



MagiCAD for AutoCAD

Release notes for version 2020

04/06/2019

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1 New features

1.1 Common

MagiCAD supports AutoCAD 2020

License checking has been improved in MCACA 2020

In MagiCAD for AutoCAD the program used to take whichever license it found first. The issue was that often all the Suite license are reserved for the MCACA users, even though those should have been kept reserved/free for possible MCREV users as long as possible.

The logic is now improved and changed to work in the same way as in MagiCAD for Revit: It does first check for MagiCAD for AutoCAD license, after that Suite licenses.

We have also made changes to license expiry message to make it less interruptive Now the warning message is shown only once per session for each feature name and the limit to show the warning message is 14 days before the expiry date.

MagiCAD Create can be installed with together with MagiCAD

MagiCreate can now be installed with the MagiCAD installation package and can be selected to be installed in the installation wizard of MagiCAD.

Hyperlink for MagiCAD-converted objects has been added

A hyperlink can now be added to MagiCAD-converted objects both in MagiCAD V&P and MagiCAD Electrical.

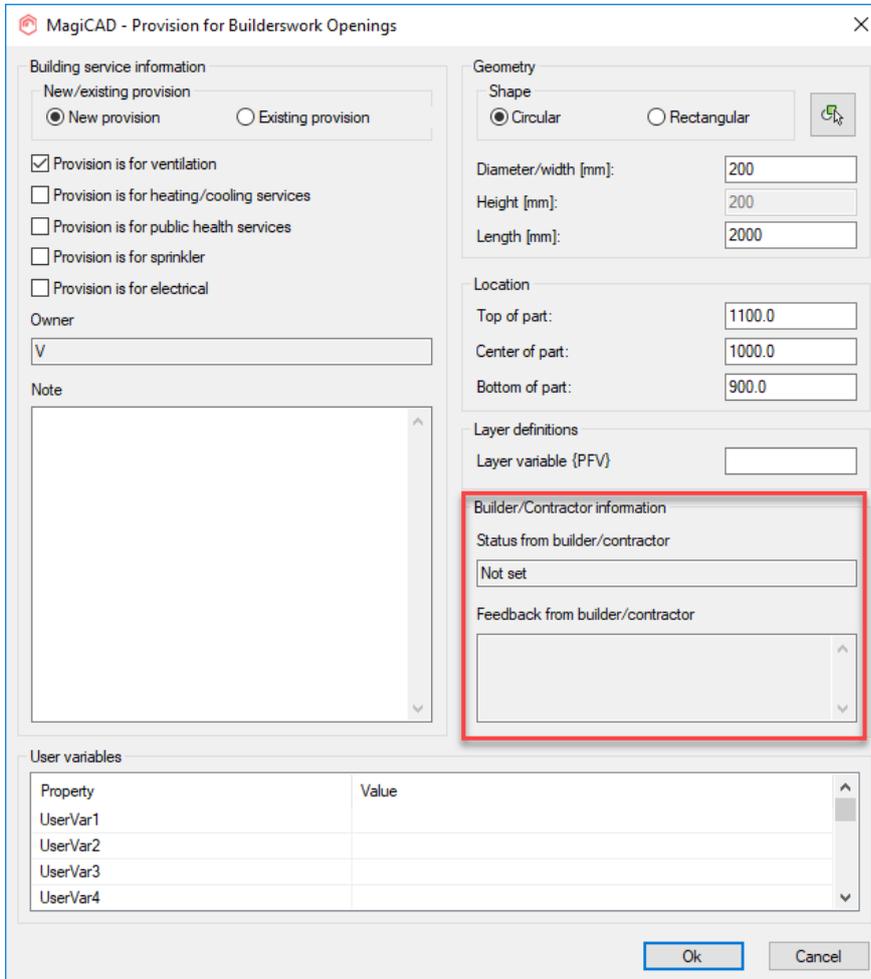
Instance-specific "Uservars" and "Object variables" for provisions for builderswork openings

To improve the filtering and overview of provisions for builderswork openings "Uservars" and "Object variables" have been added MagiCAD V&P and Electrical respectively.

This has led to some changes in how the functions from each discipline react on the openings, which can be read about in the link.

Provision for builderswork openings' Builder/Contractor information is now reset when copying them

This information is now reset when the provisions are copied and new GUIDs are created:



MagiCAD - Provision for Builderswork Openings

Building service information

New/existing provision
 New provision Existing provision

Provision is for ventilation
 Provision is for heating/cooling services
 Provision is for public health services
 Provision is for sprinkler
 Provision is for electrical

Owner

Note

Geometry

Shape
 Circular Rectangular

Diameter/width [mm]:
 Height [mm]:
 Length [mm]:

Location

Top of part:
 Center of part:
 Bottom of part:

Layer definitions

Layer variable {PFV}

Builder/Contractor information

Status from builder/contractor

Feedback from builder/contractor

User variables

| Property | Value |
|----------|-------|
| UserVar1 | |
| UserVar2 | |
| UserVar3 | |
| UserVar4 | |

Ok Cancel

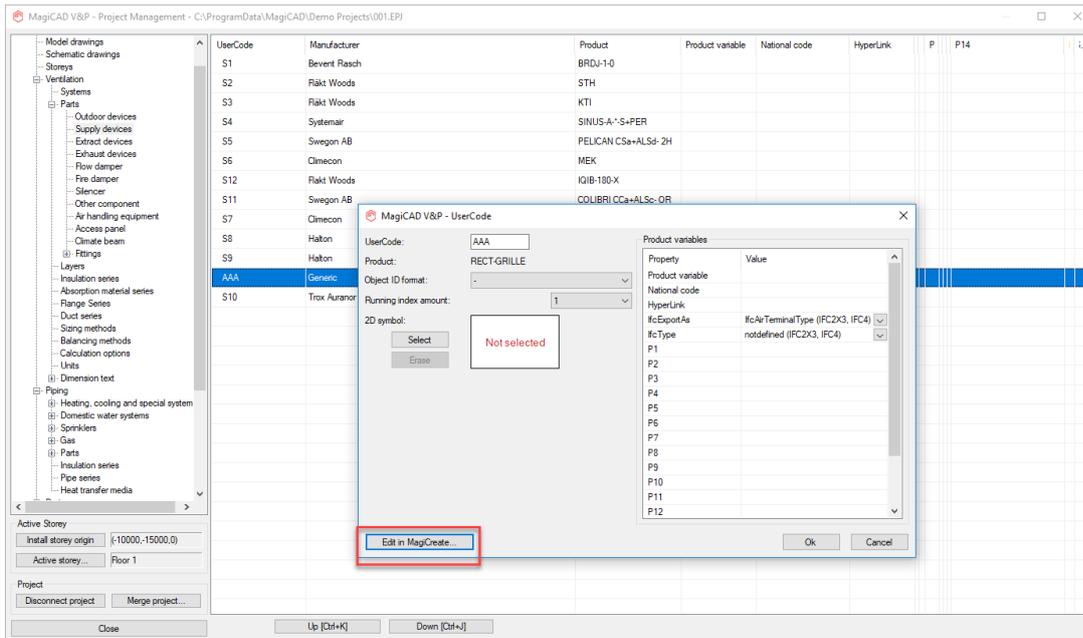
A number of new parameters have been added for the IFC Property definition:

- Storey
- Storey (Electrical)
- Storey Variable 1
- Storey Variable 1 (Electrical)
- Storey Variable 2
- Storey Variable 2 (Electrical)
- Part type ID
- System type ID
- Project file name
- Project file name with extension
- Project file path name
- Project file path

1.2 Ventilation and Piping

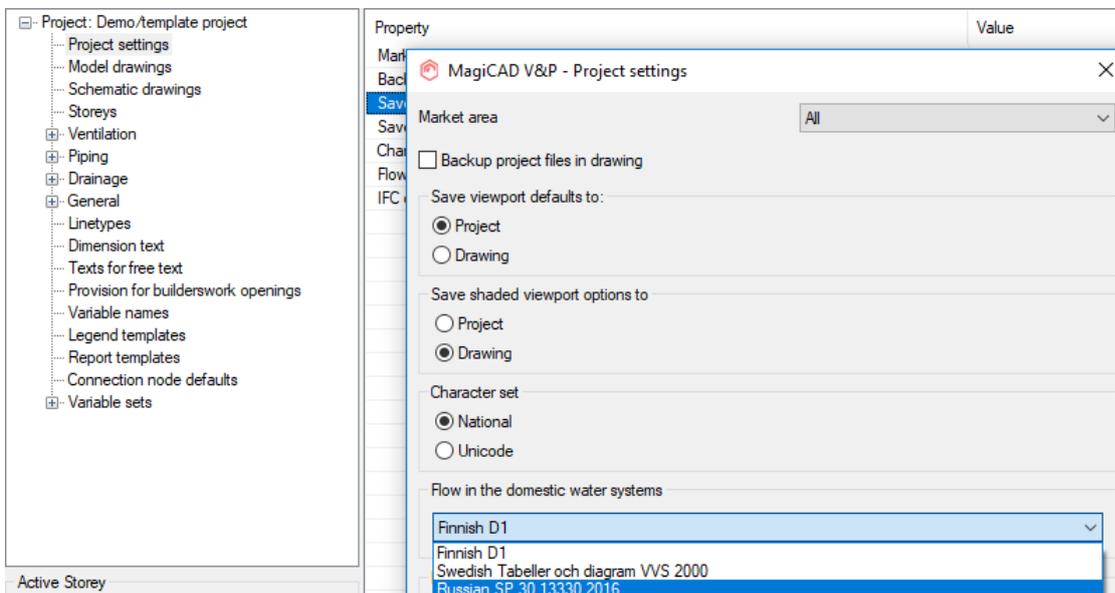
MagiCAD Create is now enabled within MagiCAD for AutoCAD V&P

It is now possible to edit the generic products in the project directly via MagiCreate within MagiCAD without separately opening MagiCreate.



Support for the Russian SP 30.13330.2016 standard for domestic water calculations

MagiCAD now supports domestic water calculations according to the Russian standard SP 30.13330.2016.



Heat loss calculations have been added for the "Heating, cooling and special systems"

Heat loss calculations are now used for the supply pipes in balancing and sizing for the "Heating, cooling and special systems".

We do now support the the standard EN 16925 for sprinkler calculations

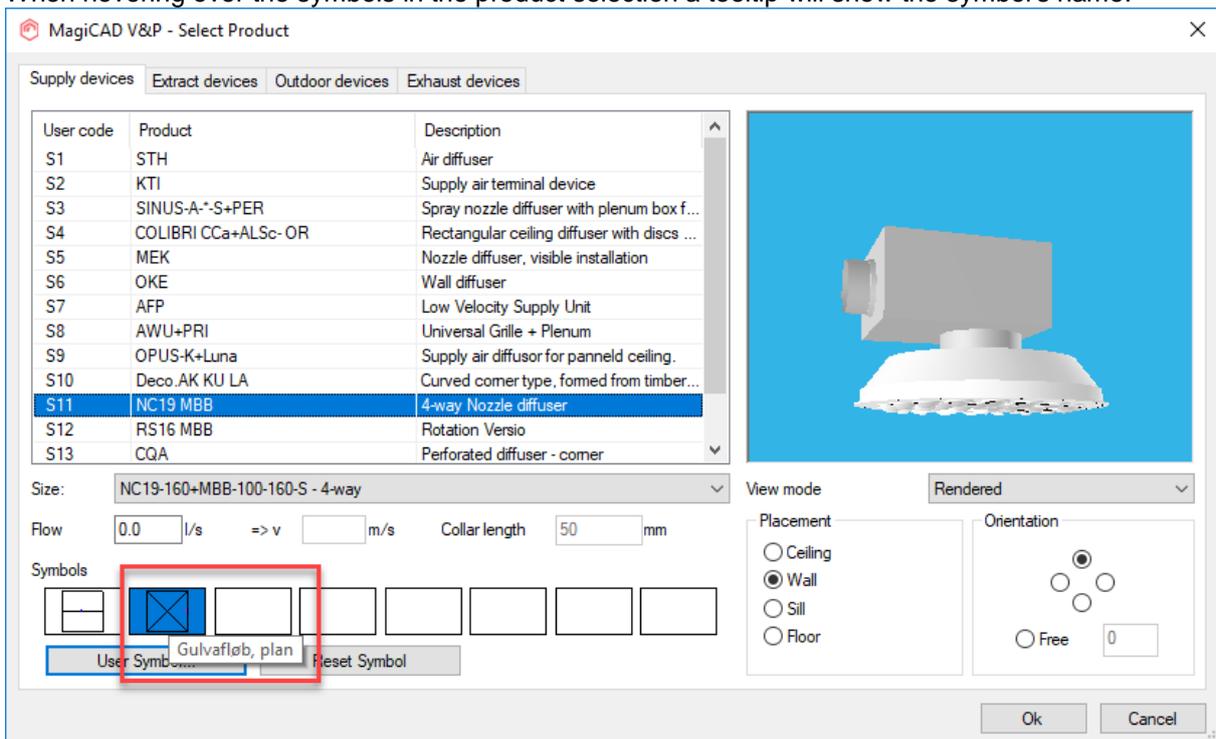
EN 16925 standard has been added to sprinkler calculation standards

Constant pressure valves for domestic water systems have been added

New product type "Constant pressure valve" has been implemented to assist in designing domestic water systems, where the user wants to cut down on excessive pressure.

