MagiCAD for Revit

Release notes for version 2022 UR-1

18/10/2021

MagiCAD

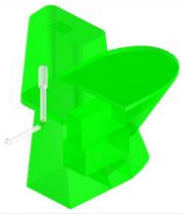
Content

1 New features

1.1 Common

Revit Space name and number added to clash report.
Space name and number are now included when we make a pdf or excel report from BCF manager. In that way it is much easier to locate a an issue from BCF manager.

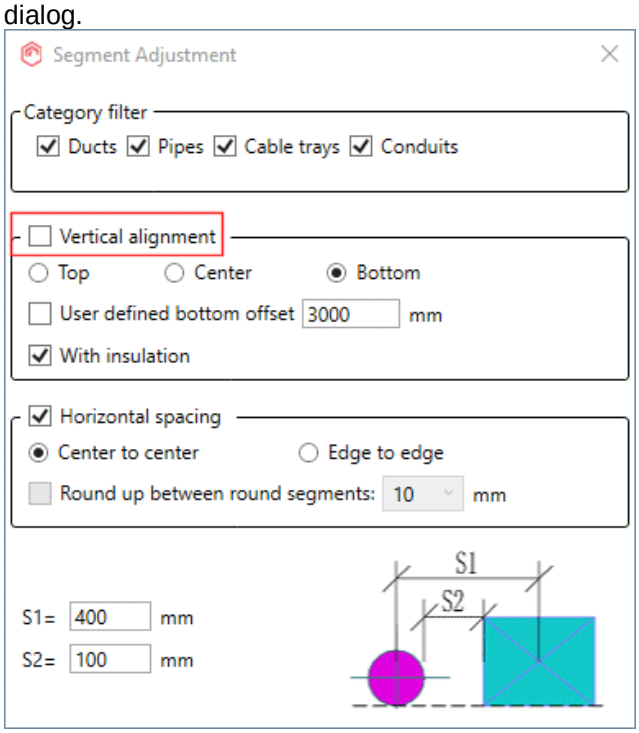
Topic title:	Clash-000013
Topic type:	Hard clash
Topic status:	New clash
Last:	15-09-2021 16:33:23
Axis number:	3-D/4-E
Space:	Toilet 57



Component name	Discipline	Category	Level	System	Element Id
626009311010	Piping	Plumbing Fixtures	01_Stueplan		3159177
magi_pipe_fe_elbow_short_001	Piping	Pipe Fittings	01_Stueplan	BK 1	3188172

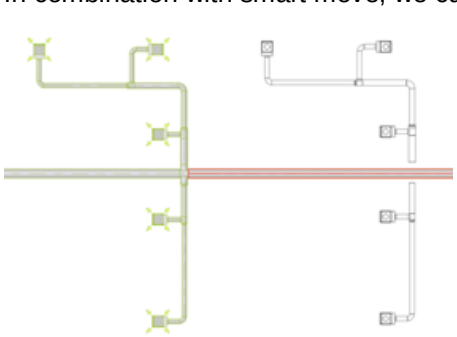
We have several information that helps us identify where and what is clashing. Partly we have axis numbers that can be used in plan views. We have Revit Element Id that can be used in big models via select by Element Id. Finally now we also have space names and numbers

Segment Adjustment is unchecked by default
At the request of the users, we have changed the default selections in the "Segment Adjustment" dialog.

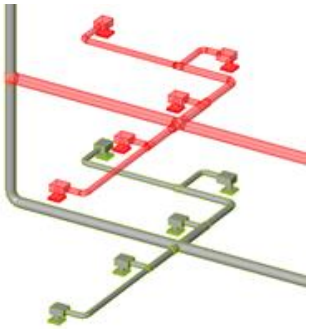


The vertical adjustment is now unchecked by default. The latest used setting is stored in the project and is loaded when Revit is reopened.

The branch copy function is improved to copy X-branches and now it changes reference levels according to the model.
The time saving feature to copy or move a branch is improved. Now we can also copy an X-branch by selecting the two directions and point out the new placement.
If we copy a branch from one level to another, it also updates reference level according to placement in the model.
In combination with smart move, we can get this new branch on next level in exact placement.



