MagiCAD for AutoCAD

Release notes for version 2020 UR-1

12/11/2019





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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.

۲	MagiCAD Schematic	:s - Des	ign Data	
File				
	New project			
	Open project			
	Save As			
	Merge project			
	Recent files	>	1 C:\ProgramData\MagiCAD\Demo Pr\COM-SY-DEMO.msd	
	Exit			

"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.

MagiCAD - Provision for Builderswork Openings					
Building service information New/existing provision New provision Existing provision	Geometry Shape				
Provision is for ventilation	Is recess Diameter/width [mm]: 300				
Provision is for plumbing	Height [mm]: 300				
Provision is for sprinkler	Length [mm]: 300				
Provision is for electrical	Specify On-screen				



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 se	ttings:					
🙆 MagiCAD V&	&P - Provision for Builde	rswork Oper	nings Options			×
Offset						
Offset for rectan	gular objects (h1)		50	h1		h2
Min.distance for	separate builderswork ope	100		\Box		
Offset for circula	r objects (h2)		50	\geq		
Extra offset arou	nd fire damper / products		0		7	\mathcal{Y}
Maximum diamet	ter for circular builderswork	opening	9999		h3	
Minimum equiva	lent diameter for builderswo	rk opening	0		113	
Tolerance for co	ombining collinear buildersw	ork openings	0			
Rounding limits						
Rounding step			5			
Rounding down	limit		0			
Owner						
Ventilation	V			Sprinkler	SPR	
Piping	HP			Electrical	E	
Plumbing	Р					
Object ID format			Void RI + own			
object to format			vola RI + own	er		~
1					Ok	Cancel

In the drawing:

Properties		
Property	Value	^
Storev	Floor 1	
Running index	Running index-01	
UserVar 1		
UserVar 2		
U V 2		
Object ID		
RI: 01 - V		Override
[
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.

🕐 MagiCAD V&P - Edit Report Template	
Template name	
Include these Parts/Objects	Include these Attributes PfV
Ventuation Piping Others Provision for Builderswork Opening Selection area	 □·· Part type specific data □·· Provision for Builderswork Openings □·· PfV bottom level (mm, from floor origin) □·· PfV center level (mm, from floor origin) □·· PfV top level (mm, from floor origin)

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

CREATE NEW 🗸 DELETE	Variant circ-ceil-collar-valve-125	۲	MagiCAD for Revit 2015.4 -> MagiCAD for AutoCAD 2015.4 ->
Filter			F
Enter product code X	Basic data		L
CIRC-CEIL-COLLAR-V/ 2 variants	Code circ-ceil-collar-valve-125		Advanced 💻
circ-ceil-collar-valve-100 circ-ceil-collar-valve-125	Description (English)		
			MORE
	Manufacturer article number:		



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:

):	000	004			k (heat	ting)	0.00500	mm	Product variable	Value	
escription:	Plac	tic pipe Pl				k (water) 0.0050		mm	P1	value	
									P2		
			Hazen	-Williams factor:	140 ~		P3				
			Zeta v	Zeta value: (DIN 1988:300) Undefined							
						· · · ·	Undefined		P5		
oject ID format:	-				✓ Them	al conductivity:	Galvanized steel		P6		
Material							Copper Red brass		P7		
Code:	PEX	(Stainless steel		P8		
							PP		P9		
Type:	Und	lefined			 (For BS) 	9251:2014 sprinkler calcul	IIa PB CPVC		P10		
							Composite		P11		
VI Hexible nine											
Flexible pipe			laudela la sa	al.		0.0	PEX	_	P12		
Hexible pipe Tolerance for usi	ng shorter	standard fl	lexible leng	jth:		0.0	PEX	_	P13		
Tolerance for usi	ng shorter	standard fl	lexible leng	yth:		0.0	PEX		P13 P14		
	ng shorter :	standard fl	lexible leng	jth:		0.0	PEX		P13		
Tolerance for usi	ng shorter : Dout	standard fl Valve	lexible leng Zone	th: Bend	Fit on I	0.0 UV1	PEX Flexible le		P13 P14		
Tolerance for usi	-				Fit on I 5			-	P13 P14		
Tolerance for usi izes Size Din 12 8.0	Dout	Valve	Zone	Bend			Flexible le		P13 P14		
Tolerance for usi izes Size Din 12 8.0 15 10.0	Dout 12.0	Valve 10	Zone 10	Bend 1.5	5		Flexible le 0		P13 P14		
Tolerance for usi izes Size Din 12 8.0 15 10.0 18 13.0	Dout 12.0 15.0	Valve 10 10	Zone 10 10	Bend 1.5 1.5	5 5		Flexible Ie 0 0		P13 P14		
Tolerance for usi izes Size Din 12 8.0 15 10.0 18 13.0 22 16.0	Dout 12.0 15.0 18.0	Valve 10 10 15	Zone 10 10 15	Bend 1.5 1.5 1.5	5 5 5		Flexible le 0 0 0		P13 P14		
Tolerance for usi izes Din 12 8.0 15 10.0 18 13.0 22 16.0	Dout 12.0 15.0 18.0 22.0	Valve 10 10 15 15	Zone 10 10 15 15	Bend 1.5 1.5 1.5 1.5	5 5 5 5		Rexible le 0 0 0 0		P13 P14		
Tolerance for usi izes Size Din 12 8.0 15 10.0 18 13.0 22 16.0 28 20.0	Dout 12.0 15.0 18.0 22.0 28.0	Valve 10 10 15 15 20	Zone 10 10 15 15 20	Bend 1.5 1.5 1.5 1.5 1.5 1.5	5 5 5 5 5		Flexible le 0 0 0 0 0		P13 P14		
Tolerance for usi izes Size Din 12 8.0 15 10.0 18 13.0 22 16.0 28 20.0 32 23.2	Dout 12.0 15.0 18.0 22.0 28.0 32.0	Valve 10 10 15 15 20 25	Zone 10 10 15 15 20 25	Bend 1.5 1.5 1.5 1.5 1.5 1.5 1.5	5 5 5 5 5 5 5 5		Flexible Ie 0 0 0 0 0 0 0		P13 P14		

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.