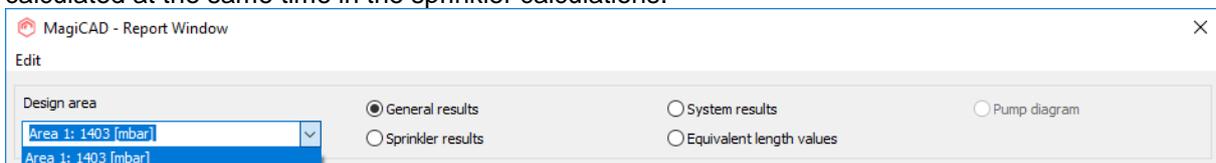
Symbol name tooltip has been added to the product selections

When hovering over the symbols in the product selection a tooltip will show the symbol's name.



Added needed pressure levels of each design area, for the sprinkler calculations, to the drop down menu next the design area names.

This makes it easier to find the most/least critical design area when several design areas are calculated at the same time in the sprinkler calculations.



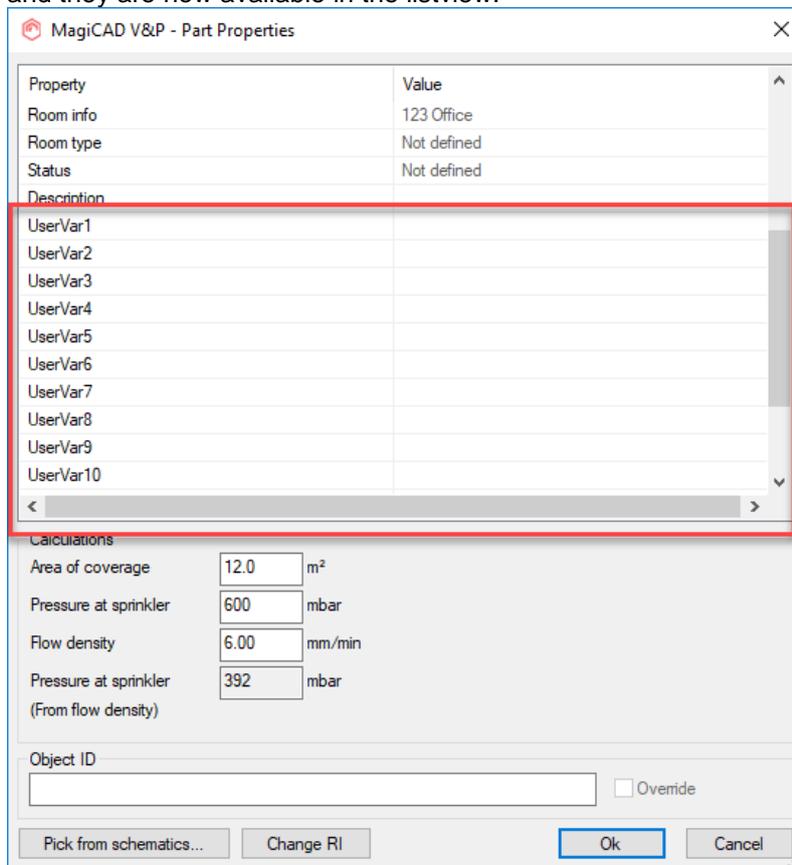
Showing and hiding the index route can be done without recalculating the system

The index run can now be shown using the "Part Property Line"-function instead of the user having to run the balancing of the system again.

More "Uservar"-variables have been added

More instance-specific "Uservar"-variables have been added to make it possible for the users to add more vital information to the specific objects.

As more of them have now been added, the "Part Properties"-dialog has been upgraded to fit them all and they are now available in the listview:



The number of characters in the product variables P1-P15 has been greatly increased and functionalities have been added

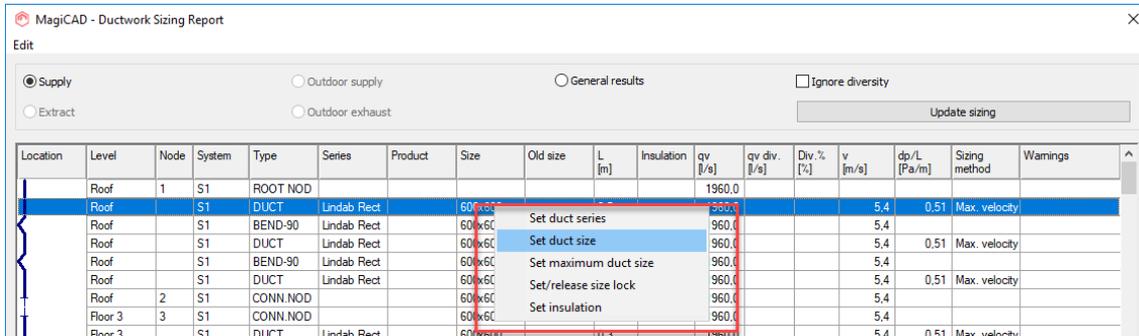
The number of characters has been increased from 31.

499 characters is the recommended maximum number of characters, although more can be set for some objects.

Now the user can add fully-functioning URLs to homepages and documents as well as add links to documents and files on hard drives.

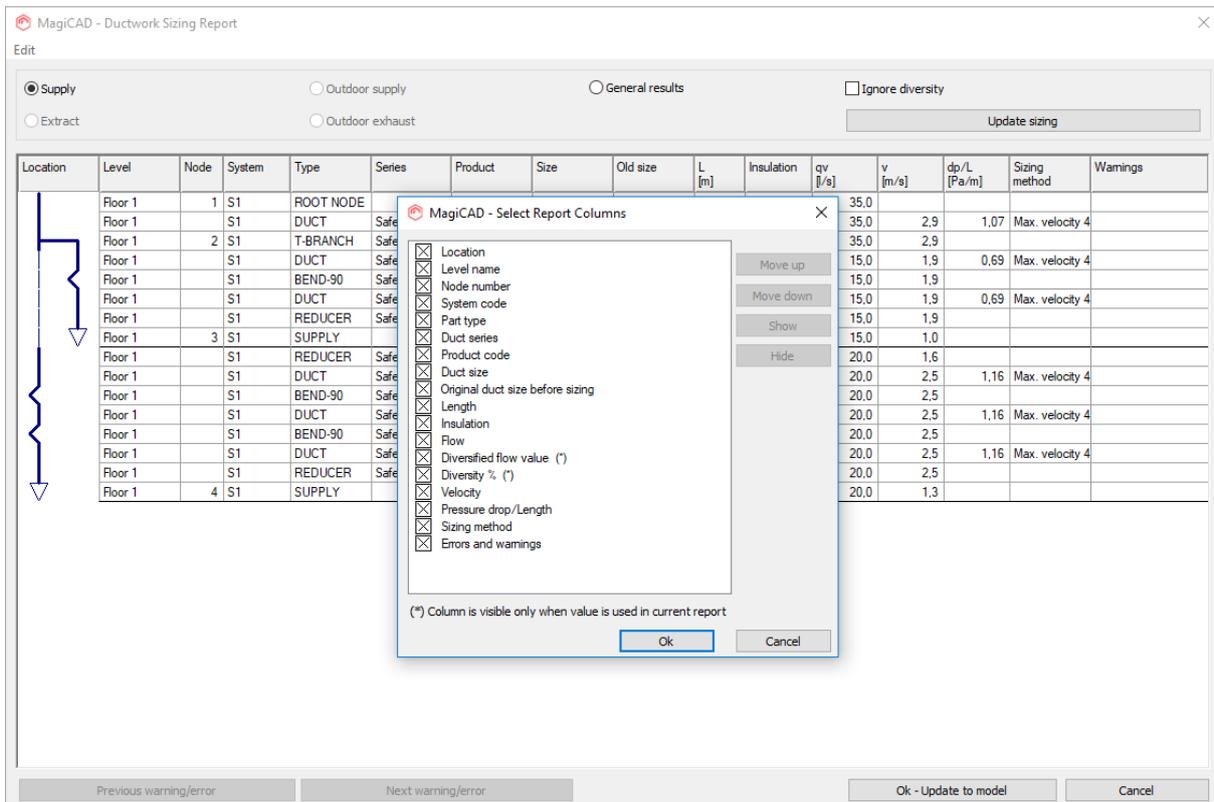
The values can also be copied by selecting the field of the product variable, in the "Part Properties"-dialog, and clicking CTRL + C.

We introduced an improved functionality in the sizing calculation report window
 We added the possibility to change pipe and duct sizes in the calculation report window.
 In ventilation it is also possible to change also duct series and insulation.



User selectable columns in the calculation report

The user can now select which columns will be visible in the calculation reports and in what order they are shown.



Reaming of "Shunt" to "Mixing unit"

We renamed "Shunt" to "Mixing unit".

1.3 Electrical

Manage switchboards and hosts

New management tools have been added both for switchboards and hosts. From the management dialogues it is possible to manage the main characteristics of switchboards and hosts either in the current drawing or in all model drawings. Editing of text cells is done from the right click of the mouse. From "Set Properties" it is possible to change Installation, IP class, EXE class and earthing of a switchboard, and installation of a host. You can select one or several rows which you want to edit. It is not possible to change a name of a switchboard/host to the same name that another switchboard/host has.

MagiCAD-E - Switchboard Management

Search from: Current drawing All model drawings

Switchboards

| Name | Description | IP | EXE | Install | Voltag [V] | Earthin | Expansion surplus [%] | O1 | O2 | O3 | O4 | Width [mm] | Depth [mm] | Height [mm] | Elevati [mm] | Storey | DWG |
|--------|------------------|------|-----|---------|------------|---------|-----------------------|----|----|----|----|------------|------------|-------------|--------------|---------|---------------|
| MS | | IP34 | - | - | 400 | PE | 30 | | | | | 2000 | 300 | 2200 | 0 | Parking | E_Parking.dwg |
| SB10.1 | Switchboard 10.1 | - | - | - | 400 | PE | 30 | | | | | 600 | 190 | 800 | 1100 | Floor 1 | E_Floor1.dwg |
| SB10.2 | Switchboard 10.2 | - | - | - | 400 | PE | 30 | | | | | 600 | 190 | 800 | 1100 | Floor 2 | E_Floor2.dwg |
| SB10.3 | | - | - | - | 400 | PE | 30 | | | | | 500 | 200 | 700 | 1000 | Floor 3 | E_Floor3.dwg |
| SB-AHU | | - | - | - | 400 | PE,N | 0 | | | | | 500 | 200 | 700 | 1100 | Roof | E_Roof.dwg |

Set properties...

