ERRATA SHEET FOR
ANSI/ASHRAE STANDARD 16-1983 (RA 2014)
Method of Testing for Rating Room Air Conditioners
and Packaged Terminal Air Conditioners

December 10, 2015

The corrections listed in this errata sheet apply to all copies of ANSI/ASHRAE Standard 16-1983 (RA 2014). The first printing is identified on the outside back cover as "Product code: 86027 7/14". Shaded items have been added since the previously published errata sheet dated October 6, 2015 was distributed.

Page	Erratum
7	**Table 2 Data to be Recorded for Cooling Capacity Tests.** In footnote "b" of Table 2 change "See 3.2.7" to "See 4.2.7".
8	**6.2.1 and 6.2.2.** Correct the equations and terms in Sections 6.2.1 and 6.2.2 as shown below (highlighted in yellow). *(Note: Additions are shown in underline and deletions are shown in ~~strikethrough~~.)*

6.2 Cooling Capacity Calculations

6.2.1 Net total cooling effect on the room side, as tested in either the calibrated or balanced ambient room type calorimeter (Figures 1a and 1b), is calculated as follows:

$$q_{tr} = 3.41\ SE_r + (h_{w1} - h_{w2})\ w_r + q_{lp} + q_{lr}$$
$$(q_{tr} = SE_r + 1000\ (h_{w1} - h_{w2})\ w_r + q_{lp} + q_{lr}).$$

where

q_{tr} = net total cooling effect as determined on room-side compartment, Btu/h (W).

SE_r = sum of all power input to room-side compartment, W.

h_{w1} = enthalpy of water or steam supplied to maintain humidity, Btu/lb (kJ/kg). If no water is introduced during the test, $hw1$ is taken at the temperature of the water in the humidifier tank of the reconditioning equipment.

h_{w2} = enthalpy of condensed moisture leaving the room-side compartment, Btu/lb (kJ/kg). Since transfer of condensed moisture from room-side to outdoor-side compartment usually takes place within the air conditioner, with consequent difficulty in measuring its temperature, the temperature of the condensate may be assumed to be at the measured wet-bulb temperature of the air leaving the air conditioner.

w_r = water vapor condensed by air conditioner. This is measured by reconditioning equipment as the amount of water evaporated into room-side compartment to maintain required humidity, lb/h (kg/s).

q_{lp} ~~q_{lp}~~ = heat leakage into room-side compartment through separating partition between room-side and outdoor-side compartments, as determined from calibrating test, Btu/h (W).

q_{lr} ~~q_{tp}~~ = heat leakage into room-side compartment through walls, floor, and ceiling (but not including the separating partition) as determined from calibrating test, Btu/h (W).

6.2.2 When simultaneous capacity measurements are made, net total cooling effect on the outdoor side, as tested in either the calibrated or balanced ambient room type calorimeter (Figures 1a and 1b), is calculated as follows:

$$q_{to} \text{ ~~} q_{to} = q_c - 3.41\ SE_o - 3.41E + (h_{w3} - h_{w2})\ w_r + q_{lp} + q_{lo}$$
$$(q_{to} \text{ ~~} q_{to} = q_c - SE_o - E + 1000\ (h_{w3} - h_{w2})\ w_r + q_{lp} + q_{lo})$$

where

q_{to} ~~q_{to}~~ = net total room cooling effect as determined on outdoor side, Btu/h (W);
q_c = heat removed by cooling coil in outdoor-side compartment, Btu/h (W);
SE_o = sum of all power input to any equipment, such as reheaters, circulating fans, etc., in outdoor-side compartment, watts (W);
E = total power input to air conditioner, watts (W);
h_{w2} = enthalpy of condensed moisture leaving the room-side compartment, as defined in 6.2.1, Btu/lb (kJ/kg);
h_{w3} = enthalpy of condensate removed by air-treating coil in outdoor-side compartment reconditioning equipment, taken at the temperature at which the condensate leaves the compartment, Btu/lb (kJ/kg);
w_r = water vapor condensed by air conditioner, as defined in 6.2.1, lb/h (kg/s);
q_{lp} = heat leakage out of outdoor-side compartment through separating partition between room-side and outdoor-side compartments, as determined from calibrating test, Btu/h (W) (this quantity will be numerically equal to q_{lp} used in the equation in 6.2.1 ~~Equation 1~~ if and only if the area of separating partition exposed to the outdoor side is equal to the area exposed to the room-side compartment);
q_{lo} = heat leakage out of outdoor side (but not including the separating partition), as determined from calibrating test, Btu/h (W).