Rebro®2022 An Introduction to Rebro





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1. Edit piping, ducting, or electric wiring

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BE-Bridge, IFC, STL, and PDF file format

Elementary operation

1.Rebro 2022 Screen layout



* Recommended display setting for Rebro: 1280 x 1024 (800) or more

*[Pipe] or [Duct] tab is not available in the Electric mode.

Change the screen color

The initial value is white for the paper color. To change the paper color to black: go through [Setting]-[General]tab-[Indication]-[Brightness of color], and then select "Show printing paper in black"; then click [OK].



2. How to operate on the screen

Mouse actions

Enlargement	Area enlargement	Reduction	Zoom	Screen panning (Parallel translation)	View panning (Parallel translation)
Rotate the wheel forward	Right-drag to specify the opposite corner	Rotate the wheel backward	Double-click the wheel	Drag the wheel	Drag the wheel while pressing Ctrl
	Drag		Double-click	Drag	Ctrl + Drag

Keyboard operations

Enlargement	Reduction	End of the enlargement on the screen	Display entirely	Screen panning	View panning
PgUp	PgDn	End	Home	$\begin{array}{c} \leftarrow \\ \rightarrow \\ \uparrow \end{array}$	ctrl + ↑ ↓

Status bar operations

|--|

22	Display entirely (to fit the whole screen).
36.3% 🔻	Specify the enlargement ratio.
</th <th>Display lines according to the thickness for printing. Left-click $[\mathbf{v}]$ to adjust the showing line thickness.</th>	Display lines according to the thickness for printing. Left-click $[\mathbf{v}]$ to adjust the showing line thickness.
₽? ९	Display "?". "?" indicates the case that has no fittings corresponding to the one of pipe, duct, or electric route.
•ו	Display "X". "X" appears when fittings overlap at the junction of pipe, duct, or electric route. Also it appears when the duct shorter than the Shortest length is drawn.
	Rebro temporarily shows elements that are hidden by a clip function.
Confirmation mode	Rebro color-codes and shows them according to the states of custom properties, zones, etc., that have been set.

Panel operations

The panel shows the window of [Around-view] [Property] [Layer] [Message] [Library] [Search] [System management] [Clash detection] [Simulation] [HVAC Measures] [Zoom] [Drawing marker] [Progress management].

The panel is shown in a docking mode (left-aligned or right-aligned to the edge of the screen) or in a floating mode (placed at any place).



How to float the panel

Drag the tab of the panel name while pressing Ctrl.







How to dock the panel

Drag the panel to the edge of the screen while pressing Ctrl, and release the mouse button when the blue band appears. Or double-click the panel while pressing Ctrl.



Panel layout in the docking mode

In the docking mode, the lying down pin folds the panel automatically to the edge of the screen. The vertical pin fixes the panel at any position.



3.Design(Machine) mode, Construction(Machine) mode and Electric mode

Select between "Design(Machine) mode", "Construction(Machine) mode", or "Electric mode" according to your drawing. When you select "Design(Machine) mode" or "Construction(Machine) mode", the descriptions in [Pipe] or [Duct] tab change. [Pipe] or [Duct] tab is hidden in the electric mode.



Design(Machine) mode

You can use this mode to make design drawings, or plots to place symbols.

You can create drawings as if you draw on papers without considering the height or size.



	Home	Figure Pipe Duct	Electric	Equipment	Sleeve or inse	ert Building	Tool Processing	View Add-Ins							Desi	gn
		🖂 Valves	m	0		1 0	I Connection	Collective	50 Size	Setting of flow	Attribute copy	504	🛊 🖣 Omit area	•	Set up single-line symbo	4
	\mathbf{O}	Measuring instruments	System	Liser's		ripe	Division	connection	definitio	n Setting of flow volume	— Switch to double line	-	🐨 Edit uses symbol	-	Setting of use	
	Equipment	🕶 💢 Faucets 🔹 🤜	symbol	symbol	Reposition	 Vertical pipe 	Trim route	Other editing	🕫 Rowmeter	Resize pipe automatically		Size annotation	 <i>f</i>_{in} Draw riser symbol 	•	Other setting	-
		A symbol of	single line				Pipe route		1	Size	Attribute	Annotatio	on, drawing expression		Setting	
1	🖭 Home	Figure Pipe Duct	Electric	Equipment	Sleeve or ins	ert Building	Tool Processing	View Add-ins							Desi	gn
		Ø Damper	\bigcirc	3	-	Duct	Connection •	Collective	500×300 Size	■ Setting of flow Setting of air volume	≪1 Attribute copy = Switch to double line ▼	500+300	국는 Omit area 중 Edit uses symbol	•	Set up single-line symbo	
	En la contra de la	- 122 -	System	User's	Reposition 15	Z Martin Latin	312 Townshi	~ ~ ~	·		Locale and	a	1.0			

Construction(Machine) mode

You can use this mode to make working diagrams. You can complete the working diagrams, by editing the drawings that are created in the design mode.



	🖭 Home	J Home Rgure Ppe Duct Electric Equipment Sleeve or Inset Bulding Tool Processing View Add+ns Construction ♥																
ſ	1 8-1	T Maker	P Instrument		🕴 Collecting pip	xe 🤞	Connection	🔻 🏠 Height d	hange 👻	1 province	Setting of flow	🗳 Attribute cop		504	🛊 🖡 Omit area	•	Setting of materials	-0
1	Pipe	le vaive	🚺 Water supply or drait	inage fittings	🕀 Refrigerant u	nit 📫	Division	🔻 <table-cell-columns> Sloped p</table-cell-columns>	iping 👻	U Nesize	Setting of flow volume	-S- Switch to sin	le line 🔻 🔻		😴 Edit uses symb	- loc	Setting of use	L .
	Vertical pipe	e 💋 Fittings	🖸 Pit		🔲 Refrigerant p	ipe rack	Trim route	Other editing	· ·	🥳 Flowmeter	Resize pipe automatically	🚟 Offer thermal	nsulation 🔹	Size annotation	🕶 📠 Draw riser sym	bol 🔻	Other setting	 Option
			Draw					Route editing			Size	Attrit	.te	Annotatio	n, drawing expression		Setting	1
	🖭 Home	1) Home Figure Pipe Duck Bectric Equipment Sieve-orinisent Building Tool Processing View Add-Ins Construction 🔻																
	. /	🐋 Spiral duct	Box	chamber 🧔	Connection	🔻 🏠 Height d	hange 🔻		El Setting o	of flow	I Attribute copy	500(300	국는 Omit a	area	-		Setting of materials	-0
	- Postangular	≫ Flexible duct	🖽 🖨 Airt	erminal 🗐	Division	🔻 🖉 Slant	-	Hesize	Setting of	of air volume	-S- Switch to single line		🐨 Edit u	ses symbol	-		Setting of use	L .
	duct	Vertical duct	Damper 🖉 Part	ts 🗄	Trim route	Other editing	, -	🤨 Ductulator 🔋	Resize o	duct automatically	Cffer thermal insulation	 Size annotation 	▼ Ĵa Draw	vertcial duct symbol	-		Other setting	 Option
		[haw		R	oute editing			Size		Attribute	Ar	notation, drawin	ig expression			Setting	

Electric mode

As electric drawings without changes, you can use mechanical plotter drawings created for air-conditioning and plumbing. In the electric mode, Rebro hides a handle for drawing "Air-conditioning and plumbing"; instead shows a handle for drawing electric wiring at the reference point of pipes or ducts for equipment that has no connection ports of electric wiring.



[Pip	e] or [Duct] tab is hidden in the electi	ric mode.			
Home Figure Electric Equipment Sleeve or insert	Building Tool Processing View Add-ins				Electric 👻
Bectric outlet	White Concept to any import	~笛 Wiring annotation list	Panel type 🔻 t	🚽 Cable	
Switch System Liser's	V writing Connect to equipment J Up / Down	Appliance explanatory legends list	Control area of board	🚽 Conduit pipe 🏼 🏳	ction be od
Luminaire Panel V symbol symbol Reposition	- The symbol _1_ Set up circuit number	Illuminance calculation sheet	Control wiring Control panels ton Blinking section	🕥 Vertical pipe 🔻 Parts	ng 🔻 Option
Symbol (2D)	Wiring (2D)		Control	Draw	Edit Con Setti E

4.Command operations

Left-click specifies the start or execution of the commands. Right-click opens the menu to be executed.

Draw a line

Left-click [Figure] tab- [Drawing of line].



Left-click specifies the starting position of the line.

If you move the mouse pointer, a tooltip shows the angle, distance, and height from the starting position. Specify the height on the ribbon to show the height as a tooltip.



Left-click at the line end position to draw the line.



Select [Decision] in the context menu (right-click) to complete commands.



Command execution

Select [Decision] in the context menu (right-click), or press Enter.



Revert the last one in command operations.

Select [Returns] in the context menu, or press Backspace.



Complete or cancel the command

Select [Cancel] in the context menu, or press Esc.



Undo or Redo

Undo the last action by the left-arrow symbol " k " in upper-right of the screen. Redo the last action by the right arrow icon " * .



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How to start commands

You can start commands from the ribbon, context menu, keyboard shortcuts, or icons on Quick Access Toolbar.

Start from the context menu

When you are choosing no element, Right-click shows the commands for drawing.



When you are choosing the element, Right-click shows the commands to edit the element.



Start from the keyboard shortcut

* Refer to the reference on page 38 for the keyboard shortcuts set at the time of installation.

• Delete



Copy to the clipboard



To customize,
go through [Setting]-[General]tab-
[Operation environment]-[Shortcut key]

Start from Quick Access Toolbar

You can add commonly used commands to the Quick Access Toolbar.

🛞 📜 🖬	🤞 🏟 S	Setting	🥌 Laye	er 📑 🛍 🕻	E C(G 🦉 🔻	
🖭 Home	Figure	Pipe	Duct	Electric	Eq	uipment	Sleeve or ins
	Pri	nt					
Open	Recent di Read file	rawings	• •	🔄 Save as	-	🎸 Print o	continuously
	Open			Save			Print

To customize,	
go through [Setting]-[General]tab-[Operation	
environment]-[Quick access toolbar]	

5. Choose elements

Choose the element

When you bring the pointer close to the element that you want to choose, its color changes to show the temporary state of being chosen. In this state, left-click to choose the element.



Choose the multiple elements

Left-click the elements while pressing Ctrl, to choose the multiple elements. Or when you turn on [Elements] panel- [Choose element additionally] icon, you can keep the state of multiple choices.



Cancel the choices

Left-click the element while pressing Shift to cancel the choice of the element.

Or when you turn on [Elements] panel- [Cancel to choose element] icon, you can keep the state of cancelling choices.

Press Esc to cancel all choices.



If you cannot choose the element due to the overlapping elements:

Bring the mouse close to the element that you want to choose and press Space to switch between them. * Press Ctrl+Space to revert to the previous choice.



Choose by area specification

Left-drag the corner to enclose the element in the rectangle. While dragging, press Space or right-click to switch the way of choosing.



Drag

Choose elements at one time

Left-click the option to select the extended way to choose elements.



If you want to choose the element that has the same conditions as the specified

element:

Extend the chosen element

Choose the elements at one time that has the same conditions as the specified element. The descriptions of the types that are extended change according to the element you choose.

- Choose the element that you want to extract on the same conditions, and then go through [Option]-[Extend the chosen element].
 - -> [Extension] dialog box appears.



Select the conditions that you want to extract from the chosen element to specify the area.
 The result of the chosen elements changes according to the specified area.

Extension	×	
Extension kind The same layer The same color The same color The same color The same kine class The same thickness The same CG color The same reference floor Select of dimension The same size	The same element type nly thourgh the view Near color Near CG color The same height Cancel al Size more than a choice text Size less than a choice text	Conditior
Automatic select Whole drawing Current view	Hand-operation select	Picking area

From "Whole drawing": From the whole drawing, including hidden or nonsearch elements, Rebro picks the elements that you specified with the conditions.

From "Current view": From the current view under operation, Rebro picks the elements that you specified by the conditions.

From "Choose elements": From the specified area, Rebro picks the elements that you specified by the conditions.







Choose elements systematically at one time through the entire route

Choose systematically at one time the entire route (including fittings) where the chosen route elongates.



If equipment exists on the way of the system where chosen route elongates, choose the entire route at one time across the equipment.



Choose the route systematically by setting conditions

From the chosen route, extract the other routes that meet the conditions. **Extract the same size route**





Choose route that connects two elements

Choose the section between the two elements on the route. Choose the two elements, and then left-click [Choose section].



Mini toolbar

Show the mini toolbar close to the pointer to use handily the packed "Choose elements" functions. The mini toolbar shows suitable functions according to the chosen element.



6.Specify coordinates

Start the drawing commands to operate the functions of [Coordinates] panel.

Add-ins	/	Drawing of line	Cons	structio	n - /	≤7 -	61-	- T	8×
			Color, Thickness, Line class	-		Ð	Pitch	10 mm	~
					Ð	<u>1/n</u>	Angle	15°	~
			Only in a view	\sim	Option	•	Referer	nce 0°	-
			How to show		Be	ement		Coordinat	tes

Correct the length or angle

When the coordinate revision " 25 " is in the ON position, the length and angle are corrected according to the pitch value.

