

Lampiran Dokumentasi Foto Percobaan

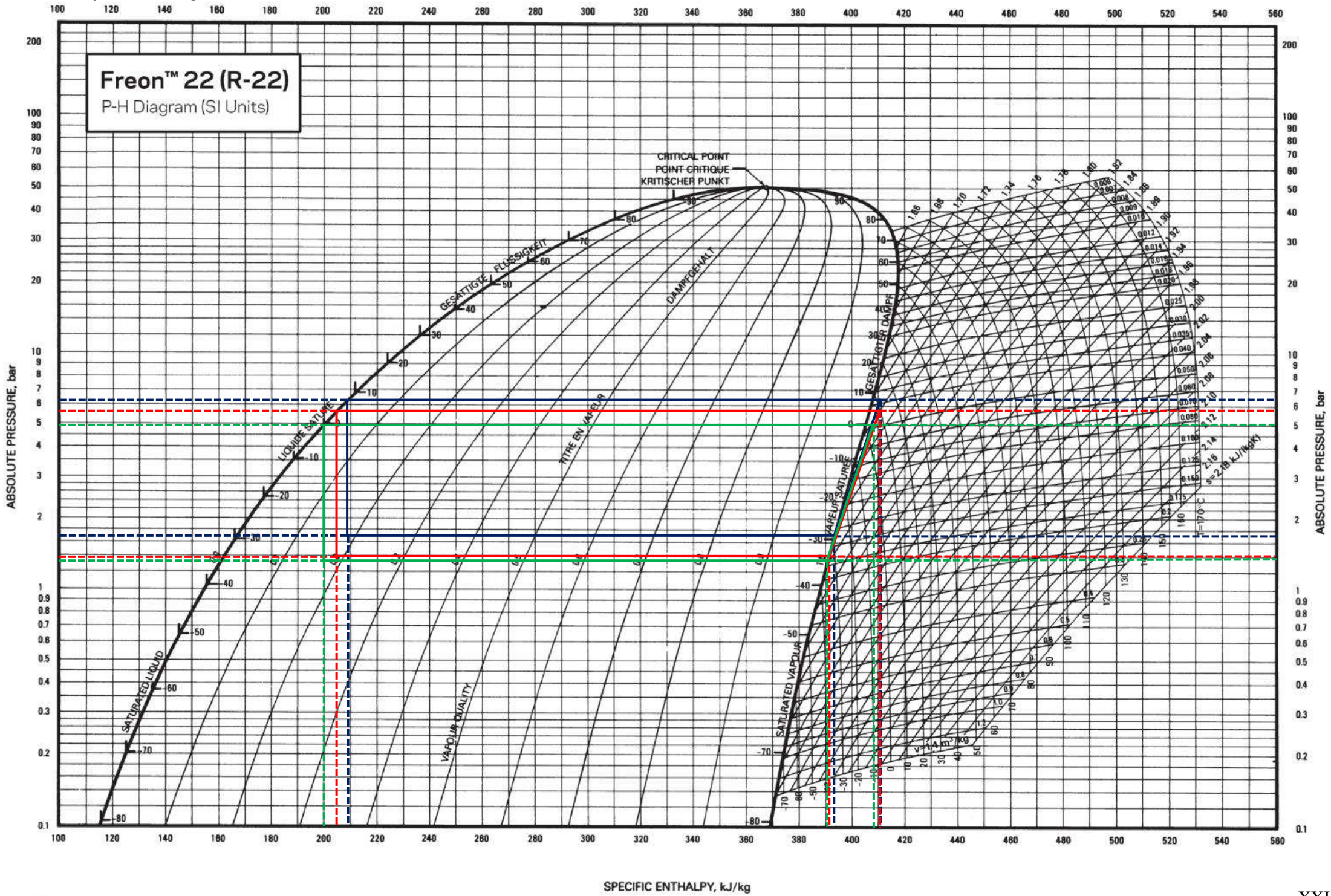








Lampiran P-H Diagram Freon R-22



Absolute Pressure kPa

| Temp °C | Absolute Pressure kPa | | | | | | | | | | | | Temp °C |
|------------|-----------------------|---------|---------|------------|---------|---------|------------|---------|---------|------------|---------|---------|------------|
| | 90 | | | 100 | | | 101.325 | | | 110 | | | |
| | (-43.31°C) | | | (-41.09°C) | | | (-40.81°C) | | | (-39.04°C) | | | |
| | V | H | S | V | H | S | V | H | S | V | H | S | |
| | (0.2375) | (386.6) | (1.831) | (0.2152) | (387.6) | (1.826) | (0.2126) | (387.8) | (1.825) | (0.1969) | (388.6) | (1.821) | |
| -40 | 0.2413 | 388.6 | 1.840 | 0.2164 | 388.3 | 1.829 | 0.2134 | 388.2 | 1.827 | - | - | - | -40 |
| -35 | 0.2471 | 391.6 | 1.852 | 0.2216 | 391.3 | 1.841 | 0.2186 | 391.3 | 1.840 | 0.2008 | 391.0 | 1.831 | -35 |
| -30 | 0.2528 | 394.6 | 1.865 | 0.2268 | 394.4 | 1.854 | 0.2238 | 394.3 | 1.853 | 0.2056 | 394.1 | 1.844 | -30 |
| -25 | 0.2585 | 397.7 | 1.877 | 0.2320 | 397.4 | 1.867 | 0.2289 | 397.4 | 1.865 | 0.2103 | 397.2 | 1.857 | -25 |
| -20 | 0.2642 | 400.8 | 1.890 | 0.2372 | 400.5 | 1.879 | 0.2340 | 400.5 | 1.878 | 0.2150 | 400.3 | 1.869 | -20 |
| -15 | 0.2699 | 403.9 | 1.902 | 0.2423 | 403.6 | 1.891 | 0.2390 | 403.6 | 1.890 | 0.2197 | 403.4 | 1.881 | -15 |
| -10 | 0.2755 | 407.0 | 1.914 | 0.2474 | 406.8 | 1.903 | 0.2441 | 406.7 | 1.902 | 0.2244 | 406.6 | 1.893 | -10 |
| -5 | 0.2811 | 410.1 | 1.926 | 0.2524 | 409.9 | 1.915 | 0.2491 | 409.9 | 1.914 | 0.2290 | 409.7 | 1.905 | -5 |
| 0 | 0.2867 | 413.3 | 1.937 | 0.2575 | 413.1 | 1.927 | 0.2541 | 413.1 | 1.925 | 0.2336 | 412.9 | 1.917 | 0 |
| 5 | 0.2923 | 416.5 | 1.949 | 0.2625 | 416.3 | 1.938 | 0.2590 | 416.3 | 1.937 | 0.2382 | 416.1 | 1.929 | 5 |
| 10 | 0.2978 | 419.7 | 1.960 | 0.2676 | 419.5 | 1.950 | 0.2640 | 419.5 | 1.948 | 0.2428 | 419.4 | 1.940 | 10 |
| 15 | 0.3034 | 422.9 | 1.972 | 0.2726 | 422.8 | 1.961 | 0.2689 | 422.8 | 1.960 | 0.2474 | 422.6 | 1.952 | 15 |
| 20 | 0.3089 | 426.2 | 1.983 | 0.2776 | 426.0 | 1.972 | 0.2739 | 426.0 | 1.971 | 0.2519 | 425.9 | 1.963 | 20 |
| 25 | 0.3144 | 429.5 | 1.994 | 0.2826 | 429.3 | 1.984 | 0.2788 | 429.3 | 1.982 | 0.2565 | 429.2 | 1.974 | 25 |
