

ΠΙΝΑΚΑΣ ΣΤ.8 Θερμοδυναμικές ιδιότητες της αμμωνίας. Κατάσταση αναφοράς της αμμωνίας: $h_f = 0$, $s_f = 0$ ως κορεσμένο υγρό στους -40 F

ΠΙΝΑΚΑΣ ΣΤ.8.1 Κορεσμένη αμμωνία

Θερμ. (F)	Πίεση (psia)	Ειδικός όγκος, ft ³ /lbm			Εσωτερική ενέργεια, Btu/lbm		
		Κορ. υγρό v_f	Εξάτμ. v_{fg}	Κορ. ατμός v_g	Κορ. υγρό u_f	Εξάτμ. u_{fg}	Κορ. ατμός u_g
-60	5,547	0,02277	44,7397	44,7625	-20,92	564,27	543,36
-50	7,663	0,02299	33,0702	33,0932	-10,51	556,84	546,33
-40	10,404	0,02322	24,8464	24,8696	-0,04	549,25	549,20
-30	13,898	0,02345	18,9490	18,9724	10,48	541,50	551,98
-28,0	14,696	0,02350	17,9833	18,0068	12,59	539,93	552,52
-20	18,289	0,02369	14,6510	14,6747	21,07	533,57	554,64
-10	23,737	0,02394	11,4714	11,4953	31,73	252,47	557,20
0	30,415	0,02420	9,0861	9,1103	42,46	517,18	559,64
10	38,508	0,02446	7,2734	7,2979	53,26	508,71	561,96
20	48,218	0,02474	5,8792	5,9039	64,12	500,04	564,16
30	59,756	0,02502	4,7945	4,8195	75,06	491,17	566,23
40	73,346	0,02532	3,9418	3,9671	86,07	482,09	568,15
50	89,226	0,02564	3,2647	3,2903	97,16	472,78	569,94
60	107,641	0,02597	2,7221	2,7481	108,33	463,24	571,56
70	128,849	0,02631	2,2835	2,3098	119,58	453,44	573,02
80	153,116	0,02668	1,9260	1,9526	130,92	443,37	574,30
90	180,721	0,02706	1,6323	1,6594	142,36	433,01	573,37
100	211,949	0,02747	1,3894	1,4168	153,89	422,34	576,23
110	247,098	0,02790	1,1870	1,2149	165,53	411,32	576,85
120	286,473	0,02836	1,0172	1,0456	177,28	399,92	577,20
130	330,392	0,02885	0,8740	0,9028	189,17	388,10	577,27
140	379,181	0,02938	0,7524	0,7818	201,20	375,82	577,02
150	433,181	0,02995	0,6485	0,6785	213,40	363,01	576,41
160	492,742	0,03057	0,5593	0,5899	225,80	349,61	575,41
170	558,231	0,03124	0,4822	0,5135	238,42	335,53	573,95
180	630,029	0,03199	0,4153	0,4472	251,33	320,66	571,99
190	708,538	0,03281	0,3567	0,3895	264,58	304,87	569,45
200	794,183	0,03375	0,3051	0,3388	278,24	287,96	566,20
210	887,424	0,03482	0,2592	0,2941	292,43	269,70	562,13
220	988,761	0,03608	0,2181	0,2542	307,28	249,72	557,00
230	1098,766	0,03759	0,1807	0,2183	323,03	227,47	550,50
240	1218,113	0,03950	0,1460	0,1855	340,05	202,02	542,06
250	1347,668	0,04206	0,1126	0,1547	359,03	171,57	530,60
260	1488,694	0,04599	0,0781	0,1241	381,74	131,74	513,48
270,1	1643,742	0,06816	0	0,0682	446,09	0	446,09

ΠΙΝΑΚΑΣ ΣΤ.8.1 (συνέχεια)

