Abaques de vapeur

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Les abaques qui suivent quantifient l'état thermodynamique de l'eau pure sur une large plage de propriétés, selon le modèle NIST-IAPWS 1995 [1].

	Propriété	unité SI	unité dans ce document
h	enthalpie massique; $h \equiv u + pv$	$\mathrm{J\,kg^{-1}}$	$1\,\mathrm{kJ\,kg^{-1}} \equiv 1 \times 10^3\,\mathrm{J\,kg^{-1}}$
p	pression	Pa	$1\,\mathrm{MPa} \equiv 1 \times 10^6\,\mathrm{Pa} = 0.1\,\mathrm{bar}$
s	entropie massique	$\mathrm{J\,K^{-1}\,kg^{-1}}$	$1\,\mathrm{kJ\,K^{-1}\,kg^{-1}} \equiv 1 \times 10^3\,\mathrm{J\,K^{-1}\,kg^{-1}}$
T	température	K	$T(^\circ\mathrm{C}) \equiv T(\mathrm{K}) - 273.15$
u	énergie interne massique	$\mathrm{J\,kg^{-1}}$	$1\,\mathrm{kJ\,kg^{-1}} \equiv 1 \times 10^3\,\mathrm{J\,kg^{-1}}$
v	volume massique	$\mathrm{m^3\,kg^{-1}}$	$\mathrm{m^3\,kg^{-1}}$

Les valeurs de u et s sont arbitrairement posées comme zéro au point triple[w] de l'eau, de sorte que toutes les valeurs de u, h et s ailleurs sont exprimées relativement à ce point. Les indices L et V correspondent au liquide saturé[w] et à la vapeur saturée respectivement. $T_{\text{sat.}}$ est la température de saturation[w] (la température pour laquelle les deux états seront présents à la pression donnée). De même, $p_{\text{sat.}}$ est la pression de saturation (la pression pour laquelle les deux états seront présents à la température donnée). $T_{\text{cr.}}$ et $p_{\text{cr.}}$ correspondent aux valeurs critiques[w] (les valeurs maximales pour lesquelles on peut observer les deux états).

Dans ce document, le séparateur de décimale est un point $\boxed{.}$, et le séparateur de milliers est une virgule $\boxed{,}$, de sorte que $1234.5 \equiv 1.2345 \times 10^4$. Les zéros de début et de fin ne sont pas indiqués. La page du PDF est au format A4. Référez-vous à freesteamtables.com pour télécharger les mêmes données sous d'autres formats, dont une version formatée selon les recommandations du BIPM dans la 9ème édition de la *Brochure SI* [3].

Références:

[1] W. Wagner et A. Pruß. « The IAPWS formulation 1995 for the thermodynamic properties of ordinary water substance for general and scientific use ». In : *Journal of Physical and Chemical Reference Data* 31.2 (2002), p. 387-535. DOI : 10.1063/1.1461829.

[2] O. Cleynen. *Thermodynamique de l'ingénieur*. 3e éd. Thermodynamique.fr (O. Cleynen), 2021. ISBN : 9781794848207. URL : https://thermodynamique.fr/.

[3] Bureau international des poids et mesures. *Le système international d'unités / The International System of Units*. 9e éd. v3.01, CC-BY. BIPM, 2024. ISBN : 9789282222720. URL : https://www.bipm.org/fr/publications/si-brochure.

Abaque n°1 : Propriétés de l'eau pure (liquide comprimé et vapeur sèche)

$\frac{m^3}{kg}$	$\frac{kJ}{kg}$	$\frac{kJ}{kg}$	$\frac{kJ}{K\,kg}$	°C	$\frac{m^3}{kg}$	$\frac{kJ}{kg}$	$\frac{kJ}{kg}$	$\frac{kJ}{K\,kg}$	°C	$\frac{m^3}{kg}$	$\frac{kJ}{kg}$	$\frac{kJ}{kg}$	$\frac{kJ}{K\,kg}$
v	u	h	s	T	v	u	h	s	T	v	u	h	s
$p = 0.01$ MPa ($T_{sat.} = 45.806$ °C)					$p = 0.05$ MPa ($T_{sat.} = 81.317$ °C)					$p = 0.10$ MPa ($T_{sat.} = 99.606$ °C)			
0.001	42	42	0.1511	10	0.001	42	42.1	0.1511	10	0.001	42	42.1	0.1511
0.001002	83.9	83.9	0.2965	20	0.001002	83.9	84	0.2965	20	0.001002	83.9	84	0.2965
14.867	2443.3	2592	8.1741	50	0.001012	209.3	209.4	0.7038	50	0.001012	209.3	209.4	0.7038
17.196	2515.5	2687.5	8.4489	100	3.4187	2511.5	2682.4	7.6953	100	1.6959	2506.2	2675.8	7.361
21.826	2661.3	2879.6	8.9049	200	4.3562	2660	2877.8	8.1592	200	2.1724	2658.3	2875.5	7.8356
26.446	2812.2	3076.7	9.2827	300	5.284	2811.6	3075.8	8.5386	300	2.6388	2810.6	3074.5	8.2172
35.68	3132.9	3489.7	9.8998	500	7.1338	3132.6	3489.3	9.1566	500	3.5655	3132.2	3488.7	8.8361
40.296	3303.3	3706.3	10.163	600	8.0576	3303.1	3706	9.4201	600	4.0279	3302.8	3705.6	9.0998
44.911	3480.8	3929.9	10.406	700	8.9812	3480.6	3929.7	9.6625	700	4.49	3480.4	3929.4	9.3424
49.527	3665.3	4160.6	10.631	800	9.9047	3665.2	4160.4	9.8882	800	4.9519	3665	4160.2	9.5681
54.142	3856.9	4398.3	10.843	900	10.828	3856.8	4398.2	10.1	900	5.4137	3856.6	4398	9.78
58.758	4055.2	4642.8	11.043	1000	11.751	4055.2	4642.7	10.3	1000	5.8754	4055.1	4642.6	9.98
63.373	4260	4893.7	11.233	1100	12.674	4260	4893.7	10.49	1100	6.3371	4259.8	4893.5	10.17
67.988	4470.8	5150.7	11.413	1200	13.598	4470.8	5150.7	10.67	1200	6.7988	4470.7	5150.6	10.35
81.834	5135.7	5954	11.909	1500	16.367	5135.6	5953.9	11.166	1500	8.1836	5135.5	5953.9	10.846
104,91	6327.9	7377	12.615	2000	20.982	6327.9	7377	11.872	2000	10.491	6327.9	7377	11.552
$p = 0.20$ MPa ($T_{sat.} = 120.210$ °C)					$p = 0.40$ MPa ($T_{sat.} = 143.608$ °C)					$p = 0.60$ MPa ($T_{sat.} = 158.826$ °C)			
0.001	42	42.2	0.1511	10	0.001	42	42.4	0.1511	10	0.001	42	42.6	0.151
0.001002	83.9	84.1	0.2964	20	0.001002	83.9	84.3	0.2964	20	0.001002	83.9	84.5	0.2964
0.001012	209.3	209.5	0.7037	50	0.001012	209.3	209.7	0.7036	50	0.001012	209.2	209.9	0.7035
0.001043	419	419.2	1.3071	100	0.001043	419	419.4	1.307	100	0.001043	418.9	419.5	1.3068
1.0805	2654.6	2870.7	7.5081	200	0.53433	2647.2	2860.9	7.1723	200	0.35212	2639.3	2850.6	6.9683
1.3162	2808.9	3072.1	7.8941	300	0.65489	2805.1	3067.1	7.5677	300	0.43442	2801.3	3062	7.374
1.7814	3131.4	3487.7	8.5152	500	0.88936	3129.8	3485.5	8.1933	500	0.592	3128.2	3483.4	8.0041
2.013	3302.2	3704.8	8.7792	600	1.0056	3301	3703.2	8.458	600	0.66976	3299.8	3701.7	8.2695
2.2443	3479.9	3928.8	9.022	700	1.1215	3479	3927.6	8.7012	700	0.74725	3478.1	3926.4	8.5131
2.4755	3664.7	4159.8	9.2479	800	1.2373	3663.9	4158.8	8.9273	800	0.82457	3663.2	4157.9	8.7395
2.7066	3856.3	4397.6	9.4598	900	1.353	3855.7	4396.9	9.1394	900	0.90178	3855.1	4396.2	8.9518
2.9375	4054.8	4642.3	9.6599	1000	1.4686	4054.3	4641.7	9.3396	1000	0.97893	4053.7	4641.1	9.1521
3.1685	4259.6	4893.3	9.8497	1100	1.5841	4259.2	4892.8	9.5295	1100	1.056	4258.8	4892.4	9.342
3.3994	4470.5	5150.4	10.03	1200	1.6997	4470.1	5150	9.7102	1200	1.1331	4469.7	5149.6	9.5228
4.0919	5135.4	5953.8	10.526	1500	2.0461	5135.2	5953.6	10.206	1500	1.3641	5134.9	5953.4	10.019
5.246	6327.7	7376.9	11.232	2000	2.6232	6327.6	7376.9	10.912	2000	1.749	6327.4	7376.8	10.725
$p = 0.80$ MPa ($T_{sat.} = 170.406$ °C)					$p = 1.0$ MPa ($T_{sat.} = 179.878$ °C)					$p = 1.2$ MPa ($T_{sat.} = 187.957$ °C)			
0.001	42	42.8	0.151	10	0.001	42	43	0.151	10	0.001	42	43.2	0.151
0.001001	83.9	84.7	0.2963	20	0.001001	83.8	84.9	0.2963	20	0.001001	83.8	85	0.2962
0.001012	209.2	210	0.7034	50	0.001012	209.2	210.2	0.7034	50	0.001012	209.2	210.4	0.7033
0.001043	418.9	419.7	1.3067	100	0.001043	418.8	419.8	1.3065	100	0.001043	418.7	420	1.3064
0.26088	2631	2839.7	6.8176	200	0.20602	2622.3	2828.3	6.6955	200	0.16934	2612.9	2816.1	6.5909
0.32416	2797.6	3056.9	7.2345	300	0.25799	2793.6	3051.6	7.1246	300	0.21386	2789.7	3046.3	7.0335
0.44332	3126.6	3481.3	7.8692	500	0.35411	3125	3479.1	7.7641	500	0.29464	3123.3	3476.9	7.6779
0.50185	3298.6	3700.1	8.1354	600	0.40111	3297.5	3698.6	8.031	600	0.33394	3296.3	3697	7.9455
0.56011	3477.2	3925.3	8.3794	700	0.44783	3476.3	3924.1	8.2755	700	0.37297	3475.3	3922.9	8.1904
0.6182	3662.4	4157	8.6061	800	0.49438	3661.7	4156.1	8.5024	800	0.41184	3661	4155.2	8.4176
0.67619	3854.5	4395.5	8.8185	900	0.54083	3854	4394.8	8.715	900	0.45059	3853.3	4394	8.6303
0.73411	4053.2	4640.5	9.0189	1000	0.58721	4052.7	4639.9	8.9155	1000	0.48928	4052.3	4639.4	8.831
0.79197	4258.3	4891.9	9.2089	1100	0.63354	4257.9	4891.4	9.1056	1100	0.52792	4257.5	4891	9.0212
0.8498	4469.4	5149.2	9.3898	1200	0.67983	4469.1	5148.9	9.2866	1200	0.56652	4468.7	5148.5	9.2022
1.0232	5134.6	5953.2	9.8861	1500	0.81857	5134.4	5953	9.783	1500	0.68218	5134.2	5952.8	9.6987
1.3118	6327.4	7376.8	10.592	2000	1.0496	6327.2	7376.8	10.489	2000	0.87471	6327	7376.7	10.405

