



MagiCAD for AutoCAD

Release notes for version 2020 UR-1

12/11/2019

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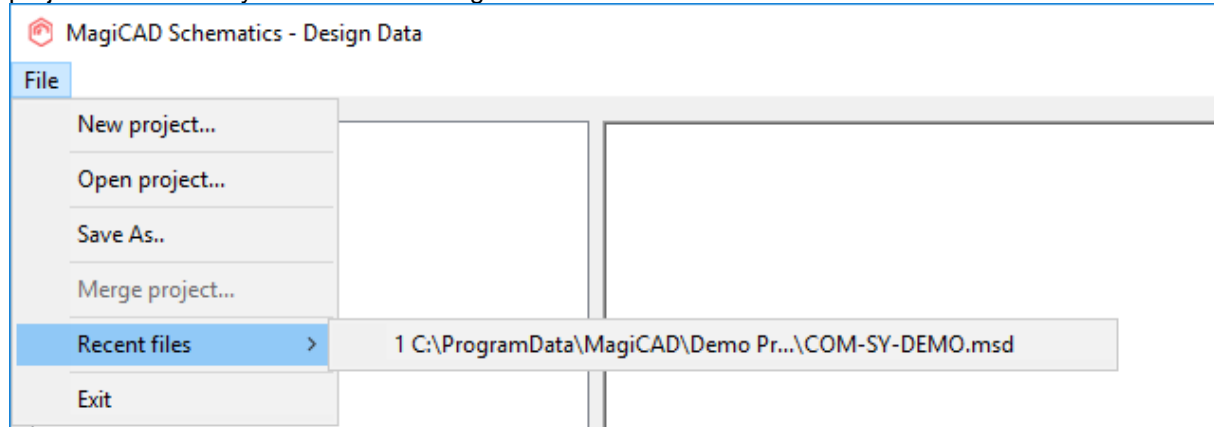
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1 New features

1.1 Common

A "Recent files"-option has been added to the project management tool

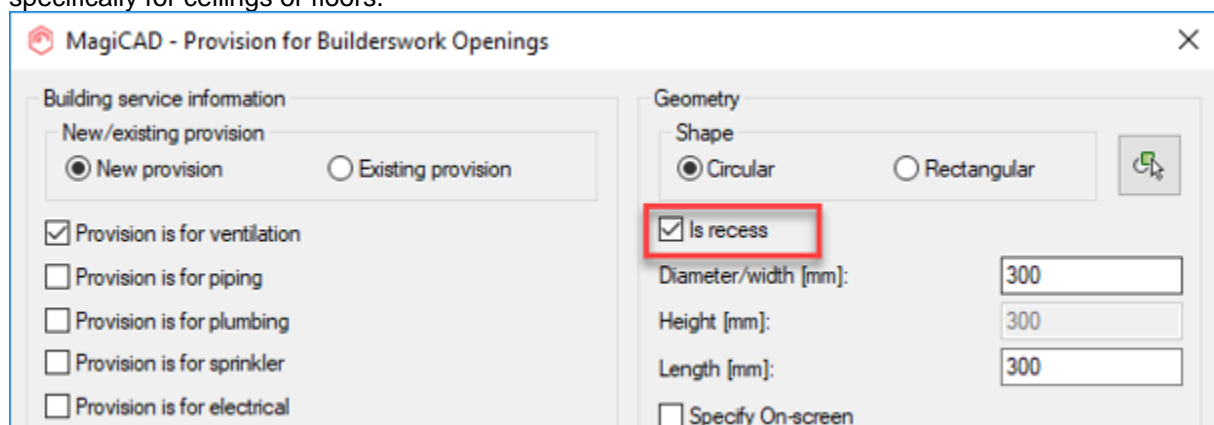
The project management tool now has a "Recent files" option which will help the user locate the project files that they have been working on.



"Provision for Builderswork Openings"-function now has the option to create openings for objects that are recessed into walls, floors and ceilings

You can now create partial Provisions for Builderswork openings that are recessed into construction elements.

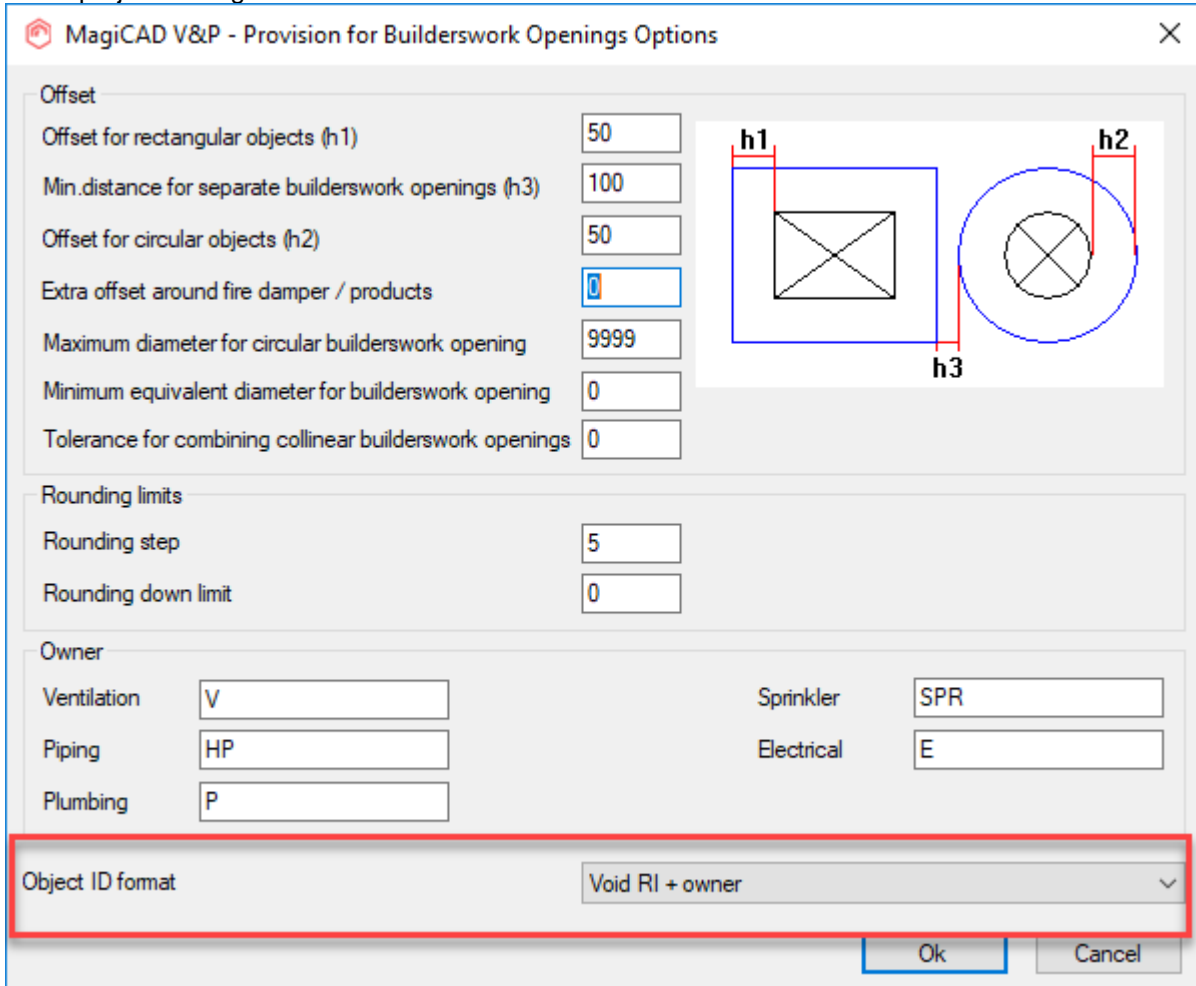
With this new feature we have also added the option for the user to set the Provisions to be specifically for ceilings or floors.



Object ID and Running index have been added to the Provisions for Builders work openings

Further enhancements have been added to the Provisions for Builders work openings in the latest release of MagiCAD for AutoCAD with the Object ID and Running index.

In the project settings:



MagiCAD V&P - Provision for Builderswork Openings Options

Offset

Offset for rectangular objects (h1)

Min.distance for separate builderswork openings (h3)

Offset for circular objects (h2)

Extra offset around fire damper / products

Maximum diameter for circular builderswork opening

Minimum equivalent diameter for builderswork opening

Tolerance for combining collinear builderswork openings

Rounding limits

Rounding step

Rounding down limit

Owner

Ventilation Sprinkler

Piping Electrical

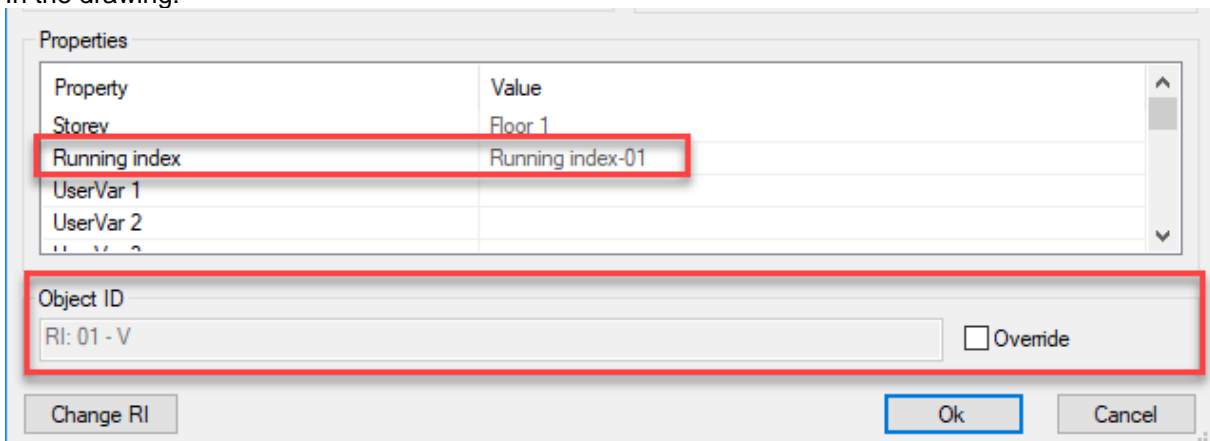
Plumbing

Object ID format

Diagram: A diagram showing a rectangular opening with dimensions h1, h2, and h3. h1 is the width, h2 is the height, and h3 is the offset from the wall. A circular opening is also shown with dimension h2.

Buttons: Ok, Cancel

In the drawing:



Properties

Property	Value
Storev	Floor 1
Running index	Running index-01
UserVar 1	
UserVar 2	

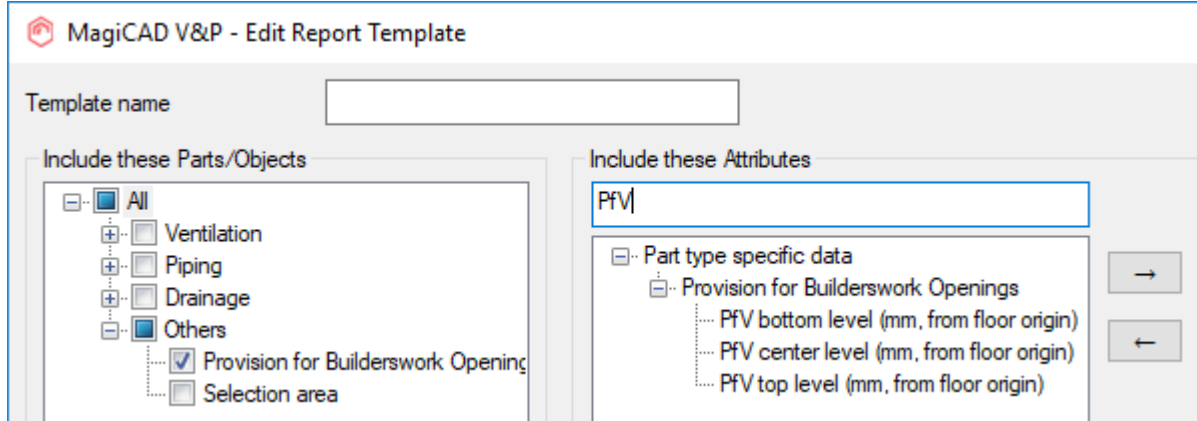
Object ID

RI: 01 - V ☐ Override

Buttons: Change RI, Ok, Cancel

Top, Center and Bottom information for Provisions for Builderswork Openings has been added to the Reports and Bill of Materials

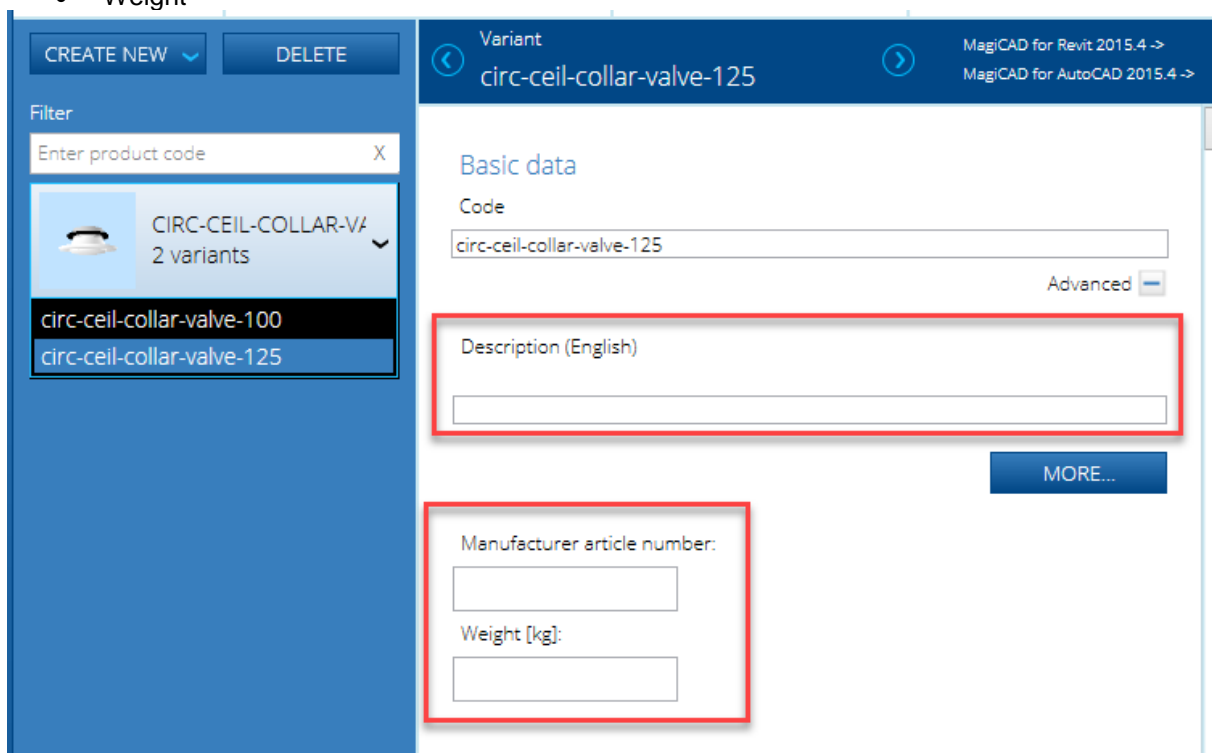
Provision for Builderswork Openings' top, bottom, center elevation can be shown in MagiCAD Ventilation & Piping and Electrical Reports and Bill of Materials export. These properties use the floor coordinates.



Support of size specific properties which have been added to MagiCreate

The following properties have already been added to MagiCAD Create:

- Description (Size description)
- Manufacturer article number
- Weight



Now they are also available in MagiCAD for AutoCAD.

If they are set for the variant, then the information is shown in the Part Properties dialog for that product's variant/size in the drawing.

These are also available in the following functions:

- Dimension text
- Report/Legend
- MagiCAD Export (V&P)
- Bill of Materials (Electrical)
- IFC Export.

An option to not save the drawings automatically when creating IFCs has been added

The IFC Export did always save/update the drawings the function processed, but according to customer feedback this did not suit their workflow at all times.

