

R-290

Propane C_3H_8

Molecular weight (g/mol)	44.10
Melting point (°C)	-187.62
Boiling point (at 1.013 bar)	-42.12
Temperature glide at 1.013 bar (K)	0
Critical temperature (°C)	96.7
Critical pressure (bar absolute)	42.51
Specific heat (liquid) at + 25°C (kJ/kg.K)	2.719
Specific heat (vapour) at 1.013 bar and + 25°C (kJ/kg.K)	1.685
Thermal capacity ratio (Cp/Cv) at + 25°C and 1.013 bar	1.136
Viscosity (liquid) at + 25°C in Centipoise (10 ⁻³ Pa.s)	0.097
Surface tension at + 25°C in dyne per centimetre (10 ⁻³ N/m)	7.02
Classification NF-EN 378	A3
GWP (IPCC 4)	3

🔦 Main applications

Extremely pure propane (R-290) is a hydrocarbon (HC) which is used as refrigerant.

🔦 Commercial specifications

Propane: ≥ 99.5 % volume.

Isobutane: ≤ 0.44 % volume.

n-butane: ≤ 0.15 % volume.

Unsaturated C4: ≤ 0.01 % volume.

Smell: none.

Water content: ≤ 12 ppm weight.

🔦 Oils

Use a mineral oil (MN), alkylbenzene (AB) or polyalphaolefine (PAO).

Check with **Climalife** on the viscosity of the oils used for the purposes of your application and on the miscibility with the fluid under consideration.

🔦 Regulation

R-290 is classified as an extremely flammable product (A3).

To be reported in accordance with the law of 14 february 2000 (ERP) which appeared in the O.J. on 21 March 2000.

Thermodynamic properties of R-290 - Saturated state

Absolute pressure P	LIQUID					VAPOUR					Latent heat Lv
	Bubble point t'	Volume v'	Density p'	Enthalpy h'	Entropy s'	Dew point t''	Volume v''	Density p''	Enthalpy h''	Entropy s''	
(bar)	(°C)	(dm ³ /kg)	(kg/dm ³)	(kJ/kg)	(kJ/kg.K)	(°C)	(m ³ /kg)	(kg/m ³)	(kJ/kg)	(kJ/kg.K)	(kJ/kg)
0.029	-100	1.553	0.644	-23.560	-0.008	-100.0	11.231	0.089	456.878	2.766	480.438
0.044	-95	1.566	0.639	-13.260	0.050	-95.0	7.642	0.131	462.708	2.722	475.967
0.064	-90	1.579	0.633	-2.897	0.108	-90.0	5.330	0.188	468.582	2.682	471.479
0.093	-85	1.592	0.628	7.530	0.164	-85.0	3.802	0.263	474.495	2.646	466.964
0.130	-80	1.606	0.623	18.028	0.219	-80.0	2.768	0.361	480.441	2.613	462.413
0.180	-75	1.620	0.617	28.600	0.273	-75.0	2.053	0.487	486.414	2.583	457.814
0.244	-70	1.634	0.612	39.251	0.326	-70.0	1.549	0.646	492.408	2.557	453.157
0.325	-65	1.649	0.607	49.986	0.378	-65.0	1.187	0.843	498.418	2.532	448.432
0.427	-60	1.664	0.601	60.811	0.429	-60.0	0.923	1.084	504.437	2.511	443.626
0.552	-55	1.679	0.596	71.731	0.480	-55.0	0.727	1.376	510.459	2.491	438.728
