MagiCAD for AutoCAD

Release notes for version 2023 UR-1

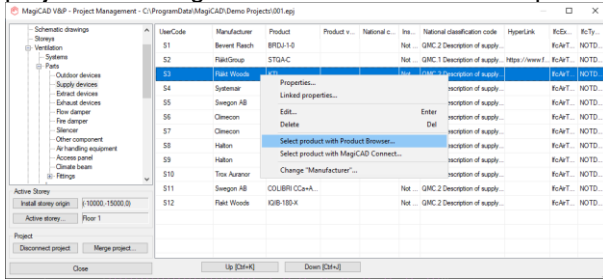21/11/2022

MagiCAD

Content

1 New features

1.1 Common

Product selection text updates

Texts have been updated to better clarify via which feature the products are added.
"Select products to project" is now "Select product with Product Browser" and "Select products to project from MagiCAD Cloud" is now "Select product with MagiCAD Connect".

Use unit name in IFC Export

Now the unit name, of the unit used in the project, can be added and shown in the property name in the IFC file.
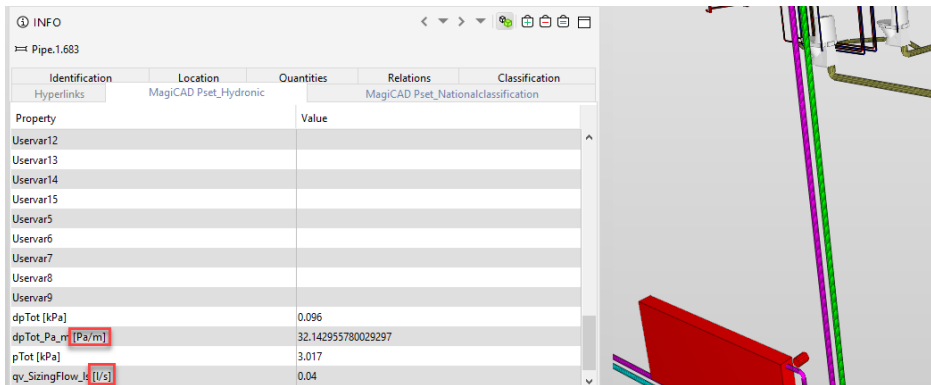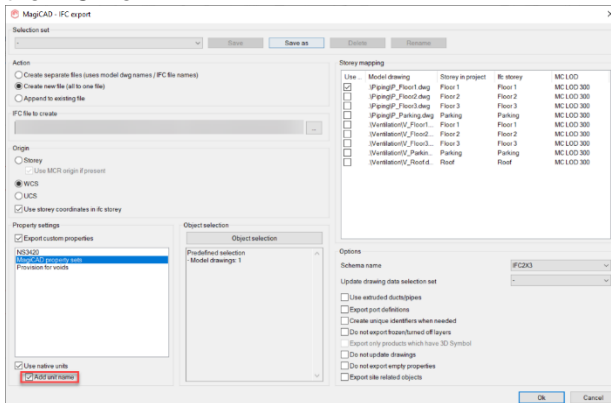
1.2 Ventilation and Piping

Connection node "None" now works with Change Properties, and additional improvements to updating properties

A number of options have been updated in Change Properties to give the users more freedom to update information in connection nodes and devices. This information is mainly related to the flows and the pressures.

A good note is that if you want to change a property of a device with many different systems, then use the Object selection set to specify which system the change should apply to.
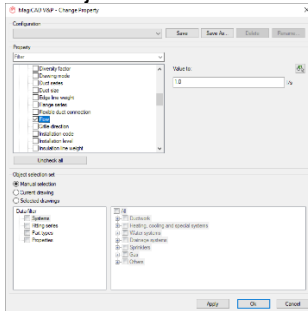
Ductwork

"Air device flow" has been changed to "Flow" and does now also work for connection node none.
"Pressure drop" has been added and works for both devices and connection node none.

Heating, cooling and special systems

"Pressure drop" has been added and works for both devices and connection node none.

Water systems

"Maximum flow sum", "Nominal flow sum", and "Pressure drop" have been added and works for both devices and connection node none.

Drainage systems

"Flow, manual/calculated" has been added. Note that the flow sum, regardless of if it is manual or calculated, does currently override and set the value and the option set in the device. So for example a device with a manual value can be changed to a calculated value, using this option in Change Properties, and vice versa.

Gas

"Flow" has been added and works for both devices and connection node none.

Related to the pressures can the user also select whether to update all pressures, only those where the option has been set to a locked value, or even to unlock the setting:
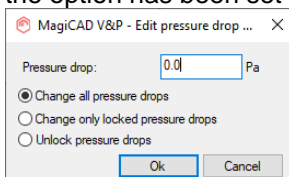
Note: "Change all pressure drops" locks and changes the values which can be locked.

Possibility to not select a symbol in the 2D symbol selection

It is now possible to select no symbol in the column selection:
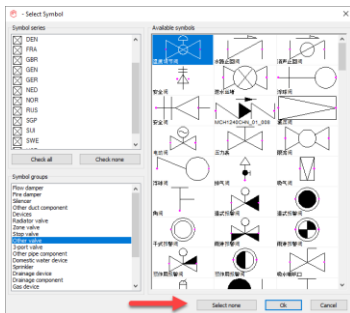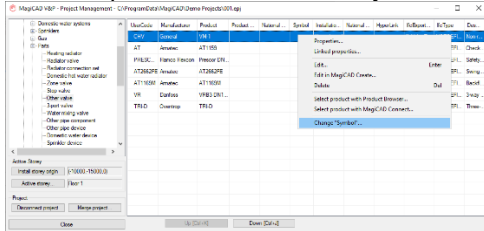
**Show warning message if an updated pipe becomes too short**

It is possible to change pipes to a larger size so that they become inverted, using both Change Properties and the new Find & Replace function, but earlier didn't the functions inform the user if there was a potential issue.

