

## **Press Release**

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### **Akebono Brake Develops Concrete Pouring Detection System with Additional Real-Time Compaction Monitoring**

TOKYO — Akebono Brake Industry Co., Ltd., announced today that it has developed a concrete pouring detection system with additional real-time compaction monitoring, in collaboration with Toyo Construction Co., Ltd. The new system promises to further improve the dependability of concrete structures by enabling contractors to monitor the compaction of poured concrete in real-time at construction sites.

The strength and quality of concrete structures is significantly affected by the ability to pour concrete in a way that ensures that the concrete completely fills the areas around rebar and inside frames. This work is conducted in two main steps, first by pouring the concrete and then compacting the poured concrete using internal vibrators. The compacting process removes unnecessary air to ensure the evenness of poured concrete. However, it is sometimes difficult for contractors to visually gauge the evenness of compaction in certain areas.

In June 2003, Akebono released the Concrete Pouring Detection System, which monitors the pouring of concrete and is being successfully used at construction sites across Japan. Building on the success of this system, Akebono and Toyo Construction have jointly developed an enhanced version of this system that enables simultaneous monitoring of both the pouring and compaction status of poured concrete, to effectively improve the quality of concrete construction.

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The system relies on the same sensors (vibration devices) used in the Concrete Pouring Detection System, eliminating the need for expensive accelerometers to provide measurement. Under the latest system, the sensors provide real-time monitoring of compaction by detecting and calculating the vibrational speed between vibrators and sensors, in addition to detecting the pouring status around the sensor. The system is already being used at construction sites managed by Toyo Construction, where it is proving to be an effective and highly useful tool.

Akebono and Toyo Construction plan to conduct further R&D on the system before releasing it on the market in the future.