81
-80	8.220	8.183	0.01158	6.651	86.35	0.15035	48.03	169.29	0.15204	0.47150	-80
-79	8.484	8.446	0.01160	6.457	86.24	0.15488	48.35	169.42	0.15289	0.47100	-79
-78	8.755	8.716	0.01161	6.269	86.13	0.15952	48.68	169.55	0.15374	0.47051	-78
-77	9.033	8.993	0.01162	6.088	86.03	0.16427	49.00	169.68	0.15459	0.47002	-77
-76	9.318	9.277	0.01164	5.913	85.92	0.16913	49.33	169.81	0.15544	0.46953	-76
-75	9.610	9.568	0.01165	5.744	85.81	0.17411	49.65	169.94	0.15628	0.46905	-75
-74	9.909	9.867	0.01167	5.580	85.71	0.17920	49.98	170.07	0.15713	0.46858	-74
-73	10.22	10.17	0.01168	5.423	85.60	0.18441	50.30	170.20	0.15797	0.46810	-73
-72	10.53	10.49	0.01170	5.271	85.49	0.18974	50.63	170.33	0.15881	0.46763	-72
-71	10.85	10.81	0.01171	5.123	85.39	0.19519	50.96	170.46	0.15965	0.46717	-71
-70	11.18	11.14	0.01173	4.981	85.28	0.20076	51.28	170.58	0.16048	0.46670	-70
-69	11.52	11.47	0.01174	4.844	85.17	0.20646	51.61	170.71	0.16132	0.46625	-69
-68	11.87	11.82	0.01176	4.711	85.06	0.21229	51.93	170.84	0.16215	0.46579	-68
-67	12.22	12.17	0.01177	4.582	84.95	0.21824	52.26	170.96	0.16298	0.46534	-67
-66	12.58	12.53	0.01179	4.458	84.85	0.22433	52.59	171.09	0.16381	0.46489	-66
-65	12.96	12.90	0.01180	4.337	84.74	0.23056	52.91	171.22	0.16463	0.46445	-65
-64	13.34	13.28	0.01182	4.221	84.63	0.23692	53.24	171.34	0.16546	0.46401	-64
-63	13.73	13.67	0.01183	4.108	84.52	0.24341	53.57	171.47	0.16628	0.46357	-63
-62	14.12	14.07	0.01185	3.999	84.41	0.25005	53.90	171.59	0.16711	0.46313	-62
-61	14.53	14.47	0.01186	3.894	84.30	0.25683	54.22	171.72	0.16793	0.46270	-61
-60	14.95	14.89	0.01188	3.791	84.19	0.26376	54.55	171.84	0.16875	0.46228	-60
-59	15.37	15.31	0.01189	3.692	84.08	0.27083	54.88	171.97	0.16956	0.46185	-59
-58	15.81	15.74	0.01191	3.597	83.97	0.27805	55.21	172.09	0.17038	0.46143	-58
-57	16.25	16.19	0.01192	3.504	83.86	0.28542	55.54	172.21	0.17119	0.46101	-57
-56	16.71	16.64	0.01194	3.414	83.76	0.29295	55.86	172.34	0.17201	0.46060	-56
-55	17.17	17.10	0.01196	3.326	83.65	0.30063	56.19	172.46	0.17282	0.46018	-55
-54	17.65	17.58	0.01197	3.242	83.53	0.30848	56.52	172.58	0.17363	0.45978	-54
-53	18.13	18.06	0.01199	3.160	83.42	0.31648	56.85	172.70	0.17443	0.45937	-53
-52	18.63	18.56	0.01200	3.080	83.31	0.32464	57.18	172.83	0.17524	0.45897	-52
-51	19.13	19.06	0.01202	3.003	83.20	0.33298	57.51	172.95	0.17605	0.45857	-51
-50	19.65	19.58	0.01204	2.929	83.09	0.34148	57.84	173.07	0.17685	0.45817	-50