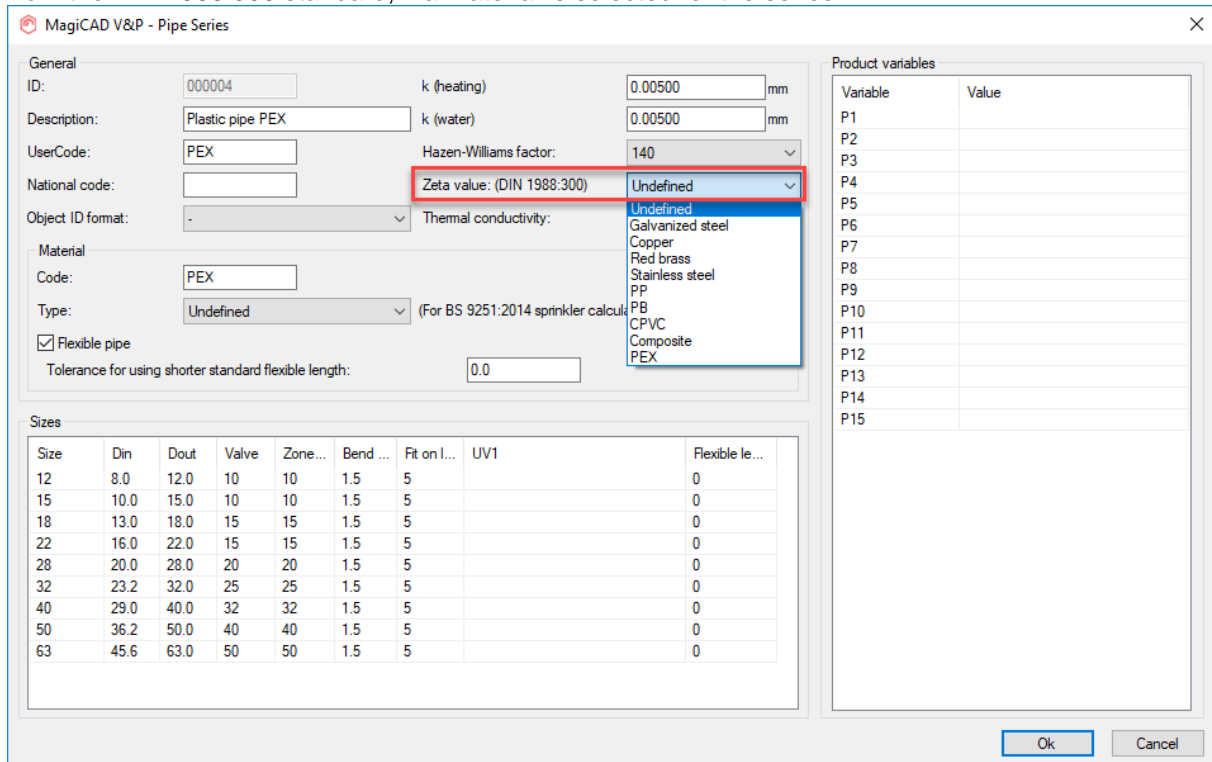
Therefore we've now implemented an option for the user to not update the drawings when running IFC Exports.

1.2 Ventilation and Piping

Support for DIN 1988:300 for calculating the pressure drop of the fittings in the piping system

Support for DIN 1988:300 has been added for calculation the pressure drop of the fittings in the piping systems.

The fittings are now calculated either with the default method (Undefined) or material based k-value from the DIN 1988:300 standard, if a material is selected for the series:



MagiCAD V&P - Pipe Series

General

ID: 000004 k (heating) 0.00500 mm
Description: Plastic pipe PEX k (water) 0.00500 mm
UserCode: PEX Hazen-Williams factor: 140
National code: Zeta value: (DIN 1988:300) Undefined
Object ID format: - Thermal conductivity: Undefined
Material
Code: PEX
Type: Undefined (For BS 9251:2014 sprinkler calculation)
☒ Flexible pipe
Tolerance for using shorter standard flexible length: 0.0

Product variables

Variable	Value
P1	
P2	
P3	
P4	
P5	
P6	
P7	
P8	
P9	
P10	
P11	
P12	
P13	
P14	
P15	

Sizes

Size	Din	Dout	Valve	Zone...	Bend ...	Fit on l...	UV1	Flexible le...
12	8.0	12.0	10	10	1.5	5		0
15	10.0	15.0	10	10	1.5	5		0
18	13.0	18.0	15	15	1.5	5		0
22	16.0	22.0	15	15	1.5	5		0
28	20.0	28.0	20	20	1.5	5		0
32	23.2	32.0	25	25	1.5	5		0
40	29.0	40.0	32	32	1.5	5		0
50	36.2	50.0	40	40	1.5	5		0
63	45.6	63.0	50	50	1.5	5		0

Ok Cancel

Sprinkler attributes size have been added to the Reports and Legends

The following attributes have been added to the reports legends

- Sprinkler area of coverage
- Sprinkler head connection size
- Sprinkler response class property - this has also been added to the Part Properties dialog, Part Properties Palette, COM, IFC export, Dimension text, Part Property Line and Objects selection.

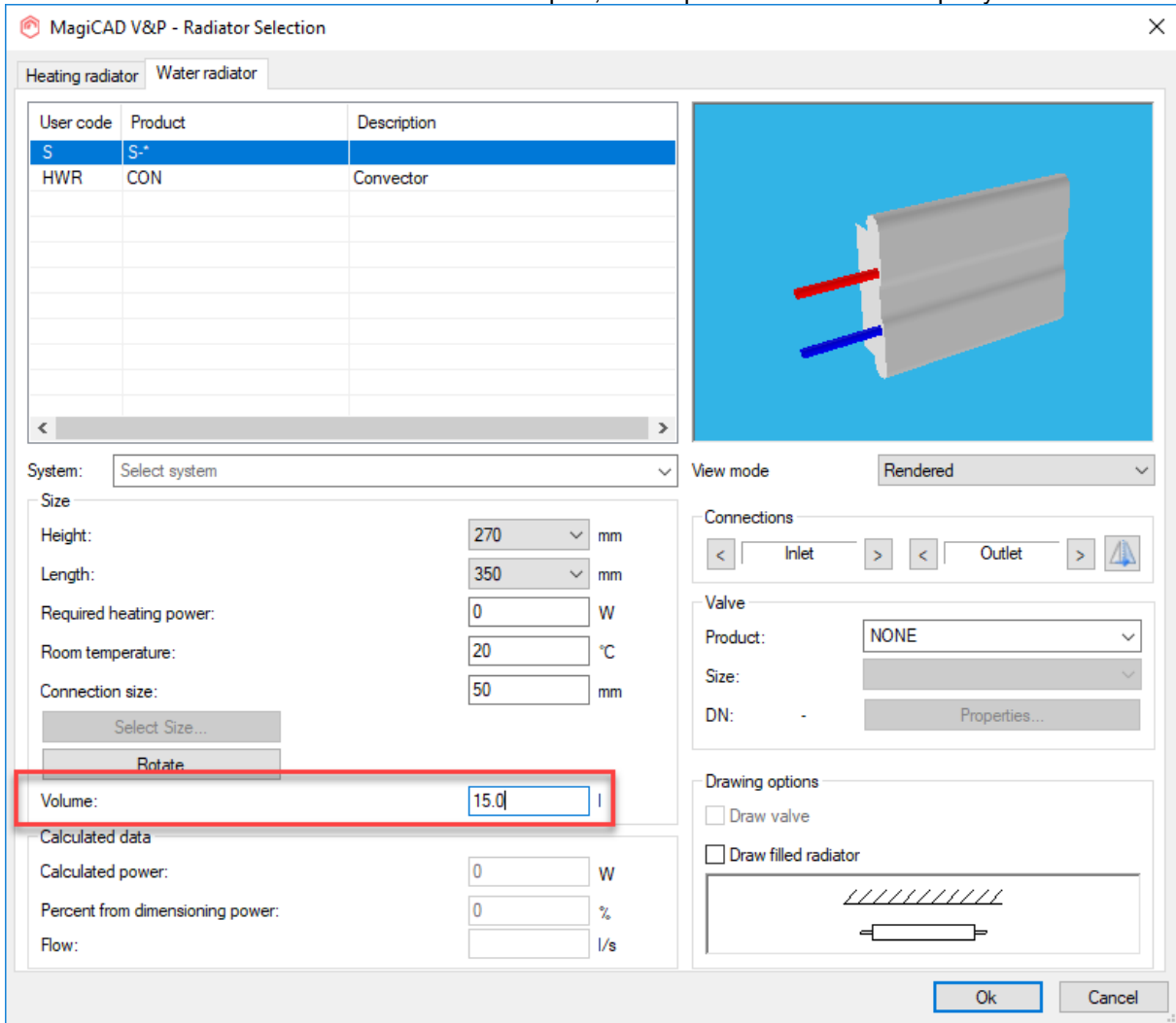
"Sprinkler values" has also been added to the "Update Drawing Data" function which updates sprinkler values.

Improved calculation of the water volume for a number of devices

The volume can be added for a number of devices:

- Water radiators
- Climate beams
- Fan Coil Units
- Other pipe devices
- Other pipe components
- (excluding expansion vessels)

This information is then available for the IFC Export, the Reports and the Part Property line.



MagiCAD V&P - Radiator Selection

Heating radiator | **Water radiator**

User code	Product	Description
S	S*	
HWR	CON	Convvector

System: Select system

Size

Height: 270 mm

Length: 350 mm

Required heating power: 0 W

Room temperature: 20 °C

Connection size: 50 mm

Select Size...

Rotate

Volume: 15.0 l

Calculated data

Calculated power: 0 W

Percent from dimensioning power: 0 %

Flow: /s

View mode: Rendered

Connections

Inlet | Outlet

Valve

Product: NONE

Size:

DN: -

Properties...

Drawing options

☐ Draw valve

☐ Draw filled radiator

Ok | Cancel

Project specific default values have been added for the heating radiators

Default project values have been implemented for heating radiators, which will help the user during the sizing and installation of the heating radiators.

"Zone valve size"-column has been added to the pipe series

A separate zone valve column has been added to the pipe series to help with the design where the zone valves often have a smaller size set than the other valves.

Please note that this will affect the sizing in different ways if some users work with the 2020 UR-1 and newer versions and some with older versions of MagiCAD. See the link above for more details.

Improvement of the calculation of the differential pressure valves

There are two new features in the calculation of the differential pressure valves.

1. The user doesn't need to enter the differential pressure anymore. Instead MagiCAD calculates the needed pressure and sets it to the minimum value.
The minimum value can be either the minimum set value of the valve or the dp of the loop.
2. The partner valve can be now either inside or outside of the loop. Inside the loop is a new option and means that the pressure drop of the partner valve is added to the loop pressure.

A warning has been added to constant flow valves to indicate when the flow is below the minimum flow range

A warning for flow below minimum is now shown in the report for constant flow valves. Earlier there was no warning to inform the user that there might be some design issues.

Improved calculations of reducers

The length of the reducers did not previously matter to the calculations and all pressure losses were calculated in the same way.

Now Rectangular-Rectangular and Rectangular-Round reducers and expansions are calculated according to Cibse.

(Note: The scope of this change does not affect Round-Round ducts)

Additional radiator elevation parameters in dimension text format

The following height level properties are now available in dimension text format for radiators:

- Bottom of part
- Bottom of part, absolute
- Top of part
- Top of part, absolute

Improved top and bottom elevation values for pipes and ducts in the IFC Property set

In V&P properties the bottom and top elevations for the insulation and pipe/duct is always the same, since in V&P an insulated pipe/duct is one object.

In the IFC model the pipe/duct and insulation are separate objects with their own property sets, but MagiCAD wrote the same top and bottom elevation values to both the insulation object and the pipe/duct object.

Now the following properties have been added to the IFC Property Set:

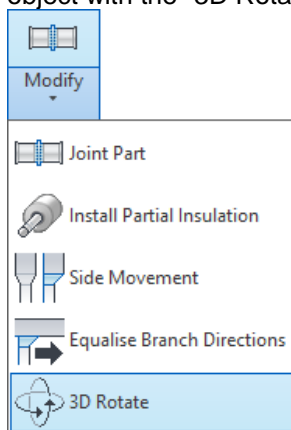
- "Top of part (uninsulated)"
- "Bottom of part (uninsulated)"
- "Top of part (uninsulated), absolute [m]"
- "Bottom of part (uninsulated), absolute [m]"
- "Top of part (uninsulated), absolute [mm]"
- "Bottom of part (uninsulated), absolute [mm]"

It is now possible to add new series and properties for ducts and pipes without going back to project management

We have added the possibility to add new series, sizes, sizing methods, status and systems via the combination boxes of duct and pipe design options and height and system selection dialog, so that the user doesn't have to go back to the project management to create a new series or property. This is done for the drawing of ducts as well as pipes (including drainage pipes and gas pipes)

The symbol and the object can now be rotated separately using the "3D Rotate" command

It is now possible to rotate the symbol and the object at the same time or just the symbol or just the object with the "3D Rotate" command.



This works when selecting the parts where one can rotate the symbol when installing the product and these are:

- Pumps
- Valves
- Other pipe components

Support for booster pumps in the domestic water systems has been added

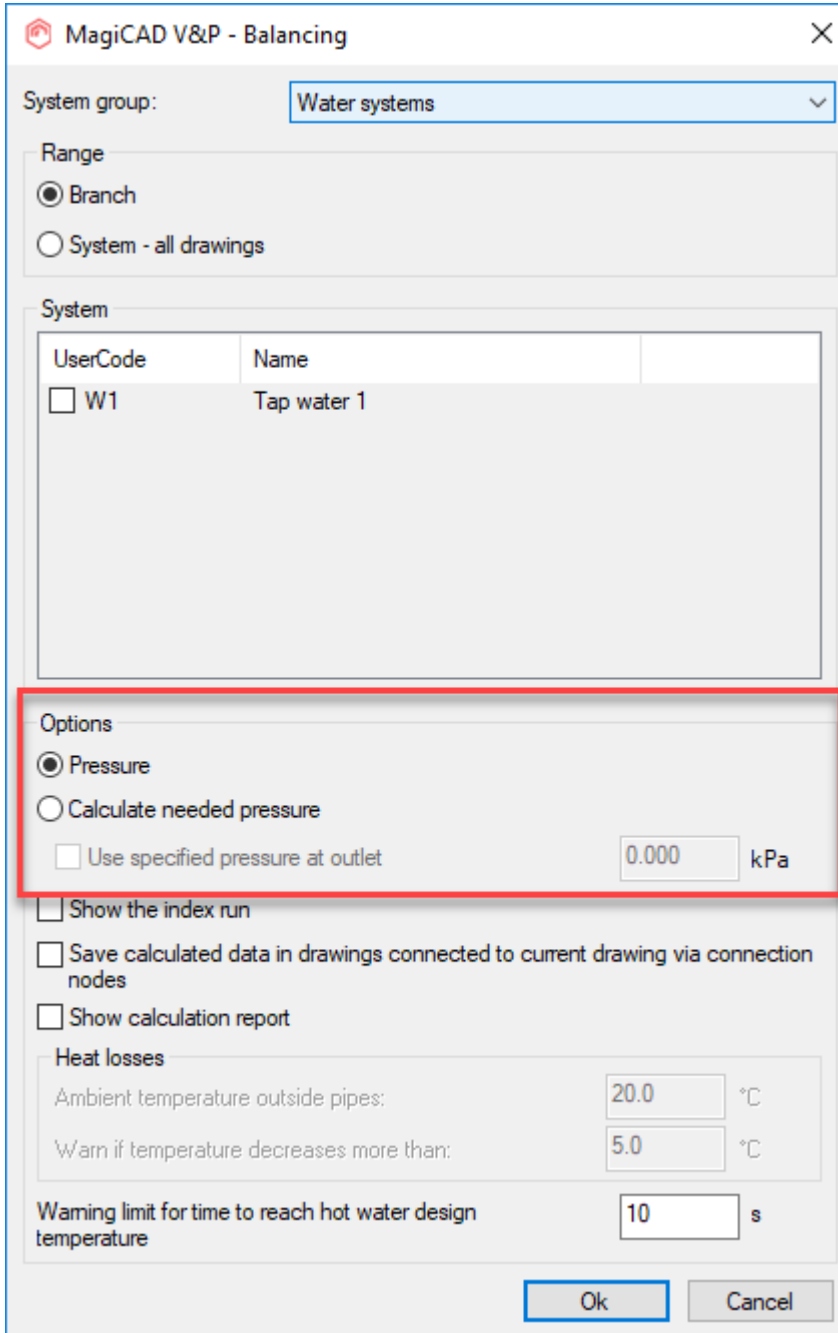
Pumps are now supported in domestic water systems.

