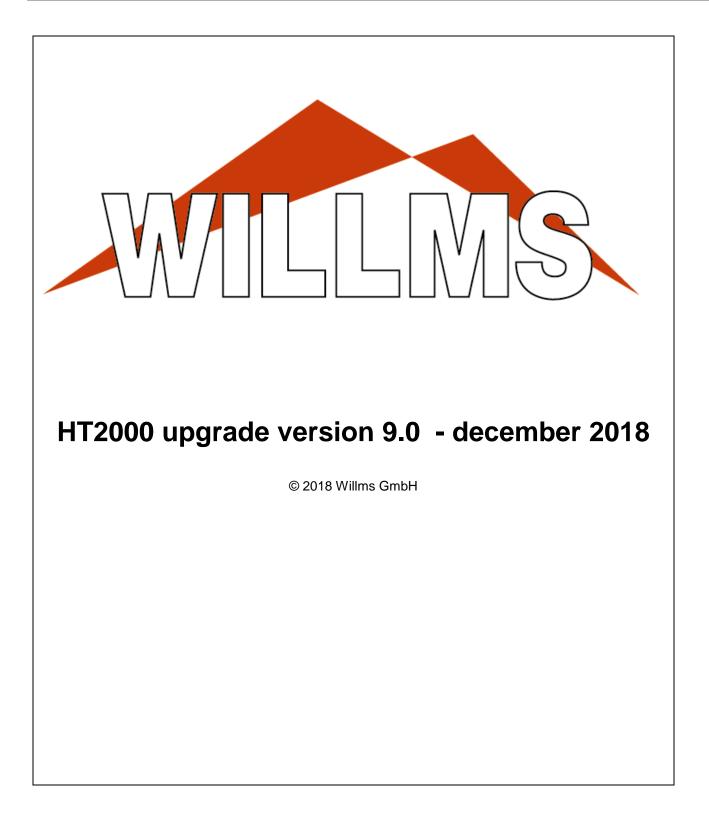
Version 9.0

december 2018





Version 9.0

december 2018



General Information

- Adjustments to the current Windows 10 version

- New fast project browser

The new project browser allows very fast access to projects and directory structures even with complex network structures. At the last level the project data are shown.

🐻 HT2000 - (V						×	
<u>File</u> System se	ttings Installation Language ?	3	HT2(House En)00–(gineering P		UPDATE86	FT2000W86
User		Project					
Userno.: 1	2	Project path: X:	\HTWINDAT			WILLINS	
eservisi 1	2	Project:	ABC		✓ Select	<mark>∦™8</mark>	
Project sele	ction					-	- 🗆 X
	12673 ^ 14804_34We_Tornesch 72725BP 216126 217704-1 217704-2 482939 2227603 2227603 2227603 2227603 2227603 2227603 2227603 22278969 2248815 2251935 11120802ET VAREY-ZANDS 14090201VD Pom De Pain A 14090203VD Wittendorp - S 14112101VD Lembreghts - D	Ref. No.: Description: Building /Street: Postal code City: Telephone: Client: Street: Postal code City: Telephone: <u>C</u> omments:			Date: Fax:	Date of <u>a</u> djustment:	
	Heat Load EN 12831 Heat Load according Lüftungskonzept DIN 194	Drawing title: Designer:				Drawing no.:	Cancel



- New result browser

With page preview, search function and various settings

ing									_		×
: A 🔲 🖻 (71%	() () 3	00		6 0		Close				
Marchang at 81 page											
bre " be price bre beneric bre		HT2000 V 9.0				-3-			Pro	oject: ABC	
		1112000 1 5.0		Sur		ng with PE-X	pipes			ojeti. Hibe	
110											
						ing EN 1264					
Advances of Billion system (19)					system	summar	· y				
		Flow tem	perature Im temperature				9 °C 5 °C				
L CONTRACTOR ALLE TO IL		Total heat	-				6 W				
			put of underfloor (heating			6 W				
		Total flov Max. pres	quantity				6 kg/h 0 Pa				
		Water cor					01				
		Total hea Total roo	ting area of under	floor heating			5 m² 0 m²				
		Total too				00,	0 11				
Construction of the second sec			tacker sheet 50								
		Heating	area		cc 200	16x2 mm 57,	5 m²				
		Manifold	No. of	Heating	Flow	Press. loss	Length	tf	tr		
1100			heating circuits	area [m ²]	quantity [kg/h]	total [Pa]	total [m]	[°C]	[°C]		
		1	3	57,5	363,6	4490	334.5	39.9	31,5		
Laboratoria di Bilano antico di Bilano Biano di Bilano Biano di Bilano											
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110											
		19.12.2018									
Page 1 of 5											.:



december 2018

- Radiator design

New radiator data acquisition

For old radiators for which no VDI3805 or BDH data are available, the technical data can be recorded. This enables an automatic design as with manufacturer data.

