



DuPont Fluorochemicals

T-236fa-SI

Thermodynamic  
Properties  
of  
**HFC-236fa**

(1,1,1,3,3,3-hexafluoropropane)

## Thermodynamic Properties of HFC-236fa Refrigerant (1,1,1,3,3,3-hexafluoropropane) SI Units

Tables of the thermodynamic properties of HFC-236fa and its pressure-enthalpy diagram have been developed and are presented here. This information is based on values calculated using the NIST REFPROP Database [McLinden, M.O., Klein, S.A., Lemmon, E.W., and Peskin, A.P., NIST Standard Reference Database 23, NIST thermodynamic and transport properties of refrigerants and refrigerant mixtures - REFPROP, version 6.01, Standard Reference Data Program, National Institute of Standards and Technology, 1998].

### Units

P = Pressure in kPa absolute

t = Temperature in degrees Celsius

V<sub>f</sub> = fluid (liquid) volume, cubic meters per kilogram

V<sub>g</sub> = gas volume, cubic meters per kilogram

h = enthalpy (kJ/kg)

s = Entropy (kJ/kg.K)

### Physical Properties

|                                    |   |
|------------------------------------|---|
| Chemical Formula                   | CF <sub>3</sub> CH <sub>2</sub> CF <sub>3</sub> |
| Molecular Weight                   | 152.04  |
| Boiling Point at<br>One Atmosphere | -1.44°C   |
| Critical Temperature               | 124.92°C  |
| Critical Pressure                  | 3200 kPa.                                       |
| Critical Density                   | 551.3 kg/m <sup>3</sup>                         |
| Critical Volume                    | 0.0018 m <sup>3</sup> /kg                       |



**Table 1**  
**R-236fa Saturation Properties - Temperature Table**

| Temp<br>[°C] | Pressure<br>[kPa] | Density [kg/m <sup>3</sup> ] |        | Volume [m <sup>3</sup> /kg] |        | Enthalpy [kJ/kg] |        |        | Entropy [kJ/K-kg] |        |
|--------------|-------------------|------------------------------|--------|-----------------------------|--------|------------------|--------|--------|-------------------|--------|
|              |                   | Liquid                       | Vapour | Liquid                      | Vapour | Liquid           | Latent | Vapour | Liquid            | Vapour |
| -50          | 7.6               | 1590.0                       | 0.629  | 0.0006                      | 1.589  | 142.0            | 183.0  | 325.0  | 0.7662            | 1.5860 |
| -49          | 8.2               | 1587.0                       | 0.670  | 0.0006                      | 1.492  | 143.1            | 182.6  | 325.7  | 0.7712            | 1.5850 |
| -48          | 8.7               | 1584.0                       | 0.714  | 0.0006                      | 1.402  | 144.3            | 182.0  | 326.3  | 0.7761            | 1.5850 |
| -47          | 9.3               | 1581.0                       | 0.759  | 0.0006                      | 1.318  | 145.4            | 181.6  | 327.0  | 0.7811            | 1.5840 |
| -46          | 9.9               | 1578.0                       | 0.807  | 0.0006                      | 1.239  | 146.5            | 181.2  | 327.7  | 0.7860            | 1.5840 |
| -45          | 10.6              | 1575.0                       | 0.857  | 0.0006                      | 1.167  | 147.6            | 180.8  | 328.4  | 0.7910            | 1.5830 |
| -44          | 11.3              | 1572.0                       | 0.910  | 0.0006                      | 1.099  | 148.7            | 180.4  | 329.1  | 0.7959            | 1.5830 |
| -43          | 12.0              | 1569.0                       | 0.966  | 0.0006                      | 1.036  | 149.9            | 179.8  | 329.7  | 0.8008            | 1.5820 |
| -42          | 12.8              | 1566.0                       | 1.024  | 0.0006                      | 0.977  | 151.0            | 179.4  | 330.4  | 0.8056            | 1.5820 |
| -41          | 13.6              | 1563.0                       | 1.085  | 0.0006                      | 0.922  | 152.1            | 179.0  | 331.1  | 0.8105            | 1.5820 |
| -40          | 14.5              | 1560.0                       | 1.149  | 0.0006                      | 0.871  | 153.3            | 178.5  | 331.8  | 0.8154            | 1.5810 |
| -39          | 15.4              | 1557.0                       | 1.216  | 0.0006                      | 0.823  | 154.4            | 178.1  | 332.5  | 0.8202            | 1.5810 |
| -38          | 16.3              | 1554.0                       | 1.286  | 0.0006                      | 0.778  | 155.5            | 177.7  | 333.2  | 0.8250            | 1.5810 |
| -37          | 17.3              | 1551.0                       | 1.359  | 0.0006                      | 0.736  | 156.7            | 177.2  | 333.9  | 0.8298            | 1.5800 |
| -36          | 18.4              | 1549.0                       | 1.436  | 0.0007                      | 0.696  | 157.8            | 176.8  | 334.6  | 0.8346            | 1.5800 |
| -35          | 19.5              | 1546.0                       | 1.517  | 0.0007                      | 0.659  | 158.9            | 176.3  | 335.2  | 0.8394            | 1.5800 |
| -34          | 20.6              | 1543.0                       | 1.600  | 0.0007                      | 0.625  | 160.1            | 175.8  | 335.9  | 0.8442            | 1.5800 |
| -33          | 21.8              | 1540.0                       | 1.688  | 0.0007                      | 0.592  | 161.2            | 175.4  | 336.6  | 0.8490            | 1.5790 |
| -32          | 23.1              | 1537.0                       | 1.779  | 0.0007                      | 0.562  | 162.4            | 174.9  | 337.3  | 0.8537            | 1.5790 |
| -31          | 24.4              | 1534.0                       | 1.875  | 0.0007                      | 0.533  | 163.5            | 174.5  | 338.0  | 0.8585            | 1.5790 |
| -30          | 25.8              | 1531.0                       | 1.974  | 0.0007                      | 0.507  | 164.7            | 174.0  | 338.7  | 0.8632            | 1.5790 |
| -29          | 27.2              | 1528.0                       | 2.078  | 0.0007                      | 0.481  | 165.8            | 173.6  | 339.4  | 0.8679            | 1.5790 |
| -28          | 28.8              | 1525.0                       | 2.186  | 0.0007                      | 0.458  | 167.0            | 173.1  | 340.1  | 0.8726            | 1.5790 |
| -27          | 30.3              | 1522.0                       | 2.298  | 0.0007                      | 0.435  | 168.1            | 172.7  | 340.8  | 0.8773            | 1.5790 |
| -26          | 32.0              | 1519.0                       | 2.415  | 0.0007                      | 0.414  | 169.3            | 172.2  | 341.5  | 0.8820            | 1.5790 |
| -25          | 33.7              | 1516.0                       | 2.537  | 0.0007                      | 0.394  | 170.4            | 171.8  | 342.2  | 0.8867            | 1.5790 |
| -24          | 35.5              | 1513.0                       | 2.664  | 0.0007                      | 0.375  | 171.6            | 171.3  | 342.9  | 0.8913            | 1.5790 |
| -23          | 37.4              | 1510.0                       | 2.795  | 0.0007                      | 0.358  | 172.7            | 170.9  | 343.6  | 0.8960            | 1.5790 |
| -22          | 39.3              | 1507.0                       | 2.932  | 0.0007                      | 0.341  | 173.9            | 170.4  | 344.3  | 0.9006            | 1.5790 |
| -21          | 41.4              | 1504.0                       | 3.074  | 0.0007                      | 0.325  | 175.1            | 169.8  | 344.9  | 0.9052            | 1.5790 |
| -20          | 43.5              | 1501.0                       | 3.222  | 0.0007                      | 0.310  | 176.2            | 169.4  | 345.6  | 0.9098            | 1.5790 |
| -19          | 45.7              | 1498.0                       | 3.375  | 0.0007                      | 0.296  | 177.4            | 168.9  | 346.3  | 0.9144            | 1.5790 |
| -18          | 48.0              | 1495.0                       | 3.533  | 0.0007                      | 0.283  | 178.6            | 168.4  | 347.0  | 0.9190            | 1.5790 |
| -17          | 50.4              | 1492.0                       | 3.698  | 0.0007                      | 0.270  | 179.7            | 168.0  | 347.7  | 0.9236            | 1.5790 |
| -16          | 52.8              | 1489.0                       | 3.869  | 0.0007                      | 0.259  | 180.9            | 167.5  | 348.4  | 0.9282            | 1.5800 |
| -15          | 55.4              | 1486.0                       | 4.046  | 0.0007                      | 0.247  | 182.1            | 167.0  | 349.1  | 0.9327            | 1.5800 |
| -14          | 58.1              | 1483.0                       | 4.229  | 0.0007                      | 0.237  | 183.3            | 166.5  | 349.8  | 0.9373            | 1.5800 |
| -13          | 60.9              | 1480.0                       | 4.419  | 0.0007                      | 0.226  | 184.5            | 166.0  | 350.5  | 0.9418            | 1.5800 |
| -12          | 63.8              | 1477.0                       | 4.616  | 0.0007                      | 0.217  | 185.6            | 165.6  | 351.2  | 0.9464            | 1.5800 |
| -11          | 66.7              | 1474.0                       | 4.819  | 0.0007                      | 0.208  | 186.8            | 165.1  | 351.9  | 0.9509            | 1.5810 |
| -10          | 69.8              | 1471.0                       | 5.029  | 0.0007                      | 0.199  | 188.0            | 164.6  | 352.6  | 0.9554            | 1.5810 |
| -9           | 73.1              | 1468.0                       | 5.247  | 0.0007                      | 0.191  | 189.2            | 164.1  | 353.3  | 0.9599            | 1.5810 |
| -8           | 76.4              | 1465.0                       | 5.472  | 0.0007                      | 0.183  | 190.4            | 163.6  | 354.0  | 0.9644            | 1.5810 |
| -7           | 79.8              | 1462.0                       | 5.705  | 0.0007                      | 0.175  | 191.6            | 163.1  | 354.7  | 0.9689            | 1.5820 |
| -6           | 83.4              | 1459.0                       | 5.945  | 0.0007                      | 0.168  | 192.8            | 162.6  | 355.4  | 0.9734            | 1.5820 |
| -5           | 87.1              | 1456.0                       | 6.193  | 0.0007                      | 0.162  | 194.0            | 162.1  | 356.1  | 0.9778            | 1.5820 |
| -4           | 90.9              | 1453.0                       | 6.450  | 0.0007                      | 0.155  | 195.2            | 161.6  | 356.8  | 0.9823            | 1.5830 |
| -3           | 94.9              | 1450.0                       | 6.714  | 0.0007                      | 0.149  | 196.4            | 161.1  | 357.5  | 0.9867            | 1.5830 |
| -2           | 99.0              | 1446.0                       | 6.987  | 0.0007                      | 0.143  | 197.6            | 160.6  | 358.2  | 0.9912            | 1.5830 |
| -1           | 103.2             | 1443.0                       | 7.269  | 0.0007                      | 0.138  | 198.8            | 160.1  | 358.9  | 0.9956            | 1.5840 |
| 0            | 107.6             | 1440.0                       | 7.560  | 0.0007                      | 0.132  | 200.0            | 159.6  | 359.6  | 1.0000            | 1.5840 |
| 1            | 112.1             | 1437.0                       | 7.860  | 0.0007                      | 0.127  | 201.2            | 159.1  | 360.3  | 1.0040            | 1.5850 |
| 2            | 116.7             | 1434.0                       | 8.169  | 0.0007                      | 0.122  | 202.4            | 158.6  | 361.0  | 1.0090            | 1.5850 |
| 3            | 121.6             | 1431.0                       | 8.488  | 0.0007                      | 0.118  | 203.6            | 158.1  | 361.7  | 1.0130            | 1.5850 |
| 4            | 126.5             | 1428.0                       | 8.816  | 0.0007                      | 0.113  | 204.9            | 157.5  | 362.4  | 1.0180            | 1.5860 |



**Table 1**  
**R-236fa Saturation Properties - Temperature Table**

| Temp<br>[°C] | Pressure<br>[kPa] | Density [kg/m <sup>3</sup> ] |        | Volume [m <sup>3</sup> /kg] |        | Enthalpy [kJ/kg] |        |        | Entropy [kJ/K-kg] |        |
|--------------|-------------------|------------------------------|--------|-----------------------------|--------|------------------|--------|--------|-------------------|--------|
|              |                   | Liquid                       | Vapour | Liquid                      | Vapour | Liquid           | Latent | Vapour | Liquid            | Vapour |
| 5            | 131.6             | 1425.0                       | 9.155  | 0.0007                      | 0.109  | 206.1            | 157.0  | 363.1  | 1.0220            | 1.5860 |
| 6            | 136.9             | 1421.0                       | 9.503  | 0.0007                      | 0.105  | 207.3            | 156.5  | 363.8  | 1.0260            | 1.5870 |
| 7            | 142.4             | 1418.0                       | 9.862  | 0.0007                      | 0.101  | 208.5            | 155.9  | 364.4  | 1.0310            | 1.5870 |
| 8            | 148.0             | 1415.0                       | 10.230 | 0.0007                      | 0.098  | 209.7            | 155.4  | 365.1  | 1.0350            | 1.5880 |
| 9            | 153.8             | 1412.0                       | 10.610 | 0.0007                      | 0.094  | 211.0            | 154.8  | 365.8  | 1.0390            | 1.5880 |
| 10           | 159.7             | 1409.0                       | 11.000 | 0.0007                      | 0.091  | 212.2            | 154.3  | 366.5  | 1.0440            | 1.5890 |
| 11           | 165.9             | 1406.0                       | 11.410 | 0.0007                      | 0.088  | 213.4            | 153.8  | 367.2  | 1.0480            | 1.5890 |
| 12           | 172.2             | 1402.0                       | 11.820 | 0.0007                      | 0.085  | 214.7            | 153.2  | 367.9  | 1.0520            | 1.5900 |
| 13           | 178.7             | 1399.0                       | 12.250 | 0.0007                      | 0.082  | 215.9            | 152.7  | 368.6  | 1.0570            | 1.5900 |
| 14           | 185.4             | 1396.0                       | 12.690 | 0.0007                      | 0.079  | 217.1            | 152.2  | 369.3  | 1.0610            | 1.5910 |
| 15           | 192.2             | 1393.0                       | 13.140 | 0.0007                      | 0.076  | 218.4            | 151.6  | 370.0  | 1.0650            | 1.5910 |
| 16           | 199.3             | 1390.0                       | 13.600 | 0.0007                      | 0.074  | 219.6            | 151.1  | 370.7  | 1.0700            | 1.5920 |
| 17           | 206.6             | 1386.0                       | 14.080 | 0.0007                      | 0.071  | 220.9            | 150.5  | 371.4  | 1.0740            | 1.5930 |
| 18           | 214.1             | 1383.0                       | 14.570 | 0.0007                      | 0.069  | 222.1            | 150.0  | 372.1  | 1.0780            | 1.5930 |
| 19           | 221.7             | 1380.0                       | 15.070 | 0.0007                      | 0.066  | 223.4            | 149.3  | 372.7  | 1.0820            | 1.5940 |
| 20           | 229.6             | 1376.0                       | 15.580 | 0.0007                      | 0.064  | 224.6            | 148.8  | 373.4  | 1.0870            | 1.5940 |
| 21           | 237.8             | 1373.0                       | 16.110 | 0.0007                      | 0.062  | 225.9            | 148.2  | 374.1  | 1.0910            | 1.5950 |
| 22           | 246.1             | 1370.0                       | 16.660 | 0.0007                      | 0.060  | 227.1            | 147.7  | 374.8  | 1.0950            | 1.5950 |
| 23           | 254.6             | 1366.0                       | 17.220 | 0.0007                      | 0.058  | 228.4            | 147.1  | 375.5  | 1.0990            | 1.5960 |
| 24           | 263.4             | 1363.0                       | 17.790 | 0.0007                      | 0.056  | 229.7            | 146.5  | 376.2  | 1.1040            | 1.5970 |
| 25           | 272.4             | 1360.0                       | 18.380 | 0.0007                      | 0.054  | 230.9            | 145.9  | 376.8  | 1.1080            | 1.5970 |
| 26           | 281.6             | 1356.0                       | 18.990 | 0.0007                      | 0.053  | 232.2            | 145.3  | 377.5  | 1.1120            | 1.5980 |
| 27           | 291.1             | 1353.0                       | 19.610 | 0.0007                      | 0.051  | 233.5            | 144.7  | 378.2  | 1.1160            | 1.5990 |
| 28           | 300.8             | 1350.0                       | 20.250 | 0.0007                      | 0.049  | 234.7            | 144.2  | 378.9  | 1.1210            | 1.5990 |
| 29           | 310.8             | 1346.0                       | 20.900 | 0.0007                      | 0.048  | 236.0            | 143.6  | 379.6  | 1.1250            | 1.6000 |
| 30           | 321.0             | 1343.0                       | 21.570 | 0.0007                      | 0.046  | 237.3            | 142.9  | 380.2  | 1.1290            | 1.6000 |
| 31           | 331.5             | 1339.0                       | 22.260 | 0.0008                      | 0.045  | 238.6            | 142.3  | 380.9  | 1.1330            | 1.6010 |
| 32           | 342.2             | 1336.0                       | 22.970 | 0.0008                      | 0.044  | 239.8            | 141.8  | 381.6  | 1.1370            | 1.6020 |
| 33           | 353.2             | 1332.0                       | 23.690 | 0.0008                      | 0.042  | 241.1            | 141.1  | 382.2  | 1.1410            | 1.6020 |
| 34           | 364.4             | 1329.0                       | 24.430 | 0.0008                      | 0.041  | 242.4            | 140.5  | 382.9  | 1.1460            | 1.6030 |
| 35           | 376.0             | 1325.0                       | 25.190 | 0.0008                      | 0.040  | 243.7            | 139.9  | 383.6  | 1.1500            | 1.6040 |
| 36           | 387.8             | 1322.0                       | 25.980 | 0.0008                      | 0.039  | 245.0            | 139.3  | 384.3  | 1.1540            | 1.6040 |
| 37           | 399.8             | 1318.0                       | 26.780 | 0.0008                      | 0.037  | 246.3            | 138.6  | 384.9  | 1.1580            | 1.6050 |
| 38           | 412.2             | 1315.0                       | 27.600 | 0.0008                      | 0.036  | 247.6            | 138.0  | 385.6  | 1.1620            | 1.6060 |
| 39           | 424.8             | 1311.0                       | 28.440 | 0.0008                      | 0.035  | 248.9            | 137.3  | 386.2  | 1.1660            | 1.6060 |
| 40           | 437.8             | 1308.0                       | 29.300 | 0.0008                      | 0.034  | 250.2            | 136.7  | 386.9  | 1.1710            | 1.6070 |
| 41           | 451.0             | 1304.0                       | 30.190 | 0.0008                      | 0.033  | 251.5            | 136.1  | 387.6  | 1.1750            | 1.6080 |
| 42           | 464.5             | 1300.0                       | 31.090 | 0.0008                      | 0.032  | 252.8            | 135.4  | 388.2  | 1.1790            | 1.6080 |
| 43           | 478.4             | 1297.0                       | 32.020 | 0.0008                      | 0.031  | 254.1            | 134.8  | 388.9  | 1.1830            | 1.6090 |
| 44           | 492.5             | 1293.0                       | 32.970 | 0.0008                      | 0.030  | 255.5            | 134.0  | 389.5  | 1.1870            | 1.6100 |
| 45           | 507.0             | 1289.0                       | 33.950 | 0.0008                      | 0.029  | 256.8            | 133.4  | 390.2  | 1.1910            | 1.6100 |
| 46           | 521.8             | 1285.0                       | 34.950 | 0.0008                      | 0.029  | 258.1            | 132.7  | 390.8  | 1.1950            | 1.6110 |
| 47           | 536.9             | 1282.0                       | 35.980 | 0.0008                      | 0.028  | 259.4            | 132.1  | 391.5  | 1.1990            | 1.6120 |
| 48           | 552.3             | 1278.0                       | 37.030 | 0.0008                      | 0.027  | 260.8            | 131.3  | 392.1  | 1.2040            | 1.6130 |
| 49           | 568.1             | 1274.0                       | 38.100 | 0.0008                      | 0.026  | 262.1            | 130.6  | 392.7  | 1.2080            | 1.6130 |
| 50           | 584.2             | 1270.0                       | 39.210 | 0.0008                      | 0.026  | 263.4            | 130.0  | 393.4  | 1.2120            | 1.6140 |
| 51           | 600.6             | 1266.0                       | 40.340 | 0.0008                      | 0.025  | 264.8            | 129.2  | 394.0  | 1.2160            | 1.6150 |
| 52           | 617.4             | 1263.0                       | 41.500 | 0.0008                      | 0.024  | 266.1            | 128.5  | 394.6  | 1.2200            | 1.6150 |
| 53           | 634.5             | 1259.0                       | 42.680 | 0.0008                      | 0.023  | 267.5            | 127.8  | 395.3  | 1.2240            | 1.6160 |
| 54           | 652.0             | 1255.0                       | 43.900 | 0.0008                      | 0.023  | 268.8            | 127.1  | 395.9  | 1.2280            | 1.6170 |
| 55           | 669.9             | 1251.0                       | 45.150 | 0.0008                      | 0.022  | 270.2            | 126.3  | 396.5  | 1.2320            | 1.6170 |
| 56           | 688.1             | 1247.0                       | 46.430 | 0.0008                      | 0.022  | 271.5            | 125.6  | 397.1  | 1.2360            | 1.6180 |
| 57           | 706.7             | 1243.0                       | 47.740 | 0.0008                      | 0.021  | 272.9            | 124.9  | 397.8  | 1.2400            | 1.6190 |
| 58           | 725.7             | 1238.0                       | 49.080 | 0.0008                      | 0.020  | 274.2            | 124.2  | 398.4  | 1.2440            | 1.6190 |
| 59           | 745.0             | 1234.0                       | 50.460 | 0.0008                      | 0.020  | 275.6            | 123.4  | 399.0  | 1.2490            | 1.6200 |