Θερμ. (F)	Πίεση (psia)	Ενθαλπία, Btu/lbm			Εντροπία, Btu/lbm-R		
		Κορ. υγρό h_f	Εξάτμ. h_{fg}	Κορ. ατμός h_g	Κορ. υγρό s_f	Εξάτμ. s_{fg}	Κορ. ατμός s_g
-60	5,547	-20,89	610,19	589,30	-0,0510	1,5267	1,4758
-50	7,663	-10,48	603,73	593,26	-0,0252	1,4737	1,4485
-40	10,404	0	597,08	597,08	0	1,4227	1,4227
-30	13,898	10,54	590,23	600,77	0,0248	1,3737	1,3985
-28,0	14,696	12,65	588,84	601,49	0,0297	1,3641	1,3938
-20	18,289	21,15	583,15	604,31	0,0492	1,3263	1,3755
-10	23,737	31,84	575,85	607,69	0,0731	1,2806	1,3538
0	30,415	42,60	568,32	610,92	0,0967	1,2364	1,3331
10	38,508	53,43	560,54	613,97	0,1200	1,1935	1,3134
20	48,218	64,34	552,50	616,84	0,1429	1,1518	1,2947
30	59,756	75,33	544,18	619,52	0,1654	1,1113	1,2768
40	73,346	86,41	535,59	622,00	0,1877	1,0719	1,2596
50	89,226	97,58	526,68	624,26	0,2097	1,0334	1,2431
60	107,641	108,84	517,46	626,30	0,2314	0,9957	1,2271
70	128,849	120,21	507,89	628,09	0,2529	0,9589	1,2117
80	153,116	131,68	497,94	629,62	0,2741	0,9227	1,1968
90	180,721	143,26	487,60	630,86	0,2951	0,8871	1,1822
100	211,949	154,97	476,83	631,80	0,3159	0,8520	1,1679
110	247,098	166,80	465,59	632,40	0,3366	0,8173	1,1539
120	286,473	178,79	453,84	632,63	0,3571	0,7829	1,1400
130	330,392	190,93	441,54	632,47	0,3774	0,7488	1,1262
140	379,181	203,26	428,61	631,87	0,3977	0,7147	1,1125
150	433,181	215,80	415,00	630,80	0,4180	0,6807	1,0987
160	492,742	228,58	400,61	629,19	0,4382	0,6465	1,0847
170	558,231	241,65	385,35	627,00	0,4586	0,6120	1,0705
180	630,029	255,06	369,08	624,14	0,4790	0,5770	1,0560
190	708,538	268,88	351,63	620,51	0,4997	0,5412	1,0410
200	794,183	283,20	332,80	616,00	0,5208	0,5045	1,0253
210	887,424	298,14	312,27	610,42	0,5424	0,4663	1,0087
220	988,761	313,88	289,63	603,51	0,5647	0,4261	0,9909
230	1098,766	330,67	264,21	594,89	0,5882	0,3831	0,9713
240	1218,113	348,95	234,93	583,87	0,6132	0,3358	0,9490
250	1347,668	369,52	199,65	569,17	0,6410	0,2813	0,9224
260	1488,694	394,41	153,25	547,66	0,6743	0,2129	0,8872
270,1	1643,742	466,83	0	466,83	0,7718	0	0,7718

