



# MagiCAD for Revit

Release notes for version 2024 UR-2

01/02/2024

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# 1 New features

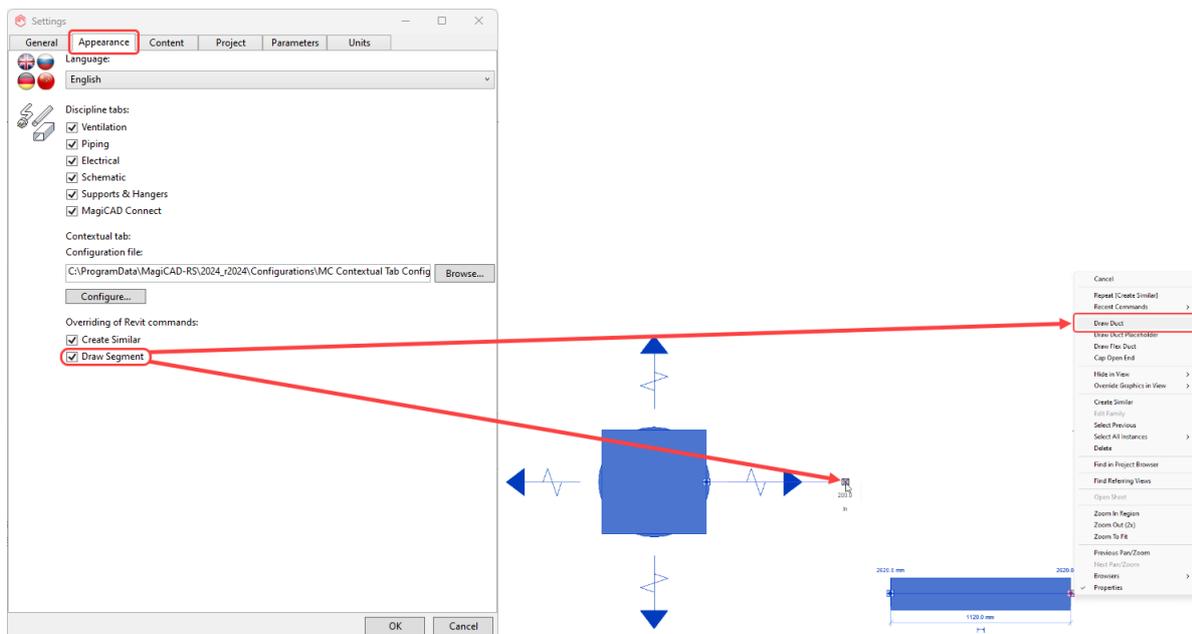
## 1.1 Common

### Performance improvements

Performance optimizations has been made to provide better user experience. Piping sizing and balancing calculation time are now reduced up to 70%. As a part of a smaller performance update, "Project Wizard"-tool level management has no longer downtime which occurred after accepting table values.

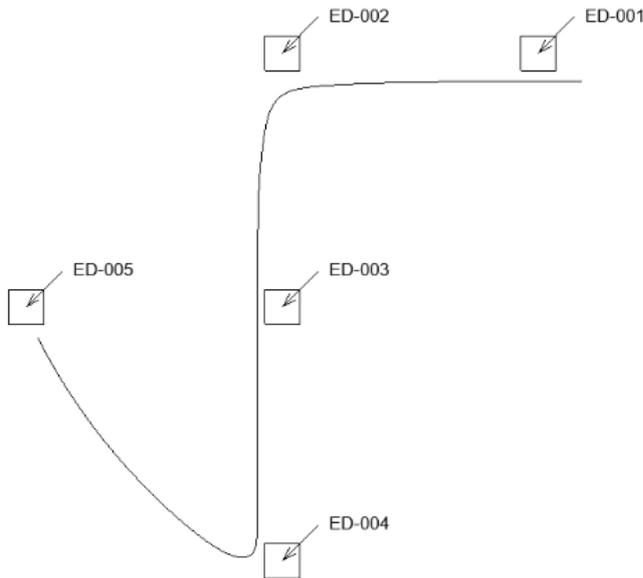
### Override Revit-commands improvement

MagiCAD segment drawing can be now started from the device connectors and segment connectors as well when "Draw segment" override is selected in MagiCAD settings dialog. Properties are inherited from the connector.



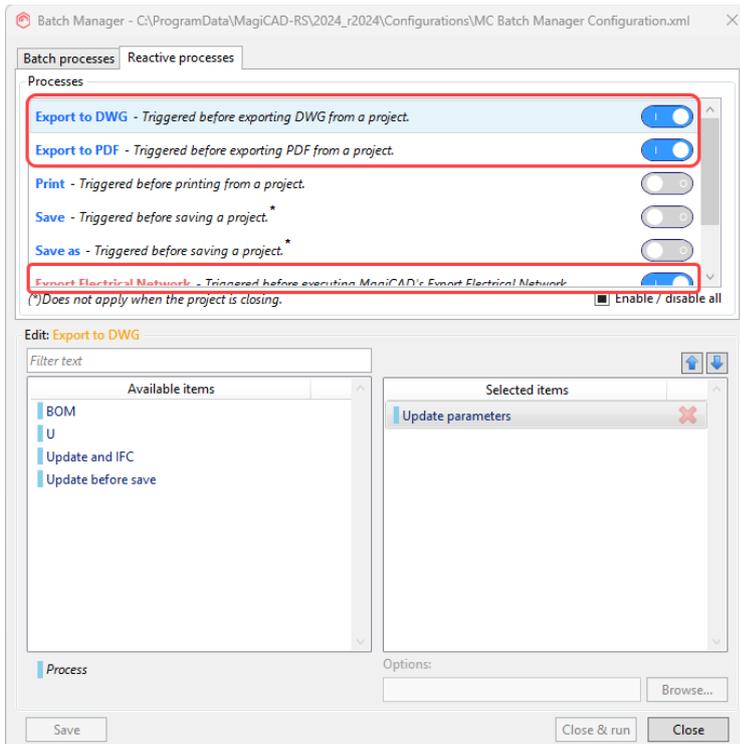
### Running Index with predefined spline option

Support for using predefined spline as a numbering guide with "Running index"-tool. User can now draw a spline and numbering will follow the spline from the beginning to the end.



