MagiCAD for AutoCAD

Release notes for version 2024

19/05/2023

MagiCAD

Content

1   New features

1.1   Common

MagiCAD supports AutoCAD 2024 and Navisworks 2024
Adding support for AutoCAD 2024 and Navisworks 2024.
MagiCAD for AutoCAD 2024 will work on AutoCAD 2021, 2022, 2023, and 2024 and corresponding software.This means that we are dropping support for Autodesk products older than 2021, (meaning dropping support for 2019 and 2020 on both AutoCAD).

Updates for drawing cleaning tool
New option "Clear fill" have been added to the Drawing cleaning tool. It will set AutoCAD command Fill = Off, which will remove hatches from the drawing. This is sometimes needed to do for Architect drawing so MEP designs are more clearer.
It is also possible to run a script file when using this tool. It can be set to run AutoCAD or MagiCAD functions for the drawings where cleaning tool is run. NOTE! When using script file, last function needs to be FILEDIA 1 so that everything will working normally after cleaning tool have been used.
New options for "Explode" have been added. Set z coordinate to 0 now works with electrical objects also and also both VP and Electrical specific explode options have been added to this tool to be able to do everything with one function.
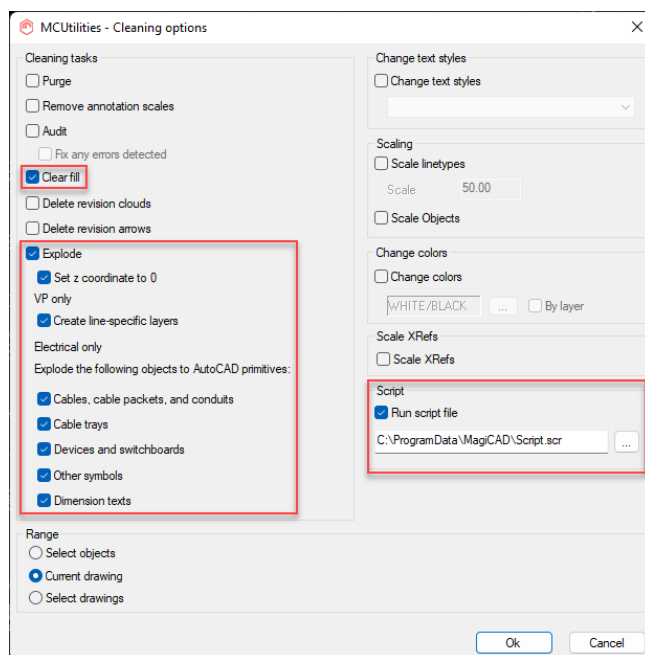

Options for the Explode function have been added to Transfer Project tool.

Labels for objects

A new property "Labels" can be written to objects. These can be used as identifiers and can also be set to objects to always be exported to the IFC:
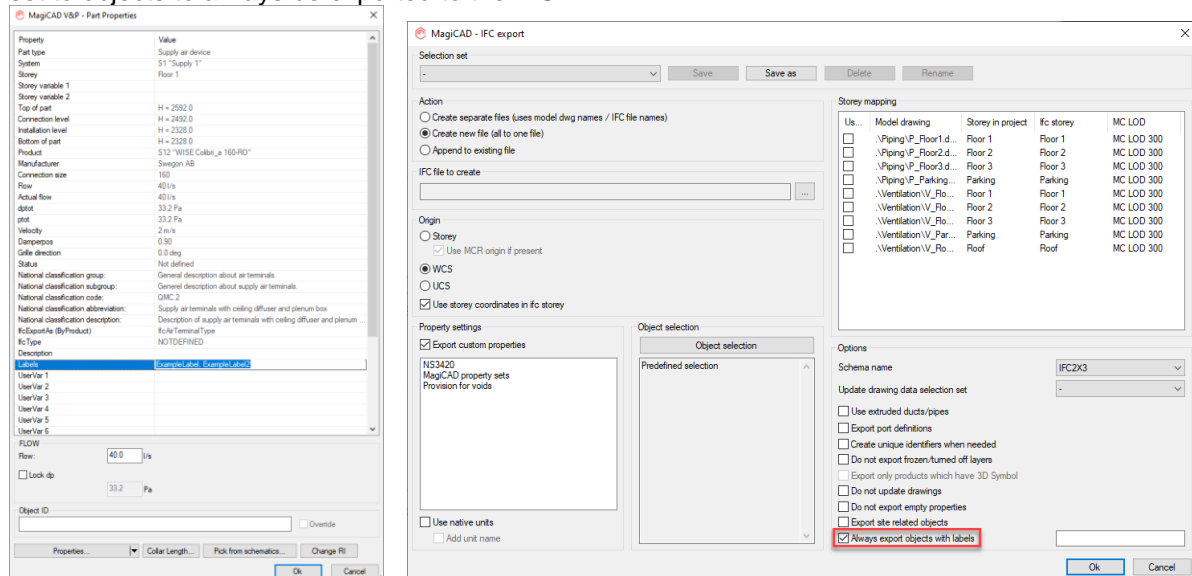
Default Labels can be added to the project, which can then be selected. It is also still possible to write labels in Part Properties of objects:
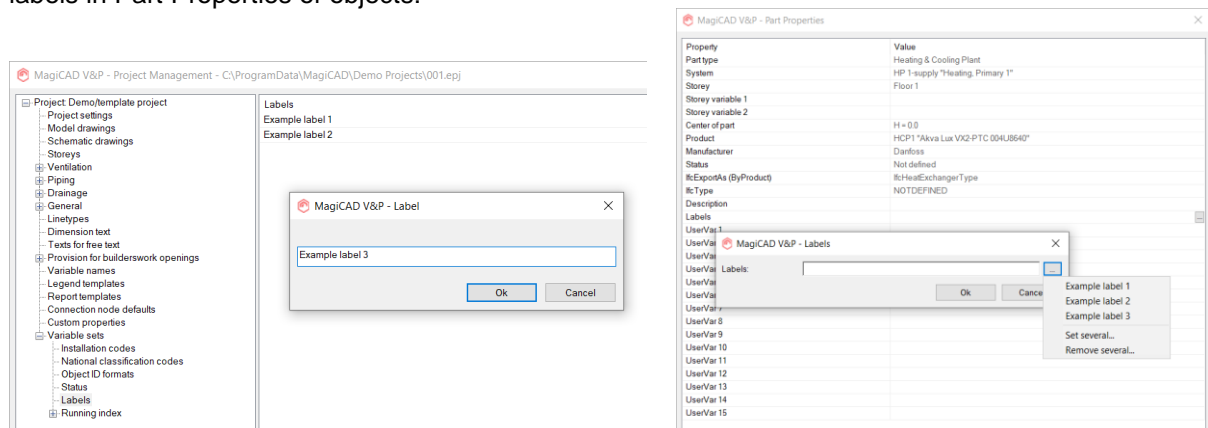

National classification updates

We added National Classification Codes to Object ID, Dimension text. Report, Legend and Object selection.

