

ACE Isolates Vibration In Chocolate Manufacturing

There's one key ingredient used to make chocolate that has nothing to do with cocoa, dairy or sugar: Vibration. In chocolate production, you have to vibrate a series of molds filled with liquid chocolate for a consistent, flat finish before it's hardened. While this step is necessary, these vibrations can disrupt other aspects of chocolate manufacturing—and even affect the neighborhood. High quality chocolate manufacturer Libeert received complaints from residents in nearby buildings who felt these intense vibrations and oscillations. With the help of ACE Controls leveling mounts, the company found a reliable way to isolate these vibrations.

Isolate vibrations in chocolate production.

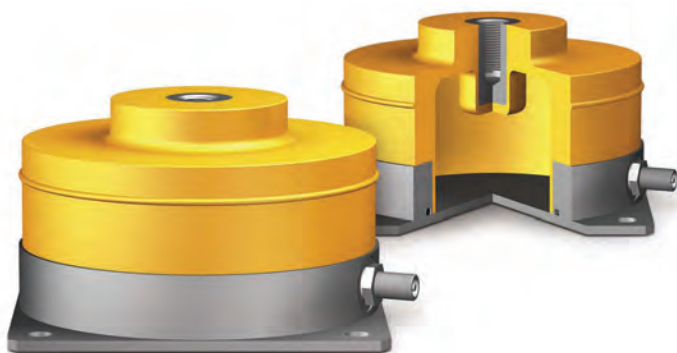
Chocolate manufacturing begins with liquefied chocolate that goes into a vat and continuously rotates in a circular motion for adding creaminess and any flavor additives.



Heavy vibrations are sent through the molds to shake them and give the chocolates a flat, even finish.

Next, the liquid empties into preheated molds. A machine then sends heavy vibrations through the molds to shake them and give the chocolates a flat, even finish.

For this application, they chose PLM-3 leveling mounts from ACE Controls. Designed for low-frequency vibration and shock isolation at measurement sites, this solution proved to be the proper fit right off the bat, reducing vibration levels by 80 percent.



With a low natural frequency of 3 Hz, ACE Controls' PLM-3 leveling mount isolates equipment from undesirable vibrations.

The vibration frequency of the company's chocolate-making machines vary depending on the viscosity and yield point of the chocolate, as well as some other parameters. The machine's disturbance frequency is 16 Hz, which raised another issue: Libeert couldn't find a solution for isolating vibrations under 20 Hz. That is, until they came across ACE's PLM family of low frequency pneumatic leveling mounts.

What ACE leveling mounts offer. With a low natural frequency of 3 Hz, ACE Controls' PLM-3 leveling mount isolates equipment from undesirable vibrations, while also providing leveling via the integrated valve. When used as a vibration absorber, the internal air chamber provides a significant isolating effect, starting at 5 Hz. The horizontal-to-vertical ratio for natural frequency is 1:1, and only 3 Hz in ideal loading conditions. The value is 10 Hz when there's no applied pressure, meaning that faults above 14 Hz can still be isolated.

Since the system weighs about 4,000 pounds, they had to find the right vibrating unit stand for this machine. With a maximum load of 297 pounds per air spring element, the



Libeert chose ACE Controls leveling mounts to isolate vibrations in its chocolate manufacturing.

PLM design has a threaded insert that allows compressed air to be applied to the leveling mount using either a standard tyre valve or pneumatic screw connection. This eliminates the need for any special connectors.

To learn more, please visit: www.acecontrols.com

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