The additional calculation option "Calculate needed pressure" has been added to the balancing function for domestic water systems

You can now choose between

- a) the previous settings defined in the project for the system with the initial pressure set or
- b) as a new feature calculate the needed pressure of the network.

There is also the possibility to set a user-defined pressure at the outlets.



MagiCAD V&P - Balancing

System group: Water systems

Range

☒ Branch

☐ System - all drawings

System

UserCode	Name
<input type="checkbox"/> W1	Tap water 1

Options

☒ Pressure

☐ Calculate needed pressure

☐ Use specified pressure at outlet 0.000 kPa

☐ Show the index run

☐ Save calculated data in drawings connected to current drawing via connection nodes

☐ Show calculation report

Heat losses

Ambient temperature outside pipes: 20.0 °C

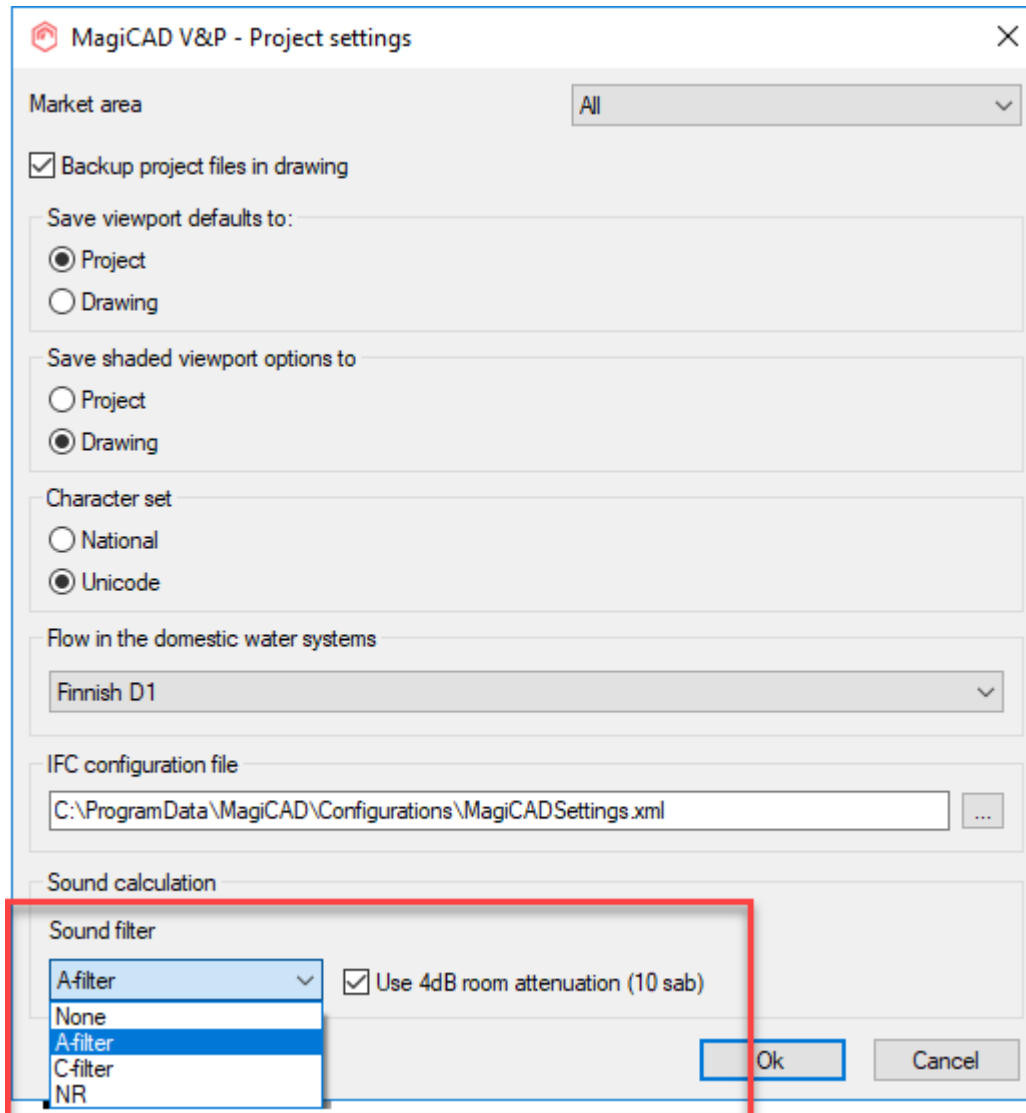
Warn if temperature decreases more than: 5.0 °C

Warning limit for time to reach hot water design temperature: 10 s

Ok Cancel

The option to select between different filters have been added to the MagiCAD Sound Calculation

MagiCAD has used the A-filter as default in previous versions but you can now select between no filter, A-filter, C-filter or Noise Rating (NR).



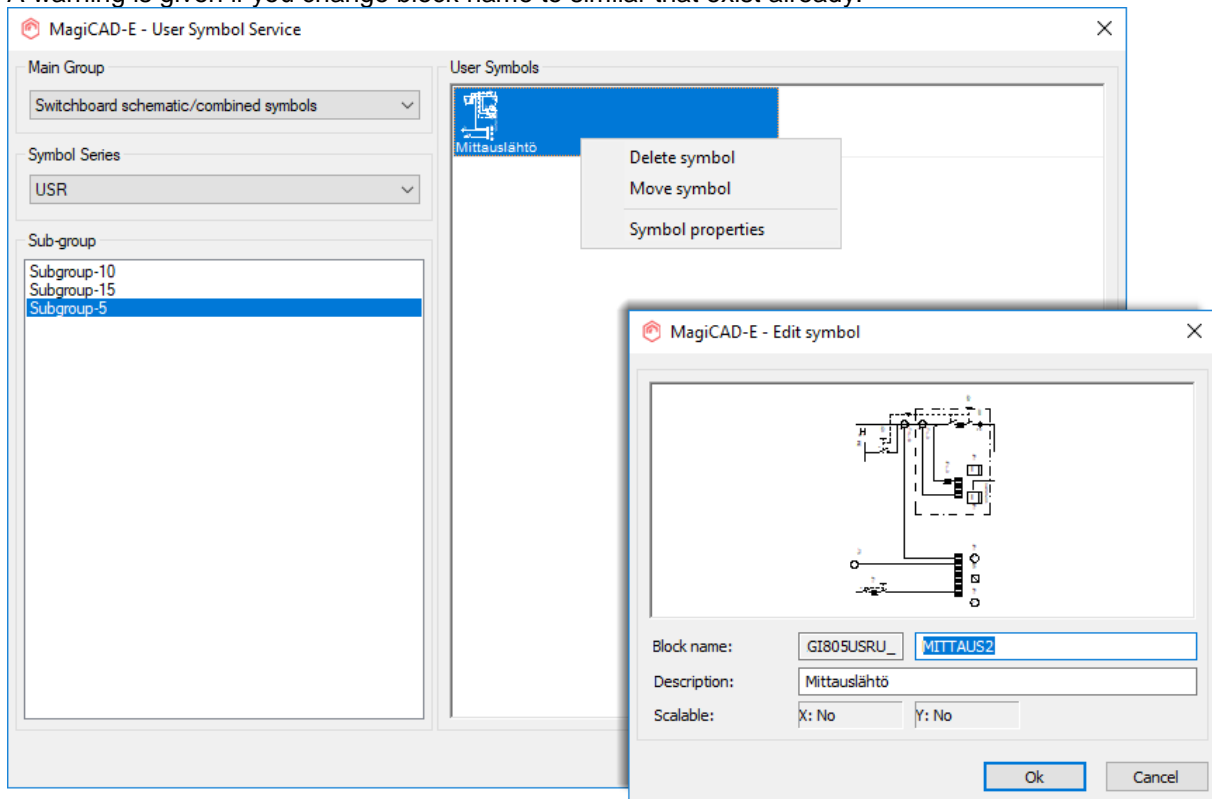
1.3 Electrical

Improvements to user symbol manager

In user symbol manager, it is now possible to move a symbol to a different main group, symbol series or sub-group.

When editing a symbol, you can modify the block name and also the description field.

A warning is given if you change block name to similar that exist already.



Extra low voltage calculations - attenuation calculation

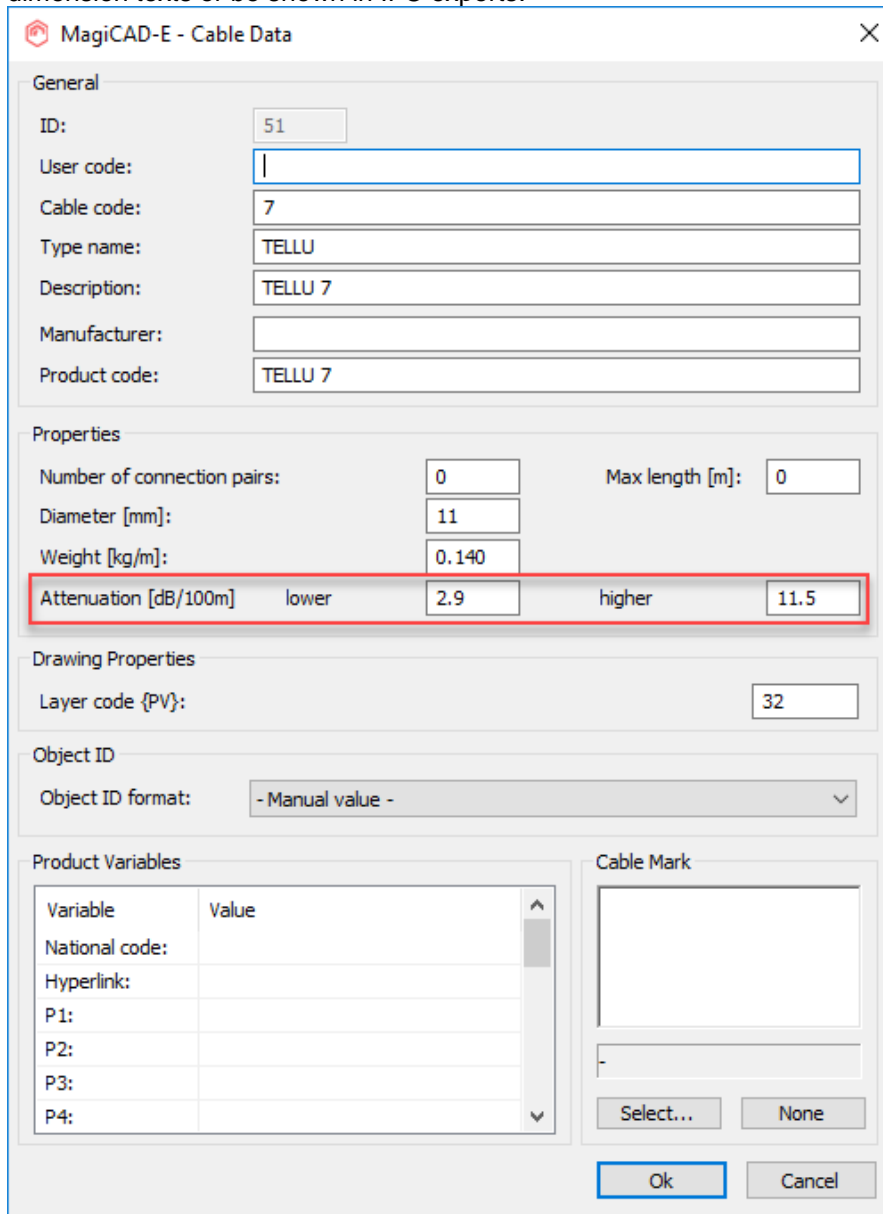
Attenuation calculations have been added. You can now define lower and higher attenuation values to data devices and data cables.

Attenuation in devices can be defined negative to make the device work as an amplifier.

When calculating you will get attenuation value from each device and cable and total attenuation of the system to devices/cables.

Warning limits can be defined to the calculation to quickly see if total attenuation is too high or difference between lower and higher attenuation is too big.

All the calculation results are saved to devices and the data can be f. ex. marked to drawing using dimension texts or be shown in IFC exports.



MagiCAD-E - Cable Data

General

ID: 51

User code: |

Cable code: 7

Type name: TELLU

Description: TELLU 7

Manufacturer:

Product code: TELLU 7

Properties

Number of connection pairs: 0 Max length [m]: 0

Diameter [mm]: 11

Weight [kg/m]: 0.140

Attenuation [dB/100m] lower 2.9 higher 11.5

Drawing Properties

Layer code {PV}: 32

Object ID

Object ID format: - Manual value -

Product Variables

Variable	Value
National code:	
Hyperlink:	
P1:	
P2:	
P3:	
P4:	

Cable Mark

Select... None

Ok Cancel

MagiCAD - Report

Edit

	Desc	Code/No	Cable	L [m]	Attenuation lower	Attenuation higher	Difference	Total attenuation lower	Total attenuation higher	Difference	Warnings
Host		AN5									
Circuit											
Cable			TELLU 5	34.26	0.617	2.570	1.953	0.617	2.570	1.953	
Host		1			10.500	14.000	3.500	11.117	16.570	5.453	
Circuit											
Cable			TELLU 7	44.14	1.280	5.077	3.796	12.397	21.646	9.250	
Host		2			10.500	14.000	3.500	22.897	35.646	12.750	
Circuit											
Cable			TELLU 13	72.34	3.689	14.612	10.923	26.586	50.259	23.672	Max difference exceeded, Max attenuation exc
Sockets/C,D					5.000	5.000		31.586	55.259	23.672	Max difference exceeded, Max attenuation exc
Circuit											
Cable			TELLU 13	58.62	2.990	11.842	8.852	25.887	47.488	21.601	Max difference exceeded, Max attenuation exc
Sockets/C,D		3			1.000	1.000		26.887	48.488	21.601	Max difference exceeded, Max attenuation exc
Circuit											

Update to drawing(s) Close

Layer handling tool for MagiCAD layers

New function have been added which can be used to freeze and unfreeze MagiCAD layers. System and part type settings will be used to select which layers will be shown. All MagiCAD layers will be frozen on the selected layout and then based on the selections, those layers will be unfrozen. If operation areas are needed to be shown in the layout, there is a checkbox which will unfreeze selection areas for selected part types.

Layers can be handled also from xref layers.

It makes it easy to define correct layers to each layout and the configurations can be saved to make it faster to use later on the project.

MagiCAD-E - Freeze layers

Configuration

Save Save As... Delete Rename...