| 30 | 0.3199 | 432.8 | 2.005 | 0.2875 | 432.7 | 1.995 | 0.2837 | 432.6 | 1.993 | 0.2610 | 432.5 | 1.985 | 30 |
| 35 | 0.3254 | 436.1 | 2.016 | 0.2925 | 436.0 | 2.006 | 0.2886 | 436.0 | 2.004 | 0.2655 | 435.9 | 1.996 | 35 |
| 40 | 0.3309 | 439.5 | 2.027 | 0.2974 | 439.4 | 2.016 | 0.2935 | 439.4 | 2.015 | 0.2701 | 439.3 | 2.007 | 40 |
| 45 | 0.3364 | 442.9 | 2.038 | 0.3024 | 442.8 | 2.027 | 0.2984 | 442.8 | 2.026 | 0.2746 | 442.7 | 2.018 | 45 |
| 50 | 0.3419 | 446.3 | 2.048 | 0.3073 | 446.2 | 2.038 | 0.3033 | 446.2 | 2.037 | 0.2791 | 446.1 | 2.028 | 50 |
| 55 | 0.3473 | 449.8 | 2.059 | 0.3123 | 449.7 | 2.048 | 0.3081 | 449.6 | 2.047 | 0.2836 | 449.5 | 2.039 | 55 |
| 60 | 0.3528 | 453.2 | 2.069 | 0.3172 | 453.1 | 2.059 | 0.3130 | 453.1 | 2.058 | 0.2881 | 453.0 | 2.050 | 60 |
| 65 | 0.3582 | 456.7 | 2.080 | 0.3221 | 456.6 | 2.069 | 0.3179 | 456.6 | 2.068 | 0.2925 | 456.5 | 2.060 | 65 |
| 70 | 0.3637 | 460.3 | 2.090 | 0.3270 | 460.2 | 2.080 | 0.3227 | 460.2 | 2.078 | 0.2970 | 460.1 | 2.070 | 70 |
| 75 | 0.3691 | 463.8 | 2.100 | 0.3319 | 463.7 | 2.090 | 0.3276 | 463.7 | 2.089 | 0.3015 | 463.6 | 2.081 | 75 |
| 80 | 0.3746 | 467.4 | 2.111 | 0.3368 | 467.3 | 2.100 | 0.3324 | 467.3 | 2.099 | 0.3060 | 467.2 | 2.091 | 80 |
| 85 | 0.3800 | 471.0 | 2.121 | 0.3417 | 470.9 | 2.110 | 0.3372 | 470.9 | 2.109 | 0.3104 | 470.8 | 2.101 | 85 |
| 90 | 0.3854 | 474.6 | 2.131 | 0.3466 | 474.5 | 2.120 | 0.3421 | 474.5 | 2.119 | 0.3149 | 474.4 | 2.111 | 90 |
| 95 | 0.3909 | 478.3 | 2.141 | 0.3515 | 478.2 | 2.130 | 0.3437 | 478.2 | 2.129 | 0.3194 | 478.1 | 2.121 | 95 |
| 100 | 0.3963 | 482.0 | 2.151 | 0.3564 | 481.9 | 2.140 | 0.3517 | 481.9 | 2.139 | 0.3238 | 481.8 | 2.131 | 100 |
| 105 | 0.4017 | 485.7 | 2.161 | 0.3613 | 485.6 | 2.150 | 0.3565 | 485.6 | 2.149 | 0.3282 | 485.5 | 2.141 | 105 |
| 110 | 0.4071 | 489.4 | 2.170 | 0.3662 | 489.3 | 2.160 | 0.3614 | 489.3 | 2.159 | 0.3327 | 489.2 | 2.151 | 110 |

Absolute Pressure kPa

| Temp °C | Absolute Pressure kPa | | | | | | | | | | | | Temp °C |
|------------|-----------------------|---------|----------|------------|---------|----------|------------|---------|----------|------------|---------|-------|------------|
| | 120 | | | 130 | | | 140 | | | 150 | | | |