## Updating products via MagiCAD Cloud

Products in MagiCAD Cloud are sometimes updated with new information, but this information is not automatically transferred to products that have been saved for use in MagiCAD. MagiCAD Cloud product dialogs now show if a product you have saved has new information and allow you to easily update it in MagiCAD.
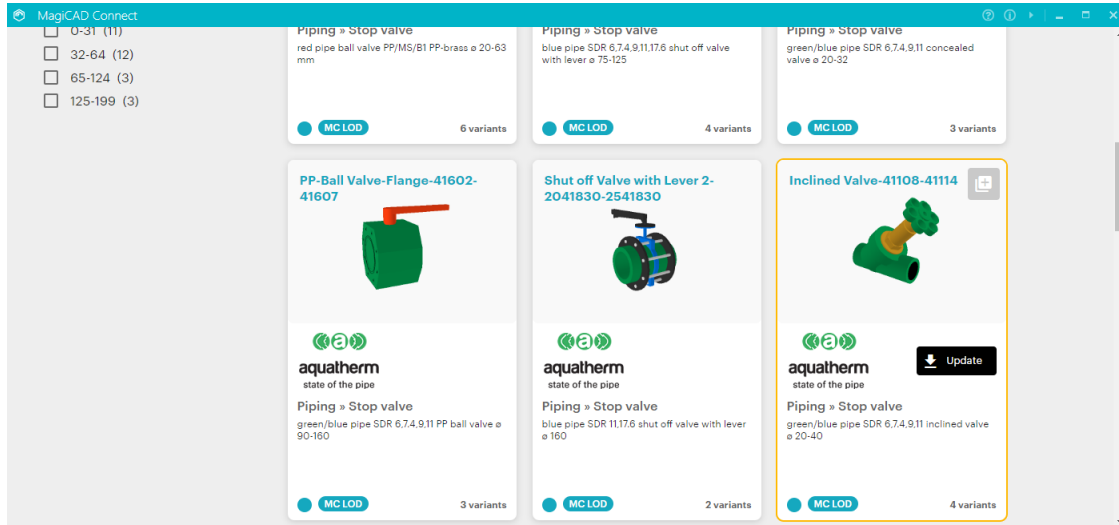
More detailed information about inserting and updating products is found in the MagiCAD Connect Help manual.

Show operation point and data for "Linked Properties"
When clicking on "Linked Properties" in Part Properties of a device, the data from the operation point is now shown in the Cloud:
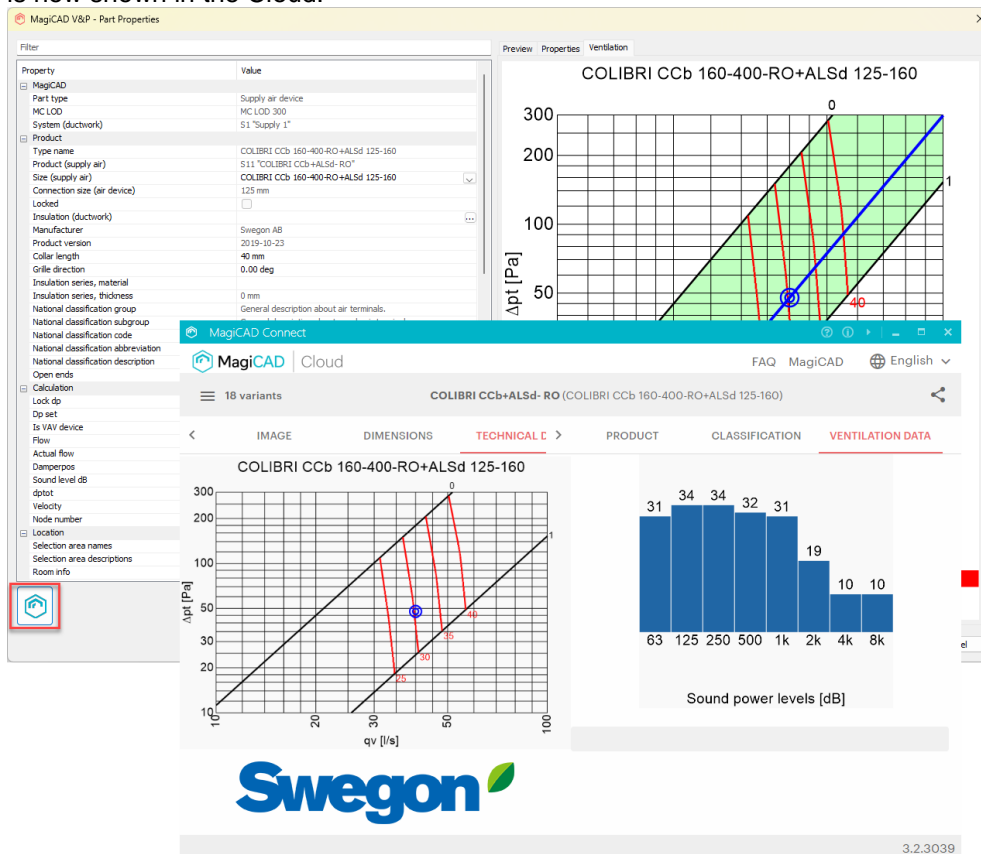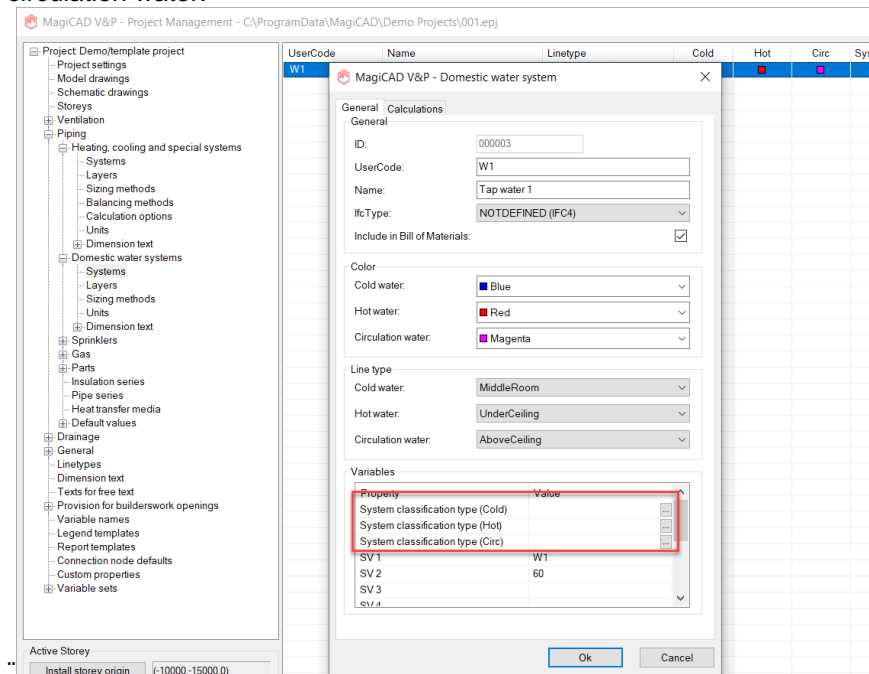
Set and manage Classification for systems