**Table 1**  
**R-236fa Saturation Properties - Temperature Table**

| Temp<br>[°C] | Pressure<br>[kPa] | Density [kg/m <sup>3</sup> ] |         | Volume [m <sup>3</sup> /kg] |        | Enthalpy [kJ/kg] |        |        | Entropy [kJ/K-kg] |        |
|--------------|-------------------|------------------------------|---------|-----------------------------|--------|------------------|--------|--------|-------------------|--------|
|              |                   | Liquid                       | Vapour  | Liquid                      | Vapour | Liquid           | Latent | Vapour | Liquid            | Vapour |
| 60           | 764.7             | 1230.0                       | 51.870  | 0.0008                      | 0.019  | 277.0            | 122.6  | 399.6  | 1.2530            | 1.6210 |
| 61           | 784.9             | 1226.0                       | 53.320  | 0.0008                      | 0.019  | 278.4            | 121.8  | 400.2  | 1.2570            | 1.6210 |
| 62           | 805.4             | 1222.0                       | 54.810  | 0.0008                      | 0.018  | 279.7            | 121.1  | 400.8  | 1.2610            | 1.6220 |
| 63           | 826.3             | 1218.0                       | 56.330  | 0.0008                      | 0.018  | 281.1            | 120.3  | 401.4  | 1.2650            | 1.6230 |
| 64           | 847.7             | 1213.0                       | 57.890  | 0.0008                      | 0.017  | 282.5            | 119.5  | 402.0  | 1.2690            | 1.6230 |
| 65           | 869.4             | 1209.0                       | 59.490  | 0.0008                      | 0.017  | 283.9            | 118.7  | 402.6  | 1.2730            | 1.6240 |
| 66           | 891.6             | 1205.0                       | 61.140  | 0.0008                      | 0.016  | 285.3            | 117.8  | 403.1  | 1.2770            | 1.6250 |
| 67           | 914.2             | 1200.0                       | 62.820  | 0.0008                      | 0.016  | 286.7            | 117.0  | 403.7  | 1.2810            | 1.6250 |
| 68           | 937.2             | 1196.0                       | 64.550  | 0.0008                      | 0.015  | 288.1            | 116.2  | 404.3  | 1.2850            | 1.6260 |
| 69           | 960.6             | 1191.0                       | 66.330  | 0.0008                      | 0.015  | 289.5            | 115.3  | 404.8  | 1.2890            | 1.6260 |
| 70           | 984.5             | 1187.0                       | 68.150  | 0.0008                      | 0.015  | 290.9            | 114.5  | 405.4  | 1.2930            | 1.6270 |
| 71           | 1009.0            | 1182.0                       | 70.020  | 0.0009                      | 0.014  | 292.4            | 113.6  | 406.0  | 1.2970            | 1.6280 |
| 72           | 1034.0            | 1177.0                       | 71.940  | 0.0009                      | 0.014  | 293.8            | 112.7  | 406.5  | 1.3010            | 1.6280 |
| 73           | 1059.0            | 1172.0                       | 73.910  | 0.0009                      | 0.014  | 295.2            | 111.9  | 407.1  | 1.3060            | 1.6290 |
| 74           | 1085.0            | 1168.0                       | 75.940  | 0.0009                      | 0.013  | 296.6            | 111.0  | 407.6  | 1.3100            | 1.6290 |
| 75           | 1111.0            | 1163.0                       | 78.020  | 0.0009                      | 0.013  | 298.1            | 110.0  | 408.1  | 1.3140            | 1.6300 |
| 76           | 1138.0            | 1158.0                       | 80.160  | 0.0009                      | 0.012  | 299.5            | 109.1  | 408.6  | 1.3180            | 1.6300 |
| 77           | 1165.0            | 1153.0                       | 82.360  | 0.0009                      | 0.012  | 301.0            | 108.2  | 409.2  | 1.3220            | 1.6310 |
| 78           | 1192.0            | 1148.0                       | 84.620  | 0.0009                      | 0.012  | 302.4            | 107.3  | 409.7  | 1.3260            | 1.6310 |
| 79           | 1220.0            | 1143.0                       | 86.940  | 0.0009                      | 0.012  | 303.9            | 106.3  | 410.2  | 1.3300            | 1.6320 |
| 80           | 1249.0            | 1138.0                       | 89.330  | 0.0009                      | 0.011  | 305.4            | 105.3  | 410.7  | 1.3340            | 1.6320 |
| 81           | 1278.0            | 1132.0                       | 91.790  | 0.0009                      | 0.011  | 306.9            | 104.3  | 411.2  | 1.3380            | 1.6330 |
| 82           | 1308.0            | 1127.0                       | 94.330  | 0.0009                      | 0.011  | 308.3            | 103.3  | 411.6  | 1.3420            | 1.6330 |
| 83           | 1338.0            | 1122.0                       | 96.940  | 0.0009                      | 0.010  | 309.8            | 102.3  | 412.1  | 1.3470            | 1.6340 |
| 84           | 1369.0            | 1116.0                       | 99.620  | 0.0009                      | 0.010  | 311.3            | 101.3  | 412.6  | 1.3510            | 1.6340 |
| 85           | 1400.0            | 1111.0                       | 102.400 | 0.0009                      | 0.010  | 312.8            | 100.2  | 413.0  | 1.3550            | 1.6340 |
| 86           | 1432.0            | 1105.0                       | 105.200 | 0.0009                      | 0.010  | 314.4            | 99.1   | 413.5  | 1.3590            | 1.6350 |
| 87           | 1464.0            | 1099.0                       | 108.200 | 0.0009                      | 0.009  | 315.9            | 98.0   | 413.9  | 1.3630            | 1.6350 |
| 88           | 1497.0            | 1093.0                       | 111.200 | 0.0009                      | 0.009  | 317.4            | 96.9   | 414.3  | 1.3670            | 1.6360 |
| 89           | 1531.0            | 1087.0                       | 114.400 | 0.0009                      | 0.009  | 318.9            | 95.8   | 414.7  | 1.3710            | 1.6360 |
| 90           | 1565.0            | 1081.0                       | 117.600 | 0.0009                      | 0.009  | 320.5            | 94.6   | 415.1  | 1.3760            | 1.6360 |
| 91           | 1600.0            | 1075.0                       | 121.000 | 0.0009                      | 0.008  | 322.0            | 93.5   | 415.5  | 1.3800            | 1.6360 |
| 92           | 1635.0            | 1069.0                       | 124.400 | 0.0009                      | 0.008  | 323.6            | 92.2   | 415.8  | 1.3840            | 1.6370 |
| 93           | 1671.0            | 1063.0                       | 128.000 | 0.0009                      | 0.008  | 325.2            | 91.0   | 416.2  | 1.3880            | 1.6370 |
| 94           | 1707.0            | 1056.0                       | 131.700 | 0.0010                      | 0.008  | 326.8            | 89.7   | 416.5  | 1.3920            | 1.6370 |
| 95           | 1744.0            | 1049.0                       | 135.600 | 0.0010                      | 0.007  | 328.4            | 88.5   | 416.9  | 1.3970            | 1.6370 |
| 96           | 1782.0            | 1042.0                       | 139.600 | 0.0010                      | 0.007  | 330.0            | 87.2   | 417.2  | 1.4010            | 1.6370 |
| 97           | 1820.0            | 1035.0                       | 143.700 | 0.0010                      | 0.007  | 331.6            | 85.8   | 417.4  | 1.4050            | 1.6370 |
| 98           | 1860.0            | 1028.0                       | 148.000 | 0.0010                      | 0.007  | 333.2            | 84.5   | 417.7  | 1.4090            | 1.6370 |
| 99           | 1899.0            | 1021.0                       | 152.500 | 0.0010                      | 0.007  | 334.8            | 83.2   | 418.0  | 1.4140            | 1.6370 |
| 100          | 1940.0            | 1013.0                       | 157.100 | 0.0010                      | 0.006  | 336.5            | 81.7   | 418.2  | 1.4180            | 1.6370 |
| 101          | 1981.0            | 1006.0                       | 162.000 | 0.0010                      | 0.006  | 338.2            | 80.2   | 418.4  | 1.4220            | 1.6370 |
| 102          | 2022.0            | 997.8                        | 167.100 | 0.0010                      | 0.006  | 339.8            | 78.8   | 418.6  | 1.4270            | 1.6370 |
| 103          | 2065.0            | 989.7                        | 172.300 | 0.0010                      | 0.006  | 341.5            | 77.2   | 418.7  | 1.4310            | 1.6360 |
| 104          | 2108.0            | 981.3                        | 177.900 | 0.0010                      | 0.006  | 343.3            | 75.5   | 418.8  | 1.4360            | 1.6360 |
| 105          | 2152.0            | 972.6                        | 183.700 | 0.0010                      | 0.005  | 345.0            | 73.9   | 418.9  | 1.4400            | 1.6360 |
| 106          | 2197.0            | 963.7                        | 189.800 | 0.0010                      | 0.005  | 346.8            | 72.2   | 419.0  | 1.4450            | 1.6350 |
| 107          | 2242.0            | 954.5                        | 196.100 | 0.0011                      | 0.005  | 348.5            | 70.5   | 419.0  | 1.4490            | 1.6350 |
| 108          | 2288.0            | 944.9                        | 202.900 | 0.0011                      | 0.005  | 350.3            | 68.7   | 419.0  | 1.4540            | 1.6340 |
| 109          | 2335.0            | 935.0                        | 210.000 | 0.0011                      | 0.005  | 352.1            | 66.9   | 419.0  | 1.4580            | 1.6330 |
| 110          | 2383.0            | 924.6                        | 217.500 | 0.0011                      | 0.005  | 354.0            | 64.9   | 418.9  | 1.4630            | 1.6320 |
| 111          | 2431.0            | 913.9                        | 225.500 | 0.0011                      | 0.004  | 355.9            | 62.8   | 418.7  | 1.4680            | 1.6310 |
| 112          | 2481.0            | 902.6                        | 233.900 | 0.0011                      | 0.004  | 357.8            | 60.7   | 418.5  | 1.4730            | 1.6300 |
| 113          | 2531.0            | 890.7                        | 243.000 | 0.0011                      | 0.004  | 359.7            | 58.5   | 418.2  | 1.4780            | 1.6290 |
| 114          | 2582.0            | 878.3                        | 252.700 | 0.0011                      | 0.004  | 361.7            | 56.2   | 417.9  | 1.4830            | 1.6280 |



**Table 1**  
**R-236fa Saturation Properties - Temperature Table**

| Temp<br>[°C] | Pressure<br>[kPa] | Density [kg/m <sup>3</sup> ] |         | Volume [m <sup>3</sup> /kg] |        | Enthalpy [kJ/kg] |        |        | Entropy [kJ/K-kg] |        |
|--------------|-------------------|------------------------------|---------|-----------------------------|--------|------------------|--------|--------|-------------------|--------|
|              |                   | Liquid                       | Vapour  | Liquid                      | Vapour | Liquid           | Latent | Vapour | Liquid            | Vapour |
| 115          | 2634.0            | 865.1                        | 263.200 | 0.0012                      | 0.004  | 363.7            | 53.8   | 417.5  | 1.4880            | 1.6260 |
| 116          | 2687.0            | 851.1                        | 274.500 | 0.0012                      | 0.004  | 365.8            | 51.2   | 417.0  | 1.4930            | 1.6240 |
| 117          | 2740.0            | 836.0                        | 286.900 | 0.0012                      | 0.003  | 368.0            | 48.4   | 416.4  | 1.4980            | 1.6220 |
| 118          | 2795.0            | 819.8                        | 300.500 | 0.0012                      | 0.003  | 370.2            | 45.5   | 415.7  | 1.5040            | 1.6200 |
| 119          | 2851.0            | 802.1                        | 315.600 | 0.0013                      | 0.003  | 372.6            | 42.2   | 414.8  | 1.5100            | 1.6170 |
| 120          | 2907.0            | 782.4                        | 332.700 | 0.0013                      | 0.003  | 375.0            | 38.7   | 413.7  | 1.5160            | 1.6140 |



**Table 2**  
**R-236fa: Superheated Vapour - Constant Pressure Tables**

| Temp<br>[°C] | Absolute Pressure (kPa)        |                     |                      |                                |                     |                      |                                |                     |                      |                                |                     |                      |
|--------------|--------------------------------|---------------------|----------------------|--------------------------------|---------------------|----------------------|--------------------------------|---------------------|----------------------|--------------------------------|---------------------|----------------------|
|              | 10 (-45.9°C)                   |                     |                      | 20 (-34.5°C)                   |                     |                      | 30 (-27.2°C)                   |                     |                      | 40 (-21.7°C)                   |                     |                      |
|              | Volume<br>[m <sup>3</sup> /kg] | Enthalpy<br>[kJ/kg] | Entropy<br>[kJ/K-kg] | Volume<br>[m <sup>3</sup> /kg] | Enthalpy<br>[kJ/kg] | Entropy<br>[kJ/K-kg] | Volume<br>[m <sup>3</sup> /kg] | Enthalpy<br>[kJ/kg] | Entropy<br>[kJ/K-kg] | Volume<br>[m <sup>3</sup> /kg] | Enthalpy<br>[kJ/kg] | Entropy<br>[kJ/K-kg] |
| -45          | 1.2370                         | 328.4               | 1.586                | -                              | -                   | -                    | -                              | -                   | -                    | -                              | -                   | -                    |
| -40          | 1.2650                         | 332.0               | 1.602                | -                              | -                   | -                    | -                              | -                   | -                    | -                              | -                   | -                    |
| -35          | 1.2930                         | 335.6               | 1.617                | -                              | -                   | -                    | -                              | -                   | -                    | -                              | -                   | -                    |
| -30          | 1.3210                         | 339.3               | 1.633                | 0.6560                         | 338.9               | 1.594                | -                              | -                   | -                    | -                              | -                   | -                    |
| -25          | 1.3490                         | 343.0               | 1.648                | 0.6702                         | 342.6               | 1.609                | 0.4440                         | 342.3               | 1.586                | -                              | -                   | -                    |
| -20          | 1.3770                         | 346.7               | 1.663                | 0.6844                         | 346.4               | 1.624                | 0.4536                         | 346.1               | 1.601                | 0.3381                         | 345.8               | 1.584                |
| -15          | 1.4040                         | 350.5               | 1.677                | 0.6985                         | 350.2               | 1.639                | 0.4631                         | 349.9               | 1.616                | 0.3454                         | 349.6               | 1.599                |
| -10          | 1.4320                         | 354.3               | 1.692                | 0.7125                         | 354.0               | 1.653                | 0.4727                         | 353.7               | 1.630                | 0.3527                         | 353.5               | 1.614                |
| -5           | 1.4600                         | 358.1               | 1.706                | 0.7266                         | 357.9               | 1.668                | 0.4821                         | 357.6               | 1.645                | 0.3599                         | 357.4               | 1.628                |
| 0            | 1.4870                         | 362.0               | 1.721                | 0.7406                         | 361.8               | 1.682                | 0.4916                         | 361.5               | 1.659                | 0.3671                         | 361.3               | 1.643                |
| 5            | 1.5150                         | 365.9               | 1.735                | 0.7546                         | 365.7               | 1.697                | 0.5010                         | 365.5               | 1.674                | 0.3742                         | 365.3               | 1.657                |
| 10           | 1.5430                         | 369.9               | 1.749                | 0.7685                         | 369.7               | 1.711                | 0.5104                         | 369.5               | 1.688                | 0.3814                         | 369.3               | 1.672                |
| 15           | 1.5700                         | 373.9               | 1.763                | 0.7825                         | 373.7               | 1.725                | 0.5198                         | 373.5               | 1.702                | 0.3885                         | 373.3               | 1.686                |
| 20           | 1.5980                         | 378.0               | 1.777                | 0.7964                         | 377.8               | 1.739                | 0.5292                         | 377.6               | 1.716                | 0.3955                         | 377.4               | 1.700                |
| 25           | 1.6260                         | 382.1               | 1.791                | 0.8103                         | 381.9               | 1.753                | 0.5385                         | 381.7               | 1.730                | 0.4026                         | 381.5               | 1.714                |
| 30           | 1.6530                         | 386.2               | 1.805                | 0.8241                         | 386.0               | 1.766                | 0.5478                         | 385.8               | 1.744                | 0.4097                         | 385.7               | 1.728                |
| 35           | 1.6810                         | 390.3               | 1.818                | 0.8380                         | 390.2               | 1.780                | 0.5571                         | 390.0               | 1.757                | 0.4167                         | 389.9               | 1.741                |
| 40           | 1.7080                         | 394.6               | 1.832                | 0.8519                         | 394.4               | 1.794                | 0.5664                         | 394.2               | 1.771                | 0.4237                         | 394.1               | 1.755                |
| 45           | 1.7360                         | 398.8               | 1.845                | 0.8657                         | 398.7               | 1.807                | 0.5757                         | 398.5               | 1.785                | 0.4307                         | 398.4               | 1.768                |
| 50           | 1.7630                         | 403.1               | 1.859                | 0.8795                         | 403.0               | 1.820                | 0.5850                         | 402.8               | 1.798                | 0.4377                         | 402.7               | 1.782                |
| 55           | 1.7910                         | 407.4               | 1.872                | 0.8934                         | 407.3               | 1.834                | 0.5943                         | 407.2               | 1.811                | 0.4447                         | 407.0               | 1.795                |
| 60           | 1.8180                         | 411.8               | 1.885                | 0.9072                         | 411.7               | 1.847                | 0.6035                         | 411.5               | 1.825                | 0.4517                         | 411.4               | 1.809                |
| 65           | 1.8460                         | 416.2               | 1.898                | 0.9210                         | 416.1               | 1.860                | 0.6128                         | 416.0               | 1.838                | 0.4587                         | 415.8               | 1.822                |
| 70           | 1.8730                         | 420.7               | 1.911                | 0.9348                         | 420.5               | 1.873                | 0.6220                         | 420.4               | 1.851                | 0.4656                         | 420.3               | 1.835                |
| 75           | 1.9010                         | 425.2               | 1.924                | 0.9486                         | 425.0               | 1.886                | 0.6313                         | 424.9               | 1.864                | 0.4726                         | 424.8               | 1.848                |
| 80           | 1.9280                         | 429.7               | 1.937                | 0.9624                         | 429.6               | 1.899                | 0.6405                         | 429.5               | 1.877                | 0.4795                         | 429.4               | 1.861                |
| 85           | 1.9550                         | 434.3               | 1.950                | 0.9761                         | 434.2               | 1.912                | 0.6497                         | 434.1               | 1.890                | 0.4865                         | 433.9               | 1.874                |
| 90           | 1.9830                         | 438.9               | 1.963                | 0.9899                         | 438.8               | 1.925                | 0.6589                         | 438.7               | 1.903                | 0.4934                         | 438.6               | 1.887                |
| 95           | 2.0100                         | 443.5               | 1.976                | 1.0040                         | 443.4               | 1.938                | 0.6681                         | 443.3               | 1.915                | 0.5004                         | 443.2               | 1.899                |
| 100          | 2.0380                         | 448.2               | 1.988                | 1.0170                         | 448.1               | 1.950                | 0.6773                         | 448.0               | 1.928                | 0.5073                         | 448.0               | 1.912                |
| 105          | 2.0650                         | 453.0               | 2.001                | 1.0310                         | 452.9               | 1.963                | 0.6866                         | 452.8               | 1.941                | 0.5142                         | 452.7               | 1.925                |



