MagiCAD for AutoCAD

Release notes for version 2022

21/05/2021





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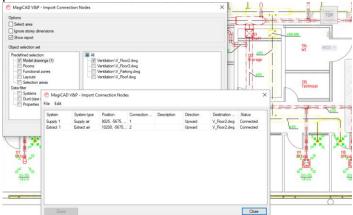
1 New features

1.1 Common

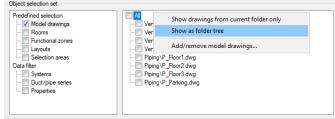
MagiCAD supports AutoCAD 2022 and Navisworks 2022

Updated Connection Node feature

The updated Connection Node feature offers better flexibility and overview in connection node handling. The object selection set for connection nodes has new filtering options that make it easier to select a specific set of objects when connecting and disconnecting nodes. A new report option provides an easy overview of connected and disconnected nodes and the report also includes a preview window that shows the locations of the listed connection nodes in the drawing.

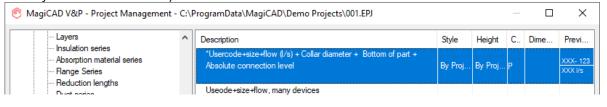


Note that you can right click in the model drawing list and select which drawings you want to see and how the list should be structured:



Dimension text's Description has been updated

The dimension text's description text was increased from 31 to 100 characters in V&P (long texts were already allowed in Electrical) and the field was also made multi-line:





Discipline-specific default offsets for provisions

Discipline-specific default offsets for provisions can now be set. This makes it easier to create accurate provisions for ventilation, piping, and electrical segments within the same project. The additional length for provisions can also be adjusted if needed. Provisions now also include an automatic time stamp for when they have been created and edited, making it easier to keep track of possible updates.

MagiCAD V&P - Provision for Builderswork Ope	nings Options	
Offset		
Offset for rectangular objects (h1) Offset for circular objects (h2) Above rectangular objects (h3)	Ventilation Piping Electrical 50 50 50 50 50 50	
Min distance for separate builderswork openings (h4) Extra offset around fire damper / products Additional length [mm] grore insulations Juse BWO size ranges (if set)	100 20 10	
Limits	Owner	
Rounding step	5 Ventilation	V
Rounding down limit	0 Piping	HP
Maximum diameter for circular builderswork opening	9999 Plumbing	P
Minimum equivalent diameter for builderswork opening	30 Sprinkler	SPR
Tolerance for combining collinear builderswork openings	100 Electrical	E
bject ID format -	 Time format 	DD.MM.YYYY HH:MM
		Ok Cancel
Provision is for pentilation Provision is for planting Provision is for planting Provision is for electrical Owner Note	Is reces Daneter/widh [rm]; 200 Height [rm]; 200 Length [rm]; 300 Additional length [rm]; 10 Loation - Top of part: 2600 0 Center of part: 2600 0 Bottom of part: 2400 0 Byser vasible (PFV) Bulder/Contractor infomation Status from builder/contractor - [Het set - Feedback from builder/contractor -	
Properties Pacenty Procested Pacenty Pacen	223 223	× v

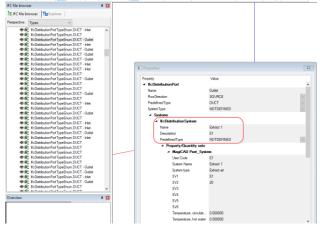
The time stamp is updated if any information in the dialog is changed, or the provision is moved.



<u>IFC</u>

IFC distribution ports now support System Type and Name

Now the distribution ports inherit the system from the objects.



IfcLongName to IfcBuildingStorey

The IfcLongName is now set in the IFC files. The same name is used as for the storey

irowser Toolbar	×	Property Toolbar	
😑 🖌 🔢 Demo/template project	^	Element Properties Properties Relatio	ns
		Name	Value
📼 🖃 🦯 🍘 mc-building		Entity Information	
🕂 📕 Floor 3		Туре	lfcBuildingStorey
+ / 🖬 Floor 2		Internal Type	IfcBuildingStorey
🕀 🗡 🔜 Floor 1		IFC OID	183835
IfcSystem [7]		GUID	0b2KSdxfr1TuVb_ElvE\$rw
😑 🖉 🖥 Heating 1		GUID (readable)	25094727-ee9d-4177-87e5-f8e4b93bfd7a
🖉 🖉 mc-building		Name	Floor 3
🖌 🗾 Floor 3		Description	?
		Object Type	?
🕀 🛨 🖉 🔣 Floor 1		Layer Name	
·····+ 🖌 🙀 ?		Color	R:0, G:0, B:0, A:255
····· 🛨 🦯 🙀 ?		LongName	Floor 3
🛨 🦯 🕌 ?		CompositionType	Element
		Elevation	17000.000000

IfcMapConversion support

The map conversion deals with transforming the local engineering coordinate system, often called world coordinate system, into the coordinate reference system of the underlying map.

