

Sunrise Systems Limited

New Features PIPENET VISION Release 1.30 October 2007

General statement

This is a general release for PIPENET VISION 1.30.

Release status

Release available on CD-ROM – Sunrise identification number SSL-MC-0015-05

Graphical user interface

A number of changes and minor fixes have been made to the graphical user interface:

1. It is now possible to export the schematic as an AutoCad DXF file.
2. A new Polygon Tool has been added to the Tools toolbar. This is similar in use to the Area Tool but allow non-rectangular areas to be defined and manipulated.
3. An option is available for the Spray/Sprinkler module to produce an output file in the NFPA format. Note this is in addition to producing the PIPENET Browser file.
4. For the Spray/Sprinkler module the supply and demand curve produced during the calculation can be viewed in GUI via the Graphs tab in the Data Window.
5. For the Transient module Pressure envelopes can be displayed in the GUI for both linear and non-linear networks. This is done simply by defining a path between two nodes and select the Graphs tab in the Data Window.
6. For Spray/Sprinkler it is now possible to produce the output from a calculation in NFPA format in addition to the Sunrise layout.
7. When defining simple library pumps in the Standard and Spray modules, a range of curve options is now offered (this facility was already available in Transient):
 - **quadratic**– the quadratic curve has been changed to include a variation that allows degeneration factors to be specified for controlling the shape of the curve below the minimum specified value and above the maximum specified value. Specifying zero degeneration factors (default) corresponds to the previous implementation of the quadratic curve;
 - **cubic** - fits a cubic curve;
 - **smooth** - using a piecewise cubic spline.
8. Transient has a new Pressure Loss component that can be selected from the toolbar. Definitions of these components may also be defined as library items via the Library menu.
9. Note the two messages:

- "Nozzle - optimum flow below minimum operating pressure"
- "Nozzle - optimum flow above maximum operating pressure"

have been changed to warnings (previously they were errors).

10. An option has been added to the Output tables dialog in the Standard module to allow for the inclusion of materials take-off to be included in the browser output file.
11. In the Standard and Spray/Sprinkler modules the maximum number of library pumps has been increased from 50 to 120. Note that there is no limit to the number of library pumps in the Transient module.
12. In the Standard module the maximum number of user-defined fluids has been increased from 20 to 50.
13. Right-clicking in the graph window of the Library pumps dialog and the Library control valves dialog displays an option to copy the graph to the clipboard.
14. In the Spray/Sprinkler Calculation Options dialog options have been provide to specify a reference node an height to be used when calculating node heights from pipe elevations (this feature already existed in the Standard module).
15. In the status dialog, displayed when a check operation is performed, an option has been provided to print a summary of the errors and warnings.
16. The HP-GL/2 export facility has been re-written to fix a number of issues with te display of components.
17. Two node caissons are now considered when performing an elevation check, based on the component's change in elevation.
18. The mass balance option in the Spray/Sprinkler Calculation options dialog will be disabled if there are no nozzles in the network.
19. The export to clipboard function has been fixed to eliminate the problem whereby there was sometimes a problem copying the network to the clipboard. The extent of the network could be calculated incorrectly resulting in areas of the network being clipped.
20. Selecting the Single Compressible pipe in Transient now correctly greys out the pressure sensitive valve and cascade PID controller buttons.
21. In the Transient module wave speeds are recalculated if any changes are made to a pipe schedule or pipe type.
22. When performing an elevation check and an error is found in two or more parallel links between two adjacent nodes then the nodes and the links are now correctly highlighted.
23. When selecting the Linear option button in the Library-Valves dialog the calculated differences would not be saved unless a change was made elsewhere in the dialog, this bug has been fixed.
24. The numeric value for component labels in the Transient module has been increased from 999 to 9999 for both tagged and untagged labels. Errors will be reported if any attempt is made to create a label with an out of range numeric part. For Transient the numeric part must be less or equal to 9999 and for Standard and Spray/Sprinkler it

must be less than or equal to 999 **if any label in the network has a tag**. If there are no labels with tags then the limit in Standard and spray is about 32,000.

25. Calculation of K-factors on the fittings pane of the Property window now uses the actual bore instead of the nominal bore. This was only a display issue since the calculator used the actual bores and the correct results for pipes were always shown in the GUI and browser. Also the total K-factor shown is recalculated if the pipe diameter changes.
26. When a component is reversed (swapping input and output nodes) the waypoints are reversed so the component layout appears unchanged

Standard and Spray/Sprinkler calculators

It is now possible to specify cubic and cubic spline fitting of pump curves in addition to quadratic fitting. In addition, it is possible to specify degeneration factors to control the shape of the curve below the minimum value and above the maximum value.

The Standard calculator now supports the optional inclusion of Materials Take-off in the browser output file, selectable from the menu option **Options | Output tables**.

The Spray/Sprinkler calculator can output the results in an NFPA compatible format to a specified file. The production of this file is in addition to the production of the PIPENET Browser output file.

The Standard module can now optionally produce materials take-off tables for inclusion in the browser output file.

The supply and demand curve is now available for display in the GUI.

Transient calculator

A new General Pressure Loss component has been added and a bug with the calculation of the bulk modulus in the API Fluid dialog has been fixed.

A new option has been added to the Transient Transfer function, allowing the selection of a Constant speed option for the order, together with an associated ramp rate.

A bug with the calculation of the bulk modulus in the API Fluid dialog has been fixed.

Security keys and licencing

The security key drivers are now verified for operation on Windows Vista.

Other issues

The PIPENET software is now certified for use with Windows Vista. This has necessitated placing the PIPENET examples directory in **C:\Documents and Settings\All Users\Pipenet** in Windows 2000 and XP, and **C:\ProgramData\Pipenet** on Windows Vista.

Double-clicking on a file with a .SDF extension in Windows Explorer will open PIPENET VISION with the network displayed.

When installing PIPENET VISION an extra option is provided, allowing the option to specify that the installation is for a specific user or all users (default).

Summary of version numbers

Graphical user interface	1.30
Standard calculator	4.20
Spray/Sprinkler calculator	4.20
Transient calculator	6.13