🙆 MagiCA	D V&P - Radiator Selec	tion			>
Heating radia	ator Water radiator				
User code		Description			
S HWR	S.* CON	Convector			
<				>	
System:	Select system			~	View mode Rendered ~
Size Height: Length:			270 ~ 350 ~	mm mm	Connections
Room temp Connection			0 20 50	W ℃ mm	Product: NONE V Size: DN: - Properties
Volume:	Rotate		15.0	1	Drawing options Draw valve
			0	W %	Draw filled radiator <u>////////////////////////////////</u>
Flow:				l/s	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.

- 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:

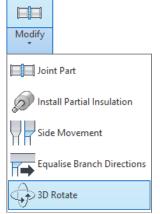
- "Top of part (uninsulated)"
- "Bottom of part (uninsulated)"
- "Top of part (uninsulated), absolute [m]"
- "Bottom of part (uninsulated), absolute [m]"
- "Top of part (uninsulated), absolute [mm]"
- "Bottom of part (uninsulated), absolute [mm]"

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 <u>object with the "3D Rotate" command</u>.



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 dra	awings		
System			
UserCode	Name		
🗆 W1	Tap water 1		
Options			
Pressure			
Calculate need	ded pressure		
Use specifie	d pressure at outlet	0.000	kPa
Show the inde	x run		
Save calculate	ed data in drawings connected to	current drawing vi	a connection
Show calculate	ion report		
Heat losses			
Ambient temper	ature outside pipes:	20.0	°C
Warn if tempera	ture decreases more than:	5.0	°C
Warning limit for til temperature	me to reach hot water design	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).



📀 MagiCAD V&P - Project settings	×
Market area	All 🗸
Backup project files in drawing	
Save viewport defaults to:	
Project	
O Drawing	
Save shaded viewport options to	
Project Orawing	
Character set	
National	
 Unicode 	
Flow in the domestic water systems	
Finnish D1	~
IFC configuration file	
C:\ProgramData\MagiCAD\Configurations\MagiCAD	Settings.xml
Sound calculation	
Sound filter	
Afilter Vise 4dB room atter	nuation (10 sab)
A-filter	
C-filter NR	Ok Cancel

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.



🔊 MagiCAD-E - User Symbol Service			×	
Main Group	User Symbols			
Switchboard schematic/combined symbols $\qquad \lor$				
Symbol Series	Mittauslähtö	Delete symbol		
USR ~		Move symbol		
Sub-group		Symbol properties		
Subgroup-10 Subgroup-15				
Subgroup-5		🙆 MagiCAD-E - Edit symbol		×
		Block name: GI805USRU_ MITTAUS2 Description: Scalable: X: No Y: No		
			Ok C	Cancel

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:	1					
Cable code:	7					
Type name:	TELLU					
Description:	TELLU 7					
Manufacturer:						
Product code:	TELLU 7					
froduct code.	12207	TELLU 7				
Properties						
Number of connec	tion pairs:	0		Max length [m]:	0	
Diameter [mm]:		11				
Weight [kg/m]:		0.140				
Attenuation [dB/1	00m] lower	2.9		higher	11.5	
Denvine Denevier					-	
-Drawing Properties						
Layer code {PV}:					32	
Object ID						
Object ID format:	- Manual value -				~	
Product Variables				Cable Mark		
Variable	Value		^			
National code:						
Hyperlink:						
P1:						
P2:				-		
P3:				Select	None	
P4:			*	Selection	NUTE	
				Ok	Cancel	



	Desc	Code/No	Cable	L [m]	Attenuati	higher	Differenc	Total atte	higher	Differenc	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
L	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
L	Sockets/C,D	3			1.000	1.000		26.887	48.488	21.601	Max difference exceeded, Max attenuation exc
	Circuit										

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 freezed on the selected layout and then based on the selections, those layers will be unfreezed. 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	Layouts A0 A1 A2
Manual selection Current drawing Data filter Part types Properties	All B-Communication/Data B-Communication/Data B-Cable routes B-COthers	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.