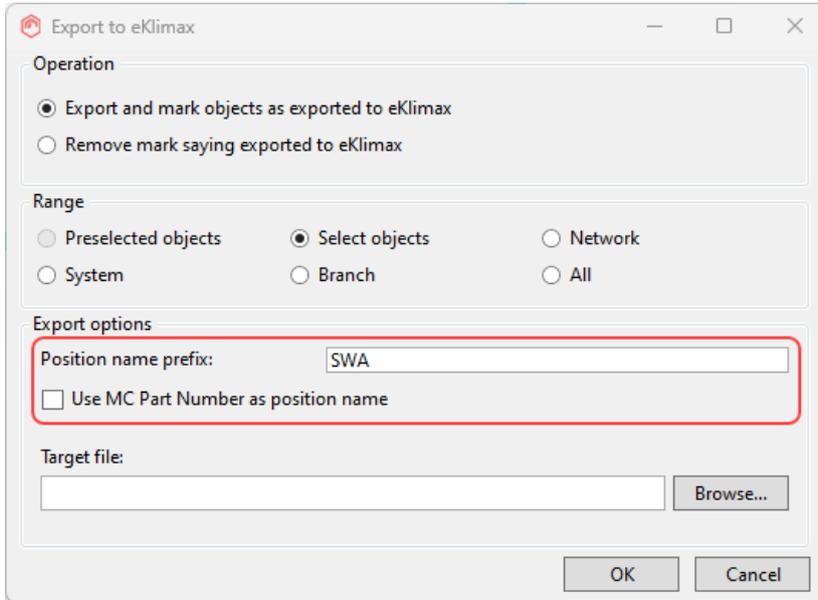
### Batch manager improvement

Batch manager has new trigger commands for Reactive processes. New commands are "Export to DWG", "Export to PDF" (Not available in Revit 2021) and "Export Electrical Network" (Export Network).



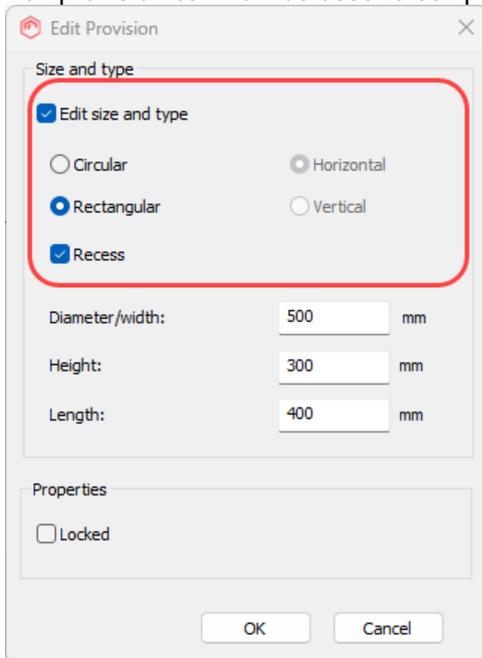
### e-Klimax export improvement

Exporting functionality of e-Klimax has been improved. Instead of having hard coded position name, it is now possible to give prefix or use MC Part Number as a position name. The created position name is also shown in the model side for the elements in new parameter "MC eKlimax Position name".



### Edit provision improvement

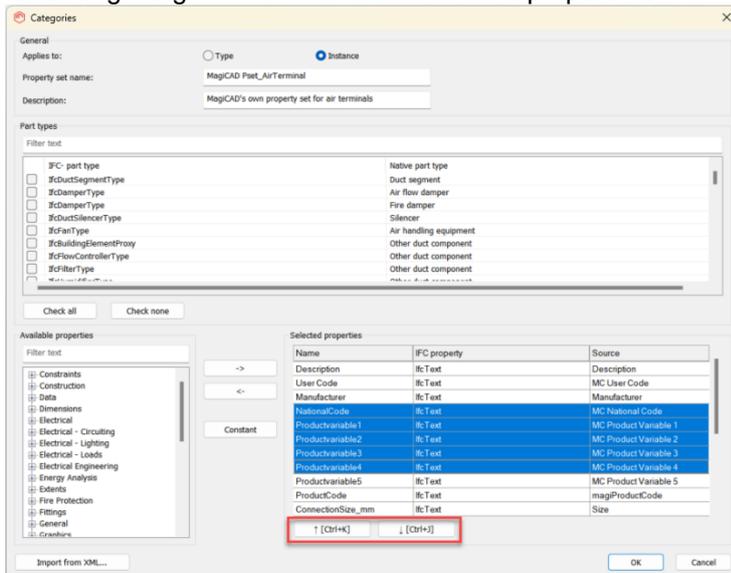
Edit provision can now be used to edit provision shape.



## 1.2 Common/IFC related

### Properties arrangement in Property set manager

It is now possible to rearrange the list with selected properties in the Property Set manager for both Property sets and Quantity sets. This does not affect how the IFC viewers show the properties, as they have their own individual rules for how the properties are shown, but this will help the MagiCAD users in getting an overview of the selected properties.



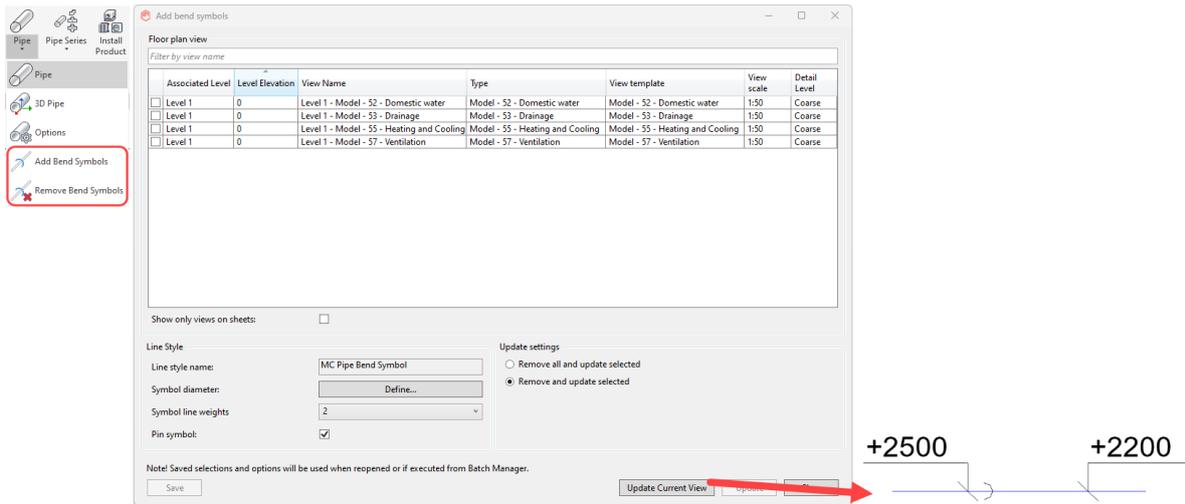
### IFC-Export use native units improvement

