



# MASON-DALLAS .INC

## NEWSLETTER

# THE VIBE OF DIAMONDS

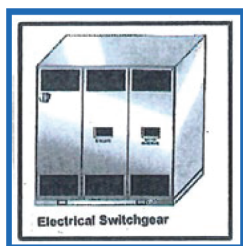


• ELECTRICAL EDITION 2018 •

## Mason-Dallas is the Premiere Vibration & Noise Control Experts in the Region

- ◆ 120 years of combined experience in the field of vibration & noise control.
- ◆ Unparalleled service, knowledge and "our word is our bond" attitude.

## Getting to the Core of the Issue



Beginning in the 1980's, the electrical switchgear community caused a paradigm shift in the HVAC Industry. Electrical switchgear, which had typically been installed outside (in parking garages- or in basement equipment rooms) is now being installed inside office buildings, close to occupied spaces.

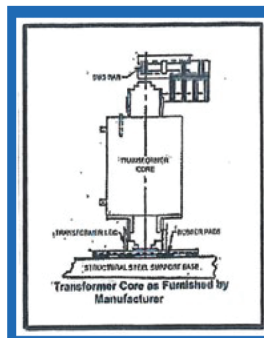
There are multiple advantages by moving switchgear into buildings and closer to occupants. By using smaller kVA units, as well as smaller diameter wire, the cost of the equipment and installation is less expensive. However, there were unforeseen side effects. The transformers core was noisy. Not only did the transformer create an audible hum, but also the vibration generated by the iron core traveled into occupied areas, resulting in tenant annoyance.

Our involvement to resolve these noise issues began in 1983 when we received a call from Mr. Brady with BL&P Engineers in Dallas, Texas. Like many other electrical engineering firms, BL&P had recently located the switch-

gear within an office building. As a result, the hum from the transformer was radiating in a restaurant, located in the same building.

Since we could not see the source of the challenge (the transformer) from outside of the unit, the contractor had to shut down the unit. They removed the transformer section panel and most importantly, discharged the transformer before we could get inside and take measurements.

It is important to note that even though the transformer had been shut down, it still held a charge that could be deadly unless it was properly discharged!



Our team noticed that the inside of the unit was very similar to our numerous inspections of switchgear transformers over the years.

The transformer was placed on rubber pads, which rested on structural steel members that were an integral part of the unit's perimeter steel base. The enclosure panels were then directly connected to the perimeter steel base.

Continued on page 2

## CHECKOUT OUR



## PRODUCTS

MASON-DALLAS.COM

WIN A

\$50

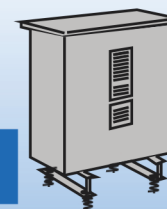


VISA CARD

DETAILS ON THE NEXT PAGE

DRY-TYPE TRANSFORMERS

CEILING SUSPENDED WITH ISOLATION HANGERS



FLOOR MOUNTED WITH ISOLATION MOUNTS

## Mason Electrical Isolation Products



'C' HOUSED



## SPRINGS

'MAS' ROLLING LOBE AIR SPRING



'SLR' RESTRAINED



'SLF' FREESTANDING



'30N / DNHS' SPRING HANGER

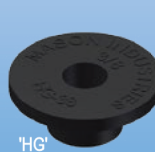
## BUSHINGS/WASHER



'HMIB' ISOLATION BUSHING



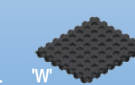
'PB' PANEL BOARD



'HG' WASHER-BUSHING



'HLB' BUSHING



'W' WAFFLE PAD



'HLW' WASHER



'SUPER WSW' LAYERED WAFFLE PAD



'BR' CAPTIVE NEOPRENE MOUNT



'ND' DOUBLE DEFLECTION NEOPRENE MOUNT

## RUBBER PADS/MOUNTS





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**FARCO INDUSTRIES**  
INCORPORATED



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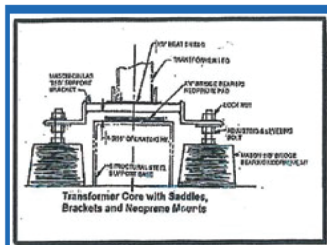
Even though the transformer was isolated using rubber pads, those pads were resting on the unit's steel base. Therefore, the pads were doing little to prevent the vibratory energy from traveling through the steel support to the structure.

Since the structural steel supporting the transformer was also attached to the steel perimeter, energy in the support steel excited the perimeter panels and added even more energy to vibration and noise conditions.

Our challenge was to design a vibration isolation system that would fit into the allowable space and would minimize the amount of energy traveling to the structure through the steel support frame and panels.

To solve the issue, we designed a saddle support system using a steel plate, brackets and specially compounded neoprene mounts. After approval of our design by both the engineer and manufacturer, we then effectively lifted the transformer from the structural steel support

with the saddles and positioned the neoprene mounts on the concrete floor. By doing so, we now had the transformer core entirely off of the structural steel base, using the resiliency of the



neoprene mounts plus the mass and damp-ening of the concrete floor to re-solve the issue.

The design worked perfectly, and the vibration and noise were eliminated. Thanks to Mr. Brady's call for help, we have continued

to use the saddle and bracket approach on other projects with the same challenges.

Over the years, we have solved similar problems in many cities including: Dallas, Irving, Southlake, and New Orleans, Louisiana for our clients.

If you or someone you know is facing any vibration or noise issues, particularly one caused by electrical equipment, please give us a call at 817-267-8651.

Make Mason-Dallas YOUR FIRST CALL!

## TRIVIA QUESTION

A steel-plate, brackets, and specially compounded neoprene mounts, were used to design what type of system?

## EMAIL KATELYNN

WITH THE CORRECT ANSWER

EMAIL AT THE BOTTOM OF THE PAGE

SEND AN EMAIL WITH YOUR NAME, COMPANY, AS WELL AS THE CORRECT ANSWER TO BE ENTERED INTO THE DRAWING! VALID ENTRY FOR THE DRAWING MUST BE RECEIVED BY: MAY 24TH



## NON-PENETRATING SUPPORTS FOR CONDUIT



**Miro Rooftop Sleepers**  
16"x18" and 9"x15.25"



get your ducts in a row with  
**Miro adjustable duct supports**



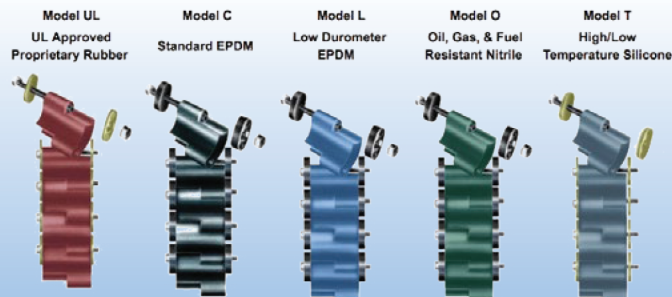
strut your stuff  
**Miro 2.5 Conduit support-7 with strut**



**Miro 3-RAH-7 Rooftop Rollers**

## INNERLYNX<sup>®</sup>

### MODULAR MECHANICAL SEALS



**WALL SLEEVES**

**We would appreciate your feedback, please send Your comments to: [Katellynn\\_Farco@mason-dallas.com](mailto:Katellynn_Farco@mason-dallas.com)**