

TEMPERATURE - PRESSURE CHART

REFRIGERATION



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At Sea Level, psig

| TEMP. | | REFRIGERANT TYPE (SAFETY CLASS) REFRIGERANT (SPORLAN LETTER CODE) | | | | | | | |
|-------|-------|--|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|--------------------|
| °F | °C | HCFC (A1) 22(V) | HFC (A1) 407A(N) | HFC (A1) 407C(N) | HFC (A1) 407F(N) | HFC (A1) 404A(S) | HFO (A1) 448A(D) | HFO (A1) 449A(D) | HFC (A1) 507(P) |
| -50 | -45.6 | 6.1 | 9.0 | 11.0 | 7.8 | 0.1 | 7.4 | 7.3 | 0.9 |
| -45 | -42.8 | 2.7 | 5.7 | 8.0 | 4.4 | 2.0 | 3.9 | 3.8 | 3.0 |
| -40 | -40.0 | 0.6 | 2.0 | 4.6 | 0.5 | 4.3 | 0.1 | 0.0 | 5.4 |
| -35 | -37.2 | 2.6 | 1.0 | 0.9 | 1.9 | 6.8 | 2.1 | 2.1 | 8.1 |
| -30 | -34.4 | 4.9 | 3.3 | 1.6 | 4.2 | 9.6 | 4.4 | 4.4 | 11.0 |
| -29 | -33.9 | 5.4 | 3.7 | 2.1 | 4.7 | 10.2 | 4.9 | 4.9 | 11.6 |
| -28 | -33.3 | 5.9 | 4.2 | 2.5 | 5.2 | 10.8 | 5.4 | 5.4 | 12.2 |
| -27 | -32.8 | 6.4 | 4.7 | 3.0 | 5.8 | 11.4 | 5.9 | 6.0 | 12.8 |
| -26 | -32.2 | 6.9 | 5.2 | 3.5 | 6.3 | 12.0 | 6.4 | 6.5 | 13.5 |
| -25 | -31.7 | 7.4 | 5.8 | 3.9 | 6.8 | 12.7 | 7.0 | 7.0 | 14.1 |
| -24 | -31.1 | 8.0 | 6.3 | 4.4 | 7.4 | 13.3 | 7.5 | 7.6 | 14.8 |
| -23 | -30.6 | 8.5 | 6.8 | 4.9 | 7.9 | 14.0 | 8.1 | 8.1 | 15.5 |
| -22 | -30.0 | 9.1 | 7.4 | 5.4 | 8.5 | 14.6 | 8.7 | 8.7 | 16.2 |
| -21 | -29.4 | 9.6 | 7.9 | 5.9 | 9.1 | 15.3 | 9.2 | 9.3 | 16.9 |
| -20 | -28.9 | 10.2 | 8.5 | 6.5 | 9.7 | 16.0 | 9.8 | 9.9 | 17.6 |
| -19 | -28.3 | 10.8 | 9.1 | 7.0 | 10.3 | 16.7 | 10.4 | 10.5 | 18.3 |
| -18 | -27.8 | 11.4 | 9.7 | 7.6 | 10.9 | 17.4 | 11.1 | 11.1 | 19.1 |
| -17 | -27.2 | 12.0 | 10.3 | 8.1 | 11.6 | 18.2 | 11.7 | 11.7 | 19.8 |
| -16 | -26.7 | 12.6 | 10.9 | 8.7 | 12.2 | 18.9 | 12.3 | 12.3 | 20.6 |
| -15 | -26.1 | 13.2 | 11.5 | 9.3 | 12.9 | 19.7 | 13.0 | 13.0 | 21.4 |
| -14 | -25.6 | 13.9 | 12.2 | 9.9 | 13.6 | 20.4 | 13.6 | 13.7 | 22.2 |
| -13 | -25.0 | 14.5 | 12.8 | 10.5 | 14.2 | 21.2 | 14.3 | 14.3 | 23.0 |
| -12 | -24.4 | 15.2 | 13.5 | 11.1 | 14.9 | 22.0 | 15.0 | 15.0 | 23.8 |
| -11 | -23.9 | 15.9 | 14.2 | 11.7 | 15.7 | 22.8 | 15.7 | 15.7 | 24.7 |
| -10 | -23.3 | 16.5 | 14.9 | 12.3 | 16.4 | 23.6 | 16.4 | 16.4 | 25.5 |
| -9 | -22.8 | 17.2 | 15.6 | 13.0 | 17.1 | 24.5 | 17.1 | 17.1 | 26.4 |
| -8 | -22.2 | 17.9 | 16.3 | 13.7 | 17.9 | 25.3 | 17.9 | 17.9 | 27.3 |
| -7 | -21.7 | 18.7 | 17.0 | 14.3 | 18.6 | 26.2 | 18.6 | 18.6 | 28.2 |
| -6 | -21.1 | 19.4 | 17.8 | 15.0 | 19.4 | 27.0 | 19.4 | 19.4 | 29.1 |
| -5 | -20.6 | 20.1 | 18.5 | 15.7 | 20.2 | 27.9 | 20.2 | 20.2 | 30.0 |
| -4 | -20.0 | 20.9 | 19.3 | 16.4 | 21.0 | 28.8 | 21.0 | 21.0 | 30.9 |
| -3 | -19.4 | 21.7 | 20.1 | 17.2 | 21.8 | 29.8 | 21.8 | 21.8 | 31.9 |
| -2 | -18.9 | 22.4 | 20.9 | 17.9 | 22.7 | 30.7 | 22.6 | 22.6 | 32.8 |
| -1 | -18.3 | 23.2 | 21.7 | 18.7 | 23.5 | 31.6 | 23.4 | 23.4 | 33.8 |
| 0 | -17.8 | 24.0 | 22.5 | 19.4 | 24.4 | 32.6 | 24.3 | 24.3 | 34.8 |
| 1 | -17.2 | 24.9 | 23.4 | 20.2 | 25.3 | 33.6 | 25.2 | 25.1 | 35.8 |
| 2 | -16.7 | 25.7 | 24.2 | 21.0 | 26.2 | 34.6 | 26.0 | 26.0 | 36.9 |
| 3 | -16.1 | 26.5 | 25.1 | 21.8 | 27.1 | 35.6 | 26.9 | 26.9 | 37.9 |
| 4 | -15.6 | 27.4 | 26.0 | 22.6 | 28.0 | 36.6 | 27.8 | 27.8 | 39.0 |
| 5 | -15.0 | 28.3 | 26.9 | 23.5 | 28.9 | 37.7 | 28.8 | 28.7 | 40.1 |
| 6 | -14.4 | 29.2 | 27.8 | 24.3 | 29.9 | 38.7 | 29.7 | 29.7 | 41.1 |
| 7 | -13.9 | 30.1 | 28.7 | 25.2 | 30.9 | 39.8 | 30.7 | 30.6 | 42.3 |
| 8 | -13.3 | 31.0 | 29.7 | 26.1 | 31.9 | 40.9 | 31.6 | 31.6 | 43.4 |
| 9 | -12.8 | 31.9 | 30.6 | 27.0 | 32.9 | 42.0 | 32.6 | 32.6 | 44.5 |