operties			Power inputs		Symbol	
Property	Value	^	Voltage [V]:	400		
General			Expansion surplus [%]:	30	Kashus usas as	
Part type:	Switchboards				Keskus, uppo-as Keskus, pinta-as	Keskus, uppo-as, ovel
Code:	SB10.1		Calculate power values from circuits			
Description:	Switchboard 10.1		Use manually given power values		Keskus, pinta-as, ovell Keskus, pinta-as, s	uoja Keskus, pinta-as, suoja
IfcExportAs:	IfcFlowControllerType	\sim	Detailed power value	c		
IfcType:		\sim				
Is dummy (original is in			Update power calculati	ons	Keskus, yleensä Keskus, uppo-as, o	ovell Keskus, pinta-as, ove
Supply area [m2]:	0.0					(G)
Earthing:	PE	\sim	Power values including surplus		Keskus, pinta-as, suoja Muuntaja, 1000x5	
Running index:			Total active power [kW]:	20.59		
System:	SB Switchboards	\sim	cos phi:	0.98	Tunnus	
Status:	- not defined -	\sim			Keskuslaite, 1000x500 Pääkeskus, kaavio	ssa, Keskus, kaaviossa, 6
Installation:	- not defined -	\sim	Total apparent power [kVA]:	20.97		
IP class:	- not defined -	\sim	Total reactive power [kVAr]:	3.95	N	
EXE dass:	- not defined -	\sim	Max active power [kW]:	10.86	Keskus, kaaviossa, 600 Keskus, kaaviossa,	600 Keskus, kaaviossa, 6
Dimensions						
Width [mm]:	600		Cos phi of max power:	0.99		
Depth [mm]:	190		Max apparent power [kVA]:	10.98		
Height [mm]:	800		Max reactive power [kVAr]:	1.66		
Elevation:	1100		hax reactive power [kvAr].	1.00		
Object Variables			Three phase short circuit			
01:			Set 3~ start values			
02:						
03:			Ik3p_net [A]:	5264.2		
04:			Ip_net [A]:	7673.3		
05:			42.000			
O6:			Ip_net_lim [A]:			
07:					Symbol Series	
08:			Single phase short circuit		Symbol Series	
09:			Set 1~ start values		where the	
010:					Voltage drop	
011:			Ik1p_net [A]:	2223.9	Voltage drop [V]:	1.29
012:		~	Tripping time overdrive [s]:	0.0	Voltage drop [%]:	0.32
					tottage urop [/a];	0.02

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.

🕙 MagiCAD-E - Change bend type 🛛 🗙	
Horizontal bends Change horizontal bends	
Hatch bend in 2d	
Vertical bends	
Change vertical bends	
Hatch bend in 2d	
Note! You cannot change the type of vertical bends for cable ladders.	
Ok Cancel	

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 - Swite	chboard Area		×
Switchboard			
	Sele	ct	
Elevation			
Elevation:	0		
Area			
Area [m2]	✓ A	dd to supply area	
Priority	0		
Systems			
Selection set			~
-	SaveAs	Delete	Parama
Save	SaveAs	Delete	Rename
◯ All systems		Selected system	em
SB Switchboards W28 Lighting W29 Sockets W30 Heating			~
Select al	I	Des	select all
		Ok	Cancel



1.4 Circuit designer

Possibility to select template when adding new page to drawing

When adding a new page to Circuit desinger 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.

🙆 MagiCAD-CD - Page	×	
Page 02 03 04 05 06 07 08 (end)		
Insert 🔽	î	
Insert from templa	te draw	ing
Clos	e	

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.

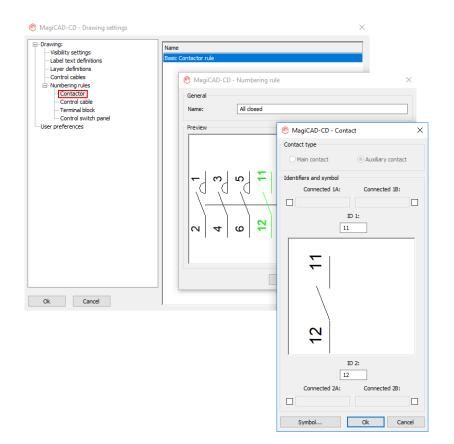
Numbering rules can be copied from other drawings.

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.





ng: sibility settings	Name	Numbering rule
s itions	Basic Terminal Block rule	100,110,120,122
	100-199	100, 101, 102, 103
	200-299	200,201,202,203
	300-399	300,301,302,303
	400-499	400,401,402,403
	500-599	500,501,502,503
anel	600-699	600,601,602,603
paner	700-799	700,701,702,703
	800-899	800,801,802,803
	900-999	900,901,902,903
	MagiCAD-CD - Numb Name:	pering rule
	Name:	5
	Name:	200-299
	Name: Natural numbering Starting number: Custom series	200-299
	Name: Natural numbering Starting number: Custom series	200-299
	Name: Natural numbering Starting number: Custom series	200=299
	Name: Natural numbering Starting number: Custom series	200=299
	Name: Natural numbering Starting number: Custom series	200-299
	Name: Natural numbering Starting number: Custom series	200-299