Project: Demo/template project	Property	1	alue			
- Project settings	Project number	1				
- Model drawings	Name	0	👩 MagiCAD V&P - Site in	ormation	×	
- Schematic drawings	Street		1			
Storeys	City		Ste			
 entitation Piping 	S MagiCAD V&P - Project		Name:			
Prainage	MagiCAD V&P - Project	information	Description:			
General	Project number	1	Land title no:			
Linetypes Dimension text	Name	Demo/template project		Latitude	Longitude	
- Dimension text - Texts for free text	Name	Demo/template project				
Provision for builderswork openings	Street		Degree:	0	0	
- Vatable names		-	Minutes:	0	0	
- Legend templates	City		Seconds:	0	0	
- Report templates	Author	MagiCAD Group	Micro seconds:	0	0	
Connection node defaults	Organization		Attude [mm]:	0	-	
E. Halable alta	-		Azimuth [deg]:	0.0000		
	Authorization		Map convision	0.0000		
	Notes		Coordinate reference			
			Name:	_		
			Description:			
			Geodetic datum:			
	Logo file name					
	Person responsible for aprinkler		Eastings (m):	0.00000000		
	calculations		Northings [m]:	0.00000000		
	Ste information	Ok	Orthogonal height [m]:	0.00000000		
			Onnogenar regin (in).	0.0000000		
			Building			
				_		
ctive Storey			Name:			
Install storey origin (-10000,-15000,0)			Description:			
Active storey Floor 2						
			Import	Ok	Cancel	
oject						
Disconnect project Merge project						
Close						



Support for IfcGeographicElement

Geographic elements can be exported now, like trees and plants, in accordance with IFC4. The IfcGeographicElement belongs to the site which is the "owner" of these elements.

Property	Value		^
Part type	Other		
System group	Ductwork	\sim	
System		~	
UserCode			
ProductCode			
National code			
Installation code	Not selected	\sim	
Description			
Status	Not defined	$\overline{\mathbf{v}}$	
Object ID			
HyperLink			
FcExportAs		~	
fcType	IfcEngineType (IFC4)		
UserVar 1	If CEvaporativeCoolerType (IFC2X3, IF		
UserVar 2	ficEvaporatorType (IFC2X3, IFC4)		
UserVar 3	IfcFanType (IFC2X3, IFC4)		
UserVar 4	IfcFiterType (IFC2X3, IFC4)		
UserVar 5	If CFire Suppression Terminal Type (IFC2		
UserVar 6	ItcFlowControllerType		
UserVar 7	IfcFlowinstrument Type (IFC2X3, IFC4)		
UserVar 8	fcFlowMeterType (IFC2X3, IFC4)		
UserVar 9	fcFlowTerminalType		Ļ
UserVar 10	IfcGeographicBementType (IFC4)		ŕ
Add to BOM/Legend	IfcHeatExchangerType (IFC2X3, IFC4)		
	fcHumidfierType (IFC2X3, IFC4)		
	Followition Roy Tune (IEC2V2_IEC4)		
Convert to MagiCAD	bject IfcLampType (IFC2X3, IFC4)		
Show connection p			
	FcMedicalDeviceType (IFC4)		

Site topology in IFC Export

Related to the task above, the created geographic elements can be exported in IFC4. In IFC2x3 the function shows in the export report that these elements aren't exported:

🕙 MagiCAD - IFC export			×
Selection set			
	 Save Save as 	Delete Rename	
Acton Oracle separate line Lose model drug names / Pi Øroaden nem fie (alto one file) Øropen to senting tile Pic file to oned Er Ultera visik aal anguteen Deveload's WACA 2b3 Orgen Ørom Ørom Orgen Senting Ørom Senting foresert Ørom Senting foresert		Storey mapping U. Model dawing Storey in project U. Model dawing Storey in project U. Model dawing Storey 2. Root 2. Uspray & Root 3. Uspray & Root 3. Uspray & Root 3. Usertation V, Ro., Root 3. Usertation V, Root 3. Use	Forstomy MC LOD Reor 1 MC LOD 300 Reor 2 MC LOD 300 Reor 3 MC LOD 300 Rever 1 MC LOD 300 Reor 1 MC LOD 300 Reor 2 MC LOD 300 Reor 3 MC LOD 300 Reor 4 MC LOD 300 Reor 5 MC LOD 300 Rein 4 MC LOD 300 Rein 4 MC LOD 300
O UCS			
Property settings Export custom properties	Object selection Object selection		
L Departamente CASAR CASAR Process for voids fice 2.3	Uppd sector Pedofed sector Pedofed sector Note damps 1 V	Cptons Schwan Ame Uckleie drawing deta selection wit Uckleie drawing deta selection wit Uckleie drawing deta selection wit Uckleie drawing deta selection with them ended Den or expect for them Amerid Taywin Den of tayoff call and sensigh Them and tayoff call and sensigh Den of tayoff call and sensigh Them and tayoff call and tayoff tayoff tay Them and tayoff call and tayoff tay	IFC4 ~
			Ok Cancel

IfcSite objects are set directly to IfcSite in IFC2x3 (same way as in earlier version) and as IfcTypeGeographicElementType/TERRAIN in IFC4.

IFC4 Objects local placement from storey to spaces

We did earlier have the relation of the object directly to the storey and not to the space. This has now been changed so that the relation is from the object to the space and then from the space to the storey.

This will not be visible to the users in the IFC Viewers, and this will look just like before, and is only an improvement in how we write the information to the .ifc-file.



1.2 Ventilation and Piping

MagiCAD for AutoCAD V&P slowness issues resolved

We have now implemented improvements to speed up the process of working with a project which is located on a server.

This does also change how the files are handled and the option 'Do not copy project files to memory for fast COM access', in V&P's User Preferences, is no longer needed and is therefore removed:

Database path				-
Default path:	C:\ProgramData\MagiCAD\	Product	Browse	
Default database location:		Oud	O Local	
Search circle		Connect initially		
Circle size [1-100 pixels]:	20	() On	OOff	
Dimension text formats				
Use active dimension text i	settings from:	O Drawing	Project	
Object search method				
Use combined MagiCA	D and AutoCAD search			
O Use AutoCAD's search				
O Use MagiCAD's search				
Project file handling				
Do not copy project file	s to memory for fast COM acces	0		
Conflict mode				
Do not show segment a	ize conflict dialog			
Do not show mixed syst	em warning dialog			
Duct/Pipe Options Dialog				
Use classical dialogs				
Drawing handling				~
			Ok C	ancel

More information to dialogs

The installation dialogs for products and duct fittings, as well as the dialogs for the systems, now have more information available in columns.