"Use native units" caused that all ifc property types were changed to ifcText. Now if "Use native units" is selected in IFC Export, the following measures are not converted anymore to IfcText: IfcBoolean, IfcComplexNumber, IfcIdentifier, IfcInteger, IfcLabel, IfcLogical, IfcParameterValue, IfcReal.

### 1.3 Ventilation and Piping

#### Elevation change indication for under 90-degree pipe bends

New feature for adding half circle symbols to pipe bends if the elevation drop is done below 90-degree bends. This is to better indicate where the elevation drop starts, since it cannot be otherwise seen if the Floor Plan detail level is "Medium" or "Coarse".

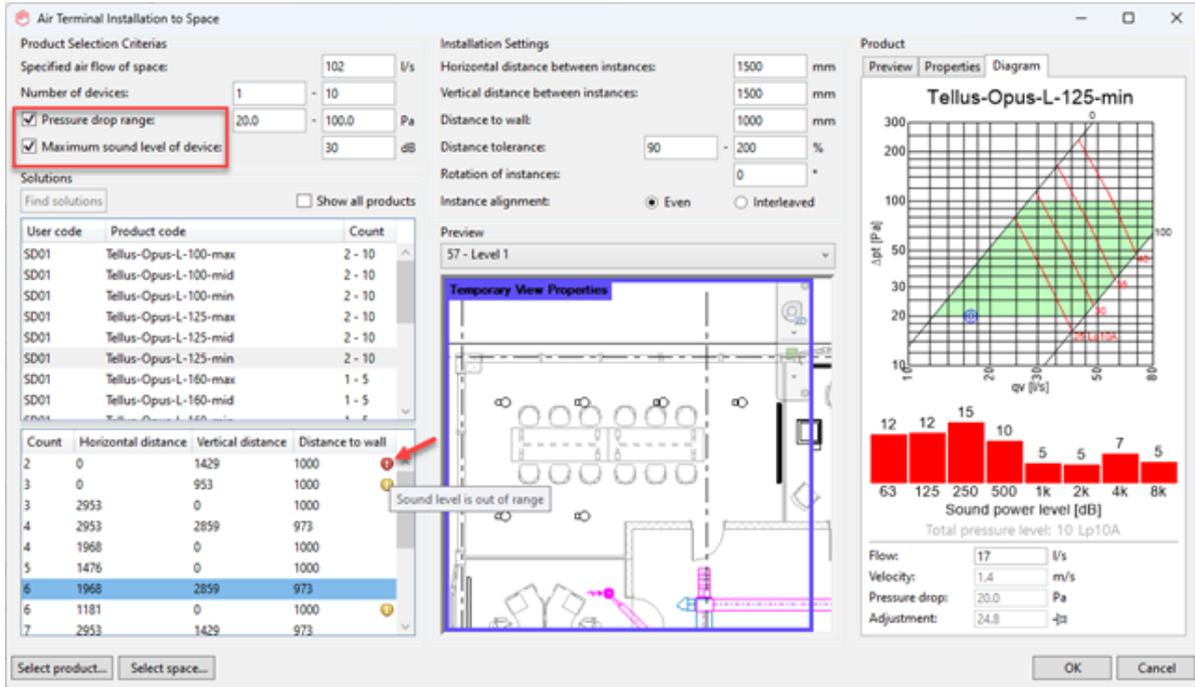


The screenshot shows the 'Add bend symbols' dialog box. The 'Line style' section is set to 'MC Pipe Bend Symbol' with a symbol diameter of 2. The 'Update settings' section has 'Remove and update selected' selected. The 'Update Current View' button is highlighted with a red arrow pointing to a diagram of a pipe bend with elevation markers at +2500 and +2200.

Associated Level	Level Elevation	View Name	Type	View template	View scale	Detail Level
<input type="checkbox"/> Level 1	0	Level 1 - Model - 52 - Domestic water	Model - 52 - Domestic water	Model - 52 - Domestic water	1:50	Coarse
<input type="checkbox"/> Level 1	0	Level 1 - Model - 53 - Drainage	Model - 53 - Drainage	Model - 53 - Drainage	1:50	Coarse
<input type="checkbox"/> Level 1	0	Level 1 - Model - 55 - Heating and Cooling	Model - 55 - Heating and Cooling	Model - 55 - Heating and Cooling	1:50	Coarse
<input type="checkbox"/> Level 1	0	Level 1 - Model - 57 - Ventilation	Model - 57 - Ventilation	Model - 57 - Ventilation	1:50	Coarse

#### Space based generative air terminal selection tool improvements

New options are available when trying to find suitable air terminals with space-based air terminal selection tool. User can now decide whether to include pressure drop or sound levels in the generative search. Filtering has been made less strict in order to get better overview which air terminals are suitable and which are not. This means that list will show more options for air terminals with related warning messages if they do not pass criterias.



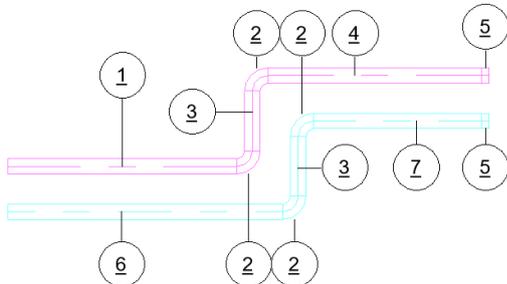
**Change the sizing methods within the calculation report (Piping)**

Sizing Method is possible to change in calculation's report dialog for the pipe segments.

