Technical Information

T-404A (HP62)—ENG

DuPont™ Suva®
refrigerants

Thermodynamic Properties of DuPont™ Suva® 404A (HP62) Refrigerant

(R-404A)

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Thermodynamic Properties of Suva® 404A (HP62) Refrigerant
Engineering (I/P) Units

New tables of the thermodynamic properties of Suva® 404A (HP62) refrigerant [ASHRAE designation: R-404A (44/52/4)], a near azeotropic blend of HFC-125/HFC-143a/HFC-134a, have been developed and are presented here. These tables are based on extensive experimental measurements. Equations have been developed, based on the Peng-Robinson-Stryjek-Vera (PRSV) equation of state, which represent the data with accuracy and consistency throughout the entire range of temperature, pressure, and density presented in these tables.

Physical Properties

Chemical Formula	$CHF_2CF_3/CH_3CF_3/CH_2FCF_3$ (44/52/4% by weight)	
Molecular Weight	97.60	
Boiling Point at One Atmosphere	–51.62°F	(–46.45°C)
Critical Temperature, T_c	161.73°F 621.40°R	(72.07°C) (345.22 K)
Critical Pressure, P_c [abs])	541.2 psia	(3731.5 kPa
Critical Density, D_c	30.23 lb/ft^3	(484.5 kg/m^3)
Critical Volume, V_c	0.0331 ft^3/lb	(0.00206 m^3/kg)

Units and Factors

t = temperature in °F
T = temperature in °R = °F + 459.67
p_f = pressure of saturated liquid (bubble point) in psia
p_g = pressure of saturated vapor (dew point) in psia
v_f = volume of saturated liquid in ft^3/lb
v_g = volume of saturated vapor in ft^3/lb
V = volume of superheated vapor in ft^3/lb
$d_f = 1/v_f$ = density of saturated liquid in lb/ft^3
$d_g = 1/v_g$ = density of saturated vapor in lb/ft^3
h_f = enthalpy of saturated liquid in Btu/lb
h_{fg} = enthalpy of vaporization in Btu/lb
h_g = enthalpy of saturated vapor in Btu/lb
H = enthalpy of superheated vapor in Btu/lb
s_f = entropy of saturated liquid in Btu/(lb) (°R)
s_g = entropy of saturated vapor in Btu/(lb) (°R)
S = entropy of superheated vapor in Btu/(lb) (°R)
C_p = heat capacity at constant pressure in Btu/(lb) (°F)
C_v = heat capacity at constant volume in Btu/(lb) (°F)

The gas constant, R = 10.732 (psia) (ft^3)/(lb-mole) (°R)
for Suva® 404A (HP62), R = 0.1100 (psia) (ft^3)/(lb) (°R)
Conversion factor from Work Units to Heat Units:
J = 0.185053
Btu/lb = [(psia) (ft^3)/lb] ∞ J
One atmosphere = 14.696 psia

Reference point for enthalpy and entropy:
h_f = 0.0 Btu/lb at –40°F
s_f = 0.0 Btu/(lb) (°R) at –40°F

Equations

The Peng-Robinson-Stryjek-Vera (PRSV) equation of state was used to calculate the tables of thermodynamic properties. It was chosen as the preferred equation of state because it provided an accurate fit of the thermodynamic data over the entire range of temperatures and pressures presented in these tables.

The constants for the PRSV equation of state were calculated in SI units. For conversion of thermodynamic properties to Engineering (I/P) units, conversion factors are provided for each property derived from the PRSV equation of state.

1. Equation of State (PRSV)

$$\mathbf{P = RT/(V - b) - a/(V^2 + 2bV - b^2)}$$

where P is in kPa, T is in K, V is in m^3/mole, and R = 0.008314 kJ/(mole) (K). The constants a and b are calculated as follows:

$$\mathbf{a} = \sum_{i=1}^{3}\sum_{j=1}^{3} x_i x_j a_{ij} \qquad \mathbf{b} = \sum_{i=1}^{3} x_i b_i$$

where

$a_{ij} = (a_i a_j)^{0.5} (1 - k_{ij})$ $\quad b_i = 0.077796\, RT_{ci}/P_{ci}$

x_i = mole fraction of component i

x_j = mole fraction of component j

$a_i = (0.457235\, R^2\, T_{ci}^2/P_{ci})\, \alpha_i$

$a_j = (0.457235\, R^2\, T_{cj}^2/P_{cj})\, \alpha_j$

k_{ij} = binary interaction parameter for components i and j

$\alpha_i = [1 + \kappa_i (1 - T_{ri}^{0.5})]^2$

$\kappa_i = \kappa_{0i} + \kappa_{1i} [(1 + T_{ri}^{0.5}) (0.7 - T_{ri})]$
(Note: $\kappa_i = \kappa_{0i}$ for $T_r > 0.7$)

$\kappa_{0i} = 0.378893 + 1.4897153\omega_i - 0.17131848\omega_i^2 + 0.019655\omega_i^3$

κ_{1i} = adjustable parameter for component i

$T_{ri} = T_i/T_{ci}$ for component i

Values for R, T_{ci}, P_{ci}, ω_i, κ_{1i}, x_i, and k_{ij} are needed to calculate constants a and b. R = 0.008314 kJ/(mole) (K). The remaining constants for Suva® 404A (HP62) are summarized below:

Component	T_{ci}	P_{ci}	ω_i	κ_{1i}	x_i
HFC-125 (i = 1)	339.19	3595.0	0.3023	0.0310	0.35782
HFC-143a (i = 2)	346.25	3758.1	0.2529	0.0450	0.60392
HFC-134a (i = 3)	374.20	4056.0	0.3266	–0.0060	0.03826

The binary interaction parameters, k_{ij}, for Suva® 404A (HP62) are:

k_{11} = 0.0000 k_{12} = –0.0111 k_{13} = –0.0024
k_{21} = –0.0111 k_{22} = 0.0000 k_{23} = 0.0013
k_{31} = –0.0024 k_{32} = 0.0013 k_{33} = 0.0000

Ideal Gas Heat Capacity Equation (at constant pressure):

$$C_p^o \text{ (mixture)} = \sum_{i=1}^{3} x_i C_{p_i}^o$$

$$C_{p_i}^o = 4.184 (A_i + B_i T + C_i T^2 + D_i T^3 + E_i T^4 + F_i T^5)$$

where C_p^o and $C_{p_i}^o$ are in J/(mole) (K) and T is in K.

x_i is the mole fraction of component i in the mixture [use same values listed in PRSV constants for Suva® 404A (HP62)].

A_i, B_i, C_i, D_i, E_i, and F_i are constants:

A_1 = 1.170144 E+01 B_1 = 0.216411 E–01
A_2 = 1.372849 E+00 B_2 = 0.750717 E–01
A_3 = 4.636855 E+00 B_3 = 0.617904 E–01

C_1 = 8.685258 E–05 D_1 = –1.127756 E–07
C_2 = –6.206979 E–05 D_2 = 2.011233 E–08
C_3 = –3.099070 E–05 D_3 = 0.000000 E+00

E_1 = 0.000000 E+00 F_1 = 0.000000 E+00
E_2 = 0.000000 E+00 F_2 = 0.000000 E+00
E_3 = 0.000000 E+00 F_3 = 0.000000 E+00

Properties calculated in SI units from the equations and constants listed above can be converted to I/P units using the conversion factors shown below. Please note that in converting enthalpy and entropy from SI to I/P units, a change in reference states must be included (from H = 200 and S = 1 at 0°C for SI units to H = 0 and S = 0 at –40°F for I/P units). In the conversion equations below, H (ref) and S (ref) are the saturated liquid enthalpy and entropy at –40°C. For Suva® 404A (HP62): H (ref) = 145.6 kJ/kg and S (ref) = 0.7862 kJ/kg • K.

Conversion Factors (SI units to I/P units):

P (psia) = P (kPa) • 0.14504
T (°F) = (T [°C] • 1.8) + 32
D (lb/ft³) = D (kg/m³) • 0.062428
V (ft³/lb) = V (m³/kg) • 16.018
H (Btu/lb) = [H (kJ/kg) – H (ref)] • 0.43021
S (Btu/lb • °R) = [S (kJ/kg • K) – S (ref)] • 0.23901
C_p (Btu/lb • °F) = C_p (kJ/kg • K) • 0.23901
C_v (Btu/lb • °F) = C_v (kJ/kg • K) • 0.23901

2. Vapor Pressure

$$\log_n P = A + B/T + C \log_n T + D T^2$$

For SI units

T is in K and P is in kPa (abs)

A, B, C and D are constants.

Constants for vapor pressure of saturated liquid (bubble point), p_f:

A = 5.56487 E+01 C = –6.58061 E+00
B = –3.62385 E+03 D = 1.27711 E–05

Constants for vapor pressure of saturated vapor (dew point), p_g:

A = 6.89227 E+01 C = –8.71773 E+00
B = –4.06171 E+03 D = 1.68264 E–05

For I/P units

T is in °R and P is in psia

A, B, C and D are constants.

Constants for vapor pressure of saturated liquid (bubble point), p_f:

A = 5.75859 E+01 C = –6.58061 E+00
B = –6.52292 E+03 D = 3.94176 E–06

Constants for vapor pressure of saturated vapor (dew point), p_g:

A = 7.21161 E+01 C = –8.71773 E+00
B = –7.31107 E+03 D = 5.19336 E–06

3. Density of the Saturated Liquid

$$\mathbf{d_f/D_c = a_0 + a_1\, z + a_2\, z^2 + a_3\, z^3 + a_4\, z^4}$$

where $z = (1 - T/T_c)^{1/3} - t_0$

Because both density and temperature appear in the reduced form in the equation, the same constants can be used for either SI or I/P units.

d_f and D_c are in kg/m^3 in SI units and lb/ft^3 in I/P units; T and T_c are in K in SI units and °R in I/P units; a_0, a_1, a_2, a_3, a_4, and t_0 are constants:

a_0 =	1.0002 E+00	a_3 =	–1.3781 E+01
a_1 =	1.9300 E–01	a_4 =	7.6142 E+00
a_2 =	9.0829 E+00	t_0 =	0.0000

Table 1
Suva® 404A (HP62) Saturation Properties—Temperature Table

TEMP.	PRESSURE psia		VOLUME ft^3/lb		DENSITY lb/ft^3		ENTHALPY Btu/lb			ENTROPY Btu/(lb)(°R)		TEMP.
°F	LIQUID p_f	VAPOR p_g	LIQUID v_f	VAPOR v_g	LIQUID $1/v_f$	VAPOR $1/v_g$	LIQUID h_f	LATENT h_{fg}	VAPOR h_g	LIQUID s_f	VAPOR s_g	°F
–150	0.39	0.36	0.0111	94.3396	89.78	0.0106	–30.6	99.0	68.4	–0.0842	0.2369	–150
–149	0.42	0.38	0.0111	90.0901	89.73	0.0111	–30.4	98.9	68.5	–0.0834	0.2364	–149
–148	0.44	0.40	0.0112	86.2069	89.69	0.0116	–30.1	98.8	68.7	–0.0825	0.2358	–148
–147	0.46	0.42	0.0112	81.9672	89.64	0.0122	–29.9	98.7	68.8	–0.0817	0.2352	–147
–146	0.48	0.44	0.0112	78.1250	89.58	0.0128	–29.6	98.6	69.0	–0.0809	0.2347	–146
–145	0.51	0.46	0.0112	74.6269	89.53	0.0134	–29.3	98.4	69.1	–0.0800	0.2341	–145
–144	0.53	0.49	0.0112	71.4286	89.48	0.0140	–29.1	98.3	69.3	–0.0792	0.2336	–144
–143	0.56	0.51	0.0112	68.0272	89.42	0.0147	–28.8	98.2	69.4	–0.0784	0.2331	–143
–142	0.59	0.54	0.0112	64.9351	89.37	0.0154	–28.6	98.1	69.6	–0.0776	0.2325	–142
–141	0.61	0.56	0.0112	62.1118	89.31	0.0161	–28.3	98.0	69.7	–0.0768	0.2320	–141
–140	0.64	0.59	0.0112	59.5238	89.25	0.0168	–28.0	97.9	69.9	–0.0759	0.2315	–140
–139	0.67	0.62	0.0112	56.8182	89.19	0.0176	–27.8	97.8	70.0	–0.0751	0.2310	–139
–138	0.71	0.65	0.0112	54.3478	89.13	0.0184	–27.5	97.7	70.2	–0.0743	0.2305	–138
–137	0.74	0.68	0.0112	52.0833	89.07	0.0192	–27.2	97.5	70.3	–0.0735	0.2300	–137
–136	0.77	0.71	0.0112	49.7512	89.01	0.0201	–27.0	97.4	70.4	–0.0727	0.2295	–136
–135	0.81	0.75	0.0112	47.6190	88.95	0.0210	–26.7	97.3	70.6	–0.0719	0.2290	–135
–134	0.85	0.78	0.0113	45.6621	88.88	0.0219	–26.5	97.2	70.7	–0.0711	0.2286	–134
–133	0.89	0.82	0.0113	43.6681	88.82	0.0229	–26.2	97.1	70.9	–0.0703	0.2281	–133
–132	0.93	0.86	0.0113	41.8410	88.75	0.0239	–25.9	97.0	71.0	–0.0694	0.2276	–132
–131	0.97	0.90	0.0113	40.1606	88.68	0.0249	–25.7	96.9	71.2	–0.0686	0.2272	–131
–130	1.01	0.94	0.0113	38.4615	88.62	0.0260	–25.4	96.7	71.3	–0.0678	0.2267	–130
–129	1.06	0.98	0.0113	36.9004	88.55	0.0271	–25.1	96.6	71.5	–0.0670	0.2263	–129
–128	1.10	1.02	0.0113	35.4610	88.48	0.0282	–24.9	96.5	71.6	–0.0662	0.2258	–128
–127	1.15	1.07	0.0113	34.0136	88.40	0.0294	–24.6	96.4	71.8	–0.0654	0.2254	–127
–126	1.20	1.12	0.0113	32.6797	88.33	0.0306	–24.3	96.3	71.9	–0.0646	0.2250	–126
–125	1.25	1.17	0.0113	31.3480	88.26	0.0319	–24.1	96.2	72.1	–0.0638	0.2245	–125
–124	1.31	1.22	0.0113	30.1205	88.19	0.0332	–23.8	96.1	72.2	–0.0630	0.2241	–124
–123	1.36	1.27	0.0113	28.9855	88.11	0.0345	–23.5	95.9	72.4	–0.0623	0.2237	–123
–122	1.42	1.33	0.0114	27.8552	88.04	0.0359	–23.3	95.8	72.6	–0.0615	0.2233	–122
–121	1.48	1.38	0.0114	26.8097	87.96	0.0373	–23.0	95.7	72.7	–0.0607	0.2229	–121
–120	1.54	1.44	0.0114	25.7732	87.88	0.0388	–22.7	95.6	72.9	–0.0599	0.2225	–120
–119	1.61	1.50	0.0114	24.8139	87.81	0.0403	–22.5	95.5	73.0	–0.0591	0.2221	–119
–118	1.67	1.56	0.0114	23.8663	87.73	0.0419	–22.2	95.4	73.2	–0.0583	0.2217	–118
–117	1.74	1.63	0.0114	22.9885	87.65	0.0435	–21.9	95.2	73.3	–0.0575	0.2214	–117
–116	1.81	1.70	0.0114	22.1239	87.57	0.0452	–21.7	95.1	73.5	–0.0567	0.2210	–116
–115	1.89	1.77	0.0114	21.3220	87.49	0.0469	–21.4	95.0	73.6	–0.0559	0.2206	–115
–114	1.96	1.84	0.0114	20.5339	87.40	0.0487	–21.1	94.9	73.8	–0.0552	0.2202	–114
–113	2.04	1.91	0.0115	19.7628	87.32	0.0506	–20.8	94.8	73.9	–0.0544	0.2199	–113
–112	2.12	1.99	0.0115	19.0476	87.24	0.0525	–20.6	94.7	74.1	–0.0536	0.2195	–112
–111	2.20	2.07	0.0115	18.3824	87.16	0.0544	–20.3	94.5	74.2	–0.0528	0.2192	–111
–110	2.29	2.15	0.0115	17.7305	87.07	0.0564	–20.0	94.4	74.4	–0.0520	0.2188	–110
–109	2.38	2.24	0.0115	17.0940	86.99	0.0585	–19.8	94.3	74.5	–0.0513	0.2185	–109
–108	2.47	2.32	0.0115	16.5017	86.90	0.0606	–19.5	94.2	74.7	–0.0505	0.2181	–108
–107	2.56	2.41	0.0115	15.9236	86.81	0.0628	–19.2	94.1	74.8	–0.0497	0.2178	–107
–106	2.66	2.51	0.0115	15.3610	86.73	0.0651	–18.9	93.9	75.0	–0.0489	0.2175	–106
–105	2.76	2.60	0.0115	14.8368	86.64	0.0674	–18.7	93.8	75.2	–0.0482	0.2172	–105
–104	2.86	2.70	0.0116	14.3266	86.55	0.0698	–18.4	93.7	75.3	–0.0474	0.2168	–104
–103	2.97	2.80	0.0116	13.8504	86.46	0.0722	–18.1	93.6	75.5	–0.0466	0.2165	–103
–102	3.08	2.91	0.0116	13.3869	86.37	0.0747	–17.8	93.5	75.6	–0.0459	0.2162	–102
–101	3.19	3.02	0.0116	12.9366	86.29	0.0773	–17.6	93.3	75.8	–0.0451	0.2159	–101
–100	3.31	3.13	0.0116	12.5000	86.19	0.0800	–17.3	93.2	75.9	–0.0443	0.2156	–100
–99	3.43	3.25	0.0116	12.0919	86.10	0.0827	–17.0	93.1	76.1	–0.0436	0.2153	–99
–98	3.55	3.36	0.0116	11.6959	86.01	0.0855	–16.7	93.0	76.2	–0.0428	0.2150	–98
–97	3.68	3.49	0.0116	11.3122	85.92	0.0884	–16.5	92.9	76.4	–0.0420	0.2147	–97
–96	3.81	3.61	0.0117	10.9409	85.83	0.0914	–16.2	92.7	76.5	–0.0413	0.2144	–96
–95	3.94	3.74	0.0117	10.5820	85.74	0.0945	–15.9	92.6	76.7	–0.0405	0.2142	–95
–94	4.08	3.87	0.0117	10.2459	85.64	0.0976	–15.6	92.5	76.9	–0.0398	0.2139	–94
–93	4.22	4.01	0.0117	9.9206	85.55	0.1008	–15.4	92.4	77.0	–0.0390	0.2136	–93
–92	4.37	4.15	0.0117	9.6061	85.45	0.1041	–15.1	92.2	77.2	–0.0382	0.2133	–92
–91	4.52	4.30	0.0117	9.3023	85.36	0.1075	–14.8	92.1	77.3	–0.0375	0.2131	–91