Now it is still possible to make this change, but the functions do in both cases give warnings about the possible issue:

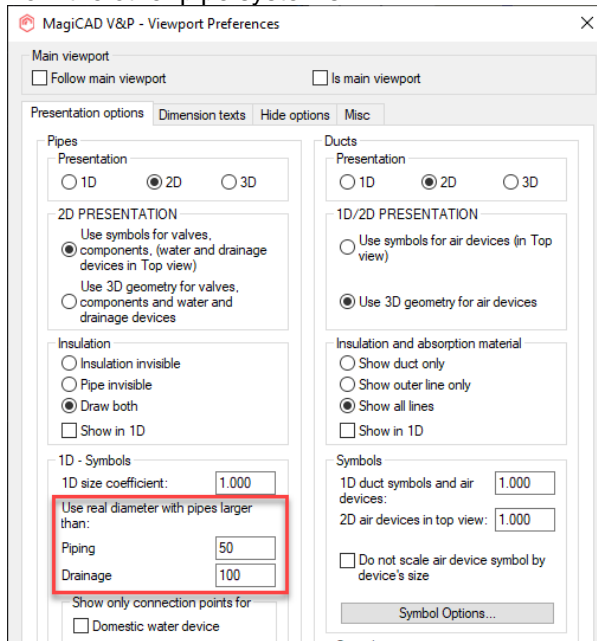Change properties gets the general warning message:
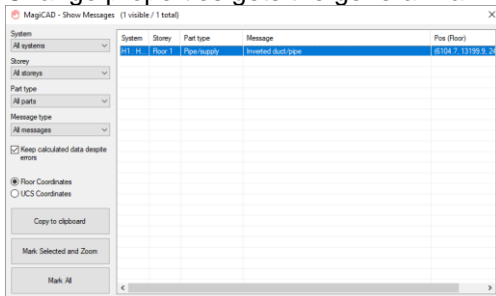
F&R does also show the issue in the Results-list:
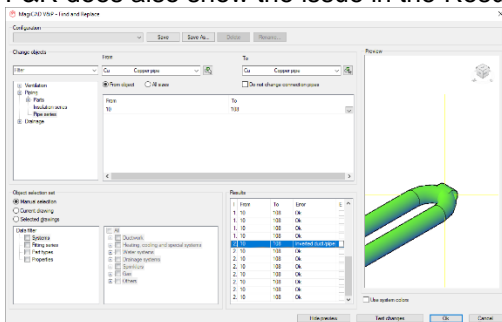
Use real diameter with larger than

Viewport preferences have been updated so that the riser symbol of drainage pipes is set separately from the other pipe system's:


For drainage pipes the default symbol size which is used for diameters smaller than this limit is 100, while for all other pipes it is 50.

As can be seen with the option like this the 42 mm copper pipe for water systems gets a symbol of 50, while the 54 mm pipe, which is over the 50-limit, gets a symbol with the same size as the pipe size. The same for the drainage pipes, but in this case the limit is 100, as well as the default symbol.
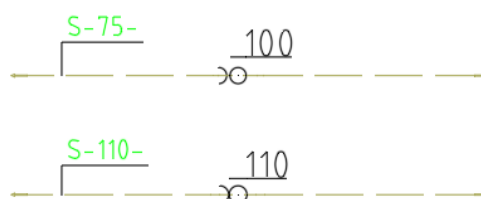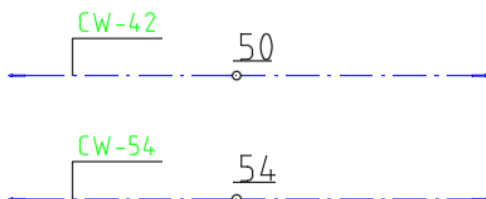

Support for new AutoCAD 2023 CUTBASE-command

AutoCAD implemented a new command CUTBASE in AutoCAD 2023. This command did not work in combination with MagiCAD which led to damaged models in V&P.
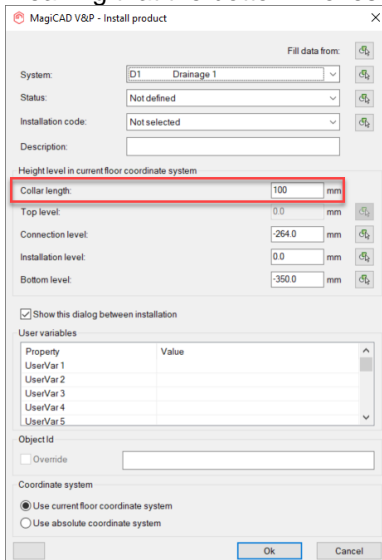
The command is now supported in MagiCAD as well and functions with our models.
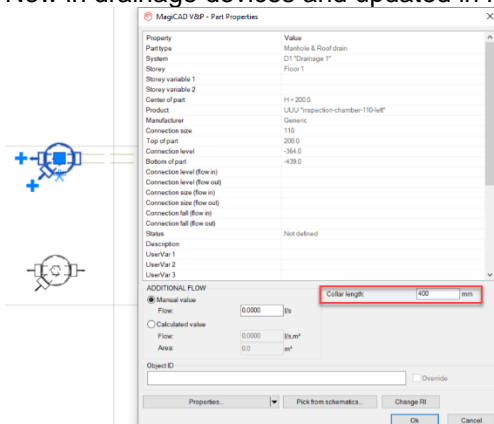
Collar length for drainage devices