-49	20.18	20.10	0.01205	2.856	82.98	0.35015	58.17	173.19	0.17765	0.45778	-49
-48	20.72	20.64	0.01207	2.786	82.87	0.35899	58.50	173.31	0.17845	0.45739	-48
-47	21.27	21.19	0.01208	2.717	82.76	0.36801	58.83	173.43	0.17925	0.45700	-47
-46	21.83	21.75	0.01210	2.651	82.65	0.37721	59.16	173.55	0.18005	0.45661	-46
-45	22.41	22.32	0.01212	2.587	82.53	0.38658	59.49	173.67	0.18085	0.45623	-45

Thermodynamic Properties of R-410A - Saturation

Temperature (°F)	Pressure (psia)		Volume (ft ³ /lb)		Density (lb/ft ³)		Enthalpy (Btu/lb)		Entropy (Btu/(lb °R))		Temperature (°F)
	Liquid	Vapor	Liquid	Vapor	Liquid	Vapor	Liquid	Vapor	Liquid	Vapor	
-44	22.99	22.91	0.01213	2.524	82.42	0.39615	59.83	173.78	0.18164	0.45585	-44
-43	23.59	23.50	0.01215	2.464	82.31	0.40589	60.16	173.90	0.18243	0.45547	-43
-42	24.20	24.11	0.01217	2.405	82.20	0.41583	60.49	174.02	0.18323	0.45510	-42
-41	24.82	24.73	0.01218	2.348	82.08	0.42595	60.82	174.14	0.18402	0.45473	-41
-40	25.45	25.36	0.01220	2.292	81.97	0.43628	61.15	174.25	0.18481	0.45436	-40
-39	26.10	26.01	0.01222	2.238	81.86	0.44679	61.49	174.37	0.18559	0.45399	-39
-38	26.76	26.66	0.01223	2.186	81.74	0.45751	61.82	174.49	0.18638	0.45363	-38
-37	27.43	27.33	0.01225	2.135	81.63	0.46843	62.15	174.60	0.18717	0.45326	-37
-36	28.12	28.02	0.01227	2.085	81.52	0.47955	62.49	174.72	0.18795	0.45291	-36
-35	28.82	28.71	0.01229	2.037	81.40	0.49089	62.82	174.83	0.18873	0.45255	-35
-34	29.53	29.43	0.01230	1.990	81.29	0.50243	63.15	174.95	0.18952	0.45219	-34
-33	30.26	30.15	0.01232	1.945	81.17	0.51419	63.49	175.06	0.19030	0.45184	-33
-32	31.00	30.89	0.01234	1.901	81.06	0.52616	63.82	175.17	0.19108	0.45149	-32
-31	31.75	31.64	0.01235	1.858	80.94	0.53835	64.16	175.29	0.19185	0.45114	-31
-30	32.52	32.41	0.01237	1.816	80.83	0.55077	64.49	175.40	0.19263	0.45080	-30
-29	33.30	33.19	0.01239	1.775	80.71	0.56341	64.83	175.51	0.19341	0.45046	-29
-28	34.10	33.98	0.01241	1.735	80.60	0.57628	65.16	175.62	0.19418	0.45012	-28
-27	34.91	34.79	0.01243	1.697	80.48	0.58938	65.50	175.73	0.19496	0.44978	-27
-26	35.74	35.61	0.01244	1.659	80.36	0.60271	65.84	175.84	0.19573	0.44944	-26
-25	36.58	36.45	0.01246	1.623	80.25	0.61629	66.17	175.95	0.19650	0.44911	-25
-24	37.44	37.31	0.01248	1.587	80.13	0.63010	66.51	176.06	0.19727	0.44877	-24
-23	38.31	38.18	0.01250	1.552	80.01	0.64416	66.85	176.17	0.19804	0.44844	-23
-22	39.20	39.07	0.01252	1.519	79.90	0.65847	67.18	176.28	0.19881	0.44812	-22