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v	u	h	s	T	v	u	h	s	T	v	u	h	s
$p = 1.4\,\mathrm{MPa}$ ($T_{\mathrm{sat.}} = 195.039\,^\circ\mathrm{C}$)					$p = 1.6\,\mathrm{MPa}$ ($T_{\mathrm{sat.}} = 201.370\,^\circ\mathrm{C}$)					$p = 1.8\,\mathrm{MPa}$ ($T_{\mathrm{sat.}} = 207.112\,^\circ\mathrm{C}$)			
0.001	42	43.4	0.151	10	0.001	42	43.6	0.1509	10	0.000999	42	43.8	0.1509
0.001001	83.8	85.2	0.2962	20	0.001001	83.8	85.4	0.2962	20	0.001001	83.8	85.6	0.2961
0.001012	209.1	210.5	0.7032	50	0.001011	209.1	210.7	0.7031	50	0.001011	209.1	210.9	0.703
0.001043	418.7	420.1	1.3062	100	0.001043	418.6	420.3	1.306	100	0.001043	418.6	420.4	1.3059
0.14303	2602.8	2803	6.4975	200	0.001156	850.4	852.3	2.3305	200	0.001156	850.3	852.4	2.3301
0.18232	2785.7	3040.9	6.9552	300	0.15866	2781.5	3035.4	6.8863	300	0.14025	2777.5	3029.9	6.8246
0.25216	3121.8	3474.8	7.6047	500	0.22029	3120.1	3472.6	7.5409	500	0.19551	3118.5	3470.4	7.4845
0.28597	3295	3695.4	7.873	600	0.24999	3293.9	3693.9	7.81	600	0.222	3292.7	3692.3	7.7543
0.31951	3474.4	3921.7	8.1183	700	0.2794	3473.5	3920.5	8.0557	700	0.24821	3472.6	3919.4	8.0004
0.35287	3660.3	4154.3	8.3457	800	0.30865	3659.5	4153.3	8.2834	800	0.27426	3658.7	4152.4	8.2284
0.38614	3852.7	4393.3	8.5587	900	0.3378	3852.1	4392.6	8.4965	900	0.3002	3851.5	4391.9	8.4416
0.41933	4051.7	4638.8	8.7594	1000	0.36687	4051.2	4638.2	8.6974	1000	0.32606	4050.7	4637.6	8.6426
0.45247	4257	4890.5	8.9497	1100	0.39589	4256.6	4890	8.8878	1100	0.35188	4256.1	4889.5	8.8331
0.48558	4468.3	5148.1	9.1308	1200	0.42487	4467.9	5147.7	9.0689	1200	0.37766	4467.5	5147.3	9.0143
0.58476	5133.9	5952.6	9.6274	1500	0.51169	5133.7	5952.4	9.5656	1500	0.45486	5133.4	5952.1	9.5111
0.74982	6327	7376.7	10.334	2000	0.65615	6326.8	7376.6	10.272	2000	0.5833	6326.7	7376.6	10.218
$p = 2.0\,\mathrm{MPa}$ ($T_{\mathrm{sat.}} = 212.377\,^\circ\mathrm{C}$)					$p = 2.5\,\mathrm{MPa}$ ($T_{\mathrm{sat.}} = 223.950\,^\circ\mathrm{C}$)					$p = 3.0\,\mathrm{MPa}$ ($T_{\mathrm{sat.}} = 233.853\,^\circ\mathrm{C}$)			
0.000999	42	44	0.1509	10	0.000999	42	44.5	0.1509	10	0.000999	41.9	44.9	0.1508
0.001001	83.8	85.8	0.2961	20	0.001001	83.8	86.3	0.296	20	0.001	83.7	86.7	0.2959
0.001011	209	211.1	0.7029	50	0.001011	209	211.5	0.7027	50	0.001011	208.9	211.9	0.7024
0.001042	418.5	420.6	1.3057	100	0.001042	418.4	421	1.3053	100	0.001042	418.2	421.3	1.305
0.001156	850.1	852.5	2.3298	200	0.001156	849.8	852.7	2.329	200	0.001155	849.4	852.9	2.3282
0.12551	2773.2	3024.2	6.7684	300	0.098937	2762.3	3009.6	6.6459	300	0.081179	2750.8	2994.3	6.5412
0.17568	3116.8	3468.2	7.4337	500	0.13999	3112.7	3462.7	7.3254	500	0.1162	3108.6	3457.2	7.2359
0.19961	3291.5	3690.7	7.7043	600	0.15931	3288.5	3686.8	7.5979	600	0.13245	3285.5	3682.8	7.5103
0.22326	3471.7	3918.2	7.9509	700	0.17835	3469.3	3915.2	7.8455	700	0.14841	3467	3912.2	7.759
0.24674	3658	4151.5	8.179	800	0.19721	3656.2	4149.2	8.0743	800	0.1642	3654.3	4146.9	7.9885
0.27012	3850.9	4391.1	8.3925	900	0.21597	3849.4	4389.3	8.2882	900	0.17988	3847.9	4387.5	8.2028
0.29342	4050.2	4637	8.5936	1000	0.23466	4049	4635.6	8.4896	1000	0.19549	4047.6	4634.1	8.4045
0.31667	4255.8	4889.1	8.7842	1100	0.2533	4254.7	4887.9	8.6804	1100	0.21105	4253.6	4886.7	8.5955
0.33989	4467.2	5147	8.9654	1200	0.2719	4466.3	5146	8.8618	1200	0.22657	4465.3	5145	8.777
0.4094	5133.1	5951.9	9.4624	1500	0.32757	5132.5	5951.4	9.359	1500	0.27301	5131.9	5950.9	9.2745
0.52501	6326.5	7376.5	10.169	2000	0.42011	6326.1	7376.4	10.066	2000	0.35017	6325.8	7376.3	9.9818
$p = 3.5\,\mathrm{MPa}$ ($T_{\mathrm{sat.}} = 242.557\,^\circ\mathrm{C}$)					$p = 4.0\,\mathrm{MPa}$ ($T_{\mathrm{sat.}} = 250.354\,^\circ\mathrm{C}$)					$p = 4.5\,\mathrm{MPa}$ ($T_{\mathrm{sat.}} = 257.437\,^\circ\mathrm{C}$)			
0.000999	41.9	45.4	0.1508	10	0.000998	41.9	45.9	0.1507	10	0.000998	41.9	46.4	0.1507
0.001	83.7	87.2	0.2958	20	0.001	83.7	87.7	0.2956	20	0.001	83.6	88.1	0.2955
0.001011	208.8	212.4	0.7022	50	0.00101	208.7	212.8	0.702	50	0.00101	208.7	213.2	0.7017
0.001042	418.1	421.7	1.3046	100	0.001041	417.9	422.1	1.3042	100	0.001041	417.8	422.5	1.3038
0.001155	849	853.1	2.3275	200	0.001154	848.7	853.3	2.3267	200	0.001154	848.3	853.5	2.3259
0.068453	2738.8	2978.4	6.4484	300	0.05887	2726.2	2961.7	6.3639	300	0.051378	2713	2944.2	6.2854
0.099195	3104.4	3451.6	7.1593	500	0.086442	3100.2	3446	7.0922	500	0.076521	3096.1	3440.4	7.0323
0.11325	3282.5	3678.9	7.4356	600	0.098859	3279.5	3674.9	7.3705	600	0.087662	3276.4	3670.9	7.3127
0.12702	3464.7	3909.3	7.6854	700	0.11098	3462.4	3906.3	7.6214	700	0.0985	3460.1	3903.3	7.5646
0.14061	3652.5	4144.6	7.9156	800	0.12292	3650.6	4142.3	7.8523	800	0.10916	3648.8	4140	7.7962
0.1541	3846.4	4385.7	8.1303	900	0.13476	3844.9	4383.9	8.0674	900	0.11972	3843.4	4382.1	8.0118
0.16751	4046.4	4632.7	8.3324	1000	0.14652	4045.1	4631.2	8.2697	1000	0.1302	4043.9	4629.8	8.2144
0.18087	4252.6	4885.6	8.5235	1100	0.15824	4251.4	4884.4	8.4611	1100	0.14064	4250.3	4883.2	8.406
0.1942	4464.4	5144.1	8.7053	1200	0.16992	4463.4	5143.1	8.643	1200	0.15103	4462.6	5142.2	8.588
0.23404	5131.3	5950.4	9.203	1500	0.20481	5130.7	5949.9	9.1411	1500	0.18208	5130	5949.4	9.0863
0.30021	6325.5	7376.2	9.9105	2000	0.26274	6325	7376	9.8487	2000	0.2336	6324.7	7375.9	9.7942