Press and hold Ctrl to disable the revision function temporarily.



Fix the angle

Press and hold Shift while drawing to fix the angle to the direction of the mouse pointer. You can draw based on the detached coordinates.



Auto Snap and meaningful points

Bring the pointer close to the element to show the coordinate name (Endpoint, Midpoint and so on) in the tooltip. The point that has that information is called a "Meaningful point". Left-click at the moment when it appears to get the coordinate position.





Types of meaningful points

Left-click [Option] to specify a meaningful point and elements to be AutoSnapped.



Virtual point of intersection

For example: To draw a circle at the point that horizontal and vertical lines intersect.

- ① Start the drawing command for circle.
- 2 Left-click [Option] to choose [Virtual point of intersection].

		ф-
Pitch 10 mm ~ 1/n Angle 15 ° ~	Endpoint (T) Midpoint (M) Point of intersection (K)	Image Image Image Image
Option • Reference 0 ° •	X Virtual point of intersection (X)	term = Table term = 2D figure
	Point on line	
Element Coordinates	1/n Equal division point (N) 1 / 2	
	• Center (C)	Left-click [Virtual point of intersection]
Left-click [Option]	•A Base point, and endpoint of text	
	End of pipe, and duct	🗄 🗉 Equipment
	Base point (B)	
	L Connection point	😟 🗉 Building
	Point on of grid line, floor (S)	i∰ □ Detect clash I∰ □ Shape data
	🕂 Grid point	🗄 🗝 Space
	^j [⊥] [×] Origin	
	Addition of the auxiliary point (H)	

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3 Left-click the two lines to get the coordinates at the intersection.



• Supplementary explanation:

	Ð	Pitch	10 mm	\sim
Ð	<u>1/n</u>	Angle	15°	\sim
Option	-	Referen	nce 0°	-
Ele	ment		Coordinates	

The meaningful point previously used in [Option] is shown as a shortcut in [Coordinates] panel.

Left-click the pin to show at all times.

When setting to show at all times, you can continuously use the items selected for filtering.



Measures

You can specify the moving distance from the reference position numerically. Left-drag the pointer from the reference position to the moving direction, to type the moving distance numerically in the dialog box that appears.



Distance key in

Type a numerical value by the keyboard to specify the moving distance. The input numerical value appears in the field [Distance=] on the status bar.



Calculator

Right-click the numerical inputs field to show [Calculator], and then you can input a numerical value or an equation.

It is convenient when you cannot use a numeric keypad on PC.



7.Handles

Choose an element to show "Handle". Left-click the handle to move or operate route drawings.





Move (Blue)

The handle on the route can translate parallel. The handle on a curve such as fittings can alter the curve degree.



Draw route (Yellow)

Left-click the handle on the end of a route to draw a continuation to the route.



• Supplementary explanation: Press Shift while handles appear to switch between handles that are overlapping.



8.Layouts

An image for a sheet of paper is called layout. You can create as many layouts in one file as you want.



				•
Rene Pare Pare Duct Decire	Estimat Securities Salary Ted Processing V	ew Addies	Construction • Att = 10 = 10 ×	
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Com Dentility Information	a al harmonic and a financial	Tane Pepitratan	Setting threads and the setting of t	
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	Lavout group 1	Ground	plan 4 direction drav	wing Whole ground plan 🔽 🛛
	Layour group 1	· · · · · · · · · · · · · · · · · · ·		
	5			
			•	
Lend grap 1 U Desert	save the post per C			
Left-click an element while pressing Calific shocker it addite	sonally. Left-liable element while pressing Shift to cancel the shocke (Press Shift)	Manariay II Paper Madel 13 2555 * R.+ M.S.	Carlination mode *	

Create a layout

Left-click [Making of layout] icon next to the layout tab to create a layout.

Layout group 1 V Ground plan 4 direction drawing Whole ground plan	
- Message	
Making of layout X	
Name Layout1	
 Make from collection of registered layouts Specify paper size newly Type the layout name 	
Layout Paper A1	
Width 841 mm	
Height 594 mm Select the paper size to create	
View Make floor plan view	
Scale 1/20 V	
Name Floor plan View" to op	pen the
Make the view name the same as the layout name layout that has one sheet of the flo	oor
plane view.	
Setting of tab Group Lavout group 1 V Color No color V	
Print mark (for continuous print) Mark ① ✓	
	Ground plan 4 direction drawing Whole ground plan Layout1
	New making
	Deletion Conv
Right-click the tab to show a menu for layout editing.	Registration
Laund around plan 14 direction drawing Whole ground plan Lavout1	Color of tab
Message	🔁 List of layout views
	Paper size Paper movement
On the layout tab	Show/Hide floors
Click	Read other file additionally Save as other file
	Property

Resize the paper

Resize the paper of the layout.

Change to A3 layout from A1



Manage the layout groups

Set groups to show the layout for each group.



You can edit the groups or listing order of the layout in [List of layout views].

layout Sanitary	<	Sanitary							
oup Sanitary	·								
oup Sanitary 🗸		B 🕞 1FL	No color	Indication	A1(841mm	<594mm)	1/50		
		💻 1FL-Floor plan					1/50	958	14000 , 8250 , 0
ame 1FL		∃ 🕞 2FL	No color	Indication	A1(841mm	<594mm)	1/50		
lor No color ~		⊞ 🕞 3FL	No color	Indication	A1(841mm	<594mm)	1/50		
ow/Hide Show			No color	Indication	A1(841mm	<594mm)	1/50		
per size A1 ~		⊞ C⊅ 5FL	No color	Indication	A1(841mm	<594mm)	1/50		
ale 1/50 V		Air conditioning							
cale 1/50		⊞ Cp 1FL	No color	Indication	A1(841mm	<594mm)	1/50		
OK Cancel			No color	Indication	A1(841mm	<594mm)	1/50		
		I I I I I I I I I I I I I I I I I I I	No color	Indication	A1(841mm	<594mm)	1/50		
	1	E C 4FL	No color	Indication	A1(841mm	<594mm)	1/50		
iting of view X		⊞ 🗗 ŞFL	No color	Indication	A1(841mm	<594mm)	1/50		
Image IFL-Floor plan V scale 1/50 V inter coordinate 14000_8250_0 V		H Add Copy Edi	it Delete 🗍			Select the "viev	r-only element	of the selected view or	1 the screen
		_				Select "Plane	View Commo	n Elements" on the so	reen
OK Cancel						Edit			
		You can show the se	lected viev	v's prope	rties 🗌	Property			
					S 10				

9.Views

View can show model space by setting the scale or direction.



Make a view

① Select [View] tab- [Create a view].

🕙 Home	Figure Pipe	Duct Elec	ctric Equipme	nt Sleeve or insert	Building Too	Processing	View	Add-ins	
Jist of layers	邊 Layer change 🗾 Layer initial	Drawing expression	Line type list	List of layout 🔁 Hide	te a view version of the second secon	S Create floor p	lan ss-section	Automatic hidden 🖵	Process hidden-line - manually
	Layer	Expression	Line type		View			Hidden I	ine process

② Select "Name", "Scale", and "Direction".

۰.	Home Fig	ure Pipe	Duct	Electric	Equipment	Sleeve or insert	Building	Tool P	rocessing	View	Add-ins	🗂 Create a v	iew
О Ор	en up new vi	ew				Name	Floor plan(1)	~	Azimutł	n angle	0 °		٥
🔿 Ор	en a copied v	view of the pr	evious one	🗌 Sp	ecify the area	Scale	1/50	~	Elevati	on angle	0 °	~	
Pre	evious views	1FL 1FL-R	loor plan	~		Direction	Floor plan	~	Rotatio	n angle	0 °	\sim	
									_				

③ Use a temporary rectangular frame made from 2 points of the opposite corners to specify the view area.



Edit the view

Name, scale, and direction of the view is shown in the upper-left of the view. Select "▼" next to the view name, to edit the view. Then you can change the scales and so on.



Resize or move the view

Left-click the view name to show the handle (white) on the view frame, with which you can resize or move the view, and more.





Move



Choose the multiple views

Editing of view		
Alignment	Align the view to the same position of others	Select additional view
	Change of scale	Peselect view
	Fitting of view	
me	Edit in view	Select view
	-	

Select "Select additional view" while editing the view to edit the view by choosing the multiple views.





Move

Resize

	YE Y
vgr.1 20 20 10 vgr.1 1 1 1 vgr.1 2 1 1 vgr.1 1 1 1 vgr.1 1 1 1 vgr.1 1 1 1 vgr.1 1 1 1	

10. Around-views

Around-view is a pop-up window to watch a part of the drawing from another perspective. By around-view, you can check a section without placing the view on the drawing. You can also draw or edit the drawing by around-view.



You can activate up to ten around-views at the same time. When you stick up the pushpin in an aroundview, the around-view is kept alive and you can open the next around-view that will be activated in another window. When you lay down the pushpin, you can update the elements shown in the same window.

Change the perspective of around-views

Switch the direction.



Orbit

Right-drag the pointer to rotate the perspective, then you can check the drawing from any angle.



Switch the showing in the around-view to CG display

You can switch the showing of elements in the around-view to CG display.



Set up display or hide elements and the transparency

You can switch between show and hide on an element basis.

Set up [Expression of around-view]-[Display or hide of element].

When CG display is in the around-view, you can set up the transparency.



Making view by the around-view

On the drawing, you can place as a view the state shown in the around-view. Use a temporary rectangular frame made from 2 points of the opposite corners to specify the view area.



11. Operate layers

Select [List of layers] to control layers in Rebro.



Layers are classified. You can make groups across the classification. Select "Group" button to show the layers on a group basis.



Editing of layer

Right-click the layer name to change the layer settings for the color, line thickness, and line type by [Change of setting contents].

-Design for the layers

You can set the Color, Thickness, Line class, and CG Color.

-Design for the layout or view

For each specified layout or view, you can set the Color, Thickness, Line class, differently from those of "Design".



Change the layer state

For each layer, you can change the state of Indicate, Search, Print, and Paint. Left-click the icon to switch between on and off.

	Indicate	Search	Print	Paint
ON	((R	-	R
OFF	×	0	×	×

Even in the off state of Search, on the drawing, left-click the element while pressing Alt to search temporarily. * Cancel temporarily the off setting for Search:



Target of Indicate, Search, Print, and Paint:

Choose the target to set.

-To the whole drawing

Set to the whole drawing. Affect all layouts and views.



-To the layout group(Layout group name)

Set on a layout group basis. Affect all layouts that are included in the group.



-To the layout (Layout name)

Set on a layout basis. Affect all views that are placed in the layout.

List of layers					
💩 Whole	General	D. d.b.			Facilities
Eaver Layout group 1	purpose	Building	Air co	onditionin	g Sanitary Electricity
4 direction drawing	3	22	-		
Ground plan 1/50 [Floor plan]	Indicate	Search	Print	Paint	Layer name
 Drawing of right side 1/50 [Right section] 	3	Z	÷	- 78	Air conditioning apparatus
Right front side view 1/50 [Right front section	3	Z	-	- 28	Airteminal
⊕	3	Eb.	÷	3	AnchorBolt
	3	R	-		Beam penetration placeholder

-To the view (View name)

Set individual view that is placed in the layout.

List of layers						
Whole ∴ Layout group 1		General purpose	Building	Air co	onditionin	Facilities g Sanitary Electricity
		1	EZ.	-		± =
Ground plan 1/50 [Floor plan]	ſ	Indicate	Search	Print	Paint	Layer name
Drawing of right side 1/50 [Right section]		3	22	-		Air conditioning apparatus
Right front side view 1/50 [Right front section		3	22	-		Airteminal
		3	22	-		AnchorBolt
		3	53	-		Beam penetration placeholder

Layer panel



• Supplementary explanation:

You can open the layer panel through [View] tab-[Panel].



12. Create a drawing frame

Draw a drawing frame by "Paper". "Paper" is drawn in two-dimensional space at a 1:1 scale and is not affected by the view orientation or scale.

Rebro can read and store the drawing frame from DXF or DWG drawings. You can also refer to the Rebro drawing frame from the multiple files.

Read a drawing frame from DXF/DWG or JWW Data

Left-click [Home] tab-[Open] to select DXF/DWG or JWW data. (See also page 39)



Switch the element "Model" to "Paper"

In order to change a layer to the drawing frame, select [Create drawing frame] to switch the element in chosen "Model" to "Paper".

Left-click [Home] tab- [Create drawing frame].



Specify the element in the drawing frame to confirm the state.

-> The specified element changes to "Paper".



Store in "A collection of drawing frames"

Store in Rebro the element that is changed to "Paper" by [Create drawing frame].

Left-click [Home] tab- [Registration] to specify the element of the drawing frame to be stored.

ert Building Tool	Processing	View Add-ins	[Construction name	K Building New construction
P				Drawing name	Air conditioning drawing
Copy to clipboard		Drawing Create drawing frame		Date	
Paste		Frame Registration		Drawing number	0000-002
	Cashing			Scale	1/50
🕺 Paste image file	Capture	Normal Strawing of Property of drawing	V 1		
Copy or paste		Drawing frame			

Type the name for the stored drawing frame into [Name] in [Registration of drawing frame] dialog box. Left-click [Replace characters] to show the dialog box. If text is included in the element that is changed to the drawing frame, the text is shown in [Text] row. Type into [Title] row, to replace descriptions when the stored drawing frame is read.

