

PV Elite®

Product: PV Elite 2018

Version: 2018 Service Pack 2 (20.00.02.0000)

Date: July 2018

Description: Intergraph PV Elite analyzes and design pressure vessels and heat exchangers in accordance with U.S. National and International codes and standards, such as ASME, PD 5500, and EN 13445.

Sections: [System Requirements](#)
[Version Compatibility](#)
[Special Instructions](#)
[Documentation](#)
[Training](#)
[Customer Support](#)
[New Features in this Version](#)
[Fixes](#)
[Open Problems](#)
[Legal Notices](#)

System Requirements

Important: Beginning with Windows 10, Microsoft will enforce the Internet Host Table Specification RFC 952 which mandates that component hostname labels can contain only alphanumeric characters. Hostnames using underscores ('_') are not allowed. Refer to Microsoft KB 101785. Intergraph PV Elite is compatible with Windows desktop operating systems listed below.

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Note: The operating system compatibility details that follow refer to the latest released version of this software. Previous versions of the software might not work with newer operating systems.

Operating System	Compatibility Information
Windows 7/8/8.1* Professional (64 bit) Windows 7/8/8.1* Ultimate (64 bit) Windows 7/8/8.1/10* Enterprise (64 bit) Windows 10 Pro (64 bit) Windows Server (all versions)	PV Elite Development tests these operating systems. PV Elite does not support Windows 7/8/8.1/10 Starter, Home Basic, and Home Premium. The software does not support Windows Vista Starter, Home Basic, Home Premium, Enterprise, Business, and Ultimate. *Windows 8/8.1 – Enable .Net 3.5 prior to installing PV Elite. Only tested by Intergraph for the installation of network licensing systems (NetHASP License Manager).



Version Compatibility

For up-to-date information on the software compatibility of this product in a standalone or integrated environment, please refer to the Compatibility Matrix on the Hexagon PPM Support Web site at <https://smartsupport.intergraph.com/>.

Log on and perform the following steps:

1. Click the **View Downloads** tab.
2. Click the **Product Compatibility** link under **Useful Links** on the right side.
3. On the **PPM Compatibility Matrix - Product Report** page, from the Select Product list, select PV Elite.
4. From the **Version** list, select the version of PV Elite.

Documentation

General

Use the Help menu to access the Help files and Printable Guides for this product. For the latest support information for this product, connect to <https://hexagonppm.com/ppm-support>. Also, you can submit any documentation comments or suggestions you might have on the Hexagon PPM support site.

Printed documentation is not available for separate purchase.

PDF Files

The documentation is provided as .pdf files. You can use any PDF viewer to view the files.

Training

To register for training on Hexagon PPM products, call Training Registration at (800) 766-7701 in the U.S. Outside the U.S., call (256) 730-5400 or contact your local Hexagon PPM office.

For current information on training, connect to <http://www.intergraph.com/ppm/training/>.



Customer Support

For the latest Support Services information for this product, including solutions to known software issues, connect to <https://hexagonppm.com/ppm-support>.

To open service requests outside the U.S., please contact your local Hexagon PPM office.

New Features in this Version

This service pack update does not include new enhancements. Refer to the sections below for improvements made for this service pack.

Fixes

User Interface/Graphics

- Fixed an issue in PV Elite where users are unable to launch PV Elite 2018 with Sophos Antivirus installed on the same machine. The cause is a conflict with Sophos Antivirus and an issue in the graphics engine that PV Elite 2018 runs. The software has been updated and the software will run without removing Sophos Antivirus. (HF-TX-25466)
- Fixed an issue in PV Elite where users could not enter the number of flexible shell elements in the **ASME tubesheet module** if the expansion joint calculation method is set to FEA. The software has been updated and the Tubesheet report will show the value entered in the input echo section of the **ASME TS Calc** report. (TR-TX-25775)
- Fixed an issue in PV Elite where the required jacket head thickness calculation uses twice the head corrosion allowance in its status bar calculation. The software has been updated and the required jacket head thickness value is only considered once and displayed correctly in the status bar of the Jacket Input dialog. (TR-TX-26168)
- Fixed an issue in PV Elite where the program crashes with "Select by Single Click" active and after exiting Degree of Radiographic Examination module. The software has been updated and PV Elite will not crash when "Select by Single Click" is active after exiting Degree of Radiographic Examination and other dialogs (TR-TX-26271).
- The release of Windows update 1803 caused several problems with many software products including PV Elite. We reworked several routines to bypass the issues caused by the Windows update (TR-TX 26122).
- Fixed an issue in the Output Processor application program keeping the Dark Theme shown in the report list pane even though the rest of the interface is still set as Light Theme after deleting the registry keys. (TR-TX-25751)

Output Reports

- Fixed an issue in PV Elite where the **EN TS Calc** report states incorrect values for Effective Pressure [Pe] when using the EN-13445 code for a Fixed type exchanger. The software has been updated to



show the correct Effective pressure [Pe] in the **EN TS Calcs** report. (TR-TX-25513)

