

The Bellows Bottom Line

Practical advice on expansion joints

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This month - **Protecting Piping From Anchor Failures** *Don't let expansion joints push you around*

When plan A didn't work as expected

I recently read this advice – “*Life is all about plan B*”. It was on a Mary Engelbreit calendar. I am torn between the ethics of source disclosure, and possibly losing my man-card for referencing Mary Engelbreit material.

Expansion joints do a great job of absorbing the thermal growth of hot piping. This is possible because the piping system has anchors that hold back the pressure thrust.

Unexpected pressure spikes can cause anchor failures, which then allows the metal bellows to dramatically extend and trash out all kinds of stuff.

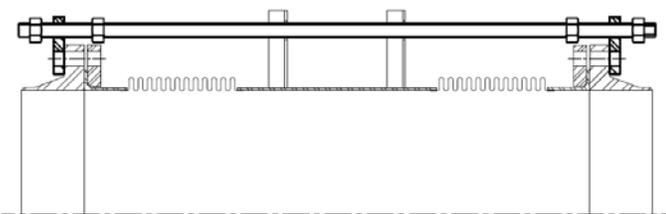


Unsupported pressure thrust extends expansion joint metal bellows

Plan B to the rescue

Fortunately, this customer installed a spare expansion joint; beefed-up the piping anchors, and added a field installed limit rod kit.

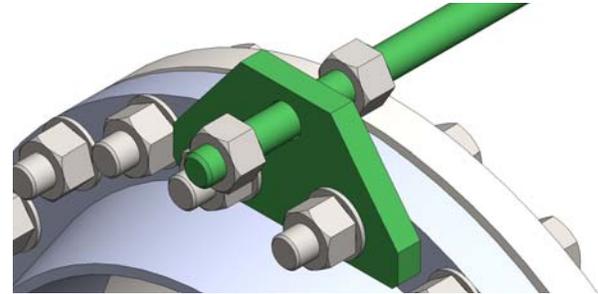
The rods do absolutely nothing if everything is working as it should; they do not get in the way of the expansion joint compressing, extending, or moving laterally. It is as if the expansion joint doesn't even know they exist. But should an anchor let loose... they are then a piping system's best friend.



Limit rods designed to absorb the pressure thrust act as a back-up anchor

Field installed limit rod kit

Limit rods are always an option when ordering a new expansion joint. For existing expansion joints with flange end connections, an easy bolt-on kit can be installed in the field.



Limit rod lug uses existing flange holes

When the pressure is off the system, a lug is bolted on to the back side of the mating flange using the existing bolt pattern.



Newly installed limit rods are added insurance

The Bottom Line

Properly designed, a piping system, expansion joints, and anchors should all work well together - but you should always have a Plan B. And saving a piping system from destruction should be the ultimate test for redeeming a man-card.

Next Issue - *Field tips to expansion joint inspection*