MagiCAD for AutoCAD

Release notes for version 2022 UR-1

19/10/2021





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1 New features

1.1 Common

Imporved MagiCAD icons for AutoCAD's dark theme

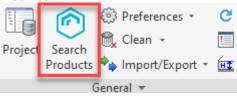
The colors of many icons have been improved to be better visible when AutoCAD's settings are set to the dark theme.

Example of previous:

ﷺ Side View → tai tai Running Index → औ औ Isolate → S	Change Properties Properties	← Move Modify	Text Legend ↓ Nodes →	Technical Reports	Contraction (Contraction) Help
		Edit	Annotation	Calculations	Help
Now:					
🚇 Side View 👻 🎽	ج 🔁	Move	🔚 📑 🏠 Mark 🗝	∑∽∕∎∎	
🕁 Running Index 👻 🔞	Change Properties	Crossing 🌮 Modify	Text Legend 🖌 Arrow 🗸	Technical Reports	Help
🏭 Isolate 🔸 🛛 🦿	Properties *	* Franch Tools +	T T TA Nodes -	* *	Ť
		Edit	Annotation	Calculations	Help

"Search Products"-button to access MagiCAD Cloud has been added to the ribbons

A search button to access MagiCAD Cloud has been added to the ribbons in MagiCAD V&P and Electrical:



New custom properties

We have added the possibility to create custom properties, using which the user can combine multiple parameters and include text to for example use as prefixes and suffixes, which can then be used in reports and legends:

🕙 MagiCAD V&P - Project Managem			
General Layers 	MagiCAD V&P - Custom properties General Name Height x Width of duct	×	
Unimerison text Texts for free text Provision for buldeswork opening	Include these Athbutes width Selected attributes Dark type specific data ->> Dark type ->> Width (mm) ->> Width (mm) <<		
Active Storey Install storey origin (-10000,-15000,0			
Install storey origin (-10000,-15000, Active storey Floor 1			
Project			
Disconnect project Merge project	Add constant		
Close	Up [Ctrl+K] Down [Ctrl+J]		



e name Ventilation (all)						
tion						
le these Parts/Objects	Include these Attributes					
Al	Fiter		Property	Length (Header 1	Header 2
Ventilation			System name	60	System name	neauer 2
Ducts		-	Part type	60	Type	
Circular	Calculation					
I Rectangular I Flexible	H-Position/Dimensions	←	Product code	80	Product code	
Previces	- Custom properties		Connection size (Size	
Outdoor device Supply device	Height x Width of duct		Duct/pipe length (m		Length (m)	
			Number of similar	20	Count	
Extract device						
Z Exhaust device						
- Custom device						
Climate beam						
Components						
			MagiCA	AD - Edit At	ribute	>
······································						
Access panel			Property		Height x Width o	f duct
Distribution box						
Air handling equipment			Length (mm)		40	
Other ductwork components			Header 1		Height x Width o	f duct
🖨 📝 Fittings			neauer 1		ridgit x triating	
- 📝 Bend			Header 2			
						Ok Cancel
······································						
- V N-branch						
✓ Outlet/tap						
V Plug						
Scramble connector						
🗸 Joint part						
Connection node						
V Other parts						
Others Insulation			Template total width		280	mm
Piping	~		↑ [Ct	_	J [Ctrl+J]	

See more details in the V&P and Electrical user manuals.

Change Properties improved to allow the updating of Selected drawings

Earlier it was only possible to use Change Properties within the active drawing, but that has now been updated with support for using it in all drawings in the project:

Configuration	~	Save Save A	s Delete	Rename
Property				
Filter	~			
E- All G- Ductwork E- Heating, cooling and special systems Water systems Drainage systems G- Sprinkles Gas G- Dirited Selection area Frovision for Builderswork Openings G- Revision Goud		Value to:		J.
Uncheck all Noject selection set Manual selection Current drawing				
Selected drawings Predefined selection Vided drawings (9) Rooms Eunctional zones Leyouts Selection areas Data filter Outr/pipe series Part types Protenties	Image: Construction Image: Constr	/ Floor2.dwg / Floor3.dwg / Parking.dwg / Roof.dwg bor1.dwg bor2.dwg bor3.dwg		



Automatic Running Index

It is now possible to use automatic indexing both as Manual selection as well as setting the option for the drawings, using Object selection.

If multiple drawings are selected in the object selection, can the order of them also be set.

Branch test testing branch travenal Text Or, spit-centre-test V Or, Spit-spit-spit-spit-spit-spit-spit-spit-s	Number Number Next Free Use first available number Use first available Use the same number for all indexes Object selection Object selection Numula declerion Object selection
(3) - right center-left (7)	Next Free Ouse first available number Use given number or next available Use the same number for all indexes Object selection Object selection
Now the same index in different systems No Now the same index in different nome No First rumber 0 Model drawings	(e) Use first available number Use given number or next available Use the same number for all indexes (byect selection Object selection
Allow the same index in different noons No First number O Model drawings One-k indexes from other model drawings	Use given number or next available Use the same number for all indexes Object selection Object selection
First number 0 Model drawings	Use given number or next available Use the same number for all indexes Object selection Object selection
First number 0 Model drawings	Use the same number for all indexes Object selection Object selection
Model drawings	Object selection Object selection
Select items with label Select items with label Model drawing Check indexes PipingV_Roor2.dwg PipingV_Roor2.dwg	Data filter - Part types: 1
Piping Parking.dwg	
Ventilation \V_Floor1.dwg	
Ventilation\V_Roor2.dwg	
Ventilation \V_Roor3.dwg	
Ventilation\V_Parking.dwg	
↑ [Ctrl+K] ↓ [Ctrl+J] Reverse order	
Show drawings from current folder only	- v
Index according to UCS position	
Add part property line	
Edt	Instal Close

In V&P it is now also possible to select the parts in the format in the project:

	^	Name	Description	First number	Number of digits	Allow the same ind	Allow the same index	Text group	Valid part
Piping		FG	Damper 01-09	1	2			01-09 Sup	
Drainage		P			-2	Ē	2		0
General		FV 👩 MagiCAD V&P - R	Running Index Template	×	2		4		0
Linetypes			unning muck template	~	2		4		
Dimension text		FG General			2			10-19 Sup	
- Texts for free text		FQ			2		V	20-29 In t	
Provision for builderswork openings		FG			2		N	30-39 Extr	
Variable names		FG Name:	FG		3		2	000-009 O	
Legend templates		(2)	Damper 01-09		3	V	2	Branch te	0
Report templates		(3) Description:	Damper 01-09		3	V	2	Branch te	0
Connection node defaults		(4) First number	1		3	N N	2	Branch te	0
- Custom properties		(5)			3	V	V	Branch te	0
 Variable sets 		SR Number of digits:	2		3	R	R	Large inde	1
- Installation codes		Text group:		0					
- Object ID formats			Group						
- Status		-	01-09 Supply.	, before the fan					
- Running index			10-19 Supply.	, after the fan					
- Text formats			20-29 In the ro	moor					
Text groups			20.39 Extract	×					
	×	Allow the same inde	ex in different systems						
Active Storey		Allow the same inde							
Install storey origin (-1000015000.0)	-	Allow the same inde	ex in afferent rooms						
Install storey orgin (-10000,-15000,0)		Validity							
Active storev Floor 1	-								
· · · · ·		- Ventilation		^					
Project		😑 🧾 Devices							
Disconnect project Merge project	1		por device						
merge project		Suppl							
-			ct device						
Close		- Exhau	ust device						

Remove running index has also been improved with object selection options:

MagiCAD V&P - Remove running ir	ndex	
Text group *		~
Text		~ F
Diject selection set Manual selection Current drawing Selected drawings Data filter — Duct/opie series — Duct/opie series — Part types — Properties	All C Ductwork Heating, cooling and special systems Heating, cooling and special sys	



Description field for the report templates

A template-description can now be set in the report template to make it easier to add additional information about the template:

Project: Demo/template project Project settings Model drawings	Report name Poing (all)						
Schmadt openge Schmadt openge	Vertilation (al) Drainage (al) Specialae (al) C MagiCAD V&P - E	dit Report Template					
	Template name	Nentlation (all		1			
	Description	This is a ventilation parts	report				
	Include these Pats/Ob	jects		Include these Attributes			
	B Devic	rcular ectangular exibie	^	Fiter Pat Identification Pat type specific data Calculation Postion/Dimensions	-	Property System name Part type Product code Connection size (Duct/pipe length (m	
Active Storey		adoor device poly device				Number of similar	20
Install storey origin (-10000,-15000,0)	- V B	dract device					
Active storey Floor 1		haust device ustom device					
hoject Disconnect project	Comp	ow damper re damper					
Close	- V S	lencer					

This description is also seen when selecting the report template, when creating a report:

	✓ Save Save As	Delete Rename
/iew settings		
l'emplate	Ventilation (all)	
Description	This is a ventilation parts report	
Dutput type	Clipboard 🗸	
Dutput file		
Fext style	STANDARD ~	
Text height	3.5	
Nignment, horizontal	Left \checkmark	
Nignment, vertical	Тор 🗸	
Dbject selection set		
Manual selection		
Current drawing Selected drawings		

IFC Export process improvement

This improvement will make the IFC Export and IFC Batch Export not open the drawings, which will speed up the export process.

IFC ConversionBasedUnit support

Degrees are also supported now in the IFC-file.

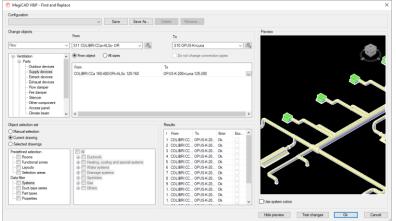


1.2 Ventilation and Piping

Updated Find and Replace function

A new Find and Replace function has been introduced. It has new features for getting an overview of the changes and drainage components, other valves and access panels can also be changed. There is also the possibility to change valves from one category to another, under the "All valves" option.

New improvements for handling changes have also been introduced as well as correcting issues which existed in the algorithm of the old Find and Replace function.



The old version can still be accessed using the "FNR"-command, but this function will not be maintained.

Running Index and Description in calculation reports

Running Index and Description are now shown in calculation reports:

) Supply	Supply Outdoor supply								OG	eneral res	ults				Calculate resulting flow for unbalanced terminals						
Extrac	t				Outdo	or exhaust															
																		Updat	e balanc	ing	
cation	Level	Node	System	Туре	Series	Product	Size	L	Insulatio	gv set	av	v	det	Kfactor	do/L	nt	nst	adi.	qv	Warnin	as /
			1					[m]		[ĺ/s]	[i/s]	[m/s]	dpt [Pa]		[Pa/m]	pt [Pa]	pst [Pa]		12	1	
	Roof	1		ROOT NO						1960.0	1960,0										
	Roof		S1	DUCT	Lindab Rec			2,5	MagiCAD - Select Report Columns				1710			×					
	Roof		S1		Lindab Rec				e Ma	giCAD -	select Ke	port Colu	imns							^	
	Roof		S1	DUCT	Lindab Rec			2,7													
	Roof		S1		Lindab Rec				6 X System code Part type Duct series X Product code							^		Move	dr		
	Roof		S1	DUCT	Lindab Rec	LKR-600-6		0.6										Move do	awn		
	Roof		S1	CONN.NO			600x600											HOVE UN			
-	Floor 3	3	S1	CONN.NO			600x600												Show		
	Floor 3		S1	DUCT	Lindab Rec	LKR-600-6	600x600	0,3		luct size									Hide		
	Floor 3		S1	DUCT	Lindab Rec	LKR-600-6	600x600	0,3	🛛 🖂 L	ength									Tiue		
ſ	Floor 3	4	S1	TAP	Safe	PSU-250-2				nsulation											
L	Floor 3		S1	DUCT	Safe	SR-250	250	1,8		ow set va	alue (*)										
ት .	Floor 3	5	S1		Safe	TCPU-250-				low	flow value	-									
	Floor 3		S1	REDUCER	Safe		250/125			iversited liversity %		0									
	Floor 3		S1	DUCT	Safe	SR-125	125	1,9		elocity	0										
K –	Roor 3		S1	BEND-90	Safe	BU-125-90	125			otal press	ure drop										
	Floor 3		S1	DUCT	Safe	SR-125	125	0,7		ressure o											
	Floor 3		S1	REDUCER	Safe		125/100		- 🖂 P		rop/Lengt	n									
4	Floor 3	6	S1	SUPPLY		COLIBRI C				otal press											
	Floor 3		S1	DUCT	Safe	SR-250	250	1,5		tatic pres											
h	Floor 3		S1	DUCT	Safe	SR-250	250	0.2			value (*)										
IT -	Floor 3	7	S1	TAP	Safe	PSU-250-1	250/125			low % (*) mors and											
	Floor 3		S1	DUCT	Safe	SR-125	125	0,7		frors and bject con		1									
	Floor 3		S1	REDUCER	Safe		125/100			lunning In											
4	Floor 3	8	S1	SUPPLY		COLIBRI C	100 (L)		<u> </u>								~				
1	Floor 3		S1	DUCT	Safe	SR-250	250	2,4	(2) Cal		نبر برامم ماط	hon unlun	is used in	e ment re	ant						
	Floor 3		S1	BEND-90	Safe	BU-250-90	250		C)COL	ann is visi	ue only w	nen value	is used in	current re	port						
	Floor 3	-	S1	DUCT	Safe	SR-250	250	3.3								0				ncel	-



New custom properties

We have added the possibility to create custom properties, using which the user can combine multiple parameters and include text to for example use as prefixes and suffixes, which can then be used in reports and legends:

MagiCAD V&P - Project Manageme		~
	🖲 MagiCAD V&P - Custom properties X	
General	General	
Layers	Name Height x Width of duct	
Linetypes		
- Dimension text		
- Texts for free text	Include these Attributes	
Provision for builderswork opening		
Settings	Seeced ambuiles	
Size ranges Variable names	Part type specific data	
Legend templates	Duct/pipe X Width (mm)	
- Report templates	Vidar (mm) Provision for Builderswork Openings	-
Connection node defaults	- Widh (mm)	
Custom properties Variable sets		
Variable sets		
- Object ID formats		
Status		
Running index		
4		
Active Storey		_
Install storey origin (-10000,-15000,0		
Active storey Floor 1		
Project		
Disconnect project Merge project	Add constant	
Close	Up [Ctrl+K] Down [Ctrl+J]	
Civac		

Description field for the report templates

A template-description can now be set in the legend and report template to make it easier to add additional information about the template:

- Project: Demo/tem	niste contect	1.						_
- Project setting		Report name						
- Model drawing		Piping (all)						
	- Schematic drawings							
- Storeys		Drainage (all) Soutrikier (all)						_
Ventilation Piping			Edit Report Template					
Drainage		C may a rate	ter open stopen					
General		Template name	Ventilation (all)					
Linetypes		Description	This is a ventilation parts	moon				
 Dimension text Texts for free to 		Centrality						
	ilderswork openings	Include these Pats/						
- Variable names	10 N N	B- A	ordinary.	-	Include these Attributes	1	Property	A country of
- Legend templa			Ventilation					Length (. 60
 Report templation 		🐵 📝 Dui			Part Identification Part type specific data	-	Pat type	60
- Custom propert			Groular Rectanoular		Calculation		Product code	80
(i) Variable sets			Flexible		Position/Dimensions		Connection size (
		⊖-IV De					Duct/pipe length i	
Active Storey			Outdoor device				Number of similar	20
			Supply device				number or sinkar	20
Install storey origin	(-10000,-15000.0)		Extract device Exhaust device					
Active storey	Roor 1		Custom device					
Project			Climate beam reconents					
Disconnect project	Marge project		Flow damper					
			Fire damper					
	Dose		Silencer					

This description is also seen when selecting the template, when creating a legend or a report:

Configuration		
	✓ Save Save As Delete F	lename
View settings		
Template	Ventilation (all)	~
Description	This is a ventilation parts report	0
Output type	Clipboard 🗸	
Output file		
Text style	STANDARD \vee	
Text height	3.5	
Alignment, horizontal	Left \checkmark	
Alignment, vertical	Тор 🗸	
Object selection set		
 Manual selection 		
 Current drawing Selected drawings 		
Data filter Systems	All	



Show insulation in 1D on fittings

Earlier didn't the insulation show up on duct and pipe fittings in 1D:



This has now been updated to include them as well:



MagiCAD now uses the given r/D value for ducts, which is set in the project or updated using Change Properties

MagiCAD's pressure drop calculations now takes the given r/D value of bends into account. r/D can be set either in the project for the duct series or by using "Change Properties".

