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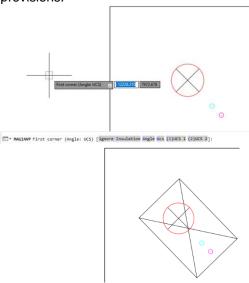


1 New features

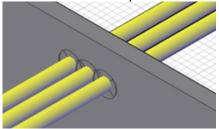
1.1 Common

Improved definition and overview of provisions

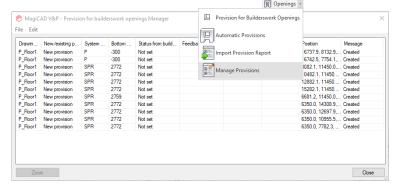
The angle for a vertical provision has previously been determined automatically, using the Automatic Provisions functionality. You can now freely define the angle or User Coordinate System for vertical provisions.



There is also a new option to not merge provisions in case all provisions within a selection are circular.



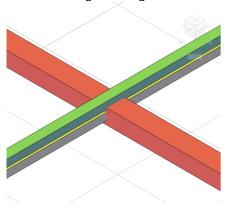
Additionally, a new provision manager window allows easier overview of provisions. The window opens when automatic provisions are created and provides users with a list of the created provisions and their details. The manager window can also be opened manually at any time, and it will then show all provisions in drawings connected to the project.



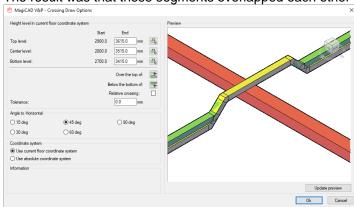


Multi-crossing improvements

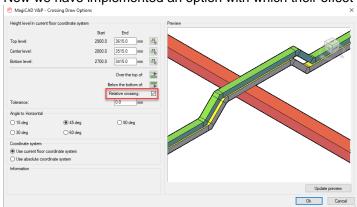
When creating crossings in earlier version when there were segments on top of each other like this:



The result was that these segments overlapped each other at the crossing point:



Now we have implemented an option with which their offset can be set to be relative to each other:

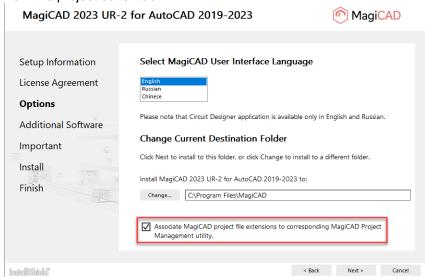




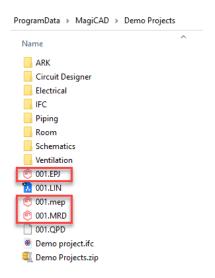
Open project files be double-clicking them

While installing MagiCAD, you can define whether project handling tools "Edit electrical project", "Edit Ventilation and Piping Project", etc will be opened automatically when double clicking your .mep, .epj, etc file.

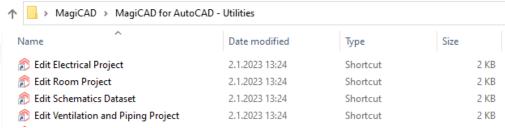
This will save time while you browse your project's files and you no longer need to to find the path from the project editor tool.



Set this option ON in case you want to be able to utilize this new feature.



The project editor tools which are normally used to edit the different project files:





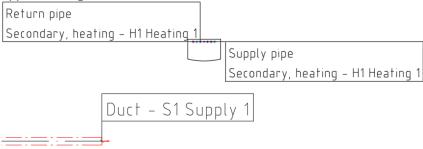
1.2 Ventilation and Piping

Common

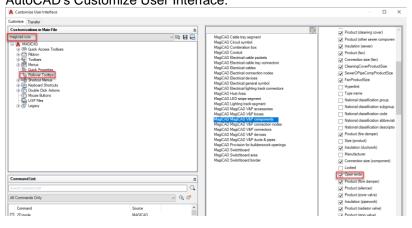
Descriptive names for a product's and segment's open connection

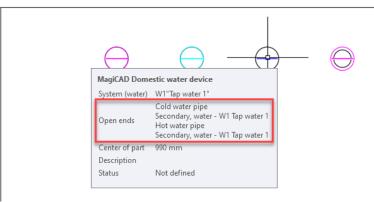
When devices with multiple connectors are installed in the drawing, especially of the same type, then it is hard to distinguish between them to know which is which.

