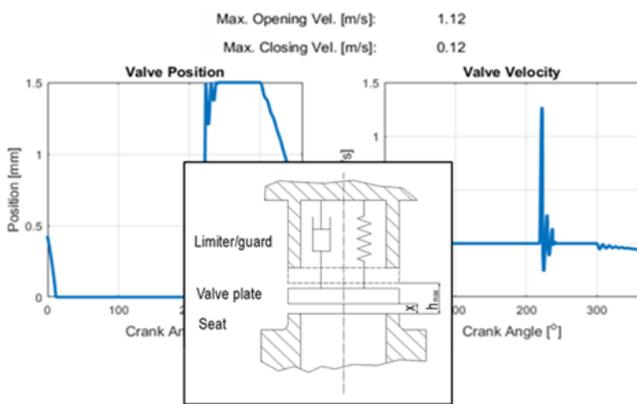


PULSIMSUITE NEWSLETTER

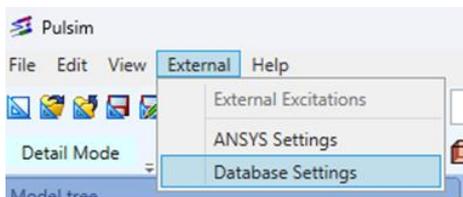
This is the PulsimSuite newsletter of Q1, 2026, presenting version 2.4.2. With your feedback, we have implemented new functionality of which we give you a brief overview here.

With this release 2.4.2, we introduce a reciprocating gas compressor cylinder model with valve dynamics (CYV node). In this model, the cylinder valve is not simply “open” or “closed”, but the motion of the valve plate is calculated based on the instantaneous pressure difference over that plate and the spring force. In other words, this is a true Fluid-Structure Interaction simulation of the valve motion. Also check out the other novelties in the overview below. Enjoy PulsimSuite 2.4.2!



Valve dynamics

Calculating valve motion and valve opening/closing impact velocity, predicting flutter and multiple impacts. To do a valve dynamics simulation, simply convert the CY nodes to CYV, and provide the valve properties, such as spring stiffness and plate mass. The effect of possible acoustic resonances between cylinder and damper on valve response can be evaluated. Because the valve dynamics calculation takes more time than the “normal” CY, we advise to use the CYV in “dampercheck” models, and not in full pipe system models.



User-defined beams database

The PulsimSuite GUI can now read a user-defined database of beam profiles. Your database can be placed in any directory, which must be indicated in the “Database Settings” menu. These user-defined beams will show up with an orange color in the database window.

Specification Id	Beam Type	Beam Name	Area [m ²]
T			
	Germany	H IPBI-160	0.00388
	India	H name1	0.031100002
	Australia	H name2	0.0312
	Australia	H UB760X244	0.031100002
	Australia	H UB760X220	0.028000009



Clearer indication of active window in split view

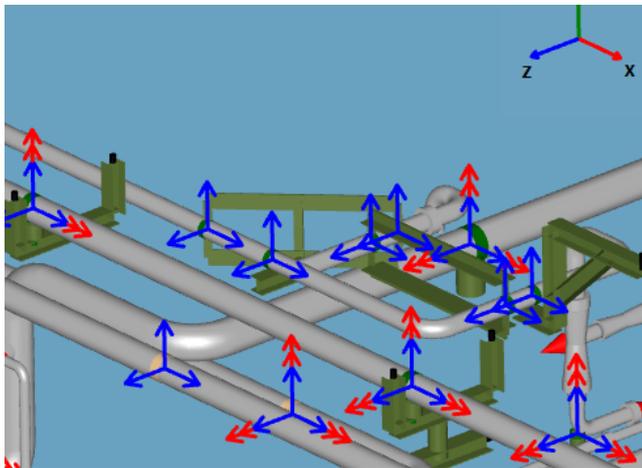
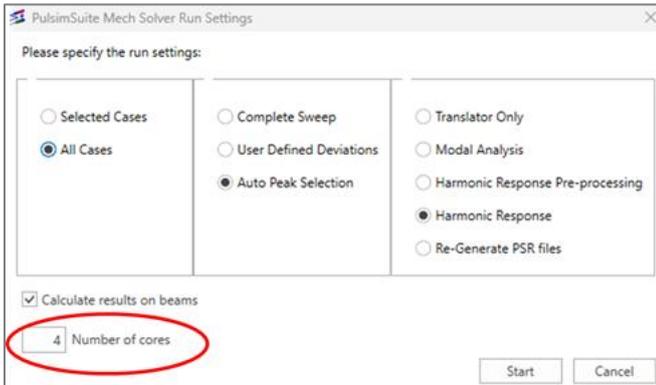
A clear box around the active canvas shows which is the active window, and which model is shown in the properties or simulation results tab.

Speed improvements in mechanical runs

Mechanical runs are conducted by the ANSYS solver. As ANSYS allows for parallel computation, this option has now also been added to PulsimSuite. Time-consuming harmonic response runs will thus become much faster, especially if you set **Combine HRA Runs** to **All** (this combines all runs of an MRA Case into one ANSYS run). A normal license of ANSYS Mechanical Enterprise will allow for up to 4 parallel cores.

The speed of the mechanical module has also been improved on the following points:

- * Significant speed improvement in generating the mechanical model, especially for models with a high number of nodes or high node- and element numbers.
- * Reaction forces are now computed more efficiently from the ANSYS results, which results in a speed improvement of the mechanical response simulations, and a reduction in ANSYS license usage time.



SUP indication of constraints

By means of a blue single-arrow and a red double-arrow, the **Fixed** degrees of freedom of a SUP are indicated for translations and rotations, respectively. These arrows can be switched on/off via the **View** menu.



API STANDARD 618
SIXTH EDITION, MAY 2024

New edition of API standards

The latest editions of API standards 618, 619, and 674 are available for compliance checking: API 618, 6th ed. (May 2024), API 619, 5th ed. (December 2010), and API 674, 4th ed. (DRAFT, January 2024). Where applicable, the limits from the API 688, 2nd edition, October 2023, prevail, and are implemented as criteria for the latest versions of the three standards 618, 619, and 674.

Improvements in plots

The standard plot (by right-click and select 'Plot') has some improvements:

- * The spectrum now shows vertical bars for the harmonics
- * The label of the horizontal axis now corresponds to the deviation parameter (VOS, RPM, VOSL, etc.)