0.706	-50	1.695	0.590	82.753	0.530	-50.0	0.579	1.727	516.478	2.473	433.725
0.891	-45	1.712	0.584	93.881	0.579	-45.0	0.467	2.143	522.487	2.458	428.605
1.013	-42.12	1.721	0.581	100.344	0.607	-42.12	0.414	2.416	525.941	2.449	425.597
1.111	-40	1.729	0.578	105.123	0.628	-40.0	0.380	2.633	528.479	2.443	423.355
1.372	-35	1.746	0.573	116.486	0.676	-35.0	0.312	3.204	534.447	2.431	417.961
1.678	-30	1.765	0.567	127.975	0.723	-30.0	0.259	3.867	540.384	2.419	412.409
2.034	-25	1.784	0.561	139.598	0.770	-25.0	0.216	4.630	546.282	2.409	406.684
2.445	-20	1.804	0.554	151.363	0.817	-20.0	0.182	5.505	552.132	2.400	400.769
2.916	-15	1.824	0.548	163.277	0.863	-15.0	0.154	6.501	557.926	2.392	394.649
3.453	-10	1.846	0.542	175.348	0.909	-10.0	0.131	7.632	563.653	2.385	388.305
4.060	-5	1.868	0.535	187.586	0.955	-5.0	0.112	8.910	569.304	2.378	381.718
4.745	0	1.892	0.529	200.000	1.000	0.0	0.097	10.351	574.866	2.372	374.866
5.511	5	1.917	0.522	212.600	1.045	5.0	0.084	11.969	580.327	2.367	367.727
6.366	10	1.943	0.515	225.397	1.090	10.0	0.073	13.783	585.673	2.363	360.275
7.315	15	1.970	0.508	238.405	1.135	15.0	0.063	15.813	590.886	2.358	352.482
8.365	20	2.000	0.500	251.635	1.180	20.0	0.055	18.082	595.950	2.354	344.314
9.521	25	2.031	0.492	265.106	1.225	25.0	0.049	20.618	600.842	2.351	335.736
10.790	30	2.064	0.484	278.833	1.269	30.0	0.043	23.451	605.537	2.347	326.704
12.179	35	2.100	0.476	292.839	1.314	35.0	0.038	26.618	610.007	2.344	317.167
13.694	40	2.139	0.467	307.148	1.359	40.0	0.033	30.165	614.214	2.340	307.066
15.343	45	2.181	0.458	321.790	1.405	45.0	0.029	34.146	618.117	2.336	296.327
17.133	50	2.228	0.449	336.801	1.450	50.0	0.026	38.630	621.660	2.332	284.859
19.072	55	2.279	0.439	352.229	1.496	55.0	0.023	43.706	624.773	2.327	272.544
21.168	60	2.337	0.428	368.136	1.543	60.0	0.020	49.493	627.361	2.321	259.225
23.430	65	2.402	0.416	384.604	1.590	65.0	0.018	56.152	629.290	2.314	244.686
25.868	70	2.478	0.404	401.752	1.639	70.0	0.016	63.916	630.372	2.305	228.620
28.493	75	2.568	0.389	419.761	1.689	75.0	0.014	73.140	630.332	2.294	210.571
31.319	80	2.679	0.373	438.927	1.742	80.0	0.012	84.406	628.730	2.279	189.802
34.361	85	2.825	0.354	459.806	1.798	85.0	0.010	98.818	624.750	2.259	164.944
37.641	90	3.041	0.329	483.708	1.862	90.0	0.008	118.995	616.474	2.227	132.766
41.195	95	3.490	0.287	516.329	1.948	95.0	0.006	156.309	595.810	2.164	79.481