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Abaque n°1 (suite)

v	u	h	s	T	v	u	h	s	T	v	u	h	s
$p = 5.0\,\mathrm{MPa}$ ($T_{\mathrm{sat.}} = 263.941\,^\circ\mathrm{C}$)					$p = 5.5\,\mathrm{MPa}$ ($T_{\mathrm{sat.}} = 269.965\,^\circ\mathrm{C}$)					$p = 6.0\,\mathrm{MPa}$ ($T_{\mathrm{sat.}} = 275.585\,^\circ\mathrm{C}$)			
0.000998	41.9	46.9	0.1506	10	0.000998	41.9	47.4	0.1506	10	0.000998	41.9	47.9	0.1505
0.001	83.6	88.6	0.2954	20	0.000999	83.6	89.1	0.2953	20	0.000999	83.5	89.5	0.2952
0.00101	208.6	213.6	0.7015	50	0.00101	208.5	214.1	0.7013	50	0.00101	208.4	214.5	0.701
0.001041	417.6	422.9	1.3034	100	0.001041	417.5	423.2	1.303	100	0.00104	417.4	423.6	1.3026
0.001153	847.9	853.7	2.3251	200	0.001153	847.6	853.9	2.3243	200	0.001152	847.2	854.1	2.3235
0.045346	2699	2925.7	6.211	300	0.040373	2684.1	2906.2	6.1397	300	0.036189	2668.4	2885.5	6.0703
0.068583	3091.8	3434.7	6.9781	500	0.062086	3087.4	3428.9	6.9285	500	0.056671	3083.1	3423.1	6.8826
0.078704	3273.3	3666.8	7.2605	600	0.071374	3270.2	3662.8	7.213	600	0.065265	3267.1	3658.7	7.1693
0.088518	3457.7	3900.3	7.5136	700	0.080351	3455.4	3897.3	7.4672	700	0.073545	3453	3894.3	7.4246
0.098158	3646.9	4137.7	7.7458	800	0.089152	3645.1	4135.4	7.7001	800	0.081648	3643.2	4133.1	7.6582
0.10769	3841.8	4380.2	7.9618	900	0.097844	3840.3	4378.4	7.9166	900	0.089641	3838.8	4376.6	7.8751
0.11715	4042.6	4628.3	8.1648	1000	0.10646	4041.4	4626.9	8.1198	1000	0.09756	4040	4625.4	8.0786
0.12655	4249.3	4882	8.3566	1100	0.11503	4248.2	4880.9	8.3118	1100	0.10543	4247.1	4879.7	8.2709
0.13592	4461.6	5141.2	8.5388	1200	0.12356	4460.7	5140.3	8.4941	1200	0.11326	4459.7	5139.3	8.4534
0.1639	5129.4	5948.9	9.0374	1500	0.14902	5128.8	5948.4	8.993	1500	0.13662	5128.2	5947.9	8.9525
0.21029	6324.4	7375.8	9.7454	2000	0.19121	6324	7375.7	9.7012	2000	0.17532	6323.7	7375.6	9.6609
$p = 6.5\,\mathrm{MPa}$ ($T_{\mathrm{sat.}} = 280.858\,^\circ\mathrm{C}$)					$p = 7.0\,\mathrm{MPa}$ ($T_{\mathrm{sat.}} = 285.829\,^\circ\mathrm{C}$)					$p = 7.5\,\mathrm{MPa}$ ($T_{\mathrm{sat.}} = 290.535\,^\circ\mathrm{C}$)			
0.000997	41.9	48.3	0.1505	10	0.000997	41.8	48.8	0.1504	10	0.000997	41.8	49.3	0.1504
0.000999	83.5	90	0.2951	20	0.000999	83.5	90.5	0.295	20	0.000998	83.5	91	0.2949
0.001009	208.4	214.9	0.7008	50	0.001009	208.3	215.4	0.7006	50	0.001009	208.2	215.8	0.7004
0.00104	417.2	424	1.3022	100	0.00104	417.1	424.4	1.3019	100	0.00104	416.9	424.7	1.3015
0.001152	846.8	854.3	2.3228	200	0.001151	846.5	854.5	2.322	200	0.001151	846.1	854.7	2.3212
0.032607	2651.6	2863.5	6.0019	300	0.029492	2633.5	2839.9	5.9337	300	0.026742	2613.8	2814.4	5.8646
0.052087	3078.7	3417.3	6.8399	500	0.048157	3074.3	3411.4	6.8	500	0.04475	3069.9	3405.5	6.7623
0.060096	3264.1	3654.7	7.1288	600	0.055665	3260.9	3650.6	7.091	600	0.051824	3257.8	3646.5	7.0555
0.067786	3450.7	3891.3	7.3853	700	0.06285	3448.3	3888.2	7.3486	700	0.058572	3445.9	3885.2	7.3144
0.075298	3641.4	4130.8	7.6195	800	0.069855	3639.4	4128.4	7.5836	800	0.065138	3637.6	4126.1	7.55
0.082699	3837.3	4374.8	7.8369	900	0.07675	3835.8	4373	7.8014	900	0.071593	3834.2	4371.1	7.7682
0.090027	4038.8	4624	8.0407	1000	0.083571	4037.5	4622.5	8.0055	1000	0.077975	4036.3	4621.1	7.9726
0.097305	4246	4878.5	8.2331	1100	0.090341	4244.9	4877.3	8.1981	1100	0.084306	4243.9	4876.2	8.1655
0.10455	4458.8	5138.4	8.4158	1200	0.097074	4457.9	5137.4	8.381	1200	0.0906	4457	5136.5	8.3485
0.12613	5127.6	5947.4	8.9152	1500	0.11714	5126.9	5946.9	8.8807	1500	0.10934	5126.4	5946.4	8.8485
0.16187	6323.2	7375.4	9.6238	2000	0.15034	6322.9	7375.3	9.5895	2000	0.14035	6322.6	7375.2	9.5575
$p = 8\,\mathrm{MPa}$ ($T_{\mathrm{sat.}} = 295.008\,^\circ\mathrm{C}$)					$p = 9\,\mathrm{MPa}$ ($T_{\mathrm{sat.}} = 303.345\,^\circ\mathrm{C}$)					$p = 10\,\mathrm{MPa}$ ($T_{\mathrm{sat.}} = 310.997\,^\circ\mathrm{C}$)			
0.000997	41.8	49.8	0.1503	10	0.000996	41.8	50.8	0.1502	10	0.000996	41.8	51.7	0.1501
0.000998	83.4	91.4	0.2948	20	0.000998	83.4	92.4	0.2946	20	0.000997	83.3	93.3	0.2944
0.001009	208.2	216.2	0.7001	50	0.001008	208	217.1	0.6997	50	0.001008	207.9	217.9	0.6992
0.001039	416.8	425.1	1.3011	100	0.001039	416.5	425.9	1.3003	100	0.001038	416.2	426.6	1.2996
0.00115	845.7	854.9	2.3205	200	0.001149	845	855.4	2.3189	200	0.001148	844.3	855.8	2.3174
0.024279	2592.3	2786.5	5.7937	300	0.001402	1331.9	1344.5	3.2533	300	0.001398	1329.3	1343.3	3.2488
0.041767	3065.4	3399.5	6.7266	500	0.036793	3056.3	3387.4	6.6603	500	0.032811	3047	3375.1	6.5995
0.048463	3254.7	3642.4	7.0221	600	0.042861	3248.4	3634.1	6.9605	600	0.038378	3242	3625.8	6.9045
0.054828	3443.6	3882.2	7.2821	700	0.048589	3438.8	3876.1	7.2229	700	0.043597	3434	3870	7.1693
0.061011	3635.7	4123.8	7.5184	800	0.054132	3631.9	4119.1	7.4606	800	0.048629	3628.2	4114.5	7.4085
0.067082	3832.6	4369.3	7.7371	900	0.059562	3829.6	4365.7	7.6802	900	0.053547	3826.5	4362	7.629
0.073079	4035	4619.6	7.9419	1000	0.064918	4032.4	4616.7	7.8855	1000	0.05839	4029.9	4613.8	7.8349
0.079025	4242.8	4875	8.135	1100	0.070224	4240.7	4872.7	8.079	1100	0.063183	4238.5	4870.3	8.0288
0.084934	4456	5135.5	8.3181	1200	0.075492	4454.2	5133.6	8.2625	1200	0.067938	4452.3	5131.7	8.2126
0.10252	5125.7	5945.9	8.8184	1500	0.091158	5124.5	5944.9	8.7633	1500	0.082066	5123.2	5943.9	8.714
0.1316	6322.3	7375.1	9.5275	2000	0.11703	6321.6	7374.9	9.4729	2000	0.10538	6320.8	7374.6	9.4239

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Abaque n°1 (suite)