Registratio	on of drawing frame	Replace characters			×
Name	Frame 1	It is allowed to specify text cor	ntents at time of setting whe	n attaching title to text to register.	
Paper	A1(841mm×594mm)	Text	Title		
Target t	o registrate	0000-002	Drawing Number		
 Regi 	ster paper element of layer in current layout for drawing frame	Air conditioning drawing	Drawing name		
	Layer Drawing frame	Drafting			
Regi	ster all paper elements in current layout for drawing frame	Drawinginspection			
		Approval			1
Кері	ace characters	K Building New construction	Construction name		
0	OK Cancel			Type titles into the	_
	Toxt on the drawing fram			descriptions to be replace	d
		ie appeals.		when the stored drawing	
				frame is read.	

Load the drawing frame

Load the stored drawing frame on the drawing. The elements on the "Paper" in the affecting layer are deleted.

Select [Home] tab- [Drawing frame]-" Read drawing frame registered in collection of drawing frames". Select the name for the stored drawing frame.

sert Building Tool Processing Copy to clipboard Paste Paste Capture	View Add-ins		Read drawing frame registered in collection of drawing frames Refer to other Rebrofile for drawing frame awing frame ame 1 - [A1(941imm +594imm)] Replace characters	ø	Editing
Copy or paste	Drawing frame	Lay	yout to reflect		
			Layout name	Paper	Drawing fr
			Layout group 1-Ground plan	A1(841mm×594mm)	Exist
			Layout group 1-4 direction drawing	A1(841mm×594mm)	Exist
			Layout group 1-Whole ground plan	A1(841mm×594mm)	Nothing
		s La	Select all Deselect all vertex to reflect Deselect all Drawing frame	OK	Cancel

Left-click [Replace characters] to type texts that will be substituted in the drawing frame, into "Text" row.

Replace characters ×					
Enter letters to replace with.			Title	Text	
Title	Text		Drawing Number	0000.002	
Drawing Number	0000-002		Drawing Number	0000-002	
Drawing name	Air conditioning drawing		Drawing name	Air conditioning dra	wina
Construction name	uction name K Building New construction		Drawing name	All contained ling drawing	
			Construction name	K Building New co	nstruction
	OK Cancel				
Left-click [OK] to load the drawing frame.

Drawing frame		×	Ground plan 1/50 [Floor p	Jan] 🔻	a
• Read drawing frame registered in collection of dra	wing frames 🕜		20 m		
 Refer to other Rebrofile for drawing frame 			241		
Drawing frame			A1 (6		
Frame1 - [A1(841mm×594mm)]		✓ Editing			
Replace characters			N I		
			>		
Layout to reflect			\neg /		
Layout name	Paper	Drawing fr	V		
Layout group 1-Ground plan	A1(841mm×594mm)	Exist			
Layout group 1-4 direction drawing	A1(841mm×594mm)	Exist			
Layout group 1-Whole ground plan	A1(841mm×594mm)	Nothing	- I		
	Select the lavout	that loads the			
	· · · · · · · · , · · · ,				
Select all Deselect all	drawing frame.				TRANSIT DESCRIPTION
Layer to reflect	L				
Drawing frame		\sim			
			The texts typed	into "Text" row appear.	
	OK	Caraal			
	OK	Cancer	Construction name	K Building New construction	
			Drawing name	Air conditioning drawing	
			Date		
			Drawing number	0000-002	
			Scale		
			1	1	

Refer to the drawing frame

Save the common parts of the drawing frame into Rebro file to refer to the drawing frame of the file.

Left-click [Home] tab- [Drawing frame].

Select "Refer to other Rebro file for drawing frame", and select the Rebro file name that you want to refer to and left-click "Choose".



13. Temporary storage and periodic backups

Rebro has two ways for backup function: Temporary storage to recover the drawing of the abnormal termination at the next startup; Automatic storage of the drawing at regular intervals under operation.

If Rebro terminates abnormally

If Rebro terminates abnormally, [Temporary registration] dialog box appears at the next startup, where the drawing that was open at the abnormal termination is shown. Save the drawing after the restoration.

Deleti	Last temporary registra	Drawing title	Restoration
Deletion	2/25/2022 2:16:10 PM	Duct1 (C:¥Drawing)	\sim
Deletior	2/25/2022 2:16:18 PM	Machine room_sample (C:¥Drawing)	 Image: A set of the set of the
	2/25/2022 2:16:10 PM 2/25/2022 2:16:18 PM	Duct1 (C:¥Drawing) Machine room_sample (C:¥Drawing)	

Moreover, if an abnormal termination occurred or you terminated Rebro without saving, you can restore the file through [Home] tab- [Recent drawings]- [Restore recent drawings].



Set files for temporary storage

If you have selected "Leave temporary registration files", you can execute [Restore recent drawings].

File - Setting of the temporary registration file Image: Comparison Learning Stration File Image: Comparison Learning Stration File Image: Comparison Learning Stration File From [recent drawing]-[restore recent drawing].

Automatic backup under operation

Rebro automatically stores the drawing at regular intervals under operation.

The drawing file is named as: " \sim " is added at the beginning, the date and time at the end.

For example: If the original name of a drawing is "buildingdrawing.reb" and was saved at 10:10 a.m. on January 1, 2022.

"~buildingdrawing_20220101_1010.reb"

You can set where the backup file is stored through [Setting]-[General]tab-[File]-[Setting of the automatic save]

Time interval for automatic storage

- Select [Save by next interval automatically] to store automatically at the time intervals.
- If you store halfway through drawing, Rebro stores automatically at regular intervals from the time.
- If any command is working at the time of automatic storage, Rebro stores after the command's execution.
- Select "Delete automatic save file which was over next period" to delete automatically the drawings that exceed the set period after the storage.

	File - Setting of the automatic save Save by next interval automatically 60 Per min. Automatically save the original drawing when overwriting the drawing Automatically save the original drawing when overwriting the lower version drawing Delete automatic save file which was over next period 30 Days Place to save automatically C#Document Reference * "Rebro drawing backup" folder is made in a chosen folder, and an automatic save file is Please do not put user file in "Rebro drawing backup" folder. May be deleted.
Pipe Pipe Sleeve Diding Pipe Structural steel Pipe fabrication	* Place to save automatically is not saved to setting file. and is reflecting with change

14. Settings

You can control Rebro's settings by [Setting].

	Layout, Layer - Layout					
Layout Layer	Set name	Layout :	set 1		✓ Addition of layout set ▼	
	Name		Layout	Paper size	Drawing frame	
Materials	Layout gro	up 1				
ine class, Text	Ground plan		Ground plan	A1(841mm×594		
Hind Pipe, duct, and electricwire common List. Annotation	□ 4 direction d		4 direction drawing	A1(841mm×594		
	🕞 Whole	grou	Whole ground plan	A1(841mm×594		
Electric Equipment Equipment Seve, Insert Fig. Tool Tool Drawing Expression	Addition	Editin	g Deletion	1		

The initial settings for the opening drawing when Rebro starts up

The opening drawing that appears when Rebro starts refers to [Setting]-[Initial value of drawing]tab. The change of the initial value of the drawing does not affect the drawing under operation.

Reset the settings

You can reset the settings to the initial state of the time of the installation.

General Initial value of drawing	Layout, Layer Set name Layou	- Layout t set 1		Addition of layout set	•
	Name	Layout	Paper size	Drawing frame	
Materials	Layout group 1				
	Ground plan	Ground plan	A1(841mm×594		
	4 direction d	4 direction drawing	A1(841mm×594		
	□ Whole grou	Whole ground plan	A1(841mm×594		
u-	Addition Edit	ing Deletion	11		
Reading, and save of setting				ОКС	ancel
Read from file					
Save in file					
Setting of common					
Reset setting					

Elementary operation



• Supplementary explanation:

Settings can also be saved by [Setting] of each command.

References: Keyboard shortcuts

The keyboard shortcut set at the time of the installation are shown below.

Go through [Setting]-[General]tab-[Operation environment]-[Shortcut key] to modify or add keyboard shortcuts.

Command name	Shortcut key
Indication area is scrolled to top	Up
Scroll indication area below	Down
Indication area is scrolled to left	Left
Indication area is scrolled to right	Right
Expand indication area	Page Up
Fitting of display area	Page Down
View is scrolled to top	Ctrl+Up
Scroll view below	Ctrl+Down
View is scrolled to left	Ctrl+Left
View is scrolled to right	Ctrl+Right
Layout last group	Shift+Up
Next layout group	Shift+Down
Last layout	Shift+Left
Next layout	Shift+Right
Help	F1
List of layers	F2
Setting of use	F3
Zoom panel	F4
Around-view	F5
New window	F6
Show windows horizontally	F7
Show windows vertically	F8
Property panel	F9
Library panel	F10
Setting	F11
CG window	F12
Fitting of indication area	Home
Restore indication area	End
Revert the scroll	Ctrl+End
Deletion of element	Delete
Deletion of element (shape keeping)	Ctrl+Delete
Copy to clipboard	Ctrl+C
Specify reference position to copy	Ctrl+Shift+C
Draw anew	Ctrl+N
Open drawing	Ctrl+O

Command name	Shortcut key
Print	Ctrl+P
Save	Ctrl+S
Paste	Ctrl+V
Undo	Ctrl+Z
Redo	Ctrl+Y, Ctrl+Shift+Z
Deletion of history	Ctrl+D
Search panel	Ctrl+F
Replacement of text	Ctrl+H
Choose all	Ctrl+A
Select of group	Ctrl+G
Extend the chosen element	Ctrl+Q
Filter the chosen element	Ctrl+W
Choose previous element	Ctrl+E
Reverse the chosen element	Ctrl+R
Section select	Ctrl+B
Meaningful point	А
Endpoint	Т
Midpoint	М
Center	С
Point of intersection	К
Point on of grid line, floor	S
Virtual point of intersection	Х
Equal division point	Ν
Addition of auxiliary point	Н

A tutorial manual

Read the building drawing

1.Read the building drawing (DXF/DWG, JWW, BE-Bridge, or IFC)

Select [Home] tab- [Read file] to read the building drawing.

- Read DXF or DWG file Read JWW file Read BE-Bridge file Read IFC file
- *.dwg *.dxf (for both 2D and 3D)
- *.jww (2D) *.ceq (3D)
- *.ifc (3D)



Read the 2D building drawing

Select the drawing to show [Read file] dialog box. Left-click [OK] to read the building drawing.

	Reading of DWG format	×
You can create a layout, where only the elements of the drawing you want to read	AutoCAD 2010/2011/2012 1F Ground plan.dwg 41.71 KB Basics Layer Dimension, text Color, paint, pen, line class Li Amplification of drawing Enlarge drawing and read 50 times	Type the position to read the drawing. The specified position becomes an origin point of the drawing.
are shown. The file name becomes the layout name automatically.	Origin X 0 Y 0 Z 0 Specify Reference origin point @ WCS Layout	When UCS origin point is set for the drawing, you can select [Reference origin point] from [WCS] or [UCS].
You can create a layout group that gathers the created layouts together.	Make layout	If you select the box, the scale and display position are automatically
Select how to read the drawing into the currently open layout. For 2D building, "Only in a view" or "Across all floor plane-	Only in a view Ground plan After reading, fit view OK	adjusted for the loaded drawing to fit in the view area.
"Only in a view": Read into only the chose view. You can select this if you draw only with the read building drawing. "Across all floor plane-view": Read into the floor plane view, that has the viewpoint direction of Floor plan. You can select this you draw multiple floor planes with the	en if	
read building drawing. <u>"All views":</u> Read into all views. You can show them on CG.		

Read the 3D building drawing (model data)

IFC file has pieces of information not only for the shape but also for the attribute. Rebro can read, as its own data, the beams, columns and so on that were drawn with architect CAD systems.

