Additions and Corrections

This report includes additional information and technical errors found between June 15, 2000, and April 1, 2003, in the inch-pound (I-P) edition of the 2000, 2001, and 2002 *ASHRAE Handbooks*. Occasional typographical errors and nonstandard symbol labels will be corrected in future volumes. The most current list of Handbook additions and corrections is on the ASHRAE web site (www.ashrae.org).

The authors and editor encourage you to notify them if you find other technical errors. Please send corrections to: Handbook Editor, ASHRAE, 1791 Tullie Circle NE, Atlanta, GA 30329, or e-mail mowen@ashrae.org.

2000 HVAC Systems and Equipment

p. 1.3, 2nd column. In the Space requirements paragraph the first sentence should read:

"A decentralized system may or may not have an equipment room."

p. 7.11, 2nd column, 2nd to last paragraph. The Btu in the last sentence should be Btu/h.

p. 7.11, 2nd column, last paragraph. The "Btu" in the first sentence should be "Btu/h."

p. 7.28, 1st column, 3rd paragraph, third line up. The number should read "600 V."

p. 7.28, 1st column, 3rd paragraph, last line. Change "5 Hz" to "5 cycles."

p. 7.33, 1st column, last paragraph. Change "7000 lb/h" to "7000 lb" and "7 lb/h" to "7 lb."

p. 7.33, 1st column, last line. The "total energy requirement" should be "total power requirement."

p. 7.33, 2nd column, 2nd paragraph, last sentence. "More energy than the gas turbine" should be "more power than the gas turbine."

p. 7.33, 2nd column, last sentence in Example 1. "Preceding energy costs" should be "preceding power costs."

p. 8.18, 1st column, 1st line. Change "amplify" to "raise."

p. 9.4, 2nd column, 1st full paragraph, 2nd to last sentence. Delete "by more than 25% of the sensible load."

p. 11.27, Fig. 22. Replace Fig. 22 with the figure at top right, in which the primary and secondary systems are not shown to be connected.

**p. 11.29, 2nd column, last line.** Change "visa" to "vice."

p. 11.30, 2nd column, first bulleted text. Change "capacity" to "power."

p. 18.7, Fig. 13. Should read:

"Curve shows performance of a fixed fan size running at a fixed speed."

p. 20.2, 1st column, last paragraph. Delete second sentence that reads "Water vapor migrates from areas of high vapor pressure and lower temperature."

p. 26.9, Fuel Oil Preparation System, 3rd paragraph, 1st sentence. Delete "× 10^6" so that the viscosity is just "156 cSt."
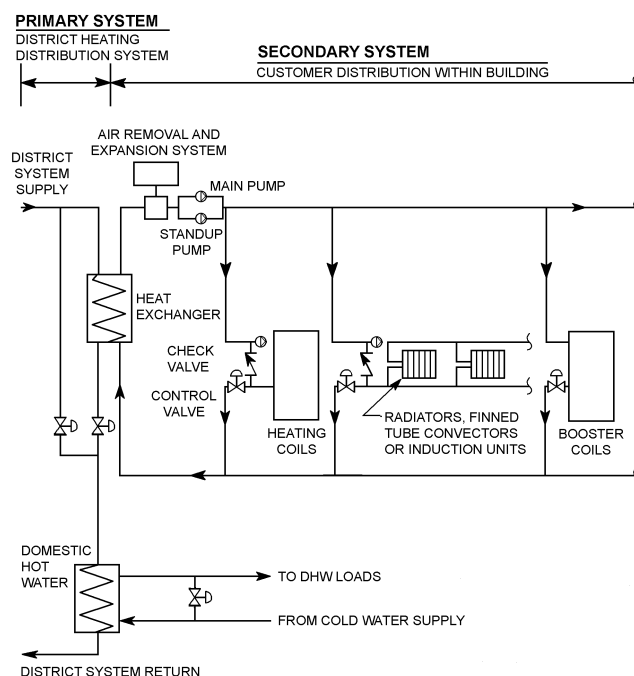
Fig. 22   Basic Heating System Schematic
(2000 HVAC Systems and Equipment, Chapter 11, p. 27)

p. 30.31, 1st column, 1st reference. Change the year to 1992 and "Customer Service" to "Handbook Editor."

p. 32.3, 2nd column. In the definition for *n*, replace the last two definitions with "1.0 for ceiling heating and floor cooling panels, and 1.1 for floor heating and ceiling cooling panels."

p. 37.1, 1st column, last paragraph, 2nd to last sentence. Delete "the volume of the."