| TEMP. | | REFRIGERANT TYPE (SAFETY CLASS) REFRIGERANT (SPORLAN LETTER CODE) | | | | | | | |
|-------|-------|--|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|--------------------|
| °F | °C | HCFC (A1) 22(V) | HFC (A1) 407A(N) | HFC (A1) 407C(N) | HFC (A1) 407F(N) | HFC (A1) 404A(S) | HFO (A1) 448A(D) | HFO (A1) 449A(D) | HFC (A1) 507(P) |
| 10 | -12.2 | 32.8 | 31.6 | 27.9 | 33.9 | 43.1 | 33.6 | 33.6 | 45.7 |
| 11 | -11.7 | 33.8 | 32.6 | 28.8 | 34.9 | 44.3 | 34.6 | 34.6 | 46.9 |
| 12 | -11.1 | 34.8 | 33.6 | 29.8 | 36.0 | 45.4 | 35.7 | 35.6 | 48.1 |
| 13 | -10.6 | 35.8 | 34.6 | 30.7 | 37.1 | 46.6 | 36.7 | 36.6 | 49.3 |
| 14 | -10.0 | 36.8 | 35.7 | 31.7 | 38.2 | 47.8 | 37.8 | 37.7 | 50.5 |
| 15 | -9.4 | 37.8 | 36.7 | 32.7 | 39.3 | 49.0 | 38.9 | 38.8 | 51.8 |
| 16 | -8.9 | 38.8 | 37.8 | 33.7 | 40.4 | 50.2 | 40.0 | 39.9 | 53.0 |
| 17 | -8.3 | 39.9 | 38.9 | 34.7 | 41.5 | 51.5 | 41.1 | 41.0 | 54.3 |
| 18 | -7.8 | 40.9 | 40.0 | 35.7 | 42.7 | 52.7 | 42.2 | 42.1 | 55.6 |
| 19 | -7.2 | 42.0 | 41.2 | 36.8 | 43.9 | 54.0 | 43.4 | 43.3 | 56.9 |
| 20 | -6.7 | 43.1 | 42.3 | 37.9 | 45.1 | 55.3 | 44.6 | 44.5 | 58.3 |
| 21 | -6.1 | 44.2 | 43.5 | 39.0 | 46.3 | 56.6 | 45.8 | 45.6 | 59.6 |
| 22 | -5.6 | 45.3 | 44.7 | 40.1 | 47.6 | 58.0 | 47.0 | 46.8 | 61.0 |
| 23 | -5.0 | 46.5 | 45.9 | 41.2 | 48.8 | 59.3 | 48.2 | 48.1 | 62.4 |
| 24 | -4.4 | 47.6 | 47.1 | 42.3 | 50.1 | 60.7 | 49.4 | 49.3 | 63.8 |
| 25 | -3.9 | 48.8 | 48.3 | 43.5 | 51.4 | 62.1 | 50.7 | 50.6 | 65.3 |
| 26 | -3.3 | 50.0 | 49.6 | 44.7 | 52.7 | 63.5 | 52.0 | 51.8 | 66.7 |
| 27 | -2.8 | 51.2 | 50.9 | 45.9 | 54.0 | 64.9 | 53.3 | 53.1 | 68.2 |
| 28 | -2.2 | 52.4 | 52.2 | 47.1 | 55.4 | 66.4 | 54.6 | 54.5 | 69.7 |
| 29 | -1.7 | 53.7 | 53.5 | 48.3 | 56.8 | 67.8 | 56.0 | 55.8 | 71.2 |
| 30 | -1.1 | 55.0 | 54.8 | 49.6 | 58.2 | 69.3 | 57.3 | 57.1 | 72.7 |
| 31 | -0.6 | 56.2 | 56.2 | 50.8 | 59.6 | 70.8 | 58.7 | 58.5 | 74.3 |
| 32 | 0.0 | 57.5 | 57.6 | 52.1 | 61.0 | 72.4 | 60.1 | 59.9 | 75.9 |
| 33 | 0.6 | 58.8 | 59.0 | 53.4 | 62.5 | 73.9 | 61.5 | 61.3 | 77.5 |
| 34 | 1.1 | 60.2 | 60.4 | 54.8 | 64.0 | 75.5 | 63.0 | 62.8 | 79.1 |
| 35 | 1.7 | 61.5 | 61.8 | 56.1 | 65.5 | 77.1 | 64.4 | 64.2 | 80.7 |
| 36 | 2.2 | 62.9 | 63.3 | 57.5 | 67.0 | 78.7 | 65.9 | 65.7 | 82.4 |
| 37 | 2.8 | 64.3 | 64.8 | 58.9 | 68.6 | 80.3 | 67.4 | 67.2 | 84.1 |
| 38 | 3.3 | 65.7 | 66.3 | 60.3 | 70.1 | 82.0 | 69.0 | 68.7 | 85.8 |
| 39 | 3.9 | 67.1 | 67.8 | 61.7 | 71.7 | 83.7 | 70.5 | 70.3 | 87.5 |
| 40 | 4.4 | 68.6 | 69.4 | 63.2 | 73.4 | 85.4 | 72.1 | 71.8 | 89.2 |
| 41 | 5.0 | 70.0 | 70.9 | 64.6 | 75.0 | 87.1 | 73.7 | 73.4 | 91.0 |
| 42 | 5.6 | 71.5 | 72.5 | 66.1 | 76.7 | 88.8 | 75.3 | 75.0 | 92.8 |
| 43 | 6.1 | 73.0 | 74.1 | 67.6 | 78.3 | 90.6 | 76.9 | 76.6 | 94.6 |
| 44 | 6.7 | 74.5 | 75.8 | 69.2 | 80.1 | 92.4 | 78.6 | 78.3 | 96.5 |
| 45 | 7.2 | 76.1 | 77.4 | 70.7 | 81.8 | 94.2 | 80.3 | 80.0 | 98.3 |
| 46 | 7.8 | 77.6 | 79.1 | 72.3 | 83.5 | 96.0 | 82.0 | 81.7 | 100.2 |
| 48 | 8.9 | 80.8 | 82.6 | 75.5 | 87.1 | 99.8 | 85.5 | 85.1 | 104.1 |
| 50 | 10.0 | 84.1 | 86.1 | 78.8 | 90.8 | 103.6 | 89.0 | 88.7 | 108.0 |
| 52 | 11.1 | 87.4 | 108.2 | 101.7 | 113.9 | 109.2 | 112.1 | 110.1 | 112.0 |
| 54 | 12.2 | 90.8 | 112.3 | 105.6 | 118.2 | 113.3 | 116.2 | 114.2 | 116.2 |
| 55 | 12.8 | 92.6 | 114.4 | 107.6 | 120.4 | 115.3 | 118.4 | 116.3 | 118.3 |
| 56 | 13.3 | 94.4 | 116.5 | 109.6 | 122.6 | 117.4 | 120.5 | 118.4 | 120.4 |
| 58 | 14.4 | 98.0 | 120.8 | 113.7 | 127.1 | 121.7 | 124.9 | 122.8 | 124.7 |