1. In the installation dialogs user can now show any of the information which is available to show in the project:

UserCo	Manufacturer			Sesciption		
\$1	Bevent Rasch	✓ Aut	tosize columns	shaust air cowl, circular		
52	Flakt Woods	Cas	a column to fit	ir diffuser		
\$3	Fläkt Woods		e all columns to fit	upply airteminal device		
S4	Systemair	262	e all columns to rit	pray nozzle diffuser with plenum box for ceiling		
\$5	Swegon A8	✓ Use	erCode	quare perforated ceiling diffuser with plenum box		
56	Omecon	× M.	inufacturer	lozzle diffuser, visible installation		
\$7	Omecon		reluct	Val diffuser		
58	Haton			ow Velocity Supply Unit		
\$9	Haton	Pro	oduct variable	Iniversal Gille + Plenum		
S10	Trox Auranor	Nat	tional code	upply air diffusor for panneld ceiling.		
S11 S12	Swegon AB Rekt Woods	Incl	tallation code	lectangular ceiling diffuser with discs and plenu sourcion chilled beam for false ceiling installation		
512	Plant Woods		perlink	souchon chilled beam for false celling initial abon		
		Fel	ExportAs			
		Hc1	Type			
ine:	8RDJ-1251-0	P1			View mode	Rendered
		P2			Pacement	Orientation
CW	0.0 № ->v	P3		nn		Chertation
unbols				deg	Celling	۲
1000		P4			Wall	0_0
		P5			O SII	0
		P6			O Floor	Ofree 0
U	leer Symbol Reo	P7				
		P8				Ok Canor
		P9				
		P10	0			
		P11				
		P11				
		P12	2			
		P12 P13	2			
		P12	2			
		P12 P13	2 3 4			
		P12 P13 P14 P15	2 3 4			

2. The systems now have more information available, which can be shown in columns in the lists:

Systems	UseCode	Name	Tipe	Lineture Drive	SV 1	SV2	SV 3	SV4	SV5	546	SV 7	SV8	SV 9	SV 1
E-Pats	S1	Supply 1	Supply etc.	Autorize columns	81	10						- / *		
- Outdoor devices	E1	Edward 1	Ednect air		El	20								
- Supply devices	01	Outdoor air 1	Outdoor air	Size column to St	01	30								
- Extract devices	EH1	Etheut 1	Etheut et	Size all columns to fit	EH1	40								
- Exhaust devices		Living 1	LOT INC. IN			~								
- Row damper - Fire damper				UserCode										
- Simor				 Name 										
-Other component				✓ Type										
Ar handing epulpment														
- Access panel														
- Cinate beam				✓ Celer										
a) Rtings				✓ SV1										
- Layers				¥ 5V.2										
- Insulation series				× 9/1										
Absorption material series Ferroe Series														
- Fiange Series - Reduction lengths				✓ SV4										
- Dut enter				✓ SV 5										
- Song methods				✓ SV 6										
- Beiencing methods				× SV7										
- Calculation options														
Units				✓ SV.8										
III- Dimension text				✓ SV9										
Pping	_			✓ SV 10										
12 Heating, cooling and special system	_			Sizing method	_									
- Systems - Lavera														
- Song methods				Balancing method										
- Belancing methods				Modify air properties										
- Caloutation options	-			Fluid density										
- Units	-			Dynamic viscosity										
				Dynamic viscosity										
> Ne Storey	_			More										
Install storey origin 010000_15000_0														
Active storey Poor 1														
est														
Isconnect project Merge project	<													
Ouse														



Legend support for duct and pipes segments and fittings

The Legend did earlier not support neither duct and pipe segments or fittings which was the reason why the selection in the Template dialog for the segments didn't stay put.

Now segments and fittings are supported in Legends as well.

Sound Calculation Report shows the filter

The Sound Calculation Report does now show which filter is in use settings:

Ed	-	- Sound Calc	ulation	Report																	
(Supply				Outo	loor supply			OG	ieneral resu	lts										
	Extract				Outo	loor exhaust															
Γ	ocation	Level	Node	System	Туре	Product	Size	L	qv	v	dpt	63 [dB]	125	250	500	1k	2k	4k	8k	LpA(10sab) [dB(A) 10 sab]	Warnings ^
				-,				[m]	qv [l/s]	[m/s]	dpt [Pa]	[dB]	125 [dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB(A) 10 sab]	

Duct connection type to IFC

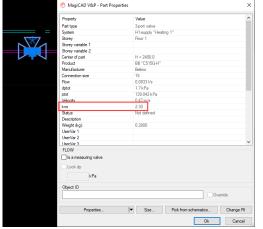
It was possible to add a Connection type code in the duct series, which was used in the project, but earlier it wasn't possible to export it to IFC.

🖻 MagiC	AD V&P - Duct S	Series					
General							
ID:			000004		Description:		
k:			0.15000		UserCode:		
Connection	type code:		CONN T	YPE	National cod	de:	
Flange serie	es:	- Default ·		~	Material:		
Only sel	lected flange type	allowed			Object ID fo	rmat:	
Flexible	duct				BWO size ra	ange	
Duct Sizes					Products		
Size	Bend R/D	Fit on len	Extra len	^	Part type	User	P
100	1.00	40	15		Duct		в
125	1.00	40	15		Rend		B

This has now been added to IFC Properties, Dimension texts, Part Property Line, Report and MagiCAD Export

Added kvs-value for 3-port valves

It is now possible to view the kvs value of 3-port valves:

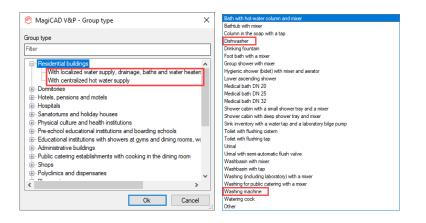


This has also been added to IFC Properties, Dimension texts, Part Property Line, Report and MagiCAD Export.