Thermodynamic properties of R-290 - (superheated vapour) - Volume (dm³/kg)

Sat. Temp. °C	Sat. Pressure bar	Superheat (°C)																				
		0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
-100	0.029	11230.994	11557.969	11884.799	12211.496	12538.072	12864.537	13190.901	13517.170	13843.355	14169.463	14495.499	14821.472	15147.387	15473.248	15799.062	16124.832	16450.563	16776.257	17101.918	17427.550	17753.153
-95	0.044	7642.249	7859.186	8075.990	8292.672	8509.242	8725.709	8942.083	9158.372	9374.582	9590.722	9806.798	10022.815	10238.779	10454.696	10670.568	10886.401	11102.197	11317.961	11533.694	11749.399	11965.079
-90	0.064	5330.039	5477.805	5625.448	5772.978	5920.405	6067.738	6214.984	6362.153	6509.250	6656.283	6803.258	6950.179	7097.052	7243.881	7390.670	7537.422	7684.142	7830.831	7977.492	8124.128	8270.740
-85	0.093	3801.734	3904.845	4007.842	4110.735	4213.534	4316.245	4418.878	4521.439	4623.935	4726.372	4828.755	4931.090	5033.381	5135.632	5237.847	5340.028	5442.178	5544.301	5646.398	5748.471	5850.523
-80	0.130	2767.648	2841.217	2914.682	2988.050	3061.330	3134.531	3207.659	3280.722	3353.725	3426.675	3499.576	3572.432	3645.248	3718.027	3790.773	3863.488	3936.175	4008.836	4081.474	4154.090	4226.685
-75	0.180	2052.773	2106.354	2159.837	2213.231	2266.545	2319.785	2372.959	2426.073	2479.132	2532.142	2585.108	2638.033	2690.921	2743.775	2796.598	2849.393	2902.162	2954.907	3007.630	3060.334	3113.018
-70	0.244	1548.716	1588.487	1628.168	1667.767	1707.291	1746.749	1786.145	1825.488	1864.777	1904.023	1943.228	1982.395	2021.528	2060.631	2099.705	2138.752	2177.786	2216.778	2255.759	2294.721	2333.666
-65	0.325	1186.782	1216.828	1246.790	1276.676	1306.494	1336.249	1365.949	1395.597	1425.200	1454.761	1484.285	1513.774	1543.231	1572.660	1602.062	1631.440	1660.796	1690.132	1719.448	1748.747	1778.029
-60	0.427	922.501	945.574	968.570	991.495	1014.357	1037.161	1059.914	1082.621	1105.284	1127.910	1150.500	1173.059	1195.588	1218.091	1240.570	1263.025	1285.460	1307.876	1330.274	1352.656	1375.023
-55	0.552	726.507	744.498	762.417	780.271	798.066	815.808	833.503	851.154	868.766	886.342	903.886	921.400	938.887	956.350	973.789	991.208	1008.607	1025.988	1043.353	1060.702	1078.037
-50	0.706	579.053	593.283	607.446	621.548	635.595	649.594	663.547	677.461	691.339	705.183	718.997	732.783	746.544	760.282	773.999	787.696	801.375	815.037	828.683	842.315	855.933
-45	0.891	466.630	478.037	489.380	500.667	511.903	523.093	534.242	545.353	556.430	567.476	578.494	589.487	600.455	611.402	622.329	633.237	644.129	655.004	665.865	676.712	687.546
-42.12	1.013	413.979	424.079	434.117	444.102	454.037	463.928	473.779	483.595	493.377	503.130	512.856	522.556	532.234	541.891	551.529	561.148	570.752	580.339	589.913	599.474	609.022
-40	1.111	379.850	389.108	398.308	407.454	416.552	425.608	434.625	443.606	452.556	461.477	470.371	479.241	488.089	496.917	505.725	514.516	523.291	532.052	540.798	549.531	558.253
-35	1.372	312.088	319.692	327.240	334.739	342.192	349.605	356.982	364.325	371.639	378.925	386.187	393.425	400.642	407.841	415.021	422.185	429.333	436.468	443.589	450.699	457.797
-30	1.678	258.607	264.922	271.185	277.400	283.573	289.707	295.807	301.876	307.917	313.931	319.922	325.891	331.841	337.772	343.686	349.585	355.469	361.340	367.199	373.046	378.882
-25	2.034	215.972	221.273	226.523	231.729	236.894	242.022	247.118	252.184	257.224	262.238	267.231	272.202	277.155	282.090	287.010	291.914	296.805	301.683	306.549	311.404	316.249
-20	2.445	181.665	186.160	190.606	195.008	199.372	203.702	207.999	212.269	216.513	220.733	224.932	229.112	233.273	237.418	241.547	245.662	249.765	253.855	257.934	262.002	266.061