**Table 2**

**R-236fa: Superheated Vapour - Constant Pressure Tables**

| Temp<br>[°C] | Absolute Pressure (kPa)        |                     |                      |                                |                     |                      |                                |                     |                      |                                |                     |                      |
|--------------|--------------------------------|---------------------|----------------------|--------------------------------|---------------------|----------------------|--------------------------------|---------------------|----------------------|--------------------------------|---------------------|----------------------|
|              | 50 (-17.2°C)                   |                     |                      | 60 (-13.3°C)                   |                     |                      | 70 (-10.0°C)                   |                     |                      | 80 (-7.0°C)                    |                     |                      |
|              | Volume<br>[m <sup>3</sup> /kg] | Enthalpy<br>[kJ/kg] | Entropy<br>[kJ/K-kg] | Volume<br>[m <sup>3</sup> /kg] | Enthalpy<br>[kJ/kg] | Entropy<br>[kJ/K-kg] | Volume<br>[m <sup>3</sup> /kg] | Enthalpy<br>[kJ/kg] | Entropy<br>[kJ/K-kg] | Volume<br>[m <sup>3</sup> /kg] | Enthalpy<br>[kJ/kg] | Entropy<br>[kJ/K-kg] |
| -15          | 0.2748                         | 349.3               | 1.586                | -                              | -                   | -                    | -                              | -                   | -                    | -                              | -                   | -                    |
| -10          | 0.2807                         | 353.2               | 1.601                | 0.2327                         | 352.9               | 1.590                | -                              | -                   | -                    | -                              | -                   | -                    |
| -5           | 0.2865                         | 357.1               | 1.616                | 0.2376                         | 356.8               | 1.605                | 0.2027                         | 356.6               | 1.596                | 0.1764                         | 356.3               | 1.588                |
| 0            | 0.2924                         | 361.1               | 1.630                | 0.2425                         | 360.8               | 1.619                | 0.2069                         | 360.6               | 1.610                | 0.1802                         | 360.3               | 1.602                |
| 5            | 0.2982                         | 365.0               | 1.645                | 0.2474                         | 364.8               | 1.634                | 0.2112                         | 364.6               | 1.625                | 0.1840                         | 364.3               | 1.617                |
| 10           | 0.3039                         | 369.1               | 1.659                | 0.2523                         | 368.8               | 1.648                | 0.2154                         | 368.6               | 1.639                | 0.1877                         | 368.4               | 1.631                |
| 15           | 0.3097                         | 373.1               | 1.673                | 0.2571                         | 372.9               | 1.663                | 0.2196                         | 372.7               | 1.654                | 0.1914                         | 372.5               | 1.646                |
| 20           | 0.3154                         | 377.2               | 1.687                | 0.2619                         | 377.0               | 1.677                | 0.2237                         | 376.8               | 1.668                | 0.1951                         | 376.6               | 1.660                |
| 25           | 0.3211                         | 381.3               | 1.701                | 0.2667                         | 381.1               | 1.691                | 0.2279                         | 381.0               | 1.682                | 0.1987                         | 380.8               | 1.674                |
| 30           | 0.3268                         | 385.5               | 1.715                | 0.2715                         | 385.3               | 1.705                | 0.2320                         | 385.1               | 1.696                | 0.2024                         | 385.0               | 1.688                |
| 35           | 0.3324                         | 389.7               | 1.729                | 0.2762                         | 389.5               | 1.718                | 0.2361                         | 389.4               | 1.710                | 0.2060                         | 389.2               | 1.702                |
| 40           | 0.3381                         | 393.9               | 1.742                | 0.2810                         | 393.8               | 1.732                | 0.2402                         | 393.6               | 1.723                | 0.2096                         | 393.5               | 1.716                |
| 45           | 0.3437                         | 398.2               | 1.756                | 0.2857                         | 398.1               | 1.746                | 0.2443                         | 397.9               | 1.737                | 0.2132                         | 397.8               | 1.729                |
| 50           | 0.3494                         | 402.5               | 1.769                | 0.2904                         | 402.4               | 1.759                | 0.2484                         | 402.2               | 1.750                | 0.2168                         | 402.1               | 1.743                |
| 55           | 0.3550                         | 406.9               | 1.783                | 0.2952                         | 406.7               | 1.773                | 0.2524                         | 406.6               | 1.764                | 0.2204                         | 406.5               | 1.756                |
| 60           | 0.3606                         | 411.3               | 1.796                | 0.2999                         | 411.1               | 1.786                | 0.2565                         | 411.0               | 1.777                | 0.2239                         | 410.9               | 1.770                |
| 65           | 0.3662                         | 415.7               | 1.809                | 0.3046                         | 415.6               | 1.799                | 0.2605                         | 415.5               | 1.790                | 0.2275                         | 415.3               | 1.783                |
| 70           | 0.3718                         | 420.2               | 1.822                | 0.3092                         | 420.1               | 1.812                | 0.2646                         | 419.9               | 1.803                | 0.2310                         | 419.8               | 1.796                |
| 75           | 0.3774                         | 424.7               | 1.835                | 0.3139                         | 424.6               | 1.825                | 0.2686                         | 424.5               | 1.817                | 0.2346                         | 424.3               | 1.809                |
| 80           | 0.3830                         | 429.2               | 1.848                | 0.3186                         | 429.1               | 1.838                | 0.2726                         | 429.0               | 1.830                | 0.2381                         | 428.9               | 1.822                |
| 85           | 0.3886                         | 433.8               | 1.861                | 0.3233                         | 433.7               | 1.851                | 0.2766                         | 433.6               | 1.843                | 0.2416                         | 433.5               | 1.835                |
| 90           | 0.3941                         | 438.5               | 1.874                | 0.3279                         | 438.4               | 1.864                | 0.2806                         | 438.3               | 1.855                | 0.2452                         | 438.2               | 1.848                |
| 95           | 0.3997                         | 443.1               | 1.887                | 0.3326                         | 443.0               | 1.877                | 0.2846                         | 442.9               | 1.868                | 0.2487                         | 442.8               | 1.861                |
| 100          | 0.4053                         | 447.9               | 1.900                | 0.3372                         | 447.8               | 1.890                | 0.2886                         | 447.7               | 1.881                | 0.2522                         | 447.6               | 1.873                |
| 105          | 0.4108                         | 452.6               | 1.912                | 0.3419                         | 452.5               | 1.902                | 0.2926                         | 452.4               | 1.894                | 0.2557                         | 452.3               | 1.886                |
| 110          | 0.4164                         | 457.4               | 1.925                | 0.3465                         | 457.3               | 1.915                | 0.2966                         | 457.2               | 1.906                | 0.2592                         | 457.1               | 1.899                |
| 115          | 0.4219                         | 462.2               | 1.937                | 0.3512                         | 462.2               | 1.927                | 0.3006                         | 462.1               | 1.919                | 0.2627                         | 462.0               | 1.911                |
| 120          | 0.4275                         | 467.1               | 1.950                | 0.3558                         | 467.0               | 1.940                | 0.3046                         | 466.9               | 1.931                | 0.2662                         | 466.9               | 1.924                |
| 125          | 0.4330                         | 472.0               | 1.962                | 0.3604                         | 472.0               | 1.952                | 0.3086                         | 471.9               | 1.944                | 0.2697                         | 471.8               | 1.936                |
| 130          | 0.4386                         | 477.0               | 1.975                | 0.3651                         | 476.9               | 1.965                | 0.3126                         | 476.8               | 1.956                | 0.2732                         | 476.7               | 1.949                |
| 135          | 0.4441                         | 482.0               | 1.987                | 0.3697                         | 481.9               | 1.977                | 0.3166                         | 481.8               | 1.968                | 0.2767                         | 481.8               | 1.961                |





**Table 2**  
**R-236fa: Superheated Vapour - Constant Pressure Tables**

| Temp<br>[°C] | Absolute Pressure (kPa)        |                     |                      |                                |                     |                      |                                |                     |                      |                                |                     |                      |
|--------------|--------------------------------|---------------------|----------------------|--------------------------------|---------------------|----------------------|--------------------------------|---------------------|----------------------|--------------------------------|---------------------|----------------------|
|              | 90 (-4.2°C)                    |                     |                      | 100 (-1.8°C)                   |                     |                      | 101.325 (-1.4°C)               |                     |                      | 110 (0.5°C)                    |                     |                      |
|              | Volume<br>[m <sup>3</sup> /kg] | Enthalpy<br>[kJ/kg] | Entropy<br>[kJ/K-kg] | Volume<br>[m <sup>3</sup> /kg] | Enthalpy<br>[kJ/kg] | Entropy<br>[kJ/K-kg] | Volume<br>[m <sup>3</sup> /kg] | Enthalpy<br>[kJ/kg] | Entropy<br>[kJ/K-kg] | Volume<br>[m <sup>3</sup> /kg] | Enthalpy<br>[kJ/kg] | Entropy<br>[kJ/K-kg] |
| 0            | 0.1594                         | 360.0               | 1.595                | 0.1428                         | 359.8               | 1.589                | 0.1409                         | 359.7               | 1.588                | -                              | -                   | -                    |
| 5            | 0.1628                         | 364.1               | 1.610                | 0.1459                         | 363.8               | 1.604                | 0.1439                         | 363.8               | 1.603                | 0.1320                         | 363.6               | 1.598                |
| 10           | 0.1662                         | 368.2               | 1.624                | 0.1489                         | 367.9               | 1.618                | 0.1469                         | 367.9               | 1.617                | 0.1348                         | 367.7               | 1.612                |
| 15           | 0.1695                         | 372.3               | 1.639                | 0.1520                         | 372.1               | 1.633                | 0.1499                         | 372.0               | 1.632                | 0.1376                         | 371.8               | 1.627                |
| 20           | 0.1728                         | 376.4               | 1.653                | 0.1550                         | 376.2               | 1.647                | 0.1529                         | 376.2               | 1.646                | 0.1404                         | 376.0               | 1.641                |
| 25           | 0.1761                         | 380.6               | 1.667                | 0.1579                         | 380.4               | 1.661                | 0.1558                         | 380.4               | 1.660                | 0.1431                         | 380.2               | 1.655                |
| 30           | 0.1793                         | 384.8               | 1.681                | 0.1609                         | 384.6               | 1.675                | 0.1587                         | 384.6               | 1.674                | 0.1458                         | 384.4               | 1.669                |
| 35           | 0.1826                         | 389.0               | 1.695                | 0.1638                         | 388.9               | 1.689                | 0.1616                         | 388.8               | 1.688                | 0.1485                         | 388.7               | 1.683                |
| 40           | 0.1858                         | 393.3               | 1.709                | 0.1668                         | 393.1               | 1.703                | 0.1645                         | 393.1               | 1.702                | 0.1512                         | 393.0               | 1.697                |
| 45           | 0.1890                         | 397.6               | 1.722                | 0.1697                         | 397.5               | 1.716                | 0.1674                         | 397.4               | 1.716                | 0.1539                         | 397.3               | 1.711                |
| 50           | 0.1922                         | 401.9               | 1.736                | 0.1726                         | 401.8               | 1.730                | 0.1703                         | 401.8               | 1.729                | 0.1565                         | 401.7               | 1.724                |
| 55           | 0.1954                         | 406.3               | 1.749                | 0.1755                         | 406.2               | 1.743                | 0.1731                         | 406.2               | 1.743                | 0.1592                         | 406.0               | 1.738                |
| 60           | 0.1986                         | 410.7               | 1.763                | 0.1784                         | 410.6               | 1.757                | 0.1760                         | 410.6               | 1.756                | 0.1618                         | 410.5               | 1.751                |
| 65           | 0.2018                         | 415.2               | 1.776                | 0.1812                         | 415.1               | 1.770                | 0.1788                         | 415.1               | 1.769                | 0.1644                         | 414.9               | 1.765                |
| 70           | 0.2050                         | 419.7               | 1.789                | 0.1841                         | 419.6               | 1.783                | 0.1817                         | 419.6               | 1.782                | 0.1670                         | 419.4               | 1.778                |
| 75           | 0.2081                         | 424.2               | 1.802                | 0.1870                         | 424.1               | 1.796                | 0.1845                         | 424.1               | 1.796                | 0.1697                         | 424.0               | 1.791                |
| 80           | 0.2113                         | 428.8               | 1.815                | 0.1898                         | 428.7               | 1.809                | 0.1873                         | 428.7               | 1.809                | 0.1723                         | 428.6               | 1.804                |
| 85           | 0.2144                         | 433.4               | 1.828                | 0.1927                         | 433.3               | 1.822                | 0.1901                         | 433.3               | 1.822                | 0.1749                         | 433.2               | 1.817                |
| 90           | 0.2176                         | 438.0               | 1.841                | 0.1955                         | 437.9               | 1.835                | 0.1929                         | 437.9               | 1.835                | 0.1775                         | 437.8               | 1.830                |
| 95           | 0.2207                         | 442.7               | 1.854                | 0.1983                         | 442.6               | 1.848                | 0.1957                         | 442.6               | 1.847                | 0.1800                         | 442.5               | 1.843                |
| 100          | 0.2239                         | 447.5               | 1.867                | 0.2012                         | 447.4               | 1.861                | 0.1985                         | 447.3               | 1.860                | 0.1826                         | 447.3               | 1.855                |
| 105          | 0.2270                         | 452.2               | 1.879                | 0.2040                         | 452.1               | 1.874                | 0.2013                         | 452.1               | 1.873                | 0.1852                         | 452.0               | 1.868                |
| 110          | 0.2301                         | 457.0               | 1.892                | 0.2068                         | 456.9               | 1.886                | 0.2041                         | 456.9               | 1.885                | 0.1878                         | 456.8               | 1.881                |
| 115          | 0.2332                         | 461.9               | 1.905                | 0.2096                         | 461.8               | 1.899                | 0.2069                         | 461.8               | 1.898                | 0.1903                         | 461.7               | 1.893                |
| 120          | 0.2364                         | 466.8               | 1.917                | 0.2125                         | 466.7               | 1.911                | 0.2097                         | 466.7               | 1.911                | 0.1929                         | 466.6               | 1.906                |
| 125          | 0.2395                         | 471.7               | 1.930                | 0.2153                         | 471.6               | 1.924                | 0.2124                         | 471.6               | 1.923                | 0.1955                         | 471.5               | 1.918                |
| 130          | 0.2426                         | 476.7               | 1.942                | 0.2181                         | 476.6               | 1.936                | 0.2152                         | 476.6               | 1.935                | 0.1980                         | 476.5               | 1.931                |
| 135          | 0.2457                         | 481.7               | 1.954                | 0.2209                         | 481.6               | 1.948                | 0.2180                         | 481.6               | 1.948                | 0.2006                         | 481.5               | 1.943                |
| 140          | 0.2488                         | 486.7               | 1.967                | 0.2237                         | 486.6               | 1.961                | 0.2207                         | 486.6               | 1.960                | 0.2032                         | 486.6               | 1.955                |
| 145          | 0.2519                         | 491.8               | 1.979                | 0.2265                         | 491.7               | 1.973                | 0.2235                         | 491.7               | 1.972                | 0.2057                         | 491.7               | 1.968                |
| 150          | 0.2550                         | 497.0               | 1.991                | 0.2293                         | 496.9               | 1.985                | 0.2263                         | 496.9               | 1.985                | 0.2083                         | 496.8               | 1.980                |



**Table 2**  
**R-236fa: Superheated Vapour - Constant Pressure Tables**

| Temp<br>[°C] | Absolute Pressure (kPa)        |                     |                      |                                |                     |                      |                                |                     |                      |                                |                     |                      |
|--------------|--------------------------------|---------------------|----------------------|--------------------------------|---------------------|----------------------|--------------------------------|---------------------|----------------------|--------------------------------|---------------------|----------------------|
|              | 120 (2.7°C)                    |                     |                      | 130 (4.7°C)                    |                     |                      | 140 (6.6°C)                    |                     |                      | 150 (8.4°C)                    |                     |                      |
|              | Volume<br>[m <sup>3</sup> /kg] | Enthalpy<br>[kJ/kg] | Entropy<br>[kJ/K-kg] | Volume<br>[m <sup>3</sup> /kg] | Enthalpy<br>[kJ/kg] | Entropy<br>[kJ/K-kg] | Volume<br>[m <sup>3</sup> /kg] | Enthalpy<br>[kJ/kg] | Entropy<br>[kJ/K-kg] | Volume<br>[m <sup>3</sup> /kg] | Enthalpy<br>[kJ/kg] | Entropy<br>[kJ/K-kg] |
| 5            | 0.1205                         | 363.4               | 1.592                | 0.1107                         | 363.1               | 1.587                | -                              | -                   | -                    | -                              | -                   | -                    |
| 10           | 0.1231                         | 367.5               | 1.607                | 0.1131                         | 367.2               | 1.602                | 0.1046                         | 367.0               | 1.597                | 0.0972                         | 366.8               | 1.593                |
| 15           | 0.1257                         | 371.6               | 1.621                | 0.1155                         | 371.4               | 1.617                | 0.1068                         | 371.2               | 1.612                | 0.0993                         | 371.0               | 1.608                |
| 20           | 0.1282                         | 375.8               | 1.636                | 0.1179                         | 375.6               | 1.631                | 0.1091                         | 375.4               | 1.626                | 0.1014                         | 375.2               | 1.622                |
| 25           | 0.1307                         | 380.0               | 1.650                | 0.1203                         | 379.8               | 1.645                | 0.1113                         | 379.6               | 1.641                | 0.1035                         | 379.4               | 1.636                |
| 30           | 0.1332                         | 384.2               | 1.664                | 0.1226                         | 384.1               | 1.659                | 0.1135                         | 383.9               | 1.655                | 0.1056                         | 383.7               | 1.651                |
| 35           | 0.1357                         | 388.5               | 1.678                | 0.1249                         | 388.3               | 1.673                | 0.1156                         | 388.2               | 1.669                | 0.1076                         | 388.0               | 1.665                |
| 40           | 0.1382                         | 392.8               | 1.692                | 0.1272                         | 392.6               | 1.687                | 0.1178                         | 392.5               | 1.683                | 0.1096                         | 392.3               | 1.679                |
| 45           | 0.1407                         | 397.1               | 1.706                | 0.1295                         | 397.0               | 1.701                | 0.1199                         | 396.8               | 1.696                | 0.1116                         | 396.7               | 1.692                |
| 50           | 0.1431                         | 401.5               | 1.719                | 0.1318                         | 401.4               | 1.715                | 0.1221                         | 401.2               | 1.710                | 0.1136                         | 401.1               | 1.706                |
| 55           | 0.1456                         | 405.9               | 1.733                | 0.1340                         | 405.8               | 1.728                | 0.1242                         | 405.6               | 1.724                | 0.1156                         | 405.5               | 1.720                |
| 60           | 0.1480                         | 410.3               | 1.746                | 0.1363                         | 410.2               | 1.742                | 0.1263                         | 410.1               | 1.737                | 0.1176                         | 409.9               | 1.733                |
| 65           | 0.1504                         | 414.8               | 1.759                | 0.1385                         | 414.7               | 1.755                | 0.1284                         | 414.5               | 1.751                | 0.1196                         | 414.4               | 1.746                |
| 70           | 0.1528                         | 419.3               | 1.773                | 0.1408                         | 419.2               | 1.768                | 0.1305                         | 419.1               | 1.764                | 0.1215                         | 418.9               | 1.760                |
| 75           | 0.1552                         | 423.9               | 1.786                | 0.1430                         | 423.7               | 1.781                | 0.1325                         | 423.6               | 1.777                | 0.1235                         | 423.5               | 1.773                |
| 80           | 0.1576                         | 428.4               | 1.799                | 0.1452                         | 428.3               | 1.794                | 0.1346                         | 428.2               | 1.790                | 0.1254                         | 428.1               | 1.786                |
| 85           | 0.1600                         | 433.1               | 1.812                | 0.1475                         | 433.0               | 1.807                | 0.1367                         | 432.8               | 1.803                | 0.1274                         | 432.7               | 1.799                |
| 90           | 0.1624                         | 437.7               | 1.825                | 0.1497                         | 437.6               | 1.820                | 0.1388                         | 437.5               | 1.816                | 0.1293                         | 437.4               | 1.812                |
| 95           | 0.1648                         | 442.4               | 1.838                | 0.1519                         | 442.3               | 1.833                | 0.1408                         | 442.2               | 1.829                | 0.1312                         | 442.1               | 1.825                |
| 100          | 0.1672                         | 447.2               | 1.850                | 0.1541                         | 447.1               | 1.846                | 0.1429                         | 447.0               | 1.842                | 0.1331                         | 446.9               | 1.838                |
| 105          | 0.1695                         | 451.9               | 1.863                | 0.1563                         | 451.8               | 1.859                | 0.1449                         | 451.7               | 1.854                | 0.1351                         | 451.6               | 1.850                |
| 110          | 0.1719                         | 456.8               | 1.876                | 0.1585                         | 456.7               | 1.871                | 0.1470                         | 456.6               | 1.867                | 0.1370                         | 456.5               | 1.863                |
| 115          | 0.1743                         | 461.6               | 1.888                | 0.1607                         | 461.5               | 1.884                | 0.1490                         | 461.4               | 1.880                | 0.1389                         | 461.3               | 1.876                |
| 120          | 0.1766                         | 466.5               | 1.901                | 0.1628                         | 466.4               | 1.896                | 0.1510                         | 466.3               | 1.892                | 0.1408                         | 466.2               | 1.888                |
| 125          | 0.1790                         | 471.4               | 1.913                | 0.1650                         | 471.4               | 1.909                | 0.1531                         | 471.3               | 1.905                | 0.1427                         | 471.2               | 1.901                |
| 130          | 0.1813                         | 476.4               | 1.926                | 0.1672                         | 476.3               | 1.921                | 0.1551                         | 476.2               | 1.917                | 0.1446                         | 476.2               | 1.913                |
| 135          | 0.1837                         | 481.4               | 1.938                | 0.1694                         | 481.4               | 1.934                | 0.1571                         | 481.3               | 1.930                | 0.1465                         | 481.2               | 1.926                |
| 140          | 0.1860                         | 486.5               | 1.951                | 0.1716                         | 486.4               | 1.946                | 0.1591                         | 486.3               | 1.942                | 0.1484                         | 486.3               | 1.938                |
| 145          | 0.1884                         | 491.6               | 1.963                | 0.1737                         | 491.5               | 1.958                | 0.1612                         | 491.4               | 1.954                | 0.1503                         | 491.4               | 1.950                |
| 150          | 0.1907                         | 496.7               | 1.975                | 0.1759                         | 496.7               | 1.971                | 0.1632                         | 496.6               | 1.966                | 0.1522                         | 496.5               | 1.962                |
| 155          | 0.1931                         | 501.9               | 1.987                | 0.1781                         | 501.8               | 1.983                | 0.1652                         | 501.8               | 1.979                | 0.1540                         | 501.7               | 1.975                |