Level 1		PIPE	Fe-35	MAGI-FE-15	15	20	7
Level 1	44	BRANCH	Fe-35				Set pipe size
Level 1		PIPE	Fe-35				Set sizing method
Level 1		BEND-90	Fe-35				Set insulation
Level 1		PIPE	Fe-35				Highlight in the drawing
Level 1		BEND-90	Fe-35				

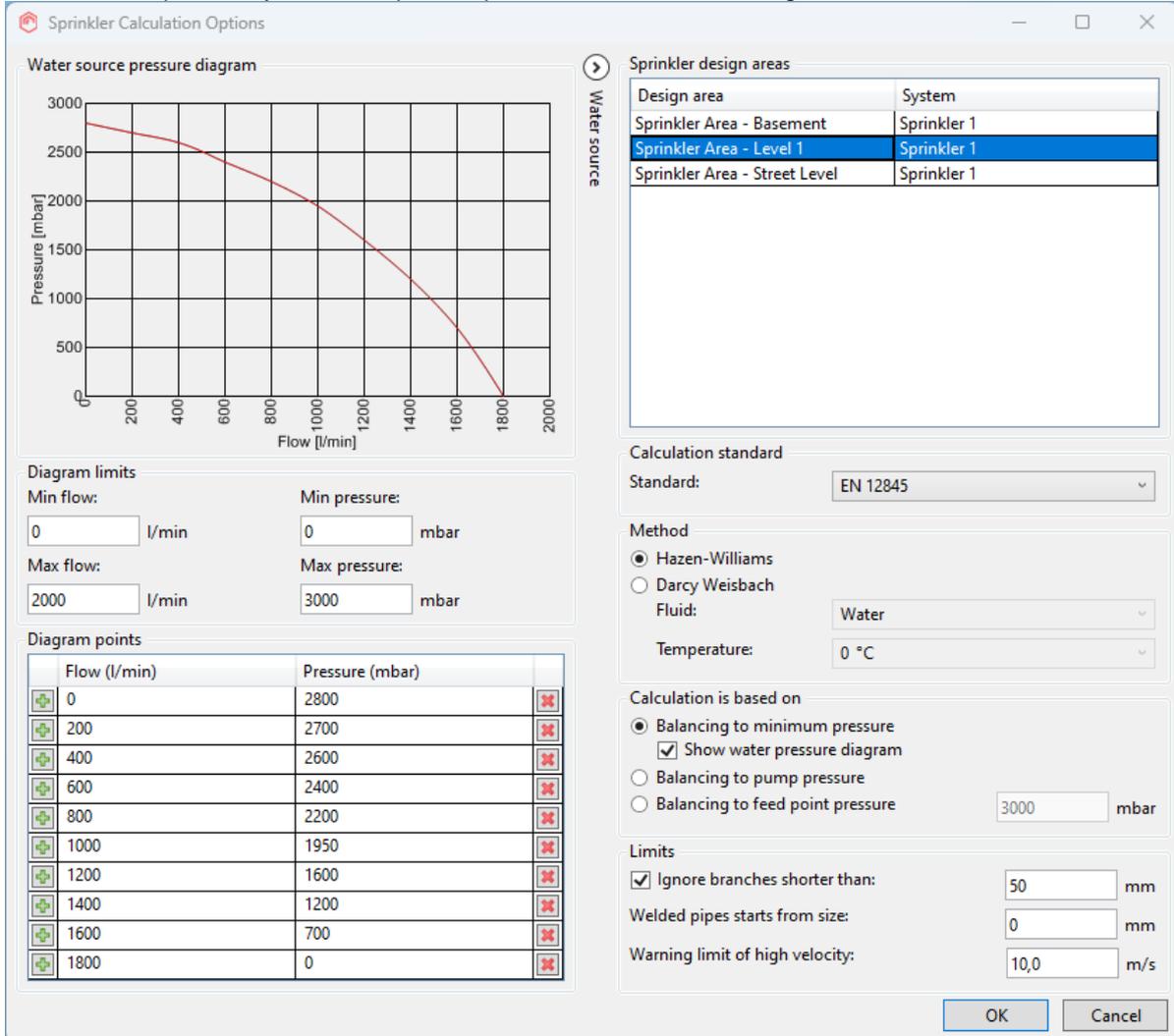
**Piping part numbering**

It is now also possible to create part numbers for piping systems. Automatically generated ID can be used and customized according to your needs. Part number can be utilized in the material listing, such as "Bill of Materials" or to create detail drawings of the systems by adding identifiers for the elements.



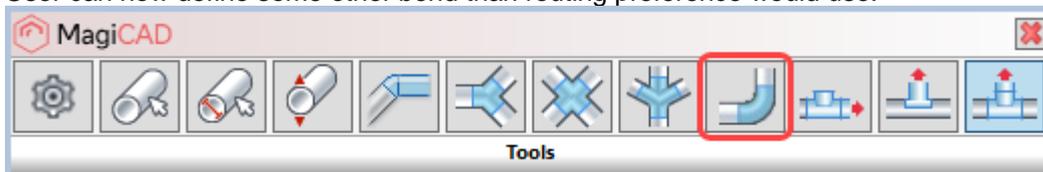
**More points for SPR water supply diagram**

There is now possibility to enter up to 20 points to water source diagram.



**Draw tools floating toolbar improvement**

Added possibility to add bend during the drawing function when modelling with ventilation or piping. User can now define some other bend than routing preference would use.



**Better error handling in MCREV, balancing**

A new Errors and Warnings tool lists all objects that have been marked with an error or warning during sizing or balancing. The tool also provides additional information and suggests possible corrections.



### Close dampers from the advanced flow analysis' report

It is now possible to close/restore the flow dampers directly in the extended flow calculation report for ventilation systems. When a damper is closed, there is no flow through it and the damper acts as a cap. This allows you to simulate networks with and without extensions.

- Highlight in the model

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- Product properties...