- Fixed an issue in PV Elite where the parameter C11p and C22p were not correctly displayed in the WRC calculation of the **Lifting Lug Calcs** report. The software has been updated and now PV Elite adds the weld thickness while calculating C11p and C22p in the **Lifting Lug Calcs** report. (TR-TX-25352)
- Fixed an issue in PV Elite where the "PWHT reqd" column in **MDMT Summary** report shows "No", even when the material is post weld heat treated and the warning note is no longer shown in the **Internal Pressure Calculation** report. The software has been updated and the "PWHT reqd" column shows "Yes" for the element that is post weld heat treated. (TR-TX-25449)
- Fixed an issue in PV Elite where the **Input Echo** report shows as Impact tested material for non-impacted test material. The software has been updated and the **Input Echo** report shall show the same input data given in the model. (TR-TX-25385)
- Fixed an issue in PV Elite where the Required Fillet Weld Leg size for Slip on Flanges in the **Flange Calc** report used the Cylinder required thickness value when the Hub Length of the slip-on flange is 0 and when other body flanges exist before the Slip On Flange. The software has been updated and the Required Fillet Weld Leg size no longer considers the value of the Cylinder required thickness and if no hub size given. (TR-TX-25617)
- Fixed an issue in PV Elite where when exporting the **Floating Head Calc** output report to Microsoft Word an error pops up at the end of the export. The software has been updated and the missing floating head output image has been added to the system folder so the **Floating Head Calc** output report exports correctly to Microsoft Word. (TR-TX-25356)
- Fixed an issue in PV Elite where an Error (There was a divide by zero or other math error during the solution!) would be displayed when analyzing a model with Welded Flat head attached to a cylinder shell element. The error would be caused when thickness of the shell was below a certain value and would produce a NaN result for Actual Stress at Design Pressure under **Internal Pressure** Report. The software has been updated and incorporated limits defined by Figure 10.4-4 for C1 and Figure 10.4-5 for C2 into the program. (TR-TX-25641)
- Fixed an issue in CodeCalc where after analyzing ASME tubesheet component, the Tubesheet Results toward the bottom of the TS Calc reference 2015 code year even though the calculations are per ASME 2017 code year. The software has been updated and the reports reference the correct ASME 2017 code year. (TR-TX-25648)
- Fixed an EN-13445 issue in which the computed cone junction MAWP was not transferred back to the summary table in the Internal Pressure Report. (TR-TX-24386)
- Fixed an issue in PV Elite where it was taking the incorrect gasket inside diameter according to Table 9, B16.20 and instead using the dimensions for Class 600, which is incorrect. It should be using Class 1500 dimensions. The software has been updated to use the correct dimensions for the gasket inside diameter for class 900 standard flanges. (TR-TX-24341)



- Fixed an issue in PV Elite where the **MDMT summary** report adds a note "Impact testing is required" is displayed even when the component is impact tested in case of ASME Section VIII Division 2. This happens when the finished thickness of the component is greater than 100mm. The software has been updated and the note "Impact tested material" must be shown for the components that are impacted tested in the **MDMT summary** report. (TR-TX-26076)
- Fixed an issue in PV Elite where the **Element and Detail Weights** report shows the lining in a cylinder is added twice (duplicated) in the 'Erection' column of the 'Element and Detail Weights' table. The software has been updated and the lining weight is not duplicated in the **Element and Detail Weights** report. (TR-TX-26273)
- Fixed an issue in PV Elite where the **Nozzle Calcs** report shows a warning when the nozzle center is too near a shell weld when the design Code is EN-13445. The software has been updated and the appropriate note warns the user regarding paragraph 9.4.8 in the **Nozzle Calcs** report. (TR-TX-26288)
- There was a problem determining the value of Pe for some EN-13445 fixed tubesheet exchanger geometries. This issue has been corrected (TR-TX 25513).
- For some TEMA exchanger designs, the least stress ratio may have been incorrectly reported in the hydrotest report (TR-TX-25852).
- Fixed an issue in PV Elite where there is a problem with the diameter (D) value used for calculating Longitudinal Flaw Length Parameter when performing API 579, Part 5, General Local Metal Loss for a Groove: Level 1 Assessment. (TR-TX-25516)

Input Processor & Analysis

- Fixed an issue in PV Elite where a Visual Fortran error comes up when a user had a generated pdf report open and then tries to perform a new analysis run. The software has been updated and no Visual Fortran error will show up if a generated PDF report is open. (TR-TX-25627)
- Fixed an issue in PV Elite where the Tube Joint Type dropdown list is disabled when the Joint Load Method is ASME UW-20. The software has been updated and now when the user opens the Tubesheet dialog, the Tube Joint Type dropdown list is now enabled. (TR-TX-25841)
- The material SA-350 LF2 has only 1 entry in Section II Part D for the Division 2 tables and it contains no class listing. The 'extra' entry for SA-350 LF2 has been removed from the PV Elite material tables (TR_TX 26303). We are requesting clarification from ASME as to why this material is missing its class designation and why both material listings are not in the table.
- The cone to shell junction MAWP iteration for PV Elite 2018 SP2 has been revised. Cones can fail at lower pressures where delta is less than alpha. The same cone junction can also pass at a higher pressure where delta becomes greater than alpha. If the cone passes at the higher (design) pressure, the failure iteration pressure now starts at the design pressure (TR_TX 26274)



- In the input reflection for bolt corrosion allowance and edge distance for horizontal vessels has been changed to 1 place after the decimal (xx.x) for mm units (TR-TX 26283).
- The output inertia calculation for saddles with center webs was simplified. Now, just 1 line is printed. This change is reflected in the Inertia of Saddle, Outer Ribs – Longitudinal direction (TR-TX 26307).
- In some cases, the element volume for shellside elements of heat exchangers was not computed correctly depending on the configuration (TR-TX 26051).
- When details were being translated graphically, a crash could occur. This issue has been fixed (TR-TX 25755).
- CodeCalc 2018 was printing out 'Tubesheet results per ASME 2015'. This was corrected to '2017' (TR-TX 25648).

Open Problems

None



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