**ECKEL ANECHOIC CHAMBERS HELP WHIRLPOOL ACHIEVE**

**PERFORMANCE TARGETS FOR ITS IN-HOME SOLUTIONS**

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Cambridge, MA—It’s a classic joke from the days of prank calls: Is your refrigerator running? Yes. Well, you better go catch it. Click.

In reality, everyone wants their refrigerator—like all of their home appliances—to be running, and to do so smoothly and quietly. That’s why sound and vibration testing is key to Whirlpool Corporation’s product development. As the number one major appliance manufacturer in the world, Whirlpool prides itself on creating products that offer the utmost in quality and convenience combined with design that blends into the home. This means investing time and energy analyzing and minimizing the noise and vibration levels its products emit, testing both overall and component-specific levels, and adjusting designs accordingly.

As part of a massive ongoing construction and refurbishment project (scheduled for completion in 2016) in Benton Harbor, Michigan—home to Whirlpool’s Global Headquarters—the manufacturer sought to upgrade its sound and vibration test capabilities with two new anechoic chambers designed for evaluating any product. To that end, Whirlpool contracted with ACS, a construction, design and engineering firm based out of Madison, Wisconsin. ACS functioned as the general contractor and, together with Whirlpool, selected Eckel Industries of Cambridge, Massachusetts, to supply the chambers.

“We’ve worked with ACS several times in the past and have always found their team to be extremely professional and knowledgeable. This project was no different,” said Jeff Morse, Eckel Vice President. “We were happy to work with ACS once again. And it’s a real boon for us to be chosen to provide an acoustic testing solution to such a distinguished and respected manufacturer as Whirlpool.”

Eckel collaborated closely with Randy Rozema, Director of Technology Implementation for ACS, to design and install the chambers to meet Whirlpool’s needs and fulfill industry standards. The chambers—in the heart of the manufacturer’s new Benton Harbor Technology Center—required customization to offset external vibrations generated by a nearby railroad track and to accommodate special lighting requirements.

“Working with Eckel on the Whirlpool project was a great experience. Their engineers are always responsive and complete drawing revisions in a very timely manner,” Rozema said. “The installation fit, finish and quality were spectacular, and the final deliverable met the design requirements.”

The chambers are large enough to accommodate any Whirlpool product—from refrigerators and dishwashers to clothes dryers and stoves. One has dryer venting, a natural gas inlet, hot and cold water, and an isolated drain. The other has cold water and a drain. Each chamber also features a reflective plane to provide a surface similar to a kitchen wall. This wall is easily disassembled to transform the space from a semi-anechoic chamber into a hemi-anechoic chamber for component testing.

“The addition of these two precision-grade sound chambers will help Whirlpool Corporation gain and maintain market standing with respect to sound performance,” said Ron Ingham, Lead Engineer for the Whirlpool Sound Lab. “Future advances will be quieter components that drive quieter overall sound levels, which will increase customer satisfaction.”

*(more)*

Internally, each chamber measures 21 ft. long by 16 ft., 7 in. wide and 13 ft., 10 in. high. Each room features a   
5 ft., 4 in. by 8 ft., 8 in. combination sound and wedge door, and spring-isolated concrete floors. The walls, ceilings and doors are covered with Eckel’s anechoic perforated metal wedges. To allow for discrimination of very low level radiated sounds, the rooms have a 100 Hertz cutoff frequency and a maximum background noise level of 10 dBA (about the level of normal breathing). The chambers meet IEC 60704 test standards and ISO 3745 Annex A qualifications. According to Ingham, the chambers have functioned well even during ongoing construction in the building.

**Contact for additional information, hi-res photography and interviews:**

Sue Minichiello, Director of PR Services, SpaceAge Media Consultants

[sue@spaceage-media.com](mailto:sue@spaceage-media.com) 617-783-2700

***About Eckel Industries***

*With expertise in creating optimal sound environments, Eckel Industries has been at the forefront of acoustic analysis and design for more than 60 years. Headquartered in Cambridge, MA, Eckel helped to create the world’s first Anechoic Chamber at Harvard University. Since then, the company has pioneered chamber design for use in product testing—from cell phones to cars to jet engines—helping engineers and manufacturers achieve exceptional quality standards. Building on the science behind its chambers, Eckel’s Audiometric Rooms create the ideal controlled environment for hearing testing and other sound isolation applications; while its Acoustic Panel Systems provide precise control of reverberation and background noise in any setting—from auditoriums and gyms to concert halls and industrial facilities. No matter the acoustic challenge, Eckel has a sound solution. Learn more at* [*www.eckelusa.com*](http://www.eckelusa.com)*.*





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