| TEMP. | | REFRIGERANT TYPE (SAFETY CLASS) REFRIGERANT (SPORLAN LETTER CODE) | | | | | | | |
|-------|------|--|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|--------------------|
| °F | °C | HCFC (A1) 22(V) | HFC (A1) 407A(N) | HFC (A1) 407C(N) | HFC (A1) 407F(N) | HFC (A1) 404A(S) | HFO (A1) 448A(D) | HFO (A1) 449A(D) | HFC (A1) 507(P) |
| 60 | 15.6 | 101.6 | 125.2 | 117.9 | 131.7 | 126.0 | 129.4 | 127.2 | 129.2 |
| 62 | 16.7 | 105.4 | 129.7 | 122.3 | 136.4 | 130.5 | 134.0 | 131.7 | 133.7 |
| 64 | 17.8 | 109.3 | 134.3 | 126.7 | 141.2 | 135.0 | 138.7 | 136.4 | 138.4 |
| 65 | 18.3 | 111.2 | 136.7 | 128.9 | 143.7 | 137.3 | 141.1 | 138.8 | 140.7 |
| 66 | 18.9 | 113.2 | 139.0 | 131.2 | 146.2 | 139.7 | 143.5 | 141.1 | 143.1 |
| 68 | 20.0 | 117.3 | 143.9 | 135.8 | 151.2 | 144.4 | 148.5 | 146.0 | 148.0 |
| 70 | 21.1 | 121.4 | 148.8 | 140.5 | 156.4 | 149.3 | 153.5 | 151.0 | 153.0 |
| 72 | 22.2 | 125.7 | 153.9 | 145.4 | 161.7 | 154.3 | 158.7 | 156.1 | 158.1 |
| 74 | 23.3 | 130.0 | 159.1 | 150.3 | 167.1 | 159.4 | 163.9 | 161.3 | 163.3 |
| 75 | 23.9 | 132.2 | 161.7 | 152.8 | 169.9 | 162.0 | 166.6 | 163.9 | 165.9 |
| 76 | 24.4 | 134.5 | 164.4 | 155.4 | 172.6 | 164.6 | 169.3 | 166.6 | 168.6 |
| 78 | 25.6 | 139.0 | 169.8 | 160.5 | 178.3 | 169.9 | 174.8 | 172.0 | 174.1 |
| 80 | 26.7 | 143.6 | 175.3 | 165.8 | 184.1 | 175.4 | 180.5 | 177.6 | 179.6 |
| 82 | 27.8 | 148.4 | 181.0 | 171.2 | 190.0 | 181.0 | 186.2 | 183.3 | 185.3 |
| 84 | 28.9 | 153.2 | 186.7 | 176.8 | 196.0 | 186.7 | 192.1 | 189.1 | 191.1 |
| 85 | 29.4 | 155.7 | 189.7 | 179.6 | 199.1 | 189.5 | 195.1 | 192.0 | 194.1 |
| 86 | 30.0 | 158.2 | 192.6 | 182.4 | 202.2 | 192.5 | 198.1 | 195.0 | 197.1 |
| 88 | 31.1 | 163.2 | 198.7 | 188.2 | 208.5 | 198.4 | 204.2 | 201.0 | 203.1 |
| 90 | 32.2 | 168.4 | 204.8 | 194.1 | 215.0 | 204.5 | 210.5 | 207.2 | 209.3 |
| 92 | 33.3 | 173.7 | 211.1 | 200.1 | 221.5 | 210.7 | 216.8 | 213.5 | 215.6 |
| 94 | 34.4 | 179.1 | 217.6 | 206.3 | 228.3 | 217.0 | 223.4 | 219.9 | 222.1 |
| 95 | 35.0 | 181.8 | 220.8 | 209.4 | 231.7 | 220.2 | 226.7 | 223.2 | 225.4 |
| 96 | 35.6 | 184.6 | 224.1 | 212.5 | 235.1 | 223.4 | 230.0 | 226.5 | 228.7 |
| 98 | 36.7 | 190.2 | 230.8 | 219.0 | 242.1 | 230.0 | 236.8 | 233.2 | 235.4 |
| 100 | 37.8 | 195.9 | 237.6 | 225.5 | 249.3 | 236.8 | 243.7 | 240.1 | 242.3 |
| 102 | 38.9 | 201.8 | 244.6 | 232.2 | 256.5 | 243.6 | 250.8 | 247.0 | 249.3 |
| 104 | 40.0 | 207.7 | 251.7 | 239.0 | 264.0 | 250.6 | 258.0 | 254.2 | 256.5 |
| 105 | 40.6 | 210.8 | 255.3 | 242.4 | 267.8 | 254.2 | 261.7 | 257.8 | 260.1 |
| 106 | 41.1 | 213.8 | 259.0 | 245.9 | 271.6 | 257.8 | 265.3 | 261.4 | 263.8 |
| 108 | 42.2 | 220.0 | 266.4 | 253.0 | 279.3 | 265.1 | 272.8 | 268.8 | 271.2 |
| 110 | 43.3 | 226.4 | 273.9 | 260.3 | 287.2 | 272.5 | 280.5 | 276.4 | 278.8 |
| 112 | 44.4 | 232.8 | 281.6 | 267.6 | 295.2 | 280.1 | 288.3 | 284.1 | 286.6 |
| 114 | 45.6 | 239.4 | 289.5 | 275.1 | 303.5 | 287.9 | 296.2 | 291.9 | |