Table 1 (continued)
Suva® 404A (HP62) Saturation Properties—Temperature Table

TEMP.	PRESSURE psia		VOLUME ft^3/lb		DENSITY lb/ft^3		ENTHALPY Btu/lb			ENTROPY Btu/(lb)(°R)		TEMP.
°F	LIQUID p_f	VAPOR p_g	LIQUID v_f	VAPOR v_g	LIQUID $1/v_f$	VAPOR $1/v_g$	LIQUID h_f	LATENT h_{fg}	VAPOR h_g	LIQUID s_f	VAPOR s_g	°F
–90	4.68	4.45	0.0117	9.0171	85.26	0.1109	–14.5	92.0	77.5	–0.0367	0.2128	–90
–89	4.83	4.60	0.0117	8.7336	85.17	0.1145	–14.2	91.9	77.6	–0.0360	0.2126	–89
–88	5.00	4.76	0.0118	8.4674	85.07	0.1181	–14.0	91.7	77.8	–0.0352	0.2123	–88
–87	5.16	4.92	0.0118	8.2034	84.98	0.1219	–13.7	91.6	77.9	–0.0345	0.2120	–87
–86	5.34	5.08	0.0118	7.9554	84.88	0.1257	–13.4	91.5	78.1	–0.0337	0.2118	–86
–85	5.51	5.25	0.0118	7.7160	84.78	0.1296	–13.1	91.4	78.3	–0.0330	0.2116	–85
–84	5.69	5.43	0.0118	7.4850	84.68	0.1336	–12.8	91.2	78.4	–0.0322	0.2113	–84
–83	5.88	5.61	0.0118	7.2569	84.59	0.1378	–12.6	91.1	78.6	–0.0315	0.2111	–83
–82	6.07	5.79	0.0118	7.0423	84.49	0.1420	–12.3	91.0	78.7	–0.0307	0.2108	–82
–81	6.27	5.98	0.0119	6.8353	84.39	0.1463	–12.0	90.9	78.9	–0.0300	0.2106	–81
–80	6.47	6.18	0.0119	6.6357	84.29	0.1507	–11.7	90.7	79.0	–0.0292	0.2104	–80
–79	6.67	6.38	0.0119	6.4392	84.19	0.1553	–11.4	90.6	79.2	–0.0285	0.2102	–79
–78	6.88	6.58	0.0119	6.2539	84.09	0.1599	–11.1	90.5	79.3	–0.0277	0.2099	–78
–77	7.10	6.79	0.0119	6.0716	83.99	0.1647	–10.9	90.4	79.5	–0.0270	0.2097	–77
–76	7.32	7.01	0.0119	5.8997	83.89	0.1695	–10.6	90.2	79.7	–0.0262	0.2095	–76
–75	7.55	7.23	0.0119	5.7307	83.79	0.1745	–10.3	90.1	79.8	–0.0255	0.2093	–75
–74	7.78	7.45	0.0119	5.5679	83.69	0.1796	–10.0	90.0	80.0	–0.0248	0.2091	–74
–73	8.02	7.69	0.0120	5.4113	83.59	0.1848	–9.7	89.8	80.1	–0.0240	0.2089	–73
–72	8.27	7.92	0.0120	5.2604	83.48	0.1901	–9.4	89.7	80.3	–0.0233	0.2087	–72
–71	8.52	8.17	0.0120	5.1151	83.38	0.1955	–9.1	89.6	80.4	–0.0225	0.2085	–71
–70	8.77	8.42	0.0120	4.9727	83.28	0.2011	–8.8	89.4	80.6	–0.0218	0.2083	–70
–69	9.04	8.67	0.0120	4.8356	83.18	0.2068	–8.6	89.3	80.8	–0.0211	0.2081	–69
–68	9.31	8.93	0.0120	4.7037	83.08	0.2126	–8.3	89.2	80.9	–0.0203	0.2079	–68
–67	9.58	9.20	0.0121	4.5746	82.97	0.2186	–8.0	89.0	81.1	–0.0196	0.2077	–67
–66	9.86	9.48	0.0121	4.4524	82.87	0.2246	–7.7	88.9	81.2	–0.0189	0.2075	–66
–65	10.15	9.76	0.0121	4.3328	82.77	0.2308	–7.4	88.8	81.4	–0.0181	0.2073	–65
–64	10.45	10.04	0.0121	4.2159	82.66	0.2372	–7.1	88.6	81.5	–0.0174	0.2072	–64
–63	10.75	10.34	0.0121	4.1034	82.56	0.2437	–6.8	88.5	81.7	–0.0167	0.2070	–63
–62	11.06	10.64	0.0121	3.9952	82.45	0.2503	–6.5	88.4	81.9	–0.0159	0.2068	–62
–61	11.37	10.95	0.0121	3.8911	82.35	0.2570	–6.2	88.2	82.0	–0.0152	0.2066	–61
–60	11.69	11.26	0.0122	3.7893	82.24	0.2639	–5.9	88.1	82.2	–0.0145	0.2065	–60
–59	12.02	11.58	0.0122	3.6900	82.14	0.2710	–5.7	88.0	82.3	–0.0137	0.2063	–59
–58	12.36	11.91	0.0122	3.5945	82.03	0.2782	–5.4	87.8	82.5	–0.0130	0.2061	–58
–57	12.71	12.25	0.0122	3.5026	81.93	0.2855	–5.1	87.7	82.6	–0.0123	0.2060	–57
–56	13.06	12.59	0.0122	3.4130	81.82	0.2930	–4.8	87.6	82.8	–0.0116	0.2058	–56
–55	13.42	12.95	0.0122	3.3256	81.72	0.3007	–4.5	87.4	82.9	–0.0108	0.2057	–55
–54	13.79	13.30	0.0123	3.2415	81.61	0.3085	–4.2	87.3	83.1	–0.0101	0.2055	–54
–53	14.16	13.67	0.0123	3.1606	81.51	0.3164	–3.9	87.1	83.3	–0.0094	0.2054	–53
–52	14.55	14.05	0.0123	3.0807	81.40	0.3246	–3.6	87.0	83.4	–0.0087	0.2052	–52
–51	14.94	14.43	0.0123	3.0039	81.29	0.3329	–3.3	86.9	83.6	–0.0079	0.2051	–51
–50	15.34	14.82	0.0123	2.9300	81.19	0.3413	–3.0	86.7	83.7	–0.0072	0.2049	–50
–49	15.75	15.22	0.0123	2.8580	81.08	0.3499	–2.7	86.6	83.9	–0.0065	0.2048	–49
–48	16.16	15.63	0.0123	2.7878	80.97	0.3587	–2.4	86.4	84.0	–0.0058	0.2046	–48
–47	16.59	16.05	0.0124	2.7196	80.87	0.3677	–2.1	86.3	84.2	–0.0050	0.2045	–47
–46	17.02	16.47	0.0124	2.6539	80.76	0.3768	–1.8	86.1	84.3	–0.0043	0.2044	–46
–45	17.47	16.91	0.0124	2.5900	80.65	0.3861	–1.5	86.0	84.5	–0.0036	0.2042	–45
–44	17.92	17.35	0.0124	2.5278	80.54	0.3956	–1.2	85.9	84.7	–0.0029	0.2041	–44
–43	18.38	17.80	0.0124	2.4673	80.43	0.4053	–0.9	85.7	84.8	–0.0022	0.2040	–43
–42	18.85	18.26	0.0124	2.4085	80.33	0.4152	–0.6	85.6	85.0	–0.0014	0.2038	–42
–41	19.33	18.73	0.0125	2.3518	80.22	0.4252	–0.3	85.4	85.1	–0.0007	0.2037	–41
–40	19.82	19.21	0.0125	2.2962	80.11	0.4355	0.0	85.3	85.3	0.0000	0.2036	–40
–39	20.32	19.70	0.0125	2.2427	80.00	0.4459	0.3	85.1	85.4	0.0007	0.2035	–39
–38	20.83	20.20	0.0125	2.1906	79.89	0.4565	0.6	85.0	85.6	0.0014	0.2033	–38
–37	21.35	20.71	0.0125	2.1400	79.78	0.4673	0.9	84.8	85.7	0.0022	0.2032	–37
–36	21.88	21.23	0.0126	2.0903	79.68	0.4784	1.2	84.7	85.9	0.0029	0.2031	–36
–35	22.42	21.76	0.0126	2.0425	79.57	0.4896	1.5	84.5	86.0	0.0036	0.2030	–35
–34	22.97	22.30	0.0126	1.9960	79.46	0.5010	1.8	84.4	86.2	0.0043	0.2029	–34
–33	23.53	22.85	0.0126	1.9505	79.35	0.5127	2.1	84.2	86.4	0.0050	0.2028	–33
–32	24.10	23.41	0.0126	1.9066	79.24	0.5245	2.6	83.9	86.5	0.0062	0.2027	–32
–31	24.68	23.98	0.0126	1.8636	79.13	0.5366	2.9	83.7	86.7	0.0069	0.2026	–31

Table 1 (continued)
Suva® 404A (HP62) Saturation Properties—Temperature Table

TEMP. °F	PRESSURE psia		VOLUME ft^3/lb		DENSITY lb/ft^3		ENTHALPY Btu/lb			ENTROPY Btu/(lb)(°R)		TEMP. °F
	LIQUID p_f	VAPOR p_g	LIQUID v_f	VAPOR v_g	LIQUID $1/v_f$	VAPOR $1/v_g$	LIQUID h_f	LATENT h_{fg}	VAPOR h_g	LIQUID s_f	VAPOR s_g	
–30	25.27	24.56	0.0127	1.8222	79.02	0.5488	3.2	83.6	86.8	0.0076	0.2025	–30
–29	25.87	25.15	0.0127	1.7816	78.91	0.5613	3.5	83.4	87.0	0.0083	0.2024	–29
–28	26.48	25.75	0.0127	1.7422	78.80	0.5740	3.8	83.3	87.1	0.0090	0.2023	–28
–27	27.11	26.36	0.0127	1.7036	78.69	0.5870	4.2	83.1	87.3	0.0097	0.2022	–27
–26	27.74	26.99	0.0127	1.6664	78.58	0.6001	4.5	83.0	87.4	0.0104	0.2021	–26
–25	28.39	27.62	0.0127	1.6300	78.47	0.6135	4.8	82.8	87.6	0.0111	0.2020	–25
–24	29.04	28.27	0.0128	1.5946	78.36	0.6271	5.1	82.7	87.7	0.0118	0.2019	–24
–23	29.71	28.93	0.0128	1.5601	78.25	0.6410	5.9	82.0	87.9	0.0136	0.2018	–23
–22	30.39	29.60	0.0128	1.5267	78.14	0.6550	6.2	81.9	88.0	0.0143	0.2017	–22
–21	31.08	30.28	0.0128	1.4943	78.03	0.6692	6.5	81.7	88.2	0.0150	0.2016	–21
–20	31.78	30.97	0.0128	1.4626	77.92	0.6837	6.8	81.6	88.4	0.0157	0.2015	–20
–19	32.50	31.67	0.0129	1.4316	77.81	0.6985	7.1	81.4	88.5	0.0164	0.2015	–19
–18	33.22	32.39	0.0129	1.4015	77.70	0.7135	7.4	81.3	88.7	0.0170	0.2014	–18
–17	33.96	33.11	0.0129	1.3723	77.59	0.7287	7.7	81.1	88.8	0.0177	0.2013	–17
–16	34.71	33.85	0.0129	1.3437	77.48	0.7442	8.0	81.0	89.0	0.0184	0.2012	–16
–15	35.48	34.61	0.0129	1.3158	77.37	0.7600	8.3	80.8	89.1	0.0191	0.2011	–15
–14	36.25	35.37	0.0129	1.2885	77.26	0.7761	8.6	80.7	89.3	0.0198	0.2011	–14
–13	37.04	36.15	0.0130	1.2620	77.15	0.7924	8.9	80.5	89.4	0.0205	0.2010	–13
–12	37.85	36.95	0.0130	1.2362	77.03	0.8089	9.2	80.3	89.6	0.0211	0.2009	–12
–11	38.66	37.75	0.0130	1.2109	76.92	0.8258	9.5	80.2	89.7	0.0218	0.2008	–11
–10	39.49	38.57	0.0130	1.1864	76.81	0.8429	9.8	80.0	89.9	0.0225	0.2008	–10
–9	40.34	39.40	0.0130	1.1624	76.70	0.8603	10.1	79.9	90.0	0.0232	0.2007	–9
–8	41.20	40.25	0.0131	1.1390	76.59	0.8780	10.4	79.7	90.2	0.0239	0.2006	–8
–7	42.07	41.11	0.0131	1.1161	76.47	0.8960	10.8	79.5	90.3	0.0246	0.2006	–7
–6	42.95	41.98	0.0131	1.0937	76.36	0.9143	11.1	79.4	90.5	0.0252	0.2005	–6
–5	43.85	42.87	0.0131	1.0719	76.25	0.9329	11.4	79.2	90.6	0.0259	0.2004	–5
–4	44.77	43.78	0.0131	1.0506	76.14	0.9518	11.7	79.1	90.7	0.0266	0.2004	–4
–3	45.70	44.69	0.0132	1.0299	76.02	0.9710	12.0	78.9	90.9	0.0273	0.2003	–3
–2	46.64	45.63	0.0132	1.0096	75.91	0.9905	12.3	78.7	91.0	0.0280	0.2002	–2
–1	47.60	46.57	0.0132	0.9898	75.80	1.0103	12.6	78.6	91.2	0.0286	0.2002	–1
0	48.57	47.54	0.0132	0.9705	75.68	1.0304	12.9	78.4	91.3	0.0293	0.2001	0
1	49.56	48.51	0.0132	0.9516	75.57	1.0509	13.3	78.2	91.5	0.0300	0.2000	1
2	50.57	49.51	0.0133	0.9332	75.46	1.0716	13.6	78.0	91.6	0.0307	0.2000	2
3	51.59	50.51	0.0133	0.9152	75.34	1.0927	13.9	77.9	91.8	0.0314	0.1999	3
4	52.62	51.54	0.0133	0.8975	75.23	1.1142	14.2	77.7	91.9	0.0320	0.1999	4
5	53.67	52.58	0.0133	0.8803	75.11	1.1360	14.5	77.5	92.1	0.0327	0.1998	5
6	54.74	53.63	0.0133	0.8635	75.00	1.1581	14.9	77.4	92.2	0.0334	0.1998	6
7	55.82	54.70	0.0134	0.8470	74.88	1.1806	15.2	77.2	92.3	0.0341	0.1997	7
8	56.92	55.79	0.0134	0.8310	74.76	1.2034	15.5	77.0	92.5	0.0348	0.1996	8
9	58.04	56.90	0.0134	0.8153	74.65	1.2266	15.8	76.8	92.6	0.0354	0.1996	9
10	59.17	58.02	0.0134	0.7999	74.53	1.2501	16.1	76.6	92.8	0.0361	0.1995	10
11	60.32	59.16	0.0134	0.7849	74.42	1.2740	16.5	76.5	92.9	0.0368	0.1995	11
12	61.49	60.31	0.0135	0.7702	74.30	1.2983	16.8	76.3	93.1	0.0375	0.1994	12
13	62.67	61.48	0.0135	0.7559	74.18	1.3230	17.1	76.1	93.2	0.0382	0.1994	13
14	63.87	62.67	0.0135	0.7418	74.06	1.3480	17.4	75.9	93.3	0.0388	0.1993	14
15	65.09	63.88	0.0135	0.7281	73.95	1.3734	17.8	75.7	93.5	0.0395	0.1993	15
16	66.33	65.10	0.0135	0.7146	73.83	1.3993	18.1	75.6	93.6	0.0402	0.1992	16
17	67.58	66.34	0.0136	0.7015	73.71	1.4255	18.4	75.4	93.8	0.0409	0.1992	17
18	68.85	67.60	0.0136	0.6887	73.59	1.4521	18.7	75.2	93.9	0.0416	0.1991	18
19	70.14	68.88	0.0136	0.6761	73.47	1.4791	19.1	75.0	94.0	0.0422	0.1991	19
20	71.45	70.18	0.0136	0.6637	73.35	1.5066	19.4	74.8	94.2	0.0429	0.1990	20
21	72.78	71.49	0.0137	0.6517	73.23	1.5344	19.7	74.6	94.3	0.0436	0.1990	21
22	74.12	72.82	0.0137	0.6399	73.11	1.5627	20.1	74.4	94.5	0.0443	0.1990	22
23	75.49	74.18	0.0137	0.6284	72.99	1.5914	20.4	74.2	94.6	0.0450	0.1989	23
24	76.87	75.55	0.0137	0.6171	72.87	1.6206	20.7	74.0	94.7	0.0456	0.1989	24
25	78.27	76.94	0.0137	0.6060	72.75	1.6502	21.0	73.8	94.9	0.0463	0.1988	25
26	79.69	78.35	0.0138	0.5952	72.63	1.6802	21.4	73.6	95.0	0.0470	0.1988	26
27	81.13	79.78	0.0138	0.5845	72.50	1.7108	21.7	73.4	95.1	0.0477	0.1987	27
28	82.60	81.22	0.0138	0.5742	72.38	1.7417	22.1	73.2	95.3	0.0484	0.1987	28
29	84.08	82.69	0.0138	0.5640	72.26	1.7732	22.4	73.0	95.4	0.0490	0.1987	29

Table 1 (continued)
Suva® 404A (HP62) Saturation Properties—Temperature Table

TEMP. °F	PRESSURE psia		VOLUME ft³/lb		DENSITY lb/ft³		ENTHALPY Btu/lb			ENTROPY Btu/(lb)(°R)		TEMP. °F
	LIQUID p_f	VAPOR p_g	LIQUID v_f	VAPOR v_g	LIQUID $1/v_f$	VAPOR $1/v_g$	LIQUID h_f	LATENT h_{fg}	VAPOR h_g	LIQUID s_f	VAPOR s_g	
30	85.58	84.18	0.0139	0.5540	72.13	1.8051	22.7	72.8	95.5	0.0497	0.1986	30
31	87.10	85.69	0.0139	0.5442	72.01	1.8375	23.1	72.6	95.7	0.0504	0.1986	31
32	88.64	87.22	0.0139	0.5347	71.88	1.8703	23.4	72.4	95.8	0.0511	0.1985	32
33	90.20	88.77	0.0139	0.5253	71.76	1.9037	23.7	72.2	95.9	0.0518	0.1985	33
34	91.78	90.34	0.0140	0.5161	71.63	1.9376	24.1	72.0	96.1	0.0525	0.1984	34
35	93.38	91.93	0.0140	0.5071	71.51	1.9720	24.4	71.8	96.2	0.0531	0.1984	35
36	95.01	93.54	0.0140	0.4983	71.38	2.0069	24.8	71.6	96.3	0.0538	0.1984	36
37	96.65	95.17	0.0140	0.4896	71.25	2.0423	25.1	71.4	96.5	0.0545	0.1983	37
38	98.32	96.83	0.0141	0.4812	71.12	2.0783	25.5	71.1	96.6	0.0552	0.1983	38
39	100.01	98.51	0.0141	0.4729	70.99	2.1148	25.8	70.9	96.7	0.0559	0.1982	39
40	101.72	100.20	0.0141	0.4647	70.86	2.1518	26.1	70.7	96.8	0.0566	0.1982	40
41	103.45	101.92	0.0141	0.4567	70.73	2.1894	26.5	70.5	97.0	0.0572	0.1982	41
42	105.20	103.67	0.0142	0.4489	70.60	2.2276	26.8	70.3	97.1	0.0579	0.1981	42
43	106.98	105.43	0.0142	0.4412	70.47	2.2664	27.2	70.0	97.2	0.0586	0.1981	43
44	108.78	107.22	0.0142	0.4337	70.34	2.3057	27.5	69.8	97.4	0.0593	0.1980	44
45	110.60	109.03	0.0142	0.4263	70.20	2.3456	27.9	69.6	97.5	0.0600	0.1980	45
46	112.45	110.86	0.0143	0.4191	70.07	2.3861	28.2	69.4	97.6	0.0607	0.1980	46
47	114.31	112.72	0.0143	0.4120	69.94	2.4273	28.6	69.1	97.7	0.0614	0.1979	47
48	116.20	114.60	0.0143	0.4050	69.80	2.4690	29.0	68.9	97.8	0.0620	0.1979	48
49	118.12	116.50	0.0144	0.3982	69.67	2.5114	29.3	68.7	98.0	0.0627	0.1978	49
50	120.06	118.43	0.0144	0.3915	69.53	2.5544	29.7	68.4	98.1	0.0634	0.1978	50
51	122.02	120.38	0.0144	0.3849	69.39	2.5980	30.0	68.2	98.2	0.0641	0.1978	51
52	124.00	122.35	0.0144	0.3784	69.25	2.6424	30.4	67.9	98.3	0.0648	0.1977	52
53	126.02	124.35	0.0145	0.3721	69.11	2.6873	30.7	67.7	98.4	0.0655	0.1977	53
54	128.05	126.37	0.0145	0.3659	68.97	2.7330	31.1	67.5	98.6	0.0662	0.1976	54
55	130.11	128.42	0.0145	0.3598	68.83	2.7794	31.5	67.2	98.7	0.0669	0.1976	55
56	132.19	130.49	0.0146	0.3538	68.69	2.8264	31.8	67.0	98.8	0.0676	0.1976	56
57	134.30	132.59	0.0146	0.3479	68.55	2.8742	32.2	66.7	98.9	0.0683	0.1975	57
58	136.44	134.71	0.0146	0.3421	68.40	2.9227	32.5	66.5	99.0	0.0689	0.1975	58
59	138.59	136.86	0.0147	0.3365	68.26	2.9719	32.9	66.2	99.1	0.0696	0.1974	59
60	140.78	139.04	0.0147	0.3309	68.11	3.0219	33.3	66.0	99.2	0.0703	0.1974	60
61	142.99	141.24	0.0147	0.3255	67.96	3.0726	33.6	65.7	99.4	0.0710	0.1974	61
62	145.23	143.46	0.0147	0.3201	67.82	3.1241	34.0	65.5	99.5	0.0717	0.1973	62
63	147.49	145.71	0.0148	0.3148	67.67	3.1764	34.4	65.2	99.6	0.0724	0.1973	63
64	149.78	147.99	0.0148	0.3096	67.52	3.2295	34.8	64.9	99.7	0.0731	0.1972	64
65	152.09	150.30	0.0148	0.3046	67.36	3.2834	35.1	64.7	99.8	0.0738	0.1972	65
66	154.44	152.63	0.0149	0.2996	67.21	3.3382	35.5	64.4	99.9	0.0745	0.1971	66
67	156.81	154.99	0.0149	0.2947	67.06	3.3938	35.9	64.1	100.0	0.0752	0.1971	67
68	159.20	157.38	0.0149	0.2898	66.90	3.4502	36.3	63.9	100.1	0.0759	0.1970	68
69	161.63	159.79	0.0150	0.2851	66.75	3.5075	36.6	63.6	100.2	0.0766	0.1970	69
70	164.08	162.23	0.0150	0.2804	66.59	3.5657	37.0	63.3	100.3	0.0773	0.1969	70
71	166.56	164.70	0.0151	0.2759	66.43	3.6248	37.4	63.0	100.4	0.0780	0.1969	71
72	169.06	167.20	0.0151	0.2714	66.27	3.6849	37.8	62.7	100.5	0.0787	0.1969	72
73	171.60	169.72	0.0151	0.2670	66.11	3.7459	38.2	62.5	100.6	0.0794	0.1968	73
74	174.16	172.28	0.0152	0.2626	65.95	3.8078	38.5	62.2	100.7	0.0801	0.1968	74
75	176.75	174.86	0.0152	0.2584	65.78	3.8707	38.9	61.9	100.8	0.0808	0.1967	75
76	179.37	177.47	0.0152	0.2542	65.61	3.9346	39.3	61.6	100.9	0.0816	0.1966	76
77	182.02	180.11	0.0153	0.2500	65.45	3.9995	39.7	61.3	101.0	0.0823	0.1966	77
78	184.70	182.78	0.0153	0.2460	65.28	4.0655	40.1	61.0	101.1	0.0830	0.1965	78
79	187.41	185.48	0.0154	0.2420	65.11	4.1325	40.5	60.7	101.2	0.0837	0.1965	79
80	190.15	188.21	0.0154	0.2381	64.94	4.2005	40.9	60.4	101.3	0.0844	0.1964	80
81	192.92	190.97	0.0154	0.2342	64.76	4.2697	41.3	60.1	101.4	0.0851	0.1964	81
82	195.72	193.76	0.0155	0.2304	64.59	4.3400	41.7	59.8	101.5	0.0858	0.1963	82
83	198.54	196.58	0.0155	0.2267	64.41	4.4114	42.1	59.5	101.5	0.0866	0.1963	83
84	201.40	199.43	0.0156	0.2230	64.23	4.4840	42.5	59.2	101.6	0.0873	0.1962	84
85	204.29	202.31	0.0156	0.2194	64.05	4.5578	42.9	58.9	101.7	0.0880	0.1961	85
86	207.21	205.23	0.0157	0.2159	63.87	4.6328	43.3	58.5	101.8	0.0887	0.1961	86
87	210.16	208.17	0.0157	0.2124	63.69	4.7090	43.7	58.2	101.9	0.0894	0.1960	87
88	213.15	211.15	0.0157	0.2089	63.50	4.7865	44.1	57.9	102.0	0.0902	0.1959	88
89	216.16	214.15	0.0158	0.2055	63.31	4.8653	44.5	57.6	102.0	0.0909	0.1959	89