v	u	h	s	T	v	u	h	s	T	v	u	h	s
$p = 12$ MPa ($T_{\text{sat.}} = 324.675\,^\circ$C)					$p = 14$ MPa ($T_{\text{sat.}} = 336.666\,^\circ$C)					$p = 16$ MPa ($T_{\text{sat.}} = 347.355\,^\circ$C)			
0.000995	41.7	53.6	0.1499	10	0.000994	41.7	55.6	0.1496	10	0.000993	41.6	57.5	0.1494
0.000996	83.2	95.1	0.2939	20	0.000996	83.1	97	0.2935	20	0.000995	82.9	98.9	0.293
0.001007	207.6	219.7	0.6983	50	0.001006	207.3	221.4	0.6974	50	0.001005	207	223.1	0.6964
0.001038	415.7	428.1	1.298	100	0.001037	415.1	429.6	1.2965	100	0.001036	414.6	431.1	1.295
0.001146	842.9	856.7	2.3144	200	0.001144	841.5	857.6	2.3114	200	0.001143	840.2	858.4	2.3085
0.00139	1324.5	1341.2	3.2401	300	0.001382	1319.9	1339.2	3.2319	300	0.001375	1315.4	1337.4	3.224
0.026828	3028.1	3350	6.4903	500	0.022544	3008.5	3324.1	6.3932	500	0.019323	2988.1	3297.3	6.3046
0.031651	3229.1	3608.9	6.8054	600	0.026845	3216	3591.8	6.7191	600	0.023238	3202.6	3574.4	6.6421
0.036109	3424.4	3857.7	7.0753	700	0.030761	3414.6	3845.3	6.9941	700	0.026749	3404.9	3832.9	6.9224
0.040375	3620.6	4105.1	7.3173	800	0.034479	3613.1	4095.8	7.2391	800	0.030058	3605.4	4086.3	7.1703
0.044524	3820.4	4354.7	7.5396	900	0.03808	3814.3	4347.4	7.4632	900	0.033247	3808	4340	7.3964
0.048599	4024.8	4608	7.7467	1000	0.041605	4019.6	4602.1	7.6716	1000	0.036361	4014.5	4596.3	7.606
0.052622	4234.1	4865.6	7.9416	1100	0.045079	4229.8	4860.9	7.8673	1100	0.039422	4225.5	4856.3	7.8025
0.056608	4448.6	5127.9	8.1259	1200	0.048516	4445	5124.2	8.0523	1200	0.042447	4441.2	5120.4	7.9882
0.068428	5120.8	5941.9	8.6284	1500	0.058687	5118.3	5939.9	8.5559	1500	0.051381	5115.8	5937.9	8.4929
0.087892	6319.5	7374.2	9.3392	2000	0.075404	6318	7373.7	9.2674	2000	0.066037	6316.6	7373.2	9.2052
$p = 18$ MPa ($T_{\text{sat.}} = 356.992\,^\circ$C)					$p = 20$ MPa ($T_{\text{sat.}} = 365.749\,^\circ$C)					$p = 30$ MPa ($p > p_{cr.}$)			
0.000992	41.5	59.4	0.1491	10	0.000991	41.5	61.3	0.1489	10	0.000987	41.2	70.8	0.1475
0.000994	82.8	100.7	0.2925	20	0.000993	82.7	102.6	0.2921	20	0.000989	82.1	111.8	0.2897
0.001004	206.7	224.8	0.6955	50	0.001003	206.4	226.5	0.6946	50	0.000999	205.1	235.1	0.6901
0.001035	414	432.7	1.2935	100	0.001034	413.5	434.2	1.292	100	0.001029	410.9	441.7	1.2847
0.001141	838.8	859.4	2.3056	200	0.001139	837.5	860.3	2.3027	200	0.00113	831.1	865	2.2888
0.001368	1311.2	1335.8	3.2164	300	0.001361	1307.2	1334.4	3.2091	300	0.001332	1288.9	1328.9	3.176
0.01681	2967.1	3269.7	6.2223	500	0.014793	2945.3	3241.2	6.1446	500	0.00869	2824	3084.7	5.7956
0.020431	3189	3556.8	6.572	600	0.018185	3175.3	3539	6.5075	600	0.011445	3103.4	3446.7	6.2373
0.023629	3395.1	3820.4	6.8579	700	0.021133	3385.1	3807.8	6.799	700	0.013653	3334.3	3743.9	6.5598
0.026619	3597.8	4076.9	7.1089	800	0.023869	3590.1	4067.5	7.0531	800	0.015628	3551.2	4020	6.83
0.029489	3801.9	4332.7	7.3368	900	0.026483	3795.7	4325.4	7.2829	900	0.017473	3764.6	4288.8	7.0695
0.032282	4009.4	4590.5	7.5476	1000	0.02902	4004.3	4584.7	7.495	1000	0.01924	3978.6	4555.8	7.288
0.035023	4221.2	4851.6	7.745	1100	0.031504	4216.8	4846.9	7.6933	1100	0.020953	4195.2	4823.8	7.4906
0.037727	4437.5	5116.6	7.9313	1200	0.033952	4433.8	5112.8	7.8802	1200	0.02263	4415.3	5094.2	7.6807
0.045699	5113.3	5935.9	8.4372	1500	0.041154	5110.8	5933.9	8.3871	1500	0.027521	5098.6	5924.2	8.1932
0.058753	6315.2	7372.8	9.1502	2000	0.052925	6313.8	7372.3	9.101	2000	0.035443	6306.8	7370.1	8.9108
$p = 40$ MPa ($p > p_{cr.}$)					$p = 50$ MPa ($p > p_{cr.}$)					$p = 100$ MPa ($p > p_{cr.}$)			
0.000982	40.9	80.2	0.1458	10	0.000978	40.6	89.5	0.144	10	0.000959	38.8	134.7	0.1326
0.000985	81.5	120.9	0.2872	20	0.00098	80.9	130	0.2845	20	0.000962	78	174.2	0.2699
0.000995	203.7	243.6	0.6855	50	0.000991	202.5	252	0.681	50	0.000973	196.6	293.9	0.6587
0.001024	408.4	449.3	1.2775	100	0.00102	405.9	456.9	1.2705	100	0.001	395.1	495.1	1.2375
0.001122	825.1	870	2.2755	200	0.001115	819.4	875.2	2.2628	200	0.001083	795.1	903.4	2.2064
0.001308	1273.3	1325.6	3.1473	300	0.001288	1259.6	1324	3.1218	300	0.001215	1207.6	1329.1	3.0219
0.005623	2681.6	2906.5	5.4744	500	0.00389	2528.1	2722.6	5.1762	500	0.001893	2126.9	2316.2	4.49
0.008089	3026.8	3350.4	6.017	600	0.006108	2947.1	3252.5	5.8245	600	0.002672	2597.9	2865.1	5.1581
0.00993	3281.9	3679.1	6.374	700	0.007717	3228.8	3614.6	6.2178	700	0.003546	2976.1	3330.7	5.6639
0.011521	3511.8	3972.6	6.6612	800	0.009072	3472.2	3925.8	6.5225	800	0.004336	3281.7	3715.3	6.0406
0.01298	3733.3	4252.5	6.9106	900	0.010296	3702	4216.8	6.7819	900	0.005042	3551.4	4055.6	6.344
0.01436	3952.9	4527.3	7.1355	1000	0.011441	3927.4	4499.4	7.0131	1000	0.00569	3804	4373	6.6038
0.015686	4173.7	4801.1	7.3425	1100	0.012534	4152.2	4778.9	7.2244	1100	0.006296	4048.8	4678.4	6.8347
0.016976	4396.9	5075.9	7.5357	1200	0.01359	4378.6	5058.1	7.4207	1200	0.006873	4290.3	4977.6	7.045
0.020709	5086.2	5914.6	8.0536	1500	0.016626	5074.1	5905.4	7.944	1500	0.008491	5015.3	5864.4	7.593
0.026705	6299.9	7368.1	8.775	2000	0.021464	6293	7366.2	8.6691	2000	0.010998	6259.4	7359.2	8.3352

Abaque n°2 : Propriétés de l'eau pure aux points de saturation, triées par température.