The acquisition module is called up via "Installation" in the start mask:

📅 HT2000 - (V 9.0)	×
<u>File</u> System settings Installation Language	?
WILLM	HT2000-CAE House Engineering Program
User Userno.: 12	Project Project path: X:\HTWINDAT Project: ABC <u>S</u> elect
Programs	Database
C HT2000-CAE graphic planning	PexPlus Floor Heating

Table for data entry

WILLIE S	HT2000 (9.0)				Radiato	or data entry					© 2018 Willms GmbH		— C	X
No	Manufacturer		No	Mod	el			$^{\circ}$	utput –					_
1	Example Radiator		1	Com	pact			- C) per m	neter C per :	section 🖲 absolute C electrical			
2			2	Com	ipact Valve									
3			3	Rad	iator				7E/C	5°C EN 442	C 90/70 °C outdated standard			
4			4	Abs	olut				10/0	J L EN 442	C 50770 C Outdated standard			_
5			5					- 0	orrectio	ine				
6			6	1					oncouc	115				
7			7	ĺ				Le	ength c	prrection	mm			
8			8	1										
9			9	1				Ine	effectiv	e sections	1 pcs.			
10			, 10	1				v				-		
	u create a new model by entering e data of an existing model can b													
	Type/Designation	Overall height [mm]	Overall [mr		Heat output [watts]	Exponent	Water content [I]	Coated [m²		Overall length [mm]		Code no.		^
1	Abs 10	400	90)	200	1,25	1	0,7	6	600				
2	Abs 10	400	90)	200	1,25	1	0,7	'6	1400				
3	Abs 10	600	90	כ	300	1,26	1,3	0,9	19	600				
4	Abs 10	600	90	כ	300	1,26	1,3	0,9	19	1400				
5	Abs 10	300	90	כ	130	1,26	0,6	0,4	4	1000				
6	Abs 11	300	10	0	130	1,26	0,7	0,4	4	1500				
7														v

Version 9.0



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Radiator design according to the new sheet 6 VDI3805, incl. Cooling

	oject: Al		11 🖬 🚔 🕺 🤅			1000													
-	-					Arbon			n eco KC2	-	-						****	L DOG DOG DOG DOG	
	Floorn no.		Room designal	ion		14	0 Twi	Fled (%)	Number	Radiator code	OH min. [mm]	0H max [mm]	OL men [rem]	OL max [mm]	00 min (min)	00 max [nm]	Design mode	Control	Design
[101	living room				20	2000		ा	Ad-00800	130	130	1200	2000	330	330	1E		
		5.2				_													
						-			-			-		-		-			-
					_				1	-	-	-		-		1			
Ī																			
		-										-					_		
						-			+					-		-			
5	Design	Arbonia VDI Asco	therm eco XC261																
T		Туре	Heat output	Deficit/susplus	OH	OL	1	20 V	Vater flow	coling outp total	ut Water		ge So	and precisions level	A Ro	oom data		101	
			[W]	[W]	juni	[rem	1 1	fme	(kg/h)	[w/an]	[kg/]			(dB)	De	signation		Sking to	101
ľ	KE261		1669	-331	130	1200) 3	30	172.0	489	105.	5	V	30	1000	imal tempera	lue	20	
I	66261		2105	+105	199	1400		90	172,0	602	123			31	1.	sing		27 2000	¢
т	KC261		2644	+544	130	1700		30	172.0	747	160.1			31	1.1.1	st loed scietor data		1100	M.:
4	KE261		3210	+1210	130	2000	8 J	190	172.0	931	200.	1 5	v	32		uper		T	
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ŧ.																			
ŧ.						-		-			-	-	-		1 1 1 1 1 1 1	id/tetum tem xéng	perature	55/45	0.75