eneral											Product variab		
			000004		Description:		Circu	lar duct			Variable	Value	
			0.15000	_	UserCode:		Circ			-	P1	Varue	
	type code;		0.10000		National cos		0.0			_	P2		
				~		be:					P3		
ange serle		- Default		~	Material:						P4		
Only sele	ected flange type	allowed			Object ID fo	mat:	÷			\sim	P5		
Flexible of	duct				BWO size ra	ange				\sim	P6 P7		
ct Sizes					Products						P8 P9		
ize	Bend R/D	Fit on len	Extra len	^	Part type	User	Product	Shape	Subtype	^	P10		
00	2.00	40	15		Duct		BDEK-1				P11		
25	1.00	40	15		Bend		BDEB-15-*				P12		
20 60	1.00	40	15		Bend		BDEB-30-*				P13		
00	1.00	40	15		Bend		BDEB-30-				P14		
50	1.00	60	15		Bend		BDEB-60-*				P15		
15	1.00	60	15		Bend		BDEB-90-*						
00	1.00	80	15		Outlet		BDEA-1-**						
00	1.00	80	15		T-branch		BDET-1-**						
30	1.00	80	15		Reducer/		BDED-1-**			~			
	priority order 3000 0	0	0		Toleran	nce before	tap	50	mm		ot split if the result	is shorter than: Ok	500
000	priority order	0			Toleran	nce before	tap	50	mm		ot spit if the result		500 Ca
000	giCAD V&	0			Toleran	nce before	_	50 Save				Ok	



In earlier versions the given r/D was used only to draw the bends, but the value was not used in the pressure drop calculations. Instead of given r/D, MagiCAD used fixed values according to the bend type selected in the "Design options" dialog

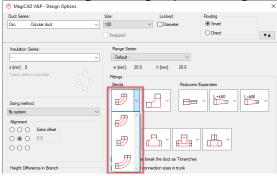
Earlier did MagiCAD only use the values for

Short r/D = 0.6

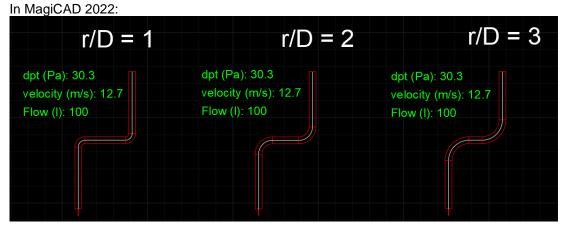
Medium r/D = 1

Long = 1.5

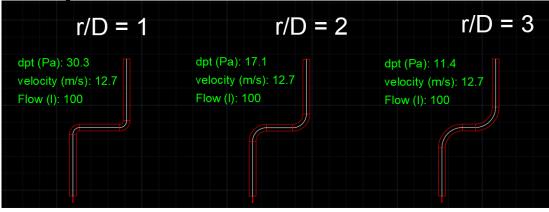
as drawn using the Design Options dialog:



An example of some ducts using Change Properties to change the r/D value in the drawing. Note the dpt value:



Now in MagiCAD 2022 UR-1:





Improved pre-selected options for radiators and additional corrections

The selected radiator value in the product variables list, in the UserCode dialog in the project, for heating radiators did no longer work (marked in red) in the radiator installation dialog after the radiator connection sets were implemented. The selected value was not updated to the radiator installation dialog as it should have been.

This has now been fixed and we have also added the option to pre-select a stop valve and radiator connection set (marked in green):

🙆 MagiCAD V&P - Us	erCode					×
UserCode:	C11		Pro	duct variables		
Product:	C11		Pr	roperty	Value	^
Object ID format:			Pr	oduct variable		
object to tornat.			Na	ational code		
Running index amount:		1	~ In:	stallation code	Not selected	\sim
			H	yperLink		
			fo	ExportAs	IfcSpaceHeaterType (IFC2X3, I	V
				СТуре	NOTDEFINED (IFC2X3, IFC4)	\sim
				equired heating powe		
				onnection size [mm]	0	
				adiator valve	ANR-22 ANR-MTW-0-22	\sim
				alve size	ANR-10-MTW-0-22	\checkmark
				op valve	NONE	\sim
				alve size		\sim
				adiator connection set	NONE	\sim
			P			_
			P			_
			P3 P4	-		_
			P4 P5			_
			P	•		~
			P	D		•
Edit in MagiCAD C	ireate				Ok	Cancel

Improved sizing when using different pipe in the same network

The pipe sizing of MagiCAD works so that it selects the pipe size according to the inside diameter of the pipes. It also doesn't select a smaller pipe size when the pipes are sized towards the root. This rule follows the DN-size of the pipe. Because different materials have different DN-sizes and also different wall thickness, this method may have unnecessarily selected too big pipe sizes when the material changed at tee.

E.g. if a plastic pipe DN-28 whose inside diameter is 20 is connected to a tee and the root pipe is Fe-35. Then the root pipe size was selected as size DN-32, whose inside diameter is 37.4. In this case a smaller Fe-35 would probably be big enough to keep the dp/m or velocity in the limits defined in the sizing methods.

To avoid this, MagiCAD now resets the minimum DN-size if more than one material is connected to a tee. This means that the smallest available pipe size is selected.





Calculated data added to Part Properties of radiators

Calculated data, which otherwise has been available only in the radiator installation dialog, is nowavailable in the Part Properties dialog of the radiators as well. "Room temperature" has also been added, as it is needed to calculate these values individually for the radiators now:

Property		Value		0				
		Heating radiator						
Part type System	:	Heating radiator H1 "Heating 1"						
	emperature	70 °C / 40 °C						
Storev	emperature	Floor 1					and the second	
fop of pa	wł.	H = 650.0					P	
lottom o		H = 150.0						
roduct	i part	C11 C11-500-12	00"					
tanufact	hirar	Purmo	55			1		
p-valve		4 kPa						
tot		3.9 kPa						
djustme	tee	3.7						
v		0.09						
		21		~				
duct:	C11	C11	Radiator with s	ingle pane 🗸	View mode		Rendered with dimension text	\sim
ize					Connections			
leight:			500	~ mm	< Inle	t	> < Outlet >	
ength:			1200	∨ mm	Drawing option			
equired	heating power		600	w	Draw valve			
Correctio	on factor due to	placement:	1.00	5	Draw filed			
			600	w	Draw nied	radiate	r	
kequred	heating power	calculated:				111		
Room te	mperature:		N/A	°C				
Connecti	ion size:		10	mm			U	
	Select Size		Rotate		Radiator valve	_		
				_	Product:		TPV1 TRV-2S+TRV 300-22	~
Calculate	ed data ed power:		N/A	w	Size:		TRV-25-10+TRV 300-22	~
	from dimensioni		N/A	- ^{**}	DN: 1	10	Properties	
reiteint	In onli camensiona	ng power.						
			0.0050	l/s				
low:					Stop valve			
Flow: Object I	d						NONE	
Object I					Product:		NONE	
					Product: Size:		NONE	-
Object I							Properties	~

Please note that if you open an old project that the Room temperature is "N/A" (or Not Available), which of course also affects the calculated data. This is because they haven't had the value set to them earlier, even if the user has been able to use that value to check in the installation dialog, that the radiator is of the proper size and properties for their application.