	Read	ding of IFC format						×
		File name Application na File version IFC implement.	Office Building.ifc me ArchiCAD 14.0 IFC2x3 ation agreement for buildir	ng se	•File size arvice. Unset		2.17 MB	3
	Ba	asics Filtering Layer	Shape, System Color,	CG	color Property set Arch	nitecture Inform	ation	
		Origin	7.0		Specify on d			
		Read height above t	the sea level, a direction	-[Rebro creates a	layout fo	r each	n floor that
		Lavout			are set in IFC.	-,		
		Make layout 🕜		L				
		Make layout by ever	ry floor 🕤 💿 ''Floor pla	n"	In the second	ont section plan	"	
		Layout group name	Office Building					×
		Floor information, grid lin	e				Floor	Information set in the IFC file are
		Current drawing	IFC file RFL	->	After reading	Z-coordinate + 19.000	show	n to check the state after reading.
			5FL	->	5FL	+ 15,200		
			4FL	->	4FL	+ 11,400		-
			2FL	-> ->	2FL	+ 3,800		
			1FL	->	1FL	±0		
			GL	->	GL	- 450		4
		Floor for matching Z o	coordinate value	1FL	. (±0) 🗸 =	1FL (±0)	~	
		Floor to use if Z coord	linate values are same :h is not used in current dr	awin)Current drawing 🧿	IFC File) Both	
			(222)		-			
		Read grid line						
		Rubber indica	tion 81.1.1.18					
Select the ho	ov to read info	ormation						
about arid lir	nes	Simadon				ок	Cancel	
about gria ili								
			マン	7				
Г	Ground plan, 1/100	[Eleer plan]		Des	uning of right oide 1/10	0 [Right cecti	on]	
			X4) (X5) 🛀	V			Ŷ	
	<u>ч</u>		· · · · · ·	V f	5FI			
				-				
			· · · · · · · · · · · · · · · · · · ·	• -				
	Y2	- 		V.				
				▼2	2.FL 2)			
				V 1	IFL			
	Eropt view 1/100	Front section		Rie	bt front side view 1/20	0 [Right front	Section	
	▼RFL	$\varphi = \varphi$	X4) X5			o Erdent hort	ocorion,	
	▼5FL							
	▼4FI					/	2	
				E.		//	/	//
				Y'		Z-	\leq	
	▼2FL 2)					$\rightarrow \rightarrow$		
	▼1FL			X	X2 X3 X4 V	5	_	
		0				ッ ー		
			-					

Settings for each drawing type to read

Setting descriptions in [Read] dialog box gets different according to the drawing type to read.

DXF/DWG

[Read layout tab of AutoCAD]: Rebro can read the layout of DXF/DWG.

[Dimension]: Rebro can read, as its own elements for dimension line, the dimension line data of AutoCAD. Select [Divide dimension into line and text] to read the dimension line at the similar size as the original one.

[Text]: Read the text that was output from AutoCAD specifying the size for each font.

JWW

[Color, paint]: you can select whether to read the element color as printing color set in Jw_cad for Windows after the conversion, or to change into layer color without the original drawing color. Also, you can select how to read the color-filling from a flat fill or semi-transparency.

BE-Bridge

[Reference floor]: Specify the reference floor to read.

IFC

[Filtering]: You can specify the element to read according to each IFC element class, layer, and floor.

[Making method of layer]: You can read as IFC layer setting, or set the layer with IFC element class.

[Reading of standard for use of facilities IFC data]:

Select [Read with original shape] to read as a general-purpose figure irrespective of building attribute.

When you checkmark [Read 2D drawing (DWG)], Rebro also reads DWG file (*.dwg) of the same name in the same folder as IFC/IFCZIP file. If there is no DWG file of the same name in the same folder, it gets invalid.

[setting] can make settings for the DWG file to be read.

When you checkmark [Delete 2D figures that overlap with facilities data], Rebro deletes 2D figures data in DWG files that overlap with facilities data and then reads.

Checks will not work in the following cases:

-If you read a DWG file separately from a DWG file that was output simultaneously with an IFC file by [Save as IFC file] etc.

-If you select [Read with original shape]

2. Show the external file as a reference

File reference function can show files (*.dxf, *.dwg, *.jww, *.reb) as a reference. If any modification occurs while you are referring to the building drawing, the modification can be affected on the reference drawing with these two ways: Select [File Reference]-[Update] or reopen the drawing. You can only see the drawing of the reference and cannot edit it.

What you can do by external reference function

- -CG display, -Print, -Property reference, -Save of property, -Layer control
- -Around-view, -Size or name annotation, -Search, -System management, -Hidden line process
- -Drawing of fire compartment, -Automatic processing of fire compartment penetration
- -Confirmation of compartment penetration, -Clip,
- -Show or Hide the chosen elements (only when the reference source file is Rebro drawing)
- -Clash detection, -Save as IFC file, -Save of list of sleeves, -Insert sleeve automatically
- -Add up, -Place penetrative area into beam, -Check penetration into beam,
- -Beam penetration section plan, -List of equipment

What you cannot do by external reference function

-Output to BE-Bridge file,

- -"Choose all", "Extend the chosen element", "Reverse the chosen element",
- -"Extend the route choise", "Choose section on the route", "Extend the parts choise"
- -Edit the descriptions

How to use external reference

① Select [Home] tab to start [File Reference].

Left-click [Setting of external reference] dialog box-"Add drawing" to select a file that you want to refer to. Rebro can read the files of "*.dxf, *.dwg, *.jww, *.reb".



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X

Reading setting

2 The specified file appears in the dialog box.

Select [Setting] to set how to read files that you are referring to.

Setting of the external reference		-	Editing of drawing Enlarge drawing and read Rotate and read drawing 0°
Ref Name Path	Saved Color Origin point	Setting Roor Reference stat	ate
IF Ground pl (The same folder)	Relat V 0.0.0	Setting Update reference	All views Across all floor plane-view Only in a view Ground plan
The reference file appear	rs in your		Layer Not reading element of non-indication layer.
			Text Setting of size
Select all Deselect all		Convert drawings from external files 🛞	Colorfilling
Add group Add drawing Copy Delete	2	Convert drawings Delete the convert	Read paint by Painting all over

③ The drawing of the reference file appears. The drawing is placed to the position where the origin point of the reference source overlays on that of the reference to.

If a position of the origin point is misaligned and the reference destination drawing does not show in the view, select [Fitting] in view to check.



Alignment between drawings in reference files

① Select [Home] tab- [Position change of drawing] to move the drawing of the reference file.

٠	Home	Figure	Pipe	Duct	Electric E	quipment Sleeve or in:	sert Building Tool	Processing	View Add-ins			
		Draw anew	ı –	•	E	- Dist	Copy to clipboard	- M	Drawing Create drawing frame		263	🕜 Help
	🗣 🖡	Recent dra	wings	•	- Save	State of the second sec	n Paste		Frame 🔡 Registration		ST S	💖 Version
Op	en 👢	Read file		-	🔛 Save as 🛛 🔻	🛷 Print continuously	鬼 Paste image file	Capture	🐼 Drawing of Property of drawing	눧 Position change of drawing	Setting	User info
		0			C	Datast	C	1	Descrite a factor	Estample formers	lafa.	

② The handle (orange color) to change a base point appears at the origin point on the drawing of the reference file. To overlay on the drawing in the reference source, left-click the handle and specify the reference position on the drawing of the reference to.



How to operate the drawing of the file reference

-Color

Specify the color in [Setting of the external reference] dialog box to show lines on the drawing in the specified color. If you specify "Color of original drawing", the lines are shown in the color set on the original drawing. -Output DXF, DWG, and JWW

Output during the external reference, to output the both drawings of the reference source and the reference to as a sheet of drawing. If you specify the color, lines are output in "the color".

-CG display

If 3D figures are on the drawing of the reference file, it is shown in 3D image.

-Layer

You can create layer groups for each drawing of the reference file. You can switch between display or hide, etc. on a layer basis in [List of layers]. Also, you can operate layers on a group basis set in the external reference.



-Convert drawings from external files

You can convert or release the reference destination drawing from [Convert drawings] or [Delete the converted drawing] of [Convert drawings from external files] in the [Setting of the external reference] dialog box. To import an external reference drawing results in a single drawing. This feature allows you to move a drawing to another environment and continue to refer to the external reference drawing. You can not edit the drawing of imported external references.

When you reset the importing, Rebro saves the imported file into the specified folder and separates the external reference drawing from the original drawing.

-Open the referenced drawing

Select an external reference element and left-click [Open the referenced drawing] on the context menu to open.

-Update the referenced drawing

When you have edited the reference destination drawing, you can update the details by left-clicking [Update] in [Setting of the external reference] dialog box. Also, you can update it by choosing the edited element and left-clicking [Update the referenced drawing] on the context menu. Furthermore, you can update the reference destination drawing by saving the reference destination drawing and then reopening the reference source drawing.

3.Set the floor height

If you have set the floor height of the building in floor setting, you can draw pipes or ducts by specifying the height from the reference floor. In section plan view, floor lines appear based on the specified numerical value of the floor height.

Set the floor height on the building drawing

① Set the floor height on the read building drawing.

When you read 2D or 3D data

Select [Building] tab- [Setting of floor] to start the command. Type the floor name and the floor height. When the floor height is typed, Z-coordinate value is input automatically.



When you read IFC floor information

When the IFC file is read, IFC floor information is also read.



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② If you draw route, place equipment, or change the height, you can specify the height based on the floor name you have set.

Commands to place equipment



Commands to change the height

🖭 Home F	Figure Pipe	Duct	Electric	Equipment	Sleeve or insert	Building	Tool	Processing	View	Add-ins	🏠 Height chan	ge		
 Absolute 	Automatical			👻 🛛 mn	n 1F	L 🛡 (🔏 🗌 Ma	ke all the same	height		Route split	Change only	part which was chosen	
◯ Relative	0 mm			Do not change	end height of vert RF	L	0					Exclude the o	connection of an apparatus and	d the route
Continuation	50 mm		🏠 🦊 🗹	Maintain antero	posterior incline, d	- hi	ng 🕜	Link slee	ve with rout	e 🕜		Keep a shape	e 🕜 🗌 Specify an angl	e 45° 🗸
					Editing meth 3F	43							Movement condition	
					2F	- [
					1FI GL	-								

4.Set grid lines

Grid lines are composed of printable figures and "Rubber indication" that appears on the screen as a guide to create drawings. Rubber indication is not output for print, nor for save into DXF/DWG and so on. You can switch between printable grid lines and rubber indication for grid lines.

Draw the grid line

① Select [Building] tab- [Drawing of grid line] to start the command.

	Home	Figure	Pipe	Duct	Electric	Equipment	Sleeve or insert	Building	Tool	Processing	View	Add-ins		
			(X1)			vith reference line	• <u>\</u>		A		👝 Floor	Footing	•	Door
Dr	aw reference	i ne lines	Drawing of	arid	🙀 Show or hi	ide reference line	e Setting of				🦳 Ceiling			🔲 Window
0,	collective	ely	line	gna	🕮 Printing are	ea	floor	Beam 🔻	Column	🕶 Wall 🥆	r 🦳 Roof	📋 Lightweight steel frame		
			Refere	ence	line		Floor				Skeleton			Fitting

② Type the symbol of the grid line for vertical or horizontal direction. According to your selection of the ascending or descending order, the symbol advances or recedes automatically when you specify the second or more symbol into the same direction.

🖭 Home Figure	Pipe Duct	Electric	Equipment	Sleeve or insert	t Building	Tool Processing	Vie	w A	dd-ins	\otimes	Drawing of	grid line		
Division 💌 Building		\sim	1 Grid line	•				(A)-		Diamete	r 10 mm	\sim	Interval 0 r	nm 🗸
Layer 🔿 🏹 🔳 G	id line		Symbol Length	X1 (Increasing order	Descending of	rder	Start	End	Font	Calibri			∠IA _
0.01mm	Das.	🌌	Width	Y1 (Increasing order	Descending of	rder	@	•	Size	5mm \sim	Aspect rat	io 100 %	- <u>2</u> i
Lay	er				Grid line						A grid	line mark		

③ You can draw the grid line by specifying coordinates at starting and ending point. The vertical or horizontal direction is the direction you see on the screen and irrespective of view rotation.



Replace the grid line (With the grid line of the read building drawing)

If the read drawing has grid lines, you can apply those grid lines to replace with.

① Select [Building] tab- [Replace with reference line] to start the command.



2 Left-click the lines to draw the grid lines and symbols according to the set display order.



Print the grid line

① Left-click [Building] tab- [Printing area]. Select [Area appointment] and specify a grid line to be printed.

🕙 Home	Figure Pipe	Duct E	Electric Equi	pment	Sleeve or insert	Building	Tool	Processing	View	Add-ins	£ <u>1</u>	Printing area of reference line	
Area	XI) Two points	Reset		Diameter Font	10 mm V Calibri 5 mm V	Interval	0 mm VI						
appointment	appointment			0120	- A A A A A A A A A A A A A A A A A A A		4	<u> </u>					
	Drawing method				A grid line mark								

2 Use a temporary rectangular frame made from 2 points of the opposite corners to specify the length



5.Convert the structure into 3D

Rebro can convert the floor plan into 3D with building commands by tracing the read 2D drawing. Conversion of the structure into 3D enables you to show the cross section or CG. Moreover, you can detect clashes for drawing adjustments or can insert sleeves automatically.

Rebro's structures

Beam, Arc beam, H steel beam -Rectangle Column, Round column, H steel column,
Rectangle steel column
-Wall, Arc wall -Floor -Ceiling -Roof
-Rectangle footing, Truncated pyramid footing, H steel footing
-Lightweight steel frame -Single bar, Double bar, Channel
-Runner, Stud, Rectangle shaped stud, Swing stopper

Draw a structure

If you draw a beam, select [Building] tab- [Beam] to start the command. Select the way of drawing such as "Appoint two diagonal points" and type the height. Based on the beam of the building drawing, draw by specifying coordinates of 2 points of the opposite corners to convert the beam into 3D.



Rebro2022 An Introduction to Rebro

Draw an opening

You can draw openings on the wall, floor, ceiling, and roof.