Now System Classification Codes can be created and set for systems, just like National Classification Codes for devices:
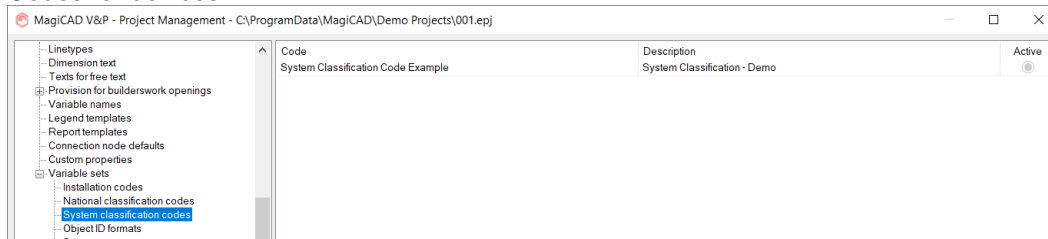
In most systems this is set once, but for domestic water it can be set separately for the cold, hot and circulation water:

Command line issue in Russian for Automatic Builderswork Openings

The command line options didn't work in Russian for Automatic Builderswork Openings.

Improvements to speed up IFC export

Some internal changes have been made which slightly speed up the IFC Export

1.2 Ventilation and Piping

Common

Updated Part Properties windows in Ventilation and Piping modules

Updated Part Properties windows in the Ventilation and Piping modules show more information about products and their related properties and provide a better overview of device data. Users now have easier access to all the necessary information without having to open multiple different dialogs for an overview of how different properties affect a device.
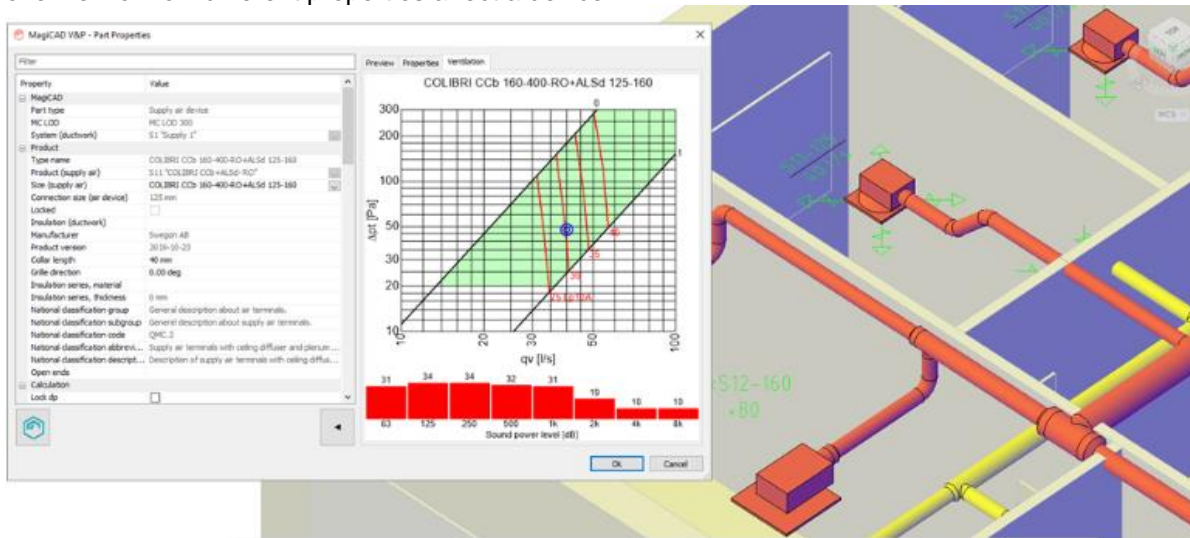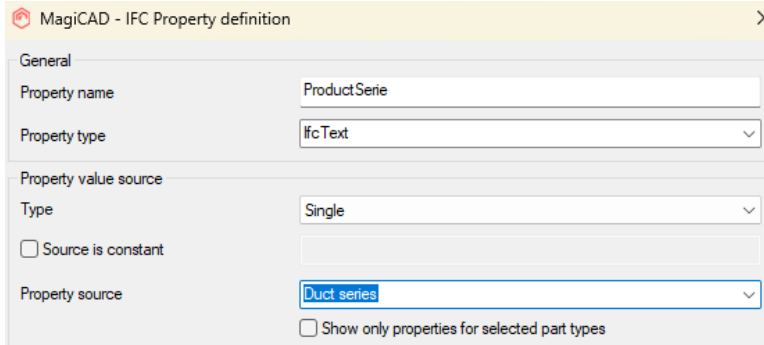

The MagiCAD properties in AutoCAD's Properties Palette have also been updated so that the values can more flexibly be changed from there.

A change that this has brought is now that the format of the segment series in both duct and pipes are different, as they are now in the same dropdown-menu form as in other dialogs:

It should be noted that this information is read to the IFC property set so this will now look different when exported.

Here is the "Duct series"-property source shown:

The exported format will now be in the form **Safe   Lindab Safe** instead of the earlier ***Lindab Safe"Safe"***
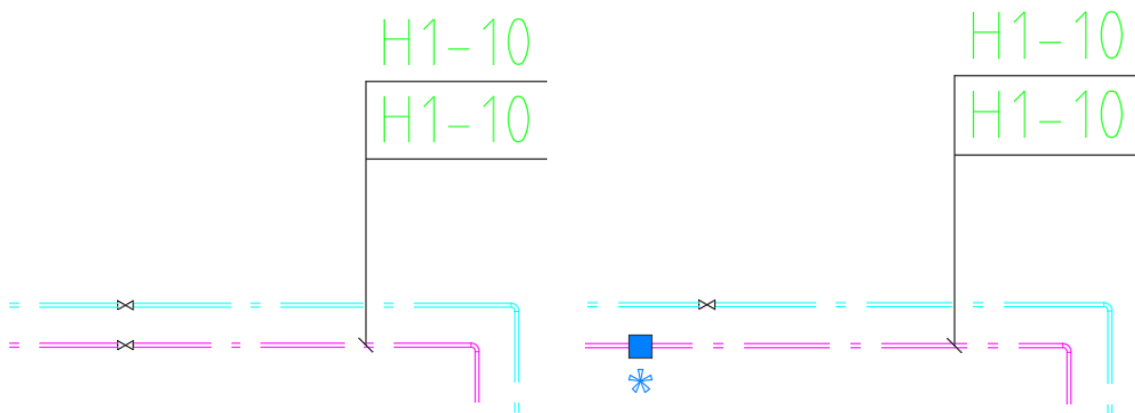
Dimension line behavior when a part is moved