| | (-37.13°C) | | | (-35.35°C) | | | (-33.67°C) | | | (-32.08°C) | | | |
| | V | H | S | V | H | S | V | H | S | V | H | S | |
| (0.1815) | (389.5) | (1.817) | (0.1684) | (390.3) | (1.813) | (0.1571) | (391.0) | (1.809) | (0.1473) | (391.8) | (1.806) | | |
| -35 | 0.1834 | 390.8 | 1.822 | 0.1687 | 390.5 | 1.814 | - | - | - | - | - | - | -35 |
| -30 | 0.1878 | 393.9 | 1.835 | 0.1728 | 393.6 | 1.827 | 0.1599 | 393.3 | 1.819 | 0.1488 | 393.1 | 1.811 | -30 |
| -25 | 0.1922 | 397.0 | 1.848 | 0.1769 | 396.7 | 1.839 | 0.1637 | 396.5 | 1.831 | 0.1524 | 396.2 | 1.824 | -25 |
| -20 | 0.1965 | 400.1 | 1.860 | 0.1809 | 399.8 | 1.852 | 0.1675 | 399.6 | 1.844 | 0.1559 | 399.4 | 1.837 | -20 |
| -15 | 0.2009 | 403.2 | 1.872 | 0.1849 | 403.0 | 1.864 | 0.1713 | 402.8 | 1.856 | 0.1595 | 402.6 | 1.849 | -15 |
| -10 | 0.2052 | 406.4 | 1.884 | 0.1889 | 406.2 | 1.876 | 0.1750 | 406.0 | 1.869 | 0.1630 | 405.7 | 1.861 | -10 |
| -5 | 0.2094 | 409.5 | 1.896 | 0.1929 | 409.3 | 1.888 | 0.1787 | 409.2 | 1.881 | 0.1664 | 409.0 | 1.873 | -5 |
| 0 | 0.2137 | 412.7 | 1.908 | 0.1969 | 412.6 | 1.900 | 0.1824 | 412.4 | 1.892 | 0.1699 | 412.2 | 1.885 | 0 |
| 5 | 0.2179 | 416.0 | 1.920 | 0.2008 | 415.8 | 1.912 | 0.1861 | 415.6 | 1.904 | 0.1733 | 415.4 | 1.897 | 5 |
| 10 | 0.2222 | 419.2 | 1.931 | 0.2047 | 419.0 | 1.923 | 0.1897 | 418.9 | 1.916 | 0.1768 | 418.7 | 1.909 | 10 |
| 15 | 0.2264 | 422.5 | 1.943 | 0.2086 | 422.3 | 1.935 | 0.1934 | 422.1 | 1.927 | 0.1802 | 422.0 | 1.920 | 15 |
| 20 | 0.2306 | 425.7 | 1.954 | 0.2125 | 425.6 | 1.946 | 0.1970 | 425.4 | 1.939 | 0.1836 | 425.3 | 1.932 | 20 |
| 25 | 0.2348 | 429.1 | 1.965 | 0.2164 | 428.9 | 1.957 | 0.2006 | 428.8 | 1.950 | 0.1870 | 428.6 | 1.943 | 25 |
| 30 | 0.2389 | 432.4 | 1.976 | 0.2202 | 432.2 | 1.968 | 0.2042 | 432.1 | 1.961 | 0.1903 | 432.0 | 1.954 | 30 |
| 35 | 0.2431 | 435.7 | 1.987 | 0.2241 | 435.6 | 1.979 | 0.2078 | 435.5 | 1.972 | 0.1937 | 435.3 | 1.965 | 35 |
| 40 | 0.2473 | 439.1 | 1.998 | 0.2279 | 439.0 | 1.990 | 0.2114 | 438.9 | 1.983 | 0.1971 | 438.7 | 1.976 | 40 |
| 45 | 0.2514 | 442.5 | 2.009 | 0.2318 | 442.4 | 2.001 | 0.2150 | 442.3 | 1.994 | 0.2004 | 442.2 | 1.987 | 45 |
| 50 | 0.2555 | 446.0 | 2.020 | 0.2356 | 445.9 | 2.012 | 0.2185 | 445.7 | 2.004 | 0.2037 | 445.6 | 1.998 | 50 |
