PRODUCT SHEET

DRG
Dynaflow Research Group

BOSpulse®

User friendly pulsation analysis tool for your API 618 and API 674 studies

FEATURES

- API 618 and API 674 code checks
- Pressure pulsation assessment
- Shaking force assessment
- Time domain flow solver
- Fast simulation by parallel processing
- Harmonic frequency decomposition
- Intuitive 3D user interface
- Predefined compressors and pumps
- Customizable compressors / pumps
- CAESAR II model import/export
- CAESAR II and AutoPIPE shaking force export
- Extensive post-processing
- Customizable reports

APPLICATIONS

- Reciprocating compressor
- Reciprocating pump
- Positive displacement devices
- Vibration root cause analysis
- Design of compressor bottles
- Accumulator sizing
- API 618 and API 674 design

Are you a pipe stress engineer who wants to quickly analyze the impact of pressure pulsations on your piping system or an acoustic flow engineer looking for an easy to use software tool?

BOSpulse® is a professional software solution to perform a pulsation analysis of the system connected to a reciprocating pump or compressor. It provides engineers with an intuitive and effective tool to study periodic pressure pulsations in piping and to check the results against the allowable pulsation amplitudes prescribed by the API 618 and API 674 standards.

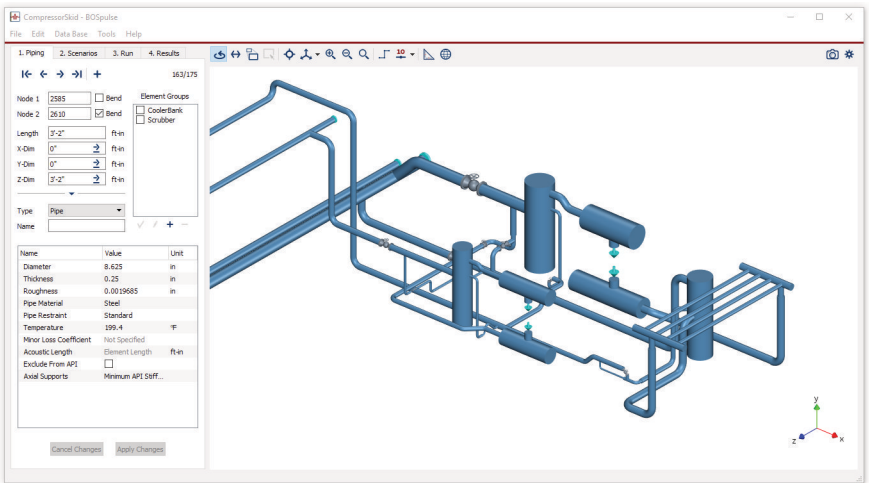
MODEL BUILDING IS SIMPLE

The model building procedure used in BOSpulse is intuitive, with a graphical user interface that includes a 3-D representation of the model that is built simultaneously. Users can input the waveform of their own positive displacement device directly or use the waveform building tool to create the signal based on the geometry of their compressor or pump.

FEA SOFTWARE COUPLING

BOSpulse has full support for 3-D pipeline models enabling one-to-one model exchange with common pipe stress packages. It has import and export features for common file formats, including PCF files. The software has a bi-directional interface with Hexagon's pipe stress analysis software CAESAR II®, eliminating redundant work processes and thereby improving the quality of both the mechanical and pulsation calculations. To further expedite the pulsation analysis, the geometry of a BOSpulse model can be updated from an external (pipe stress) model after the geometry changes.

The BOSpulse shaking force results can be exported to FEA software to perform a mechanical response study. The files for Hexagon's CAESAR II® and Bentley's AutoPIPE can be automatically generated.



API 618 AND API 674 CODE COMPLIANCE

Pressure pulsation amplitudes and shaking forces can be checked against the design limits from API 618 or API 674. Sweeps in any model parameter are possible, here not only the equipment rotational speed but also geometry features such as the choke tube diameter can be varied.