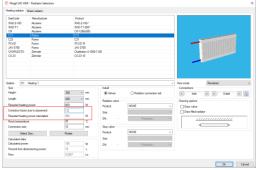
The Russian domestic calculation standard has been updated

The Groups and devices have been updated according to the updated standards for SP30.13330.2016:



Support for radiator cover

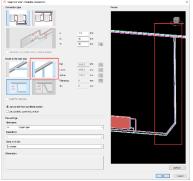
A correction factor value can now be set to adjust for the placement or covering of the radiator:



Improvement to the Radiator connection tool

There is no longer a separation between the pipes when the routing is set down from the main pipes, if the main pipes are side by side, when using the radiator connection tool. (If they are on top of each other, then the separation is still done, so that the riser pipes don't go inside each other. Previously there was an offset in all of these cases:

Now there is no longer and offset between these pipes:





We did also fix an issue related to joint parts being created in straight pipes connected to the radiators. Now the function no longer creates those joint parts if they aren't needed.

Effective area for radiators

MagiCAD now takes the effective area of radiators into account when calculating the power. The radiators where the power is calculated according to the effective area have the property "Effective area":



Volume of the sprinkler system in the report

The volume of the sprinkler system is now available in the sprinkler report:

Design area	Generation	al results	O System results	O Pump diagram
Area 1: 1414 [mbar]	✓ ○ Sprinkl	ier results	C Equivalent length values	
Property	Value	Unit	^	
Calculation input values:				^
Area of design area:	58.0	[m?]		
Feed point:	1	H = 5.3 [m]		
Weakest sprinkler:	18	H = 7.3 [m]		44
Pressure at the weakest sprinkler:	600	(mbar)		
Max number of iterations:	100			
Max inaccuracy of the pressure:	1.0	(mbar)		××
Max inaccuracy of the flow:	0.1	[/min]		
Cfactors of the pipes and Kfactors of				
Fe-35: Steel pipe Fe-35	120			
SP-15-K115-68DGR-STD	115.0			
Calculation results:				XXXX
Pressure level at the feed point:	1414	[mbar]		
Row at the feed point:	535.2	[/min]		
Row at the weakest sprinkler:	89.1	[/min]		
Number of iterations:	2			
inaccuracy of the pressure:	0.01	[mbar]		
Inaccuracy of the flow:	0.07	[/min]		
Total area of coverage:	72.0	[m-]		
Average area of coverage:	12.0	[m-]		
Row density at the weakest sprinkler:		[mm/min]		
Average density of 4 weakest sprinkle	7.43	[mm/min]		
Four weakest sprinklers:	16, 20, 11, 18			
Average flow density:	7.43	[mm/min]		
Number of sprinklers:	6			
Average sprinkler height:	7.3	m		
Volume: Sprinkler 1	661.6	11	V 🕨	

Note that MagiCAD allows multiple systems in the same network, but each of them get their individual volumes calculated:

Average sprinkler height:	12.5	[m]
Volume: Sprinkler 1	531.1	[0]
Volume: Sprinkler 2	2.9	0



Square Operation Area for Sprinklers

And option for square sprinkler areas has been added to the sprinkler devices:

	SU	Burnets	Value	
Product:	SU-10-K57-141DGR-QR	Property	value	i i
Object ID format:	-	Product variable		
		National code		
Running index amount:	1	 Installation code 	Not selected	\sim
2D symbol:		HyperLink		
		IfcExportAs	IfcFireSuppressionTerminalType .	v
Select	Not selected	lfcType	SPRINKLER (IFC2X3, IFC4)	\sim
Erase		P1		
L1 050		P2		
Operation area		P3		
None		P4		
-		P5		
O Circle		P6		
 Sector 		P7		
Angle	0	P8		
○ Rectangle		P9		
		P10		
Width:	0	P11		
Height:	0	P12		
		P13		



1.3 Electrical

Feeder blocks in switchboard schematics

Now it is possible to create a feeder block into a switchboard schematic dwg that can update data automatically from the circuit that is supplying the switchboard.

When adding the feeder block, MagiCAD only asks where to add it and it will automatically get the data from the plan drawing.

You can define the information that is shown in the top part of its editing dialog. Topics are shown from the schematic dwg but you can define what is shown in each row in each cell.

In the bottom part of the dialog you can see the information that is written to the cells in the switchboard schematic and with "Update feeder data" you can update the cell values to match the data found from the supplying circuit.

No	Description		P [kW] S [kVA] I [A]	Cable	Phases Earthing dV [%]
Circuit numbe	Descriptions 1-3	Tripping curve	Max active power	Cable description	Phases
Empty field	Empty field	Nominal current	Max apparent pow	Empty field	Earthing
Empty field	Empty field	Fault current prote	Total apparent cur	Total cable length [m]	Voltage drop [%]
iata in Cells an:	-	Update feeder		Cable	Phases
iata in Cells an:	d Symbols Description	Trip In [A]	P [kW] S [kVA]		Earthing
iata in Cells an	Description	Trip In [A] Ircd	P [kW] S [kVA] I [A]	L [m]	
iata in Cells and	-	Trip In [A]	P [kW] S [kVA]		Earthing



With the new "Update Feeder Block" button you don't need to use the "Edit feeder block" function to keep the schematic up to date. The button will automatically find and update the selected data from the supplying circuit.

