

## Ammoniaca

### Proprietà del liquido e del vapore saturo

Temp.	Press.	Vol. Spec. (L)	Vol. Spec. (V)	E.Interna (L)	E.Interna( V)	Entalpia (L)	Entalpia (V)	Entropia (L)	Entropia (V)
$T$ [C]	$p$ [MPa]	$v_f$ [m³/kg]	$v_g$ [m³/kg]	$u_f$ [kJ/kg]	$u_g$ [kJ/kg]	$h_f$ [kJ/kg]	$h_g$ [kJ/kg]	$s_f$ [kJ/kg K]	$s_g$ [kJ/kg K]
-75.00	0.00751	0.00137	12.82	-180.7	1201	-180.7	1297	-0.8265	6.634
-70.00	0.01094	0.00138	9.008	-159.6	1208	-159.6	1307	-0.7211	6.497
-65.00	0.01562	0.00139	6.452	-138.3	1215	-138.3	1316	-0.6175	6.369
-60.00	0.02189	0.00140	4.706	-116.9	1222	-116.8	1325	-0.5157	6.248
-55.00	0.03014	0.00141	3.490	-95.27	1229	-95.23	1334	-0.4157	6.135
-50.00	0.04084	0.00142	2.628	-73.55	1235	-73.49	1342	-0.3172	6.028
-45.00	0.05449	0.00144	2.007	-51.69	1241	-51.61	1351	-0.2203	5.927
-40.00	0.07169	0.00145	1.553	-29.70	1248	-29.59	1359	-0.1250	5.831
-35.00	0.09310	0.00146	1.217	-7.580	1254	-7.443	1367	-0.0311	5.740
-30.00	0.1194	0.00148	0.9640	14.66	1259	14.84	1375	0.06134	5.653
-25.00	0.1515	0.00149	0.7717	37.02	1265	37.25	1382	0.1524	5.571
-20.00	0.1901	0.00150	0.6237	59.50	1270	59.79	1389	0.2421	5.492
-15.00	0.2362	0.00152	0.5087	82.09	1275	82.45	1396	0.3304	5.417
-10.00	0.2907	0.00153	0.4183	104.8	1280	105.2	1402	0.4176	5.345
-5.000	0.3548	0.00155	0.3466	127.6	1285	128.2	1408	0.5035	5.276
0.0	0.4294	0.00157	0.2893	150.6	1289	151.2	1413	0.5883	5.209
5.000	0.5157	0.00158	0.2430	173.6	1293	174.4	1419	0.6720	5.145
10.00	0.6150	0.00160	0.2054	196.8	1297	197.8	1423	0.7547	5.083
15.00	0.7285	0.00162	0.1746	220.1	1300	221.3	1428	0.8364	5.023
20.00	0.8575	0.00164	0.1492	243.6	1303	245.0	1431	0.9172	4.964
25.00	1.003	0.00166	0.1281	267.2	1306	268.9	1435	0.9972	4.907
30.00	1.167	0.00168	0.1105	291.0	1308	293.0	1437	1.076	4.851
35.00	1.351	0.00170	0.09563	315.0	1310	317.3	1440	1.155	4.797
40.00	1.555	0.00173	0.08310	339.2	1312	341.9	1441	1.233	4.743
45.00	1.783	0.00175	0.07245	363.6	1313	366.7	1442	1.310	4.690
50.00	2.034	0.00178	0.06335	388.2	1313	391.9	1442	1.387	4.638
55.00	2.311	0.00180	0.05554	413.2	1313	417.3	1442	1.464	4.586
60.00	2.616	0.00183	0.04880	438.4	1313	443.2	1441	1.541	4.534
65.00	2.949	0.00187	0.04296	464.0	1312	469.5	1438	1.617	4.482
70.00	3.313	0.00190	0.03787	490.0	1310	496.3	1435	1.694	4.430
75.00	3.710	0.00194	0.03342	516.4	1307	523.6	1431	1.771	4.377
80.00	4.142	0.00198	0.02951	543.4	1303	551.6	1426	1.848	4.323
85.00	4.610	0.00202	0.02606	571.0	1299	580.3	1419	1.926	4.267
90.00	5.117	0.00207	0.02300	599.2	1293	609.8	1410	2.005	4.210
95.00	5.664	0.00213	0.02027	628.4	1285	640.4	1400	2.086	4.149
100.0	6.255	0.00219	0.01782	658.5	1276	672.2	1388	2.168	4.086
105.0	6.892	0.00226	0.01561	690.0	1265	705.6	1373	2.253	4.017
110.0	7.578	0.00235	0.01360	723.1	1251	740.9	1354	2.342	3.943
115.0	8.317	0.00246	0.01174	758.5	1234	779.0	1331	2.436	3.858
120.0	9.112	0.00259	0.00999	797.5	1210	821.2	1301	2.539	3.760
125.0	9.970	0.00279	0.00828	843.1	1178	870.9	1260	2.658	3.637
130.0	10.90	0.00320	0.00638	908.4	1121	943.3	1191	2.832	3.445