TABLA TEMPERATURA - PRESIÓN

REFRIGERACIÓN



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A Nivel del Mar, psig

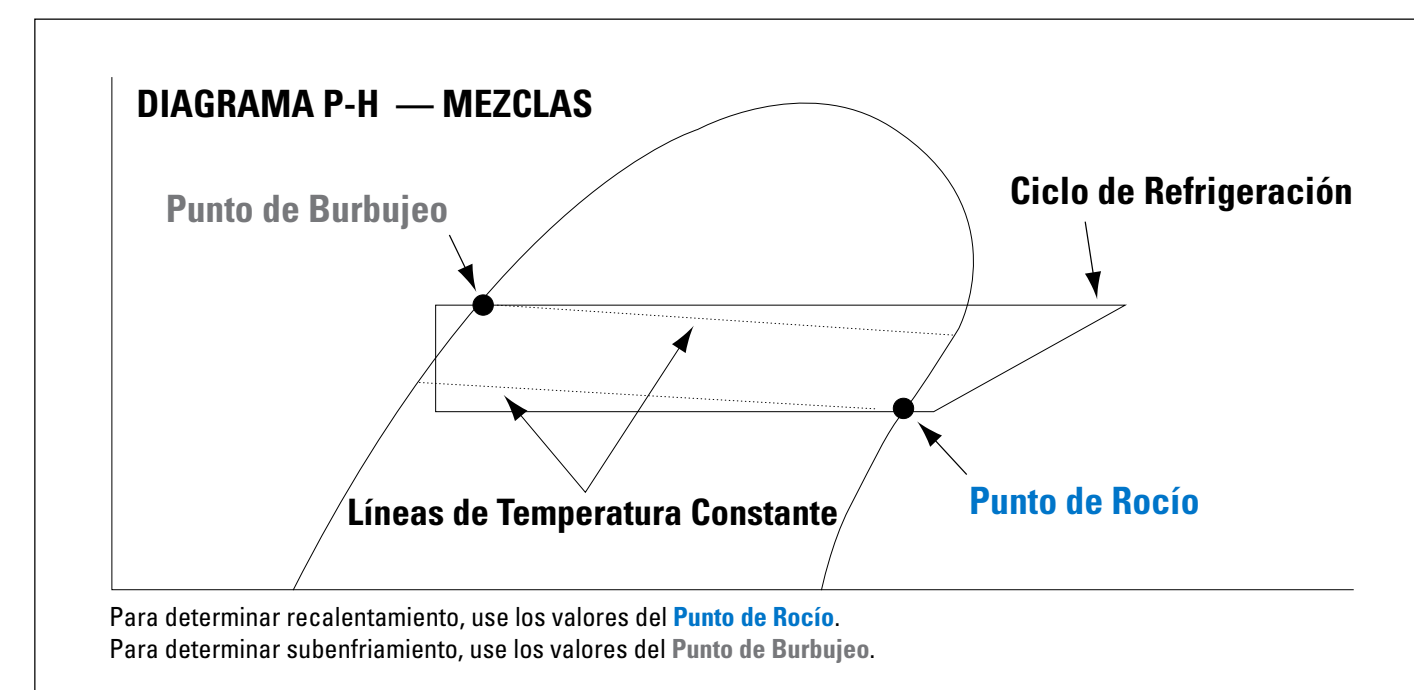
| TEMP. | | TIPO DE REFRIGERANTE (CLASE SEGURIDAD) REFRIGERANTE (CÓDIGO DE LETRA USADO POR SPORLAN) | | | | | | | |
|-------|-------|--|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|--------------------|
| °C | °F | HCFC (A1) 22(V) | HFC (A1) 407A(N) | HFC (A1) 407C(N) | HFC (A1) 407F(N) | HFC (A1) 404A(S) | HFO (A1) 448A(D) | HFO (A1) 449A(D) | HFC (A1) 507(P) |
| -45 | -49.0 | 5.4 | 8.3 | 10.4 | 7.1 | 0.3 | 6.7 | 6.6 | 1.3 |
| -42 | -43.6 | 1.6 | 4.7 | 7.1 | 3.3 | 2.6 | 2.9 | 2.8 | 3.7 |
| -40 | -40.0 | 0.6 | 2.0 | 4.6 | 0.5 | 4.3 | 0.1 | 0.0 | 5.4 |
| -39 | -38.2 | 1.3 | 0.6 | 3.3 | 0.5 | 5.2 | 0.7 | 0.7 | 6.3 |
| -38 | -36.4 | 2.0 | 0.4 | 2.0 | 1.3 | 6.1 | 1.5 | 1.5 | 7.3 |
| -37 | -34.6 | 2.8 | 3.7 | 0.5 | 2.0 | 7.0 | 2.2 | 2.3 | 8.3 |
| -36 | -32.8 | 3.6 | 4.2 | 0.5 | 2.9 | 8.0 | 3.1 | 3.1 | 9.3 |
| -35 | -31.0 | 4.5 | 4.7 | 1.2 | 3.7 | 9.0 | 3.9 | 3.9 | 10.4 |
| -34 | -29.2 | 5.3 | 5.2 | 2.0 | 4.6 | 10.1 | 4.8 | 4.8 | 11.4 |
| -33 | -27.4 | 6.2 | 5.8 | 2.8 | 5.5 | 11.2 | 5.7 | 5.7 | 12.6 |
| -32 | -25.6 | 7.1 | 6.3 | 3.6 | 6.5 | 12.3 | 6.7 | 6.7 | 13.7 |
| -31 | -23.8 | 8.1 | 6.8 | 4.5 | 7.5 | 13.4 | 7.6 | 7.7 | 14.9 |
| -30 | -22.0 | 9.1 | 7.4 | 5.4 | 8.5 | 14.6 | 8.7 | 8.7 | 16.2 |
| -29 | -20.2 | 10.1 | 7.9 | 6.4 | 9.6 | 15.9 | 9.7 | 9.7 | 17.5 |
| -28 | -18.4 | 11.1 | 8.5 | 7.3 | 10.7 | 17.1 | 10.8 | 10.8 | 18.8 |