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- Flow damper adjustment...
- Ignore in balancing
- Close this damper  $qv = 0$

DUCT	Circ	MAGID-C1-	100	0.5		36	41	1.5	0.2		0.43	26,7	25,4			
SUPPLY		LUMIR-10	100			36	41	1,5	26,5			26,5		17	115	
DUCT	Circ	MAGID-C1-	315	0.7								149,6	149,6			
FLOWDAM		MIN-MAX-3	315									149,6				Damper closed
DUCT	Circ		315	0.5								149,6	149,6			
T-BRANCH	Circ	MAGIT-CC1	315/100									149,6				
DUCT	Circ	MAGID-C1-	100	0.5								149,6	149,6			
BEND-45	Circ	MAGIB-C1-	100									149,6				
DUCT	Circ	MAGID-C1-	100	0.6								149,6	149,6			
BEND-45	Circ	MAGIB-C1-	100									149,6				
DUCT	Circ	MAGID-C1-	100	0.1								149,6	149,6			
DUCT	Flex	MAGID-C1-	100	0.7								149,6	149,6			
SUPPLY		HALO-X-12	100									149,6				

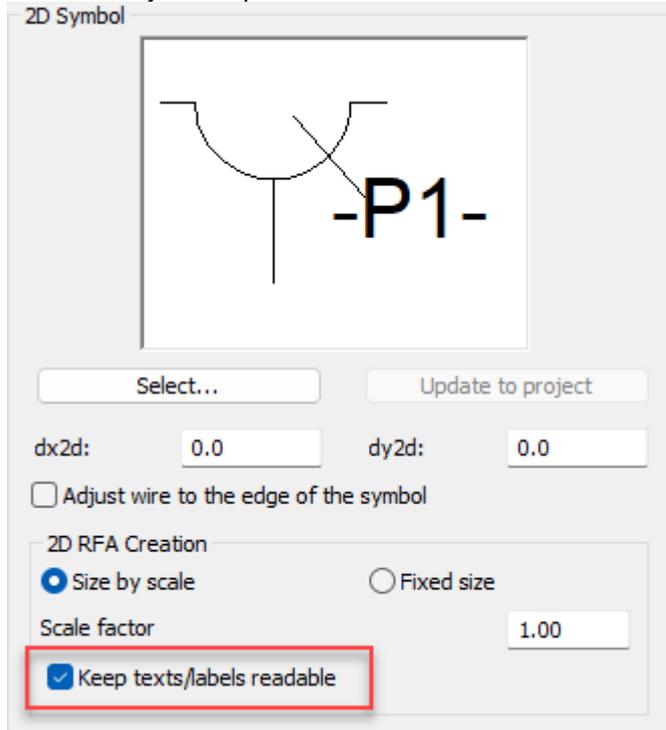
### Possibility to inspect a sprinkler calculation report despite "high pressure drop" warning

If there was too high pressure drop, >1 000 000 mBar, somewhere in a sprinkler network, MagiCAD gave a warning "high pressure drop". The calculation was cancelled and a warning report was generated. It could be difficult to know where the problem lies if the warning only points to the root. Calculation will not cancel anymore in case the pressure drop is over 1 000 000 mBar.

### 1.4 Electrical

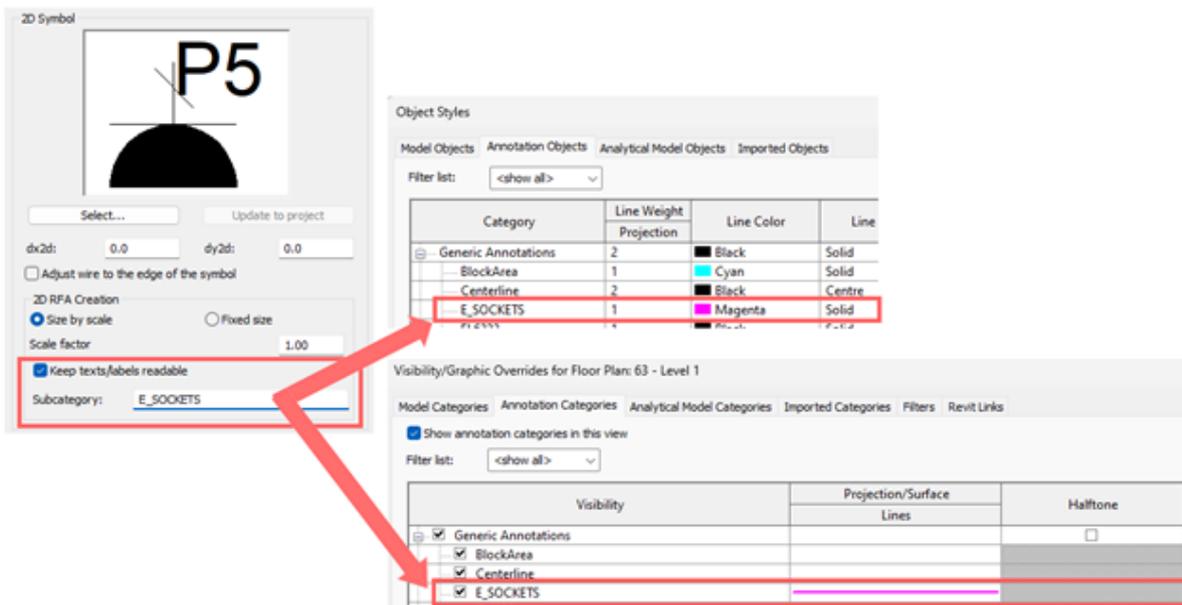
#### "Keep readable" checkbox for texts/labels in converted symbols

Previously texts and labels in converted symbols were always kept readable. Now you can choose whether they are kept or not.