rawing:		
And the contract	Name	Numbering rule
···· Visibility settings ···· Label text definitions	Basic Control Cable Symbol rule	1,2,3,4
Layer definitions	Pair numbering	1a, 1b, 2a, 2b
Control cables ∃Numbering rules	MariCAD CD Number	in a da
Contactor	MagiCAD-CD - Numberi	ing rule X
erminal block	Name:	
l switch panel æs	Natural numbering	
5	Starting number:	1
	O Custom series	
	O Pair numbering	
	1st suffix:	
	2nd suffix:	
		Ok Cancel
Cancel		
	,	
D-CD - Drawing settings		
g:	Name	Numbering rule
bility settings	Name	Numbering rule
La la La Com	Basic Control Switch Panel ru	le 1-2.3-4.5-6.7-8
text definitions r definitions	Basic Control Switch Panel ru	le 1-2,3-4,5-6,7-8
text definitions definitions ol cables	Basic Control Switch Panel ru	le 1-2,3-4,5-6,7-8
definitions ol cables ering rules	Basic Control Switch Panel ru	ıle 1-2,3-4,5-6,7-8
definitions I cables ring rules ntactor		
nitions Ibles g rules ctor ol cable nal block	Basic Control Switch Panel ru	
initions ables grules ictor ol cable nal block ol switch panel		
tions les rules cor cable l block switch panel	MagiCAD-CD - Nu Name:	
ons s les able olock witch panel	 MagiCAD-CD - Nu Name: Natural numbering 	
ons s les able olock witch panel	MagiCAD-CD - Nu Name:	
tions es ules or cable I block switch panel	 MagiCAD-CD - Nu Name: Natural numbering 	umbering rule
ions :s ules or able block witch panel	 MagiCAD-CD - Nu Name: Natural numbering Starting number: 	umbering rule
ions :s ules or able block witch panel	MagiCAD-CD - Nu Name: Name: Natural numbering Starting number: Custom series	umbering rule
ons is iles r able block witch panel	MagiCAD-CD - Nu Name: Name: Natural numbering Starting number: Custom series	umbering rule
nitions oles rules ttor I cable al block I switch panel	 MagiCAD-CD - Nu Name: Natural numbering Starting number: Custom series Custom series Pair numbering 1st suffix: 	umbering rule
ions 25 ules or able block witch panel	MagiCAD-CD - Nu Name: Name: Natural numbering Starting number: Custom series	umbering rule
tions es ules or cable I block switch panel	 MagiCAD-CD - Nu Name: Natural numbering Starting number: Custom series Custom series Pair numbering 1st suffix: 	umbering rule
definitions Il cables	 MagiCAD-CD - Nu Name: Natural numbering Starting number: Custom series Custom series Pair numbering 1st suffix: 	umbering rule
tions les rules cor cable I block switch panel	 MagiCAD-CD - Nu Name: Natural numbering Starting number: Custom series Custom series Pair numbering 1st suffix: 	umbering rule
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nitions oles rules ttor I cable al block I switch panel	 MagiCAD-CD - Nu Name: Natural numbering Starting number: Custom series Custom series Pair numbering 1st suffix: 	umbering rule
ions 25 ules 57 able block switch panel	 MagiCAD-CD - Nu Name: Natural numbering Starting number: Custom series Custom series Pair numbering 1st suffix: 	umbering rule
ions :s ules or able block witch panel	 MagiCAD-CD - Nu Name: Natural numbering Starting number: Custom series Custom series Pair numbering 1st suffix: 	umbering rule



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.

Tho	ald	dia	0.01
The	ulu	ula	iuu.

🕙 MagiCAD-R - Room	type			×
General Name: Description:	Office type 1 Template for small offices		Temperatures Temperature setpoint for heating [°C]: Supply air temperature [°C]:	21.0
Ventilation Primary flow for automati	c values	oly O Extract	Heat Loss Manually given heat loss [W/net m2]:	50.00
Supply airflow [ls,m2] O By times per hour	: 2.0 [m3/h,m2]	7.2	Cooling power Total cooling power [W/net m2]:	50.00
Supply airflow [1/h]: Extract airflow by percen	t of supply:	0.0	Electrical Loads Average load [W/het m2]:	30.0
Ar exchange rate (1,hj)		<u></u>	Fixed load [W]:	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.

General			T	
General Name: Description:	Office type 1 Template for small offices		Temperatures Temperature setpoint for heating [°C]: Supply air temperature [°C]:	21.0
Ventilation By manual values Supply airflow [l/s]: Extract airflow [l/s]:	0 [m3/h]	0	Heat Loss Manually given heat loss [W/net m2]: Cooling power	50.00
Primary flow for automati By area Supply airflow [Is,m2]:	c values) Supply O Extract	Total cooling power [W/net m2]: Electrical Loads Average load [W/net m2]:	30.0
 By times per hour Supply airflow [1/h]: Extract airflow by percent 	t of supply:	0.0	Fixed load [W]:	0.0

This can be set in the room type definitions.



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:

🕐 MagiCAD-R - Room		×
Room	Temperatures	
User code: 121	Temperature setpoint for heating [°C]:	21.0
Room name: Office	Supply air temperature [°C]:	20.0
Room type: Not defined V	Transfer air temperature = outside temperature	
	Transfer air temperature [°C]:	-26.0
Note		2010
	Roof Slab Exception	
	Roof slab:	- ~
✓	Area coverage from room area [%]:	0
Room height [mm]: 2400	Use outside temperature	
Area (gross/net)[m2]: 8.8 7.5	Background temperature [°C]:	0.0
Room volume (gross/net)[m3]: 21.1 18.0		
	Floor Slab Exception	
Ventilation	Floor slab:	- ~
O By manual values	Area coverage from room area [%]:	0
Supply airflow [l/s]: [15] [m3/h] 54	Background temperature [°C]:	0.0
Extract airflow [/s]: 16 [m3/h] 57	Heat Loss	
Primary flow for automatic values Supply Extract	Total heat loss [W]: 667	[W/net m2]: 88.74
By area		[[[]]][[]]][[]][[]]][[]][[]]][[]][[]]][[]][[]]][[]][[]]][[]][[]]][[]][[]]][[]][[]][[]]][[][]
Supply airflow [ls,m2]: 2.0 [m3/h,m2] 7.2	Manually given heat loss [W]: 0	[W/net m2]: 0.00
O By times per hour		
Supply airflow [1/h]: 3.0		Heat loss analysis
Extract airflow by percent of supply: 105	Cooling power	
Air exchange rate [1/h]: 0.10	Total cooling power [W]: 0	[W/net m2]: 0.00
	Electrical Loads	
	Average load [W]: 0	[W/net m2]: 0.00
	Fixed load [W]:	0
IDA ICE properties		Ok Cancel

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.