		/	
		2	Movement
		1	Copying 🕨
Rest room(1)		۲	Rotation
FL ±0 CH 2400	FL ±	z	Enlarge
		4	Symmetry
		-	Alignment
	•	*	Deletion
ELV		•	Editing of opening
TI 🗡 II	_		Editing
			Slant 🕨
			Size annotation
		-	Materials symbol
	800 BI ±	;,	Wall serface line
	600		Envelope •
			Others •
	Office	凶	Around-view
	FL ±0 CH: :	٦.	Show CG window (Specify viewing angle)
			Property
		×	Cancellation of choice
		×	Cancellation of choice

1 Choose the drawn floor to select [Editing of opening] from the context menu.

② Select "Add". Use a temporary rectangular frame made from 2 points of the opposite corners to specify the position of the opening.



A tutorial manual

Place equipment

1. Place equipment

Equipment registered in Rebro is 3D model data. (A part of plumbing fixtures support 2D only) Equipment has two types: standard parts and parametric parts. You can type any size into parametric parts. Equipment has a connection point that manages information about sizes or uses. You can draw a route from the connection point.

Select the equipment

Left-click the equipment name in [Equipment] tab to start the dialog box. Left-click the equipment and [OK].



Rebro2022 An Introduction to Rebro

Place equipment

Place equipment that you selected on a drawing.

-Successively placement

Place equipment at the position where you specify.



-Locate on straight line

Place equipment between the two points that you specified.



-Locate on range

Place equipment in the specified area horizontally and vertically.



Draw a route from the connection point

Choose equipment that is placed to show a handle on the connection point. Left-click the handle to draw pipes or ducts at any use or size that you set.



Draw piping, ducting, or electric wiring

1.Draw piping

Commands to draw piping are in [Pipe] tab. You can also start the command from the context menu of [Pipe].

Draw piping

① Select [Pipe] tab- [Pipe] to start the command.



Select the layer, pipe size, and material to type the height.
 Materials are automatically switched according to the chosen layer. This results from the association between layers and materials.

🖭 Home Figure Pipe Duct Electric	Equipment Sleeve or insert Building Tool Processing View	v Add-ins 🌙 Route drawing pipe		
Division V Air conditioning - pipe	Size 50 V	Center height 🔍 3000 mm 🖂 1FL 🔍	Sloped piping value 0 ~	Thermal insulation Depends on the use
Layer 🔿 🖓 🔲 Cool and warm w 🗸 📹	Materials Steel pipe (galvanised) + screw / welding	😪 🦊 100 mm 🗸 🗸	🛸 Forward down 🚅 Forward up	Thickness 20 mm 🗸 🐷 Indication
0.20mm Solid 🌌	O Double line O Single line		Angle of vertical pipe 90 ° V	Indication of flow direction Flow reversal
Laver	Drawing method	Height	Angle	Thermal insulation, flow

3 Left-click the starting position where you draw. Move the pointer into the direction where you want to draw to show the piping temporarily. Tooltip shows the angle, pipe length, and height.



④ Left-click the position where the route curves.



Start the context menu while drawing to change the fitting of the curving part. Select the fitting in [Change of fitting] tab to change the shape of fittings.

Division Arconditioning - pipe Uyer Beel pipe (galvanised) + screw / welding Size Size Size Center height Size(pipe (galvanised) + screw / welding Size(pipe (galvanised) + screw / welding Size(pipe (galvanised) + screw / welding The off
Layer Material Seed ppe (galvanised) + screw / welding Size 50 Certer height Sige value 0 - Thema Insulation - Theorem Insulation - Thickness 20 mm - Theorem Insulation - Thickness 20 mm - Thickness - Thickness
Material Szel pipe (galvanised) + screw / welding Sze 50 Certer height 3000 Sope value 0 Official pipe 90" Thema Instation Depends on the Thickness 20 mm Do not connect to other routes 0 Revise coordinate by considering route as standard 0 Change of fitting Steel pipe fitting (galvanised) ebow
Sze 50 (Certer height 200
Center height
Change of fitting Steel pipe fitting (galvanised) elbow
Seel pipe fitting (galvariased) elbow (with band) Seel pipe fitting (galvariased) female and male elbow (with band) Seel pipe fitting (galvariased) union elbow Steel pipe fitting (galvariased) union elbow with male screw Seel pipe fitting (galvariased) union elbow with male screw

6 Left-click at the end position to start the context menu. Left-click [Decision] to draw the route up to the position. To complete the commands, press Esc or select [Decision] or [Cancel] in the context



0°,500 mm 1FL+3200

Draw a branch pipe

To draw branch pipes, choose the pipe to pull out, left-click [Addition of branch pipe] in the context menu, and then [Route Drawing pipe] ribbon appears. You can start drawing without specifying the height for the chosen pipe because [The same as main pipe] for the height is applied as default. You can create a vertical pipe by typing the height.



Change the height or size while a drawing route

Left-click the changing position, to type the height or size to change on the ribbon or in the context menu. Fittings are created according to the change.



Draw sloped piping

You can draw sloped piping by typing the value in [Sloped piping value]. You can give a slope also to the drawn route.



Thermal insulation

Checkmark [Thermal insulation] to draw with thermal insulation being set.



Indication of flow direction

Checkmark [Indication of flow direction] to draw with the flow direction shown.



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Insert bulbs or fittings into piping

You can insert bulbs or fittings into the pipe. Choose a valve in [Pipe] tab- [Valve] command dialog box to bring it close to the pipe. To insert the bulb into the pipe, left-click the bulb when its color becomes the same as the pipe's.



2.Draw ducting

Commands to draw ducting are in [Duct] tab.

Draw ducting: The way while drawing a route

① Select [Duct] tab- [Rectangular duct] to start the command.

🧐 Home	Figure	Pipe	Duct	Electri	c Equipment	Sleeve or insert		Building	Tool	Proc	essing	View	Add-ins
	sss∕ Spira	al duct		1 6	Box chamber	I Connection	•	🏠 Height	change	•		locizo	■ Setting of flow
Rectangular	💖 Flexi	ble duct	ШЦ	ц .	🗟 Air terminal	Division	•	🖉 Slant		•		lesize	Setting of air volume
duct	🛛 Verti	cal duct	Dam	per 🛓	Parts	Trim route		Other editi	ing	•	🥑 Duct	tulator	⊒¶ Resize duct automatically
		D)raw				Route	e editina					Size

② Select the layer, duct size, and material to type the height.

🖭 Home	Figure Pipe D	Duct Electri	Equipmen	t Sleeve or insert	Building Tool I	Processing View	v Add-ins 👓	🖌 Route drawing of th	e rectangular duct				
Division 💌	Air conditioning - duct	~	Size 800	✓ X 500 ✓	5	()	Bottom end heigh	t 💌 4200 mm	✓ 1FL ▼	Angle of vertical duct	90 * 🗸 🧭	Thermal insulation	Depends on the use \lor
Layer	air 🖓 🔁 Supply air		Materials	Transverse formed flange	method duct (low pressu	ure) V 🕮~	1	🍾 🤳 100 mm	~	Angle of slant	0* ~	Thickness 20 mm	Indication
	0.20mm	- Solid 🧕	O Double	ine 🛛 🔿 Single line	💷 🏛 💷 🛛 t	:1.6 🛃	Takeoff height	From the bottom end	▼ 0 @			Indication of flow direction	ection Flow reversal
	Layer			Draw	ing method			Height		An	gle	Thermal	nsulation, flow

③ Left-click the starting position where you draw. Move the pointer into the direction where you want to draw to show the duct temporarily. The angle, duct length, and height appear in the tooltip.



④ On the way, to curve the route or to change the height or size, left-click at the position.
 On the ribbon or in the context menu, type the height or size to change. Fittings are created according to the change.



Draw ducting: The way to place ducts first

For the portion where is difficult to fit the elements into, you can draw by placing the parts first, and then combine the route to the placed parts.

① Select [Duct] tab- [Parts] to start the command. Select the switching parts in the tab. Select "Simple substance" as the placement method and specify the size.



② Select the layer and height.

🖭 Home	Figure	Pipe	Duct	Electric	Equipment	Sleeve or insert	Building	Tool	Processing	View	Add-ins		Placement of duct parts
Division 💌	Air conditio	ning - dua	ct	~				Bottom e	nd height 💌	4000 mm	~ 1FL	. (•
Layer	₹~~	Return a	ir		Elbow 5	00×400							
	0.20m	m ——	Solid	. 🏼 🌌									
	1	aver			Cł	hange of the parts				Height			

③ Consider how to fit the elements into, and then place parts.



④ Choose the elbows you have placed to connect the parts by [Quick combination] command.



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Draw ducting: The way by [Connection] function

You can create a drawing without consideration of the height or size for the hopper.

① Select [Duct] tab- [Parts] to start the command. Select the parts. Select [Connection] at "Placement method".



⁽²⁾ To connect the parts, left-click the position of the duct where you want to connect the parts, whose information about the size and height of the parts is automatically acquired and applied by Rebro.



③ Bring the pointer close to the other connecting position of the duct to change the shape of the parts according to the acquired information about the size and height.



④ Left-click at the connection position to confirm.



3.Draw electric wiring

Commands to draw electric are in [Electric] tab.

Wiring is drawn in 2D. Cable racks, conduit pipes and so on are drawn in 3D.

Draw wiring

① Select the symbol in [Electric] tab- [Luminaire] to place it.

Placement of luminaire symbol			×
◯ System parts ◯ User's parts ◯ M	laker's parts 🛛 System symbol 🔿 User's symbo	I	
Equipment M Pipe accessories	Duct accessories 🛛 General wire / equipment /	symbol 😳 Lighting fixture 🕒 Outlet switch 💌 Swit	chboard, and distributionboard ① Communication, and information
LED lighting fixture	[] Fluorescent lamp FL20 *2	[] Fluorescent lamp FL20 *3	Preview Add up Height Expression Electric attribute
LED lighting fixture (real size)	Fluorescent lamp FL20 *4	Fluorescent lamp FL20 *5	Lighting fixture Direct mounted type (fluorescent lamp) Fuil type 2 light
Lighting fixture	Fluorescent lamp FL20 *6	Fluorescent lamp FCL30+30	40 type ×2 Parts ID:EN-2-06-03-02-002¥100¥40₩≶ × 2
Lighting fixture (real size)	Fluorescent lamp FCL30+32	⊏c = Fluorescent lamp Hf36 *1	
Emergency lighting	□□□ Fluorescent lamp FL40 *1	Fluorescent lamp FL40 *2	
Emergency lighting (real size)	ECC Fluorescent lamp FL40 *3	Fluorescent lamp FL40 *4	De bidden ine american
	Fluorescent lamp twin 1 FL36 *3	Fluorescent lamp twin 1 FL36×4	
	Fluorescent lamp twin 2 parallel FL96 *2	Fluorescent lamp twin 1 FL96×3	
	Fluorescent lamp twin 1 FL96×4		
	Fluorescent lamp FL110 *2	O Fluorescent lamp twin 1 FL40 *more than 5	
	Fluorescent lamp FL10 *1 (no box)	Fluorescent lamp FL15×1 (no box)	Magnification of symbol Indication direction Front section
	Fluorescent lamp FL20×1 (no box)	Fluorescent lamp FL10×2 (no box)	Name Fluorescent lamp FL40 *2
	Durante de la Clateria de la compositione de la com	Dumment land D 2002 (eachers)	Reset
Measurement Setting			OK Cancel

② Start [Wiring] to specify the layer and wire shape, and then enter the height.



③ Left-click the connection point of the symbol to draw wiring.


Draw a cable rack

① Select [Electric] tab-[Rack] to start the command.



② Select the layer, size, and height of the route.



Upon left-clicking "Select", you can select a cable to lay.

Memo Select a cable to lay and left-click [Calculation], to dete	ermine width for a cable rack.
Size 400 × 70 < Calculation Expression of figure II Cover None Materials Others - Cable rack Cable(installation) 5Pcs Select Drawing method	Cable type Organization D:Cable outer diameter Details $12 \lor x(\Sigma(D + 10 \lor) 60 \lor)$ = 148.8 Rack width Spare width $200 + 0 \lor = 200mm$ (100 \lor Ptch) OK Cancel

③ Left-click the starting position where you draw. Move the pointer into the direction where you want to draw to show the cable rack temporarily. Tooltip shows the angle, rack length, and height.



④ On the way, to curve the route or to change the height or size, left-click at the position. On the ribbon or in the context menu, type the height or size to change. Fittings are created according to the change.



Edit piping, ducting, or electric wiring

1.Edit piping, ducting, or electric wiring

Change the height of a route

Select the route to change to start [Height change].

Divide and create a change position to change the height on the way of the route.

Change the height (Absolute)

Change the route to the specified height.

Select "Make all the same height", to change the chosen route to the same height and also eliminate the slope. If you uncheck "Make all the same height", Rebro maintains the slope or vertical route, and change the position of the handle (orange color) for reference position to the specified height.





Change the height (Relative)

Change the height of the route from the current one.