°C	MPa	$\mathrm{kJ\,kg^{-1}}$			$\mathrm{kJ\,kg^{-1}}$			$\mathrm{kJ\,K^{-1}\,kg^{-1}}$			$\mathrm{m^3\,kg^{-1}}$	
$T_{\text{sat.}}$	$p_{\text{sat.}}$	u_L	u_V	$\Delta u_{L\to V}$	h_L	h_V	$\Delta h_{L\to V}$	s_L	s_V	$\Delta s_{L\to V}$	v_L	v_V
0.01	0.000612	[0]	2374.9	2374.9	petit	2500.9	2500.9	[0]	9.1555	9.1555	0.001	205.991
5	0.000873	21	2381.8	2360.8	21	2510.1	2489	0.0763	9.0248	8.9486	0.001	147.011
10	0.001228	42	2388.6	2346.6	42	2519.2	2477.2	0.1511	8.8998	8.7487	0.001	106.303
15	0.001706	63	2395.5	2332.5	63	2528.3	2465.4	0.2245	8.7803	8.5558	0.001001	77.875
20	0.002339	83.9	2402.3	2318.4	83.9	2537.4	2453.5	0.2965	8.666	8.3695	0.001002	57.757
25	0.00317	104.8	2409.1	2304.3	104.8	2546.5	2441.7	0.3672	8.5566	8.1894	0.001003	43.337
30	0.004247	125.7	2415.9	2290.1	125.7	2555.5	2429.8	0.4368	8.452	8.0152	0.001004	32.878
35	0.005629	146.6	2422.6	2276	146.6	2564.5	2417.9	0.5051	8.3517	7.8466	0.001006	25.205
40	0.007385	167.5	2429.4	2261.9	167.5	2573.5	2406	0.5724	8.2555	7.6831	0.001008	19.515
45	0.009595	188.4	2436.1	2247.6	188.4	2582.4	2394	0.6386	8.1633	7.5247	0.00101	15.252
50	0.012352	209.3	2442.7	2233.4	209.3	2591.3	2381.9	0.7038	8.0748	7.371	0.001012	12.027
55	0.015762	230.2	2449.3	2219.1	230.3	2600.1	2369.8	0.768	7.9898	7.2218	0.001015	9.5643
60	0.019946	251.2	2455.9	2204.7	251.2	2608.8	2357.7	0.8313	7.9081	7.0769	0.001017	7.6672
65	0.025042	272.1	2462.4	2190.3	272.1	2617.5	2345.4	0.8937	7.8296	6.9359	0.00102	6.1935
70	0.031201	293	2468.9	2175.8	293.1	2626.1	2333	0.9551	7.754	6.7989	0.001023	5.0395
75	0.038595	314	2475.2	2161.3	314	2634.6	2320.6	1.0158	7.6812	6.6654	0.001026	4.1289
80	0.047414	335	2481.5	2146.6	335	2643	2308	1.0756	7.6111	6.5355	0.001029	3.4052
85	0.057867	356	2487.8	2131.8	356	2651.3	2295.3	1.1346	7.5434	6.4088	0.001032	2.8258
90	0.070182	377	2493.9	2117	377	2659.5	2282.5	1.1929	7.4781	6.2853	0.001036	2.3591
95	0.084608	398	2500	2102	398.1	2667.6	2269.5	1.2504	7.4151	6.1647	0.00104	1.9806
100	0.10142	419.1	2506	2087	419.2	2675.6	2256.4	1.3072	7.3541	6.0469	0.001043	1.6718
105	0.1209	440.1	2511.9	2071.8	440.3	2683.4	2243.1	1.3633	7.2952	5.9318	0.001047	1.4184
110	0.14338	461.3	2517.7	2056.4	461.4	2691.1	2229.6	1.4188	7.2381	5.8193	0.001052	1.2093
115	0.16918	482.4	2523.4	2041	482.6	2698.6	2216	1.4737	7.1828	5.7091	0.001056	1.0358
120	0.19867	503.6	2528.8	2025.2	503.8	2705.9	2202.1	1.5279	7.1291	5.6012	0.00106	0.89121
125	0.23224	524.8	2534.3	2009.4	525.1	2713.1	2188	1.5816	7.077	5.4955	0.001065	0.77003
130	0.27028	546.1	2539.6	1993.5	546.4	2720.1	2173.7	1.6346	7.0264	5.3918	0.00107	0.668
135	0.31323	567.4	2544.7	1977.3	567.7	2726.9	2159.1	1.6872	6.9772	5.29	0.001075	0.58173
140	0.36154	588.8	2549.6	1960.8	589.2	2733.4	2144.3	1.7392	6.9293	5.1901	0.00108	0.50845
145	0.41568	610.2	2554.4	1944.2	610.6	2739.8	2129.2	1.7907	6.8826	5.0919	0.001085	0.44596
150	0.47616	631.7	2559	1927.4	632.2	2745.9	2113.7	1.8418	6.8371	4.9953	0.001091	0.39245
155	0.5435	653.2	2563.5	1910.3	653.8	2751.8	2098	1.8924	6.7926	4.9002	0.001096	0.34646
160	0.61823	674.8	2567.7	1893	675.5	2757.4	2082	1.9426	6.7491	4.8066	0.001102	0.30678
165	0.70093	696.5	2571.8	1875.4	697.2	2762.8	2065.6	1.9923	6.7066	4.7143	0.001108	0.27243
170	0.79219	718.2	2575.7	1857.5	719.1	2767.9	2048.8	2.0417	6.665	4.6233	0.001114	0.24259
175	0.8926	740	2579.4	1839.4	741	2772.7	2031.7	2.0906	6.6241	4.5335	0.001121	0.21658
180	1.0028	761.9	2582.8	1820.9	763.1	2777.2	2014.2	2.1392	6.584	4.4448	0.001127	0.19384
185	1.1235	783.9	2586	1802.1	785.2	2781.4	1996.2	2.1875	6.5447	4.3571	0.001134	0.1739
190	1.2552	806	2589	1783	807.4	2785.3	1977.9	2.2355	6.5059	4.2704	0.001141	0.15636
195	1.3988	828.2	2591.7	1763.5	829.8	2788.8	1959	2.2832	6.4678	4.1846	0.001149	0.14089
200	1.5549	850.5	2594.2	1743.7	852.3	2792	1939.7	2.3305	6.4302	4.0996	0.001157	0.12721
205	1.7243	872.9	2596.4	1723.5	874.9	2794.8	1919.9	2.3777	6.393	4.0154	0.001164	0.11508
210	1.9077	895.4	2598.3	1703	897.6	2797.3	1899.6	2.4245	6.3563	3.9318	0.001173	0.10429
215	2.1058	918	2599.9	1681.9	920.5	2799.3	1878.8	2.4712	6.32	3.8488	0.001181	0.094679
220	2.3196	940.8	2601.2	1660.4	943.6	2800.9	1857.4	2.5177	6.284	3.7663	0.00119	0.086092
225	2.5497	963.7	2602.2	1638.5	966.8	2802.1	1835.4	2.564	6.2483	3.6843	0.001199	0.078403
230	2.7971	986.8	2602.9	1616.1	990.2	2802.9	1812.7	2.6101	6.2128	3.6027	0.001209	0.071503
235	3.0625	1010.1	2603.2	1593.2	1013.8	2803.2	1789.4	2.6561	6.1775	3.5214	0.001219	0.065298
240	3.3469	1033.5	2603.2	1569.7	1037.6	2803	1765.4	2.702	6.1423	3.4403	0.001229	0.059705
245	3.6512	1057	2602.6	1545.7	1061.5	2802.2	1740.7	2.7478	6.1072	3.3594	0.00124	0.054654
250	3.9762	1080.8	2601.8	1520.9	1085.8	2800.9	1715.2	2.7935	6.0721	3.2785	0.001252	0.050083
255	4.3229	1104.7	2600.5	1495.8	1110.2	2799.1	1688.8	2.8392	6.0369	3.1977	0.001264	0.045938
260	4.6923	1129	2598.7	1469.7	1135	2796.6	1661.6	2.8849	6.0016	3.1167	0.001276	0.042173
265	5.0853	1153.4	2596.5	1443	1160	2793.5	1633.5	2.9307	5.9661	3.0354	0.001289	0.038746
270	5.503	1178.1	2593.7	1415.5	1185.3	2789.7	1604.4	2.9765	5.9304	2.9539	0.001303	0.035621

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Abaque n°2 (suite)

