

STEAM TABLE (METRIC UNITS) FOR SATURATED CONDITION PROPERTIES										
Green cell are original data Don't delete or change			Red letter : Input when pressure at between 2 data Fill with required pressure condition					Grey letter : Values by input Don't delete or change		
Absolute pressure (bar)	Boiling point (°C)	Specific volume (steam) (m <sup>3</sup> /kg)	Density (steam) (kg/m <sup>3</sup> )	Specific enthalpy of liquid water (sensible heat)		Specific enthalpy of steam (total heat)		Latent heat of vaporization		Specific heat (kJ/kg)
				(kJ/kg)	(kcal/kg)	(kJ/kg)	(kcal/kg)	(kJ/kg)	(kcal/kg)	
0.02	17.51	67.006	0.015	73.45	17.54	2533.64	605.15	2460.19	587.61	1.8644
0.024	20.15	58.47	0.02	84.47	20.17	2538.44	606.30	2453.97	586.12	1.87
0.03	24.1	45.667	0.022	101	24.12	2545.64	608.02	2444.65	583.89	1.8694
0.034	26.05	41.32	0.02	109.16	26.07	2549.19	608.86	2440.03	582.79	1.87
0.04	28.98	34.802	0.029	121.41	29	2554.51	610.13	2433.1	581.14	1.8736
0.046	31.33	30.84	0.03	131.23	31.35	2558.76	611.15	2427.53	579.81	1.88
0.05	32.9	28.194	0.035	137.77	32.91	2561.59	611.83	2423.82	578.92	1.8774
0.053	33.88	26.86	0.04	141.89	33.89	2563.37	612.25	2421.48	578.36	1.88
0.06	36.18	23.741	0.042	151.5	36.19	2567.51	613.24	2416.01	577.05	1.8808
0.067	38.17	21.49	0.05	159.82	38.17	2571.09	614.09	2411.27	575.92	1.88
0.07	39.02	20.531	0.049	163.38	39.02	2572.62	614.46	2409.24	575.44	1.884
0.072	39.52	20.05	0.05	165.48	39.52	2573.52	614.67	2408.04	575.15	1.88
0.08	41.53	18.105	0.055	173.87	41.53	2577.11	615.53	2403.25	574.01	1.8871
0.083	42.21	17.53	0.06	176.69	42.21	2578.32	615.82	2401.63	573.62	1.89
0.09	43.79	16.204	0.062	183.28	43.78	2581.14	616.49	2397.85	572.72	1.8899
0.093	44.40	15.75	0.06	185.85	44.39	2582.23	616.75	2396.38	572.37	1.89
0.1	45.83	14.675	0.068	191.84	45.82	2584.78	617.36	2392.94	571.54	1.8927
0.12	48.68	13.27	0.08	203.76	48.67	2589.80	618.56	2386.03	569.89	1.90
0.2	60.09	7.65	0.131	251.46	60.06	2609.86	623.35	2358.4	563.3	1.9156
0.24	63.71	6.68	0.16	266.60	63.68	2616.09	624.84	2349.49	561.17	1.92
0.3	69.13	5.229	0.191	289.31	69.1	2625.43	627.07	2336.13	557.97	1.9343
0.345	72.17	4.67	0.22	302.06	72.15	2630.58	628.30	2328.53	556.16	1.94
0.4	75.89	3.993	0.25	317.65	75.87	2636.88	629.81	2319.23	553.94	1.9506
0.47	79.71	3.47	0.29	333.69	79.70	2643.26	631.33	2309.56	551.63	1.96
0.5	81.35	3.24	0.309	340.57	81.34	2645.99	631.98	2305.42	550.64	1.9654
0.55	83.65	2.99	0.34	350.25	83.66	2649.78	632.89	2299.53	549.24	1.97
0.6	85.95	2.732	0.366	359.93	85.97	2653.57	633.79	2293.64	547.83	1.979
0.69	89.56	2.40	0.42	375.09	89.59	2659.42	635.19	2284.33	545.61	1.99
0.7	89.96	2.365	0.423	376.77	89.99	2660.07	635.35	2283.3	545.36	1.9919
0.76	92.09	2.20	0.46	385.75	92.13	2663.49	636.17	2277.75	544.03	2.00
0.8	93.51	2.087	0.479	391.73	93.56	2665.77	636.71	2274.05	543.15	2.004
0.88	96.07	1.91	0.52	402.51	96.14	2669.83	637.68	2267.33	541.54	2.01
0.9	96.71	1.869	0.535	405.21	96.78	2670.85	637.92	2265.65	541.14	2.0156
0.97	98.75	1.75	0.57	413.82	98.84	2674.06	638.69	2260.24	539.85	2.02
1	99.63	1.694	0.59	417.51	99.72	2675.43	639.02	2257.92	539.3	2.0267
1.035	100.57	1.64	0.61	421.48	100.67	2676.89	639.37	2255.41	538.70	2.03
1.1	102.32	1.549	0.645	428.84	102.43	2679.61	640.01	2250.76	537.59	2.0373
1.13	103.07	1.51	0.66	432.00	103.18	2680.76	640.29	2248.76	537.11	2.04
1.2	104.81	1.428	0.7	439.36	104.94	2683.44	640.93	2244.08	535.99	2.0476
1.25	105.97	1.38	0.73	444.28	106.12	2685.21	641.35	2240.94	535.24	2.05
1.3	107.13	1.325	0.755	449.19	107.29	2686.98	641.77	2237.79	534.49	2.0576