Table 1 (continued)
Suva® 404A (HP62) Saturation Properties—Temperature Table

TEMP.	PRESSURE psia		VOLUME ft^3/lb		DENSITY lb/ft^3		ENTHALPY Btu/lb			ENTROPY Btu/(lb)(°R)		TEMP.
°F	LIQUID p_f	VAPOR p_g	LIQUID v_f	VAPOR v_g	LIQUID $1/v_f$	VAPOR $1/v_g$	LIQUID h_f	LATENT h_{fg}	VAPOR h_g	LIQUID s_f	VAPOR s_g	°F
90	219.21	217.19	0.0158	0.2022	63.12	4.9454	44.9	57.2	102.1	0.0916	0.1958	90
91	222.28	220.26	0.0159	0.1989	62.93	5.0268	45.3	56.9	102.2	0.0923	0.1957	91
92	225.39	223.37	0.0159	0.1957	62.74	5.1097	45.7	56.5	102.3	0.0931	0.1957	92
93	228.53	226.50	0.0160	0.1925	62.54	5.1939	46.1	56.2	102.3	0.0938	0.1956	93
94	231.71	229.67	0.0160	0.1894	62.34	5.2796	46.6	55.9	102.4	0.0945	0.1955	94
95	234.92	232.87	0.0161	0.1863	62.14	5.3668	47.0	55.5	102.5	0.0953	0.1954	95
96	238.16	236.11	0.0161	0.1833	61.94	5.4555	47.4	55.1	102.5	0.0960	0.1953	96
97	241.43	239.38	0.0162	0.1803	61.73	5.5458	47.8	54.8	102.6	0.0968	0.1953	97
98	244.74	242.68	0.0163	0.1774	61.53	5.6376	48.2	54.4	102.7	0.0975	0.1952	98
99	248.08	246.02	0.0163	0.1745	61.32	5.7311	48.7	54.1	102.7	0.0982	0.1951	99
100	251.46	249.39	0.0164	0.1716	61.10	5.8262	49.1	53.7	102.8	0.0990	0.1950	100
101	254.87	252.80	0.0164	0.1688	60.89	5.9231	49.5	53.3	102.8	0.0997	0.1949	101
102	258.31	256.24	0.0165	0.1661	60.67	6.0217	50.0	52.9	102.9	0.1005	0.1948	102
103	261.79	259.71	0.0165	0.1633	60.45	6.1221	50.4	52.6	103.0	0.1013	0.1947	103
104	265.30	263.22	0.0166	0.1607	60.23	6.2243	50.8	52.2	103.0	0.1020	0.1946	104
105	268.85	266.77	0.0167	0.1580	60.00	6.3285	51.3	51.8	103.1	0.1028	0.1945	105
106	272.43	270.35	0.0167	0.1554	59.77	6.4346	51.7	51.4	103.1	0.1035	0.1944	106
107	276.05	273.97	0.0168	0.1528	59.54	6.5427	52.2	51.0	103.1	0.1043	0.1943	107
108	279.71	277.62	0.0169	0.1503	59.31	6.6529	52.6	50.6	103.2	0.1051	0.1942	108
109	283.40	281.31	0.0169	0.1478	59.07	6.7652	53.1	50.2	103.2	0.1058	0.1941	109
110	287.13	285.04	0.0170	0.1454	58.83	6.8797	53.5	49.7	103.3	0.1066	0.1940	110
111	290.89	288.80	0.0171	0.1429	58.58	6.9965	54.0	49.3	103.3	0.1074	0.1939	111
112	294.69	292.60	0.0171	0.1405	58.34	7.1156	54.4	48.9	103.3	0.1082	0.1938	112
113	298.53	296.44	0.0172	0.1382	58.08	7.2370	54.9	48.5	103.4	0.1090	0.1936	113
114	302.40	300.32	0.0173	0.1359	57.83	7.3610	55.4	48.0	103.4	0.1097	0.1935	114
115	306.32	304.23	0.0174	0.1336	57.57	7.4874	55.8	47.6	103.4	0.1105	0.1934	115
116	310.27	308.18	0.0174	0.1313	57.31	7.6166	56.3	47.1	103.4	0.1113	0.1932	116
117	314.26	312.17	0.0175	0.1291	57.04	7.7484	56.8	46.7	103.4	0.1121	0.1931	117
118	318.28	316.20	0.0176	0.1269	56.77	7.8830	57.2	46.2	103.5	0.1129	0.1930	118
119	322.35	320.27	0.0177	0.1247	56.50	8.0206	57.7	45.7	103.5	0.1137	0.1928	119
120	326.45	324.38	0.0178	0.1225	56.22	8.1611	58.2	45.3	103.5	0.1146	0.1927	120
121	330.59	328.52	0.0179	0.1204	55.94	8.3048	58.7	44.8	103.5	0.1154	0.1925	121
122	334.77	332.71	0.0180	0.1183	55.65	8.4517	59.2	44.3	103.5	0.1162	0.1924	122
123	338.99	336.94	0.0181	0.1163	55.36	8.6020	59.7	43.8	103.5	0.1170	0.1922	123
124	343.25	341.20	0.0182	0.1142	55.06	8.7558	60.2	43.3	103.5	0.1178	0.1920	124
125	347.55	345.51	0.0183	0.1122	54.76	8.9132	60.7	42.7	103.4	0.1187	0.1918	125
126	351.89	349.86	0.0184	0.1102	54.46	9.0743	61.2	42.2	103.4	0.1195	0.1917	126
127	356.27	354.25	0.0185	0.1082	54.14	9.2395	61.7	41.7	103.4	0.1204	0.1915	127
128	360.69	358.68	0.0186	0.1063	53.83	9.4087	62.2	41.1	103.4	0.1212	0.1913	128
129	365.16	363.15	0.0187	0.1044	53.50	9.5822	62.8	40.6	103.4	0.1221	0.1911	129
130	369.66	367.67	0.0188	0.1025	53.18	9.7602	63.3	40.0	103.3	0.1230	0.1909	130
131	374.20	372.22	0.0189	0.1006	52.84	9.9429	63.8	39.4	103.3	0.1238	0.1907	131
132	378.79	376.82	0.0190	0.0987	52.50	10.1305	64.4	38.9	103.2	0.1247	0.1904	132
133	383.42	381.46	0.0192	0.0969	52.15	10.3233	64.9	38.3	103.2	0.1256	0.1902	133
134	388.09	386.15	0.0193	0.0950	51.80	10.5215	65.5	37.7	103.1	0.1265	0.1900	134
135	392.80	390.88	0.0194	0.0932	51.43	10.7254	66.0	37.0	103.1	0.1274	0.1897	135
136	397.55	395.65	0.0196	0.0914	51.07	10.9354	66.6	36.4	103.0	0.1283	0.1895	136
137	402.35	400.47	0.0197	0.0897	50.69	11.1517	67.2	35.7	102.9	0.1293	0.1892	137
138	407.19	405.33	0.0199	0.0879	50.30	11.3748	67.7	35.1	102.8	0.1302	0.1889	138
139	412.07	410.23	0.0200	0.0862	49.91	11.6051	68.3	34.4	102.7	0.1311	0.1886	139
140	417.00	415.18	0.0202	0.0844	49.50	11.8430	68.9	33.7	102.6	0.1321	0.1883	140
141	421.97	420.18	0.0204	0.0827	49.09	12.0890	69.5	33.0	102.5	0.1331	0.1880	141
142	426.99	425.22	0.0205	0.0810	48.66	12.3438	70.1	32.3	102.4	0.1341	0.1877	142
143	432.05	430.30	0.0207	0.0793	48.23	12.6079	70.8	31.5	102.3	0.1351	0.1874	143
144	437.15	435.44	0.0209	0.0776	47.78	12.8822	71.4	30.7	102.1	0.1361	0.1870	144
145	442.30	440.62	0.0211	0.0759	47.32	13.1673	72.1	29.9	102.0	0.1371	0.1866	145
146	447.49	445.84	0.0213	0.0743	46.85	13.4642	72.7	29.1	101.8	0.1382	0.1862	146
147	452.73	451.12	0.0216	0.0726	46.36	13.7741	73.4	28.2	101.6	0.1393	0.1858	147
148	458.01	456.44	0.0218	0.0709	45.86	14.0981	74.1	27.4	101.4	0.1403	0.1854	148
149	463.34	461.81	0.0221	0.0693	45.33	14.4378	74.8	26.4	101.2	0.1415	0.1849	149
150	468.72	467.23	0.0223	0.0676	44.79	14.7948	75.5	25.5	101.0	0.1426	0.1844	150

Table 2
Suva® 404A (HP62) Superheated Vapor—Constant Pressure Tables

V = Volume in ft³/lb H = Enthalpy in Btu/lb S = Entropy in Btu/(lb) (°R) (Saturation Properties in parentheses)

ABSOLUTE PRESSURE, psia

TEMP. °F	1.00 (–128.54°F)			2.00 (–111.88°F)			3.00 (–101.17°F)			4.00 (–93.08°F)			TEMP. °F
	V	H	S	V	H	S	V	H	S	V	H	S	
	(36.2565)	(71.6)	(0.2261)	(18.9797)	(74.1)	(0.2195)	(13.0054)	(75.7)	(0.2160)	(9.9475)	(77.0)	(0.2136)	
–100	39.4132	76.1	0.2391	19.6402	76.0	0.2249	13.0490	75.9	0.2165	—	—	—	–100
–90	40.5185	77.7	0.2436	20.1958	77.6	0.2293	13.4214	77.6	0.2210	10.0340	77.5	0.2150	–90
–80	41.6234	79.3	0.2480	20.7511	79.3	0.2338	13.7934	79.2	0.2254	10.3145	79.2	0.2195	–80
–70	42.7281	81.0	0.2524	21.3060	81.0	0.2382	14.1651	80.9	0.2298	10.5946	80.9	0.2239	–70
–60	43.8324	82.7	0.2567	21.8606	82.7	0.2425	14.5365	82.6	0.2341	10.8744	82.6	0.2282	–60
–50	44.9365	84.5	0.2610	22.4150	84.4	0.2468	14.9077	84.4	0.2385	11.1539	84.3	0.2325	–50
–40	46.0403	86.3	0.2652	22.9691	86.2	0.2511	15.2785	86.1	0.2427	11.4332	86.1	0.2368	–40
–30	47.1438	88.0	0.2695	23.5229	88.0	0.2553	15.6492	87.9	0.2470	11.7122	87.9	0.2410	–30
–20	48.2472	89.9	0.2737	24.0765	89.8	0.2595	16.0195	89.8	0.2512	11.9910	89.7	0.2452	–20
–10	49.3503	91.7	0.2778	24.6299	91.7	0.2636	16.3897	91.6	0.2553	12.2695	91.6	0.2494	–10
0	50.4533	93.6	0.2819	25.1831	93.5	0.2678	16.7597	93.5	0.2594	12.5479	93.4	0.2535	0
10	51.5560	95.5	0.2860	25.7362	95.4	0.2718	17.1295	95.4	0.2635	12.8261	95.3	0.2576	10
20	52.6587	97.4	0.2901	26.2891	97.4	0.2759	17.4992	97.3	0.2676	13.1042	97.3	0.2617	20
30	53.7611	99.4	0.2941	26.8418	99.3	0.2799	17.8687	99.3	0.2716	13.3820	99.2	0.2657	30
40	54.8635	101.3	0.2981	27.3944	101.3	0.2839	18.2380	101.3	0.2756	13.6598	101.2	0.2697	40
50	55.9657	103.3	0.3020	27.9469	103.3	0.2879	18.6072	103.3	0.2796	13.9374	103.2	0.2737	50
60	57.0677	105.4	0.3060	28.4992	105.3	0.2918	18.9763	105.3	0.2835	14.2149	105.2	0.2776	60
70	58.1697	107.4	0.3099	29.0515	107.4	0.2957	19.3453	107.3	0.2874	14.4923	107.3	0.2815	70
80	59.2716	109.5	0.3138	29.6036	109.4	0.2996	19.7142	109.4	0.2913	14.7695	109.4	0.2854	80
90	60.3733	111.6	0.3176	30.1556	111.6	0.3035	20.0830	111.5	0.2952	15.0467	111.5	0.2893	90
100	61.4750	113.7	0.3215	30.7075	113.7	0.3073	20.4517	113.6	0.2990	15.3237	113.6	0.2931	100
110	62.5766	115.9	0.3253	31.2593	115.8	0.3111	20.8203	115.8	0.3028	15.6007	115.8	0.2969	110
120	63.6780	118.0	0.3291	31.8111	118.0	0.3149	21.1888	118.0	0.3066	15.8776	117.9	0.3007	120
130	64.7794	120.2	0.3328	32.3628	120.2	0.3187	21.5572	120.2	0.3104	16.1544	120.1	0.3045	130
140	65.8808	122.4	0.3365	32.9144	122.4	0.3224	21.9255	122.4	0.3141	16.4311	122.4	0.3082	140
150	66.9820	124.7	0.3403	33.4659	124.7	0.3261	22.2938	124.6	0.3178	16.7078	124.6	0.3119	150
160	68.0832	127.0	0.3439	34.0173	126.9	0.3298	22.6620	126.9	0.3215	16.9843	126.9	0.3156	160
170	69.1844	129.3	0.3476	34.5687	129.2	0.3335	23.0302	129.2	0.3252	17.2609	129.2	0.3193	170
180	70.2854	131.6	0.3513	35.1200	131.5	0.3371	23.3982	131.5	0.3288	17.5373	131.5	0.3229	180
190	71.3864	133.9	0.3549	35.6713	133.9	0.3407	23.7663	133.8	0.3325	17.8137	133.8	0.3266	190
200	72.4874	136.3	0.3585	36.2225	136.2	0.3443	24.1342	136.2	0.3361	18.0901	136.2	0.3302	200
210	—	—	—	—	—	—	—	—	—	18.3664	138.6	0.3338	210

TEMP. °F	5.00 (–86.50°F)			6.00 (–80.92°F)			7.00 (–76.04°F)			8.00 (–71.69°F)			TEMP. °F
	V	H	S	V	H	S	V	H	S	V	H	S	
	(8.0804)	(78.0)	(0.2119)	(6.8179)	(78.9)	(0.2106)	(5.9054)	(79.7)	(0.2095)	(5.2140)	(80.3)	(0.2086)	
–80	8.2269	79.1	0.2148	6.8352	79.0	0.2110	—	—	—	—	—	—	–80
–70	8.4521	80.8	0.2192	7.0237	80.7	0.2154	6.0034	80.7	0.2122	5.2381	80.6	0.2094	–70
–60	8.6770	82.5	0.2236	7.2120	82.5	0.2198	6.1655	82.4	0.2165	5.3806	82.4	0.2137	–60
–50	8.9016	84.3	0.2279	7.4000	84.2	0.2241	6.3273	84.2	0.2209	5.5228	84.1	0.2181	–50
–40	9.1259	86.0	0.2322	7.5877	86.0	0.2284	6.4888	85.9	0.2252	5.6647	85.9	0.2224	–40
–30	9.3500	87.8	0.2364	7.7751	87.8	0.2326	6.6501	87.7	0.2294	5.8064	87.7	0.2266	–30
–20	9.5738	89.7	0.2406	7.9623	89.6	0.2368	6.8112	89.6	0.2336	5.9478	89.5	0.2308	–20
–10	9.7974	91.5	0.2448	8.1493	91.5	0.2410	6.9720	91.4	0.2378	6.0890	91.4	0.2350	–10
0	10.0208	93.4	0.2489	8.3360	93.4	0.2451	7.1326	93.3	0.2419	6.2300	93.3	0.2391	0
10	10.2440	95.3	0.2530	8.5226	95.3	0.2492	7.2930	95.2	0.2460	6.3708	95.2	0.2433	10
20	10.4671	97.2	0.2571	8.7091	97.2	0.2533	7.4533	97.1	0.2501	6.5114	97.1	0.2473	20
30	10.6900	99.2	0.2611	8.8953	99.1	0.2573	7.6134	99.1	0.2541	6.6519	99.1	0.2514	30
40	10.9128	101.2	0.2651	9.0815	101.1	0.2613	7.7734	101.1	0.2582	6.7923	101.1	0.2554	40
50	11.1355	103.2	0.2691	9.2675	103.1	0.2653	7.9332	103.1	0.2621	6.9325	103.1	0.2594	50
60	11.3580	105.2	0.2730	9.4534	105.2	0.2693	8.0929	105.1	0.2661	7.0725	105.1	0.2633	60
70	11.5804	107.3	0.2769	9.6391	107.2	0.2732	8.2525	107.2	0.2700	7.2125	107.2	0.2672	70
80	11.8027	109.3	0.2808	9.8248	109.3	0.2771	8.4120	109.3	0.2739	7.3523	109.2	0.2711	80
90	12.0249	111.4	0.2847	10.0103	111.4	0.2809	8.5713	111.4	0.2778	7.4921	111.3	0.2750	90
100	12.2470	113.6	0.2885	10.1958	113.5	0.2848	8.7306	113.5	0.2816	7.6317	113.5	0.2789	100
110	12.4690	115.7	0.2924	10.3811	115.7	0.2886	8.8898	115.7	0.2854	7.7713	115.6	0.2827	110
120	12.6909	117.9	0.2961	10.5664	117.9	0.2924	9.0489	117.8	0.2892	7.9107	117.8	0.2865	120
130	12.9127	120.1	0.2999	10.7516	120.1	0.2962	9.2079	120.0	0.2930	8.0501	120.0	0.2902	130
140	13.1345	122.3	0.3036	10.9367	122.3	0.2999	9.3668	122.3	0.2967	8.1894	122.2	0.2940	140
150	13.3561	124.6	0.3074	11.1217	124.5	0.3036	9.5257	124.5	0.3004	8.3287	124.5	0.2977	150
160	13.5777	126.8	0.3111	11.3067	126.8	0.3073	9.6845	126.8	0.3041	8.4678	126.8	0.3014	160
170	13.7993	129.1	0.3147	11.4916	129.1	0.3110	9.8432	129.1	0.3078	8.6069	129.1	0.3051	170
180	14.0208	131.5	0.3184	11.6764	131.4	0.3146	10.0018	131.4	0.3115	8.7459	131.4	0.3087	180
190	14.2422	133.8	0.3220	11.8612	133.8	0.3183	10.1605	133.7	0.3151	8.8849	133.7	0.3123	190
200	14.4636	136.2	0.3256	12.0459	136.1	0.3219	10.3190	136.1	0.3187	9.0238	136.1	0.3160	200
210	14.6849	138.5	0.3292	12.2306	138.5	0.3254	10.4775	138.5	0.3223	9.1627	138.5	0.3195	210
220	14.9062	140.9	0.3327	12.4152	140.9	0.3290	10.6359	140.9	0.3258	9.3015	140.9	0.3231	220
230	—	—	—	—	—	—	10.7943	143.3	0.3294	9.4402	143.3	0.3266	230