We have implemented better handling for when components and segments are moved, so that dimension texts aren't moved in case it isn't absolutely necessary, and its position stays put:

Before when for example moving a valve:
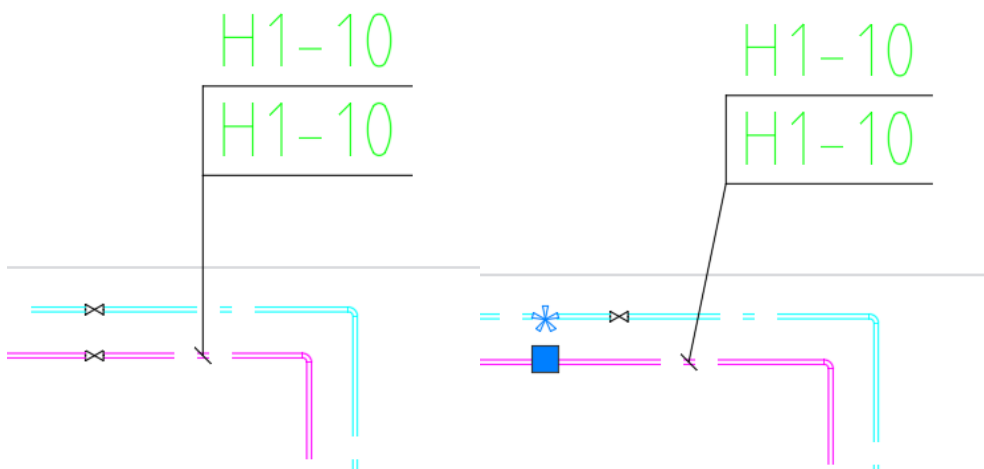
Now the dimension text stays put, if it isn't pushed by the component:

Ventilation

Calculation of VAV systems

Variable air volume (VAV) systems adjust the airflow of ventilation systems based on the demand. They are effective in reducing energy-use in buildings where the occupancy varies greatly throughout the day, such as in commercial buildings. In order to design variable air volume systems effectively, you need to be able to simulate different usage scenarios to ensure that the system will operate as planned.
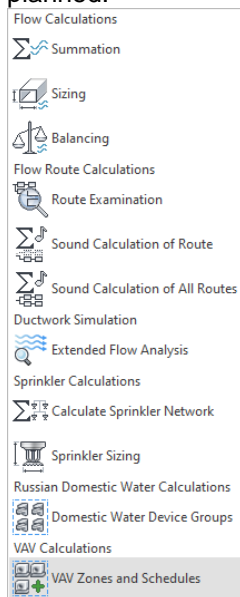
It is now possible to define and calculate variable air volume (VAV) systems in MagiCAD. You can define up to three different airflow rates—for example low, medium, and heavy—for air terminals and assign the air terminals to zones that combine similar spaces together. The airflow rates and zones can then be used to build schedules, which simulate different usage situations, such as a full office with meeting rooms in use or an empty office at night.

**Duct fans will now raise the pressure in the ducts**

Duct fans will now raise the pressure in the ducts. This was earlier not supported and the pressure was only raised at the start of the duct, by what had been set as the starting pressure of the system, in the project, or by an AHU.

Some issues remaining however in internal testing.

The pressure rise is set in the fan:
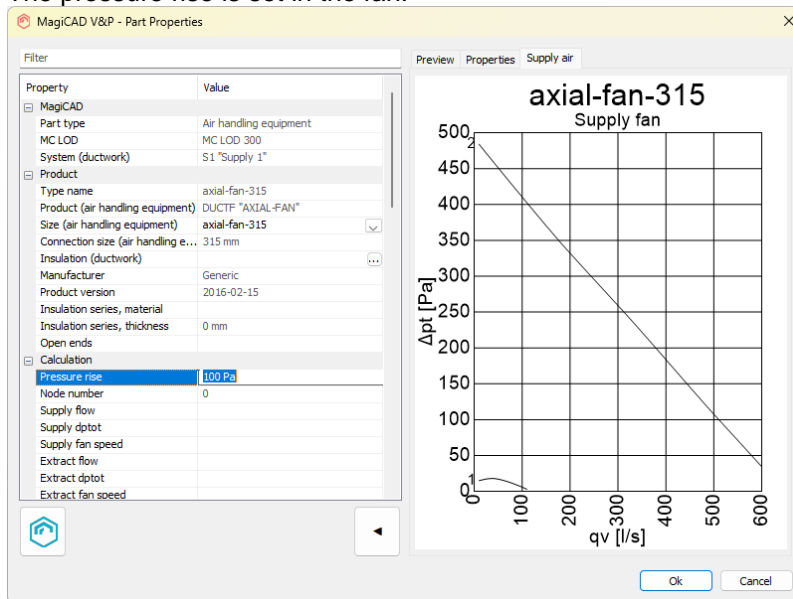
And is then calculated in the balancing:
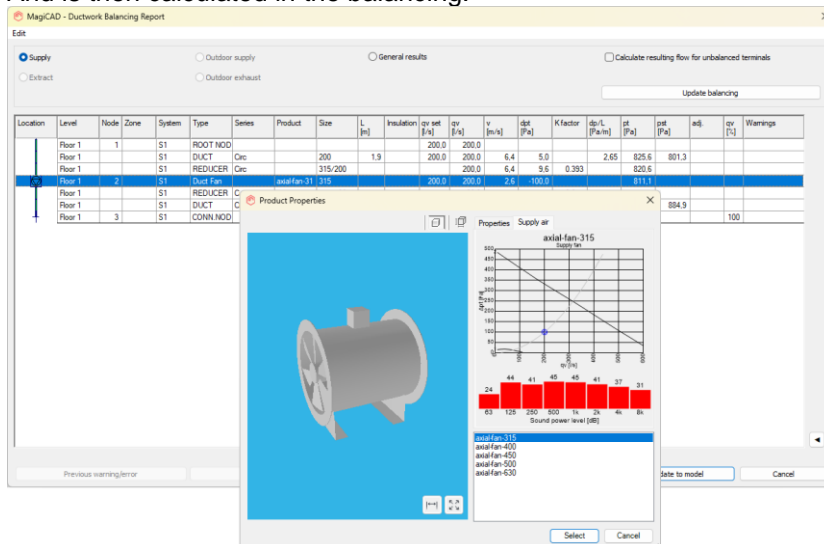
Added support for adding product variables (P1, etc.) via MagiCAD COM to duct fans

Added support for writing information to product variables (P1-P15) in duct fans via MagiCAD COM.

Piping

"Secondary system"-properties to mixing units property set
Added secondary system properties for mixing unit:
Secondary system power,
Secondary system usercode,
Secondary system name,
Secondary system variables.

At the same time did we also correct an issue which was present from earlier:
"Control valve dp" property was not shown for all needed types of mixing unit in Properties Palette and IFC Export.