$T_{\text{sat.}}$	$p_{\text{sat.}}$	u_L	u_V	$\Delta u_{L\to V}$	h_L	h_V	$\Delta h_{L\to V}$	s_L	s_V	$\Delta s_{L\to V}$	v_L	v_V
275	5.9464	1203.1	2590.4	1387.3	1210.9	2785.2	1574.3	3.0224	5.8944	2.872	0.001318	0.032766
280	6.4166	1228.3	2586.4	1358.1	1236.9	2779.9	1543	3.0685	5.8579	2.7894	0.001333	0.030153
285	6.9147	1253.9	2581.8	1327.9	1263.2	2773.7	1510.5	3.1147	5.8209	2.7062	0.001349	0.027756
290	7.4418	1279.8	2576.5	1296.7	1290	2766.7	1476.7	3.1612	5.7834	2.6222	0.001366	0.025555
295	7.9991	1306.2	2570.5	1264.3	1317.3	2758.7	1441.4	3.208	5.7451	2.5371	0.001385	0.023529
300	8.5879	1332.9	2563.6	1230.6	1345	2749.6	1404.6	3.2552	5.7059	2.4507	0.001404	0.02166
305	9.2094	1360.2	2555.8	1195.7	1373.3	2739.4	1366.1	3.3028	5.6657	2.3629	0.001425	0.019933
310	9.8651	1387.9	2547	1159.1	1402.2	2727.9	1325.7	3.351	5.6244	2.2734	0.001448	0.018335
315	10.556	1416.3	2537.2	1121	1431.8	2715.1	1283.2	3.3998	5.5816	2.1818	0.001472	0.016851
320	11.284	1445.3	2526	1080.7	1462.2	2700.6	1238.4	3.4494	5.5372	2.0878	0.001499	0.015471
325	12.051	1475.1	2513.4	1038.3	1493.5	2684.3	1190.8	3.5	5.4908	1.9908	0.001528	0.014183
330	12.858	1505.8	2499.1	993.3	1525.9	2666	1140.2	3.5518	5.4422	1.8903	0.001561	0.012979
335	13.707	1537.6	2483	945.4	1559.5	2645.4	1085.9	3.605	5.3906	1.7856	0.001597	0.011847
340	14.601	1570.6	2464.4	893.8	1594.5	2621.8	1027.3	3.6601	5.3356	1.6755	0.001638	0.010781
345	15.541	1605.3	2443.1	837.8	1631.5	2594.9	963.4	3.7176	5.2762	1.5586	0.001685	0.009769
350	16.529	1642.1	2418.1	776	1670.9	2563.6	892.7	3.7784	5.211	1.4326	0.00174	0.008802
355	17.57	1681.9	2388.4	706.4	1713.7	2526.6	812.9	3.8439	5.138	1.2942	0.001808	0.007868
360	18.666	1726.3	2351.8	625.5	1761.7	2481.5	719.8	3.9167	5.0536	1.1369	0.001895	0.006949
365	19.821	1777.8	2303.7	525.9	1817.8	2422.9	605.2	4.0014	4.9497	0.9483	0.002017	0.006012
370	21.044	1844.1	2230.2	386.2	1890.7	2334.5	443.8	4.1112	4.8012	0.6901	0.002215	0.004954
373	21.814	1915	2141.6	226.6	1969.7	2229.8	260.1	4.2308	4.6334	0.4026	0.002508	0.004045
$T_{\text{cr.}}$	22.064	2015.8	2015.8	0	2084.3	2084.3	0	4.407	4.407	0	0.003106	0.003106

Les valeurs entre crochets sont des références arbitraires. $T_{\text{cr.}} = 373.946\ ^\circ\text{C}$

Abaque n°3 : Propriétés de l'eau pure aux points de saturation, triées par pression.

MPa	°C	$\mathrm{kJ\,kg^{-1}}$			$\mathrm{kJ\,kg^{-1}}$			$\mathrm{kJ\,K^{-1}\,kg^{-1}}$			$\mathrm{m^3\,kg^{-1}}$	
$p_{\mathrm{sat.}}$	$T_{\mathrm{sat.}}$	u_L	u_V	$\Delta u_{L\to V}$	h_L	h_V	$\Delta h_{L\to V}$	s_L	s_V	$\Delta s_{L\to V}$	v_L	v_V
611.657 Pa	0.01	[0]			petit	2500.9	2500.9	[0]	9.1555	9.1555	0.001	205.991
0.001	6.97	29.3	2384.5	2355.2	29.3	2513.7	2484.4	0.1059	8.9749	8.869	0.001	129.178
0.002	17.5	73.4	2398.9	2325.5	73.4	2532.9	2459.4	0.2606	8.7226	8.462	0.001001	66.987
0.003	24.05	100.9	2407.9	2307.1	100.9	2544.8	2444	0.3539	8.5773	8.2234	0.001003	45.841
0.004	28.96	121.4	2414.5	2293.2	121.4	2553.7	2432.3	0.4224	8.4734	8.051	0.001004	34.791
0.005	32.87	137.7	2419.8	2282	137.8	2560.7	2423	0.4762	8.3938	7.9176	0.001005	28.185
0.006	36.16	151.5	2424.2	2272.7	151.5	2566.6	2415.2	0.5208	8.329	7.8082	0.001006	23.733
0.007	39	163.3	2428	2264.7	163.4	2571.7	2408.4	0.559	8.2745	7.7154	0.001008	20.524
0.008	41.51	173.8	2431.4	2257.6	173.8	2576.2	2402.4	0.5925	8.2273	7.6348	0.001008	18.099
0.009	43.76	183.2	2434.4	2251.2	183.3	2580.2	2397	0.6223	8.1858	7.5635	0.001009	16.199
0.01	45.81	191.8	2437.2	2245.4	191.8	2583.9	2392.1	0.6492	8.1488	7.4996	0.00101	14.67
0.012	49.42	206.9	2442	2235.1	206.9	2590.3	2383.4	0.6963	8.0849	7.3887	0.001012	12.358
0.014	52.55	220	2446.1	2226.2	220	2595.8	2375.8	0.7366	8.0311	7.2945	0.001013	10.691
