AIRSIDE / APPLIED / CONTROLS / SERVICE / SPECIAL SOLUTION / TOTAL SYSTEM / UNITARY

Case Study – San Bernardino City Unified School District

EDUCATION / HEALTHCARE / LODGING / GOVERNMENT / OFFICE BUILDING / RETAIL / SPECIAL



Carrier OptiClean™ Air Scrubbers Deliver HEPA Filtration, Improved Air Quality and Peace of Mind to School District Classrooms

OBJECTIVES:

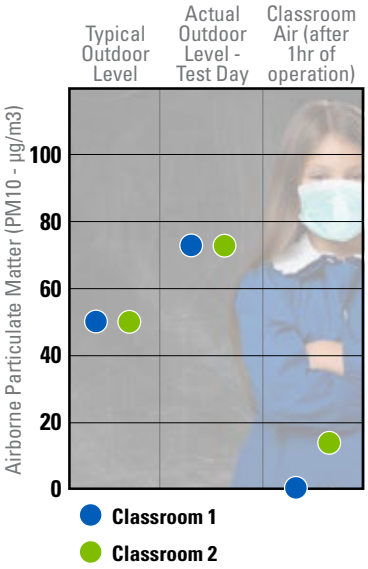
Of the myriad challenges facing the San Bernardino City Unified School District (SBCUSD) to re-open their 72 school and five administrative sites in the new world affected by COVID-19, none were more important than delivering a high degree of indoor air quality (IAQ) and promoting a healthier and safer environment" for each student, faculty and staff member who would be entering each building and space. This meant, amongst other filtration requirements and overall safety protocols, efficiently mitigating airborne particles by increasing air changes per hour in each occupied space. Additionally, as school opening deadlines were fast approaching, the final proposed equipment strategy would need to be manufactured, certified and delivered on time.

SOLUTION:

With a long-standing and successful working partnership, SBCUSD turned to Russell Sigler, Inc. to deliver premium technology to improve indoor air quality within each school. Sigler — an independent distributor of Carrier heating, ventilating and air-conditioning (HVAC) products, systems and controls solutions for multiple market segments throughout the southwestern United States. Sigler's professionals knew that Carrier had created the OptiClean™ negative air machine and air scrubber units as portable solutions primarily designed to help convert normal hospital rooms into airborne infectious isolation rooms (AIIR) to help combat airborne particulates. Sigler believed that, with minor modifications, including to add silencers and diffusers, OptiClean air scrubbers would be the perfect solution. Due to the urgency of this project, the SBCUSD Board utilized a procurement method through the California Multiple Awards Schedule (CMAS) which allowed the district to use a pre-purchase contract to expedite approvals and ensure the best pricing.

**Sample Air Quality Testing - All air readings were taken on 16 September 2020 at SBCUSD's Holcomb Elementary School. This was a day with heavy smoke from area wildfires. All values are in micrograms per cubic meter.*

Carrier OptiClean™ Air Scrubbers Deliver Classroom IAQ* Performance



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"OptiClean represents an investment in people's lives... while not taking away from our uncompromising level of educational experiences"

Tom Pace,
Director of Facilities,
San Bernardino City
Unified School District

SYNOPSIS:

The San Bernardino City Unified School District (SBCUSD) serves approximately 48,000 students and is the ninth-largest school district in California. Two schools, Richardson PREP HI Middle School and Middle College High School, were named National Blue Ribbon Schools and the District has 16 California Distinguished Schools. The District is comprised of 50 elementary, 11 middle, eight high schools, and one adult school. This includes two alternative schools, one community day school, and Anderson School to serve their diverse students.

When it came time to address re-opening their facilities during the COVID-19 pandemic, the SBCUSD's Board knew that confidence in the air quality in every occupied indoor space had never been a more critical issue for faculty, parents, staff and students. But according to experts, an evidence-based approach and healthy building strategies can help reduce the risk of COVID-19 transmission – and promote a safer indoor environment in support of student health and progress moving forward.

For a successful solution, the SBCUSD's Board turned to Russell Sigler, Inc. to recommend and deliver the leading-edge technology to address IAQ concerns within each school. "OptiClean represents an investment in people's lives," said Tom Pace, SBCUSD's Director of Facilities. "Our goal was to achieve a solution which supported our IAQ strategy while not taking away from our uncompromising level of educational experiences." he continued.

Sigler clearly understood the technical and logistical challenges posed by the SBCUSD's requirements. "We knew that the the final proposed equipment strategy would need to be extremely efficient, have HEPA (High-Efficiency Particulate Arrestor) -grade filtration, mitigate airborne particulates through increased air changes per hour, operate quietly and be portable," said Joseph Morales, Sigler's Commercial Strategic Account Manager for school district communities. "Additionally, manufacturing, delivery time and deployment of thousands of units to the district's individual locations were of the essence," he continued.

Sigler recommended Carrier's OptiClean™ air scrubber units. "Our 'aha moment' struck as we were reviewing a hospital OptiClean air scrubber demo unit in our office," commented Carlos J. Martinez, Sigler's Commercial Sales Manager. "It had an efficiency rating of 99.97%, removed particles as small as 0.3 microns, exceeded ASHRAE's school reopening recommendation for air changes per hour, exceeded SBCUSD's MERV (Minimum Efficiency Reporting Value) 13 requirements, was portable, and available in 500 and 1,500 CFM sizes for flexibility," he concluded. Sigler calculated the maximum number of air changes based on classroom sizes and made minor modifications, including to add silencers and diffusers to both the 500 and 1,500 CFM units.

The SBCUSD also contracted to have initial 'before and after' IAQ testing done in selected classrooms. "Some of us have the OptiClean units in our own offices... aside from the IAQ benefits, it provides an increased level of confidence and safety," said Sam Precie, Administrator of Operations, SBCUSD. "Our initial classroom IAQ testing results indicate that this reaction will continue," he commented.

In addition, the SBCUSD was promoting the implementation of OptiClean air scrubber units in their classrooms. "We've created an ongoing 'Confidence Campaign' to keep our SBCUSD family informed with up-to-the-minute information about all our facilities," said Maria Garcia, SBCUSD's Communications Officer. "The OptiClean units are prominently featured in our video as well as social media communications...they're getting a lot of positive exposure," she concluded.

The OptiClean air scrubber dramatically illustrates how Carrier's technology, engineering capability and manufacturing capacity combined to help the San Bernardino City Unified School District achieve their IAQ goals.

Project Summary

Location: San Bernardino, CA

Project Type: Retrofit

Building Size: 77 separate school district locations

Facility Usage: Education

Objectives: Deliver a high degree of indoor air quality (IAQ) and promote a healthier and safer environment for each student, faculty and staff member who would be entering each building and space.

Equipment: 3,723 Carrier OptiClean™ air scrubber units. Available in 500 and 1,500 CFM, and horizontal or vertical configuration.

Major Decision Drivers: OptiClean air scrubber units delivered a 'plug-and-play' IAQ solution, air changes per hour exceeded MERV 13, quiet operation and procurement utilized CMAS (California Multiple Awards Schedule) which allowed the district to use a pre-purchase contract to expedite approvals and ensure best pricing.

Unique Features: 99.97% efficient HEPA filter removes airborne particles as small as 0.3 microns, exceeds ASHRAE's school reopening recommendations, 'plug-and-play,' portable and quiet.

Installation Date: 2020

For more information, contact your nearest Carrier Representative, call 1.800.CARRIER or visit our web site at ***carrier.com/commercial***

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