Improvements to Auto-Routing Underfloor Heating (Beta)
It is now possible to select obstacles with the function. These can be polylines or drainage objects:
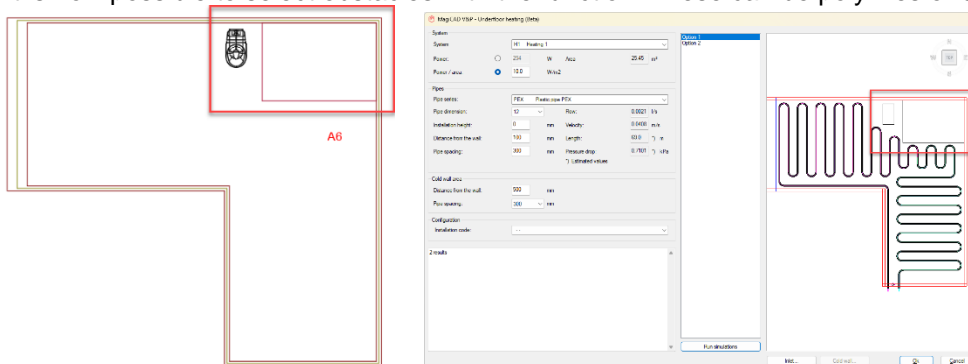
The model has been trained on one object at a time, but more do often work.

Additional improvements are now that the distance from the cold wall can be set to 1000 mm instead of 700 mm and there is also an option in the dialog to reselect the inlet/outlet position:
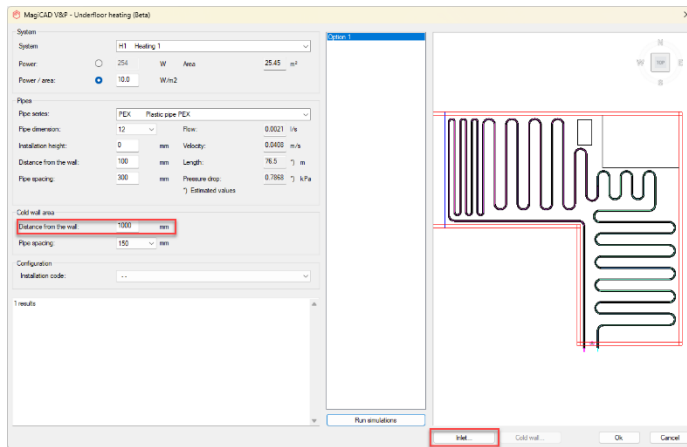
Drainage

Bottom connection levels in manhole

The bottom connection levels in manholes can now be shown as properties:

Note that this is the outer, lower point which is shown, and not the inner one:
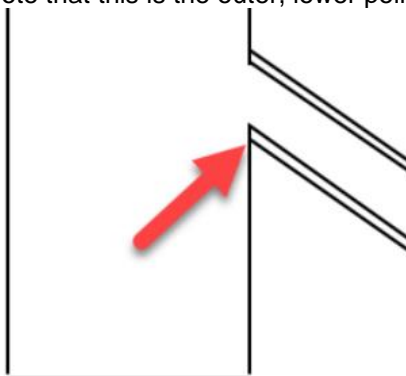
Drainage flow values missing from part property line have been added

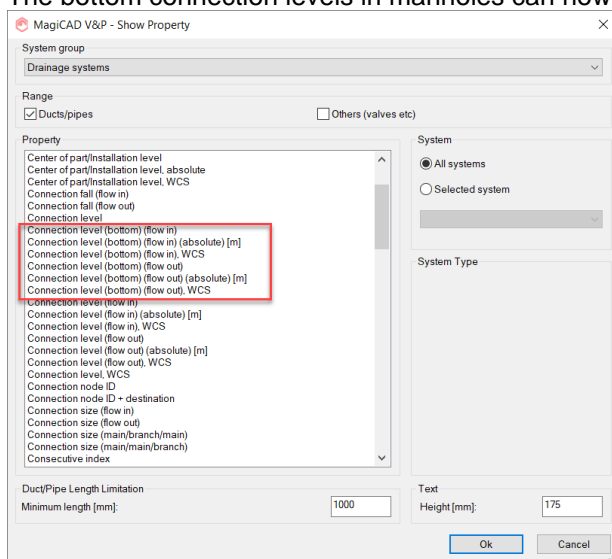Added "Qv nominal", "Qv sizing" and "Qv constant" to Part Property Line for drainage systems.
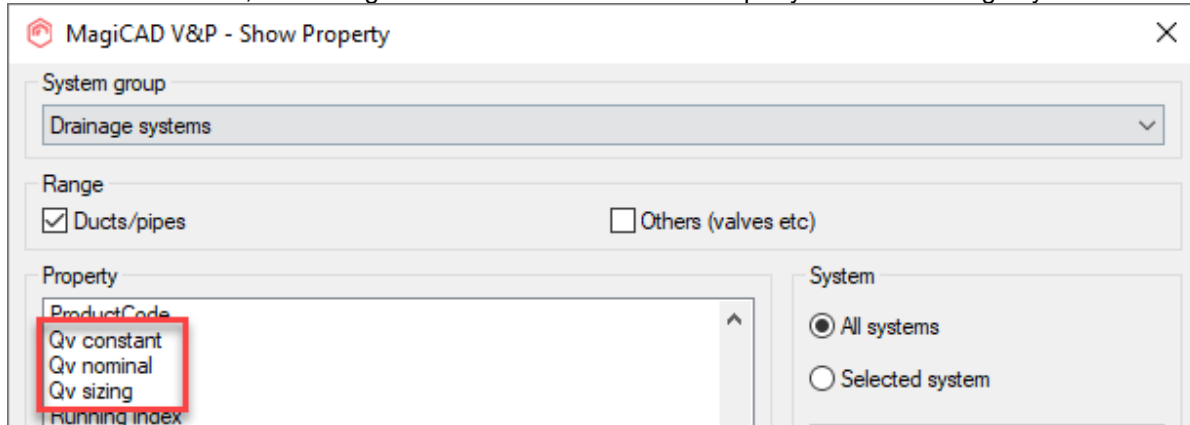
Sprinkler

Automatic Text for sprinkler node number on T-branches and taps

Now automatic dimension text with "Node number" is shown for T-branches and taps:

Added flow to the combo box in the report for design areas

Added flow to drop down list in the sprinkler report and added tabs to improve readability:
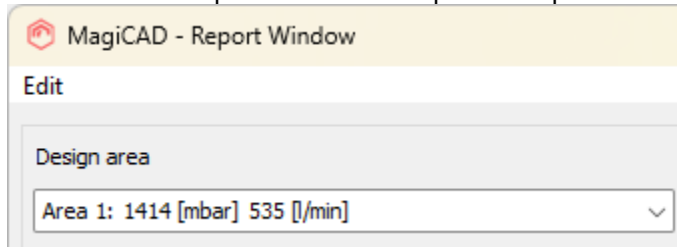
1.3 Electrical