**Table 2**  
**R-236fa: Superheated Vapour - Constant Pressure Tables**

| Temp<br>[°C] | Absolute Pressure (kPa)        |                     |                      |                                |                     |                      |                                |                     |                      |                                |                     |                      |
|--------------|--------------------------------|---------------------|----------------------|--------------------------------|---------------------|----------------------|--------------------------------|---------------------|----------------------|--------------------------------|---------------------|----------------------|
|              | 160 (10.1°C)                   |                     |                      | 170 (11.7°C)                   |                     |                      | 180 (13.2°C)                   |                     |                      | 190 (14.7°C)                   |                     |                      |
|              | Volume<br>[m <sup>3</sup> /kg] | Enthalpy<br>[kJ/kg] | Entropy<br>[kJ/K-kg] | Volume<br>[m <sup>3</sup> /kg] | Enthalpy<br>[kJ/kg] | Entropy<br>[kJ/K-kg] | Volume<br>[m <sup>3</sup> /kg] | Enthalpy<br>[kJ/kg] | Entropy<br>[kJ/K-kg] | Volume<br>[m <sup>3</sup> /kg] | Enthalpy<br>[kJ/kg] | Entropy<br>[kJ/K-kg] |
| 15           | 0.0927                         | 370.7               | 1.603                | 0.0869                         | 370.5               | 1.599                | 0.0817                         | 370.3               | 1.596                | 0.0771                         | 370.0               | 1.592                |
| 20           | 0.0947                         | 375.0               | 1.618                | 0.0888                         | 374.8               | 1.614                | 0.0835                         | 374.5               | 1.610                | 0.0788                         | 374.3               | 1.607                |
| 25           | 0.0967                         | 379.2               | 1.632                | 0.0907                         | 379.0               | 1.629                | 0.0853                         | 378.8               | 1.625                | 0.0805                         | 378.6               | 1.621                |
| 30           | 0.0986                         | 383.5               | 1.647                | 0.0925                         | 383.3               | 1.643                | 0.0871                         | 383.1               | 1.639                | 0.0822                         | 382.9               | 1.636                |
| 35           | 0.1006                         | 387.8               | 1.661                | 0.0944                         | 387.6               | 1.657                | 0.0888                         | 387.4               | 1.653                | 0.0839                         | 387.3               | 1.650                |
| 40           | 0.1025                         | 392.1               | 1.675                | 0.0962                         | 392.0               | 1.671                | 0.0906                         | 391.8               | 1.667                | 0.0855                         | 391.6               | 1.664                |
| 45           | 0.1044                         | 396.5               | 1.688                | 0.0980                         | 396.3               | 1.685                | 0.0923                         | 396.2               | 1.681                | 0.0872                         | 396.0               | 1.678                |
| 50           | 0.1063                         | 400.9               | 1.702                | 0.0998                         | 400.7               | 1.699                | 0.0940                         | 400.6               | 1.695                | 0.0888                         | 400.4               | 1.692                |
| 55           | 0.1081                         | 405.3               | 1.716                | 0.1015                         | 405.2               | 1.712                | 0.0957                         | 405.0               | 1.709                | 0.0904                         | 404.9               | 1.705                |
| 60           | 0.1100                         | 409.8               | 1.729                | 0.1033                         | 409.7               | 1.726                | 0.0973                         | 409.5               | 1.722                | 0.0920                         | 409.4               | 1.719                |
| 65           | 0.1119                         | 414.3               | 1.743                | 0.1050                         | 414.2               | 1.739                | 0.0990                         | 414.0               | 1.736                | 0.0936                         | 413.9               | 1.732                |
| 70           | 0.1137                         | 418.8               | 1.756                | 0.1068                         | 418.7               | 1.752                | 0.1007                         | 418.6               | 1.749                | 0.0952                         | 418.4               | 1.746                |
| 75           | 0.1155                         | 423.4               | 1.769                | 0.1085                         | 423.3               | 1.766                | 0.1023                         | 423.1               | 1.762                | 0.0967                         | 423.0               | 1.759                |
| 80           | 0.1174                         | 428.0               | 1.782                | 0.1103                         | 427.9               | 1.779                | 0.1039                         | 427.7               | 1.775                | 0.0983                         | 427.6               | 1.772                |
| 85           | 0.1192                         | 432.6               | 1.795                | 0.1120                         | 432.5               | 1.792                | 0.1056                         | 432.4               | 1.788                | 0.0999                         | 432.3               | 1.785                |
| 90           | 0.1210                         | 437.3               | 1.808                | 0.1137                         | 437.2               | 1.805                | 0.1072                         | 437.1               | 1.801                | 0.1014                         | 437.0               | 1.798                |
| 95           | 0.1228                         | 442.0               | 1.821                | 0.1154                         | 441.9               | 1.818                | 0.1088                         | 441.8               | 1.814                | 0.1029                         | 441.7               | 1.811                |
| 100          | 0.1246                         | 446.8               | 1.834                | 0.1171                         | 446.7               | 1.830                | 0.1105                         | 446.6               | 1.827                | 0.1045                         | 446.5               | 1.824                |
| 105          | 0.1264                         | 451.5               | 1.847                | 0.1188                         | 451.4               | 1.843                | 0.1121                         | 451.3               | 1.840                | 0.1060                         | 451.2               | 1.837                |
| 110          | 0.1282                         | 456.4               | 1.859                | 0.1205                         | 456.3               | 1.856                | 0.1137                         | 456.2               | 1.853                | 0.1076                         | 456.1               | 1.849                |
| 115          | 0.1300                         | 461.2               | 1.872                | 0.1222                         | 461.1               | 1.869                | 0.1153                         | 461.1               | 1.865                | 0.1091                         | 461.0               | 1.862                |
| 120          | 0.1318                         | 466.1               | 1.885                | 0.1239                         | 466.1               | 1.881                | 0.1169                         | 466.0               | 1.878                | 0.1106                         | 465.9               | 1.875                |
| 125          | 0.1336                         | 471.1               | 1.897                | 0.1256                         | 471.0               | 1.894                | 0.1185                         | 470.9               | 1.890                | 0.1121                         | 470.8               | 1.887                |
| 130          | 0.1354                         | 476.1               | 1.910                | 0.1273                         | 476.0               | 1.906                | 0.1201                         | 475.9               | 1.903                | 0.1136                         | 475.8               | 1.900                |
| 135          | 0.1372                         | 481.1               | 1.922                | 0.1290                         | 481.0               | 1.918                | 0.1217                         | 480.9               | 1.915                | 0.1151                         | 480.9               | 1.912                |
| 140          | 0.1390                         | 486.2               | 1.934                | 0.1307                         | 486.1               | 1.931                | 0.1233                         | 486.0               | 1.928                | 0.1167                         | 485.9               | 1.924                |
| 145          | 0.1407                         | 491.3               | 1.947                | 0.1323                         | 491.2               | 1.943                | 0.1249                         | 491.1               | 1.940                | 0.1182                         | 491.0               | 1.937                |
| 150          | 0.1425                         | 496.4               | 1.959                | 0.1340                         | 496.3               | 1.955                | 0.1264                         | 496.3               | 1.952                | 0.1197                         | 496.2               | 1.949                |
| 155          | 0.1443                         | 501.6               | 1.971                | 0.1357                         | 501.5               | 1.968                | 0.1280                         | 501.5               | 1.964                | 0.1212                         | 501.4               | 1.961                |
| 160          | 0.1461                         | 506.8               | 1.983                | 0.1373                         | 506.8               | 1.980                | 0.1296                         | 506.7               | 1.976                | 0.1227                         | 506.6               | 1.973                |
| 165          | 0.1478                         | 512.1               | 1.995                | 0.1390                         | 512.0               | 1.992                | 0.1312                         | 512.0               | 1.989                | 0.1242                         | 511.9               | 1.985                |



**Table 2**  
**R-236fa: Superheated Vapour - Constant Pressure Tables**

| Temp<br>[°C] | Absolute Pressure (kPa)        |                     |                      |                                |                     |                      |                                |                     |                      |                                |                     |                      |
|--------------|--------------------------------|---------------------|----------------------|--------------------------------|---------------------|----------------------|--------------------------------|---------------------|----------------------|--------------------------------|---------------------|----------------------|
|              | 200 (16.1°C)                   |                     |                      | 210 (17.5°C)                   |                     |                      | 220 (18.8°C)                   |                     |                      | 230 20.0°C)                    |                     |                      |
|              | Volume<br>[m <sup>3</sup> /kg] | Enthalpy<br>[kJ/kg] | Entropy<br>[kJ/K-kg] | Volume<br>[m <sup>3</sup> /kg] | Enthalpy<br>[kJ/kg] | Entropy<br>[kJ/K-kg] | Volume<br>[m <sup>3</sup> /kg] | Enthalpy<br>[kJ/kg] | Entropy<br>[kJ/K-kg] | Volume<br>[m <sup>3</sup> /kg] | Enthalpy<br>[kJ/kg] | Entropy<br>[kJ/K-kg] |
| 20           | 0.0746                         | 374.1               | 1.604                | 0.0707                         | 373.9               | 1.6                  | 0.0673                         | 373.6               | 1.597                | -                              | -                   | -                    |
| 25           | 0.0762                         | 378.4               | 1.618                | 0.0723                         | 378.2               | 1.615                | 0.0688                         | 378.0               | 1.612                | 0.0655                         | 377.8               | 1.609                |
| 30           | 0.0778                         | 382.7               | 1.633                | 0.0739                         | 382.5               | 1.629                | 0.0703                         | 382.3               | 1.626                | 0.0670                         | 382.1               | 1.623                |
| 35           | 0.0794                         | 387.1               | 1.647                | 0.0754                         | 386.9               | 1.644                | 0.0718                         | 386.7               | 1.641                | 0.0684                         | 386.5               | 1.638                |
| 40           | 0.0810                         | 391.5               | 1.661                | 0.0769                         | 391.3               | 1.658                | 0.0732                         | 391.1               | 1.655                | 0.0698                         | 390.9               | 1.652                |
| 45           | 0.0826                         | 395.9               | 1.675                | 0.0784                         | 395.7               | 1.672                | 0.0747                         | 395.5               | 1.669                | 0.0712                         | 395.4               | 1.666                |
| 50           | 0.0841                         | 400.3               | 1.689                | 0.0799                         | 400.1               | 1.686                | 0.0761                         | 400.0               | 1.683                | 0.0726                         | 399.8               | 1.680                |
| 55           | 0.0857                         | 404.7               | 1.702                | 0.0814                         | 404.6               | 1.699                | 0.0775                         | 404.4               | 1.696                | 0.0739                         | 404.3               | 1.694                |
| 60           | 0.0872                         | 409.2               | 1.716                | 0.0829                         | 409.1               | 1.713                | 0.0789                         | 408.9               | 1.710                | 0.0753                         | 408.8               | 1.707                |
| 65           | 0.0887                         | 413.8               | 1.729                | 0.0843                         | 413.6               | 1.726                | 0.0803                         | 413.5               | 1.724                | 0.0766                         | 413.3               | 1.721                |
| 70           | 0.0902                         | 418.3               | 1.743                | 0.0857                         | 418.2               | 1.74                 | 0.0817                         | 418.0               | 1.737                | 0.0780                         | 417.9               | 1.734                |
| 75           | 0.0917                         | 422.9               | 1.756                | 0.0872                         | 422.8               | 1.753                | 0.0831                         | 422.6               | 1.750                | 0.0793                         | 422.5               | 1.748                |
| 80           | 0.0932                         | 427.5               | 1.769                | 0.0886                         | 427.4               | 1.766                | 0.0844                         | 427.3               | 1.763                | 0.0806                         | 427.2               | 1.761                |
| 85           | 0.0947                         | 432.2               | 1.782                | 0.0900                         | 432.1               | 1.779                | 0.0858                         | 431.9               | 1.777                | 0.0819                         | 431.8               | 1.774                |
| 90           | 0.0962                         | 436.9               | 1.795                | 0.0914                         | 436.7               | 1.792                | 0.0871                         | 436.6               | 1.790                | 0.0832                         | 436.5               | 1.787                |
| 95           | 0.0976                         | 441.6               | 1.808                | 0.0929                         | 441.5               | 1.805                | 0.0885                         | 441.4               | 1.803                | 0.0845                         | 441.3               | 1.800                |
| 100          | 0.0991                         | 446.3               | 1.821                | 0.0943                         | 446.2               | 1.818                | 0.0898                         | 446.1               | 1.815                | 0.0858                         | 446.0               | 1.813                |
| 105          | 0.1006                         | 451.2               | 1.834                | 0.0957                         | 451.1               | 1.831                | 0.0912                         | 451.0               | 1.828                | 0.0871                         | 450.9               | 1.826                |
| 110          | 0.1020                         | 456.0               | 1.847                | 0.0970                         | 455.9               | 1.844                | 0.0925                         | 455.8               | 1.841                | 0.0884                         | 455.7               | 1.838                |
| 115          | 0.1035                         | 460.9               | 1.859                | 0.0984                         | 460.8               | 1.856                | 0.0938                         | 460.7               | 1.854                | 0.0896                         | 460.6               | 1.851                |
| 120          | 0.1049                         | 465.8               | 1.872                | 0.0998                         | 465.7               | 1.869                | 0.0952                         | 465.6               | 1.866                | 0.0909                         | 465.5               | 1.864                |
| 125          | 0.1064                         | 470.7               | 1.884                | 0.1012                         | 470.7               | 1.881                | 0.0965                         | 470.6               | 1.879                | 0.0922                         | 470.5               | 1.876                |
| 130          | 0.1078                         | 475.7               | 1.897                | 0.1026                         | 475.7               | 1.894                | 0.0978                         | 475.6               | 1.891                | 0.0935                         | 475.5               | 1.889                |
| 135          | 0.1093                         | 480.8               | 1.909                | 0.1040                         | 480.7               | 1.906                | 0.0991                         | 480.6               | 1.904                | 0.0947                         | 480.5               | 1.901                |
| 140          | 0.1107                         | 485.8               | 1.922                | 0.1053                         | 485.8               | 1.919                | 0.1004                         | 485.7               | 1.916                | 0.0960                         | 485.6               | 1.913                |
| 145          | 0.1121                         | 491.0               | 1.934                | 0.1067                         | 490.9               | 1.931                | 0.1018                         | 490.8               | 1.928                | 0.0972                         | 490.7               | 1.926                |
| 150          | 0.1136                         | 496.1               | 1.946                | 0.1081                         | 496.0               | 1.943                | 0.1031                         | 496.0               | 1.941                | 0.0985                         | 495.9               | 1.938                |
| 155          | 0.1150                         | 501.3               | 1.958                | 0.1094                         | 501.2               | 1.955                | 0.1044                         | 501.2               | 1.953                | 0.0997                         | 501.1               | 1.950                |
| 160          | 0.1164                         | 506.6               | 1.970                | 0.1108                         | 506.5               | 1.968                | 0.1057                         | 506.4               | 1.965                | 0.1010                         | 506.3               | 1.962                |
| 165          | 0.1179                         | 511.8               | 1.983                | 0.1122                         | 511.8               | 1.98                 | 0.1070                         | 511.7               | 1.977                | 0.1022                         | 511.6               | 1.975                |
| 170          | 0.1193                         | 517.1               | 1.995                | 0.1135                         | 517.1               | 1.992                | 0.1083                         | 517.0               | 1.989                | 0.1035                         | 516.9               | 1.987                |



**Table 2**  
**R-236fa: Superheated Vapour - Constant Pressure Tables**

| Temp<br>[°C] | Absolute Pressure (kPa)        |                     |                      |                                |                     |                      |                                |                     |                      |                                |                     |                      |
|--------------|--------------------------------|---------------------|----------------------|--------------------------------|---------------------|----------------------|--------------------------------|---------------------|----------------------|--------------------------------|---------------------|----------------------|
|              | 240 (21.3°C)                   |                     |                      | 250 (22.5°C)                   |                     |                      | 260 (23.6°C)                   |                     |                      | 270 (24.7°C)                   |                     |                      |
|              | Volume<br>[m <sup>3</sup> /kg] | Enthalpy<br>[kJ/kg] | Entropy<br>[kJ/K-kg] | Volume<br>[m <sup>3</sup> /kg] | Enthalpy<br>[kJ/kg] | Entropy<br>[kJ/K-kg] | Volume<br>[m <sup>3</sup> /kg] | Enthalpy<br>[kJ/kg] | Entropy<br>[kJ/K-kg] | Volume<br>[m <sup>3</sup> /kg] | Enthalpy<br>[kJ/kg] | Entropy<br>[kJ/K-kg] |
| 25           | 0.0626                         | 377.6               | 1.606                | 0.0598                         | 377.3               | 1.603                | 0.0573                         | 377.1               | 1.601                | 0.0549                         | 376.9               | 1.598                |
| 30           | 0.0640                         | 381.9               | 1.621                | 0.0612                         | 381.7               | 1.618                | 0.0586                         | 381.5               | 1.615                | 0.0562                         | 381.3               | 1.613                |
| 35           | 0.0653                         | 386.3               | 1.635                | 0.0625                         | 386.1               | 1.632                | 0.0599                         | 385.9               | 1.630                | 0.0575                         | 385.8               | 1.627                |
| 40           | 0.0667                         | 390.8               | 1.649                | 0.0638                         | 390.6               | 1.647                | 0.0612                         | 390.4               | 1.644                | 0.0587                         | 390.2               | 1.641                |
| 45           | 0.0680                         | 395.2               | 1.663                | 0.0651                         | 395.0               | 1.661                | 0.0624                         | 394.8               | 1.658                | 0.0599                         | 394.7               | 1.656                |
| 50           | 0.0694                         | 399.7               | 1.677                | 0.0664                         | 399.5               | 1.675                | 0.0637                         | 399.3               | 1.672                | 0.0612                         | 399.2               | 1.670                |
| 55           | 0.0707                         | 404.1               | 1.691                | 0.0677                         | 404.0               | 1.688                | 0.0649                         | 403.8               | 1.686                | 0.0623                         | 403.7               | 1.683                |
| 60           | 0.0720                         | 408.7               | 1.705                | 0.0689                         | 408.5               | 1.702                | 0.0661                         | 408.4               | 1.700                | 0.0635                         | 408.2               | 1.697                |
| 65           | 0.0733                         | 413.2               | 1.718                | 0.0702                         | 413.1               | 1.716                | 0.0673                         | 412.9               | 1.713                | 0.0647                         | 412.8               | 1.711                |
| 70           | 0.0746                         | 417.8               | 1.732                | 0.0714                         | 417.6               | 1.729                | 0.0685                         | 417.5               | 1.727                | 0.0658                         | 417.4               | 1.724                |
| 75           | 0.0758                         | 422.4               | 1.745                | 0.0727                         | 422.3               | 1.742                | 0.0697                         | 422.1               | 1.740                | 0.0670                         | 422.0               | 1.738                |
| 80           | 0.0771                         | 427.0               | 1.758                | 0.0739                         | 426.9               | 1.756                | 0.0709                         | 426.8               | 1.753                | 0.0681                         | 426.7               | 1.751                |
| 85           | 0.0784                         | 431.7               | 1.771                | 0.0751                         | 431.6               | 1.769                | 0.0721                         | 431.5               | 1.766                | 0.0693                         | 431.4               | 1.764                |
| 90           | 0.0796                         | 436.4               | 1.784                | 0.0763                         | 436.3               | 1.782                | 0.0732                         | 436.2               | 1.780                | 0.0704                         | 436.1               | 1.777                |
| 95           | 0.0809                         | 441.2               | 1.797                | 0.0775                         | 441.0               | 1.795                | 0.0744                         | 440.9               | 1.793                | 0.0715                         | 440.8               | 1.790                |
| 100          | 0.0821                         | 445.9               | 1.810                | 0.0787                         | 445.8               | 1.808                | 0.0756                         | 445.7               | 1.805                | 0.0726                         | 445.6               | 1.803                |
| 105          | 0.0833                         | 450.8               | 1.823                | 0.0799                         | 450.7               | 1.821                | 0.0767                         | 450.6               | 1.818                | 0.0738                         | 450.5               | 1.816                |
| 110          | 0.0846                         | 455.6               | 1.836                | 0.0811                         | 455.5               | 1.833                | 0.0778                         | 455.4               | 1.831                | 0.0749                         | 455.3               | 1.829                |
| 115          | 0.0858                         | 460.5               | 1.848                | 0.0823                         | 460.4               | 1.846                | 0.0790                         | 460.3               | 1.844                | 0.0760                         | 460.2               | 1.842                |
| 120          | 0.0870                         | 465.4               | 1.861                | 0.0834                         | 465.3               | 1.859                | 0.0801                         | 465.2               | 1.856                | 0.0771                         | 465.1               | 1.854                |
| 125          | 0.0882                         | 470.4               | 1.874                | 0.0846                         | 470.3               | 1.871                | 0.0813                         | 470.2               | 1.869                | 0.0782                         | 470.1               | 1.867                |
| 130          | 0.0895                         | 475.4               | 1.886                | 0.0858                         | 475.3               | 1.884                | 0.0824                         | 475.2               | 1.881                | 0.0792                         | 475.1               | 1.879                |
| 135          | 0.0907                         | 480.4               | 1.899                | 0.0869                         | 480.4               | 1.896                | 0.0835                         | 480.3               | 1.894                | 0.0803                         | 480.2               | 1.892                |
| 140          | 0.0919                         | 485.5               | 1.911                | 0.0881                         | 485.4               | 1.909                | 0.0846                         | 485.4               | 1.906                | 0.0814                         | 485.3               | 1.904                |
| 145          | 0.0931                         | 490.6               | 1.923                | 0.0893                         | 490.6               | 1.921                | 0.0858                         | 490.5               | 1.919                | 0.0825                         | 490.4               | 1.916                |
| 150          | 0.0943                         | 495.8               | 1.936                | 0.0904                         | 495.7               | 1.933                | 0.0869                         | 495.7               | 1.931                | 0.0836                         | 495.6               | 1.929                |
| 155          | 0.0955                         | 501.0               | 1.948                | 0.0916                         | 500.9               | 1.945                | 0.0880                         | 500.9               | 1.943                | 0.0847                         | 500.8               | 1.941                |
| 160          | 0.0967                         | 506.3               | 1.960                | 0.0928                         | 506.2               | 1.958                | 0.0891                         | 506.1               | 1.955                | 0.0857                         | 506.0               | 1.953                |
| 165          | 0.0979                         | 511.5               | 1.972                | 0.0939                         | 511.5               | 1.970                | 0.0902                         | 511.4               | 1.967                | 0.0868                         | 511.3               | 1.965                |
| 170          | 0.0991                         | 516.9               | 1.984                | 0.0951                         | 516.8               | 1.982                | 0.0913                         | 516.7               | 1.980                | 0.0879                         | 516.7               | 1.977                |
| 175          | 0.1003                         | 522.2               | 1.996                | 0.0962                         | 522.2               | 1.994                | 0.0924                         | 522.1               | 1.992                | 0.0890                         | 522.0               | 1.989                |