The place from where the supplying circuit is searched can be defined in Preferences.

Supply areas of hosts

Supply areas of hosts are now calculated from host areas to host devices in a similar way as from switchboard areas to switchboards.

You can mark if a host area is summarized to the referred host device or not.

New properties have been added to Hosts where all marked areas are summarized:

Part properties: "Supply area"

Properties palette: "Supply area of host [m2]"

Switchboard and host supply areas are now available for dimension texts, reports and IFC property sets.

In the Update DWG function, selecting "Supply areas" will update the supply areas of both switchboards and hosts.



13 (28) 21/05/2021 Public

🙆 MagiCAD-E - Sv	vitchboard Area		×
Switchboard			
Current drawing / SE	10.1		
	Sel	ect	
Elevation			
Elevation:	0]	
Area			
Area [m2]	7.39	Add to supply area	
Priority	0]	
Systems			
Selection set			
- Save	SaveAs	Delete	Rename
Save	SaveAS	Delete	Rename
O All systems		Selected syste	m
PM Power bor SB Switchboar W29 Sockets W29 Sockets W30 Heating			~
Select al	I	Desele	ect all
		Ok	Cancel

Switchboard and host areas to Object Selection

In the Object Selection functionality, which is used in many places throughout the software, switchboard areas and host areas are now available among the predefined selection options. Areas are separated by the drawings they are located in, so if a switchboard or host has areas in multiple dwgs then those need to be selected manually under every dwg.

object colocion cot	
Manual selection	
Current drawing	
Selected drawings	
Predefined selection Proceedings of the selection Functional zones Layouts Selection areas Selection areas Data fitter Selection areas Data fitter Selection areas Data fitter Selection areas Data fitter Properties Properties	I Bectrical∿E, Floor1.dwg └I Current drawing / SB10.1

Connection data of cables

In Part Properties, Bill of Materials and Reports, cables' Connected 1/2 order is changed so that a switchboard/host code is shown in Connected 1 if a cable has a circuit symbol object in its other end.

Enhancements to Switchboard Management

In Switchboard Management you can now multi-edit "Manually given power values" checkbox and also all power values for switchboards which have manually given power values active.



1.4 Schematics

Improved link handling

We added a new Change Paths function using which the user can correct broken links



AgiCAD V&P - Change paths		
n	То	
VORK\Schematic links \Project\Schematic drawing.dwg	C:\WORK\Schematic links\Schematic drawing.dwg	
VORK\Schematic links \V&P drawing 1.dwg	C:\WORK\Schematic links\Project\V&P drawing 1.dwg	
VORK\Schematic links \V&P drawing 2.dwg	C:\WORK\Schematic links\Project\V&P drawing 2.dwg	
		Ok Cano

In case MagiCAD Schematics notices that there is an issue with the links, it will give a warning and open the dialog is opened.

🙆 Magi	CAD	×
?	Some files with linked objects are missing. Do you want to fix paths to those files?	
	Yes No	



2 Resolved issues

2.1 Common

Balancing turned Xref into wireframe

Sometimes the Xref turned into Wireframe. This happened in functions with the preview window, like balancing.

This has now been fixed.

Wrong:



Correct:



Illegal characters were allowed in some dialogs in MagiCAD, and the root selection did not work properly in the Room project dialog

The storey variable variable in MagiCAD Room, as well as the layer, revision mark and cloud names don't allow the user to enter illegal characters anymore.



	General Name	>/	
	Note		
	Text style:	STANDARD ~	
@ N	/lagiCAD		Х
		ng characters are forbidden in a layer name:	
	The followin		:
		;?* =`	:
		;?* =`	:

In addition were there some minor improvements to the MagiCAD Room project dialog tree, when editing the storey name. Now the selection no longer jumps to the root when finishing the editing.

Dialogs did not remember their last position

When the "Free Text" dialog in MagiCAD V&P and Circuit Designer as well as the "Circuit Info" and "Corner Properties" dialogs in Electrical were moved to a new position, this new position was not remembered by the program and the dialogs were opened at their original positions. Now these dialogs remember the previous position they were at when they were closed and will open there.

Issue with reference offsets from Floor offset area using UCS

The wrong reference height was taken when using the UCS instead of the WCS, when the object was placed in a floor offset area,

This has now been fixed and the correct reference height is always used.

<u>IFC</u>

"Replace in existing ifc" and "Remove" have been removed from the IFC export

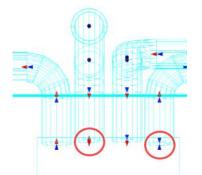
There were some restrictions to how well this feature worked and has therefore been removed, as the need for it was seen as minimal.

🕙 MagiCAD - IFC export							
Selection set							
- Save	Save as	Delete	Rename				
Action		Storey map	ping				
Create separate files (uses model dwg names / IFC file names)		Use this	Model drawing	Storey in project	fc storey	MC LOD	
Create new file (all to one file)			\Piping\P_Floor1.dwg	Floor 1	Floor 1	MC LOD 300	
O Append to existing file		-	.\Piping\P_Roor2.dwg	Floor 2	Floor 2	MC LOD 300	
Replace in existing fc			.\Piping\P_Roor3.dwg	Floor 3	Floor 3	MC LOD 300	
ORemove			\Piping\P_Parking.dwg	Parking	Parking	MC LOD 300	
			.\Ventilation\V_Roor1.dwg	Floor 1	Floor 1	MC LOD 300	
FC file to create			.\Ventilation\V_Floor2.dwg	Floor 2	Floor 2	MC LOD 300	
			.\Ventilation\V_Floor3.dwg	Floor 3	Floor 3	MC LOD 300	
			.\Ventilation\V_Parking.dwg	Parking	Parking	MC LOD 300	



Port directions in IFC Export

The port directions were in some cases wrong in the IFC Export. This has now been fixed.