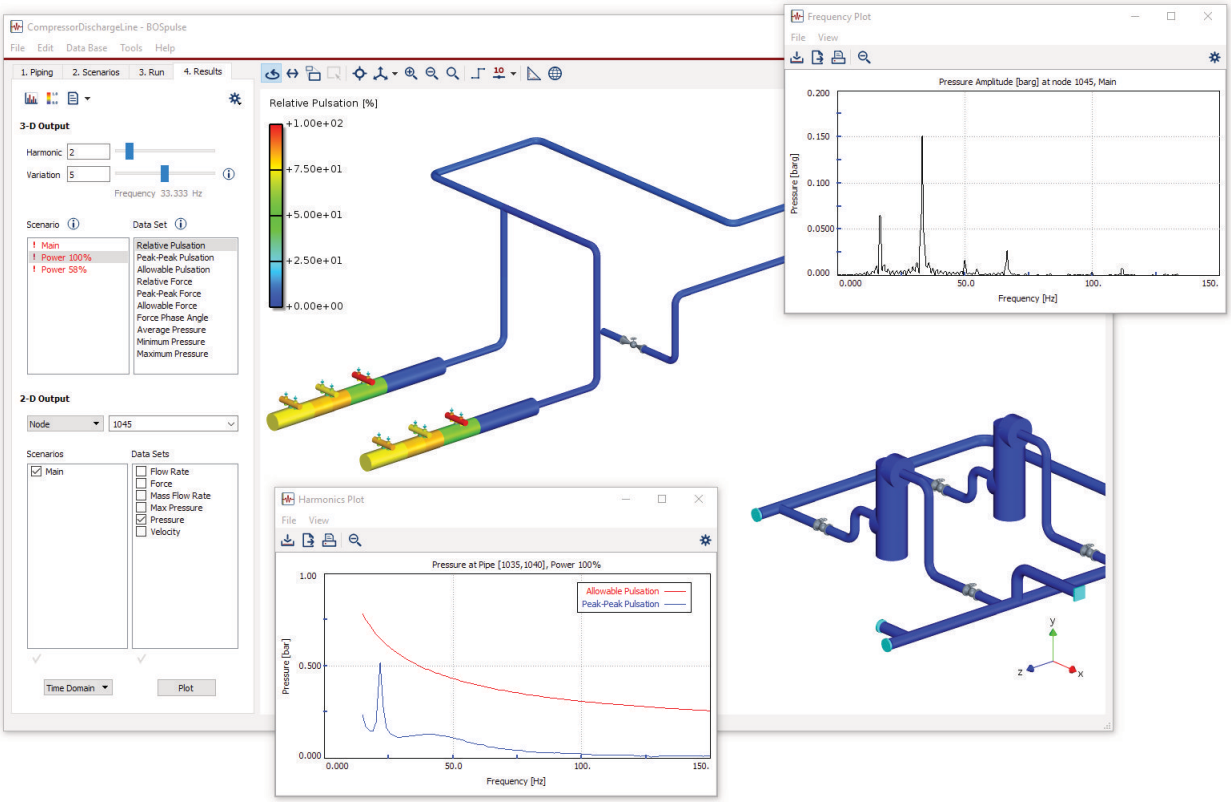
The API 618 and API 674 design limits are defined automatically based on the piping layout and the user is provided with many post-processing options to evaluate conformance with the code. Should a mechanical response study be required the shaking forces can also be exported as an input for a mechanical harmonic solver.

FLEXIBLE POST-PROCESSING

The easy to use 3-D graphical interface of BOSpulse presents you with an instant overview of all the pulsation results. In this interface you can quickly point and click, or use the toolbar sliders to identify if there are any critical areas. BOSpulse also includes 2D charts to show results in the time and frequency domain, and fully customizable text reports. User preferences can also be saved for the use in subsequent simulations for consistent comparisons of results.

EXPERIENCED AND RAPID SUPPORT

Dynaflow Research Group (DRG) uses BOSpulse extensively for pulsation analyses within our own consulting projects. Should you need any advice on how to get the best out of the software, the specialists of DRG are always on-hand to provide the best possible support. In addition the software team is always working to add additional features, often based on customer suggestions, to make your analysis even easier.



ABOUT DYNAFLOW RESEARCH GROUP

Dynaflow Research Group (DRG) specializes in the advanced end of the engineering spectrum around the themes of Flow, Vibrations/pulsations, Mechanical and Fiberglass Engineering. In these fields DRG provides engineering consulting services, software and training courses.

The engineers in our team at DRG regularly work on projects across a multitude of technical disciplines. We have a flexible working structure, which means that we can help you immediately. At DRG we are creative thinkers and we work closely together with you, to develop practical and economical solutions.

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