OK - Accept changes Cancel - Reject changes

MagiCAD-E - Host Management

Search from: Current drawing All model drawings

Switchboards

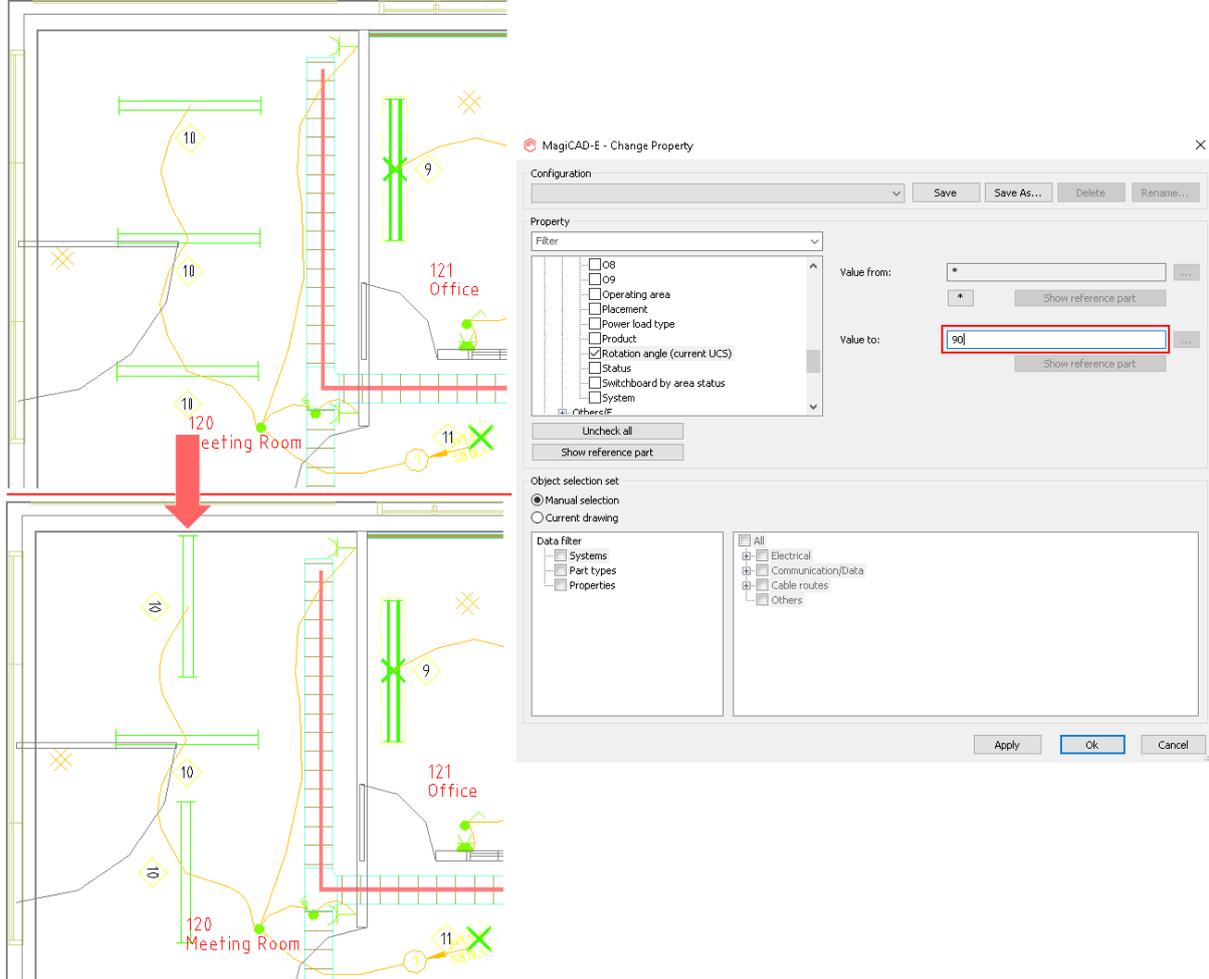
| Name | Installation | O1 | O2 | O3 | O4 | Storey | DWG |
|------|--------------|----|----|----|----|---------|---------------|
| DP1 | ByProduct | | | | | Floor 1 | E_Floor1.dwg |
| DP2 | ByProduct | | | | | Floor 2 | E_Floor2.dwg |
| DP3 | ByProduct | | | | | Floor 3 | E_Floor3.dwg |
| FP1 | ByProduct | | | | | Floor 1 | E_Floor1.dwg |
| MDP | ByProduct | | | | | Parking | E_Parking.dwg |

Set properties...

OK - Accept changes Cancel - Reject changes

Rotation angle of devices in Change Properties

A new property "Rotation angle (current UCS)" has been added to Change Properties. It allows devices to be rotated to a certain angle (in current UCS).



Extra low voltage calculations - power summation

A new attribute "ELV system power [W]" for communication / data / BA devices has been added. ELV power can be updated to circuits by using the "Update Drawing Data" function or one circuit at a time from a circuit's properties. ELV power has also been added to the connection report functions. There ELV power is summarised from circuits and devices to hosts. With the "Update to drawing(s)" button you can update the results into the host objects in the model drawings.

MagiCAD-E - Report

Edit

| Object ID | Product description | Cable no. | Cable type | Length [m] | Longest branch [m] | Number of elements | ELV Power [W] | Pairs available | Used pairs | System | Connected to device | Warnings |
|-----------|---------------------|-----------|-----------------|------------|--------------------|--------------------|---------------|-----------------|------------|--------|---------------------|--------------|
| FP1 | FP Fire panel | | 2xCAT6 FTP 4P | 18.49 | 33.07 | 5 | 310.00 | 9999 - 33 -> 0 | | P | | |
| | | | - not defined - | 2.27 | | | 0.00 | 3 | | P7 | 02.001 | |
| | | | - not defined - | 1.76 | | | | | | P7 | 02.003 | |
| | | | - not defined - | 2.11 | | | | | | P7 | 02.005 | |
| | | | - not defined - | 1.32 | | | | | | P7 | 02.007 | |
| | | | - not defined - | 1.32 | | | | | | P7 | 02.009 | |
| | | | - not defined - | 30.34 | 72.65 | 21 | 130.00 | | 1 (!) | P7 | . | Out of pairs |
| | | | - not defined - | 1.96 | | | | | 1 (!) | P7 | . | Out of pairs |
| | | | - not defined - | 2.91 | | | | | 1 (!) | P7 | . | Out of pairs |
| | | | - not defined - | 2.29 | | | | | 1 (!) | P7 | . | Out of pairs |
| | | | - not defined - | 2.28 | | | | | 1 (!) | P7 | . | Out of pairs |
| | | | - not defined - | 2.20 | | | | | 1 (!) | P7 | . | Out of pairs |
| | | | - not defined - | 2.01 | | | | | 1 (!) | P7 | . | Out of pairs |
| | | | - not defined - | 1.74 | | | | | 1 (!) | P7 | . | Out of pairs |
| | | | - not defined - | 1.41 | | | | | 1 (!) | P7 | . | Out of pairs |
| | | | - not defined - | 1.80 | | | | | 1 (!) | P7 | . | Out of pairs |
| | | | - not defined - | 1.61 | | | | | 1 (!) | P7 | . | Out of pairs |
| | | | - not defined - | 1.63 | | | | | 1 (!) | P7 | . | Out of pairs |
| | | | - not defined - | 0.99 | | | | | 1 (!) | P7 | . | Out of pairs |
| | | | - not defined - | 1.56 | | | | | 1 (!) | P7 | . | Out of pairs |
| | | | - not defined - | 1.39 | | | | | 1 (!) | P7 | . | Out of pairs |
| | | | - not defined - | 1.14 | | | | | 1 (!) | P7 | . | Out of pairs |

Update to drawing(s) Zoom Close

Possibility to run a report from an existing switchboard schematic

A new Report button has been added which will find all the circuits from a switchboard schematic drawing including all unlinked circuits.

After running the command, user needs to select a report model from the project or use the same that has been used in the switchboard schematic drawing.



Report

MagiCAD-E - Switchboard schematic report

Select report model:
Switchboard Schema A4 landscape

Use switchboard schematic drawing model

Ok Cancel

MagiCAD-E - Report

Edit

| Symbol | No | Description | Trip In [A] Ircd | P [kW] S [kVA] I [A] | Cable L [m] | Phases Earthing dv [%] |
|--|----|---|------------------------|----------------------------|---------------------|------------------------------|
|  | 9 | Lighting group 9 | C 10 | 1.88 1.92 8.32 | MMJ 3x1,5 S 10.9 | L3 N,PE 1.72 |
|  | 10 | Lighting Reception Supplying lighting track | C 10 | 0.74 0.74 3.18 | MMJ 3x1,5 S 15.3 | L1 N,PE 0.79 |
|  | 11 | LED-stripes Lobby | C 10 | 0.01 0.05 | MMJ 3x1,5 S 13.3 | L2 N,PE |
|  | 12 | | C 10 | | | L3 N,PE |
|  | 13 | Offices | C 16 30mA | 1.60 1.68 7.29 | MMJ 3x2,5 S 16.3 | L1 N,PE 1.55 |
|  | 14 | Offices | C 16 30mA | 1.60 1.68 7.29 | MMJ 3x2,5 S 10.5 | L2 N,PE 1.28 |
|  | 15 | Spare | C 16 30mA | | | L3 N,PE |
|  | 16 | Spare | C 16 30mA | | | L1 N,PE |
|  | 17 | Spare | C 16 30mA | | | L2 N,PE |

Zoom Close

Modification for switchboard/host area

It is now possible to define priority to switchboard and host areas. Circuits are linked to the area which has the highest priority. This means that you can have e.g. smaller areas inside larger areas.

MagiCAD-E - Host Area

Host

Current drawing / FP1

Elevation

Elevation:

Area

Priority:

Systems

Selection set:

All systems Selected system

- Control cabinet and Automation
- Data
- Heating
- Sound reproduction
- Air conditioning system
- Security
- Fire
- Other

Ok Cancel

The higher priority number (=the lower number) an area has, the higher its priority is. This naturally means that 1 is the highest priority number. When using 0, areas work as they have worked before.

More characters to P1-P15 fields

The maximum number of characters that can be inserted to product variables P1-P15 has been increased to 499.

URL strings in Part Properties are shown as web-links and double-clicking a link will open the link in the default browser.

More Object Variables

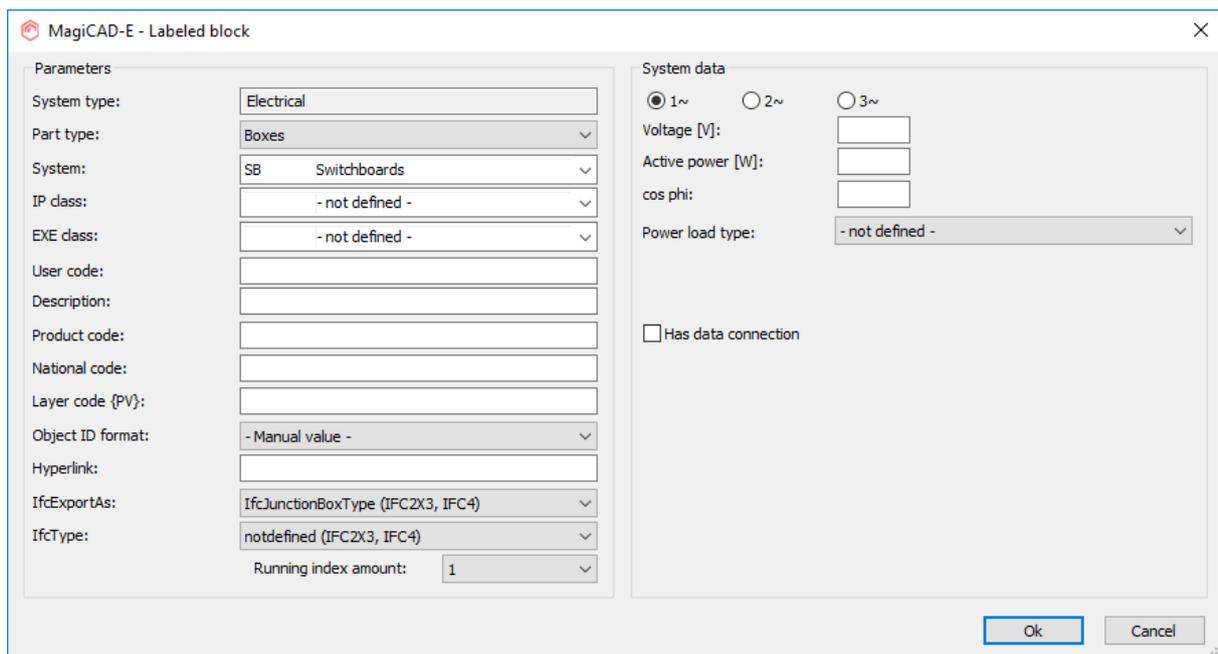
The number of object variables has been increased to 15 for all devices, combination boxes and switchboards.