🙆 MagiCAD Schematics - Page	×
Page 02 01	
Insert	1
Insert from template drawing	Ļ
Enable multiple pages in rows	
Clo	ose



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.

🕙 MagiCAD V&P - Change Property		×
Configuration	Save Save As Delete	Rename
Property		
Filter	~	
UserVar 12 UserVar 13 UserVar 14 UserVar 15 Volume UserVar 15 UserVar 15 UserVar 15 UserVar 15 UserVar 15 UserVar 15 UserVar 16 UserVar 16 UserVar 18 UserVar 18 UserVar 18 UserVar 19 UserVar 19	 ∧ Value to: 4.0 ✓ 	ی <u>ل</u> ے ۱

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



IFC Export unlocks layers in drawings

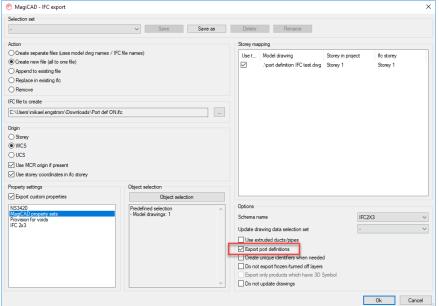
The issue was that IFC Export unlocked layers in drawings. This happens as drawings are being updated after IFC Export.

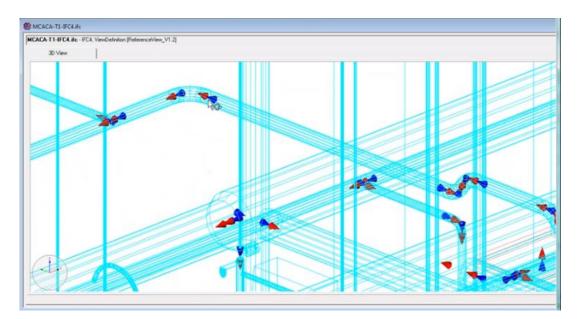
The problem was that the drawing is saved before layers are locked back, leaving the layers unlocked. Now the IFC Export keeps the layers locked as they were before the IFC Export was run.

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.





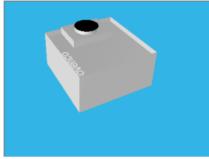


2.2 Ventilaion and Piping

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

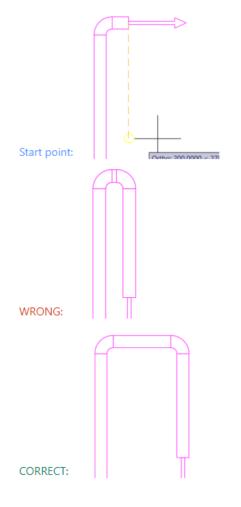
In the Sound Calculation dialog, after having run the calculations and then selecting the "General results" radio button, it was impossible to return to all the other system sound results as all radio buttons were disabled.



Fit-on-length was not working correctly when pipes were drawn

D:		000002				k (heating)	0.04500	Variable	Value	
escription	n:	Steel pip	e Fe-35			k (water)	1.00000	P1		
lserCode ⁻		Fe-35				Hazen-Williams factor:	120 ~	P2		
								P3		
lational co	ode:					Thermal conductivity:	20.0000 W/mK	P4		
bject ID f	format:	-			\sim			P5		
Material								P6		
Code:		Fe35						P7		
			_					P8		
Type:		Undefine	be		 (For BS) 	9251:2014 sprinkler calcu	ulation)	P9		
	le pipe							P10		
								P11		
_		borter et an	dard flavible	langth:						
_	nce for using a	shorter stan	dard flexible	length:		0.0		P12		
Toleran		shorter stan	dard flexible	length:		0.0		P12 P13		
_		shorter stan	dard flexible	_						
Toleran		shorter stan	dard flexible Valve	length: Bend R	Fit on len	0.0 UV1	^	P13		
Toleran Gizes	nce for using a			_	Fit on len 5		^	P13 P14		
Toleran Sizes Size	Din	Dout	Valve	Bend R			^	P13 P14		
Toleran Sizes Size 10	Din 13.6	Dout 17.2	Valve 10	Bend R 1.5	5			P13 P14		
Toleran Sizes Size 10 15	Din 13.6 17.3	Dout 17.2 21.3	Valve 10 15	Bend R 1.5 1.5	5 5			P13 P14		
Toleran Sizes Size 10 15 20	Din 13.6 17.3 22.3	Dout 17.2 21.3 26.7	Valve 10 15 20	Bend R 1.5 1.5 1.5	5 5 5		^	P13 P14		
Toleran Sizes Size 10 15 20 25	Din 13.6 17.3 22.3 28.5	Dout 17.2 21.3 26.7 33.7	Valve 10 15 20 25	Bend R 1.5 1.5 1.5 1.5	5 5 5 5			P13 P14		
Toleran Sizes Size 10 15 20 25 32	Din 13.6 17.3 22.3 28.5 37.2	Dout 17.2 21.3 26.7 33.7 42.4	Valve 10 15 20 25 32	Bend R 1.5 1.5 1.5 1.5 1.5 1.5	5 5 5 5 5			P13 P14		
Toleran Sizes Size 10 15 20 25 32 40	Din 13.6 17.3 22.3 28.5 37.2 43.1	Dout 17.2 21.3 26.7 33.7 42.4 48.3	Valve 10 15 20 25 32 40	Bend R 1.5 1.5 1.5 1.5 1.5 1.5 1.5	5 5 5 5 5 5 5			P13 P14		
Toleran Sizes Size 10 15 20 25 32 40 50	Din 13.6 17.3 22.3 28.5 37.2 43.1 54.5	Dout 17.2 21.3 26.7 33.7 42.4 48.3 60.3	Valve 10 15 20 25 32 40 50	Bend R 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5	5 5 5 5 5 5 5 5 5		Î	P13 P14		