ΠΙΝΑΚΑΣ ΣΤ.8.2 Υπέρθερμη αμμωνία

Θερμ. (F)	v ft ³ /lbm	h Btu/lbm	s Btu/lbm-R	v ft ³ /lbm	h Btu/lbm	s Btu/lbm-R	v ft ³ /lbm	h Btu/lbm	s Btu/lbm-R
5 psia (-63,09 F)			10 psia (-41,33 F)			15 psia (-27,27 F)			
Κορ.	49,32002	588,05	1,4846	25,80648	596,58	1,4261	17,66533	601,75	1,3921
-40	52,3487	599,56	1,5128	25,8962	597,27	1,4277	-	-	-
-20	54,9506	609,53	1,5360	27,2401	607,60	1,4518	17,9999	605,63	1,4010
0	57,5366	619,51	1,5582	28,5674	617,88	1,4746	18,9086	616,22	1,4245
20	60,1099	629,50	1,5795	29,8814	628,12	1,4964	19,8036	626,72	1,4469
40	62,6732	639,52	1,5999	31,1852	638,34	1,5173	20,6880	637,15	1,4682
60	65,2288	649,57	1,6197	32,4809	648,56	1,5374	21,5641	647,54	1,4886
80	67,7782	659,67	1,6387	33,7703	658,80	1,5567	22,4338	657,91	1,5082
100	70,3228	669,84	1,6572	35,0549	669,07	1,5754	23,2985	668,29	1,5271
120	72,8637	680,06	1,6752	36,3356	679,38	1,5935	24,1593	678,70	1,5453
140	75,4015	690,36	1,6926	37,6133	689,75	1,6111	25,0170	689,14	1,5630
160	77,9370	700,74	1,7097	38,8886	700,19	1,6282	25,8723	699,64	1,5803
180	80,4706	711,20	1,7263	40,1620	710,70	1,6449	26,7256	710,21	1,5970
200	83,0026	721,75	1,7425	41,4338	721,30	1,6612	27,5774	720,84	1,6134
220	85,5334	732,39	1,7584	42,7043	731,98	1,6771	28,4278	731,56	1,6294
240	88,0631	743,13	1,7740	43,9737	742,74	1,6928	29,2772	742,36	1,6451
260	90,5918	753,96	1,7892	45,2422	753,61	1,7081	30,1256	753,24	1,6604
280	93,1199	764,90	1,8042	46,5100	764,56	1,7231	30,9733	764,23	1,6755
20 psia (-16,63 F)			25 psia (-7,95 F)			30 psia (-0,57 F)			
Κορ.	13,49628	605,47	1,3680	10,95013	608,37	1,3494	9,2285	610,74	1,3342
0	14,0774	614,54	1,3881	11,1771	612,82	1,3592	9,2423	611,06	1,3349
20	14,7635	625,30	1,4111	11,7383	623,86	1,3827	9,7206	622,39	1,3591
40	15,4385	635,94	1,4328	12,2881	634,72	1,4049	10,1872	633,49	1,3817
60	16,1051	646,51	1,4535	12,8291	645,46	1,4260	10,6447	644,41	1,4032
80	16,7651	657,02	1,4734	13,3634	656,12	1,4461	11,0954	655,21	1,4236
100	17,4200	667,51	1,4925	13,8926	666,73	1,4654	11,5407	665,93	1,4431
120	18,0709	678,01	1,5109	14,4176	677,32	1,4840	11,9820	676,62	1,4618
140	18,7187	688,53	1,5287	14,9395	687,91	1,5020	12,4200	687,29	1,4799
160	19,3640	699,09	1,5461	15,4589	698,54	1,5194	12,8554	697,98	1,4975
180	20,0073	709,71	1,5629	15,9763	709,20	1,5363	13,2888	708,70	1,5145
200	20,6491	720,39	1,5794	16,4920	719,93	1,5528	13,7206	719,47	1,5311
220	21,2895	731,14	1,5954	17,0065	730,72	1,5689	14,1511	730,29	1,5472
240	21,9288	741,97	1,6111	17,5198	741,58	1,5847	14,5804	741,19	1,5630
260	22,5673	752,88	1,6265	18,0322	752,52	1,6001	15,0088	752,16	1,5785
280	23,2049	763,89	1,6416	18,5439	763,55	1,6152	15,4365	763,21	1,5936
300	23,8419	774,99	1,6564	19,0548	774,67	1,6301	15,8634	774,36	1,6085
320	24,4783	786,18	1,6709	19,5652	785,89	1,6446	16,2898	785,59	1,6231

ΠΙΝΑΚΑΣ ΣΤ.8.2 (συνέχεια)