Part Properties dialogues of the object types have also been made resizable.

Convert an AutoCAD object to a MagiCAD Electrical object

Now it is possible to convert any AutoCAD element into a MagiCAD Electrical object (3D object is required to get IFC export working).

When an element is converted to a MagiCAD object, it works as any other MagiCAD object. However, it is not added to the project so any changes to the object needs to be made with Part Properties or by using Change Properties.



MagiCAD-E - Labeled block

Parameters

System type: Electrical

Part type: Boxes

System: SB Switchboards

IP class: - not defined -

EXE class: - not defined -

User code:

Description:

Product code:

National code:

Layer code {PV}:

Object ID format: - Manual value -

Hyperlink:

IfcExportAs: IfcJunctionBoxType (IFC2X3, IFC4)

IfcType: notdefined (IFC2X3, IFC4)

Running index amount: 1

System data

1~ 2~ 3~

Voltage [V]:

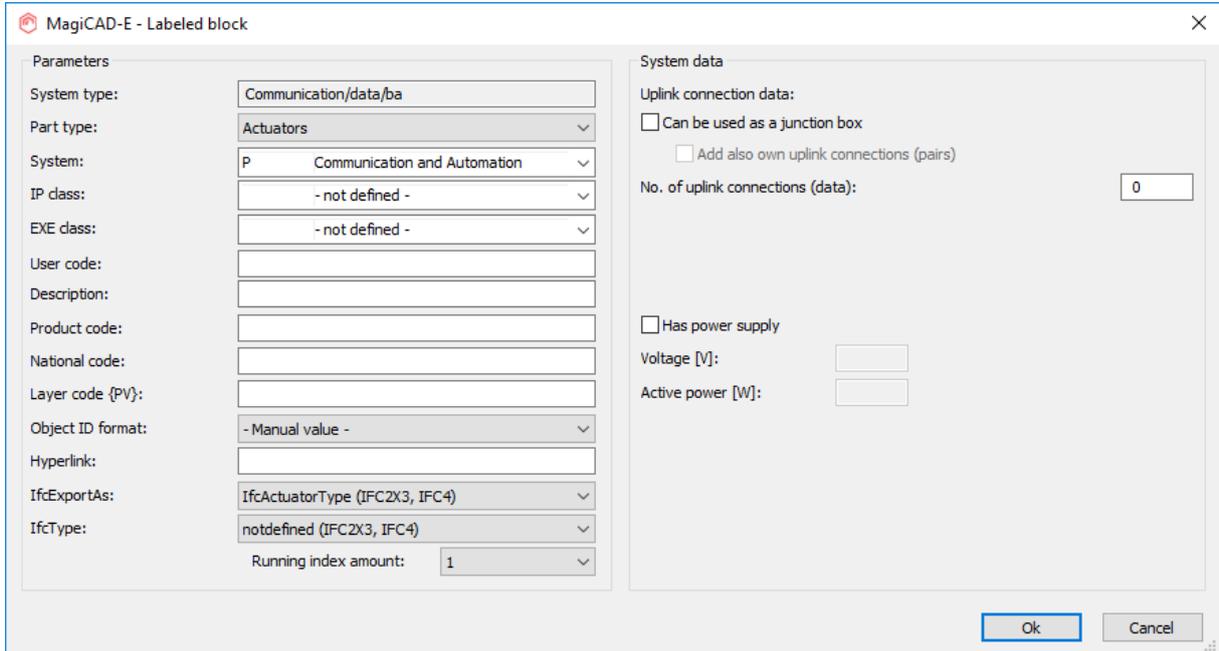
Active power [W]:

cos phi:

Power load type: - not defined -

Has data connection

Ok Cancel



MagiCAD-E - Labeled block

Parameters

System type: Communication/data/ba

Part type: Actuators

System: P Communication and Automation

IP class: - not defined -

EXE class: - not defined -

User code:

Description:

Product code:

National code:

Layer code {PV}:

Object ID format: - Manual value -

Hyperlink:

IfcExportAs: IfcActuatorType (IFC2X3, IFC4)

IfcType: notdefined (IFC2X3, IFC4)

Running index amount: 1

System data

Uplink connection data:

Can be used as a junction box

Add also own uplink connections (pairs)

No. of uplink connections (data): 0

Has power supply

Voltage [V]:

Active power [W]:

Ok Cancel

Part type ID system type ID in IFC property sets

Now it is possible to add part type ID and system type ID into IFC property sets.

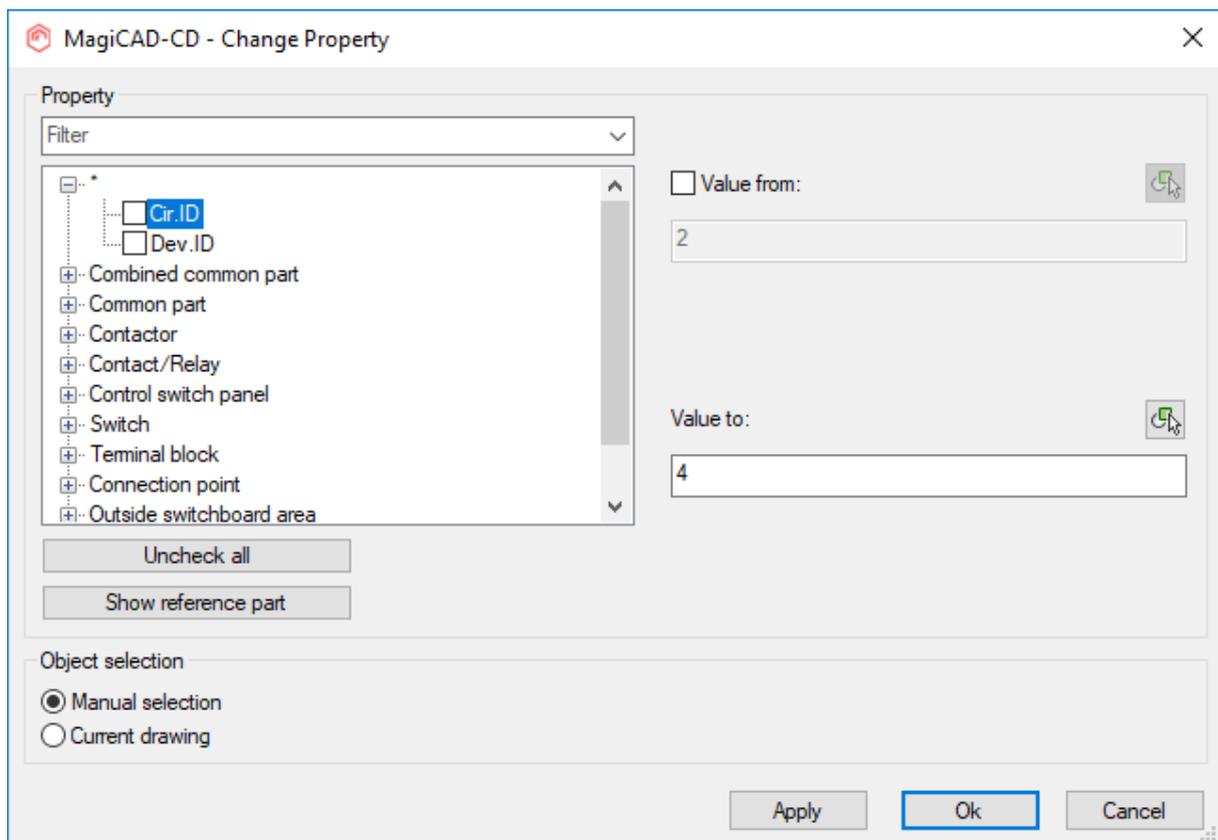
1.4 Circuit designer

Change Properties

Change circuit ID function has been replaced by Change properties function. With Change properties function it is now possible to change device ID and circuit ID from specific number to another or from all devices.

User can define to which part type changes are being made.

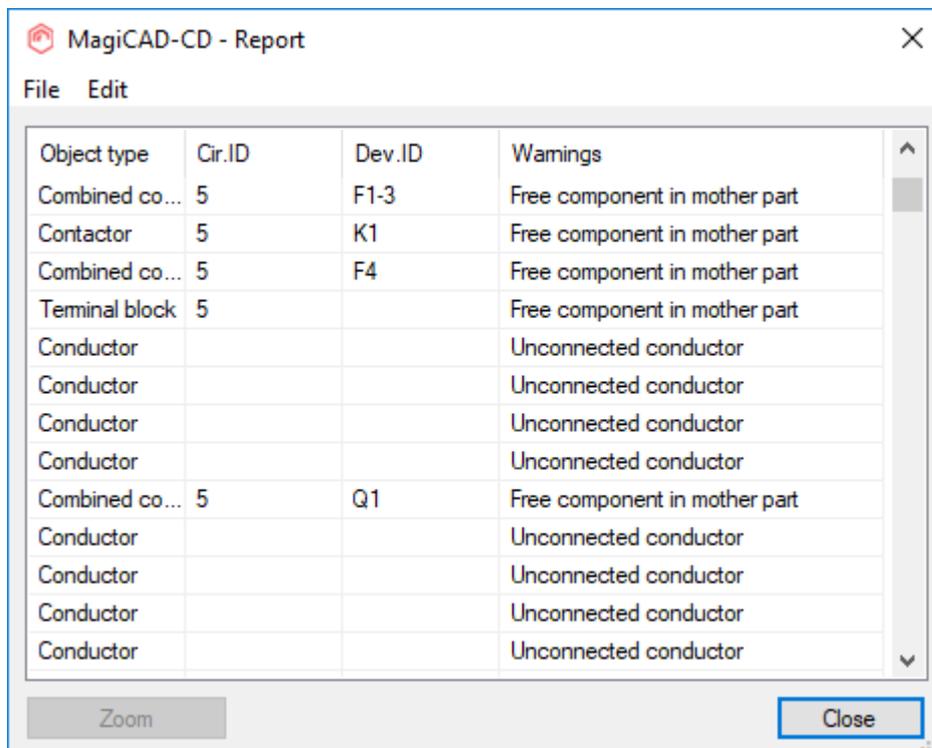
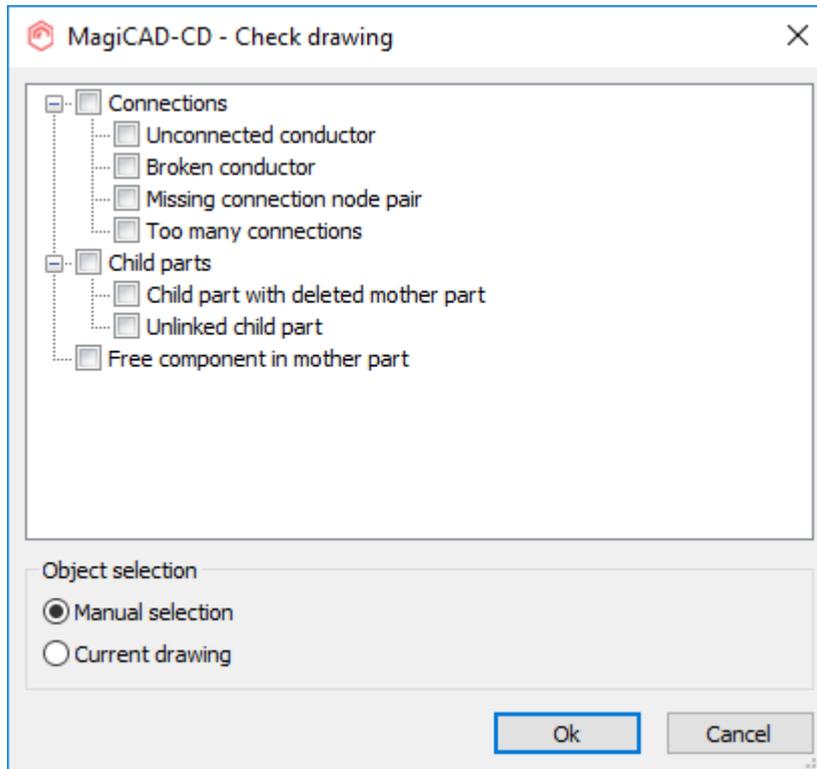
It is also possible to change revision name and note for revision arrows and clouds using Change properties.