New option for the drainage device to adjust the collar length of products with such an option:
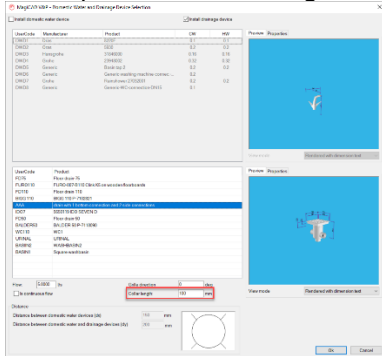
New option here both for drainage devices and manholes. Works like it would be unconnected, meaning that the bottom moves when the values are updated:
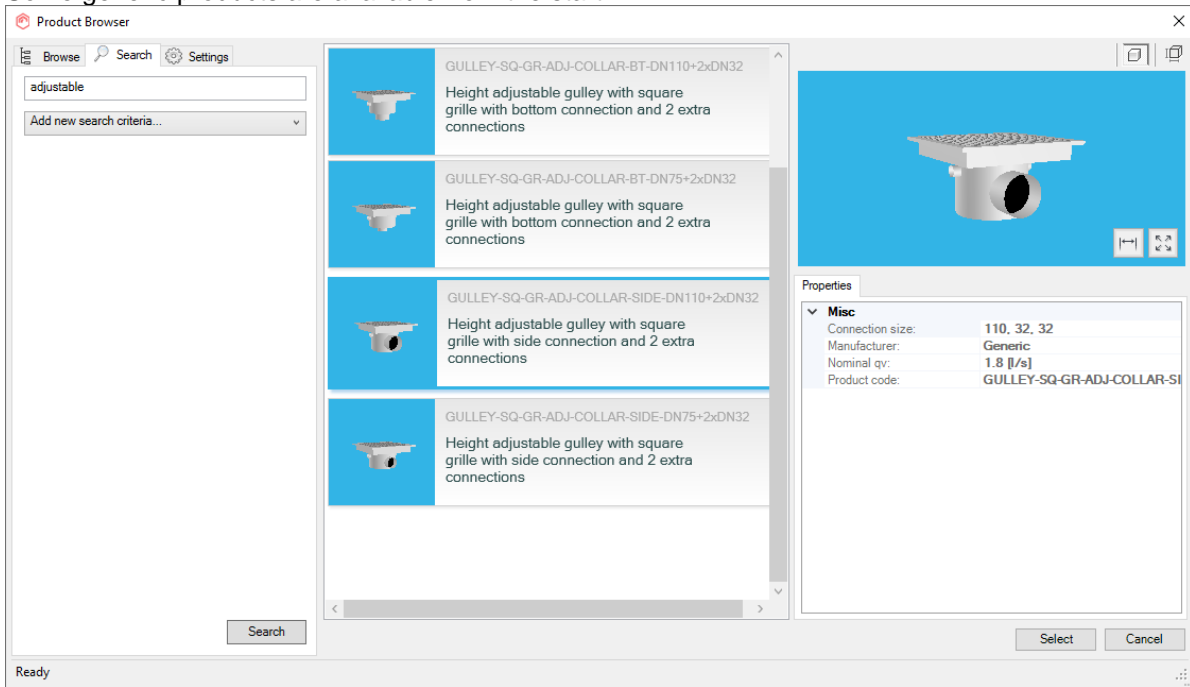

New in drainage devices and updated in manholes:

If unconnected: The bottom moves when the collar length is changed.

If connected: The top part moves when the collar length is changed.

Some generic products are available from the start:

Shorter distance between drainage bends

In earlier versions the pipe between two 45-degree bends, which are drawn when "Smart" is set on in the drawing dialog, was always 150 mm:s long. Many users wanted it to be shorter.
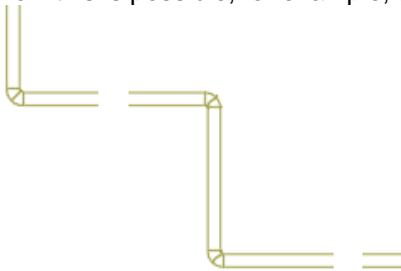
Now it is possible to set the distance of this pipe (a minimum of 1 mm). The default is 150 mm:s, just like earlier but now the value can be changed and is no longer hidden from the user:
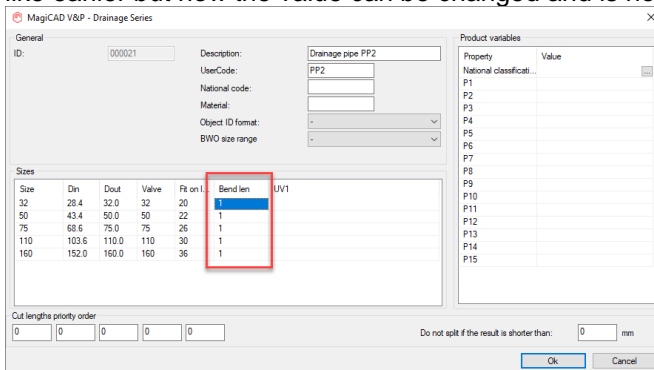
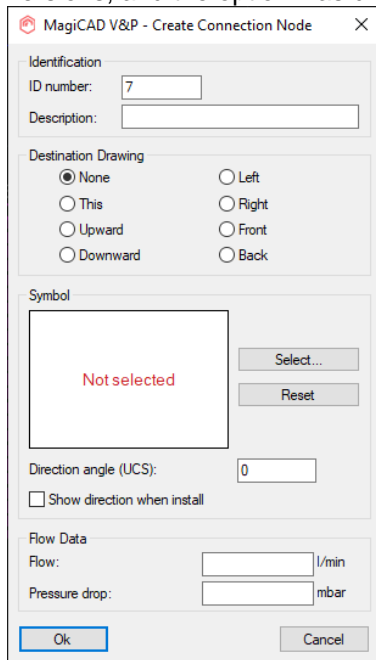

Earlier result without this option:
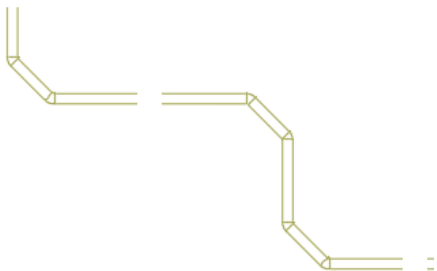
Now this is possible, for example, a 1 mm length:

Connection node "None" for sprinkler networks

It is now possible to add connection node "None" for sprinkler pipes. This was not possible in earlier versions, and the option was disabled.

