ERRATA SHEET FOR
ANSI/ASHRAE STANDARD 84-2020
Method of Testing Air-to-Air Heat/Energy Exchangers

July 1, 2021

The corrections listed in this errata sheet apply to the first printing of ANSI/ASHRAE Standard 84-2020. The outside back cover marking identifying the first printing is "Product code: 86220 4/20".

Page	Erratum
6	**Equations (8) and (9).** Add the terms for flow rates for Equations 8 and 9 as shown below. *(Note: Additions are shown in underline.)*

where

h_n = enthalpy at Station *n*, kJ/kg

Δp_s and Δp_e = pressure drops across the supply and exhaust sides of the exchanger, respectively, Pa

Q_2 and Q_3 = supply and exhaust side volume flow rates, respectively, m^3/s where $Q_2 = \dot{m}_2/\rho_2$ and $Q_3 = \dot{m}_3/\rho_3$, respectively,

$\dot{m}_2$ = mass flow rate at station 2, kg/s

$\dot{m}_3$ = mass flow rate at station 3, kg/s

η_{fs} and η_{fe} = supply and exhaust air fan and drive total efficiencies, respectively, ratio

q_{aux} = auxiliary total power input to the exchanger, kW [***Informative Note:*** The power used to rotate a regenerative wheel is one example of q_{aux}.]

ρ_2 and ρ_3 = supply and exhaust air dry-air density, respectively, kg/m^3

Page	Erratum
6, 7	**Equations (10) and (11).** Add the terms for flow rates for Equations 10 and 11 as shown below. *(Note: Additions are shown in underline.)*

where

h_n = enthalpy at Station *n*, Btu/lb_m

Δp_s and Δp_e = air friction pressure drops across the supply and exhaust sides of the exchanger, respectively, in. of water

Q_2 and Q_3 = supply and exhaust side volume flow rates, respectively, ft^3/min where $Q_2 = \dot{m}_2/\rho_2$ and $Q_3 = \dot{m}_3/\rho_3$, respectively,

$\dot{m}_2$ = mass flow rate at station 2, ft^3/min

$\dot{m}_3$ = mass flow rate at station 3, ft^3/min

η_{fs} and η_{fe} = supply and exhaust air fan and drive total efficiencies, ratio

q_{aux} = auxiliary total power input to the exchanger, kW [***Informative Note:*** The power used to rotate a regenerative wheel is one example of q_{aux}.]

ρ_2 and ρ_3 = supply and exhaust air dry-air density, respectively, lb$_m$/ft^3

10 **Equation (23).** Add the missing term "< 0.20" to Equation 23 so it reads as shown below.

$$\frac{|\dot{m}_1 c_{p,1} t_1 - \dot{m}_2 c_{p,2} t_2 + \dot{m}_3 c_{p,3} t_3 - \dot{m}_4 c_{p,4} t_4|}{(\dot{m} \cdot c_p)_{minimum}\ |t_1 - t_3|} < 0.20$$

10 **Equation (25).** Revise the terms for Equation 25 as shown below.
(Note: Additions are shown in underline and deletions are shown in ~~strikethrough~~.)

where

~~$Q_{condensate} = \dot{m}_{condensate}[c_p t_{condensate}]$~~

$Q_{condensate} = \dot{m}_{condensate}[c_{p,condensate} \cdot t_{condensate}]$

$c_{p,condensate}$ = specific heat of liquid water, kJ/(kg·K) [BTU/(lb$_m$·°F)]

$\dot{m}_{condensate}$ = measured condensate flow rate at steady-state conditions during the test, kg/s [lb/hr]

$\dot{m}_{1,2,3,4}$ = mass flow rate at stations 1 through 4, kg/s [lb/hr]

$t_{condensate}$ = measured temperature of the condensate °C [°F]

19 **11.1 Symbols (SI [I-P]).** Add $c_{p,\text{ condensate}}$ to Section 11.1 symbols as shown below.
(Note: Additions are shown in underline.)

$c_{p,condensate}$ = specific heat of liquid water, kJ/(kg·K) [BTU/(lb$_m$·°F)]