**Table 2**  
**R-236fa: Superheated Vapour - Constant Pressure Tables**

| Temp<br>[°C] | Absolute Pressure (kPa)        |                     |                      |                                |                     |                      |                                |                     |                      |                                |                     |                      |
|--------------|--------------------------------|---------------------|----------------------|--------------------------------|---------------------|----------------------|--------------------------------|---------------------|----------------------|--------------------------------|---------------------|----------------------|
|              | 280 (25.8°C)                   |                     |                      | 290 (26.9°C)                   |                     |                      | 300 (27.9°C)                   |                     |                      | 310 (28.9°C)                   |                     |                      |
|              | Volume<br>[m <sup>3</sup> /kg] | Enthalpy<br>[kJ/kg] | Entropy<br>[kJ/K-kg] | Volume<br>[m <sup>3</sup> /kg] | Enthalpy<br>[kJ/kg] | Entropy<br>[kJ/K-kg] | Volume<br>[m <sup>3</sup> /kg] | Enthalpy<br>[kJ/kg] | Entropy<br>[kJ/K-kg] | Volume<br>[m <sup>3</sup> /kg] | Enthalpy<br>[kJ/kg] | Entropy<br>[kJ/K-kg] |
| 30           | 0.0540                         | 381.1               | 1.610                | 0.0519                         | 380.9               | 1.608                | 0.0500                         | 380.7               | 1.605                | 0.0482                         | 380.5               | 1.603                |
| 35           | 0.0552                         | 385.6               | 1.625                | 0.0531                         | 385.4               | 1.622                | 0.0512                         | 385.2               | 1.620                | 0.0494                         | 385.0               | 1.618                |
| 40           | 0.0564                         | 390.0               | 1.639                | 0.0543                         | 389.8               | 1.637                | 0.0523                         | 389.7               | 1.634                | 0.0505                         | 389.5               | 1.632                |
| 45           | 0.0576                         | 394.5               | 1.653                | 0.0555                         | 394.3               | 1.651                | 0.0535                         | 394.2               | 1.649                | 0.0516                         | 394.0               | 1.646                |
| 50           | 0.0588                         | 399.0               | 1.667                | 0.0566                         | 398.8               | 1.665                | 0.0546                         | 398.7               | 1.663                | 0.0527                         | 398.5               | 1.661                |
| 55           | 0.0600                         | 403.5               | 1.681                | 0.0577                         | 403.4               | 1.679                | 0.0557                         | 403.2               | 1.677                | 0.0537                         | 403.1               | 1.675                |
| 60           | 0.0611                         | 408.1               | 1.695                | 0.0589                         | 407.9               | 1.693                | 0.0567                         | 407.8               | 1.690                | 0.0548                         | 407.6               | 1.688                |
| 65           | 0.0622                         | 412.6               | 1.709                | 0.0600                         | 412.5               | 1.706                | 0.0578                         | 412.4               | 1.704                | 0.0558                         | 412.2               | 1.702                |
| 70           | 0.0634                         | 417.2               | 1.722                | 0.0610                         | 417.1               | 1.720                | 0.0589                         | 417.0               | 1.718                | 0.0569                         | 416.8               | 1.716                |
| 75           | 0.0645                         | 421.9               | 1.735                | 0.0621                         | 421.8               | 1.733                | 0.0599                         | 421.6               | 1.731                | 0.0579                         | 421.5               | 1.729                |
| 80           | 0.0656                         | 426.5               | 1.749                | 0.0632                         | 426.4               | 1.747                | 0.0610                         | 426.3               | 1.744                | 0.0589                         | 426.2               | 1.742                |
| 85           | 0.0667                         | 431.2               | 1.762                | 0.0643                         | 431.1               | 1.760                | 0.0620                         | 431.0               | 1.758                | 0.0599                         | 430.9               | 1.756                |
| 90           | 0.0678                         | 436.0               | 1.775                | 0.0653                         | 435.9               | 1.773                | 0.0630                         | 435.7               | 1.771                | 0.0609                         | 435.6               | 1.769                |
| 95           | 0.0689                         | 440.7               | 1.788                | 0.0664                         | 440.6               | 1.786                | 0.0641                         | 440.5               | 1.784                | 0.0619                         | 440.4               | 1.782                |
| 100          | 0.0699                         | 445.5               | 1.801                | 0.0674                         | 445.4               | 1.799                | 0.0651                         | 445.3               | 1.797                | 0.0629                         | 445.2               | 1.795                |
| 105          | 0.0710                         | 450.3               | 1.814                | 0.0685                         | 450.2               | 1.812                | 0.0661                         | 450.1               | 1.810                | 0.0639                         | 450.0               | 1.808                |
| 110          | 0.0721                         | 455.2               | 1.827                | 0.0695                         | 455.1               | 1.825                | 0.0671                         | 455.0               | 1.823                | 0.0648                         | 454.9               | 1.821                |
| 115          | 0.0731                         | 460.1               | 1.839                | 0.0705                         | 460.0               | 1.837                | 0.0681                         | 459.9               | 1.835                | 0.0658                         | 459.8               | 1.833                |
| 120          | 0.0742                         | 465.1               | 1.852                | 0.0716                         | 465.0               | 1.850                | 0.0691                         | 464.9               | 1.848                | 0.0668                         | 464.8               | 1.846                |
| 125          | 0.0753                         | 470.0               | 1.865                | 0.0726                         | 469.9               | 1.863                | 0.0701                         | 469.9               | 1.860                | 0.0677                         | 469.8               | 1.859                |
| 130          | 0.0763                         | 475.1               | 1.877                | 0.0736                         | 475.0               | 1.875                | 0.0711                         | 474.9               | 1.873                | 0.0687                         | 474.8               | 1.871                |
| 135          | 0.0774                         | 480.1               | 1.890                | 0.0746                         | 480.0               | 1.887                | 0.0721                         | 479.9               | 1.885                | 0.0697                         | 479.9               | 1.884                |
| 140          | 0.0784                         | 485.2               | 1.902                | 0.0756                         | 485.1               | 1.900                | 0.0730                         | 485.0               | 1.898                | 0.0706                         | 485.0               | 1.896                |
| 145          | 0.0795                         | 490.3               | 1.914                | 0.0767                         | 490.2               | 1.912                | 0.0740                         | 490.2               | 1.910                | 0.0716                         | 490.1               | 1.908                |
| 150          | 0.0805                         | 495.5               | 1.927                | 0.0777                         | 495.4               | 1.925                | 0.0750                         | 495.3               | 1.923                | 0.0725                         | 495.3               | 1.921                |
| 155          | 0.0816                         | 500.7               | 1.939                | 0.0787                         | 500.6               | 1.937                | 0.0760                         | 500.6               | 1.935                | 0.0735                         | 500.5               | 1.933                |
| 160          | 0.0826                         | 506.0               | 1.951                | 0.0797                         | 505.9               | 1.949                | 0.0770                         | 505.8               | 1.947                | 0.0744                         | 505.7               | 1.945                |
| 165          | 0.0836                         | 511.3               | 1.963                | 0.0807                         | 511.2               | 1.961                | 0.0779                         | 511.1               | 1.959                | 0.0754                         | 511.0               | 1.957                |
| 170          | 0.0847                         | 516.6               | 1.975                | 0.0817                         | 516.5               | 1.973                | 0.0789                         | 516.4               | 1.971                | 0.0763                         | 516.4               | 1.969                |
| 175          | 0.0857                         | 522.0               | 1.987                | 0.0827                         | 521.9               | 1.985                | 0.0799                         | 521.8               | 1.983                | 0.0772                         | 521.7               | 1.981                |
| 180          | 0.0867                         | 527.4               | 1.999                | 0.0837                         | 527.3               | 1.997                | 0.0808                         | 527.2               | 1.995                | 0.0782                         | 527.2               | 1.993                |



**Table 2**  
**R-236fa: Superheated Vapour - Constant Pressure Tables**

| Temp<br>[°C] | Absolute Pressure (kPa)        |                     |                      |                                |                     |                      |                                |                     |                      |                                |                     |                      |
|--------------|--------------------------------|---------------------|----------------------|--------------------------------|---------------------|----------------------|--------------------------------|---------------------|----------------------|--------------------------------|---------------------|----------------------|
|              | 320 (29.9°C)                   |                     |                      | 330 (30.9°C)                   |                     |                      | 340 (31.8°C)                   |                     |                      | 350 (32.7°C)                   |                     |                      |
|              | Volume<br>[m <sup>3</sup> /kg] | Enthalpy<br>[kJ/kg] | Entropy<br>[kJ/K-kg] | Volume<br>[m <sup>3</sup> /kg] | Enthalpy<br>[kJ/kg] | Entropy<br>[kJ/K-kg] | Volume<br>[m <sup>3</sup> /kg] | Enthalpy<br>[kJ/kg] | Entropy<br>[kJ/K-kg] | Volume<br>[m <sup>3</sup> /kg] | Enthalpy<br>[kJ/kg] | Entropy<br>[kJ/K-kg] |
| 30           | 0.0465                         | 380.3               | 1.601                | -                              | -                   | -                    | -                              | -                   | -                    | -                              | -                   | -                    |
| 35           | 0.0476                         | 384.8               | 1.615                | 0.0460                         | 384.6               | 1.613                | 0.0445                         | 384.3               | 1.611                | 0.0431                         | 384.1               | 1.609                |
| 40           | 0.0487                         | 389.3               | 1.630                | 0.0471                         | 389.1               | 1.628                | 0.0456                         | 388.9               | 1.626                | 0.0441                         | 388.7               | 1.624                |
| 45           | 0.0498                         | 393.8               | 1.644                | 0.0481                         | 393.6               | 1.642                | 0.0466                         | 393.4               | 1.640                | 0.0451                         | 393.3               | 1.638                |
| 50           | 0.0509                         | 398.3               | 1.658                | 0.0492                         | 398.2               | 1.656                | 0.0476                         | 398.0               | 1.654                | 0.0461                         | 397.8               | 1.652                |
| 55           | 0.0519                         | 402.9               | 1.672                | 0.0502                         | 402.7               | 1.670                | 0.0486                         | 402.6               | 1.668                | 0.0471                         | 402.4               | 1.666                |
| 60           | 0.0529                         | 407.5               | 1.686                | 0.0512                         | 407.3               | 1.684                | 0.0496                         | 407.2               | 1.682                | 0.0480                         | 407.0               | 1.680                |
| 65           | 0.0539                         | 412.1               | 1.700                | 0.0522                         | 411.9               | 1.698                | 0.0505                         | 411.8               | 1.696                | 0.0490                         | 411.6               | 1.694                |
| 70           | 0.0550                         | 416.7               | 1.714                | 0.0532                         | 416.6               | 1.712                | 0.0515                         | 416.4               | 1.710                | 0.0499                         | 416.3               | 1.708                |
| 75           | 0.0559                         | 421.4               | 1.727                | 0.0541                         | 421.2               | 1.725                | 0.0524                         | 421.1               | 1.723                | 0.0508                         | 421.0               | 1.721                |
| 80           | 0.0569                         | 426.0               | 1.740                | 0.0551                         | 425.9               | 1.738                | 0.0534                         | 425.8               | 1.737                | 0.0517                         | 425.7               | 1.735                |
| 85           | 0.0579                         | 430.8               | 1.754                | 0.0561                         | 430.6               | 1.752                | 0.0543                         | 430.5               | 1.750                | 0.0527                         | 430.4               | 1.748                |
| 90           | 0.0589                         | 435.5               | 1.767                | 0.0570                         | 435.4               | 1.765                | 0.0552                         | 435.3               | 1.763                | 0.0536                         | 435.2               | 1.761                |
| 95           | 0.0599                         | 440.3               | 1.780                | 0.0579                         | 440.2               | 1.778                | 0.0561                         | 440.1               | 1.776                | 0.0544                         | 440.0               | 1.774                |
| 100          | 0.0608                         | 445.1               | 1.793                | 0.0589                         | 445.0               | 1.791                | 0.0571                         | 444.9               | 1.789                | 0.0553                         | 444.8               | 1.787                |
| 105          | 0.0618                         | 449.9               | 1.806                | 0.0598                         | 449.8               | 1.804                | 0.0580                         | 449.7               | 1.802                | 0.0562                         | 449.6               | 1.800                |
| 110          | 0.0627                         | 454.8               | 1.819                | 0.0607                         | 454.7               | 1.817                | 0.0589                         | 454.6               | 1.815                | 0.0571                         | 454.5               | 1.813                |
| 115          | 0.0637                         | 459.7               | 1.831                | 0.0616                         | 459.6               | 1.829                | 0.0598                         | 459.5               | 1.828                | 0.0580                         | 459.4               | 1.826                |
| 120          | 0.0646                         | 464.7               | 1.844                | 0.0626                         | 464.6               | 1.842                | 0.0606                         | 464.5               | 1.840                | 0.0588                         | 464.4               | 1.839                |
| 125          | 0.0655                         | 469.7               | 1.857                | 0.0635                         | 469.6               | 1.855                | 0.0615                         | 469.5               | 1.853                | 0.0597                         | 469.4               | 1.851                |
| 130          | 0.0665                         | 474.7               | 1.869                | 0.0644                         | 474.6               | 1.867                | 0.0624                         | 474.5               | 1.866                | 0.0606                         | 474.4               | 1.864                |
| 135          | 0.0674                         | 479.8               | 1.882                | 0.0653                         | 479.7               | 1.880                | 0.0633                         | 479.6               | 1.878                | 0.0614                         | 479.5               | 1.876                |
| 140          | 0.0683                         | 484.9               | 1.894                | 0.0662                         | 484.8               | 1.892                | 0.0642                         | 484.7               | 1.890                | 0.0623                         | 484.6               | 1.889                |
| 145          | 0.0693                         | 490.0               | 1.906                | 0.0671                         | 489.9               | 1.905                | 0.0651                         | 489.8               | 1.903                | 0.0631                         | 489.8               | 1.901                |
| 150          | 0.0702                         | 495.2               | 1.919                | 0.0680                         | 495.1               | 1.917                | 0.0659                         | 495.0               | 1.915                | 0.0640                         | 495.0               | 1.913                |
| 155          | 0.0711                         | 500.4               | 1.931                | 0.0689                         | 500.3               | 1.929                | 0.0668                         | 500.3               | 1.927                | 0.0648                         | 500.2               | 1.926                |
| 160          | 0.0720                         | 505.7               | 1.943                | 0.0698                         | 505.6               | 1.941                | 0.0677                         | 505.5               | 1.940                | 0.0657                         | 505.4               | 1.938                |
| 165          | 0.0729                         | 511.0               | 1.955                | 0.0707                         | 510.9               | 1.954                | 0.0685                         | 510.8               | 1.952                | 0.0665                         | 510.7               | 1.950                |
| 170          | 0.0739                         | 516.3               | 1.968                | 0.0716                         | 516.2               | 1.966                | 0.0694                         | 516.2               | 1.964                | 0.0674                         | 516.1               | 1.962                |
| 175          | 0.0748                         | 521.7               | 1.980                | 0.0724                         | 521.6               | 1.978                | 0.0703                         | 521.5               | 1.976                | 0.0682                         | 521.5               | 1.974                |
| 180          | 0.0757                         | 527.1               | 1.992                | 0.0733                         | 527.0               | 1.990                | 0.0711                         | 527.0               | 1.988                | 0.0690                         | 526.9               | 1.986                |



**Table 2**  
**R-236fa: Superheated Vapour - Constant Pressure Tables**

| Temp<br>[°C] | Absolute Pressure (kPa)        |                     |                      |                                |                     |                      |                                |                     |                      |                                |                     |                      |
|--------------|--------------------------------|---------------------|----------------------|--------------------------------|---------------------|----------------------|--------------------------------|---------------------|----------------------|--------------------------------|---------------------|----------------------|
|              | 360 (33.6°C)                   |                     |                      | 370 (34.5°C)                   |                     |                      | 380 (35.6°C)                   |                     |                      | 390 (36.2°C)                   |                     |                      |
|              | Volume<br>[m <sup>3</sup> /kg] | Enthalpy<br>[kJ/kg] | Entropy<br>[kJ/K-kg] | Volume<br>[m <sup>3</sup> /kg] | Enthalpy<br>[kJ/kg] | Entropy<br>[kJ/K-kg] | Volume<br>[m <sup>3</sup> /kg] | Enthalpy<br>[kJ/kg] | Entropy<br>[kJ/K-kg] | Volume<br>[m <sup>3</sup> /kg] | Enthalpy<br>[kJ/kg] | Entropy<br>[kJ/K-kg] |
| 35           | 0.0417                         | 383.9               | 1.607                | 0.0404                         | 383.7               | 1.605                | -                              | -                   | -                    | -                              | -                   | -                    |
| 40           | 0.0427                         | 388.5               | 1.622                | 0.0414                         | 388.3               | 1.620                | 0.0402                         | 388.1               | 1.618                | 0.0390                         | 387.9               | 1.616                |
| 45           | 0.0437                         | 393.1               | 1.636                | 0.0424                         | 392.9               | 1.634                | 0.0411                         | 392.7               | 1.632                | 0.0399                         | 392.5               | 1.630                |
| 50           | 0.0447                         | 397.7               | 1.650                | 0.0433                         | 397.5               | 1.649                | 0.0421                         | 397.3               | 1.647                | 0.0409                         | 397.1               | 1.645                |
| 55           | 0.0456                         | 402.3               | 1.665                | 0.0443                         | 402.1               | 1.663                | 0.0430                         | 401.9               | 1.661                | 0.0418                         | 401.8               | 1.659                |
| 60           | 0.0466                         | 406.9               | 1.679                | 0.0452                         | 406.7               | 1.677                | 0.0439                         | 406.6               | 1.675                | 0.0426                         | 406.4               | 1.673                |
| 65           | 0.0475                         | 411.5               | 1.692                | 0.0461                         | 411.4               | 1.690                | 0.0448                         | 411.2               | 1.689                | 0.0435                         | 411.1               | 1.687                |
| 70           | 0.0484                         | 416.2               | 1.706                | 0.0470                         | 416.0               | 1.704                | 0.0457                         | 415.9               | 1.702                | 0.0444                         | 415.7               | 1.701                |
| 75           | 0.0493                         | 420.8               | 1.720                | 0.0479                         | 420.7               | 1.718                | 0.0465                         | 420.6               | 1.716                | 0.0452                         | 420.4               | 1.714                |
| 80           | 0.0502                         | 425.5               | 1.733                | 0.0488                         | 425.4               | 1.731                | 0.0474                         | 425.3               | 1.729                | 0.0461                         | 425.2               | 1.728                |
| 85           | 0.0511                         | 430.3               | 1.746                | 0.0496                         | 430.2               | 1.745                | 0.0482                         | 430.0               | 1.743                | 0.0469                         | 429.9               | 1.741                |
| 90           | 0.0520                         | 435.0               | 1.759                | 0.0505                         | 434.9               | 1.758                | 0.0491                         | 434.8               | 1.756                | 0.0477                         | 434.7               | 1.754                |
| 95           | 0.0528                         | 439.8               | 1.773                | 0.0513                         | 439.7               | 1.771                | 0.0499                         | 439.6               | 1.769                | 0.0485                         | 439.5               | 1.768                |
| 100          | 0.0537                         | 444.7               | 1.786                | 0.0522                         | 444.6               | 1.784                | 0.0507                         | 444.5               | 1.782                | 0.0493                         | 444.3               | 1.781                |
| 105          | 0.0546                         | 449.5               | 1.799                | 0.0530                         | 449.4               | 1.797                | 0.0515                         | 449.3               | 1.795                | 0.0501                         | 449.2               | 1.794                |
| 110          | 0.0554                         | 454.4               | 1.811                | 0.0539                         | 454.3               | 1.810                | 0.0524                         | 454.2               | 1.808                | 0.0509                         | 454.1               | 1.806                |
| 115          | 0.0563                         | 459.4               | 1.824                | 0.0547                         | 459.3               | 1.823                | 0.0532                         | 459.2               | 1.821                | 0.0517                         | 459.1               | 1.819                |
| 120          | 0.0571                         | 464.3               | 1.837                | 0.0555                         | 464.2               | 1.835                | 0.0540                         | 464.1               | 1.834                | 0.0525                         | 464.0               | 1.832                |
| 125          | 0.0580                         | 469.3               | 1.850                | 0.0563                         | 469.2               | 1.848                | 0.0548                         | 469.1               | 1.846                | 0.0533                         | 469.0               | 1.845                |
| 130          | 0.0588                         | 474.4               | 1.862                | 0.0572                         | 474.3               | 1.860                | 0.0556                         | 474.2               | 1.859                | 0.0541                         | 474.1               | 1.857                |
| 135          | 0.0596                         | 479.4               | 1.875                | 0.0580                         | 479.3               | 1.873                | 0.0564                         | 479.3               | 1.871                | 0.0549                         | 479.2               | 1.870                |
| 140          | 0.0605                         | 484.5               | 1.887                | 0.0588                         | 484.5               | 1.885                | 0.0572                         | 484.4               | 1.884                | 0.0557                         | 484.3               | 1.882                |
| 145          | 0.0613                         | 489.7               | 1.899                | 0.0596                         | 489.6               | 1.898                | 0.0580                         | 489.5               | 1.896                | 0.0564                         | 489.4               | 1.895                |
| 150          | 0.0621                         | 494.9               | 1.912                | 0.0604                         | 494.8               | 1.910                | 0.0588                         | 494.7               | 1.909                | 0.0572                         | 494.6               | 1.907                |
| 155          | 0.0630                         | 500.1               | 1.924                | 0.0612                         | 500.0               | 1.922                | 0.0595                         | 499.9               | 1.921                | 0.0580                         | 499.9               | 1.919                |
| 160          | 0.0638                         | 505.4               | 1.936                | 0.0620                         | 505.3               | 1.935                | 0.0603                         | 505.2               | 1.933                | 0.0587                         | 505.1               | 1.932                |
| 165          | 0.0646                         | 510.7               | 1.948                | 0.0628                         | 510.6               | 1.947                | 0.0611                         | 510.5               | 1.945                | 0.0595                         | 510.5               | 1.944                |
| 170          | 0.0654                         | 516.0               | 1.961                | 0.0636                         | 515.9               | 1.959                | 0.0619                         | 515.9               | 1.957                | 0.0603                         | 515.8               | 1.956                |
| 175          | 0.0663                         | 521.4               | 1.973                | 0.0644                         | 521.3               | 1.971                | 0.0627                         | 521.3               | 1.969                | 0.0610                         | 521.2               | 1.968                |
| 180          | 0.0671                         | 526.8               | 1.985                | 0.0652                         | 526.8               | 1.983                | 0.0634                         | 526.7               | 1.982                | 0.0618                         | 526.6               | 1.980                |
| 185          | 0.0679                         | 532.3               | 1.997                | 0.0660                         | 532.2               | 1.995                | 0.0642                         | 532.2               | 1.994                | 0.0625                         | 532.1               | 1.992                |





