



Bumping and Shaking? How to Protect Your Enclosure from Vibration

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Fortunately, with the right insights, it's a fairly straightforward process to design enclosure cooling systems from the dangers of vibrations and extensive motion.

Option 1: Add Rubber Bushings to Joints

Any forced-air or liquid cooling pipes should be affixed with rubber bushing at the joints to prevent stress and accidental contact with the edges of the enclosure. Rubber bushings move with the pipes as vibration from compressors, engines, and heavy machinery affects the internal enclosure environment.

Option 2: Silver Solder

Most brazing materials are made from copper, traces of silver, and phosphorous. These can become weakened with constant, sustained motion, experiencing premature failure. Using higher-quality silver solder, which has a greater fatigue limit than copper, will greatly extend the life of your design.

Option 3: Secure the Wiring

Securing all internal wiring to a harness will help guard against accidental, uncontrolled movement that could lead to wires rubbing against the component itself.

Depending on your intended use and the nature of your project, there may be further strategies to preventing premature failure due to external vibration. For more information on building the ideal enclosure for your component, [contact Front Panel Express](#) today or [download Front Panel Designer](#) for a free quote on your design.

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