| 55 | 0.2597 | 449.4 | 2.030 | 0.2394 | 449.3 | 2.023 | 0.2221 | 449.2 | 2.015 | 0.2071 | 449.1 | 2.008 | 55 |
| 60 | 0.2638 | 452.9 | 2.041 | 0.2433 | 452.8 | 2.033 | 0.2257 | 452.7 | 2.026 | 0.2104 | 452.6 | 2.019 | 60 |
| 65 | 0.2679 | 456.4 | 2.051 | 0.2471 | 456.3 | 2.044 | 0.2292 | 456.2 | 2.036 | 0.2137 | 456.1 | 2.029 | 65 |
| 70 | 0.2720 | 460.0 | 2.062 | 0.2509 | 459.9 | 2.054 | 0.2327 | 459.8 | 2.047 | 0.2170 | 459.7 | 2.040 | 70 |
| 75 | 0.2761 | 463.5 | 2.072 | 0.2547 | 463.4 | 2.064 | 0.2363 | 463.3 | 2.057 | 0.2203 | 463.2 | 2.050 | 75 |
| 80 | 0.2802 | 467.1 | 2.082 | 0.2585 | 467.0 | 2.074 | 0.2398 | 466.9 | 2.067 | 0.2236 | 466.8 | 2.060 | 80 |
| 85 | 0.2843 | 470.7 | 2.093 | 0.2623 | 470.6 | 2.085 | 0.2433 | 470.5 | 2.077 | 0.2269 | 470.4 | 2.071 | 85 |
| 90 | 0.2884 | 474.4 | 2.103 | 0.2660 | 474.3 | 2.095 | 0.2469 | 474.2 | 2.087 | 0.2302 | 474.1 | 2.081 | 90 |
| 95 | 0.2925 | 478.1 | 2.113 | 0.2698 | 478.0 | 2.105 | 0.2504 | 477.9 | 2.097 | 0.2335 | 477.8 | 2.091 | 95 |
| 100 | 0.2966 | 481.7 | 2.123 | 0.2736 | 481.6 | 2.115 | 0.2539 | 481.5 | 2.107 | 0.2368 | 481.5 | 2.101 | 100 |
| 105 | 0.3007 | 485.4 | 2.132 | 0.2774 | 485.3 | 2.125 | 0.2574 | 485.3 | 2.117 | 0.2401 | 485.2 | 2.111 | 105 |
| 110 | 0.3048 | 489.2 | 2.142 | 0.2812 | 489.1 | 2.134 | 0.2609 | 489.0 | 2.127 | 0.2434 | 488.9 | 2.120 | 110 |
| 115 | 0.3089 | 492.9 | 2.152 | 0.2849 | 492.8 | 2.144 | 0.2644 | 492.8 | 2.137 | 0.2466 | 492.7 | 2.130 | 115 |

Absolute Pressure kPa

| Temp °C | 160 | | | 170 | | | 180 | | | 190 | | | Temp °C |
|------------|------------|---------|---------|------------|---------|---------|------------|---------|---------|------------|---------|---------|------------|
| | (-30.57°C) | | | (-29.13°C) | | | (-27.76°C) | | | (-26.44°C) | | | |
| | V | H | S | V | H | S | V | H | S | V | H | S | |
| | (0.1386) | (392.4) | (1.803) | (0.1309) | (393.1) | (1.800) | (0.1241) | (393.7) | (1.797) | (0.1179) | (394.3) | (1.795) | |
| -30 | 0.1390 | 392.8 | 1.804 | - | - | - | - | - | - | - | - | - | -30 |
| -25 | 0.1424 | 396.0 | 1.817 | 0.1336 | 395.7 | 1.810 | 0.1258 | 395.5 | 1.804 | 0.1188 | 395.2 | 1.798 | -25 |