This value can now also be set using "Change Properties":

e	MagiCAD V&P - Change Property				×
	Configuration	~	Save	Save As Delete	e Rename
	Property				
	Radiato	~			
	Heating, cooling and special systems (1) GRadiator's room temperature		Value to	:	ي ج

Change radiator connection size via Change property

The connection size of radiators can now be changed using the Change Property function:

📀 MagiCAD V&P - Change Property		×
Configuration	✓ Save Save As De	elete Rename
Property Connection size	~	
Heating, cooling and special systems Gradiator connection size Water systems Gradiator connection size	Value to:	- Sta



Change the pipe size in the sprinklers system's System results window

Added a possibility to change the pipe size and recalculate from the system results report.

By right clicking line in the system report, you can set the pipe size. After that press recalculate to get the results with the new pipe sizes

🕙 MagiC/ Edit	AD - Re	port V	lindow																	
Design area Area 1: 14		¥]			,	/			eral re: nkler re				⊚ Sys ○ Equ	tem res ivalent		alues				O Pump diagram O Water source diagram Calculate
Level	From	То	k-fact	C-fact	Heigh [m]	ht qv	min1 li	, m/sl	Size [mm]	L	Leqv [m]	Parts	User code	p start [mbar]	p end [mbar]	dpt Ímbari	dp Hst [mbar]	dp (flo [mbar]	dp/m ([mbar]	(Warnings 1)
Parking	1	2		120		3 53			260.4					1414		0		0		
Parking	2	3		120	8.0) 53	5.2	Г						1414	1122	292	266	26	7.2	1 (a)
Parking	3	4		120	8.0) 53	5.2		Se	t pipe s	ize			1122	793	328		328	36.2	1 1
Parking	4	5		120	8.0) 15	0.7	1.1	54.50	27.1	31.4	2xB90, 1x		793	692	101		101	3.7	
arking	4	6		120	8.0) 38	4.5	2.7	54.50	0.4	3.3	1xT		793	733	60		60	149.7	
Parking	5	14		120	8.0) 25	7.2	1.8	54.50	5.1	5.1			692	648	44		44	8.7	
Parking	6	5		120	8.0) 10	6.5	0.8	54.50	21.2	24.1	1xT		733	692	41		41	1.9	



1.3 Electrical

New attributes added to Change Properties

Attributes O1-15 and status have been added to Change Properties under the asterisk (*) so those can be changed to all devices, all electrical devices, all communication/data devices and/or all cable routes objects at the same time.

Filter	~		
* 	^	Value from:	*
			* Show reference part
O3 		Value to:	
05 06 07	J		Show reference part
	•		
Show reference part			

Also, Descriptions 1, 2 and 3 have been added under circuit symbols.

Filter	~		
Cables/C,D,BA	^	Value from:	* * Show reference part
Bescription-1 Description-2 Description-3 Host reference System Free Combination boxes	~	Value to:	Show reference part
Uncheck all			
Show reference part			

Wipeout frames added for circuit symbols

Now it is possible to add wipeout frames for circuit symbols, both power and data. With wipeout frames you can hide objects under the circuit symbols so that you can clearly see what is written to them.

1 MMJ 5 MS General	<25 S
Circuit number:	1
Circuit type:	- not defined - \sim
Description 1:	SB10.1
Description 2:	floor 1
Description 3:	
Number of elements:	0
Allow to add wipeou	t frame

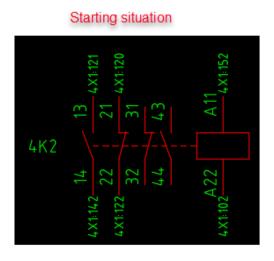
You can also use Change Properties for checking / unchecking the checkbox.



1.4 Circuit Designer

Improvement for numbering rules in Change Properties

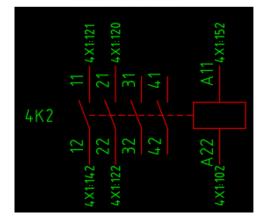
When changing numbering rules for contactors with Change Properties, if something is not defined in the new numbering rule then undefined parts will maintain their existing IDs



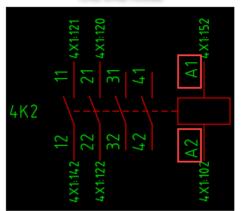
with Change Properties 👏 MagiCAD-CD - Numbering rule \times General Name: Basic Contactor rule Preview 2 4 à 6 ω 5 얻 8 8 8 22 8 72 8 8 œ ø < > Ok Cancel

Numbering rule used

Current end result



Old end result





1.5 Room

Editing functions were slow in MagiCAD Room

In large projects the editing functions were really slow in some cases, with for example the "Edit Storey"-function taking a several minutes to process before opening.

Improvements have been made speed up this process cutting the processing time significantly, although it still take minutes in some cases.