Now using the Part Property Line's "Open End" property more information is shown, and this is also applied to segments:



This can also be set ON when hovering over connection points, using the Rollover Tooltips, but this has to be set manually by the user to all the object types which have these connection points, via AutoCAD's Customize User Interface:



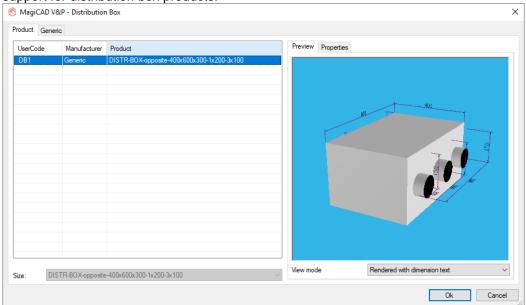




Ventilation

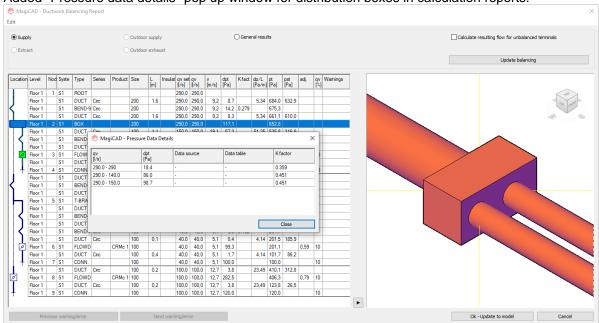
Support for manufacturer specific distribution boxes

Earlier did we only have a function which created generic distribution boxes, and we have now added support for distribution box products.



Pressure data details for distribution boxes in calculation reports

Added "Pressure data details" pop up window for distribution boxes in calculation reports:

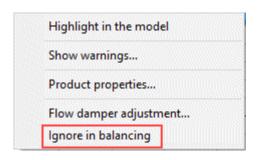


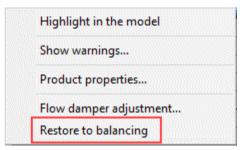


Ignore and close dampers from the advanced flow analysis' report

Extended flow analysis of the ventilation networks has now the possibility to ignore and restore one or more flow dampers and then update the balancing calculation.

This could speed up the simulations to check if one or more specific dampers can be removed from the project.



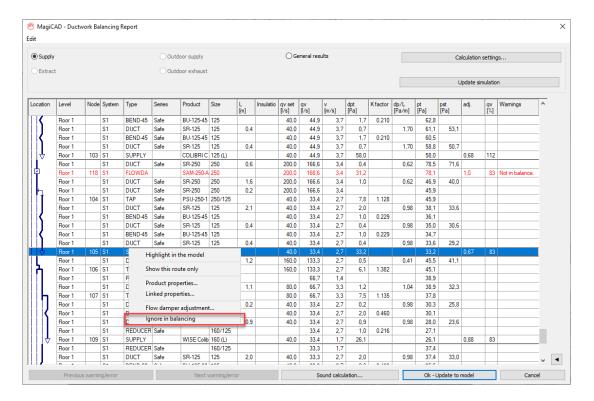


When the damper is ignored, the balancing is done so that the ignored damper is left out from the calculation.

The result line is grayed out, all the results are empty and warning "Damper ignored" is shown



More information about the feature in here.

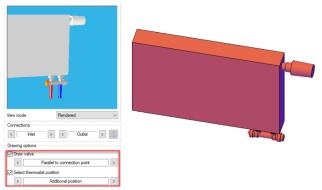




Piping

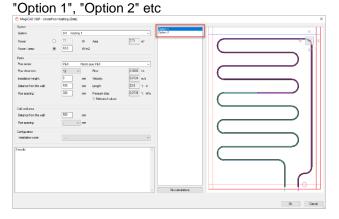
Selecting valve positioning to supply/pipe and thermostat positioning

New options enable detailed adjustment of radiator valves and thermostats. The radiator valve connection point can be freely selected, whereas the valve was previously always connected to the supply pipe. Additionally, the angles of the radiator valve and thermostat can be freely defined allowing users to adjust the radiator setup according to any situation.