Object selection set

☒ Manual selection ☐ Current drawing

Data filter

Systems Part types Properties

All Electrical Communication/Data Cable routes Others

Layouts

Model A0 A1 A2

Select all Deselect all

Options

☐ Unfreeze operation area layers on selected part types

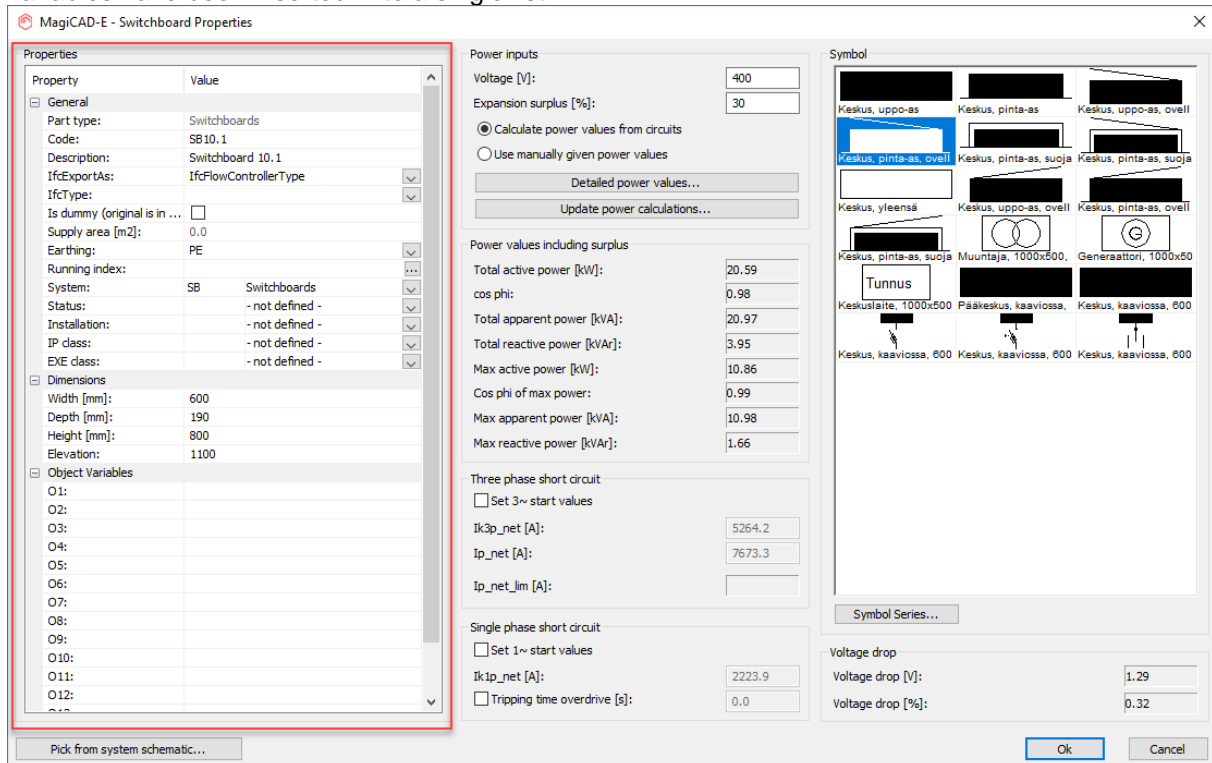
☐ Xrefs

Apply Ok Cancel

Added "Systems -> Others -> Without system" to object selection to select all objects without systems. Removed "Sections/HVAC objects" and "Sections/other objects" from object selection functionality.

Facelift for switchboards part properties

UI have been changed in switchboard properties. All general information, dimensions and object variables have been inserted in to a single list.



Upgrades made for Convert AutoCAD object to electrical/ELV device function

- added light source for Luminaries & LED stripes.
- added attenuation lower & higher for data devices.
- added ELV system power for data devices.

Report no longer prints null Product ID for converted objects

Attribute character limits increased

Following attribute character limit has been increased to 255 characters:

- product user code
- product description
- product manufacturer
- product code
- product light source
- dimension text description
- cable user code
- cable code
- cable type name
- cable description
- switchboard description

Following attribute character limit has been increased to 60 characters:

- switchboard code
- circuit number

The circuit number for circuits can now be exported to the IFC as well.

Add to project enhancements

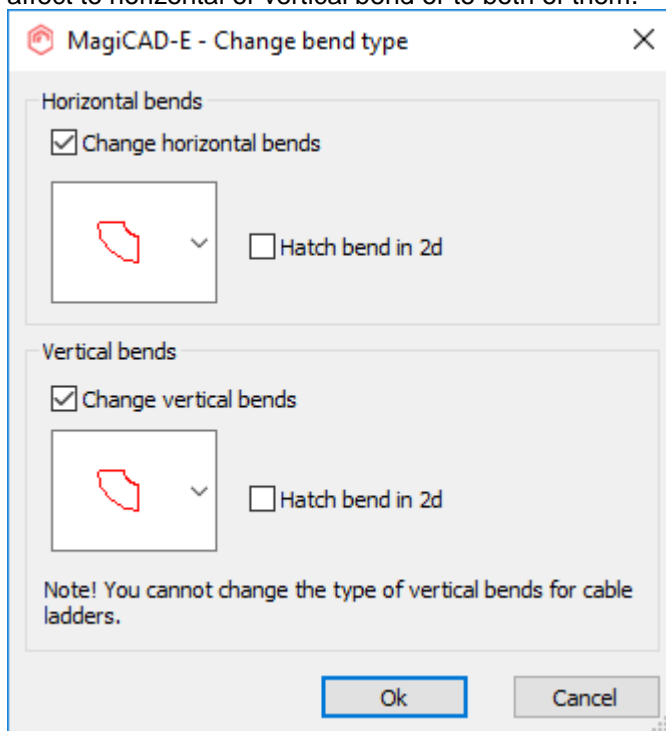
When adding a Switchboard schematic drawing in to the project, checkbox "Add this drawing to the model dwg list" is unchecked by default.

Merge improvements

Installation codes, IP classes and EXE classes can be merged from project to another

Improved bend changing in Change Properties

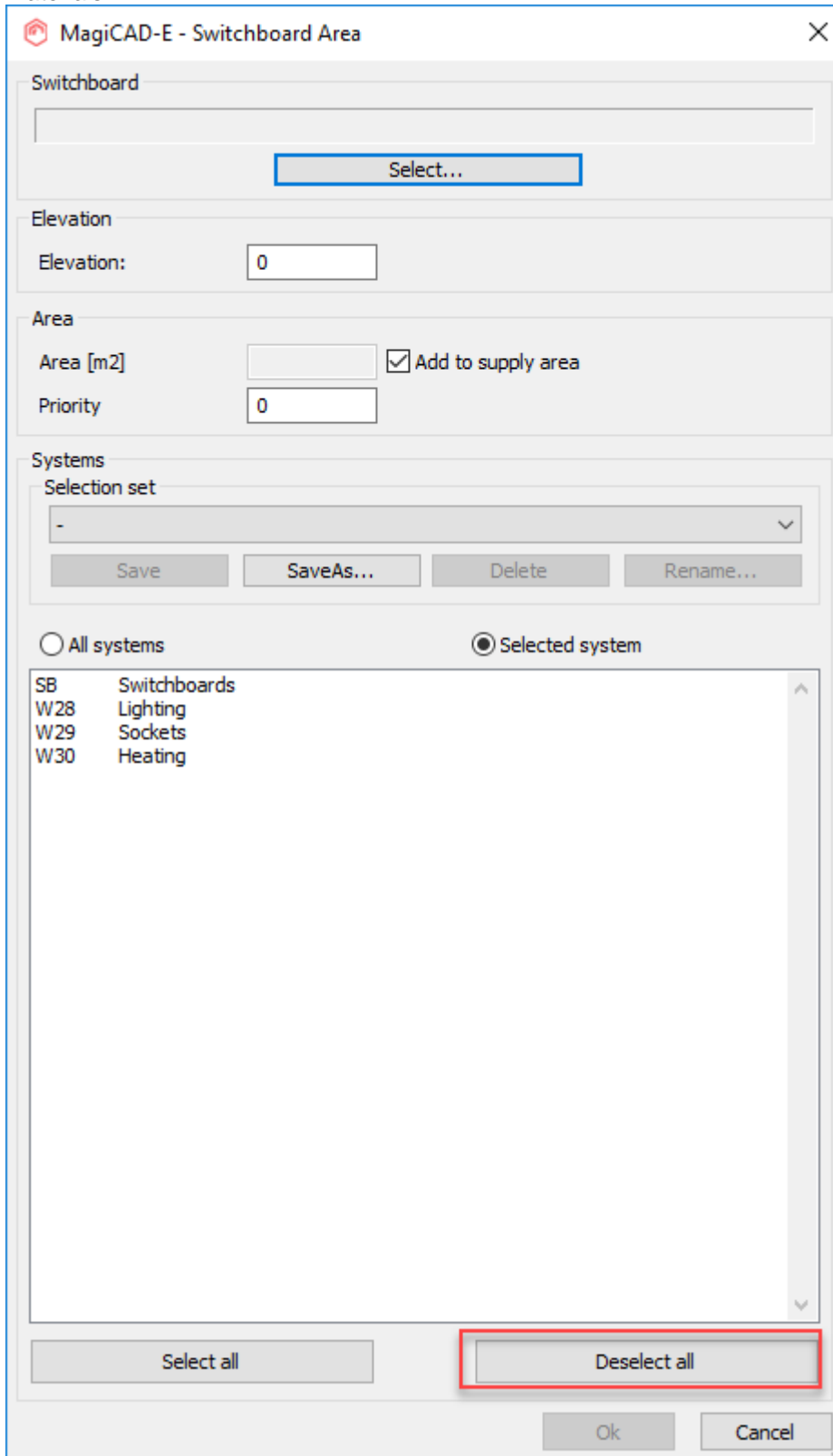
When changing bend types with Change Properties, it is possible to select whether the change will affect to horizontal or vertical bend or to both of them.



Also the "Show reference part" now gets the correct bend type from the selected tray in all cases.

Deselect all button for system selection

Deselect button have been added to system selection in switchboard area, host area and bill of materials.



MagiCAD-E - Switchboard Area

Switchboard

Select...

Elevation

Elevation: 0

Area

Area [m2] ☒ Add to supply area

Priority 0

Systems

Selection set

-

Save SaveAs... Delete Rename...

☐ All systems ☒ Selected system

SB	Switchboards
W28	Lighting
W29	Sockets
W30	Heating

Select all Deselect all

Ok Cancel

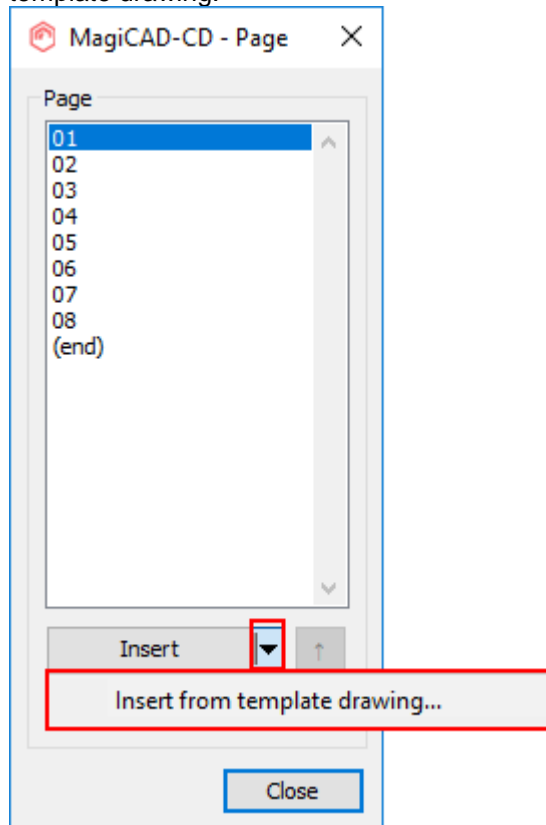
1.4 Circuit designer

Possibility to select template when adding new page to drawing

When adding a new page to Circuit designer project, there is a possibility to select it from a file.

Adding page from a file adds all Circuit designer frames, and everything from inside them, that can be found from the selected dwg and add them to the current dwg.

All label block attributes, which are not defined in label text definitions, will update their values from the template drawing.



User definable numbering rules

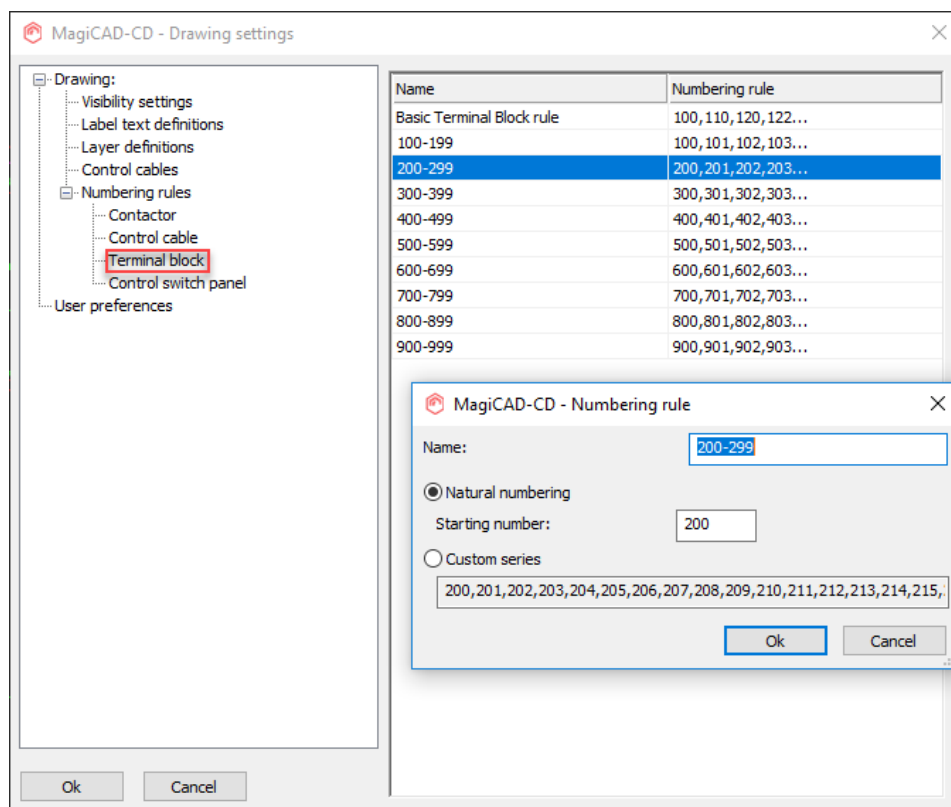
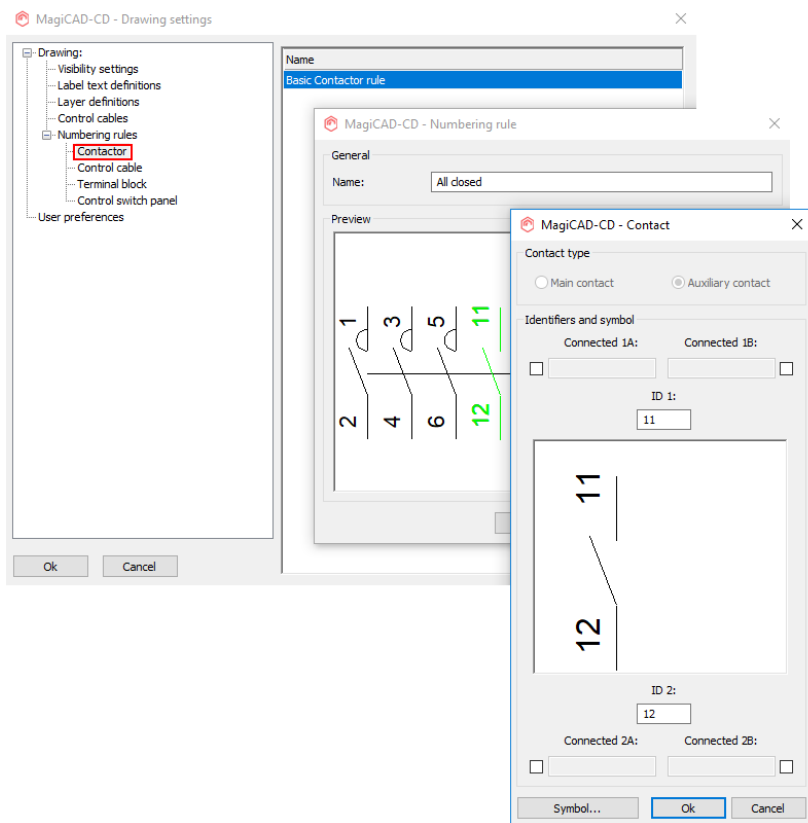
Now users can make their own numbering rules for contactors, control cables, terminal blocks and control switch panels in the Preferences.

