Errata to
ASHRAE Pocket Guide for Air Conditioning, Heating, Ventilation, Refrigeration, Ninth Edition (I-P) (2017)

April 22, 2022

Page 12: In Equation 1.2, "6 cfm" should read "**6000 cfm**".

Page 30: In Equation 1.7, "K_c" should read "$\boldsymbol{K_{c2}}$"

Page 30: In the nomenclature for Equation 1.7:

- "K_c = centerline..." should read "$\boldsymbol{K_{c2}}$= centerline..."
- "$X \geq (1/K_c H_o)^{1/2}$" should read "$X \geq (1/\boldsymbol{K_{c2}} H_o)^{1/2}$"

Page 31:

- In Equation 1.8, "K_c" should read "$\boldsymbol{K_{c3}}$" in two places.
- In the nomenclature for Equation 1.8, "K_c = centerline..." should read "$\boldsymbol{K_{c3}}$ = centerline...".
- At the end of the first paragraph under the nomenclature for Equation 1.8, "K_c" should read "$\boldsymbol{K_{c3}}$".
- In Equation 1.9, "K_c" should read "$\boldsymbol{K_{c3}}$".

Page 32: At the top left of Figure 1.14, "K_3" should read "$\boldsymbol{K_{c3}}$".

Page117: In Table 6.6, for a flow rate of 2.0, the 77°F temperature rise reads "776,196" but should read "**77,616**".

Pages 155–156: The notes to Table 8.17 are missing. They are included on page 2 of this errata sheet.

Pages 157–158: The notes to Table 8.18 are missing. They are included on page 2 of this errata sheet.

Pages 159–160: The notes to Table 8.19 are missing. They are included on page 2 of this errata sheet.

Pages 161–162: The notes to Table 8.20 are missing. They are included on page 2 of this errata sheet.

Missing Notes to Table 8.17:

[a] Sizing shown is recommended where any gas generated in receiver must return up condensate line to condenser without restricting condensate flow. Water-cooled condensers, where receiver ambient temperature may be higher than refrigerant condensing temperature, fall into this category.

[b] Pipe inside diameter is same as nominal pipe size.

Notes:
1. Table capacities are in tons of refrigeration.
   Δp = pressure drop from line friction, psi per 100 ft of equivalent line length
   Δt = corresponding change in saturation temperature, °F per 100 ft
2. Line capacity for other saturation temperatures Δt and equivalent lengths L_e

$$\text{Line capacity} = \text{Table capacity}\left(\frac{\text{Table } L_e}{\text{Actual } L_e} \times \frac{\text{Actual } \Delta t}{\text{Table } \Delta t}\right)^{0.55}$$

3. Saturation temperature Δt for other capacities and equivalent lengths L_e

$$\Delta t = \text{Table } \Delta t \left(\frac{\text{Actual } L_e}{\text{Table } L_e}\right)\left(\frac{\text{Actual capacity}}{\text{Table capacity}}\right)^{1.8}$$

4. Tons based on standard refrigerant cycle of 105°F liquid and saturated evaporator outlet temperature. Liquid tons based on 20°F evaporator temperature.
5. Thermophysical properties and viscosity data based on calculations from NIST REFPROP program Version 6.01.
6. For brazed Type L copper tubing larger than 1 1/8 in. OD for discharge or liquid service, see Safety Requirements section.
7. Values based on 105°F condensing temperature. Multiply table capacities by the following factors for other condensing temperatures.

Cond. Temp., °F	Suction Line	Discharge Line
80	1.246	0.870
90	1.150	0.922
100	1.051	0.974
110	0.948	1.009
120	0.840	1.026
130	0.723	1.043

Missing Notes to Table 8.18:

[a] Sizing shown is recommended where any gas generated in receiver must return up condensate line to condenser without restricting condensate flow. Water-cooled condensers, where receiver ambient temperature may be higher than refrigerant condensing temperature, fall into this category.

[b] Pipe inside diameter is same as nominal pipe size.

Notes:
1. Table capacities are in tons of refrigeration.
   Δp = pressure drop from line friction, psi per 100 ft of equivalent line length
   Δt = corresponding change in saturation temperature, °F per 100 ft
2. Line capacity for other saturation temperatures Δt and equivalent lengths L_e

$$\text{Line capacity} = \text{Table capacity}\left(\frac{\text{Table } L_e}{\text{Actual } L_e} \times \frac{\text{Actual } \Delta t}{\text{Table } \Delta t}\right)^{0.55}$$

3. Saturation temperature Δt for other capacities and equivalent lengths L_e

$$\Delta t = \text{Table } \Delta t \left(\frac{\text{Actual } L_e}{\text{Table } L_e}\right)\left(\frac{\text{Actual capacity}}{\text{Table capacity}}\right)^{1.8}$$

4. Tons based on standard refrigerant cycle of 105°F liquid and saturated evaporator outlet temperature. Liquid tons based on 20°F evaporator temperature.
5. Thermophysical properties and viscosity data based on calculations from NIST REFPROP program Version 6.01.
6. For brazed Type L copper tubing larger than 1 1/8 in. OD for discharge or liquid service, see Safety Requirements section.
7. Values based on 105°F condensing temperature. Multiply table capacities by the following factors for other condensing temperatures.