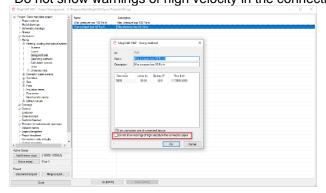
Minor adjustment to the Auto-Routing Underfloor Heating

Now the list no longer shows the scoring of the different options and only lists the different results with



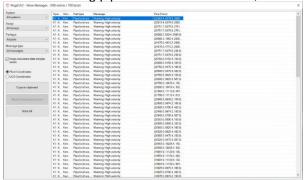
Suppress sizing warning from high velocity/friction loss

There is now an option available to suppress the high velocity warning in pipes in the sizing methods: "Do not show warnings of high velocity in the connection pipes".



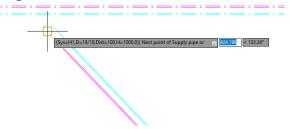


This was added as users were in some cases shown hundreds of warnings related to the velocity in final connecting pipes to the water devices, which they wanted to ignore:

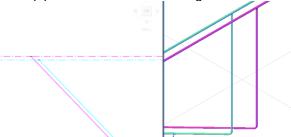


Allow incoming pipes, at an angle, to connect other pipe

Earlier it wasn't possible to get a riser-connection at the position of the pipes to which other pipes were drawn to, if they not only weere drawn from a different elevation but also at another angle than 90 degrees.

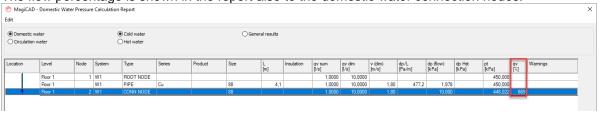


This has now been improved so that a riser connection is created under or over the pipes to which the other pipes are drawn to at an angle:



Calculate qv % flow for domestic water connection nodes

The flow percentage is shown in the report also to the domestic water connection nodes.

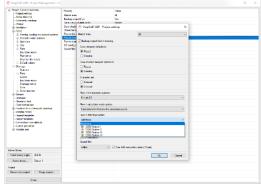




Drainage

Drainage dimensioning flow according to standard EN 12056

We added a new option for drainage systems: "Flow in drainage system". ("Add flows" is the old default option which was automatically used by the software)



These options will also be available in the Flow Summation function when the EN 12056 standards are selected in the project:



Can't draw pipe from floor drain that has connector in 45 degree angle

We improved the drainage pipe drawing so that it is possible to draw directly from devices like floor drains which can have connectors at 45 degree angles.

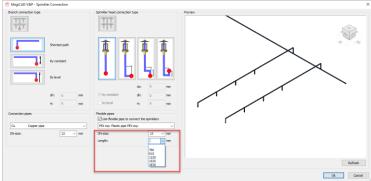




Sprinkler

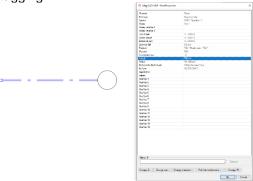
Continuation of - Better connection tools for sprinkler MCACA

The user can now define the length of the flexible pipe to be used in the sprinkler connection. Earlier the program selected the lengths automatically, but now the user can select what they need:

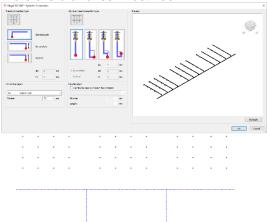


Also the connection routine no longer stops at the first bend, instead the whole length of flexible pipe is used.

The length of the fixed length of the pipe is written to the property "Length", so that it can be used for tagging.



An additional improvement is that it can now connect sprinklers to the same main segment, even if there are branches in between.





Connection node None improvements for sprinkler systems

Improvements as the connection node for sizing needs to take number of sprinklers into account Added "Number of sprinklers" to sprinkler connection node "None".

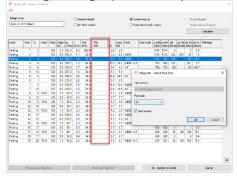
Now "Number of sprinklers" of sprinkler connection node "None" is used in sprinkler calculations.

Added "Number of sprinklers" property to Part Properties and Properties Palette.



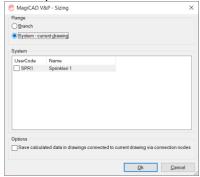
Improvement to bi-directional sprinkler report to change pipe size

It is now possible to change the pipe size in the sprinkler calculation dialog, just like in the heating/cooling report. The report will also show the old size after the changes.