In a plan view



To another level

New information transferred to MagiCAD from product database
New data is transferred from the product database to MagiCAD. This data can then be used in BOM lists and shared with structural designer for load calculations in buildings.
The new data is
MC Weight
MC Manufacturer Article Number
MC Description of Type

For the new products these parameters are added when the product loaded to dataset and installed to the project.
For the existing products the data is added when the product is reread from database to Revit project and "Update parameters" method is used.

Improvements for controlling the export of empty properties
In earlier versions of MagiCAD the empty text properties are not exported to IFC if "Do not export empty properties" is checked.
In this version this is expanded to support the numerical properties, which are not exported if they are "empty".

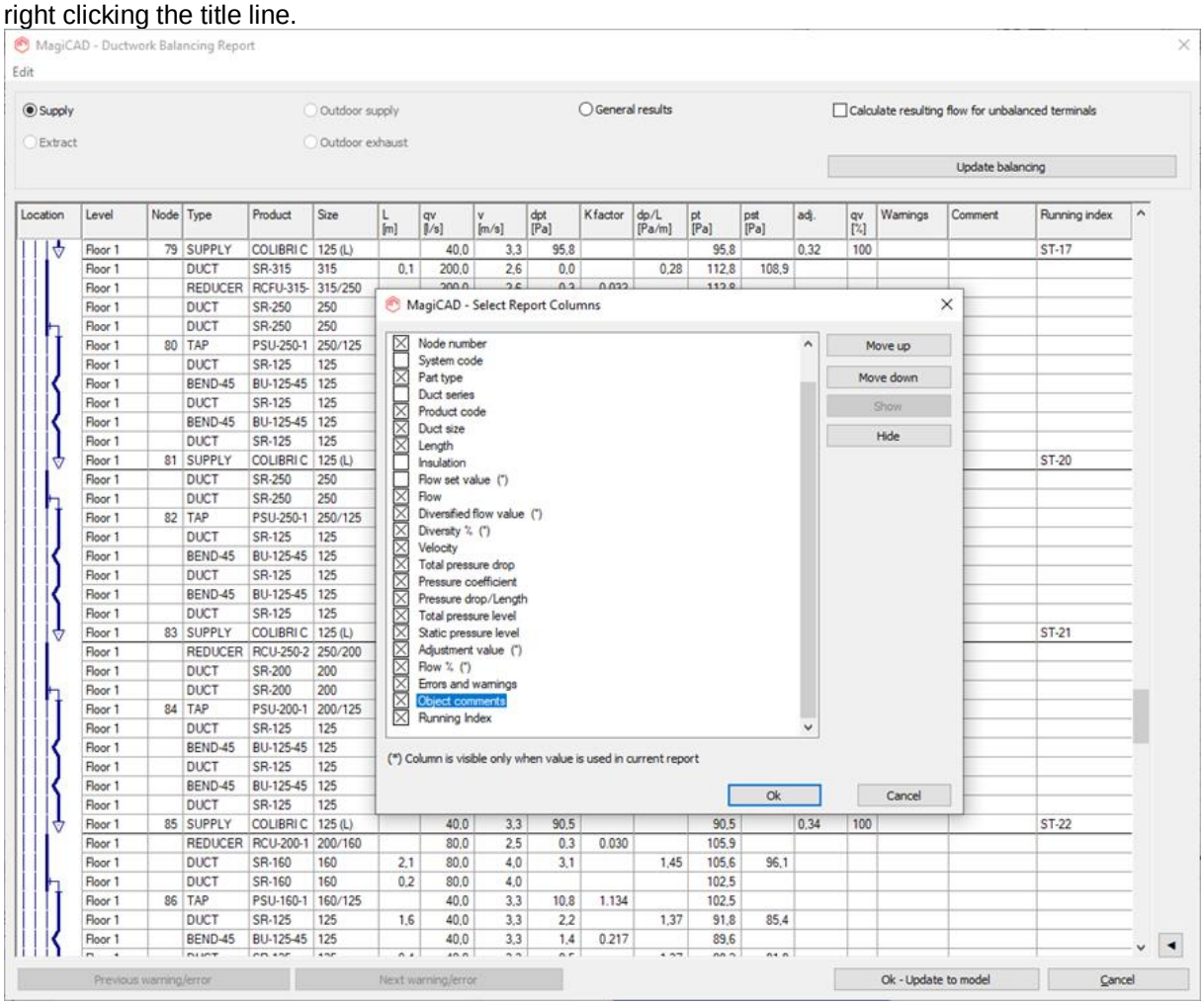
System parameters are now also available in Merge parameter & Object ID
System parameter selection is now possible for the merge parameter configurations.
There is also an option to fetch data only from primary connector system, or from all.