| -20 | 0.1458 | 399.1 | 1.830 | 0.1368 | 398.9 | 1.823 | 0.1288 | 398.7 | 1.817 | 0.1217 | 398.4 | 1.811 | -20 |
| -15 | 0.1491 | 402.3 | 1.842 | 0.1400 | 402.1 | 1.836 | 0.1318 | 401.9 | 1.830 | 0.1245 | 401.7 | 1.824 | -15 |
| -10 | 0.1524 | 405.5 | 1.855 | 0.1431 | 405.3 | 1.848 | 0.1348 | 405.1 | 1.842 | 0.1274 | 404.9 | 1.836 | -10 |
| -5 | 0.1557 | 408.8 | 1.867 | 0.1462 | 408.6 | 1.860 | 0.1378 | 408.4 | 1.854 | 0.1302 | 408.2 | 1.848 | -5 |
| 0 | 0.1589 | 412.0 | 1.879 | 0.1493 | 411.8 | 1.872 | 0.1407 | 411.6 | 1.866 | 0.1330 | 411.4 | 1.861 | 0 |
| 5 | 0.1622 | 415.3 | 1.890 | 0.1523 | 415.1 | 1.884 | 0.1436 | 414.9 | 1.878 | 0.1358 | 414.7 | 1.872 | 5 |
| 10 | 0.1654 | 418.5 | 1.902 | 0.1554 | 418.4 | 1.896 | 0.1465 | 418.2 | 1.890 | 0.1385 | 418.0 | 1.884 | 10 |
| 15 | 0.1686 | 421.8 | 1.914 | 0.1584 | 421.7 | 1.907 | 0.1494 | 421.5 | 1.901 | 0.1413 | 421.3 | 1.896 | 15 |
| 20 | 0.1718 | 425.1 | 1.925 | 0.1615 | 425.0 | 1.919 | 0.1522 | 424.8 | 1.913 | 0.1440 | 424.7 | 1.907 | 20 |
| 25 | 0.1750 | 428.5 | 1.936 | 0.1645 | 428.3 | 1.930 | 0.1551 | 428.2 | 1.924 | 0.1467 | 428.0 | 1.919 | 25 |
| 30 | 0.1782 | 431.8 | 1.947 | 0.1675 | 431.7 | 1.941 | 0.1579 | 431.6 | 1.935 | 0.1494 | 431.4 | 1.930 | 30 |
| 35 | 0.1813 | 435.2 | 1.959 | 0.1705 | 435.1 | 1.952 | 0.1608 | 434.9 | 1.947 | 0.1521 | 434.8 | 1.941 | 35 |
| 40 | 0.1845 | 438.6 | 1.970 | 0.1734 | 438.5 | 1.963 | 0.1636 | 438.4 | 1.958 | 0.1548 | 438.2 | 1.952 | 40 |
| 45 | 0.1877 | 442.0 | 1.980 | 0.1764 | 441.9 | 1.974 | 0.1664 | 441.8 | 1.968 | 0.1575 | 441.7 | 1.963 | 45 |
| 50 | 0.1908 | 445.5 | 1.991 | 0.1794 | 445.4 | 1.985 | 0.1692 | 445.3 | 1.979 | 0.1601 | 445.1 | 1.974 | 50 |
| 55 | 0.1939 | 449.0 | 2.002 | 0.1823 | 448.9 | 1.996 | 0.1720 | 448.8 | 1.990 | 0.1628 | 448.6 | 1.985 | 55 |
| 60 | 0.1970 | 452.5 | 2.012 | 0.1853 | 452.4 | 2.006 | 0.1748 | 452.3 | 2.001 | 0.1654 | 452.2 | 1.995 | 60 |
| 65 | 0.2002 | 456.0 | 2.023 | 0.1882 | 455.9 | 2.017 | 0.1776 | 455.8 | 2.011 | 0.1681 | 455.7 | 2.006 | 65 |
| 70 | 0.2033 | 459.6 | 2.033 | 0.1911 | 459.5 | 2.027 | 0.1804 | 459.4 | 2.022 | 0.1707 | 459.3 | 2.016 | 70 |
| 75 | 0.2064 | 463.1 | 2.044 | 0.1941 | 463.0 | 2.038 | 0.1831 | 462.9 | 2.032 | 0.1733 | 462.8 | 2.027 | 75 |