Updated sprinkler calculation module

An updated module is used in the sprinkler calculations. This isn't visible for the users, but what has been updated is that the user can select the system in sizing:





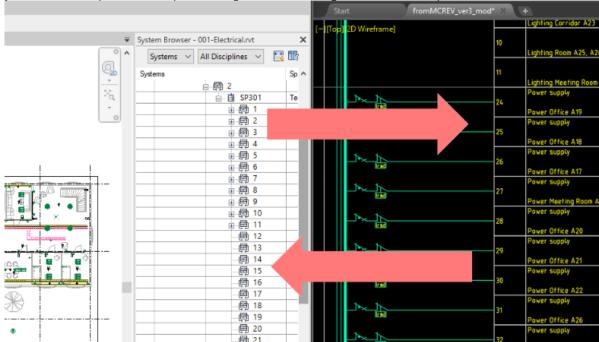
1.3 Electrical

Spreadsheet import and export between switchboard schematics and MagiCAD for Revit

With the new Spreadsheet Import, you can get circuit information from MagiCAD for Revit and create a switchboard schematic in MatiCAD for AutoCAD. The function will bring in all the information you have defined to be shown in your switchboard schematic and create the schematic by using the data got from MagiCAD for Revit.

You can then modify your switchboard schematic in AutoCAD, and if you change e.g. descriptions or other data, you can use the new Spreadsheet Export function to get the modified data back to Revit. Circuits in the switchboard schematics will be linked to the circuits in the Revit project, and anytime

you make an import or an export, changed data is changed in the correct place.



Updates to Link Manager function

When opening Link Manager, current drawing will be automatically selected to either Switchboard schematic or Circuit designer drawing when the drawing has not been linked to any drawing. Disconnect drawing button added to Link Manager dialog. It will allow user to disconnect links between drawings and allows to select new drawing where to make links.

Unlink button is now only active if circuit and page, which are linked together, are both selected.

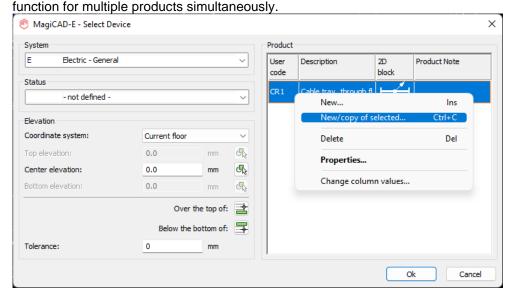
Switchboard schematic improvement

Now you can use Set Properties in Switchboard Schematics to add Circuit design templates to circuits. Changing or adding circuit design templates to circuits in switchboard schematics can be made easily with only few clicks.

Improvements to Others/CR install product dialog



Now it is possible to add new devices from the installation dialog. Also the shown columns in the installation dialog are selectable, and data can be changed by using the "Change column value"



Improved attribute support for circuit symbols in plan drawings

The following attributes are now supported in circuit symbols:

PH Phases (circuit)

EG Earthing (circuit)

FN Cable type name (cable)

NC National code (cable)

PC User code (cable)

PP Product code (cable)

PD Product description (cable)

P1,..,P9 Product variables 1 – 9 (cable)

PA, PB Product variables 10 – 11 (cable)

PE,PF,PG Product variables 12 – 14 (cable)

PJ Product variable 15 (cable)

Automatic text function has been expanded

Automatic Text can now be used for the following object types:

Cables

Cable packets

Conduits

Cable travs

Lighting tracks

LED-stripes

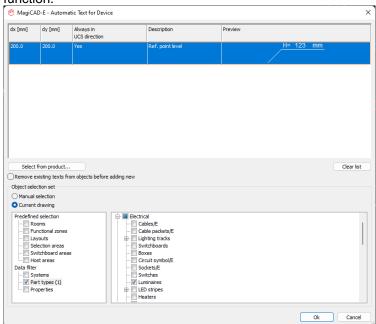
Combination boxes

Switchboards

Void provisions

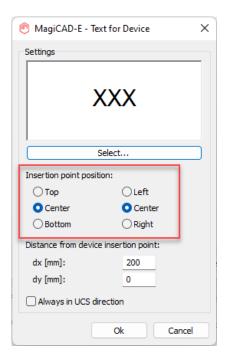


Object selection and multi-selection of dimension text rows have been added to the automatic text function.



When adding an automatic text for devices, you can now define its insertion point position when reference line is not used.

These settings give you much better handling how the texts will be added into the drawing.