-21	40.11	39.97	0.01254	1.486	79.78	0.67303	67.52	176.39	0.19957	0.44779	-21
-20	41.03	40.89	0.01255	1.454	79.66	0.68784	67.86	176.50	0.20034	0.44747	-20
-19	41.97	41.82	0.01257	1.423	79.54	0.70291	68.20	176.60	0.20110	0.44714	-19
-18	42.92	42.77	0.01259	1.392	79.42	0.71825	68.54	176.71	0.20187	0.44682	-18
-17	43.89	43.74	0.01261	1.363	79.30	0.73384	68.88	176.81	0.20263	0.44651	-17
-16	44.88	44.72	0.01263	1.334	79.18	0.74971	69.22	176.92	0.20339	0.44619	-16
-15	45.88	45.72	0.01265	1.306	79.07	0.76584	69.56	177.03	0.20415	0.44588	-15
-14	46.90	46.74	0.01267	1.278	78.95	0.78226	69.90	177.13	0.20491	0.44556	-14
-13	47.94	47.78	0.01269	1.252	78.83	0.79895	70.24	177.23	0.20567	0.44525	-13
-12	49.00	48.83	0.01271	1.226	78.71	0.81592	70.58	177.34	0.20643	0.44494	-12
-11	50.07	49.90	0.01273	1.200	78.58	0.83318	70.92	177.44	0.20718	0.44464	-11
-10	51.17	50.99	0.01275	1.176	78.46	0.85073	71.26	177.54	0.20794	0.44433	-10
-9	52.28	52.10	0.01277	1.151	78.34	0.86858	71.61	177.64	0.20869	0.44403	-9
-8	53.41	53.22	0.01278	1.128	78.22	0.88672	71.95	177.74	0.20945	0.44372	-8
-7	54.55	54.37	0.01280	1.105	78.10	0.90517	72.29	177.85	0.21020	0.44342	-7
-6	55.72	55.53	0.01282	1.082	77.98	0.92392	72.64	177.95	0.21095	0.44312	-6
-5	56.91	56.71	0.01285	1.061	77.85	0.94298	72.98	178.04	0.21170	0.44283	-5
-4	58.11	57.91	0.01287	1.039	77.73	0.96235	73.32	178.14	0.21245	0.44253	-4
-3	59.34	59.13	0.01289	1.018	77.61	0.98205	73.67	178.24	0.21320	0.44224	-3
-2	60.58	60.37	0.01291	0.998	77.48	1.0021	74.01	178.34	0.21395	0.44194	-2
-1	61.84	61.63	0.01293	0.978	77.36	1.0224	74.36	178.44	0.21470	0.44165	-1
0	63.13	62.91	0.01295	0.959	77.24	1.0431	74.71	178.53	0.21545	0.44136	0
1	64.43	64.21	0.01297	0.940	77.11	1.0641	75.05	178.63	0.21619	0.44107	1
2	65.76	65.54	0.01299	0.921	76.99	1.0854	75.40	178.72	0.21694	0.44079	2
3	67.10	66.88	0.01301	0.903	76.86	1.1071	75.75	178.82	0.21768	0.44050	3
4	68.47	68.24	0.01303	0.886	76.73	1.1292	76.10	178.91	0.21843	0.44022	4
5	69.86	69.62	0.01305	0.868	76.61	1.1516	76.44	179.01	0.21917	0.43993	5
6	71.27	71.03	0.01308	0.852	76.48	1.1743	76.79	179.10	0.21991	0.43965	6
7	72.70	72.45	0.01310	0.835	76.36	1.1974	77.14	179.19	0.22065	0.43937	7
8	74.15	73.90	0.01312	0.819	76.23	1.2209	77.49	179.28	0.22139	0.43909	8

Thermodynamic Properties of R-410A - Saturation

Temperature (°F)	Pressure (psia)		Volume (ft ³ /lb)		Density (lb/ft ³)		Enthalpy (Btu/lb)		Entropy (Btu/(lb °R))		Temperature (°F)