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Absolute pressure	Boiling point	Specific volume (steam)	Density (steam)	Specific enthalpy of liquid water (sensible heat)		Specific enthalpy of steam (total heat)		Latent heat of vaporization		Specific heat
(bar)	(°C)	(m <sup>3</sup> /kg)	(kg/m <sup>3</sup> )	(kJ/kg)	(kcal/kg)	(kJ/kg)	(kcal/kg)	(kJ/kg)	(kcal/kg)	(kJ/kg)
1.3	107.13	1.325	0.755	449.19	107.29	2686.98	641.77	2237.79	534.49	2.0576
1.33	107.79	1.30	0.77	451.96	107.95	2687.97	642.01	2236.01	534.06	2.06
1.4	109.32	1.236	0.809	458.42	109.49	2690.28	642.56	2231.86	533.07	2.0673
1.46	110.55	1.19	0.84	463.65	110.74	2692.13	643.00	2228.48	532.27	2.07
1.5	111.37	1.159	0.863	467.13	111.57	2693.36	643.3	2226.23	531.73	2.0768
1.57	112.74	1.11	0.90	472.91	112.95	2695.38	643.78	2222.48	530.83	2.08
1.6	113.32	1.091	0.916	475.38	113.54	2696.25	643.99	2220.87	530.45	2.086
1.68	114.80	1.04	0.96	481.65	115.04	2698.43	644.51	2216.77	529.47	2.09
1.7	115.17	1.031	0.97	483.22	115.42	2698.97	644.64	2215.75	529.22	2.095
1.73	115.70	1.01	0.99	485.46	115.95	2699.74	644.82	2214.28	528.87	2.10
1.8	116.93	0.977	1.023	490.7	117.2	2701.54	645.25	2210.84	528.05	2.1037
1.87	118.11	0.94	1.06	495.71	118.40	2703.25	645.66	2207.54	527.26	2.11
1.9	118.62	0.929	1.076	497.85	118.91	2703.98	645.83	2206.13	526.92	2.1124
1.97	119.75	0.90	1.11	502.65	120.06	2705.60	646.22	2202.95	526.16	2.12
2	120.23	0.885	1.129	504.71	120.55	2706.29	646.39	2201.59	525.84	2.1208
2.15	122.51	0.83	1.21	514.40	122.86	2709.52	647.16	2195.13	524.30	2.13
2.2	123.27	0.81	1.235	517.63	123.63	2710.6	647.42	2192.98	523.78	2.1372
2.32	124.96	0.77	1.30	524.84	125.35	2712.97	647.98	2188.14	522.63	2.15
2.4	126.09	0.746	1.34	529.64	126.5	2714.55	648.36	2184.91	521.86	2.1531
2.57	128.33	0.70	1.43	539.19	128.79	2717.63	649.09	2178.44	520.31	2.17
2.6	128.73	0.693	1.444	540.88	129.19	2718.17	649.22	2177.3	520.04	2.1685
2.67	129.59	0.68	1.48	544.58	130.07	2719.35	649.50	2174.77	519.44	2.17
2.8	131.2	0.646	1.548	551.45	131.71	2721.54	650.03	2170.08	518.32	2.1835
2.85	131.79	0.64	1.57	553.95	132.31	2722.32	650.22	2168.37	517.91	2.19
3	133.54	0.606	1.651	561.44	134.1	2724.66	650.77	2163.22	516.68	2.1981
3.24	136.10	0.57	1.77	572.40	136.72	2728.01	651.57	2155.60	514.86	2.21
3.5	138.87	0.524	1.908	584.28	139.55	2731.63	652.44	2147.35	512.89	2.2331
3.84	142.11	0.48	2.08	598.15	142.87	2735.71	653.41	2137.56	510.55	2.26
4	143.63	0.462	2.163	604.68	144.43	2737.63	653.87	2132.95	509.45	2.2664
4.24	145.69	0.44	2.28	613.56	146.55	2740.15	654.47	2126.59	507.93	2.28
4.5	147.92	0.414	2.417	623.17	148.84	2742.88	655.13	2119.71	506.29	2.2983
4.7	149.49	0.40	2.52	629.95	150.46	2744.74	655.57	2114.79	505.11	2.31
5	151.85	0.375	2.669	640.12	152.89	2747.54	656.24	2107.42	503.35	2.3289
5.34	154.31	0.35	2.84	650.79	155.44	2750.37	656.91	2099.59	501.48	2.35
5.5	155.47	0.342	2.92	655.81	156.64	2751.7	657.23	2095.9	500.6	2.3585
5.87	157.96	0.32	3.11	666.63	159.22	2754.48	657.90	2087.86	498.68	2.38
6	158.84	0.315	3.17	670.43	160.13	2755.46	658.13	2085.03	498	2.3873
6.33	160.92	0.30	3.33	679.48	162.29	2757.71	658.66	2078.23	496.38	2.41
6.5	161.99	0.292	3.419	684.14	163.4	2758.87	658.94	2074.73	495.54	2.4152
6.76	163.53	0.28	3.55	690.86	165.01	2760.49	659.33	2069.63	494.32	2.43
7	164.96	0.273	3.667	697.07	166.49	2761.98	659.69	2064.92	493.2	2.4424