-15	2.916	153.817	157.665	161.465	165.224	168.945	172.633	176.291	179.922	183.528	187.112	190.675	194.219	197.746	201.257	204.753	208.236	211.707	215.166	218.614	222.052	225.481
-10	3.453	131.026	134.350	137.628	140.866	144.068	147.237	150.377	153.491	156.581	159.649	162.698	165.728	168.742	171.741	174.726	177.697	180.657	183.606	186.544	189.473	192.393
-5	4.060	112.229	115.127	117.979	120.792	123.569	126.315	129.033	131.725	134.394	137.042	139.671	142.283	144.879	147.460	150.027	152.582	155.126	157.659	160.182	162.696	165.201
0	4.745	96.613	99.161	101.664	104.128	106.556	108.955	111.325	113.671	115.994	118.297	120.581	122.848	125.100	127.338	129.563	131.776	133.977	136.169	138.350	140.523	142.688
5	5.511	83.552	85.810	88.024	90.199	92.340	94.450	96.533	98.592	100.629	102.645	104.644	106.627	108.594	110.548	112.489	114.419	116.337	118.246	120.146	122.037	123.920
10	6.366	72.555	74.574	76.548	78.483	80.384	82.254	84.098	85.917	87.715	89.494	91.255	93.000	94.730	96.447	98.151	99.845	101.528	103.201	104.865	106.522	108.170
15	7.315	63.240	65.060	66.834	68.568	70.268	71.937	73.580	75.199	76.796	78.375	79.936	81.482	83.013	84.532	86.038	87.533	89.018	90.494	91.961	93.421	94.872
20	8.365	55.303	56.957	58.563	60.128	61.659	63.159	64.632	66.082	67.511	68.921	70.314	71.691	73.055	74.405	75.744	77.072	78.391	79.700	81.001	82.294	83.579
25	9.521	48.502	50.017	51.482	52.906	54.293	55.650	56.980	58.287	59.572	60.839	62.089	63.323	64.544	65.753	66.949	68.136	69.312	70.480	71.640	72.791	73.936
30	10.790	42.643	44.042	45.389	46.693	47.959	49.194	50.402	51.587	52.750	53.895	55.022	56.135	57.234	58.321	59.397	60.462	61.518	62.565	63.604	64.635	65.660
35	12.179	37.568	38.873	40.120	41.322	42.485	43.617	44.721	45.800	46.859	47.899	48.922	49.931	50.925	51.908	52.879	53.841	54.792	55.736	56.671	57.599	58.521
40	13.694	33.151	34.377	35.541	36.657	37.733	38.776	39.790	40.780	41.749	42.699	43.632	44.550	45.455	46.348	47.229	48.101	48.963	49.817	50.663	51.502	52.335
45	15.343	29.286	30.449	31.545	32.588	33.589	34.556	35.494	36.406	37.297	38.169	39.024	39.864	40.691	41.506	42.310	43.104	43.888	44.665	45.434	46.196	46.951
50	17.133	25.887	27.001	28.040	29.023	29.961	30.862	31.734	32.579	33.403	34.207	34.994	35.767	36.526	37.273	38.009	38.735	39.452	40.161	40.863	41.557	42.245
55	19.072	22.880	23.960	24.954	25.887	26.771	27.616	28.430	29.218	29.983	30.728	31.456	32.170	32.869	33.557	34.234	34.901	35.559	36.209	36.851	37.487	38.116
60	21.168	20.205	21.265	22.226	23.116	23.955	24.753	25.517	26.254	26.968	27.662	28.339	29.000	29.647	30.283	30.908	31.523	32.129	32.727	33.318	33.902	34.479
65	23.430	17.809	18.865	19.802	20.661	21.461	22.218	22.940	23.633	24.302	24.950	25.581	26.197	26.798	27.388	27.967	28.536	29.096	29.649	30.194	30.732	31.264
70	25.868	15.645	16.718	17.642	18.475	19.244	19.966	20.651	21.305	21.935	22.544	23.134	23.709	24.270	24.819	25.358	25.886	26.406	26.917	27.421	27.919	28.411
75	28.493	13.672	14.786	15.709	16.524	17.268	17.959	18.612	19.233	19.828	20.401	20.956	21.495	22.020	22.532	23.034	23.526	24.010	24.485	24.953	25.415	25.870
80	31.319	11.847	13.039	13.972	14.776	15.499	16.166	16.790	17.381	17.945	18.487	19.010	19.516	20.009	20.489	20.958	21.418	21.869	22.312	22.747	23.176	23.600
85	34.361	10.120	11.450	12.406	13.205	13.912	14.557	15.157	15.721	16.258	16.771	17.265	17.743	18.206	18.657	19.097	19.527	19.949	20.362	20.769	21.169	21.563
90	37.641	8.404	9.997	10.990	11.789	12.483	13.110	13.687	14.227	14.739	15.226	15.694	16.146	16.582	17.007	17.420	17.823	18.218	18.605	18.989	19.359	19.727
95	41.195	6.398	8.659	9.702	10.505	11.189	11.798	12.355	12.874	13.362	13.826	14.270	14.697	15.109	15.509	15.898	16.277	16.647	17.010	17.366	17.715	18.059