| 80 | 0.2095 | 466.7 | 2.054 | 0.1970 | 466.6 | 2.048 | 0.1859 | 466.5 | 2.042 | 0.1760 | 466.4 | 2.037 | 80 |
| 85 | 0.2126 | 470.4 | 2.064 | 0.1999 | 470.3 | 2.058 | 0.1887 | 470.2 | 2.052 | 0.1786 | 470.1 | 2.047 | 85 |
| 90 | 0.2157 | 474.0 | 2.074 | 0.2028 | 473.9 | 2.068 | 0.1914 | 473.8 | 2.063 | 0.1812 | 473.7 | 2.057 | 90 |
| 95 | 0.2188 | 477.7 | 2.084 | 0.2058 | 477.6 | 2.078 | 0.1941 | 477.5 | 2.073 | 0.1838 | 477.4 | 2.067 | 95 |
| 100 | 0.2219 | 481.4 | 2.094 | 0.2087 | 481.3 | 2.088 | 0.1969 | 481.2 | 2.083 | 0.1864 | 481.1 | 2.077 | 100 |
| 105 | 0.2249 | 485.1 | 2.104 | 0.2116 | 485.0 | 2.098 | 0.1997 | 484.9 | 2.093 | 0.1891 | 484.9 | 2.087 | 105 |
| 110 | 0.2280 | 488.8 | 2.114 | 0.2145 | 488.8 | 2.108 | 0.2024 | 488.7 | 2.102 | 0.1917 | 488.6 | 2.097 | 110 |
| 115 | 0.2311 | 492.6 | 2.124 | 0.2174 | 492.5 | 2.118 | 0.2052 | 492.5 | 2.112 | 0.1943 | 492.4 | 2.107 | 115 |
| 120 | 0.2342 | 496.4 | 2.133 | 0.2203 | 496.3 | 2.128 | 0.2079 | 496.3 | 2.122 | 0.1969 | 496.2 | 2.117 | 120 |

Lampiran Tabel Saturated Freon R-22

| Temp °C | Pressure [kPa] | Volume [m ³ /kg] | | Density [kg/m ³] | | Enthalpy [kJ/kg] | | | Entropy [kJ/K·kg] | | Temp °C |
|------------|-------------------|--------------------------------|--------------------------|---------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|------------|
| | | Liquid v _l | Vapour v _g | Liquid d _l | Vapour d _g | Liquid H _l | Latent H ₀ | Vapour H _g | Liquid S _l | Vapour S _g | |
| -46 | 78.9 | 0.0007 | 0.2684 | 1424.0 | 3.726 | 148.4 | 236.9 | 385.3 | 0.794 | 1.838 | -46 |
| -45 | 82.9 | 0.0007 | 0.2563 | 1421.0 | 3.901 | 149.4 | 236.4 | 385.8 | 0.799 | 1.835 | -45 |
| -44 | 87.1 | 0.0007 | 0.2450 | 1418.0 | 4.082 | 150.5 | 235.8 | 386.3 | 0.804 | 1.833 | -44 |
| -43 | 91.3 | 0.0007 | 0.2342 | 1416.0 | 4.270 | 151.6 | 235.1 | 386.7 | 0.809 | 1.830 | -43 |
| -42 | 95.8 | 0.0007 | 0.2240 | 1413.0 | 4.464 | 152.7 | 234.5 | 387.2 | 0.813 | 1.828 | -42 |
| -41 | 100.4 | 0.0007 | 0.2144 | 1410.0 | 4.665 | 153.8 | 233.9 | 387.7 | 0.818 | 1.825 | -41 |
| -40 | 105.2 | 0.0007 | 0.2052 | 1407.0 | 4.873 | 154.9 | 233.2 | 388.1 | 0.823 | 1.823 | -40 |
| -39 | 110.2 | 0.0007 | 0.1965 | 1404.0 | 5.088 | 156.0 | 232.6 | 388.6 | 0.827 | 1.821 | -39 |
