



## ENGINEERING SERVICES – STRESS AND DYNAMIC ANALYSIS

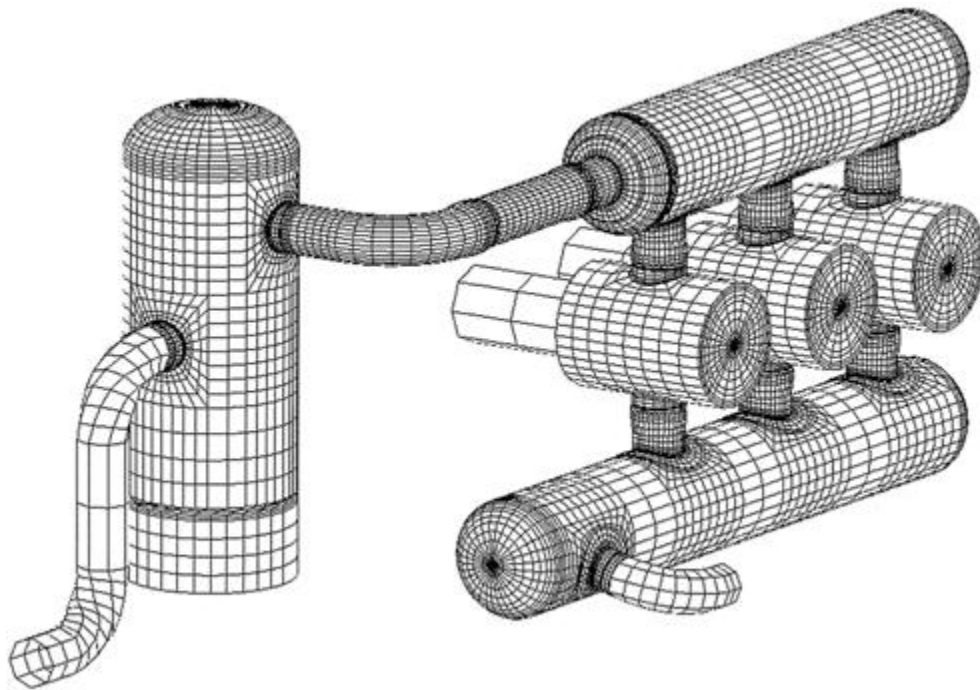
Tech Transfer has met the most stringent demands of stress, dynamic and fatigue analysis required by major oil companies and certifying authorities. We respect such specifications and understand their purpose.

Structural skid and module designs for reciprocating compressors require both stress and dynamic analyses. Tech Transfer has the ability to complete stress analysis for lifting, wind loads, seismic conditions and sea motion. In order to prevent structural vibration problems from compressor unbalanced forces, Tech Transfer performs natural frequency analysis and simulation of operating vibration levels. Unbalanced forces are included from both mechanical and gas compression sources.

Tech Transfer has an extensive amount of experience with the design and analysis of platform decks and FPSO compressor modules. An accurate dynamic analysis of reciprocating compressor skids mounted on platform and ship decks cannot be completed without including these decks in the structural models. Tech Transfer has developed techniques for modeling and analysis that have been field-verified and match field readings.

ASME code recommends Section VIII, Division II, fatigue analysis of pressure vessels in services above 3,000 psig pressure. In addition, some certifying authorities require fatigue analysis of pressure vessels due to cyclic loading from sea motion on FPSOs. Tech Transfer can accurately complete such analyses and design practical modifications to meet these stringent requirements.

Reciprocating compressors are continually growing in size, horsepower and speed. If proper design and analysis are not completed, serious field problems can be encountered with concrete foundations. Tech Transfer can complete the foundation design, finite element stress analysis, finite element dynamic analysis, as well as construction drawings with specifications for any reciprocating compressor application.





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