	Liquid	Vapor	Liquid	Vapor	Liquid	Vapor	Liquid	Vapor	Liquid	Vapor	
9	75.62	75.37	0.01314	0.803	76.10	1.2448	77.84	179.37	0.22213	0.43881	9
10	77.12	76.86	0.01316	0.788	75.97	1.2690	78.19	179.46	0.22287	0.43854	10
11	78.64	78.38	0.01319	0.773	75.84	1.2936	78.54	179.55	0.22361	0.43826	11
12	80.18	79.91	0.01321	0.758	75.71	1.3186	78.89	179.64	0.22435	0.43799	12
13	81.75	81.47	0.01323	0.744	75.59	1.3440	79.25	179.73	0.22509	0.43771	13
14	83.34	83.06	0.01325	0.730	75.46	1.3698	79.60	179.81	0.22583	0.43744	14
15	84.95	84.66	0.01328	0.716	75.33	1.3960	79.95	179.90	0.22656	0.43717	15
16	86.58	86.29	0.01330	0.703	75.19	1.4226	80.31	179.99	0.22730	0.43690	16
17	88.24	87.95	0.01332	0.690	75.06	1.4496	80.66	180.07	0.22803	0.43663	17
18	89.92	89.62	0.01335	0.677	74.93	1.4771	81.02	180.16	0.22877	0.43636	18
19	91.63	91.33	0.01337	0.664	74.80	1.5050	81.37	180.24	0.22950	0.43609	19
20	93.36	93.05	0.01339	0.652	74.67	1.5333	81.73	180.32	0.23024	0.43583	20
21	95.12	94.80	0.01342	0.640	74.53	1.5620	82.08	180.40	0.23097	0.43556	21
22	96.90	96.58	0.01344	0.628	74.40	1.5912	82.44	180.48	0.23170	0.43530	22
23	98.71	98.38	0.01347	0.617	74.27	1.6208	82.80	180.56	0.23244	0.43503	23
24	100.5	100.2	0.01349	0.606	74.13	1.6509	83.16	180.64	0.23317	0.43477	24
25	102.4	102.1	0.01351	0.595	74.00	1.6814	83.51	180.72	0.23390	0.43451	25
26	104.3	103.9	0.01354	0.584	73.86	1.7125	83.87	180.80	0.23463	0.43424	26
27	106.2	105.8	0.01356	0.573	73.73	1.7440	84.23	180.88	0.23536	0.43398	27
28	108.1	107.8	0.01359	0.563	73.59	1.7759	84.59	180.95	0.23609	0.43372	28
29	110.1	109.7	0.01361	0.553	73.45	1.8084	84.96	181.03	0.23682	0.43346	29
30	112.1	111.7	0.01364	0.543	73.32	1.8414	85.32	181.10	0.23755	0.43320	30
31	114.1	113.7	0.01367	0.533	73.18	1.8748	85.68	181.18	0.23828	0.43295	31
32	116.1	115.8	0.01369	0.524	73.04	1.9088	86.04	181.25	0.23901	0.43269	32
33	118.2	117.8	0.01372	0.515	72.90	1.9433	86.41	181.32	0.23973	0.43243	33
34	120.3	119.9	0.01374	0.505	72.76	1.9783	86.77	181.39	0.24046	0.43217	34
35	122.4	122.0	0.01377	0.497	72.62	2.0139	87.14	181.46	0.24119	0.43192	35
36	124.6	124.2	0.01380	0.488	72.48	2.0500	87.50	181.53	0.24192	0.43166	36
37	126.8	126.4	0.01382	0.479	72.34	2.0866	87.87	181.60	0.24264	0.43141	37
38	129.0	128.6	0.01385	0.471	72.20	2.1238	88.23	181.67	0.24337	0.43115	38
39	131.2	130.8	0.01388	0.463	72.05	2.1616	88.60	181.73	0.24410	0.43090	39
40	133.5	133.1	0.01391	0.455	71.91	2.1999	88.97	181.80	0.24482	0.43064	40