Θερμ. (F)	v ft ³ /lbm	h Btu/lbm	s Btu/lbm-R	v ft ³ /lbm	h Btu/lbm	s Btu/lbm-R	v ft ³ /lbm	h Btu/lbm	s Btu/lbm-R
35 psia (5,89 F)			40 psia (11,66 F)			50 psia (21,66 F)			
Κορ.	7,98414	612,73	1,3214	7,04135	614,45	1,3103	5,70491	617,30	1,2917
20	8,2786	620,90	1,3387	0,71964	619,39	1,3206	-	-	-
40	8,686	632,23	1,3618	0,75596	630,96	1,3443	5,9814	628,37	1,3142
60	9,0841	643,34	1,3836	0,79132	642,26	1,3665	6,2731	640,07	1,3372
80	9,4751	654,29	1,4043	0,82596	653,37	1,3874	6,5573	651,49	1,3588
100	9,8606	665,14	1,4240	0,86004	664,33	1,4074	6,8356	662,70	1,3792
120	10,2420	675,92	1,4430	0,89370	675,21	1,4265	7,1096	673,79	1,3986
140	10,6202	686,67	1,4612	0,92702	686,04	1,4449	7,3800	684,78	1,4173
160	10,9957	697,42	1,4788	0,96008	696,86	1,4626	7,6478	695,73	1,4352
180	11,3692	708,19	1,4959	0,99294	707,69	1,4798	7,9135	706,67	1,4526
200	11,7410	719,01	1,5126	1,02562	718,54	1,4965	8,1775	717,61	1,4695
220	12,1115	729,87	1,5288	1,05817	729,44	1,5128	8,4400	728,59	1,4859
240	12,4808	740,80	1,5447	1,09061	741,40	1,5287	8,7014	739,62	1,5018
260	12,8493	751,80	1,5602	1,12296	751,43	1,5442	8,9619	750,70	1,5175
280	13,2169	762,88	1,5753	1,15522	762,54	1,5594	9,2216	761,86	1,5327
300	13,5838	774,04	1,5902	1,18741	773,72	1,5744	9,4805	773,09	1,5477
320	13,9502	785,29	1,6049	1,21955	785,00	1,589	9,7389	784,40	1,5624
340	14,3160	796,64	1,6192	1,25163	796,36	1,6034	9,9967	795,80	1,5769
60 psia (30,19 F)			70 psia (37,68 F)			80 psia (44,38 F)			
Κορ.	4,80091	619,57	1,2764	4,14732	621,44	1,2635	3,65200	623,02	1,2523
40	4,9277	625,69	1,2888	4,1738	622,94	1,2665	-	-	-
60	5,1787	637,82	1,3126	4,3961	635,52	1,2912	3,8083	633,16	1,2721
80	5,4217	649,57	1,3348	4,6099	647,62	1,3140	4,0005	645,63	1,2956
100	5,6586	661,05	1,3557	4,8174	659,37	1,3354	4,1861	657,66	1,3175
120	5,8909	672,34	1,3755	5,0201	670,88	1,3556	4,3667	669,39	1,3381
140	6,1197	683,50	1,3944	5,2191	682,21	1,3749	4,5435	680,90	1,3577
160	6,3456	694,59	1,4126	5,4153	693,44	1,3933	4,7174	692,27	1,3763
180	6,5694	705,64	1,4302	5,6093	704,60	1,4110	4,8890	703,55	1,3942
200	6,7915	716,68	1,4472	5,8014	715,73	1,4281	5,0588	714,79	1,4115
220	7,0121	727,73	1,4637	5,9921	726,87	1,4448	5,2270	726,00	1,4283
240	7,2316	738,83	1,4798	6,1816	738,03	1,4610	5,3941	737,23	1,4446
260	7,4501	749,97	1,4955	6,3702	749,23	1,4767	5,5602	748,50	1,4604
280	7,6678	761,17	1,5108	6,5579	760,49	1,4922	5,7254	759,80	1,4759
300	7,8848	772,45	1,5259	6,7449	771,81	1,5073	5,8900	771,17	1,4911
320	8,1011	783,80	1,5406	6,9313	783,21	1,5221	6,0538	782,61	1,5059
340	8,3169	795,24	1,5551	7,1171	794,68	1,5366	6,2172	794,12	1,5205
360	8,5323	806,77	1,5693	7,3025	806,24	1,5509	6,3801	805,71	1,5348

ΠΙΝΑΚΑΣ ΣΤ.8.2 (συνέχεια)