Issues with IFC export origin in MagiCAD Electrical

It was not possible to use the UCS or WCS origins when exporting IFCs in MagiCAD Electrical, as it used the MagiCAD Room Storey origin. This has now been fixed and the selection options have also been slightly reorganized in both MagiCAD Electrical and V&P.

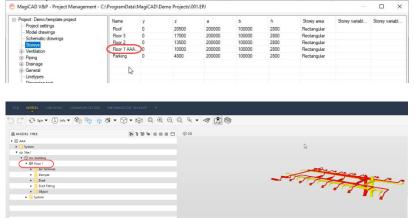


2.2 Ventilaion and Piping

The edited floor name was not updated to the IFC file when using IFC batch export

If you created a Batch Export configuration/selection set for the IFC files and edited the floor names afterwards in the project, the edited story names were not updated and exported to the IFC file and instead the old names were shown.

You had to create a new Batch Export, or even run a normal IFC Export in between, before the names were updated.

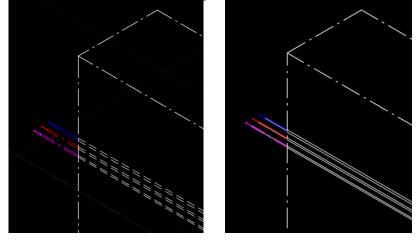


Now when loading a selection set for "Create separate files" or "Create new file" action, the IFC storey name is updated with the one set for the drawing.

Color and linetype of hidden objects in axonometric drawings

Automatic hide with dashed linetype setting created continuous hidden lines in axonometric drawings. With invisible setting parts were invisible as they should.

Issue seen in this original drawing to the left vs the created Axonometric drawing to the right:



This has been fixed and the Axonometric drawing has the same settings as in the original drawing.



Report showed the wrong object ID for overridden values

The report did only show the original Object ID and not the overridden value.

Property		Value		^					
at type		Climate beam							
lystem		S2 "Supply 2"							
Storey		Floor 1							
Top of part		H = 2500.0							
Connection level		H = 2425.0				-			
nstallation level		H = 2500.0			-) 🚚 📗			
Bottom of part		H = 2350.0				2			
Product		TEST 'beam3-cool-same	e-s-suf-1200"						
Manufacturer		Generic							
Connection size		100							
Description				~					
/olume:	4.0 1				View mode		Rendered		
Supply air					Secondary supply				
System	S1 Supply 1				System				
ayadem .	S1 Supply 1				System				
Row	10.0 Vs	=> v 1.3	m/s		Return air from roor				
Pressure drop	0.0 Pa	Lock dp			System				
Cooling					Heating				
System	C1 Coolin	g 1			System				
Connection size	20				Connection size				
Power	10	W (dT by system	m		Power	0	W	It by system	
Lock dp	0.000	kPa OdT by part			Lock dp	0.000	kPa	O dT by part	
Row	0.0005	l/s 5	J.		Flow			0 °C	
How					Object Id	-			
How Status Not defined				~	Ovenide	TEST-10			

Now this has been fixed and the correct Object ID value, which is shown in the dialog, is also shown in the Report.

Report was not shown

A bug caused the calculation report to not show in some cases when running calculations. This has now been fixed and the calculation report is shown as it should.

Showing size of a provision from an object

When creating provisions and showing the object, the nominal diameter of the pipes was used by the function and not Dout. The automatic function worked correctly.

Now this has been fixed and the manual function uses Dout and does also handle the rounding of the provisions correctly.

Pressure data details in duct system's balancing report

The "Pressure data details" option wasn't available for ducts systems in the balancing report. This has now been fixed and the option is available, like in other systems:

🔊 MagiC	AD - Ductv	vork Ba	lancing F	Report																	
dit																					
Supply					Outdo	or supply				Ge	eneral resu	ults			Ca	alculate re	sulting flo	w for unb	alance	d terminals	
O Extrac	t				Outdo	or exhaust															
																	ι	Jpdate ba	alancin	g	
Location	Level	Node	System	Туре	Series	Product	Size	L [m]	Insulatio		qv [l/s]	v [m/s]	dpt [Pa]	Kfactor	dp/L [Pa/m]	pt [Pa]	pst [Pa]	adj.	qv [%]	Warnings	^
1	Roof	1	S1	ROOT NO				e		1960,0	1960.0		1. 01		[. a]	[, u]	[· 4]		1.41		_
	Roof		S1	DUCT	Lindab Rec	LKR-600-6	600x600	2,5		1960,0	1960,0	5,4	1,3		0,51	221,2	203,4				_
	Roof		S1	BEND-90	Lindab Rec	LBR-600-6	600x600	. —		1960.0	1960.0	54	14,6	0.821		219,9					
	Roof		S1	DUCT	Lindab Rec	LKR-600-6	600x600		Pressure	e data d	etails	į.	1,4		0,51	205,3	187,5				
(Roof		S1	BEND-90	Lindab Rec	LBR-600-6	600x600		Chow in	ndex rou	**	1	14,6	0.821		203,9					
	Roof		S1	DUCT	Lindab Rec	LKR-600-6	600x600		SHOW IF	idex iou	le	ł	0,3		0,51	189,3	171,5				
ł	Roof	2	S1	CONN.NO			600x600		Product	t proper	ties	1				189,0					
ł	Floor 3	3	S1	CONN.NO			600x600			1960,0	1360,0	b ,4				189,0					
1	Floor 3		S1	DUCT	Lindah Rec	1 KB-600-6	003~003	03		1960.0	1960.0	5.4	0.1		0.51	189.0	171 2				



Erasing Joint extended the insulation too far

If you removed the joint part from a segment with partial insulation, the insulation was extended in different ways:

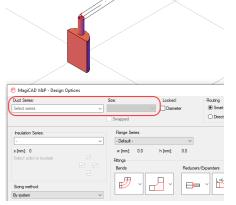


After removing the joint part:

This has now been fixed and the insulation stays where it was before erasing the joint part.