Version 9.0



 \times

Design surface heating systems

- various new product data sets

- neutral ceiling heating in the PEX-Plus dataset

System data for system variant 10

Ta50 Ta75 PP50 PP75 DSAI DSSt V	VH1 WH2 PPtS CH	Rail	NP65 NP50 NP75
System			
UFH with preformed panel 50		~	
UFH with preformed panel 75			
Dry system with Aluminium diffusion plates			
Dry system with Steel diffusion plates			
Wall heating with diffusion plates			Insulation
			-
Wall heating, pipe in plaster			
Preformed panel 75, thin screed		_	<u>F</u> loor covering
Ceiling heating, pipe in plaster			
		· ·	Default floor covering: 1
<u>P</u> ipe	Nominal diameter		no covering
PE-X-Pipes	▼ 14x2 mm		
- Linding only as			1
Limiting values			
Max. pressure loss per heating circuit [Pa]:	25000		
Max. pipe length per heating circuit [m]	default: 120		maximum: 200

- Connections "reverse return" (Tichelmann system)

Optionally, several identical heating circuits can be connected reverse return (Tichelmann system). The size and number of sub circuits can be varied. The nominal width of the pipe can be specified or determined automatically by the program.

- Consideration of insulated connection pipes

Individual connection sections can be marked as "insulated". This means that the output of these pipes is not taken into account. The material list may contain corrugated pipes or other insulating material.

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 \times

lengths Connecting lengths

	Length [m]	through room	Insulate section	Output of connection [%]	Pipe spacing [mm]	covered area [m²]	^		
►	4	103	X	0	100	0,8			
2	6	104		50	100	1,2			
3									
4									
5							~		
Connecting length is automatically doubled.									
Total length of connection pipes [m] : 20									

- revised layout mask

	HT2000 (9.	-/			ι	JFH Desi	gn accord	ing to BS I	EN 1264			6	© 2018 Wi	llms Gm	bH	_		×
PI	oject: ABC						Surfa	ce heat	ing wit	h PE-X	pipe	s						
	anifold :]1		ontrol gr	oup: ()		t f: 39,9	°C 📃	ţf-determi	nation		nections drop tot.:	7800 Pa		quantity: ength:	363,6 334,5	-	
	Room No.	de	Room enominatio	n	ti [°C]	Flr. R.Ib [m²K/W]	q spec. [W/m²]	Q short [W]	tf-tr [K]	Pz cc [mm]	Pz area [m²]	Pz ts [°C]	Oz cc [mm]	Oz area [m²]	Oz ts [°C]	Conn. area [m²]	Undo manual adjustm.	^
1	100	Küche			20	0,020	58		11,1				200	15,5	25,5		×	
2	101a	Wohner	า		20	0,100	48 -	•	7,6				200	25,0	24,6			
3	101Ь				20	0,100	48		7,6				200	17,0	24,6			
	Room No.	System variant	Pipe ND	Zone	he		ionnect. length [m]	Length total [m]	Flow quantity [kg/h]	Press. lo total [Pa]	oss P	ress. loss valve [Pa]	v [m/s]	kv - value	Flov rate [l/mir	manu	o Ial	^
1	100	Ta50	16x2 mm	Oz		1	20,0	97,5	83,6	7798		618	0,21	1.40	1,40			
2	101a	Ta50	16x2 mm 18x2	Gruppe	• 1	/3	12,0	137,0	166,7	4488		2459	0.14 0,30	0.77	0.93			
3	101Ь	Ta50	16x2 mm 18x2	Gruppe	• 1	12	15,0	100,0	113,3	3591		1136	0.14 0,21	0.52	0.95			
					HTG	Room/	circuit no.	101a, Cor	rection of	Reverse F	Return o	circuits, n	nodules		×			~
	ooling w tempera	ture: 17	°C	_	N	ominal di	ameter of R	everse Ret	urn pipe:	autom. d	etermina	ition 💌						
Ма	ormation – nual adjust		number	ofheati	r			eturn circui er Reverse			-		circuit: [m²] module: [m			Cancel	?⊦	łelp
												 Image: A second s	ок	🗙 Cano	cel			

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- neutral data set for industrial surface heating

with variable concrete coverings, concrete core activation and ceiling heating, connection of the equal circuits reverse return (Tichelmann system)