A new command has also been added, MAGIRCALCALL / MRCA, which calculates all information in the entire project. This way can the user make sure that all information is updated. It is recommended that this command is used instead of "Automatic calculations" which is set in the project settings, especially in large projects, as the "Automatic calculations"-options might cause slowness in the project



2 Resolved issues

2.1 Common

Unnecessary warning message

Fixed an issue where the user received an unnecessary warning "Project data has been modified and will be reloaded" when this actually wasn't the case.

Application selection issue when double clicking on object selection report dialog

The application selection was shown when clicking on lines in the Object selection report dialog:

eep using this app		Drawing name	System	System type	Part Class
AutoCAD Application		Ci\Testiprojekteja\MagiC Ci\Testiprojekteja\MagiC		Supply air Supply air	Supply air der Supply air der
AutoCAD Application		Ci\Testiprojekteja MagiC		Supply air	Supply air de
		Ci\Testiprojekteja\MagiC	Tuloima 1	Supply air	Supply air de
Other options		Ci\Testiprojekteja\MagiC	Tuloima 1	Supply air	Supply air de
AutoCAD Application					
AutoCAD Application	1				
AutoCAD Application	X				
AutoCAD DWG Launcher					
Look for an app in the Microsoft Store	7				
Always use this app to open .dwg files	\times				

This has now been fixed and the application selection won't be shown.

Autosave issue in AutoCAD

When AutoCAD's autosave was enabled and some commands were run in MagiCAD, the program generated a new automatically saved drawing to the Temp-folder.

This took place with commands that update the drawing at the same time.

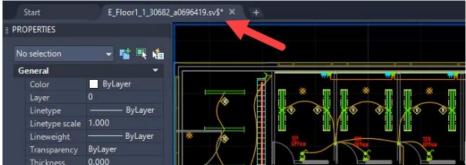
The new drawing was not connected to the project.

A Options	×
Current profile: < <unnamed profile="">></unnamed>	Current drawing: P_Floor1.dwg
Files Display Open and Save Plot and Publish System User Prefe	rences Drafting 3D Modeling Selection Profiles
File Save Save as: AutoCAD 2018 Drawing (* dwg) Maintain visual fidelity for annotative objects Maintain drawing size compatibility Thumbnal Preview Settings 50 Incremental save percentage File Safety Precautions Automatic save ID Muntes between saves Create backup copy with each save Create backup copy with each save Clittime CRC validation Maintain a log file acts File extension for temporary files Digital Signatures Ø Display digital signature information	File Open 9 Number of recently-used files Display full path in title Application Menu 9 Number of recently-used files External References (Xrefs) Demand load Xrefs: Enabled with copy Image: Complex Com
	On Cancer Apply Help





End result after certain commands finished:



Now AutoCAD's autosave is temporarily disabled while some commands run, which update the drawing, so that this does not occur.

% in filename caused AutoCAD to crash

Sometimes a percentage sign in the filename caused a crash. This has now been fixed to remove these occurrences.

Fatal error caused by Connection node report

Fixed an issue related to a fatal error taking place occasionally when importing connection nodes and having the "Show report"-option set.

"Cancel"-button in Change properties didn't work as expected

Even when clicking "Cancel" in the Change properties dialog, did the function remember the previous setting. Now that is only done when clicking "OK".

Not all properties were exported in IFC Export

Some the MagiCAD properties weren't exported properly to IFC. This has now been fixed and the properties are exported correctly.



IfcDistributionPort has been removed from the IfcExportAs-options

IfcDistributionPort has been removed from "Bind IFC type to native type"

🕙 MagiCAD V&P - Bind IFC type to nat	tive type		×
Filter		Filter	
IFC type	^	Native type	^
lfcDamperType		3-port valve	
IfcDistributionPort		3-port valve (gas)	
IfcDistributionSystem		3-port valve (sprinkler)	

And IfcDistributionSystem has been removed from the product information dialog in the project and Change Property dialog:

Project: Demo/temp		^ UserCode		Manufacturer	Product	Prod. P1 P	P3 P4 P5
 Project settings Model drawings 		📀 MagiCAD V&P - Us	erCode				×
Schematic drav		UserCode:	\$3		Product variables		
- Ventilation		Product:	KTI		Property	Value	^
- Systems					Product variable		
Parts		Object ID format:	•	~	National code		
	r devices	Running index amount:		1 ~	Installation code	Not selected	~
	devices	2D symbol:			HyperLink		
	devices t devices				IfcExportAs	fcDistributionSystem (IFC4	
- Exhaus		Select	Not selecte	d	lfcType	NOTDEFINED (IFC4)	~
- Fire dar		Frase			P1		
Silence					P2		
- Other c	omponent				P3		
Air han	ding equipment				P4		
- Access					P5 P6		
Climate	beam				P6 P7		
Fittings					P7 P8		
ctive Storey		Balancing limits			P9		
		Use limits from the ba	lancing method		P10		
Install storey origin	(-10000,-15000,0)		-		P11		
Active storey	Floor 1	for the pressure drop:	0	- 999999 Pa	P12		
		for the throttling:	0	• 100 %	P13		~
roject							
Disconnect project	Merge project	Edit in MagiCAD C	ireate			Ok	Cancel

MagiCAD V&P - Change Property	>
Configuration	✓ Save Save As Delete Rename
Property	
fc	
□-Ali (1) └─☐IFC type	Value to: CBg IfCExportAs: CType: CType:
	MagiCAD V&P - IFC type >
	Filter
Uncheck all Object selection set Manual selection Current drawing	FcDistributionPott (IFC4) FcDistributionSystem (IFC4) FcDuctFittingType (IFC2X3, IFC4) FcDuctSegmentType (IFC2X3, IFC4) FcDuctSlencerType (IFC2X3, IFC4) FcElectricApplianceType (IFC2X3, IFC4) FcElectricApplianceType (IFC2X3, IFC4) FcElectricDistributionBoardType (IFC4)
Data filter Data filter	Image: Second
	B- Ot Ok Cancel
	Apply Ok Cancel