Option to select Connect ON/OFF as default

Now in User Preferences you can select whether all segment drawing functions will have the *Connect if found* or *no Connect* mode active initially when starting the functions.
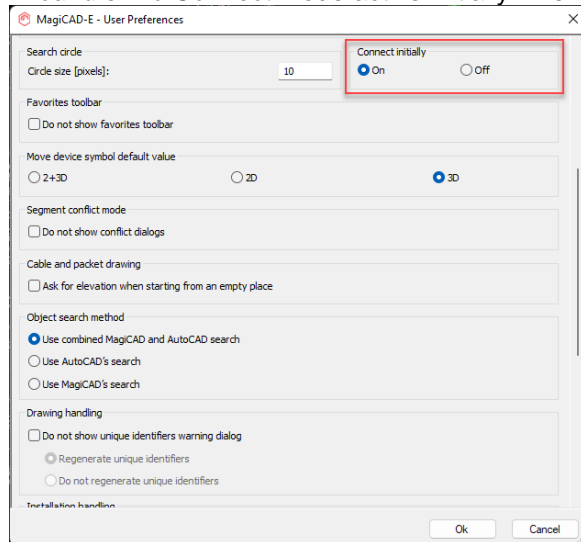
Connect any device to lighting track

Devices from all product classes (except switchboards and combination boxes) can now be connected to lighting tracks.
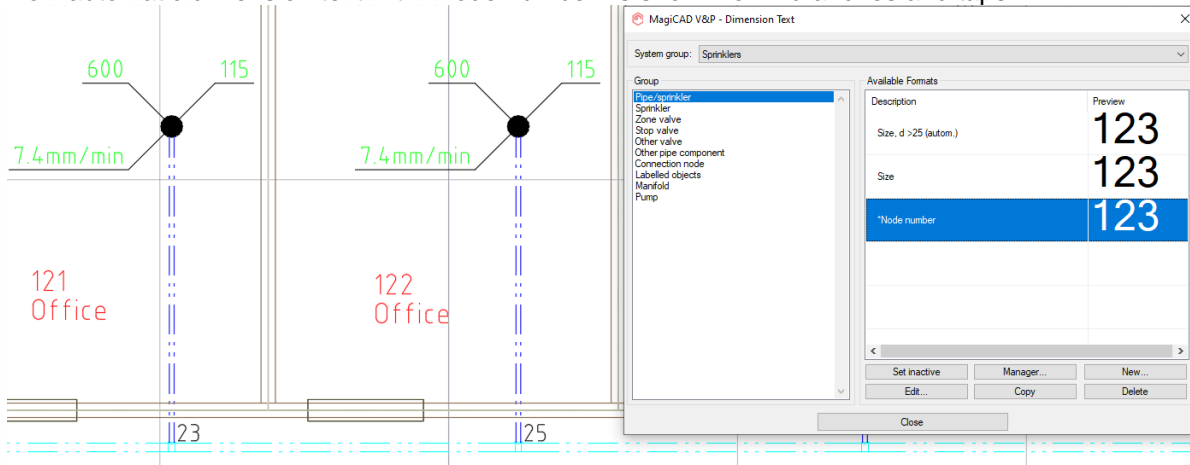
Installation code can now be defined for lighting tracks.

Data connections can be taken into use with lighting tracks, and also default cables for both power and data systems are definable.

Circuit dialog improvements

Circuit dialogs were getting bigger and bigger since new things have been added to those from time to time. We have now changed the appearance of the dialog so that the information could be found more easily and the dialog can be made smaller.
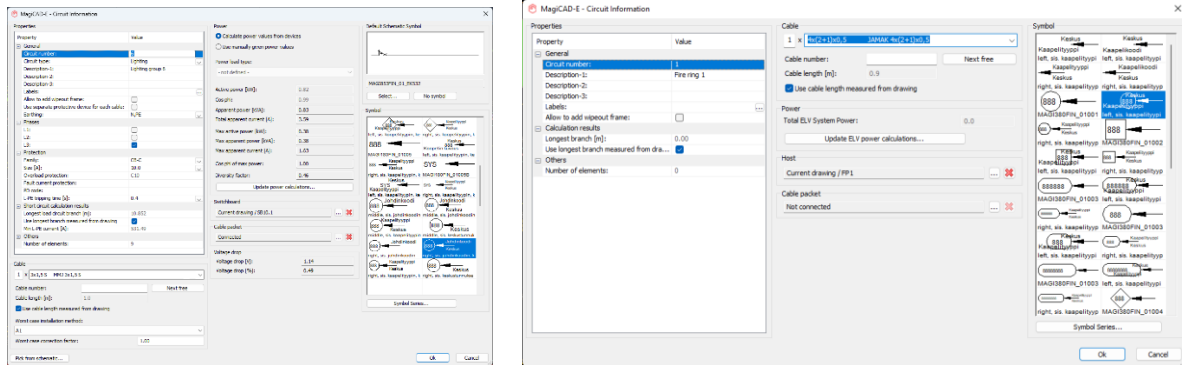
Filter circuits in "Pick from schematic" / "Pick from dwg" functions

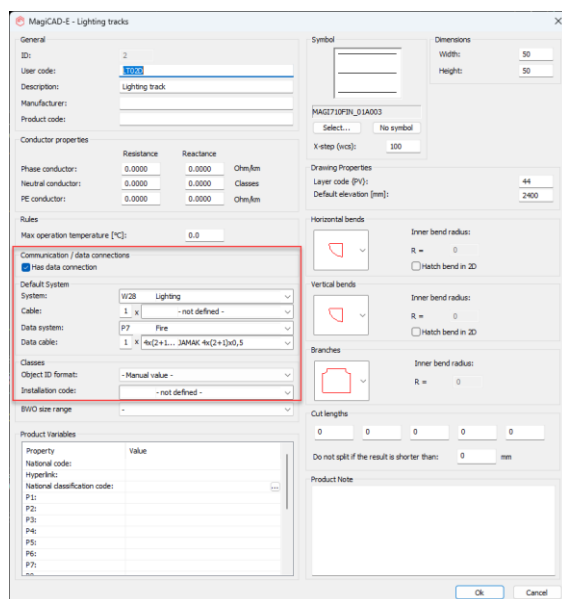When selecting circuits from drawings by using the "Pick from schematic" / "Pick from dwg" functions, a new filter box has been added which will filter the list of selectable circuits based on the search keyword you input. For large switchboards, this helps to find the correct circuit easily.
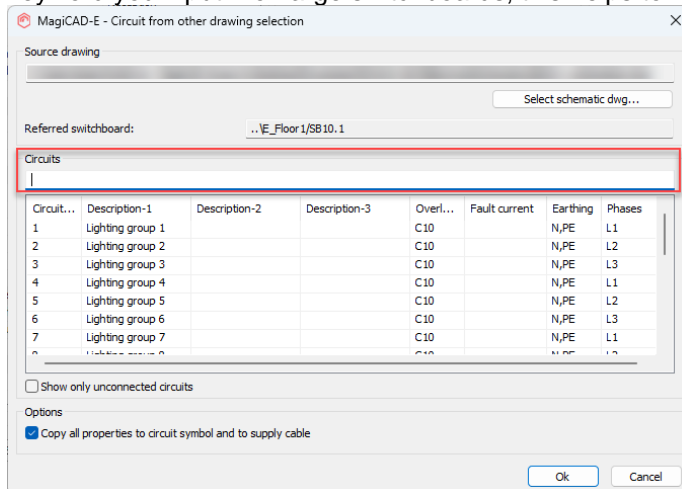
Update Circuit symbol with Connections to Master DWG

Now when updating a slave drawing with the Connections to Master DWG function, also the 2D symbols of circuit symbols are updated.