System data for system variant 6		×
S C150 C180 C200 C250 C300 BKA-F BKA-D CH C150-C	C18	0-C C200-C C250-C C3 💶 🕨
System Pipe in screed Pipe in concrete, 150 mm concrete cover Pipe in concrete, 180 mm concrete cover Pipe in concrete, 200 mm concrete cover Pipe in concrete, 250 mm concrete cover	^	<u>I</u> nsulation
Pipe in concrete, 300 mm concrete cover Concrete Core Activation Floor Concrete Core Activation Ceiling	~	<u>F</u> loor covering
Pipe Nominal diameter PE-X Pipes 25x2,3 mm	•	
Limiting values Max. pressure loss per heating circuit [Pa]: 35000		

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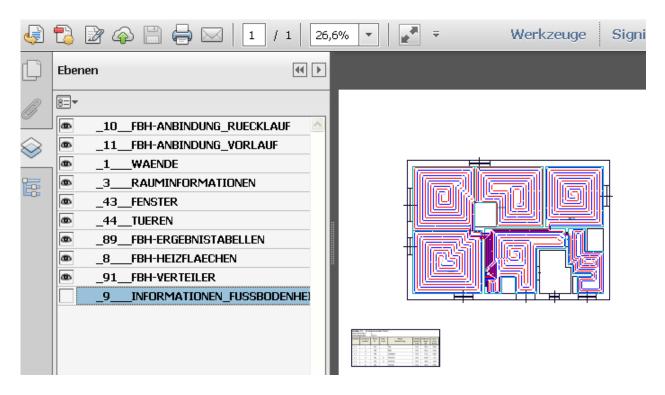
- HT2000-CAE graphic module

- General and CAD functions

- **Reading and saving large projects** Reading and saving of large projects has been significantly accelerated.
- DXF / DWG interface extended and updated EMF image files (e.g. manifold legends) are automatically converted to JPG files. This allows a direct export to the DWG file. The images are packed in a separate file and saved parallel to the DWG file.

- PDF export has been extended and updated

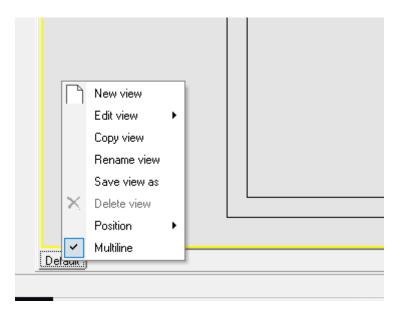
The layer structure will be exported to the PDF file.





- Views (Professional version only)

The user can create different views of his plan and switch between the views at any time, e.g. between ground plan, heating plan, plumbing plan, or ufh routing plan. The views are managed by "tabs" at the bottom of the screen. The basis is the tab "default".



This is the view of your project as you have worked with it so far. If you right-click on "Default", you get a context menu with which you can create and edit new views.

Views are not new drawings, but combinations of existing layers that are displayed on screen at the same time.

This allows larger projects to be structured in a meaningful way. The following properties are managed and saved separately in each view :

displayed layers, active working layer, scale, view scan template, zoom status, display line width, grid parameter, grid on / off, visualizations title blocks

Title blocks placed in a view are managed separately, i.e. the texts can be changed in every view. Title blocks of other views, which should not be displayed, can be switched off via "fade in/out".

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<u>New view</u>

A new tab is created after you have selected the layers to be displayed in the new view.

Layers 1,16,43,44 1-3,16,43,44 1,2,4-7,12,16,17-28,43 1,2,14,16,29-42,43,44, 1,2,8-11,13,16,89-98 67-69,73,81,84-88 60-66 200,204,200,210,221			
1-3,16,43,44 1,2,4-7,12,16,17-28,43 1,2,14,16,29-42,43,44, 1,2,8-11,13,16,89-98 67-69,73,81,84-88 60-66			
200-204,209,210,231-: 50-57 50,70-72,74-79 100	260		
	Enter/chan	ge grou	ps
		Enter/chan	Enter/change grou

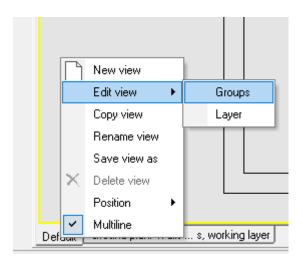
After the above selection, the layers 1, 16, 43, 44 and 100 are shown.

If you do not make a selection, all layers and properties of the active view are adopted.

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Edit view



With "Groups" you can call up the layer group selection again, with "Layers" the list of all layers that you can select or deselect individually.