**Table 2**  
**R-236fa: Superheated Vapour - Constant Pressure Tables**

| Temp<br>[°C] | Absolute Pressure (kPa)        |                     |                      |                                |                     |                      |                                |                     |                      |                                |                     |                      |
|--------------|--------------------------------|---------------------|----------------------|--------------------------------|---------------------|----------------------|--------------------------------|---------------------|----------------------|--------------------------------|---------------------|----------------------|
|              | 400 (37.0°C)                   |                     |                      | 425 (39.0°C)                   |                     |                      | 450 (40.9°C)                   |                     |                      | 475 (42.8°C)                   |                     |                      |
|              | Volume<br>[m <sup>3</sup> /kg] | Enthalpy<br>[kJ/kg] | Entropy<br>[kJ/K-kg] | Volume<br>[m <sup>3</sup> /kg] | Enthalpy<br>[kJ/kg] | Entropy<br>[kJ/K-kg] | Volume<br>[m <sup>3</sup> /kg] | Enthalpy<br>[kJ/kg] | Entropy<br>[kJ/K-kg] | Volume<br>[m <sup>3</sup> /kg] | Enthalpy<br>[kJ/kg] | Entropy<br>[kJ/K-kg] |
| 40           | 0.0379                         | 387.7               | 1.614                | 0.0353                         | 387.2               | 1.609                | -                              | -                   | -                    | -                              | -                   | -                    |
| 45           | 0.0388                         | 392.3               | 1.629                | 0.0362                         | 391.8               | 1.624                | 0.0339                         | 391.3               | 1.620                | 0.0318                         | 390.8               | 1.616                |
| 50           | 0.0397                         | 396.9               | 1.643                | 0.0371                         | 396.5               | 1.639                | 0.0347                         | 396.0               | 1.634                | 0.0326                         | 395.6               | 1.630                |
| 55           | 0.0406                         | 401.6               | 1.657                | 0.0379                         | 401.2               | 1.653                | 0.0356                         | 400.7               | 1.649                | 0.0334                         | 400.3               | 1.645                |
| 60           | 0.0415                         | 406.2               | 1.671                | 0.0388                         | 405.8               | 1.667                | 0.0364                         | 405.4               | 1.663                | 0.0342                         | 405.0               | 1.659                |
| 65           | 0.0423                         | 410.9               | 1.685                | 0.0396                         | 410.5               | 1.681                | 0.0371                         | 410.1               | 1.677                | 0.0350                         | 409.8               | 1.673                |
| 70           | 0.0432                         | 415.6               | 1.699                | 0.0404                         | 415.2               | 1.695                | 0.0379                         | 414.9               | 1.691                | 0.0357                         | 414.5               | 1.687                |
| 75           | 0.0440                         | 420.3               | 1.713                | 0.0412                         | 420.0               | 1.709                | 0.0387                         | 419.6               | 1.705                | 0.0364                         | 419.3               | 1.701                |
| 80           | 0.0448                         | 425.0               | 1.726                | 0.0420                         | 424.7               | 1.722                | 0.0394                         | 424.4               | 1.718                | 0.0371                         | 424.0               | 1.715                |
| 85           | 0.0456                         | 429.8               | 1.740                | 0.0427                         | 429.5               | 1.736                | 0.0402                         | 429.2               | 1.732                | 0.0379                         | 428.9               | 1.728                |
| 90           | 0.0464                         | 434.6               | 1.753                | 0.0435                         | 434.3               | 1.749                | 0.0409                         | 434.0               | 1.745                | 0.0386                         | 433.7               | 1.742                |
| 95           | 0.0472                         | 439.4               | 1.766                | 0.0443                         | 439.1               | 1.762                | 0.0416                         | 438.8               | 1.758                | 0.0393                         | 438.5               | 1.755                |
| 100          | 0.0480                         | 444.2               | 1.779                | 0.0450                         | 444.0               | 1.775                | 0.0423                         | 443.7               | 1.772                | 0.0399                         | 443.4               | 1.768                |
| 105          | 0.0488                         | 449.1               | 1.792                | 0.0458                         | 448.8               | 1.788                | 0.0431                         | 448.6               | 1.785                | 0.0406                         | 448.3               | 1.781                |
| 110          | 0.0496                         | 454.0               | 1.805                | 0.0465                         | 453.8               | 1.801                | 0.0438                         | 453.5               | 1.797                | 0.0413                         | 453.3               | 1.794                |
| 115          | 0.0504                         | 459.0               | 1.818                | 0.0472                         | 458.7               | 1.814                | 0.0445                         | 458.5               | 1.810                | 0.0420                         | 458.2               | 1.807                |
| 120          | 0.0511                         | 463.9               | 1.830                | 0.0480                         | 463.7               | 1.827                | 0.0452                         | 463.5               | 1.823                | 0.0426                         | 463.2               | 1.820                |
| 125          | 0.0519                         | 469.0               | 1.843                | 0.0487                         | 468.7               | 1.839                | 0.0459                         | 468.5               | 1.836                | 0.0433                         | 468.3               | 1.832                |
| 130          | 0.0527                         | 474.0               | 1.856                | 0.0494                         | 473.8               | 1.852                | 0.0465                         | 473.6               | 1.848                | 0.0440                         | 473.3               | 1.845                |
| 135          | 0.0534                         | 479.1               | 1.868                | 0.0502                         | 478.9               | 1.865                | 0.0472                         | 478.7               | 1.861                | 0.0446                         | 478.4               | 1.858                |
| 140          | 0.0542                         | 484.2               | 1.881                | 0.0509                         | 484.0               | 1.877                | 0.0479                         | 483.8               | 1.874                | 0.0453                         | 483.6               | 1.870                |
| 145          | 0.0550                         | 489.4               | 1.893                | 0.0516                         | 489.2               | 1.889                | 0.0486                         | 489.0               | 1.886                | 0.0459                         | 488.7               | 1.883                |
| 150          | 0.0557                         | 494.6               | 1.905                | 0.0523                         | 494.4               | 1.902                | 0.0493                         | 494.2               | 1.898                | 0.0466                         | 494.0               | 1.895                |
| 155          | 0.0565                         | 499.8               | 1.918                | 0.0530                         | 499.6               | 1.914                | 0.0500                         | 499.4               | 1.911                | 0.0472                         | 499.2               | 1.907                |
| 160          | 0.0572                         | 505.1               | 1.930                | 0.0537                         | 504.9               | 1.926                | 0.0506                         | 504.7               | 1.923                | 0.0478                         | 504.5               | 1.920                |
| 165          | 0.0580                         | 510.4               | 1.942                | 0.0544                         | 510.2               | 1.939                | 0.0513                         | 510.0               | 1.935                | 0.0485                         | 509.8               | 1.932                |
| 170          | 0.0587                         | 515.7               | 1.954                | 0.0551                         | 515.5               | 1.951                | 0.0520                         | 515.4               | 1.947                | 0.0491                         | 515.2               | 1.944                |
| 175          | 0.0594                         | 521.1               | 1.966                | 0.0558                         | 520.9               | 1.963                | 0.0526                         | 520.8               | 1.959                | 0.0498                         | 520.6               | 1.956                |
| 180          | 0.0602                         | 526.6               | 1.979                | 0.0565                         | 526.4               | 1.975                | 0.0533                         | 526.2               | 1.972                | 0.0504                         | 526.0               | 1.968                |
| 185          | 0.0609                         | 532.0               | 1.991                | 0.0572                         | 531.9               | 1.987                | 0.0540                         | 531.7               | 1.984                | 0.0510                         | 531.5               | 1.980                |
| 190          | 0.0617                         | 537.5               | 2.002                | 0.0579                         | 537.4               | 1.999                | 0.0546                         | 537.2               | 1.996                | 0.0517                         | 537.0               | 1.992                |



**Table 2**  
**R-236fa: Superheated Vapour - Constant Pressure Tables**

| Temp<br>[°C] | Absolute Pressure (kPa)        |                     |                      |                                |                     |                      |                                |                     |                      |                                |                     |                      |
|--------------|--------------------------------|---------------------|----------------------|--------------------------------|---------------------|----------------------|--------------------------------|---------------------|----------------------|--------------------------------|---------------------|----------------------|
|              | 500 (44.5°C)                   |                     |                      | 525 (46.2°C)                   |                     |                      | 550 (47.9°C)                   |                     |                      | 575 (49.4°C)                   |                     |                      |
|              | Volume<br>[m <sup>3</sup> /kg] | Enthalpy<br>[kJ/kg] | Entropy<br>[kJ/K-kg] | Volume<br>[m <sup>3</sup> /kg] | Enthalpy<br>[kJ/kg] | Entropy<br>[kJ/K-kg] | Volume<br>[m <sup>3</sup> /kg] | Enthalpy<br>[kJ/kg] | Entropy<br>[kJ/K-kg] | Volume<br>[m <sup>3</sup> /kg] | Enthalpy<br>[kJ/kg] | Entropy<br>[kJ/K-kg] |
| 45           | 0.0300                         | 390.3               | 1.612                | -                              | -                   | -                    | -                              | -                   | -                    | -                              | -                   | -                    |
| 50           | 0.0307                         | 395.1               | 1.626                | 0.0290                         | 394.6               | 1.623                | 0.0274                         | 394.1               | 1.619                | 0.0260                         | 393.6               | 1.615                |
| 55           | 0.0315                         | 399.8               | 1.641                | 0.0298                         | 399.4               | 1.637                | 0.0282                         | 398.9               | 1.634                | 0.0267                         | 398.4               | 1.630                |
| 60           | 0.0323                         | 404.6               | 1.655                | 0.0305                         | 404.2               | 1.652                | 0.0289                         | 403.7               | 1.648                | 0.0274                         | 403.3               | 1.645                |
| 65           | 0.0330                         | 409.4               | 1.670                | 0.0312                         | 409.0               | 1.666                | 0.0296                         | 408.5               | 1.663                | 0.0281                         | 408.1               | 1.659                |
| 70           | 0.0337                         | 414.1               | 1.684                | 0.0319                         | 413.7               | 1.680                | 0.0302                         | 413.4               | 1.677                | 0.0287                         | 413.0               | 1.673                |
| 75           | 0.0344                         | 418.9               | 1.697                | 0.0326                         | 418.6               | 1.694                | 0.0309                         | 418.2               | 1.691                | 0.0294                         | 417.8               | 1.688                |
| 80           | 0.0351                         | 423.7               | 1.711                | 0.0332                         | 423.4               | 1.708                | 0.0316                         | 423.0               | 1.705                | 0.0300                         | 422.7               | 1.701                |
| 85           | 0.0358                         | 428.5               | 1.725                | 0.0339                         | 428.2               | 1.721                | 0.0322                         | 427.9               | 1.718                | 0.0306                         | 427.5               | 1.715                |
| 90           | 0.0365                         | 433.4               | 1.738                | 0.0346                         | 433.1               | 1.735                | 0.0328                         | 432.7               | 1.732                | 0.0312                         | 432.4               | 1.729                |
| 95           | 0.0371                         | 438.2               | 1.751                | 0.0352                         | 437.9               | 1.748                | 0.0334                         | 437.6               | 1.745                | 0.0318                         | 437.3               | 1.742                |
| 100          | 0.0378                         | 443.1               | 1.765                | 0.0358                         | 442.8               | 1.761                | 0.0341                         | 442.6               | 1.758                | 0.0324                         | 442.3               | 1.755                |
| 105          | 0.0384                         | 448.0               | 1.778                | 0.0365                         | 447.8               | 1.775                | 0.0347                         | 447.5               | 1.771                | 0.0330                         | 447.2               | 1.769                |
| 110          | 0.0391                         | 453.0               | 1.791                | 0.0371                         | 452.7               | 1.788                | 0.0353                         | 452.5               | 1.785                | 0.0336                         | 452.2               | 1.782                |
| 115          | 0.0397                         | 458.0               | 1.804                | 0.0377                         | 457.7               | 1.801                | 0.0359                         | 457.5               | 1.797                | 0.0342                         | 457.2               | 1.795                |
| 120          | 0.0404                         | 463.0               | 1.816                | 0.0383                         | 462.7               | 1.813                | 0.0364                         | 462.5               | 1.810                | 0.0347                         | 462.3               | 1.807                |
| 125          | 0.0410                         | 468.0               | 1.829                | 0.0389                         | 467.8               | 1.826                | 0.0370                         | 467.6               | 1.823                | 0.0353                         | 467.3               | 1.820                |
| 130          | 0.0416                         | 473.1               | 1.842                | 0.0395                         | 472.9               | 1.839                | 0.0376                         | 472.6               | 1.836                | 0.0359                         | 472.4               | 1.833                |
| 135          | 0.0423                         | 478.2               | 1.854                | 0.0401                         | 478.0               | 1.851                | 0.0382                         | 477.8               | 1.848                | 0.0364                         | 477.5               | 1.846                |
| 140          | 0.0429                         | 483.4               | 1.867                | 0.0407                         | 483.1               | 1.864                | 0.0388                         | 482.9               | 1.861                | 0.0370                         | 482.7               | 1.858                |
| 145          | 0.0435                         | 488.5               | 1.879                | 0.0413                         | 488.3               | 1.876                | 0.0393                         | 488.1               | 1.874                | 0.0375                         | 487.9               | 1.871                |
| 150          | 0.0441                         | 493.8               | 1.892                | 0.0419                         | 493.6               | 1.889                | 0.0399                         | 493.4               | 1.886                | 0.0381                         | 493.2               | 1.883                |
| 155          | 0.0447                         | 499.0               | 1.904                | 0.0425                         | 498.8               | 1.901                | 0.0405                         | 498.6               | 1.898                | 0.0386                         | 498.4               | 1.896                |
| 160          | 0.0454                         | 504.3               | 1.917                | 0.0431                         | 504.1               | 1.914                | 0.0410                         | 503.9               | 1.911                | 0.0392                         | 503.7               | 1.908                |
| 165          | 0.0460                         | 509.6               | 1.929                | 0.0437                         | 509.5               | 1.926                | 0.0416                         | 509.3               | 1.923                | 0.0397                         | 509.1               | 1.920                |
| 170          | 0.0466                         | 515.0               | 1.941                | 0.0443                         | 514.8               | 1.938                | 0.0422                         | 514.6               | 1.935                | 0.0402                         | 514.5               | 1.932                |
| 175          | 0.0472                         | 520.4               | 1.953                | 0.0448                         | 520.2               | 1.950                | 0.0427                         | 520.1               | 1.947                | 0.0408                         | 519.9               | 1.945                |
| 180          | 0.0478                         | 525.9               | 1.965                | 0.0454                         | 525.7               | 1.962                | 0.0433                         | 525.5               | 1.959                | 0.0413                         | 525.3               | 1.957                |
| 185          | 0.0484                         | 531.3               | 1.977                | 0.0460                         | 531.2               | 1.974                | 0.0438                         | 531.0               | 1.971                | 0.0418                         | 530.8               | 1.969                |
| 190          | 0.0490                         | 536.9               | 1.989                | 0.0466                         | 536.7               | 1.986                | 0.0444                         | 536.5               | 1.983                | 0.0424                         | 536.4               | 1.981                |
| 195          | 0.0496                         | 542.4               | 2.001                | 0.0471                         | 542.3               | 1.998                | 0.0449                         | 542.1               | 1.995                | 0.0429                         | 541.9               | 1.993                |



**Table 2**  
**R-236fa: Superheated Vapour - Constant Pressure Tables**

| Temp<br>[°C] | Absolute Pressure (kPa)        |                     |                      |                                |                     |                      |                                |                     |                      |                                |                     |                      |
|--------------|--------------------------------|---------------------|----------------------|--------------------------------|---------------------|----------------------|--------------------------------|---------------------|----------------------|--------------------------------|---------------------|----------------------|
|              | 600 (51.0°C)                   |                     |                      | 625 (52.5°C)                   |                     |                      | 650 (53.9°C)                   |                     |                      | 675 (55.3°C)                   |                     |                      |
|              | Volume<br>[m <sup>3</sup> /kg] | Enthalpy<br>[kJ/kg] | Entropy<br>[kJ/K-kg] | Volume<br>[m <sup>3</sup> /kg] | Enthalpy<br>[kJ/kg] | Entropy<br>[kJ/K-kg] | Volume<br>[m <sup>3</sup> /kg] | Enthalpy<br>[kJ/kg] | Entropy<br>[kJ/K-kg] | Volume<br>[m <sup>3</sup> /kg] | Enthalpy<br>[kJ/kg] | Entropy<br>[kJ/K-kg] |
| 55           | 0.0254                         | 397.9               | 1.627                | 0.0241                         | 397.5               | 1.623                | 0.0230                         | 396.9               | 1.620                | -                              | -                   | -                    |
| 60           | 0.0261                         | 402.8               | 1.641                | 0.0248                         | 402.4               | 1.638                | 0.0237                         | 401.9               | 1.635                | 0.0226                         | 401.4               | 1.632                |
| 65           | 0.0267                         | 407.7               | 1.656                | 0.0255                         | 407.3               | 1.653                | 0.0243                         | 406.8               | 1.650                | 0.0232                         | 406.4               | 1.647                |
| 70           | 0.0274                         | 412.6               | 1.670                | 0.0261                         | 412.2               | 1.667                | 0.0249                         | 411.8               | 1.664                | 0.0238                         | 411.3               | 1.661                |
| 75           | 0.0280                         | 417.4               | 1.684                | 0.0267                         | 417.1               | 1.681                | 0.0255                         | 416.7               | 1.678                | 0.0244                         | 416.3               | 1.675                |
| 80           | 0.0286                         | 422.3               | 1.698                | 0.0273                         | 422.0               | 1.695                | 0.0261                         | 421.6               | 1.692                | 0.0250                         | 421.2               | 1.690                |
| 85           | 0.0292                         | 427.2               | 1.712                | 0.0279                         | 426.9               | 1.709                | 0.0267                         | 426.5               | 1.706                | 0.0255                         | 426.2               | 1.703                |
| 90           | 0.0298                         | 432.1               | 1.726                | 0.0284                         | 431.8               | 1.723                | 0.0272                         | 431.5               | 1.720                | 0.0261                         | 431.1               | 1.717                |
| 95           | 0.0304                         | 437.0               | 1.739                | 0.0290                         | 436.7               | 1.736                | 0.0278                         | 436.4               | 1.733                | 0.0266                         | 436.1               | 1.731                |
| 100          | 0.0309                         | 442.0               | 1.752                | 0.0296                         | 441.7               | 1.750                | 0.0283                         | 441.4               | 1.747                | 0.0271                         | 441.1               | 1.744                |
| 105          | 0.0315                         | 446.9               | 1.766                | 0.0301                         | 446.7               | 1.763                | 0.0288                         | 446.4               | 1.760                | 0.0277                         | 446.1               | 1.758                |
| 110          | 0.0321                         | 451.9               | 1.779                | 0.0307                         | 451.7               | 1.776                | 0.0294                         | 451.4               | 1.773                | 0.0282                         | 451.1               | 1.771                |
| 115          | 0.0326                         | 457.0               | 1.792                | 0.0312                         | 456.7               | 1.789                | 0.0299                         | 456.4               | 1.786                | 0.0287                         | 456.2               | 1.784                |
| 120          | 0.0332                         | 462.0               | 1.805                | 0.0317                         | 461.8               | 1.802                | 0.0304                         | 461.5               | 1.799                | 0.0292                         | 461.2               | 1.797                |
| 125          | 0.0337                         | 467.1               | 1.818                | 0.0323                         | 466.8               | 1.815                | 0.0309                         | 466.6               | 1.812                | 0.0297                         | 466.4               | 1.810                |
| 130          | 0.0343                         | 472.2               | 1.830                | 0.0328                         | 472.0               | 1.828                | 0.0314                         | 471.7               | 1.825                | 0.0302                         | 471.5               | 1.823                |
| 135          | 0.0348                         | 477.3               | 1.843                | 0.0333                         | 477.1               | 1.840                | 0.0319                         | 476.9               | 1.838                | 0.0307                         | 476.6               | 1.835                |
| 140          | 0.0353                         | 482.5               | 1.856                | 0.0338                         | 482.3               | 1.853                | 0.0324                         | 482.1               | 1.850                | 0.0311                         | 481.8               | 1.848                |
| 145          | 0.0359                         | 487.7               | 1.868                | 0.0343                         | 487.5               | 1.865                | 0.0329                         | 487.3               | 1.863                | 0.0316                         | 487.1               | 1.861                |
| 150          | 0.0364                         | 492.9               | 1.881                | 0.0349                         | 492.7               | 1.878                | 0.0334                         | 492.5               | 1.875                | 0.0321                         | 492.3               | 1.873                |
| 155          | 0.0369                         | 498.2               | 1.893                | 0.0354                         | 498.0               | 1.890                | 0.0339                         | 497.8               | 1.888                | 0.0326                         | 497.6               | 1.885                |
| 160          | 0.0374                         | 503.5               | 1.905                | 0.0359                         | 503.3               | 1.903                | 0.0344                         | 503.1               | 1.900                | 0.0331                         | 503.0               | 1.898                |
| 165          | 0.0380                         | 508.9               | 1.918                | 0.0364                         | 508.7               | 1.915                | 0.0349                         | 508.5               | 1.913                | 0.0335                         | 508.3               | 1.910                |
| 170          | 0.0385                         | 514.3               | 1.930                | 0.0369                         | 514.1               | 1.927                | 0.0354                         | 513.9               | 1.925                | 0.0340                         | 513.7               | 1.922                |
| 175          | 0.0390                         | 519.7               | 1.942                | 0.0374                         | 519.5               | 1.939                | 0.0359                         | 519.3               | 1.937                | 0.0345                         | 519.2               | 1.935                |
| 180          | 0.0395                         | 525.2               | 1.954                | 0.0379                         | 525.0               | 1.952                | 0.0363                         | 524.8               | 1.949                | 0.0349                         | 524.6               | 1.947                |
| 185          | 0.0400                         | 530.7               | 1.966                | 0.0384                         | 530.5               | 1.964                | 0.0368                         | 530.3               | 1.961                | 0.0354                         | 530.1               | 1.959                |
| 190          | 0.0405                         | 536.2               | 1.978                | 0.0388                         | 536.0               | 1.976                | 0.0373                         | 535.9               | 1.973                | 0.0358                         | 535.7               | 1.971                |
| 195          | 0.0410                         | 541.8               | 1.990                | 0.0393                         | 541.6               | 1.988                | 0.0378                         | 541.5               | 1.985                | 0.0363                         | 541.3               | 1.983                |
| 200          | 0.0416                         | 547.4               | 2.002                | 0.0398                         | 547.2               | 2.000                | 0.0382                         | 547.1               | 1.997                | 0.0368                         | 546.9               | 1.995                |
| 205          | 0.0421                         | 553.1               | 2.014                | 0.0403                         | 552.9               | 2.012                | 0.0387                         | 552.7               | 2.009                | 0.0372                         | 552.6               | 2.007                |