1.3 Electrical

Parallel cables in Electrical

Now when drawing a cable, you can define the number of parallel ones. You don't need to create a separate cable type for the purpose anymore.

The number of parallel cables can also be defined in the circuit properties and it affects to a lot of places:

Report: cable lengths are calculated according the amount of cables there are

3D presentation: When you have multiple cables, they are drawing side by side

Electrical calculations: Resistance and reactance are adjusted based on the number of parallel cables

Power circuit types: You can define whether every parallel cable has its own protective device or not

Switchboard schematics: You can define number of cables for every circuit and if they have own protective devices
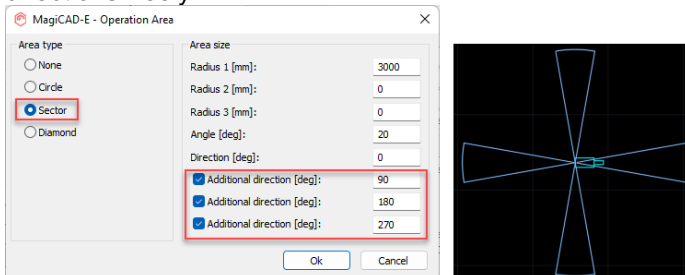
Connections reports: Number of available pairs are adjusted based on the number of parallel cables

Attenuation calculation: Warning is given if parallel cables are in use
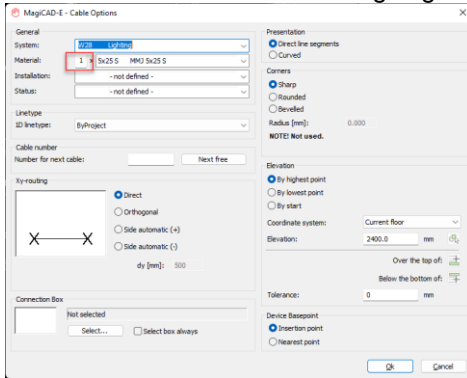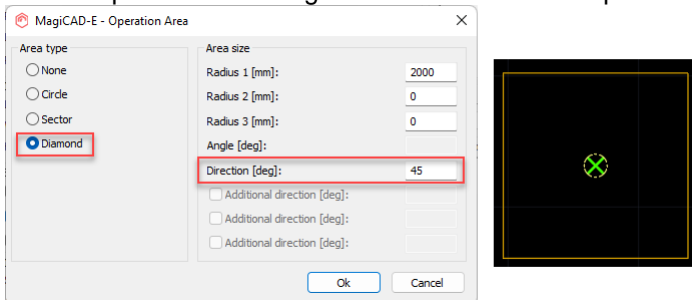

More operation area possibilities

Now it is possible to add 3 additional sectors into a sector operation area and you can define their directions freely.

Also it is possible to change direction of diamond operation area.

New hide functionalities

Now it is possible to hide also cable tray, lighting track and LED stripe segments with the old Hide function.

In addition, the Hide and Unhide functions now have an area option for hiding/unhiding objects inside a selected area.

From Electrical Viewport Preferences you can define how you would like your cables and cable packets or cable routes, lighting tracks and LED stripes be shown when they are overlapping each other and you run the new Auto-Hide function.
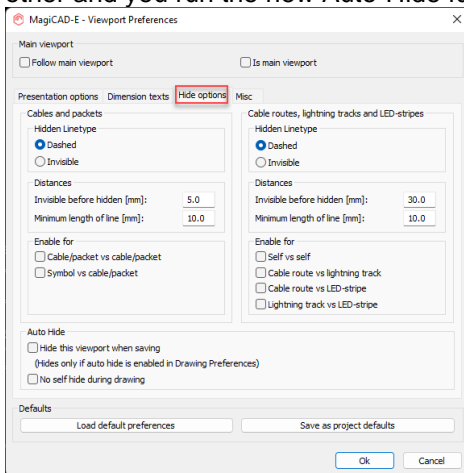