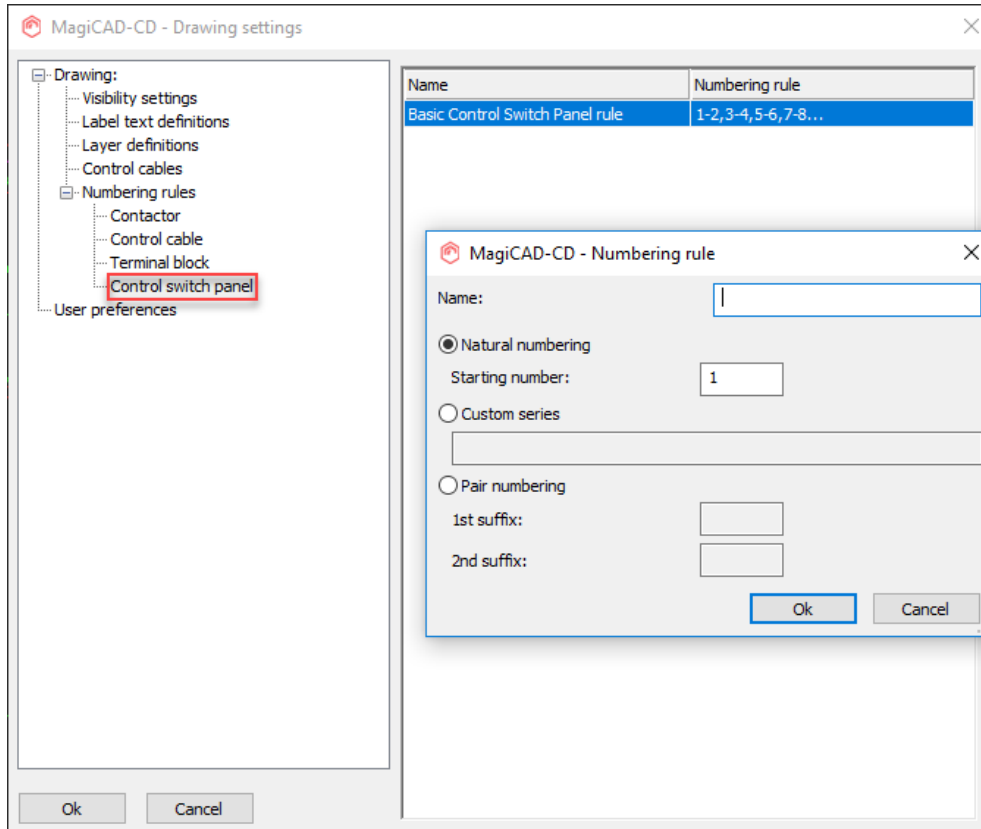
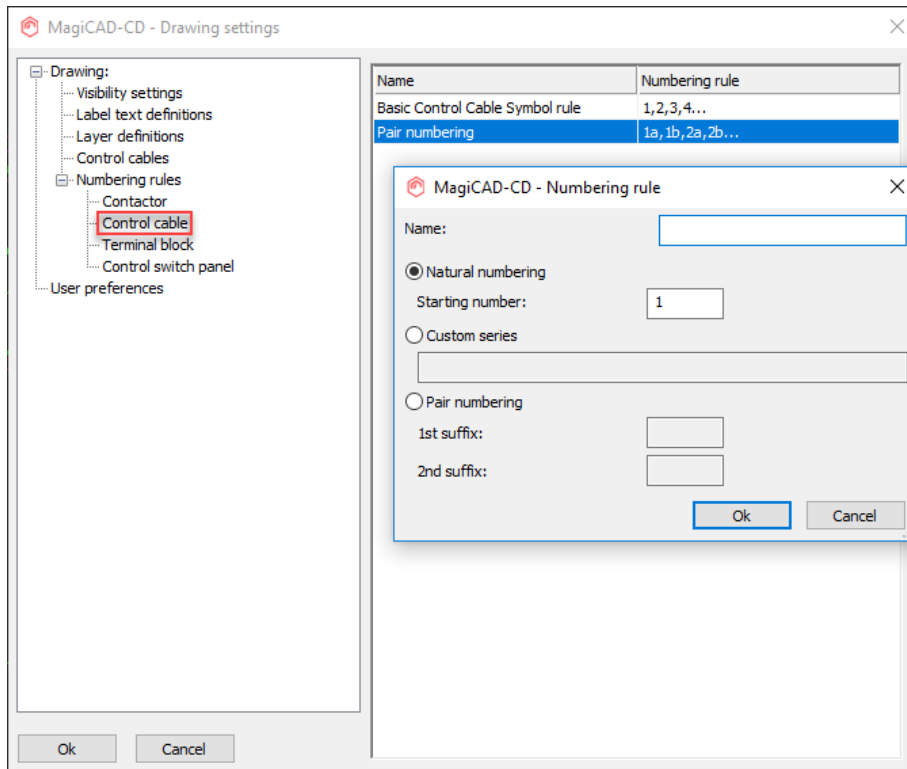
Numbering rules can be copied from other drawings.

When creating new object, numbering rule can be selected from the originals and from all user defined ones.

When defining the numbering rule for contactors, user can select what kind of contacts and a relay will be used.

When creating new contactor user can select how many main and how many auxiliary contacts will be made using selected numbering rule. Also, it is possible to create a contactor which has only main contacts or only auxiliary contacts.



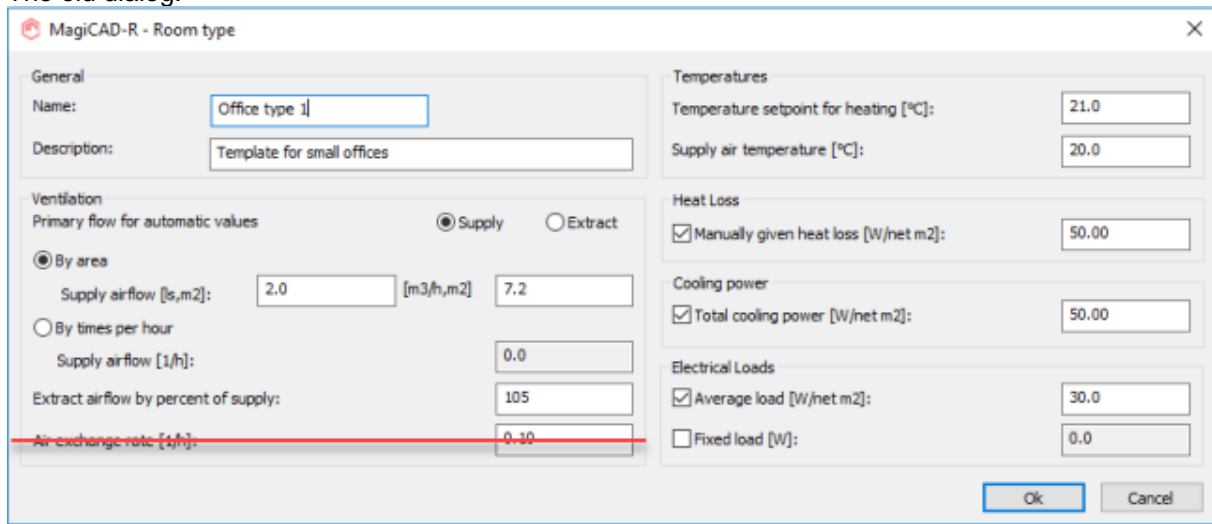


1.5 Room

Air exchange rate has been removed from room type definitions

We removed the air exchange rate from room type definitions, as now we have implemented q50 and n50 values to define the air exchange rates and having separate air exchange rate setting in the room types made it unclear to the user what was overridden and when.

The old dialog:



MagiCAD-R - Room type

General
Name: Office type 1
Description: Template for small offices

Ventilation
Primary flow for automatic values: ☒ Supply ☐ Extract
☒ By area
Supply airflow [l/s,m2]: 2.0 [m3/h,m2] 7.2
☐ By times per hour
Supply airflow [1/h]: 0.0
Extract airflow by percent of supply: 105
~~Air exchange rate [1/h]: 0.10~~

Temperatures
Temperature setpoint for heating [°C]: 21.0
Supply air temperature [°C]: 20.0

Heat Loss
☒ Manually given heat loss [W/net m2]: 50.00

Cooling power
☒ Total cooling power [W/net m2]: 50.00

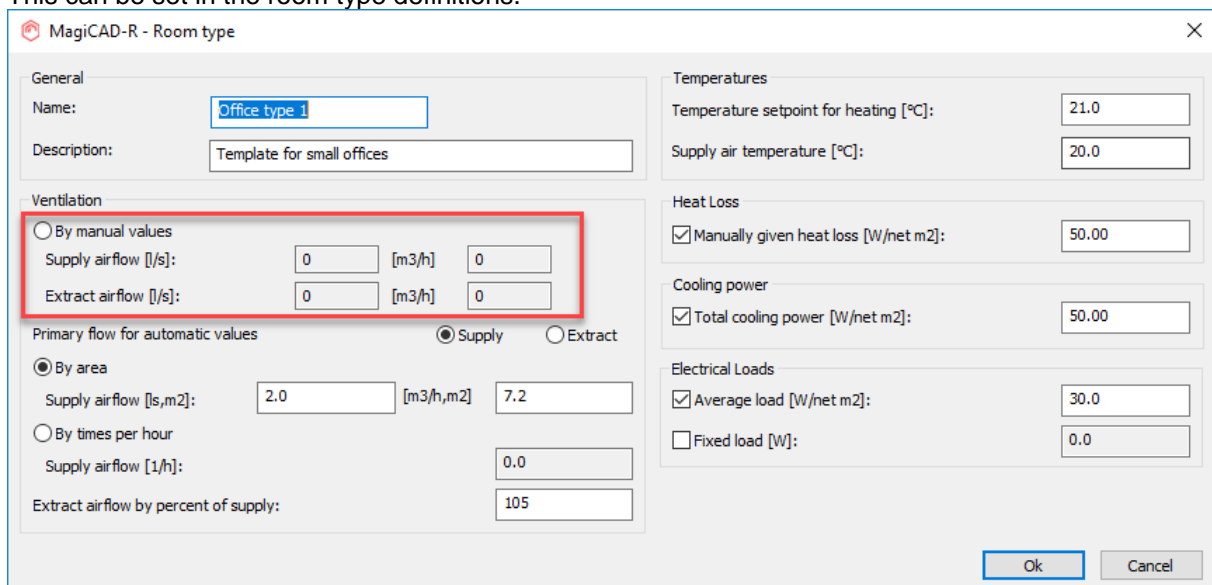
Electrical Loads
☒ Average load [W/net m2]: 30.0
☐ Fixed load [W]: 0.0

Ok Cancel

Manual values for the flow has been added to the room type definitions

Room type definitions in MagiCAD Room have been improved by adding option for defining air flows as fixed values as well.

This can be set in the room type definitions.



MagiCAD-R - Room type

General
Name: Office type 1
Description: Template for small offices

Ventilation
☐ By manual values
Supply airflow [l/s]: 0 [m3/h] 0
Extract airflow [l/s]: 0 [m3/h] 0
☒ By area
Supply airflow [l/s,m2]: 2.0 [m3/h,m2] 7.2
☐ By times per hour
Supply airflow [1/h]: 0.0
Extract airflow by percent of supply: 105

Temperatures
Temperature setpoint for heating [°C]: 21.0
Supply air temperature [°C]: 20.0

Heat Loss
☒ Manually given heat loss [W/net m2]: 50.00

Cooling power
☒ Total cooling power [W/net m2]: 50.00

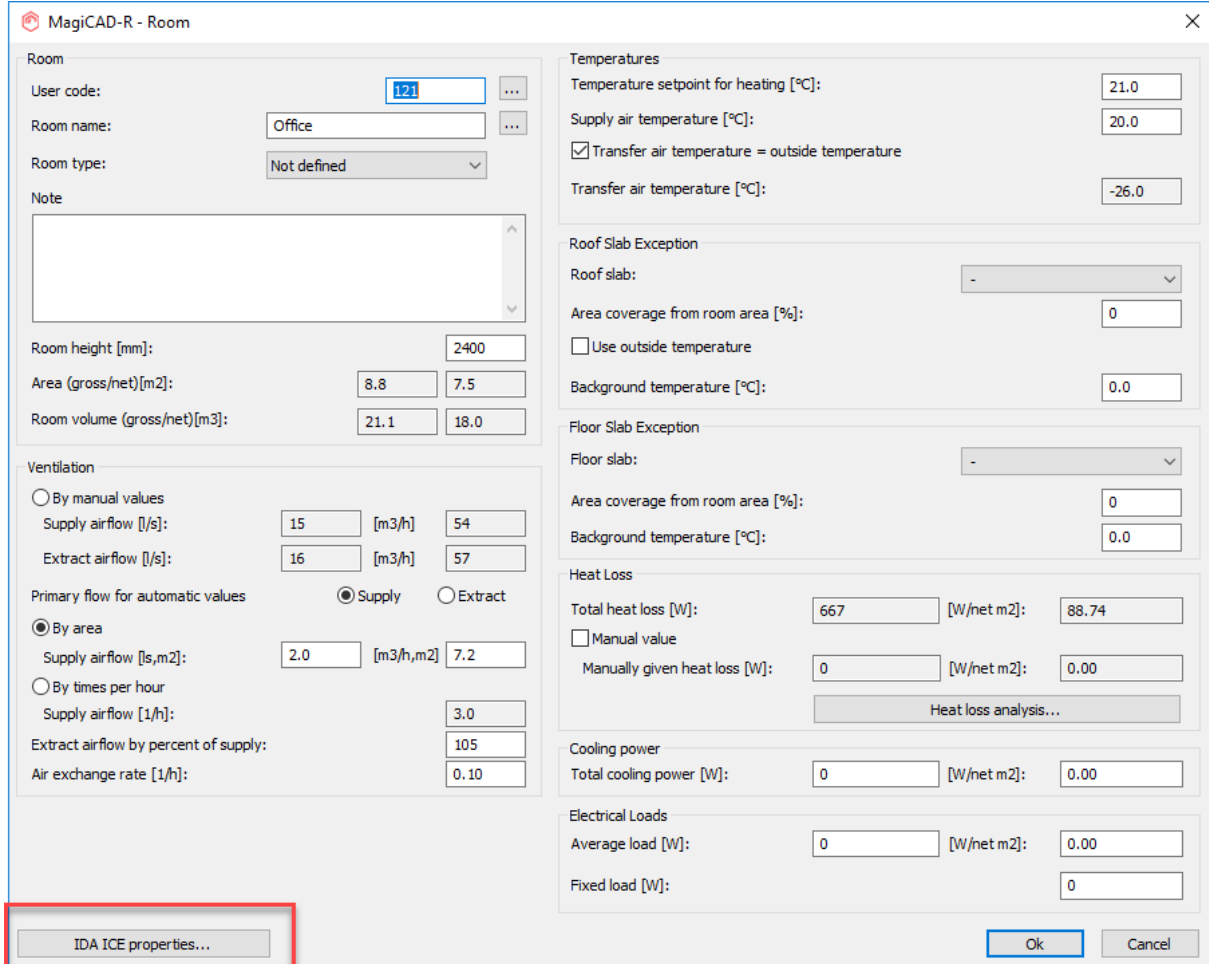
Electrical Loads
☒ Average load [W/net m2]: 30.0
☐ Fixed load [W]: 0.0

Ok Cancel

Simulation information from IDA ICE can be looked at in MagiCAD Room

For building simulations it is now possible to import data via an IFC from an IDA ICE simulation, using the IFC Space Update function.

If the workstation has an IDA ICE viewer then this information can be looked at in the individual rooms:



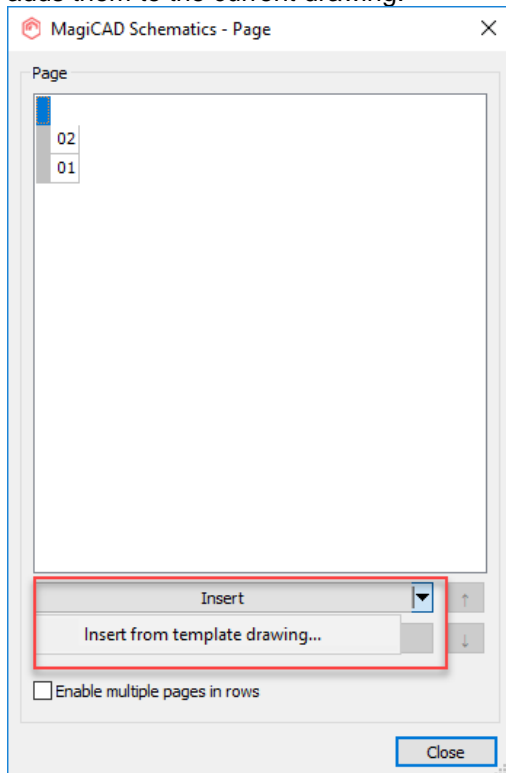
New settings are also to be set in the project information and the user preferences.