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





Ar Pipe Piping Piping Water Device Piping	_ v .			·· · -
Arr Component Device Water Device Sprinklers Sections Pind & Doppings & Replace & Repl			////// 777 · · · · · ·	🖳 🗇 Product Model 💂 🔿 Ru
Piping Sprinklers Tools + 1" × + MagiCAD V&P - Part Properties Property Value Part type Open end/Unspec. System EH1 "Exhaust 1" Storey variable 1 Storey variable 2 Center of part H = 3028.0 Connection size 984:458 Status Not defined Description UserVar 1 UserVar 3 UserVar 4 UserVar 5 UserVar 6 UserVar 7 UserVar 9 UserVar 10 UserVar 13 UserVar 13 UserVar 14 UserVar 15 UserVar 16 UserVar 17 UserVar 10 UserVar 10 UserVar 11 UserVar 11 UserVar 12 UserVar 12 UserVar 13 Object ID Override 	Air Pipe Piping	Piping Water Device	Sprinkler Sections	Find &
1 × + MagiCAD V&P - Part Properties Property Value Part type Open end/Unspec. System EH1 "Exhaust 1" Storey Roor 1 Storey variable 2 Center of pat H = 3028.0 Connection size Status Not defined Description UserVar 2 UserVar 3 UserVar 4 UserVar 5 UserVar 6 UserVar 8 UserVar 10 UserVar 13 Sound Part generates sound 63 125 250 500 1k 2k 4k Bits Oventide 	-			
MagiCAD V&P - Part Properties × Property Value Part type Open end/Unspec. System EH1 "Exhaust 1" Storey variable 1 Storey variable 2 Certer of path H = 3028.0 Connection size 984x458 Status Not defined Description UserVar 1 UserVar 4 UserVar 4 UserVar 7 UserVar 4 UserVar 10 UserVar 12 UserVar 13 V Sound Ø 125 250 500 1k 2k 4k 8k Object ID Override		Piping	Sprinklers	Tools 👻
Property Value Part type Open end/Unspec. System EH1"Exhaust 1" Storey Floor 1 Storey variable 1 Storey variable 2 Center of pat H = 3028.0 Connection size 984x458 Status Not defined Description UserVar 1 UserVar 3 UserVar 4 UserVar 4 UserVar 5 UserVar 5 UserVar 6 UserVar 10 UserVar 1 UserVar 11 UserVar 3 UserVar 12 UserVar 4 UserVar 13 Otject 10 Object 1D Overnde	1* × +			
Property Value Part type Open end/Unspec. System EH1"Exhaust 1" Storey Floor 1 Storey variable 1 Storey variable 2 Center of pat H = 3028.0 Connection size 984x458 Status Not defined Description UserVar 1 UserVar 3 UserVar 4 UserVar 4 UserVar 5 UserVar 5 UserVar 6 UserVar 10 UserVar 1 UserVar 11 UserVar 3 UserVar 12 UserVar 4 UserVar 13 Otject 10 Object 1D Overnde		MagiCAD V&P - Part Proper	ties	×
Part type Open end/Uhspec. System EH1 "Exhaust 1" Storey Roor 1 Storey variable 1 Storey variable 2 Center of part H = 3028.0 Connection size 984x458 Status Not defined Description UserVar 1 UserVar 2 UserVar 3 UserVar 5 UserVar 4 UserVar 6 UserVar 7 UserVar 8 UserVar 10 UserVar 11 UserVar 8 UserVar 12 UserVar 13 Sound Part generates sound 63 125 250 500 1k 2k 4k 8k Object ID Ovenide Ovenide Ovenide				
System EH1 "Exhaust 1" Storey Floor 1 Storey variable 1 Storey variable 2 Center of part H = 3028 0 Connection size 984x458 Status Not defined Description UserVar 1 UserVar 3 UserVar 3 UserVar 4 UserVar 4 UserVar 5 UserVar 6 UserVar 9 UserVar 9 UserVar 10 UserVar 10 UserVar 12 UserVar 10 UserVar 10 UserVar 10 UserVar 10 UserVar 10 UserVar 11 UserVar 10 UserVar 10 Overvide		Property	Value	<u>^</u>
Storey Floor 1 Storey variable 1 Storey variable 2 Center of pat H = 3028.0 Connection size 984x458 Status Not defined Description UserVar 1 UserVar 2 UserVar 3 UserVar 5 UserVar 5 UserVar 6 UserVar 9 UserVar 10 UserVar 10 UserVar 12 UserVar 10 UserVar 13 Other 1 Object ID Override		Part type	Open end/Unspec.	
Storey variable 1 Storey variable 2 Center of part H = 3028.0 Connection size 984x458 Status Not defined Description UserVar 1 UserVar 2 UserVar 5 UserVar 5 UserVar 9 UserVar 9 UserVar 10 UserVar 13 Sound ØP Part generates sound 63 125 Object ID		System	EH1 "Exhaust 1"	
Storey variable 2		-	Floor 1	
Center of part H = 3028.0 Connection size 984x458 Status Not defined Description UserVar 1 UserVar 2 UserVar 3 UserVar 4 UserVar 5 UserVar 5 UserVar 8 UserVar 9 UserVar 9 UserVar 10 UserVar 13 Sound Ølect ID Object ID Override				
Connection size 984x458 Status Not defined Description		-		
Status Not defined Description UserVar 1 UserVar 2 UserVar 3 UserVar 3 UserVar 4 UserVar 4 UserVar 5 UserVar 7 UserVar 7 UserVar 8 UserVar 9 UserVar 10 UserVar 10 UserVar 12 UserVar 10 UserVar 10 Override				
Description UserVar 1 UserVar 2 UserVar 3 UserVar 4 UserVar 5 UserVar 7 UserVar 9 UserVar 10 UserVar 12 UserVar 13				
UserVar 1 UserVar 2 UserVar 3 UserVar 4 UserVar 5 UserVar 6 UserVar 7 UserVar 7 UserVar 9 UserVar 10 UserVar 11 UserVar 12 UserVar 13 Sound Ø Part generates sound Ø Diject ID Override			Not defined	
UserVar 2 UserVar 3 UserVar 4 UserVar 5 UserVar 6 UserVar 6 UserVar 8 UserVar 9 UserVar 10 UserVar 11 UserVar 12 UserVar 13 Sound Part generates sound 63 125 250 500 1k 2k 4k 8k Object ID Override				
UserVar 3 UserVar 4 UserVar 5 UserVar 6 UserVar 7 UserVar 8 UserVar 9 UserVar 10 UserVar 11 UserVar 12 UserVar 13 Sound M Part generates sound 63 125 250 500 1k 2k 4k 8k Object ID Override				
UserVar 4 userVar 5 UserVar 6 userVar 7 UserVar 8 userVar 9 UserVar 10 userVar 12 UserVar 13 v Sound 0 Ø3 125 250 500 1k 2k 4k 8k Object ID Override				
UserVar 5 UserVar 6 UserVar 7 UserVar 8 UserVar 9 UserVar 10 UserVar 11 UserVar 12 UserVar 13 Sound Sound Object ID Override				
UserVar 6 UserVar 7 UserVar 8 UserVar 9 UserVar 10 UserVar 11 UserVar 12 UserVar 13 Sound M Part generates sound 63 125 250 500 1k 2k 4k 8k Object ID Override	_ +			
UserVar 8 UserVar 9 UserVar 10 UserVar 11 UserVar 12 UserVar 13 Sound ✓ Part generates sound 63 125 250 500 1k 2k 4k 8k Object ID Override	\land			
UserVar 9 UserVar 10 UserVar 11 UserVar 12 UserVar 13 Sound		UserVar 7		
UserVar 10 UserVar 11 UserVar 12 UserVar 13 Sound		UserVar 8		
UserVar 11 UserVar 12 UserVar 13 Sound		UserVar 9		
UserVar 12 UserVar 13 Sound Part generates sound 63 125 250 500 1k 2k 4k 8k Object ID Override		UserVar 10		
UserVar 13				
Sound				
Pat generates sound 63 125 250 500 1k 2k 4k 8k Object ID		UserVar 13		~
63 125 250 500 1k 2k 4k 8k Object ID Override		Sound		
63 125 250 500 1k 2k 4k 8k Object ID Override		Part generates sound		
Object ID Override			1k 2k 4k 8k	
Override				
		Object ID		
Ok Cancel				Override
Ok Cancel				
				Ok Cancel