"No duct series" - error

It was possible to draw in the Z-direction, even if no duct or pipe series had been selected, which caused errors later on in the calculations when the functions couldn't identify the duct or pipe series of these rising parts:



This has been fixed and drawing in the Z-direction is not allowed unless a duct series has been selected.

Insulation missing in some square duct branch fittings

For some rectangular-rectangular T-branches the insulation wasn't shown and this has now been corrected.

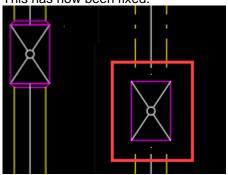






Integrated reductions damaged when changing the MC LOD-level

In some cases integrated reductions were damaged when the drawing's MC LOD-level was changed. This has now been fixed.



T-branch changed its size when moving / running CHECKPARTS command

We fixed a special case where the T-branch changed its size when moved from another branch or when the user ran the CHECKPARTS-command.

(The CHECKPARTS-command is an older command for fixing different issues in the drawing)

Access panels at the end of the duct did not change its size when running the sizing function

Fixed the sizing of access panels at the end of the duct. Earlier when sizing was used the size did not change.

Access panels now follow the size of the connected duct. If an exact match isn't available, the closest suitable size is used

Flow damper 2D symbol

The flow damper's 2D symbol was not shown correctly for some flow damper products with certain shapes. This has now been fixed.

dT by part field didn`t support decimals

When setting the value for dT by part, the value was rounded and no decimal values were shown. While the calculations were correct, the value shown was not precise enough.

We have now updated the function and the number of decimals is set according to what is set in the project:



22 (28) 21/05/2021 Public

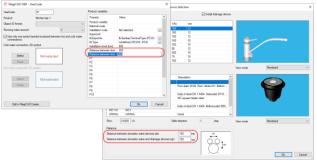
Climate beam P	Fan coll unit	
User code	Product Description	
C1 [BEAM1-COOL-HEAT-OPP-S-REC Beam for cooling and heating, (connections
Size:	beam1-cool-heat-opp-s-rec-1200	~ V
Volume:	0.0	
Supply air		Secondary s
System	Select system V	System
Flow	0.0 I/s -> v 0.0 m/s	Return air fro
Pressure drop	0.0 Pa Lock dp	System
Cooling		Heating
System	C1 Cooling 1 ~	System
Connection size	e 20	Connection s
Power	1000 W OdT by system	Power
Lock do	19.761 kPa (dT by part	Lock dp

Note that even when adding a decimal value, which is then rounded, or changing the setting in the project, the calculation is done according to the value that was originally set by the user.

Default distance values reset

When selecting a water device, the distance values in the installation dialog were not always set according to the values defined in project.

This has now been fixed.



Pipe inlet and outlet were reset in radiators when the length was changed

The inlet and outlet were reset in radiators when the length was changed, which made the selection of radiator connection sets more difficult as the user had to adjust the inlet and outlet again. Now the inlet and outlet are only reset in the dialog when another radiator product is selected.

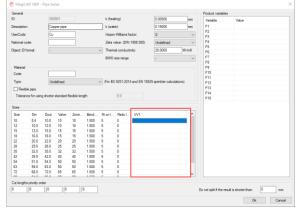
	Manufacturer		Product				
RAD-2-180	Acutem	6	RAD-2-180-*				
RAD-T1	Acutem	F	RAD-T1-280-*				
CR	Acutem	0	CR-1280x500				
C11	Pumo	0	011				
C22	Purmo		521				The second second second
PCV21	Pumo		PCV21-R				1111
JAV 0705	Purmo		IAV 0705				
CHARLESTO	Zehnder		Dharleston-4-100 CS-23-10	00-1100			1. 10
CS-23	Zehnder	0	CS-23-10				
Size Height: Length:	t system	300 500	∨ mm ∨ m W	Radiator valve Product:	Radiator connection set NONE	~	Vev mode Pendered with dimension text Connections Weith S C Outlet S C Drawing options Drawing options
Required heating Correction factor	due to placement:	1.00		Com.		~	Draw filed radiator
Correction factor	due to placement:	1.00	w	Size:		~	Draw filed radiator
Correction factor Required heating	power calculated:	0		State: DN: -	Properties	~	
Correction factor Required heating Room temperatur	power calculated:	0		DN: -	Properties	~	
Correction factor Required heating Room temperatur Connection size:) power calculated: re:	0 20 10			Properties	v	
Correction factor Required heating Room temperatur Connection size: Select) power calculated: re:	0		DN: - Stop valve Product:		~	
Correction factor Required heating Room temperatur Connection size: Select Calculated data	power calculated: re: Size	0 20 10 Rotate		DN: - Stop valve Product: Size:	NONE	< <	
Correction factor Required heating Room temperatur Connection size: Select Calculated data Calculated powe	p power calculated: re: Sze	0 20 10 Rotate		DN: - Stop valve Product:		~ ~	
Correction factor Required heating Room temperatur Connection size: Select Calculated data Calculated powe	power calculated: re: Size	0 20 10 Rotate		DN: - Stop valve Product: Size:	NONE	>	



Userfield1 values for pipe and drainage pipes series disappeared

The values set in earlier projects to the UV1-fields in Pipe and Drainage Pipe series disappeared when opening the project with a newer version.