Running Index attributes for COM interface

New COM attributes (/Part/RunningIndex/IsSystemSpecific and /Part/RunningIndex/IsRoomSpecific) to handle Running Indexes have been added. The full list of available COM attributes is now: /Part/RunningIndex/TextFormatID /Part/RunningIndex/Index[] Count(/Part/RunningIndex/Index) /Part/RunningIndex/Text /Part/RunningIndex/Text /Part/RunningIndex/Text /Part/RunningIndex/TextGroupID /Part/RunningIndex/TextGroupText /Part/RunningIndex/TextGroupDescription /Part/RunningIndex/StartingIndex /Part/RunningIndex/StartingIndex /Part/RunningIndex/IsSystemSpecific /Part/RunningIndex/IsRoomSpecific



2.2 Ventilaion and Piping

Product dialog was not updating correctly

When selecting a new product to the project the active product which was then shown in the installation dialog's preview was the wrong one, so the preview and the list had different products selected.

It was also the product, based on what was showing in the preview, which was added to the drawing even if the new product was selected in the list. The user had to select some other product in between, in the list, to get the correct selection.

Install domestic v	water device	Install drainage device			
UserCode K1	Manufacturer	Product KEITTIÖHANA (0.2)	Description ^		
K2		KEITTIÖHANA+APK (0.2)	Keittiösekoitin pesukonev		Con l
PA5	Oras	6208C	Cover part for washbasin f		
K3	Grohe	32593000 Kitchen Tap	Kitchen Tap		1
K4	Gmbe	32665000 Kitchen Tan	Kitchen Tan		-
D82	Joramark	Joramark 30080 + Grohe 35600000 (connection up)	Drybax		
K5	Hansgrohe	14875000	High spout kitchen mixer	6	
PA1		PESUALLASHANA+BIDE (0.1)	Pesuallassekotin käsisuih	-	
PA2		PESUALLASHANA (0.1)	Pesuallassekotin 🗸		P. # 1

Now this has been fixed and the correct product is updated both for the selection and the preview.

Product variable allowed unsupported characters

The product variable can be used in the layers, and it was possible to add characters that didn't work in the layers. This has now been fixed and the program gives a warning.

UserCode:	<u>S2</u>				Product variables			
Product:	STH				Property	Value		^
Object ID format:				~	Product variable			
-	-			Ť	National code			
Running index amount:		1		\sim	Installation code	Not selected	\sim	
2D symbol:		_			HyperLink			
-		- 1			lfcExportAs	IfcAirTerminalType (IFC2X3, IFC4)	\sim	
Select	Not selected	i			lfcType	NOTDEFINED (IFC2X3, IFC4)	\sim	
Erase		- 1			P1			
Lidse					P2			
					P3			
					P4			
					P5			
					P6			
					P7			
Balancing limits					P8			
-					P9			
Use limits from the bala	ancing method				P10			
for the pressure drop:	0	. 8	999999	Pa	P11			
					P12			
for the throttling:	0	- 1	100	%	P13			۷

Wrong text in error message dialog header when calculating

The calculation warning's header was wrong in some cases. This has now been corrected.

🕙 MagiCAD V&P - UserVar 1	×
Sizing methods have not been properly assigned to all or parts of the ducts or pipes segments. The sizing will continue, but the sizing method which is selected to the system will be used where no sizing method have been assigned to the duct or pipe segments. Do you want to continue?	<u>^</u>
Do not show this message again	
Yes No	



-MAGICAS script command didn't work

Changing the Active Storey of the drawing using the -MAGICAS command did not work correctly and the information was not updated as it should have been. This could for example be seen when running an IFC Export afterwards. This issue has now been fixed.

Xref loading problems when MagiCAD 2022 was in use

Some Xrefs could not be re-loaded in MagiCAD 2022. This has now been fixed.

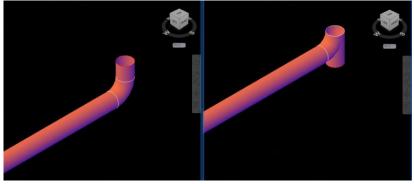
Calculation didn't open the report

The calculation report wasn't opened in some cases, even if it should have, if the user had adjusted the pipe/duct series' sizes.

This has now been fixed and the calculation report always opens when the user has selected it to.

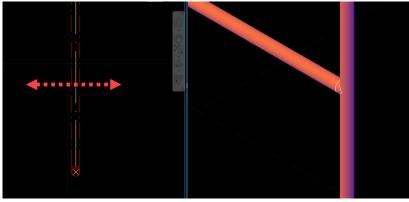
Changing the elevation with node at the end ignored the bend

It was possible to change the elevation like this (end result to the right) when there was a node at the end:



Couldn't move riser with MagiCAD's mode function, when it contained a T-branch

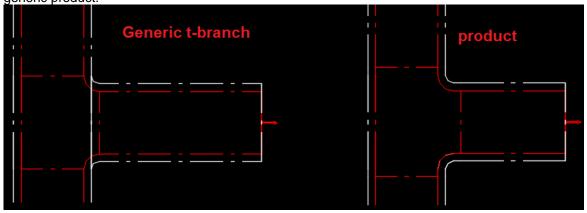
It wasn't possible to move risers which contained a T-branch, even if it worked with outlets. This has now been fixed.





Insulation issue in generic T-branches

The insulation was in some cases drawn in the wrong way in generic products. See the line in the generic product:



This has now been fixed and the insulation is displayed correctly.

Extended the number of decimals

The decimals for the pipe size in System results in the sprinkler report has also been extended from one to two.