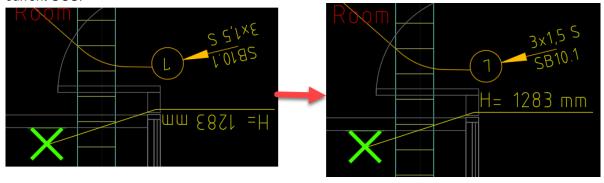


Cable data info to COM interface

COM interface can now be used to get information from cables in the drawing.

Flip circuit symbols and/or dimtexts according to current UCS

Now it is possible to flip the orientation of dimension texts and circuit symbol texts to be readable in current UCS.



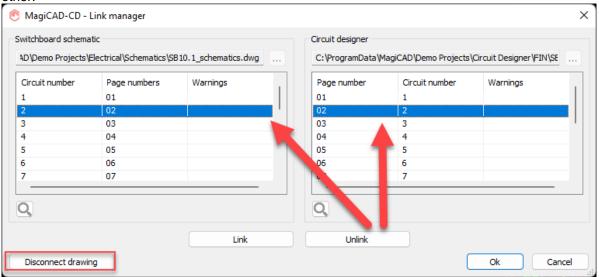
1.4 Circuit designer

A few updates have been done to the Link Manager feature which make it easier to use:

When you open the dialog from a drawing which is not connected to anything, the current drawing is automatically selected active in the dialog.

A Disconnect button has been added to the dialog. It removes links between circuits and pages. After disconnecting a drawing, a new one can be selected.

The Unlink button is now active only when you select circuit and page(s) which are connected to each other.

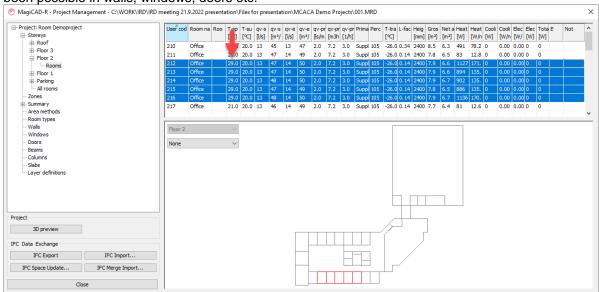




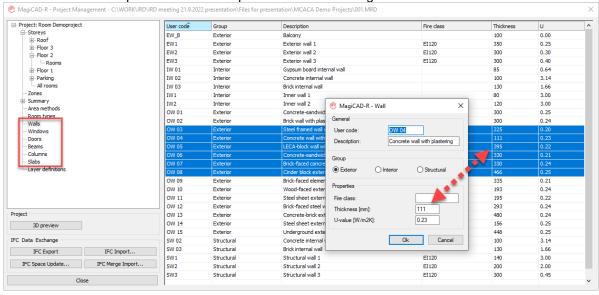
1.5 Room

Change values in several rows in one column for objects

It has been possible to select a several rows of the rooms and change their values, but this has not been possible in walls, windows, doors etc:



This has now been updated so that it is possible in these categories as well.



Additionally Rooms, Room types, Walls, Windows, Doors, Beams, Columns, Slabs and Layers lists can now also be sorted in ascending and descending order.

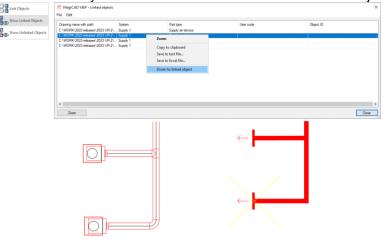


1.6 Schematics

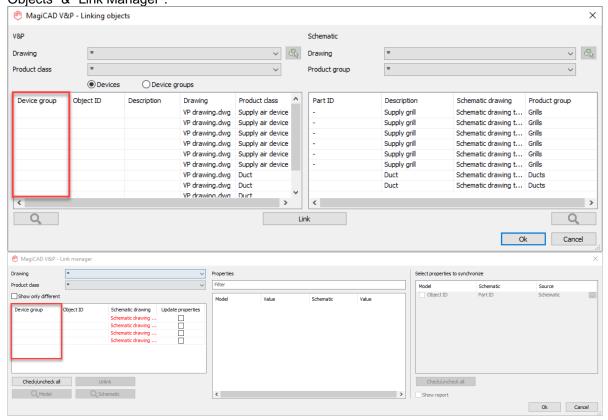
Zoom to linked object from both Schematics to V&P and vice versa

Added a new "MAGISCHZL" / "SCHZL" command which zooms to linked object. This command works in both Schematics and V&P drawings and zooms to the linked object in the other drawing.