Running indexes between two elements
Running index supports "Branch (select first and last element)" option for the automatic index assignment.

1.2 New features for heating, piping and ventilation

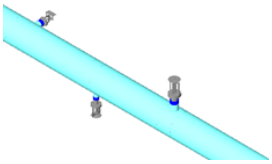
New fields available in reports - comments and RI

For easy reference to the calculation reports, new columns “Comment” and “Running index” have been added to the report of all the calculations. Initially they are now shown, but can be set visible by right clicking the title line.



Possibility to add sprinkler head directly to pipe

You can now connect sprinkler heads directly to a sprinkler pipe with a new "Side of Pipe" connection option. The connection side is defined automatically by the sprinkler orientation (pendant, upright, sideways).

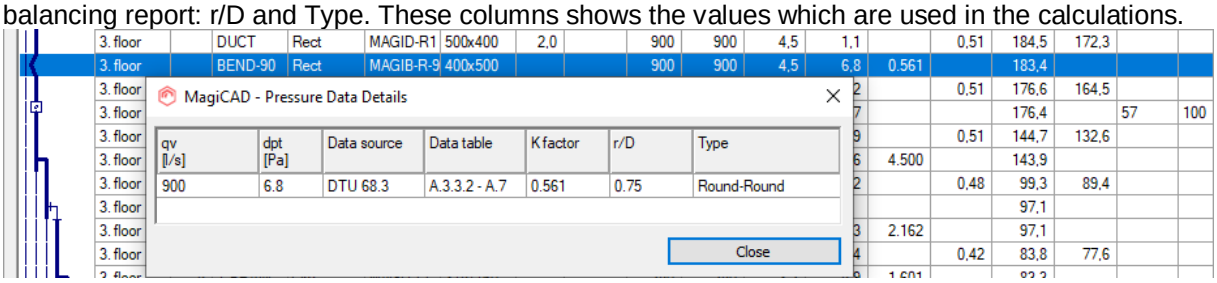


Balancing report of the ventilation network shows more information about the bends

We have got lots of requests concerning the k-factor what is used in MagiCAD ventilation balancing calculation. Usually many of these questions are related to r/D and bend type.

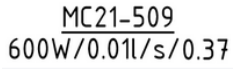
It is impossible to read the curvature and shape of the fitting correctly from the Revit family. This is specially true for the 3rd party fittings.

For these reasons we have added two new columns to the "Pressure data details" dialog in the balancing report: r/D and Type. These columns shows the values which are used in the calculations.



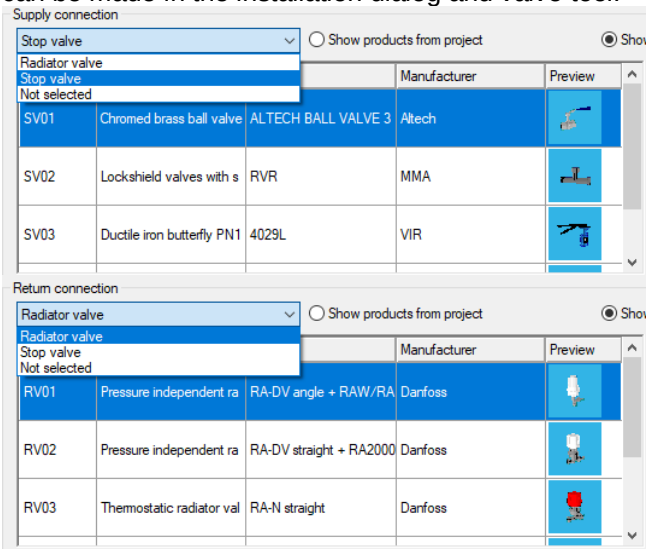
Kv-value of a radiator valve is saved also to the radiator it controls

The new MagiCAD version saves the kv-value of the radiator valve also to the radiator it controls. This enables the possibility to add the kv-value of the valve to the radiator tag.



The location (supply or return pipe) of the radiator and stop valves can now be selected

You can now select whether the radiator valve is connected to the supply or return pipe. The selection can be made in the installation dialog and valve tool.