From the ribbon you can use the function which allows you to show an area or the whole current viewport where objects will be hidden based on your selections made in Viewport preferences.
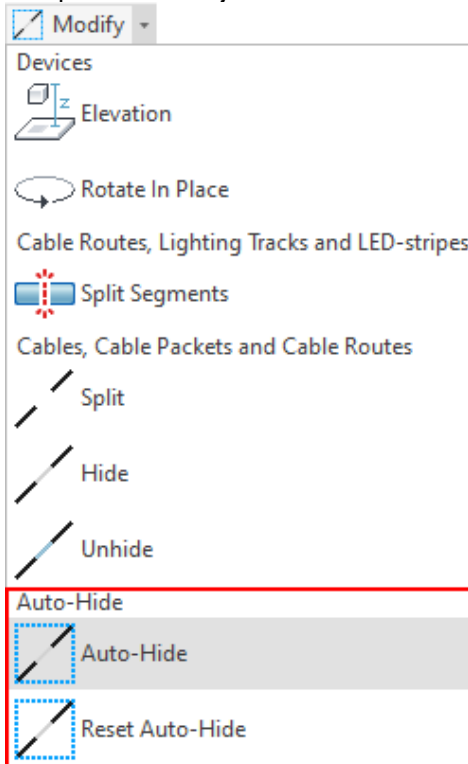
Linetypes for overlapping objects can be dashed or invisible, their distances can be defined and also what kind of overlapping is taken into account.
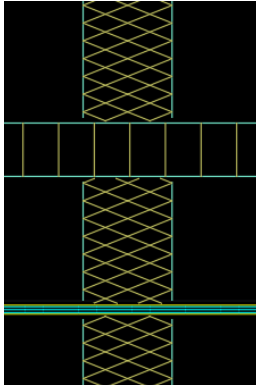
There is also the possibility to have MagiCAD automatically hide objects in all marked viewports when saving a drawing. This is done via Drawing Preferences.
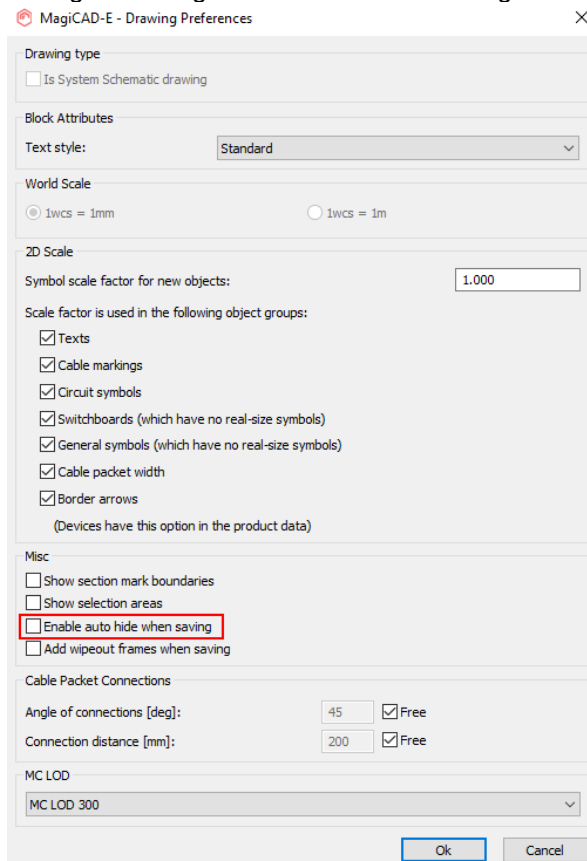
Extra offset selections improvements

Fine-tuning has been done to the following parts of the function:

Now search circle is in the mouse position, not in the middle of cable tray when using alignment.

When connecting conduit to another conduit using alignment, it didn't make straight connection, but created extra bends.

When starting drawing a conduit with alignment and clicking end of another conduit as first point, alignment was drawn incorrectly.

Box/cylinder selections for Others/CR

Now it is possible to add box or cylinder as a 3D symbol for products in Others/CR product class.
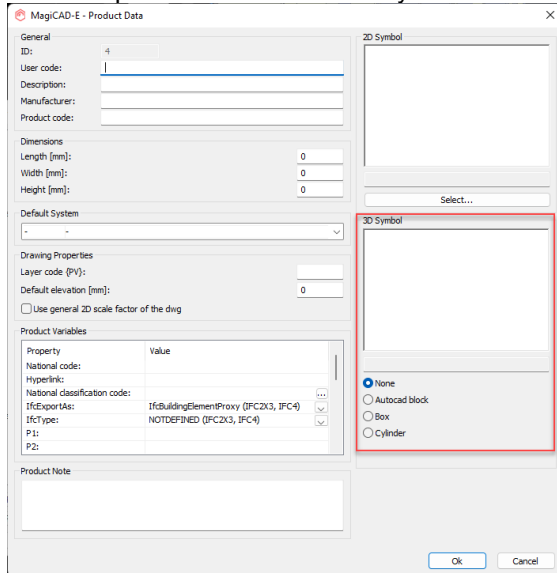
Stretchable dialogues

The following dialogues have been changed to be stretchable so that all the information can be seen more easily:
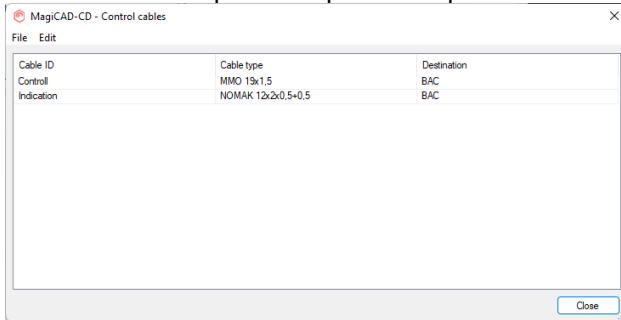
Select circuit

Select device

External references

1.4 Circuit designer

Cable list of control cables

You can now take a cable list from your control cables. It will show the cable ID, cable type and destination of your control cables.

The list can be copied to clipboard or printed.

Show all conductors automatically in a control cable symbol

A new selection: "Always show all conductors of the cable" has been added into control cable symbols. When this checkbox is active, any changes to the amount of conductors of the cable will be updated to the symbol when using Update DWG (automatic or manual). This way you can have a control cable symbol showing the full content of a control cable automatically in a drawing.
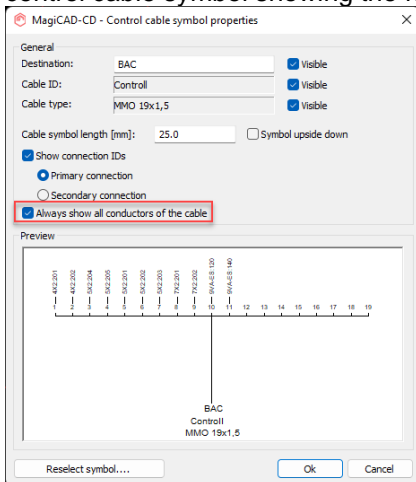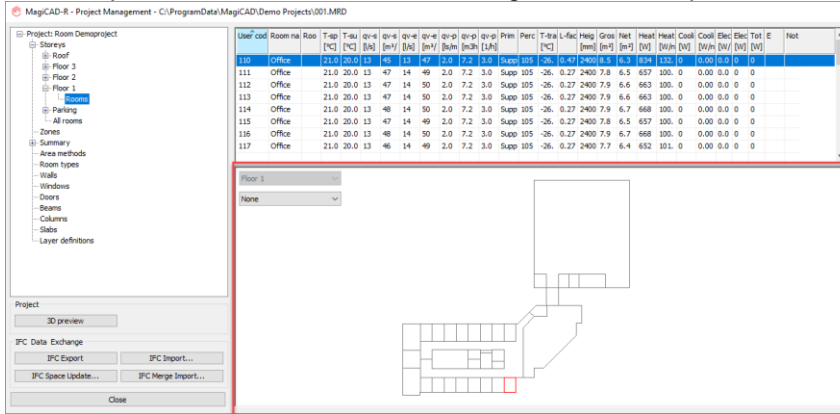