| -38 | 115.4 | 0.0007 | 0.1883 | 1401.0 | 5.311 | 157.1 | 232.0 | 389.1 | 0.832 | 1.819 | -38 |
| -37 | 120.7 | 0.0007 | 0.1805 | 1398.0 | 5.541 | 158.2 | 231.3 | 389.5 | 0.837 | 1.816 | -37 |
| -36 | 126.3 | 0.0007 | 0.1730 | 1395.0 | 5.779 | 159.3 | 230.7 | 390.0 | 0.841 | 1.814 | -36 |
| -35 | 132.0 | 0.0007 | 0.1660 | 1392.0 | 6.025 | 160.4 | 230.0 | 390.4 | 0.846 | 1.812 | -35 |
| -34 | 138.0 | 0.0007 | 0.1593 | 1389.0 | 6.279 | 161.5 | 229.4 | 390.9 | 0.851 | 1.810 | -34 |
| -33 | 144.1 | 0.0007 | 0.1529 | 1386.0 | 6.541 | 162.6 | 228.7 | 391.3 | 0.855 | 1.808 | -33 |
| -32 | 150.5 | 0.0007 | 0.1468 | 1383.0 | 6.811 | 163.7 | 228.1 | 391.8 | 0.860 | 1.806 | -32 |
| -31 | 157.1 | 0.0007 | 0.1410 | 1380.0 | 7.090 | 164.8 | 227.4 | 392.2 | 0.864 | 1.804 | -31 |
| -30 | 163.9 | 0.0007 | 0.1355 | 1377.0 | 7.379 | 165.9 | 226.8 | 392.7 | 0.869 | 1.802 | -30 |
| -29 | 170.9 | 0.0007 | 0.1303 | 1374.0 | 7.676 | 167.0 | 226.1 | 393.1 | 0.873 | 1.800 | -29 |
| -28 | 178.2 | 0.0007 | 0.1253 | 1371.0 | 7.982 | 168.1 | 225.5 | 393.6 | 0.878 | 1.798 | -28 |
| -27 | 185.7 | 0.0007 | 0.1205 | 1368.0 | 8.298 | 169.2 | 224.8 | 394.0 | 0.882 | 1.796 | -27 |
| -26 | 193.4 | 0.0007 | 0.1160 | 1365.0 | 8.623 | 170.3 | 224.2 | 394.5 | 0.887 | 1.794 | -26 |
| -25 | 201.4 | 0.0007 | 0.1116 | 1362.0 | 8.958 | 171.4 | 223.5 | 394.9 | 0.891 | 1.792 | -25 |
| -24 | 209.7 | 0.0007 | 0.1075 | 1359.0 | 9.304 | 172.6 | 222.7 | 395.3 | 0.896 | 1.790 | -24 |
| -23 | 218.2 | 0.0007 | 0.1035 | 1356.0 | 9.659 | 173.7 | 222.1 | 395.8 | 0.900 | 1.788 | -23 |
| -22 | 227.0 | 0.0007 | 0.0998 | 1353.0 | 10.030 | 174.8 | 221.4 | 396.2 | 0.905 | 1.786 | -22 |
| -21 | 236.0 | 0.0007 | 0.0961 | 1350.0 | 10.400 | 175.9 | 220.7 | 396.6 | 0.909 | 1.784 | -21 |
| -20 | 245.3 | 0.0007 | 0.0927 | 1347.0 | 10.790 | 177.0 | 220.1 | 397.1 | 0.914 | 1.783 | -20 |
| -19 | 254.9 | 0.0007 | 0.0894 | 1343.0 | 11.190 | 178.2 | 219.3 | 397.5 | 0.918 | 1.781 | -19 |
| -18 | 264.8 | 0.0008 | 0.0862 | 1340.0 | 11.600 | 179.3 | 218.6 | 397.9 | 0.922 | 1.779 | -18 |
| -17 | 275.0 | 0.0008 | 0.0832 | 1337.0 | 12.020 | 180.4 | 217.9 | 398.3 | 0.927 | 1.777 | -17 |
| -16 | 285.4 | 0.0008 | 0.0803 | 1334.0 | 12.450 | 181.6 | 217.1 | 398.7 | 0.931 | 1.776 | -16 |