۲	Home	Figure	Pipe	Duct	Electric	Equipment	Sleeve or insert	Building	Tool	Processing	View	Add-ins	🏠 Heigł	nt change				
0	Absolute	Autom	atically			▼ -450) mm 1F	-L 🔻 🌌	🗌 Mak	ke all the same he	eight		Route sp	lit 🛛	Change only par	t which was chosen		
0	Relative	150 m	n			Do not change	end height of vertical	l pipe 🛛 🕜						C	Exclude the con	nection of an apparatus and th	e route	
\circ	Continuation	n 50 mm			₽ ↓ 	Maintain antere	posterior incline, degr	ree of leaning	0	Link sleeve	e with route	e 🕜		0	Keep a shape	🥝 🗌 Specify an angle	45 °	\sim



Change the height (Continuation)

You can adjust the height by "up" and "down" arrow button by the value you specified. You can change the height watching how the elements fit into the place.



Change the size

① Choose the route to change the size and select [Change of size] from the context menu.





Change parts or fittings

① Choose the parts to change and select [Editing of parts] from the context menu.

	Editing of parts	Change of a double line shape
	Change of symbol size	Change of a symbol of single line
1 (🎽 Movement	
<u></u>	🇞 Copying 🕨 🕨	
	2 Height change	
	General-purpose editing	
	Alignment 🕨	
Inlet HS 300×300	😫 Deletion 🕨	
Layer: Air terminal (Space=next candidate, Ctrl+Space=last candidate)	Quick combination	
	Size annotation	
	-S- Single line / double line change	
	Setting of air volume	
	Others	
	Around-view	
	🚯 Show CG window (Specify viewing angle)	
	Property	
	X Cancellation of choice	

Editing of parts		×
li Air inlet / outlet		
Register	Drawing method O Single line Double line	
Breeze line	Supply air outlet	
Calm line	VS type HS type	
Anemostat	VHS type V type H type VH type	
Pan	Code VHS	
Smoke inlet/outlet	W (the side) 300 ~ H (length) 300 ~	
		H
		- w -
di Measurement		OK Cancel

② Select the parts to change in [Editing of parts] command.

Align routes

Select the hopper and select [Alignment of routes] to align the drawn routes.

Left-click the hopper to start the context menu. Select [Alignment of routes].

You can use the following functions: "Align left", "Align center", or "Align right" aligns routes against the flow of wind from the floor plan. "Align top" aligns the routes to the top of the thickness.

"Align center (height)" aligns the core of the routes to the height center. "Align bottom" aligns routes to the bottom of the thickness.



Change a material of the route

You can change a material of the drawn route in the property panel.

① Select the route to change.



2 Change the subset name at [Materials]- [Materials subset] on the properties panel.



A tutorial manual

Detect clashes

1. Detect clashes

Check if the elements on the drawing clash each other. If the elements clash each other, a balloon appears with a number at the clashing position on the drawing and the number is listed on the clash detection panel. When the elements avoid the clash, the number for the clash disappears automatically.

Check a clashing position

- ① Select [Tool] tab- [Clash detection] on the ribbon.
 - \rightarrow [Clash detection] panel starts.

🕙 Home	Figure	Pipe	Duct	Electric	Equipment	Sleeve or ins	ert Building	Tool	Processing	View	Add-ins				
Room	Zone	💼 Anno	tate with tenance s	attribute pace	Add up	Datalink	Parts information Property	ation 🔻	Add Edit)	Gear List of air terminal Gear List of refrigerant size Gear List of equipment	Assign consecutive numbers to pits Number annotation	Clash detection	Deletion of duplicate element	Comparison of drawing
		Space				Inform	ation		Custom pror	oortu		Liet		Inspection	

② Filter the target elements to detect clash. Select " $\mathbf{\nabla}$ " and place checkmarks on the target elements.



③ Specify the area to detect clashes.

Select [Detect specified elements only] and specify the area to detect clashes.



④ Select [Start] to show balloons at the clashing points on the drawing.



The number appears on the clashing position in the drawing works in a ganged manner with the listing number in a clash detection panel.



Double-click the balloon on the drawing or the number in the panel to start CG screen, where you can check the clashing point.



Left-click the number in a clash points list to show the element names that clash, the clash details, the coordinates of a clash position, and the quantity of clashes.

NO.	①Element name	@Element name	Contents	Х	Y	Z	The quantity of clashes (upper)	The quantity of clashes (lower)
91	Flexible fitting for	Wall 92×3800H	Clash					
92	Flexible fitting for	Wall 92×3800H	Clash					
93	Flexible fitting for	Wall 92×3800H	Clash					
94	Ventilation Pipe 5	Water supply Pip	Clash					
95	Soil water Pipe 50A	Water supply Pip	Clash					
96	Canvas 200φ 200L	Soil water Pipe 50A	Clash	X2+1199	Y4-2572	4FL+2802	10	253
97	Water supply Pip	Wall 52×2500H	Clash					
98	Water supply Pip	Wall 52×2500H	Clash					
99	Water supply Pip	Wall 52×2500H	Clash					

Avoid a clashing point

Check the clash points list to avoid the clashes by moving, resizing, or changing the height. When the clash is resolved, the listing number and the balloon on the drawing disappears.

① Choose the soil water pipe.

Left-click " \checkmark " on the right of [Element] panel- [Choose routes systematically] to select [Extend the route choice]- [The same use].



② An arrow appears on the chosen pipe. Left-click the arrow for the direction where you want to change the height.



③ Left-click [Height change] in the context menu.



④ Select [Relative] to type the height to change.
 →The clashing point is resolved and the balloon disappears.



• Supplementary explanation:

If the clash elements are pipes and equipment, Rebro can automatically adjust the pipe route at the clash points and avoid the clashes by [Avoidance] on [Clash detection] panel.

Left-click a list or balloon and then [Avoidance] to adjust the route and avoid the clash.



If the clash elements are beams and pipes, beams and rectangular ducts, or beams and spiral ducts, Rebro adjusts the route height to avoid clashes.



In the case that the clash elements are other combinations except for the above ones, [Avoidance] command is unavailable.

2. Create sleeves

Create sleeves (Automatically)

① Start [Sleeve or insert] tab- [Insert sleeve automatically].

Home	Figure	Pipe	Duct E	Electric	Equipment	Sleeve or insert	Building	Tool	Proce	essing View	Add-ins		
	🏮 Sleeve (f	floor)		No.10	Assign consecuti	ive numbers 🛛 💯 S	ave of sleev	e informati	ion		PP	E	<u> </u>
	📂 Spacer		Insert sleev	/e	Annotate with na	me				Place penetrative	NG Check penetration	Beam penetration	
Sleeve	🌖 Spacer (Floor)	automatical	ly	List of sleeves					area into beam	into beam	section plan	Insert

2 Select the target area to insert sleeves and [Setting of the reference floor].

Home	Fig	ure	Pipe	Duct	Electric	Equipment	Sleeve or insert	t Building	Tool	Processing	View	Add-ins	•	Insert s	leeve autor	natically	
Gent		0	Make wh	ole drawir	ng for target			Setting of the	reference	floor Acqui	re from a p	pipe or duct		~ SI	lanted line		\sim
Stdrt	Ľ	0	Target or	nly current	view				Height pit	ch 5mm	\sim (0		Pi	itch	1 mm	\sim
		0	Target wi	ithin the a	rea of select	ed elements	Setting	Insert only	the Beam	penetration Pla	ceholders	on the bea	m	П	hickness	0.01mm	\sim
				St	art					Drawing met	hod				H	atching	



④ Left-click [Start] to show [Automatic insertion of sleeve] dialog box, which shows the type and number of the sleeve. Left-click [OK]. → Sleeve is inserted.

۰	Home	Figure Pi	be Duct	Electric	Equipment	Sleeve or insert	Building	Tool	Processing	View	Add-ins	😐 Ir	nsert sleev	e autom	atically	
	Start	🔵 🔿 Mak	e whole draw	ing for target			Setting of the	reference	floor Acqu	iire from a p	pipe or duct	~	Slante	ed line		~
-	Juli	🚺 🔿 Targ	et only curren	t view				Height pito	ch 5mm	\sim	0		Pitch		1 mm	\sim
		🗿 Targ	et within the a	area of select	ed elements	🔅 Setting	Insert only	the Beam	penetration PI	aceholders	on the beam		Thick	ness -	0.01mm	\sim
			S	òtart					Drawing me	thod				Hat	ching	
		IL														
		\checkmark														
	Automat	tic insertion of	sleeve		×											
		Automatic inc	artion of class		ited											
		 Sleeve (87Ur 	it)	ve was execu	neu.											
		 Boxing(0Unit)													
				O	ĸ											

Create a sleeve (Manually)

1 Start [Sleeve or insert] tab- [Sleeve].

🅙 Home	Figure	Pipe	Duct	Electric	Equipment	Sleeve or insert	Building	Tool P	rocessing	View	Add-ins		
Sleeve	🕴 Sleeve (f 🖿 Spacer ∫ Spacer (iloor) Floor)	Insert sle automatio	eve	Assign consecut Annotate with na List of sleeves	ive numbers 🦙 S ime	Save of sleeve	e information	Place	e penetrative a into beam	Check penetration into beam	Beam penetration section plan	
					Sleeve						Penetration into beam		Insert

- ② Select the sleeve type.
- ③ Select the way to specify the size of the sleeve, and then the duct size.
- ④ Select [Designation of height] and [Setting of the reference floor].

🕙 Home Figure Pipe Duct Electric	Equipment Sleeve	or insert Building	Tool Processing	View Add-ins 📼 Placement of slee	eve
Division 🔻 General-purpose 🗸	Sp	piral duct - No thermal insu	ulation(🗸 🎡 Setting	😧 Designation of height 🔿 Numeric	cal value 🧿 Coordinate 🔞
Layer 🔿 🖓 🔂 Sleeve (beam) 🗸 💼	Sharl frame Si	ize 150mm 🗸 🦿		Setting of the reference floor 🔍 A	cquire from a pipe or duct 🛛 🗸 Height pitch 5mm 🗸
— 0.20mm ——— Solid 🌌	sleeve	→ 200φ	Length		Hatching 🔻
Layer				Drawing method	
	(2)	3		4
	(2)	3		(4)

(5) Left-click two intersection points of the duct and structure.



Set the size of a sleeve

Set the size of a sleeve according to the nominal diameter size of pipes or ducts.

Indication Print File Other formation	Sleeve - List of size Pipe Refrigerant Fireresistant t	wo wall pipe A rectangular duct, circular duct	Soiral duct	
Operation environment	Classification No thermal insula	tion	Add	
Choose elements				
	Comment 2 size up			
I Figure	Nominal diameter size	Sleeve size		
Size, name annotation Pipe duct and electricity common	15	80		
Pipe Pipe	20	80		
- Sleeve	25	80		
Outer diameter	32	80		
List of size	40	80		
Beam Penetration	50	100		
Building Structural steel	65	125		
	80	125		
Duct fabrication	100	123		
🖶 🔚 Standard support, Antiseismic support	100	175		Select [Setting]-[General]tab-
🕀 🔚 CG	125	1/5		
Activation update	Add Delete			[Closure] [List of size] to get
Member(multi-language)	Allocation of list of size for us	e		[Sieeve]-[List of size] to set

Finish the drawing

1. Draw a dimension line

Draw a dimension line

① Select [Figure] tab- [Dimension line] to start the command.

🐑 Home Figure Pipe Duct	Electric Equipment Sleeve or insert	Building Tool Proces	sing View Add-ins
A AI Resize text	123 🔤 Resize	/ Tanana kao 📼	/ O Circle 🔻 🦂
A Editing A Replacement	Editing	remporary line •	🗆 Rectangle 👻 🔛
Text ▼ 📑 🗏 🗮	Dimension line 🔻 🗂 Add leader line	👫 Delete 🛛 🔻	Line 🔻 Annotation 🔻 Solid figure 🔻
Text	Dimension line	Temporary line	

② Select settings for the dimension line.



③ Specify the coordinates of the draw-out position to select "Decision" in the context menu.



④ Left-click the position where you want to display the dimension line.



Edit a dimension line

Edit the drawn dimension line.

Change the position of a dimension value

① Choose the dimension line to left-click the position change handle (white) at the both ends of the dimension value.



② Specify the position where you want to display.



*Turn off the Coordinate revision in [Coordinates] to place the dimension value at any position where you want. (See page 14)

Type any value to a dimension value

1 Choose the dimension line to show the property panel.



② Change "Automatically" to "Manual operation" in [Basics]- [Interlocking movement of dimension value] to type any value in [Dimension value].



2. Annotate with sizes or names

You can annotate the drawing with the information about the piping, ducting, equipment and so on that you drew. The descriptions of the information get different by categories such as pipe, duct, electric, equipment, sleeve, or building. The commands to annotate with sizes or names are linked with each element so that the descriptions get changed when the size of the element and so on get changed.

Draw size annotative text

① Start [Size annotation] in the following tabs: [Pipe], [Duct], [Electric]or [Building]. Also, you can start [Name Annotation] in [Equipment], or [Annotate with name] in [Sleeve or insert] tab, or [Annotate with wiring length] in [Electric] tab.