| -27 | -16.6 | 12.2 | 9.1 | 8.3 | 11.8 | 18.5 | 11.9 | 12.0 | 20.1 |
| -26 | -14.8 | 13.4 | 9.7 | 9.4 | 13.0 | 19.8 | 13.1 | 13.1 | 21.6 |
| -25 | -13.0 | 14.5 | 10.3 | 10.5 | 14.2 | 21.2 | 14.3 | 14.3 | 23.0 |
| -24 | -11.2 | 15.7 | 10.9 | 11.6 | 15.5 | 22.6 | 15.6 | 15.6 | 24.5 |
| -23 | -9.4 | 17.0 | 11.5 | 12.7 | 16.8 | 24.1 | 16.9 | 16.9 | 26.0 |
| -22 | -7.6 | 18.2 | 12.2 | 13.9 | 18.2 | 25.7 | 18.2 | 18.2 | 27.6 |
| -21 | -5.8 | 19.5 | 12.8 | 15.2 | 19.6 | 27.2 | 19.6 | 19.5 | 29.2 |
| -20 | -4.0 | 20.9 | 13.5 | 16.4 | 21.0 | 28.8 | 21.0 | 21.0 | 30.9 |
| -19 | -2.2 | 22.3 | 14.2 | 17.8 | 22.5 | 30.5 | 22.4 | 22.4 | 32.6 |
| -18 | -0.4 | 23.7 | 14.9 | 19.1 | 24.0 | 32.2 | 23.9 | 23.9 | 34.4 |
| -17 | 1.4 | 25.2 | 15.6 | 20.5 | 25.6 | 34.0 | 25.5 | 25.5 | 36.2 |
| -16 | 3.2 | 26.7 | 16.3 | 22.0 | 27.3 | 35.8 | 27.1 | 27.1 | 38.1 |
| -15 | 5.0 | 28.3 | 17.0 | 23.5 | 28.9 | 37.7 | 28.8 | 28.7 | 40.1 |
| -14 | 6.8 | 29.9 | 17.8 | 25.0 | 30.7 | 39.6 | 30.5 | 30.4 | 42.0 |
| -13 | 8.6 | 31.5 | 18.5 | 26.6 | 32.5 | 41.5 | 32.2 | 32.2 | 44.1 |
| -12 | 10.4 | 33.2 | 19.3 | 28.3 | 34.3 | 43.6 | 34.0 | 34.0 | 46.2 |
| -11 | 12.2 | 35.0 | 20.1 | 29.9 | 36.2 | 45.6 | 35.9 | 35.8 | 48.3 |
| -10 | 14.0 | 36.8 | 20.9 | 31.7 | 38.2 | 47.8 | 37.8 | 37.7 | 50.5 |
| -9 | 15.8 | 38.6 | 21.7 | 33.5 | 40.2 | 50.0 | 39.8 | 39.7 | 52.8 |
| -8 | 17.6 | 40.5 | 22.5 | 35.3 | 42.2 | 52.2 | 41.8 | 41.7 | 55.1 |
| -7 | 19.4 | 42.4 | 23.4 | 37.2 | 44.4 | 54.5 | 43.9 | 43.8 | 57.5 |