Copy view

A copy of the active view is created directly.

Rename view

The name of the view can be changed arbitrarily.

Save view as

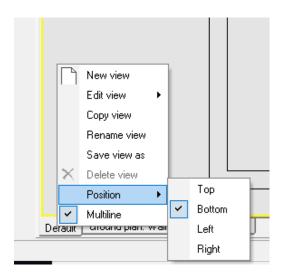
The selected layers of the view are added to the list box of the layer groups under the name of the view. This allows you to retrieve the configured views in other projects.

Delete view

The view or tab is deleted. No data will be deleted.

Position

The position of the "tabs" can be changed.

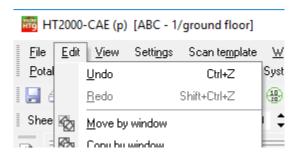




<u>Multiline</u>

If required, several tab rows are created

- Undo / Redo (Undo / Redo) function



When editing CAD elements, the individual processing steps can be reversed or the "undo" can be revoked (redo).

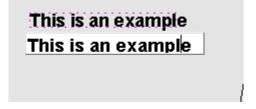
For calculation objects the same function is currently in progress

- Text Search by "CTRL + F"

Search text	\times
Iext: Bath	_
<u>Upper / lower case</u> <u>W</u> hole words only <u>Invisible texts also</u>	
✓ <u>O</u> K X Cancel ? <u>H</u> elp	

Throughout the drawing you can search for any text.

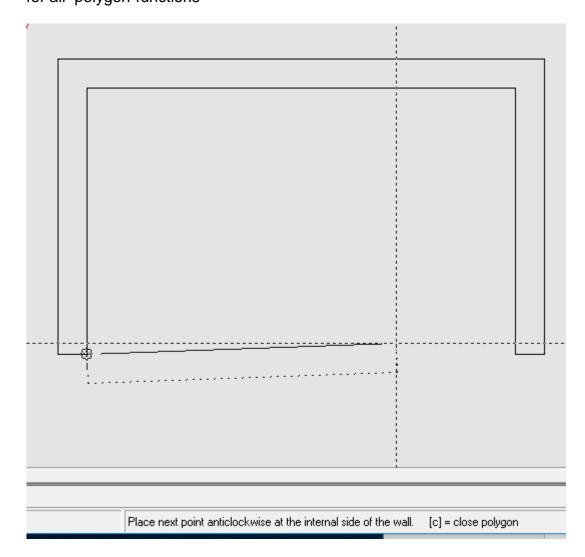
Text-quick entry / correction



Double-clicking on the text activates the fast entry. Below the text an input field appears in which the text can be edited directly. By "Enter" the change is accepted, by "Esc" it is aborted.



- Automatic closing function with key "c" for all polygon-functions



While the line or wall is hanging on the crosshairs, the polygon can be closed by pressing the "c", i.e. the first point of the polygon automatically becomes the last.

- Wall niches, parallel continuation of walls

The creation of wall niches and the parallel connection of walls with different wall thicknesses have been significantly improved.

Version 9.0



- Layer group selection

Additive selection and enter/change group composition

📅 Select groups of layers		-		×
Group description	Layers			
Ground plan: Walls/Windows/Doors	1,16,43,44			
Ground plan with room stamps	1-3,16,43,44			
🔲 Heating: radiat., flow/return, ropes	1,2,4-7,12,16,17-28,43,44,46			
Plumbing: Armatures etc.	1,2,14,16,29-42,43,44,82,83			
✓ Underfloor heating	1,2,8-11,13,16,89-98			
Cooling	67-69,73,81,84-88			
🗖 Drain water	60-66			
MVHB	200-204,209,210,231-260			
🔲 Scheme Heating	50-57			
Scheme Potable water	50,70-72,74-79			
🔲 working layer	100			
☑ Display only the selected groups	E	nter/chan	nge grou	ips
	✓ <u>□</u> K	Cancel		<u>H</u> elp

If the **"Display only the selected groups**" button is <u>deactivated</u>, the selected layer groups are displayed in addition to the existing layers, otherwise only the selected groups are displayed.

Via the button "Enter / Change groups" you can directly change or delete existing groups or add new ones.