Unable to select second system type with "Fill data from"

It was not possible to correctly set the systems for a manifold using "Fill data from" unless the manifold used as reference had been installed first, during the same session. The result for the second system type was blank:

🕙 MagiCAD V&P - In:	tall prod	uct		×
			Fill data from:	e,
System:	H1	Heating 1	~	B
System type:	Supply		~	
System type:			T ₂	
Status:			1	B
Installation code:				-
Description:				
Height level in absolute	coordinate	system		
Top level:			455.0 mm	-
Connection level:			400.0 mm	- Cha
Installation level:			400.0 mm	- Ba
Bottom level:			100.0 mm	-

This has now been corrected and the system type is set correctly.

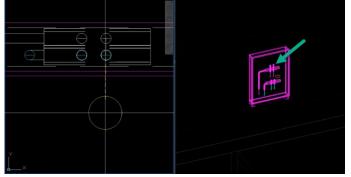
Generic Heating/cooling plants were installed in the wrong direction

"Generic heating cooling plant" direction was not according to UCS and instead according to the WCS. This meant that when the user had set the viewport to a new UCS and tried to install the product at this angle, it wasn't possible as the product was always at the angle of the WCS. This issue has now been fixed and the direction is now according to the active UCS, if such is in use.

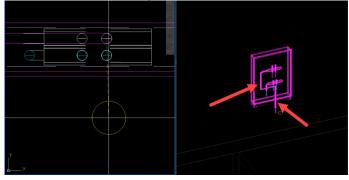


With certain manifolds pipe drawing started from a different connector than the one which was selected

The pipes were sometimes drawn from the wrong connectors:



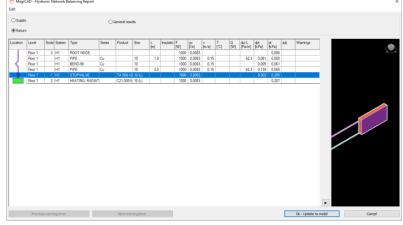
Issue: It did in this example select the main connector:



This has now been fixed and the pipes are drawn from the correct connectors.

Integrated return valve in calculations

The integrated return valve in radiators is now also taken into account in calculations:





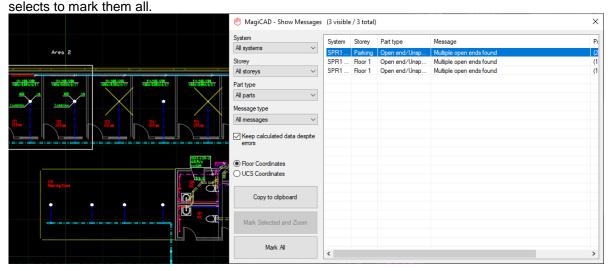
Issues with sewer points related to Find & Replace

The handling of Finding and replacing sewer points and the connections have been improved due to different issues.

These fixes are only available in the new Find and Replace function, as the function as a whole is renewed.

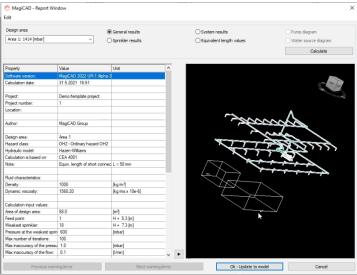
Only one open end was marked from the sprinkler network, even if multiple open ends were found

Previously did the sprinkler calculations error report only mark one of the open ends it found, even if it informed the user that it found multiple open ends. Now it marks all found open ends, if the chooser



Sprinkler design area in calculation preview was at the wrong Z-elevation

The sprinkler design areas and floor offset areas weren't at the correct elevation in the preview. This has now been fixed.





2.3 Electrical

Show Connected Objects

"Show Connected Objects" didn't show all connected objects if they had back boxes installed to them and the function was used on a switchboard.

Now all connected objects are shown with this function.

Provision for Builderswork Openings' part selection wasn't showing electrical parts

Provision for Builderswork Openings' part selection now shows also electrical parts.

Connection Nodes not created properly

Fixed an issue where data was not written to the connection node in the external drawing. One had to run the function twice to get them connected properly. This happened with cable packets making some related features working improperly.

Issue with Between function in Running index

Sometimes "Between" selection in Running index installation went to endless loop. This is now fixed.

Feeder block was not working properly

When a supplying circuit was in a different drawing than the switchboard it was supplying, the corresponding feeder block in a switchboard schematics couldn't find the circuit from the model drawings.

Now the location of the supplying circuit doesn't matter.

Configurations in Freeze layers didn't work

Configurations done with MagiCAD 2021 UR-2 or older didn't work with newer MagiCAD versions. Now also configurations done with older MagiCAD versions work properly.

Combination boxes has problems in Select objects function

When using "Select objects" function and "Show selected items in report" option, Combination boxes didn't appear to the report. Now all selected objects are shown correctly in the report.



2.4 Circuit Designer

Attribute position resets

When moving attributes from a control cable symbol by using the "Move Attribute" function and then using "Part Properties" for that control cable symbol, some attributes changed position after pressing Ok.

Now attributes no longer change position or orientation.

Unsupported characters in layer names

Now layer names are checked for incorrect characters correctly (comma and ` are not allowed).



2.5 Schematics

Creating a new Text format or editing an existing on didn't work

Editing or creating a new text format didn't work. This issue has been fixed.

Drawing: Kaaviopiirustus		Description	Style		Height	Preview
 Product definitions Property definitions 	Documents (Omat (Ronin vilja	Part ID	ISOCF	ډ	3.5	ABC
Part id formats Layer definitions Line types Text styles		System	ISOCF	x	3.5	ABC
- Text formats		Memo	ISOCE		3.5	Abodeligh) Iomrapard
Multi-line notes Duct definitions				Edit		Lawy2
		User code	IS	ISC New/Copy of selected		ABC
		System code - line break	154	Delete		ABC
⊕ Drawing symbols User preferences	~	TAG1	Stand	ard	1.5	ABC
	>					
Select Dataset	Disconnect Dataset					
New Dataset	Merge Dataset					
Connect V&P Project	Disconnect V&P Protect	I	Up [Ctr			own [Ctrl+3]