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(bar)	(°C)	(m <sup>3</sup> /kg)	(kg/m <sup>3</sup> )	(kJ/kg)	(kcal/kg)	(kJ/kg)	(kcal/kg)	(kJ/kg)	(kcal/kg)	(kJ/kg)
7	164.96	0.273	3.667	697.07	166.49	2761.98	659.69	2064.92	493.2	2.4424
7.4	167.20	0.26	3.87	706.85	168.83	2764.27	660.23	2057.41	491.41	2.46
7.5	167.76	0.255	3.915	709.3	169.41	2764.84	660.37	2055.53	490.96	2.469
7.8	169.36	0.25	4.06	716.28	171.08	2766.41	660.75	2050.13	489.66	2.48
8	170.42	0.24	4.162	720.94	172.19	2767.46	661	2046.53	488.8	2.4951
8.34	172.13	0.23	4.33	728.48	173.99	2769.11	661.39	2040.63	487.39	2.51
8.5	172.94	0.227	4.409	732.03	174.84	2769.89	661.58	2037.86	486.73	2.5206
8.76	174.20	0.22	4.54	737.55	176.16	2771.05	661.86	2033.51	485.70	2.53
9	175.36	0.215	4.655	742.64	177.38	2772.13	662.11	2029.49	484.74	2.5456
9.35	176.98	0.21	4.83	749.77	179.08	2773.59	662.46	2023.83	483.38	2.56
9.5	177.67	0.204	4.901	752.82	179.81	2774.22	662.61	2021.4	482.8	2.5702
9.71	178.60	0.20	5.00	756.93	180.79	2775.03	662.80	2018.11	482.01	2.58
10	179.88	0.194	5.147	762.6	182.14	2776.16	663.07	2013.56	480.93	2.5944
10.35	181.34	0.19	5.32	769.08	183.69	2777.39	663.36	2008.31	479.68	2.61
11	184.06	0.177	5.638	781.11	186.57	2779.66	663.91	1998.55	477.35	2.6418
11.55	186.21	0.17	5.91	790.63	188.84	2781.35	664.31	1990.72	475.47	2.67
12	187.96	0.163	6.127	798.42	190.7	2782.73	664.64	1984.31	473.94	2.6878
12.7	190.51	0.15	6.47	809.80	193.42	2784.61	665.10	1974.80	471.67	2.72
13	191.6	0.151	6.617	814.68	194.58	2785.42	665.29	1970.73	470.7	2.7327
13.4	192.98	0.15	6.81	820.83	196.05	2786.37	665.51	1965.53	469.46	2.75
14	195.04	0.141	7.106	830.05	198.26	2787.79	665.85	1957.73	467.6	2.7767
14.6	196.98	0.14	7.40	838.80	200.35	2789.04	666.15	1950.24	465.81	2.80
15	198.28	0.132	7.596	844.64	201.74	2789.88	666.35	1945.24	464.61	2.8197
15.56	200.01	0.13	7.87	852.42	203.60	2790.92	666.60	1938.49	463.00	2.84
16	201.37	0.124	8.085	858.54	205.06	2791.73	666.79	1933.19	461.74	2.862
16.3	202.25	0.12	8.23	862.52	206.01	2792.22	666.91	1929.70	460.90	2.87
17	204.3	0.117	8.575	871.82	208.23	2793.37	667.18	1921.55	458.95	2.9036
17.8	206.55	0.11	8.97	882.00	210.66	2794.52	667.46	1912.53	456.80	2.94
18	207.11	0.11	9.065	884.55	211.27	2794.81	667.53	1910.27	456.26	2.9445
18.73	209.07	0.11	9.42	893.48	213.40	2795.74	667.75	1902.27	454.35	2.97
19	209.79	0.105	9.556	896.78	214.19	2796.09	667.83	1899.31	453.64	2.9849
19.37	210.74	0.10	9.74	901.14	215.23	2796.50	667.93	1895.37	452.70	3.00
20	212.37	0.1	10.047	908.56	217.01	2797.21	668.1	1888.65	451.1	3.0248
20.58	213.81	0.10	10.33	915.15	218.58	2797.77	668.23	1882.62	449.66	3.05
21	214.85	0.095	10.539	919.93	219.72	2798.18	668.33	1878.25	448.61	3.0643
21.65	216.40	0.09	10.86	927.07	221.43	2798.73	668.47	1871.66	447.04	3.09
22	217.24	0.091	11.032	930.92	222.35	2799.03	668.54	1868.11	446.19	3.1034
22.3	217.93	0.09	11.18	934.12	223.11	2799.25	668.59	1865.14	445.48	3.12
23	219.55	0.087	11.525	941.57	224.89	2799.77	668.71	1858.2	443.82	3.1421
23.7	221.11	0.08	11.87	948.80	226.62	2800.20	668.82	1851.40	442.20	3.17
24	221.78	0.083	12.02	951.9	227.36	2800.39	668.86	1848.49	441.5	3.1805