## Ammoniaca

### Proprietà del vapore surriscaldato

R717	$p =$	0.4	[MPa]	
$T$	$v$	$u$	$h$	$s$
[C]	[m³/kg]	[kJ/kg]	[kJ/kg]	[kJ/kg K]
-50.00	0.00142	-73.74	-73.17	-0.3181
-40.00	0.00145	-29.89	-29.31	-0.1258
-30.00	0.00147	14.48	15.07	0.06057
-20.00	0.0015	59.34	59.95	0.2414
-10.00	0.00153	104.7	105.3	0.4172
0.0	0.3122	1291	1416	5.252
10.00	0.327	1311	1442	5.345
20.00	0.3412	1330	1467	5.43
30.00	0.3551	1349	1491	5.511
40.00	0.3688	1367	1515	5.588
50.00	0.3822	1385	1538	5.662
60.00	0.3955	1403	1561	5.732
70.00	0.4086	1421	1584	5.801
80.00	0.4216	1439	1607	5.867
90.00	0.4345	1456	1630	5.931
100.0	0.4473	1474	1653	5.994
110.0	0.4601	1492	1676	6.055
120.0	0.4728	1511	1700	6.115
140.0	0.4981	1547	1746	6.231
150.0	0.5107	1566	1770	6.287
160.0	0.5232	1584	1794	6.343
170.0	0.5358	1603	1818	6.397
180.0	0.5483	1622	1842	6.451
190.0	0.5607	1642	1866	6.504
200.0	0.5732	1661	1890	6.556

R717	$p =$	0.6	[MPa]	
$T$	$v$	$u$	$h$	$s$
[C]	[m³/kg]	[kJ/kg]	[kJ/kg]	[kJ/kg K]
-50.00	0.00142	-73.85	-72.99	-0.3185
-40.00	0.00145	-30.01	-29.14	-0.1263
-30.00	0.00147	14.34	15.23	0.06003
-20.00	0.0015	59.2	60.1	0.2409
-10.00	0.00153	104.5	105.5	0.4166
0.0	0.00157	150.4	151.3	0.5877
10.00	0.2111	1298	1425	5.099
20.00	0.2215	1319	1452	5.194
30.00	0.2315	1339	1478	5.281
40.00	0.2411	1359	1503	5.363
50.00	0.2505	1378	1528	5.441
60.00	0.2598	1396	1552	5.515
70.00	0.2689	1415	1576	5.585
80.00	0.2778	1433	1600	5.654
90.00	0.2867	1452	1624	5.72
100.0	0.2955	1470	1647	5.784
110.0	0.3042	1488	1671	5.846
120.0	0.3128	1507	1694	5.907
140.0	0.33	1544	1742	6.025
150.0	0.3385	1563	1766	6.082
160.0	0.347	1582	1790	6.138
170.0	0.3555	1601	1814	6.193
180.0	0.3639	1620	1838	6.247
190.0	0.3723	1639	1863	6.3
200.0	0.3807	1659	1887	6.353

R717	$p =$	0.8	[MPa]	
$T$	$v$	$u$	$h$	$s$
[C]	[m³/kg]	[kJ/kg]	[kJ/kg]	[kJ/kg K]
-50.00	0.00142	-73.95	-72.81	-0.319
-40.00	0.00145	-30.13	-28.97	-0.1268
-30.00	0.00147	14.21	15.39	0.05948
-20.00	0.0015	59.05	60.25	0.2403
-10.00	0.00153	104.4	105.6	0.416
0.0	0.00157	150.2	151.5	0.587
10.00	0.0016	196.6	197.9	0.754
20.00	0.1614	1307	1436	5.011
30.00	0.1694	1329	1465	5.107
40.00	0.1772	1350	1492	5.194
50.00	0.1846	1370	1518	5.276
60.00	0.1919	1390	1543	5.353
70.00	0.1989	1409	1568	5.427
80.00	0.2059	1428	1593	5.498
90.00	0.2127	1447	1617	5.565
100.0	0.2195	1465	1641	5.631
110.0	0.2262	1484	1665	5.695
120.0	0.2328	1503	1689	5.757
140.0	0.2459	1541	1737	5.876
150.0	0.2524	1560	1761	5.934
160.0	0.2589	1579	1786	5.991
170.0	0.2653	1598	1810	6.046
180.0	0.2717	1617	1835	6.101
190.0	0.2781	1637	1859	6.155
200.0	0.2844	1656	1884	6.208

R717	$p =$	1	[MPa]	
$T$	$v$	$u$	$h$	$s$
[C]	[m³/kg]	[kJ/kg]	[kJ/kg]	[kJ/kg K]
-50.00	0.00142	-74.06	-72.64	-0.3195
-40.00	0.00145	-30.25	-28.8	-0.1273
-30.00	0.00147	14.08	15.55	0.05894
-20.00	0.0015	58.9	60.41	0.2397
-10.00	0.00153	104.2	105.7	0.4154
0.0	0.00157	150	151.6	0.5864
10.00	0.0016	196.4	198	0.7533
20.00	0.00164	243.4	245.1	0.9166
30.00	0.132	1318	1450	4.96
40.00	0.1387	1341	1479	5.055
50.00	0.145	1362	1507	5.142
60.00	0.151	1383	1534	5.223
70.00	0.1569	1403	1560	5.3
80.00	0.1627	1422	1585	5.372
90.00	0.1683	1442	1610	5.442
100.0	0.1739	1461	1635	5.51
110.0	0.1794	1480	1659	5.575
120.0	0.1848	1499	1684	5.638
130.0	0.1901	1518	1708	5.699
140.0	0.1955	1537	1733	5.759
150.0	0.2007	1556	1757	5.818
160.0	0.206	1576	1782	5.875
170.0	0.2112	1595	1806	5.931
180.0	0.2164	1615	1831	5.986
190.0	0.2215	1634	1856	6.04
200.0	0.2267	1654	1881	6.094