| TEMP. | | TIPO DE REFRIGERANTE (CLASE SEGURIDAD) REFRIGERANTE (CÓDIGO DE LETRA USADO POR SPORLAN) | | | | | | | |
|-------|------|--|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|--------------------|
| °C | °F | HCFC (A1) 22(V) | HFC (A1) 407A(N) | HFC (A1) 407C(N) | HFC (A1) 407F(N) | HFC (A1) 404A(S) | HFO (A1) 448A(D) | HFO (A1) 449A(D) | HFC (A1) 507(P) |
| -6 | 21.2 | 44.4 | 43.7 | 39.2 | 46.6 | 56.9 | 46.0 | 45.9 | 59.9 |
| -5 | 23.0 | 46.5 | 45.9 | 41.2 | 48.8 | 59.3 | 48.2 | 48.1 | 62.4 |
| -4 | 24.8 | 48.6 | 48.1 | 43.3 | 51.1 | 61.8 | 50.5 | 50.3 | 65.0 |
| -3 | 26.6 | 50.7 | 50.4 | 45.4 | 53.5 | 64.3 | 52.8 | 52.6 | 67.6 |
| -2 | 28.4 | 52.9 | 52.7 | 47.6 | 56.0 | 67.0 | 55.2 | 55.0 | 70.3 |
| -1 | 30.2 | 55.2 | 55.1 | 49.8 | 58.5 | 69.6 | 57.6 | 57.4 | 73.0 |
| 0 | 32.0 | 57.5 | 57.6 | 52.1 | 61.0 | 72.4 | 60.1 | 59.9 | 75.9 |
| 1 | 33.8 | 59.9 | 60.1 | 54.5 | 63.7 | 75.2 | 62.7 | 62.5 | 78.8 |
| 2 | 35.6 | 62.3 | 62.7 | 56.9 | 66.4 | 78.1 | 65.3 | 65.1 | 81.7 |
| 3 | 37.4 | 64.8 | 65.4 | 59.4 | 69.2 | 81.0 | 68.0 | 67.8 | 84.7 |
| 4 | 39.2 | 67.4 | 68.1 | 62.0 | 72.1 | 84.0 | 70.8 | 70.6 | 87.8 |
| 5 | 41.0 | 70.0 | 70.9 | 64.6 | 75.0 | 87.1 | 73.7 | 73.4 | 91.0 |
| 6 | 42.8 | 72.7 | 73.8 | 67.3 | 78.0 | 90.3 | 76.6 | 76.3 | 94.3 |
| 7 | 44.6 | 75.4 | 76.8 | 70.1 | 81.1 | 93.5 | 79.6 | 79.3 | 97.6 |
| 8 | 46.4 | 78.3 | 79.8 | 72.9 | 84.3 | 96.8 | 82.7 | 82.3 | 101.0 |
| 9 | 48.2 | 81.1 | 82.9 | 75.9 | 87.5 | 100.2 | 85.8 | 85.5 | 104.5 |
| 10 | 50.0 | 84.1 | 86.1 | 78.8 | 90.8 | 103.6 | 89.0 | 88.7 | 108.0 |
| 11 | 51.8 | 87.1 | 107.8 | 101.3 | 113.5 | 108.8 | 111.7 | 109.7 | 111.6 |
| 12 | 53.6 | 90.1 | 111.4 | 104.8 | 117.3 | 112.4 | 115.4 | 113.4 | 115.3 |
| 13 | 55.4 | 93.3 | 115.2 | 108.4 | 121.3 | 116.2 | 119.2 | 117.2 | 119.1 |
| 14 | 57.2 | 96.5 | 119.0 | 112.1 | 125.3 | 119.9 | 123.2 | 121.0 | 123.0 |
| 15 | 59.0 | 99.8 | 123.0 | 115.8 | 129.4 | 123.8 | 127.2 | 125.0 | 127.0 |
| 16 | 60.8 | 103.1 | 127.0 | 119.7 | 133.6 | 127.8 | 131.2 | 129.0 | 131.0 |
| 17 | 62.6 | 106.6 | 131.1 | 123.6 | 137.8 | 131.8 | 135.4 | 133.1 | 135.1 |
| 18 | 64.4 | 110.1 | 135.2 | 127.6 | 142.2 | 135.9 | 139.7 | 137.3 | 139.3 |
| 19 | 66.2 | 113.6 | 139.5 | 131.6 | 146.7 | 140.1 | 144.0 | 141.6 | 143.6 |
| 20 | 68.0 | 117.3 | 143.9 | 135.8 | 151.2 | 144.4 | 148.5 | 146.0 | 148.0 |
| 21 | 69.8 | 121.0 | 148.3 | 140.0 | 155.9 | 148.8 | 153.0 | 150.5 | 152.5 |
| 22 | 71.6 | 124.8 | 152.9 | 144.4 | 160.6 | 153.3 | 157.6 | 155.0 | 157.1 |
| 23 | 73.4 | 128.7 | 157.5 | 148.8 | 165.5 | 157.9 | 162.3 | 159.7 | 161.7 |
| 24 | 75.2 | 132.7 | 162.2 | 153.3 | 170.4 | 162.5 | 167.2 | 164.4 | 166.5 |
| 25 | 77.0 | 136.7 | 167.0 | 157.9 | 175.5 | 167.3 | 172.1 | 169.3 | 171.3 |
| 26 | 78.8 | 140.8 | 172.0 | 162.7 | 180.6 | 172.1 | 177.1 | 174.2 | 176.3 |
| 27 | 80.6 | 145.0 | 177.0 | 167.5 | 185.8 | 177.1 | 182.2 | 179.3 | 181.3 |
| 28 | 82.4 | 149.3 | 182.1 | 172.3 | 191.2 | 182.1 | 187.4 | 184.4 | 186.5 |
| 29 | 84.2 | 153.7 | 187.3 | 177.3 | 196.7 | 187.2 | 192.7 | 189.6 | 191.7 |