Table 2 (continued)
Suva® 404A (HP62) Superheated Vapor—Constant Pressure Tables

V = Volume in ft³/lb H = Enthalpy in Btu/lb S = Entropy in Btu/(lb) (°R) (Saturation Properties in parentheses)

ABSOLUTE PRESSURE, psia

TEMP. °F	9.00 (–67.75°F)			10.00 (–64.15°F)			11.00 (–60.83°F)			12.00 (–57.74°F)			TEMP. °F
	V	H	S	V	H	S	V	H	S	V	H	S	
	(4.6714)	(81.0)	(0.2078)	(4.2337)	(81.5)	(0.2072)	(3.8730)	(82.0)	(0.2066)	(3.5705)	(82.5)	(0.2061)	
–60	4.7700	82.3	0.2112	4.2815	82.2	0.2090	3.8818	82.2	0.2070	—	—	—	–60
–50	4.8970	84.0	0.2156	4.3963	84.0	0.2134	3.9866	83.9	0.2113	3.6451	83.9	0.2095	–50
–40	5.0236	85.8	0.2199	4.5108	85.8	0.2177	4.0911	85.7	0.2156	3.7414	85.7	0.2138	–40
–30	5.1501	87.6	0.2241	4.6250	87.6	0.2219	4.1954	87.5	0.2199	3.8373	87.5	0.2180	–30
–20	5.2762	89.5	0.2284	4.7390	89.4	0.2261	4.2994	89.4	0.2241	3.9330	89.3	0.2223	–20
–10	5.4022	91.3	0.2325	4.8527	91.3	0.2303	4.4031	91.2	0.2283	4.0284	91.2	0.2265	–10
0	5.5279	93.2	0.2367	4.9662	93.2	0.2345	4.5067	93.1	0.2325	4.1237	93.1	0.2306	0
10	5.6535	95.1	0.2408	5.0796	95.1	0.2386	4.6100	95.0	0.2366	4.2187	95.0	0.2348	10
20	5.7788	97.1	0.2449	5.1928	97.0	0.2427	4.7132	97.0	0.2407	4.3136	96.9	0.2388	20
30	5.9041	99.0	0.2489	5.3058	99.0	0.2467	4.8163	98.9	0.2447	4.4083	98.9	0.2429	30
40	6.0292	101.0	0.2529	5.4187	101.0	0.2507	4.9192	100.9	0.2487	4.5029	100.9	0.2469	40
50	6.1541	103.0	0.2569	5.5314	103.0	0.2547	5.0219	102.9	0.2527	4.5973	102.9	0.2509	50
60	6.2789	105.1	0.2609	5.6440	105.0	0.2587	5.1245	105.0	0.2567	4.6916	104.9	0.2549	60
70	6.4036	107.1	0.2648	5.7565	107.1	0.2626	5.2270	107.0	0.2606	4.7858	107.0	0.2588	70
80	6.5282	109.2	0.2687	5.8689	109.2	0.2665	5.3294	109.1	0.2645	4.8798	109.1	0.2627	80
90	6.6527	111.3	0.2726	5.9811	111.3	0.2704	5.4317	111.2	0.2684	4.9738	111.2	0.2666	90
100	6.7770	113.4	0.2764	6.0933	113.4	0.2742	5.5338	113.4	0.2722	5.0676	113.3	0.2704	100
110	6.9013	115.6	0.2802	6.2054	115.6	0.2781	5.6359	115.5	0.2761	5.1614	115.5	0.2743	110
120	7.0255	117.8	0.2840	6.3173	117.7	0.2818	5.7379	117.7	0.2799	5.2551	117.7	0.2781	120
130	7.1496	120.0	0.2878	6.4292	120.0	0.2856	5.8398	119.9	0.2836	5.3486	119.9	0.2818	130
140	7.2737	122.2	0.2915	6.5411	122.2	0.2894	5.9417	122.2	0.2874	5.4421	122.1	0.2856	140
150	7.3976	124.5	0.2953	6.6528	124.4	0.2931	6.0434	124.4	0.2911	5.5356	124.4	0.2893	150
160	7.5215	126.7	0.2990	6.7645	126.7	0.2968	6.1451	126.7	0.2948	5.6289	126.6	0.2930	160
170	7.6453	129.0	0.3026	6.8761	129.0	0.3005	6.2467	129.0	0.2985	5.7222	128.9	0.2967	170
180	7.7691	131.3	0.3063	6.9876	131.3	0.3041	6.3483	131.3	0.3021	5.8154	131.3	0.3003	180
190	7.8928	133.7	0.3099	7.0991	133.7	0.3077	6.4497	133.6	0.3058	5.9086	133.6	0.3040	190
200	8.0164	136.1	0.3135	7.2106	136.0	0.3114	6.5512	136.0	0.3094	6.0017	136.0	0.3076	200
210	8.1400	138.4	0.3171	7.3219	138.4	0.3149	6.6526	138.4	0.3130	6.0948	138.4	0.3112	210
220	8.2636	140.8	0.3207	7.4332	140.8	0.3185	6.7539	140.8	0.3165	6.1878	140.8	0.3147	220
230	8.3871	143.3	0.3242	7.5445	143.2	0.3221	6.8552	143.2	0.3201	6.2807	143.2	0.3183	230
240	8.5105	145.7	0.3277	7.6558	145.7	0.3256	6.9564	145.7	0.3236	6.3736	145.6	0.3218	240
250	—	—	—	—	—	—	—	—	—	6.4665	148.1	0.3253	250

TEMP. °F	13.00 (–54.85°F)			14.00 (–52.12°F)			14.696 (–50.32°F)			15.00 (–49.55°F)			TEMP. °F
	V	H	S	V	H	S	V	H	S	V	H	S	
	(3.3128)	(83.0)	(0.2056)	(3.0908)	(83.4)	(0.2052)	(2.9534)	(83.7)	(0.2050)	(2.8973)	(83.8)	(0.2049)	
–50	3.3562	83.8	0.2077	3.1085	83.8	0.2061	2.9559	83.7	0.2051	—	—	—	–50
–40	3.4454	85.6	0.2121	3.1917	85.6	0.2105	3.0354	85.5	0.2094	2.9717	85.5	0.2090	–40
–30	3.5343	87.4	0.2163	3.2746	87.4	0.2148	3.1146	87.3	0.2137	3.0494	87.3	0.2133	–30
–20	3.6230	89.3	0.2206	3.3572	89.2	0.2190	3.1936	89.2	0.2180	3.1268	89.2	0.2175	–20
–10	3.7114	91.1	0.2248	3.4396	91.1	0.2232	3.2722	91.1	0.2222	3.2040	91.0	0.2217	–10
0	3.7996	93.0	0.2289	3.5218	93.0	0.2274	3.3507	93.0	0.2263	3.2810	92.9	0.2259	0
10	3.8876	95.0	0.2331	3.6038	94.9	0.2315	3.4290	94.9	0.2305	3.3578	94.9	0.2300	10
20	3.9754	96.9	0.2372	3.6856	96.8	0.2356	3.5071	96.8	0.2346	3.4343	96.8	0.2341	20
30	4.0631	98.9	0.2412	3.7672	98.8	0.2396	3.5850	98.8	0.2386	3.5108	98.8	0.2382	30
40	4.1506	100.8	0.2452	3.8487	100.8	0.2437	3.6628	100.8	0.2426	3.5870	100.8	0.2422	40
50	4.2380	102.9	0.2492	3.9301	102.8	0.2477	3.7405	102.8	0.2466	3.6632	102.8	0.2462	50
60	4.3253	104.9	0.2532	4.0113	104.9	0.2516	3.8180	104.8	0.2506	3.7392	104.8	0.2502	60
70	4.4124	107.0	0.2571	4.0924	106.9	0.2556	3.8953	106.9	0.2546	3.8150	106.9	0.2541	70
80	4.4994	109.1	0.2610	4.1734	109.0	0.2595	3.9726	109.0	0.2585	3.8908	109.0	0.2580	80
90	4.5863	111.2	0.2649	4.2542	111.1	0.2634	4.0498	111.1	0.2623	3.9664	111.1	0.2619	90
100	4.6731	113.3	0.2688	4.3350	113.3	0.2672	4.1268	113.3	0.2662	4.0420	113.2	0.2658	100
110	4.7599	115.5	0.2726	4.4157	115.4	0.2710	4.2038	115.4	0.2700	4.1174	115.4	0.2696	110
120	4.8465	117.7	0.2764	4.4963	117.6	0.2748	4.2806	117.6	0.2738	4.1927	117.6	0.2734	120
130	4.9330	119.9	0.2802	4.5768	119.8	0.2786	4.3574	119.8	0.2776	4.2680	119.8	0.2772	130
140	5.0195	122.1	0.2839	4.6572	122.1	0.2824	4.4341	122.0	0.2814	4.3432	122.0	0.2809	140
150	5.1059	124.3	0.2876	4.7375	124.3	0.2861	4.5108	124.3	0.2851	4.4183	124.3	0.2847	150
160	5.1922	126.6	0.2913	4.8178	126.6	0.2898	4.5873	126.6	0.2888	4.4933	126.6	0.2884	160
170	5.2784	128.9	0.2950	4.8980	128.9	0.2935	4.6638	128.9	0.2925	4.5683	128.9	0.2921	170
180	5.3646	131.2	0.2987	4.9781	131.2	0.2971	4.7402	131.2	0.2961	4.6432	131.2	0.2957	180
190	5.4507	133.6	0.3023	5.0582	133.6	0.3008	4.8166	133.5	0.2998	4.7181	133.5	0.2994	190
200	5.5368	135.9	0.3059	5.1382	135.9	0.3044	4.8929	135.9	0.3034	4.7928	135.9	0.3030	200
210	5.6228	138.3	0.3095	5.2182	138.3	0.3080	4.9691	138.3	0.3070	4.8676	138.3	0.3066	210
220	5.7087	140.7	0.3131	5.2981	140.7	0.3116	5.0453	140.7	0.3106	4.9423	140.7	0.3101	220
230	5.7946	143.2	0.3166	5.3780	143.1	0.3151	5.1215	143.1	0.3141	5.0169	143.1	0.3137	230
240	5.8805	145.6	0.3202	5.4578	145.6	0.3186	5.1976	145.6	0.3176	5.0915	145.6	0.3172	240
250	5.9663	148.1	0.3237	5.5376	148.1	0.3221	5.2736	148.1	0.3211	5.1660	148.0	0.3207	250
260	—	—	—	—	—	—	—	—	—	5.2405	150.5	0.3242	260

Table 2 (continued)
Suva® 404A (HP62) Superheated Vapor—Constant Pressure Tables

V = Volume in ft³/lb H = Enthalpy in Btu/lb S = Entropy in Btu/(lb) (°R) (Saturation Properties in parentheses)

ABSOLUTE PRESSURE, psia

TEMP. °F	16.00 (–47.11°F)			17.00 (–44.78°F)			18.00 (–42.57°F)			19.00 (–40.44°F)			TEMP. °F
	V	H	S	V	H	S	V	H	S	V	H	S	
	(2.7271)	(84.2)	(0.2045)	(2.5763)	(84.5)	(0.2042)	(2.4416)	(84.9)	(0.2039)	(2.3206)	(85.2)	(0.2036)	
–40	2.7793	85.5	0.2076	2.6094	85.4	0.2063	2.4584	85.3	0.2050	2.3233	85.3	0.2038	–40
–30	2.8524	87.3	0.2119	2.6786	87.2	0.2106	2.5240	87.2	0.2093	2.3857	87.1	0.2081	–30
–20	2.9253	89.1	0.2161	2.7474	89.1	0.2148	2.5893	89.0	0.2136	2.4478	89.0	0.2124	–20
–10	2.9979	91.0	0.2203	2.8160	90.9	0.2190	2.6543	90.9	0.2178	2.5096	90.9	0.2166	–10
0	3.0703	92.9	0.2245	2.8843	92.8	0.2232	2.7191	92.8	0.2220	2.5712	92.8	0.2208	0
10	3.1425	94.8	0.2286	2.9525	94.8	0.2273	2.7837	94.7	0.2261	2.6326	94.7	0.2250	10
20	3.2145	96.8	0.2327	3.0205	96.7	0.2315	2.8481	96.7	0.2302	2.6938	96.6	0.2291	20
30	3.2864	98.7	0.2368	3.0883	98.7	0.2355	2.9123	98.6	0.2343	2.7548	98.6	0.2331	30
40	3.3581	100.7	0.2408	3.1560	100.7	0.2396	2.9764	100.6	0.2383	2.8157	100.6	0.2372	40
50	3.4296	102.7	0.2448	3.2235	102.7	0.2436	3.0403	102.7	0.2423	2.8764	102.6	0.2412	50
60	3.5010	104.8	0.2488	3.2909	104.8	0.2475	3.1041	104.7	0.2463	2.9370	104.7	0.2452	60
70	3.5723	106.9	0.2528	3.3582	106.8	0.2515	3.1678	106.8	0.2503	2.9975	106.7	0.2491	70
80	3.6435	109.0	0.2567	3.4253	108.9	0.2554	3.2313	108.9	0.2542	3.0578	108.8	0.2530	80
90	3.7146	111.1	0.2606	3.4923	111.0	0.2593	3.2948	111.0	0.2581	3.1180	111.0	0.2569	90
100	3.7855	113.2	0.2644	3.5593	113.2	0.2631	3.3581	113.1	0.2619	3.1782	113.1	0.2608	100
110	3.8564	115.4	0.2682	3.6261	115.3	0.2670	3.4214	115.3	0.2658	3.2382	115.3	0.2646	110
120	3.9272	117.6	0.2721	3.6928	117.5	0.2708	3.4845	117.5	0.2696	3.2981	117.5	0.2684	120
130	3.9978	119.8	0.2758	3.7595	119.7	0.2746	3.5476	119.7	0.2734	3.3580	119.7	0.2722	130
140	4.0685	122.0	0.2796	3.8260	122.0	0.2783	3.6105	121.9	0.2771	3.4177	121.9	0.2760	140
150	4.1390	124.3	0.2833	3.8925	124.2	0.2821	3.6734	124.2	0.2809	3.4774	124.2	0.2797	150
160	4.2094	126.5	0.2870	3.9589	126.5	0.2858	3.7363	126.5	0.2846	3.5370	126.4	0.2834	160
170	4.2798	128.8	0.2907	4.0253	128.8	0.2894	3.7990	128.8	0.2883	3.5966	128.8	0.2871	170
180	4.3502	131.2	0.2944	4.0916	131.1	0.2931	3.8617	131.1	0.2919	3.6561	131.1	0.2908	180
190	4.4204	133.5	0.2980	4.1578	133.5	0.2967	3.9244	133.5	0.2956	3.7155	133.4	0.2944	190
200	4.4906	135.9	0.3016	4.2240	135.8	0.3004	3.9869	135.8	0.2992	3.7748	135.8	0.2980	200
210	4.5608	138.3	0.3052	4.2901	138.2	0.3040	4.0495	138.2	0.3028	3.8342	138.2	0.3016	210
220	4.6309	140.7	0.3088	4.3561	140.6	0.3075	4.1119	140.6	0.3063	3.8934	140.6	0.3052	220
230	4.7009	143.1	0.3123	4.4221	143.1	0.3111	4.1743	143.1	0.3099	3.9526	143.0	0.3088	230
240	4.7709	145.6	0.3159	4.4881	145.5	0.3146	4.2367	145.5	0.3134	4.0118	145.5	0.3123	240
250	4.8409	148.0	0.3194	4.5540	148.0	0.3181	4.2990	148.0	0.3169	4.0709	148.0	0.3158	250
260	4.9108	150.5	0.3229	4.6199	150.5	0.3216	4.3613	150.5	0.3204	4.1299	150.5	0.3193	260

TEMP. °F	20.00 (–38.40°F)			21.00 (–36.44°F)			22.00 (–34.55°F)			23.00 (–32.73°F)			TEMP. °F
	V	H	S	V	H	S	V	H	S	V	H	S	
	(2.2112)	(85.5)	(0.2034)	(2.1119)	(85.8)	(0.2032)	(2.0213)	(86.1)	(0.2029)	(1.9383)	(86.4)	(0.2027)	
–30	2.2612	87.1	0.2070	2.1485	87.0	0.2059	2.0461	87.0	0.2049	1.9525	86.9	0.2039	–30
–20	2.3204	88.9	0.2113	2.2051	88.9	0.2102	2.1003	88.8	0.2092	2.0046	88.8	0.2082	–20
–10	2.3793	90.8	0.2155	2.2615	90.8	0.2145	2.1543	90.7	0.2134	2.0565	90.7	0.2125	–10
0	2.4380	92.7	0.2197	2.3176	92.7	0.2186	2.2081	92.6	0.2176	2.1081	92.6	0.2167	0
10	2.4966	94.6	0.2239	2.3735	94.6	0.2228	2.2616	94.5	0.2218	2.1594	94.5	0.2208	10
20	2.5549	96.6	0.2280	2.4292	96.5	0.2269	2.3150	96.5	0.2259	2.2106	96.5	0.2249	20
30	2.6130	98.6	0.2320	2.4848	98.5	0.2310	2.3681	98.5	0.2300	2.2617	98.4	0.2290	30
40	2.6710	100.6	0.2361	2.5401	100.5	0.2350	2.4212	100.5	0.2340	2.3125	100.4	0.2331	40
50	2.7289	102.6	0.2401	2.5954	102.5	0.2391	2.4740	102.5	0.2381	2.3632	102.5	0.2371	50
60	2.7866	104.6	0.2441	2.6505	104.6	0.2430	2.5267	104.6	0.2420	2.4138	104.5	0.2411	60
70	2.8442	106.7	0.2480	2.7054	106.7	0.2470	2.5793	106.6	0.2460	2.4642	106.6	0.2450	70
80	2.9016	108.8	0.2520	2.7603	108.8	0.2509	2.6318	108.7	0.2499	2.5145	108.7	0.2490	80
90	2.9590	110.9	0.2558	2.8150	110.9	0.2548	2.6842	110.9	0.2538	2.5647	110.8	0.2529	90
100	3.0162	113.1	0.2597	2.8696	113.0	0.2587	2.7364	113.0	0.2577	2.6148	113.0	0.2567	100
110	3.0733	115.2	0.2635	2.9242	115.2	0.2625	2.7886	115.2	0.2615	2.6647	115.1	0.2606	110
120	3.1304	117.4	0.2674	2.9786	117.4	0.2663	2.8406	117.4	0.2653	2.7146	117.3	0.2644	120
130	3.1873	119.6	0.2711	3.0329	119.6	0.2701	2.8926	119.6	0.2691	2.7644	119.5	0.2682	130
140	3.2442	121.9	0.2749	3.0872	121.8	0.2739	2.9445	121.8	0.2729	2.8141	121.8	0.2720	140
150	3.3010	124.1	0.2786	3.1414	124.1	0.2776	2.9963	124.1	0.2766	2.8638	124.0	0.2757	150
160	3.3577	126.4	0.2824	3.1955	126.4	0.2813	3.0480	126.4	0.2804	2.9133	126.3	0.2794	160
170	3.4144	128.7	0.2860	3.2495	128.7	0.2850	3.0997	128.7	0.2840	2.9628	128.6	0.2831	170
180	3.4710	131.1	0.2897	3.3035	131.0	0.2887	3.1513	131.0	0.2877	3.0123	131.0	0.2868	180
190	3.5275	133.4	0.2934	3.3574	133.4	0.2923	3.2028	133.3	0.2914	3.0616	133.3	0.2904	190
200	3.5840	135.8	0.2970	3.4113	135.7	0.2960	3.2543	135.7	0.2950	3.1109	135.7	0.2940	200
210	3.6404	138.2	0.3006	3.4651	138.1	0.2996	3.3057	138.1	0.2986	3.1602	138.1	0.2976	210
220	3.6967	140.6	0.3041	3.5188	140.5	0.3031	3.3571	140.5	0.3022	3.2094	140.5	0.3012	220
230	3.7531	143.0	0.3077	3.5725	143.0	0.3067	3.4084	143.0	0.3057	3.2585	142.9	0.3048	230
240	3.8093	145.5	0.3112	3.6262	145.4	0.3102	3.4596	145.4	0.3092	3.3076	145.4	0.3083	240
250	3.8655	147.9	0.3147	3.6798	147.9	0.3137	3.5109	147.9	0.3128	3.3567	147.9	0.3118	250
260	3.9217	150.4	0.3182	3.7333	150.4	0.3172	3.5620	150.4	0.3163	3.4057	150.4	0.3153	260
270	3.9779	152.9	0.3217	3.7868	152.9	0.3207	3.6132	152.9	0.3197	3.4546	152.9	0.3188	270