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(bar)	(°C)	(m <sup>3</sup> /kg)	(kg/m <sup>3</sup> )	(kJ/kg)	(kcal/kg)	(kJ/kg)	(kcal/kg)	(kJ/kg)	(kcal/kg)	(kJ/kg)
24	221.78	0.083	12.02	951.9	227.36	2800.39	668.86	1848.49	441.5	3.1805
24.6	223.08	0.08	12.32	957.92	228.79	2800.70	668.94	1842.78	440.14	3.20
25	223.94	0.0800	12.515	961.93	229.75	2800.91	668.99	1838.98	439.23	3.2187
25.2	224.36	0.08	12.61	963.88	230.22	2801.00	669.01	1837.12	438.79	3.23
26	226.03	0.077	13.012	971.69	232.08	2801.35	669.09	1829.66	437.01	3.2567
26.6	227.25	0.08	13.31	977.39	233.44	2801.55	669.14	1824.16	435.70	3.28
27	228.06	0.074	13.509	981.19	234.35	2801.69	669.17	1820.5	434.82	3.2944
27.5	229.05	0.07	13.76	985.83	235.46	2801.83	669.21	1816.00	433.75	3.31
28	230.04	0.071	14.008	990.46	236.57	2801.96	669.24	1811.5	432.67	3.332
28.8	231.58	0.07	14.41	997.69	238.30	2802.11	669.27	1804.42	430.98	3.36
29	231.96	0.069	14.508	999.5	238.73	2802.15	669.28	1802.65	430.56	3.3695
29.55	232.99	0.07	14.78	1004.36	239.89	2802.22	669.30	1797.86	429.42	3.39
30	233.84	0.0670	15.009	1008.33	240.84	2802.27	669.31	1793.94	428.48	3.4069

Specific volume of vapor if vapor fraction is given :

Fill this cell with vapor fraction, X	0.93
Fill this cell with specific volume of saturated steam at specified pressure	13.27
Result of $v_x = v_s - (1-X)(v_s-1)$	12.341

Assumption : Specific vol. of water = 0.001 m<sup>3</sup>/kg at any temperature