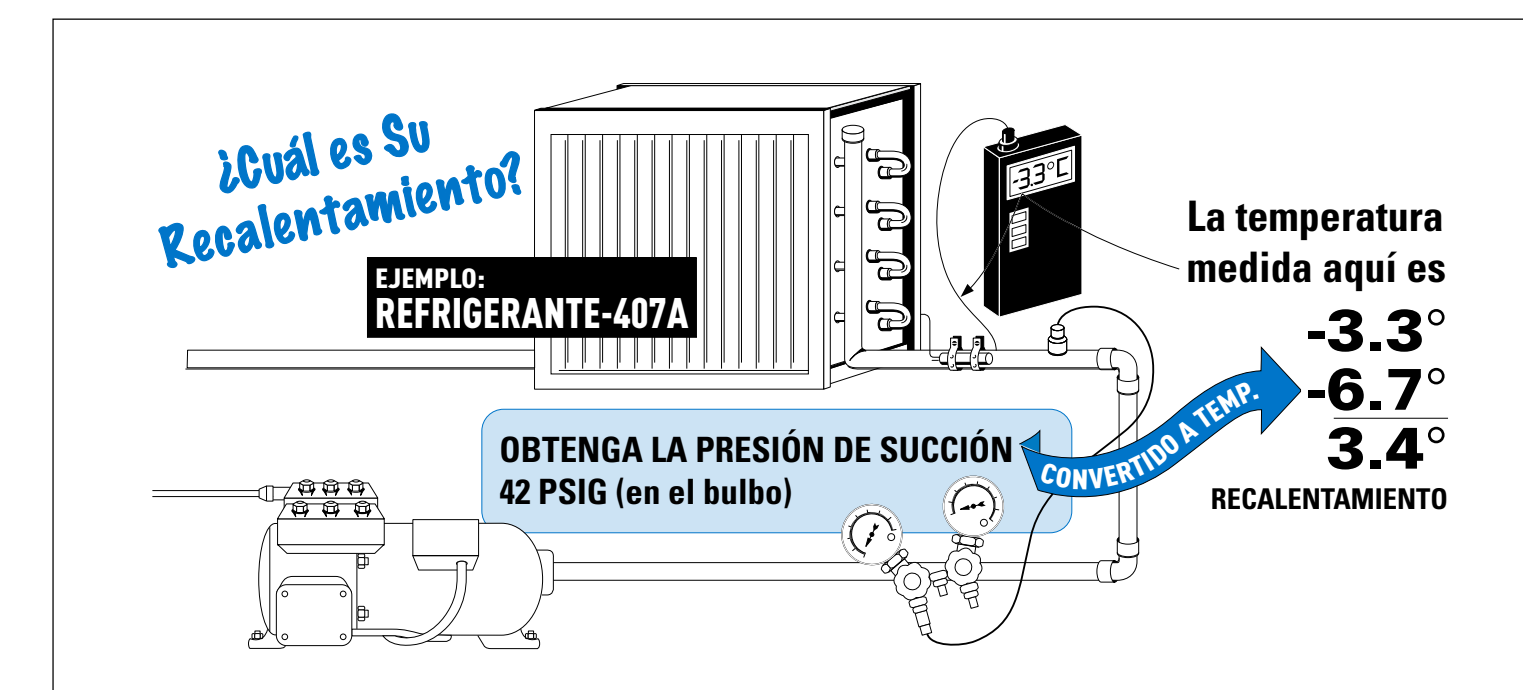
| TEMP. | | TIPO DE REFRIGERANTE (CLASE SEGURIDAD) REFRIGERANTE (CÓDIGO DE LETRA USADO POR SPORLAN) | | | | | | | |
|-------|-------|--|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|--------------------|
| °C | °F | HCFC (A1) 22(V) | HFC (A1) 407A(N) | HFC (A1) 407C(N) | HFC (A1) 407F(N) | HFC (A1) 404A(S) | HFO (A1) 448A(D) | HFO (A1) 449A(D) | HFC (A1) 507(P) |
| 30 | 86.0 | 158.2 | 192.6 | 167.8 | 202.2 | 192.5 | 198.1 | 195.0 | 197.1 |
| 31 | 87.8 | 162.7 | 198.1 | 172.9 | 207.9 | 197.8 | 203.6 | 200.4 | 202.5 |
| 32 | 89.6 | 167.4 | 203.6 | 178.2 | 213.7 | 203.2 | 209.2 | 206.0 | 208.1 |
| 33 | 91.4 | 172.1 | 209.2 | 183.5 | 219.6 | 208.8 | 214.9 | 211.6 | 213.7 |
| 34 | 93.2 | 176.9 | 215.0 | 188.9 | 225.6 | 214.4 | 220.7 | 217.4 | 219.5 |
| 35 | 95.0 | 181.8 | 220.8 | 194.4 | 231.7 | 220.2 | 226.7 | 223.2 | 225.4 |
| 36 | 96.8 | 186.8 | 226.8 | 200.1 | 237.9 | 226.1 | 232.7 | 229.2 | 231.4 |
| 37 | 98.6 | 191.9 | 232.8 | 205.9 | 244.2 | 232.0 | 238.9 | 235.3 | 237.5 |
| 38 | 100.4 | 197.1 | 239.0 | 211.8 | 250.7 | 238.1 | 245.1 | 241.4 | 243.7 |
| 39 | 102.2 | 202.4 | 245.3 | 217.8 | 257.3 | 244.3 | 251.5 | 247.7 | 250.0 |
| 40 | 104.0 | 207.7 | 251.7 | 223.9 | 264.0 | 250.6 | 258.0 | 254.2 | 256.5 |
| 41 | 105.8 | 213.2 | 258.3 | 230.2 | 270.8 | 257.1 | 264.6 | 260.7 | 263.0 |
| 42 | 107.6 | 218.8 | 264.9 | 236.5 | 277.7 | 263.6 | 271.3 | 267.3 | 269.7 |
| 43 | 109.4 | 224.5 | 271.7 | 243.0 | 284.8 | 270.3 | 278.2 | 274.1 | 276.5 |
| 44 | 111.2 | 230.2 | 278.5 | 249.7 | 292.0 | 277.1 | 285.1 | 281.0 | 283.5 |
| 45 | 113.0 | 236.1 | 285.5 | 256.4 | 299.3 | 284.0 | 292.2 | 288.0 | 290.5 |
| 46 | 114.8 | 242.1 | 292.7 | 263.3 | 306.8 | 291.0 | 299.4 | 295.1 | 297.7 |
| 47 | 116.6 | 248.2 | 299.9 | 270.4 | 314.4 | 298.2 | 306.7 | 302.3 | 305.0 |