Table 2 (continued)
Suva® 404A (HP62) Superheated Vapor—Constant Pressure Tables

V = Volume in ft³/lb H = Enthalpy in Btu/lb S = Entropy in Btu/(lb) (°R) (Saturation Properties in parentheses)

ABSOLUTE PRESSURE, psia

TEMP. °F	24.00 (–30.96°F)			25.00 (–29.25°F)			26.00 (–27.59°F)			27.00 (–25.98°F)			TEMP. °F
	V	H	S	V	H	S	V	H	S	V	H	S	
	(1.8619)	(86.7)	(0.2026)	(1.7915)	(86.9)	(0.2024)	(1.7262)	(87.2)	(0.2022)	(1.6657)	(87.4)	(0.2021)	
–30	1.8668	86.8	0.2030	—	—	—	—	—	—	—	—	—	–30
–20	1.9169	88.7	0.2073	1.8362	88.7	0.2064	1.7616	88.6	0.2055	1.6926	88.6	0.2046	–20
–10	1.9667	90.6	0.2115	1.8842	90.6	0.2106	1.8080	90.5	0.2097	1.7374	90.5	0.2089	–10
0	2.0164	92.5	0.2157	1.9320	92.5	0.2148	1.8541	92.4	0.2140	1.7820	92.4	0.2131	0
10	2.0658	94.4	0.2199	1.9796	94.4	0.2190	1.9000	94.4	0.2181	1.8264	94.3	0.2173	10
20	2.1150	96.4	0.2240	2.0270	96.4	0.2231	1.9458	96.3	0.2223	1.8705	96.3	0.2214	20
30	2.1640	98.4	0.2281	2.0742	98.3	0.2272	1.9913	98.3	0.2264	1.9145	98.3	0.2255	30
40	2.2129	100.4	0.2322	2.1213	100.4	0.2313	2.0367	100.3	0.2304	1.9583	100.3	0.2296	40
50	2.2616	102.4	0.2362	2.1682	102.4	0.2353	2.0819	102.3	0.2344	2.0020	102.3	0.2336	50
60	2.3102	104.5	0.2402	2.2149	104.4	0.2393	2.1269	104.4	0.2384	2.0455	104.4	0.2376	60
70	2.3586	106.6	0.2441	2.2615	106.5	0.2433	2.1719	106.5	0.2424	2.0889	106.4	0.2416	70
80	2.4070	108.7	0.2481	2.3080	108.6	0.2472	2.2167	108.6	0.2463	2.1321	108.6	0.2455	80
90	2.4552	110.8	0.2520	2.3544	110.7	0.2511	2.2614	110.7	0.2502	2.1752	110.7	0.2494	90
100	2.5033	112.9	0.2558	2.4007	112.9	0.2550	2.3060	112.9	0.2541	2.2183	112.8	0.2533	100
110	2.5512	115.1	0.2597	2.4468	115.1	0.2588	2.3504	115.0	0.2580	2.2612	115.0	0.2572	110
120	2.5991	117.3	0.2635	2.4929	117.3	0.2626	2.3948	117.2	0.2618	2.3040	117.2	0.2610	120
130	2.6470	119.5	0.2673	2.5389	119.5	0.2664	2.4391	119.5	0.2656	2.3467	119.4	0.2648	130
140	2.6947	121.8	0.2711	2.5848	121.7	0.2702	2.4833	121.7	0.2694	2.3894	121.7	0.2686	140
150	2.7423	124.0	0.2748	2.6306	124.0	0.2739	2.5274	124.0	0.2731	2.4319	123.9	0.2723	150
160	2.7899	126.3	0.2785	2.6763	126.3	0.2777	2.5715	126.2	0.2768	2.4744	126.2	0.2760	160
170	2.8374	128.6	0.2822	2.7220	128.6	0.2814	2.6155	128.6	0.2805	2.5168	128.5	0.2797	170
180	2.8848	130.9	0.2859	2.7676	130.9	0.2850	2.6594	130.9	0.2842	2.5592	130.9	0.2834	180
190	2.9322	133.3	0.2895	2.8131	133.3	0.2887	2.7032	133.2	0.2878	2.6015	133.2	0.2870	190
200	2.9795	135.7	0.2932	2.8586	135.6	0.2923	2.7470	135.6	0.2915	2.6437	135.6	0.2907	200
210	3.0268	138.1	0.2968	2.9041	138.0	0.2959	2.7908	138.0	0.2951	2.6859	138.0	0.2943	210
220	3.0740	140.5	0.3003	2.9494	140.4	0.2995	2.8345	140.4	0.2987	2.7280	140.4	0.2979	220
230	3.1211	142.9	0.3039	2.9947	142.9	0.3030	2.8781	142.9	0.3022	2.7701	142.8	0.3014	230
240	3.1682	145.4	0.3074	3.0400	145.3	0.3066	2.9217	145.3	0.3058	2.8121	145.3	0.3050	240
250	3.2153	147.8	0.3109	3.0853	147.8	0.3101	2.9652	147.8	0.3093	2.8541	147.8	0.3085	250
260	3.2623	150.3	0.3144	3.1304	150.3	0.3136	3.0087	150.3	0.3128	2.8960	150.3	0.3120	260
270	3.3093	152.9	0.3179	3.1756	152.8	0.3171	3.0522	152.8	0.3162	2.9379	152.8	0.3154	270
280	—	—	—	3.2207	155.4	0.3205	3.0956	155.4	0.3197	2.9797	155.3	0.3189	280

TEMP. °F	28.00 (–24.42°F)			29.00 (–22.89°F)			30.00 (–21.40°F)			31.00 (–19.95°F)			TEMP. °F
	V	H	S	V	H	S	V	H	S	V	H	S	
	(1.6092)	(87.7)	(0.2019)	(1.5566)	(87.9)	(0.2018)	(1.5073)	(88.1)	(0.2017)	(1.4611)	(88.4)	(0.2015)	
–20	1.6285	88.5	0.2038	1.5688	88.5	0.2030	1.5130	88.4	0.2023	—	—	—	–20
–10	1.6719	90.4	0.2081	1.6108	90.4	0.2073	1.5539	90.3	0.2065	1.5005	90.2	0.2058	–10
0	1.7150	92.3	0.2123	1.6527	92.3	0.2115	1.5944	92.2	0.2108	1.5400	92.2	0.2100	0
10	1.7580	94.3	0.2165	1.6942	94.2	0.2157	1.6348	94.2	0.2149	1.5791	94.1	0.2142	10
20	1.8007	96.2	0.2206	1.7356	96.2	0.2198	1.6749	96.1	0.2191	1.6181	96.1	0.2184	20
30	1.8432	98.2	0.2247	1.7768	98.2	0.2240	1.7149	98.1	0.2232	1.6569	98.1	0.2225	30
40	1.8856	100.2	0.2288	1.8178	100.2	0.2280	1.7546	100.1	0.2273	1.6955	100.1	0.2266	40
50	1.9278	102.3	0.2328	1.8587	102.2	0.2321	1.7942	102.2	0.2313	1.7339	102.1	0.2306	50
60	1.9699	104.3	0.2368	1.8994	104.3	0.2361	1.8337	104.2	0.2353	1.7722	104.2	0.2346	60
70	2.0118	106.4	0.2408	1.9400	106.4	0.2400	1.8730	106.3	0.2393	1.8103	106.3	0.2386	70
80	2.0536	108.5	0.2447	1.9805	108.5	0.2440	1.9122	108.4	0.2432	1.8484	108.4	0.2425	80
90	2.0953	110.6	0.2486	2.0208	110.6	0.2479	1.9513	110.6	0.2472	1.8862	110.5	0.2464	90
100	2.1368	112.8	0.2525	2.0610	112.8	0.2518	1.9902	112.7	0.2510	1.9240	112.7	0.2503	100
110	2.1783	115.0	0.2564	2.1011	114.9	0.2556	2.0291	114.9	0.2549	1.9617	114.9	0.2542	110
120	2.2197	117.2	0.2602	2.1411	117.1	0.2595	2.0679	117.1	0.2587	1.9993	117.1	0.2580	120
130	2.2609	119.4	0.2640	2.1811	119.4	0.2633	2.1065	119.3	0.2625	2.0368	119.3	0.2618	130
140	2.3021	121.6	0.2678	2.2209	121.6	0.2670	2.1451	121.6	0.2663	2.0742	121.5	0.2656	140
150	2.3432	123.9	0.2715	2.2607	123.9	0.2708	2.1836	123.8	0.2701	2.1115	123.8	0.2694	150
160	2.3843	126.2	0.2753	2.3004	126.2	0.2745	2.2220	126.1	0.2738	2.1488	126.1	0.2731	160
170	2.4252	128.5	0.2790	2.3400	128.5	0.2782	2.2604	128.4	0.2775	2.1859	128.4	0.2768	170
180	2.4661	130.8	0.2826	2.3795	130.8	0.2819	2.2987	130.8	0.2812	2.2230	130.7	0.2805	180
190	2.5070	133.2	0.2863	2.4190	133.2	0.2855	2.3369	133.1	0.2848	2.2601	133.1	0.2841	190
200	2.5478	135.6	0.2899	2.4584	135.5	0.2892	2.3750	135.5	0.2884	2.2971	135.5	0.2877	200
210	2.5885	138.0	0.2935	2.4978	137.9	0.2928	2.4132	137.9	0.2921	2.3340	137.9	0.2914	210
220	2.6291	140.4	0.2971	2.5371	140.4	0.2964	2.4512	140.3	0.2956	2.3708	140.3	0.2949	220
230	2.6698	142.8	0.3007	2.5764	142.8	0.2999	2.4892	142.8	0.2992	2.4077	142.7	0.2985	230
240	2.7103	145.3	0.3042	2.6156	145.2	0.3035	2.5271	145.2	0.3027	2.4444	145.2	0.3021	240
250	2.7508	147.8	0.3077	2.6547	147.7	0.3070	2.5651	147.7	0.3063	2.4811	147.7	0.3056	250
260	2.7913	150.3	0.3112	2.6939	150.2	0.3105	2.6029	150.2	0.3098	2.5178	150.2	0.3091	260
270	2.8317	152.8	0.3147	2.7329	152.7	0.3140	2.6407	152.7	0.3132	2.5545	152.7	0.3126	270
280	2.8721	155.3	0.3181	2.7720	155.3	0.3174	2.6785	155.3	0.3167	2.5911	155.2	0.3160	280
290	—	—	—	—	—	—	—	—	—	2.6276	157.8	0.3194	290

Table 2 (continued)
Suva® 404A (HP62) Superheated Vapor—Constant Pressure Tables

V = Volume in ft³/lb H = Enthalpy in Btu/lb S = Entropy in Btu/(lb) (°R) (Saturation Properties in parentheses)

ABSOLUTE PRESSURE, psia

TEMP. °F	32.00 (–18.54°F)			33.00 (–17.15°F)			34.00 (–15.81°F)			35.00 (–14.49°F)			TEMP. °F
	V	H	S	V	H	S	V	H	S	V	H	S	
	(1.4176)	(88.6)	(0.2014)	(1.3767)	(88.8)	(0.2013)	(1.3382)	(89.0)	(0.2012)	(1.3017)	(89.2)	(0.2011)	
–10	1.4506	90.2	0.2051	1.4036	90.1	0.2044	1.3594	90.1	0.2037	1.3177	90.0	0.2030	–10
0	1.4889	92.1	0.2093	1.4409	92.1	0.2086	1.3957	92.0	0.2079	1.3531	92.0	0.2073	0
10	1.5270	94.1	0.2135	1.4779	94.0	0.2128	1.4318	94.0	0.2121	1.3883	93.9	0.2115	10
20	1.5648	96.0	0.2177	1.5148	96.0	0.2170	1.4677	96.0	0.2163	1.4232	95.9	0.2156	20
30	1.6025	98.0	0.2218	1.5514	98.0	0.2211	1.5034	98.0	0.2204	1.4580	97.9	0.2198	30
40	1.6400	100.1	0.2259	1.5879	100.0	0.2252	1.5389	100.0	0.2245	1.4926	99.9	0.2239	40
50	1.6773	102.1	0.2299	1.6242	102.1	0.2292	1.5742	102.0	0.2286	1.5270	102.0	0.2279	50
60	1.7145	104.2	0.2339	1.6604	104.1	0.2332	1.6094	104.1	0.2326	1.5613	104.0	0.2319	60
70	1.7516	106.3	0.2379	1.6964	106.2	0.2372	1.6444	106.2	0.2366	1.5954	106.1	0.2359	70
80	1.7885	108.4	0.2418	1.7323	108.3	0.2412	1.6793	108.3	0.2405	1.6294	108.3	0.2399	80
90	1.8253	110.5	0.2458	1.7680	110.5	0.2451	1.7141	110.4	0.2444	1.6633	110.4	0.2438	90
100	1.8620	112.7	0.2496	1.8037	112.6	0.2490	1.7488	112.6	0.2483	1.6970	112.6	0.2477	100
110	1.8985	114.8	0.2535	1.8392	114.8	0.2528	1.7833	114.8	0.2522	1.7307	114.7	0.2516	110
120	1.9350	117.0	0.2573	1.8746	117.0	0.2567	1.8178	117.0	0.2560	1.7642	116.9	0.2554	120
130	1.9714	119.3	0.2611	1.9100	119.2	0.2605	1.8522	119.2	0.2598	1.7977	119.2	0.2592	130
140	2.0077	121.5	0.2649	1.9452	121.5	0.2643	1.8865	121.5	0.2636	1.8310	121.4	0.2630	140
150	2.0439	123.8	0.2687	1.9804	123.8	0.2680	1.9207	123.7	0.2674	1.8643	123.7	0.2668	150
160	2.0801	126.1	0.2724	2.0155	126.0	0.2717	1.9548	126.0	0.2711	1.8975	126.0	0.2705	160
170	2.1161	128.4	0.2761	2.0505	128.4	0.2755	1.9888	128.3	0.2748	1.9306	128.3	0.2742	170
180	2.1521	130.7	0.2798	2.0855	130.7	0.2791	2.0228	130.7	0.2785	1.9637	130.6	0.2779	180
190	2.1881	133.1	0.2834	2.1204	133.1	0.2828	2.0567	133.0	0.2822	1.9967	133.0	0.2815	190
200	2.2239	135.5	0.2871	2.1552	135.4	0.2864	2.0906	135.4	0.2858	2.0296	135.4	0.2852	200
210	2.2597	137.9	0.2907	2.1900	137.8	0.2900	2.1244	137.8	0.2894	2.0625	137.8	0.2888	210
220	2.2955	140.3	0.2943	2.2247	140.3	0.2936	2.1581	140.2	0.2930	2.0953	140.2	0.2924	220
230	2.3312	142.7	0.2978	2.2594	142.7	0.2972	2.1918	142.7	0.2966	2.1281	142.6	0.2959	230
240	2.3669	145.2	0.3014	2.2940	145.2	0.3007	2.2255	145.1	0.3001	2.1608	145.1	0.2995	240
250	2.4025	147.7	0.3049	2.3286	147.6	0.3043	2.2590	147.6	0.3036	2.1935	147.6	0.3030	250
260	2.4381	150.2	0.3084	2.3631	150.1	0.3078	2.2926	150.1	0.3071	2.2261	150.1	0.3065	260
270	2.4736	152.7	0.3119	2.3976	152.7	0.3112	2.3261	152.6	0.3106	2.2587	152.6	0.3100	270
280	2.5091	155.2	0.3153	2.4321	155.2	0.3147	2.3596	155.2	0.3141	2.2912	155.2	0.3135	280
290	2.5445	157.8	0.3188	2.4665	157.8	0.3181	2.3930	157.7	0.3175	2.3237	157.7	0.3169	290

TEMP. °F	36.00 (–13.19°F)			37.00 (–11.93°F)			38.00 (–10.69°F)			39.00 (–9.48°F)			TEMP. °F
	V	H	S	V	H	S	V	H	S	V	H	S	
	(1.2672)	(89.4)	(0.2010)	(1.2344)	(89.6)	(0.2009)	(1.2034)	(89.8)	(0.2008)	(1.1738)	(89.9)	(0.2007)	
–10	1.2783	90.0	0.2024	1.2410	89.9	0.2017	1.2057	89.9	0.2011	—	—	—	–10
0	1.3128	91.9	0.2066	1.2748	91.9	0.2060	1.2387	91.8	0.2054	1.2044	91.8	0.2048	0
10	1.3472	93.9	0.2108	1.3083	93.8	0.2102	1.2714	93.8	0.2096	1.2365	93.7	0.2090	10
20	1.3813	95.9	0.2150	1.3416	95.8	0.2144	1.3040	95.8	0.2138	1.2683	95.7	0.2132	20
30	1.4152	97.9	0.2191	1.3747	97.8	0.2185	1.3363	97.8	0.2179	1.2999	97.7	0.2173	30
40	1.4489	99.9	0.2232	1.4076	99.8	0.2226	1.3684	99.8	0.2220	1.3313	99.8	0.2214	40
50	1.4825	101.9	0.2273	1.4403	101.9	0.2267	1.4004	101.9	0.2261	1.3625	101.8	0.2255	50
60	1.5159	104.0	0.2313	1.4729	104.0	0.2307	1.4322	103.9	0.2301	1.3936	103.9	0.2295	60
70	1.5491	106.1	0.2353	1.5054	106.1	0.2347	1.4639	106.0	0.2341	1.4245	106.0	0.2335	70
80	1.5823	108.2	0.2393	1.5377	108.2	0.2386	1.4954	108.1	0.2381	1.4553	108.1	0.2375	80
90	1.6153	110.4	0.2432	1.5698	110.3	0.2426	1.5268	110.3	0.2420	1.4860	110.2	0.2414	90
100	1.6481	112.5	0.2471	1.6019	112.5	0.2465	1.5581	112.4	0.2459	1.5165	112.4	0.2453	100
110	1.6809	114.7	0.2509	1.6339	114.7	0.2503	1.5893	114.6	0.2498	1.5470	114.6	0.2492	110
120	1.7136	116.9	0.2548	1.6657	116.9	0.2542	1.6204	116.8	0.2536	1.5773	116.8	0.2530	120
130	1.7462	119.1	0.2586	1.6975	119.1	0.2580	1.6513	119.1	0.2574	1.6076	119.0	0.2569	130
140	1.7787	121.4	0.2624	1.7292	121.4	0.2618	1.6822	121.3	0.2612	1.6377	121.3	0.2606	140
150	1.8111	123.7	0.2661	1.7607	123.6	0.2656	1.7130	123.6	0.2650	1.6678	123.6	0.2644	150
160	1.8434	126.0	0.2699	1.7922	125.9	0.2693	1.7438	125.9	0.2687	1.6978	125.9	0.2681	160
170	1.8757	128.3	0.2736	1.8237	128.2	0.2730	1.7744	128.2	0.2724	1.7277	128.2	0.2719	170
180	1.9079	130.6	0.2773	1.8550	130.6	0.2767	1.8050	130.6	0.2761	1.7575	130.5	0.2756	180
190	1.9400	133.0	0.2809	1.8863	132.9	0.2803	1.8355	132.9	0.2798	1.7873	132.9	0.2792	190
200	1.9720	135.4	0.2846	1.9176	135.3	0.2840	1.8660	135.3	0.2834	1.8170	135.3	0.2829	200
210	2.0041	137.8	0.2882	1.9488	137.7	0.2876	1.8964	137.7	0.2870	1.8467	137.7	0.2865	210
220	2.0360	140.2	0.2918	1.9799	140.2	0.2912	1.9267	140.1	0.2906	1.8763	140.1	0.2901	220
230	2.0679	142.6	0.2953	2.0110	142.6	0.2948	1.9570	142.6	0.2942	1.9059	142.5	0.2936	230
240	2.0997	145.1	0.2989	2.0420	145.1	0.2983	1.9873	145.0	0.2977	1.9354	145.0	0.2972	240
250	2.1315	147.6	0.3024	2.0730	147.5	0.3018	2.0175	147.5	0.3013	1.9648	147.5	0.3007	250
260	2.1633	150.1	0.3059	2.1039	150.1	0.3053	2.0476	150.0	0.3048	1.9942	150.0	0.3042	260
270	2.1950	152.6	0.3094	2.1348	152.6	0.3088	2.0777	152.6	0.3083	2.0236	152.5	0.3077	270
280	2.2267	155.1	0.3129	2.1656	155.1	0.3123	2.1078	155.1	0.3117	2.0529	155.1	0.3112	280
290	2.2583	157.7	0.3163	2.1964	157.7	0.3157	2.1378	157.7	0.3152	2.0822	157.6	0.3146	290
300	—	—	—	—	—	—	—	—	—	2.1114	160.2	0.3180	300

