

Measurement Report: Elastic Bearing of a Chiller Compressor System

Effective vibration isolation and reduction of secondary airborne noise

Description of the project

An Austrian client required three chillers for its manufacturing plant, which were installed one next to the other in the roof space above the office area. The secondary airborne noise emitted by the compressors disrupted the day-to-day work of the staff in the offices below. The existing machine bearings (Vibrostop) did not provide the desired results.

The noise and vibration created by the compressors was measured by Getzner technicians before and after the installation of Sylodyn® NE point bearings. The (secondary) airborne noise emitted was reduced by 4-6 dB(A) (Graph 1 and Graph 2). The vibration isolating effect was therefore improved by 10 dB (Graph 3). This meant that the Getzner solution significantly improved conditions for the employees.



Effective bearing of refrigeration plant in the roof space



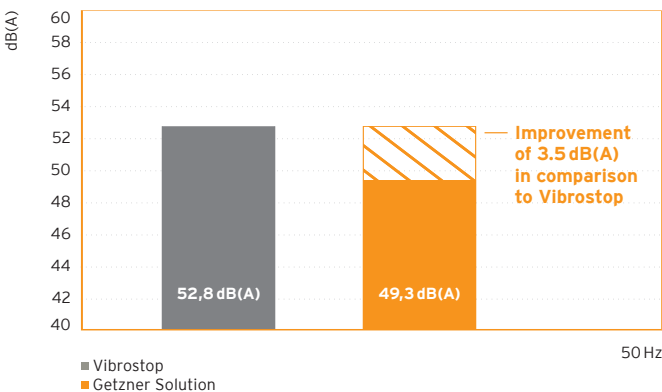
Scroll compressors installed in the systems



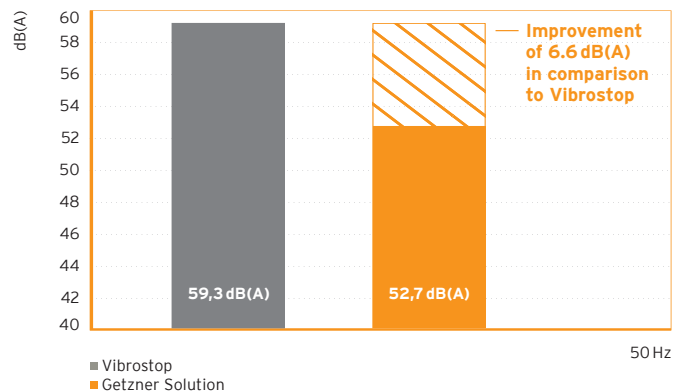
Existing insufficient machine bearings from Vibrostop

Measurement results

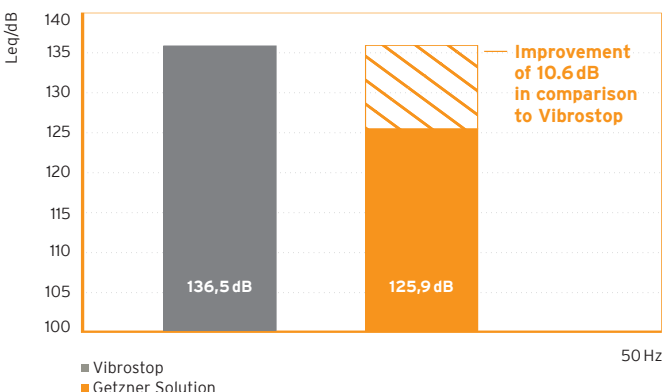
Graph 1: Improvement in the level of airborne noise at 50Hz (one system in operation)



Graph 2: Improvement in the level of airborne noise at 50Hz (all systems in operation)



Graph 3: Vibration accelerations at 50 Hz



Detailed measurement report available on request

Benefits

- Noticeable reduction in noise
- Effective structure-borne noise insulation
- Allows systems to be installed in critical areas
- Long service life – the bearings do not become brittle
- Effective even during the colder months