| -15 | 296.2 | 0.0008 | 0.0775 | 1331.0 | 12.900 | 182.7 | 216.5 | 399.2 | 0.935 | 1.774 | -15 |
| -14 | 307.3 | 0.0008 | 0.0749 | 1328.0 | 13.360 | 183.8 | 215.8 | 399.6 | 0.940 | 1.772 | -14 |
| -13 | 318.7 | 0.0008 | 0.0723 | 1324.0 | 13.830 | 185.0 | 215.0 | 400.0 | 0.944 | 1.771 | -13 |
| -12 | 330.4 | 0.0008 | 0.0699 | 1321.0 | 14.310 | 186.1 | 214.3 | 400.4 | 0.949 | 1.769 | -12 |
| -11 | 342.4 | 0.0008 | 0.0675 | 1318.0 | 14.810 | 187.3 | 213.5 | 400.8 | 0.953 | 1.767 | -11 |
| -10 | 354.8 | 0.0008 | 0.0653 | 1315.0 | 15.320 | 188.4 | 212.8 | 401.2 | 0.957 | 1.766 | -10 |
| -9 | 367.5 | 0.0008 | 0.0631 | 1311.0 | 15.850 | 189.6 | 212.0 | 401.6 | 0.962 | 1.764 | -9 |
| -8 | 380.5 | 0.0008 | 0.0610 | 1308.0 | 16.380 | 190.7 | 211.3 | 402.0 | 0.966 | 1.763 | -8 |
| -7 | 393.9 | 0.0008 | 0.0590 | 1305.0 | 16.940 | 191.9 | 210.5 | 402.4 | 0.970 | 1.761 | -7 |
| -6 | 407.7 | 0.0008 | 0.0571 | 1302.0 | 17.500 | 193.0 | 209.8 | 402.8 | 0.974 | 1.760 | -6 |
| -5 | 421.8 | 0.0008 | 0.0553 | 1298.0 | 18.090 | 194.2 | 209.0 | 403.2 | 0.979 | 1.758 | -5 |
| -4 | 436.3 | 0.0008 | 0.0535 | 1295.0 | 18.680 | 195.3 | 208.2 | 403.5 | 0.983 | 1.757 | -4 |
| -3 | 451.1 | 0.0008 | 0.0518 | 1292.0 | 19.300 | 196.5 | 207.4 | 403.9 | 0.987 | 1.755 | -3 |
| -2 | 466.4 | 0.0008 | 0.0502 | 1288.0 | 19.920 | 197.7 | 206.6 | 404.3 | 0.992 | 1.754 | -2 |
| -1 | 482.0 | 0.0008 | 0.0486 | 1285.0 | 20.570 | 198.8 | 205.9 | 404.7 | 0.996 | 1.752 | -1 |
| 0 | 498.0 | 0.0008 | 0.0471 | 1282.0 | 21.230 | 200.0 | 205.0 | 405.0 | 1.000 | 1.751 | 0 |
| 1 | 514.4 | 0.0008 | 0.0457 | 1278.0 | 21.910 | 201.2 | 204.2 | 405.4 | 1.004 | 1.749 | 1 |
| 2 | 531.2 | 0.0008 | 0.0442 | 1275.0 | 22.600 | 202.4 | 203.4 | 405.8 | 1.008 | 1.748 | 2 |
| 3 | 548.4 | 0.0008 | 0.0429 | 1271.0 | 23.310 | 203.5 | 202.6 | 406.1 | 1.013 | 1.746 | 3 |
| 4 | 566.1 | 0.0008 | 0.0416 | 1268.0 | 24.040 | 204.7 | 201.8 | 406.5 | 1.017 | 1.745 | 4 |
| 5 | 584.1 | 0.0008 | 0.0403 | 1264.0 | 24.790 | 205.9 | 200.9 | 406.8 | 1.021 | 1.744 | 5 |
| 6 | 602.6 | 0.0008 | 0.0391 | 1261.0 | 25.560 | 207.1 | 200.1 | 407.2 | 1.025 | 1.742 | 6 |
| 7 | 621.5 | 0.0008 | 0.0380 | 1257.0 | 26.340 | 208.3 | 199.2 | 407.5 | 1.030 | 1.741 | 7 |