41	135.8	135.3	0.01393	0.447	71.77	2.2388	89.34	181.86	0.24555	0.43039	41
42	138.1	137.7	0.01396	0.439	71.62	2.2784	89.71	181.93	0.24628	0.43013	42
43	140.5	140.0	0.01399	0.431	71.48	2.3185	90.08	181.99	0.24700	0.42988	43
44	142.9	142.4	0.01402	0.424	71.33	2.3592	90.45	182.05	0.24773	0.42963	44
45	145.3	144.8	0.01405	0.417	71.19	2.4005	90.82	182.11	0.24845	0.42937	45
46	147.7	147.3	0.01408	0.409	71.04	2.4425	91.20	182.17	0.24918	0.42912	46
47	150.2	149.7	0.01411	0.402	70.89	2.4851	91.57	182.23	0.24990	0.42887	47
48	152.7	152.2	0.01414	0.396	70.74	2.5283	91.94	182.28	0.25063	0.42861	48
49	155.3	154.8	0.01417	0.389	70.59	2.5722	92.32	182.34	0.25135	0.42836	49
50	157.9	157.3	0.01420	0.382	70.44	2.6168	92.70	182.39	0.25208	0.42811	50
51	160.5	159.9	0.01423	0.376	70.29	2.6621	93.07	182.45	0.25280	0.42785	51
52	163.1	162.6	0.01426	0.369	70.14	2.7080	93.45	182.50	0.25353	0.42760	52
53	165.8	165.2	0.01429	0.363	69.99	2.7547	93.83	182.55	0.25425	0.42735	53
54	168.5	167.9	0.01432	0.357	69.84	2.8020	94.21	182.60	0.25498	0.42709	54
55	171.2	170.7	0.01435	0.351	69.68	2.8501	94.59	182.65	0.25570	0.42684	55
56	174.0	173.4	0.01438	0.345	69.53	2.8989	94.97	182.69	0.25643	0.42659	56
57	176.8	176.2	0.01442	0.339	69.37	2.9485	95.35	182.74	0.25715	0.42633	57
58	179.6	179.1	0.01445	0.333	69.22	2.9988	95.73	182.78	0.25788	0.42608	58
59	182.5	181.9	0.01448	0.328	69.06	3.0499	96.12	182.83	0.25861	0.42582	59
60	185.4	184.8	0.01451	0.322	68.90	3.1018	96.50	182.87	0.25933	0.42557	60
61	188.4	187.8	0.01455	0.317	68.75	3.1545	96.89	182.91	0.26006	0.42531	61

Thermodynamic Properties of R-410A - Saturation

Temperature (°F)	Pressure (psia)		Volume (ft ³ /lb)		Density (lb/ft ³)		Enthalpy (Btu/lb)		Entropy (Btu/(lb °R))		Temperature (°F)
	Liquid	Vapor	Liquid	Vapor	Liquid	Vapor	Liquid	Vapor	Liquid	Vapor	
62	191.3	190.7	0.01458	0.312	68.59	3.2079	97.27	182.95	0.26078	0.42505	62
63	194.4	193.7	0.01461	0.307	68.43	3.2623	97.66	182.99	0.26151	0.42480	63
64	197.4	196.8	0.01465	0.301	68.27	3.3174	98.05	183.02	0.26224	0.42454	64
65	200.5	199.8	0.01468	0.296	68.10	3.3735	98.44	183.06	0.26296	0.42428	65
66	203.6	203.0	0.01472	0.292	67.94	3.4303	98.83	183.09	0.26369	0.42402	66
67	206.8	206.1	0.01475	0.287	67.78	3.4881	99.22	183.12	0.26442	0.42376	67
68	210.0	209.3	0.01479	0.282	67.61	3.5468	99.61	183.15	0.26514	0.42350	68
69	213.2	212.5	0.01483	0.277	67.45	3.6064	100.01	183.18	0.26587	0.42324	69