Check drawing

New function have been added which can be used to check if there are errors in the drawing or to check if there are free/unconnected objects.

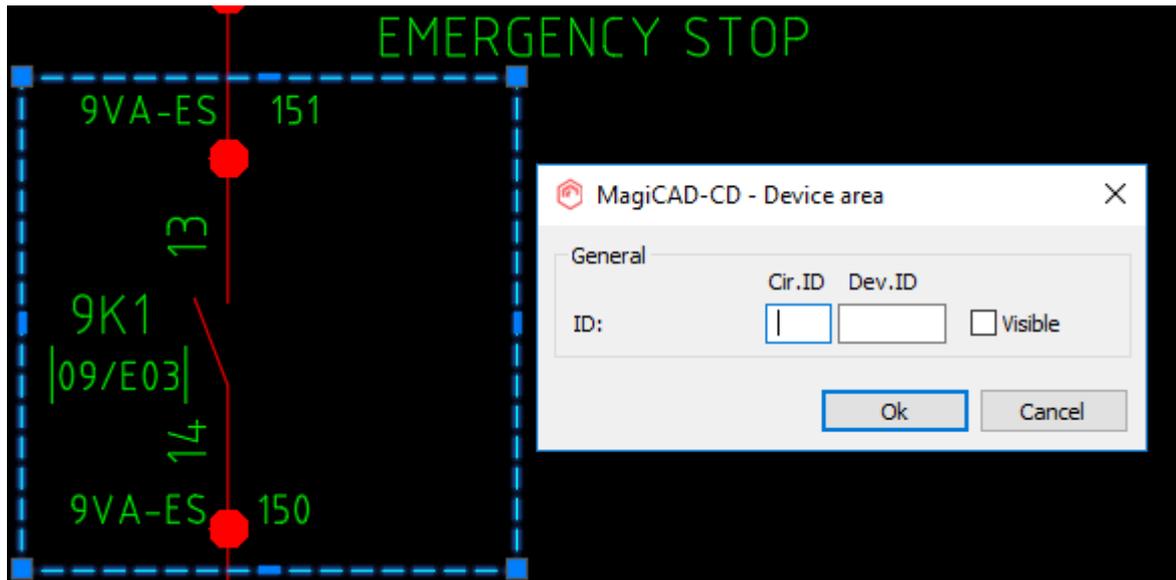
After running the checking, a report will be shown. From the report there is a possibility to zoom to the issue and it will be marked with a cross.



Device area

Now it is possible to add Device area in Circuit designer. Device area represents a bigger device or a device from another circuit in the switchboard. Child parts that are not linked to mother part get circuit ID and device ID from the Device area.

NOTE! Also Device outside switchboard area is considered as a mother part for devices inside them that are not linked to mother part. And to those areas it is also possible to add circuit ID and device ID.



Revision cloud and arrow

Functions to insert revision clouds and arrows have been added. New layer setting have been added to "Preferences" and layer variable {RV} can be used to separate different revisions to different layers. Revision name and note can be edited using part properties for the objects or by using "Change properties" function

MagiCAD-CD - Revision Mark [X]

General

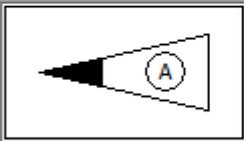
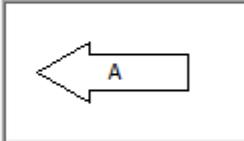
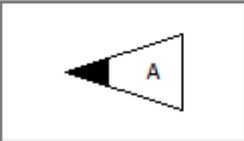
Revision name:

Revision note:

Style: Standard [v]

Text height: 5.0

Symbol

| | |
|---|---|
|  |  |
|  |  |

Ok Cancel

MagiCAD-CD - Revision Cloud [X]

Revision name:

Revision note:

Ok Cancel

1.5 Room

The summed airflows are now shown for the zones

The summed airflows are now shown in the zones which will make the design a lot easier as it will give the user a fast overview of for example what size and type of Air Handling Units would be needed.

New q50 and n50 functionalities in Room

Earlier the user had to define the heat exchange rate separately for each room. Now it's possible to define one value for the whole building.

1.6 Schematics

The schematics tool palette is now saved to the drawings

Now the active tool palette is saved to the drawing and the drawing-specific palette is activated upon opening the drawing activation.

Frame handling for the pages is now more flexible

Now the user can add more pages to each row, when adding pages, which allows the user to, for example, put different categories of drawings and reports on different rows to have a better overview of the project.

Moving pages is now also possible by dragging and dropping pages and makes the moving of pages faster.

FIN model drawings have been added to the installation package

Schematic model drawings for the Finnish market have been added to the installation package and can be found from C:\ProgramData\MagiCAD\Demo Pr

2 Resolved issues

2.1 Common

Transmit project couldn't handle the "wrong" relative path

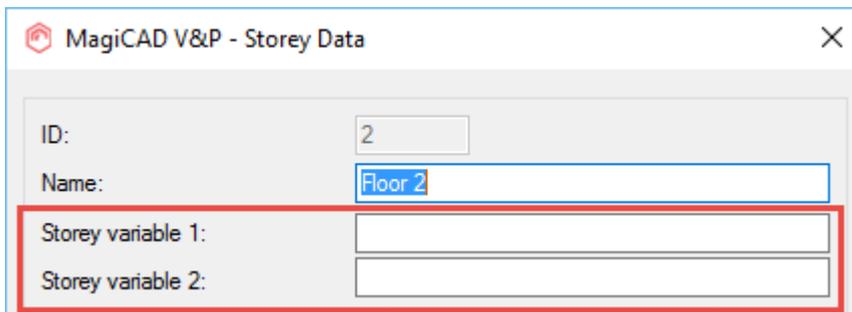
The issue was that the external reference was not available in the drawing, if it was set to be linked with a relative path and "Bind" was used for the external references when running MagiCAD's MAGITRANSMIT, but this has now been fixed. We now use the same routine AutoCAD does to find the real xref:ed drawings.

Issue with updating sections if in the drawings are one a server

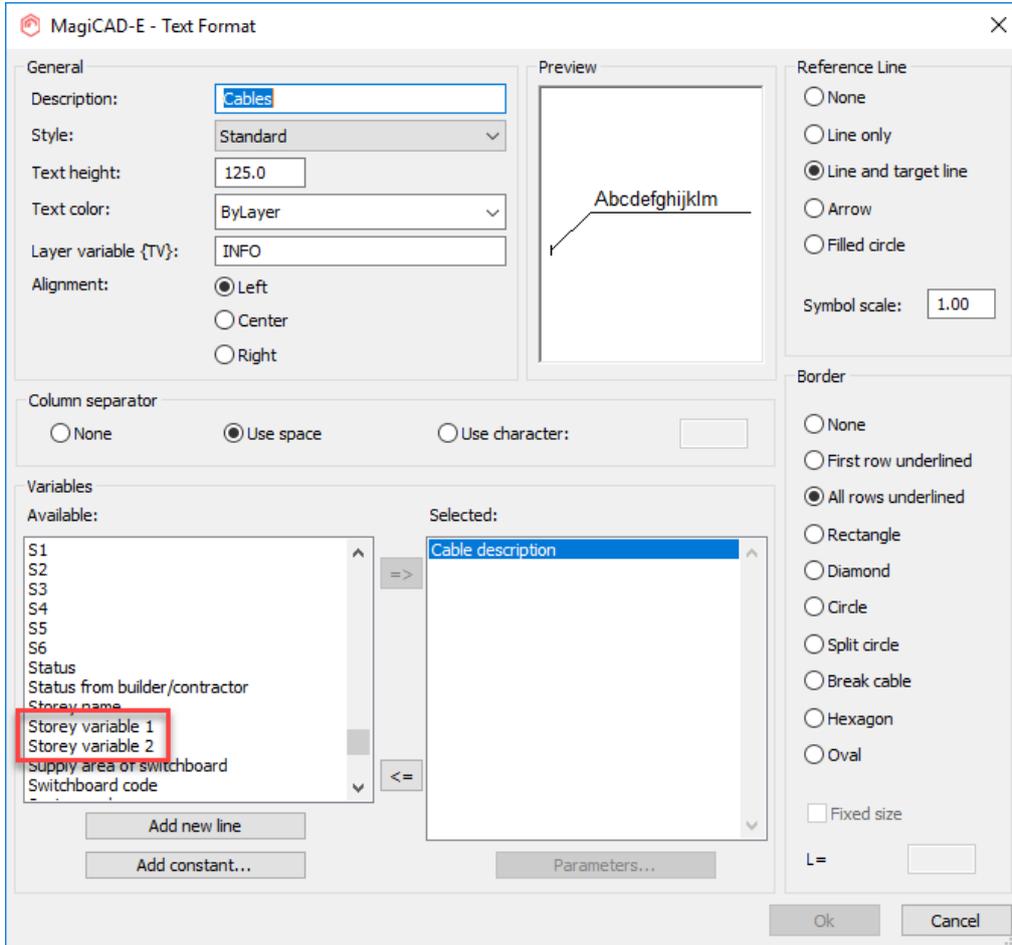
We fixed an issue which led to the sections not being updated if they were copied to another drawing and the drawings were on a server.

Storey variable 1 and Storey variable 2 weren't available for dimension texts

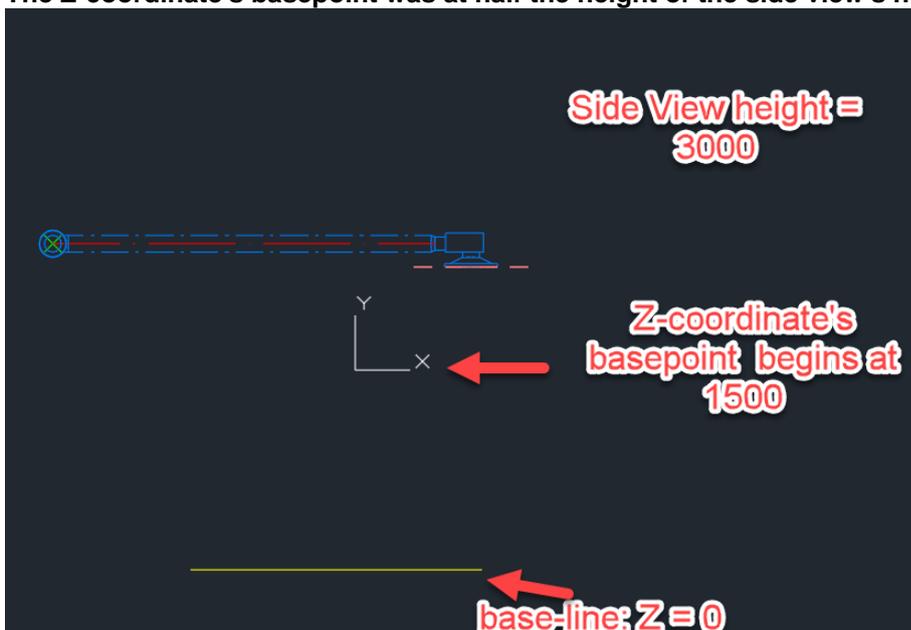
Storey variables 1 and 2 have been added to dimension text formats:



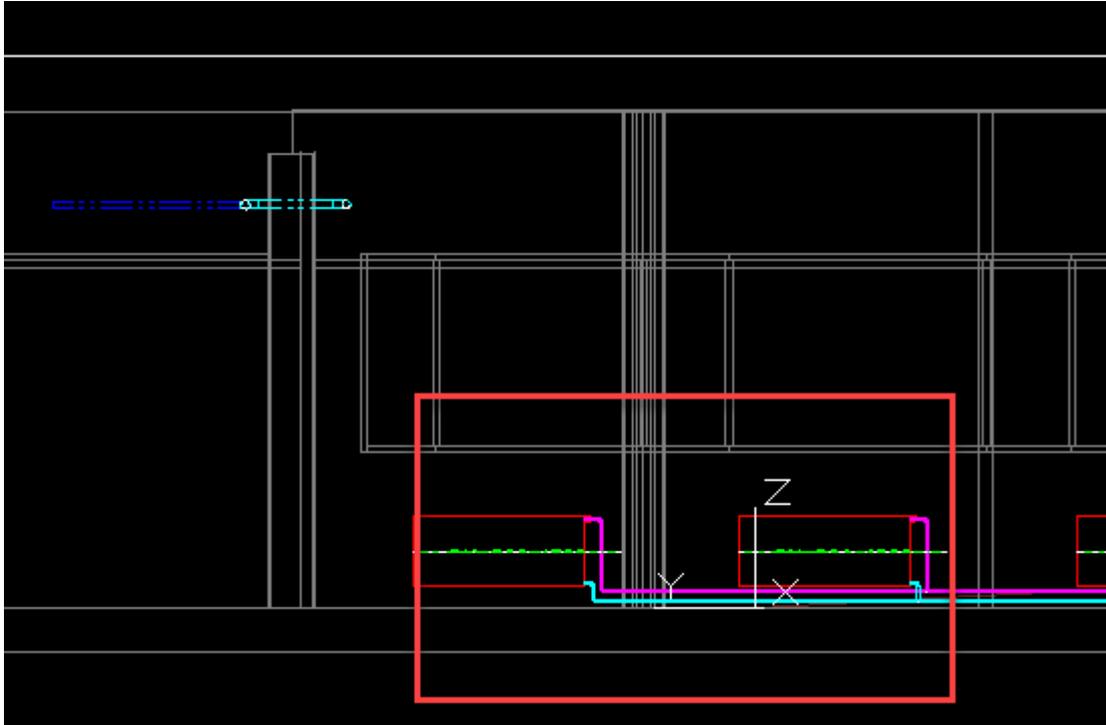
| | |
|--------------------|---------|
| ID: | 2 |
| Name: | Floor 2 |
| Storey variable 1: | |
| Storey variable 2: | |



The Z-coordinate's basepoint was at half the height of the side view's height



Now it is at the base line:



MagiCAD tried to load an AEC-extension on pure AutoCAD which led to a misleading warning (...cannot find a dll or other file that it needs)

```

Enter ARX/DBX file name to load: "C:\Program Files\MagiCAD\MagiCAD_r22x64.arx"
Environment: R22.0
Loading MagiCAD...
Loaded MagiCAD properties palette
c:\program files\magicad\mcaecext_r220x64.arx cannot find a dll or other file that it needs.
Command: _RIBBON
Command: _OSNAPZ
Enter new value for OSNAPZ <0>: 1
    
```

Now MagiCAD doesn't try to load an AEC-extension and the message isn't shown.

Initial opening of the product information dialog was slow

When opening the product information dialog of a device in the project, the initial opening took a while but the system has now been improved to remove this initial slowness.

Rectangular void provisions for builderswork openings were not exported correctly to IFC4

The height and width were swapped. This is now corrected.

Naviswork's Export (NWOUT) was slow in MagiCAD 2019 and following versions

This has been fixed now.

2.2 Ventilaion and Piping

Nodes-commands required a sprinkler license

Bug fix: The issue led to the Nodes-command demanding that the user had a sprinkler license, even if feature is available for other disciplines as well.

A number of properties for the Fans were missing from the IFC Property Set

These have now been added:

- "Fan inlet system name"
- "Fan inlet velocity"
- "Fan inlet flow"
- "Fan inlet pressure drop"
- "Fan inlet pst"
- "Fan inlet pressure"
- "Fan outlet system name"
- "Fan outlet velocity"
- "Fan outlet flow"
- "Fan outlet pressure drop"
- "Fan outlet pst"
- "Fan outlet pressure"

The drainage calculation header was not clear

Changed flows of drainage report from "qv" to "qww" and "Qvdim" to "qww sum".

Flow parameter does did work in roof drain dimension texts

The flow parameter was zero for roof drains in dimension texts, even if there was a value.

Locked minimum pipe size was not inherited over the tee branch

When the pipe size was locked to bigger size what was needed according to the sizing methods, the locked size was not inherited as a minimum size over the branch.

This meant that after the branch, or after the pipe material changes, the size could be smaller than the inherited minimum size.

Note: Happens randomly.

k-factor for sprinkler system's calculation report now has 1 decimal

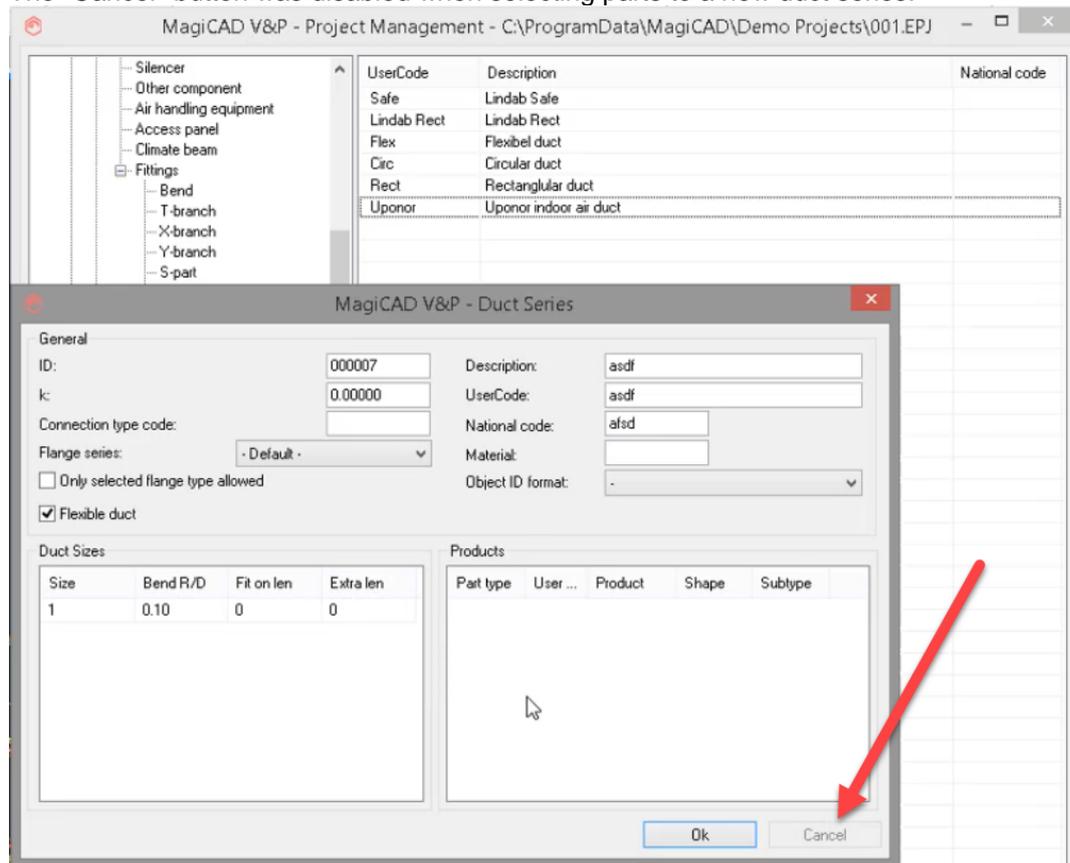
Previously there was only an integer, but now there is a decimal-value.

Product code problem with product based fittings, where editing was allowed where it shouldn't be possible

Users were able to edit parameters in fittings that followed internal rules of the fitting. This is not possible anymore

Disabled cancel button

The "Cancel"-button was disabled when selecting parts to a new duct series:



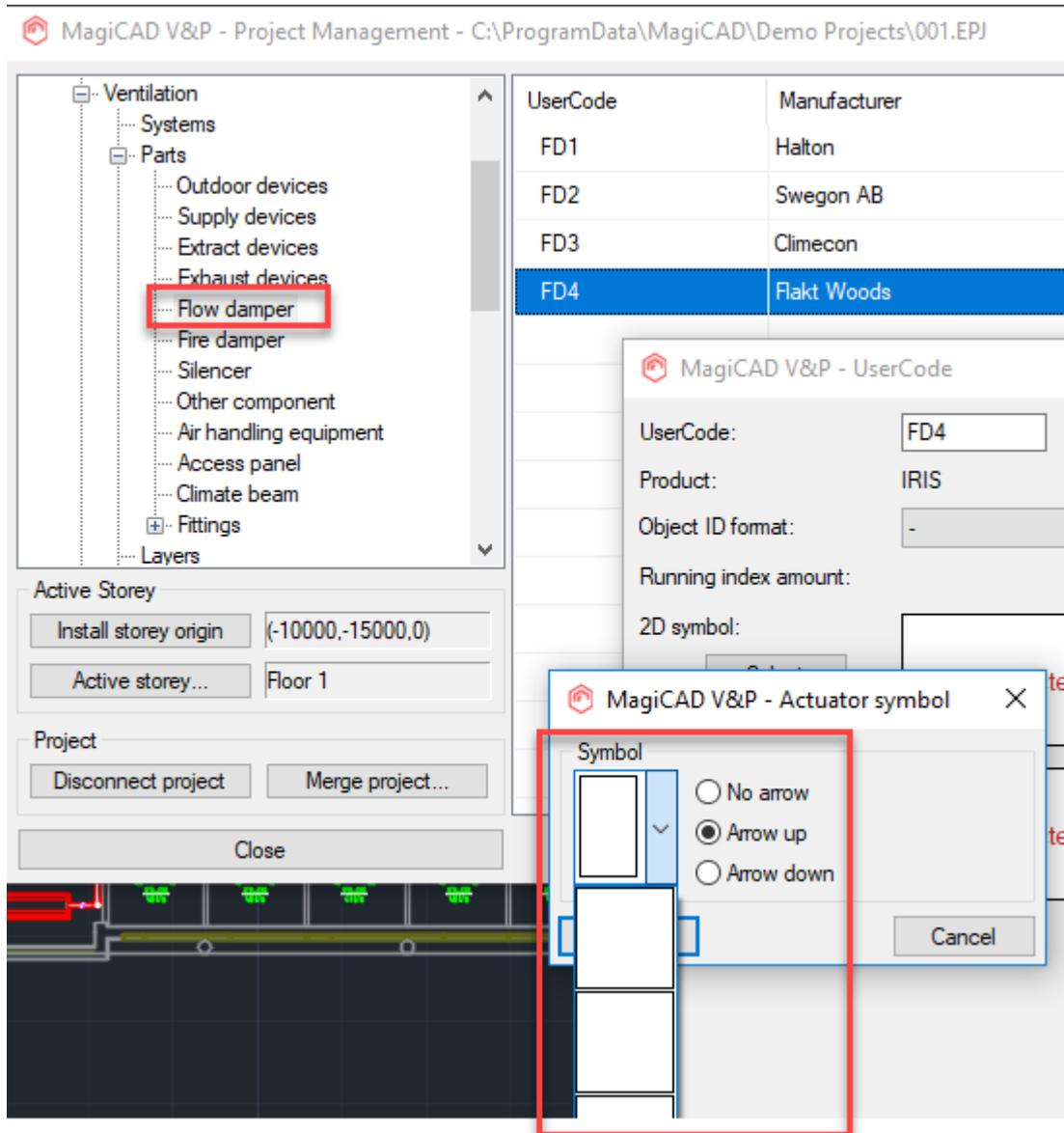
Using MAGIMOV and changing the Z-elevation was not working correctly

Fixed an issue related to using MAGIMOV and changing the Z-elevation did not work correctly and the level was set wrongly when they were connected to a duct or pipe.

The user had instead to use "Change properties" to set the correct height.