#### Possibility to assign subcategories for converted symbols

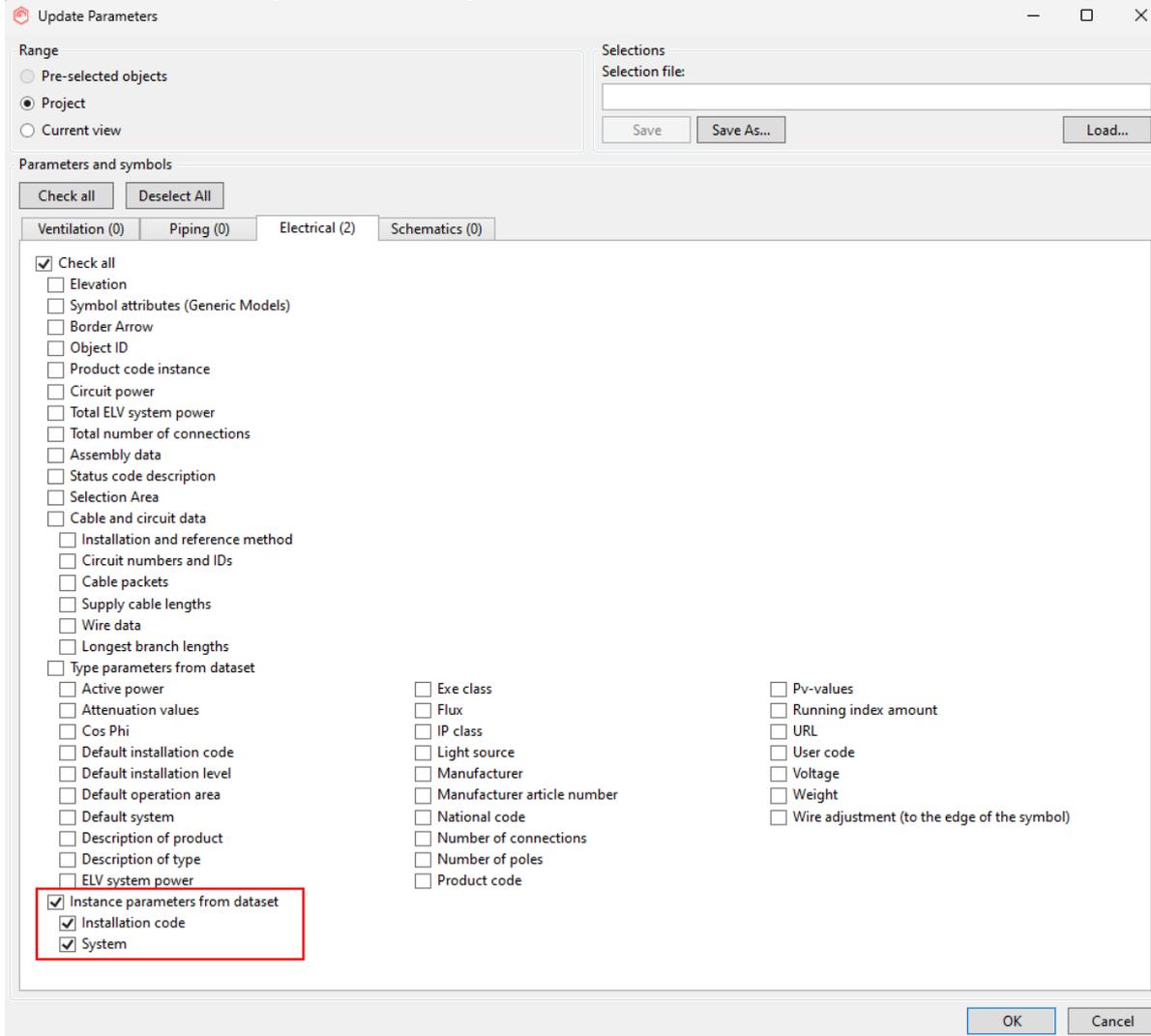
You can now define subcategory names used for the lines in converted symbols. The visibility and color can then be controlled via the subcategories in the project.



NOTE! Does not and cannot affect labels, texts or filled regions. Only lines are and can be affected.

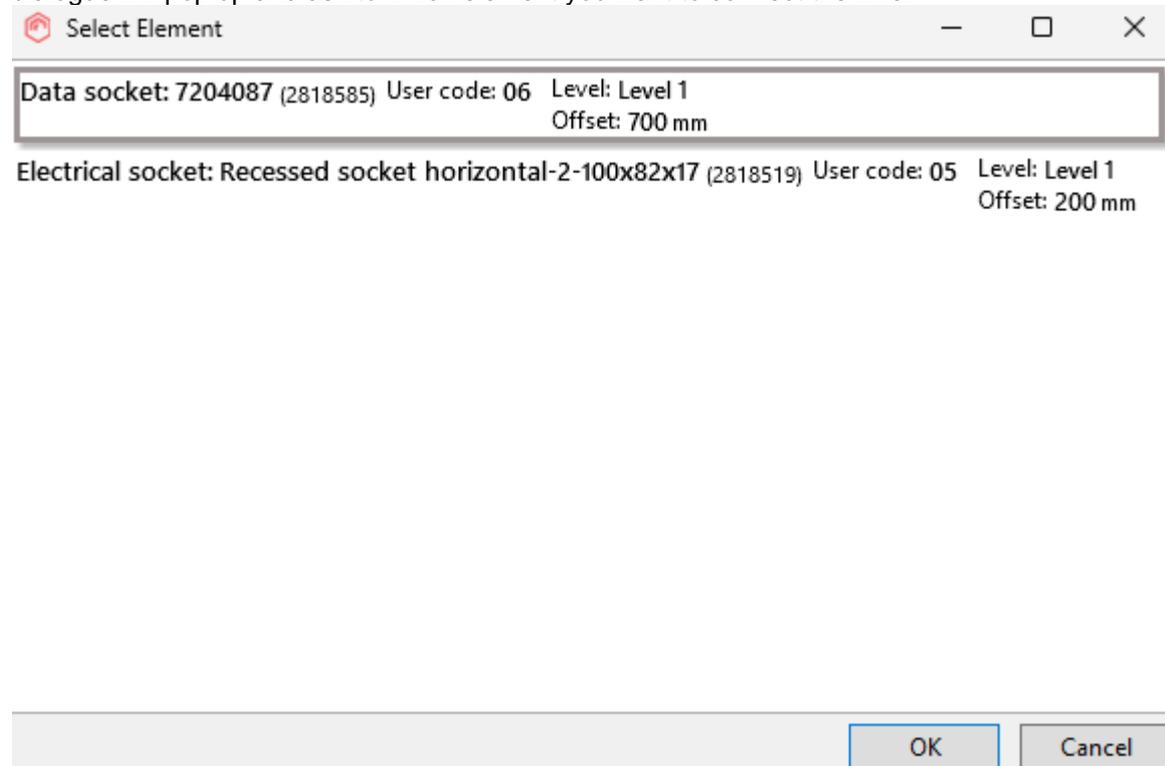
### Update system and installation codes from dataset to instances

With Update Parameters, you can now update (default) installation codes and system codes from the dataset to the instance parameters of objects.