This functionality has also been added to the "Show Linked Objects" report in the context menu:



An additional improvement is that the "Device group" has been added as a column to both "Link Objects" & "Link Manager":





2 Resolved issues

2.1 Common

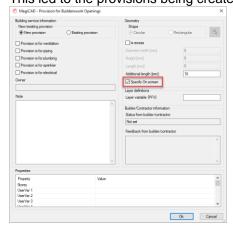
Extra property sets were appearing for systems

The System, Storey, Project, Site and Building in the IFC got property sets that were defined for objects only (using national classification code IFC property sets).

This has now been fixed so that the property sets are added correctly only to the objects for which they are selected.

Showing length of the provision from an XREF

There were issues in cases when manual provisions were created by specifying the length in the drawing from an XREF, and the drawings were placed differently in the world coordinate system. This led to the provisions being created somewhere else than expected:







This has now been fixed and the provisions are created to the correct coordinates.

Cleaning Utility crashed when changing text style and color

The drawing cleaning utility caused the program to crash in some cases. This has now been fixed.

Warning message during DWG Export

The DWG Export gave an incorrect warning regarding not being able to open a drawing when running the export with certain settings. This has been fixed and the warning is not shown anymore.



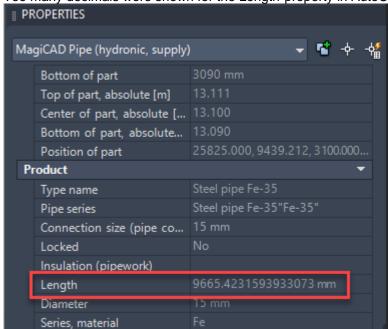
Viewport preferences issues

The Viewport preferences didn't work properly for the section mark, floor offset are and selection area if the drawing was as an XREF:

Now section mark, floor offset area and selection area obey the Viewport preferencest options if the drawing is as an XREF.

Properties Palette was showing too many decimals for Length

Too many decimals were shown for the Length-property in AutoCAD's property palette:



This has now been fixed and the correct number of decimals is shown.



2.2 Ventilaion and Piping

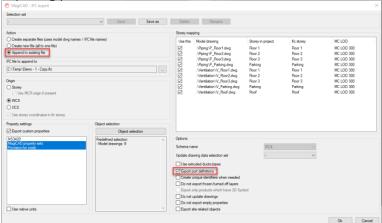
Common

Unnecessary slowness when working with server projects

Improvements have been made to reduce the slowness of working on a project on a server.

IFC export/append to file not working when ports were included

These options didn't work earlier but has now been updated and appending to existing IFC file with exporting ports works.

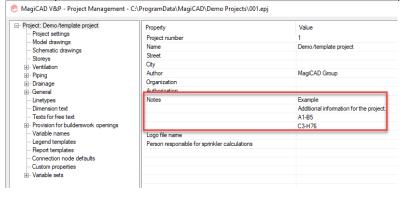


The internal data for ports were in some cases rearranged

The port information was rearranged which in some rare cases caused for example unwanted reductions to appear after sizing. This has now been fixed.

Domestic water & Sprinkler report fixes

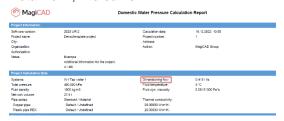
In the report the information is now set to different lines, like in the project:





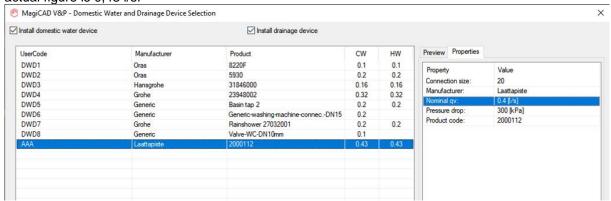


In the domestic water report this has been updated to correctly read "Dimensioning flow" and not "Total flow", like earlier:

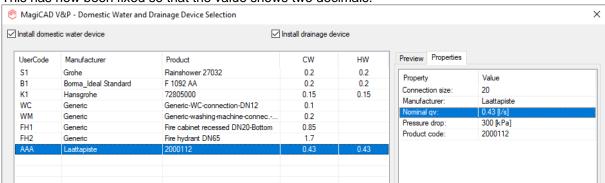


Too few decimals were shown in water and drainage devices for the nominal qv

The value for nominal qv was rounded to just a single decimal, which meant that devices which had more precise values were rounded and not shown correctly, like in the below example where the actual figure is 0,43 l/s:



This has now been fixed so that the value shows two decimals:





Ventilation

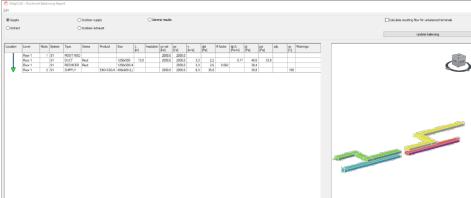
Issue with air flow/pressure using change properties

Due to a bug the system identifier was used instead of the system type, which due to the internal numbering led to a situation where it wasn't possible to use Change Properties on devices which system was 20 or larger.