Improvements to pipe sizing when the material changes.

When sizing the pipes towards the root, the sizing follows the size of the previous pipe. MagiCAD never chooses smaller pipe towards the root.

In case the material changes, this is problematic since it may lead to too big pipe size especially when the plastic pipe changes to metal pipe. .

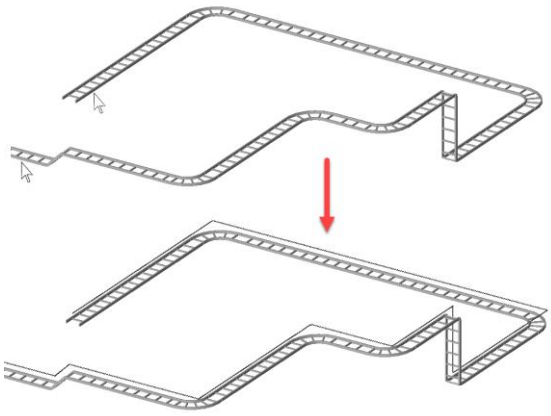
We have now changed the sizing logic so that if the material changes, the previous pipe size is set to zero, meaning that the smallest available pipe size from the new series is selected.

Multiple row selection now possible in the gas calculation report
It is now possible to select multiple rows by pressing control & clicking rows and by selecting row pressing shift and clicking other row.
By selecting multiple rows, it is possible to change e.g. pipe size and insulation of the selected rows.

Improvement to material parameter - add to insulation series and coating

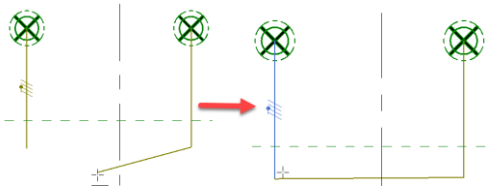
1.3 New features for electrical

Cable Packets along existing tray systems
It is now possible to draw Cable Packets (= conduits) along cable trays with only few mouse clicks. Using this function saves a lot of time since you no longer need to draw the conduit along the cable tray that you have already modelled earlier. When starting the function you need to define which conduit series, system and offset from the cable tray is used. After that you need to select two parts on a cable tray system, and MagiCAD will generate a conduit system along the trays with the settings you specified.



Insulations for wire types
A new parameter "MC Insulation" has been added for wire types. When selecting an insulation material for a wire type in the Wire Type Management, it is also updated to the new parameter in the wire type.

Wire drawing improvements
Now it is possible to connect to the end of an existing wire when starting to draw a new wire or when ending wire drawing. Wires connected to each other are handled as separate wire segments which are physically connected to each other.



NOTE! To make an open end while drawing, click esc in the point where you want to end wire drawing. After that you can continue from that point with a new segment. This method can be used e.g. for creating a wire segment which will be hidden in the final printout view. Hiding can be done with

a view filter and by utilising a new MC Hide Wire checkbox parameter that has been added from wire instances.

In addition, all the drawing related options of the Wire tool are now stored to a local storage file, which means that you will automatically have the last used settings active when starting a new Revit session.

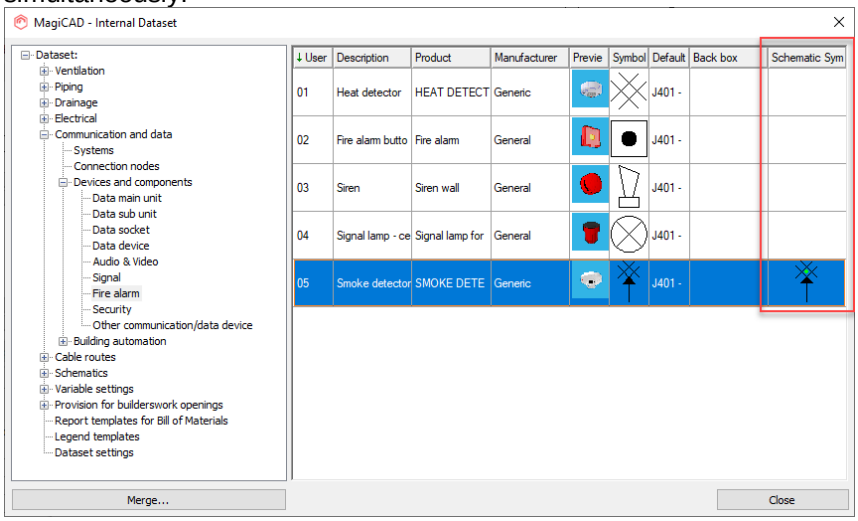
Symbol selection for feeder rows in switchboard schematics
Now you can select and change the schematic symbol of a feeder block found from a switchboard schematic sheet with the Set Properties function. Previously this changed also the symbol in the actual circuit in the model, but now it will only affect the preselected feeder block.