0.016	55.31	231.6	2449.7	2218.2	231.6	2600.6	2369.1	0.772	7.9846	7.2126	0.001015	9.4306
0.018	57.8	241.9	2453	2211.1	242	2605	2363	0.8036	7.9437	7.1402	0.001016	8.4431
0.02	60.06	251.4	2455.9	2204.5	251.4	2608.9	2357.5	0.832	7.9072	7.0752	0.001017	7.648
0.04	75.86	317.6	2476.4	2158.8	317.6	2636.1	2318.4	1.0261	7.669	6.6429	0.001026	3.993
0.05	81.32	340.5	2483.2	2142.7	340.5	2645.2	2304.7	1.0912	7.593	6.5018	0.00103	3.24
0.06	85.93	359.8	2489	2129.1	359.9	2652.9	2292.9	1.1454	7.5311	6.3857	0.001033	2.7317
0.07	89.93	376.7	2493.9	2117.2	376.8	2659.4	2282.7	1.1921	7.479	6.2869	0.001036	2.3648
0.08	93.49	391.6	2498.2	2106.6	391.7	2665.2	2273.5	1.233	7.4339	6.2009	0.001039	2.0871
0.09	96.69	405.1	2502.1	2096.9	405.2	2670.3	2265.1	1.2696	7.3943	6.1246	0.001041	1.8694
0.1	99.61	417.4	2505.5	2088.1	417.5	2674.9	2257.4	1.3028	7.3588	6.0561	0.001043	1.6939
0.12	104.78	439.2	2511.7	2072.5	439.4	2683.1	2243.7	1.3609	7.2977	5.9367	0.001047	1.4284
0.14	109.29	458.3	2516.9	2058.6	458.4	2690	2231.6	1.411	7.2461	5.8351	0.001051	1.2366
0.16	113.3	475.2	2521.4	2046.2	475.4	2696	2220.7	1.4551	7.2014	5.7463	0.001054	1.0914
0.18	116.91	490.5	2525.5	2034.9	490.7	2701.4	2210.7	1.4945	7.1621	5.6676	0.001058	0.97747
0.2	120.21	504.5	2529.1	2024.6	504.7	2706.2	2201.5	1.5302	7.1269	5.5967	0.001061	0.88568
0.25	127.41	535.1	2536.8	2001.8	535.3	2716.5	2181.1	1.6072	7.0524	5.4452	0.001067	0.71866
0.3	133.52	561.1	2543.2	1982.1	561.4	2724.9	2163.5	1.6717	6.9916	5.3199	0.001073	0.60576
0.35	138.86	583.9	2548.5	1964.7	584.3	2732	2147.7	1.7274	6.9401	5.2128	0.001079	0.52418
0.4	143.61	604.2	2553.1	1948.9	604.7	2738.1	2133.4	1.7765	6.8955	5.119	0.001084	0.46238
0.5	151.83	639.5	2560.7	1921.2	640.1	2748.1	2108	1.8604	6.8207	4.9603	0.001093	0.37481
0.6	158.83	669.7	2566.8	1897	670.4	2756.1	2085.8	1.9308	6.7592	4.8284	0.001101	0.31558
0.7	164.95	696.2	2571.9	1875.6	697	2762.8	2065.8	1.9918	6.7071	4.7153	0.001108	0.27277
0.8	170.41	720	2576	1856.1	720.9	2768.3	2047.4	2.0457	6.6616	4.616	0.001115	0.24034
0.9	175.35	741.6	2579.6	1838	742.6	2773	2030.5	2.094	6.6213	4.5272	0.001121	0.21489
1	179.88	761.4	2582.7	1821.3	762.5	2777.1	2014.6	2.1381	6.585	4.447	0.001127	0.19436
1.1	184.06	779.8	2585.4	1805.6	781	2780.6	1999.6	2.1785	6.552	4.3735	0.001133	0.17745
1.2	187.96	797	2587.8	1790.8	798.3	2783.7	1985.4	2.2159	6.5217	4.3058	0.001139	0.16326
1.3	191.61	813.1	2590	1776.8	814.6	2786.5	1971.9	2.2508	6.4936	4.2428	0.001144	0.15119
1.4	195.04	828.4	2591.7	1763.3	830	2788.8	1958.9	2.2835	6.4675	4.1839	0.001149	0.14078
1.5	198.29	842.8	2593.4	1750.6	844.6	2791	1946.4	2.3143	6.443	4.1286	0.001154	0.13171
1.6	201.37	856.6	2594.8	1738.2	858.5	2792.8	1934.4	2.3435	6.4199	4.0765	0.001159	0.12374
1.7	204.31	869.8	2596.2	1726.4	871.7	2794.5	1922.7	2.3711	6.3981	4.027	0.001163	0.11667
1.8	207.11	882.4	2597.2	1714.9	884.5	2795.9	1911.4	2.3975	6.3775	3.98	0.001168	0.11037
1.9	209.8	894.5	2598.3	1703.8	896.7	2797.2	1900.5	2.4227	6.3578	3.9351	0.001172	0.1047
2	212.38	906.1	2599.1	1693	908.5	2798.3	1889.8	2.4468	6.339	3.8923	0.001177	0.099585
2.2	217.25	928.3	2600.6	1672.3	930.9	2800.1	1869.2	2.4921	6.3038	3.8116	0.001185	0.090698
2.4	221.79	949	2601.6	1652.6	951.9	2801.4	1849.6	2.5343	6.2712	3.7369	0.001193	0.083244
2.6	226.05	968.5	2602.4	1633.8	971.7	2802.3	1830.7	2.5736	6.2409	3.6672	0.001201	0.076899
2.8	230.06	987.1	2602.9	1615.8	990.5	2802.9	1812.4	2.6106	6.2124	3.6018	0.001209	0.071429
3	233.85	1004.6	2603.2	1598.6	1008.3	2803.2	1794.8	2.6455	6.1856	3.54	0.001217	0.066664
3.2	237.46	1021.5	2603.2	1581.7	1025.4	2803.1	1777.7	2.6787	6.1602	3.4815	0.001224	0.062475
3.4	240.9	1037.6	2603.1	1565.5	1041.8	2802.9	1761	2.7102	6.136	3.4258	0.001231	0.058761