Actuator symbols were not drawn

The Actuator symbols weren't available in the dialog for the symbol selection:

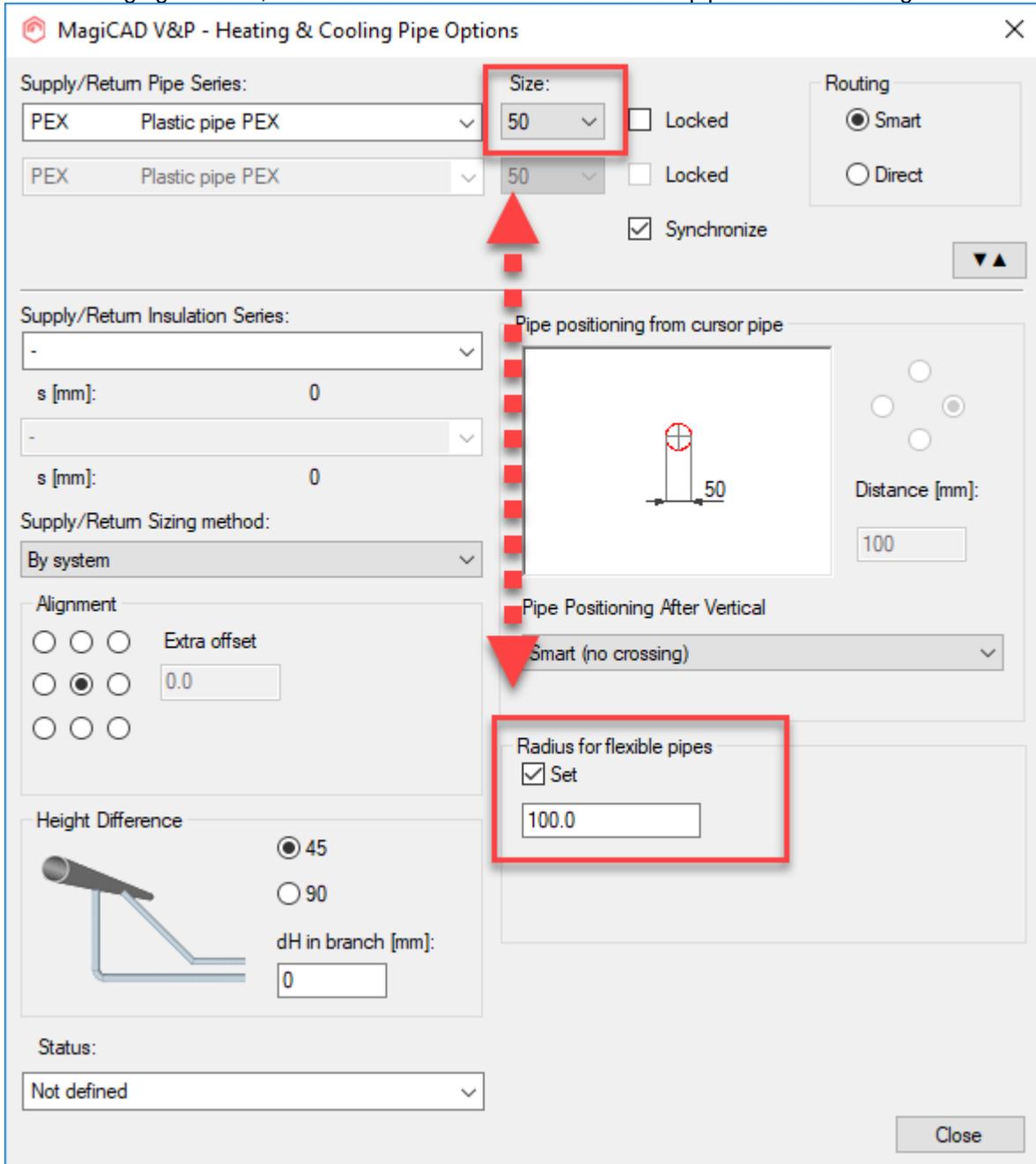


T-branch with vertical connector had the wrong vertical symbol

When settings were set to "Show duct only", MCACA showed insulation on vertical ducts: (The problem in the upper right corner)

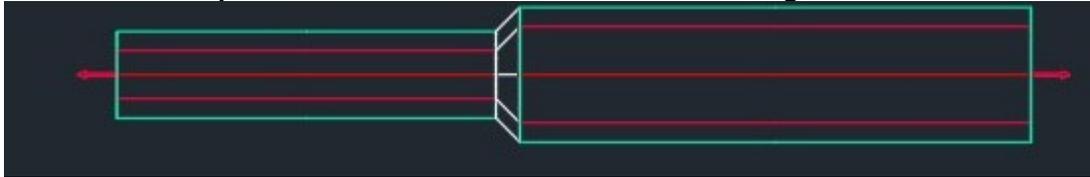
Radius for flexible pipe setting worked in the wrong way

When changing the Size, the value set for the "Radius for flexible pipes" did also change:



Now changing the size does not change the other value.

Reducers and expanders became white within sections in MagiCAD for AutoCAD UR-2



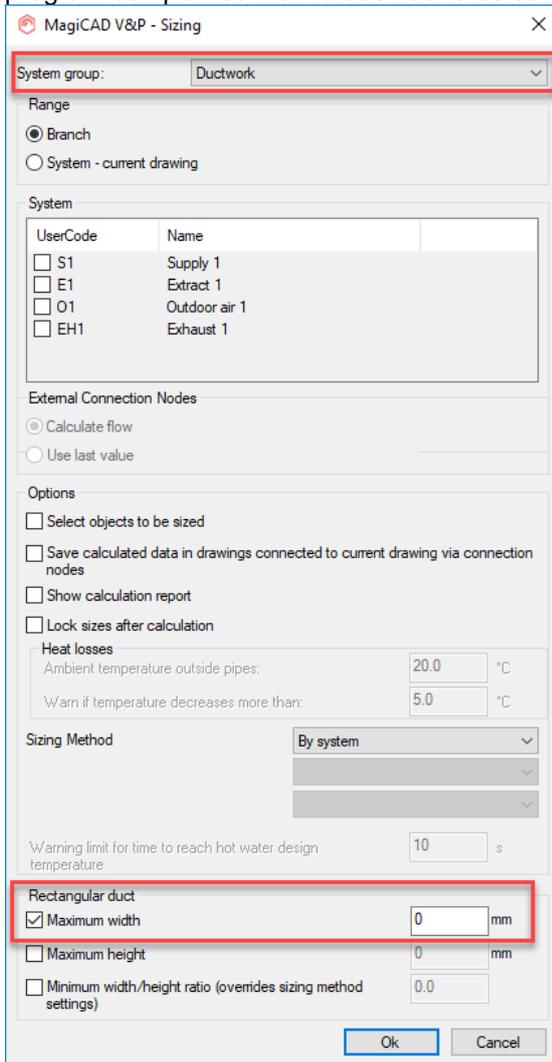
Now the reducers have a color.

The Chilled beam property "LpA red 10m2 sab" was missing in various reports

Added "LpA red 10m2 sab" property for chilled beam to MagiCAD Export, Report, Property Palette and IFC Export.

Bug with activating sizing

If the user ticked the "Maximum width" while the system group was "Ductwork", without setting a value, and then switching to another system group, then it wasn't possible to click "OK" as the program complained that values had to be set.



MagiCAD V&P - Sizing

System group: Ductwork

Range

Branch

System - current drawing

System

| UserCode | Name |
|------------------------------|---------------|
| <input type="checkbox"/> S1 | Supply 1 |
| <input type="checkbox"/> E1 | Extract 1 |
| <input type="checkbox"/> O1 | Outdoor air 1 |
| <input type="checkbox"/> EH1 | Exhaust 1 |

External Connection Nodes

Calculate flow

Use last value

Options

Select objects to be sized

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

Show calculation report

Lock sizes after calculation

Heat losses

Ambient temperature outside pipes: 20.0 °C

Warn if temperature decreases more than: 5.0 °C

Sizing Method: By system

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

Rectangular duct

Maximum width: 0 mm

Maximum height: 0 mm

Minimum width/height ratio (overrides sizing method settings): 0.0

Ok Cancel

Balancing methods did not work on climate beams

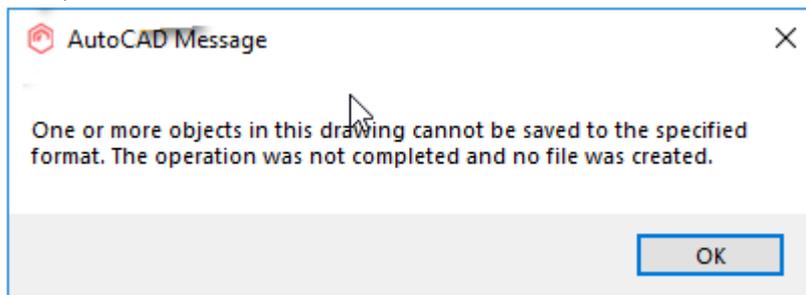
The balancing methods did not work on climate beams but this has now been fixed.

Update drawing data changed real duct part to a generic

When the user used the update drawing data some real duct parts changed to generic ones and now this has been fixed so that this change doesn't occur.

When using "Purge all items" command an error shows up after you save the drawing

In MagiCAD for AutoCAD 2019 UR-1 Save -> Command Purge -> Purge All -> Purge All Items -> Save, led to this error:



The warning may not come the first time, so it occasionally had to be repeated a several times to see the issue.

This was related to the purged layers; now purged layers are not created during save anymore so save should work after purge.

Automatic dimension texts turned after using MagiCAD Explode (MAGIEXP)

In MR 2019 and 2019 UR-1, automatic dimension texts turned after MagiCAD Explode (MAGIEXP) to the direction of the UCS x-axis that was active when those texts were inserted.

Now automatic dimension texts keep their direction in active viewport after MAGIEXP.

Issues with changing style and format of dimension texts

Fixed an issue where it wasn't possible to change the format of dimension texts in isometric and section entries with Change Properties.

Delay in first command after switching from one drawing to another

Changing the active drawing caused project reloading which was slow, especially when project was on a network drive.

Changes in Xref:ed drawings were not updated to the main drawing

When there were two drawings, one main drawing which has the other drawing as an "xref" and the main drawing had hidden objects from the xref. When the xref:ed drawing was edited, the main drawing did not reflect the changes, because the main drawing had cached hidden images. The bug fix notices such changes and removes cached hidden images.

2.3 Electrical

Switchboard areas in version 2019 UR-2

The switchboard areas made/edited in 2019 UR-2 were not compatible with 2019 UR-1 and older. This issue has been fixed, and the areas are backwards compatible again. However, editing with 2019 UR-2 will make them incompatible again.

Selection set part types calculation error

When loading saved selection set in IFC Export, cable tray's new sub groups were not always selected. Same thing happened with led stripes and lighting tracks.

Now all fittings are elected if the selection set was saved before the sub groups were made available in the software.

Power calculation to use the file format set in options

When running power calculations and updating results to drawings, now it saves the files by using the file format version selected in AutoCAD's options. However, if a drawing's file format was even older, then that file format is used instead.

Texts in switchboard schematics doesn't work properly

When using AutoCAD's texts in switchboard schematics and justification of those texts were something else than "left" they didn't move with the circuits or only the other side of the text was moved.

Now texts are moved with the circuits properly.

Luminaire's 3D model turns into wrong position

In some rare occasions when installing devices from different product groups without restarting the function, installation direction were left from the previous device and caused f. ex. a luminaire's 3D symbol coming sideways to the drawing.

Now devices are always installed as they should.

Dimension texts' midpoints were not working properly in some occasions

Previously, midpoints were not working properly if a dimension text had multiple rows.

Too short filenames for 3D blocks

When using an AutoCAD dwg as a 3D symbol for a device, the filename for that dwg could not be more than 32 characters long. Now the file name can be 200 characters long.

Switchboard schematic definitions losing data in some occasions

Previously, if national character set was used, some data was lost in switchboard schematic definitions when opening old projects.

Move Device Symbol does not stretch cable end points when rotating the 2D symbol

When using "Move Device Symbol" and rotating the object while moving it, the connected cables didn't follow correctly and dimension texts were not rotated correctly. These issues are now fixed.

Automatic texts on mirrored objects

When using automatic text on mirrored objects, the texts were sometimes unreadable because they were also placed in a mirrored orientation. Now automatic texts are placed correctly.

BOM used wrong unit for length in system schematic drawings

In system schematic drawings, the "total length of similar [m]" variable was actually showing the total lengths in millimetres when running BOM. Now it shows them in metres as it should.

Connection nodes of cables

Now all cable data (Running index, Object ID and Object variables) is transferred correctly through connection nodes. This way the same cable really is continuing from one node to another. Also, if the "Do not show conflict dialogs" setting is on in "User Preferences" it now affects also cable drawing from connection nodes.

MEEXPLODE was flipping some trays and bends

In some special cases, MagiCAD Electrical's explode function changed the orientation of cable trays and/or fittings.