**Table 2**  
**R-236fa: Superheated Vapour - Constant Pressure Tables**

| Temp<br>[°C] | Absolute Pressure (kPa)        |                     |                      |                                |                     |                      |                                |                     |                      |                                |                     |                      |
|--------------|--------------------------------|---------------------|----------------------|--------------------------------|---------------------|----------------------|--------------------------------|---------------------|----------------------|--------------------------------|---------------------|----------------------|
|              | 700 (56.6°C)                   |                     |                      | 725 (58.0°C)                   |                     |                      | 750 (59.3°C)                   |                     |                      | 775 (60.5°C)                   |                     |                      |
|              | Volume<br>[m <sup>3</sup> /kg] | Enthalpy<br>[kJ/kg] | Entropy<br>[kJ/K-kg] | Volume<br>[m <sup>3</sup> /kg] | Enthalpy<br>[kJ/kg] | Entropy<br>[kJ/K-kg] | Volume<br>[m <sup>3</sup> /kg] | Enthalpy<br>[kJ/kg] | Entropy<br>[kJ/K-kg] | Volume<br>[m <sup>3</sup> /kg] | Enthalpy<br>[kJ/kg] | Entropy<br>[kJ/K-kg] |
| 60           | 0.0216                         | 400.9               | 1.629                | 0.0207                         | 400.4               | 1.626                | 0.0198                         | 399.9               | 1.622                | -                              | -                   | -                    |
| 65           | 0.0222                         | 405.9               | 1.644                | 0.0213                         | 405.5               | 1.641                | 0.0204                         | 405.0               | 1.638                | 0.0195                         | 404.5               | 1.635                |
| 70           | 0.0228                         | 410.9               | 1.658                | 0.0218                         | 410.5               | 1.655                | 0.0209                         | 410.0               | 1.652                | 0.0201                         | 409.6               | 1.650                |
| 75           | 0.0234                         | 415.9               | 1.673                | 0.0224                         | 415.5               | 1.670                | 0.0215                         | 415.1               | 1.667                | 0.0207                         | 414.7               | 1.664                |
| 80           | 0.0239                         | 420.9               | 1.687                | 0.0230                         | 420.5               | 1.684                | 0.0220                         | 420.1               | 1.681                | 0.0212                         | 419.7               | 1.679                |
| 85           | 0.0245                         | 425.8               | 1.701                | 0.0235                         | 425.5               | 1.698                | 0.0226                         | 425.1               | 1.695                | 0.0217                         | 424.7               | 1.693                |
| 90           | 0.0250                         | 430.8               | 1.715                | 0.0240                         | 430.5               | 1.712                | 0.0231                         | 430.1               | 1.709                | 0.0222                         | 429.8               | 1.707                |
| 95           | 0.0255                         | 435.8               | 1.728                | 0.0245                         | 435.5               | 1.726                | 0.0236                         | 435.1               | 1.723                | 0.0227                         | 434.8               | 1.721                |
| 100          | 0.0260                         | 440.8               | 1.742                | 0.0250                         | 440.5               | 1.739                | 0.0241                         | 440.2               | 1.737                | 0.0232                         | 439.9               | 1.734                |
| 105          | 0.0265                         | 445.8               | 1.755                | 0.0255                         | 445.5               | 1.753                | 0.0246                         | 445.2               | 1.750                | 0.0237                         | 444.9               | 1.748                |
| 110          | 0.0270                         | 450.8               | 1.768                | 0.0260                         | 450.6               | 1.766                | 0.0250                         | 450.3               | 1.763                | 0.0241                         | 450.0               | 1.761                |
| 115          | 0.0275                         | 455.9               | 1.781                | 0.0265                         | 455.6               | 1.779                | 0.0255                         | 455.4               | 1.777                | 0.0246                         | 455.1               | 1.774                |
| 120          | 0.0280                         | 461.0               | 1.794                | 0.0270                         | 460.7               | 1.792                | 0.0260                         | 460.5               | 1.790                | 0.0250                         | 460.2               | 1.787                |
| 125          | 0.0285                         | 466.1               | 1.807                | 0.0274                         | 465.9               | 1.805                | 0.0264                         | 465.6               | 1.803                | 0.0255                         | 465.4               | 1.800                |
| 130          | 0.0290                         | 471.2               | 1.820                | 0.0279                         | 471.0               | 1.818                | 0.0269                         | 470.8               | 1.815                | 0.0259                         | 470.5               | 1.813                |
| 135          | 0.0295                         | 476.4               | 1.833                | 0.0284                         | 476.2               | 1.831                | 0.0273                         | 476.0               | 1.828                | 0.0264                         | 475.7               | 1.826                |
| 140          | 0.0299                         | 481.6               | 1.846                | 0.0288                         | 481.4               | 1.843                | 0.0278                         | 481.2               | 1.841                | 0.0268                         | 481.0               | 1.839                |
| 145          | 0.0304                         | 486.9               | 1.858                | 0.0293                         | 486.6               | 1.856                | 0.0282                         | 486.4               | 1.854                | 0.0272                         | 486.2               | 1.851                |
| 150          | 0.0309                         | 492.1               | 1.871                | 0.0297                         | 491.9               | 1.868                | 0.0287                         | 491.7               | 1.866                | 0.0277                         | 491.5               | 1.864                |
| 155          | 0.0313                         | 497.4               | 1.883                | 0.0302                         | 497.2               | 1.881                | 0.0291                         | 497.0               | 1.879                | 0.0281                         | 496.8               | 1.876                |
| 160          | 0.0318                         | 502.8               | 1.895                | 0.0306                         | 502.6               | 1.893                | 0.0295                         | 502.4               | 1.891                | 0.0285                         | 502.2               | 1.889                |
| 165          | 0.0323                         | 508.1               | 1.908                | 0.0311                         | 507.9               | 1.906                | 0.0300                         | 507.7               | 1.903                | 0.0289                         | 507.6               | 1.901                |
| 170          | 0.0327                         | 513.5               | 1.920                | 0.0315                         | 513.3               | 1.918                | 0.0304                         | 513.2               | 1.916                | 0.0293                         | 513.0               | 1.914                |
| 175          | 0.0332                         | 519.0               | 1.932                | 0.0319                         | 518.8               | 1.930                | 0.0308                         | 518.6               | 1.928                | 0.0298                         | 518.4               | 1.926                |
| 180          | 0.0336                         | 524.5               | 1.944                | 0.0324                         | 524.3               | 1.942                | 0.0312                         | 524.1               | 1.940                | 0.0302                         | 523.9               | 1.938                |
| 185          | 0.0341                         | 530.0               | 1.957                | 0.0328                         | 529.8               | 1.954                | 0.0317                         | 529.6               | 1.952                | 0.0306                         | 529.5               | 1.950                |
| 190          | 0.0345                         | 535.5               | 1.969                | 0.0333                         | 535.4               | 1.966                | 0.0321                         | 535.2               | 1.964                | 0.0310                         | 535.0               | 1.962                |
| 195          | 0.0349                         | 541.1               | 1.981                | 0.0337                         | 541.0               | 1.978                | 0.0325                         | 540.8               | 1.976                | 0.0314                         | 540.6               | 1.974                |
| 200          | 0.0354                         | 546.8               | 1.993                | 0.0341                         | 546.6               | 1.990                | 0.0329                         | 546.4               | 1.988                | 0.0318                         | 546.3               | 1.986                |
| 205          | 0.0358                         | 552.4               | 2.005                | 0.0345                         | 552.3               | 2.002                | 0.0333                         | 552.1               | 2.000                | 0.0322                         | 552.0               | 1.998                |
| 210          | 0.0363                         | 558.1               | 2.016                | 0.0350                         | 558.0               | 2.014                | 0.0338                         | 557.8               | 2.012                | 0.0326                         | 557.7               | 2.010                |



**Table 2**  
**R-236fa: Superheated Vapour - Constant Pressure Tables**

| Temp<br>[°C] | Absolute Pressure (kPa)        |                     |                      |                                |                     |                      |                                |                     |                      |                                |                     |                      |
|--------------|--------------------------------|---------------------|----------------------|--------------------------------|---------------------|----------------------|--------------------------------|---------------------|----------------------|--------------------------------|---------------------|----------------------|
|              | 800 (61.7°C)                   |                     |                      | 850 (64.1°C)                   |                     |                      | 900 (66.4°C)                   |                     |                      | 950 (68.6°C)                   |                     |                      |
|              | Volume<br>[m <sup>3</sup> /kg] | Enthalpy<br>[kJ/kg] | Entropy<br>[kJ/K-kg] | Volume<br>[m <sup>3</sup> /kg] | Enthalpy<br>[kJ/kg] | Entropy<br>[kJ/K-kg] | Volume<br>[m <sup>3</sup> /kg] | Enthalpy<br>[kJ/kg] | Entropy<br>[kJ/K-kg] | Volume<br>[m <sup>3</sup> /kg] | Enthalpy<br>[kJ/kg] | Entropy<br>[kJ/K-kg] |
| 65           | 0.0188                         | 404.0               | 1.632                | 0.0173                         | 403.0               | 1.626                | -                              | -                   | -                    | -                              | -                   | -                    |
| 70           | 0.0193                         | 409.1               | 1.647                | 0.0179                         | 408.2               | 1.641                | 0.0166                         | 407.2               | 1.636                | 0.0154                         | 406.2               | 1.631                |
| 75           | 0.0199                         | 414.2               | 1.662                | 0.0184                         | 413.4               | 1.656                | 0.0171                         | 412.4               | 1.651                | 0.0159                         | 411.5               | 1.646                |
| 80           | 0.0204                         | 419.3               | 1.676                | 0.0189                         | 418.5               | 1.671                | 0.0176                         | 417.7               | 1.666                | 0.0164                         | 416.8               | 1.661                |
| 85           | 0.0209                         | 424.4               | 1.690                | 0.0194                         | 423.6               | 1.685                | 0.0181                         | 422.8               | 1.681                | 0.0169                         | 422.0               | 1.676                |
| 90           | 0.0214                         | 429.4               | 1.704                | 0.0199                         | 428.7               | 1.700                | 0.0186                         | 428.0               | 1.695                | 0.0174                         | 427.2               | 1.690                |
| 95           | 0.0219                         | 434.5               | 1.718                | 0.0204                         | 433.8               | 1.713                | 0.0190                         | 433.1               | 1.709                | 0.0178                         | 432.4               | 1.705                |
| 100          | 0.0224                         | 439.6               | 1.732                | 0.0208                         | 438.9               | 1.727                | 0.0195                         | 438.3               | 1.723                | 0.0182                         | 437.6               | 1.719                |
| 105          | 0.0228                         | 444.6               | 1.745                | 0.0213                         | 444.0               | 1.741                | 0.0199                         | 443.4               | 1.737                | 0.0187                         | 442.8               | 1.732                |
| 110          | 0.0233                         | 449.7               | 1.759                | 0.0217                         | 449.1               | 1.754                | 0.0203                         | 448.6               | 1.750                | 0.0191                         | 448.0               | 1.746                |
| 115          | 0.0237                         | 454.8               | 1.772                | 0.0221                         | 454.3               | 1.768                | 0.0207                         | 453.7               | 1.763                | 0.0195                         | 453.1               | 1.759                |
| 120          | 0.0242                         | 460.0               | 1.785                | 0.0226                         | 459.4               | 1.781                | 0.0211                         | 458.9               | 1.777                | 0.0199                         | 458.4               | 1.773                |
| 125          | 0.0246                         | 465.1               | 1.798                | 0.0230                         | 464.6               | 1.794                | 0.0216                         | 464.1               | 1.790                | 0.0203                         | 463.6               | 1.786                |
| 130          | 0.0250                         | 470.3               | 1.811                | 0.0234                         | 469.8               | 1.807                | 0.0220                         | 469.3               | 1.803                | 0.0206                         | 468.8               | 1.799                |
| 135          | 0.0255                         | 475.5               | 1.824                | 0.0238                         | 475.0               | 1.820                | 0.0223                         | 474.5               | 1.816                | 0.0210                         | 474.1               | 1.812                |
| 140          | 0.0259                         | 480.7               | 1.837                | 0.0242                         | 480.3               | 1.833                | 0.0227                         | 479.8               | 1.829                | 0.0214                         | 479.4               | 1.825                |
| 145          | 0.0263                         | 486.0               | 1.849                | 0.0246                         | 485.6               | 1.845                | 0.0231                         | 485.1               | 1.841                | 0.0218                         | 484.7               | 1.838                |
| 150          | 0.0267                         | 491.3               | 1.862                | 0.0250                         | 490.9               | 1.858                | 0.0235                         | 490.4               | 1.854                | 0.0221                         | 490.0               | 1.850                |
| 155          | 0.0271                         | 496.6               | 1.874                | 0.0254                         | 496.2               | 1.870                | 0.0239                         | 495.8               | 1.867                | 0.0225                         | 495.4               | 1.863                |
| 160          | 0.0276                         | 502.0               | 1.887                | 0.0258                         | 501.6               | 1.883                | 0.0243                         | 501.2               | 1.879                | 0.0229                         | 500.8               | 1.875                |
| 165          | 0.0280                         | 507.4               | 1.899                | 0.0262                         | 507.0               | 1.895                | 0.0246                         | 506.6               | 1.891                | 0.0232                         | 506.2               | 1.888                |
| 170          | 0.0284                         | 512.8               | 1.912                | 0.0266                         | 512.4               | 1.908                | 0.0250                         | 512.0               | 1.904                | 0.0236                         | 511.6               | 1.900                |
| 175          | 0.0288                         | 518.2               | 1.924                | 0.0270                         | 517.9               | 1.920                | 0.0254                         | 517.5               | 1.916                | 0.0239                         | 517.1               | 1.913                |
| 180          | 0.0292                         | 523.7               | 1.936                | 0.0273                         | 523.4               | 1.932                | 0.0257                         | 523.0               | 1.928                | 0.0243                         | 522.7               | 1.925                |
| 185          | 0.0296                         | 529.3               | 1.948                | 0.0277                         | 528.9               | 1.944                | 0.0261                         | 528.6               | 1.941                | 0.0246                         | 528.2               | 1.937                |
| 190          | 0.0300                         | 534.9               | 1.960                | 0.0281                         | 534.5               | 1.956                | 0.0264                         | 534.2               | 1.953                | 0.0250                         | 533.8               | 1.949                |
| 195          | 0.0304                         | 540.5               | 1.972                | 0.0285                         | 540.1               | 1.968                | 0.0268                         | 539.8               | 1.965                | 0.0253                         | 539.5               | 1.961                |
| 200          | 0.0308                         | 546.1               | 1.984                | 0.0289                         | 545.8               | 1.980                | 0.0272                         | 545.5               | 1.977                | 0.0256                         | 545.1               | 1.973                |
| 205          | 0.0312                         | 551.8               | 1.996                | 0.0292                         | 551.5               | 1.992                | 0.0275                         | 551.2               | 1.989                | 0.0260                         | 550.8               | 1.985                |
| 210          | 0.0315                         | 557.5               | 2.008                | 0.0296                         | 557.2               | 2.004                | 0.0279                         | 556.9               | 2.001                | 0.0263                         | 556.6               | 1.997                |
| 215          | 0.0319                         | 563.3               | 2.020                | 0.0300                         | 563.0               | 2.016                | 0.0282                         | 562.7               | 2.013                | 0.0267                         | 562.4               | 2.009                |



**Table 2**  
**R-236fa: Superheated Vapour - Constant Pressure Tables**

| Temp<br>[°C] | Absolute Pressure (kPa)        |                     |                      |                                |                     |                      |                                |                     |                      |                                |                     |                      |
|--------------|--------------------------------|---------------------|----------------------|--------------------------------|---------------------|----------------------|--------------------------------|---------------------|----------------------|--------------------------------|---------------------|----------------------|
|              | 1000 (70.6°C)                  |                     |                      | 1100 (74.6°C)                  |                     |                      | 1200 (78.3°C)                  |                     |                      | 1300 (81.7°C)                  |                     |                      |
|              | Volume<br>[m <sup>3</sup> /kg] | Enthalpy<br>[kJ/kg] | Entropy<br>[kJ/K-kg] | Volume<br>[m <sup>3</sup> /kg] | Enthalpy<br>[kJ/kg] | Entropy<br>[kJ/K-kg] | Volume<br>[m <sup>3</sup> /kg] | Enthalpy<br>[kJ/kg] | Entropy<br>[kJ/K-kg] | Volume<br>[m <sup>3</sup> /kg] | Enthalpy<br>[kJ/kg] | Entropy<br>[kJ/K-kg] |
| 75           | 0.0149                         | 410.5               | 1.641                | 0.0130                         | 408.4               | 1.631                | -                              | -                   | -                    | -                              | -                   | -                    |
| 80           | 0.0154                         | 415.9               | 1.656                | 0.0135                         | 413.9               | 1.647                | 0.0119                         | 411.8               | 1.637                | -                              | -                   | -                    |
| 85           | 0.0158                         | 421.2               | 1.671                | 0.0140                         | 419.4               | 1.662                | 0.0124                         | 417.5               | 1.653                | 0.0110                         | 415.4               | 1.644                |
| 90           | 0.0163                         | 426.4               | 1.686                | 0.0144                         | 424.8               | 1.677                | 0.0128                         | 423.1               | 1.669                | 0.0114                         | 421.2               | 1.660                |
| 95           | 0.0167                         | 431.7               | 1.700                | 0.0148                         | 430.2               | 1.692                | 0.0132                         | 428.6               | 1.684                | 0.0119                         | 426.8               | 1.676                |
| 100          | 0.0171                         | 436.9               | 1.714                | 0.0152                         | 435.5               | 1.706                | 0.0136                         | 434.0               | 1.698                | 0.0123                         | 432.4               | 1.691                |
| 105          | 0.0176                         | 442.1               | 1.728                | 0.0156                         | 440.8               | 1.720                | 0.0140                         | 439.4               | 1.713                | 0.0126                         | 437.9               | 1.705                |
| 110          | 0.0180                         | 447.3               | 1.742                | 0.0160                         | 446.1               | 1.734                | 0.0144                         | 444.8               | 1.727                | 0.0130                         | 443.4               | 1.720                |
| 115          | 0.0183                         | 452.6               | 1.755                | 0.0164                         | 451.4               | 1.748                | 0.0147                         | 450.1               | 1.741                | 0.0133                         | 448.8               | 1.734                |
| 120          | 0.0187                         | 457.8               | 1.769                | 0.0167                         | 456.7               | 1.761                | 0.0151                         | 455.5               | 1.754                | 0.0137                         | 454.3               | 1.748                |
| 125          | 0.0191                         | 463.0               | 1.782                | 0.0171                         | 462.0               | 1.775                | 0.0154                         | 460.8               | 1.768                | 0.0140                         | 459.7               | 1.761                |
| 130          | 0.0195                         | 468.3               | 1.795                | 0.0174                         | 467.3               | 1.788                | 0.0158                         | 466.2               | 1.781                | 0.0143                         | 465.1               | 1.775                |
| 135          | 0.0198                         | 473.6               | 1.808                | 0.0178                         | 472.6               | 1.801                | 0.0161                         | 471.6               | 1.795                | 0.0146                         | 470.5               | 1.788                |
| 140          | 0.0202                         | 478.9               | 1.821                | 0.0181                         | 477.9               | 1.814                | 0.0164                         | 477.0               | 1.808                | 0.0149                         | 476.0               | 1.801                |
| 145          | 0.0206                         | 484.2               | 1.834                | 0.0185                         | 483.3               | 1.827                | 0.0167                         | 482.4               | 1.821                | 0.0152                         | 481.4               | 1.815                |
| 150          | 0.0209                         | 489.6               | 1.847                | 0.0188                         | 488.7               | 1.840                | 0.0170                         | 487.8               | 1.834                | 0.0155                         | 486.9               | 1.828                |
| 155          | 0.0213                         | 494.9               | 1.859                | 0.0191                         | 494.1               | 1.853                | 0.0173                         | 493.2               | 1.846                | 0.0158                         | 492.3               | 1.840                |
| 160          | 0.0216                         | 500.3               | 1.872                | 0.0194                         | 499.5               | 1.865                | 0.0176                         | 498.7               | 1.859                | 0.0161                         | 497.8               | 1.853                |
| 165          | 0.0220                         | 505.8               | 1.884                | 0.0198                         | 505.0               | 1.878                | 0.0179                         | 504.2               | 1.872                | 0.0164                         | 503.3               | 1.866                |
| 170          | 0.0223                         | 511.3               | 1.897                | 0.0201                         | 510.5               | 1.890                | 0.0182                         | 509.7               | 1.884                | 0.0167                         | 508.9               | 1.878                |
| 175          | 0.0226                         | 516.8               | 1.909                | 0.0204                         | 516.0               | 1.903                | 0.0185                         | 515.2               | 1.897                | 0.0169                         | 514.5               | 1.891                |
| 180          | 0.0230                         | 522.3               | 1.921                | 0.0207                         | 521.6               | 1.915                | 0.0188                         | 520.8               | 1.909                | 0.0172                         | 520.1               | 1.903                |
| 185          | 0.0233                         | 527.9               | 1.934                | 0.0210                         | 527.2               | 1.927                | 0.0191                         | 526.4               | 1.921                | 0.0175                         | 525.7               | 1.916                |
| 190          | 0.0236                         | 533.5               | 1.946                | 0.0213                         | 532.8               | 1.939                | 0.0194                         | 532.1               | 1.934                | 0.0178                         | 531.4               | 1.928                |
| 195          | 0.0240                         | 539.1               | 1.958                | 0.0216                         | 538.4               | 1.952                | 0.0197                         | 537.7               | 1.946                | 0.0180                         | 537.1               | 1.940                |
| 200          | 0.0243                         | 544.8               | 1.970                | 0.0219                         | 544.1               | 1.964                | 0.0200                         | 543.5               | 1.958                | 0.0183                         | 542.8               | 1.952                |
| 205          | 0.0246                         | 550.5               | 1.982                | 0.0222                         | 549.9               | 1.976                | 0.0202                         | 549.2               | 1.970                | 0.0186                         | 548.5               | 1.965                |
| 210          | 0.0249                         | 556.3               | 1.994                | 0.0225                         | 555.6               | 1.988                | 0.0205                         | 555.0               | 1.982                | 0.0188                         | 554.3               | 1.977                |
| 215          | 0.0253                         | 562.1               | 2.006                | 0.0228                         | 561.4               | 2.000                | 0.0208                         | 560.8               | 1.994                | 0.0191                         | 560.2               | 1.989                |
| 220          | 0.0256                         | 567.9               | 2.018                | 0.0231                         | 567.3               | 2.012                | 0.0211                         | 566.7               | 2.006                | 0.0193                         | 566.0               | 2.001                |
| 225          | 0.0259                         | 573.8               | 2.030                | 0.0234                         | 573.2               | 2.023                | 0.0214                         | 572.6               | 2.018                | 0.0196                         | 572.0               | 2.012                |



