

# Air-Cooled Chiller APPLICATION



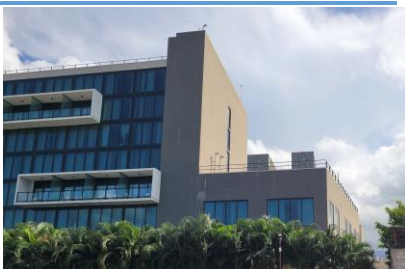
## HUSHCORE® SOLUTION FOR MAJOR HOTEL CHAIN

### PG. 2

Understanding the Problem & Needs

### PG. 3

Site Visit & Implementation



## STANDARD-SC SYSTEM™

### NOISE PROBLEM

If someone were to say, “Kingston, Jamaica,” you would probably see yourself relaxing on the beach and enjoying the gentle sound of the waves lapping the shore. That is until two 300-ton air-cooled screw chillers on your resort’s roof start up ruining your paradise.

BRD Noise & Vibration Control was contacted by a major equipment OEM office in Miami, FL about conducting a sound study to confirm noise criteria data and identify sources as well as possible solutions.

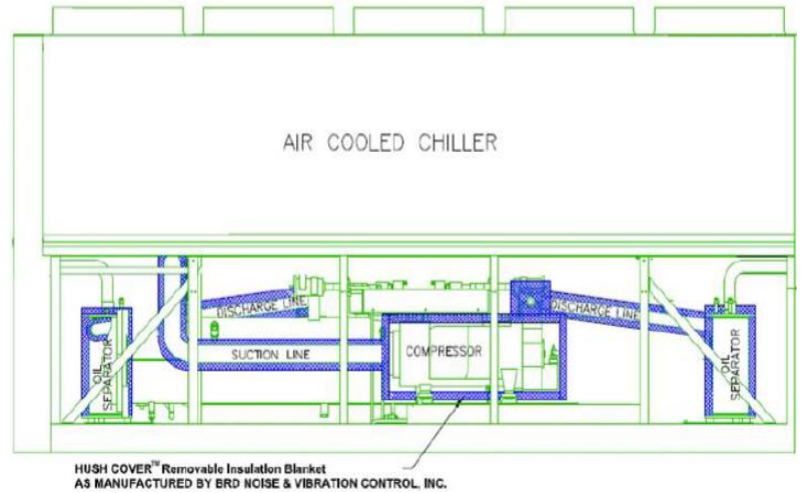


# TROUBLE IN PARADISE?

KINGSTON, JAMAICA

“Angry neighbors and guests!” Because the noise abatement regulations were relatively loose in Kingston at the time of implementation, the property was not out of compliance. However, the headache of constant noise complaints is not something the owner wanted escalated, especially in a resort setting that’s supposed to provide peace and quiet to its paying customers.

Air-cooled screw chillers have a tonal quality to the sound they produce causing them to stand out from the ambient background noise even with considerable distance. As such, it is important when using any air-cooled chiller to assess the sound they produce at design. Acoustic due diligence at design would have likely noted this potential issue and saved the owner a lot of headache and lost revenue before they contacted BRD to solve the problem.



## UNDERSTANDING THE CONTRIBUTING FACTORS

FROM PROBLEM DEFINITION TO PROBLEM SOLVED

There are a variety of noise control solutions for air-cooled chillers that would have worked for this project but there were additional design constraints to consider; hurricane force winds, building structure to support a solution, maintaining airflow and service clearance for the chillers, and most importantly how much attenuation is actually needed.





# SOUND STUDY

## CONSULTATIVE DATA

A sound survey of the area indicated the overall reduction needed was modest with an emphasis in reducing the tonal content of the sound in the 500 Hz and 1000 Hz bands.

As a result of BRD's site visit and sound study it was discovered that the (2) RTAC 300H units that we're placed on a 3rd floor rooftop were resulting in SPL levels > 95 dB(A), 3ft from the unit, with a tonal frequency, and considerable spill over to the ground floors and effect on the floor overlooking above.

After the sound study, BRD offered a minimal but effective solution to appease the complaints, which resulted in SPL reductions of about 5-6 dB(A). As an additional paid service, BRD provided installation supervision to oversee proper fit and adjustments in order to achieve optimal performance. The result was happier guests and a happy owner!



# JUST RIGHT ACOUSTICS®

NOTHING MORE, NOTHING LESS, THAN WHAT IS NEEDED!

BRD recommended a Hushcore® Standard-SC™ composite sound cover system to treat the compressors and refrigerant piping components reducing the overall sound by ~30% volume reduction as well as tonal output of the chiller. The system is removable, adds no additional wind load to the chiller/building structure, and is a solid base treatment for any air-cooled chiller. Now, back to the beach and listening to the waves!

Just Right  
Acoustics®



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