p. 41.11, 1st column. In the section on L Bends, change references from Equation (4) to Equation (5). Change references from Equation (5) to Equation (6). Change the reference from Equation (6) to Equation (7).

p. 42.14, 2nd column, last reference. The year should be 1998 and the edition should be 3rd.

p. 44.4, Eqs. (3) and (4). The equations should read as follows:

$$x_2 = x_1 + \varepsilon \left(\frac{w_{min}}{w_s} \right)(x_3 - x_1) \tag{3}$$

$$x_4 = x_3 - \varepsilon \left(\frac{w_{min}}{w_e} \right)(x_3 - x_1) \tag{4}$$

2001 Fundamentals

p. 1.8, Example 2, Solution (a), 5th line. Change "Chapter 20" to read "Chapter 19 of the 1997 *ASHRAE Handbook–Fundamentals*."

p. 1.11, Example 4, Solution, 2nd line. Change "Chapter 20" to read "Chapter 19 of the 1997 *ASHRAE Handbook–Fundamentals.*"

p. 1.14, Fig. 16. Change "Heat Amplifier" to "Temperature Amplifier."

p. 2.10, Table 2. The units for ε should be μin, not ft; the revised table is included here for convenience:

Table 2 Effective Roughness of Conduit Surfaces

Material	ε, μin
Commercially smooth brass, lead, copper, or plastic pipe	0.06
Steel and wrought iron	1.8
Galvanized iron or steel	6.0
Cast iron	10.2

p. 6.5, Table 2, under "Specific Entropy." At $t = 129°F$, change the value for s_{da} to "0.05946 Btu/lb$_{da}$ · °F."

p. 6.11, Table 3. For 256°F, replace the following variables with these values:

v_{fg}	v_g	h_f	h_{fg}	h_g	s_f	s_{fg}
12.517	12.535	224.72	941.33	1166.05	0.3763	1.3152

p. 17.3, 1st column, 9th line. Change "25 kWh/ft^2·yr" to read "15 kWh/ft^2·yr."

p. 23.2, Thermal Insulation section, 1st sentence. Delete "transfer" from "radiative transfer modes" and add "transfer" after "heat."

p. 25.24, 1st column, after 10th entry. Add the following:

Lotz, W.A. 1964. Vapor barrier design, neglected key to freezer insulation effectiveness. *Quick Frozen Foods* (November):122.

p. 26.8, Fig. 6A. The label $P_{outside}$ should indicate the more diagonal line.

p. 26.28, Symbols. Change the definition for g to read "gravitational constant," and add the following definition:

G = wind speed multiplier (Table 10)

p. 26.30, References. Add the following source below Klauss et al.:

Klote, J.H. and J.A. Milke. 1992. *Design of smoke management systems.* ASHRAE.

p. 27.1. The second paragraph under Climatic Design Conditions should read, "Information on station location, period analyzed, heating design conditions, mean annual extreme, and standard deviation of minimum and maximum dry-bulb temperature are listed in Tables 1A, 2A, and 3A. Information on the design conditions for cooling and humidity control, along with the mean daily temperature range for the warmest month, is provided in Tables 1B, 2B, and 3B."

p. 29.14, Eq. (13). The equation should read as follows:

$$q_b = AE_D\,\text{SHGC}(\theta)\text{IAC} \tag{13}$$

p. 30.33, Table 13. In the footnote, change the reference for ID numbers from "Table 5" to "Table 4."

p. 30.38, 2nd column, 2nd paragraph. The reference to Tables 16 through 22 should be to Tables 15 through 22.

p. 34.9, Fig. 9. Replace SI value chart with I-P value chart (p. A.5).

p. 34.23, Example 9, 2nd paragraph, 2nd line. Change "Figure 13 in Chapter 16" to read "Figure 2 in Chapter 43 of the 1999 *ASHRAE Handbook—HVAC Applications.*" Figure 2 is presented at right for convenience.