<u>50A</u>	≹≹ Omit area ☆ Edit uses symbol	•	500×800H	A Equipment -	Assign consecutive numbers	Process hidden-line automatically
Size annotation	 L_m Draw riser symbol 	-	Size annotation 🔻	Name annotation	E List of sleeves	1.5m Annotate with wiring length
Annotation	n, drawing expression		Annotation, di	Annotation	Sleeve	2D)

② Select the descriptions to annotate from the following formats.

Home Figure Pipe Duct Electric Equipment Sleeve or insert Building Tool Processi Division Careral-purpose Layer Layer Layer Contents	ng View Add+ns State annotation of pipe Editing Setting On a line
Size	50A
Size FL Height (50A FL-80.8 (1/50)
Size FL Height (_ Sloped piping)	FL-1,500 (_1/100)
Code of use Size	CHR 50Su
Code of use Size FL Height (Soil water 50A FL-80.8 (1/50)
Code of use Size	Soil water 50A FL-1,080.8 (<u>1</u> /50)
Cable address	SGP (galvanized)
Refrigerant size sign -	<u>A</u>

You can create your own format in addition to the above.

③ Select how to draw the size annotation.

80	Home	Figure	Pipe	Duct	Electric	Equipment	Sleeve or insert	Building	Tool	Processing	View	Add-ins	50A	Size annotation of pipe
		-								-				



4 Choose the element that you want to annotate with the size.

-Draw [Text with leader line (Specify angle)][On a line][Any position]

Choose the element to specify the position where you want to place the size annotative text.



-Draw size annotative text [Center]

Choose the element to place the size annotative text in the middle of the element.



-Draw [Text with leader line]

1 Choose the element to specify the position to draw out the leader line.



② Specify the position to place the size annotative text.



3. Create a list

Rebro can create a list based on the information about the air diffusers or pits that you drew. Change the information of the element to update the information in the placed list that links with the element.

🖭 Home	Figure	Pipe	Duct	Electric	Equipment	Sleeve or inser	rt Building	Tool	Processing	View	Add-ins	
		📑 Anno	tate with a	attribute			🚰 Parts informat	tion 🔻	🛃 Add		କ List of air terminal	Assign consecutive numbers to pits
		ii Maint	tenance s	pace	×		Property	•	🖉 Edit		📑 List of refrigerant size	👌 Number annotation
Room	Zone				Add up	Datalink	≽ Hyperlink		🗂 Numbering		Galactic List of equipment	🔚 List of pit
		Space				Informati	ion		Custom prope	erty		List

An air terminal list

① Select [Tool] tab- [List of air terminal] to start the command. Select [Table type] and [Room name].



② Specify the area you want to create a list, to select all air terminals in the area. Left-click [Decision].



③ Place the list on the drawing where you want.

A refrigerant size list

① Select [Tool] tab- [List of refrigerant size]. Select [Table type].

	Type 1
Symbol	Refrigerant size
	12.7ф×6.4ф
₿	15.9ф×9.5ф
\odot	19.1¢×9.5¢
D	22.2¢×9.5¢
E	25.4¢×12.7¢
E	28.6ф×12.7ф
6	28.6¢×15.9¢
(\mathbf{H})	31 .8 ф×19.1ф
\bigcirc	38.1¢×19.1¢
	19.1ф×15.9ф×9.5ф
K	22.2 ¢ ×19.1 ¢ ×9.5¢
	25.4 ¢ ×19.1 ¢ ×12.7¢
M	25.4 ¢ ×22.2 ¢ ×12.7 ¢
N	28.6¢×22.2¢×12.7¢
0	28.6ф×22.2ф×15.9ф
•	28.6 ¢ ×25.4 ¢ ×15.9¢
0	31.8¢×25.4¢×19.1¢
R	31.8ф×28.6ф×19.1ф
(\mathbf{S})	38.1¢×28.6¢×19.1¢
	38.1¢×31.8¢×19.1¢

	Type 2		
Symbol	Gas pipe	Liquid pipe	
	12.7ф	6.4ф	
(1)	15.9ф	9.5ф	
0	19.1ф	9.5ф	
	22.2ф	9.5ф	
E	25.4ф	12.7ф	
Ð	28.6ф	12.7ф	
6	28.6ф	15.9ф	
(\mathbf{H})	31.8ф	19.1ф	
\odot	38.1ф	19.1ф	
Symbol	Gas pipe	High and low pressure gas pipe	Liquid pipe
\bigcirc	19.1 φ	15.9ф	9.5ф
	22.2ф	19.1ф	9.5ф
	25.4ф	19.1ф	12.7ф
M	25.4ф	22.2φ	12.7ф
	28.6ф	22.2ф	12.7ф
0	28.6ф	22.2ф	15.9ф
\bigcirc	28.6ф	25.4φ	15.9ф
	31.8ф	25.4φ	19.1ф
R	31.8ф	28.6ф	19.1ф
(5)	38.1ф	28.6ф	19.1ф
\bigcirc	38.1ф	31.8ф	19.1ф

2 Place the list on the drawing where you want.

Select

[Pipe] tab-[Other setting]-[Set refrigerant size] to set the refrigerant size lists.

An equipment list

① Select [Tool] tab- [List of equipment]. Select the chosen area and the equipment list type.



③ Place the list on the drawing where you want.

Meeting room 1 dire Office 4 dire Office LED re Meeting room LED re	ction cassettes t ction cassettes t Name ecessed dome ligh	ype building i Name ype building i it (no cover)	multi-air-condition multi-air-condition Model nu LED4750im (Hf32)	er 28 typ Model r er 80 typ	e iumber e	PAC-2 Equipment PAC-1 Equipment	number	2 Number 2 Number	of unit
Office 4 dire Office LED re Neeting room LED re	ction cassettes t Name ecessed dome ligh	Name ype building i it (no cover)	multi-air-condition Model nu LED47501m (Hf32)	Model r er 80 type umber	e e	Equipment PAC-1 Equipment	number	Number 2 Number	of unit
Office 4 dire Office LED re Meeting room LED re	Name	ype building i it (no cover)	Model nu LED47501m (Hf32)	er 80 type	9	PAC-1 Equipment	number	2 Number	of unit
Office LED re Meeting room LED re	Name ecessed dome ligh	t (no cover)	Model nu LED4750im (Hf32)	umber		Equipment	number	Number	of unit
Office LED re Meeting room LED re	Name ecessed dome ligh	t (no cover)	Model nu LED4750im (Hf32)	umber		Equipment	number	Number	of unit
Office LED re Meeting room LED re	Name ecessed dome ligh	t (no cover)	Model nu LED4750im (Hf32)	umber		Equipment	number	Number	of unit
Office LED re Meeting room LED re	ecessed dome ligh	t (no cover)	LED47501m (Hf32)					4	
Meeting room LED re	Nama			×2 equiva	lency)	A - 1		4	
Meeting room LED re	Name		Model nu	umber		Equipment	number	Number	of unit
	ecessed dome ligh	t (no cover)	LED20001m (FLR40) equivale	ncy)	B-1		4	
	Name		Model number		Equip	ment num	ber Nu	mber o	funit
AH AH	1	CES9783			1-1		3		-
Fro	intogo 1200mm	MG IA ±LE2	0. TI 001 1(0)	(التعبير ملح	0 1		2		



A pit list

① Select [Tool] tab- [Assign consecutive numbers to pits]. Select the pit number.

🅙 Home Figure I	^p ipe Duct	Electric Equipment	Sleeve or insert	Building	Tool	Processing	View	Add-ins	8	Assign consecutive numbers to pits
Pit number	Number	✓ 1	Target for	processing						
Pit number classification	Nothing	~	🔽 Soil wa	aterpit	A Rainv	water pit				
Make pit number consec	cutive numbers	Overwrite with pit nur	iber 🔽 Waste	water pit						
		Numbering								

② Left-click the pit on the drawing to assign the number and [Decision] the state.



③ Select [Tool] tab- [Number annotation] to annotate with the assigned number on the drawing.



2

④ Select [Tool] tab- [List of pit] to select the target to create a list.

Home Figure Pipe Duct Electric	Equipment Sleeve or insert Building	Tool Processing	g View Add-ins	🔛 List of pit
Division Ceneral-purpose	Start	Setting		
Layer	List pit which was chosen			
laver	Start	Setting of table		

(5) Left-click the "Start" button to place the pit list on the drawing where you want.

Number	Name	Classification	Size	Ground height (design GL±)	Pipe bottom height (design GL±)	Pit depth	Pit depth (design GL±)	Section distance	Cover, specifications	Cover dimensions	Remarks
1	Rainwater pit	Storage pit	300 🗆	-880		579	1,459	0	MHA	300 ¢	
2	Rainwater pit	Storage pit	300 🗆	-51		299	350	0	MHA	300 ¢	
3	Rainwater pit	Storage pit	300 🗆	-13		787	800	0	MHA	300 ¢	
A	Soil water pit		300 ¢	-197	-1,004	807	1,004	8.6		300 ¢	
В	Soil water pit		300 ø	-88	-882	794	882	10.1		300 ¢	
C	Soil water pit		300 ø	-51	-859	808	859	0.4		300 ¢	
D	Soil water pit		300 ø	-49	-823	774	823	1.5		300 ¢	
E	Soil water pit		300 ¢	-42	-778	736	778	0.4		300 ¢	
F	Soil water pit		300 ¢	-39	-752	713	752	0.6		300 ¢	
G	Soil water pit		300 ¢	-23	-699	676	699	3.2		300 ¢	
H	Soil water pit		300 ¢	-41	-462	421	462	0.9		300 ¢	

4. Hidden line process

When drawing with [Automatic hidden line] turned on, Rebro automatically hides the overlapping parts or changes the line type according to the direction of viewpoint for a creating drawing or the priority of uses.



You can set target elements of hidden line process, or hidden line types by [Setting of automatic hidden line].



• Supplementary explanation:

Rebro processes hidden lines when you switch to ON after drawing. If you switch to OFF, hidden line process is reset.

If you want to specify the area of processing for a hidden-line or to change the hidden-line expression partially, turn off the automatic hidden-line processing and execute the hidden-line processing manually in [View] tab- [Process hidden-line manually].



A tutorial manual

How to print

1. How to print

Select [Home] tab-[Print] to start the command.

🖭 Hor	ne Figure Pip	pe Du	t Electric	Equipment Sleeve or in	sert Building Tool Processir	g View Add-ins		
L	Draw anew Recent drawin	ngs 🔻	Save	🥪 Print	Copy to clipboard 🔹 📷	Drawing Create drawing frame	File Reference	O Help Version
Open	👢 Read file	•	🕍 Save as	🛷 Print continuously	🕵 Paste image file Captur	Brawing of Property of drawing	뉃 Position change of drawing	Setting User info
	Open		Save	Print	Copy or paste	py or paste Drawing frame		Information

How to print on A1-size paper

- ① Select the printer with that you want to print from the printer names. Select "property" to show the property of the printer driver that you choose.
- From the output setting, select Monochrome, Color, or Gray scale, and numbers of copies.
 Select "Print painting" to print the painted part of the element.
 For monochrome output, it is printed in gray if the paint is "Semitransparency" and is printed in a solid fill if "Painting all over".
- In the drawing size, the paper size that you drew appears.Select a paper size to print.
- ④ In the print scale, select the ratio of the drawing size against the printing paper size. Select "At unity magnification" or "Fit to paper" to print out the A1-size drawing against the A1-size paper.
- (5) You can check the print area by the preview function. The print area appears in light blue, paper area in light grey, and the view frame in red.

6	After the settings,	left-click [Print]	to print acco	rding to	those settings.
---	---------------------	--------------------	---------------	----------	-----------------

et up printing	×
Printer name	Property Pen setting
Types	Setting of print Calact of drawing
Place	Output acting
Offset X 0mm , Y 0mm Setting of offset	
P	🗧 📲 O Monochrome 📲 🔿 Color 📲 🖓 Gray scale 🗨 🖉
Print position Center	Number of copies 1 🚔 🔽 Use number of copies of printer driver 👔
	Paper feed tray
	Print painting
	Change line types or thicknesses according to the printing scale
	Print non-search layers in original colors
	Print external reference data in original colors
	Paper setting
	Drawing size 🕞 A1
	↓
	Paper size 🥪 A1 (594 x 841 mm)
	Paper direction O length O width
	Print scale
Paper size width 841mm X length	At unity magnification
Print area width 841mm X length	• Fit to paper 6
Offset position X 0mm Y 0mm	◯ Specify magnification factor 100 %
Print preview Change of print area Reset of print area	O Specify the scales 1/50 ∨ → 1/50 ∨
(4)	

How to reduce and print on A3-size paper

When the chosen paper size is different from the drawing size, you can select the ratio to output in the print scale.

① Select the "A3" size paper.