Thermodynamic properties of R-290 - (superheated vapour) - Enthalpy (kJ/kg)

TSat. Temp. °C	Sat. Pressure bar	Superheat (°C)																				
		0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
-100	0.029	456.878	462.840	468.882	475.006	481.211	487.501	493.875	500.336	506.885	513.524	520.254	527.076	533.993	541.006	548.116	555.325	562.633	570.044	577.557	585.174	592.897
-95	0.044	462.708	468.757	474.887	481.100	487.395	493.775	500.242	506.796	513.440	520.174	527.000	533.921	540.937	548.050	555.262	562.574	569.987	577.503	585.122	592.847	600.678
-90	0.064	468.582	474.722	480.943	487.247	493.636	500.110	506.671	513.321	520.062	526.894	533.820	540.841	547.959	555.175	562.491	569.907	577.426	585.049	592.777	600.610	608.551
-85	0.093	474.495	480.729	487.045	493.445	499.929	506.500	513.160	519.908	526.749	533.682	540.710	547.834	555.056	562.377	569.798	577.322	584.949	592.681	600.518	608.463	616.515
-80	0.130	480.441	486.773	493.188	499.687	506.271	512.942	519.703	526.554	533.497	540.533	547.666	554.896	562.224	569.652	577.182	584.815	592.553	600.395	608.344	616.401	624.566
-75	0.180	486.414	492.849	499.366	505.968	512.656	519.432	526.297	533.253	540.302	547.445	554.685	562.023	569.460	576.999	584.640	592.384	600.233	608.189	616.251	624.421	632.701
-70	0.244	492.408	498.951	505.576	512.285	519.080	525.963	532.936	540.001	547.159	554.413	561.763	569.212	576.761	584.412	592.166	600.024	607.987	616.058	624.235	632.521	640.917
-65	0.325	498.418	505.073	511.810	518.631	525.537	532.532	539.617	546.794	554.065	561.431	568.895	576.458	584.122	591.888	599.757	607.731	615.811	623.998	632.293	640.697	649.210
-60	0.427	504.437	511.209	518.063	525.000	532.023	539.134	546.334	553.627	561.014	568.497	576.077	583.757	591.538	599.422	607.409	615.502	623.701	632.006	640.421	648.944	657.576
-55	0.552	510.459	517.354	524.330	531.388	538.531	545.762	553.082	560.495	568.001	575.604	583.304	591.104	599.006	607.010	615.118	623.331	631.651	640.078	648.614	657.258	666.012
-50	0.706	516.478	523.502	530.604	537.788	545.057	552.412	559.856	567.392	575.022	582.748	590.572	598.495	606.520	614.648	622.879	631.216	639.659	648.209	656.868	665.635	674.512
-45	0.891	522.487	529.645	536.880	544.195	551.593	559.077	566.650	574.314	582.071	589.924	597.875	605.925	614.076	622.330	630.687	639.150	647.719	656.395	665.178	674.071	683.072
-42.12	1.013	525.941	533.180	540.494	547.887	555.362	562.923	570.571	578.311	586.143	594.071	602.097	610.221	618.447	626.774	635.206	643.742	652.384	661.134	669.990	678.956	688.030
-40	1.111	528.479	535.777	543.151	550.602	558.135	565.753	573.459	581.255	589.144	597.128	605.209	613.389	621.669	630.052	638.539	647.130	655.827	664.630	673.541	682.561	691.689
-35	1.372	534.447	541.893	549.410	557.004	564.677	572.434	580.277	588.210	596.234	604.353	612.568	620.881	629.295	637.810	646.428	655.151	663.978	672.912	681.952	691.100	700.357
-30	1.678	540.384	547.983	555.652	563.393	571.213	579.113	587.099	595.173	603.337	611.595	619.948	628.398	636.948	645.599	654.351	663.207	672.168	681.234	690.406	699.685	709.072
-25	2.034	546.282	554.042	561.868	569.764	577.735	585.786	593.919	602.139	610.448	618.849	627.343	635.935	644.624	653.413	662.303	671.296	680.392	689.593	698.899	708.311	717.829
-20	2.445	552.132	560.062	568.053	576.110	584.239	592.445	600.732	609.103	617.561	626.109	634.750	643.485	652.318	661.249	670.279	679.411	688.646	697.983	707.425	716.972	726.625
-15	2.916	557.926	566.034	574.197	582.424	590.718	599.086	607.531	616.058	624.670	633.371	642.162	651.046	660.025	669.101	678.275	687.549	696.924	706.402	715.982	725.666	735.454
-10	3.453	563.653	571.949	580.295	588.698	597.165	605.701	614.311	623.000	631.772	640.629	649.574	658.610	667.740	676.964	686.285	695.705	705.223	714.843	724.563	734.387	744.313