### Wire connection enhancements

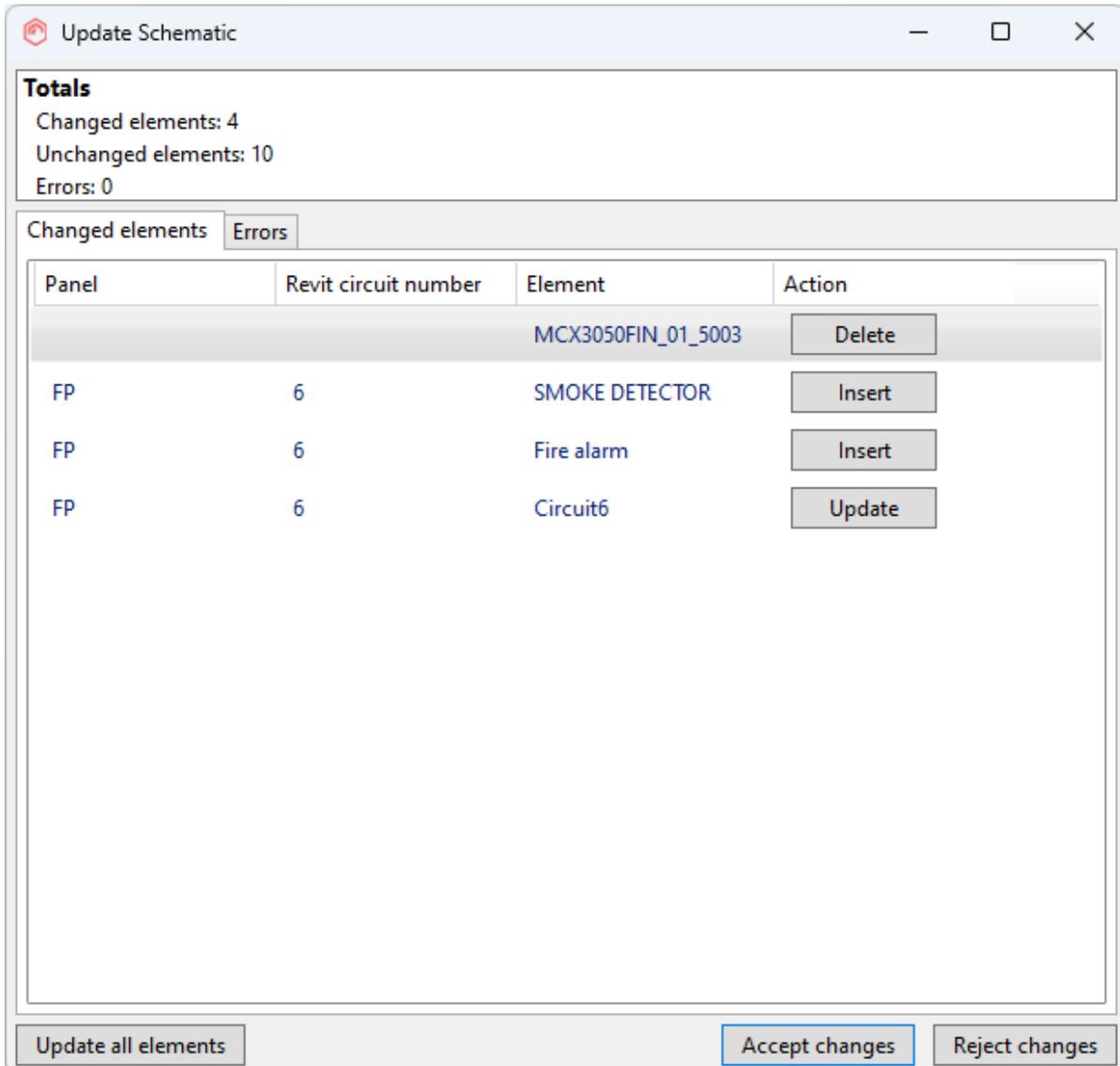
Now if multiple elements are on top of each other and you try to connect a wire to one of them, a dialogue will pop up and ask to which element you want to connect the wire.



## 1.5 Schematics

### Function for updating automatic riser diagrams

Now it is possible to update previously generated riser diagrams with a new Update Diagram function. When running it in a schematic view, it will check the model by using the same settings which the schematic was created with. All changes are then listed in a dialogue.



From the dialogue, you can insert new objects which don't exist yet in the schematic and links will be created to the elements in the model. You can also update circuits if automatic device groups have been used in the schematic. When doing so, new elements of the same type will be added to the device groups to which they belong, and elements which have been deleted or moved to other circuits will be removed from the device groups. In addition, you can delete elements from the schematic if they have been removed from the model.

**NOTE! Schematics created with MagiCAD 2024 UR-1 or newer have settings saved to the view which is required for the update to work.**

## 2 Resolved issues

### 2.1 Common

#### Batch Manager UI-corrections

"Process"-text removed from "Batch Processes"-tab. "Command" and "Incomplete" -texts removed from "Reactive processes"-tab. This change was made to show only relevant text in each tab.

#### Letter placement bug with GBR schematic symbol

One GBR schematic symbol had letter "E" which was not placed correctly in the symbol.

#### Active workset issues when drawing segments

In some scenarios selected workset was not used when using pipe, duct or cable tray drawing tools.