Table 2 (continued)
Suva® 404A (HP62) Superheated Vapor—Constant Pressure Tables

V = Volume in ft^3/lb H = Enthalpy in Btu/lb S = Entropy in Btu/(lb) (°R) (Saturation Properties in parentheses)

ABSOLUTE PRESSURE, psia

TEMP. °F	40.00 (–8.29°F)			41.00 (–7.13°F)			42.00 (–5.98°F)			43.00 (–4.86°F)			TEMP. °F
	V	H	S	V	H	S	V	H	S	V	H	S	
	(1.1457)	(90.1)	(0.2006)	(1.1189)	(90.3)	(0.2006)	(1.0933)	(90.5)	(0.2005)	(1.0689)	(90.6)	(0.2004)	
0	1.1719	91.7	0.2042	1.1409	91.7	0.2036	1.1114	91.6	0.2030	1.0833	91.6	0.2025	0
10	1.2032	93.7	0.2084	1.1716	93.6	0.2078	1.1415	93.6	0.2073	1.1128	93.5	0.2067	10
20	1.2344	95.7	0.2126	1.2021	95.6	0.2120	1.1714	95.6	0.2115	1.1420	95.5	0.2109	20
30	1.2653	97.7	0.2167	1.2323	97.6	0.2162	1.2010	97.6	0.2156	1.1711	97.5	0.2151	30
40	1.2960	99.7	0.2208	1.2624	99.7	0.2203	1.2304	99.6	0.2197	1.1999	99.6	0.2192	40
50	1.3265	101.8	0.2249	1.2923	101.7	0.2244	1.2597	101.7	0.2238	1.2286	101.6	0.2233	50
60	1.3569	103.8	0.2290	1.3220	103.8	0.2284	1.2888	103.8	0.2279	1.2571	103.7	0.2273	60
70	1.3871	105.9	0.2330	1.3516	105.9	0.2324	1.3177	105.9	0.2319	1.2854	105.8	0.2313	70
80	1.4172	108.1	0.2369	1.3810	108.0	0.2364	1.3465	108.0	0.2358	1.3136	108.0	0.2353	80
90	1.4472	110.2	0.2409	1.4103	110.2	0.2403	1.3752	110.1	0.2398	1.3417	110.1	0.2392	90
100	1.4771	112.4	0.2448	1.4395	112.3	0.2442	1.4037	112.3	0.2437	1.3696	112.3	0.2432	100
110	1.5068	114.6	0.2486	1.4686	114.5	0.2481	1.4322	114.5	0.2476	1.3975	114.5	0.2470	110
120	1.5364	116.8	0.2525	1.4975	116.7	0.2519	1.4605	116.7	0.2514	1.4252	116.7	0.2509	120
130	1.5660	119.0	0.2563	1.5264	119.0	0.2558	1.4887	118.9	0.2552	1.4528	118.9	0.2547	130
140	1.5954	121.3	0.2601	1.5552	121.2	0.2596	1.5169	121.2	0.2590	1.4804	121.2	0.2585	140
150	1.6248	123.5	0.2639	1.5839	123.5	0.2633	1.5450	123.5	0.2628	1.5078	123.4	0.2623	150
160	1.6541	125.8	0.2676	1.6125	125.8	0.2671	1.5729	125.8	0.2665	1.5352	125.8	0.2660	160
170	1.6833	128.2	0.2713	1.6411	128.1	0.2708	1.6009	128.1	0.2703	1.5625	128.1	0.2697	170
180	1.7124	130.5	0.2750	1.6695	130.5	0.2745	1.6287	130.4	0.2740	1.5897	130.4	0.2734	180
190	1.7415	132.9	0.2787	1.6980	132.8	0.2781	1.6565	132.8	0.2776	1.6169	132.8	0.2771	190
200	1.7705	135.2	0.2823	1.7263	135.2	0.2818	1.6842	135.2	0.2813	1.6440	135.2	0.2808	200
210	1.7995	137.7	0.2859	1.7546	137.6	0.2854	1.7118	137.6	0.2849	1.6710	137.6	0.2844	210
220	1.8284	140.1	0.2895	1.7828	140.1	0.2890	1.7394	140.0	0.2885	1.6980	140.0	0.2880	220
230	1.8572	142.5	0.2931	1.8110	142.5	0.2926	1.7670	142.5	0.2921	1.7250	142.5	0.2916	230
240	1.8860	145.0	0.2966	1.8391	145.0	0.2961	1.7945	144.9	0.2956	1.7519	144.9	0.2951	240
250	1.9148	147.5	0.3002	1.8672	147.5	0.2997	1.8219	147.4	0.2991	1.7787	147.4	0.2986	250
260	1.9435	150.0	0.3037	1.8952	150.0	0.3032	1.8493	149.9	0.3026	1.8055	149.9	0.3021	260
270	1.9722	152.5	0.3072	1.9232	152.5	0.3066	1.8766	152.5	0.3061	1.8322	152.4	0.3056	270
280	2.0008	155.1	0.3106	1.9512	155.0	0.3101	1.9040	155.0	0.3096	1.8589	155.0	0.3091	280
290	2.0294	157.6	0.3141	1.9791	157.6	0.3136	1.9312	157.6	0.3130	1.8856	157.6	0.3125	290
300	2.0579	160.2	0.3175	2.0070	160.2	0.3170	1.9585	160.2	0.3165	1.9122	160.1	0.3160	300

TEMP. °F	44.00 (–3.75°F)			45.00 (–2.67°F)			46.00 (–1.60°F)			47.00 (–0.55°F)			TEMP. °F
	V	H	S	V	H	S	V	H	S	V	H	S	
	(1.0455)	(90.8)	(0.2003)	(1.0232)	(90.9)	(0.2003)	(1.0017)	(91.1)	(0.2002)	(0.9812)	(91.3)	(0.2001)	
0	1.0565	91.5	0.2019	1.0308	91.5	0.2014	1.0062	91.4	0.2009	0.9827	91.4	0.2004	0
10	1.0854	93.5	0.2062	1.0592	93.4	0.2057	1.0341	93.4	0.2051	1.0101	93.3	0.2046	10
20	1.1141	95.5	0.2104	1.0873	95.4	0.2099	1.0617	95.4	0.2094	1.0372	95.3	0.2088	20
30	1.1425	97.5	0.2146	1.1152	97.5	0.2140	1.0891	97.4	0.2135	1.0641	97.4	0.2130	30
40	1.1708	99.5	0.2187	1.1430	99.5	0.2182	1.1163	99.5	0.2177	1.0908	99.4	0.2172	40
50	1.1989	101.6	0.2228	1.1705	101.6	0.2222	1.1434	101.5	0.2217	1.1174	101.5	0.2212	50
60	1.2268	103.7	0.2268	1.1979	103.6	0.2263	1.1702	103.6	0.2258	1.1437	103.6	0.2253	60
70	1.2546	105.8	0.2308	1.2251	105.7	0.2303	1.1969	105.7	0.2298	1.1699	105.7	0.2293	70
80	1.2822	107.9	0.2348	1.2522	107.9	0.2343	1.2235	107.8	0.2338	1.1960	107.8	0.2333	80
90	1.3097	110.1	0.2387	1.2791	110.0	0.2382	1.2499	110.0	0.2377	1.2219	110.0	0.2373	90
100	1.3371	112.2	0.2427	1.3059	112.2	0.2422	1.2762	112.2	0.2417	1.2477	112.1	0.2412	100
110	1.3643	114.4	0.2465	1.3326	114.4	0.2460	1.3024	114.4	0.2455	1.2733	114.3	0.2451	110
120	1.3915	116.6	0.2504	1.3593	116.6	0.2499	1.3284	116.6	0.2494	1.2989	116.5	0.2489	120
130	1.4185	118.9	0.2542	1.3858	118.8	0.2537	1.3544	118.8	0.2532	1.3244	118.8	0.2528	130
140	1.4455	121.1	0.2580	1.4122	121.1	0.2575	1.3803	121.1	0.2570	1.3498	121.0	0.2566	140
150	1.4724	123.4	0.2618	1.4385	123.4	0.2613	1.4061	123.4	0.2608	1.3751	123.3	0.2603	150
160	1.4992	125.7	0.2655	1.4647	125.7	0.2650	1.4318	125.7	0.2646	1.4003	125.6	0.2641	160
170	1.5259	128.0	0.2692	1.4909	128.0	0.2688	1.4575	128.0	0.2683	1.4254	128.0	0.2678	170
180	1.5526	130.4	0.2729	1.5170	130.4	0.2725	1.4830	130.3	0.2720	1.4505	130.3	0.2715	180
190	1.5791	132.8	0.2766	1.5430	132.7	0.2761	1.5085	132.7	0.2757	1.4755	132.7	0.2752	190
200	1.6057	135.1	0.2803	1.5690	135.1	0.2798	1.5340	135.1	0.2793	1.5004	135.1	0.2788	200
210	1.6321	137.6	0.2839	1.5949	137.5	0.2834	1.5594	137.5	0.2829	1.5253	137.5	0.2825	210
220	1.6585	140.0	0.2875	1.6208	140.0	0.2870	1.5847	139.9	0.2865	1.5501	139.9	0.2861	220
230	1.6849	142.4	0.2911	1.6466	142.4	0.2906	1.6099	142.4	0.2901	1.5749	142.4	0.2896	230
240	1.7112	144.9	0.2946	1.6723	144.9	0.2941	1.6352	144.8	0.2937	1.5996	144.8	0.2932	240
250	1.7374	147.4	0.2981	1.6980	147.4	0.2977	1.6603	147.3	0.2972	1.6242	147.3	0.2967	250
260	1.7637	149.9	0.3017	1.7237	149.9	0.3012	1.6855	149.8	0.3007	1.6489	149.8	0.3002	260
270	1.7898	152.4	0.3051	1.7493	152.4	0.3047	1.7105	152.4	0.3042	1.6734	152.4	0.3037	270
280	1.8159	155.0	0.3086	1.7749	154.9	0.3081	1.7356	154.9	0.3077	1.6980	154.9	0.3072	280
290	1.8420	157.5	0.3121	1.8004	157.5	0.3116	1.7606	157.5	0.3111	1.7225	157.5	0.3107	290
300	1.8681	160.1	0.3155	1.8259	160.1	0.3150	1.7855	160.1	0.3145	1.7469	160.1	0.3141	300

Table 2 (continued)
Suva® 404A (HP62) Superheated Vapor—Constant Pressure Tables

V = Volume in ft³/lb H = Enthalpy in Btu/lb S = Entropy in Btu/(lb) (°R) (Saturation Properties in parentheses)

ABSOLUTE PRESSURE, psia

TEMP. °F	48.00 (0.48°F)			49.00 (1.49°F)			50.00 (2.49°F)			55.00 (7.27°F)			TEMP. °F
	V	H	S	V	H	S	V	H	S	V	H	S	
	(0.9614)	(91.4)	(0.2001)	(0.9425)	(91.6)	(0.2000)	(0.9242)	(91.7)	(0.2000)	(0.8426)	(92.4)	(0.1997)	
10	0.9871	93.3	0.2041	0.9650	93.2	0.2036	0.9438	93.2	0.2032	0.8492	92.9	0.2008	10
20	1.0137	95.3	0.2084	0.9912	95.2	0.2079	0.9695	95.2	0.2074	0.8731	95.0	0.2051	20
30	1.0402	97.3	0.2125	1.0172	97.3	0.2120	0.9951	97.2	0.2116	0.8967	97.0	0.2093	30
40	1.0664	99.4	0.2167	1.0429	99.3	0.2162	1.0204	99.3	0.2157	0.9201	99.1	0.2135	40
50	1.0924	101.4	0.2208	1.0685	101.4	0.2203	1.0456	101.3	0.2198	0.9433	101.1	0.2176	50
60	1.1183	103.5	0.2248	1.0940	103.5	0.2243	1.0706	103.4	0.2239	0.9663	103.2	0.2217	60
70	1.1440	105.6	0.2288	1.1192	105.6	0.2284	1.0954	105.6	0.2279	0.9892	105.4	0.2257	70
80	1.1696	107.8	0.2328	1.1443	107.7	0.2324	1.1201	107.7	0.2319	1.0119	107.5	0.2297	80
90	1.1950	109.9	0.2368	1.1693	109.9	0.2363	1.1446	109.8	0.2359	1.0345	109.7	0.2337	90
100	1.2204	112.1	0.2407	1.1941	112.1	0.2402	1.1690	112.0	0.2398	1.0569	111.8	0.2376	100
110	1.2455	114.3	0.2446	1.2189	114.3	0.2441	1.1933	114.2	0.2437	1.0792	114.0	0.2415	110
120	1.2706	116.5	0.2485	1.2435	116.5	0.2480	1.2175	116.4	0.2475	1.1014	116.3	0.2454	120
130	1.2956	118.8	0.2523	1.2680	118.7	0.2518	1.2415	118.7	0.2514	1.1235	118.5	0.2493	130
140	1.3205	121.0	0.2561	1.2925	121.0	0.2556	1.2655	121.0	0.2552	1.1455	120.8	0.2531	140
150	1.3453	123.3	0.2599	1.3168	123.3	0.2594	1.2894	123.2	0.2590	1.1675	123.1	0.2569	150
160	1.3701	125.6	0.2636	1.3411	125.6	0.2632	1.3133	125.5	0.2627	1.1893	125.4	0.2606	160
170	1.3947	127.9	0.2674	1.3653	127.9	0.2669	1.3370	127.9	0.2665	1.2110	127.7	0.2644	170
180	1.4193	130.3	0.2711	1.3894	130.3	0.2706	1.3607	130.2	0.2702	1.2327	130.1	0.2681	180
190	1.4438	132.6	0.2747	1.4134	132.6	0.2743	1.3843	132.6	0.2738	1.2543	132.5	0.2718	190
200	1.4683	135.0	0.2784	1.4374	135.0	0.2779	1.4078	135.0	0.2775	1.2759	134.9	0.2754	200
210	1.4926	137.4	0.2820	1.4613	137.4	0.2816	1.4313	137.4	0.2811	1.2974	137.3	0.2790	210
220	1.5170	139.9	0.2856	1.4852	139.9	0.2852	1.4547	139.8	0.2847	1.3188	139.7	0.2827	220
230	1.5412	142.3	0.2892	1.5090	142.3	0.2887	1.4780	142.3	0.2883	1.3401	142.2	0.2862	230
240	1.5655	144.8	0.2927	1.5328	144.8	0.2923	1.5014	144.8	0.2919	1.3615	144.6	0.2898	240
250	1.5896	147.3	0.2963	1.5565	147.3	0.2958	1.5246	147.2	0.2954	1.3827	147.1	0.2933	250
260	1.6138	149.8	0.2998	1.5801	149.8	0.2994	1.5478	149.8	0.2989	1.4040	149.6	0.2969	260
270	1.6379	152.3	0.3033	1.6038	152.3	0.3028	1.5710	152.3	0.3024	1.4251	152.2	0.3004	270
280	1.6619	154.9	0.3068	1.6273	154.9	0.3063	1.5941	154.8	0.3059	1.4463	154.7	0.3038	280
290	1.6859	157.5	0.3102	1.6509	157.4	0.3098	1.6172	157.4	0.3093	1.4674	157.3	0.3073	290
300	1.7099	160.0	0.3136	1.6744	160.0	0.3132	1.6403	160.0	0.3128	1.4884	159.9	0.3107	300
310	1.7338	162.6	0.3170	1.6978	162.6	0.3166	1.6633	162.6	0.3162	1.5094	162.5	0.3141	310

TEMP. °F	60.00 (11.73°F)			65.00 (15.92°F)			70.00 (19.86°F)			75.00 (23.60°F)			TEMP. °F
	V	H	S	V	H	S	V	H	S	V	H	S	
	(0.7741)	(93.0)	(0.1994)	(0.7158)	(93.6)	(0.1992)	(0.6654)	(94.2)	(0.1991)	(0.6215)	(94.7)	(0.1989)	
20	0.7925	94.7	0.2030	0.7243	94.5	0.2010	0.6657	94.2	0.1991	—	—	—	20
30	0.8146	96.8	0.2072	0.7450	96.5	0.2052	0.6853	96.3	0.2034	0.6334	96.0	0.2016	30
40	0.8364	98.8	0.2114	0.7655	98.6	0.2094	0.7046	98.4	0.2076	0.6518	98.1	0.2059	40
50	0.8580	100.9	0.2155	0.7857	100.7	0.2136	0.7237	100.5	0.2118	0.6699	100.2	0.2101	50
60	0.8794	103.0	0.2196	0.8058	102.8	0.2177	0.7426	102.6	0.2159	0.6878	102.4	0.2142	60
70	0.9007	105.1	0.2237	0.8257	104.9	0.2218	0.7614	104.7	0.2200	0.7056	104.5	0.2183	70
80	0.9217	107.3	0.2277	0.8454	107.1	0.2258	0.7799	106.9	0.2241	0.7231	106.7	0.2224	80
90	0.9427	109.5	0.2317	0.8649	109.3	0.2298	0.7983	109.1	0.2281	0.7405	108.9	0.2264	90
100	0.9635	111.7	0.2356	0.8844	111.5	0.2338	0.8165	111.3	0.2320	0.7577	111.1	0.2304	100
110	0.9841	113.9	0.2396	0.9037	113.7	0.2377	0.8346	113.5	0.2360	0.7748	113.3	0.2344	110
120	1.0047	116.1	0.2434	0.9228	115.9	0.2416	0.8526	115.8	0.2399	0.7918	115.6	0.2383	120
130	1.0252	118.4	0.2473	0.9419	118.2	0.2455	0.8705	118.0	0.2438	0.8086	117.9	0.2422	130
140	1.0455	120.6	0.2511	0.9609	120.5	0.2493	0.8883	120.3	0.2476	0.8254	120.1	0.2460	140
150	1.0658	122.9	0.2549	0.9797	122.8	0.2531	0.9060	122.6	0.2514	0.8420	122.5	0.2498	150
160	1.0860	125.2	0.2587	0.9985	125.1	0.2569	0.9236	124.9	0.2552	0.8586	124.8	0.2536	160
170	1.1061	127.6	0.2624	1.0172	127.4	0.2606	0.9411	127.3	0.2590	0.8751	127.1	0.2574	170
180	1.1261	129.9	0.2661	1.0359	129.8	0.2644	0.9585	129.7	0.2627	0.8914	129.5	0.2611	180
190	1.1460	132.3	0.2698	1.0544	132.2	0.2681	0.9759	132.0	0.2664	0.9078	131.9	0.2648	190
200	1.1659	134.7	0.2735	1.0729	134.6	0.2717	0.9931	134.5	0.2701	0.9240	134.3	0.2685	200
210	1.1858	137.1	0.2771	1.0913	137.0	0.2754	1.0104	136.9	0.2737	0.9402	136.7	0.2722	210
220	1.2055	139.6	0.2808	1.1097	139.5	0.2790	1.0275	139.3	0.2774	0.9563	139.2	0.2758	220
230	1.2252	142.0	0.2843	1.1280	141.9	0.2826	1.0446	141.8	0.2810	0.9724	141.7	0.2794	230
240	1.2449	144.5	0.2879	1.1462	144.4	0.2862	1.0617	144.3	0.2845	0.9884	144.2	0.2830	240
250	1.2645	147.0	0.2915	1.1644	146.9	0.2897	1.0787	146.8	0.2881	1.0043	146.7	0.2866	250
260	1.2840	149.5	0.2950	1.1826	149.4	0.2932	1.0956	149.3	0.2916	1.0203	149.2	0.2901	260
270	1.3036	152.1	0.2985	1.2007	152.0	0.2967	1.1125	151.9	0.2951	1.0361	151.7	0.2936	270
280	1.3230	154.6	0.3020	1.2188	154.5	0.3002	1.1294	154.4	0.2986	1.0519	154.3	0.2971	280
290	1.3425	157.2	0.3054	1.2368	157.1	0.3037	1.1462	157.0	0.3021	1.0677	156.9	0.3006	290
300	1.3619	159.8	0.3089	1.2548	159.7	0.3071	1.1630	159.6	0.3055	1.0834	159.5	0.3040	300
310	1.3812	162.4	0.3123	1.2727	162.3	0.3106	1.1797	162.2	0.3089	1.0991	162.1	0.3074	310
320	1.4005	165.0	0.3157	1.2906	164.9	0.3140	1.1964	164.8	0.3124	1.1148	164.7	0.3109	320
330	—	—	—	—	—	—	—	—	—	1.1304	167.4	0.3142	330