**Table 2**  
**R-236fa: Superheated Vapour - Constant Pressure Tables**

| Temp<br>[°C] | Absolute Pressure (kPa)        |                     |                      |                                |                     |                      |                                |                     |                      |                                |                     |                      |
|--------------|--------------------------------|---------------------|----------------------|--------------------------------|---------------------|----------------------|--------------------------------|---------------------|----------------------|--------------------------------|---------------------|----------------------|
|              | 1400 (85.0°C)                  |                     |                      | 1500 (88.1°C)                  |                     |                      | 1600 (91.0°C)                  |                     |                      | 1700 (93.8°C)                  |                     |                      |
|              | Volume<br>[m <sup>3</sup> /kg] | Enthalpy<br>[kJ/kg] | Entropy<br>[kJ/K-kg] | Volume<br>[m <sup>3</sup> /kg] | Enthalpy<br>[kJ/kg] | Entropy<br>[kJ/K-kg] | Volume<br>[m <sup>3</sup> /kg] | Enthalpy<br>[kJ/kg] | Entropy<br>[kJ/K-kg] | Volume<br>[m <sup>3</sup> /kg] | Enthalpy<br>[kJ/kg] | Entropy<br>[kJ/K-kg] |
| 85           | 0.0098                         | 413.0               | 1.634                | -                              | -                   | -                    | -                              | -                   | -                    | -                              | -                   | -                    |
| 90           | 0.0102                         | 419.1               | 1.651                | 0.0092                         | 416.8               | 1.642                | -                              | -                   | -                    | -                              | -                   | -                    |
| 95           | 0.0107                         | 425.0               | 1.667                | 0.0096                         | 422.9               | 1.659                | 0.0086                         | 420.7               | 1.651                | 0.0078                         | 418.1               | 1.641                |
| 100          | 0.0111                         | 430.7               | 1.683                | 0.0100                         | 428.9               | 1.675                | 0.0091                         | 426.9               | 1.667                | 0.0082                         | 424.7               | 1.659                |
| 105          | 0.0114                         | 436.4               | 1.698                | 0.0104                         | 434.7               | 1.691                | 0.0094                         | 432.9               | 1.683                | 0.0086                         | 431.0               | 1.676                |
| 110          | 0.0118                         | 442.0               | 1.713                | 0.0107                         | 440.4               | 1.706                | 0.0098                         | 438.8               | 1.699                | 0.0090                         | 437.1               | 1.692                |
| 115          | 0.0121                         | 447.5               | 1.727                | 0.0111                         | 446.1               | 1.720                | 0.0101                         | 444.6               | 1.714                | 0.0093                         | 443.1               | 1.707                |
| 120          | 0.0125                         | 453.0               | 1.741                | 0.0114                         | 451.7               | 1.735                | 0.0105                         | 450.3               | 1.729                | 0.0096                         | 448.9               | 1.722                |
| 125          | 0.0128                         | 458.5               | 1.755                | 0.0117                         | 457.3               | 1.749                | 0.0108                         | 456.0               | 1.743                | 0.0099                         | 454.7               | 1.737                |
| 130          | 0.0131                         | 464.0               | 1.769                | 0.0120                         | 462.8               | 1.763                | 0.0111                         | 461.6               | 1.757                | 0.0102                         | 460.4               | 1.751                |
| 135          | 0.0134                         | 469.5               | 1.782                | 0.0123                         | 468.4               | 1.776                | 0.0113                         | 467.2               | 1.771                | 0.0105                         | 466.0               | 1.765                |
| 140          | 0.0137                         | 474.9               | 1.796                | 0.0126                         | 473.9               | 1.790                | 0.0116                         | 472.8               | 1.784                | 0.0108                         | 471.7               | 1.779                |
| 145          | 0.0140                         | 480.4               | 1.809                | 0.0129                         | 479.4               | 1.803                | 0.0119                         | 478.4               | 1.798                | 0.0110                         | 477.3               | 1.792                |
| 150          | 0.0142                         | 485.9               | 1.822                | 0.0131                         | 485.0               | 1.816                | 0.0121                         | 484.0               | 1.811                | 0.0113                         | 483.0               | 1.806                |
| 155          | 0.0145                         | 491.4               | 1.835                | 0.0134                         | 490.5               | 1.829                | 0.0124                         | 489.6               | 1.824                | 0.0115                         | 488.6               | 1.819                |
| 160          | 0.0148                         | 497.0               | 1.848                | 0.0137                         | 496.1               | 1.842                | 0.0127                         | 495.2               | 1.837                | 0.0118                         | 494.3               | 1.832                |
| 165          | 0.0151                         | 502.5               | 1.860                | 0.0139                         | 501.7               | 1.855                | 0.0129                         | 500.8               | 1.850                | 0.0120                         | 499.9               | 1.845                |
| 170          | 0.0153                         | 508.1               | 1.873                | 0.0142                         | 507.3               | 1.868                | 0.0131                         | 506.4               | 1.863                | 0.0122                         | 505.6               | 1.858                |
| 175          | 0.0156                         | 513.7               | 1.886                | 0.0144                         | 512.9               | 1.880                | 0.0134                         | 512.1               | 1.876                | 0.0125                         | 511.3               | 1.871                |
| 180          | 0.0159                         | 519.3               | 1.898                | 0.0147                         | 518.5               | 1.893                | 0.0136                         | 517.7               | 1.888                | 0.0127                         | 517.0               | 1.883                |
| 185          | 0.0161                         | 525.0               | 1.910                | 0.0149                         | 524.2               | 1.905                | 0.0139                         | 523.5               | 1.901                | 0.0129                         | 522.7               | 1.896                |
| 190          | 0.0164                         | 530.6               | 1.923                | 0.0152                         | 529.9               | 1.918                | 0.0141                         | 529.2               | 1.913                | 0.0132                         | 528.4               | 1.909                |
| 195          | 0.0166                         | 536.4               | 1.935                | 0.0154                         | 535.6               | 1.930                | 0.0143                         | 534.9               | 1.925                | 0.0134                         | 534.2               | 1.921                |
| 200          | 0.0169                         | 542.1               | 1.947                | 0.0156                         | 541.4               | 1.942                | 0.0146                         | 540.7               | 1.938                | 0.0136                         | 540.0               | 1.933                |
| 205          | 0.0171                         | 547.9               | 1.959                | 0.0159                         | 547.2               | 1.955                | 0.0148                         | 546.5               | 1.950                | 0.0138                         | 545.9               | 1.946                |
| 210          | 0.0174                         | 553.7               | 1.971                | 0.0161                         | 553.0               | 1.967                | 0.0150                         | 552.4               | 1.962                | 0.0140                         | 551.7               | 1.958                |
| 215          | 0.0176                         | 559.5               | 1.984                | 0.0163                         | 558.9               | 1.979                | 0.0152                         | 558.3               | 1.974                | 0.0142                         | 557.6               | 1.970                |
| 220          | 0.0179                         | 565.4               | 1.996                | 0.0166                         | 564.8               | 1.991                | 0.0154                         | 564.2               | 1.986                | 0.0145                         | 563.5               | 1.982                |
| 225          | 0.0181                         | 571.3               | 2.007                | 0.0168                         | 570.7               | 2.003                | 0.0157                         | 570.1               | 1.998                | 0.0147                         | 569.5               | 1.994                |



**Table 2**  
**R-236fa: Superheated Vapour - Constant Pressure Tables**

| Temp<br>[°C] | Absolute Pressure (kPa)        |                     |                      |                                |                     |                      |                                |                     |                      |                                |                     |                      |
|--------------|--------------------------------|---------------------|----------------------|--------------------------------|---------------------|----------------------|--------------------------------|---------------------|----------------------|--------------------------------|---------------------|----------------------|
|              | 1800 (96.5°C)                  |                     |                      | 1900 (99.0°C)                  |                     |                      | 2000 (101.5°C)                 |                     |                      | 2100 (103.8°C)                 |                     |                      |
|              | Volume<br>[m <sup>3</sup> /kg] | Enthalpy<br>[kJ/kg] | Entropy<br>[kJ/K-kg] | Volume<br>[m <sup>3</sup> /kg] | Enthalpy<br>[kJ/kg] | Entropy<br>[kJ/K-kg] | Volume<br>[m <sup>3</sup> /kg] | Enthalpy<br>[kJ/kg] | Entropy<br>[kJ/K-kg] | Volume<br>[m <sup>3</sup> /kg] | Enthalpy<br>[kJ/kg] | Entropy<br>[kJ/K-kg] |
| 100          | 0.0074                         | 422.3               | 1.651                | 0.0067                         | 419.5               | 1.641                | -                              | -                   | -                    | -                              | -                   | -                    |
| 105          | 0.0078                         | 428.9               | 1.668                | 0.0071                         | 426.6               | 1.660                | 0.0064                         | 424.0               | 1.651                | 0.0058                         | 420.8               | 1.641                |
| 110          | 0.0082                         | 435.3               | 1.685                | 0.0075                         | 433.3               | 1.678                | 0.0069                         | 431.1               | 1.670                | 0.0063                         | 428.6               | 1.662                |
| 115          | 0.0085                         | 441.4               | 1.701                | 0.0079                         | 439.6               | 1.694                | 0.0072                         | 437.7               | 1.687                | 0.0067                         | 435.6               | 1.680                |
| 120          | 0.0089                         | 447.4               | 1.716                | 0.0082                         | 445.8               | 1.710                | 0.0076                         | 444.1               | 1.704                | 0.0070                         | 442.3               | 1.697                |
| 125          | 0.0092                         | 453.3               | 1.731                | 0.0085                         | 451.8               | 1.725                | 0.0079                         | 450.3               | 1.719                | 0.0073                         | 448.6               | 1.713                |
| 130          | 0.0095                         | 459.1               | 1.745                | 0.0088                         | 457.7               | 1.740                | 0.0082                         | 456.3               | 1.734                | 0.0076                         | 454.9               | 1.729                |
| 135          | 0.0097                         | 464.8               | 1.760                | 0.0091                         | 463.6               | 1.754                | 0.0084                         | 462.3               | 1.749                | 0.0079                         | 460.9               | 1.744                |
| 140          | 0.0100                         | 470.6               | 1.774                | 0.0093                         | 469.4               | 1.768                | 0.0087                         | 468.2               | 1.763                | 0.0081                         | 466.9               | 1.758                |
| 145          | 0.0103                         | 476.3               | 1.787                | 0.0096                         | 475.2               | 1.782                | 0.0089                         | 474.0               | 1.777                | 0.0084                         | 472.8               | 1.773                |
| 150          | 0.0105                         | 482.0               | 1.801                | 0.0098                         | 480.9               | 1.796                | 0.0092                         | 479.8               | 1.791                | 0.0086                         | 478.7               | 1.787                |
| 155          | 0.0107                         | 487.6               | 1.814                | 0.0100                         | 486.6               | 1.809                | 0.0094                         | 485.6               | 1.805                | 0.0088                         | 484.6               | 1.800                |
| 160          | 0.0110                         | 493.3               | 1.827                | 0.0103                         | 492.4               | 1.823                | 0.0096                         | 491.4               | 1.818                | 0.0091                         | 490.4               | 1.814                |
| 165          | 0.0112                         | 499.0               | 1.840                | 0.0105                         | 498.1               | 1.836                | 0.0099                         | 497.2               | 1.832                | 0.0093                         | 496.2               | 1.827                |
| 170          | 0.0114                         | 504.7               | 1.853                | 0.0107                         | 503.8               | 1.849                | 0.0101                         | 503.0               | 1.845                | 0.0095                         | 502.1               | 1.840                |
| 175          | 0.0117                         | 510.4               | 1.866                | 0.0109                         | 509.6               | 1.862                | 0.0103                         | 508.7               | 1.858                | 0.0097                         | 507.9               | 1.853                |
| 180          | 0.0119                         | 516.2               | 1.879                | 0.0112                         | 515.4               | 1.875                | 0.0105                         | 514.5               | 1.870                | 0.0099                         | 513.7               | 1.866                |
| 185          | 0.0121                         | 521.9               | 1.892                | 0.0114                         | 521.1               | 1.887                | 0.0107                         | 520.3               | 1.883                | 0.0101                         | 519.5               | 1.879                |
| 190          | 0.0123                         | 527.7               | 1.904                | 0.0116                         | 526.9               | 1.900                | 0.0109                         | 526.2               | 1.896                | 0.0103                         | 525.4               | 1.892                |
| 195          | 0.0125                         | 533.5               | 1.917                | 0.0118                         | 532.8               | 1.912                | 0.0111                         | 532.0               | 1.908                | 0.0105                         | 531.3               | 1.905                |
| 200          | 0.0128                         | 539.3               | 1.929                | 0.0120                         | 538.6               | 1.925                | 0.0113                         | 537.9               | 1.921                | 0.0107                         | 537.2               | 1.917                |
| 205          | 0.0130                         | 545.2               | 1.941                | 0.0122                         | 544.5               | 1.937                | 0.0115                         | 543.8               | 1.933                | 0.0109                         | 543.1               | 1.929                |
| 210          | 0.0132                         | 551.1               | 1.954                | 0.0124                         | 550.4               | 1.950                | 0.0117                         | 549.7               | 1.946                | 0.0111                         | 549.0               | 1.942                |
| 215          | 0.0134                         | 557.0               | 1.966                | 0.0126                         | 556.3               | 1.962                | 0.0119                         | 555.7               | 1.958                | 0.0112                         | 555.0               | 1.954                |
| 220          | 0.0136                         | 562.9               | 1.978                | 0.0128                         | 562.3               | 1.974                | 0.0121                         | 561.6               | 1.970                | 0.0114                         | 561.0               | 1.966                |
| 225          | 0.0138                         | 568.9               | 1.990                | 0.0130                         | 568.3               | 1.986                | 0.0123                         | 567.7               | 1.982                | 0.0116                         | 567.0               | 1.979                |





**Table 2**  
**R-236fa: Superheated Vapour - Constant Pressure Tables**

| Temp<br>[°C] | Absolute Pressure (kPa)        |                     |                      |                                |                     |                      |                                |                     |                      |                                |                     |                      |
|--------------|--------------------------------|---------------------|----------------------|--------------------------------|---------------------|----------------------|--------------------------------|---------------------|----------------------|--------------------------------|---------------------|----------------------|
|              | 2200 (106.1°C)                 |                     |                      | 2400 (110.4°C)                 |                     |                      | 2600 (114.3°C)                 |                     |                      | 2800 (118.1°C)                 |                     |                      |
|              | Volume<br>[m <sup>3</sup> /kg] | Enthalpy<br>[kJ/kg] | Entropy<br>[kJ/K-kg] | Volume<br>[m <sup>3</sup> /kg] | Enthalpy<br>[kJ/kg] | Entropy<br>[kJ/K-kg] | Volume<br>[m <sup>3</sup> /kg] | Enthalpy<br>[kJ/kg] | Entropy<br>[kJ/K-kg] | Volume<br>[m <sup>3</sup> /kg] | Enthalpy<br>[kJ/kg] | Entropy<br>[kJ/K-kg] |
| 110          | 0.0057                         | 425.8               | 1.653                | -                              | -                   | -                    | -                              | -                   | -                    | -                              | -                   | -                    |
| 115          | 0.0061                         | 433.4               | 1.673                | 0.0051                         | 427.8               | 1.655                | 0.0040                         | 419.6               | 1.632                | -                              | -                   | -                    |
| 120          | 0.0065                         | 440.3               | 1.690                | 0.0055                         | 435.9               | 1.676                | 0.0046                         | 430.3               | 1.659                | 0.0037                         | 422.0               | 1.636                |
| 125          | 0.0068                         | 446.9               | 1.707                | 0.0059                         | 443.1               | 1.694                | 0.0050                         | 438.7               | 1.681                | 0.0042                         | 433.1               | 1.664                |
| 130          | 0.0071                         | 453.3               | 1.723                | 0.0062                         | 450.0               | 1.711                | 0.0054                         | 446.2               | 1.699                | 0.0046                         | 441.8               | 1.686                |
| 135          | 0.0074                         | 459.5               | 1.738                | 0.0064                         | 456.5               | 1.728                | 0.0057                         | 453.2               | 1.717                | 0.0050                         | 449.5               | 1.705                |
| 140          | 0.0076                         | 465.6               | 1.753                | 0.0067                         | 462.9               | 1.743                | 0.0059                         | 459.9               | 1.733                | 0.0052                         | 456.7               | 1.722                |
| 145          | 0.0079                         | 471.6               | 1.768                | 0.0070                         | 469.1               | 1.758                | 0.0062                         | 466.4               | 1.749                | 0.0055                         | 463.5               | 1.739                |
| 150          | 0.0081                         | 477.6               | 1.782                | 0.0072                         | 475.3               | 1.773                | 0.0064                         | 472.8               | 1.764                | 0.0057                         | 470.1               | 1.755                |
| 155          | 0.0083                         | 483.5               | 1.796                | 0.0074                         | 481.3               | 1.787                | 0.0066                         | 479.0               | 1.778                | 0.0060                         | 476.6               | 1.770                |
| 160          | 0.0085                         | 489.4               | 1.809                | 0.0076                         | 487.3               | 1.801                | 0.0068                         | 485.2               | 1.793                | 0.0062                         | 482.9               | 1.784                |
| 165          | 0.0088                         | 495.3               | 1.823                | 0.0078                         | 493.3               | 1.815                | 0.0070                         | 491.3               | 1.807                | 0.0064                         | 489.2               | 1.799                |
| 170          | 0.0090                         | 501.1               | 1.836                | 0.0080                         | 499.3               | 1.828                | 0.0072                         | 497.4               | 1.820                | 0.0066                         | 495.4               | 1.813                |
| 175          | 0.0092                         | 507.0               | 1.849                | 0.0082                         | 505.2               | 1.842                | 0.0074                         | 503.4               | 1.834                | 0.0067                         | 501.5               | 1.827                |
| 180          | 0.0094                         | 512.9               | 1.862                | 0.0084                         | 511.2               | 1.855                | 0.0076                         | 509.4               | 1.847                | 0.0069                         | 507.6               | 1.840                |
| 185          | 0.0096                         | 518.7               | 1.875                | 0.0086                         | 517.1               | 1.868                | 0.0078                         | 515.4               | 1.861                | 0.0071                         | 513.7               | 1.854                |
| 190          | 0.0098                         | 524.6               | 1.888                | 0.0088                         | 523.1               | 1.881                | 0.0080                         | 521.4               | 1.874                | 0.0073                         | 519.8               | 1.867                |
| 195          | 0.0099                         | 530.5               | 1.901                | 0.0090                         | 529.0               | 1.893                | 0.0081                         | 527.5               | 1.887                | 0.0074                         | 525.9               | 1.880                |
| 200          | 0.0101                         | 536.4               | 1.913                | 0.0091                         | 535.0               | 1.906                | 0.0083                         | 533.5               | 1.899                | 0.0076                         | 532.0               | 1.893                |
| 205          | 0.0103                         | 542.4               | 1.926                | 0.0093                         | 541.0               | 1.919                | 0.0085                         | 539.5               | 1.912                | 0.0078                         | 538.1               | 1.906                |
| 210          | 0.0105                         | 548.3               | 1.938                | 0.0095                         | 547.0               | 1.931                | 0.0086                         | 545.6               | 1.925                | 0.0079                         | 544.2               | 1.918                |
| 215          | 0.0107                         | 554.3               | 1.951                | 0.0097                         | 553.0               | 1.944                | 0.0088                         | 551.6               | 1.937                | 0.0081                         | 550.3               | 1.931                |
| 220          | 0.0108                         | 560.4               | 1.963                | 0.0098                         | 559.1               | 1.956                | 0.0090                         | 557.7               | 1.950                | 0.0082                         | 556.4               | 1.943                |
| 225          | 0.0110                         | 566.4               | 1.975                | 0.0100                         | 565.1               | 1.968                | 0.0091                         | 563.9               | 1.962                | 0.0084                         | 562.6               | 1.956                |



**Table 2**  
**R-236fa: Superheated Vapour - Constant Pressure Tables**

| Temp<br>[°C] | Absolute Pressure (kPa)        |                     |                      |                                |                     |                      |                                |                     |                      |                                |                     |                      |
|--------------|--------------------------------|---------------------|----------------------|--------------------------------|---------------------|----------------------|--------------------------------|---------------------|----------------------|--------------------------------|---------------------|----------------------|
|              | 3000 (121.6°C)                 |                     |                      | 3200 (124.9°C)                 |                     |                      |                                |                     |                      |                                |                     |                      |
|              | Volume<br>[m <sup>3</sup> /kg] | Enthalpy<br>[kJ/kg] | Entropy<br>[kJ/K-kg] | Volume<br>[m <sup>3</sup> /kg] | Enthalpy<br>[kJ/kg] | Entropy<br>[kJ/K-kg] | Volume<br>[m <sup>3</sup> /kg] | Enthalpy<br>[kJ/kg] | Entropy<br>[kJ/K-kg] | Volume<br>[m <sup>3</sup> /kg] | Enthalpy<br>[kJ/kg] | Entropy<br>[kJ/K-kg] |
| 125          | 0.0034                         | 425.4               | 1.643                | -                              | -                   | -                    |                                |                     |                      |                                |                     |                      |
| 130          | 0.0040                         | 436.5               | 1.671                | 0.0033                         | 429.4               | 1.651                |                                |                     |                      |                                |                     |                      |
| 135          | 0.0043                         | 445.3               | 1.692                | 0.0037                         | 440.3               | 1.678                |                                |                     |                      |                                |                     |                      |
| 140          | 0.0046                         | 453.1               | 1.711                | 0.0041                         | 449.1               | 1.699                |                                |                     |                      |                                |                     |                      |
| 145          | 0.0049                         | 460.4               | 1.729                | 0.0044                         | 456.9               | 1.718                |                                |                     |                      |                                |                     |                      |
| 150          | 0.0051                         | 467.3               | 1.745                | 0.0046                         | 464.3               | 1.736                |                                |                     |                      |                                |                     |                      |
| 155          | 0.0054                         | 474.0               | 1.761                | 0.0049                         | 471.3               | 1.752                |                                |                     |                      |                                |                     |                      |
| 160          | 0.0056                         | 480.6               | 1.776                | 0.0051                         | 478.1               | 1.768                |                                |                     |                      |                                |                     |                      |
| 165          | 0.0058                         | 487.0               | 1.791                | 0.0053                         | 484.7               | 1.783                |                                |                     |                      |                                |                     |                      |
| 170          | 0.0060                         | 493.3               | 1.805                | 0.0055                         | 491.2               | 1.798                |                                |                     |                      |                                |                     |                      |
| 175          | 0.0062                         | 499.6               | 1.819                | 0.0056                         | 497.6               | 1.812                |                                |                     |                      |                                |                     |                      |
| 180          | 0.0063                         | 505.8               | 1.833                | 0.0058                         | 503.9               | 1.826                |                                |                     |                      |                                |                     |                      |
| 185          | 0.0065                         | 512.0               | 1.847                | 0.0060                         | 510.2               | 1.840                |                                |                     |                      |                                |                     |                      |
| 190          | 0.0067                         | 518.1               | 1.860                | 0.0061                         | 516.5               | 1.854                |                                |                     |                      |                                |                     |                      |
| 195          | 0.0068                         | 524.3               | 1.873                | 0.0063                         | 522.7               | 1.867                |                                |                     |                      |                                |                     |                      |
| 200          | 0.0070                         | 530.4               | 1.886                | 0.0064                         | 528.9               | 1.880                |                                |                     |                      |                                |                     |                      |
| 205          | 0.0071                         | 536.6               | 1.899                | 0.0066                         | 535.1               | 1.893                |                                |                     |                      |                                |                     |                      |
| 210          | 0.0073                         | 542.7               | 1.912                | 0.0067                         | 541.3               | 1.906                |                                |                     |                      |                                |                     |                      |
| 215          | 0.0074                         | 548.9               | 1.925                | 0.0069                         | 547.5               | 1.919                |                                |                     |                      |                                |                     |                      |
| 220          | 0.0076                         | 555.1               | 1.937                | 0.0070                         | 553.7               | 1.932                |                                |                     |                      |                                |                     |                      |
| 225          | 0.0077                         | 561.3               | 1.950                | 0.0072                         | 560.0               | 1.944                |                                |                     |                      |                                |                     |                      |