70	216.5	215.8	0.01486	0.273	67.28	3.6670	100.40	183.21	0.26660	0.42298	70
71	219.8	219.1	0.01490	0.268	67.11	3.7285	100.80	183.23	0.26733	0.42271	71
72	223.1	222.4	0.01494	0.264	66.95	3.7909	101.19	183.26	0.26806	0.42245	72
73	226.5	225.8	0.01498	0.259	66.78	3.8544	101.59	183.28	0.26879	0.42219	73
74	229.9	229.2	0.01501	0.255	66.61	3.9188	101.99	183.30	0.26952	0.42192	74
75	233.4	232.6	0.01505	0.251	66.43	3.9843	102.39	183.32	0.27025	0.42165	75
76	236.9	236.1	0.01509	0.247	66.26	4.0509	102.79	183.34	0.27098	0.42138	76
77	240.4	239.6	0.01513	0.243	66.09	4.1185	103.19	183.35	0.27171	0.42111	77
78	244.0	243.2	0.01517	0.239	65.91	4.1872	103.60	183.37	0.27245	0.42084	78
79	247.6	246.8	0.01521	0.235	65.74	4.2571	104.00	183.38	0.27318	0.42057	79
80	251.2	250.5	0.01525	0.231	65.56	4.3280	104.41	183.39	0.27391	0.42030	80
81	254.9	254.1	0.01530	0.227	65.38	4.4001	104.81	183.40	0.27465	0.42002	81
82	258.7	257.9	0.01534	0.224	65.20	4.4734	105.22	183.40	0.27538	0.41975	82
83	262.4	261.6	0.01538	0.220	65.02	4.5480	105.63	183.40	0.27612	0.41947	83
84	266.3	265.4	0.01542	0.216	64.84	4.6237	106.04	183.41	0.27685	0.41919	84
85	270.1	269.3	0.01547	0.213	64.66	4.7007	106.45	183.41	0.27759	0.41891	85
86	274.0	273.2	0.01551	0.209	64.47	4.7790	106.87	183.40	0.27833	0.41862	86
87	278.0	277.1	0.01556	0.206	64.29	4.8586	107.28	183.40	0.27907	0.41834	87
88	282.0	281.1	0.01560	0.202	64.10	4.9396	107.70	183.39	0.27981	0.41805	88
89	286.0	285.1	0.01565	0.199	63.91	5.0220	108.12	183.38	0.28055	0.41776	89
90	290.1	289.2	0.01569	0.196	63.72	5.1057	108.54	183.37	0.28129	0.41747	90
91	294.2	293.3	0.01574	0.193	63.53	5.1909	108.96	183.36	0.28204	0.41718	91
92	298.3	297.4	0.01579	0.189	63.33	5.2776	109.38	183.34	0.28278	0.41689	92
93	302.5	301.6	0.01584	0.186	63.14	5.3658	109.80	183.33	0.28353	0.41659	93
94	306.8	305.9	0.01589	0.183	62.94	5.4555	110.23	183.31	0.28427	0.41629	94
95	311.1	310.2	0.01594	0.180	62.75	5.5468	110.66	183.28	0.28502	0.41599	95
96	315.4	314.5	0.01599	0.177	62.55	5.6398	111.09	183.26	0.28577	0.41568	96
97	319.8	318.9	0.01604	0.174	62.35	5.7344	111.52	183.23	0.28652	0.41538	97
98	324.2	323.3	0.01609	0.172	62.14	5.8307	111.95	183.20	0.28727	0.41507	98
99	328.7	327.8	0.01615	0.169	61.94	5.9288	112.38	183.16	0.28803	0.41475	99
100	333.2	332.3	0.01620	0.166	61.73	6.0286	112.82	183.13	0.28878	0.41444	100
101	337.8	336.8	0.01625	0.163	61.52	6.1304	113.26	183.09	0.28954	0.41412	101