p. 34.17, 2nd column, 1st paragraph. AMCA *Standard* 500-L should be AMCA *Standard* 500.
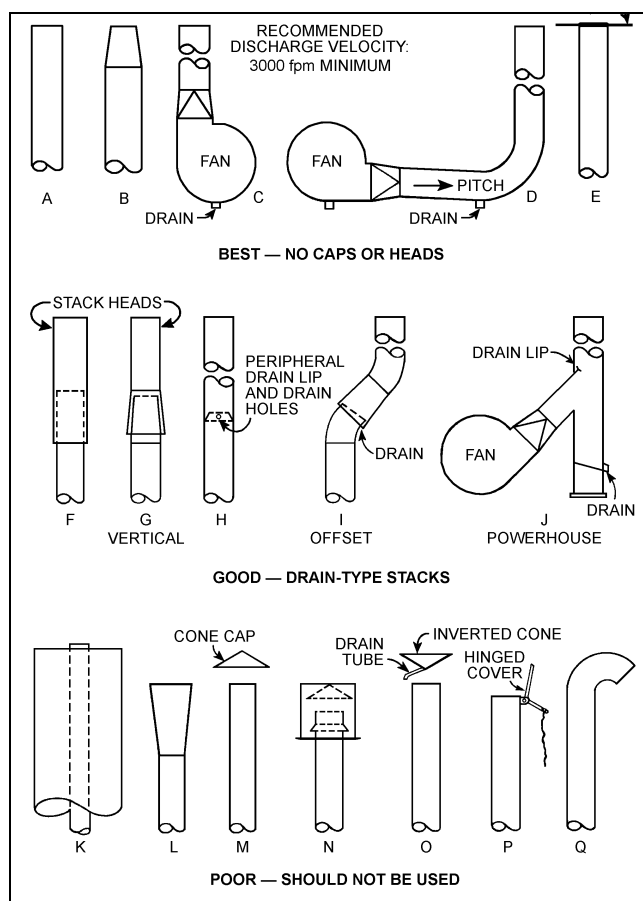
Fig. 2   Stack Designs Providing Vertical Discharge and Rain Protection
(2001 Fundamentals, Chapter 34, p. 23)

p. 34.57, table for CR-6 Screen (Only). In the cell for $n = 0.65$ and $A_1/A_o = 1.2$, replace "0.36" with "0.52."

p. 35.6, Fig. 1. Replace Figure 1 with the corrected figure shown at the top of page 3.

p. 38.4. Under the Specific Heat column, the cross reference should be to Table 4 in Chapter 25.

p. I.28, Index. The page numbers for the **Louvers, sizing** entry should be 34.17-18.

2002 Refrigeration

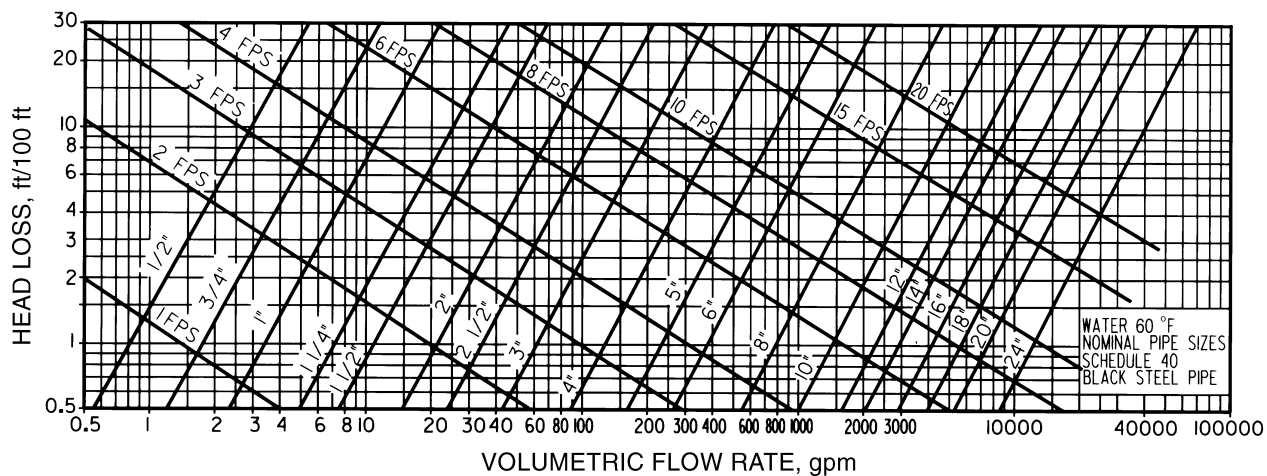**p. 2.4, Example 1.** Please replace the specified Solution calculations with the following text:

Estimated friction loss	=	0.59×3.05 =	1.8 psi
Total pressure losses	$10.0 + 1.7$	=	11.8 psi
Total liquid line losses		−	11.8 psi

The saturation temperature at 199 psig is 101.1°F

p. 12.1, 2nd column. In the first full paragraph, change "These values decrease" to "These values increase."