The selection (Always show all) is available already in the right-click-menu when creating a new control cable symbol. Clicking it will jump automatically to the properties dialogue.
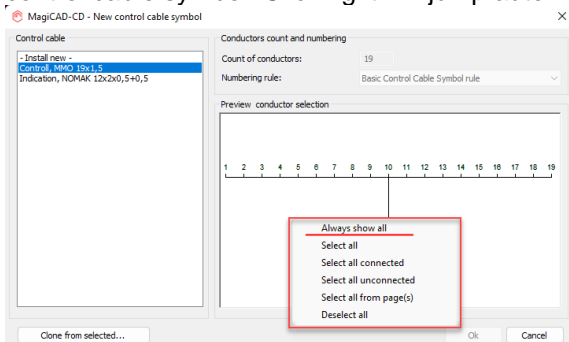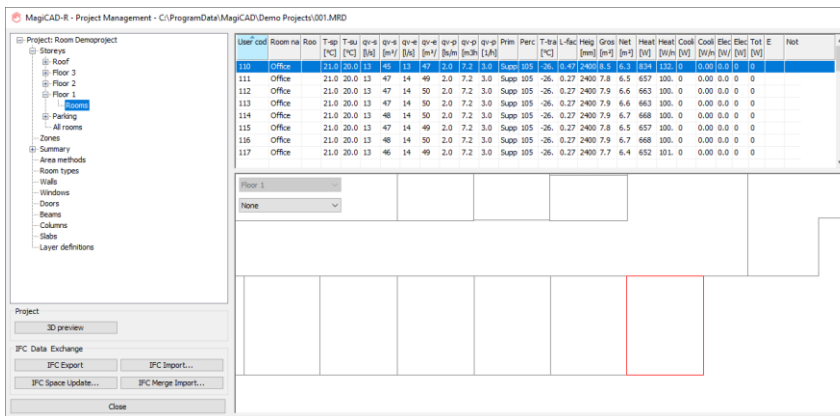
1.5 Room

Possibility to zoom and move in MagiCAD Room preview window

It is now possible to zoom and move in MagiCAD Room's preview window:

1.6   Schematics

Link several devices from a model to one symbol in Schematics

In addition to one-to-one linking and data transfer, the Schematics module now includes an option for one-to-many linking. The new option provides increased flexibility when linking devices in a Ventilation & Piping project with symbols in a schematic drawing.

With one-to-many linking you can link a single symbol to a selected group of devices. This allows you to, for example, summarize the total airflow of multiple air devices and add the combined airflow to a symbol in a ventilation system schematic drawing. Changes to the devices are then automatically synchronized to the corresponding symbol, helping you to easily keep schematic drawings up-to-date during the project.
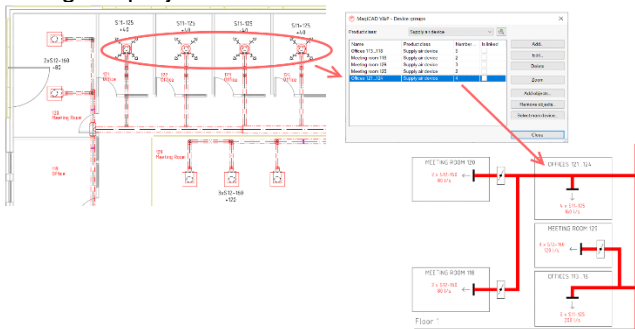
The linking is only from Model to Schematics, not the other way around.

Custom header blocks in reports

It is now possible to use custom blocks as headers in reports, which makes it possible to create any sort of header needed for a specific report.
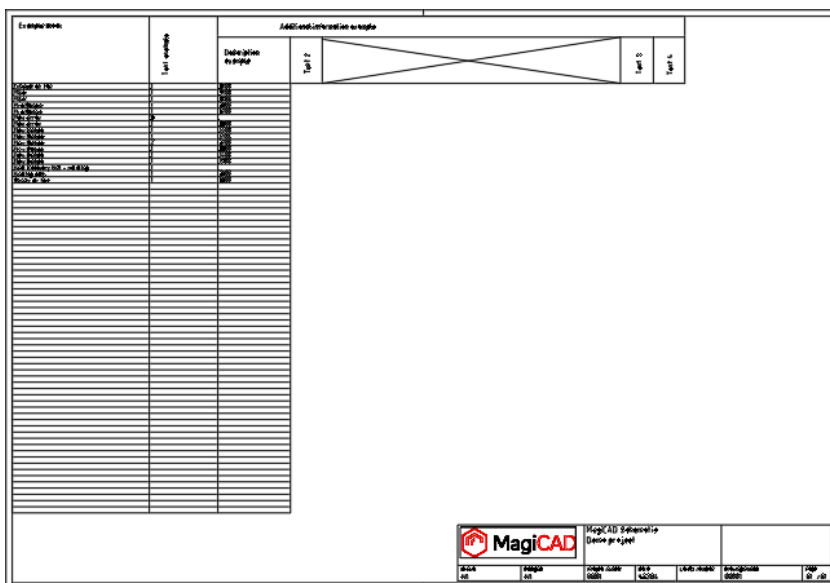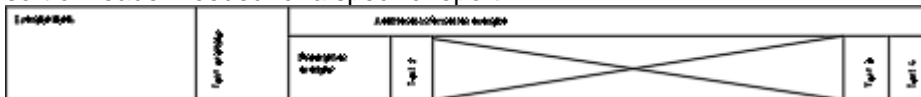
2 Resolved issues