Θερμ. (F)	v ft ³ /lbm	h Btu/lbm	s Btu/lbm-R	v ft ³ /lbm	h Btu/lbm	s Btu/lbm-R	v ft ³ /lbm	h Btu/lbm	s Btu/lbm-R
	90 psia (50,45 F)			100 psia (56,02 F)			125 psia (68,28 F)		
Κορ.	3,26324	624,36	1,2423	2,94969	625,52	1,2334	2,37866	627,8	1,2143
60	3,3503	630,74	1,2547	2,9831	628,25	1,2387	-	-	-
80	3,5260	643,59	1,279	3,1459	641,51	1,2637	2,4597	636,11	1,2299
100	3,6947	655,92	1,3014	3,3013	654,16	1,2867	2,5917	649,59	1,2544
120	3,8583	667,88	1,3224	3,4513	666,36	1,3082	2,7177	662,44	1,2770
140	4,0179	679,58	1,3423	3,5972	678,24	1,3283	2,8392	674,83	1,2980
160	4,1745	691,10	1,3612	3,7400	689,91	1,3475	2,9574	686,90	1,3178
180	4,3287	702,50	1,3793	3,8804	701,44	1,3658	3,0730	698,74	1,3366
200	4,4811	713,83	1,3967	4,0188	712,87	1,3834	3,1865	710,44	1,3546
220	4,6319	725,13	1,4136	4,1558	724,25	1,4004	3,2985	722,04	1,3720
240	4,7816	736,43	1,4300	4,2915	735,63	1,4169	3,4091	733,59	1,3887
260	4,9302	747,75	1,4459	4,4261	747,01	1,4329	3,5187	745,13	1,4050
280	5,0779	759,11	1,4615	4,5599	758,42	1,4485	3,6274	756,68	1,4208
300	5,2250	770,53	1,4767	4,6930	769,88	1,4638	3,7353	768,27	1,4362
320	5,3714	782,01	1,4916	4,8254	781,40	1,4788	3,8426	779,89	1,4514
340	5,5173	793,56	1,5063	4,9573	792,99	1,4935	3,9493	791,58	1,4662
360	5,6626	805,18	1,5206	5,0887	804,66	1,5079	4,0555	803,33	1,4807
380	5,8076	816,90	1,5348	5,2196	816,4	1,5220	4,1613	815,15	1,4949
	150 psia (78,79 F)			175 psia (88,03 F)			200 psia (96,31 F)		
Κορ.	1,99226	629,45	1,1986	1,71282	630,64	1,185	1,50102	631,49	1,1731
80	1,9997	630,36	1,2003	-	-	-	-	-	-
100	2,1170	644,81	1,2265	1,7762	639,77	1,2015	1,5190	634,45	1,1785
120	2,2275	658,37	1,2504	1,8762	654,13	1,2267	1,6117	649,71	1,2052
140	2,3331	671,31	1,2723	1,9708	667,67	1,2497	1,6984	663,90	1,2293
160	2,4351	683,80	1,2928	2,0614	680,62	1,271	1,7807	677,36	1,2514
180	2,5343	695,99	1,3122	2,1491	693,17	1,2909	1,8598	690,30	1,2719
200	2,6313	707,96	1,3306	2,2345	705,44	1,3098	1,9365	702,87	1,2913
220	2,7267	719,79	1,3483	2,3181	717,51	1,3278	2,0114	715,20	1,3097
240	2,8207	731,54	1,3653	2,4002	729,46	1,3451	2,0847	727,35	1,3273
260	2,9136	743,24	1,3818	2,4813	741,33	1,3619	2,1569	739,39	1,3443
280	3,0056	754,93	1,3978	2,5613	753,16	1,3781	2,2280	751,38	1,3607
300	3,0968	766,63	1,4134	2,6406	764,99	1,3939	2,2984	763,33	1,3767
320	3,1873	778,37	1,4287	2,7192	776,84	1,4092	2,3680	775,30	1,3922
340	3,2772	790,15	1,4436	2,7972	788,72	1,4243	2,4370	787,28	1,4074
360	3,3667	801,99	1,4582	2,8746	800,65	1,439	2,5056	799,30	1,4223
380	3,4557	813,90	1,4726	2,9516	812,64	1,4535	2,5736	811,38	1,4368
400	3,5442	825,88	1,4867	3,0282	824,70	1,4677	2,6412	823,51	1,4511

ΠΙΝΑΚΑΣ ΣΤ.8.2 (συνέχεια)