102	342.4	341.4	0.01631	0.160	61.31	6.2340	113.70	183.05	0.29030	0.41380	102
103	347.1	346.1	0.01637	0.158	61.10	6.3396	114.14	183.00	0.29106	0.41347	103
104	351.8	350.8	0.01642	0.155	60.89	6.4472	114.58	182.95	0.29182	0.41314	104
105	356.6	355.6	0.01648	0.153	60.67	6.5569	115.03	182.90	0.29258	0.41281	105
106	361.4	360.4	0.01654	0.150	60.45	6.6687	115.47	182.84	0.29335	0.41248	106
107	366.2	365.2	0.01660	0.147	60.23	6.7826	115.92	182.79	0.29412	0.41214	107
108	371.2	370.1	0.01666	0.145	60.01	6.8989	116.37	182.72	0.29489	0.41179	108
109	376.1	375.1	0.01673	0.143	59.79	7.0175	116.83	182.66	0.29566	0.41145	109
110	381.1	380.1	0.01679	0.140	59.56	7.1384	117.28	182.59	0.29643	0.41109	110
111	386.2	385.1	0.01686	0.138	59.33	7.2619	117.74	182.52	0.29721	0.41074	111
112	391.3	390.2	0.01692	0.135	59.10	7.3879	118.20	182.44	0.29799	0.41038	112
113	396.5	395.4	0.01699	0.133	58.86	7.5166	118.67	182.36	0.29877	0.41001	113
114	401.7	400.6	0.01706	0.131	58.62	7.6480	119.14	182.27	0.29956	0.40964	114

Thermodynamic Properties of R-410A - Saturation

Temperature (°F)	Pressure (psia)		Volume (ft ³ /lb)		Density (lb/ft ³)		Enthalpy (Btu/lb)		Entropy (Btu/(lb °R))		Temperature (°F)
	Liquid	Vapor	Liquid	Vapor	Liquid	Vapor	Liquid	Vapor	Liquid	Vapor	
115	407.0	405.9	0.01713	0.129	58.38	7.7823	119.60	182.18	0.30034	0.40927	115
116	412.3	411.2	0.01720	0.126	58.14	7.9195	120.08	182.09	0.30114	0.40889	116
117	417.7	416.6	0.01727	0.124	57.89	8.0597	120.55	181.99	0.30193	0.40850	117
118	423.1	422.0	0.01735	0.122	57.64	8.2031	121.03	181.89	0.30273	0.40811	118
119	428.6	427.5	0.01742	0.120	57.39	8.3498	121.51	181.78	0.30353	0.40771	119
120	434.1	433.0	0.01750	0.118	57.13	8.4999	122.00	181.67	0.30434	0.40730	120
121	439.7	438.6	0.01758	0.116	56.87	8.6535	122.48	181.55	0.30515	0.40689	121
122	445.4	444.2	0.01767	0.114	56.61	8.8109	122.97	181.43	0.30596	0.40647	122
123	451.1	449.9	0.01775	0.111	56.34	8.9721	123.47	181.30	0.30678	0.40605	123
124	456.8	455.7	0.01784	0.109	56.07	9.1373	123.97	181.16	0.30760	0.40561	124
125	462.6	461.5	0.01792	0.107	55.79	9.3067	124.47	181.02	0.30843	0.40517	125
126	468.5	467.4	0.01801	0.105	55.51	9.4806	124.98	180.87	0.30926	0.40472	126
127	474.5	473.3	0.01811	0.104	55.23	9.6590	125.49	180.72	0.31010	0.40426	127
128	480.5	479.3	0.01820	0.102	54.94	9.8423	126.01	180.56	0.31095	0.40379	128
129	486.5	485.4	0.01830	0.100	54.64	10.031	126.53	180.39	0.31180	0.40331	129
