

CASE STUDY

Konica Minolta
Toyokawa-Aichi

Japan
Office Equipment
PULSE Noise Source Identification

Konica Minolta Business Technologies Inc.' newly established acoustic test laboratory has world-class acoustic features and equipment. Brüel & Kjær contributed with a turnkey PULSE solution including the supply of a microphone positioning robot with computer control for the automatic determination of sound power. Setting up for a test used to take 45 minutes but, as a result of the new system, it now takes less than five.

© 2009 Brüel & Kjær Sound & Vibration Measurement A/S. All rights reserved



Photographs by kind permission of Konica Minolta

The Company



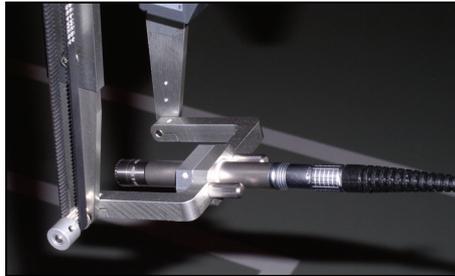
Konica Minolta is a Japanese holding group and was formed by the integration of Konica Corporation and Minolta Co., Ltd. The group's product portfolio includes business products and services and industrial products and services. Konica Minolta conducts its operations worldwide. Konica Minolta Business Technologies, Inc. provides equipment for offices and production printing markets around the world, such as digital multi-functional peripherals (MFPs) and printers. Konica Minolta holds a leading position in the European and U.S. markets for office MFPs. Furthermore, Konica Minolta has been selected as the main sponsor and provider of

MFPs and printers to the UN climate change conference (COP15) in Copenhagen.

In order to improve and optimise our customers' office environments, Konica Minolta is committed to increasing the performance of its products while, at the same time, minimising noise to the lowest possible level.

New Acoustic Test Laboratory

Just one of the 19 low-noise microphones in the multi-microphone traverse



Konica Minolta's new test laboratory, built in March 2008 and commissioned in July of the same year, is based at Konica Minolta's Mizuho site, Toyokawa-Aichi. As part of the laboratory, a hemi-anechoic chamber was built especially to house a state-of-the-art system where a maximum of 19 microphones can be held in position simultaneously in a multi-microphone traverse. The angle of the microphones at the end can be adjusted. By introducing a traverse which can be switched with high precision according to the target, the reproducibility of the microphone position-

ing has been improved dramatically, enabling more accurate measurements. This system – the first of its kind in the world – is used to carry out a variety of measurements for multi-functional peripherals (MFPs) and printers.

The control room outside the hemi-anechoic chamber including closed circuit TV

The turnkey system, including a third party, 3D positioning robot was supplied by Brüel & Kjær. The robot can be controlled from an operating position outside the hemi-anechoic chamber and controls the positioning and height of the microphones. A closed circuit TV is also used to monitor the chamber. As well as the robot, the measurement system also includes:

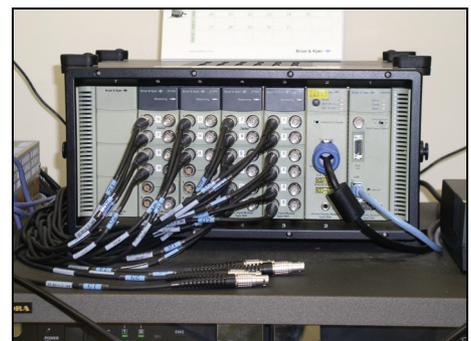
- A 24-channel PULSE D-frame with Dyn-X modules
- 20 × Low-noise, Free-field TEDS Microphones Type 4955 (19 microphones are used at any one time and one is kept as a spare)
- Sound Calibrator Type 4231

The background noise level in the chamber is only 5 dBA and the cut-off frequency is at 100 Hz.

The system was commissioned with three purposes in mind:

- Conformance testing, adherence to standards and legislation
- Target setting and comparison
- Benchmark testing of competitor products

Mr. Tou Matsunaga, Assistant Manager at Konica Minolta Business Technologies Inc. explains why Brüel & Kjær was chosen as supplier. He says, "ISO 17025 [General requirements for the compe-



tence of testing and calibration laboratories] is a very high spec requirement. We chose Brüel & Kjær because they were able to supply a total solution. From past experience, we know that Brüel & Kjær's office in Japan provides excellent support. What's more, Brüel & Kjær has a global reputation for accuracy, quality and reliability".

As a result of obtaining ISO/IEC 17025 accreditation from the US-based NIST, the facility is now qualified as a test laboratory competent to carry out the acoustic measurements required when applying for the German environmental protection label known as the Blue Angel Mark. This means that data measurements formerly made by an accredited test laboratory in Germany can now be carried out quickly in-house, considerably shortening the time taken to acquire Blue Angel Mark certificates and providing fast and reliable support for the EU and other markets.

Setup Time Cut by 90%

Mr. Tou Matsunaga and Mr. Shigeru Tashiro, Assistant Managers at Konica Minolta Business Technologies Inc.



The system is a great success. Mr. Matsunaga elaborates, "We are absolutely delighted with our new solution. Previously, setting up for a test took us 45 minutes. Now it takes less than five".

He continues, "Our new facility is very flexible and efficient and saves a huge amount of time in the setup process. With PULSE and the 160 dB dynamic range Dyn-X modules, we find it extremely quick to acquire and evaluate test data and we are sure that the measurements are totally accurate".

He concludes, "The system is used daily and by many members of R&D in the development of new products".

Assistant Manager, Mr. Shigeru Tashiro was also absolutely delighted with the system. "I am thrilled with the wonderful performance of our system," he says. "Our object in acquiring it was to focus, even more than before, on making our products quieter and more environmentally friendly."

He continues, "During the development of our latest product, bizhub C360/280/220, earlier this year, the new system enabled us to minimise noise to a very low level early in the development process". Mr. Tashiro concludes, "I feel honoured to have been a part of selecting and developing the system which will enable us to continue to develop ever quieter products for our customers."

Konica Minolta's latest product for office use – MFP bizhub C360



bizhub 

HEADQUARTERS: Brüel & Kjær Sound & Vibration Measurement A/S · DK-2850 Nærum · Denmark
Telephone: +45 7741 2000 · Fax: +45 4580 1405 · www.bksv.com · info@bksv.com

Brüel & Kjær 