2.1 Common

Conflict dialog does not show status differences

The conflict dialog didn't show all the necessary information, and has now been completely updated to cover the missing information and also improve the overall visibility of what issues are part of the conflict.
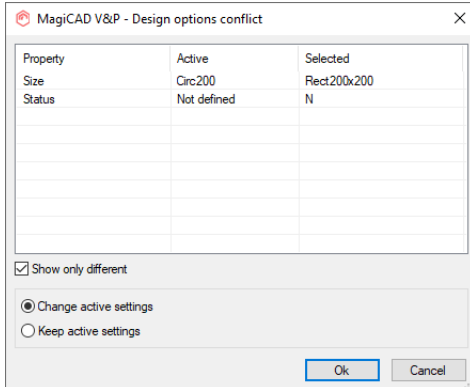
Warning dialog did not work properly for objects in XREFs

Objects in XREFs could not be zoomed in Warning dialog, because they had another floor ID.
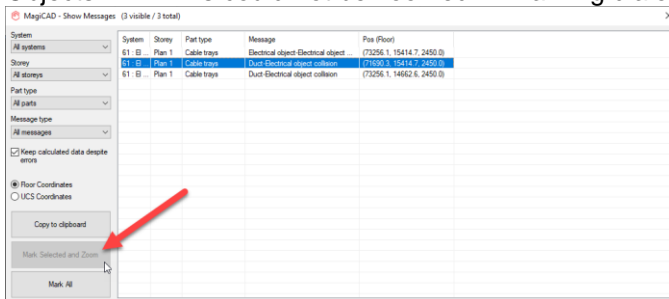
Now the Warning dialog allows to zoom also to objects in XREFs.

IfcType issues and improvements

A number of fixes in MagiCAD Electrical and a common improvement for both V&P and Electrical:

In electrical the trays and conduits had the wrong IfcExportAs set visually in the project. Note that this was only visually, and behind the scenes it still worked correctly, but was confusing for the users:
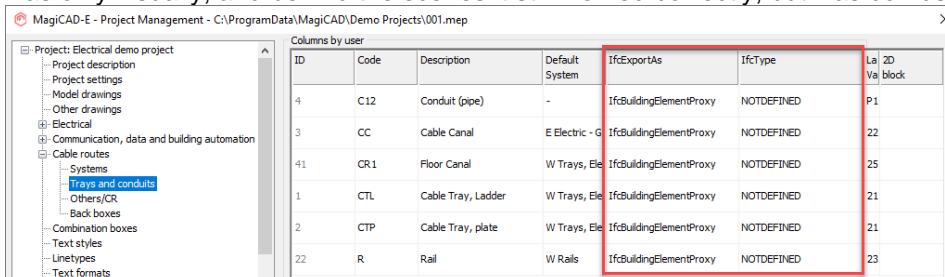
Fittings weren't updated with the correct IfcExportAs and IfcType information when updating the drawing with the information in the project.

When LED-stripes were exported together with other segment elements, the fittings didn't get the correct IfcType in the IFC file.

When the user had set some IfcExportAs and IfcType using Change Properties, in the drawing, this information was overridden when running Update Drawing Data. This was not always the wanted behavior and therefore has both V&P's and Electrical's Change Properties been improved regarding how this information is set, so that it either is "By product" meaning that the information is read from the project or it is set to the object itself, in which case it cannot be overridden using Update Drawing Data:
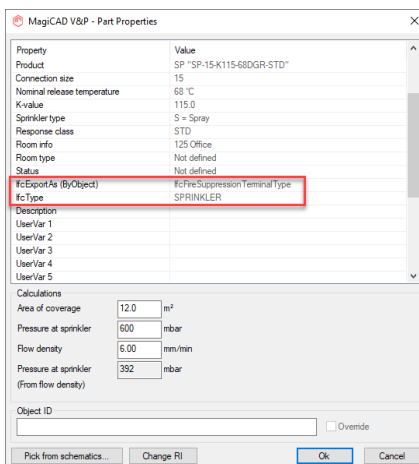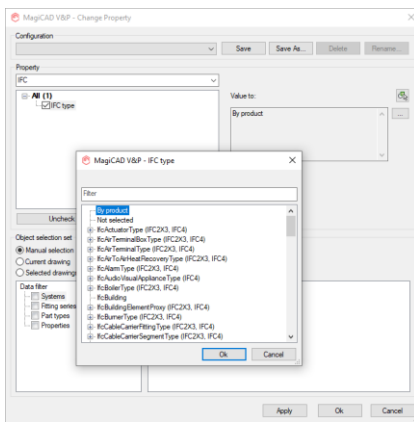
Yellow highlighter cross was unnecessary big

When "zoom to object" was used it sometimes caused unnecessarily large cross markings. This has been fixed and the cross is properly sized in all cases.
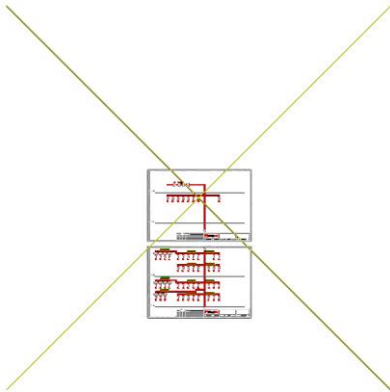
Slowness issue when drawings are missing

Slowness in the program had increased in the later version, when the project's drawing list contained drawings which no longer existed.