-5	4.060	569.304	577.799	586.336	594.925	603.572	612.284	621.066	629.933	638.859	647.878	656.982	666.175	675.458	684.835	694.306	703.873	713.538	723.302	733.166	743.130	753.196
0	4.745	574.866	583.573	592.313	601.097	609.933	618.828	627.789	636.820	645.926	655.112	664.380	673.733	683.175	692.707	702.331	712.050	721.864	731.775	741.784	751.893	762.101
5	5.511	580.327	589.260	598.216	607.206	616.240	625.327	634.473	643.685	652.968	662.326	671.762	681.281	690.885	700.576	710.358	720.231	730.197	740.258	750.415	760.669	771.021
10	6.366	585.673	594.848	604.033	613.241	622.484	631.772	641.112	650.512	659.977	669.513	679.124	688.813	698.583	708.438	718.380	728.410	738.532	748.745	759.053	769.455	779.954
15	7.315	590.886	600.324	609.754	619.194	628.657	638.155	647.698	657.294	666.949	676.669	686.459	696.323	706.264	716.287	726.392	736.584	746.864	757.233	767.694	778.247	788.894
20	8.365	595.950	605.672	615.366	625.052	634.749	644.469	654.224	664.023	673.875	683.786	693.761	703.805	713.923	724.117	734.391	744.748	755.189	765.717	776.334	787.040	797.838
25	9.521	600.842	610.876	620.855	630.805	640.749	650.702	660.680	670.693	680.750	690.858	701.025	711.255	721.554	731.924	742.371	752.896	763.502	774.192	784.968	795.830	806.781
30	10.790	605.537	615.915	626.204	636.438	646.645	656.847	667.058	677.294	687.564	697.878	708.243	718.666	729.151	739.703	750.326	761.024	771.799	782.654	793.591	804.613	815.720
35	12.179	610.007	620.768	631.395	641.936	652.426	662.890	673.349	683.818	694.312	704.840	715.410	726.031	736.708	747.447	758.252	769.126	780.074	791.098	802.201	813.384	824.650
40	13.694	614.214	625.407	636.408	647.283	658.076	668.820	679.540	690.256	700.983	711.734	722.518	733.345	744.220	755.151	766.142	777.198	788.323	799.520	810.791	822.139	833.567
45	15.343	618.117	629.801	641.219	652.459	663.580	674.624	685.622	696.598	707.570	718.554	729.560	740.600	751.681	762.810	773.993	785.235	796.541	807.914	819.358	830.875	842.467
50	17.133	622.660	633.913	645.000	655.943	666.820	677.581	688.232	698.831	709.387	720.000	730.678	741.422	752.240	763.132	774.097	785.135	796.246	807.430	818.697	829.955	841.346
55	19.072	627.773	637.696	650.117	662.209	674.077	685.793	697.405	708.948	720.450	731.933	743.414	754.905	766.419	777.965	789.550	801.181	812.863	824.603	836.403	848.267	860.199
60	21.168	627.361	641.091	654.131	666.729	679.030	691.125	703.077	714.932	726.723	738.475	750.209	761.941	773.684	785.448	797.244	809.078	820.957	832.886	844.871	856.915	869.022
65	23.430	629.290	644.028	657.799	670.973	683.754	696.263	708.583	720.771	732.868	744.904	756.904	768.887	780.866	792.860	804.873	816.917	828.998	841.123	853.297	865.525	877.811
70	25.868	630.372	646.119	661.067	674.904	688.221	701.186	713.905	726.451	738.873	751.209	763.489	775.735	787.964	800.192	812.431	824.691	836.980	849.306	861.674	874.091	886.560
75	28.493	630.332	648.156	663.875	678.480	692.401	705.870	719.024	731.954	744.724	757.378	769.953	782.474	794.963	807.436	819.909	832.392	844.896	857.428	869.997	882.606	895.263
80	31.319	628.730	649.097	666.147	681.653	696.261	710.289	723.918	737.264	750.445	763.398	776.283	789.093	801.853	814.583	827.298	840.013	852.738	865.483	878.257	891.064	903.913
85	34.361	624.750	649.057	667.796	684.370	699.762	714.413	728.563	742.359	755.899	769.250	782.464	795.578	808.622	821.618	834.586	847.540	860.495	873.459	886.444	899.455	912.501
90	37.641	616.474	647.791	668.711	686.566	702.857	718.203	732.925	747.209	761.176	774.911	788.473	801.907	815.248	828.522	841.753	854.956	868.148	881.340	894.542	907.764	921.012
95	41.195	595.810	644.982	668.766	688.140	705.461	721.587	736.939	751.753	766.182	780.327	794.259	808.033	821.687	835.255	848.760	862.224	875.662	889.090	902.518	915.956	929.413

