



## Abstract

### Session 37: EFRC Meeting

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#### Title

**37-3: EFRC Guideline with Recommended Vibration Levels for Reciprocating Compressor Systems**

#### Summary

One of the disadvantages of a reciprocating compressor is that it generates pulsations and vibrations, which, without limitation and proper attention during design, manufacturing, installation and operation, can lead to fatigue failures, inefficiency, capacity limitations and unsafe situations. There is a strong interaction between the different elements in a compressor installation and the compressor and pipe system should be treated therefore as one integrated system. To judge the integrity of the compressor system, vibration levels are normally applied and for this purpose several international standards (ISO and VDI) have been developed the last decade. Besides several international standards, there is a wide variety of internal guidelines, which have been developed and are being applied by compressor manufacturers, engineering offices and end users. Most of these internal guidelines have been derived from international standards. The lack in most of the international standards (and probably also the internal guidelines) is that they do not make a good distinction between recommended vibration levels for different parts of the compressor system, e.g. cylinder, crankcase, foundation and/or different types/configurations of compressor e.g. horizontal/vertical, high/low speed, single/double distance piece, high/low power etc. Within the R&D group of the EFRC a project was started to develop an EFRC guideline which takes into account recommended vibration levels for different parts of the reciprocating compressor system. One of the tasks of the EFRC project was an interview with several leading compressor manufacturers and operators to get insight in the applied recommended vibration levels within the company. This paper will discuss the different international



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standards, the results of the interviews and the first results of the proposed recommended vibration levels.