Θερμ. (F)	v ft ³ /lbm	h Btu/lbm	s Btu/lbm-R	v ft ³ /lbm	h Btu/lbm	s Btu/lbm-R	v ft ³ /lbm	h Btu/lbm	s Btu/lbm-R
250 psia (110,78 F)			300 psia (123,20 F)			350 psia (134,14 F)			
Kop.	1,20063	632,43	1,1528	0,99733	632,63	1,1356	0,85027	632,28	1,1205
120	1,2384	640,21	1,1663	-	-	-	-	-	-
140	1,3150	655,95	1,1930	1,0568	647,32	1,1605	0,8696	637,87	1,1299
160	1,3863	670,53	1,2170	1,1217	663,27	1,1866	0,9309	655,48	1,1588
180	1,4539	684,34	1,2389	1,1821	678,07	1,2101	0,9868	671,46	1,1842
200	1,5188	697,59	1,2593	1,2394	692,08	1,2317	1,0391	686,34	1,2071
220	1,5815	710,45	1,2785	1,2943	705,55	1,2518	1,0886	700,47	1,2282
240	1,6426	723,05	1,2968	1,3474	718,63	1,2708	1,1362	714,08	1,2479
260	1,7024	735,46	1,3142	1,3991	731,44	1,2888	1,1822	727,32	1,2666
280	1,7612	747,76	1,3311	1,4497	744,07	1,3062	1,2270	740,31	1,2844
300	1,8191	759,98	1,3474	1,4994	756,58	1,3228	1,2708	753,12	1,3015
320	1,8762	772,18	1,3633	1,5482	769,02	1,3390	1,3138	765,82	1,3180
340	1,9328	784,37	1,3787	1,5965	781,43	1,3547	1,3561	778,46	1,3340
360	1,9887	796,59	1,3938	1,6441	793,84	1,3701	1,3979	791,07	1,3496
380	2,0442	808,83	1,4085	1,6913	806,27	1,3850	1,4391	803,67	1,3648
400	2,0993	821,13	1,4230	1,7380	818,72	1,3997	1,4798	816,30	1,3796
420	2,1540	833,48	1,4372	1,7843	831,23	1,4141	1,5202	828,95	1,3942
440	2,2083	845,90	1,4512	1,8302	843,78	1,4282	1,5602	841,65	1,4085
400 psia (143,97 F)			600 psia (175,93 F)			800 psia (200,65 F)			
Kop.	0,73876	631,50	1,1070	0,47311	625,39	1,0620	0,33575	615,67	1,0242
160	0,7860	647,06	1,1324	-	-	-	-	-	-
180	0,8392	664,44	1,1601	0,4834	630,48	1,0700	-	-	-
200	0,8880	680,32	1,1845	0,5287	652,67	1,1041	-	-	-
220	0,9338	695,21	1,2067	0,5680	671,78	1,1327	0,3769	642,62	1,0645
240	0,9773	709,40	1,2273	0,6035	689,03	1,1577	0,4115	665,08	1,0971
260	1,0192	723,10	1,2466	0,6366	705,06	1,1803	0,4419	684,62	1,1246
280	1,0597	736,47	1,2650	0,6678	720,26	1,2011	0,4694	702,36	1,1489
300	1,0992	749,60	1,2825	0,6976	734,88	1,2206	0,4951	718,93	1,1710
320	1,1379	762,58	1,2993	0,7264	749,09	1,2391	0,5193	734,69	1,1915
340	1,1758	775,45	1,3156	0,7542	763,02	1,2567	0,5425	749,89	1,2108
360	1,2131	788,27	1,3315	0,7814	776,75	1,2737	0,5648	764,68	1,2290
380	1,2499	801,06	1,3469	0,8079	790,34	1,2901	0,5864	779,19	1,2465
400	1,2862	813,85	1,3619	0,8340	803,86	1,3060	0,6074	793,50	1,2634
420	1,3221	826,66	1,3767	0,8595	817,32	1,3215	0,6279	807,68	1,2797
440	1,3576	839,51	1,3911	0,8847	830,76	1,3366	0,6480	821,76	1,2955
460	1,3928	852,39	1,4053	0,9095	844,21	1,3514	0,6677	835,80	1,3109
480	1,4277	865,34	1,4192	0,9340	857,67	1,3658	0,6871	849,80	1,3260