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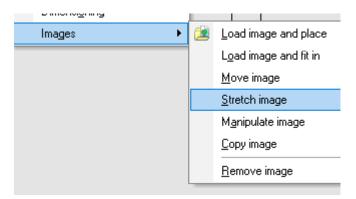


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Sign symbols have been added to the base toolbar for rescue, fire, commandments, prohibition and warning:

Place symbols - Sig	gns\Rescue\					×
Symbol <u>t</u> ables			•			
#COMMAND	Columns: 5 🚖				14	
#FIRE	Lines: 4			* **		
#PROHIBIT			+	Es T		
#WARNING	Symbol size: 50 🚖		4	EP-I		
	Place mode					
		1 di	• *	+		8 N
	С <u>0</u> n line	4	ΝΛ.	• • =		A CL
	O On line w. <u>b</u> reak					
	O Symbol <u>c</u> hain	-5	n n		$\mathbf{P}\mathbf{J}$	$i \rightarrow i$
Symbol <u>n</u> ame:			א" 'ĸ	Ľ.		
E012.WMF - Notdu	sche 🖃 🗸					
<u>L</u> ayer:						
100: user	•					
multicolor						
<u> </u>	$\mathbb{A} \not\in \mathcal{P} \not\forall$					

- strech images, copy images



If the images are streched over the marked vertices, the image will not be distorted. The ratio of length to width remains constant.



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51 - Manipulate objects / elements

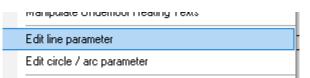
Global change of node radii at branches or tees -

Manipulate Pipe Banner, Heat./ Plump.		
Change radius of branch points	Heating Pipe System	
Change radiuses of connection nodes Manipulate One-Pipe Texts	Potable Water Pipe System Heating Scheme	$\left \right\rangle$
Manipulate Room Labels / Texts	Potable Water Scheme	-

global change of radii at connection nodes _

Change radiuses of connection nodes	Radiators
Manipulate One-Pipe Texts	Heat Consumer
Manipulate Room Labels / Texts	Potable Water Objects
Fade in / out Room Labels / Texts	Wall heating, Prefabricated modules
Manipulate Radiator Texts	MVHR Objects

Edit line / circle / arc parameter -



Selective adjustment of line widths

In the function "Change line / circle / arc attributes", it can be differentiated whether changing the line thickness in a plane or window, whether "all" or only the lines with a certain line width should be changed.

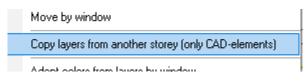
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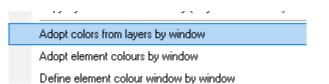
Line attributes X
✓ Line type: 0: ✓ Width of line: 0.30 mm
C All • all with width from 0.20 to 0.50 mm
Line color:
✓ from Layer Select
Layer: 100 (only CAD Elements)
C Individual 🏾 Layer by layer C by window
Adopt properties for elements of layer:
QKX Cancel? <u>H</u> elp

copy layers from another storey (only CAD elements) _



From another storey the CAD elements of certain layers can be copied to the current storey. Calculation objects can not be copied.

Adopt layer colour or element colour by window



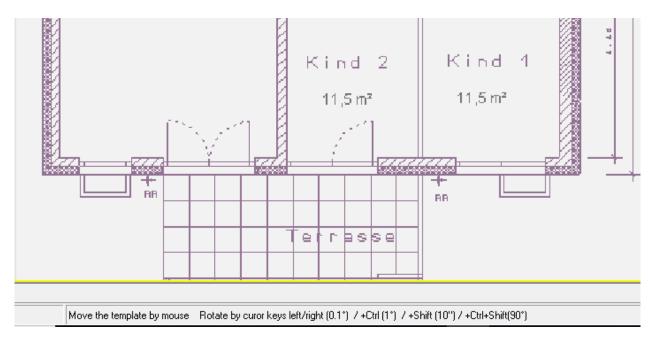
The colour of all CAD elements within a window can be switched to their element colour or to the colour of the layer.