Cond. Temp., °F	Suction Line	Discharge Line
80	1.267	0.873
90	1.163	0.924
100	1.055	0.975
110	0.944	1.005
120	0.826	1.014
130	0.701	1.024

Missing Notes to Table 8.19:

[a] Sizing shown is recommended where any gas generated in receiver must return up condensate line to condenser without restricting condensate flow. Water-cooled condensers, where receiver ambient temperature may be higher than refrigerant condensing temperature, fall into this category.

[b] Pipe inside diameter is same as nominal pipe size.

Notes:
1. Table capacities are in tons of refrigeration.
   Δp = pressure drop from line friction, psi per 100 ft of equivalent line length
   Δt = corresponding change in saturation temperature, °F per 100 ft
2. Line capacity for other saturation temperatures Δt and equivalent lengths L_e

$$\text{Line capacity} = \text{Table capacity}\left(\frac{\text{Table } L_e}{\text{Actual } L_e} \times \frac{\text{Actual } \Delta t}{\text{Table } \Delta t}\right)^{0.55}$$

3. Saturation temperature Δt for other capacities and equivalent lengths L_e

$$\Delta t = \text{Table } \Delta t \left(\frac{\text{Actual } L_e}{\text{Table } L_e}\right)\left(\frac{\text{Actual capacity}}{\text{Table capacity}}\right)^{1.8}$$

4. Tons based on standard refrigerant cycle of 105°F liquid and saturated evaporator outlet temperature. Liquid tons based on 20°F evaporator temperature.
5. Thermophysical properties and viscosity data based on calculations from NIST REFPROP program Version 6.01.
6. For brazed Type L copper tubing larger than 5/8 in. OD for discharge or liquid service, see Safety Requirements section.
7. Values based on 105°F condensing temperature. Multiply table capacities by the following factors for other condensing temperatures.

Cond. Temp., °F	Suction Line	Discharge Line
80	1.170	0.815
90	1.104	0.889
100	1.035	0.963
110	0.964	1.032
120	0.889	1.096
130	0.808	1.160

Missing Notes to Table 8.20:

[a] Sizing shown is recommended where any gas generated in receiver must return up condensate line to condenser without restricting condensate flow. Water-cooled condensers, where receiver ambient temperature may be higher than refrigerant condensing temperature, fall into this category.

[b] Pipe inside diameter is same as nominal pipe size.

Notes:
1. Table capacities are in tons of refrigeration.
   Δp = pressure drop from line friction, psi per 100 ft of equivalent line length
   Δt = corresponding change in saturation temperature, °F per 100 ft
2. Line capacity for other saturation temperatures Δt and equivalent lengths L_e

$$\text{Line capacity} = \text{Table capacity}\left(\frac{\text{Table } L_e}{\text{Actual } L_e} \times \frac{\text{Actual } \Delta t}{\text{Table } \Delta t}\right)^{0.55}$$

3. Saturation temperature Δt for other capacities and equivalent lengths L_e

$$\Delta t = \text{Table } \Delta t \left(\frac{\text{Actual } L_e}{\text{Table } L_e}\right)\left(\frac{\text{Actual capacity}}{\text{Table capacity}}\right)^{1.8}$$

4. Tons based on standard refrigerant cycle of 105°F liquid and saturated evaporator outlet temperature. Liquid tons based on 20°F evaporator temperature.
5. Thermophysical properties and viscosity data based on calculations from NIST REFPROP program Version 6.01.
6. For brazed Type L copper tubing larger than 2 1/8 in. OD for discharge or liquid service, see Safety Requirements section.
7. Values based on 105°F condensing temperature. Multiply table capacities by the following factors for other condensing temperatures.

Cond. Temp., °F	Suction Line	Discharge Line
80	1.163	0.787
90	1.099	0.872
100	1.033	0.957
110	0.966	1.036
120	0.896	1.109
130	0.824	1.182

Page 284: Equation 18.3 reads

$$“T = \left[\frac{1}{1 - (f_d/f_n)^2} \right]”$$

but should read

$$“T = \left| \frac{1}{1 - (f_d/f_n)^2} \right|”$$

where the vertical lines in the equation are not brackets but absolute value notations.

Page 372: The seventh line on this page currently reads “1 square foot EDR (equivalent direct radiation) = 240 Btu” but should read “1 square foot EDR (equivalent direct radiation) = 240 **Btu/h**”