1.4 New features for schematics

ELV system schematics

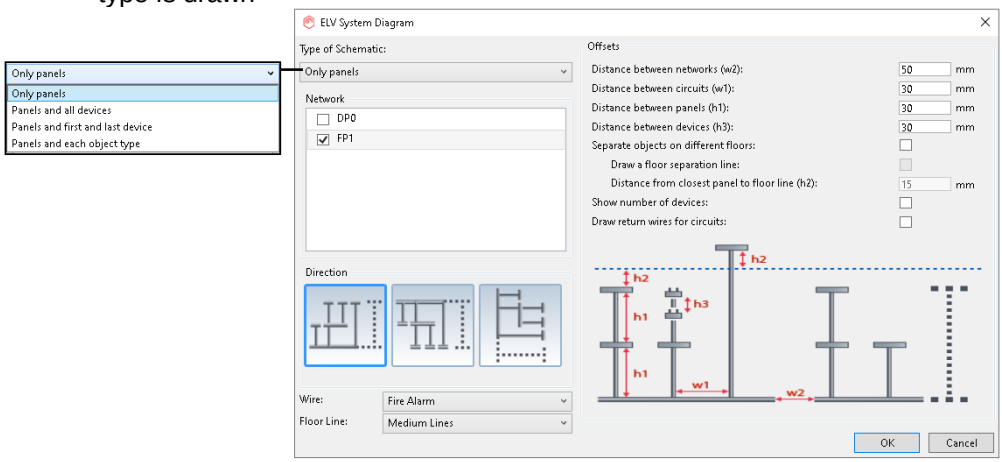
Now it is possible to select the used schematic symbols for communication/data/BA devices in the dataset. Those symbols can be then be utilised for creating an ELV system schematic automatically with a couple of mouse clicks. The symbols will be linked to the corresponding objects in the model, and circuits will be linked to the schematic wires that are created in the new ELV System Diagram function.

In the dataset you can select schematic symbols for products. Multiple products can be edited simultaneously.



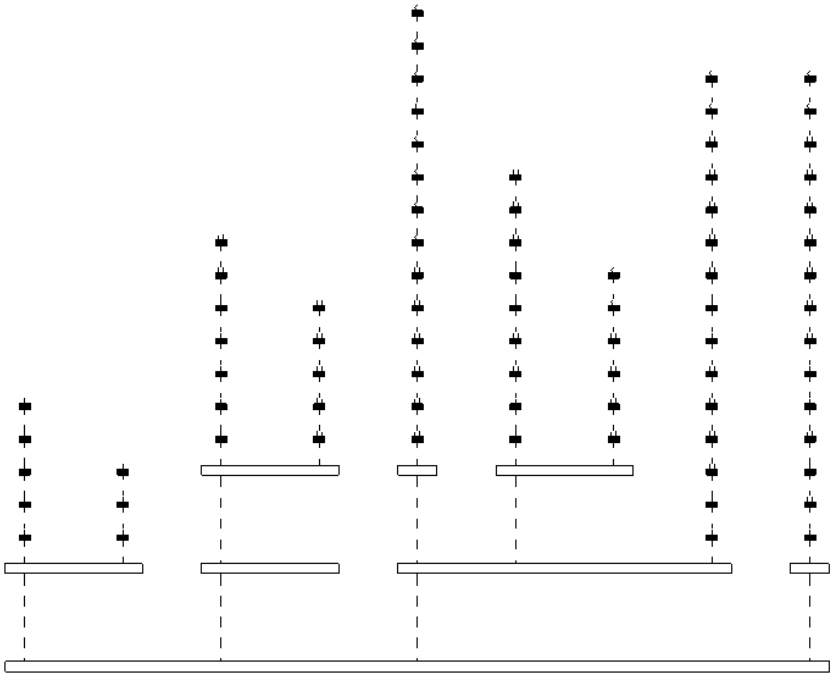
When creating a schematic you have four options how to draw it:

1. Only panels - Only panels and their circuits are drawn and linked (similar solution to what we have in the Main Riser Diagram)
2. Panels and all devices - Every panel and every device in the network is drawn to the schematic
3. Panels and first and last device - All panels and from every circuit the first and the last device is drawn
4. Panels and each object type - All panels and from every circuit one symbol for every device type is drawn



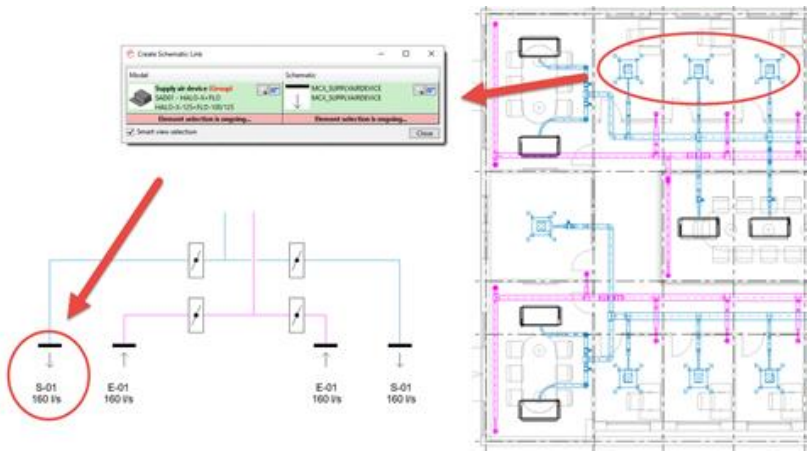
In the start dialogue, there are possibilities to define distances, direction, and other settings to get the schematic look like you want.

End result could be e.g. like this:



One-to-many linking option

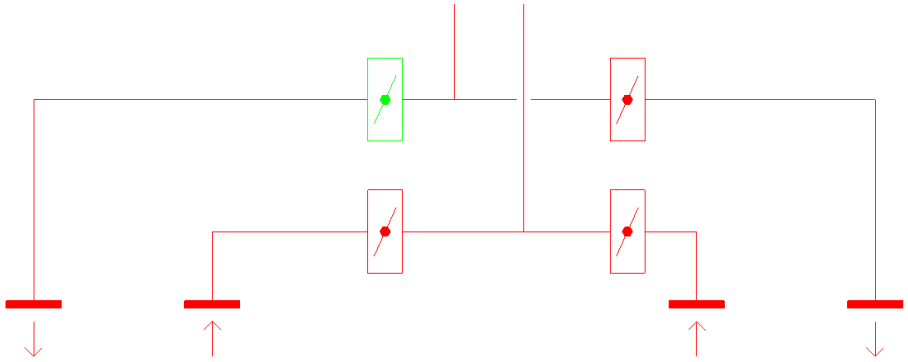
In addition to one-to-one linking and data transfer, the Schematics module now includes an option for one-to-many linking. The new option provides increased flexibility when linking elements in a model with symbols in a schematic drawing. With one-to-many linking you can link a single symbol to a selected 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.
One-to-many linking can also be used to present a single device in multiple schematic drawings. You can define a group with all the symbol presentations and link it with the device. Changes to the device are then automatically synchronized to all the symbols, helping you to easily keep schematic drawings up-to-date during the project.



Marking of linking status in Schematics

To make it easier to keep track of linked and unlinked symbols, the Schematics module also includes a tool for marking linked and unlinked symbols. No need to configure a specific view filter just for this purpose.

Linked symbols are shown in green and unlinked symbols shown in red:



2 Resolved issues

2.1 Common

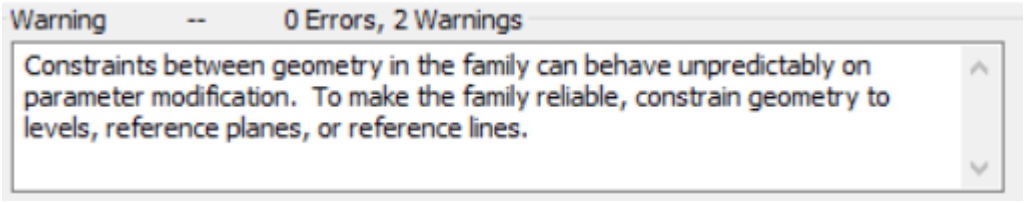
Clearance Analysis was broken in MagiCAD versions 2022 and 2022.1 when working with Revit 2022

- Problem 1: Opening the Clearance Analysis settings, confirming the selection and confirming the dialogue with OK: Revit shows as unexpected error.
- Problem 2: Start Clearance Analysis for Room/Space/Region. An unexpected error happens directly. In 2022.1 the report opens, but does not show any elements that are in the room. Updating the list leads to a crash of Revit.