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- Scan-template

Rotating a scan template has been refined up to 0.1°, see status bar at the bottom of the screen



Cursor keys	left/right :	0.1°
-	+ Ctrl-key:	1°
	+ Ctrl-key:	10°
+Ctr	I + Shift-key:	90°

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- Room data

create rooms without room structure (room polygon)
 (to call also via the base toolbar)

s	R <u>o</u> o	m data	<u>R</u> adiators	Underfloor Heating	Heating F	^p ipe Syste	em Pota <u>b</u> le Wat
V	(10) 20	<u>H</u> eat Lo	Extras	<u>C</u> alculation H			
-		H <u>e</u> at Lo	r≓-	<u> ™ × × ·</u>			
		<u>C</u> reate	room without	E	ree mode		
		Manipulate room polygon					arallel mode
		<u>R</u> oom l	abel without r	oom	۰	E	<u>}</u> ectangle

Using the 3 options arbitrary rooms can be created with a line polygon. The area will be measured and the room data will be queried directly after closing the polygon.

				_	
Room data			×		
Room number:	1 2				
Room designation:	bathroom		•		
Internal temperature [°C]:	24				
Room area (internals) [m²]:	28.96				
Heat load [W]:	1593	55	[W/m²]		
<u>H</u> eacioad (W).	1.000	100	[*******]		

The heating load can be assigned manually (no heat load calculation!). The room marker is placed automatically.

These rooms can be used like normal rooms for radiator or ufh layout.

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- Manipulate room polygon

There are various functions available for editing the room polygons:

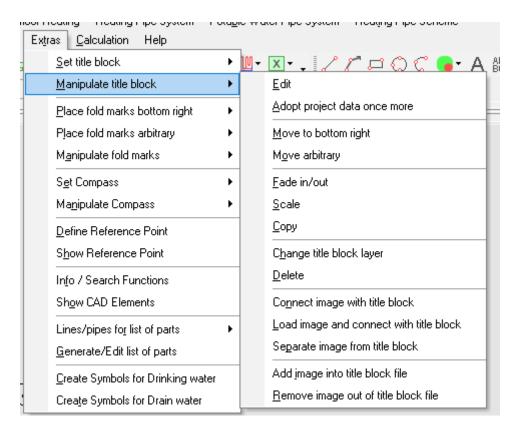
Room data Radiators Underfloor Heating Heating P							m – Pota <u>b</u> le Water Pipe System	
	<u>H</u> eat Load da	a of in	ndividual rooms	E	(tras	<u>C</u> alculation Help		
	H <u>e</u> at Load da	e of a	II rooms	IC,	3.	🗄 🎹 • 💌 • 🖉 🦿 👌		
	<u>C</u> reate room w	ithout	room structure (room p	· È	<u> 0</u> n	n ‡⊻0m ‡.		
Manipulate room polygon					•	M	ove quick room	
	Room label without room				•	Move one polygon line		
	Move room label					<u>S</u> t	retch one polygon line	
	<u>F</u> ade in/out room label					E	ade out/in room polygon	
	Load 3D room model					Fj	ll room polygon / remove filling	
	<u>S</u> how 3D model of storey					B	emove quick room	



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- Title block

The manipulation options for the title blocks have been significantly expanded. Title blocks can now be placed multiple times. Different texts can be assigned to each title block.



- fade in /out

Title blocks can be made visible or invisible in any view as required. All invisible title blocks are temporarily displayed on the screen. By clicking on it, you can make the desired title block visible again.

- Edit

The texts in the title block are now entered or changed directly in the drawing. All text fields will be marked first.



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Flo	or				
Project	EFH				ABC:
Building	XY				
Storey	EG				
Id	Operator	Changed	Proofed		Date
EIII	EIIE	1111	EIIB		14.08.2018
- EEEE	HIII .		1111 1111		
EIII)		1111	EIIB		
Hea	ating		S 1: 50	Drawing N	No.: (TT)

By clicking on a field the respective field will be opened for editing, for example:

Id	Operator	Changed	F			
Hea	Heating					

If you complete the entry with **enter**, you can click on the next field.

When you finish with **tab**, the program automatically jumps to the next field (from left to right, from bottom to top).

- Pictures in the title block

Image files can be temporarily or permanently linked to a title block.

"Link image to title block" means a temporary link in the current view of the project, e.g. the image is moved or faded in/out at the same time as the title block.

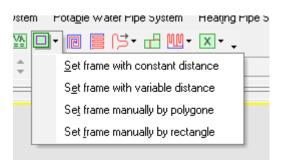
<u>"Add image to title block"</u> means a permanent link. Whenever you reload the title block, the image will be included.



