Errata to
***ASHRAE Pocket Guide for Air Conditioning, Heating, Ventilation, Refrigeration*, Ninth Edition (SI) (2017)**

April 22, 2022

Page 30: In Equation 1.8, "K_c" should read "$\boldsymbol{K_{c2}}$"

Page 30: In the nomenclature for Equation 1.8:

- "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 1.9, "K_c" should read "$\boldsymbol{K_{c3}}$" in two places.
- In the nomenclature for Equation 1.9, "K_c = centerline..." should read "$\boldsymbol{K_{c3}}$ = centerline...".
- At the end of the first paragraph under the nomenclature for Equation 1.9, "K_c" should read "$\boldsymbol{K_{c3}}$".
- In Equation 1.10, "K_c" should read "$\boldsymbol{K_{c3}}$".

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

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.

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.

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 kilowatts of refrigeration.
   Δp = pressure drop per unit equivalent length of line, Pa/m
   Δt = corresponding change in saturation temperature, K/m
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. Capacity (kW) based on standard refrigerant cycle of 40°C liquid and saturated evaporator outlet temperature. Liquid capacity (kW) based on –5°C 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 28 mm OD for discharge or liquid service, see Safety Requirements section.
7. Values are based on 40°C condensing temperature. Multiply table capacities by the following factors for other condensing temperatures.

Cond. Temp., °C	Suction Line	Discharge Line
20	1.344	0.812
30	1.177	0.906
40	1.000	1.000
50	0.809	1.035

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 kilowatts of refrigeration.
   Δp = pressure drop per unit equivalent length of line, Pa/m
   Δt = corresponding change in saturation temperature, K/m
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. Capacity (kW) based on standard refrigerant cycle of 40°C liquid and saturated evaporator outlet temperature. Liquid capacity (kW) based on –5°C 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 28 mm OD for discharge or liquid service, see Safety Requirements section.
7. Values are based on 40°C condensing temperature. Multiply table capacities by the following factors for other condensing temperatures.

Cond. Temp., °C	Suction Line	Discharge Line
20	1.357	0.765
30	1.184	0.908
40	1.000	1.000
50	0.801	1.021

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 kilowatts of refrigeration.
   Δp = pressure drop per unit equivalent length of line, Pa/m
   Δt = corresponding change in saturation temperature, K/m
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. Capacity (kW) based on standard refrigerant cycle of 40°C liquid and saturated evaporator outlet temperature. Liquid capacity (kW) based on –5°C 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 15 mm OD for discharge or liquid service, see Safety Requirements section.
7. Values are based on 40°C condensing temperature. Multiply table capacities by the following factors for other condensing temperatures.

Cond. Temp., °C	Suction Line	Discharge Line
20	1.238	0.657
30	1.122	0.866
40	1.000	1.000
50	0.867	1.117

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 kilowatts of refrigeration.
   Δp = pressure drop per unit equivalent length of line, Pa/m
   Δt = corresponding change in saturation temperature, K/m
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. Capacity (kW) based on standard refrigerant cycle of 40°C liquid and saturated evaporator outlet temperature. Liquid capacity (kW) based on –5°C 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 28 mm OD for discharge or liquid service, see Safety Requirements section.
7. Values are based on 40°C condensing temperature. Multiply table capacities by the following factors for other condensing temperatures.

Cond. Temp., °C	Suction Line	Discharge Line
20	1.357	0.765
30	1.184	0.908
40	1.000	1.000
50	0.801	1.021