"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

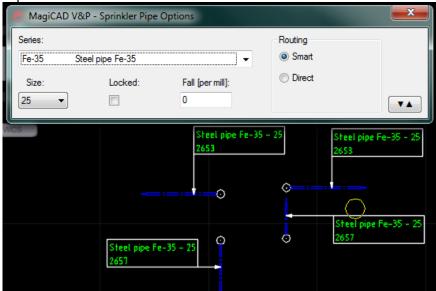
Now products from user-made databases can be edited in MagiCAD Create.



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.



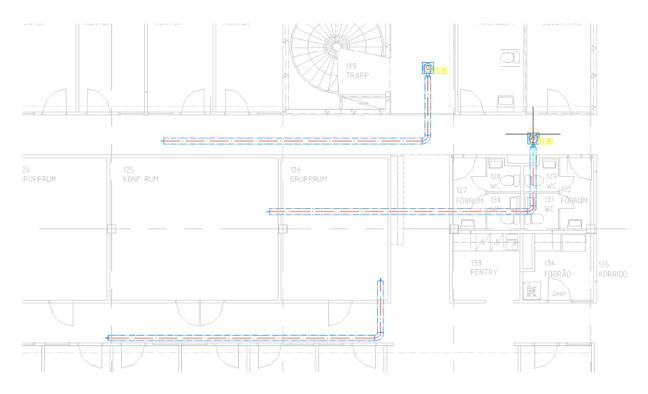
Now the connection from a sprinkler and an expansion tank works properly.