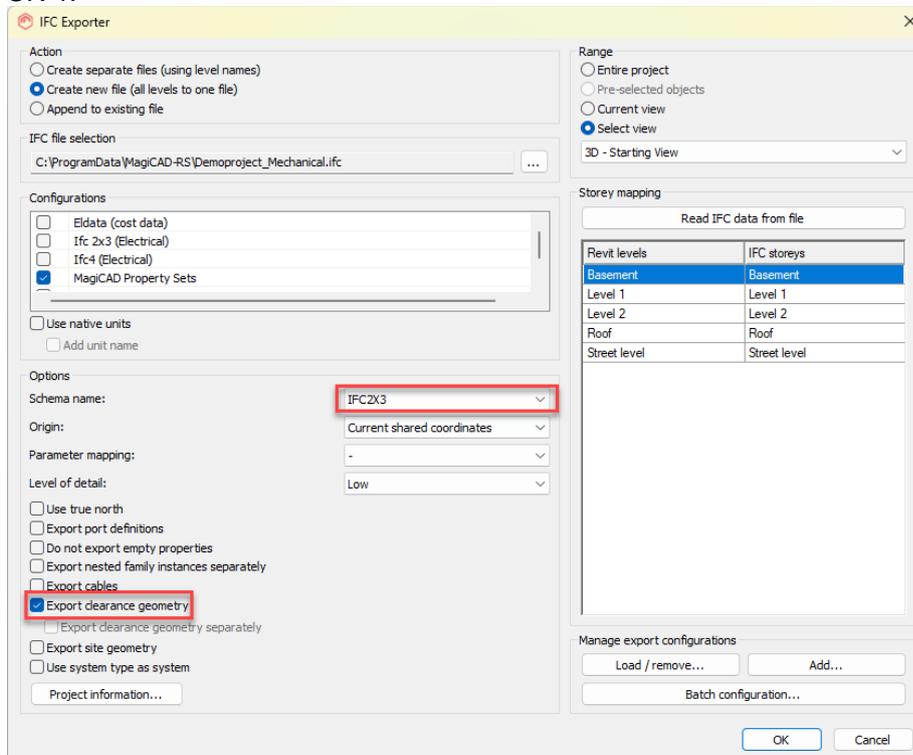
### 2.2 IFC-related

#### IFC Batch Export from ACC / BIM360 (Cloud) did not work for some users if worksets were defined in batch export dialog or .xml

IFC Batch Export didn't work from ACC / BIM360 (Cloud) if worksets were defined in batch export dialog or .xml. This occurred with users who didn't have administrator rights.

#### It is now possible to export clearance geometry again in IFC2x3

The option to export clearance geometry is now available again in IFC2x3, as it didn't work in 2024 UR-1.



## 2.3 Ventilation and Piping

### **"Product not available" given for plug in sizing**

"Product not available" was given sometimes for duct series plugs in case a rectangular plug was connected a t-branch which connects to a flexible duct or a round duct.

### **Air flow doesn't remain in VAV schedules**

In Zone Schedules air flow changed from minimum to boost if dialog was closed and then reopened.

### **MagiCAD error in Pipe connection tool single pipe installation for water device**

"Pipe Connection"-tool gave error if "Apply for a single pipe" option was used for single pipe connection. "Apply for a single pipe"-option is now disabled if "Pipe Connection"-tool is used for single pipe connection.

### **Routing preferences are not set for flexible pipe series**

Tap, T-branch and preferred junction type was not set for flexible pipe series.

### **Exception when installing AT in project started with None template**

Exception occurred when installing air terminal with "None" revit template. Exception should no longer occur.

### **Empty pipes from the dataset cannot be loaded into new project**

Empty pipe serie couldn't be inserted into the new project. Exception is corrected and error message is updated with conduit standard element name and id.

### **Disabling 2D symbol selection for bend silencers brought via API**

2D-symbol was not disabled in install product when using bend silencer brought via API.

### **"MC flow at Root" and "MC Min Pressure at Root" are not written to the Design Area**

"MC flow at Root" and "MC Min pressure at Root" were not written to the Design Area.

### **Piping balancing does not use correct k-factor and product name**

Piping balancing were using fittings from routing preferences instead of fittings that are in the model. Balancing will now use modelled products.

### **Preview window does not zoom correctly**

Preview window with connection tools was not zooming correctly.

### **Smart move is broken in certain situations**

Smart move was not calculating minimum and maximum offset values correctly.

### **Keep connection size does not work in piping sizing methods**

"Keep connection pipe sizes" selection was not correct after closing the dialog and opening it again.

**Ventilation calculation loses adjustment locks**

Ventilation balancing and extended flow analysis lost user defined adjustment locks of damper or adjustable air terminals devices if calculation were updated in the report. Adjustment locks are now maintained.

**Generic Drainage Manhole only accept five numbers to offset**

Generic Drainage Manhole had maximum 5 character limit for the offset. This is now changed to be 6.

**Revit API error with third party substation**

Domestic water calculation produced unexpected error with unsupported substation elements. Unexpected error should no longer occur.

**Generic Manhole absolute level fails**

Generic manhole was always installed with relative height level even "Use absolute height levels" was checked in the installation dialog.

**Air Terminal installation space tool "Show all products" does not work with external dataset**

Show all products shows now all products also when external dataset is in use.

## 2.4 Electrical

**Fatal error with cable tray horizontal offset**

If a project didn't have any valid dimension types, then MagiCAD functionalities which used dimensions, such as wire, cable tray, duct or pipe drawing, caused a fatal error. Now MagiCAD does not crash anymore when a project doesn't have valid dimensions.

**Cable packet bounding box issue**

Previously, a cable packet which was drawn diagonally had a very large bounding box and many objects could easily be under it so that it was impossible to draw a wire underneath it. The bounding box calculation of cable packets has been corrected now.

**Cable tray and Conduit series: fitting descriptions**

Descriptions were previously not written to cable tray nor conduit fittings from the dataset. Now they are.

**Splitting of trays which happened during cable tray drawing did not restore data**

Now when drawing a cable tray and connecting into an existing segment, a Tee-fitting splits the tray as before, but the data of the existing cable tray segment is retained by saving its data to both of the resulting segments.

## 2.5 Schematics

**Starting Map Parameters generates an unexpected error**

Starting "Map Parameters" generated an unexpected error when there were invalid parameters in the project. This has been prevented through additional error handling.