1.6 Schematics

It is now possible to use template drawings when inserting pages in MagiCAD Schematics

When adding a new page to a Schematic project, there is now the possibility to select the pages from a template drawing.

Inserting from a template drawing adds all the frames that can be found from the selected drawing and adds them to the current drawing.



2 Resolved issues

2.1 Common

Side view used a too large bottom offset

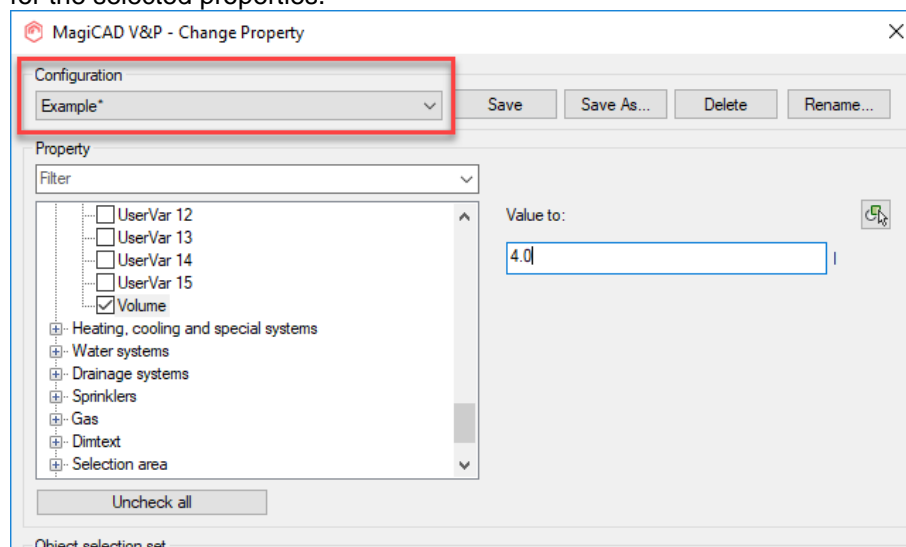
When running the Side view function MagiCAD for AutoCAD 2020 used the storey origin Z-value times 2 instead of just the Z value, which sometimes forced the user to adjust the view before continuing to draw.

If the storey origin Z value was at 10000 the lower part of side view window ended up at 20000 so the users had to pan down again in the view to see the objects they intended to have a look at.

Change properties issues with the properties and the "Value to"-field

There were issues when working with the change properties configurations:

The wrong property was highlighted when changing configurations and the "Value to" was not saved for the selected properties.



Purge drawings did not work for non-existent paths

The purge command did not purge drawings that had non-existent paths.

This happened for example if you had received drawings and a project file that had relative paths to the drawings far away from the project file itself (so the paths go back many times with "..\") and you placed them (or at least the project file) quite near to C:\, then MagiCAD's "Purge" in the drawing lists was not able to purge away the drawings it didn't find.

Project U1

Project settings

Model drawings

Schematic drawings

Storeys

Ventilation

Model drawings	Active storey	Default IFC filename	Labels
MFS-4918-MainDwg.dwg	Floor 1		
..\..\..\NonExistent1.dwg	Floor 2		
..\..\..\NonExistent2.dwg	Floor 3		

IFC Export unlocks layers in drawings

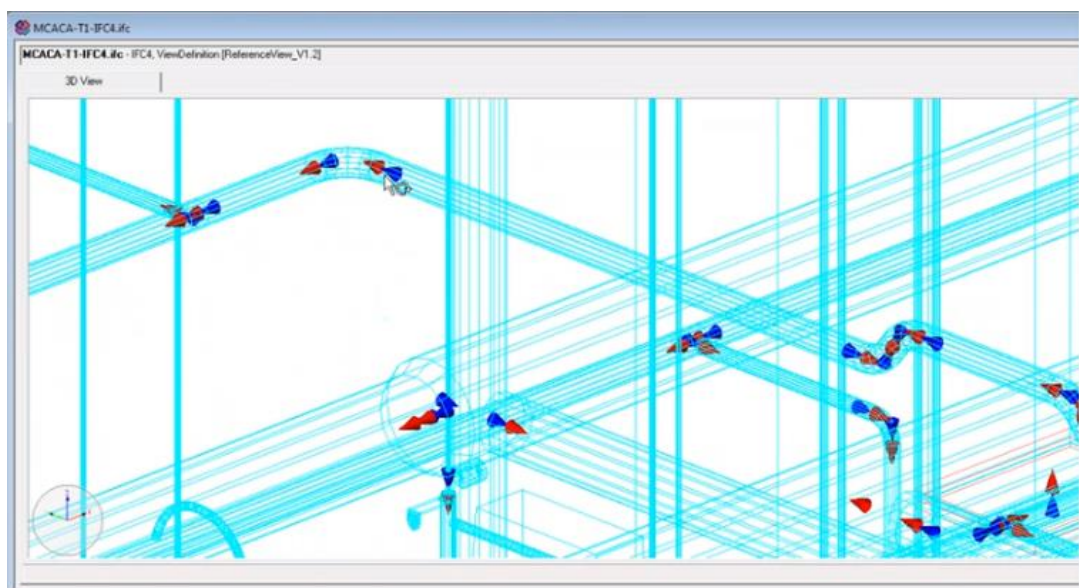
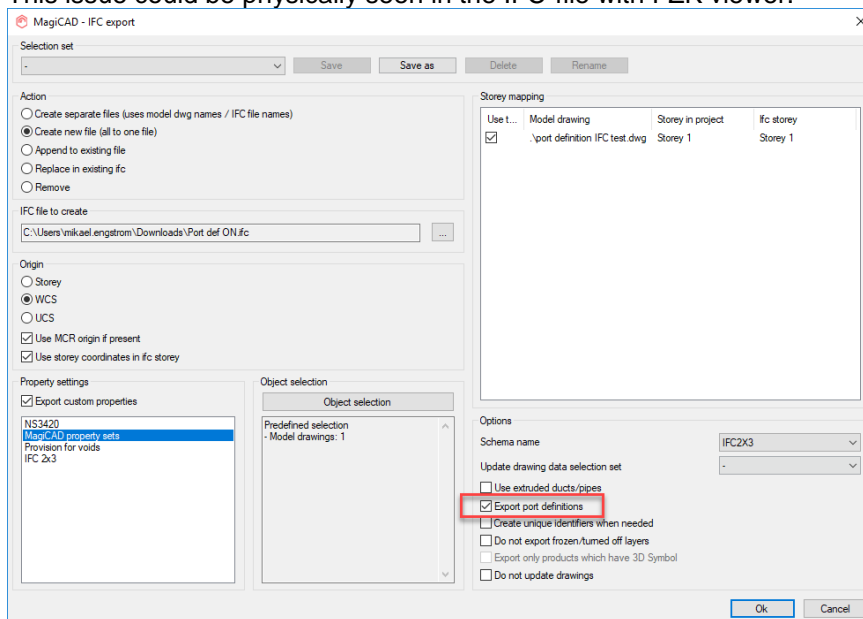
The issue was that IFC Export unlocked layers in drawings. This happens as drawings are being updated after IFC Export.

The problem was that the drawing is saved before layers are locked back, leaving the layers unlocked. Now the IFC Export keeps the layers locked as they were before the IFC Export was run.

Port definitions had the wrong positions in IFC Export

Now port definitions have correct positions the IFC after previously being in the wrong location.

This issue could be physically seen in the IFC-file with FZK viewer.

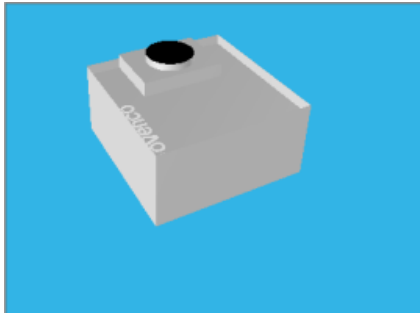


2.2 Ventilaion and Piping

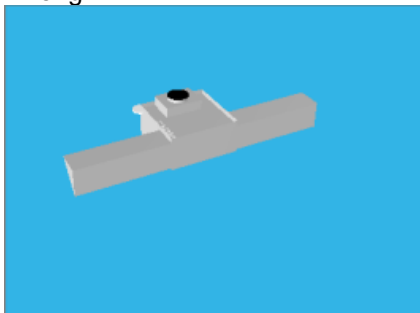
Issues with some large models in MagiCAD V&P

V&P can now handle more complex models correctly and unusually large models and issues shown below are solved.

Correct:



Wrong:



MagiCAD was unable to calculate the sprinkler network when there were bends with over 100 degree angles in the network

Bends that are over 90 degrees are now calculated as 90 degree bends. This to make it easier and freer for the user to draw and create solutions that would otherwise mean a lot of drawing in side views.

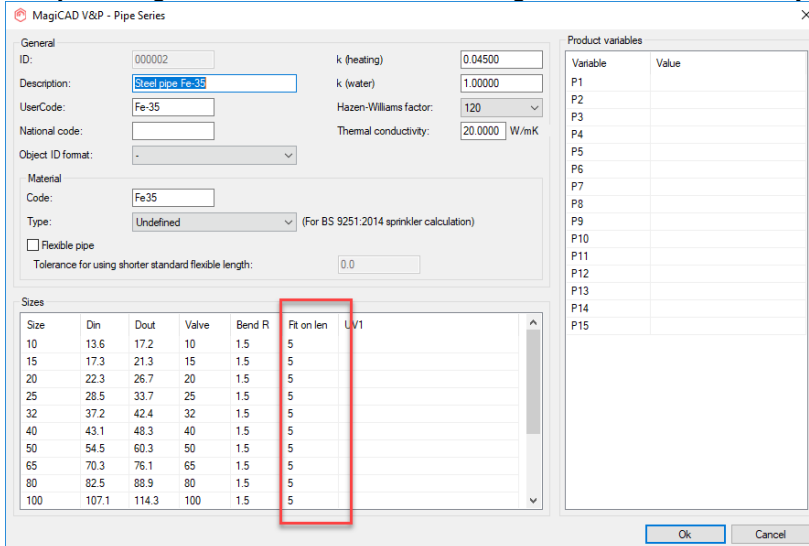
Running index did not work for the Object ID for Climate beams and Fan Coil Units

Object ID bug fixed for the Cooling beams and Fan Coil Units.

It was not possible to go back to the report after opening General information in a sound calculation report

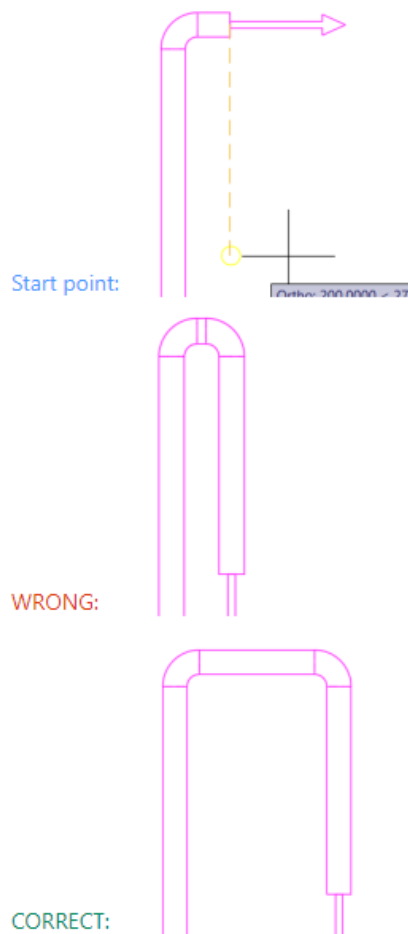
In the Sound Calculation dialog, after having run the calculations and then selecting the "General results" radio button, it was impossible to return to all the other system sound results as all radio buttons were disabled.

Fit-on-length was not working correctly when pipes were drawn
The joint-length calculation now acknowledges "Fit on Len" correctly

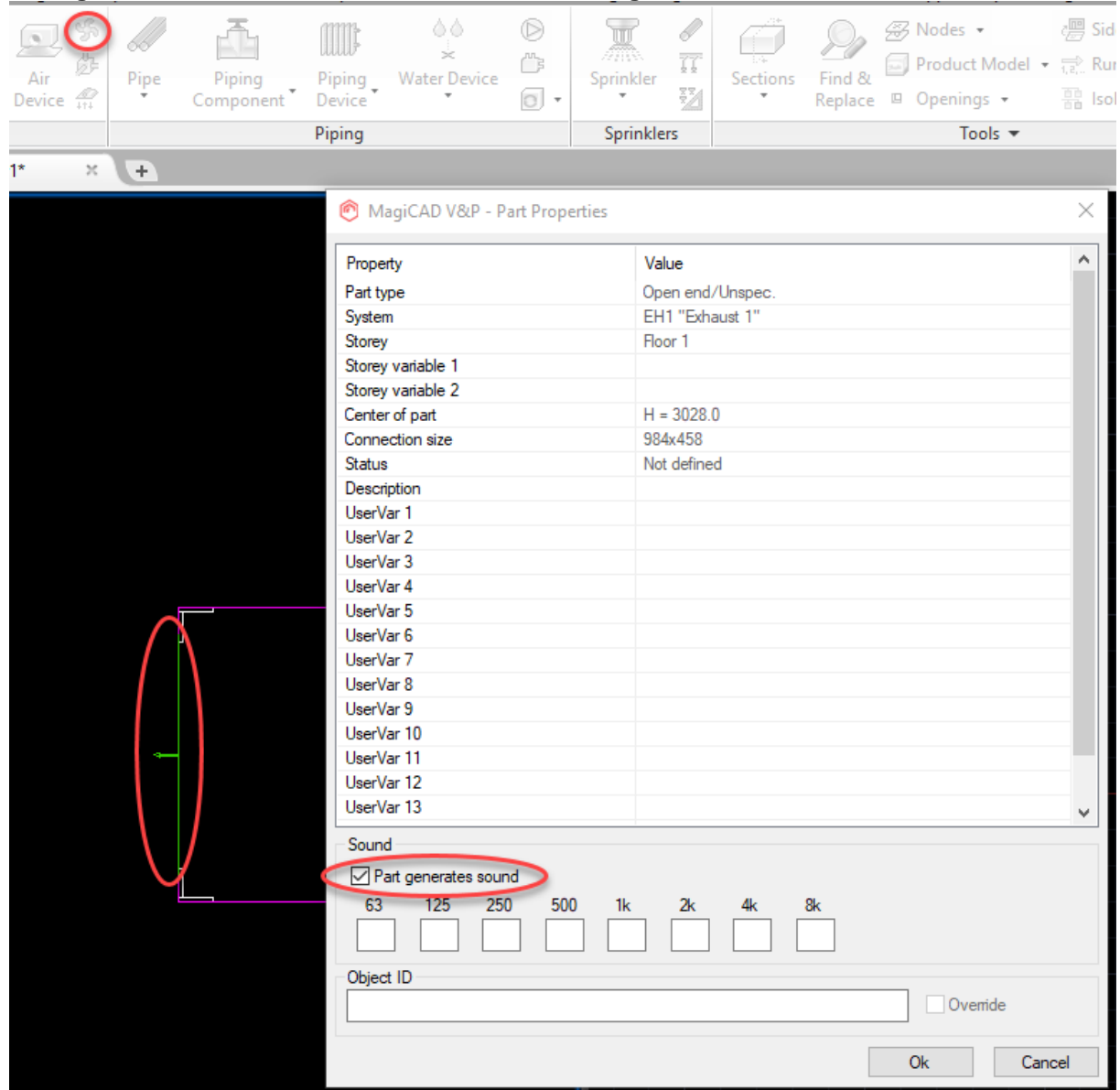


General
ID: 000002
Description: Steel pipe Fe-35
UserCode: Fe-35
National code:
Object ID format:
Material
Code: Fe35
Type: Undefined (For BS 9251:2014 sprinkler calculation)
☐ Flexible pipe
Tolerance for using shorter standard flexible length: 0.0
k (heating): 0.04500
k (water): 1.00000
Hazen-Williams factor: 120
Thermal conductivity: 20.0000 W/mK
Product variables
Variable Value
P1
P2
P3
P4
P5
P6
P7
P8
P9
P10
P11
P12
P13
P14
P15
Sizes
Size Din Dout Valve Bend R Fit on len LV1
10 13.6 17.2 10 1.5 5
15 17.3 21.3 15 1.5 5
20 22.3 26.7 20 1.5 5
25 28.5 33.7 25 1.5 5
32 37.2 42.4 32 1.5 5
40 43.1 48.3 40 1.5 5
50 54.5 60.3 50 1.5 5
65 70.3 76.1 65 1.5 5
80 82.5 88.9 80 1.5 5
100 107.1 114.3 100 1.5 5

Examples of wrong and correct results while using large Fit on Length values:



"Part generates sound" checkboxed caused the dialog to freeze



If the checkbox was ticked, then it wasn't possible to close the dialog anymore. Only way out was to stop AutoCAD via the task manager.