Continuing cable trays with + grips

Now the + grips in cable trays, also from the midpoint of a tray, reads all information properly from the tray and continues by using those settings.

Crash when stretching cable trays

AutoCAD no longer crashes when using stretch cable tray segment in some special cases.

Dimension texts lost their host reference

Previously, in some cases it was possible to get a dimension text object lose its link to its host object. Now the "Update Drawing Data" function tries to fix the broken link if the reference is still stored some way in the dimension text object.

Longest branch lengths in Update Drawing Data

Longest branch lengths of circuits are now calculated orthogonally from the circuits to the switchboards when cable packet connections are not used to do so.

Changing the switchboard/host reference of circuits with Change Properties

"Change Properties" didn't change anything if in the "value from" field there was a reference to a switchboard in the current drawing ("current dwg / switchboard"). Now it changes the property correctly. The same thing also applies to host references of circuits in extra low voltage systems.

File paths of sections

Previously, when working in dwg files on a file server, the full file paths were not stored and handled properly in sections. This created problems when copying sections to external drawings since the "Update Section" function was not able to find the source drawing. Now the full file paths used in sections are stored and handled properly.

2.4 Circuit designer

Circuit designer conductor drawing not working

Sometimes when starting to draw conductor from f. ex. a contact and there was one conductor already connect, the new conductor didn't connect to the contact but it connected to that existing conductor. Now it first tries to connect to devices and if no devices are within the search circle is connects to a conductor.

2.5 Room

Slab problems issues in MagiCAD Room

Corrected area computations that effect slab handling, where slabs weren't correctly divided into different parts, when some part of them were interior slabs and some parts were facing the outside air.

2.6 Schematics

Text style for symbol attributes, in the Design Data preferences selection, was not saved

Some data was saved to the drawing before the dataset was marked as connected. Because of that text styles that weren't present in the drawing could not be used even if they were set in the dataset.

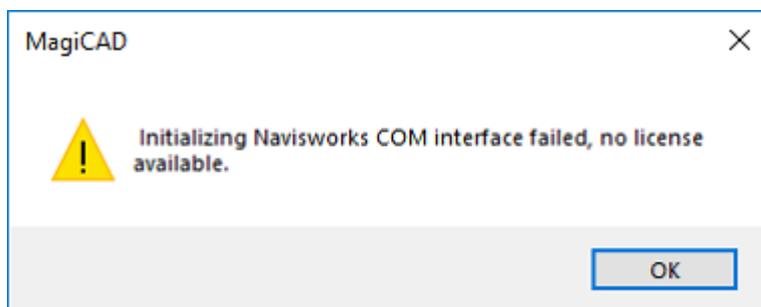
3 Known issues

3.1 Common

MagiCAD for AutoCAD 2020 does not support Navisworks 2020

MagiCAD for AutoCAD 2020 does not support Navisworks 2020, which is used in combination with AutoCAD 2020.

This means that if you try to run the function “Navisworks Export” on AutoCAD 2020 with MagiCAD 2020 installed, you will get the following warning:



“Navisworks Export” works in MagiCAD 2020 if it is installed on AutoCAD 2016 - 2019.

We apologize for this and any inconvenience this problem might create to any of our customers. Autodesk has recognized that this is an issue in their API and are working on a solution for it

4 MagiCAD 2020 Network License Server Update

Customers with existing MagiCAD Network Licenses must update their network license server to version 19.05 or later before installing MagiCAD 2020 for AutoCAD or Revit.

What are the benefits of the new network license server version?

From MagiCAD 2020 and network license server version 19.05 onwards **MagiCAD licenses can be maintained on the same work server as Autodesk Revit or AutoCAD licenses.** This is beneficial for future updates as it simplifies considerably the update process. Previously, customers needed to maintain MagiCAD licenses on a separate server, which made updating more complicated.

From a technical standpoint, the new license server version employs Internet Protocol version 6 (IPv6), which enables having MagiCAD and AutoDesk Revit or AutoCAD licenses on the same server. Previously, this could be done but it required extensive configuration work and firewall adjustments and could still occasionally lead to conflicts where connection to the server was lost.

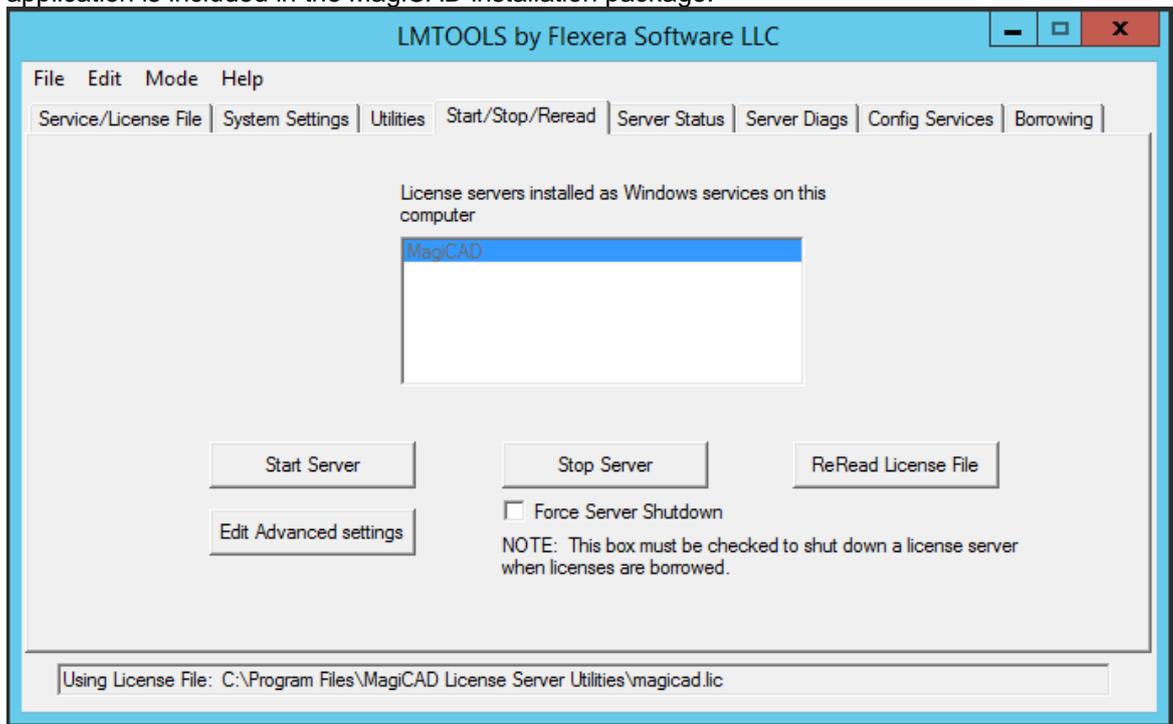
A second improvement with the new license server version is **increased stability with Windows 2016 servers.** The current server software has stability issues in Windows 2016 server environments and may sometimes perform unnecessary and repeated reboots.

The third major improvement is **easier monitoring of license use.** When licenses are borrowed from the server, the new version adds both the computer name and user name to the license log, whereas previously only the computer name was used. Including the user name makes it much easier for companies to identify where their licenses have been used

How to update the MagiCAD license server software

Stop MagiCAD license server and services

1. Before updating, use **lmttools.exe** to stop the MagiCAD license server. The lmttools.exe application is included in the MagiCAD installation package.



2. Open **Windows Services** and stop the **MagiCAD License Information Service**

| | | | | |
|--|-------------------------|----------------|------------------|-----------------------|
|  Local Session Manager | Core Windo... | Running | Automatic | Local Syste... |
|  MagiCAD | MagiCAD li... | | Automatic | Local Syste... |
|  MagiCAD License Information Service | This service ... | Running | Automatic | Local Syste... |
|  Microsoft iSCSI Initiator Service | Manages In... | | Manual | Local Syste... |

3. Close **lmttools.exe** and the **MagiCAD Network License Server Management Utility**. If you have custom settings in the **magicad.lic** or **magicad.opt** files, make backups of those settings before updating.

Install new version of license server software

4. Download **MagiCAD License Server Utilities version 19.05 or later** from the MagiCAD Portal using your MagiCAD activation ID.
<https://portal.magicad.com/Download/ProductSearch?searchStr=utilities&categoryId=6>
5. Extract the downloaded file and execute **MagiCAD License Server Utilities x64.msi** and then follow the installer instructions.
 If you had custom settings in the **magicad.lic** or **magicad.opt** files use **lmttools.exe** to stop the MagiCAD license server before you restore your custom settings.

Restart license service and reload licenses

- After the installation is finished use **Imtools.exe** to stop and start **MagiCAD License Server** to reload licenses.

Use scenarios

The table below shows which license server versions and combinations can be used with different MagiCAD versions

| MagiCAD software | MagiCAD network license server(s) used | Possible combination |
|------------------------------|--|--|
| MagiCAD 2020 | Single server, v. 19.05 or later | Yes |
| MagiCAD 2020 | Single server, v. 15.11 or earlier | No |
| MagiCAD 2019 UR-2 or earlier | Single server, v. 19.05 or later | Yes |
| MagiCAD 2020 | Multiple servers, v. 19.05 or later in all | Yes |
| MagiCAD 2020 | Multiple servers, including: v. 19.05 or later and v. 15.11 or earlier | Yes , but not recommended (possibly slower performance) |
| MagiCAD 2019 UR-2 or earlier | Multiple servers, v. 19.05 or later in all | Yes |
| MagiCAD 2019 UR-2 or earlier | Multiple servers, including: v. 19.05 or later and v. 15.11 or earlier | Yes , but not recommended (possibly slower performance) |

New MagiCAD 2020 installations

Install MagiCAD license server software version 19.05 or later during the MagiCAD 2020 for AutoCAD or Revit installation. Use the activation ID that was delivered together with MagiCAD 2020, or the activation ID of a valid subscription license.

Updating from MagiCAD 2019 UR-2 or earlier to MagiCAD 2020

To update to MagiCAD 2020, you need to update the MagiCAD license server software to version 19.05 or later before installing MagiCAD 2020 for AutoCAD or Revit. Use the activation ID that was delivered together with MagiCAD 2020, or the activation ID of a valid subscription license, and see the update instructions above.

Using MagiCAD 2019 or older and MagiCAD license server 19.05 or later

The new license server software is downward compatible and can be used with MagiCAD 2019 or older. You can simply update the license server software according to the instructions above and continue using an older version of MagiCAD software. To update the license server you need either a new activation ID or a valid subscription license activation ID for the server.

Distributed server model

It is possible to use a distributed server model with two network license servers. In this setup, MagiCAD will start by searching for free licenses from the first server and if none are found then continue searching from the second server.

Using two network license servers requires that you enter two server addresses in the MagiCAD Network License Server Management Utility.

Ex. port@newServer;port@oldServer

We recommend updating both servers to MagiCAD license server software version 19.05 or later. You can also use different license server software versions, however, this may result in slightly slower license operations.

Using a mixed environment with new and old license server software

This is possible, but not recommended as this may result in slightly slower license operations. However, you can employ two different license server versions, for example if you need to maintain an older license server for external software. You need to simply install the desired license server software versions with their own activation IDs.

Change to network license checkouts

The new license server version also includes a change to network license checkouts and automatic license returns due to idle time.

When using MagiCAD, the periods of time when the user uses native Revit functions without activating any MagiCAD tools are counted as idle time for the MagiCAD license. The previous practice was that the MagiCAD license was automatically freed to the license pool after 15 minutes of idle time. In some cases, this could cause situations where the license was returned to the license pool in the background and then checked out by another user, rendering the license unavailable to the original user and blocking the user from completing their work.

To prevent interruptions in design work due to license unavailability, we have changed the idle time limit for the automatic license return from 15 minutes to 2 hours. If the user wants to intentionally return the license to the license pool earlier, this can be done at any time by simply ending the Revit or AutoCAD session (i.e. by closing the software). MagiCAD's idle time settings are fixed and the system administrator does not have access to them.

In case of multiple license types on the same server the license reservation will check out the more "minor" licenses first when applicable. For example, if a user is working with MagiCAD for AutoCAD and the license server has both MagiCAD for AutoCAD and MagiCAD Suite licenses, then the system will not assign a MagiCAD Suite license if MagiCAD for AutoCAD licenses are still available.