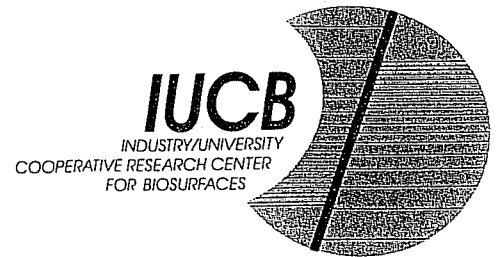


28 March 2013

Yahya Al-Rayyes, MPH, CES, CMRS, CIEC, OSHA-AT
Vice President of R&D
PURE Global
3420 Maple Avenue PO Box 465
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Dear Mr. Al-Rayyes:

I write to thank you for the kind loan of your two HealthWay air-purification products, the self-contained and portable air cleaning systems described as [1]Healthway 1200SC™ (DFS) Air-Purification Technology and {2} HealthWay 20600-03 portable (DFS) Air-Purification Technology, for utilization in our laboratory calibration studies relevant to air quality control in public health facilities. As agreed, I report to you here the results of our findings that were relevant to your equipment's performance during these tests.

Here are the associated data that I collected with the Particle Concentration Meter [PCM= nominal particle size range 0.3 – 10 micrometers] and Aircuity unit [two nominal particle size ranges, Small=0.3-2.5 micrometer & Large= 2.6-10 micrometer].

Location: Room B30 Squire Hall (4000 cubic feet estimated volume), SUNY Buffalo School of Dental Medicine Date: 15Feb2013 Time: 12:30PM to 2:45PM Unit Tested: HealthWay Model 1200SC-110-1, set at "40" on dial.

Unit was operated for 1.5 hour period for warm-up and development of "steady state" conditions against continuous influx of air from the Squire Hall basement corridor, keeping the room air at a steady state of PCM (avg)= 58917 particles/ft³; Aircuity Small particles = 69122 particles and Large=198 particles/ft³ from a general open door/ corridor background of PCM (avg) =154757 particles/ft³; Aircuity Small= 146732 particles and Large=1388 particles/ft³→ for a "Steady State improvement of about 53% in the usual respirable range of particles from 0.3-10 micrometers.

A smoking incense challenge to the closed room, with the Model 1200SC turned OFF, increased the in-room particulate load to PCM (avg) rising from 3,096,575 to 4,392,420 particles/ft³; Aircuity Small = 12,172,303 particles/ft³ and Large= 4078 particles/ft³.

Keeping the incense smoke generation ON and turning the Model 1200SC unit ON, over a 5-minute period reduced these general room air counts at PCM (avg)=4,187,067/ft³ to 2,463,125 particles/ft³; Aircuity Small =8,164,555 particles/ft³ & Large= 1161 particles/ft³.

Eliminating the incense smoke challenge, and keeping the Model 1200SC ON reduced the in-room particle counts to PCM (avg)= 1,142,975 particles/ft³; Aircuity Small=687,449 particles/ft³ & Large= 142 particles/ft³ in 5-minutes of operating time.

Respirable particulate loading in the closed room was reduced by approximately 95% within 10-minutes after the maximum incense-based smoke challenge, with the Model 1200SC operated at dial position "40". A repeat of the "incense smoke challenge" procedure was later done, adding a particle collection device that allowed for chemical and morphological analysis of the actual smoke particles generated, which represented many of the constituents of combustion-product-polluted environments.

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Throughout this test series, using a TSI Model #3020 Condensation Nuclei (CN) Counter, also on loan to us from Dr. Ramon Cipriano for these same calibration studies, we were able to ascertain that the 1200SC unit removed all particles exiting in its exhaust air to near-zero counts for all particles greater than 2nm in average diameter. Thus, the 99.99% efficiency of removal of all particles—as desired for our test series—was achieved.

Our main calibration work was done in a smaller space, in Room B38 Squire Hall, with all monitoring done within a limited static volume of an approximately 1 cubic meter chemical fume hood:

Starting background “in the hood” conditions were these→ PCM(avg) decreased slowly from 444,300 particles/ft³ to 312,200 particles/ft³; Aircurity Small counts ranged from 150448 particles/ft³ to 213623 particles/ft³ over that same time, and Aircurity Large particles dropped from 1954/ft³ to 283/ft³....

When one incense stick was used to generate smoke into the hood, the PCM (avg) values increased from 4,912,860 to 5,982,130 particles/ft³ and the Aircurity values remained in the same range Small particles =5541556, 5041683, 5719305/ft³ and Large= 198, 311, 142/ft³...

Adding the second stick of incense produced a PCM(avg) count increase from 4,212,880 to 6,081,683 to 6,466,671 particles/ft³ while the Aircurity Small particles surged to 16,726,425 and Large only to 1388 particles/ft³, both dropping slowly over the calibration period to 7,531,503 and 65 particles/ft³, respectively..

When the incense was removed, the PCM count dropped sharply from 385466 to 153600 particles/ft³ and the Aircurity Small counts went from 695775 to 211386 particles/ft³, with Large particles remaining at 425/ft³....

Supporting these tests, the portable HealthWay 20600-03 unit when operated with and without incense burning, produced exiting air 99.99% free of all particulate matter greater than 2nm in diameter, as documented with Dr. Cipriano’s TSI Model 3020 CN readings.

In an earlier series of e-mail messages, I sent you some graphical documentation of the CN-related findings associated with operation of your loaned units—prepared by engineering research student, Mr. Peter Oldani, under my supervision. You may want to add those graphs to this letter report to improve its illustrative value.

Thank you again for the loan of helpful air-purification equipment, allowing us to produce the “particle-free” air flows required in our calibration studies.

Sincerely



Robert E. Baier, PhD, PE
Professor and Executive Director