Fig. 1 Friction Loss for Water in Commercial Steel Pipe (Schedule 40)
(2001 Fundamentals, Chapter 35, p. 6)

p. 12.7, Infiltration Load values. Delete "°F" from the definitions for h_f, h_r, and ρ_r; for ρ_i, the entire definition should read only "density incoming air, lb/ft^3."

p. I.30, Index. Add the following index entry after **Load coefficients**:
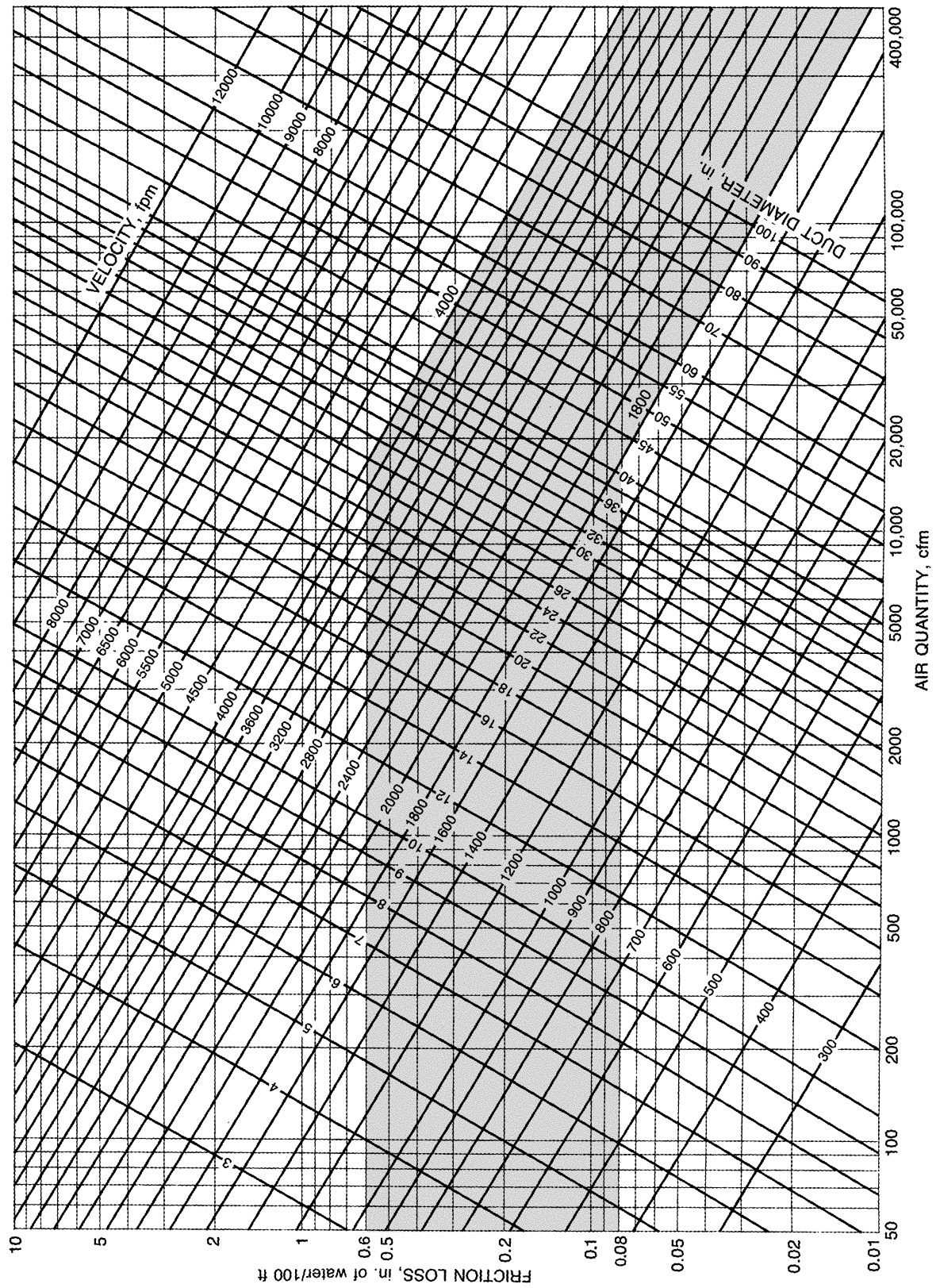
Fig. 9   Friction Chart for Round Duct ($\rho = 0.075$ lb$_m$/ft^3 and $\varepsilon = 0.0003$ ft)