Set up printing	>	< 1
Printer name	Pronerty Pan setting	If you do not select [Output setting]-
Types		[Change line types or thickness
Place	Setting of print Select of drawing	according to the printing scale] Pohro
Offset X 0mm , Y 0mm Setting of offset	Output setting	according to the printing scale], Rebro
Richard Tar	Monochrome Color Gray scale	prints the line type and thickness set to
	Number of copies 1 🚔 🕑 Use number of copies of printer driver 🕡	the layer or the element, without
	Paper feed tray	reference to the print scale.
	Print painting Print the flow direction	
	Change line types or thicknesses according to the printing scale	
	Print non-search layers in original colors	
	Print external reference data in original colors	
	Paper setting	(I)
	Drawing size 🕞 A1	
	↓	
	Paper size 🤿 A3 (297 x 420 mm)	
	Paper direction 🔘 length 🧿 width	
	Print scale	
Paper size width 420mm X length	At unity magnification	
Print area width 421mm X length	O Fit to paper	
Offset position X 0mm , Y 0mm	◯ Specify magnification factor 50 %	
Print preview Change of print area Reset of print area	O Specify the scales 1/50 ∨ → 1/100 ∨	
	Print Cancel	

2 You can select how to reduce the drawing in the print scale descriptions.

	Drawing size A1	Paper size → A3	
At unity magnification	0		Output with its original drawing scale.
Fit to paper	0		Enlarge or reduce automatically according to the paper size. Accordingly, the scale may not be available.
Specify magnification factor	0	Ø	Enlarge or reduce the drawing size by the specified percentage.
Specify the scales	0	Ø	Adjust the ratio of the drawing size by specifying the scale.

 \approx Both" Specify magnification factor" and "Specify the scales" can specify the ratio of the drawing size. 50% in the "Specify magnification factor" results in the same print as the case that you select 1/50 -> 1/100 in the "Specify the scales".

Print a part of a drawing

①Left-click [Change of print area].

linter name	Property Pen setting
Types Place Offset X 0mm , Y 0mm Setting of offset Print position Center	Setting of print Select of drawing Output setting Winneer of copies 1 Color Copies of printer driver Paper feed tray Print painting Print painting Print hon-seesen according to the printing scale Print non-seesen layers in original colors
	Print external reference data in original colors Paper setting Drawing size A1 Paper size A3 (297 x 420 mm) Paper direction Instit With
Paper size width 420mm X length	Print scale At unity magnification Fit to paper
Print area width 421mm X length Offset position X <u>0mm Y 0mm</u>	Specify magnification factor 50 %

② The print area appears in light blue. Specify the print area by a handle (yellow) to change the print area.



③ Left-click [Confirm printing area].



④ Left-click [Print preview] to check the changed condition. You can check the condition that is going to be printed actually.



- Specify the line thickness for printing
- ① Left-click "Pen setting".

Iypes Place Offset X Own, Y Own Setting of offset Print postion Center With point Setting of print Setting of print Setting of print Setting of print Setting of print Setting of print Setting of print Setting of print Setting of print Setting of print Setting of print Setting of print Setting of print Setting of print Setting of print Setting of print Setting of print Setting of print Setting of print Setting of print Select of drawing Culput setting Culput	Printer name	Property Pen setting
Paper size widh 420mm X length Print area widh 421mm X length Print area widh 421mm X length Print area widh 421mm X length	Types Place Offset X 0mm , Y 0mm Setting of offset Print position Center	Setting of print Select of drawing Output setting Image: Setting image: Sett
Paper size width 420mm X length Print area width 421mm X length Print area width 421mm X length Print area X form		Paper setting Drawing size A1 Paper size A3 (297 x 420 mm) Paper direction length width Beter solo
Print preview Change of print area Reset of print area	Paper size width 420mm X length Print area width 421mm X length Offset position X 0mm , Y 0mm Print preview Change of print area Reset of print area	A tunky magnification ● Fit to paper ○ Specify magnification factor 50 % ○ Specify the scales 1/50 → 1/100

② Specify line thickness in [Thickness] tab according to the drawing scale. Type the value to change or select the magnification, to left-click "Execute".

Thickn	Remarks	1/10	1/20	1/30	1/50	1/100	1/200	1/300	1/400	1/500	1/600	1/601
0.01mm		0.01	0.01	0.03	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
0.05mm		0.05	0.05	0.12	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
0.07mm		0.07	0.07	0.17	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07
0.09mm		0.09	0.09	0.21	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
0.10mm		0.1	0.1	0.22	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.13mm		0.13	0.13	0.3	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13
0.15mm		0.15	0.15	0.33	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
0.18mm		0.18	0.18	0.41	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18

 $\ensuremath{\textcircled{}}$ 3 Left-click [OK] to check the condition by [Print preview].



Specify the color for printing

① Left-click "Pen setting".

rinter name	 Property Pen setting
ypes	Setting of print Calast of January
lace	Outry of print Select of drawing
ffset X 0mm , Y 0mm Setting of offset	
	O Gray scale
rint position Center	Number of copies 1 🚔 🔽 Use number of copies of printer driver
	Paper feed tray
	Print painting Print the flow direction
	Change line types or thicknesses according to the printing scale
	Print non-search layers in original colors
	Print external reference data in original colors
	Paper setting
	Drawing size 🕞 A1
	1
	Paper size 🥡 A3 (297 x 420 mm) 🗸
	Paper direction O length O width
	Print scale
aper size width 420mm X length	At unity magnification
rint area width 421mm X length	 Fit to paper
Miset position X 0mm . Y 0mm	O Specify magnification factor 50 %
	O Specify the scales 1/50 ∨ → 1/100 ∨

② Set up the print color in [Color] tab. Select the color you change to left-click [Editing]. In [Print color] dialog box, select a print color to left-click [OK].

Color red yellow green	Print color Print color red black black	Print color		
Cyan blue magenta black 8 Edting Reset	all Cancel all	Print color Color number RGB value	Index 7	Cancel

③ Left-click [OK] to check the condition by [Print preview].


A tutorial manual

Save a drawing

1. Save a Rebro drawing

Rebro has two ways to save a drawing, [Save] and [Save as].

Save

[Save] saves the drawing into the same file on the same location where the drawing is opened. ① Left-click [Home] tab-[Save].

	Home	Figure	Pipe	Duct	Electric	Eq	uipment	Sleeve or ins	sert	Building	Tool	Pn	ocessing	View	Add-	ins
		Draw ane Recent d	w rawings	• •	Save		e P	rint	Г <u>р</u> С П <u></u> р	opy to clipbo aste	ard	•			Drawing frame	Create drawing frame
4	pen 🗼	Read file		•	🔄 Save as	•	🎸 Print	continuously	💁 F	aste image fi	le		Capture	눬 Dra	wing of I	Property of drawing
		Open			Save			Print		Copy	y or past	е			[Drawing frame

Save as

[Save].

You can use [Save as] to save the drawing as a new file.

① Left-click [Home] tab- [Save as].

	Home	Figure	Pipe	Duct	Electric	Eq	uipment	Sleeve or ins	sert	Building	Tool	Pro	cessing	View	Add-in	IS
		Draw ane	w	-	E Sava			hint	ЪC	opy to clipbo	ard	•	ത		Drawing	Create drawing frame
		Recent dr	rawings	•	Jave		2		n 🖺	aste				190	frame	🛃 Registration
0	pen 🚶	Read file		-	🔛 Save as	•	🛷 Print	continuously	🔍 P	aste image f	ile	(Capture	🔛 Dra	wing of Pi	roperty of drawing
		0						Detert		C					n	and the second

② Select "Drawing file (*.reb)" for the file type. Select the destination file to save the drawing to left-click



%When you convert into Rebro format of the previous version, left-click [▼] on the right of [Save as] to

select a format you want to convert in [Convert into Rebro format of previous version].



2. Save the drawing into DXF/DWG, JWW, BE-Bridge, IFC, STL, and PDF file format

You can save the drawing in DXF/DWG, JWW, BE-Bridge, IFC, IFCzip, STL, and PDF file format.

① Left-click [Home] tab- [Save as] to show [Save as] dialog box.

۲	Hom	ie Figure	Pipe	Duct	Electric	Eq	uipment	Sleeve or ins	ert	Building	Tool	Pr	ocessing	View	Add	ins
	1	Draw ane	W	•	Save		🥪 Pri	int		Copy to clipbo	ard	•			Drawing frame	Create drawing frame
-	Open	👢 Read file	awings	-	🔄 Save as]-	🎻 Print o	continuously		Paste image fi	ile		Capture	Sh Dra	wing of f	Property of drawing
		Open			Save		F	Print		Cop	y or paste	e			[Drawing frame

② Select the file format in [Save as type] to left-click [Save]. The drawing is saved in the file with the selected extension.

🛞 Save As							×
\leftarrow \rightarrow \checkmark \uparrow	🚞 > This PC > Wind	dows (C:) > Drawing		~	С		
Organize 👻 New	w folder					≣ ▼	3
Name	^	Date modified	Туре	Size			
		No items n	natch your search				
File name: San	nple office						~
Save as type: Dra	wing file (*.reb)						~
Dra	wing file (*.reb)	N					
A Hide Folders Aut	toCAD file (*.dxf)	13					
Aut	toCAD file (3D)(*.dwg) toCAD file (3D)(*.dxf)						
JWV	W file (*.JWW)						
IFC	file (*.ifc)						
IFC	ZIP file (*.ifczip)						
SIL	. file (^.stl) E file (* pdf)						

Save a drawing in DXF/DWG file format

When you place multiple views on a layout, Rebro saves all the views as a sheet of floor plan. An origin point of the drawing can be selected from [Model origin] or [Lower left of the drawing], and you can also specify it on the drawing.



Save a drawing in DXF/DWG(3D) file format

In [View of the base, origin of the drawing], select the view that shows the saving elements. Rebro saves the elements that are shown in the chosen view. Rebro does not save the elements that are not shown in the chosen view.



Save a drawing in JWW file format

In the case of JWW files, Rebro also saves all the views as a sheet of floor plan when you place multiple views on a layout, which is the same as AutoCAD(2D).

Rebro saves the floor plan with the origin point at the bottom left in the drawing. You can also specify the position for the origin point.

Select "Center" at the origin of drawing because the origin point of JWW is at the center, if you want to show the drawing on JWW according to the Rebro's display position.



Save a drawing in BE-Bridge file format

BE-Bridge data is saved in DXF file (*.dxf) and BE-Bridge file (*.ceq) by the same file name. DXF file for two dimensions saves the elements of the drawing and BE-Bridge file saves the information about material, height, and size of the pipes or ducts.

ave in BE-Bridge format		×
Office Building.ceq Office Building.dxf		
Basics Setting		Pohro supporte RE Bridge un to ver 7.0
Version		Rebro supports BE-Bridge up to ver.7.0.
BE-Bridge version Ver. 7.0		
DXF version AutoCAD 2018/2019/2020/2021/202	2	Rebro supports AutoCAD up to ver.2022
Origin		
Use origin of model	Z 0	
	Specify on drawing⇒	
Assume lower left of paper origin		
Choose view	ada	
4F Ground plan (1/50)	~	
	OK Cancel	

Save a drawing in IFC or IFC-ZIP file format

Save the drawing into IFC or IFC-ZIP file format.

Save the drawing into IFC or IFC-ZIP file format.	Rebro supports IFC for building
Save in IFC format X	service up to ver.2.0.
File version IFC 4.0 IFC implementation agreement for building service Ver.2.0 Office Building ifc Ver.2.0 Basics Setting Area to save Save whole model Choose floor, and save Image: Choose floor, and save Desting of floor Image: Choose floor, and save	Select the area to save into IFC file format from the whole model, floor, or view. If you select the view, Rebro saves the elements that are shown in the selected view.
Image: Select all Cancel all Choose view, and save 4F Ground plan (1/50)	Checkmark [Save 2D drawing (DWG)] to save the elements in the selected view also as a DWG file (*.dwg) in 2D. Save the file with the same file name as the IFC/IFCZIP file. [setting] can make settings for the DWG file to be saved.
Save 2D drawing (DWG) setting Include external reference drawing	You can save also the elements that are
Nna or element Image: Second Structural Steel Image: Second St	Select the element type to save in IFC file format.
OK Cancel	

Save a drawing in STL file format

Save the drawing into STL file format.

Rebro saves the elements that are shown in the selected view. Rebro does not save the elements that are not shown in the selected view.

ave as STL form	at		\times]
Specification of ASCII type (Binary form	the STL file format text format)			Select the format according to the software you want to read.
Origin X 0	Y 0	Z 0 Specify or	n drawing ⇒	
Choose view Please choos 4F Gro	e a view to store und plan (1/50)		~	
Division precision	on of curved surface	e part		
Indication precision	Rough	Normal	Beautiful	
(quantity of data)	(Small)	(Middle)	(Large)	
		ОК	Cancel	

Save a drawing in PDF file format

Save the drawing into PDF file format.



Save files and layouts as a bundle into DXF/DWG, JWW and PDF file format

Multiple files or layouts can be saved together into DXF/DWG, JWW, or PDF file formats without opening the files. When you add a file, all layouts in the file are added to the list and the checkmarked layouts are also saved collectively.

Cave collectively in DWG					
Addition of file	n				
File name	Layout name	Drawing size	Mark	State	
Office Buliding.reb	□ Air conditioning-3FL	A1(841mm×594mm)	Mark ①		
Office Buliding.reb	Air conditioning-4FL	A1(841mm×594mm)	Mark ①		
Office Buliding.reb	Air conditioning-5FL	A1(841mm×594mm)	Mark ①		
Duct1.reb	🕞 Layout group 1-Ground plan	A1(841mm×594mm)	Mark ①		
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