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.

Q		8	
Technical *	Reports	Help	
Flow Calcula	tions		
∑ Summ	nation		
I Sizing			
	cing		
Flow Route (Calculations		
Route	Examinatior	ı	
Sound	l Calculation	of Route	
∑J [®] Sound	l Calculation	of All Rout	es

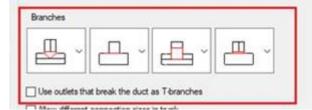




Now the program shows the Sound Route and Route Examination reports even when system contains incomplete networks, as long as the Terminal Device is in a complete network.

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.

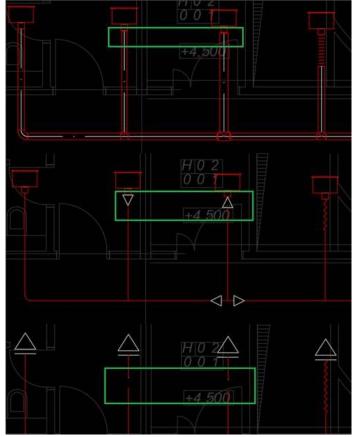
System of Fan Coil Units changed when using "Copy Branch"

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 ductbends 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.



Equivalenth 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.

🙆 MagiCAD V&P - Use	erCode					×
UserCode:	BA5000			Product variables		
Product:	BA 5000			Property	Value	^
Object ID format:	-		~	Product variable		
-				National code		
Running index amount:		1	\sim	HyperLink		
2D symbol:				lfcExportAs	IfcValveType (IFC2X3, IFC4)	\sim
				lfcType	notdefined (IFC2X3, IFC4)	\sim
Select	Notis	elected		P1		
Erase				P2		
				P3		
Sprinkler calculations				P4		
Valve type:	Not define	d	\sim	P5		
Valve mechanism:	Not define	J		P6		
	Not define	a	~	P7		
Equivalent length [m]	Size	Equivalent length	~	P8		
	50	0.00		P9		
	65	0.00	_	P10		
	80	0.00		P11		
	100	0.00	- 1	P12		
			_ 1	P13		
	125	0.00	<u> </u>	P14		¥
Edit in MagiCAD Cr	reate				Ok	Cancel

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)"):

AutoCAD Message	×
Invalid system type for heating pipe (heat get)	
ОК	

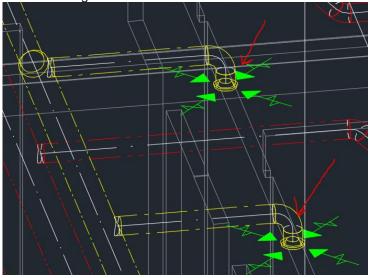
The backward compatibility has now been fixed and it no longer complains about missing pipe options. The workaround was to set the options (pipe type, size...) again when the dialogs open after this error (remember to set the distance between pipes as well, if you draw multiple pipes at the same time),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

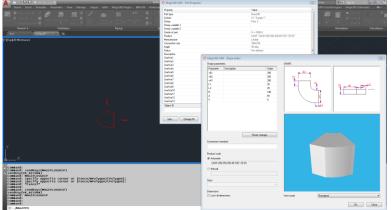
eneral Calculations Calculations		
✓ Sizing		
Hydraulic		
Sizing Method		
Low Hazard Class		\sim
Hydraulic calculation settings		
Area of coverage:	12.0 r	n²
Pressure at weakest sprinkler:	600 r	nbar
Warning limit for high velocity:	0.00	n/s
Welded pipes start from size:	0	
Friction loss method		
O Hazen-Williams		
Darcy-Weisbach		
Liquid		~

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

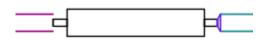
Using risEr when drawing hot and circulation water together converted both pipes to circulation water for the vertical pipes. Now the pipes continue as the correct types.

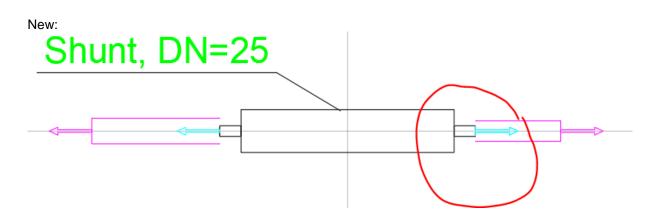
The product variables were missing from heating cooling plant's dimension text settings Added product variables P1-P15 to the dimension text for Heating & Cooling Plant.

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:





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

MagiCAD - IFC Property definition		×
General		
Property name		
Property type	Text	/
Property value source		
Topolity funce source		
Source is constant		
- Source is constant		
Property source	· · · · · · · · · · · · · · · · · · ·	/
	P15	
	P2	` h
	P3	
	P4	
	P5	
	P6 P7	
	P8	
	P9	
	Part type	
	Part type ID	
	Pipe distance	
	Pipe series Position of part	
	Pressure drop	
	Drimper eusteen kalansing uplus de	

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 greved out:

MagiCAD - Hydronic Network Balancing Report	
Edit	
Supply Return	O General results

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 "-MAGICOOLINGBEAM" 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 coolingtype, the latter's cooling connections was in the correct cooling system, but its main part was in the previous part's heating system.

		Fill data from:	R
System:	H1 Heating 1	-	S.
Status:	Not defined		R
Description:			

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.
Property settings





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 though 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.



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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.