This has now been fixed and Change Properties now works correctly for these systems as well.

Customized AHU in previews

If an AHU was added via a plugin an issue caused it to now be visible in the report's preview:



This has now been fixed and the AHUs are visible in all previews, also if they have been added via a plugin.

Fatal error when right-clicking before any products were added for duct series

If this list was empty and the user right-clicked in it then the program crashed. Now this has been fixed and this does not cause a crash anymore:

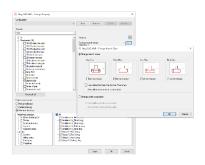


Changing branch type from tap to tee was causing issues if done by selected drawings

When changing the branch type of branches in drawings which weren't active, things did in some cases break in the drawing.

This has now been fixed by not allowing the updating in the drawings which aren't active:







"Unfortunately, we currently can change branch type only in active drawing"

MAGIMULTICROSS did not work correctly with partial insulation

When ducts or pipes had partial insulation, the crossing function did not notice those correctly. This has now been fixed and the crossing function works correctly with partial insulation.

Tagging duct/pipe with insulation thickness showed a zero

The dimension text insulation thickness value was shown as "0" if the object didn't have any insulation. Now this value is not shown at all.

Piping

Product code of pipes in report

MagiCAD attempted to change pipework parts into real products, if it found parts which were of the same size and product code as a corresponding duct series, which shouldn't be possible in any way as pipework contain only generic parts and not real products.

This has now been fixed and the program no longer attempts changes like these in special cases like this one.

Manufacturer-property for Fan Coils added to AutoCAD's Properties and to MagiCAD's IFC Property set

The Manufacturer-property wasn't available in neither AutoCAD's Properties or MagiCAD's IFC Property set, for Fan Coil Units and this has now been corrected and added.

Pressure drop in the report for Climate Beams

The pressure drop of climate beams did not work in reports. This has been fixed and the value is now properly shown in the reports.



Valve selection problem

Fixed a bug where only 39 characters were copied from the product code, which affected the connection size of the selected valve-product.

0 kPa appeared in calculation report when differential pressure controller was used

We removed measurer minimum dp (which is always 0) from General calculation results.

The internal static pressure drop of a fire hydrant was not handled in sprinkler calculation

The manufacturers of pillar fire hydrants give the pressure drops in the horizontal position. But in practice these are always installed in the vertical position.

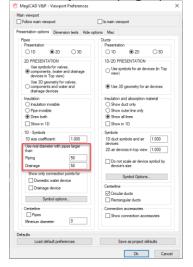
Thus the pressure static pressure drop from the connection point to the outlet must be handled correctly, which it now is.

When using Find & Replace on a Fan coil unit, power and system disappeared

The given power and systems of Fan Coil Units disappeared after replacing them using Find & Replace (new version). This has now been fixed and the values stay put.

"Use real diameter..." for Drainage affected sprinkler & gas pipes

The Use real diameter.. Drainage"-value did also affect the sprinkler and gas pipes. Now they are affected by the "Piping"-option and not the "Drainage"-option:

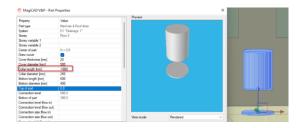


Drainage

Negative lengths could be set to generic manholes parts in Part Properties

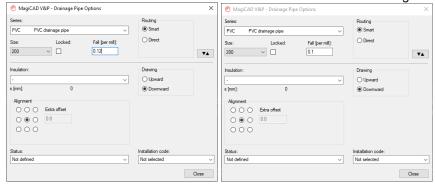
It was possible to set negative lengths in Part Properties of generic manholes. This has now been properly restricted to only positive values.





Fall is shown as 0 when below 1

The fall is now rounded to the closest decimal when set and drawing is started:



Sprinkler

Missing values in Sprinkler installation dialog

There were a number of missing values in the sprinkler installation dialog since the installation dialog updates in MagiCAD 2022, with more options and values.