Thermodynamic properties of R-290 - (superheated vapour) - Entropy (kJ/kg.K)

Sat. Temp. °C	Sat. Pressure bar	Superheat (°C)																				
		0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
-100	0.029	2.766	2.800	2.834	2.867	2.899	2.932	2.963	2.995	3.026	3.057	3.087	3.117	3.147	3.177	3.207	3.236	3.265	3.294	3.323	3.352	3.380
-95	0.044	2.722	2.756	2.789	2.821	2.853	2.885	2.917	2.948	2.979	3.009	3.039	3.069	3.099	3.129	3.158	3.187	3.216	3.245	3.274	3.302	3.331
-90	0.064	2.682	2.715	2.748	2.780	2.812	2.843	2.874	2.905	2.936	2.966	2.996	3.026	3.055	3.085	3.114	3.143	3.172	3.201	3.229	3.258	3.286
-85	0.093	2.646	2.678	2.711	2.743	2.774	2.805	2.836	2.867	2.897	2.927	2.957	2.987	3.016	3.045	3.074	3.103	3.132	3.160	3.189	3.217	3.245
-80	0.130	2.613	2.645	2.677	2.709	2.740	2.771	2.802	2.832	2.862	2.892	2.922	2.951	2.980	3.009	3.038	3.067	3.096	3.124	3.152	3.181	3.209
-75	0.180	2.583	2.615	2.647	2.678	2.709	2.740	2.771	2.801	2.831	2.860	2.890	2.919	2.948	2.977	3.006	3.034	3.063	3.091	3.120	3.148	3.176
-70	0.244	2.557	2.588	2.620	2.651	2.682	2.712	2.742	2.772	2.802	2.832	2.861	2.890	2.919	2.948	2.977	3.005	3.034	3.062	3.090	3.118	3.146
-65	0.325	2.532	2.564	2.595	2.626	2.657	2.687	2.717	2.747	2.777	2.806	2.835	2.864	2.893	2.922	2.950	2.979	3.007	3.035	3.063	3.091	3.119
-60	0.427	2.511	2.542	2.573	2.604	2.634	2.664	2.694	2.724	2.754	2.783	2.812	2.841	2.870	2.898	2.927	2.955	2.983	3.011	3.039	3.067	3.095
-55	0.552	2.491	2.522	2.553	2.584	2.614	2.644	2.674	2.704	2.733	2.762	2.791	2.820	2.849	2.877	2.905	2.934	2.962	2.990	3.018	3.046	3.073
-50	0.706	2.473	2.505	2.535	2.566	2.596	2.626	2.656	2.685	2.714	2.743	2.772	2.801	2.830	2.858	2.887	2.915	2.943	2.971	2.999	3.026	3.054
-45	0.891	2.458	2.489	2.519	2.550	2.580	2.610	2.639	2.669	2.698	2.727	2.756	2.784	2.813	2.841	2.870	2.898	2.926	2.954	2.982	3.009	3.037
-42.12	1.013	2.449	2.480	2.511	2.541	2.571	2.601	2.631	2.660	2.689	2.718	2.747	2.776	2.804	2.833	2.861	2.889	2.917	2.945	2.973	3.000	3.028
	1.111	2.443	2.474	2.505	2.535	2.565	2.595	2.625	2.654	2.683	2.712	2.741	2.770	2.798	2.826	2.855	2.883	2.911	2.939	2.966	2.994	3.022
-35	1.372	2.431	2.462	2.492	2.522	2.552	2.582	2.612	2.641	2.670	2.699	2.728	2.756	2.785	2.813	2.841	2.869	2.897	2.925	2.953	2.981	3.008
-30	1.678	2.419	2.450	2.481	2.511	2.541	2.571	2.600	2.630	2.659	2.688	2.716	2.745	2.773	2.802	2.830	2.858	2.886	2.914	2.941	2.969	2.997
-25	2.034	2.409	2.440	2.471	2.501	2.531	2.561	2.590	2.619	2.648	2.677	2.706	2.735	2.763	2.791	2.820	2.848	2.876	2.903	2.931	2.959	2.986
-20	2.445	2.400	2.431	2.462	2.492	2.522	2.552	2.581	2.611	2.640	2.669	2.697	2.726	2.754	2.783	2.811	2.839	2.867	2.895	2.922	2.950	2.977
-15	2.916	2.392	2.423	2.454	2.484	2.514	2.544	2.573	2.603	2.632	2.661	2.690	2.718	2.747	2.775	2.803	2.831	2.859	2.887	2.915	2.942	2.970
-10	3.453	2.385	2.416	2.447	2.477	2.507	2.537	2.567	2.596	2.625	2.654	2.683	2.712	2.740	2.769	2.797	2.825	2.853	2.881	2.908	2.936	2.963