Both of the problems have been corrected

A 3rd party family with a lookup table containing an inch sign cannot be installed

When trying to install a 3rd party family which contains an inch sign (") within quotation marks (" ") , installation failed with an error message



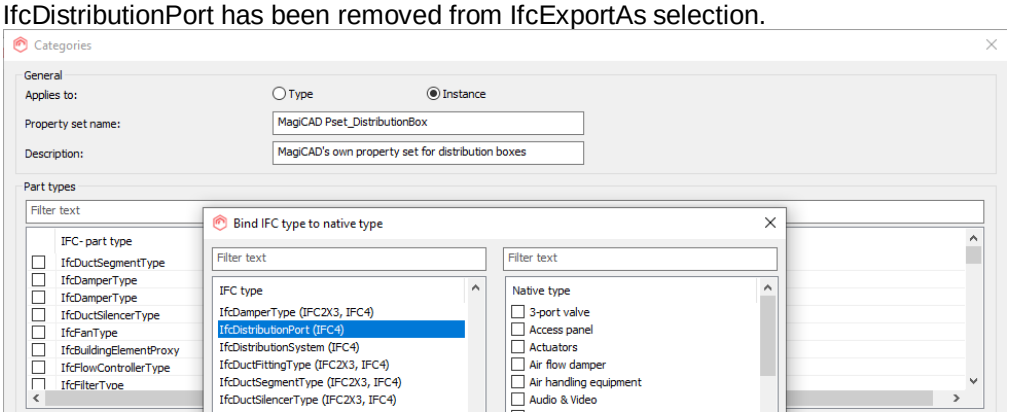
This is corrected and the object size can now have inch sign within the quotation marks.

Unable to run `Clash Checking` in some projects

"The Clash Checking didn't work in some cases. It started correctly but then jumped to an empty report. This happened with objects that had connector direction defined as expected but their coordinate system could not be determined. Also, in some cases the Real time clash checking didn't show clashes in the model on the first time running the feature in the active project.
These have now been corrected."

IfcExportAs = IfcDistributionPort possibility has been taken away

IfcDistributionPort has been removed from IfcExportAs selection.



Exception in sheet manager
Corrected randomly occurring exception which happens when a new sheet is added many times very quickly to the sheet manager. Sometimes problem could have happened by adding only ten sheets but sometimes it didn't happen even when 100 sheets was added.

Unexpected error in product installation
The problem appeared only if the installed attached product (e.g. a radiator + valve) family already exists in the project, and does not contain the shared family type parameters IfcExportAs and IfcExportType.
When the parameters are missing and product is being installed, MagiCAD tries to add the missing shared family parameters to the family document, and the bug appeared only in that case.
This has been corrected.

2.2 Resolved issues piping and ventilation

Ventilation sizing calculation crashes when the results are updated from the report
Crashing happened in cases where all the condition mentioned below were fulfilled.
- Automatically insert/remove split to allow sizing for tapped ducts is on
- Tapped duct is root duct
- The size of the root duct is changed in calculation
- The calculation results are updated from calculation report.

This error has been corrected.

Pipe connection UI not fully visible in Russian language
"Use absolute height levels" text in pipe connection dialog is now wrapped to fit in the dialog.

Floorheating loop lenght was calculated incorrectly
The length was calculated correctly if the pipes are parallel to the X or Y axes of the project coordinates but otherwise too big values were calculated.
This is now corrected.

2.3 Resolved issues electrical

Back boxes installed from project caused unexpected error
Previously, installing device back boxes straight from the project could cause unexpected errors in some cases.

Dialux import's auto-mapping was not working properly
The Dialux Import was not able to map existing products automatically in the dialogue in some projects even though there would be just one corresponding product found from the project. You had to manually map every imported item to make it work. This issues has now been fixed and automatic mapping should work in all projects.