| 48 | 118.4 | 254.4 | 307.3 | 277.5 | 322.1 | 305.5 | 314.2 | 309.7 | 312.5 |
| 49 | 120.2 | 260.7 | 314.8 | 284.8 | 329.9 | 312.9 | 321.8 | 317.2 | 320.1 |
| 50 | 122.0 | 267.1 | 322.4 | 292.3 | 337.9 | 320.4 | 329.5 | 324.8 | 327.8 |
| 52 | 125.6 | 280.2 | 338.1 | 307.6 | 354.3 | 335.9 | 345.2 | 340.4 | 343.6 |
| 54 | 129.2 | 293.8 | 354.3 | 323.5 | 371.2 | 352.0 | 361.6 | 356.6 | 360.0 |
| 55 | 131.0 | 300.8 | 362.6 | 331.7 | 379.9 | 360.2 | 369.9 | 364.8 | 368.5 |
| 56 | 132.8 | 307.9 | 371.0 | 340.1 | 388.7 | 368.6 | 378.4 | 373.3 | 377.1 |
| 58 | 136.4 | 322.4 | 388.3 | 357.2 | 406.8 | 385.9 | 395.8 | 390.5 | 394.7 |
| 60 | 140.0 | 337.4 | 406.2 | 375.1 | 425.4 | 403.7 | 413.8 | 408.3 | 413.0 |
| 62 | 143.6 | 352.9 | 424.6 | 393.6 | 444.7 | 422.2 | 432.3 | 426.6 | 431.9 |
| 64 | 147.2 | 368.9 | 443.7 | 412.8 | 464.6 | 441.4 | 451.4 | 445.6 | 451.6 |
| 65 | 149.0 | 377.1 | 453.4 | 422.7 | 474.8 | 451.2 | 461.2 | 455.3 | 461.7 |
| 66 | 150.8 | 385.4 | 463.3 | 432.8 | 485.2 | 461.3 | 471.1 | 465.1 | 472.0 |
| 68 | 154.4 | 402.4 | 483.6 | 453.6 | 506.4 | 482.0 | 491.4 | 485.2 | 493.3 |
| 70 | 158.0 | 420.0 | 504.5 | 475.3 | 528.2 | 503.4 | 512.3 | 506.0 | 515.6 |
| 72 | 161.6 | 438.2 | 526.0 | 497.9 | 550.8 | 525.8 | 533.8 | 527.4 | * |
| 74 | 165.2 | 456.9 | 548.2 | 521.4 | 573.9 | * | 555.9 | 549.3 | * |
| 75 | 167.0 | 466.5 | 559.5 | 533.6 | 585.8 | * | 567.2 | 560.5 | * |

Para determinar Subenfriamiento para las mezclas Serie 400, use el Punto de Burbujeo en Gris.
Para determinar Recalentamiento para las mezclas Serie 400, use el Punto de Rocío en Azul.

Presión, psig (libras por pulgada cuadrada/manómetro), BOLD
Vacío, inhg (pulgadas de Mercurio), Cursiva



UTILICE ESTE CÓDIGO QR
PARA DESCARGAR EL
APP CHILLMASTER P-T



*Excede la temperatura crítica