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Abaque n°3 (suite)

$p_{sat.}$	$T_{sat.}$	u_L	u_V	$\Delta u_{L\to V}$	h_L	h_V	$\Delta h_{L\to V}$	s_L	s_V	$\Delta s_{L\to V}$	v_L	v_V
3.6	244.18	1053.1	2602.8	1549.7	1057.6	2802.4	1744.8	2.7403	6.1129	3.3726	0.001239	0.055446
3.8	247.33	1068.1	2602.3	1534.3	1072.8	2801.7	1728.9	2.7691	6.0908	3.3217	0.001246	0.052467
4	250.35	1082.5	2601.7	1519.2	1087.5	2800.8	1713.3	2.7968	6.0696	3.2728	0.001253	0.049776
4.2	253.26	1096.4	2601	1504.6	1101.7	2799.8	1698.1	2.8234	6.0491	3.2257	0.001259	0.047332
4.4	256.07	1109.9	2600.2	1490.2	1115.5	2798.6	1683.1	2.849	6.0293	3.1803	0.001266	0.045102
4.6	258.78	1123	2599.2	1476.2	1128.9	2797.3	1668.4	2.8738	6.0102	3.1364	0.001273	0.043059
4.8	261.4	1135.8	2598.1	1462.4	1141.9	2795.8	1653.9	2.8978	5.9917	3.0939	0.00128	0.04118
5	263.94	1148.2	2597	1448.8	1154.6	2794.2	1639.6	2.921	5.9737	3.0527	0.001286	0.039446
5.5	269.97	1177.9	2593.7	1415.7	1185.1	2789.7	1604.6	2.9762	5.9307	2.9545	0.001303	0.035642
6	275.59	1206	2589.9	1383.9	1213.9	2784.6	1570.7	3.0278	5.8901	2.8623	0.001319	0.032448
6.5	280.86	1232.7	2585.7	1353	1241.4	2778.9	1537.5	3.0764	5.8516	2.7752	0.001336	0.029727
7	285.83	1258.2	2581	1322.7	1267.7	2772.6	1505	3.1224	5.8148	2.6924	0.001352	0.027378
7.5	290.54	1282.6	2575.9	1293.3	1292.9	2765.9	1473	3.1662	5.7793	2.6131	0.001368	0.02533
8	295.01	1306.2	2570.5	1264.3	1317.3	2758.7	1441.4	3.2081	5.745	2.5369	0.001385	0.023526
8.5	299.27	1329	2564.7	1235.7	1340.9	2751	1410.1	3.2483	5.7117	2.4634	0.001401	0.021923
9	303.35	1351.1	2558.5	1207.4	1363.9	2742.9	1379.1	3.287	5.6791	2.3922	0.001418	0.02049
9.5	307.25	1372.6	2552	1179.4	1386.2	2734.4	1348.2	3.3244	5.6473	2.3229	0.001435	0.019199
10	311	1393.6	2545.2	1151.6	1408.1	2725.5	1317.4	3.3606	5.616	2.2553	0.001453	0.01803
11	318.08	1434	2530.4	1096.4	1450.4	2706.3	1255.9	3.4303	5.5545	2.1242	0.001489	0.01599
12	324.68	1473.2	2514.2	1041	1491.5	2685.4	1194	3.4967	5.4939	1.9972	0.001526	0.014264
13	330.85	1511.1	2496.6	985.4	1531.5	2662.7	1131.2	3.5608	5.4336	1.8728	0.001566	0.01278
14	336.67	1548.5	2477.1	928.6	1571	2637.9	1066.9	3.6232	5.3727	1.7495	0.00161	0.011485
15	342.16	1585.3	2455.6	870.3	1610.2	2610.7	1000.5	3.6846	5.3106	1.626	0.001657	0.010338
16	347.36	1622.3	2431.9	809.5	1649.7	2580.8	931.1	3.7457	5.2463	1.5006	0.001709	0.009309
17	352.29	1659.9	2405.2	745.3	1690	2547.5	857.5	3.8077	5.1787	1.371	0.001769	0.008371
18	356.99	1699	2374.8	675.8	1732.1	2509.8	777.7	3.8718	5.1061	1.2342	0.00184	0.007502
19	361.47	1740.6	2339.1	598.5	1777.2	2466	688.9	3.9401	5.0256	1.0855	0.001927	0.006677
20	365.75	1786.4	2295	508.6	1827.2	2412.3	585.1	4.0156	4.9314	0.9158	0.00204	0.005865
21	369.83	1841.3	2233.7	392.4	1887.6	2338.6	451	4.1064	4.8079	0.7015	0.002206	0.004996
22	373.71	1951.8	2092.9	141.1	2011.3	2173.1	161.7	4.2945	4.5446	0.2501	0.002704	0.003648
$p_{cr.}$	373.95	2015.8	2015.8	0	2084.3	2084.3	0	4.407	4.407	0	0.003106	0.003106

Les valeurs entre crochets sont des références arbitraires. $p_{cr.} = 22.064\,\mathrm{MPa}$