1.4 Circuit designer
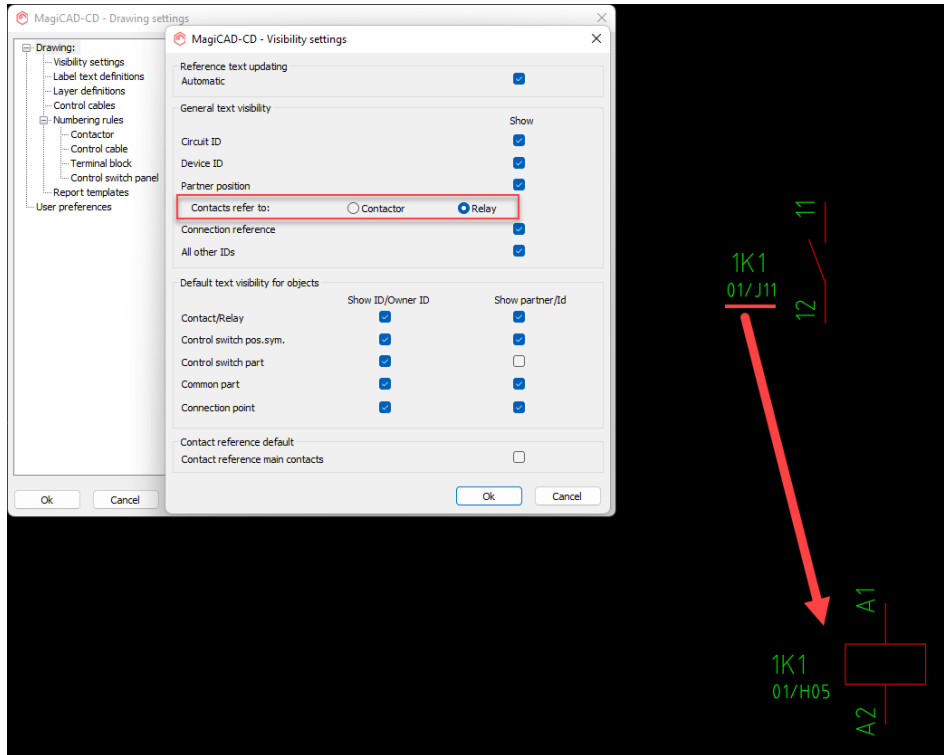
Text style handling

When making a new circuit schematic drawing by inserting a new page to an empty drawing or by using the "Create Circuit Schematic" function from Switchboard Schematic, the STANDARD text style will be copied from the frame block drawing.

Contact reference setting

Now you can decide whether individual contacts will refer to the main contactor symbol or to the relay object.

1.5   Schematics

Button for the "Zoom to linked objects" functionality in Schematics

A zoom-button is now available in for the earlier, in MagiCAD 2023 UR-2 implemented commands "MAGISCHZL" / "SCHZL".
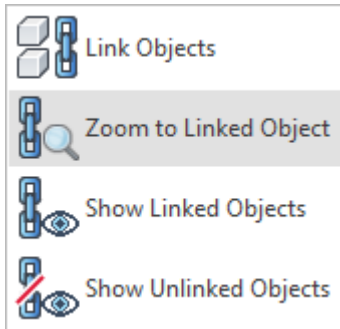
2   Resolved issues

2.1   Common

Context menu placement using multiple monitors
Fixed an issue where the context menu, which is opened when right-clicking, for example in the project, opens up on a different screen when multiple monitors are used.
Now the context menu opens up where the user clicks and within that screen.
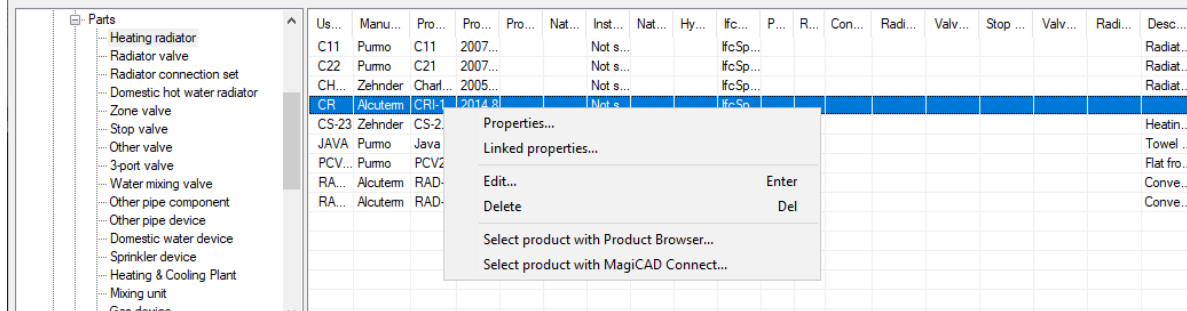
2.2   Ventilaion and Piping

Common

Length-property in AutoCAD's Quick properties and Properties palette
"Length" was missing from AutoCAD's Quick properties, and the "QuickCalc" option was missing from the Properties palette:

In Quick properties:
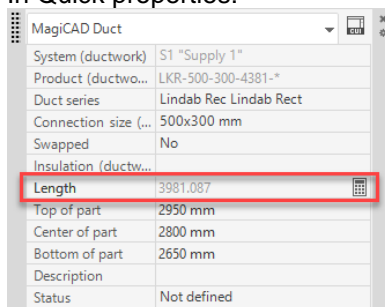
Properties palette:
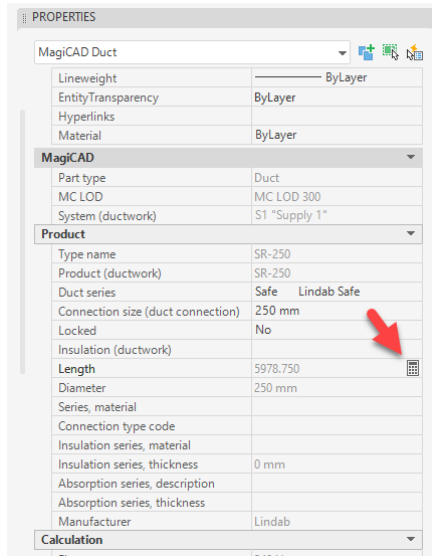
Note that "Length" must be set ON in AutoCAD CUI for "MagiCAD V&P ducts & pipes" to be shown in Quick properties.