Symbols were not show for the fire hydrant objects "Fire cabinets"

Symbols were not shown for "Fire cabinets", but this has now been fixed and the symbols are shown correctly.

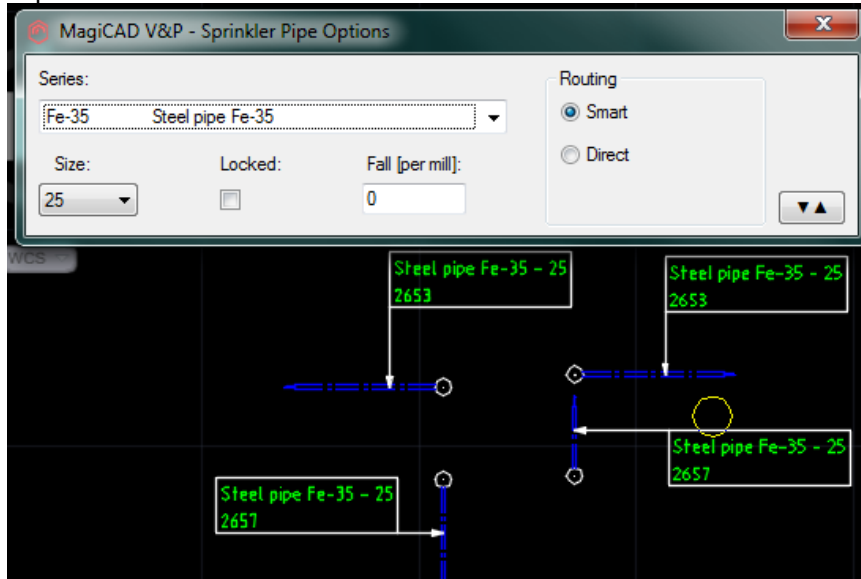
"Edit in MagiCAD Create" not available for user-made databases

Now products from user-made databases can be edited in MagiCAD Create.

Drawing pipes straight from a sprinkler did not work correctly

The issue was that If you started drawing a pipe from a sprinkler (connection up) either up/down or left/right without going to upwards first, pipes went to different elevations.

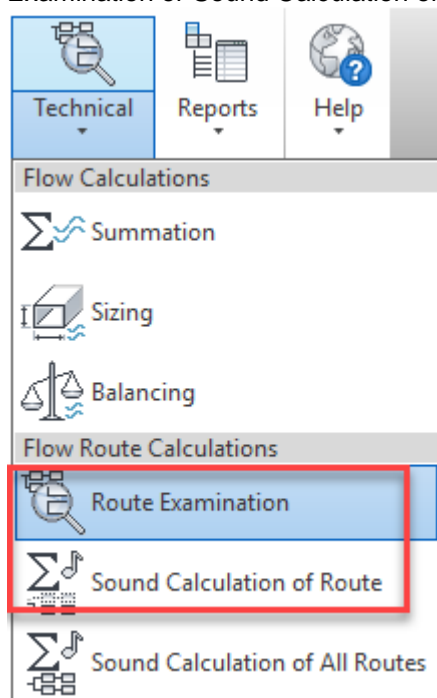
The same issue occurred if you drew heating pipe beginning for example from the top of the expansion tank.

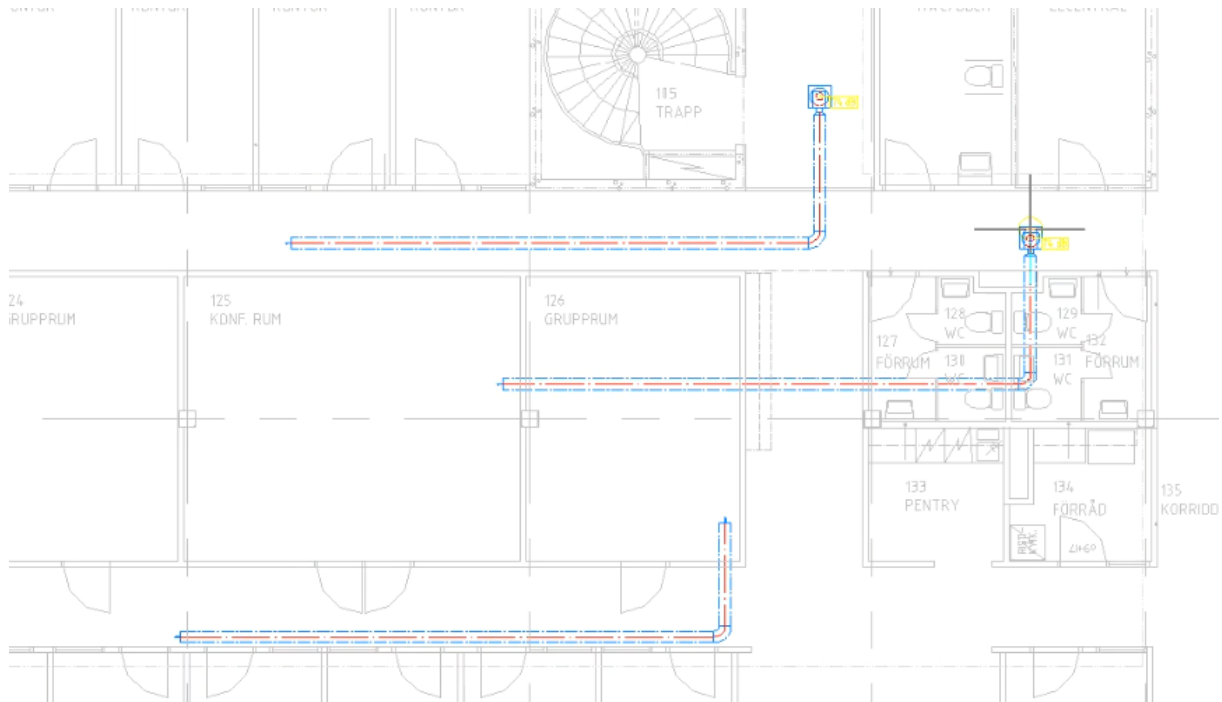


Now the connection from a sprinkler and an expansion tank works properly.

Route Examination & Sound Calculation Of Route weren't working in some cases

If the network was incomplete, like in the image below, then it wasn't possible to do the Route Examination or Sound Calculation of Route.

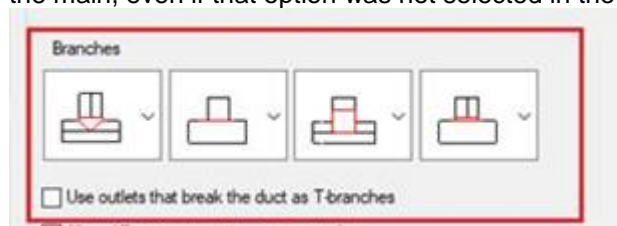




Now the program shows the Sound Route and Route Examination reports even when system contains incomplete networks, as long as the Terminal Device is in a complete network.

Connecting from main the duct did break the main duct, even if it shouldn't have

The issue was If you took a branch from main duct and connected it straight to another duct, it broke the main, even if that option was not selected in the settings and the main duct shouldn't break.



This has now been fixed and no longer breaks the main duct.

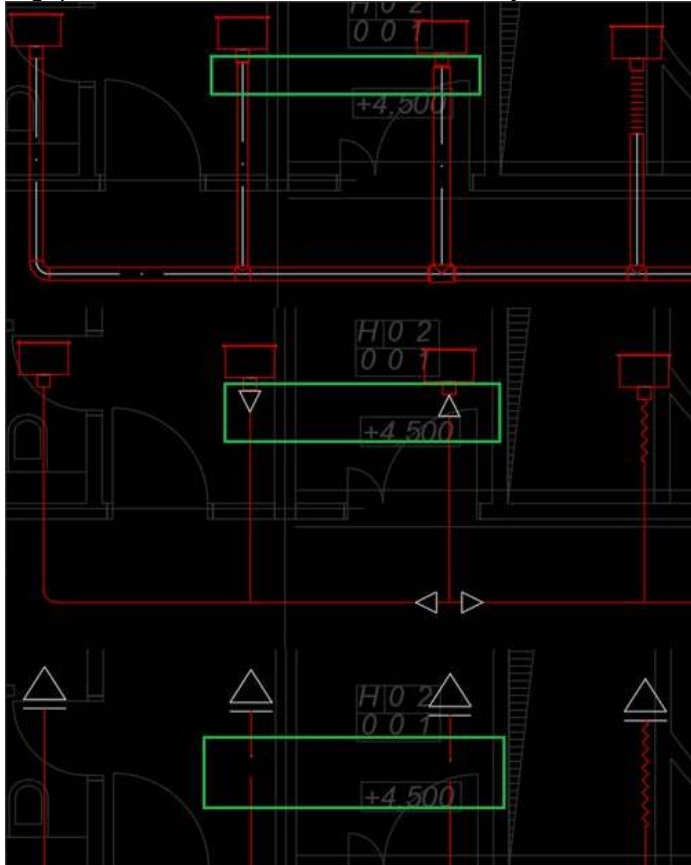
System of Fan Coil Units changed when using "Copy Branch"

If you used "Copy Branch" with Fan Coil Units that had both heating and cooling, after the copy has been made the systems for heating and cooling had changed to the same system.

Now the systems don't not change.

Reduction symbol gap in 1D

A gap was created if there was a reducer symbol drawn to a device that was shown as a symbol:



Now reduction symbol doesn't hide segment if it is not drawn

Stretching ducts, that had been changed from flexible to rigid ducts, caused the changed duct-bends to become flexible again

When drawing a flexible duct and then, for example, changing the bends to another series-type everything seemed to work fine and the parts changed.

But if you edited the network, or stretched some part, then the bends changed back to flexible parts again.

Now the connector's series is not changed when stretching it so the bends will stay what they had been changed to.

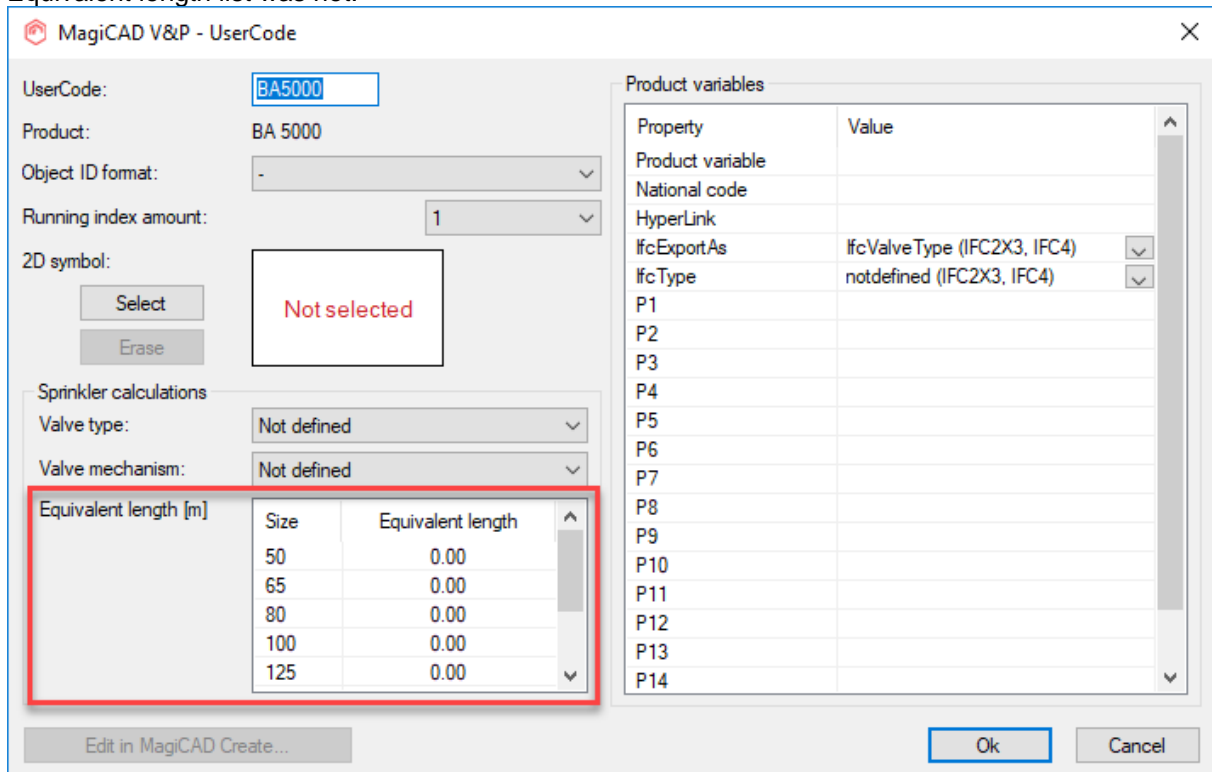
Pipes of primary system were not sized when shunts were used

The issue: Pipes of primary system were not sized according to the sizing method, instead they were sized according to shunt connection size. Secondary pipes were calculated correctly.

Now fixed: Parts in primary side of shunt units are sized based on sizing criteria. Connection size of shunt unit doesn't affect the part sizes.

Equivalent lengths edited in MagiCAD Create were not correctly updated in MagiCAD for AutoCAD

The issue that has been fixed was that when you edited a product in MagiCAD Create and in MagiCAD Create you deleted some sizes, when you returned the Size list was updated, but the Equivalent length list was not.

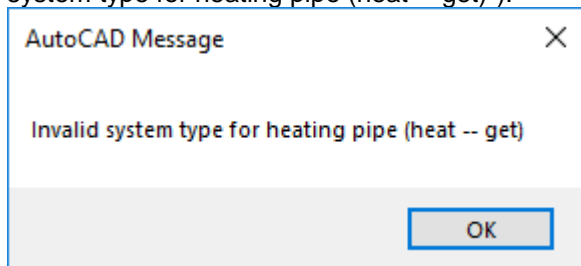


The radiator's resolution was low in the product selection dialog

The radiators' resolution in the product selection dialog was low, but has now been fixed.

Pipe option error when opening MagiCAD 2020 drawings with earlier versions

The user got this message when opening a drawing saved with the 2020 MagiCAD version ("Invalid system type for heating pipe (heat -- get)"):

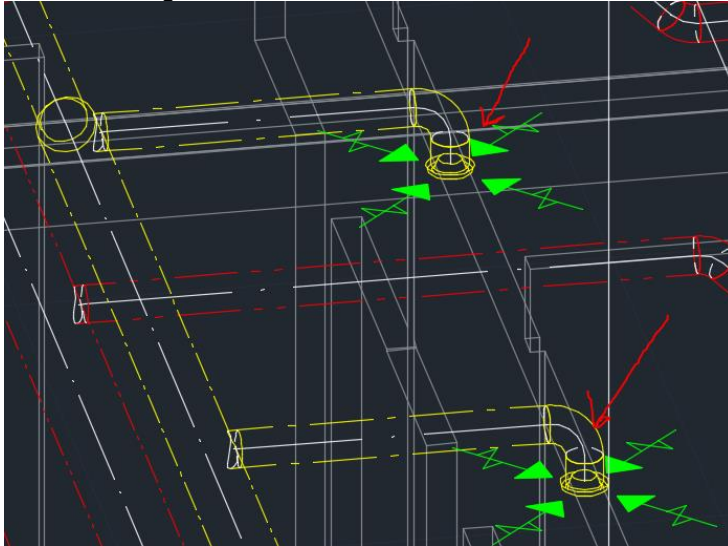


The backward compatibility has now been fixed and it no longer complains about missing pipe options. The workaround was to set the options (pipe type, size...) again when the dialogs open after this error (remember to set the distance between pipes as well, if you draw multiple pipes at the same time), as the error comes due to them being zeroed when opening with an older version.