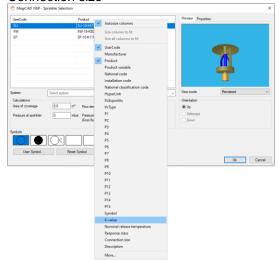
These have now been added again:

K-value

Nominal release temperature

Response class

Connection size





2.3 Electrical

IFC Predefined Type didn't work for cable tray fittings

Now type primary classification is set for electrical cable route fittings in ifc-file

Running index groups were not updated with Update DWG

Running Index groups were not updated with the Update DWG function. This has now been fixed and the group is also updated.

DWG export error with National Classification Code

When exported drawing had National Classification Code in use for some objects, opening Part Properties of one of those objects gave fatal error.

This has now been fixed.

Connections to Master DWG fixes

LED stripes and Lighting tracks were converted to cable trays in the slave drawing. This has been fixed and the part types of LED stripes and Lighting tracks don't change anymore.

When creating circuit symbols with the Connections to Master DWG function, those circuit symbols are now connected to their cables. Updating data to either a circuit symbol or its connected cable now updates the changed data to both objects.

Connections to Master DWG now updates cable number to cables and circuits.

When updating cables with Connections to Master DWG function, "Apply" checkboxes remained in checked status after apply had been clicked. Now also checkboxes of cables are cleared after applying changes.

Starting cable drawing from cable bend messes vertex points

When starting to continue cable drawing from cable's bend, current cable's vertex points were changed. This has now been fixed.

Running Index can't be added to cable trays

Running index couldn't be added to cable trays, lighting tracks or led stripes. This has been fixed and Running indexes now work also with those part types.

3D symbol problems when object is installed above 33000

When object was placed to the drawing and its installation level was over 33000 and some changes were made to the 3D symbol of the object, 3D symbol height level was changed to somewhere around -33000.

Now the position of 3D symbol is changed correctly.



2.4 Circuit designer

Conductor reference update problem

When changing conductor from control cable to another control cable or to another connector inside same control cable, reference to the old connector was not removed.

Now the old connection will be removed when a new one is created.

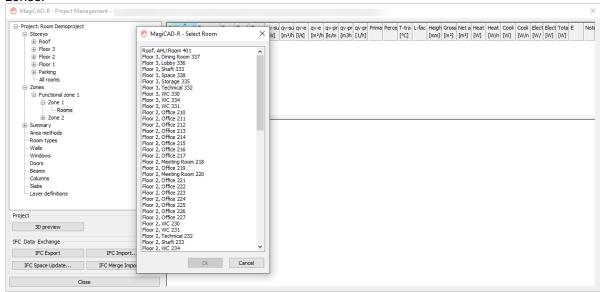


2.5 Room

Copy zone and manually adding rooms to zones

Earlier it was only possible to have the same room in multiple zones if a zone had been copied. But if one tried to select a room, which already had been added to another zone, then the room wasn't available in the list for selection.

Now it is possible to add the same room to different zones directly as well, and not only by copying zones.



MagiCAD Room's heat loss power values were not working with MCREV BPS import

An issue related to the MagiCAD Room IFC meant that the "Heating load" didn't work when importing into MagiCAD for Revit via BPS Import.

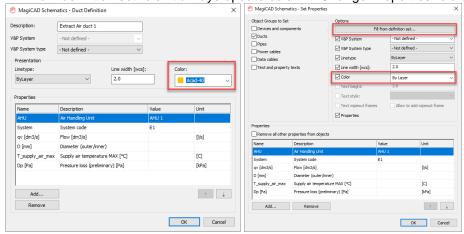
This has now been fixed and the values work correctly.



2.6 Schematics

Change Properties "Fill from definition set" excluded the color

"Fill from definition set" didn't always update color in "Change Properties" dialog.



This has now been fixed and the color is always included as well.

Issue with updating data

The data was not always correctly updated. For examples flow units changed from m3/h to l/s after changing the flow value in the VP project.

Show linked objects showed un-linked objects

Now "Show linked" and "Show unlinked" commands only validate links, while the issue was that the "linked list" contained objects which used to be linked.

Link manager added new properties that were not defined in dataset to symbols

If a linked schematics property is no longer present in the dataset and schematics drawing, you will get a warning about it when opening the Map Properties -dialog