-5	4.060	2.378	2.410	2.440	2.471	2.501	2.531	2.561	2.591	2.620	2.649	2.678	2.706	2.735	2.763	2.791	2.819	2.847	2.875	2.903	2.931	2.958
0	4.745	2.372	2.404	2.435	2.466	2.496	2.526	2.556	2.586	2.615	2.644	2.673	2.702	2.730	2.759	2.787	2.815	2.843	2.871	2.899	2.926	2.954
5	5.511	2.367	2.399	2.430	2.461	2.492	2.522	2.552	2.582	2.611	2.640	2.669	2.698	2.727	2.755	2.783	2.812	2.840	2.867	2.895	2.923	2.951
10	6.366	2.363	2.395	2.426	2.457	2.488	2.519	2.549	2.578	2.608	2.637	2.666	2.695	2.724	2.752	2.781	2.809	2.837	2.865	2.893	2.920	2.948
15	7.315	2.358	2.391	2.423	2.454	2.485	2.516	2.546	2.576	2.605	2.635	2.664	2.693	2.722	2.750	2.779	2.807	2.835	2.863	2.891	2.919	2.946
20	8.365	2.354	2.387	2.420	2.451	2.482	2.513	2.544	2.574	2.604	2.633	2.662	2.691	2.720	2.749	2.777	2.806	2.834	2.862	2.890	2.918	2.945
25	9.521	2.351	2.384	2.417	2.449	2.480	2.511	2.542	2.572	2.602	2.632	2.661	2.690	2.719	2.748	2.777	2.805	2.833	2.861	2.889	2.917	2.945
30	10.790	2.347	2.381	2.414	2.447	2.478	2.510	2.541	2.571	2.601	2.631	2.661	2.690	2.719	2.748	2.777	2.805	2.833	2.862	2.890	2.917	2.945
35	12.179	2.344	2.378	2.412	2.445	2.477	2.509	2.540	2.571	2.601	2.631	2.661	2.690	2.719	2.748	2.777	2.806	2.834	2.862	2.890	2.918	2.946
40	13.694	2.340	2.375	2.410	2.443	2.476	2.508	2.539	2.570	2.601	2.631	2.661	2.691	2.720	2.749	2.778	2.807	2.835	2.863	2.891	2.919	2.947
45	15.343	2.336	2.372	2.408	2.442	2.475	2.507	2.539	2.570	2.601	2.632	2.662	2.691	2.721	2.750	2.779	2.808	2.836	2.865	2.893	2.921	2.949
50	17.133	2.332	2.369	2.405	2.440	2.474	2.507	2.539	2.570	2.602	2.632	2.663	2.693	2.722	2.752	2.781	2.810	2.838	2.867	2.895	2.923	2.951
55	19.072	2.327	2.366	2.403	2.438	2.473	2.506	2.539	2.571	2.602	2.633	2.664	2.694	2.724	2.753	2.783	2.812	2.840	2.869	2.897	2.926	2.954
60	21.168	2.321	2.362	2.400	2.437	2.472	2.506	2.539	2.571	2.603	2.634	2.665	2.696	2.726	2.755	2.785	2.814	2.843	2.872	2.900	2.928	2.957
65	23.430	2.314	2.357	2.397	2.435	2.471	2.505	2.539	2.572	2.604	2.636	2.667	2.697	2.728	2.758	2.787	2.817	2.846	2.874	2.903	2.931	2.960
70	25.868	2.305	2.352	2.393	2.432	2.469	2.505	2.539	2.572	2.605	2.637	2.668	2.699	2.730	2.760	2.790	2.819	2.849	2.878	2.906	2.935	2.963
75	28.493	2.294	2.345	2.389	2.429	2.468	2.504	2.539	2.573	2.606	2.638	2.670	2.701	2.732	2.763	2.793	2.822	2.852	2.881	2.910	2.938	2.967
80	31.319	2.279	2.336	2.384	2.426	2.466	2.503	2.539	2.573	2.607	2.640	2.672	2.703	2.735	2.765	2.795	2.825	2.855	2.884	2.913	2.942	2.970
85	34.361	2.259	2.326	2.377	2.422	2.463	2.501	2.538	2.573	2.608	2.641	2.674	2.705	2.737	2.768	2.798	2.828	2.858	2.887	2.917	2.945	2.974
90	37.641	2.227	2.313	2.369	2.417	2.460	2.500	2.537	2.573	2.608	2.642	2.675	2.707	2.739	2.770	2.801	2.831	2.861	2.891	2.920	2.949	2.978
95	41.195	2.164	2.296	2.360	2.411	2.456	2.497	2.536	2.573	2.608	2.643	2.676	2.709	2.741	2.773	2.804	2.834	2.864	2.894	2.923	2.953	2.982