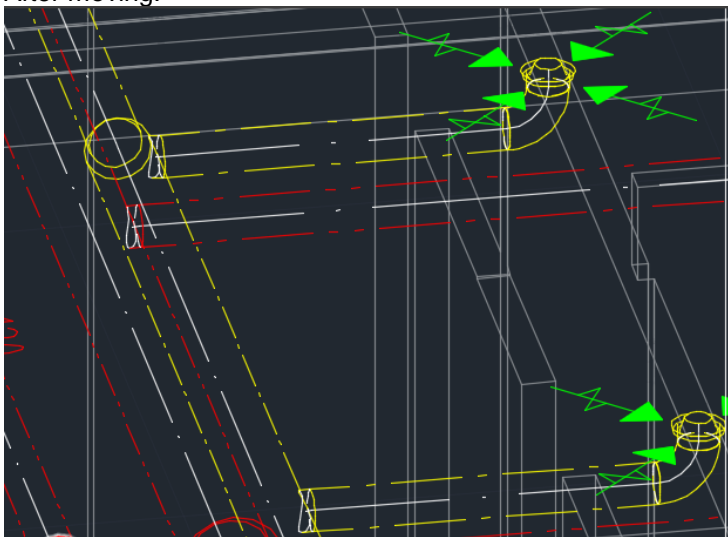
MagiCAD Move didn't check if it is possible to move a duct

It was possible to move moved parts in ways that should not be allowed, but has now been fixed.

Before moving:



After moving:



System changing when using F&R on climate beams

When you installed a climate beam to, for example, system Supply 1 and drew a duct from it and ran sizing, then it worked.

But when you copied the climate beam and the duct, then changed the system of the copied network to Supply 2 and then used Find & Replace to replace the copied climate beam, then MagiCAD changed the system of the supply device part and calculation did not work anymore.

No warning was given when the balancing wasn't able to adjust the pressure over the device due to the adjustment being locked

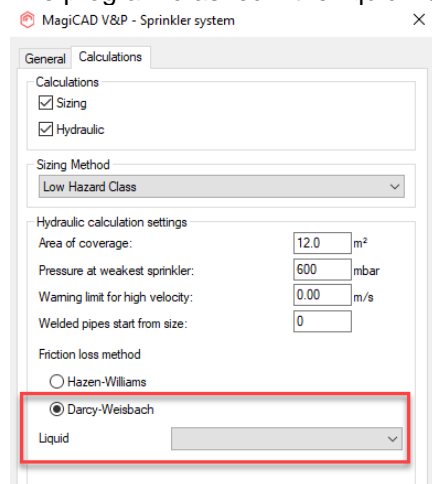
The issue was related to having two devices with locked values in the same system which was balanced: The report did not give a warning and the adjustment value was kept the same for both. Now a warning is given for this situation.

User Code and Product Code not available in integrated reducers

Now all integrated reducers have both the User Code and the Product Code in the Reports which they were missing.

Fatal error when adding new sprinkler systems and heat transfer media wasn't defined

The program crashed if the liquid wasn't defined:

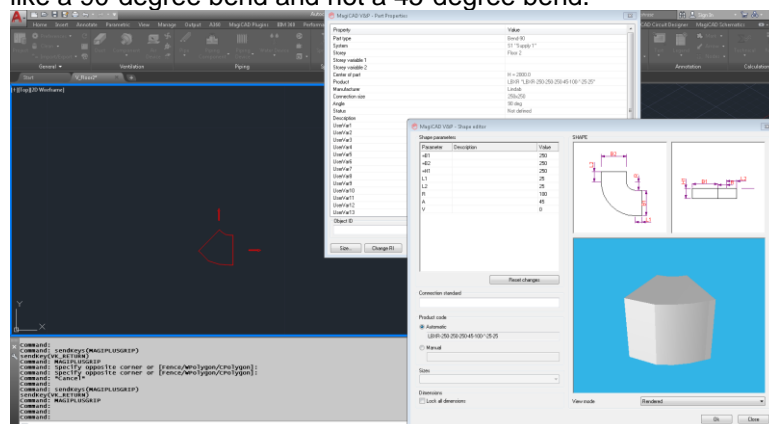


Port problem in product based fitting

The issue when editing the shape of bends:

An example of a drawn bend with the angle 90 degrees, then it was changed by the user to 45 degrees.

The grip points were not updated after the change and when trying to draw from ports it still behaved like a 90-degree bend and not a 45-degree bend.



Connection error in side view for radiator

When connecting the supply pipe between two radiators the return connector disappeared from the second radiator. Now the pipes can be connected without any connectors disappearing.

The issue:

Using risEr while drawing hot and circulation water together converted both pipes to circulation water pipes

Using risEr when drawing hot and circulation water together converted both pipes to circulation water for the vertical pipes. Now the pipes continue as the correct types.

The product variables were missing from heating cooling plant's dimension text settings

Added product variables P1-P15 to the dimension text for Heating & Cooling Plant.

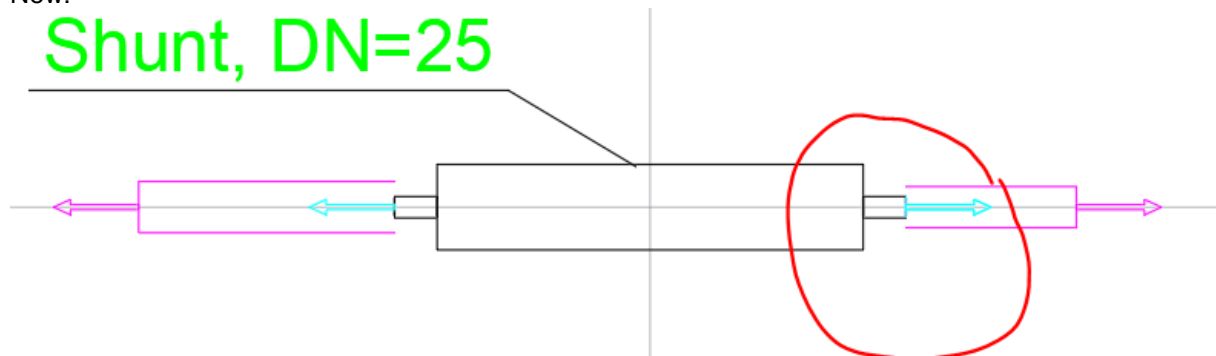
Missing reductions for mixing unit

If you locked the pipe sizes connected to a mixing unit, there was a reduction at the other end of the mixing unit, but not at the other due to functionalities in the program. Now no reductions are created to make the logic more unified.

Old:



New:

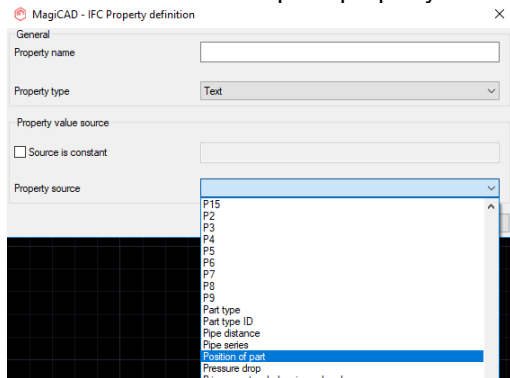


The connection size was incorrectly zero in the Report for some of the drainage devices

The connection size for some drainage devices were incorrectly shown as zero in the Report from the drawing.

"Position of part" added as property in IFC export in MagiCAD V&P

We added "Position of part" property for V&P entities

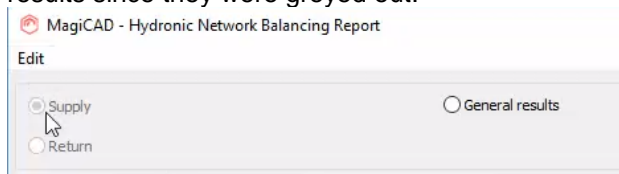


Climate beams and Fan Coil Units disappeared when the project was not connected

Fixed a bug which resulted in opening drawings without project files made Climate beams and Fan Coils Units invisible.

Problem with showing the index run / show this route only in the calculations dialog

This issue occurred for piping systems: If a user selected "show index run" or "show this route only" in the calculation report and then switches to the general results, they weren't able to return to the other results since they were greyed out:

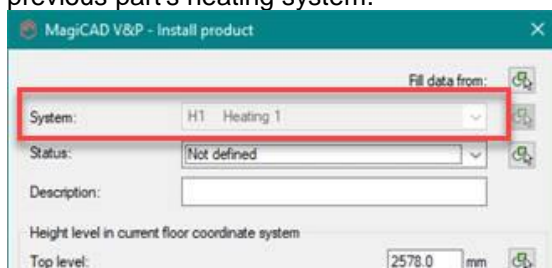


Now you cannot change to General Results while showing Index Run for pipes. This is however still possible for ductworks.

Previous climate beam's installation data was retained in the next one's installation

Running the "-MAGICCOOLINGBEAM" command kept some information from the previous installation, like "System".

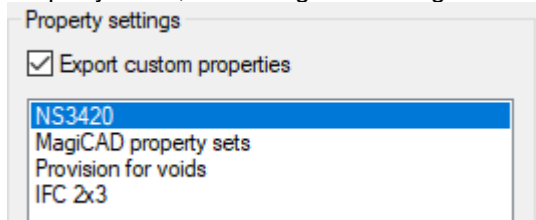
The problem: if you first installed a heating-type Cooling beam to the drawing, then installed a cooling-type, the latter's cooling connections was in the correct cooling system, but its main part was in the previous part's heating system.



Now Coolingbeam main system is always updated in command line mode.

Property sets were not always exported for insulation objects

Fixed issue: If you drew an insulated duct and did an IFC Export with "NS3420" and "MagiCAD Property Sets", the duct got the "MagiCAD Pset_Duct" property set in the IFC, but the insulation didn't.



2.3 Electrical

Legend showing all LED segments

When generating a Legend, cable tray, lighting track and LED stripe segments no longer get own row for each segment.

Longest branch length added every time to the old value in Update DWG

Longest branch length were added to result multiple time when devices were logically or manually added to circuit. Now the value is correct.

UI fixes

In Update drawing data, headers of Save and Rename have been fixed.

Undoing cable tray drawing requires 2 click

Now undoing cable tray works with 1 click to previous part of the tray segment.

Polylines displayed as lines when in xrefs (AutoCAD 2018-->)

Polylines are no longer drawn as lines in xref drawings.

Project notes not shown correctly in project dialogue

In Project description the first row of Notes were not visible. Now it can be seen again.

Also now it is not possible to write more than more than maximum allowed number of characters in text box.

Switchboard and host areas were not editable if drawing start and end point to same location before closing

Now it is possible to edit switchboard and host areas even if their start and end point have been drawn to the same position.

Import connection nodes dialog has problems with systems combobox

When importing connection nodes, systems combobox was showing code and system in a single column. Now code and system has their own columns and dialog is more clearer.

Update all sections doesn't work when using Russian language MagiCAD

Update all sections works properly with Russian language.

Combination boxes missing from Running Index formats validity list.

Combination boxes are now found from the Running Index formats validity list.

Cannot update running index amount for combination boxes after installation

Changing RI amount to combination boxes that are already installed to drawing and updating them with Update Drawing Data didn't change the amount of indexes. Now Running Index amounts are updated correctly.

Wipeout frame of dimension text is not moved in MCACA Electrical when device is moved

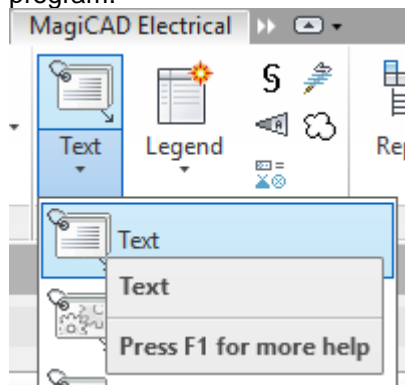
Now wipeout frame is moved in when the device is moved.

Update checkboxes not visible in 2020 release

Checkboxes for Update Circuits and Update Devices dialog has been fixed and they are visible again.

Text shuts AutoCAD down

Fixed an issue related to shutting down AutoCAD when running the command after the first start of the program.



Updating switchboard and circuit to cables not working with linked cables

When using Update DWG, Circuit numbers, switchboard codes and host codes are now updated correctly also to linked cables (cables connected to cables).

Front/back/left/right nodes not working for trays, conduits, LED-stripes and lighting tracks

New rules added to finding nodes:

- Front/back/left/right nodes, if "ignore storey dimensions" is unchecked it will find all nodes from the target drawing only if the source and target dwgs are within a +/-1500mm tolerance in Z-direction regarding the storey origin in building.
- Upward node, if "ignore storey dimensions" is unchecked it will find all nodes from the target drawing only if the target dwg's storey origin in building is above the source dwg's storey origin in building for more than 1500mm.

- Downward node, if "ignore storey dimensions" is unchecked it will find all nodes from the target drawing only if the target dwg's storey origin in building is below the source dwg's storey origin in building for more than 1500mm.

If "Ignore storey dimension" is checked, it will find all nodes from the target dwg. Upward nodes will be created if the target dwg's storey origin in building is above the source dwg's storey origin and downward node is created if the target dwg's storey origin in building is below the source dwg's storey origin.

National character set messes up model dwg list

Model dwg list should work properly if national characters are used in directory or in a file name.

Layer variables doesn't work with LED stripes.

Layer variables have been fixed to LED stripes.

Dimtext behaviour setting not remembered through sessions

Dimtext behaviour settings in User preferences is now remembered through AutoCAD sessions.

PartProperties for Pfv removes dimtext reference

When a dimension text was installed to multiple void objects, it is not anymore removed when some of the void objects are moved.

Part Properties xref option uses world coordinates, not storey coordinates

When using part properties from xref drawing coordinates are now correct.

Object ID is not working with LED Stripes.

Object ID formats have been fixed for LED stripes.

Selection Area Name is not updated to Object-ID value

Object ID formats are now updated correctly to object ID's when it is changed.

Example when object ID format has selection area and selection area is created or moved so that an object is inside, its object ID is now automatically be updated.

Performance issue with update cable connection data

"Update Drawing Data/Connection data for all cables" in Update DWG now only updates selected cables, not all of them making the update work much faster.

Void problems in Electrical

Updating provision for voids with Update DWG updates them correctly.
White/black colour in V&P colour selection dialog is changed to black

Electrical dialog scrolling resets after size change

When resizing Electrical project dialogs, it no longer resets the position of the scroll bar.

AutoCAD's STRETCH-command not working properly for all MagiCAD objects

If the user had zoomed far away and used the STRETCH-function, some objects were not moved.
Now stretch works correctly regardless of the zoom level.

2.4 Circuit designer

Conduits will be broken after copy/paste

Fixed problem when conductors could be broken after copying devices.

When adding a new page in CD, partner position texts are not updated

The issue: When adding a new page in front of page which has "partner positions" in symbols. Those partner position page numbers are not updated automatically (even when you have "Reference text automatic update" on). Running "Update dwg" function will update those reference texts.

Now references are updated when inserting new pages.

AutoCAD's STRETCH-command not working properly for all MagiCAD objects

If the user had zoomed far away and used the STRETCH-function, some objects were not moved.

Now stretch works correctly regardless of the zoom level.

2.5 Room

No resolved issues in this release.

2.6 Schematics

AutoCAD's STRETCH-command not working properly for all MagiCAD objects

If the user had zoomed far away and used the STRETCH-function, some objects were not moved.
Now stretch works correctly regardless of the zoom level.