130	492.6	491.5	0.01840	0.098	54.34	10.224	127.05	180.21	0.31266	0.40282	130
131	498.8	497.7	0.01851	0.096	54.03	10.424	127.59	180.03	0.31352	0.40232	131
132	505.0	503.9	0.01862	0.094	53.71	10.629	128.12	179.83	0.31439	0.40181	132
133	511.3	510.2	0.01873	0.092	53.39	10.840	128.67	179.63	0.31528	0.40128	133
134	517.7	516.6	0.01885	0.090	53.07	11.059	129.22	179.42	0.31617	0.40075	134
135	524.1	523.0	0.01897	0.089	52.73	11.284	129.77	179.20	0.31707	0.40019	135
136	530.6	529.5	0.01909	0.087	52.38	11.517	130.34	178.96	0.31798	0.39962	136
137	537.2	536.1	0.01922	0.085	52.03	11.758	130.91	178.72	0.31890	0.39904	137
138	543.8	542.7	0.01936	0.083	51.67	12.007	131.49	178.46	0.31983	0.39844	138
139	550.5	549.4	0.01950	0.082	51.29	12.266	132.08	178.19	0.32078	0.39782	139
140	557.2	556.1	0.01964	0.080	50.91	12.535	132.68	177.91	0.32174	0.39718	140
141	564.0	563.0	0.01980	0.078	50.51	12.814	133.29	177.61	0.32271	0.39651	141
142	570.9	569.9	0.01996	0.076	50.10	13.105	133.92	177.30	0.32371	0.39583	142
143	577.9	576.8	0.02013	0.075	49.68	13.409	134.55	176.97	0.32472	0.39511	143
144	584.9	583.9	0.02031	0.073	49.24	13.726	135.20	176.61	0.32575	0.39437	144
145	592.0	591.0	0.02050	0.071	48.78	14.059	135.86	176.24	0.32680	0.39360	145
146	599.2	598.2	0.02070	0.069	48.30	14.409	136.54	175.85	0.32788	0.39279	146
147	606.4	605.4	0.02092	0.068	47.80	14.778	137.25	175.43	0.32899	0.39194	147
148	613.7	612.8	0.02115	0.066	47.28	15.168	137.97	174.97	0.33014	0.39105	148
149	621.1	620.2	0.02140	0.064	46.72	15.581	138.71	174.49	0.33132	0.39011	149
150	628.6	627.7	0.02168	0.062	46.13	16.023	139.49	173.97	0.33254	0.38911	150
151	636.1	635.2	0.02197	0.061	45.51	16.496	140.30	173.41	0.33381	0.38805	151
152	643.7	642.9	0.02230	0.059	44.84	17.006	141.14	172.80	0.33515	0.38691	152
153	651.4	650.6	0.02267	0.057	44.11	17.562	142.04	172.13	0.33656	0.38568	153
154	659.2	658.5	0.02309	0.055	43.31	18.173	143.00	171.38	0.33806	0.38433	154
155	667.1	666.4	0.02357	0.053	42.42	18.853	144.03	170.55	0.33969	0.38284	155
156	675.0	674.4	0.02415	0.051	41.41	19.626	145.17	169.59	0.34149	0.38117	156
157	683.1	682.4	0.02486	0.049	40.22	20.527	146.47	168.47	0.34354	0.37923	157
158	691.2	690.6	0.02582	0.046	38.73	21.624	148.03	167.11	0.34601	0.37690	158
159	699.3	698.9	0.02728	0.043	36.66	23.075	150.14	165.30	0.34936	0.37387	159
160	707.5	707.3	0.03035	0.039	32.96	25.465	153.88	162.36	0.35533	0.36901	160