



## Abstract

### Session 41: Pulsations & Vibrations II

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#### Title

**41-1: Supporting vibration analyses for the commissioning of a high pressure compressor with foundation problems**

#### Summary

The foundation is an essential part of an entire compression system and in order to allow a safe and reliable operation of a reciprocating compressor it is vital to have an appropriate foundation. Depending on the type of compressor and/or application, compressor manufacturers are specifying values for the dynamic behaviour of the foundation. These allowable vibration values are the boundary conditions for the sizing and building of the foundation.

In the present case, a remarkable discrepancy between measured vibration displacement values and required values could be noticed during a first no-load run of the compressor. Since the compressor was designed for a discharge pressure up to 2800 bar the question came up, whether a safe and reliable operation could be guaranteed.

A study regarding safety aspects has been carried out and the paper presents the results of various supporting dynamic analyses for the commissioning of the compressor. Comparisons between theoretical and measured values will be included and necessary modifications of the system for the start-up of the compressor are shown.