- Underfloor heating

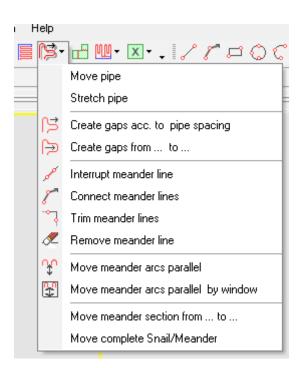
- Frame

A frame for the automatic laying can be created now manually as a rectangle.



- Manipulate snails / meanders

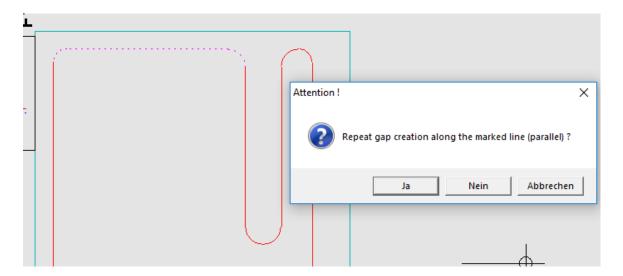
For editing meanders and snails several new functions are now available.



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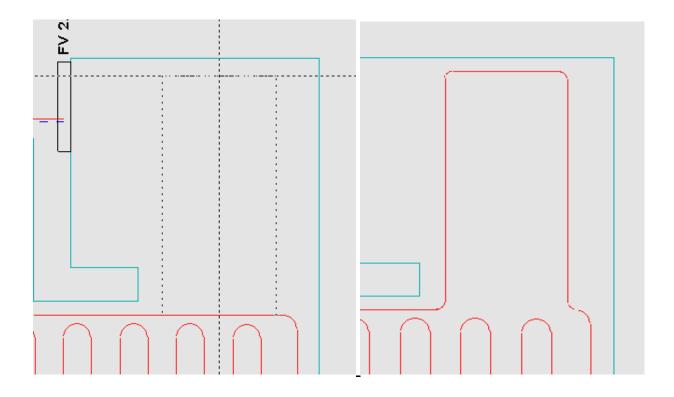


Create a gap acc. to pipe spacing



The gap creation can be repeated automatically.







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Interrupt, connect, trim and delete meander lines

 Interrupt meander line

 Connect meander lines

 Trim meander lines

🖉 Remove meander line

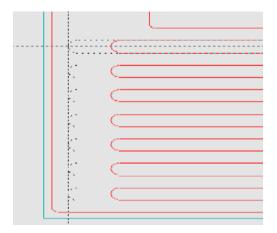
With these functions make sure that no ring loop is created. New lines can only start from the end an existing line by "connect".

Move several meander sheets at the same time

Move meander arcs parallel

Move meander arcs parallel by window

Meander arcs can be clicked one after the other or selected by a window and then moved together parallel.

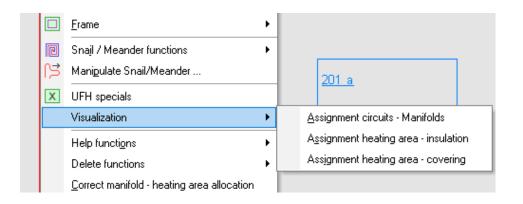


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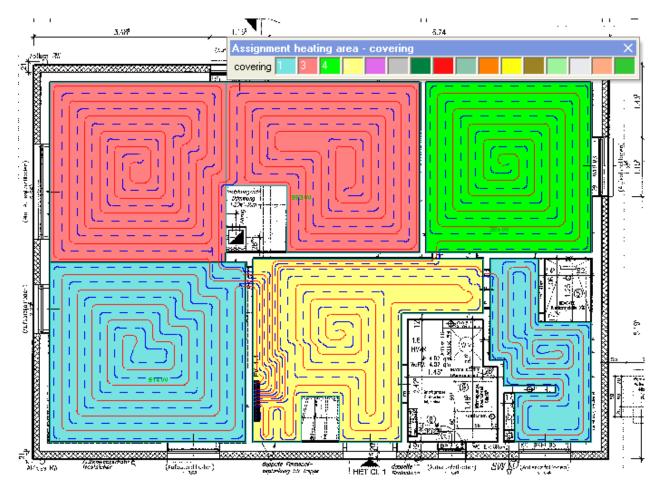




- Visualizations



Which heating areas belong to which manifold or which insulation variant or which floor covering is used in which area can be represented by colouring the surfaces in different shades, for example :



By double click on the colour fields of the tool bar you can determine the colours yourself.