Table 2 (continued)
Suva® 404A (HP62) Superheated Vapor—Constant Pressure Tables

V = Volume in ft^3/lb H = Enthalpy in Btu/lb S = Entropy in Btu/(lb) (°R) (Saturation Properties in parentheses)

ABSOLUTE PRESSURE, psia

TEMP. °F	80.00 (27.16°F)			85.00 (30.54°F)			90.00 (33.79°F)			95.00 (36.89°F)			TEMP. °F
	V	H	S	V	H	S	V	H	S	V	H	S	
	(0.5829)	(95.2)	(0.1987)	(0.5487)	(95.6)	(0.1986)	(0.5181)	(96.0)	(0.1985)	(0.4905)	(96.5)	(0.1983)	
30	0.5879	95.8	0.2000	—	—	—	—	—	—	—	—	—	30
40	0.6055	97.9	0.2042	0.5646	97.6	0.2026	0.5281	97.4	0.2011	0.4954	97.1	0.1997	40
50	0.6228	100.0	0.2084	0.5811	99.8	0.2069	0.5440	99.5	0.2054	0.5107	99.3	0.2040	50
60	0.6398	102.2	0.2126	0.5974	101.9	0.2111	0.5597	101.7	0.2096	0.5258	101.5	0.2082	60
70	0.6567	104.3	0.2167	0.6135	104.1	0.2152	0.5751	103.9	0.2138	0.5407	103.7	0.2124	70
80	0.6734	106.5	0.2208	0.6294	106.3	0.2193	0.5903	106.1	0.2179	0.5553	105.9	0.2165	80
90	0.6899	108.7	0.2249	0.6452	108.5	0.2234	0.6054	108.3	0.2220	0.5698	108.1	0.2206	90
100	0.7062	110.9	0.2289	0.6607	110.7	0.2274	0.6203	110.5	0.2260	0.5841	110.3	0.2246	100
110	0.7224	113.2	0.2328	0.6762	113.0	0.2314	0.6350	112.8	0.2300	0.5982	112.6	0.2287	110
120	0.7385	115.4	0.2368	0.6915	115.2	0.2353	0.6496	115.1	0.2339	0.6122	114.9	0.2326	120
130	0.7544	117.7	0.2407	0.7066	117.5	0.2392	0.6641	117.3	0.2378	0.6260	117.2	0.2365	130
140	0.7703	120.0	0.2445	0.7217	119.8	0.2431	0.6785	119.7	0.2417	0.6398	119.5	0.2404	140
150	0.7861	122.3	0.2483	0.7366	122.1	0.2469	0.6927	122.0	0.2456	0.6534	121.8	0.2443	150
160	0.8017	124.6	0.2521	0.7515	124.5	0.2507	0.7069	124.3	0.2494	0.6669	124.2	0.2481	160
170	0.8173	127.0	0.2559	0.7663	126.8	0.2545	0.7210	126.7	0.2532	0.6804	126.5	0.2519	170
180	0.8328	129.4	0.2597	0.7810	129.2	0.2583	0.7349	129.1	0.2569	0.6937	128.9	0.2557	180
190	0.8482	131.8	0.2634	0.7956	131.6	0.2620	0.7488	131.5	0.2607	0.7070	131.3	0.2594	190
200	0.8635	134.2	0.2671	0.8101	134.0	0.2657	0.7627	133.9	0.2644	0.7202	133.8	0.2631	200
210	0.8788	136.6	0.2707	0.8246	136.5	0.2694	0.7764	136.4	0.2681	0.7333	136.2	0.2668	210
220	0.8940	139.1	0.2744	0.8390	138.9	0.2730	0.7901	138.8	0.2717	0.7464	138.7	0.2705	220
230	0.9092	141.5	0.2780	0.8534	141.4	0.2766	0.8038	141.3	0.2753	0.7594	141.2	0.2741	230
240	0.9243	144.0	0.2816	0.8677	143.9	0.2802	0.8174	143.8	0.2789	0.7724	143.7	0.2777	240
250	0.9393	146.5	0.2851	0.8819	146.4	0.2838	0.8309	146.3	0.2825	0.7852	146.2	0.2813	250
260	0.9543	149.1	0.2887	0.8961	149.0	0.2873	0.8444	148.9	0.2860	0.7981	148.7	0.2848	260
270	0.9692	151.6	0.2922	0.9102	151.5	0.2908	0.8578	151.4	0.2896	0.8109	151.3	0.2884	270
280	0.9842	154.2	0.2957	0.9243	154.1	0.2943	0.8712	154.0	0.2931	0.8236	153.9	0.2919	280
290	0.9990	156.8	0.2992	0.9384	156.7	0.2978	0.8845	156.6	0.2966	0.8363	156.5	0.2954	290
300	1.0138	159.4	0.3026	0.9524	159.3	0.3013	0.8978	159.2	0.3000	0.8490	159.1	0.2988	300
310	1.0286	162.0	0.3060	0.9664	161.9	0.3047	0.9111	161.8	0.3035	0.8616	161.7	0.3023	310
320	1.0434	164.7	0.3094	0.9803	164.6	0.3081	0.9243	164.5	0.3069	0.8742	164.4	0.3057	320
330	1.0581	167.3	0.3128	0.9943	167.2	0.3115	0.9375	167.1	0.3103	0.8867	167.0	0.3091	330
340	—	—	—	1.0081	169.9	0.3149	0.9507	169.8	0.3136	0.8993	169.7	0.3124	340

TEMP. °F	100.00 (39.88°F)			110.00 (45.53°F)			120.00 (50.81°F)			130.00 (55.76°F)			TEMP. °F
	V	H	S	V	H	S	V	H	S	V	H	S	
	(0.4657)	(96.8)	(0.1982)	(0.4225)	(97.5)	(0.1980)	(0.3862)	(98.2)	(0.1978)	(0.3552)	(98.8)	(0.1976)	
40	0.4659	96.9	0.1983	—	—	—	—	—	—	—	—	—	40
50	0.4807	99.0	0.2026	0.4287	98.5	0.1999	—	—	—	—	—	—	50
60	0.4953	101.2	0.2068	0.4425	100.7	0.2042	0.3982	100.3	0.2018	0.3605	99.7	0.1994	60
70	0.5097	103.4	0.2110	0.4559	103.0	0.2085	0.4110	102.5	0.2061	0.3728	102.0	0.2038	70
80	0.5238	105.7	0.2152	0.4692	105.2	0.2127	0.4235	104.8	0.2103	0.3847	104.3	0.2081	80
90	0.5377	107.9	0.2193	0.4822	107.5	0.2168	0.4358	107.0	0.2145	0.3964	106.6	0.2123	90
100	0.5514	110.1	0.2234	0.4950	109.7	0.2209	0.4479	109.3	0.2186	0.4079	108.9	0.2165	100
110	0.5650	112.4	0.2274	0.5076	112.0	0.2250	0.4597	111.6	0.2227	0.4191	111.2	0.2206	110
120	0.5784	114.7	0.2314	0.5201	114.3	0.2290	0.4715	114.0	0.2267	0.4302	113.6	0.2246	120
130	0.5918	117.0	0.2353	0.5325	116.6	0.2329	0.4831	116.3	0.2307	0.4411	115.9	0.2287	130
140	0.6049	119.3	0.2392	0.5447	119.0	0.2369	0.4945	118.6	0.2347	0.4519	118.3	0.2326	140
150	0.6180	121.7	0.2431	0.5568	121.3	0.2407	0.5058	121.0	0.2386	0.4626	120.7	0.2366	150
160	0.6310	124.0	0.2469	0.5688	123.7	0.2446	0.5170	123.4	0.2425	0.4731	123.1	0.2405	160
170	0.6439	126.4	0.2507	0.5807	126.1	0.2484	0.5281	125.8	0.2463	0.4836	125.5	0.2443	170
180	0.6566	128.8	0.2545	0.5926	128.5	0.2522	0.5391	128.2	0.2501	0.4939	127.9	0.2481	180
190	0.6694	131.2	0.2582	0.6043	130.9	0.2560	0.5500	130.6	0.2539	0.5041	130.3	0.2519	190
200	0.6820	133.6	0.2619	0.6159	133.4	0.2597	0.5609	133.1	0.2576	0.5143	132.8	0.2557	200
210	0.6945	136.1	0.2656	0.6275	135.8	0.2634	0.5717	135.5	0.2613	0.5244	135.3	0.2594	210
220	0.7070	138.6	0.2693	0.6390	138.3	0.2671	0.5823	138.0	0.2650	0.5344	137.8	0.2631	220
230	0.7195	141.0	0.2729	0.6505	140.8	0.2707	0.5930	140.5	0.2687	0.5443	140.3	0.2668	230
240	0.7318	143.6	0.2765	0.6619	143.3	0.2743	0.6035	143.1	0.2723	0.5542	142.8	0.2704	240
250	0.7442	146.1	0.2801	0.6732	145.8	0.2779	0.6140	145.6	0.2759	0.5640	145.4	0.2740	250
260	0.7564	148.6	0.2837	0.6845	148.4	0.2815	0.6245	148.2	0.2795	0.5737	147.9	0.2776	260
270	0.7686	151.2	0.2872	0.6957	151.0	0.2850	0.6349	150.7	0.2830	0.5834	150.5	0.2812	270
280	0.7808	153.8	0.2907	0.7069	153.5	0.2886	0.6452	153.3	0.2866	0.5931	153.1	0.2847	280
290	0.7929	156.4	0.2942	0.7180	156.1	0.2921	0.6556	155.9	0.2901	0.6027	155.7	0.2882	290
300	0.8050	159.0	0.2977	0.7291	158.8	0.2955	0.6658	158.6	0.2936	0.6123	158.4	0.2917	300
310	0.8171	161.6	0.3011	0.7401	161.4	0.2990	0.6760	161.2	0.2970	0.6218	161.0	0.2952	310
320	0.8291	164.3	0.3045	0.7512	164.1	0.3024	0.6862	163.9	0.3005	0.6313	163.7	0.2986	320
330	0.8411	166.9	0.3079	0.7621	166.7	0.3058	0.6964	166.5	0.3039	0.6407	166.4	0.3021	330
340	0.8530	169.6	0.3113	0.7731	169.4	0.3092	0.7065	169.2	0.3073	0.6502	169.1	0.3055	340
350	—	—	—	0.7840	172.1	0.3126	0.7166	171.9	0.3106	0.6595	171.8	0.3088	350
360	—	—	—	—	—	—	0.7266	174.7	0.3140	0.6689	174.5	0.3122	360

Table 2 (continued)
Suva® 404A (HP62) Superheated Vapor—Constant Pressure Tables

V = Volume in ft³/lb H = Enthalpy in Btu/lb S = Entropy in Btu/(lb) (°R) (Saturation Properties in parentheses)

ABSOLUTE PRESSURE, psia

TEMP. °F	140.00 (60.44°F)			150.00 (64.87°F)			160.00 (69.09°F)			170.00 (73.11°F)			TEMP. °F
	V	H	S	V	H	S	V	H	S	V	H	S	
	(0.3285)	(99.3)	(0.1974)	(0.3052)	(99.8)	(0.1972)	(0.2847)	(100.2)	(0.1970)	(0.2665)	(100.6)	(0.1968)	
70	0.3398	101.5	0.2016	0.3111	101.0	0.1995	0.2857	100.4	0.1974	—	—	—	70
80	0.3513	103.8	0.2059	0.3222	103.3	0.2039	0.2966	102.8	0.2019	0.2738	102.3	0.1999	80
90	0.3625	106.2	0.2102	0.3330	105.7	0.2082	0.3071	105.2	0.2063	0.2841	104.7	0.2044	90
100	0.3735	108.5	0.2144	0.3436	108.1	0.2124	0.3173	107.6	0.2105	0.2940	107.1	0.2087	100
110	0.3842	110.8	0.2186	0.3539	110.4	0.2166	0.3273	110.0	0.2148	0.3037	109.6	0.2130	110
120	0.3948	113.2	0.2227	0.3640	112.8	0.2208	0.3370	112.4	0.2189	0.3131	112.0	0.2172	120
130	0.4052	115.6	0.2267	0.3739	115.2	0.2248	0.3465	114.8	0.2231	0.3223	114.4	0.2213	130
140	0.4154	117.9	0.2307	0.3837	117.6	0.2289	0.3559	117.2	0.2271	0.3313	116.8	0.2254	140
150	0.4255	120.3	0.2347	0.3933	120.0	0.2328	0.3651	119.6	0.2311	0.3402	119.3	0.2295	150
160	0.4355	122.7	0.2386	0.4028	122.4	0.2368	0.3742	122.1	0.2351	0.3489	121.7	0.2334	160
170	0.4453	125.2	0.2425	0.4122	124.8	0.2407	0.3831	124.5	0.2390	0.3575	124.2	0.2374	170
180	0.4551	127.6	0.2463	0.4214	127.3	0.2445	0.3920	127.0	0.2429	0.3659	126.7	0.2413	180
190	0.4647	130.0	0.2501	0.4306	129.7	0.2484	0.4007	129.4	0.2467	0.3743	129.1	0.2451	190
200	0.4743	132.5	0.2539	0.4397	132.2	0.2522	0.4093	131.9	0.2505	0.3826	131.6	0.2490	200
210	0.4838	135.0	0.2576	0.4487	134.7	0.2559	0.4179	134.4	0.2543	0.3907	134.2	0.2528	210
220	0.4932	137.5	0.2613	0.4576	137.2	0.2596	0.4263	137.0	0.2580	0.3988	136.7	0.2565	220
230	0.5026	140.0	0.2650	0.4664	139.8	0.2633	0.4347	139.5	0.2617	0.4068	139.2	0.2602	230
240	0.5119	142.6	0.2687	0.4752	142.3	0.2670	0.4431	142.1	0.2654	0.4147	141.8	0.2639	240
250	0.5211	145.1	0.2723	0.4839	144.9	0.2706	0.4513	144.6	0.2691	0.4226	144.4	0.2676	250
260	0.5302	147.7	0.2759	0.4925	147.5	0.2742	0.4595	147.2	0.2727	0.4304	147.0	0.2712	260
270	0.5393	150.3	0.2795	0.5011	150.0	0.2778	0.4677	149.8	0.2763	0.4382	149.6	0.2748	270
280	0.5484	152.9	0.2830	0.5097	152.7	0.2814	0.4758	152.4	0.2798	0.4459	152.2	0.2784	280
290	0.5574	155.5	0.2865	0.5182	155.3	0.2849	0.4838	155.1	0.2834	0.4535	154.9	0.2819	290
300	0.5664	158.1	0.2900	0.5266	157.9	0.2884	0.4918	157.7	0.2869	0.4611	157.5	0.2855	300
310	0.5753	160.8	0.2935	0.5350	160.6	0.2919	0.4998	160.4	0.2904	0.4687	160.2	0.2890	310
320	0.5842	163.5	0.2969	0.5434	163.3	0.2954	0.5077	163.1	0.2938	0.4762	162.9	0.2924	320
330	0.5930	166.2	0.3004	0.5517	166.0	0.2988	0.5156	165.8	0.2973	0.4837	165.6	0.2959	330
340	0.6019	168.9	0.3038	0.5600	168.7	0.3022	0.5234	168.5	0.3007	0.4911	168.3	0.2993	340
350	0.6106	171.6	0.3072	0.5683	171.4	0.3056	0.5312	171.2	0.3041	0.4985	171.0	0.3027	350
360	0.6194	174.3	0.3105	0.5765	174.1	0.3089	0.5390	174.0	0.3075	0.5059	173.8	0.3061	360
370	0.6281	177.1	0.3138	0.5847	176.9	0.3123	0.5467	176.7	0.3108	0.5132	176.5	0.3094	370
380	—	—	—	—	—	—	—	—	—	0.5205	179.3	0.3128	380

TEMP. °F	180.00 (76.96°F)			190.00 (80.65°F)			200.00 (84.20°F)			220.00 (90.91°F)			TEMP. °F
	V	H	S	V	H	S	V	H	S	V	H	S	
	(0.2502)	(101.0)	(0.1966)	(0.2356)	(101.3)	(0.1964)	(0.2223)	(101.6)	(0.1962)	(0.1992)	(102.2)	(0.1957)	
80	0.2534	101.8	0.1980	—	—	—	—	—	—	—	—	—	80
90	0.2635	104.2	0.2025	0.2449	103.7	0.2007	0.2280	103.1	0.1989	—	—	—	90
100	0.2732	106.7	0.2069	0.2545	106.2	0.2052	0.2375	105.7	0.2034	0.2078	104.6	0.2000	100
110	0.2826	109.1	0.2112	0.2637	108.6	0.2095	0.2466	108.2	0.2079	0.2167	107.2	0.2046	110
120	0.2918	111.5	0.2155	0.2726	111.1	0.2138	0.2553	110.7	0.2122	0.2252	109.7	0.2091	120
130	0.3007	114.0	0.2197	0.2813	113.6	0.2181	0.2638	113.2	0.2165	0.2334	112.3	0.2135	130
140	0.3094	116.4	0.2238	0.2898	116.1	0.2222	0.2721	115.7	0.2207	0.2413	114.8	0.2177	140
150	0.3180	118.9	0.2279	0.2981	118.5	0.2263	0.2801	118.1	0.2248	0.2490	117.4	0.2219	150
160	0.3264	121.4	0.2319	0.3062	121.0	0.2304	0.2880	120.7	0.2289	0.2565	119.9	0.2261	160
170	0.3347	123.8	0.2358	0.3142	123.5	0.2344	0.2958	123.2	0.2329	0.2638	122.5	0.2302	170
180	0.3428	126.3	0.2398	0.3220	126.0	0.2383	0.3034	125.7	0.2369	0.2710	125.0	0.2342	180
190	0.3508	128.8	0.2436	0.3298	128.5	0.2422	0.3108	128.2	0.2408	0.2781	127.6	0.2381	190
200	0.3587	131.3	0.2475	0.3374	131.0	0.2461	0.3182	130.7	0.2447	0.2850	130.1	0.2421	200
210	0.3666	133.9	0.2513	0.3449	133.6	0.2499	0.3254	133.3	0.2485	0.2918	132.7	0.2459	210
220	0.3743	136.4	0.2551	0.3524	136.1	0.2537	0.3326	135.9	0.2523	0.2985	135.3	0.2498	220
230	0.3820	139.0	0.2588	0.3597	138.7	0.2574	0.3397	138.4	0.2561	0.3051	137.9	0.2536	230
240	0.3895	141.5	0.2625	0.3670	141.3	0.2611	0.3467	141.0	0.2598	0.3116	140.5	0.2573	240
250	0.3971	144.1	0.2662	0.3742	143.9	0.2648	0.3536	143.6	0.2635	0.3181	143.1	0.2610	250
260	0.4045	146.7	0.2698	0.3814	146.5	0.2685	0.3605	146.3	0.2672	0.3245	145.8	0.2647	260
270	0.4119	149.4	0.2734	0.3884	149.1	0.2721	0.3673	148.9	0.2708	0.3308	148.4	0.2684	270
280	0.4193	152.0	0.2770	0.3955	151.8	0.2757	0.3741	151.5	0.2744	0.3371	151.1	0.2720	280
290	0.4266	154.6	0.2806	0.4025	154.4	0.2792	0.3808	154.2	0.2780	0.3433	153.7	0.2756	290
300	0.4338	157.3	0.2841	0.4094	157.1	0.2828	0.3874	156.9	0.2815	0.3495	156.4	0.2792	300
310	0.4410	160.0	0.2876	0.4163	159.8	0.2863	0.3940	159.6	0.2850	0.3556	159.1	0.2827	310
320	0.4482	162.7	0.2911	0.4231	162.5	0.2898	0.4006	162.3	0.2885	0.3616	161.9	0.2862	320
330	0.4553	165.4	0.2945	0.4299	165.2	0.2932	0.4071	165.0	0.2920	0.3677	164.6	0.2897	330
340	0.4624	168.1	0.2980	0.4367	167.9	0.2967	0.4136	167.7	0.2955	0.3736	167.3	0.2932	340
350	0.4694	170.8	0.3014	0.4434	170.7	0.3001	0.4200	170.5	0.2989	0.3796	170.1	0.2966	350
360	0.4764	173.6	0.3047	0.4501	173.4	0.3035	0.4264	173.2	0.3023	0.3855	172.9	0.3000	360
370	0.4834	176.4	0.3081	0.4568	176.2	0.3068	0.4328	176.0	0.3056	0.3914	175.7	0.3034	370
380	0.4904	179.2	0.3114	0.4634	179.0	0.3102	0.4391	178.8	0.3090	0.3972	178.5	0.3067	380
390	—	—	—	0.4700	181.8	0.3135	0.4455	181.6	0.3123	0.4031	181.3	0.3101	390
400	—	—	—	—	—	—	—	—	—	0.4088	184.1	0.3134	400