Column alignment issue when sorting columns
Columns in the project weren't always aligned correctly when sorting them. This has now been corrected.

Added missing functions for connection stubs creation via COM
Added support for ConnectionStub / SewerDevice part type. This affects only COM's CreateConnectionStub().

"Volume"-properties were missing from open end in Navisworks
"Volume of the system" and "Volume of the network" properties weren't available in Navisworks nor AutoCAD's Properties Palette for open ends.
These properties are now shown in Properties Palette, new Part Properties dialog and Navisworks for heating open-end.

Update drawing data reset running index
Running indexes were reset when running Update Drawing Data. This has been corrected and the running indexes are no longer reset.

Unable to export objects with blank IfcExportAs
An issue caused objects with an empty "IfcExportAs"-property to not be exported. This issue has been corrected.
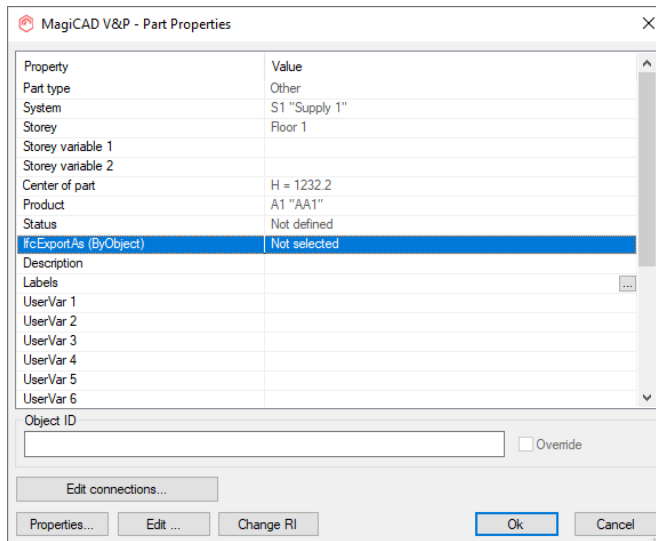
Ventilation

Air Handling Unit properties issue
It wasn't possible to for example use dimension texts or IFC properties with certain properties of the Air Handling Units
We added the following Air Handling Units properties to reports, IFC Export, Properties Palette and dimension texts:
Supply flow
Extract flow
Supply dptot
Extract dptot
Supply fan speed
Extract fan speed

Piping

dptot in pump dimension texts was always 0 in heating & cooling networks
Dimension text was always showing 0 for dptot in pumps in heating, cooling and special systems networks.
This issue has now been fixed and the correct value is shown.

Connection pipe's length for sprinkler systems was not correctly updated
The connection pipe's length was not correctly updated when for example stretched and caluclations were run.
This has now been corrected and the correct length is updated to the pipe in the drawing when the calculation is run.

Drainage

Some level properties issues in manholes
The values for manholes' connection size property values were not shown in AutoCAD's Properties palette and some of the connection level properties were not shown correctly according to how they had been formatted, with for example the wrong number of decimals shown.
These issues have now been corrected.

Generic manhole got the wrong dimensions in the IFC-file
Due to an issue all generic manholes got the same dimension-values set in the IFC. This issue has been corrected and the generic manholes all get the correct dimension values set to them in the IFC as well.

Sprinkler

Error in sprinkler report
Fixed a bug where different fixed length pipes were not shown in Calculation Report.

Calculation issue caused slowness in sprinkler calculation
Because of this error, almost all the pipe sizes got the information that they have changed, even though they had not.
This caused substantial slowness when updating the results to the drawings.

The manually given flow for Fire Hydrant was not used in sprinkler calculations
Sprinkler calculation now uses the manually given value for Fire Hydrants. Earlier it only used the value which was set in the product in the database.

2.3 Electrical

Object Selection tool's property filter according to installation code didn't work with conduits
Now selecting objects according to their installation codes works correctly for connection nodes and conduits.

Installation code issue with Lighting Tracks
Previously, when changing the installation code in Part Properties of lightning tracks which were drawn directly without going into the options dialog, it was falsely set to ByProduct mode (which isn't available yet for lighting tracks). Now the installation code is always in ByObject mode.

Some attributes weren't working in reports/legends
The following attributes were possible to add to report and legend templates but they didn't produce any values in reports nor legends:
Selection areas
Fitting subtype
Fitting inner radius
Now the issue is fixed and the attributes work in reports/legends.

Opening project is slow if national classification codes have been defined
When National Classification Codes were defined in the project, opening the file with the "Edit electrical project" tool was very slow. Now projects open quickly regardless if they contain national classification codes or not.

Comma separated selection area names into two rows
When a selection area had a comma in its name, the area name was split into 2 rows in part properties. The issue has now been fixed.

2.4   Circuit designer

Attributes in wrong places after creating a circuit schematic drawing from a Swithboard Schematic

When a circuit schematic drawing was created by using the "Create Circuit Schematic" function from Switchboard Schematic, some attributes were not updated to correct positions. Now they are updated after a drawing has been created.

MCEX mirrors control cable symbol texts

When exploding control cable symbol, texts were mirrored. It has been fixed.
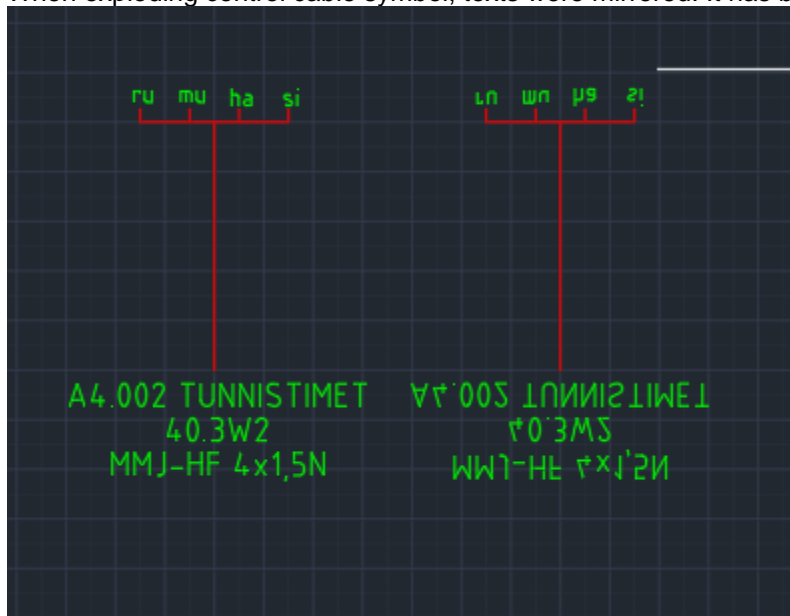
2.5   Schematics

Deleting symbol that was linked to multi-line note distorted line spacing of the multi-line note
When deleting a symbol which was connected to a multi-line note, the spacing between the text lines in that multi-line note were changed.
This has now been corrected and deleting the symbol does not affect the text's line spacing.

Attribute text location in Schematics symbols
Texts in symbols were not aligned correctly.