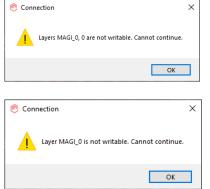
This has now been fixed and the values don't disappear anymore.



Locked layers when installing Heating & Cooling plants

MagiCAD crashed if the 0 layer and Magi_0 layer were locked. "This happened because these layers are temporarily used when the program creates the product.

Now the program does instead warn the user:



Changing the power of connection nodes with Change Properties

It was not possible to change power of connection nodes using Change Properties if connection nodes were selected without selecting attached pipes also.

Fire hydrants without dp in calculations

No error was shown for fire hydrants which were missing data. Now an error is shown in these cases:

PIPE	Cu	28	0,0		391,437		
DOMESTIC WAT		25 (L)			391,543	Has not dp data,	\checkmark



Sprinkler report if only fire hydrants are installed in the network

The report did not work properly in cases where there were only fire hydrants in the network:

Total area of coverage:	0.0
Average area of coverage:	0.0
Flow density at the weakest sprinkler:	0.00
Average density of 4 weakest sprinklers:	-1.#J
Four weakest sprinklers:	-1
Average flow density: 0.00	

This has now been fixed:

Design area	General results	O System results	O Pump diagram
EEE: 2189 [mbar]	Sprinkler results	O Equivalent length values	O Water source diagram
Property	Value	Unit	^
Calculation input values;			
Area of design area:	8.0	[m ²]	
Feed point:	1	H = 10.0 [m]	
Weakest sprinkler:			
Pressure at the weakest sprinkler:	0	[mbar]	
Max number of iterations:	100		
Max inaccuracy of the pressure:	1.0	[mbar]	
Max inaccuracy of the flow:	0.1	[/min]	
C-factors of the pipes and K-factors of the sprink	lers:		
Cu: Copper pipe	120		
Calculation results:			
Pressure level at the feed point:	2189	[mbar]	
Flow at the feed point:	310.2	[l/min]	
Flow at the weakest sprinkler:	0.0	[l/min]	
Number of iterations:	2		
Inaccuracy of the pressure:	0.01	[mbar]	
Inaccuracy of the flow:	0.08	[l/min]	
Total area of coverage:	0.0	[m²]	
Average area of coverage:	0.0	[m²]	
Flow density at the weakest sprinkler:	0.00	[mm/min]	
Average density of 4 weakest sprinklers:	0.00	[mm/min]	
Four weakest sprinklers:	-		
Average flow density:	0.00	[mm/min]	
Number of sprinklers:	0		
Average sprinkler height:	0.0	[m]	
Volume: Sprinkler 2	7.9	01	



2.3 Electrical

Slowness when opening a drawing

The amount of times different files were read during drawing file opening has been reduced. This has significantly reduced the time it takes to open a drawing file.

Selection area slowness

If a drawing had a lot of selection areas, it made using other MagiCAD functions slower. We have made optimization in layer handling and update dwg data to make MC faster.

User named variables not working in back boxes

User named variables didn't work with back boxes. Now they are shown as defined.

Max apparent current not updated after updating circuit power

When updating power information between drawings, Max apparent current wasn't updated. Now Max apparent current is updated correctly.

Sorting of running indexes in the project

Sorting of running index groups and formats wasn't working anymore in the project dialog. They can be sorted again from any visible column.

Prompt-1, 2 and 3 not working for Cable Packets

Prompt 1,2 and 3 were not working for cable packets. They were showing other information instead. Now they work again as they should.

Problem with column selection for Systems

Column selection for Systems in Project didn't work when using other AutoCAD than 2021. Now column selection works as it should regardless of the used AutoCAD.

Switchboard reference wrong when connecting to a cable packet

Previously, if a switchboard and a circuit located in different drawings, which also located in different folders, and you connected the circuit to a cable packet which was also connected to the switchboard from its other end, MagiCAD stored the switchboard reference wrong into the circuit. This lead to read errors where MagiCAD seemed to read the switchboard reference from a wrong file path. The issue has now been fixed.



2.4 Circuit designer

Partner position texts

Previously, partner position texts was reset when copying orphan child parts. Now the texts are maintained.

In addition, the partner position texts of regular child parts came to different positions depending on if you had automatic updates on or off. Now they always come to the same position.

Text alignment of revision arrows

Texts in revision arrows were not aligned properly when rotating the arrows. This has now been fixed so that the texts are centred.

Dialog positions

The Part Properties dialog of free texts did not remember its position. Now the position is remembered e.g. when using several displays.

Long lines appearing

In some cases, when running Update DWG in a drawing, some unintentional long lines appeared. The issue has been fixed now.



2.5 Room

Architectural IFC file import issues

If the names of the rooms were very long, the program could in some cases crash when importing the IFC file.

This has now been fixed and crashes from this will not occur.

Room create slabs incorrectly

MagiCAD Room created outer roof and roof slabs automatically even in cases where it should not. This happened when there were more than one building in the same .mrd and the floor height were different between the buildings.

This issue has now been fixed.



2.6 Schematics

Schematics dataset causes slowness

Additional fixes to speed up closing the dataset dialog have been done. Now some slowness should only occur if the project's items' order is changed.

Multi-line Note was not visible if it contained too many characters

The Multi-line Note broke and became invisible if the number of characters exceeded 799. We removed that limit, so in theory can the text be as long as the user needs.