Table 2 (continued)
Suva® 404A (HP62) Superheated Vapor—Constant Pressure Tables

V = Volume in ft^3/lb H = Enthalpy in Btu/lb S = Entropy in Btu/(lb) (°R) (Saturation Properties in parentheses)

ABSOLUTE PRESSURE, psia

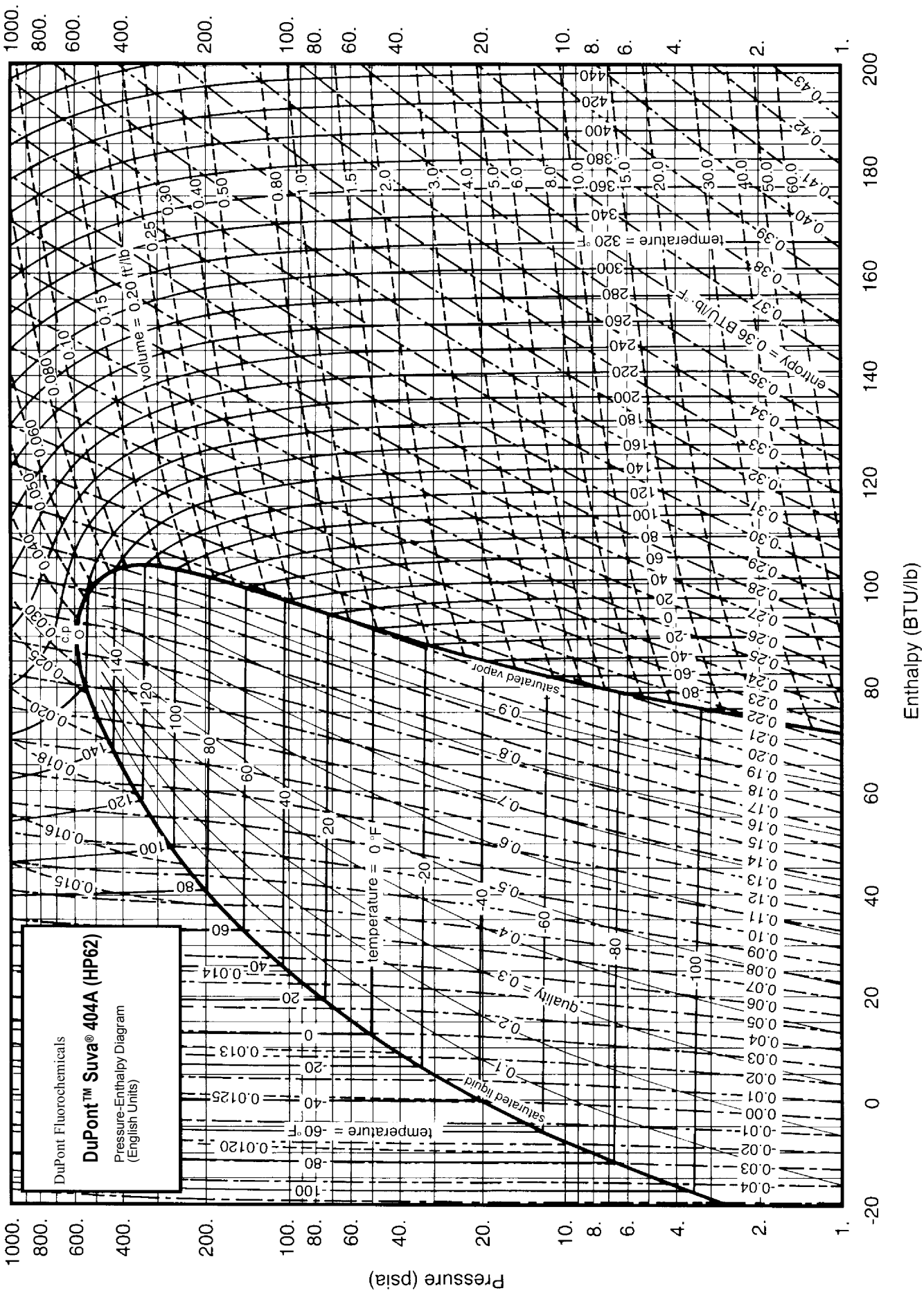
TEMP. °F	240.00 (97.19°F)			260.00 (103.08°F)			280.00 (108.65°F)			300.00 (113.92°F)			TEMP. °F
	V	H	S	V	H	S	V	H	S	V	H	S	
	(0.1798)	(102.6)	(0.1952)	(0.1631)	(103.0)	(0.1947)	(0.1487)	(103.2)	(0.1941)	(0.1360)	(103.4)	(0.1935)	
100	0.1824	103.4	0.1966	—	—	—	—	—	—	—	—	—	100
110	0.1913	106.1	0.2014	0.1694	104.9	0.1982	0.1499	103.6	0.1949	—	—	—	110
120	0.1998	108.7	0.2060	0.1779	107.7	0.2030	0.1587	106.5	0.1999	0.1415	105.3	0.1968	120
130	0.2078	111.4	0.2105	0.1859	110.4	0.2076	0.1667	109.3	0.2048	0.1498	108.2	0.2019	130
140	0.2155	114.0	0.2149	0.1934	113.1	0.2121	0.1743	112.1	0.2094	0.1575	111.1	0.2067	140
150	0.2229	116.6	0.2192	0.2007	115.7	0.2165	0.1815	114.8	0.2139	0.1646	113.9	0.2113	150
160	0.2301	119.2	0.2234	0.2077	118.4	0.2208	0.1883	117.5	0.2183	0.1714	116.7	0.2158	160
170	0.2371	121.7	0.2275	0.2145	121.0	0.2250	0.1949	120.2	0.2226	0.1779	119.4	0.2202	170
180	0.2440	124.3	0.2316	0.2210	123.6	0.2292	0.2013	122.9	0.2268	0.1841	122.1	0.2245	180
190	0.2507	126.9	0.2356	0.2274	126.2	0.2332	0.2075	125.5	0.2309	0.1901	124.8	0.2287	190
200	0.2572	129.5	0.2396	0.2337	128.9	0.2372	0.2135	128.2	0.2350	0.1959	127.5	0.2328	200
210	0.2637	132.1	0.2435	0.2399	131.5	0.2412	0.2194	130.9	0.2390	0.2016	130.2	0.2369	210
220	0.2700	134.7	0.2474	0.2459	134.1	0.2451	0.2252	133.5	0.2429	0.2072	132.9	0.2409	220
230	0.2762	137.3	0.2512	0.2518	136.8	0.2490	0.2308	136.2	0.2468	0.2126	135.6	0.2448	230
240	0.2824	140.0	0.2550	0.2576	139.4	0.2528	0.2364	138.9	0.2507	0.2180	138.3	0.2487	240
250	0.2885	142.6	0.2587	0.2634	142.1	0.2566	0.2419	141.6	0.2545	0.2232	141.0	0.2525	250
260	0.2945	145.3	0.2624	0.2690	144.8	0.2603	0.2472	144.3	0.2583	0.2284	143.7	0.2563	260
270	0.3004	147.9	0.2661	0.2746	147.4	0.2640	0.2526	147.0	0.2620	0.2334	146.5	0.2601	270
280	0.3063	150.6	0.2698	0.2802	150.1	0.2677	0.2578	149.7	0.2657	0.2384	149.2	0.2638	280
290	0.3121	153.3	0.2734	0.2856	152.8	0.2713	0.2630	152.4	0.2693	0.2434	151.9	0.2675	290
300	0.3178	156.0	0.2770	0.2911	155.6	0.2749	0.2681	155.1	0.2730	0.2483	154.7	0.2711	300
310	0.3235	158.7	0.2805	0.2964	158.3	0.2785	0.2732	157.9	0.2766	0.2531	157.4	0.2747	310
320	0.3292	161.5	0.2841	0.3017	161.0	0.2820	0.2782	160.6	0.2801	0.2578	160.2	0.2783	320
330	0.3348	164.2	0.2876	0.3070	163.8	0.2855	0.2832	163.4	0.2837	0.2626	163.0	0.2819	330
340	0.3404	167.0	0.2910	0.3122	166.6	0.2890	0.2881	166.2	0.2872	0.2673	165.8	0.2854	340
350	0.3459	169.7	0.2945	0.3174	169.4	0.2925	0.2930	169.0	0.2906	0.2719	168.6	0.2889	350
360	0.3514	172.5	0.2979	0.3226	172.2	0.2959	0.2979	171.8	0.2941	0.2765	171.4	0.2923	360
370	0.3569	175.3	0.3013	0.3277	175.0	0.2993	0.3027	174.6	0.2975	0.2811	174.3	0.2958	370
380	0.3623	178.1	0.3047	0.3328	177.8	0.3027	0.3075	177.4	0.3009	0.2856	177.1	0.2992	380
390	0.3677	181.0	0.3080	0.3379	180.6	0.3061	0.3123	180.3	0.3043	0.2901	180.0	0.3026	390
400	0.3731	183.8	0.3113	0.3429	183.5	0.3094	0.3170	183.1	0.3076	0.2946	182.8	0.3059	400
410	—	—	—	0.3479	186.3	0.3127	0.3217	186.0	0.3109	0.2990	185.7	0.3092	410
420	—	—	—	—	—	—	—	—	—	0.3034	188.6	0.3125	420

TEMP. °F	320.00 (118.93°F)			340.00 (123.72°F)			360.00 (128.30°F)			380.00 (132.69°F)			TEMP. °F
	V	H	S	V	H	S	V	H	S	V	H	S	
	(0.1248)	(103.5)	(0.1928)	(0.1148)	(103.5)	(0.1921)	(0.1057)	(103.4)	(0.1912)	(0.0974)	(103.2)	(0.1903)	
120	0.1258	103.8	0.1934	—	—	—	—	—	—	—	—	—	120
130	0.1346	107.0	0.1989	0.1206	105.6	0.1957	0.1074	104.0	0.1923	—	—	—	130
140	0.1424	110.0	0.2039	0.1288	108.8	0.2011	0.1163	107.5	0.1982	0.1046	106.0	0.1950	140
150	0.1496	112.9	0.2088	0.1362	111.9	0.2062	0.1240	110.7	0.2035	0.1128	109.5	0.2007	150
160	0.1564	115.8	0.2134	0.1430	114.8	0.2110	0.1310	113.8	0.2085	0.1200	112.7	0.2060	160
170	0.1628	118.6	0.2179	0.1494	117.7	0.2156	0.1374	116.8	0.2133	0.1265	115.8	0.2110	170
180	0.1689	121.3	0.2223	0.1555	120.5	0.2200	0.1435	119.7	0.2179	0.1326	118.8	0.2157	180
190	0.1748	124.1	0.2265	0.1613	123.3	0.2244	0.1492	122.6	0.2223	0.1383	121.8	0.2202	190
200	0.1805	126.8	0.2307	0.1669	126.1	0.2287	0.1547	125.4	0.2267	0.1437	124.6	0.2247	200
210	0.1861	129.6	0.2348	0.1723	128.9	0.2328	0.1600	128.2	0.2309	0.1489	127.5	0.2290	210
220	0.1914	132.3	0.2389	0.1775	131.7	0.2369	0.1651	131.0	0.2350	0.1540	130.4	0.2332	220
230	0.1967	135.0	0.2428	0.1826	134.4	0.2410	0.1701	133.8	0.2391	0.1588	133.2	0.2373	230
240	0.2018	137.8	0.2468	0.1876	137.2	0.2449	0.1749	136.6	0.2431	0.1635	136.0	0.2414	240
250	0.2069	140.5	0.2507	0.1924	139.9	0.2488	0.1796	139.4	0.2471	0.1681	138.8	0.2454	250
260	0.2118	143.2	0.2545	0.1972	142.7	0.2527	0.1842	142.2	0.2510	0.1726	141.6	0.2493	260
270	0.2167	146.0	0.2583	0.2019	145.5	0.2565	0.1888	144.9	0.2548	0.1770	144.4	0.2532	270
280	0.2215	148.7	0.2620	0.2065	148.2	0.2603	0.1932	147.7	0.2586	0.1813	147.2	0.2570	280
290	0.2262	151.5	0.2657	0.2111	151.0	0.2640	0.1976	150.5	0.2624	0.1855	150.1	0.2608	290
300	0.2309	154.2	0.2694	0.2155	153.8	0.2677	0.2019	153.3	0.2661	0.1897	152.9	0.2645	300
310	0.2355	157.0	0.2730	0.2199	156.6	0.2713	0.2061	156.1	0.2698	0.1938	155.7	0.2682	310
320	0.2400	159.8	0.2766	0.2243	159.4	0.2750	0.2103	159.0	0.2734	0.1978	158.5	0.2719	320
330	0.2445	162.6	0.2802	0.2286	162.2	0.2785	0.2145	161.8	0.2770	0.2018	161.4	0.2755	330
340	0.2490	165.4	0.2837	0.2329	165.0	0.2821	0.2186	164.6	0.2806	0.2058	164.2	0.2791	340
350	0.2534	168.2	0.2872	0.2371	167.8	0.2856	0.2226	167.5	0.2841	0.2097	167.1	0.2826	350
360	0.2578	171.1	0.2907	0.2413	170.7	0.2891	0.2266	170.3	0.2876	0.2135	169.9	0.2861	360
370	0.2621	173.9	0.2941	0.2454	173.5	0.2926	0.2306	173.2	0.2911	0.2173	172.8	0.2896	370
380	0.2664	176.8	0.2975	0.2495	176.4	0.2960	0.2345	176.1	0.2945	0.2211	175.7	0.2931	380
390	0.2707	179.6	0.3009	0.2536	179.3	0.2994	0.2384	178.9	0.2979	0.2248	178.6	0.2965	390
400	0.2749	182.5	0.3043	0.2576	182.2	0.3028	0.2423	181.8	0.3013	0.2285	181.5	0.2999	400
410	0.2792	185.4	0.3076	0.2616	185.1	0.3061	0.2461	184.7	0.3047	0.2322	184.4	0.3033	410
420	0.2833	188.3	0.3110	0.2656	188.0	0.3095	0.2499	187.7	0.3080	0.2358	187.4	0.3066	420
430	—	—	—	0.2696	190.9	0.3128	0.2537	190.6	0.3113	0.2395	190.3	0.3100	430
440	—	—	—	—	—	—	—	—	—	0.2431	193.2	0.3133	440

Table 2 (continued)
Suva® 404A (HP62) Superheated Vapor—Constant Pressure Tables

V = Volume in ft^3/lb H = Enthalpy in Btu/lb S = Entropy in Btu/(lb) (°R) (Saturation Properties in parentheses)

ABSOLUTE PRESSURE, psia													
TEMP. °F	400.00 (136.90°F)			450.00 (146.79°F)			500.00 (155.86°F)						TEMP. °F
	V	H	S	V	H	S	V	H	S				
	(0.0898)	(102.9)	(0.1892)	(0.0730)	(101.7)	(0.1859)	(0.0575)	(99.1)	(0.1808)				
140	0.0932	104.3	0.1915	—	—	—	—	—	—				140
150	0.1023	108.1	0.1978	0.0772	103.5	0.1890	—	—	—				150
160	0.1098	111.5	0.2034	0.0871	108.1	0.1964	0.0652	102.8	0.1867				160
170	0.1166	114.8	0.2086	0.0948	111.9	0.2024	0.0758	108.2	0.1953				170
180	0.1227	117.9	0.2135	0.1014	115.4	0.2079	0.0834	112.4	0.2019				180
190	0.1284	120.9	0.2182	0.1073	118.6	0.2130	0.0898	116.1	0.2077				190
200	0.1338	123.9	0.2227	0.1127	121.8	0.2179	0.0955	119.5	0.2129				200
210	0.1390	126.8	0.2271	0.1178	124.9	0.2225	0.1006	122.8	0.2179				210
220	0.1439	129.7	0.2314	0.1226	127.9	0.2270	0.1054	126.0	0.2226				220
230	0.1487	132.5	0.2356	0.1272	130.9	0.2313	0.1100	129.1	0.2272				230
240	0.1533	135.4	0.2397	0.1316	133.8	0.2356	0.1143	132.2	0.2316				240
250	0.1578	138.2	0.2437	0.1359	136.8	0.2397	0.1184	135.2	0.2359				250
260	0.1622	141.1	0.2477	0.1401	139.7	0.2438	0.1224	138.2	0.2401				260
270	0.1664	143.9	0.2516	0.1441	142.6	0.2478	0.1262	141.2	0.2442				270
280	0.1706	146.7	0.2555	0.1480	145.5	0.2517	0.1300	144.2	0.2482				280
290	0.1747	149.6	0.2593	0.1519	148.4	0.2556	0.1336	147.1	0.2522				290
300	0.1787	152.4	0.2630	0.1556	151.2	0.2595	0.1371	150.1	0.2561				300
310	0.1827	155.3	0.2667	0.1593	154.1	0.2632	0.1406	153.0	0.2600				310
320	0.1866	158.1	0.2704	0.1629	157.0	0.2670	0.1440	155.9	0.2637				320
330	0.1905	161.0	0.2741	0.1665	159.9	0.2707	0.1473	158.9	0.2675				330
340	0.1943	163.8	0.2777	0.1700	162.8	0.2743	0.1506	161.8	0.2712				340
350	0.1980	166.7	0.2812	0.1734	165.7	0.2779	0.1538	164.8	0.2748				350
360	0.2017	169.6	0.2848	0.1769	168.6	0.2815	0.1570	167.7	0.2785				360
370	0.2054	172.5	0.2883	0.1802	171.6	0.2850	0.1602	170.7	0.2820				370
380	0.2090	175.4	0.2917	0.1836	174.5	0.2885	0.1633	173.6	0.2856				380
390	0.2126	178.3	0.2952	0.1869	177.4	0.2920	0.1663	176.6	0.2891				390
400	0.2162	181.2	0.2986	0.1901	180.4	0.2954	0.1693	179.5	0.2926				400
410	0.2197	184.1	0.3020	0.1933	183.3	0.2989	0.1723	182.5	0.2960				410
420	0.2232	187.0	0.3053	0.1965	186.3	0.3022	0.1753	185.5	0.2994				420
430	0.2267	190.0	0.3087	0.1997	189.2	0.3056	0.1782	188.5	0.3028				430
440	0.2301	192.9	0.3120	0.2029	192.2	0.3089	0.1811	191.5	0.3061				440
450	—	—	—	0.2060	195.2	0.3122	0.1840	194.5	0.3095				450
460	—	—	—	—	—	—	0.1868	197.5	0.3128				460
470	—	—	—	—	—	—	—	—	—				470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DuPont™ Suva® 404A (HP62)
Pressure-Enthalpy Diagram
(English Units)
Pressure (psia)
Enthalpy (BTU/lb)
saturated liquid
saturated vapor
quality = 0.3
temperature = 0 °F
temperature = -60 °F
temperature = 320 °F
volume = 0.20 ft³/lb
entropy = 0.36 BTU/lb.°F

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