Optimization has now been implemented to the code to reduce slowness in this case.

It is however recommended to remove the missing drawings from the project to further improve the speed.

2.2   Ventilaion and Piping

Find & Replace did not change segment series correctly and also updates the series of "Do not change" parts

The duct and pipe series name was updated for all segment parts from the "From"-category, even including sizes which had been selected as "Do not change", meaning that all of a "From"-category was updated.

This has now been fixed and the series name is only updated for the sizes which have been selected to be updated.

F&R changes to variant that is not selected

The locking of the product was not taken into account and the product was unlocked and then the size changed:
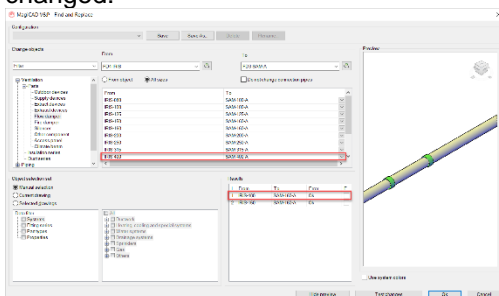
This has now been fixed so that the locking is preserved and the selection is as the user set it in the table:
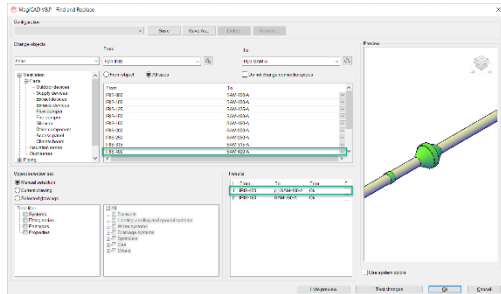
Merge Project data comparison report issues

A number of issues with the Merge Project data comparison have been fixed:

SV7-10 were not included in the report at all.

SV1-6 were shown but report refers to them with the wrong numbering showing SV1-3 twice.

Ifc type was included even if nothing had changed, when both target and source were NOTDEFINED.

Series of a bend

When changing the size and the series with Change Properties, using the size property, the series was not changed for fittings and open-ends.

This has now been fixed and all parts are properly updated.

Preview was empty when "Show objects as saved in model space" was checked in Drawing Preferences

The MagiCAD Select function's preview was empty when "Show objects as saved in model space" was checked in Drawing Preferences

This was as MagiCAD didn't identify correctly if entity was from XREF or not.

This has now been fixed and the preview works correctly.

Branch Copy - Between didn't copy dimension text

Using the "Between"-option in Branch copy didn't copy the dimension texts of the copied parts.

Now dimension texts are also selected when using branch selection option "Between" in Branch Copy command.

Possibility to add flexible length count while adding size from pipe drawing options

The option to add flexible length count, or different equivalent lengths for flexible pipes, was not available via the pipe-drawing dialog, but has now been added:
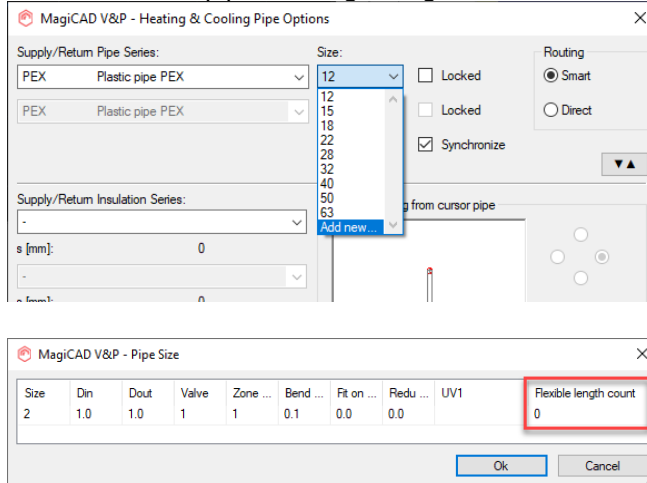
Fixed an issue with an eternal loop in domestic water systems' calculations
In some special cases the sizing calculation, when run with the setting set to "Automatic circulation flow calculation", ended up in an eternal loop and the program got stuck.
This has been fixed so that these cases don't occur.

Renaming of "kv" for manifolds and "K-value" for valves in the IFC Property Set Manager
There was varying naming for the kv-value, which has now been updated:
"kv" in manifolds in Psets has been renamed to "kv - circuits of manifolds" as it is in dimension texts.
"K-value" in the Psets for zone valve, radiator valve and radiator connection set has been renamed to "kv".

Sprinkler report failed in some looped networks with tap connections
Fixed a bug which happened with report creation with some tapped pipes.

Equipment with one connection couldn't be calculated in a sprinkler network
Sprinkler calculation didn't work for all the equipment which has one connection e.g an expansion vessel.

2.3 Electrical

Fatal error with Change Properties
Fixed a crash which happened when changing bend type with Change Properties.

Sorting didn't work properly with every column in the project
Some property columns in the Project didn't sort data correctly. Those have now been fixed.
Properties that had checkbox now work correctly with "Change column value" function in the Project

Fatal error when changing conceptual to shaded in our electrical demoproject
Crash occurred only with AutoCAD 2023 when changing viewport settings to shaded. It have been fixed.

Fixes to Edit electrical project software
Following attributes were not visible in the Edit electrical project:
2D block for Trays and Conduits
Layer code and mark for Cables/E and Cables/C,D,BA

2.4 Schematics

Schematic link dialogs did not show all product classes when some drawing was selected
Not all product classes were shown in the Schematic link dialog. This has now been fixed and the product classes are shown correctly.